

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
1	2	1	0	32	1.00000	30.8	0.50000	0.56	0	-7.07	10	3.57	1.78	-1.44	-0.72	-5.01	347.67
1	3	2	1	48	0.88889	35.87	0.58333	0.53	5.44	0	2.47	8.62	2.87	4.31	1.44	-4.32	-100.22
1	4	3	2	64	0.75000	36.66	0.62500	0.54	18.38	-5	1.22	4.65	1.16	7.28	1.82	2.63	36.1
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
2	3	1	-1	48	0.88889	35.87	0.41667	2.07	5.44	0	2.47	7.08	2.36	4.64	1.55	-2.44	-52.59
2	4	2	0	64	1.00000	48.88	0.50000	1.79	0	5	10	28.33	7.08	16.63	4.16	-11.69	-70.28
2	5	3	1	80	0.96000	54.46	0.55000	1.7	3.92	0	4.32	24.24	4.85	18.71	3.74	-5.53	-29.54
2	6	4	2	96	0.88889	56.94	0.58333	1.67	13.61	4.08	2.47	30.32	5.05	25.34	4.22	-4.98	-19.67
2	7	5	3	112	0.81633	57.95	0.60714	1.68	27	0	1.65	27.02	3.86	24.35	3.48	-2.67	-10.96
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
3	5	2	-1	80	0.96000	54.46	0.45000	3.81	3.92	0	4.32	22.13	4.43	21.69	4.34	-0.45	-2.07
3	6	3	0	96	1.00000	64.06	0.50000	3.52	0	-4.08	10	34.34	5.72	29.67	4.94	-4.68	-15.76
3	7	4	1	112	0.97959	69.54	0.53571	3.38	3	0	5.49	41.57	5.94	35.29	5.04	-6.28	-17.81
3	8	5	2	128	0.93750	72.75	0.56250	3.31	10.72	-3.54	3.5	41.18	5.15	40.11	5.01	-1.07	-2.67
3	9	6	3	144	0.88889	74.61	0.58333	3.29	21.78	0	2.47	46.79	5.2	42.53	4.73	-4.25	-10
3	10	7	4	160	0.84000	75.64	0.60000	3.29	35.28	-3.16	1.86	44.49	4.45	44.82	4.48	0.33	0.73
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
4	7	3	-1	112	0.97959	69.54	0.46429	6	3	0	5.49	38.95	5.56	38.12	5.45	-0.83	-2.18
4	8	4	0	128	1.00000	77.6	0.50000	5.68	0	3.54	10	58.26	7.28	49.67	6.21	-8.59	-17.29
4	9	5	1	144	0.98765	82.9	0.52778	5.5	2.42	0	6.27	59.45	6.61	53.57	5.95	-5.88	-10.98
4	10	6	2	160	0.96000	86.44	0.55000	5.39	8.82	3.16	4.32	66.82	6.68	61.47	6.15	-5.35	-8.71
4	11	7	3	176	0.92562	88.82	0.56818	5.34	18.22	0	3.18	66.8	6.07	62.87	5.72	-3.93	-6.26
4	12	8	4	192	0.88889	90.39	0.58333	5.31	29.94	2.89	2.47	71.71	5.98	68.05	5.67	-3.66	-5.38
4	13	9	5	208	0.85207	91.39	0.59615	5.32	43.49	0	1.99	69.79	5.37	67.53	5.19	-2.26	-3.35
4	14	10	6	224	0.81633	91.99	0.60714	5.33	58.5	2.67	1.65	72.5	5.18	70.66	5.05	-1.84	-2.61
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
5	9	4	-1	144	0.98765	82.9	0.47222	8.58	2.42	0	6.27	56.36	6.26	55.72	6.19	-0.64	-1.16
5	10	5	0	160	1.00000	90.05	0.50000	8.24	0	-3.16	10	68.55	6.86	64.83	6.48	-3.72	-5.74
5	11	6	1	176	0.99174	95.16	0.52273	8.02	2.02	0	6.83	77.62	7.06	71.83	6.53	-5.79	-8.06
5	12	7	2	192	0.97222	98.86	0.54167	7.87	7.49	-2.89	4.97	79.86	6.66	78.09	6.51	-1.77	-2.27
5	13	8	3	208	0.94675	101.55	0.55769	7.78	15.66	0	3.79	86.81	6.68	82.35	6.33	-4.46	-5.41
5	14	9	4	224	0.91837	103.49	0.57143	7.73	26	-2.67	3.01	87.12	6.22	86.34	6.17	-0.77	-0.9
5	15	10	5	240	0.88889	104.88	0.58333	7.71	38.11	0	2.47	91.76	6.12	88.5	5.9	-3.26	-3.68
5	16	11	6	256	0.85938	105.86	0.59375	7.71	51.68	-2.5	2.07	90.32	5.65	90.72	5.67	0.4	0.44
5	17	12	7	272	0.83045	106.52	0.60294	7.72	66.46	0	1.77	93.07	5.47	91.25	5.37	-1.82	-2
5	18	13	8	288	0.80247	106.92	0.61111	7.75	82.27	-2.36	1.55	90.25	5.01	92.05	5.11	1.81	1.96
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
6	11	5	-1	176	0.99174	95.16	0.47727	11.54	2.02	0	6.83	74.1	6.74	73.32	6.67	-0.78	-1.07
6	12	6	0	192	1.00000	101.68	0.50000	11.16	0	2.89	10	92.04	7.67	85.36	7.11	-6.68	-7.82
6	13	7	1	208	0.99408	106.62	0.51923	10.9	1.74	0	7.24	95.97	7.38	90.72	6.98	-5.26	-5.79
6	14	8	2	224	0.97959	110.39	0.53571	10.72	6.5	2.67	5.49	104.55	7.47	99.66	7.12	-4.89	-4.91
6	15	9	3	240	0.96000	113.27	0.55000	10.6	13.72	0	4.32	106.72	7.11	102.72	6.85	-4.01	-3.9

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Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
6	16	10	4	256	0.93750	115.48	0.56250	10.52	22.97	2.5	3.5	113.03	7.06	109.24	6.83	-3.79	-3.47
6	17	11	5	272	0.91350	117.17	0.57353	10.47	33.91	0	2.91	113.36	6.67	110.47	6.5	-2.89	-2.61
6	18	12	6	288	0.88889	118.44	0.58333	10.45	46.28	2.36	2.47	117.66	6.54	115.09	6.39	-2.57	-2.23
6	19	13	7	304	0.86427	119.39	0.59211	10.44	59.86	0	2.13	116.44	6.13	114.86	6.05	-1.59	-1.38
6	20	14	8	320	0.84000	120.07	0.60000	10.45	74.48	2.24	1.86	119.1	5.95	117.94	5.9	-1.16	-0.98
6	21	15	9	336	0.81633	120.54	0.60714	10.48	90	0	1.65	116.63	5.55	116.51	5.55	-0.12	-0.1
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
7	13	6	-1	208	0.99408	106.62	0.48077	14.84	1.74	0	7.24	92.04	7.08	91.48	7.04	-0.55	-0.61
7	14	7	0	224	1.00000	112.69	0.50000	14.43	0	-2.67	10	104.2	7.44	101.4	7.24	-2.8	-2.77
7	15	8	1	240	0.99556	117.47	0.51667	14.14	1.52	0	7.56	114.42	7.63	109.43	7.3	-5	-4.56
7	16	9	2	256	0.98438	121.26	0.53125	13.92	5.74	-2.5	5.92	118.49	7.41	116.77	7.3	-1.72	-1.48
7	17	10	3	272	0.96886	124.27	0.54412	13.77	12.21	0	4.77	126.52	7.44	122.35	7.2	-4.18	-3.41
7	18	11	4	288	0.95062	126.66	0.55556	13.65	20.57	-2.36	3.93	128.69	7.15	127.61	7.09	-1.08	-0.85
7	19	12	5	304	0.93075	128.57	0.56579	13.58	30.54	0	3.31	134.62	7.09	131.23	6.91	-3.39	-2.59
7	20	13	6	320	0.91000	130.08	0.57500	13.53	41.89	-2.24	2.84	135.1	6.75	134.8	6.74	-0.3	-0.22
7	21	14	7	336	0.88889	131.26	0.58333	13.51	54.44	0	2.47	139.26	6.63	136.84	6.52	-2.41	-1.76
7	22	15	8	352	0.86777	132.18	0.59091	13.5	68.03	-2.13	2.17	138.33	6.29	139.03	6.32	0.7	0.5
7	23	16	9	368	0.84688	132.87	0.59783	13.51	82.53	0	1.93	141.02	6.13	139.77	6.08	-1.25	-0.89
7	24	17	10	384	0.82639	133.39	0.60417	13.53	97.83	-2.04	1.74	138.94	5.79	140.79	5.87	1.85	1.31
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
8	15	7	-1	240	0.99556	117.47	0.48333	18.46	1.52	0	7.56	110.1	7.34	109.59	7.31	-0.51	-0.46
8	16	8	0	256	1.00000	123.18	0.50000	18.03	0	2.5	10	127.28	7.96	122.04	7.63	-5.25	-4.3
8	17	9	1	272	0.99654	127.82	0.51471	17.7	1.36	0	7.81	132.93	7.82	128.45	7.56	-4.48	-3.49
8	18	10	2	288	0.98765	131.6	0.52778	17.45	5.14	2.36	6.27	142.43	7.91	138.19	7.68	-4.24	-3.07
8	19	11	3	304	0.97507	134.69	0.53947	17.26	10.99	0	5.15	146.2	7.69	142.49	7.5	-3.71	-2.61
8	20	12	4	320	0.96000	137.22	0.55000	17.12	18.62	2.24	4.32	153.59	7.68	150.04	7.5	-3.55	-2.36
8	21	13	5	336	0.94331	139.3	0.55952	17.02	27.78	0	3.68	155.59	7.41	152.61	7.27	-2.98	-1.95
8	22	14	6	352	0.92562	140.99	0.56818	16.94	38.27	2.13	3.18	161.11	7.32	158.38	7.2	-2.73	-1.73
8	23	15	7	368	0.90737	142.37	0.57609	16.9	49.93	0	2.79	161.59	7.03	159.52	6.94	-2.08	-1.3
8	24	16	8	384	0.88889	143.48	0.58333	16.87	62.61	2.04	2.47	165.54	6.9	163.8	6.83	-1.74	-1.06
8	25	17	9	400	0.87040	144.37	0.59000	16.87	76.2	0	2.2	164.76	6.59	163.75	6.55	-1.01	-0.62
8	26	18	10	416	0.85207	145.08	0.59615	16.87	90.61	1.96	1.99	167.39	6.44	166.79	6.41	-0.61	-0.36
8	27	19	11	432	0.83402	145.62	0.60185	16.89	105.73	0	1.81	165.56	6.13	165.72	6.14	0.16	0.1
8	28	20	12	448	0.81633	146.03	0.60714	16.93	121.5	1.89	1.65	167.09	5.97	167.7	5.99	0.61	0.37
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
9	17	8	-1	272	0.99654	127.82	0.48529	22.4	1.36	0	7.81	128.23	7.54	127.99	7.53	-0.24	-0.19
9	18	9	0	288	1.00000	133.24	0.50000	21.94	0	-2.36	10	140.45	7.8	138.48	7.69	-1.97	-1.42
9	19	10	1	304	0.99723	137.75	0.51316	21.58	1.22	0	8.02	151.46	7.97	147.28	7.75	-4.18	-2.84
9	20	11	2	320	0.99000	141.51	0.52500	21.3	4.65	-2.24	6.57	156.87	7.84	155.45	7.77	-1.42	-0.91
9	21	12	3	336	0.97959	144.65	0.53571	21.08	10	0	5.49	165.76	7.89	162.03	7.72	-3.73	-2.3
9	22	13	4	352	0.96694	147.28	0.54546	20.9	17.01	-2.13	4.66	169.33	7.7	168.28	7.65	-1.05	-0.63
9	23	14	5	368	0.95274	149.48	0.55435	20.77	25.47	0	4.01	176.28	7.66	173.04	7.52	-3.25	-1.88
9	24	15	6	384	0.93750	151.33	0.56250	20.67	35.22	-2.04	3.5	178.24	7.43	177.69	7.4	-0.55	-0.31
9	25	16	7	400	0.92160	152.86	0.57000	20.61	46.1	0	3.09	183.52	7.34	180.93	7.24	-2.59	-1.43

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9	26	17	8	416	0.90533	154.14	0.57692	20.56	57.99	-1.96	2.75	184.1	7.08	184.23	7.09	0.14	0.07
9	27	18	9	432	0.88889	155.2	0.58333	20.53	70.78	0	2.47	187.95	6.96	186.2	6.9	-1.76	-0.94
9	28	19	10	448	0.87245	156.07	0.58929	20.52	84.38	-1.89	2.23	187.37	6.69	188.35	6.73	0.98	0.52
9	29	20	11	464	0.85612	156.77	0.59483	20.53	98.7	0	2.03	190.03	6.55	189.23	6.53	-0.8	-0.42
9	30	21	12	480	0.84000	157.34	0.60000	20.55	113.68	-1.83	1.86	188.47	6.28	190.4	6.35	1.92	1.01
9	31	22	13	496	0.82414	157.78	0.60484	20.58	129.26	0	1.72	190.11	6.13	190.34	6.14	0.24	0.12
9	32	23	14	512	0.80859	158.11	0.60938	20.62	145.37	-1.77	1.59	187.72	5.87	190.65	5.96	2.93	1.54
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
10	19	9	-1	304	0.99723	137.75	0.48684	26.64	1.22	0	8.02	146.4	7.71	146.29	7.7	-0.11	-0.07
10	20	10	0	320	1.00000	142.94	0.50000	26.16	0	2.24	10	163.14	8.16	159.06	7.95	-4.08	-2.56
10	21	11	1	336	0.99773	147.33	0.51191	25.76	1.11	0	8.19	169.98	8.09	166.28	7.92	-3.7	-2.23
10	22	12	2	352	0.99174	151.06	0.52273	25.45	4.25	2.13	6.83	180.2	8.19	176.63	8.03	-3.57	-2.02
10	23	13	3	368	0.98299	154.23	0.53261	25.2	9.17	0	5.78	185.19	8.05	181.9	7.91	-3.28	-1.81
10	24	14	4	384	0.97222	156.93	0.54167	24.99	15.65	2.04	4.97	193.43	8.06	190.26	7.93	-3.17	-1.66
10	25	15	5	400	0.96000	159.23	0.55000	24.83	23.52	0	4.32	196.73	7.87	193.9	7.76	-2.83	-1.46
10	26	16	6	416	0.94675	161.19	0.55769	24.71	32.62	1.96	3.79	203.23	7.82	200.59	7.71	-2.64	-1.32
10	27	17	7	432	0.93279	162.86	0.56482	24.62	42.82	0	3.37	205.07	7.6	202.85	7.51	-2.22	-1.09
10	28	18	8	448	0.91837	164.28	0.57143	24.55	54	1.89	3.01	210.07	7.5	208.12	7.43	-1.95	-0.94
10	29	19	9	464	0.90369	165.48	0.57759	24.5	66.07	0	2.72	210.66	7.26	209.2	7.21	-1.46	-0.7
10	30	20	10	480	0.88889	166.49	0.58333	24.48	78.94	1.83	2.47	214.38	7.15	213.25	7.11	-1.13	-0.53
10	31	21	11	496	0.87409	167.34	0.58871	24.46	92.54	0	2.25	213.9	6.9	213.33	6.88	-0.58	-0.27
10	32	22	12	512	0.85938	168.04	0.59375	24.47	106.8	1.77	2.07	216.52	6.77	216.32	6.76	-0.2	-0.09
10	33	23	13	528	0.84481	168.62	0.59849	24.49	121.67	0	1.91	215.14	6.52	215.52	6.53	0.38	0.18
10	34	24	14	544	0.83045	169.08	0.60294	24.51	137.08	1.71	1.77	216.81	6.38	217.6	6.4	0.79	0.36
10	35	25	15	560	0.81633	169.45	0.60714	24.55	153	0	1.65	214.65	6.13	216.03	6.17	1.38	0.64
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
11	21	10	-1	336	0.99773	147.33	0.48810	31.17	1.11	0	8.19	164.57	7.84	164.74	7.84	0.17	0.1
11	22	11	0	352	1.00000	152.32	0.50000	30.66	0	-2.13	10	176.89	8.04	175.67	7.99	-1.22	-0.69
11	23	12	1	368	0.99811	156.6	0.51087	30.24	1.02	0	8.33	188.47	8.19	185.06	8.05	-3.41	-1.84
11	24	13	2	384	0.99306	160.29	0.52083	29.89	3.91	-2.04	7.05	194.91	8.12	193.89	8.08	-1.02	-0.52
11	25	14	3	400	0.98560	163.48	0.53000	29.61	8.47	0	6.04	204.49	8.18	201.26	8.05	-3.23	-1.6
11	26	15	4	416	0.97633	166.23	0.53846	29.38	14.5	-1.96	5.24	209.17	8.05	208.31	8.01	-0.87	-0.42
11	27	16	5	432	0.96571	168.61	0.54630	29.19	21.84	0	4.59	216.95	8.04	213.98	7.93	-2.97	-1.39
11	28	17	6	448	0.95408	170.67	0.55357	29.04	30.38	-1.89	4.07	220.09	7.86	219.52	7.84	-0.58	-0.26
11	29	18	7	464	0.94174	172.45	0.56035	28.92	39.97	0	3.63	226.29	7.8	223.74	7.72	-2.55	-1.14
11	30	19	8	480	0.92889	173.99	0.56667	28.83	50.52	-1.83	3.26	228.1	7.6	227.98	7.6	-0.12	-0.05
11	31	20	9	496	0.91571	175.31	0.57258	28.76	61.95	0	2.95	232.93	7.51	230.96	7.45	-1.97	-0.85
11	32	21	10	512	0.90234	176.44	0.57813	28.72	74.17	-1.77	2.69	233.59	7.3	234.07	7.31	0.48	0.2
11	33	22	11	528	0.88889	177.42	0.58333	28.69	87.11	0	2.47	237.25	7.19	235.98	7.15	-1.27	-0.54
11	34	23	12	544	0.87543	178.24	0.58824	28.68	100.71	-1.71	2.27	236.92	6.97	238.11	7	1.19	0.5
11	35	24	13	560	0.86204	178.94	0.59286	28.68	114.92	0	2.1	239.56	6.84	239.09	6.83	-0.47	-0.2
11	36	25	14	576	0.84877	179.52	0.59722	28.69	129.68	-1.67	1.95	238.38	6.62	240.35	6.68	1.97	0.82
11	37	26	15	592	0.83565	180.01	0.60135	28.72	144.96	0	1.82	240.13	6.49	240.5	6.5	0.37	0.15
11	38	27	16	608	0.82272	180.4	0.60526	28.76	160.71	-1.62	1.71	238.22	6.27	241.01	6.34	2.79	1.16

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
12	23	11	-1	368	0.99811	156.6	0.48913	35.98	1.02	0	8.33	182.73	7.94	183.07	7.96	0.35	0.19
12	24	12	0	384	1.00000	161.41	0.50000	35.44	0	2.04	10	199.18	8.3	196.1	8.17	-3.09	-1.57
12	25	13	1	400	0.99840	165.6	0.51000	34.99	0.94	0	8.45	206.92	8.28	203.94	8.16	-2.97	-1.46
12	26	14	2	416	0.99408	169.25	0.51923	34.62	3.62	1.96	7.24	217.7	8.37	214.8	8.26	-2.9	-1.35
12	27	15	3	432	0.98765	172.44	0.52778	34.3	7.86	0	6.27	223.66	8.28	220.85	8.18	-2.81	-1.27
12	28	16	4	448	0.97959	175.23	0.53571	34.04	13.5	1.89	5.49	232.6	8.31	229.87	8.21	-2.73	-1.19
12	29	17	5	464	0.97027	177.68	0.54310	33.83	20.39	0	4.85	236.95	8.17	234.39	8.08	-2.57	-1.09
12	30	18	6	480	0.96000	179.81	0.55000	33.65	28.42	1.83	4.32	244.26	8.14	241.83	8.06	-2.43	-1
12	31	19	7	496	0.94901	181.68	0.55645	33.51	37.48	0	3.87	247.21	7.97	245.03	7.9	-2.18	-0.89
12	32	20	8	512	0.93750	183.32	0.56250	33.39	47.47	1.77	3.5	253.09	7.91	251.12	7.85	-1.97	-0.78
12	33	21	9	528	0.92562	184.75	0.56818	33.31	58.31	0	3.18	254.81	7.72	253.17	7.67	-1.65	-0.65
12	34	22	10	544	0.91350	185.99	0.57353	33.24	69.94	1.71	2.91	259.45	7.63	258.08	7.59	-1.37	-0.53
12	35	23	11	560	0.90122	187.07	0.57857	33.19	82.28	0	2.67	260.12	7.43	259.13	7.4	-1	-0.38
12	36	24	12	576	0.88889	188.01	0.58333	33.17	95.28	1.67	2.47	263.68	7.32	263	7.31	-0.68	-0.26
12	37	25	13	592	0.87655	188.82	0.58784	33.15	108.88	0	2.29	263.43	7.12	263.17	7.11	-0.26	-0.1
12	38	26	14	608	0.86427	189.51	0.59211	33.15	123.04	1.62	2.13	266.04	7	266.13	7	0.09	0.03
12	39	27	15	624	0.85207	190.1	0.59615	33.17	137.72	0	1.99	265	6.79	265.52	6.81	0.53	0.2
12	40	28	16	640	0.84000	190.6	0.60000	33.19	152.88	1.58	1.86	266.77	6.67	267.67	6.69	0.9	0.34
12	41	29	17	656	0.82808	191.01	0.60366	33.23	168.48	0	1.75	265.03	6.46	266.37	6.5	1.34	0.5
12	42	30	18	672	0.81633	191.35	0.60714	33.27	184.5	1.54	1.65	266.07	6.34	267.8	6.38	1.72	0.64
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
13	25	12	-1	400	0.99840	165.6	0.49000	41.07	0.94	0	8.45	200.84	8.03	201.46	8.06	0.62	0.31
13	26	13	0	416	1.00000	170.26	0.50000	40.5	0	-1.96	10	213.27	8.2	212.74	8.18	-0.53	-0.25
13	27	14	1	432	0.99863	174.36	0.50926	40.02	0.87	0	8.56	225.3	8.34	222.61	8.24	-2.69	-1.21
13	28	15	2	448	0.99490	177.97	0.51786	39.62	3.38	-1.89	7.41	232.55	8.31	231.97	8.28	-0.58	-0.25
13	29	16	3	464	0.98930	181.16	0.52586	39.28	7.34	0	6.48	242.7	8.37	239.99	8.28	-2.71	-1.13
13	30	17	4	480	0.98222	183.98	0.53333	38.99	12.63	-1.83	5.71	248.29	8.28	247.69	8.26	-0.6	-0.24
13	31	18	5	496	0.97399	186.46	0.54032	38.74	19.12	0	5.08	256.75	8.28	254.12	8.2	-2.63	-1.04
13	32	19	6	512	0.96484	188.67	0.54688	38.54	26.7	-1.77	4.55	260.87	8.15	260.4	8.14	-0.48	-0.18
13	33	20	7	528	0.95501	190.61	0.55303	38.37	35.28	0	4.1	267.84	8.12	265.44	8.04	-2.4	-0.9
13	34	21	8	544	0.94464	192.33	0.55882	38.24	44.76	-1.71	3.72	270.68	7.96	270.47	7.96	-0.2	-0.08
13	35	22	9	560	0.93388	193.85	0.56429	38.13	55.08	0	3.4	276.34	7.9	274.32	7.84	-2.01	-0.73
13	36	23	10	576	0.92284	195.19	0.56944	38.04	66.17	-1.67	3.11	278.05	7.72	278.26	7.73	0.21	0.07
13	37	24	11	592	0.91161	196.37	0.57432	37.97	77.96	0	2.87	282.57	7.64	281.06	7.6	-1.51	-0.54
13	38	25	12	608	0.90028	197.41	0.57895	37.93	90.4	-1.62	2.65	283.3	7.46	284.03	7.47	0.73	0.26
13	39	26	13	624	0.88889	198.32	0.58333	37.9	103.44	0	2.47	286.81	7.35	285.89	7.33	-0.91	-0.32
13	40	27	14	640	0.87750	199.11	0.58750	37.89	117.05	-1.58	2.3	286.68	7.17	288	7.2	1.33	0.46
13	41	28	15	656	0.86615	199.8	0.59146	37.88	131.17	0	2.15	289.3	7.06	289.05	7.05	-0.25	-0.09
13	42	29	16	672	0.85488	200.39	0.59524	37.9	145.78	-1.54	2.02	288.41	6.87	290.39	6.91	1.98	0.68
13	43	30	17	688	0.84370	200.89	0.59884	37.92	160.83	0	1.9	290.25	6.75	290.7	6.76	0.44	0.15
13	44	31	18	704	0.83265	201.32	0.60227	37.95	176.31	-1.51	1.79	288.7	6.56	291.35	6.62	2.65	0.91
13	45	32	19	720	0.82173	201.68	0.60556	37.99	192.18	0	1.7	289.84	6.44	291	6.47	1.15	0.4
13	46	33	20	736	0.81096	201.98	0.60870	38.04	208.41	-1.47	1.61	287.7	6.25	291.03	6.33	3.33	1.14

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
14	27	13	-1	432	0.99863	174.36	0.49074	46.42	0.87	0	8.56	218.91	8.11	219.72	8.14	0.81	0.37
14	28	14	0	448	1.00000	178.88	0.50000	45.83	0	1.89	10	235.18	8.4	232.96	8.32	-2.22	-0.95
14	29	15	1	464	0.99881	182.9	0.50862	45.32	0.82	0	8.65	243.61	8.4	241.32	8.32	-2.29	-0.95
14	30	16	2	480	0.99556	186.47	0.51667	44.89	3.16	1.83	7.56	254.86	8.5	252.59	8.42	-2.27	-0.9
14	31	17	3	496	0.99064	189.65	0.52419	44.52	6.88	0	6.66	261.61	8.44	259.29	8.36	-2.32	-0.89
14	32	18	4	512	0.98438	192.48	0.53125	44.2	11.87	1.77	5.92	271.13	8.47	268.85	8.4	-2.28	-0.85
14	33	19	5	528	0.97704	195.01	0.53788	43.93	18	0	5.29	276.35	8.37	274.1	8.31	-2.25	-0.82
14	34	20	6	544	0.96886	197.26	0.54412	43.7	25.18	1.71	4.77	284.34	8.36	282.19	8.3	-2.15	-0.76
14	35	21	7	560	0.96000	199.27	0.55000	43.51	33.32	0	4.32	288.21	8.23	286.18	8.18	-2.03	-0.71
14	36	22	8	576	0.95062	201.07	0.55556	43.35	42.35	1.67	3.93	294.84	8.19	292.97	8.14	-1.87	-0.64
14	37	23	9	592	0.94083	202.67	0.56081	43.22	52.19	0	3.6	297.53	8.04	295.85	8	-1.68	-0.57
14	38	24	10	608	0.93075	204.09	0.56579	43.11	62.78	1.62	3.31	302.96	7.97	301.5	7.93	-1.46	-0.48
14	39	25	11	624	0.92045	205.36	0.57051	43.02	74.06	0	3.06	304.61	7.81	303.4	7.78	-1.22	-0.4
14	40	26	12	640	0.91000	206.48	0.57500	42.96	85.99	1.58	2.84	308.98	7.72	308.04	7.7	-0.95	-0.31
14	41	27	13	656	0.89947	207.48	0.57927	42.91	98.52	0	2.64	309.72	7.55	309.06	7.54	-0.66	-0.21
14	42	28	14	672	0.88889	208.36	0.58333	42.88	111.61	1.54	2.47	313.16	7.46	312.8	7.45	-0.36	-0.11
14	43	29	15	688	0.87831	209.14	0.58721	42.87	125.22	0	2.31	313.09	7.28	313.04	7.28	-0.05	-0.01
14	44	30	16	704	0.86777	209.82	0.59091	42.86	139.31	1.51	2.17	315.69	7.17	315.97	7.18	0.28	0.09
14	45	31	17	720	0.85728	210.41	0.59444	42.87	153.85	0	2.05	314.91	7	315.52	7.01	0.61	0.19
14	46	32	18	736	0.84688	210.93	0.59783	42.9	168.81	1.47	1.93	316.77	6.89	317.72	6.91	0.94	0.3
14	47	33	19	752	0.83658	211.37	0.60106	42.93	184.18	0	1.83	315.36	6.71	316.63	6.74	1.28	0.4
14	48	34	20	768	0.82639	211.75	0.60417	42.97	199.91	1.44	1.74	316.56	6.59	318.17	6.63	1.62	0.51
14	49	35	21	784	0.81633	212.06	0.60714	43.02	216	0	1.65	314.58	6.42	316.52	6.46	1.94	0.61
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
15	29	14	-1	464	0.99881	182.9	0.49138	52.03	0.82	0	8.65	236.91	8.17	237.98	8.21	1.07	0.45
15	30	15	0	480	1.00000	187.3	0.50000	51.41	0	-1.83	10	249.46	8.32	249.56	8.32	0.1	0.04
15	31	16	1	496	0.99896	191.25	0.50807	50.88	0.76	0	8.73	261.84	8.45	259.82	8.38	-2.02	-0.78
15	32	17	2	512	0.99609	194.78	0.51563	50.42	2.97	-1.77	7.69	269.76	8.43	269.63	8.43	-0.13	-0.05
15	33	18	3	528	0.99174	197.94	0.52273	50.02	6.48	0	6.83	280.38	8.5	278.18	8.43	-2.2	-0.79
15	34	19	4	544	0.98616	200.79	0.52941	49.68	11.19	-1.71	6.1	286.73	8.43	286.44	8.42	-0.29	-0.1
15	35	20	5	560	0.97959	203.34	0.53571	49.38	17	0	5.49	295.77	8.45	293.5	8.39	-2.26	-0.77
15	36	21	6	576	0.97222	205.64	0.54167	49.12	23.82	-1.67	4.97	300.72	8.35	300.41	8.34	-0.31	-0.1
15	37	22	7	592	0.96421	207.7	0.54730	48.91	31.57	0	4.52	308.34	8.33	306.16	8.27	-2.18	-0.71
15	38	23	8	608	0.95568	209.56	0.55263	48.72	40.18	-1.62	4.13	312.05	8.21	311.87	8.21	-0.18	-0.06
15	39	24	9	624	0.94675	211.22	0.55769	48.57	49.58	0	3.79	318.42	8.16	316.47	8.11	-1.95	-0.62
15	40	25	10	640	0.93750	212.72	0.56250	48.44	59.72	-1.58	3.5	321.04	8.03	321.12	8.03	0.08	0.03
15	41	26	11	656	0.92802	214.07	0.56707	48.33	70.54	0	3.24	326.3	7.96	324.69	7.92	-1.61	-0.49
15	42	27	12	672	0.91837	215.27	0.57143	48.25	82	-1.54	3.01	327.95	7.81	328.4	7.82	0.45	0.14
15	43	28	13	688	0.90860	216.35	0.57558	48.18	94.05	0	2.81	332.22	7.73	331.06	7.7	-1.17	-0.35
15	44	29	14	704	0.89876	217.31	0.57955	48.14	106.66	-1.51	2.63	333.02	7.57	333.91	7.59	0.9	0.27
15	45	30	15	720	0.88889	218.17	0.58333	48.11	119.78	0	2.47	336.41	7.48	335.75	7.46	-0.66	-0.2
15	46	31	16	736	0.87902	218.93	0.58696	48.09	133.38	-1.47	2.32	336.44	7.31	337.84	7.34	1.4	0.41
15	47	32	17	752	0.86917	219.6	0.59043	48.09	147.44	0	2.19	339.05	7.21	338.94	7.21	-0.11	-0.03
15	48	33	18	768	0.85938	220.2	0.59375	48.1	161.93	-1.44	2.07	338.4	7.05	340.34	7.09	1.94	0.57

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
15	49	34	19	784	0.84965	220.72	0.59694	48.12	176.82	0	1.96	340.31	6.95	340.77	6.95	0.46	0.13
15	50	35	20	800	0.84000	221.17	0.60000	48.14	192.08	-1.41	1.86	339.05	6.78	341.55	6.83	2.49	0.73
15	51	36	21	816	0.83045	221.56	0.60294	48.18	207.7	0	1.77	340.33	6.67	341.37	6.69	1.04	0.3
15	52	37	22	832	0.82101	221.9	0.60577	48.23	223.65	-1.39	1.69	338.52	6.51	341.57	6.57	3.05	0.89
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
16	31	15	-1	496	0.99896	191.25	0.49194	57.89	0.76	0	8.73	254.83	8.22	256.11	8.26	1.27	0.5
16	32	16	0	512	1.00000	195.54	0.50000	57.25	0	1.77	10	270.98	8.47	269.53	8.42	-1.45	-0.54
16	33	17	1	528	0.99908	199.41	0.50758	56.69	0.72	0	8.8	279.98	8.48	278.33	8.43	-1.65	-0.59
16	34	18	2	544	0.99654	202.9	0.51471	56.21	2.8	1.71	7.81	291.62	8.58	289.94	8.53	-1.68	-0.58
16	35	19	3	560	0.99265	206.05	0.52143	55.78	6.12	0	6.98	299.02	8.54	297.19	8.49	-1.84	-0.62
16	36	20	4	576	0.98765	208.9	0.52778	55.41	10.59	1.67	6.27	309.04	8.58	307.21	8.53	-1.83	-0.59
16	37	21	5	592	0.98174	211.48	0.53378	55.09	16.11	0	5.67	315	8.51	313.09	8.46	-1.9	-0.61
16	38	22	6	608	0.97507	213.81	0.53947	54.8	22.6	1.62	5.15	323.56	8.51	321.73	8.47	-1.83	-0.57
16	39	23	7	624	0.96778	215.92	0.54487	54.56	29.99	0	4.71	328.23	8.42	326.4	8.37	-1.83	-0.56
16	40	24	8	640	0.96000	217.83	0.55000	54.35	38.22	1.58	4.32	335.5	8.39	333.8	8.34	-1.7	-0.51
16	41	25	9	656	0.95181	219.55	0.55488	54.18	47.22	0	3.98	339.02	8.27	337.4	8.23	-1.63	-0.48
16	42	26	10	672	0.94331	221.12	0.55952	54.03	56.94	1.54	3.68	345.13	8.22	343.7	8.18	-1.44	-0.42
16	43	27	11	688	0.93456	222.53	0.56395	53.9	67.34	0	3.41	347.65	8.08	346.34	8.05	-1.31	-0.38
16	44	28	12	704	0.92562	223.8	0.56818	53.8	78.36	1.51	3.18	352.73	8.02	351.65	7.99	-1.08	-0.31
16	45	29	13	720	0.91654	224.96	0.57222	53.71	89.97	0	2.97	354.34	7.87	353.43	7.85	-0.9	-0.26
16	46	30	14	736	0.90737	225.99	0.57609	53.65	102.12	1.47	2.79	358.5	7.79	357.86	7.78	-0.64	-0.18
16	47	31	15	752	0.89814	226.92	0.57979	53.6	114.79	0	2.62	359.3	7.64	358.87	7.64	-0.43	-0.12
16	48	32	16	768	0.88889	227.76	0.58333	53.57	127.94	1.44	2.47	362.64	7.55	362.49	7.55	-0.14	-0.04
16	49	33	17	784	0.87963	228.51	0.58674	53.55	141.55	0	2.33	362.72	7.4	362.8	7.4	0.09	0.02
16	50	34	18	800	0.87040	229.18	0.59000	53.55	155.58	1.41	2.2	365.31	7.31	365.7	7.31	0.39	0.11
16	51	35	19	816	0.86121	229.77	0.59314	53.55	170.02	0	2.09	364.75	7.15	365.37	7.16	0.63	0.17
16	52	36	20	832	0.85207	230.29	0.59615	53.57	184.84	1.39	1.99	366.67	7.05	367.61	7.07	0.94	0.25
16	53	37	21	848	0.84301	230.75	0.59906	53.6	200.01	0	1.89	365.53	6.9	366.7	6.92	1.18	0.32
16	54	38	22	864	0.83402	231.16	0.60185	53.64	215.53	1.36	1.81	366.85	6.79	368.33	6.82	1.49	0.4
16	55	39	23	880	0.82512	231.51	0.60455	53.68	231.36	0	1.73	365.18	6.64	366.9	6.67	1.72	0.47
16	56	40	24	896	0.81633	231.81	0.60714	53.74	247.5	1.34	1.65	365.95	6.53	367.97	6.57	2.03	0.55
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
17	33	16	-1	528	0.99908	199.41	0.49242	64	0.72	0	8.8	272.68	8.26	274.2	8.31	1.52	0.56
17	34	17	0	544	1.00000	203.6	0.50000	63.34	0	-1.71	10	285.34	8.39	286.02	8.41	0.68	0.24
17	35	18	1	560	0.99918	207.41	0.50714	62.75	0.68	0	8.87	298.03	8.52	296.63	8.48	-1.4	-0.47
17	36	19	2	576	0.99691	210.86	0.51389	62.24	2.65	-1.67	7.92	306.5	8.51	306.81	8.52	0.31	0.1
17	37	20	3	592	0.99343	214	0.52027	61.79	5.8	0	7.11	317.53	8.58	315.82	8.54	-1.71	-0.54
17	38	21	4	608	0.98892	216.85	0.52632	61.39	10.04	-1.62	6.43	324.52	8.54	324.56	8.54	0.03	0.01
17	39	22	5	624	0.98356	219.44	0.53205	61.04	15.3	0	5.84	334.05	8.57	332.16	8.52	-1.89	-0.57
17	40	23	6	640	0.97750	221.8	0.53750	60.74	21.5	-1.58	5.33	339.71	8.49	339.61	8.49	-0.1	-0.03
17	41	24	7	656	0.97085	223.95	0.54268	60.47	28.57	0	4.88	347.9	8.49	345.97	8.44	-1.93	-0.56
17	42	25	8	672	0.96372	225.9	0.54762	60.24	36.44	-1.54	4.49	352.37	8.39	352.28	8.39	-0.09	-0.02
17	43	26	9	688	0.95619	227.68	0.55233	60.04	45.08	0	4.15	359.36	8.36	357.53	8.31	-1.83	-0.51
17	44	27	10	704	0.94835	229.3	0.55682	59.86	54.42	-1.51	3.85	362.76	8.24	362.81	8.25	0.05	0.01
17	45	28	11	720	0.94025	230.77	0.56111	59.72	64.41	0	3.58	368.68	8.19	367.07	8.16	-1.61	-0.44

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
17	46	29	12	736	0.93195	232.11	0.56522	59.59	75.03	-1.47	3.34	371.13	8.07	371.42	8.07	0.29	0.08
17	47	30	13	752	0.92350	233.33	0.56915	59.49	86.22	0	3.13	376.09	8	374.78	7.97	-1.31	-0.35
17	48	31	14	768	0.91493	234.43	0.57292	59.41	97.96	-1.44	2.94	377.69	7.87	378.3	7.88	0.61	0.16
17	49	32	15	784	0.90629	235.43	0.57653	59.35	110.2	0	2.76	381.78	7.79	380.85	7.77	-0.93	-0.24
17	50	33	16	800	0.89760	236.34	0.58000	59.3	122.93	-1.41	2.61	382.63	7.65	383.62	7.67	0.99	0.26
17	51	34	17	816	0.88889	237.15	0.58333	59.27	136.11	0	2.47	385.94	7.57	385.43	7.56	-0.5	-0.13
17	52	35	18	832	0.88018	237.89	0.58654	59.25	149.72	-1.39	2.34	386.1	7.42	387.51	7.45	1.41	0.36
17	53	36	19	848	0.87149	238.55	0.58962	59.24	163.73	0	2.22	388.7	7.33	388.65	7.33	-0.05	-0.01
17	54	37	20	864	0.86283	239.14	0.59259	59.25	178.12	-1.36	2.11	388.24	7.19	390.1	7.22	1.86	0.48
17	55	38	21	880	0.85422	239.67	0.59546	59.26	192.87	0	2.01	390.21	7.09	390.63	7.1	0.43	0.11
17	56	39	22	896	0.84566	240.14	0.59821	59.29	207.97	-1.34	1.92	389.19	6.95	391.5	6.99	2.31	0.59
17	57	40	23	912	0.83718	240.55	0.60088	59.33	223.39	0	1.84	390.57	6.85	391.47	6.87	0.9	0.23
17	58	41	24	928	0.82878	240.91	0.60345	59.37	239.12	-1.31	1.76	389.05	6.71	391.81	6.76	2.76	0.71
17	59	42	25	944	0.82045	241.23	0.60593	59.42	255.14	0	1.69	389.9	6.61	391.27	6.63	1.37	0.35
17	60	43	26	960	0.81222	241.5	0.60833	59.48	271.43	-1.29	1.62	387.92	6.47	391.12	6.52	3.2	0.82
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
18	35	17	-1	560	0.99918	207.41	0.49286	70.35	0.68	0	8.87	290.43	8.3	292.15	8.35	1.72	0.59
18	36	18	0	576	1.00000	211.51	0.50000	69.67	0	1.67	10	306.49	8.51	305.73	8.49	-0.75	-0.25
18	37	19	1	592	0.99927	215.25	0.50676	69.06	0.64	0	8.93	315.97	8.54	314.9	8.51	-1.06	-0.34
18	38	20	2	608	0.99723	218.67	0.51316	68.52	2.51	1.62	8.02	327.94	8.63	326.81	8.6	-1.12	-0.34
18	39	21	3	624	0.99408	221.79	0.51923	68.04	5.51	0	7.24	335.9	8.61	334.53	8.58	-1.37	-0.41
18	40	22	4	640	0.99000	224.63	0.52500	67.62	9.55	1.58	6.57	346.34	8.66	344.96	8.62	-1.38	-0.4
18	41	23	5	656	0.98513	227.24	0.53049	67.25	14.57	0	5.99	352.93	8.61	351.38	8.57	-1.55	-0.44
18	42	24	6	672	0.97959	229.62	0.53571	66.91	20.5	1.54	5.49	362	8.62	360.49	8.58	-1.51	-0.42
18	43	25	7	688	0.97350	231.8	0.54070	66.62	27.27	0	5.05	367.35	8.54	365.76	8.51	-1.59	-0.44
18	44	26	8	704	0.96694	233.8	0.54546	66.37	34.83	1.51	4.66	375.18	8.53	373.69	8.49	-1.49	-0.4
18	45	27	9	720	0.96000	235.62	0.55000	66.14	43.12	0	4.32	379.43	8.43	377.92	8.4	-1.51	-0.4
18	46	28	10	736	0.95274	237.29	0.55435	65.95	52.1	1.47	4.01	386.14	8.39	384.79	8.36	-1.35	-0.35
18	47	29	11	752	0.94522	238.82	0.55851	65.78	61.73	0	3.74	389.41	8.29	388.09	8.26	-1.32	-0.34
18	48	30	12	768	0.93750	240.22	0.56250	65.64	71.97	1.44	3.5	395.12	8.23	394	8.21	-1.12	-0.28
18	49	31	13	784	0.92961	241.49	0.56633	65.52	82.78	0	3.28	397.5	8.11	396.46	8.09	-1.03	-0.26
18	50	32	14	800	0.92160	242.66	0.57000	65.42	94.12	1.41	3.09	402.31	8.05	401.51	8.03	-0.8	-0.2
18	51	33	15	816	0.91350	243.72	0.57353	65.34	105.97	0	2.91	403.88	7.92	403.2	7.91	-0.68	-0.17
18	52	34	16	832	0.90533	244.69	0.57692	65.27	118.3	1.39	2.75	407.88	7.84	407.45	7.84	-0.43	-0.1
18	53	35	17	848	0.89712	245.57	0.58019	65.22	131.07	0	2.6	408.74	7.71	408.45	7.71	-0.28	-0.07
18	54	36	18	864	0.88889	246.36	0.58333	65.19	144.28	1.36	2.47	411.99	7.63	411.98	7.63	-0.01	0
18	55	37	19	880	0.88066	247.09	0.58636	65.17	157.89	0	2.34	412.2	7.49	412.35	7.5	0.15	0.04
18	56	38	20	896	0.87245	247.74	0.58929	65.16	171.88	1.34	2.23	414.79	7.41	415.22	7.41	0.43	0.1
18	57	39	21	912	0.86427	248.33	0.59211	65.17	186.23	0	2.13	414.4	7.27	415	7.28	0.6	0.14
18	58	40	22	928	0.85612	248.86	0.59483	65.18	200.92	1.31	2.03	416.38	7.18	417.26	7.19	0.88	0.21
18	59	41	23	944	0.84803	249.33	0.59746	65.21	215.95	0	1.95	415.46	7.04	416.51	7.06	1.05	0.25
18	60	42	24	960	0.84000	249.76	0.60000	65.24	231.28	1.29	1.86	416.88	6.95	418.21	6.97	1.33	0.32
18	61	43	25	976	0.83203	250.13	0.60246	65.28	246.91	0	1.79	415.47	6.81	416.96	6.84	1.5	0.36
18	62	44	26	992	0.82414	250.46	0.60484	65.33	262.82	1.27	1.72	416.38	6.72	418.15	6.74	1.77	0.42
18	63	45	27	1008	0.81633	250.74	0.60714	65.39	279	0	1.65	414.52	6.58	416.44	6.61	1.93	0.46

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
19	37	18	-1	592	0.99927	215.25	0.49324	76.95	0.64	0	8.93	308.08	8.33	310.04	8.38	1.96	0.63
19	38	19	0	608	1.00000	219.28	0.50000	76.24	0	-1.62	10	320.86	8.44	322.08	8.48	1.22	0.38
19	39	20	1	624	0.99934	222.96	0.50641	75.61	0.61	0	8.98	333.8	8.56	332.98	8.54	-0.82	-0.25
19	40	21	2	640	0.99750	226.34	0.51250	75.04	2.39	-1.58	8.11	342.76	8.57	343.49	8.59	0.73	0.21
19	41	22	3	656	0.99465	229.43	0.51829	74.54	5.25	0	7.35	354.13	8.64	352.9	8.61	-1.24	-0.35
19	42	23	4	672	0.99093	232.28	0.52381	74.09	9.11	-1.54	6.7	361.68	8.61	362.05	8.62	0.36	0.1
19	43	24	5	688	0.98648	234.89	0.52907	73.69	13.91	0	6.14	371.64	8.64	370.12	8.61	-1.52	-0.41
19	44	25	6	704	0.98141	237.29	0.53409	73.33	19.59	-1.51	5.64	377.92	8.59	378.05	8.59	0.14	0.04
19	45	26	7	720	0.97580	239.5	0.53889	73.02	26.08	0	5.2	386.6	8.59	384.95	8.55	-1.65	-0.43
19	46	27	8	736	0.96975	241.53	0.54348	72.74	33.35	-1.47	4.82	391.73	8.52	391.78	8.52	0.05	0.01
19	47	28	9	752	0.96333	243.39	0.54787	72.49	41.33	0	4.47	399.26	8.49	397.6	8.46	-1.66	-0.42
19	48	29	10	768	0.95660	245.11	0.55208	72.28	49.98	-1.44	4.17	403.36	8.4	403.44	8.41	0.08	0.02
19	49	30	11	784	0.94960	246.68	0.55612	72.09	59.27	0	3.9	409.86	8.36	408.3	8.33	-1.56	-0.38
19	50	31	12	800	0.94240	248.13	0.56000	71.92	69.15	-1.41	3.65	413.03	8.26	413.24	8.26	0.21	0.05
19	51	32	13	816	0.93503	249.46	0.56373	71.78	79.59	0	3.43	418.59	8.21	417.23	8.18	-1.36	-0.33
19	52	33	14	832	0.92752	250.68	0.56731	71.66	90.57	-1.39	3.23	420.92	8.09	421.35	8.1	0.43	0.1
19	53	34	15	848	0.91990	251.8	0.57076	71.57	102.05	0	3.05	425.63	8.03	424.54	8.01	-1.09	-0.26
19	54	35	16	864	0.91221	252.83	0.57407	71.48	114	-1.36	2.88	427.21	7.91	427.92	7.92	0.71	0.16
19	55	36	17	880	0.90446	253.77	0.57727	71.42	126.4	0	2.73	431.15	7.84	430.38	7.83	-0.77	-0.18
19	56	37	18	896	0.89668	254.62	0.58036	71.37	139.22	-1.34	2.59	432.04	7.72	433.07	7.73	1.03	0.24
19	57	38	19	912	0.88889	255.41	0.58333	71.34	152.44	0	2.47	435.28	7.64	434.86	7.63	-0.42	-0.1
19	58	39	20	928	0.88109	256.12	0.58621	71.32	166.05	-1.31	2.35	435.55	7.51	436.93	7.53	1.38	0.32
19	59	40	21	944	0.87331	256.77	0.58898	71.31	180.02	0	2.24	438.15	7.43	438.11	7.43	-0.04	-0.01
19	60	41	22	960	0.86556	257.35	0.59167	71.31	194.34	-1.29	2.14	437.85	7.3	439.6	7.33	1.75	0.4
19	61	42	23	976	0.85783	257.88	0.59426	71.32	208.98	0	2.05	439.86	7.21	440.21	7.22	0.35	0.08
19	62	43	24	992	0.85016	258.36	0.59677	71.35	223.94	-1.27	1.97	439.05	7.08	441.16	7.12	2.12	0.48
19	63	44	25	1008	0.84253	258.79	0.59921	71.38	239.2	0	1.89	440.52	6.99	441.26	7	0.74	0.17
19	64	45	26	1024	0.83496	259.17	0.60156	71.42	254.74	-1.25	1.82	439.23	6.86	441.72	6.9	2.48	0.56
19	65	46	27	1040	0.82746	259.51	0.60385	71.47	270.55	0	1.75	440.22	6.77	441.33	6.79	1.11	0.25
19	66	47	28	1056	0.82002	259.81	0.60606	71.53	286.62	-1.23	1.68	438.49	6.64	441.33	6.69	2.83	0.64
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
20	39	19	-1	624	0.99934	222.96	0.49359	83.77	0.61	0	8.98	325.63	8.35	327.79	8.4	2.15	0.66
20	40	20	0	640	1.00000	226.9	0.50000	83.04	0	1.58	10	341.64	8.54	341.51	8.54	-0.12	-0.04
20	41	21	1	656	0.99941	230.53	0.50610	82.39	0.58	0	9.03	351.52	8.57	351.01	8.56	-0.51	-0.15
20	42	22	2	672	0.99773	233.87	0.51191	81.8	2.28	1.54	8.19	363.78	8.66	363.18	8.65	-0.6	-0.17
20	43	23	3	688	0.99513	236.95	0.51744	81.27	5.01	0	7.46	372.23	8.66	371.31	8.64	-0.92	-0.25
20	44	24	4	704	0.99174	239.79	0.52273	80.8	8.71	1.51	6.83	383.04	8.71	382.08	8.68	-0.96	-0.25
20	45	25	5	720	0.98765	242.41	0.52778	80.37	13.31	0	6.27	390.18	8.67	388.99	8.64	-1.2	-0.31
20	46	26	6	736	0.98299	244.82	0.53261	79.99	18.76	1.47	5.78	399.69	8.69	398.51	8.66	-1.18	-0.29
20	47	27	7	752	0.97782	247.05	0.53723	79.65	25	0	5.35	405.65	8.63	404.31	8.6	-1.34	-0.33
20	48	28	8	768	0.97222	249.11	0.54167	79.35	31.99	1.44	4.97	413.96	8.62	412.7	8.6	-1.26	-0.31
20	49	29	9	784	0.96626	251.01	0.54592	79.08	39.67	0	4.62	418.86	8.55	417.5	8.52	-1.36	-0.32
20	50	30	10	800	0.96000	252.77	0.55000	78.84	48.02	1.41	4.32	426.1	8.52	424.88	8.5	-1.23	-0.29
20	51	31	11	816	0.95348	254.39	0.55392	78.63	56.99	0	4.04	430.04	8.43	428.77	8.41	-1.27	-0.3

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
20	52	32	12	832	0.94675	255.88	0.55769	78.45	66.54	1.39	3.79	436.31	8.39	435.22	8.37	-1.1	-0.25
20	53	33	13	848	0.93984	257.26	0.56132	78.29	76.65	0	3.57	439.38	8.29	438.29	8.27	-1.09	-0.25
20	54	34	14	864	0.93279	258.53	0.56482	78.15	87.28	1.36	3.37	444.77	8.24	443.88	8.22	-0.88	-0.2
20	55	35	15	880	0.92562	259.7	0.56818	78.03	98.4	0	3.18	447.04	8.13	446.2	8.11	-0.84	-0.19
20	56	36	16	896	0.91837	260.78	0.57143	77.93	110	1.34	3.01	451.63	8.06	451.02	8.05	-0.61	-0.14
20	57	37	17	912	0.91105	261.77	0.57456	77.85	122.04	0	2.86	453.19	7.95	452.65	7.94	-0.54	-0.12
20	58	38	18	928	0.90369	262.69	0.57759	77.79	134.5	1.31	2.72	457.05	7.88	456.76	7.88	-0.29	-0.06
20	59	39	19	944	0.89629	263.52	0.58051	77.74	147.37	0	2.59	457.96	7.76	457.75	7.76	-0.2	-0.04
20	60	40	20	960	0.88889	264.29	0.58333	77.7	160.61	1.29	2.47	461.15	7.69	461.21	7.69	0.06	0.01
20	61	41	21	976	0.88148	264.99	0.58607	77.68	174.22	0	2.36	461.46	7.56	461.62	7.57	0.16	0.03
20	62	42	22	992	0.87409	265.64	0.58871	77.67	188.17	1.27	2.25	464.04	7.48	464.46	7.49	0.42	0.09
20	63	43	23	1008	0.86672	266.22	0.59127	77.67	202.46	0	2.16	463.81	7.36	464.34	7.37	0.53	0.11
20	64	44	24	1024	0.85938	266.75	0.59375	77.69	217.05	1.25	2.07	465.83	7.28	466.62	7.29	0.79	0.17
20	65	45	25	1040	0.85207	267.23	0.59615	77.71	231.95	0	1.99	465.1	7.16	465.99	7.17	0.9	0.19
20	66	46	26	1056	0.84481	267.66	0.59849	77.74	247.14	1.23	1.91	466.6	7.07	467.76	7.09	1.16	0.25
20	67	47	27	1072	0.83760	268.05	0.60075	77.78	262.6	0	1.84	465.41	6.95	466.67	6.97	1.26	0.27
20	68	48	28	1088	0.83045	268.4	0.60294	77.83	278.32	1.21	1.77	466.44	6.86	467.95	6.88	1.51	0.32
20	69	49	29	1104	0.82336	268.71	0.60507	77.88	294.29	0	1.71	464.83	6.74	466.43	6.76	1.6	0.34
20	70	50	30	1120	0.81633	268.99	0.60714	77.95	310.5	1.2	1.65	465.41	6.65	467.26	6.68	1.85	0.4
Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
21	41	20	-1	656	0.99941	230.53	0.49390	90.83	0.58	0	9.03	343.08	8.37	345.46	8.43	2.38	0.69
21	42	21	0	672	1.00000	234.41	0.50000	90.08	0	-1.54	10	355.97	8.48	357.69	8.52	1.72	0.48
21	43	22	1	688	0.99946	237.98	0.50581	89.4	0.56	0	9.07	369.13	8.58	368.84	8.58	-0.29	-0.08
21	44	23	2	704	0.99793	241.29	0.51136	88.78	2.18	-1.51	8.26	378.5	8.6	379.64	8.63	1.14	0.3
21	45	24	3	720	0.99556	244.35	0.51667	88.23	4.79	0	7.56	390.19	8.67	389.4	8.65	-0.79	-0.2
21	46	25	4	736	0.99244	247.18	0.52174	87.73	8.34	-1.47	6.94	398.22	8.66	398.91	8.67	0.69	0.17
21	47	26	5	752	0.98868	249.8	0.52660	87.28	12.75	0	6.4	408.56	8.69	407.41	8.67	-1.15	-0.28
21	48	27	6	768	0.98438	252.23	0.53125	86.88	17.99	-1.44	5.92	415.37	8.65	415.76	8.66	0.39	0.09
21	49	28	7	784	0.97959	254.47	0.53571	86.52	24	0	5.49	424.5	8.66	423.12	8.64	-1.37	-0.32
21	50	29	8	800	0.97440	256.56	0.54000	86.19	30.73	-1.41	5.11	430.21	8.6	430.42	8.61	0.21	0.05
21	51	30	9	816	0.96886	258.49	0.54412	85.9	38.15	0	4.77	438.23	8.59	436.76	8.56	-1.47	-0.34
21	52	31	10	832	0.96302	260.28	0.54808	85.64	46.21	-1.39	4.46	442.95	8.52	443.1	8.52	0.15	0.03
21	53	32	11	848	0.95692	261.94	0.55189	85.41	54.88	0	4.18	449.96	8.49	448.5	8.46	-1.46	-0.33
21	54	33	12	864	0.95062	263.47	0.55556	85.2	64.12	-1.36	3.93	453.77	8.4	453.97	8.41	0.2	0.04
21	55	34	13	880	0.94413	264.9	0.55909	85.02	73.91	0	3.71	459.87	8.36	458.52	8.34	-1.36	-0.3
21	56	35	14	896	0.93750	266.21	0.56250	84.87	84.22	-1.34	3.5	462.86	8.27	463.19	8.27	0.32	0.07
21	57	36	15	912	0.93075	267.43	0.56579	84.73	95.01	0	3.31	468.13	8.21	466.95	8.19	-1.18	-0.25
21	58	37	16	928	0.92390	268.56	0.56897	84.61	106.27	-1.31	3.14	470.38	8.11	470.88	8.12	0.51	0.11
21	59	38	17	944	0.91698	269.61	0.57203	84.52	117.97	0	2.98	474.88	8.05	473.93	8.03	-0.95	-0.2
21	60	39	18	960	0.91000	270.57	0.57500	84.44	130.09	-1.29	2.84	476.45	7.94	477.19	7.95	0.74	0.16
21	61	40	19	976	0.90298	271.46	0.57787	84.37	142.61	0	2.7	480.26	7.87	479.58	7.86	-0.68	-0.14
21	62	41	20	992	0.89594	272.28	0.58065	84.32	155.52	-1.27	2.58	481.2	7.76	482.21	7.78	1.01	0.21
21	63	42	21	1008	0.88889	273.03	0.58333	84.29	168.78	0	2.47	484.37	7.69	483.99	7.68	-0.39	-0.08
21	64	43	22	1024	0.88184	273.72	0.58594	84.26	182.39	-1.25	2.36	484.74	7.57	486.04	7.59	1.3	0.27
21	65	44	23	1040	0.87479	274.36	0.58846	84.25	196.32	0	2.26	487.33	7.5	487.26	7.5	-0.07	-0.02
21	66	45	24	1056	0.86777	274.94	0.59091	84.25	210.58	-1.23	2.17	487.17	7.38	488.77	7.41	1.6	0.33

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
21	67	46	25	1072	0.86077	275.47	0.59328	84.26	225.13	0	2.09	489.22	7.3	489.46	7.31	0.24	0.05
21	68	47	26	1088	0.85381	275.95	0.59559	84.28	239.98	-1.21	2.01	488.58	7.19	490.48	7.21	1.9	0.39
21	69	48	27	1104	0.84688	276.39	0.59783	84.31	255.1	0	1.93	490.13	7.1	490.69	7.11	0.55	0.11
21	70	49	28	1120	0.84000	276.79	0.60000	84.35	270.48	-1.2	1.86	489.05	6.99	491.24	7.02	2.19	0.45
21	71	50	29	1136	0.83317	277.14	0.60211	84.4	286.12	0	1.8	490.14	6.9	490.99	6.92	0.85	0.17
21	72	51	30	1152	0.82639	277.46	0.60417	84.45	302	-1.18	1.74	488.64	6.79	491.12	6.82	2.47	0.5
21	73	52	31	1168	0.81967	277.75	0.60616	84.52	318.11	0	1.68	489.31	6.7	490.44	6.72	1.14	0.23
21	74	53	32	1184	0.81300	278	0.60811	84.59	334.45	-1.16	1.63	487.43	6.59	490.16	6.62	2.73	0.56
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
22	43	21	-1	688	0.99946	237.98	0.49419	98.11	0.56	0	9.07	360.42	8.38	362.98	8.44	2.57	0.71
22	44	22	0	704	1.00000	241.79	0.50000	97.34	0	1.51	10	376.38	8.55	376.84	8.56	0.46	0.12
22	45	23	1	720	0.99951	245.32	0.50556	96.64	0.53	0	9.11	386.62	8.59	386.62	8.59	0	0
22	46	24	2	736	0.99811	248.59	0.51087	96	2.08	1.47	8.33	399.13	8.68	399.02	8.67	-0.11	-0.03
22	47	25	3	752	0.99593	251.63	0.51596	95.42	4.59	0	7.65	408	8.68	407.51	8.67	-0.49	-0.12
22	48	26	4	768	0.99306	254.45	0.52083	94.9	8	1.44	7.05	419.14	8.73	418.6	8.72	-0.55	-0.13
22	49	27	5	784	0.98959	257.07	0.52551	94.43	12.24	0	6.51	426.77	8.71	425.92	8.69	-0.85	-0.2
22	50	28	6	800	0.98560	259.51	0.53000	94	17.29	1.41	6.04	436.66	8.73	435.82	8.72	-0.85	-0.19
22	51	29	7	816	0.98116	261.77	0.53431	93.61	23.08	0	5.62	443.16	8.69	442.08	8.67	-1.07	-0.24
22	52	30	8	832	0.97633	263.88	0.53846	93.26	29.57	1.39	5.24	451.91	8.69	450.9	8.67	-1.02	-0.23
22	53	31	9	848	0.97116	265.83	0.54245	92.95	36.74	0	4.9	457.38	8.63	456.2	8.61	-1.18	-0.26
22	54	32	10	864	0.96571	267.66	0.54630	92.67	44.53	1.36	4.59	465.1	8.61	464.03	8.59	-1.07	-0.23
22	55	33	11	880	0.96000	269.35	0.55000	92.41	52.92	0	4.32	469.64	8.54	468.46	8.52	-1.18	-0.25
22	56	34	12	896	0.95408	270.92	0.55357	92.19	61.88	1.34	4.07	476.42	8.51	475.39	8.49	-1.03	-0.22
22	57	35	13	912	0.94798	272.39	0.55702	91.99	71.37	0	3.84	480.1	8.42	479.01	8.4	-1.09	-0.23
22	58	36	14	928	0.94174	273.75	0.56035	91.81	81.37	1.31	3.63	486.02	8.38	485.11	8.36	-0.91	-0.19
22	59	37	15	944	0.93536	275.01	0.56356	91.66	91.85	0	3.44	488.92	8.29	487.99	8.27	-0.93	-0.19
22	60	38	16	960	0.92889	276.18	0.56667	91.53	102.79	1.29	3.26	494.05	8.23	493.33	8.22	-0.72	-0.15
22	61	39	17	976	0.92233	277.27	0.56967	91.41	114.17	0	3.1	496.25	8.14	495.53	8.12	-0.71	-0.14
22	62	40	18	992	0.91571	278.28	0.57258	91.31	125.97	1.27	2.95	500.66	8.08	500.17	8.07	-0.49	-0.1
22	63	41	19	1008	0.90905	279.22	0.57540	91.23	138.16	0	2.82	502.2	7.97	501.74	7.96	-0.46	-0.09
22	64	42	20	1024	0.90234	280.09	0.57813	91.17	150.73	1.25	2.69	505.95	7.91	505.73	7.9	-0.22	-0.04
22	65	43	21	1040	0.89562	280.89	0.58077	91.12	163.67	0	2.57	506.9	7.8	506.72	7.8	-0.18	-0.04
22	66	44	22	1056	0.88889	281.63	0.58333	91.08	176.94	1.23	2.47	510.04	7.73	510.11	7.73	0.07	0.01
22	67	45	23	1072	0.88216	282.31	0.58582	91.06	190.55	0	2.37	510.44	7.62	510.56	7.62	0.12	0.02
22	68	46	24	1088	0.87543	282.94	0.58824	91.04	204.48	1.21	2.27	513.02	7.54	513.39	7.55	0.37	0.07
22	69	47	25	1104	0.86873	283.52	0.59058	91.04	218.7	0	2.18	512.92	7.43	513.34	7.44	0.42	0.08
22	70	48	26	1120	0.86204	284.05	0.59286	91.05	233.22	1.2	2.1	514.97	7.36	515.64	7.37	0.67	0.13
22	71	49	27	1136	0.85539	284.54	0.59507	91.07	248.01	0	2.02	514.4	7.25	515.13	7.26	0.72	0.14
22	72	50	28	1152	0.84877	284.98	0.59722	91.1	263.07	1.18	1.95	515.98	7.17	516.94	7.18	0.96	0.19
22	73	51	29	1168	0.84218	285.38	0.59932	91.14	278.39	0	1.89	514.98	7.05	515.99	7.07	1.01	0.2
22	74	52	30	1184	0.83565	285.75	0.60135	91.18	293.95	1.16	1.82	516.11	6.97	517.35	6.99	1.25	0.24
22	75	53	31	1200	0.82916	286.07	0.60333	91.24	309.74	0	1.76	514.71	6.86	516	6.88	1.29	0.25
22	76	54	32	1216	0.82272	286.37	0.60526	91.3	325.76	1.15	1.71	515.42	6.78	516.93	6.8	1.51	0.29
22	77	55	33	1232	0.81633	286.63	0.60714	91.37	342	0	1.65	513.65	6.67	515.19	6.69	1.54	0.3
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
23	45	22	-1	720	0.99951	245.32	0.49444	105.62	0.53	0	9.11	377.64	8.39	380.42	8.45	2.78	0.73
23	46	23	0	736	1.00000	249.06	0.50000	104.82	0	-1.47	10	390.64	8.49	392.82	8.54	2.18	0.56
23	47	24	1	752	0.99955	252.54	0.50532	104.1	0.51	0	9.15	403.99	8.6	404.2	8.6	0.21	0.05
23	48	25	2	768	0.99826	255.78	0.51042	103.44	2	-1.44	8.39	413.73	8.62	415.26	8.65	1.53	0.37
23	49	26	3	784	0.99625	258.8	0.51531	102.84	4.41	0	7.73	425.68	8.69	425.32	8.68	-0.36	-0.09
23	50	27	4	800	0.99360	261.61	0.52000	102.29	7.68	-1.41	7.15	434.14	8.68	435.16	8.7	1.02	0.23
23	51	28	5	816	0.99039	264.23	0.52451	101.79	11.77	0	6.62	444.82	8.72	444.03	8.71	-0.8	-0.18
23	52	29	6	832	0.98669	266.68	0.52885	101.34	16.64	-1.39	6.16	452.12	8.69	452.76	8.71	0.64	0.14
23	53	30	7	848	0.98256	268.95	0.53302	100.93	22.22	0	5.74	461.63	8.71	460.54	8.69	-1.09	-0.24
23	54	31	8	864	0.97805	271.08	0.53704	100.56	28.5	-1.36	5.37	467.87	8.66	468.26	8.67	0.39	0.08
23	55	32	9	880	0.97322	273.06	0.54091	100.22	35.43	0	5.03	476.32	8.66	475.06	8.64	-1.27	-0.27
23	56	33	10	896	0.96811	274.91	0.54464	99.92	42.97	-1.34	4.72	481.59	8.6	481.85	8.6	0.26	0.05
23	57	34	11	912	0.96276	276.63	0.54825	99.65	51.1	0	4.45	489.07	8.58	487.74	8.56	-1.33	-0.27
23	58	35	12	928	0.95719	278.24	0.55172	99.4	59.78	-1.31	4.19	493.46	8.51	493.68	8.51	0.22	0.05
23	59	36	13	944	0.95145	279.74	0.55509	99.18	68.99	0	3.96	500.05	8.48	498.74	8.45	-1.31	-0.26
23	60	37	14	960	0.94556	281.14	0.55833	98.99	78.7	-1.29	3.75	503.64	8.39	503.9	8.4	0.27	0.05
23	61	38	15	976	0.93953	282.44	0.56148	98.81	88.89	0	3.56	509.42	8.35	508.2	8.33	-1.22	-0.24
23	62	39	16	992	0.93340	283.66	0.56452	98.66	99.53	-1.27	3.38	512.26	8.26	512.64	8.27	0.38	0.07
23	63	40	17	1008	0.92719	284.79	0.56746	98.53	110.6	0	3.22	517.29	8.21	516.23	8.19	-1.07	-0.21
23	64	41	18	1024	0.92090	285.85	0.57031	98.42	122.09	-1.25	3.07	519.46	8.12	520	8.13	0.54	0.1
23	65	42	19	1040	0.91456	286.83	0.57308	98.32	133.98	0	2.93	523.81	8.06	522.93	8.05	-0.87	-0.17
23	66	43	20	1056	0.90817	287.74	0.57576	98.24	146.24	-1.23	2.8	525.36	7.96	526.09	7.97	0.74	0.14
23	67	44	21	1072	0.90176	288.59	0.57836	98.17	158.85	0	2.68	529.07	7.9	528.42	7.89	-0.65	-0.12
23	68	45	22	1088	0.89533	289.37	0.58088	98.12	171.82	-1.21	2.57	530.04	7.79	531	7.81	0.96	0.18
23	69	46	23	1104	0.88889	290.1	0.58333	98.09	185.11	0	2.47	533.17	7.73	532.77	7.72	-0.4	-0.08
23	70	47	24	1120	0.88245	290.77	0.58571	98.06	198.72	-1.2	2.37	533.62	7.62	534.81	7.64	1.19	0.22
23	71	48	25	1136	0.87602	291.4	0.58803	98.05	212.63	0	2.28	536.2	7.55	536.05	7.55	-0.15	-0.03
23	72	49	26	1152	0.86960	291.97	0.59028	98.04	226.83	-1.18	2.19	536.17	7.45	537.6	7.47	1.44	0.27
23	73	50	27	1168	0.86320	292.5	0.59247	98.05	241.31	0	2.12	538.25	7.37	538.35	7.37	0.11	0.02
23	74	51	28	1184	0.85683	292.99	0.59460	98.07	256.06	-1.16	2.04	537.76	7.27	539.43	7.29	1.68	0.31
23	75	52	29	1200	0.85049	293.43	0.59667	98.1	271.06	0	1.97	539.38	7.19	539.73	7.2	0.35	0.07
23	76	53	30	1216	0.84418	293.84	0.59868	98.13	286.31	-1.15	1.91	538.47	7.09	540.37	7.11	1.9	0.35
23	77	54	31	1232	0.83792	294.21	0.60065	98.18	301.8	0	1.84	539.65	7.01	540.24	7.02	0.59	0.11
23	78	55	32	1248	0.83169	294.55	0.60256	98.23	317.52	-1.13	1.79	538.36	6.9	540.47	6.93	2.12	0.39
23	79	56	33	1264	0.82551	294.85	0.60443	98.29	333.45	0	1.73	539.13	6.82	539.94	6.83	0.81	0.15
23	80	57	34	1280	0.81938	295.13	0.60625	98.36	349.6	-1.12	1.68	537.48	6.72	539.79	6.75	2.31	0.43
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
24	47	23	-1	752	0.99955	252.54	0.49468	113.35	0.51	0	9.15	394.74	8.4	397.7	8.46	2.96	0.74
24	48	24	0	768	1.00000	256.23	0.50000	112.53	0	1.44	10	410.68	8.56	411.68	8.58	0.99	0.24
24	49	25	1	784	0.99958	259.67	0.50510	111.78	0.49	0	9.18	421.24	8.6	421.72	8.61	0.48	0.11
24	50	26	2	800	0.99840	262.88	0.51000	111.1	1.92	1.41	8.45	433.97	8.68	434.32	8.69	0.35	0.08
24	51	27	3	816	0.99654	265.87	0.51471	110.48	4.24	0	7.81	443.22	8.69	443.14	8.69	-0.09	-0.02
24	52	28	4	832	0.99408	268.67	0.51923	109.91	7.39	1.39	7.24	454.65	8.74	454.5	8.74	-0.16	-0.03
24	53	29	5	848	0.99110	271.29	0.52359	109.38	11.34	0	6.73	462.71	8.73	462.2	8.72	-0.51	-0.11
24	54	30	6	864	0.98765	273.74	0.52778	108.91	16.03	1.36	6.27	472.95	8.76	472.43	8.75	-0.53	-0.11
24	55	31	7	880	0.98380	276.03	0.53182	108.48	21.43	0	5.86	479.93	8.73	479.12	8.71	-0.81	-0.17

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
24	56	32	8	896	0.97959	278.17	0.53571	108.08	27.5	1.34	5.49	489.08	8.73	488.31	8.72	-0.77	-0.16
24	57	33	9	912	0.97507	280.17	0.53947	107.72	34.2	0	5.15	495.06	8.69	494.07	8.67	-0.99	-0.2
24	58	34	10	928	0.97027	282.04	0.54310	107.4	41.51	1.31	4.85	503.21	8.68	502.31	8.66	-0.9	-0.18
24	59	35	11	944	0.96524	283.8	0.54661	107.1	49.39	0	4.57	508.28	8.61	507.22	8.6	-1.06	-0.21
24	60	36	12	960	0.96000	285.43	0.55000	106.84	57.82	1.29	4.32	515.52	8.59	514.58	8.58	-0.94	-0.18
24	61	37	13	976	0.95458	286.97	0.55328	106.6	66.76	0	4.09	519.76	8.52	518.71	8.5	-1.05	-0.2
24	62	38	14	992	0.94901	288.4	0.55645	106.38	76.2	1.27	3.87	526.16	8.49	525.27	8.47	-0.89	-0.17
24	63	39	15	1008	0.94331	289.75	0.55952	106.19	86.11	0	3.68	529.63	8.41	528.67	8.39	-0.97	-0.18
24	64	40	16	1024	0.93750	291	0.56250	106.02	96.47	1.25	3.5	535.26	8.36	534.48	8.35	-0.78	-0.15
24	65	41	17	1040	0.93160	292.17	0.56539	105.87	107.25	0	3.33	538.04	8.28	537.21	8.26	-0.83	-0.15
24	66	42	18	1056	0.92562	293.27	0.56818	105.74	118.45	1.23	3.18	542.95	8.23	542.33	8.22	-0.62	-0.11
24	67	43	19	1072	0.91958	294.29	0.57090	105.63	130.04	0	3.04	545.09	8.14	544.44	8.13	-0.65	-0.12
24	68	44	20	1088	0.91350	295.24	0.57353	105.53	142	1.21	2.91	549.35	8.08	548.92	8.07	-0.43	-0.08
24	69	45	21	1104	0.90737	296.13	0.57609	105.45	154.32	0	2.79	550.88	7.98	550.45	7.98	-0.43	-0.08
24	70	46	22	1120	0.90122	296.96	0.57857	105.39	166.98	1.2	2.67	554.54	7.92	554.33	7.92	-0.21	-0.04
24	71	47	23	1136	0.89506	297.73	0.58099	105.33	179.97	0	2.57	555.53	7.82	555.33	7.82	-0.2	-0.04
24	72	48	24	1152	0.88889	298.45	0.58333	105.3	193.28	1.18	2.47	558.62	7.76	558.65	7.76	0.03	0.01
24	73	49	25	1168	0.88272	299.12	0.58562	105.27	206.89	0	2.37	559.1	7.66	559.14	7.66	0.04	0.01
24	74	50	26	1184	0.87655	299.73	0.58784	105.25	220.79	1.16	2.29	561.68	7.59	561.95	7.59	0.28	0.05
24	75	51	27	1200	0.87040	300.3	0.59000	105.25	234.96	0	2.2	561.68	7.49	561.97	7.49	0.29	0.05
24	76	52	28	1216	0.86427	300.83	0.59211	105.26	249.41	1.15	2.13	563.77	7.42	564.29	7.42	0.52	0.09
24	77	53	29	1232	0.85816	301.32	0.59416	105.27	264.12	0	2.06	563.35	7.32	563.87	7.32	0.53	0.09
24	78	54	30	1248	0.85207	301.77	0.59615	105.3	279.07	1.13	1.99	564.98	7.24	565.74	7.25	0.75	0.13
24	79	55	31	1264	0.84602	302.18	0.59810	105.34	294.26	0	1.92	564.15	7.14	564.91	7.15	0.76	0.13
24	80	56	32	1280	0.84000	302.56	0.60000	105.38	309.68	1.12	1.86	565.37	7.07	566.34	7.08	0.98	0.17
24	81	57	33	1296	0.83402	302.9	0.60185	105.43	325.32	0	1.81	564.15	6.96	565.13	6.98	0.97	0.17
24	82	58	34	1312	0.82808	303.21	0.60366	105.49	341.18	1.1	1.75	564.98	6.89	566.16	6.9	1.18	0.21
24	83	59	35	1328	0.82218	303.5	0.60542	105.55	357.24	0	1.7	563.41	6.79	564.58	6.8	1.16	0.21
24	84	60	36	1344	0.81633	303.75	0.60714	105.62	373.5	1.09	1.65	563.87	6.71	565.22	6.73	1.36	0.24
Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
25	49	24	-1	784	0.99958	259.67	0.49490	121.29	0.49	0	9.18	411.73	8.4	414.89	8.47	3.16	0.76
25	50	25	0	800	1.00000	263.3	0.50000	120.45	0	-1.41	10	424.83	8.5	427.45	8.55	2.61	0.61
25	51	26	1	816	0.99962	266.69	0.50490	119.68	0.47	0	9.21	438.36	8.6	439.03	8.61	0.67	0.15
25	52	27	2	832	0.99852	269.87	0.50962	118.98	1.85	-1.39	8.51	448.42	8.62	450.32	8.66	1.9	0.42
25	53	28	3	848	0.99680	272.85	0.51415	118.33	4.08	0	7.88	460.62	8.69	460.66	8.69	0.04	0.01
25	54	29	4	864	0.99451	275.64	0.51852	117.74	7.12	-1.36	7.33	469.46	8.69	470.79	8.72	1.33	0.28
25	55	30	5	880	0.99174	278.25	0.52273	117.19	10.93	0	6.83	480.45	8.74	479.99	8.73	-0.45	-0.09
25	56	31	6	896	0.98852	280.7	0.52679	116.69	15.47	-1.34	6.38	488.17	8.72	489.07	8.73	0.89	0.18
25	57	32	7	912	0.98492	283	0.53070	116.24	20.69	0	5.97	498.04	8.74	497.23	8.72	-0.81	-0.16
25	58	33	8	928	0.98098	285.15	0.53448	115.82	26.57	-1.31	5.6	504.75	8.7	505.33	8.71	0.58	0.11
25	59	34	9	944	0.97673	287.17	0.53814	115.44	33.07	0	5.27	513.59	8.7	512.54	8.69	-1.05	-0.21
25	60	35	10	960	0.97222	289.07	0.54167	115.09	40.15	-1.29	4.97	519.36	8.66	519.74	8.66	0.38	0.07
25	61	36	11	976	0.96748	290.85	0.54508	114.78	47.8	0	4.69	527.26	8.64	526.07	8.62	-1.19	-0.23
25	62	37	12	992	0.96254	292.51	0.54839	114.49	55.99	-1.27	4.44	532.18	8.58	532.45	8.59	0.28	0.05
25	63	38	13	1008	0.95742	294.08	0.55159	114.23	64.68	0	4.2	539.21	8.56	537.97	8.54	-1.24	-0.23
25	64	39	14	1024	0.95215	295.55	0.55469	114	73.86	-1.25	3.99	543.34	8.49	543.59	8.49	0.25	0.05

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
25	65	40	15	1040	0.94675	296.92	0.55769	113.79	83.5	0	3.79	549.58	8.46	548.37	8.44	-1.22	-0.22
25	66	41	16	1056	0.94123	298.21	0.56061	113.6	93.59	-1.23	3.61	552.98	8.38	553.28	8.38	0.3	0.05
25	67	42	17	1072	0.93562	299.42	0.56343	113.43	104.1	0	3.44	558.49	8.34	557.36	8.32	-1.13	-0.2
25	68	43	18	1088	0.92993	300.56	0.56618	113.28	115.02	-1.21	3.29	561.22	8.25	561.61	8.26	0.39	0.07
25	69	44	19	1104	0.92418	301.62	0.56884	113.15	126.32	0	3.15	566.05	8.2	565.05	8.19	-1	-0.18
25	70	45	20	1120	0.91837	302.61	0.57143	113.04	138	-1.2	3.01	568.16	8.12	568.69	8.12	0.52	0.09
25	71	46	21	1136	0.91252	303.54	0.57394	112.95	150.03	0	2.89	572.37	8.06	571.53	8.05	-0.84	-0.15
25	72	47	22	1152	0.90664	304.41	0.57639	112.87	162.41	-1.18	2.77	573.91	7.97	574.6	7.98	0.69	0.12
25	73	48	23	1168	0.90073	305.22	0.57877	112.8	175.11	0	2.66	577.53	7.91	576.88	7.9	-0.66	-0.11
25	74	49	24	1184	0.89481	305.98	0.58108	112.75	188.13	-1.16	2.56	578.55	7.82	579.41	7.83	0.87	0.15
25	75	50	25	1200	0.88889	306.68	0.58333	112.71	201.44	0	2.47	581.63	7.76	581.17	7.75	-0.46	-0.08
25	76	51	26	1216	0.88296	307.34	0.58553	112.68	215.05	-1.15	2.38	582.15	7.66	583.21	7.67	1.06	0.18
25	77	52	27	1232	0.87705	307.95	0.58766	112.67	228.94	0	2.29	584.73	7.59	584.48	7.59	-0.26	-0.04
25	78	53	28	1248	0.87114	308.52	0.58974	112.66	243.1	-1.13	2.21	584.8	7.5	586.05	7.51	1.25	0.21
25	79	54	29	1264	0.86525	309.05	0.59177	112.67	257.51	0	2.14	586.91	7.43	586.86	7.43	-0.05	-0.01
25	80	55	30	1280	0.85938	309.54	0.59375	112.68	272.18	-1.12	2.07	586.55	7.33	587.99	7.35	1.44	0.24
25	81	56	31	1296	0.85353	309.99	0.59568	112.71	287.08	0	2	588.23	7.26	588.37	7.26	0.14	0.02
25	82	57	32	1312	0.84771	310.4	0.59756	112.74	302.22	-1.1	1.94	587.48	7.16	589.09	7.18	1.61	0.27
25	83	58	33	1328	0.84192	310.78	0.59940	112.78	317.58	0	1.88	588.74	7.09	589.06	7.1	0.32	0.05
25	84	59	34	1344	0.83617	311.13	0.60119	112.83	333.15	-1.09	1.83	587.62	7	589.39	7.02	1.77	0.3
25	85	60	35	1360	0.83045	311.45	0.60294	112.89	348.93	0	1.77	588.5	6.92	588.98	6.93	0.48	0.08
25	86	61	36	1376	0.82477	311.75	0.60465	112.95	364.92	-1.08	1.72	587.03	6.83	588.95	6.85	1.91	0.33
25	87	62	37	1392	0.81913	312.01	0.60632	113.02	381.09	0	1.68	587.55	6.75	588.18	6.76	0.62	0.11
25	88	63	38	1408	0.81353	312.25	0.60796	113.1	397.45	-1.07	1.63	585.76	6.66	587.79	6.68	2.03	0.35
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
26	51	25	-1	816	0.99962	266.69	0.49510	129.45	0.47	0	9.21	428.59	8.4	431.93	8.47	3.34	0.77
26	52	26	0	832	1.00000	270.27	0.50000	128.59	0	1.39	10	444.52	8.55	446.01	8.58	1.49	0.33
26	53	27	1	848	0.99964	273.63	0.50472	127.8	0.45	0	9.24	455.36	8.59	456.28	8.61	0.93	0.2
26	54	28	2	864	0.99863	276.78	0.50926	127.07	1.78	1.36	8.56	468.29	8.67	469.07	8.69	0.78	0.17
26	55	29	3	880	0.99703	279.74	0.51364	126.4	3.94	0	7.95	477.88	8.69	478.18	8.69	0.3	0.06
26	56	30	4	896	0.99490	282.51	0.51786	125.78	6.88	1.34	7.41	489.57	8.74	489.79	8.75	0.22	0.04
26	57	31	5	912	0.99231	285.12	0.52193	125.22	10.56	0	6.92	498.02	8.74	497.84	8.73	-0.19	-0.04
26	58	32	6	928	0.98930	287.57	0.52586	124.7	14.94	1.31	6.48	508.58	8.77	508.36	8.76	-0.21	-0.04
26	59	33	7	944	0.98592	289.88	0.52966	124.22	20	0	6.08	515.98	8.75	515.44	8.74	-0.54	-0.11
26	60	34	8	960	0.98222	292.04	0.53333	123.78	25.7	1.29	5.71	525.49	8.76	524.96	8.75	-0.52	-0.1
26	61	35	9	976	0.97823	294.08	0.53689	123.37	32	0	5.38	531.93	8.72	531.14	8.71	-0.79	-0.15
26	62	36	10	992	0.97399	295.99	0.54032	123.01	38.88	1.27	5.08	540.47	8.72	539.75	8.71	-0.72	-0.13
26	63	37	11	1008	0.96951	297.79	0.54365	122.67	46.31	0	4.8	546.03	8.67	545.1	8.65	-0.93	-0.17
26	64	38	12	1024	0.96484	299.49	0.54688	122.36	54.26	1.25	4.55	553.69	8.65	552.87	8.64	-0.82	-0.15
26	65	39	13	1040	0.96000	301.08	0.55000	122.08	62.72	0	4.32	558.44	8.59	557.45	8.58	-0.98	-0.18
26	66	40	14	1056	0.95501	302.58	0.55303	121.83	71.66	1.23	4.1	565.27	8.56	564.43	8.55	-0.84	-0.15
26	67	41	15	1072	0.94988	303.99	0.55597	121.6	81.05	0	3.91	569.27	8.5	568.3	8.48	-0.97	-0.17
26	68	42	16	1088	0.94464	305.31	0.55882	121.39	90.88	1.21	3.72	575.36	8.46	574.55	8.45	-0.8	-0.14
26	69	43	17	1104	0.93930	306.55	0.56159	121.21	101.13	0	3.55	578.66	8.39	577.77	8.37	-0.9	-0.16
26	70	44	18	1120	0.93388	307.72	0.56429	121.04	111.78	1.2	3.4	584.05	8.34	583.34	8.33	-0.71	-0.12
26	71	45	19	1136	0.92839	308.82	0.56690	120.9	122.82	0	3.25	586.72	8.26	585.94	8.25	-0.78	-0.13

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
26	72	46	20	1152	0.92284	309.85	0.56944	120.77	134.22	1.18	3.11	591.45	8.21	590.88	8.21	-0.58	-0.1
26	73	47	21	1168	0.91725	310.82	0.57192	120.66	145.98	0	2.99	593.54	8.13	592.91	8.12	-0.63	-0.11
26	74	48	22	1184	0.91161	311.72	0.57432	120.56	158.08	1.16	2.87	597.67	8.08	597.26	8.07	-0.41	-0.07
26	75	49	23	1200	0.90596	312.57	0.57667	120.48	170.5	0	2.76	599.2	7.99	598.75	7.98	-0.45	-0.08
26	76	50	24	1216	0.90028	313.37	0.57895	120.42	183.24	1.15	2.65	602.78	7.93	602.55	7.93	-0.23	-0.04
26	77	51	25	1232	0.89459	314.11	0.58117	120.36	196.28	0	2.56	603.8	7.84	603.54	7.84	-0.26	-0.04
26	78	52	26	1248	0.88889	314.81	0.58333	120.32	209.61	1.13	2.47	606.86	7.78	606.82	7.78	-0.04	-0.01
26	79	53	27	1264	0.88319	315.46	0.58544	120.29	223.22	0	2.38	607.41	7.69	607.34	7.69	-0.06	-0.01
26	80	54	28	1280	0.87750	316.06	0.58750	120.28	237.1	1.12	2.3	609.98	7.62	610.13	7.63	0.16	0.03
26	81	55	29	1296	0.87182	316.63	0.58951	120.27	251.24	0	2.22	610.09	7.53	610.22	7.53	0.13	0.02
26	82	56	30	1312	0.86615	317.15	0.59146	120.28	265.62	1.1	2.15	612.2	7.47	612.55	7.47	0.35	0.06
26	83	57	31	1328	0.86050	317.64	0.59337	120.29	280.25	0	2.08	611.9	7.37	612.22	7.38	0.32	0.05
26	84	58	32	1344	0.85488	318.1	0.59524	120.31	295.11	1.09	2.02	613.59	7.3	614.12	7.31	0.53	0.09
26	85	59	33	1360	0.84927	318.51	0.59706	120.35	310.2	0	1.96	612.9	7.21	613.4	7.22	0.5	0.08
26	86	60	34	1376	0.84370	318.9	0.59884	120.39	325.5	1.08	1.9	614.2	7.14	614.9	7.15	0.7	0.11
26	87	61	35	1392	0.83816	319.26	0.60058	120.43	341.01	0	1.85	613.15	7.05	613.81	7.06	0.66	0.11
26	88	62	36	1408	0.83265	319.58	0.60227	120.49	356.72	1.07	1.79	614.07	6.98	614.92	6.99	0.85	0.14
26	89	63	37	1424	0.82717	319.88	0.60393	120.55	372.63	0	1.74	612.69	6.88	613.49	6.89	0.8	0.13
26	90	64	38	1440	0.82173	320.15	0.60556	120.62	388.72	1.05	1.7	613.25	6.81	614.24	6.82	0.98	0.16
26	91	65	39	1456	0.81633	320.4	0.60714	120.7	405	0	1.65	611.55	6.72	612.47	6.73	0.92	0.15
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
27	53	26	-1	848	0.99964	273.63	0.49528	137.82	0.45	0	9.24	445.34	8.4	448.86	8.47	3.53	0.79
27	54	27	0	864	1.00000	277.16	0.50000	136.94	0	-1.36	10	458.54	8.49	461.56	8.55	3.02	0.65
27	55	28	1	880	0.99967	280.48	0.50455	136.12	0.44	0	9.26	472.22	8.59	473.33	8.61	1.11	0.23
27	56	29	2	896	0.99872	283.6	0.50893	135.38	1.72	-1.34	8.61	482.58	8.62	484.83	8.66	2.26	0.47
27	57	30	3	912	0.99723	286.54	0.51316	134.68	3.8	0	8.02	495	8.68	495.42	8.69	0.42	0.09
27	58	31	4	928	0.99524	289.3	0.51724	134.04	6.64	-1.31	7.49	504.19	8.69	505.82	8.72	1.63	0.32
27	59	32	5	944	0.99282	291.9	0.52119	133.45	10.21	0	7.01	515.44	8.74	515.32	8.73	-0.12	-0.02
27	60	33	6	960	0.99000	294.35	0.52500	132.91	14.46	-1.29	6.57	523.56	8.73	524.7	8.74	1.14	0.22
27	61	34	7	976	0.98683	296.66	0.52869	132.41	19.36	0	6.18	533.74	8.75	533.21	8.74	-0.54	-0.1
27	62	35	8	992	0.98335	298.84	0.53226	131.95	24.88	-1.27	5.82	540.88	8.72	541.65	8.74	0.77	0.14
27	63	36	9	1008	0.97959	300.89	0.53571	131.52	31	0	5.49	550.08	8.73	549.24	8.72	-0.84	-0.15
27	64	37	10	1024	0.97559	302.82	0.53906	131.13	37.68	-1.25	5.19	556.3	8.69	556.82	8.7	0.52	0.09
27	65	38	11	1040	0.97136	304.64	0.54231	130.78	44.91	0	4.91	564.59	8.69	563.55	8.67	-1.04	-0.18
27	66	39	12	1056	0.96694	306.36	0.54546	130.45	52.64	-1.23	4.66	569.98	8.64	570.33	8.64	0.35	0.06
27	67	40	13	1072	0.96235	307.98	0.54851	130.15	60.88	0	4.43	577.43	8.62	576.28	8.6	-1.15	-0.2
27	68	41	14	1088	0.95761	309.5	0.55147	129.87	69.58	-1.21	4.21	582.04	8.56	582.31	8.56	0.27	0.05
27	69	42	15	1104	0.95274	310.94	0.55435	129.63	78.73	0	4.01	588.71	8.53	587.53	8.51	-1.18	-0.2
27	70	43	16	1120	0.94776	312.29	0.55714	129.4	88.32	-1.2	3.83	592.62	8.47	592.87	8.47	0.25	0.04
27	71	44	17	1136	0.94267	313.57	0.55986	129.2	98.32	0	3.66	598.57	8.43	597.41	8.41	-1.16	-0.19
27	72	45	18	1152	0.93750	314.77	0.56250	129.02	108.72	-1.18	3.5	601.82	8.36	602.1	8.36	0.29	0.05
27	73	46	19	1168	0.93226	315.9	0.56507	128.85	119.5	0	3.35	607.1	8.32	606.01	8.3	-1.09	-0.18
27	74	47	20	1184	0.92695	316.97	0.56757	128.71	130.64	-1.16	3.21	609.73	8.24	610.1	8.24	0.36	0.06
27	75	48	21	1200	0.92160	317.97	0.57000	128.58	142.14	0	3.09	614.4	8.19	613.41	8.18	-0.99	-0.16
27	76	49	22	1216	0.91621	318.91	0.57237	128.47	153.97	-1.15	2.96	616.46	8.11	616.94	8.12	0.47	0.08
27	77	50	23	1232	0.91078	319.8	0.57468	128.37	166.13	0	2.85	620.55	8.06	619.69	8.05	-0.86	-0.14

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
27	78	51	24	1248	0.90533	320.63	0.57692	128.29	178.6	-1.13	2.75	622.09	7.98	622.69	7.98	0.6	0.1
27	79	52	25	1264	0.89986	321.41	0.57911	128.23	191.38	0	2.65	625.63	7.92	624.93	7.91	-0.71	-0.11
27	80	53	26	1280	0.89438	322.14	0.58125	128.17	204.44	-1.12	2.55	626.68	7.83	627.43	7.84	0.75	0.12
27	81	54	27	1296	0.88889	322.83	0.58333	128.13	217.78	0	2.47	629.73	7.77	629.18	7.77	-0.55	-0.09
27	82	55	28	1312	0.88340	323.47	0.58537	128.1	231.39	-1.1	2.38	630.32	7.69	631.21	7.7	0.9	0.14
27	83	56	29	1328	0.87792	324.07	0.58735	128.09	245.26	0	2.31	632.89	7.63	632.5	7.62	-0.39	-0.06
27	84	57	30	1344	0.87245	324.63	0.58929	128.08	259.38	-1.09	2.23	633.05	7.54	634.1	7.55	1.05	0.16
27	85	58	31	1360	0.86699	325.16	0.59118	128.08	273.74	0	2.16	635.18	7.47	634.95	7.47	-0.23	-0.04
27	86	59	32	1376	0.86155	325.65	0.59302	128.1	288.33	-1.08	2.1	634.95	7.38	636.13	7.4	1.19	0.19
27	87	60	33	1392	0.85612	326.1	0.59483	128.12	303.15	0	2.03	636.67	7.32	636.58	7.32	-0.08	-0.01
27	88	61	34	1408	0.85072	326.52	0.59659	128.15	318.18	-1.07	1.97	636.05	7.23	637.37	7.24	1.32	0.21
27	89	62	35	1424	0.84535	326.91	0.59832	128.19	333.43	0	1.92	637.39	7.16	637.44	7.16	0.05	0.01
27	90	63	36	1440	0.84000	327.27	0.60000	128.23	348.88	-1.05	1.86	636.42	7.07	637.86	7.09	1.43	0.22
27	91	64	37	1456	0.83468	327.6	0.60165	128.29	364.53	0	1.81	637.39	7	637.56	7.01	0.17	0.03
27	92	65	38	1472	0.82940	327.91	0.60326	128.35	380.36	-1.04	1.76	636.1	6.91	637.63	6.93	1.53	0.24
27	93	66	39	1488	0.82414	328.19	0.60484	128.42	396.39	0	1.72	636.72	6.85	636.98	6.85	0.26	0.04
27	94	67	40	1504	0.81892	328.45	0.60638	128.49	412.58	-1.03	1.67	635.12	6.76	636.72	6.77	1.6	0.25
Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
28	55	27	-1	880	0.99967	280.48	0.49546	146.39	0.44	0	9.26	461.95	8.4	465.65	8.47	3.69	0.79
28	56	28	0	896	1.00000	283.96	0.50000	145.49	0	1.34	10	477.88	8.53	479.83	8.57	1.95	0.41
28	57	29	1	912	0.99969	287.24	0.50439	144.66	0.42	0	9.29	488.96	8.58	490.31	8.6	1.35	0.27
28	58	30	2	928	0.99881	290.34	0.50862	143.89	1.66	1.31	8.65	502.08	8.66	503.27	8.68	1.19	0.24
28	59	31	3	944	0.99742	293.26	0.51271	143.17	3.67	0	8.08	511.97	8.68	512.64	8.69	0.67	0.13
28	60	32	4	960	0.99556	296.01	0.51667	142.51	6.42	1.29	7.56	523.9	8.73	524.47	8.74	0.57	0.11
28	61	33	5	976	0.99328	298.6	0.52049	141.9	9.88	0	7.09	532.71	8.73	532.84	8.74	0.13	0.02
28	62	34	6	992	0.99064	301.05	0.52419	141.34	14	1.27	6.66	543.54	8.77	543.63	8.77	0.09	0.02
28	63	35	7	1008	0.98765	303.37	0.52778	140.81	18.75	0	6.27	551.34	8.75	551.06	8.75	-0.28	-0.05
28	64	36	8	1024	0.98438	305.55	0.53125	140.33	24.12	1.25	5.92	561.17	8.77	560.89	8.76	-0.28	-0.05
28	65	37	9	1040	0.98083	307.61	0.53462	139.88	30.06	0	5.59	568.03	8.74	567.45	8.73	-0.58	-0.1
28	66	38	10	1056	0.97704	309.56	0.53788	139.47	36.56	1.23	5.29	576.93	8.74	576.4	8.73	-0.53	-0.09
28	67	39	11	1072	0.97305	311.4	0.54105	139.09	43.59	0	5.02	582.94	8.7	582.16	8.69	-0.78	-0.13
28	68	40	12	1088	0.96886	313.14	0.54412	138.74	51.12	1.21	4.77	590.98	8.69	590.29	8.68	-0.69	-0.12
28	69	41	13	1104	0.96450	314.78	0.54710	138.42	59.14	0	4.53	596.19	8.64	595.29	8.63	-0.9	-0.15
28	70	42	14	1120	0.96000	316.33	0.55000	138.13	67.62	1.2	4.32	603.43	8.62	602.66	8.61	-0.78	-0.13
28	71	43	15	1136	0.95537	317.79	0.55282	137.86	76.55	0	4.12	607.91	8.56	606.97	8.55	-0.94	-0.16
28	72	44	16	1152	0.95062	319.18	0.55556	137.62	85.9	1.18	3.93	614.41	8.53	613.62	8.52	-0.79	-0.13
28	73	45	17	1168	0.94577	320.48	0.55822	137.4	95.66	0	3.76	618.22	8.47	617.29	8.46	-0.93	-0.15
28	74	46	18	1184	0.94083	321.71	0.56081	137.2	105.82	1.16	3.6	624.03	8.43	623.27	8.42	-0.76	-0.12
28	75	47	19	1200	0.93582	322.88	0.56333	137.02	116.35	0	3.45	627.2	8.36	626.33	8.35	-0.87	-0.14
28	76	48	20	1216	0.93075	323.97	0.56579	136.86	127.25	1.15	3.31	632.38	8.32	631.7	8.31	-0.68	-0.11
28	77	49	21	1232	0.92562	325.01	0.56818	136.72	138.5	0	3.18	634.96	8.25	634.19	8.24	-0.77	-0.12
28	78	50	22	1248	0.92045	325.98	0.57051	136.59	150.08	1.13	3.06	639.54	8.2	638.97	8.19	-0.57	-0.09
28	79	51	23	1264	0.91524	326.9	0.57279	136.48	161.98	0	2.94	641.58	8.12	640.93	8.11	-0.65	-0.1
28	80	52	24	1280	0.91000	327.77	0.57500	136.38	174.19	1.12	2.84	645.61	8.07	645.17	8.06	-0.44	-0.07
28	81	53	25	1296	0.90474	328.59	0.57716	136.3	186.71	0	2.74	647.14	7.99	646.63	7.98	-0.5	-0.08
28	82	54	26	1312	0.89947	329.35	0.57927	136.24	199.51	1.1	2.64	650.64	7.93	650.35	7.93	-0.29	-0.04

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
28	83	55	27	1328	0.89418	330.07	0.58133	136.18	212.59	0	2.55	651.7	7.85	651.35	7.85	-0.35	-0.05
28	84	56	28	1344	0.88889	330.75	0.58333	136.14	225.94	1.09	2.47	654.72	7.79	654.58	7.79	-0.14	-0.02
28	85	57	29	1360	0.88360	331.39	0.58529	136.11	239.55	0	2.39	655.33	7.71	655.14	7.71	-0.2	-0.03
28	86	58	30	1376	0.87831	331.98	0.58721	136.09	253.41	1.08	2.31	657.9	7.65	657.92	7.65	0.02	0
28	87	59	31	1392	0.87304	332.54	0.58908	136.08	267.52	0	2.24	658.1	7.56	658.06	7.56	-0.04	-0.01
28	88	60	32	1408	0.86777	333.06	0.59091	136.09	281.85	1.07	2.17	660.24	7.5	660.4	7.5	0.16	0.02
28	89	61	33	1424	0.86252	333.55	0.59270	136.1	296.41	0	2.11	660.05	7.42	660.15	7.42	0.1	0.02
28	90	62	34	1440	0.85728	334.01	0.59444	136.12	311.19	1.05	2.05	661.78	7.35	662.09	7.36	0.3	0.05
28	91	63	35	1456	0.85207	334.43	0.59615	136.15	326.18	0	1.99	661.23	7.27	661.46	7.27	0.24	0.04
28	92	64	36	1472	0.84688	334.82	0.59783	136.18	341.38	1.04	1.93	662.59	7.2	663.02	7.21	0.43	0.06
28	93	65	37	1488	0.84172	335.19	0.59946	136.23	356.77	0	1.88	661.69	7.11	662.04	7.12	0.35	0.05
28	94	66	38	1504	0.83658	335.53	0.60106	136.28	372.36	1.03	1.83	662.69	7.05	663.23	7.06	0.53	0.08
28	95	67	39	1520	0.83147	335.84	0.60263	136.34	388.13	0	1.78	661.47	6.96	661.92	6.97	0.45	0.07
28	96	68	40	1536	0.82639	336.12	0.60417	136.41	404.08	1.02	1.74	662.14	6.9	662.76	6.9	0.62	0.09
28	97	69	41	1552	0.82134	336.39	0.60567	136.49	420.21	0	1.69	660.62	6.81	661.14	6.82	0.52	0.08
28	98	70	42	1568	0.81633	336.63	0.60714	136.57	436.5	1.01	1.65	660.97	6.74	661.65	6.75	0.68	0.1
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
29	57	28	-1	912	0.99969	287.24	0.49561	155.18	0.42	0	9.29	478.45	8.39	482.32	8.46	3.87	0.8
29	58	29	0	928	1.00000	290.68	0.50000	154.26	0	-1.31	10	491.75	8.48	495.15	8.54	3.4	0.69
29	59	30	1	944	0.99971	293.93	0.50424	153.4	0.41	0	9.31	505.57	8.57	507.09	8.59	1.52	0.3
29	60	31	2	960	0.99889	297	0.50833	152.61	1.61	-1.29	8.69	516.19	8.6	518.78	8.65	2.59	0.5
29	61	32	3	976	0.99758	299.9	0.51230	151.87	3.56	0	8.13	528.81	8.67	529.6	8.68	0.79	0.15
29	62	33	4	992	0.99584	302.63	0.51613	151.19	6.22	-1.27	7.63	538.31	8.68	540.23	8.71	1.92	0.36
29	63	34	5	1008	0.99370	305.22	0.51984	150.56	9.57	0	7.17	549.82	8.73	550.01	8.73	0.19	0.04
29	64	35	6	1024	0.99121	307.67	0.52344	149.97	13.57	-1.25	6.75	558.29	8.72	559.67	8.74	1.38	0.25
29	65	36	7	1040	0.98840	309.99	0.52692	149.42	18.19	0	6.36	568.77	8.75	568.49	8.75	-0.27	-0.05
29	66	37	8	1056	0.98531	312.18	0.53030	148.92	23.4	-1.23	6.01	576.29	8.73	577.25	8.75	0.97	0.17
29	67	38	9	1072	0.98196	314.25	0.53358	148.45	29.18	0	5.69	585.81	8.74	585.19	8.73	-0.62	-0.11
29	68	39	10	1088	0.97837	316.21	0.53677	148.02	35.5	-1.21	5.39	592.45	8.71	593.11	8.72	0.66	0.11
29	69	40	11	1104	0.97459	318.07	0.53986	147.62	42.34	0	5.12	601.09	8.71	600.22	8.7	-0.87	-0.15
29	70	41	12	1120	0.97061	319.83	0.54286	147.25	49.68	-1.2	4.87	606.92	8.67	607.36	8.68	0.44	0.07
29	71	42	13	1136	0.96648	321.49	0.54578	146.91	57.5	0	4.63	614.74	8.66	613.7	8.64	-1.04	-0.17
29	72	43	14	1152	0.96219	323.06	0.54861	146.6	65.77	-1.18	4.42	619.81	8.61	620.12	8.61	0.31	0.05
29	73	44	15	1168	0.95778	324.55	0.55137	146.31	74.48	0	4.22	626.88	8.59	625.75	8.57	-1.13	-0.18
29	74	45	16	1184	0.95325	325.96	0.55405	146.05	83.61	-1.16	4.03	631.25	8.53	631.49	8.53	0.24	0.04
29	75	46	17	1200	0.94862	327.29	0.55667	145.81	93.15	0	3.86	637.61	8.5	636.45	8.49	-1.16	-0.18
29	76	47	18	1216	0.94391	328.55	0.55921	145.59	103.07	-1.15	3.7	641.33	8.44	641.55	8.44	0.22	0.03
29	77	48	19	1232	0.93911	329.75	0.56169	145.39	113.37	0	3.55	647.03	8.4	645.89	8.39	-1.15	-0.18
29	78	49	20	1248	0.93425	330.87	0.56410	145.22	124.03	-1.13	3.41	650.15	8.34	650.4	8.34	0.25	0.04
29	79	50	21	1264	0.92934	331.94	0.56646	145.06	135.03	0	3.27	655.24	8.29	654.15	8.28	-1.09	-0.17
29	80	51	22	1280	0.92438	332.95	0.56875	144.92	146.37	-1.12	3.15	657.8	8.22	658.1	8.23	0.31	0.05
29	81	52	23	1296	0.91937	333.9	0.57099	144.79	158.03	0	3.03	662.31	8.18	661.31	8.16	-1.01	-0.15
29	82	53	24	1312	0.91434	334.8	0.57317	144.68	170	-1.1	2.93	664.34	8.1	664.74	8.11	0.39	0.06
29	83	54	25	1328	0.90928	335.65	0.57530	144.59	182.27	0	2.82	668.32	8.05	667.42	8.04	-0.9	-0.14
29	84	55	26	1344	0.90420	336.45	0.57738	144.5	194.82	-1.09	2.73	669.86	7.97	670.36	7.98	0.49	0.07
29	85	56	27	1360	0.89910	337.2	0.57941	144.44	207.65	0	2.63	673.34	7.92	672.56	7.91	-0.79	-0.12

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
29	86	57	28	1376	0.89400	337.91	0.58140	144.38	220.75	-1.08	2.55	674.42	7.84	675.03	7.85	0.61	0.09
29	87	58	29	1392	0.88889	338.58	0.58333	144.34	234.11	0	2.47	677.43	7.79	676.77	7.78	-0.66	-0.1
29	88	59	30	1408	0.88378	339.21	0.58523	144.31	247.72	-1.07	2.39	678.08	7.71	678.8	7.71	0.72	0.11
29	89	60	31	1424	0.87868	339.8	0.58708	144.29	261.57	0	2.32	680.65	7.65	680.11	7.64	-0.54	-0.08
29	90	61	32	1440	0.87358	340.36	0.58889	144.28	275.66	-1.05	2.25	680.9	7.57	681.73	7.57	0.83	0.12
29	91	62	33	1456	0.86849	340.88	0.59066	144.28	289.97	0	2.18	683.05	7.51	682.63	7.5	-0.42	-0.06
29	92	63	34	1472	0.86342	341.36	0.59239	144.29	304.5	-1.04	2.12	682.92	7.42	683.85	7.43	0.94	0.14
29	93	64	35	1488	0.85837	341.82	0.59409	144.31	319.24	0	2.06	684.68	7.36	684.37	7.36	-0.31	-0.05
29	94	65	36	1504	0.85333	342.24	0.59575	144.34	334.19	-1.03	2	684.19	7.28	685.22	7.29	1.03	0.15
29	95	66	37	1520	0.84831	342.64	0.59737	144.38	349.34	0	1.95	685.59	7.22	685.37	7.21	-0.22	-0.03
29	96	67	38	1536	0.84332	343.01	0.59896	144.42	364.68	-1.02	1.9	684.76	7.13	685.87	7.14	1.1	0.16
29	97	68	39	1552	0.83835	343.35	0.60052	144.47	380.21	0	1.85	685.81	7.07	685.67	7.07	-0.15	-0.02
29	98	69	40	1568	0.83340	343.67	0.60204	144.53	395.92	-1.01	1.8	684.67	6.99	685.83	7	1.16	0.17
29	99	70	41	1584	0.82849	343.96	0.60354	144.6	411.8	0	1.76	685.39	6.92	685.3	6.92	-0.09	-0.01
29	100	71	42	1600	0.82360	344.23	0.60500	144.67	427.86	-1	1.71	683.95	6.84	685.15	6.85	1.19	0.17
29	101	72	43	1616	0.81874	344.48	0.60644	144.75	444.08	0	1.67	684.36	6.78	684.3	6.78	-0.06	-0.01
29	102	73	44	1632	0.81392	344.71	0.60784	144.84	460.46	-0.99	1.63	682.64	6.69	683.84	6.7	1.2	0.18
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
30	59	29	-1	944	0.99971	293.93	0.49576	164.16	0.41	0	9.31	494.81	8.39	498.84	8.45	4.03	0.81
30	60	30	0	960	1.00000	297.33	0.50000	163.22	0	1.29	10	510.74	8.51	513.11	8.55	2.37	0.46
30	61	31	1	976	0.99973	300.54	0.50410	162.35	0.4	0	9.33	522.05	8.56	523.79	8.59	1.74	0.33
30	62	32	2	992	0.99896	303.58	0.50807	161.54	1.56	1.27	8.73	535.33	8.63	536.9	8.66	1.57	0.29
30	63	33	3	1008	0.99773	306.46	0.51191	160.78	3.44	0	8.19	545.5	8.66	546.52	8.67	1.02	0.19
30	64	34	4	1024	0.99609	309.19	0.51563	160.07	6.03	1.25	7.69	557.65	8.71	558.56	8.73	0.91	0.16
30	65	35	5	1040	0.99408	311.77	0.51923	159.42	9.28	0	7.24	566.77	8.72	567.21	8.73	0.43	0.08
30	66	36	6	1056	0.99174	314.21	0.52273	158.81	13.16	1.23	6.83	577.87	8.76	578.25	8.76	0.38	0.07
30	67	37	7	1072	0.98908	316.53	0.52612	158.24	17.65	0	6.45	586.02	8.75	586	8.75	-0.03	-0.01
30	68	38	8	1088	0.98616	318.73	0.52941	157.71	22.72	1.21	6.1	596.15	8.77	596.12	8.77	-0.04	-0.01
30	69	39	9	1104	0.98299	320.81	0.53261	157.22	28.34	0	5.78	603.4	8.74	603.02	8.74	-0.38	-0.06
30	70	40	10	1120	0.97959	322.78	0.53571	156.77	34.5	1.2	5.49	612.63	8.75	612.29	8.75	-0.34	-0.06
30	71	41	11	1136	0.97600	324.66	0.53873	156.35	41.17	0	5.22	619.05	8.72	618.41	8.71	-0.63	-0.1
30	72	42	12	1152	0.97222	326.43	0.54167	155.96	48.32	1.18	4.97	627.43	8.71	626.88	8.71	-0.56	-0.09
30	73	43	13	1168	0.96829	328.11	0.54452	155.6	55.94	0	4.73	633.08	8.67	632.28	8.66	-0.8	-0.13
30	74	44	14	1184	0.96421	329.71	0.54730	155.27	64.01	1.16	4.52	640.69	8.66	640	8.65	-0.69	-0.11
30	75	45	15	1200	0.96000	331.22	0.55000	154.96	72.52	0	4.32	645.62	8.61	644.72	8.6	-0.9	-0.14
30	76	46	16	1216	0.95568	332.65	0.55263	154.68	81.44	1.15	4.13	652.5	8.59	651.74	8.58	-0.76	-0.12
30	77	47	17	1232	0.95126	334.01	0.55520	154.43	90.76	0	3.96	656.76	8.53	655.82	8.52	-0.94	-0.14
30	78	48	18	1248	0.94675	335.3	0.55769	154.19	100.46	1.13	3.79	662.97	8.5	662.2	8.49	-0.78	-0.12
30	79	49	19	1264	0.94216	336.52	0.56013	153.98	110.54	0	3.64	666.61	8.44	665.68	8.43	-0.93	-0.14
30	80	50	20	1280	0.93750	337.68	0.56250	153.78	120.97	1.12	3.5	672.19	8.4	671.44	8.39	-0.75	-0.11
30	81	51	21	1296	0.93279	338.77	0.56482	153.61	131.74	0	3.37	675.25	8.34	674.37	8.33	-0.88	-0.13
30	82	52	22	1312	0.92802	339.81	0.56707	153.45	142.85	1.1	3.24	680.24	8.3	679.55	8.29	-0.69	-0.1
30	83	53	23	1328	0.92321	340.79	0.56928	153.31	154.27	0	3.12	682.76	8.23	681.96	8.22	-0.8	-0.12
30	84	54	24	1344	0.91837	341.72	0.57143	153.18	166	1.09	3.01	687.2	8.18	686.6	8.17	-0.6	-0.09
30	85	55	25	1360	0.91350	342.6	0.57353	153.07	178.03	0	2.91	689.21	8.11	688.51	8.1	-0.7	-0.1
30	86	56	26	1376	0.90860	343.43	0.57558	152.98	190.34	1.08	2.81	693.14	8.06	692.64	8.05	-0.5	-0.07

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
30	87	57	27	1392	0.90369	344.22	0.57759	152.9	202.93	0	2.72	694.67	7.98	694.08	7.98	-0.59	-0.08
30	88	58	28	1408	0.89876	344.96	0.57955	152.83	215.79	1.07	2.63	698.11	7.93	697.73	7.93	-0.38	-0.05
30	89	59	29	1424	0.89383	345.66	0.58146	152.77	228.91	0	2.54	699.2	7.86	698.74	7.85	-0.47	-0.07
30	90	60	30	1440	0.88889	346.32	0.58333	152.73	242.28	1.05	2.47	702.19	7.8	701.93	7.8	-0.26	-0.04
30	91	61	31	1456	0.88395	346.94	0.58517	152.7	255.89	0	2.39	702.86	7.72	702.52	7.72	-0.35	-0.05
30	92	62	32	1472	0.87902	347.53	0.58696	152.68	269.73	1.04	2.32	705.42	7.67	705.28	7.67	-0.14	-0.02
30	93	63	33	1488	0.87409	348.08	0.58871	152.67	283.8	0	2.25	705.7	7.59	705.47	7.59	-0.23	-0.03
30	94	64	34	1504	0.86917	348.6	0.59043	152.67	298.09	1.03	2.19	707.86	7.53	707.83	7.53	-0.03	0
30	95	65	35	1520	0.86427	349.09	0.59211	152.68	312.6	0	2.13	707.77	7.45	707.65	7.45	-0.12	-0.02
30	96	66	36	1536	0.85938	349.54	0.59375	152.69	327.3	1.02	2.07	709.55	7.39	709.62	7.39	0.07	0.01
30	97	67	37	1552	0.85450	349.97	0.59536	152.72	342.21	0	2.01	709.11	7.31	709.08	7.31	-0.03	0
30	98	68	38	1568	0.84965	350.37	0.59694	152.76	357.32	1.01	1.96	710.53	7.25	710.69	7.25	0.15	0.02
30	99	69	39	1584	0.84481	350.74	0.59849	152.8	372.61	0	1.91	709.77	7.17	709.82	7.17	0.05	0.01
30	100	70	40	1600	0.84000	351.09	0.60000	152.85	388.08	1	1.86	710.85	7.11	711.07	7.11	0.22	0.03
30	101	71	41	1616	0.83521	351.41	0.60149	152.91	403.73	0	1.82	709.77	7.03	709.88	7.03	0.11	0.02
30	102	72	42	1632	0.83045	351.71	0.60294	152.97	419.55	0.99	1.77	710.53	6.97	710.8	6.97	0.27	0.04
30	103	73	43	1648	0.82571	351.98	0.60437	153.05	435.54	0	1.73	709.16	6.89	709.31	6.89	0.14	0.02
30	104	74	44	1664	0.82101	352.24	0.60577	153.12	451.69	0.98	1.69	709.62	6.82	709.91	6.83	0.29	0.04
30	105	75	45	1680	0.81633	352.47	0.60714	153.21	468	0	1.65	707.97	6.74	708.13	6.74	0.16	0.02
Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
31	61	30	-1	976	0.99973	300.54	0.49590	173.35	0.4	0	9.33	511.05	8.38	515.25	8.45	4.2	0.82
31	62	31	0	992	1.00000	303.9	0.50000	172.39	0	-1.27	10	524.44	8.46	528.2	8.52	3.76	0.71
31	63	32	1	1008	0.99975	307.08	0.50397	171.5	0.38	0	9.36	538.39	8.55	540.3	8.58	1.9	0.35
31	64	33	2	1024	0.99902	310.1	0.50781	170.66	1.51	-1.25	8.77	549.25	8.58	552.16	8.63	2.91	0.53
31	65	34	3	1040	0.99787	312.96	0.51154	169.88	3.34	0	8.24	562.06	8.65	563.19	8.66	1.13	0.2
31	66	35	4	1056	0.99633	315.67	0.51515	169.16	5.85	-1.23	7.75	571.85	8.66	574.05	8.7	2.2	0.38
31	67	36	5	1072	0.99443	318.24	0.51866	168.48	9.01	0	7.31	583.58	8.71	584.08	8.72	0.5	0.09
31	68	37	6	1088	0.99222	320.69	0.52206	167.85	12.78	-1.21	6.9	592.38	8.71	594	8.74	1.62	0.27
31	69	38	7	1104	0.98971	323	0.52536	167.26	17.15	0	6.53	603.12	8.74	603.11	8.74	-0.01	0
31	70	39	8	1120	0.98694	325.21	0.52857	166.71	22.08	-1.2	6.19	611	8.73	612.16	8.75	1.16	0.19
31	71	40	9	1136	0.98393	327.29	0.53169	166.2	27.56	0	5.87	620.82	8.74	620.41	8.74	-0.41	-0.07
31	72	41	10	1152	0.98071	329.28	0.53472	165.73	33.56	-1.18	5.58	627.84	8.72	628.65	8.73	0.81	0.13
31	73	42	11	1168	0.97729	331.16	0.53767	165.29	40.05	0	5.31	636.81	8.72	636.1	8.71	-0.71	-0.11
31	74	43	12	1184	0.97370	332.95	0.54054	164.88	47.03	-1.16	5.06	643.04	8.69	643.58	8.7	0.54	0.08
31	75	44	13	1200	0.96996	334.65	0.54333	164.5	54.47	0	4.83	651.21	8.68	650.28	8.67	-0.92	-0.14
31	76	45	14	1216	0.96607	336.27	0.54605	164.15	62.35	-1.15	4.61	656.7	8.64	657.06	8.65	0.36	0.05
31	77	46	15	1232	0.96205	337.8	0.54870	163.82	70.66	0	4.41	664.13	8.63	663.06	8.61	-1.06	-0.16
31	78	47	16	1248	0.95792	339.26	0.55128	163.52	79.38	-1.13	4.23	668.93	8.58	669.18	8.58	0.24	0.04
31	79	48	17	1264	0.95369	340.64	0.55380	163.25	88.49	0	4.05	675.67	8.55	674.53	8.54	-1.14	-0.17
31	80	49	18	1280	0.94938	341.95	0.55625	162.99	97.98	-1.12	3.89	679.84	8.5	680.02	8.5	0.18	0.03
31	81	50	19	1296	0.94498	343.2	0.55864	162.76	107.84	0	3.73	685.93	8.47	684.76	8.45	-1.17	-0.17
31	82	51	20	1312	0.94051	344.38	0.56098	162.55	118.05	-1.1	3.59	689.5	8.41	689.66	8.41	0.16	0.02
31	83	52	21	1328	0.93599	345.51	0.56325	162.36	128.61	0	3.46	694.99	8.37	693.82	8.36	-1.16	-0.17
31	84	53	22	1344	0.93141	346.57	0.56548	162.18	139.49	-1.09	3.33	698	8.31	698.17	8.31	0.18	0.03
31	85	54	23	1360	0.92678	347.58	0.56765	162.03	150.68	0	3.21	702.92	8.27	701.79	8.26	-1.12	-0.16
31	86	55	24	1376	0.92212	348.54	0.56977	161.89	162.18	-1.08	3.1	705.41	8.2	705.63	8.2	0.22	0.03

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
31	87	56	25	1392	0.91743	349.45	0.57184	161.76	173.98	0	2.99	709.8	8.16	708.74	8.15	-1.06	-0.15
31	88	57	26	1408	0.91271	350.31	0.57386	161.65	186.07	-1.07	2.89	711.79	8.09	712.08	8.09	0.29	0.04
31	89	58	27	1424	0.90797	351.13	0.57584	161.56	198.42	0	2.8	715.69	8.04	714.71	8.03	-0.98	-0.14
31	90	59	28	1440	0.90321	351.9	0.57778	161.48	211.05	-1.05	2.71	717.23	7.97	717.59	7.97	0.36	0.05
31	91	60	29	1456	0.89844	352.63	0.57967	161.41	223.93	0	2.62	720.65	7.92	719.76	7.91	-0.89	-0.12
31	92	61	30	1472	0.89367	353.32	0.58152	161.35	237.07	-1.04	2.54	721.76	7.85	722.2	7.85	0.45	0.06
31	93	62	31	1488	0.88889	353.97	0.58333	161.31	250.44	0	2.47	724.74	7.79	723.94	7.78	-0.8	-0.11
31	94	63	32	1504	0.88411	354.59	0.58511	161.28	264.05	-1.03	2.39	725.44	7.72	725.97	7.72	0.53	0.07
31	95	64	33	1520	0.87934	355.17	0.58684	161.25	277.89	0	2.32	728.01	7.66	727.3	7.66	-0.71	-0.1
31	96	65	34	1536	0.87457	355.72	0.58854	161.24	291.95	-1.02	2.26	728.33	7.59	728.93	7.59	0.61	0.08
31	97	66	35	1552	0.86981	356.24	0.59021	161.24	306.22	0	2.2	730.5	7.53	729.88	7.52	-0.62	-0.09
31	98	67	36	1568	0.86506	356.72	0.59184	161.25	320.69	-1.01	2.14	730.46	7.45	731.14	7.46	0.68	0.09
31	99	68	37	1584	0.86032	357.18	0.59343	161.27	335.37	0	2.08	732.26	7.4	731.71	7.39	-0.55	-0.08
31	100	69	38	1600	0.85560	357.61	0.59500	161.29	350.24	-1	2.03	731.89	7.32	732.62	7.33	0.74	0.1
31	101	70	39	1616	0.85090	358.01	0.59654	161.33	365.3	0	1.98	733.34	7.26	732.85	7.26	-0.49	-0.07
31	102	71	40	1632	0.84621	358.38	0.59804	161.37	380.55	-0.99	1.93	732.64	7.18	733.42	7.19	0.78	0.11
31	103	72	41	1648	0.84155	358.73	0.59952	161.42	395.97	0	1.88	733.76	7.12	733.31	7.12	-0.45	-0.06
31	104	73	42	1664	0.83691	359.06	0.60096	161.47	411.56	-0.98	1.83	732.76	7.05	733.56	7.05	0.8	0.11
31	105	74	43	1680	0.83229	359.37	0.60238	161.54	427.32	0	1.79	733.56	6.99	733.13	6.98	-0.43	-0.06
31	106	75	44	1696	0.82770	359.65	0.60377	161.61	443.25	-0.97	1.75	732.27	6.91	733.07	6.92	0.8	0.11
31	107	76	45	1712	0.82313	359.91	0.60514	161.69	459.33	0	1.71	732.78	6.85	732.35	6.84	-0.43	-0.06
31	108	77	46	1728	0.81859	360.15	0.60648	161.77	475.57	-0.96	1.67	731.22	6.77	731.99	6.78	0.78	0.11
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
32	63	31	-1	1008	0.99975	307.08	0.49603	182.74	0.38	0	9.36	527.15	8.37	531.51	8.44	4.35	0.82
32	64	32	0	1024	1.00000	310.4	0.50000	181.76	0	1.25	10	543.09	8.49	545.87	8.53	2.78	0.51
32	65	33	1	1040	0.99976	313.55	0.50385	180.84	0.37	0	9.37	554.61	8.53	556.72	8.56	2.11	0.38
32	66	34	2	1056	0.99908	316.54	0.50758	179.99	1.46	1.23	8.8	568.04	8.61	569.97	8.64	1.93	0.34
32	67	35	3	1072	0.99800	319.38	0.51119	179.19	3.24	0	8.29	578.47	8.63	579.82	8.65	1.35	0.23
32	68	36	4	1088	0.99654	322.08	0.51471	178.44	5.68	1.21	7.81	590.82	8.69	592.05	8.71	1.23	0.21
32	69	37	5	1104	0.99475	324.65	0.51812	177.74	8.75	0	7.38	600.24	8.7	600.96	8.71	0.72	0.12
32	70	38	6	1120	0.99265	327.09	0.52143	177.09	12.42	1.2	6.98	611.57	8.74	612.23	8.75	0.66	0.11
32	71	39	7	1136	0.99028	329.41	0.52465	176.48	16.67	0	6.61	620.05	8.73	620.27	8.74	0.22	0.03
32	72	40	8	1152	0.98765	331.61	0.52778	175.91	21.48	1.18	6.27	630.45	8.76	630.65	8.76	0.2	0.03
32	73	41	9	1168	0.98480	333.71	0.53082	175.38	26.81	0	5.96	638.06	8.74	637.88	8.74	-0.18	-0.03
32	74	42	10	1184	0.98174	335.7	0.53378	174.89	32.66	1.16	5.67	647.58	8.75	647.43	8.75	-0.15	-0.02
32	75	43	11	1200	0.97849	337.6	0.53667	174.42	39	0	5.4	654.38	8.73	653.9	8.72	-0.48	-0.07
32	76	44	12	1216	0.97507	339.4	0.53947	173.99	45.81	1.15	5.15	663.09	8.72	662.68	8.72	-0.41	-0.06
32	77	45	13	1232	0.97150	341.12	0.54221	173.6	53.07	0	4.92	669.13	8.69	668.44	8.68	-0.69	-0.1
32	78	46	14	1248	0.96778	342.75	0.54487	173.22	60.77	1.13	4.71	677.09	8.68	676.49	8.67	-0.6	-0.09
32	79	47	15	1264	0.96395	344.3	0.54747	172.88	68.9	0	4.5	682.43	8.64	681.59	8.63	-0.84	-0.12
32	80	48	16	1280	0.96000	345.78	0.55000	172.56	77.42	1.12	4.32	689.67	8.62	688.96	8.61	-0.71	-0.1
32	81	49	17	1296	0.95595	347.19	0.55247	172.27	86.33	0	4.14	694.35	8.57	693.43	8.56	-0.92	-0.13
32	82	50	18	1312	0.95181	348.52	0.55488	172	95.62	1.1	3.98	700.94	8.55	700.16	8.54	-0.78	-0.11
32	83	51	19	1328	0.94760	349.79	0.55723	171.75	105.28	0	3.82	705.01	8.49	704.05	8.48	-0.96	-0.14
32	84	52	20	1344	0.94331	351	0.55952	171.52	115.28	1.09	3.68	710.97	8.46	710.18	8.45	-0.79	-0.11
32	85	53	21	1360	0.93896	352.15	0.56177	171.31	125.62	0	3.54	714.46	8.41	713.51	8.39	-0.95	-0.13

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
32	86	54	22	1376	0.93456	353.24	0.56395	171.12	136.28	1.08	3.41	719.85	8.37	719.08	8.36	-0.77	-0.11
32	87	55	23	1392	0.93011	354.28	0.56609	170.95	147.26	0	3.29	722.81	8.31	721.89	8.3	-0.91	-0.13
32	88	56	24	1408	0.92562	355.27	0.56818	170.79	158.54	1.07	3.18	727.64	8.27	726.92	8.26	-0.73	-0.1
32	89	57	25	1424	0.92110	356.2	0.57023	170.65	170.12	0	3.07	730.1	8.2	729.24	8.19	-0.85	-0.12
32	90	58	26	1440	0.91654	357.09	0.57222	170.53	181.98	1.05	2.97	734.42	8.16	733.76	8.15	-0.66	-0.09
32	91	59	27	1456	0.91197	357.94	0.57418	170.42	194.11	0	2.88	736.4	8.09	735.63	8.08	-0.78	-0.11
32	92	60	28	1472	0.90737	358.74	0.57609	170.33	206.51	1.04	2.79	740.25	8.05	739.67	8.04	-0.58	-0.08
32	93	61	29	1488	0.90276	359.5	0.57796	170.24	219.17	0	2.7	741.78	7.98	741.09	7.97	-0.69	-0.09
32	94	62	30	1504	0.89814	360.22	0.57979	170.18	232.08	1.03	2.62	745.18	7.93	744.68	7.92	-0.49	-0.07
32	95	63	31	1520	0.89352	360.9	0.58158	170.12	245.23	0	2.54	746.29	7.86	745.69	7.85	-0.6	-0.08
32	96	64	32	1536	0.88889	361.55	0.58333	170.07	258.61	1.02	2.47	749.25	7.8	748.85	7.8	-0.4	-0.05
32	97	65	33	1552	0.88426	362.16	0.58505	170.04	272.22	0	2.4	749.98	7.73	749.47	7.73	-0.51	-0.07
32	98	66	34	1568	0.87963	362.73	0.58674	170.02	286.05	1.01	2.33	752.54	7.68	752.22	7.68	-0.32	-0.04
32	99	67	35	1584	0.87501	363.28	0.58838	170.01	300.09	0	2.27	752.89	7.6	752.46	7.6	-0.43	-0.06
32	100	68	36	1600	0.87040	363.79	0.59000	170	314.34	1	2.2	755.06	7.55	754.82	7.55	-0.24	-0.03
32	101	69	37	1616	0.86580	364.28	0.59158	170.01	328.8	0	2.15	755.06	7.48	754.71	7.47	-0.35	-0.05
32	102	70	38	1632	0.86121	364.73	0.59314	170.03	343.44	0.99	2.09	756.88	7.42	756.71	7.42	-0.17	-0.02
32	103	71	39	1648	0.85663	365.16	0.59466	170.05	358.28	0	2.04	756.55	7.35	756.25	7.34	-0.29	-0.04
32	104	72	40	1664	0.85207	365.57	0.59615	170.08	373.3	0.98	1.99	758.02	7.29	757.9	7.29	-0.12	-0.02
32	105	73	41	1680	0.84753	365.94	0.59762	170.12	388.5	0	1.94	757.37	7.21	757.13	7.21	-0.25	-0.03
32	106	74	42	1696	0.84301	366.3	0.59906	170.17	403.87	0.97	1.89	758.52	7.16	758.44	7.16	-0.09	-0.01
32	107	75	43	1712	0.83850	366.63	0.60047	170.23	419.41	0	1.85	757.58	7.08	757.36	7.08	-0.22	-0.03
32	108	76	44	1728	0.83402	366.94	0.60185	170.29	435.12	0.96	1.81	758.42	7.02	758.35	7.02	-0.07	-0.01
32	109	77	45	1744	0.82956	367.23	0.60321	170.36	450.98	0	1.77	757.19	6.95	756.98	6.94	-0.22	-0.03
32	110	78	46	1760	0.82512	367.49	0.60455	170.44	467.01	0.95	1.73	757.74	6.89	757.66	6.89	-0.08	-0.01
32	111	79	47	1776	0.82071	367.74	0.60586	170.52	483.18	0	1.69	756.25	6.81	756.01	6.81	-0.24	-0.03
32	112	80	48	1792	0.81633	367.97	0.60714	170.61	499.5	0.94	1.65	756.52	6.75	756.41	6.75	-0.11	-0.01
Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
33	65	32	-1	1040	0.99976	313.55	0.49615	192.32	0.37	0	9.37	543.13	8.36	547.64	8.43	4.51	0.82
33	66	33	0	1056	1.00000	316.83	0.50000	191.32	0	-1.23	10	556.61	8.43	560.71	8.5	4.1	0.73
33	67	34	1	1072	0.99978	319.95	0.50373	190.39	0.36	0	9.39	570.69	8.52	572.95	8.55	2.27	0.4
33	68	35	2	1088	0.99914	322.92	0.50735	189.51	1.42	-1.21	8.84	581.77	8.56	584.98	8.6	3.21	0.55
33	69	36	3	1104	0.99811	325.75	0.51087	188.69	3.15	0	8.33	594.74	8.62	596.2	8.64	1.46	0.24
33	70	37	4	1120	0.99674	328.43	0.51429	187.92	5.52	-1.2	7.87	604.79	8.64	607.26	8.68	2.47	0.41
33	71	38	5	1136	0.99504	330.99	0.51761	187.21	8.51	0	7.44	616.74	8.69	617.53	8.7	0.79	0.13
33	72	39	6	1152	0.99306	333.42	0.52083	186.53	12.08	-1.18	7.05	625.83	8.69	627.69	8.72	1.85	0.3
33	73	40	7	1168	0.99081	335.74	0.52397	185.9	16.22	0	6.68	636.82	8.72	637.06	8.73	0.24	0.04
33	74	41	8	1184	0.98831	337.95	0.52703	185.31	20.9	-1.16	6.35	645.03	8.72	646.38	8.73	1.35	0.21
33	75	42	9	1200	0.98560	340.05	0.53000	184.76	26.11	0	6.04	655.13	8.74	654.92	8.73	-0.2	-0.03
33	76	43	10	1216	0.98269	342.05	0.53290	184.24	31.81	-1.15	5.75	662.5	8.72	663.45	8.73	0.96	0.14
33	77	44	11	1232	0.97959	343.96	0.53571	183.76	38	0	5.49	671.77	8.72	671.22	8.72	-0.54	-0.08
33	78	45	12	1248	0.97633	345.78	0.53846	183.31	44.65	-1.13	5.24	678.37	8.7	679.02	8.71	0.65	0.1
33	79	46	13	1264	0.97292	347.51	0.54114	182.89	51.75	0	5.01	686.86	8.69	686.06	8.68	-0.8	-0.12
33	80	47	14	1280	0.96938	349.16	0.54375	182.5	59.27	-1.12	4.8	692.74	8.66	693.17	8.66	0.42	0.06
33	81	48	15	1296	0.96571	350.73	0.54630	182.14	67.22	0	4.59	700.51	8.65	699.53	8.64	-0.99	-0.14
33	82	49	16	1312	0.96193	352.22	0.54878	181.8	75.56	-1.1	4.41	705.72	8.61	705.98	8.61	0.26	0.04

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
33	83	50	17	1328	0.95805	353.65	0.55121	181.49	84.28	0	4.23	712.81	8.59	711.7	8.57	-1.11	-0.16
33	84	51	18	1344	0.95408	355.01	0.55357	181.2	93.38	-1.09	4.07	717.39	8.54	717.55	8.54	0.16	0.02
33	85	52	19	1360	0.95004	356.3	0.55588	180.93	102.83	0	3.91	723.84	8.52	722.66	8.5	-1.18	-0.16
33	86	53	20	1376	0.94592	357.54	0.55814	180.69	112.63	-1.08	3.77	727.83	8.46	727.93	8.46	0.1	0.01
33	87	54	21	1392	0.94174	358.71	0.56035	180.46	122.76	0	3.63	733.69	8.43	732.48	8.42	-1.21	-0.17
33	88	55	22	1408	0.93750	359.83	0.56250	180.26	133.22	-1.07	3.5	737.13	8.38	737.21	8.38	0.08	0.01
33	89	56	23	1424	0.93322	360.89	0.56461	180.07	143.99	0	3.38	742.43	8.34	741.22	8.33	-1.21	-0.16
33	90	57	24	1440	0.92889	361.9	0.56667	179.9	155.06	-1.05	3.26	745.35	8.28	745.44	8.28	0.09	0.01
33	91	58	25	1456	0.92453	362.87	0.56868	179.74	166.42	0	3.15	750.12	8.24	748.94	8.23	-1.18	-0.16
33	92	59	26	1472	0.92013	363.78	0.57065	179.61	178.06	-1.04	3.05	752.55	8.18	752.67	8.18	0.12	0.02
33	93	60	27	1488	0.91571	364.66	0.57258	179.48	189.98	0	2.95	756.83	8.14	755.7	8.13	-1.13	-0.15
33	94	61	28	1504	0.91127	365.48	0.57447	179.37	202.17	-1.03	2.86	758.81	8.07	758.97	8.07	0.16	0.02
33	95	62	29	1520	0.90681	366.27	0.57632	179.28	214.61	0	2.77	762.62	8.03	761.54	8.02	-1.08	-0.14
33	96	63	30	1536	0.90234	367.02	0.57813	179.2	227.29	-1.02	2.69	764.16	7.96	764.38	7.96	0.21	0.03
33	97	64	31	1552	0.89786	367.73	0.57990	179.13	240.22	0	2.61	767.53	7.91	766.52	7.9	-1.01	-0.13
33	98	65	32	1568	0.89338	368.4	0.58163	179.07	253.39	-1.01	2.54	768.67	7.84	768.94	7.85	0.27	0.04
33	99	66	33	1584	0.88889	369.04	0.58333	179.02	266.78	0	2.47	771.62	7.79	770.68	7.78	-0.95	-0.12
33	100	67	34	1600	0.88440	369.64	0.58500	178.99	280.39	-1	2.4	772.38	7.72	772.7	7.73	0.33	0.04
33	101	68	35	1616	0.87991	370.22	0.58663	178.97	294.21	0	2.33	774.94	7.67	774.05	7.66	-0.89	-0.11
33	102	69	36	1632	0.87543	370.76	0.58824	178.95	308.24	-0.99	2.27	775.33	7.6	775.7	7.6	0.38	0.05
33	103	70	37	1648	0.87096	371.27	0.58981	178.95	322.47	0	2.21	777.52	7.55	776.69	7.54	-0.83	-0.11
33	104	71	38	1664	0.86649	371.75	0.59135	178.96	336.9	-0.98	2.16	777.56	7.48	777.98	7.48	0.42	0.05
33	105	72	39	1680	0.86204	372.21	0.59286	178.97	351.52	0	2.1	779.4	7.42	778.61	7.42	-0.79	-0.1
33	106	73	40	1696	0.85760	372.64	0.59434	178.99	366.32	-0.97	2.05	779.12	7.35	779.57	7.35	0.45	0.06
33	107	74	41	1712	0.85318	373.05	0.59579	179.02	381.3	0	2	780.63	7.3	779.86	7.29	-0.76	-0.1
33	108	75	42	1728	0.84877	373.43	0.59722	179.06	396.46	-0.96	1.95	780.04	7.22	780.5	7.23	0.46	0.06
33	109	76	43	1744	0.84437	373.78	0.59862	179.11	411.79	0	1.91	781.22	7.17	780.47	7.16	-0.75	-0.1
33	110	77	44	1760	0.84000	374.12	0.60000	179.17	427.28	-0.95	1.86	780.35	7.09	780.8	7.1	0.45	0.06
33	111	78	45	1776	0.83565	374.43	0.60135	179.23	442.93	0	1.82	781.23	7.04	780.47	7.03	-0.76	-0.1
33	112	79	46	1792	0.83131	374.72	0.60268	179.3	458.74	-0.94	1.78	780.07	6.96	780.5	6.97	0.43	0.05
33	113	80	47	1808	0.82700	375	0.60398	179.37	474.7	0	1.74	780.67	6.91	779.88	6.9	-0.79	-0.1
33	114	81	48	1824	0.82272	375.25	0.60526	179.45	490.81	-0.94	1.71	779.25	6.84	779.63	6.84	0.38	0.05
33	115	82	49	1840	0.81845	375.48	0.60652	179.54	507.07	0	1.67	779.58	6.78	778.73	6.77	-0.84	-0.11
33	116	83	50	1856	0.81421	375.7	0.60776	179.63	523.47	-0.93	1.64	777.91	6.71	778.21	6.71	0.3	0.04
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
34	67	33	-1	1072	0.99978	319.95	0.49627	202.1	0.36	0	9.39	558.97	8.34	563.63	8.41	4.66	0.83
34	68	34	0	1088	1.00000	323.2	0.50000	201.09	0	1.21	10	574.93	8.45	578.08	8.5	3.15	0.55
34	69	35	1	1104	0.99979	326.29	0.50362	200.13	0.35	0	9.41	586.63	8.5	589.1	8.54	2.46	0.42
34	70	36	2	1120	0.99918	329.24	0.50714	199.23	1.38	1.2	8.87	600.21	8.57	602.48	8.61	2.27	0.38
34	71	37	3	1136	0.99822	332.05	0.51056	198.39	3.06	0	8.37	610.87	8.6	612.54	8.63	1.67	0.27
34	72	38	4	1152	0.99691	334.72	0.51389	197.6	5.37	1.18	7.92	623.41	8.66	624.94	8.68	1.53	0.25
34	73	39	5	1168	0.99531	337.27	0.51712	196.86	8.28	0	7.5	633.09	8.67	634.09	8.69	1	0.16
34	74	40	6	1184	0.99343	339.7	0.52027	196.17	11.76	1.16	7.11	644.65	8.71	645.58	8.72	0.92	0.14
34	75	41	7	1200	0.99129	342.01	0.52333	195.52	15.79	0	6.76	653.43	8.71	653.89	8.72	0.45	0.07
34	76	42	8	1216	0.98892	344.22	0.52632	194.91	20.36	1.15	6.43	664.09	8.74	664.51	8.74	0.43	0.06
34	77	43	9	1232	0.98634	346.33	0.52922	194.33	25.44	0	6.12	672.02	8.73	672.04	8.73	0.02	0

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
34	78	44	10	1248	0.98356	348.34	0.53205	193.8	31.01	1.13	5.84	681.83	8.74	681.86	8.74	0.03	0
34	79	45	11	1264	0.98061	350.25	0.53481	193.3	37.05	0	5.57	688.97	8.72	688.65	8.72	-0.32	-0.05
34	80	46	12	1280	0.97750	352.08	0.53750	192.83	43.55	1.12	5.33	697.99	8.72	697.72	8.72	-0.27	-0.04
34	81	47	13	1296	0.97424	353.83	0.54012	192.39	50.49	0	5.1	704.4	8.7	703.81	8.69	-0.58	-0.08
34	82	48	14	1312	0.97085	355.49	0.54268	191.98	57.85	1.1	4.88	712.67	8.69	712.17	8.69	-0.5	-0.07
34	83	49	15	1328	0.96734	357.08	0.54518	191.6	65.62	0	4.68	718.39	8.66	717.62	8.65	-0.77	-0.11
34	84	50	16	1344	0.96372	358.6	0.54762	191.24	73.78	1.09	4.49	725.97	8.64	725.32	8.63	-0.66	-0.09
34	85	51	17	1360	0.96000	360.04	0.55000	190.91	82.32	0	4.32	731.05	8.6	730.15	8.59	-0.89	-0.12
34	86	52	18	1376	0.95619	361.42	0.55233	190.6	91.23	1.08	4.15	737.98	8.58	737.22	8.57	-0.76	-0.1
34	87	53	19	1392	0.95231	362.74	0.55460	190.32	100.49	0	4	742.45	8.53	741.48	8.52	-0.97	-0.13
34	88	54	20	1408	0.94835	363.99	0.55682	190.06	110.1	1.07	3.85	748.77	8.51	747.96	8.5	-0.82	-0.11
34	89	55	21	1424	0.94433	365.19	0.55899	189.81	120.03	0	3.71	752.68	8.46	751.67	8.45	-1	-0.13
34	90	56	22	1440	0.94025	366.33	0.56111	189.59	130.29	1.05	3.58	758.42	8.43	757.59	8.42	-0.84	-0.11
34	91	57	23	1456	0.93612	367.42	0.56319	189.39	140.86	0	3.46	761.8	8.37	760.79	8.36	-1	-0.13
34	92	58	24	1472	0.93195	368.46	0.56522	189.2	151.72	1.04	3.34	767.01	8.34	766.18	8.33	-0.82	-0.11
34	93	59	25	1488	0.92774	369.44	0.56720	189.03	162.88	0	3.23	769.88	8.28	768.9	8.27	-0.98	-0.13
34	94	60	26	1504	0.92350	370.39	0.56915	188.88	174.32	1.03	3.13	774.58	8.24	773.79	8.23	-0.79	-0.1
34	95	61	27	1520	0.91922	371.28	0.57105	188.74	186.03	0	3.03	776.98	8.18	776.05	8.17	-0.94	-0.12
34	96	62	28	1536	0.91493	372.14	0.57292	188.62	198	1.02	2.94	781.2	8.14	780.46	8.13	-0.74	-0.1
34	97	63	29	1552	0.91062	372.95	0.57474	188.51	210.23	0	2.85	783.16	8.07	782.28	8.06	-0.88	-0.11
34	98	64	30	1568	0.90629	373.73	0.57653	188.41	222.7	1.01	2.76	786.93	8.03	786.25	8.02	-0.69	-0.09
34	99	65	31	1584	0.90195	374.46	0.57828	188.33	235.42	0	2.68	788.47	7.96	787.65	7.96	-0.82	-0.1
34	100	66	32	1600	0.89760	375.16	0.58000	188.26	248.37	1	2.61	791.81	7.92	791.19	7.91	-0.62	-0.08
34	101	67	33	1616	0.89325	375.83	0.58168	188.2	261.55	0	2.54	792.96	7.85	792.21	7.84	-0.75	-0.09
34	102	68	34	1632	0.88889	376.46	0.58333	188.16	274.94	0.99	2.47	795.9	7.8	795.34	7.8	-0.56	-0.07
34	103	69	35	1648	0.88453	377.06	0.58495	188.12	288.55	0	2.4	796.67	7.73	795.98	7.73	-0.69	-0.09
34	104	70	36	1664	0.88018	377.63	0.58654	188.1	302.37	0.98	2.34	799.22	7.68	798.72	7.68	-0.5	-0.06
34	105	71	37	1680	0.87583	378.16	0.58810	188.08	316.39	0	2.28	799.64	7.62	799.01	7.61	-0.63	-0.08
34	106	72	38	1696	0.87149	378.67	0.58962	188.08	330.61	0.97	2.22	801.83	7.56	801.38	7.56	-0.45	-0.06
34	107	73	39	1712	0.86715	379.16	0.59112	188.08	345.01	0	2.16	801.91	7.49	801.33	7.49	-0.59	-0.07
34	108	74	40	1728	0.86283	379.61	0.59259	188.1	359.6	0.96	2.11	803.76	7.44	803.35	7.44	-0.41	-0.05
34	109	75	41	1744	0.85851	380.04	0.59404	188.12	374.37	0	2.06	803.53	7.37	802.97	7.37	-0.55	-0.07
34	110	76	42	1760	0.85422	380.45	0.59546	188.15	389.32	0.95	2.01	805.05	7.32	804.66	7.32	-0.39	-0.05
34	111	77	43	1776	0.84993	380.83	0.59685	188.19	404.44	0	1.97	804.51	7.25	803.97	7.24	-0.54	-0.07
34	112	78	44	1792	0.84566	381.19	0.59821	188.23	419.72	0.94	1.92	805.72	7.19	805.34	7.19	-0.38	-0.05
34	113	79	45	1808	0.84141	381.53	0.59956	188.29	435.16	0	1.88	804.9	7.12	804.36	7.12	-0.54	-0.07
34	114	80	46	1824	0.83718	381.85	0.60088	188.35	450.77	0.94	1.84	805.81	7.07	805.42	7.07	-0.4	-0.05
34	115	81	47	1840	0.83297	382.15	0.60217	188.41	466.52	0	1.8	804.72	7	804.15	6.99	-0.56	-0.07
34	116	82	48	1856	0.82878	382.42	0.60345	188.49	482.43	0.93	1.76	805.35	6.94	804.92	6.94	-0.43	-0.05
34	117	83	49	1872	0.82460	382.68	0.60470	188.57	498.48	0	1.72	804	6.87	803.39	6.87	-0.61	-0.08
34	118	84	50	1888	0.82045	382.92	0.60593	188.65	514.67	0.92	1.69	804.36	6.82	803.87	6.81	-0.49	-0.06
34	119	85	51	1904	0.81633	383.15	0.60714	188.75	531	0	1.65	802.76	6.75	802.08	6.74	-0.68	-0.08
Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
35	69	34	-1	1104	0.99979	326.29	0.49638	212.08	0.35	0	9.41	574.69	8.33	579.5	8.4	4.81	0.83
35	70	35	0	1120	1.00000	329.51	0.50000	211.04	0	-1.2	10	588.26	8.4	592.67	8.47	4.42	0.75
35	71	36	1	1136	0.99980	332.57	0.50352	210.06	0.34	0	9.43	602.45	8.49	605.06	8.52	2.61	0.43

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
35	72	37	2	1152	0.99923	335.5	0.50694	209.15	1.34	-1.18	8.9	613.73	8.52	617.24	8.57	3.5	0.57
35	73	38	3	1168	0.99831	338.29	0.51027	208.29	2.98	0	8.41	626.86	8.59	628.63	8.61	1.77	0.28
35	74	39	4	1184	0.99708	340.95	0.51351	207.48	5.23	-1.16	7.97	637.16	8.61	639.88	8.65	2.72	0.43
35	75	40	5	1200	0.99556	343.49	0.51667	206.72	8.06	0	7.56	649.3	8.66	650.36	8.67	1.06	0.16
35	76	41	6	1216	0.99377	345.91	0.51974	206	11.45	-1.15	7.18	658.67	8.67	660.74	8.69	2.07	0.31
35	77	42	7	1232	0.99174	348.22	0.52273	205.33	15.39	0	6.83	669.89	8.7	670.36	8.71	0.48	0.07
35	78	43	8	1248	0.98948	350.43	0.52564	204.7	19.84	-1.13	6.5	678.39	8.7	679.93	8.72	1.54	0.23
35	79	44	9	1264	0.98702	352.54	0.52848	204.1	24.8	0	6.2	688.75	8.72	688.75	8.72	0	0
35	80	45	10	1280	0.98438	354.56	0.53125	203.55	30.24	-1.12	5.92	696.45	8.71	697.55	8.72	1.1	0.16
35	81	46	11	1296	0.98156	356.48	0.53395	203.02	36.15	0	5.65	706	8.72	705.62	8.71	-0.38	-0.05
35	82	47	12	1312	0.97858	358.32	0.53659	202.54	42.5	-1.1	5.41	712.94	8.69	713.71	8.7	0.76	0.11
35	83	48	13	1328	0.97547	360.08	0.53916	202.08	49.28	0	5.18	721.74	8.7	721.06	8.69	-0.68	-0.09
35	84	49	14	1344	0.97222	361.76	0.54167	201.65	56.49	-1.09	4.97	727.98	8.67	728.48	8.67	0.49	0.07
35	85	50	15	1360	0.96886	363.36	0.54412	201.25	64.09	0	4.77	736.06	8.66	735.16	8.65	-0.9	-0.12
35	86	51	16	1376	0.96539	364.9	0.54651	200.87	72.08	-1.08	4.58	741.65	8.62	741.94	8.63	0.3	0.04
35	87	52	17	1392	0.96182	366.36	0.54885	200.52	80.45	0	4.4	749.07	8.61	748.01	8.6	-1.06	-0.14
35	88	53	18	1408	0.95816	367.76	0.55114	200.2	89.18	-1.07	4.24	754.03	8.57	754.19	8.57	0.15	0.02
35	89	54	19	1424	0.95443	369.09	0.55337	199.9	98.26	0	4.08	760.83	8.55	759.66	8.54	-1.17	-0.15
35	90	55	20	1440	0.95062	370.37	0.55556	199.62	107.68	-1.05	3.93	765.21	8.5	765.27	8.5	0.06	0.01
35	91	56	21	1456	0.94675	371.59	0.55769	199.36	117.43	0	3.79	771.42	8.48	770.18	8.46	-1.24	-0.16
35	92	57	22	1472	0.94282	372.75	0.55978	199.12	127.49	-1.04	3.66	775.26	8.43	775.26	8.43	0	0
35	93	58	23	1488	0.93884	373.86	0.56183	198.9	137.86	0	3.54	780.91	8.4	779.64	8.38	-1.27	-0.16
35	94	59	24	1504	0.93481	374.93	0.56383	198.7	148.53	-1.03	3.42	784.24	8.34	784.21	8.34	-0.02	0
35	95	60	25	1520	0.93075	375.94	0.56579	198.51	159.49	0	3.31	789.37	8.31	788.1	8.3	-1.28	-0.16
35	96	61	26	1536	0.92665	376.9	0.56771	198.34	170.72	-1.02	3.21	792.21	8.25	792.19	8.25	-0.02	0
35	97	62	27	1552	0.92252	377.83	0.56959	198.19	182.23	0	3.11	796.86	8.22	795.6	8.2	-1.26	-0.16
35	98	63	28	1568	0.91837	378.71	0.57143	198.06	194	-1.01	3.01	799.24	8.16	799.23	8.16	-0.01	0
35	99	64	29	1584	0.91419	379.54	0.57323	197.93	206.02	0	2.92	803.42	8.12	802.19	8.1	-1.23	-0.15
35	100	65	30	1600	0.91000	380.34	0.57500	197.82	218.29	-1	2.84	805.37	8.05	805.39	8.05	0.02	0
35	101	66	31	1616	0.90579	381.11	0.57673	197.73	230.81	0	2.76	809.12	8.01	807.92	8	-1.19	-0.15
35	102	67	32	1632	0.90158	381.83	0.57843	197.65	243.55	-0.99	2.68	810.66	7.95	810.71	7.95	0.05	0.01
35	103	68	33	1648	0.89735	382.52	0.58010	197.58	256.52	0	2.6	813.99	7.9	812.83	7.89	-1.15	-0.14
35	104	69	34	1664	0.89312	383.18	0.58173	197.52	269.71	-0.98	2.53	815.15	7.84	815.23	7.84	0.09	0.01
35	105	70	35	1680	0.88889	383.8	0.58333	197.47	283.11	0	2.47	818.08	7.79	816.97	7.78	-1.11	-0.14
35	106	71	36	1696	0.88466	384.4	0.58491	197.44	296.72	-0.97	2.4	818.88	7.73	819	7.73	0.12	0.01
35	107	72	37	1712	0.88043	384.96	0.58645	197.41	310.53	0	2.34	821.44	7.68	820.36	7.67	-1.07	-0.13
35	108	73	38	1728	0.87620	385.5	0.58796	197.39	324.54	-0.96	2.28	821.89	7.61	822.03	7.61	0.14	0.02
35	109	74	39	1744	0.87198	386	0.58945	197.39	338.74	0	2.23	824.09	7.56	823.05	7.55	-1.05	-0.13
35	110	75	40	1760	0.86777	386.49	0.59091	197.39	353.12	-0.95	2.17	824.22	7.49	824.38	7.49	0.16	0.02
35	111	76	41	1776	0.86357	386.94	0.59234	197.4	367.69	0	2.12	826.09	7.44	825.06	7.43	-1.03	-0.12
35	112	77	42	1792	0.85938	387.37	0.59375	197.42	382.43	-0.94	2.07	825.9	7.37	826.06	7.38	0.16	0.02
35	113	78	43	1808	0.85520	387.78	0.59513	197.45	397.34	0	2.02	827.45	7.32	826.42	7.31	-1.03	-0.12
35	114	79	44	1824	0.85103	388.17	0.59649	197.49	412.42	-0.94	1.98	826.96	7.25	827.11	7.26	0.15	0.02
35	115	80	45	1840	0.84688	388.53	0.59783	197.54	427.66	0	1.93	828.21	7.2	827.17	7.19	-1.04	-0.13
35	116	81	46	1856	0.84275	388.87	0.59914	197.59	443.06	-0.93	1.89	827.44	7.13	827.56	7.13	0.12	0.01
35	117	82	47	1872	0.83863	389.19	0.60043	197.65	458.61	0	1.85	828.4	7.08	827.32	7.07	-1.08	-0.13
35	118	83	48	1888	0.83453	389.49	0.60170	197.71	474.32	-0.92	1.81	827.37	7.01	827.44	7.01	0.07	0.01

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
35	119	84	49	1904	0.83045	389.77	0.60294	197.79	490.17	0	1.77	828.04	6.96	826.91	6.95	-1.13	-0.14
35	120	85	50	1920	0.82639	390.04	0.60417	197.86	506.16	-0.91	1.74	826.76	6.89	826.75	6.89	0	0
35	121	86	51	1936	0.82235	390.28	0.60537	197.95	522.3	0	1.7	827.17	6.84	825.96	6.83	-1.21	-0.15
35	122	87	52	1952	0.81833	390.51	0.60656	198.04	538.57	-0.91	1.67	825.64	6.77	825.54	6.77	-0.1	-0.01
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
36	71	35	-1	1136	0.99980	332.57	0.49648	222.24	0.34	0	9.43	590.27	8.31	595.22	8.38	4.95	0.83
36	72	36	0	1152	1.00000	335.76	0.50000	221.18	0	1.18	10	606.24	8.42	609.74	8.47	3.5	0.57
36	73	37	1	1168	0.99981	338.79	0.50343	220.19	0.33	0	9.44	618.13	8.47	620.92	8.51	2.79	0.45
36	74	38	2	1184	0.99927	341.7	0.50676	219.25	1.31	1.16	8.93	631.83	8.54	634.43	8.57	2.59	0.41
36	75	39	3	1200	0.99840	344.47	0.51000	218.37	2.9	0	8.45	642.71	8.57	644.68	8.6	1.96	0.3
36	76	40	4	1216	0.99723	347.11	0.51316	217.54	5.09	1.15	8.02	655.42	8.62	657.24	8.65	1.82	0.28
36	77	41	5	1232	0.99578	349.64	0.51623	216.76	7.85	0	7.61	665.36	8.64	666.62	8.66	1.26	0.19
36	78	42	6	1248	0.99408	352.06	0.51923	216.02	11.16	1.13	7.24	677.12	8.68	678.3	8.7	1.18	0.17
36	79	43	7	1264	0.99215	354.38	0.52215	215.33	15	0	6.89	686.18	8.69	686.87	8.69	0.68	0.1
36	80	44	8	1280	0.99000	356.59	0.52500	214.68	19.36	1.12	6.57	697.07	8.71	697.71	8.72	0.65	0.09
36	81	45	9	1296	0.98765	358.7	0.52778	214.07	24.2	0	6.27	705.31	8.71	705.52	8.71	0.21	0.03
36	82	46	10	1312	0.98513	360.72	0.53049	213.49	29.51	1.1	5.99	715.37	8.72	715.59	8.73	0.22	0.03
36	83	47	11	1328	0.98244	362.65	0.53313	212.95	35.29	0	5.73	722.84	8.71	722.68	8.71	-0.17	-0.02
36	84	48	12	1344	0.97959	364.5	0.53571	212.44	41.5	1.09	5.49	732.14	8.72	732.01	8.71	-0.13	-0.02
36	85	49	13	1360	0.97661	366.27	0.53824	211.96	48.14	0	5.26	738.89	8.69	738.43	8.69	-0.46	-0.06
36	86	50	14	1376	0.97350	367.96	0.54070	211.51	55.19	1.08	5.05	747.46	8.69	747.07	8.69	-0.39	-0.05
36	87	51	15	1392	0.97027	369.58	0.54310	211.09	62.63	0	4.85	753.54	8.66	752.85	8.65	-0.69	-0.09
36	88	52	16	1408	0.96694	371.13	0.54546	210.7	70.46	1.07	4.66	761.43	8.65	760.85	8.65	-0.59	-0.08
36	89	53	17	1424	0.96352	372.61	0.54775	210.33	78.66	0	4.48	766.88	8.62	766.02	8.61	-0.85	-0.11
36	90	54	18	1440	0.96000	374.03	0.55000	209.99	87.22	1.05	4.32	774.13	8.6	773.41	8.59	-0.73	-0.09
36	91	55	19	1456	0.95641	375.38	0.55220	209.67	96.12	0	4.16	778.98	8.56	778.02	8.55	-0.97	-0.12
36	92	56	20	1472	0.95274	376.68	0.55435	209.37	105.36	1.04	4.01	785.64	8.54	784.82	8.53	-0.82	-0.1
36	93	57	21	1488	0.94901	377.92	0.55645	209.1	114.93	0	3.87	789.93	8.49	788.9	8.48	-1.04	-0.13
36	94	58	22	1504	0.94522	379.1	0.55851	208.84	124.81	1.03	3.74	796.02	8.47	795.15	8.46	-0.88	-0.11
36	95	59	23	1520	0.94139	380.23	0.56053	208.61	134.99	0	3.62	799.79	8.42	798.72	8.41	-1.07	-0.13
36	96	60	24	1536	0.93750	381.32	0.56250	208.39	145.47	1.02	3.5	805.35	8.39	804.45	8.38	-0.9	-0.11
36	97	61	25	1552	0.93357	382.35	0.56443	208.19	156.23	0	3.39	808.61	8.34	807.53	8.33	-1.08	-0.13
36	98	62	26	1568	0.92961	383.34	0.56633	208	167.28	1.01	3.28	813.67	8.3	812.77	8.29	-0.9	-0.11
36	99	63	27	1584	0.92562	384.29	0.56818	207.84	178.59	0	3.18	816.47	8.25	815.4	8.24	-1.06	-0.13
36	100	64	28	1600	0.92160	385.19	0.57000	207.69	190.16	1	3.09	821.05	8.21	820.17	8.2	-0.88	-0.11
36	101	65	29	1616	0.91756	386.05	0.57178	207.55	201.99	0	2.99	823.4	8.15	822.37	8.14	-1.04	-0.13
36	102	66	30	1632	0.91350	386.88	0.57353	207.43	214.06	0.99	2.91	827.53	8.11	826.69	8.1	-0.85	-0.1
36	103	67	31	1648	0.90942	387.66	0.57524	207.32	226.37	0	2.82	829.47	8.05	828.48	8.04	-1	-0.12
36	104	68	32	1664	0.90533	388.41	0.57692	207.22	238.91	0.98	2.75	833.18	8.01	832.37	8	-0.81	-0.1
36	105	69	33	1680	0.90122	389.13	0.57857	207.14	251.68	0	2.67	834.72	7.95	833.76	7.94	-0.96	-0.11
36	106	70	34	1696	0.89712	389.81	0.58019	207.07	264.67	0.97	2.6	838.02	7.91	837.25	7.9	-0.77	-0.09
36	107	71	35	1712	0.89300	390.46	0.58178	207.01	277.87	0	2.53	839.19	7.84	838.28	7.83	-0.91	-0.11
36	108	72	36	1728	0.88889	391.08	0.58333	206.96	291.28	0.96	2.47	842.11	7.8	841.38	7.79	-0.73	-0.09
36	109	73	37	1744	0.88477	391.67	0.58486	206.93	304.89	0	2.4	842.92	7.73	842.05	7.73	-0.87	-0.1
36	110	74	38	1760	0.88066	392.23	0.58636	206.9	318.69	0.95	2.34	845.47	7.69	844.78	7.68	-0.69	-0.08
36	111	75	39	1776	0.87655	392.76	0.58784	206.88	332.69	0	2.29	845.95	7.62	845.11	7.61	-0.84	-0.1

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
36	112	76	40	1792	0.87245	393.27	0.58929	206.88	346.88	0.94	2.23	848.16	7.57	847.49	7.57	-0.67	-0.08
36	113	77	41	1808	0.86835	393.75	0.59071	206.88	361.24	0	2.18	848.31	7.51	847.49	7.5	-0.82	-0.1
36	114	78	42	1824	0.86427	394.2	0.59211	206.89	375.78	0.94	2.13	850.19	7.46	849.54	7.45	-0.65	-0.08
36	115	79	43	1840	0.86019	394.63	0.59348	206.91	390.49	0	2.08	850.04	7.39	849.23	7.38	-0.81	-0.1
36	116	80	44	1856	0.85612	395.04	0.59483	206.94	405.37	0.93	2.03	851.61	7.34	850.95	7.34	-0.66	-0.08
36	117	81	45	1872	0.85207	395.43	0.59615	206.97	420.41	0	1.99	851.17	7.27	850.35	7.27	-0.82	-0.1
36	118	82	46	1888	0.84803	395.79	0.59746	207.02	435.62	0.92	1.95	852.44	7.22	851.76	7.22	-0.67	-0.08
36	119	83	47	1904	0.84401	396.14	0.59874	207.07	450.97	0	1.9	851.73	7.16	850.88	7.15	-0.85	-0.1
36	120	84	48	1920	0.84000	396.46	0.60000	207.13	466.48	0.91	1.86	852.71	7.11	852	7.1	-0.71	-0.08
36	121	85	49	1936	0.83601	396.77	0.60124	207.19	482.14	0	1.83	851.73	7.04	850.84	7.03	-0.9	-0.11
36	122	86	50	1952	0.83203	397.05	0.60246	207.26	497.93	0.91	1.79	852.44	6.99	851.67	6.98	-0.77	-0.09
36	123	87	51	1968	0.82808	397.32	0.60366	207.34	513.87	0	1.75	851.22	6.92	850.25	6.91	-0.97	-0.11
36	124	88	52	1984	0.82414	397.57	0.60484	207.43	529.95	0.9	1.72	851.67	6.87	850.82	6.86	-0.85	-0.1
36	125	89	53	2000	0.82022	397.81	0.60600	207.52	546.16	0	1.69	850.2	6.8	849.14	6.79	-1.06	-0.12
36	126	90	54	2016	0.81633	398.03	0.60714	207.61	562.5	0.89	1.65	850.41	6.75	849.45	6.74	-0.96	-0.11
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
37	73	36	-1	1168	0.99981	338.79	0.49658	232.59	0.33	0	9.44	605.72	8.3	610.82	8.37	5.09	0.83
37	74	37	0	1184	1.00000	341.94	0.50000	231.52	0	-1.16	10	619.37	8.37	624.09	8.43	4.72	0.76
37	75	38	1	1200	0.99982	344.96	0.50333	230.5	0.32	0	9.46	633.67	8.45	636.6	8.49	2.93	0.46
37	76	39	2	1216	0.99931	347.84	0.50658	229.55	1.27	-1.15	8.95	645.15	8.49	648.92	8.54	3.77	0.58
37	77	40	3	1232	0.99848	350.59	0.50974	228.65	2.83	0	8.49	658.42	8.55	660.49	8.58	2.06	0.31
37	78	41	4	1248	0.99737	353.23	0.51282	227.8	4.96	-1.13	8.06	668.94	8.58	671.91	8.61	2.97	0.44
37	79	42	5	1264	0.99599	355.75	0.51582	227	7.66	0	7.67	681.27	8.62	682.59	8.64	1.33	0.19
37	80	43	6	1280	0.99438	358.16	0.51875	226.24	10.89	-1.12	7.3	690.89	8.64	693.18	8.66	2.29	0.33
37	81	44	7	1296	0.99253	360.47	0.52161	225.53	14.64	0	6.96	702.32	8.67	703.03	8.68	0.71	0.1
37	82	45	8	1312	0.99048	362.68	0.52439	224.85	18.89	-1.1	6.64	711.11	8.67	712.83	8.69	1.72	0.24
37	83	46	9	1328	0.98824	364.8	0.52711	224.22	23.62	0	6.34	721.7	8.7	721.9	8.7	0.2	0.03
37	84	47	10	1344	0.98583	366.82	0.52976	223.62	28.82	-1.09	6.07	729.71	8.69	730.96	8.7	1.25	0.17
37	85	48	11	1360	0.98325	368.76	0.53235	223.06	34.47	0	5.81	739.52	8.7	739.3	8.7	-0.22	-0.03
37	86	49	12	1376	0.98053	370.62	0.53488	222.53	40.55	-1.08	5.57	746.79	8.68	747.66	8.69	0.87	0.12
37	87	50	13	1392	0.97767	372.4	0.53736	222.04	47.04	0	5.34	755.86	8.69	755.31	8.68	-0.55	-0.07
37	88	51	14	1408	0.97469	374.1	0.53977	221.57	53.95	-1.07	5.13	762.44	8.66	763.01	8.67	0.57	0.08
37	89	52	15	1424	0.97159	375.73	0.54214	221.13	61.24	0	4.93	770.82	8.66	770.01	8.65	-0.81	-0.11
37	90	53	16	1440	0.96840	377.3	0.54444	220.72	68.91	-1.05	4.74	776.75	8.63	777.09	8.63	0.34	0.04
37	91	54	17	1456	0.96510	378.79	0.54670	220.33	76.95	0	4.56	784.48	8.62	783.48	8.61	-1.01	-0.13
37	92	55	18	1472	0.96172	380.23	0.54891	219.97	85.34	-1.04	4.4	789.81	8.58	789.97	8.59	0.16	0.02
37	93	56	19	1488	0.95826	381.6	0.55108	219.64	94.08	0	4.24	796.92	8.57	795.77	8.56	-1.15	-0.14
37	94	57	20	1504	0.95473	382.91	0.55319	219.32	103.15	-1.03	4.09	801.68	8.53	801.71	8.53	0.03	0
37	95	58	21	1520	0.95114	384.17	0.55526	219.03	112.53	0	3.95	808.22	8.51	806.96	8.49	-1.25	-0.16
37	96	59	22	1536	0.94748	385.38	0.55729	218.76	122.23	-1.02	3.82	812.43	8.46	812.37	8.46	-0.06	-0.01
37	97	60	23	1552	0.94378	386.53	0.55928	218.5	132.24	0	3.69	818.42	8.44	817.11	8.42	-1.32	-0.16
37	98	61	24	1568	0.94003	387.64	0.56122	218.27	142.53	-1.01	3.58	822.13	8.39	822.02	8.39	-0.11	-0.01
37	99	62	25	1584	0.93623	388.69	0.56313	218.05	153.11	0	3.46	827.6	8.36	826.25	8.35	-1.35	-0.16
37	100	63	26	1600	0.93240	389.71	0.56500	217.86	163.96	-1	3.36	830.83	8.31	830.69	8.31	-0.14	-0.02
37	101	64	27	1616	0.92854	390.67	0.56683	217.67	175.09	0	3.25	835.82	8.28	834.45	8.26	-1.36	-0.16
37	102	65	28	1632	0.92464	391.6	0.56863	217.51	186.47	-0.99	3.16	838.59	8.22	838.44	8.22	-0.15	-0.02

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Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
37	103	66	29	1648	0.92073	392.49	0.57039	217.36	198.1	0	3.07	843.12	8.19	841.76	8.17	-1.36	-0.16
37	104	67	30	1664	0.91679	393.33	0.57212	217.22	209.98	-0.98	2.98	845.46	8.13	845.31	8.13	-0.15	-0.02
37	105	68	31	1680	0.91283	394.14	0.57381	217.1	222.1	0	2.89	849.55	8.09	848.21	8.08	-1.35	-0.16
37	106	69	32	1696	0.90886	394.92	0.57547	216.99	234.45	-0.97	2.81	851.49	8.03	851.35	8.03	-0.14	-0.02
37	107	70	33	1712	0.90488	395.65	0.57710	216.9	247.02	0	2.74	855.17	7.99	853.84	7.98	-1.33	-0.16
37	108	71	34	1728	0.90089	396.36	0.57870	216.81	259.81	-0.96	2.67	856.72	7.93	856.6	7.93	-0.12	-0.01
37	109	72	35	1744	0.89689	397.03	0.58028	216.74	272.82	0	2.6	860	7.89	858.7	7.88	-1.3	-0.15
37	110	73	36	1760	0.89289	397.68	0.58182	216.68	286.03	-0.95	2.53	861.19	7.83	861.08	7.83	-0.11	-0.01
37	111	74	37	1776	0.88889	398.29	0.58333	216.63	299.44	0	2.47	864.1	7.78	862.82	7.77	-1.28	-0.15
37	112	75	38	1792	0.88489	398.87	0.58482	216.6	313.05	-0.94	2.41	864.94	7.72	864.84	7.72	-0.09	-0.01
37	113	76	39	1808	0.88088	399.43	0.58628	216.57	326.86	0	2.35	867.49	7.68	866.23	7.67	-1.27	-0.15
37	114	77	40	1824	0.87689	399.96	0.58772	216.55	340.84	-0.94	2.29	868	7.61	867.91	7.61	-0.09	-0.01
37	115	78	41	1840	0.87289	400.46	0.58913	216.54	355.01	0	2.24	870.22	7.57	868.96	7.56	-1.26	-0.15
37	116	79	42	1856	0.86891	400.94	0.59052	216.54	369.36	-0.93	2.19	870.42	7.5	870.32	7.5	-0.1	-0.01
37	117	80	43	1872	0.86493	401.4	0.59188	216.55	383.87	0	2.14	872.31	7.46	871.04	7.44	-1.27	-0.15
37	118	81	44	1888	0.86096	401.83	0.59322	216.57	398.56	-0.92	2.09	872.21	7.39	872.09	7.39	-0.12	-0.01
37	119	82	45	1904	0.85700	402.24	0.59454	216.6	413.41	0	2.04	873.8	7.34	872.51	7.33	-1.29	-0.15
37	120	83	46	1920	0.85306	402.62	0.59583	216.63	428.42	-0.91	2	873.41	7.28	873.26	7.28	-0.15	-0.02
37	121	84	47	1936	0.84912	402.99	0.59711	216.68	443.58	0	1.96	874.71	7.23	873.38	7.22	-1.32	-0.15
37	122	85	48	1952	0.84520	403.34	0.59836	216.73	458.9	-0.91	1.92	874.05	7.16	873.85	7.16	-0.2	-0.02
37	123	86	49	1968	0.84130	403.67	0.59959	216.78	474.36	0	1.88	875.07	7.11	873.69	7.1	-1.38	-0.16
37	124	87	50	1984	0.83741	403.97	0.60081	216.85	489.97	-0.9	1.84	874.15	7.05	873.88	7.05	-0.27	-0.03
37	125	88	51	2000	0.83354	404.26	0.60200	216.92	505.72	0	1.8	874.9	7	873.45	6.99	-1.46	-0.17
37	126	89	52	2016	0.82968	404.54	0.60318	216.99	521.6	-0.89	1.77	873.74	6.93	873.37	6.93	-0.37	-0.04
37	127	90	53	2032	0.82584	404.79	0.60433	217.08	537.63	0	1.73	874.23	6.88	872.68	6.87	-1.55	-0.18
37	128	91	54	2048	0.82202	405.03	0.60547	217.17	553.78	-0.88	1.7	872.83	6.82	872.35	6.82	-0.48	-0.06
37	129	92	55	2064	0.81822	405.26	0.60659	217.26	570.06	0	1.67	873.09	6.77	871.41	6.76	-1.68	-0.19
37	130	93	56	2080	0.81444	405.47	0.60769	217.36	586.47	-0.88	1.64	871.46	6.7	870.84	6.7	-0.62	-0.07
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
38	75	37	-1	1200	0.99982	344.96	0.49667	243.13	0.32	0	9.46	621.04	8.28	626.27	8.35	5.22	0.83
38	76	38	0	1216	1.00000	348.08	0.50000	242.04	0	1.15	10	637.03	8.38	640.86	8.43	3.84	0.6
38	77	39	1	1232	0.99983	351.07	0.50325	241.01	0.31	0	9.47	649.08	8.43	652.19	8.47	3.11	0.48
38	78	40	2	1248	0.99934	353.93	0.50641	240.03	1.24	1.13	8.98	662.91	8.5	665.81	8.54	2.9	0.44
38	79	41	3	1264	0.99856	356.66	0.50949	239.11	2.76	0	8.53	673.99	8.53	676.24	8.56	2.25	0.33
38	80	42	4	1280	0.99750	359.29	0.51250	238.24	4.84	1.12	8.11	686.86	8.59	688.95	8.61	2.1	0.3
38	81	43	5	1296	0.99619	361.8	0.51543	237.42	7.47	0	7.72	697.03	8.61	698.55	8.62	1.52	0.22
38	82	44	6	1312	0.99465	364.21	0.51829	236.64	10.62	1.1	7.35	708.98	8.65	710.41	8.66	1.42	0.2
38	83	45	7	1328	0.99289	366.51	0.52108	235.91	14.29	0	7.02	718.31	8.65	719.21	8.67	0.91	0.13
38	84	46	8	1344	0.99093	368.72	0.52381	235.22	18.44	1.09	6.7	729.41	8.68	730.27	8.69	0.86	0.12
38	85	47	9	1360	0.98879	370.84	0.52647	234.57	23.07	0	6.41	737.93	8.68	738.33	8.69	0.4	0.05
38	86	48	10	1376	0.98648	372.87	0.52907	233.95	28.16	1.08	6.14	748.24	8.7	748.63	8.71	0.39	0.05
38	87	49	11	1392	0.98401	374.81	0.53161	233.37	33.68	0	5.88	756.02	8.69	756	8.69	-0.02	0
38	88	50	12	1408	0.98141	376.68	0.53409	232.82	39.64	1.07	5.64	765.57	8.7	765.59	8.7	0.02	0
38	89	51	13	1424	0.97866	378.47	0.53652	232.3	46	0	5.41	772.64	8.68	772.3	8.68	-0.35	-0.04
38	90	52	14	1440	0.97580	380.18	0.53889	231.82	52.76	1.05	5.2	781.5	8.68	781.21	8.68	-0.28	-0.04
38	91	53	15	1456	0.97283	381.83	0.54121	231.36	59.91	0	5	787.91	8.66	787.3	8.65	-0.61	-0.08

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
38	92	54	16	1472	0.96975	383.4	0.54348	230.93	67.43	1.04	4.82	796.09	8.65	795.58	8.65	-0.51	-0.06
38	93	55	17	1488	0.96659	384.91	0.54570	230.53	75.32	0	4.64	801.89	8.62	801.08	8.61	-0.81	-0.1
38	94	56	18	1504	0.96333	386.36	0.54787	230.15	83.55	1.03	4.47	809.45	8.61	808.76	8.6	-0.69	-0.09
38	95	57	19	1520	0.96000	387.75	0.55000	229.79	92.12	0	4.32	814.65	8.58	813.7	8.57	-0.95	-0.12
38	96	58	20	1536	0.95660	389.09	0.55208	229.46	101.02	1.02	4.17	821.62	8.56	820.81	8.55	-0.82	-0.1
38	97	59	21	1552	0.95313	390.36	0.55412	229.15	110.24	0	4.03	826.28	8.52	825.22	8.51	-1.05	-0.13
38	98	60	22	1568	0.94960	391.59	0.55612	228.86	119.77	1.01	3.9	832.69	8.5	831.79	8.49	-0.9	-0.11
38	99	61	23	1584	0.94603	392.76	0.55808	228.59	129.59	0	3.77	836.82	8.45	835.7	8.44	-1.12	-0.13
38	100	62	24	1600	0.94240	393.89	0.56000	228.34	139.71	1	3.65	842.71	8.43	841.76	8.42	-0.96	-0.11
38	101	63	25	1616	0.93873	394.96	0.56188	228.11	150.11	0	3.54	846.35	8.38	845.2	8.37	-1.16	-0.14
38	102	64	26	1632	0.93503	396	0.56373	227.9	160.78	0.99	3.43	851.74	8.35	850.76	8.34	-0.98	-0.12
38	103	65	27	1648	0.93129	396.99	0.56553	227.7	171.72	0	3.33	854.92	8.3	853.75	8.29	-1.17	-0.14
38	104	66	28	1664	0.92752	397.93	0.56731	227.52	182.92	0.98	3.23	859.84	8.27	858.85	8.26	-0.99	-0.12
38	105	67	29	1680	0.92372	398.84	0.56905	227.36	194.36	0	3.13	862.57	8.21	861.4	8.2	-1.17	-0.14
38	106	68	30	1696	0.91990	399.71	0.57076	227.21	206.06	0.97	3.05	867.04	8.18	866.06	8.17	-0.98	-0.11
38	107	69	31	1712	0.91606	400.54	0.57243	227.07	217.99	0	2.96	869.36	8.12	868.21	8.11	-1.15	-0.13
38	108	70	32	1728	0.91221	401.34	0.57407	226.95	230.15	0.96	2.88	873.41	8.09	872.44	8.08	-0.97	-0.11
38	109	71	33	1744	0.90834	402.1	0.57569	226.84	242.53	0	2.8	875.33	8.03	874.2	8.02	-1.13	-0.13
38	110	72	34	1760	0.90446	402.83	0.57727	226.74	255.13	0.95	2.73	878.98	7.99	878.03	7.98	-0.94	-0.11
38	111	73	35	1776	0.90058	403.53	0.57883	226.66	267.95	0	2.66	880.53	7.93	879.42	7.92	-1.11	-0.13
38	112	74	36	1792	0.89668	404.19	0.58036	226.59	280.97	0.94	2.59	883.79	7.89	882.87	7.88	-0.92	-0.1
38	113	75	37	1808	0.89279	404.83	0.58186	226.53	294.19	0	2.53	884.98	7.83	883.9	7.82	-1.08	-0.12
38	114	76	38	1824	0.88889	405.43	0.58333	226.48	307.61	0.94	2.47	887.88	7.79	886.98	7.78	-0.9	-0.1
38	115	77	39	1840	0.88499	406.01	0.58478	226.44	321.22	0	2.41	888.73	7.73	887.67	7.72	-1.07	-0.12
38	116	78	40	1856	0.88109	406.56	0.58621	226.41	335.02	0.93	2.35	891.28	7.68	890.39	7.68	-0.89	-0.1
38	117	79	41	1872	0.87720	407.09	0.58761	226.39	349	0	2.3	891.81	7.62	890.76	7.61	-1.05	-0.12
38	118	80	42	1888	0.87331	407.59	0.58898	226.39	363.15	0.92	2.24	894.04	7.58	893.15	7.57	-0.89	-0.1
38	119	81	43	1904	0.86943	408.07	0.59034	226.39	377.48	0	2.19	894.26	7.51	893.2	7.51	-1.06	-0.12
38	120	82	44	1920	0.86556	408.52	0.59167	226.39	391.97	0.91	2.14	896.17	7.47	895.27	7.46	-0.89	-0.1
38	121	83	45	1936	0.86169	408.96	0.59298	226.41	406.63	0	2.1	896.1	7.41	895.03	7.4	-1.07	-0.12
38	122	84	46	1952	0.85783	409.37	0.59426	226.44	421.45	0.91	2.05	897.7	7.36	896.79	7.35	-0.92	-0.1
38	123	85	47	1968	0.85399	409.75	0.59553	226.47	436.43	0	2.01	897.36	7.3	896.26	7.29	-1.1	-0.12
38	124	86	48	1984	0.85016	410.12	0.59677	226.51	451.55	0.9	1.97	898.67	7.25	897.72	7.24	-0.96	-0.11
38	125	87	49	2000	0.84634	410.47	0.59800	226.56	466.83	0	1.93	898.06	7.18	896.92	7.18	-1.15	-0.13
38	126	88	50	2016	0.84253	410.8	0.59921	226.62	482.25	0.89	1.89	899.11	7.14	898.09	7.13	-1.01	-0.11
38	127	89	51	2032	0.83874	411.12	0.60039	226.68	497.82	0	1.85	898.24	7.07	897.03	7.06	-1.21	-0.14
38	128	90	52	2048	0.83496	411.41	0.60156	226.75	513.52	0.88	1.82	899.02	7.02	897.93	7.02	-1.09	-0.12
38	129	91	53	2064	0.83120	411.69	0.60271	226.82	529.36	0	1.78	897.91	6.96	896.61	6.95	-1.3	-0.15
38	130	92	54	2080	0.82746	411.95	0.60385	226.91	545.33	0.88	1.75	898.44	6.91	897.25	6.9	-1.19	-0.13
38	131	93	55	2096	0.82373	412.19	0.60496	226.99	561.43	0	1.71	897.1	6.85	895.69	6.84	-1.41	-0.16
38	132	94	56	2112	0.82002	412.42	0.60606	227.09	577.65	0.87	1.68	897.39	6.8	896.08	6.79	-1.32	-0.15
38	133	95	57	2128	0.81633	412.64	0.60714	227.19	594	0	1.65	895.83	6.74	894.28	6.72	-1.55	-0.17
Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
39	77	38	-1	1232	0.99983	351.07	0.49675	253.86	0.31	0	9.47	636.23	8.26	641.59	8.33	5.36	0.84
39	78	39	0	1248	1.00000	354.16	0.50000	252.75	0	-1.13	10	649.96	8.33	654.96	8.4	5	0.76
39	79	40	1	1264	0.99984	357.12	0.50317	251.7	0.31	0	9.48	664.36	8.41	667.59	8.45	3.23	0.48

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
39	80	41	2	1280	0.99938	359.96	0.50625	250.7	1.21	-1.12	9	676.01	8.45	680.04	8.5	4.03	0.59
39	81	42	3	1296	0.99863	362.68	0.50926	249.76	2.69	0	8.56	689.42	8.51	691.76	8.54	2.34	0.34
39	82	43	4	1312	0.99762	365.29	0.51220	248.87	4.72	-1.1	8.15	700.15	8.54	703.35	8.58	3.2	0.46
39	83	44	5	1328	0.99637	367.8	0.51506	248.03	7.29	0	7.76	712.64	8.59	714.22	8.61	1.58	0.22
39	84	45	6	1344	0.99490	370.2	0.51786	247.24	10.38	-1.09	7.41	722.51	8.6	725	8.63	2.49	0.34
39	85	46	7	1360	0.99322	372.5	0.52059	246.48	13.96	0	7.08	734.14	8.64	735.07	8.65	0.93	0.13
39	86	47	8	1376	0.99135	374.71	0.52326	245.77	18.02	-1.08	6.77	743.19	8.64	745.08	8.66	1.9	0.25
39	87	48	9	1392	0.98930	376.83	0.52586	245.1	22.55	0	6.48	754	8.67	754.39	8.67	0.39	0.05
39	88	49	10	1408	0.98709	378.86	0.52841	244.46	27.52	-1.07	6.2	762.29	8.66	763.69	8.68	1.4	0.18
39	89	50	11	1424	0.98472	380.81	0.53090	243.86	32.93	0	5.95	772.34	8.68	772.29	8.68	-0.06	-0.01
39	90	51	12	1440	0.98222	382.68	0.53333	243.29	38.76	-1.05	5.71	779.92	8.67	780.9	8.68	0.99	0.13
39	91	52	13	1456	0.97959	384.48	0.53571	242.76	45	0	5.49	789.25	8.67	788.83	8.67	-0.42	-0.05
39	92	53	14	1472	0.97684	386.21	0.53804	242.25	51.63	-1.04	5.28	796.15	8.65	796.8	8.66	0.65	0.08
39	93	54	15	1488	0.97399	387.86	0.54032	241.78	58.64	0	5.08	804.81	8.65	804.09	8.65	-0.72	-0.09
39	94	55	16	1504	0.97103	389.45	0.54255	241.33	66.01	-1.03	4.89	811.07	8.63	811.46	8.63	0.39	0.05
39	95	56	17	1520	0.96798	390.98	0.54474	240.91	73.75	0	4.72	819.09	8.62	818.14	8.61	-0.95	-0.12
39	96	57	18	1536	0.96484	392.44	0.54688	240.51	81.83	-1.02	4.55	824.75	8.59	824.93	8.59	0.18	0.02
39	97	58	19	1552	0.96163	393.85	0.54897	240.14	90.24	0	4.39	832.17	8.58	831.05	8.57	-1.12	-0.14
39	98	59	20	1568	0.95835	395.19	0.55102	239.79	98.98	-1.01	4.24	837.27	8.54	837.29	8.54	0.02	0
39	99	60	21	1584	0.95501	396.49	0.55303	239.46	108.03	0	4.1	844.12	8.53	842.87	8.51	-1.25	-0.15
39	100	61	22	1600	0.95160	397.73	0.55500	239.15	117.39	-1	3.97	848.69	8.49	848.59	8.49	-0.1	-0.01
39	101	62	23	1616	0.94814	398.92	0.55693	238.87	127.05	0	3.84	855	8.47	853.65	8.45	-1.35	-0.16
39	102	63	24	1632	0.94464	400.07	0.55882	238.6	137	-0.99	3.72	859.06	8.42	858.88	8.42	-0.18	-0.02
39	103	64	25	1648	0.94109	401.17	0.56068	238.36	147.22	0	3.61	864.86	8.4	863.45	8.38	-1.41	-0.16
39	104	65	26	1664	0.93750	402.22	0.56250	238.13	157.72	-0.98	3.5	868.45	8.35	868.22	8.35	-0.24	-0.03
39	105	66	27	1680	0.93388	403.23	0.56429	237.92	168.48	0	3.4	873.77	8.32	872.32	8.31	-1.45	-0.17
39	106	67	28	1696	0.93022	404.2	0.56604	237.72	179.5	-0.97	3.3	876.91	8.27	876.64	8.27	-0.27	-0.03
39	107	68	29	1712	0.92654	405.13	0.56776	237.54	190.77	0	3.2	881.77	8.24	880.3	8.23	-1.47	-0.17
39	108	69	30	1728	0.92284	406.02	0.56944	237.38	202.28	-0.96	3.11	884.48	8.19	884.19	8.19	-0.29	-0.03
39	109	70	31	1744	0.91912	406.87	0.57110	237.23	214.02	0	3.03	888.91	8.16	887.43	8.14	-1.48	-0.17
39	110	71	32	1760	0.91537	407.69	0.57273	237.09	226	-0.95	2.95	891.21	8.1	890.91	8.1	-0.3	-0.03
39	111	72	33	1776	0.91161	408.47	0.57432	236.97	238.2	0	2.87	895.23	8.07	893.75	8.05	-1.47	-0.16
39	112	73	34	1792	0.90784	409.22	0.57589	236.86	250.62	-0.94	2.79	897.15	8.01	896.85	8.01	-0.3	-0.03
39	113	74	35	1808	0.90407	409.94	0.57743	236.77	263.25	0	2.72	900.77	7.97	899.3	7.96	-1.47	-0.16
39	114	75	36	1824	0.90028	410.63	0.57895	236.68	276.08	-0.94	2.65	902.32	7.92	902.02	7.91	-0.3	-0.03
39	115	76	37	1840	0.89648	411.28	0.58044	236.61	289.12	0	2.59	905.57	7.87	904.11	7.86	-1.46	-0.16
39	116	77	38	1856	0.89269	411.91	0.58190	236.55	302.35	-0.93	2.53	906.78	7.82	906.48	7.81	-0.3	-0.03
39	117	78	39	1872	0.88889	412.52	0.58333	236.5	315.78	0	2.47	909.67	7.77	908.21	7.76	-1.46	-0.16
39	118	79	40	1888	0.88509	413.09	0.58475	236.46	329.39	-0.92	2.41	910.55	7.72	910.24	7.71	-0.31	-0.03
39	119	80	41	1904	0.88129	413.64	0.58613	236.43	343.18	0	2.35	913.1	7.67	911.64	7.66	-1.46	-0.16
39	120	81	42	1920	0.87750	414.16	0.58750	236.41	357.15	-0.91	2.3	913.66	7.61	913.34	7.61	-0.32	-0.04
39	121	82	43	1936	0.87371	414.66	0.58884	236.4	371.29	0	2.25	915.89	7.57	914.42	7.56	-1.48	-0.16
39	122	83	44	1952	0.86993	415.14	0.59016	236.4	385.6	-0.91	2.2	916.16	7.51	915.81	7.51	-0.35	-0.04
39	123	84	45	1968	0.86615	415.59	0.59146	236.41	400.07	0	2.15	918.08	7.46	916.58	7.45	-1.5	-0.16
39	124	85	46	1984	0.86238	416.02	0.59274	236.43	414.71	-0.9	2.11	918.05	7.4	917.66	7.4	-0.39	-0.04
39	125	86	47	2000	0.85862	416.43	0.59400	236.45	429.5	0	2.06	919.68	7.36	918.14	7.35	-1.54	-0.17
39	126	87	48	2016	0.85488	416.82	0.59524	236.48	444.44	-0.89	2.02	919.38	7.3	918.94	7.29	-0.44	-0.05

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
39	127	88	49	2032	0.85114	417.19	0.59646	236.52	459.54	0	1.98	920.72	7.25	919.13	7.24	-1.6	-0.17
39	128	89	50	2048	0.84741	417.54	0.59766	236.57	474.78	-0.88	1.94	920.16	7.19	919.65	7.18	-0.51	-0.06
39	129	90	51	2064	0.84370	417.88	0.59884	236.62	490.16	0	1.9	921.24	7.14	919.57	7.13	-1.67	-0.18
39	130	91	52	2080	0.84000	418.19	0.60000	236.69	505.68	-0.88	1.86	920.43	7.08	919.83	7.08	-0.6	-0.07
39	131	92	53	2096	0.83632	418.49	0.60115	236.75	521.34	0	1.83	921.25	7.03	919.48	7.02	-1.77	-0.19
39	132	93	54	2112	0.83265	418.77	0.60227	236.83	537.13	-0.87	1.79	920.2	6.97	919.49	6.97	-0.71	-0.08
39	133	94	55	2128	0.82899	419.04	0.60338	236.91	553.05	0	1.76	920.77	6.92	918.89	6.91	-1.88	-0.2
39	134	95	56	2144	0.82535	419.29	0.60448	237	569.09	-0.86	1.73	919.49	6.86	918.65	6.86	-0.84	-0.09
39	135	96	57	2160	0.82173	419.52	0.60556	237.09	585.27	0	1.7	919.82	6.81	917.8	6.8	-2.02	-0.22
39	136	97	58	2176	0.81812	419.74	0.60662	237.19	601.56	-0.86	1.67	918.32	6.75	917.33	6.75	-1	-0.11
Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
40	79	39	-1	1264	0.99984	357.12	0.49684	264.77	0.31	0	9.48	651.28	8.24	656.77	8.31	5.49	0.84
40	80	40	0	1280	1.00000	360.19	0.50000	263.64	0	1.12	10	667.29	8.34	671.44	8.39	4.15	0.62
40	81	41	1	1296	0.99985	363.13	0.50309	262.57	0.3	0	9.49	679.5	8.39	682.9	8.43	3.4	0.5
40	82	42	2	1312	0.99941	365.95	0.50610	261.56	1.18	1.1	9.03	693.44	8.46	696.63	8.5	3.19	0.46
40	83	43	3	1328	0.99869	368.65	0.50904	260.6	2.62	0	8.59	704.71	8.49	707.23	8.52	2.52	0.36
40	84	44	4	1344	0.99773	371.25	0.51191	259.69	4.61	1.09	8.19	717.72	8.54	720.08	8.57	2.36	0.33
40	85	45	5	1360	0.99654	373.75	0.51471	258.83	7.12	0	7.81	728.12	8.57	729.87	8.59	1.76	0.24
40	86	46	6	1376	0.99513	376.14	0.51744	258.01	10.14	1.08	7.46	740.25	8.61	741.91	8.63	1.66	0.22
40	87	47	7	1392	0.99353	378.44	0.52012	257.24	13.64	0	7.13	749.81	8.62	750.93	8.63	1.12	0.15
40	88	48	8	1408	0.99174	380.64	0.52273	256.51	17.62	1.07	6.83	761.12	8.65	762.19	8.66	1.06	0.14
40	89	49	9	1424	0.98977	382.76	0.52528	255.82	22.05	0	6.54	769.91	8.65	770.49	8.66	0.58	0.08
40	90	50	10	1440	0.98765	384.8	0.52778	255.16	26.92	1.05	6.27	780.45	8.67	781.01	8.68	0.57	0.07
40	91	51	11	1456	0.98539	386.76	0.53022	254.54	32.22	0	6.02	788.51	8.66	788.64	8.67	0.13	0.02
40	92	52	12	1472	0.98299	388.63	0.53261	253.95	37.93	1.04	5.78	798.31	8.68	798.47	8.68	0.16	0.02
40	93	53	13	1488	0.98046	390.44	0.53495	253.4	44.04	0	5.56	805.68	8.66	805.45	8.66	-0.23	-0.03
40	94	54	14	1504	0.97782	392.17	0.53723	252.87	50.54	1.03	5.35	814.79	8.67	814.62	8.67	-0.17	-0.02
40	95	55	15	1520	0.97507	393.84	0.53947	252.38	57.42	0	5.15	821.52	8.65	821	8.64	-0.52	-0.06
40	96	56	16	1536	0.97222	395.44	0.54167	251.91	64.65	1.02	4.97	829.98	8.65	829.54	8.64	-0.44	-0.05
40	97	57	17	1552	0.96929	396.98	0.54381	251.47	72.24	0	4.79	836.1	8.62	835.35	8.61	-0.75	-0.09
40	98	58	18	1568	0.96626	398.46	0.54592	251.06	80.17	1.01	4.62	843.95	8.61	843.3	8.61	-0.64	-0.08
40	99	59	19	1584	0.96317	399.88	0.54798	250.67	88.44	0	4.47	849.49	8.58	848.56	8.57	-0.93	-0.11
40	100	60	20	1600	0.96000	401.24	0.55000	250.3	97.02	1	4.32	856.75	8.57	855.95	8.56	-0.8	-0.09
40	101	61	21	1616	0.95677	402.55	0.55198	249.96	105.92	0	4.18	861.75	8.53	860.69	8.52	-1.06	-0.12
40	102	62	22	1632	0.95348	403.81	0.55392	249.63	115.12	0.99	4.04	868.47	8.51	867.55	8.51	-0.92	-0.11
40	103	63	23	1648	0.95014	405.02	0.55583	249.33	124.61	0	3.91	872.95	8.48	871.79	8.46	-1.16	-0.13
40	104	64	24	1664	0.94675	406.19	0.55769	249.05	134.39	0.98	3.79	879.15	8.45	878.15	8.44	-1	-0.11
40	105	65	25	1680	0.94331	407.3	0.55952	248.79	144.44	0	3.68	883.14	8.41	881.93	8.4	-1.22	-0.14
40	106	66	26	1696	0.93984	408.37	0.56132	248.54	154.77	0.97	3.57	888.85	8.39	887.8	8.38	-1.05	-0.12
40	107	67	27	1712	0.93633	409.4	0.56308	248.32	165.36	0	3.47	892.38	8.34	891.13	8.33	-1.26	-0.14
40	108	68	28	1728	0.93279	410.39	0.56482	248.11	176.21	0.96	3.37	897.62	8.31	896.54	8.3	-1.08	-0.12
40	109	69	29	1744	0.92922	411.34	0.56651	247.91	187.3	0	3.27	900.72	8.26	899.44	8.25	-1.28	-0.14
40	110	70	30	1760	0.92562	412.25	0.56818	247.73	198.63	0.95	3.18	905.52	8.23	904.42	8.22	-1.1	-0.12
40	111	71	31	1776	0.92200	413.13	0.56982	247.57	210.2	0	3.09	908.2	8.18	906.91	8.17	-1.29	-0.14
40	112	72	32	1792	0.91837	413.96	0.57143	247.42	222	0.94	3.01	912.57	8.15	911.47	8.14	-1.1	-0.12
40	113	73	33	1808	0.91472	414.77	0.57301	247.29	234.02	0	2.93	914.85	8.1	913.57	8.08	-1.28	-0.14

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
40	114	74	34	1824	0.91105	415.54	0.57456	247.17	246.26	0.94	2.86	918.83	8.06	917.73	8.05	-1.1	-0.12
40	115	75	35	1840	0.90737	416.28	0.57609	247.06	258.71	0	2.79	920.74	8.01	919.46	8	-1.27	-0.14
40	116	76	36	1856	0.90369	416.99	0.57759	246.96	271.36	0.93	2.72	924.33	7.97	923.24	7.96	-1.09	-0.12
40	117	77	37	1872	0.89999	417.67	0.57906	246.88	284.22	0	2.65	925.88	7.91	924.62	7.9	-1.27	-0.14
40	118	78	38	1888	0.89629	418.32	0.58051	246.8	297.27	0.92	2.59	929.11	7.87	928.03	7.86	-1.08	-0.12
40	119	79	39	1904	0.89259	418.94	0.58193	246.74	310.52	0	2.52	930.32	7.82	929.06	7.81	-1.26	-0.14
40	120	80	40	1920	0.88889	419.54	0.58333	246.69	323.94	0.91	2.47	933.2	7.78	932.12	7.77	-1.08	-0.12
40	121	81	41	1936	0.88519	420.11	0.58471	246.65	337.55	0	2.41	934.1	7.72	932.84	7.71	-1.26	-0.13
40	122	82	42	1952	0.88148	420.65	0.58607	246.62	351.34	0.91	2.36	936.64	7.68	935.56	7.67	-1.09	-0.12
40	123	83	43	1968	0.87778	421.17	0.58740	246.6	365.3	0	2.3	937.23	7.62	935.96	7.61	-1.27	-0.14
40	124	84	44	1984	0.87409	421.67	0.58871	246.59	379.43	0.9	2.25	939.46	7.58	938.36	7.57	-1.1	-0.12
40	125	85	45	2000	0.87040	422.14	0.59000	246.59	393.72	0	2.2	939.75	7.52	938.46	7.51	-1.29	-0.14
40	126	86	46	2016	0.86672	422.6	0.59127	246.6	408.18	0.89	2.16	941.68	7.47	940.55	7.46	-1.13	-0.12
40	127	87	47	2032	0.86304	423.03	0.59252	246.61	422.79	0	2.11	941.68	7.41	940.37	7.4	-1.32	-0.14
40	128	88	48	2048	0.85938	423.44	0.59375	246.63	437.55	0.88	2.07	943.33	7.37	942.16	7.36	-1.17	-0.12
40	129	89	49	2064	0.85572	423.83	0.59496	246.67	452.47	0	2.03	943.06	7.31	941.7	7.3	-1.37	-0.15
40	130	90	50	2080	0.85207	424.2	0.59615	246.7	467.53	0.88	1.99	944.43	7.26	943.2	7.26	-1.23	-0.13
40	131	91	51	2096	0.84844	424.56	0.59733	246.75	482.73	0	1.95	943.91	7.21	942.48	7.19	-1.43	-0.15
40	132	92	52	2112	0.84481	424.89	0.59849	246.8	498.08	0.87	1.91	945.01	7.16	943.71	7.15	-1.3	-0.14
40	133	93	53	2128	0.84120	425.21	0.59962	246.87	513.56	0	1.88	944.24	7.1	942.73	7.09	-1.52	-0.16
40	134	94	54	2144	0.83760	425.51	0.60075	246.93	529.17	0.86	1.84	945.09	7.05	943.69	7.04	-1.4	-0.15
40	135	95	55	2160	0.83402	425.79	0.60185	247.01	544.91	0	1.81	944.09	6.99	942.47	6.98	-1.62	-0.17
40	136	96	56	2176	0.83045	426.06	0.60294	247.09	560.79	0.86	1.77	944.69	6.95	943.18	6.94	-1.51	-0.16
40	137	97	57	2192	0.82690	426.32	0.60402	247.17	576.78	0	1.74	943.47	6.89	941.72	6.87	-1.75	-0.19
40	138	98	58	2208	0.82336	426.56	0.60507	247.26	592.9	0.85	1.71	943.84	6.84	942.19	6.83	-1.65	-0.18
40	139	99	59	2224	0.81983	426.78	0.60612	247.36	609.14	0	1.68	942.4	6.78	940.5	6.77	-1.9	-0.2
40	140	100	60	2240	0.81633	426.99	0.60714	247.46	625.5	0.85	1.65	942.54	6.73	940.73	6.72	-1.82	-0.19
Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
41	81	40	-1	1296	0.99985	363.13	0.49691	275.87	0.3	0	9.49	666.2	8.22	671.82	8.29	5.61	0.84
41	82	41	0	1312	1.00000	366.17	0.50000	274.72	0	-1.1	10	680.01	8.29	685.28	8.36	5.27	0.77
41	83	42	1	1328	0.99986	369.08	0.50301	273.63	0.29	0	9.51	694.5	8.37	698.02	8.41	3.52	0.5
41	84	43	2	1344	0.99943	371.88	0.50595	272.6	1.15	-1.09	9.05	706.32	8.41	710.6	8.46	4.28	0.6
41	85	44	3	1360	0.99875	374.58	0.50882	271.62	2.56	0	8.62	719.86	8.47	722.47	8.5	2.6	0.36
41	86	45	4	1376	0.99784	377.16	0.51163	270.69	4.51	-1.08	8.23	730.79	8.5	734.21	8.54	3.42	0.47
41	87	46	5	1392	0.99670	379.65	0.51437	269.81	6.96	0	7.86	743.44	8.55	745.26	8.57	1.81	0.24
41	88	47	6	1408	0.99535	382.03	0.51705	268.97	9.91	-1.07	7.51	753.53	8.56	756.22	8.59	2.69	0.36
41	89	48	7	1424	0.99381	384.33	0.51966	268.18	13.34	0	7.19	765.34	8.6	766.48	8.61	1.14	0.15
41	90	49	8	1440	0.99210	386.53	0.52222	267.43	17.23	-1.05	6.88	774.64	8.61	776.7	8.63	2.07	0.27
41	91	50	9	1456	0.99022	388.65	0.52473	266.72	21.57	0	6.6	785.66	8.63	786.24	8.64	0.57	0.07
41	92	51	10	1472	0.98819	390.69	0.52717	266.04	26.34	-1.04	6.33	794.22	8.63	795.76	8.65	1.54	0.19
41	93	52	11	1488	0.98601	392.65	0.52957	265.4	31.53	0	6.08	804.5	8.65	804.59	8.65	0.1	0.01
41	94	53	12	1504	0.98370	394.53	0.53192	264.8	37.13	-1.03	5.85	812.36	8.64	813.45	8.65	1.1	0.14
41	95	54	13	1520	0.98127	396.35	0.53421	264.22	43.13	0	5.63	821.93	8.65	821.64	8.65	-0.3	-0.04
41	96	55	14	1536	0.97873	398.09	0.53646	263.68	49.5	-1.02	5.42	829.13	8.64	829.87	8.64	0.74	0.09
41	97	56	15	1552	0.97609	399.76	0.53866	263.17	56.24	0	5.22	838.05	8.64	837.43	8.63	-0.62	-0.07
41	98	57	16	1568	0.97334	401.38	0.54082	262.68	63.35	-1.01	5.04	844.62	8.62	845.06	8.62	0.44	0.05

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
41	99	58	17	1584	0.97051	402.93	0.54293	262.22	70.8	0	4.86	852.91	8.62	852.03	8.61	-0.88	-0.1
41	100	59	18	1600	0.96760	404.42	0.54500	261.79	78.59	-1	4.7	858.9	8.59	859.1	8.59	0.2	0.02
41	101	60	19	1616	0.96461	405.85	0.54703	261.38	86.7	0	4.54	866.6	8.58	865.51	8.57	-1.09	-0.13
41	102	61	20	1632	0.96155	407.23	0.54902	261	95.14	-0.99	4.39	872.03	8.55	872.05	8.55	0.02	0
41	103	62	21	1648	0.95843	408.56	0.55097	260.64	103.88	0	4.25	879.17	8.54	877.92	8.52	-1.25	-0.14
41	104	63	22	1664	0.95525	409.83	0.55289	260.3	112.92	-0.98	4.11	884.08	8.5	883.95	8.5	-0.13	-0.01
41	105	64	23	1680	0.95202	411.06	0.55476	259.98	122.26	0	3.99	890.68	8.48	889.32	8.47	-1.37	-0.15
41	106	65	24	1696	0.94874	412.24	0.55660	259.68	131.88	-0.97	3.86	895.09	8.44	894.85	8.44	-0.24	-0.03
41	107	66	25	1712	0.94541	413.38	0.55841	259.41	141.77	0	3.75	901.2	8.42	899.74	8.41	-1.45	-0.16
41	108	67	26	1728	0.94204	414.47	0.56019	259.15	151.93	-0.96	3.64	905.13	8.38	904.82	8.38	-0.32	-0.04
41	109	68	27	1744	0.93864	415.51	0.56193	258.9	162.35	0	3.53	910.76	8.36	909.25	8.34	-1.52	-0.17
41	110	69	28	1760	0.93521	416.52	0.56364	258.68	173.03	-0.95	3.43	914.25	8.31	913.87	8.31	-0.38	-0.04
41	111	70	29	1776	0.93174	417.49	0.56532	258.47	183.95	0	3.34	919.42	8.28	917.87	8.27	-1.56	-0.17
41	112	71	30	1792	0.92825	418.42	0.56696	258.28	195.12	-0.94	3.25	922.49	8.24	922.07	8.23	-0.42	-0.05
41	113	72	31	1808	0.92474	419.31	0.56858	258.1	206.51	0	3.16	927.23	8.21	925.64	8.19	-1.59	-0.17
41	114	73	32	1824	0.92121	420.17	0.57018	257.94	218.14	-0.94	3.08	929.89	8.16	929.45	8.15	-0.44	-0.05
41	115	74	33	1840	0.91766	421	0.57174	257.79	229.99	0	3	934.22	8.12	932.62	8.11	-1.6	-0.17
41	116	75	34	1856	0.91409	421.79	0.57328	257.65	242.05	-0.93	2.92	936.5	8.07	936.04	8.07	-0.46	-0.05
41	117	76	35	1872	0.91051	422.55	0.57479	257.53	254.32	0	2.85	940.44	8.04	938.83	8.02	-1.61	-0.17
41	118	77	36	1888	0.90692	423.28	0.57627	257.42	266.8	-0.92	2.78	942.35	7.99	941.87	7.98	-0.48	-0.05
41	119	78	37	1904	0.90333	423.98	0.57773	257.33	279.48	0	2.71	945.92	7.95	944.3	7.94	-1.62	-0.17
41	120	79	38	1920	0.89972	424.65	0.57917	257.24	292.36	-0.91	2.64	947.48	7.9	946.99	7.89	-0.49	-0.05
41	121	80	39	1936	0.89611	425.29	0.58058	257.17	305.43	0	2.58	950.69	7.86	949.06	7.84	-1.63	-0.17
41	122	81	40	1952	0.89250	425.91	0.58197	257.11	318.68	-0.91	2.52	951.92	7.8	951.42	7.8	-0.5	-0.05
41	123	82	41	1968	0.88889	426.5	0.58333	257.06	332.11	0	2.47	954.8	7.76	953.16	7.75	-1.64	-0.17
41	124	83	42	1984	0.88528	427.07	0.58468	257.02	345.72	-0.9	2.41	955.71	7.71	955.18	7.7	-0.53	-0.06
41	125	84	43	2000	0.88166	427.61	0.58600	256.99	359.5	0	2.36	958.26	7.67	956.6	7.65	-1.66	-0.17
41	126	85	44	2016	0.87806	428.12	0.58730	256.96	373.46	-0.89	2.31	958.87	7.61	958.31	7.61	-0.56	-0.06
41	127	86	45	2032	0.87445	428.62	0.58858	256.95	387.57	0	2.26	961.11	7.57	959.42	7.55	-1.69	-0.18
41	128	87	46	2048	0.87085	429.09	0.58984	256.95	401.85	-0.88	2.21	961.43	7.51	960.84	7.51	-0.6	-0.06
41	129	88	47	2064	0.86726	429.54	0.59109	256.95	416.29	0	2.16	963.38	7.47	961.65	7.45	-1.73	-0.18
41	130	89	48	2080	0.86367	429.98	0.59231	256.97	430.88	-0.88	2.12	963.42	7.41	962.77	7.41	-0.65	-0.07
41	131	90	49	2096	0.86009	430.39	0.59351	256.99	445.61	0	2.08	965.09	7.37	963.3	7.35	-1.79	-0.19
41	132	91	50	2112	0.85652	430.78	0.59470	257.02	460.5	-0.87	2.04	964.87	7.31	964.15	7.3	-0.72	-0.07
41	133	92	51	2128	0.85296	431.15	0.59587	257.06	475.53	0	2	966.26	7.27	964.4	7.25	-1.86	-0.19
41	134	93	52	2144	0.84941	431.51	0.59702	257.1	490.7	-0.86	1.96	965.78	7.21	964.98	7.2	-0.81	-0.08
41	135	94	53	2160	0.84587	431.85	0.59815	257.16	506.01	0	1.92	966.92	7.16	964.97	7.15	-1.95	-0.2
41	136	95	54	2176	0.84234	432.17	0.59927	257.22	521.45	-0.86	1.89	966.2	7.1	965.29	7.1	-0.91	-0.09
41	137	96	55	2192	0.83883	432.47	0.60037	257.28	537.02	0	1.85	967.08	7.06	965.02	7.04	-2.06	-0.21
41	138	97	56	2208	0.83533	432.76	0.60145	257.35	552.72	-0.85	1.82	966.14	7	965.1	6.99	-1.03	-0.11
41	139	98	57	2224	0.83184	433.03	0.60252	257.43	568.55	0	1.79	966.78	6.96	964.59	6.94	-2.19	-0.23
41	140	99	58	2240	0.82837	433.29	0.60357	257.52	584.5	-0.85	1.76	965.61	6.9	964.43	6.89	-1.18	-0.12
41	141	100	59	2256	0.82491	433.53	0.60461	257.61	600.56	0	1.72	966.02	6.85	963.68	6.83	-2.34	-0.24
41	142	101	60	2272	0.82146	433.76	0.60563	257.71	616.75	-0.84	1.7	964.64	6.79	963.29	6.78	-1.35	-0.14
41	143	102	61	2288	0.81804	433.97	0.60664	257.81	633.06	0	1.67	964.83	6.75	962.31	6.73	-2.52	-0.26
41	144	103	62	2304	0.81462	434.18	0.60764	257.92	649.47	-0.83	1.64	963.24	6.69	961.7	6.68	-1.54	-0.16

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
42	83	41	-1	1328	0.99986	369.08	0.49699	287.14	0.29	0	9.51	680.99	8.2	686.73	8.27	5.74	0.84
42	84	42	0	1344	1.00000	372.1	0.50000	285.98	0	1.09	10	697.02	8.3	701.46	8.35	4.44	0.63
42	85	43	1	1360	0.99986	374.99	0.50294	284.87	0.28	0	9.52	709.37	8.35	713.05	8.39	3.68	0.52
42	86	44	2	1376	0.99946	377.77	0.50581	283.82	1.13	1.08	9.07	723.43	8.41	726.89	8.45	3.46	0.48
42	87	45	3	1392	0.99881	380.45	0.50862	282.82	2.51	0	8.65	734.87	8.45	737.64	8.48	2.77	0.38
42	88	46	4	1408	0.99793	383.02	0.51136	281.87	4.4	1.07	8.26	748.03	8.5	750.63	8.53	2.61	0.35
42	89	47	5	1424	0.99684	385.5	0.51405	280.97	6.8	0	7.9	758.62	8.52	760.61	8.55	1.99	0.26
42	90	48	6	1440	0.99556	387.88	0.51667	280.12	9.69	1.05	7.56	770.92	8.57	772.8	8.59	1.88	0.24
42	91	49	7	1456	0.99408	390.17	0.51923	279.31	13.05	0	7.24	780.72	8.58	782.04	8.59	1.32	0.17
42	92	50	8	1472	0.99244	392.37	0.52174	278.54	16.86	1.04	6.94	792.22	8.61	793.47	8.62	1.26	0.16
42	93	51	9	1488	0.99064	394.49	0.52419	277.8	21.11	0	6.66	801.26	8.62	802.01	8.62	0.76	0.09
42	94	52	10	1504	0.98868	396.53	0.52660	277.11	25.79	1.03	6.4	812	8.64	812.73	8.65	0.73	0.09
42	95	53	11	1520	0.98659	398.49	0.52895	276.45	30.88	0	6.15	820.33	8.64	820.61	8.64	0.28	0.03
42	96	54	12	1536	0.98438	400.38	0.53125	275.82	36.37	1.02	5.92	830.36	8.65	830.66	8.65	0.3	0.04
42	97	55	13	1552	0.98204	402.2	0.53351	275.23	42.25	0	5.7	838.02	8.64	837.9	8.64	-0.11	-0.01
42	98	56	14	1568	0.97959	403.95	0.53571	274.67	48.5	1.01	5.49	847.37	8.65	847.31	8.65	-0.06	-0.01
42	99	57	15	1584	0.97704	405.64	0.53788	274.14	55.12	0	5.29	854.4	8.63	853.96	8.63	-0.43	-0.05
42	100	58	16	1600	0.97440	407.26	0.54000	273.64	62.09	1	5.11	863.12	8.63	862.76	8.63	-0.36	-0.04
42	101	59	17	1616	0.97167	408.82	0.54208	273.16	69.41	0	4.93	869.54	8.61	868.85	8.6	-0.69	-0.08
42	102	60	18	1632	0.96886	410.33	0.54412	272.71	77.06	0.99	4.77	877.66	8.6	877.07	8.6	-0.59	-0.07
42	103	61	19	1648	0.96597	411.77	0.54612	272.28	85.04	0	4.61	883.52	8.58	882.62	8.57	-0.9	-0.1
42	104	62	20	1664	0.96302	413.17	0.54808	271.88	93.32	0.98	4.46	891.07	8.57	890.29	8.56	-0.78	-0.09
42	105	63	21	1680	0.96000	414.51	0.55000	271.51	101.92	0	4.32	896.38	8.54	895.33	8.53	-1.06	-0.12
42	106	64	22	1696	0.95692	415.8	0.55189	271.15	110.81	0.97	4.18	903.39	8.52	902.47	8.51	-0.92	-0.1
42	107	65	23	1712	0.95380	417.04	0.55374	270.81	119.99	0	4.05	908.2	8.49	907.02	8.48	-1.18	-0.13
42	108	66	24	1728	0.95062	418.24	0.55556	270.5	129.46	0.96	3.93	914.7	8.47	913.67	8.46	-1.03	-0.11
42	109	67	25	1744	0.94740	419.39	0.55734	270.21	139.19	0	3.82	919.03	8.43	917.76	8.42	-1.27	-0.14
42	110	68	26	1760	0.94413	420.5	0.55909	269.93	149.19	0.95	3.71	925.04	8.41	923.93	8.4	-1.11	-0.12
42	111	69	27	1776	0.94083	421.56	0.56081	269.67	159.46	0	3.6	928.91	8.37	927.58	8.36	-1.33	-0.14
42	112	70	28	1792	0.93750	422.59	0.56250	269.43	169.97	0.94	3.5	934.45	8.34	933.29	8.33	-1.16	-0.12
42	113	71	29	1808	0.93414	423.58	0.56416	269.21	180.73	0	3.4	937.89	8.3	936.52	8.29	-1.37	-0.15
42	114	72	30	1824	0.93075	424.53	0.56579	269	191.72	0.94	3.31	943	8.27	941.8	8.26	-1.2	-0.13
42	115	73	31	1840	0.92734	425.44	0.56739	268.81	202.95	0	3.22	946.02	8.23	944.62	8.21	-1.4	-0.15
42	116	74	32	1856	0.92390	426.32	0.56897	268.63	214.41	0.93	3.14	950.7	8.2	949.49	8.19	-1.22	-0.13
42	117	75	33	1872	0.92045	427.16	0.57051	268.47	226.09	0	3.06	953.34	8.15	951.92	8.14	-1.41	-0.15
42	118	76	34	1888	0.91698	427.97	0.57203	268.33	237.98	0.92	2.98	957.62	8.12	956.39	8.11	-1.23	-0.13
42	119	77	35	1904	0.91350	428.75	0.57353	268.19	250.09	0	2.91	959.88	8.07	958.46	8.05	-1.42	-0.15
42	120	78	36	1920	0.91000	429.5	0.57500	268.07	262.4	0.91	2.84	963.78	8.03	962.55	8.02	-1.24	-0.13
42	121	79	37	1936	0.90650	430.22	0.57645	267.96	274.9	0	2.77	965.68	7.98	964.26	7.97	-1.43	-0.15
42	122	80	38	1952	0.90298	430.91	0.57787	267.86	287.61	0.91	2.7	969.23	7.94	967.98	7.93	-1.24	-0.13
42	123	81	39	1968	0.89947	431.57	0.57927	267.78	300.5	0	2.64	970.79	7.89	969.36	7.88	-1.43	-0.15
42	124	82	40	1984	0.89594	432.21	0.58065	267.71	313.58	0.9	2.58	973.98	7.85	972.73	7.84	-1.25	-0.13
42	125	83	41	2000	0.89242	432.82	0.58200	267.64	326.84	0	2.52	975.22	7.8	973.78	7.79	-1.44	-0.15
42	126	84	42	2016	0.88889	433.41	0.58333	267.59	340.28	0.89	2.47	978.08	7.76	976.82	7.75	-1.27	-0.13
42	127	85	43	2032	0.88536	433.97	0.58465	267.55	353.89	0	2.41	979.01	7.71	977.55	7.7	-1.45	-0.15

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
42	128	86	44	2048	0.88184	434.51	0.58594	267.52	367.67	0.88	2.36	981.55	7.67	980.27	7.66	-1.29	-0.13
42	129	87	45	2064	0.87831	435.02	0.58721	267.5	381.61	0	2.31	982.18	7.61	980.7	7.6	-1.48	-0.15
42	130	88	46	2080	0.87479	435.51	0.58846	267.48	395.72	0.88	2.26	984.43	7.57	983.11	7.56	-1.32	-0.13
42	131	89	47	2096	0.87128	435.99	0.58970	267.48	409.98	0	2.22	984.77	7.52	983.26	7.51	-1.51	-0.15
42	132	90	48	2112	0.86777	436.44	0.59091	267.48	424.4	0.87	2.17	986.72	7.48	985.37	7.46	-1.36	-0.14
42	133	91	49	2128	0.86427	436.87	0.59211	267.5	438.96	0	2.13	986.8	7.42	985.24	7.41	-1.56	-0.16
42	134	92	50	2144	0.86077	437.28	0.59328	267.52	453.68	0.86	2.09	988.47	7.38	987.06	7.37	-1.41	-0.14
42	135	93	51	2160	0.85728	437.67	0.59444	267.55	468.54	0	2.05	988.29	7.32	986.67	7.31	-1.62	-0.16
42	136	94	52	2176	0.85381	438.05	0.59559	267.58	483.54	0.86	2.01	989.7	7.28	988.21	7.27	-1.49	-0.15
42	137	95	53	2192	0.85034	438.4	0.59672	267.63	498.67	0	1.97	989.27	7.22	987.56	7.21	-1.7	-0.17
42	138	96	54	2208	0.84688	438.74	0.59783	267.68	513.94	0.85	1.93	990.42	7.18	988.84	7.17	-1.58	-0.16
42	139	97	55	2224	0.84344	439.07	0.59892	267.74	529.35	0	1.9	989.75	7.12	987.95	7.11	-1.8	-0.18
42	140	98	56	2240	0.84000	439.37	0.60000	267.8	544.88	0.85	1.86	990.65	7.08	988.97	7.06	-1.69	-0.17
42	141	99	57	2256	0.83658	439.66	0.60106	267.87	560.54	0	1.83	989.76	7.02	987.83	7.01	-1.92	-0.19
42	142	100	58	2272	0.83317	439.94	0.60211	267.95	576.32	0.84	1.8	990.43	6.97	988.61	6.96	-1.82	-0.18
42	143	101	59	2288	0.82977	440.2	0.60315	268.03	592.22	0	1.77	989.31	6.92	987.25	6.9	-2.06	-0.21
42	144	102	60	2304	0.82639	440.45	0.60417	268.12	608.25	0.83	1.74	989.75	6.87	987.78	6.86	-1.97	-0.2
42	145	103	61	2320	0.82302	440.68	0.60517	268.22	624.38	0	1.71	988.42	6.82	986.2	6.8	-2.22	-0.23
42	146	104	62	2336	0.81967	440.9	0.60616	268.32	640.64	0.83	1.68	988.65	6.77	986.51	6.76	-2.14	-0.22
42	147	105	63	2352	0.81633	441.11	0.60714	268.43	657	0	1.65	987.12	6.72	984.71	6.7	-2.41	-0.24
Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
43	85	42	-1	1360	0.99986	374.99	0.49706	298.6	0.28	0	9.52	695.64	8.18	701.5	8.25	5.86	0.83
43	86	43	0	1376	1.00000	377.98	0.50000	297.41	0	-1.08	10	709.53	8.25	715.05	8.31	5.52	0.77
43	87	44	1	1392	0.99987	380.85	0.50287	296.29	0.28	0	9.53	724.11	8.32	727.9	8.37	3.79	0.52
43	88	45	2	1408	0.99948	383.62	0.50568	295.22	1.1	-1.07	9.09	736.08	8.36	740.6	8.42	4.51	0.61
43	89	46	3	1424	0.99886	386.28	0.50843	294.2	2.45	0	8.68	749.75	8.42	752.6	8.46	2.85	0.38
43	90	47	4	1440	0.99803	388.84	0.51111	293.24	4.31	-1.05	8.3	760.86	8.45	764.49	8.49	3.64	0.48
43	91	48	5	1456	0.99698	391.31	0.51374	292.32	6.66	0	7.94	773.66	8.5	775.7	8.52	2.04	0.26
43	92	49	6	1472	0.99575	393.68	0.51630	291.44	9.48	-1.04	7.6	783.96	8.52	786.83	8.55	2.88	0.37
43	93	50	7	1488	0.99434	395.96	0.51882	290.61	12.77	0	7.29	795.94	8.56	797.29	8.57	1.34	0.17
43	94	51	8	1504	0.99276	398.17	0.52128	289.82	16.5	-1.03	6.99	805.47	8.57	807.7	8.59	2.23	0.28
43	95	52	9	1520	0.99103	400.28	0.52368	289.07	20.67	0	6.72	816.69	8.6	817.44	8.6	0.75	0.09
43	96	53	10	1536	0.98915	402.33	0.52604	288.36	25.25	-1.02	6.46	825.5	8.6	827.17	8.62	1.68	0.2
43	97	54	11	1552	0.98714	404.29	0.52835	287.68	30.25	0	6.21	835.99	8.62	836.24	8.62	0.25	0.03
43	98	55	12	1568	0.98501	406.19	0.53061	287.03	35.63	-1.01	5.98	844.12	8.61	845.33	8.63	1.21	0.14
43	99	56	13	1584	0.98276	408.01	0.53283	286.42	41.4	0	5.76	853.93	8.63	853.75	8.62	-0.18	-0.02
43	100	57	14	1600	0.98040	409.77	0.53500	285.84	47.54	-1	5.55	861.4	8.61	862.22	8.62	0.82	0.1
43	101	58	15	1616	0.97794	411.46	0.53713	285.29	54.04	0	5.36	870.57	8.62	870.04	8.61	-0.53	-0.06
43	102	59	16	1632	0.97539	413.09	0.53922	284.77	60.89	-0.99	5.17	877.43	8.6	877.93	8.61	0.5	0.06
43	103	60	17	1648	0.97276	414.67	0.54126	284.28	68.08	0	5	885.98	8.6	885.17	8.59	-0.81	-0.09
43	104	61	18	1664	0.97004	416.18	0.54327	283.81	75.59	-0.98	4.83	892.27	8.58	892.5	8.58	0.23	0.03
43	105	62	19	1680	0.96726	417.64	0.54524	283.37	83.43	0	4.68	900.24	8.57	899.19	8.56	-1.04	-0.12
43	106	63	20	1696	0.96440	419.05	0.54717	282.95	91.58	-0.97	4.53	905.98	8.55	906	8.55	0.02	0
43	107	64	21	1712	0.96148	420.4	0.54907	282.55	100.03	0	4.39	913.4	8.54	912.17	8.52	-1.23	-0.13
43	108	65	22	1728	0.95851	421.71	0.55093	282.18	108.78	-0.96	4.25	918.62	8.51	918.47	8.5	-0.15	-0.02
43	109	66	23	1744	0.95548	422.97	0.55275	281.83	117.81	0	4.12	925.51	8.49	924.14	8.48	-1.38	-0.15

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
43	110	67	24	1760	0.95240	424.18	0.55455	281.5	127.12	-0.95	4	930.24	8.46	929.96	8.45	-0.28	-0.03
43	111	68	25	1776	0.94927	425.35	0.55631	281.19	136.71	0	3.88	936.64	8.44	935.15	8.42	-1.49	-0.16
43	112	69	26	1792	0.94611	426.47	0.55804	280.9	146.55	-0.94	3.77	940.9	8.4	940.52	8.4	-0.38	-0.04
43	113	70	27	1808	0.94291	427.55	0.55974	280.62	156.66	0	3.67	946.83	8.38	945.26	8.37	-1.57	-0.17
43	114	71	28	1824	0.93967	428.6	0.56140	280.37	167.01	-0.94	3.56	950.65	8.34	950.19	8.33	-0.46	-0.05
43	115	72	29	1840	0.93641	429.6	0.56304	280.13	177.61	0	3.47	956.12	8.31	954.49	8.3	-1.63	-0.17
43	116	73	30	1856	0.93312	430.57	0.56466	279.91	188.45	-0.93	3.37	959.52	8.27	959	8.27	-0.52	-0.05
43	117	74	31	1872	0.92980	431.5	0.56624	279.7	199.52	0	3.29	964.57	8.24	962.89	8.23	-1.68	-0.17
43	118	75	32	1888	0.92646	432.4	0.56780	279.51	210.81	-0.92	3.2	967.56	8.2	967	8.19	-0.57	-0.06
43	119	76	33	1904	0.92310	433.26	0.56933	279.34	222.32	0	3.12	972.2	8.17	970.49	8.16	-1.71	-0.18
43	120	77	34	1920	0.91972	434.09	0.57083	279.18	234.05	-0.91	3.04	974.81	8.12	974.21	8.12	-0.6	-0.06
43	121	78	35	1936	0.91633	434.89	0.57231	279.03	245.99	0	2.97	979.06	8.09	977.32	8.08	-1.74	-0.18
43	122	79	36	1952	0.91293	435.66	0.57377	278.9	258.13	-0.91	2.9	981.31	8.04	980.68	8.04	-0.63	-0.06
43	123	80	37	1968	0.90951	436.4	0.57520	278.78	270.47	0	2.83	985.19	8.01	983.43	8	-1.76	-0.18
43	124	81	38	1984	0.90609	437.11	0.57661	278.67	283.01	-0.9	2.76	987.09	7.96	986.43	7.96	-0.65	-0.07
43	125	82	39	2000	0.90266	437.79	0.57800	278.57	295.73	0	2.7	990.61	7.92	988.83	7.91	-1.78	-0.18
43	126	83	40	2016	0.89922	438.44	0.57937	278.48	308.64	-0.89	2.64	992.17	7.87	991.5	7.87	-0.68	-0.07
43	127	84	41	2032	0.89578	439.07	0.58071	278.41	321.73	0	2.58	995.36	7.84	993.56	7.82	-1.8	-0.18
43	128	85	42	2048	0.89233	439.68	0.58203	278.35	335	-0.88	2.52	996.61	7.79	995.9	7.78	-0.71	-0.07
43	129	86	43	2064	0.88889	440.26	0.58333	278.29	348.44	0	2.47	999.47	7.75	997.64	7.73	-1.82	-0.18
43	130	87	44	2080	0.88544	440.82	0.58462	278.25	362.05	-0.88	2.41	1000.41	7.7	999.67	7.69	-0.74	-0.07
43	131	88	45	2096	0.88200	441.35	0.58588	278.22	375.83	0	2.36	1002.96	7.66	1001.1	7.64	-1.86	-0.19
43	132	89	46	2112	0.87856	441.86	0.58712	278.2	389.77	-0.87	2.31	1003.62	7.6	1002.83	7.6	-0.78	-0.08
43	133	90	47	2128	0.87512	442.35	0.58835	278.18	403.86	0	2.27	1005.87	7.56	1003.97	7.55	-1.9	-0.19
43	134	91	48	2144	0.87169	442.82	0.58955	278.18	418.11	-0.86	2.22	1006.25	7.51	1005.41	7.5	-0.84	-0.08
43	135	92	49	2160	0.86826	443.27	0.59074	278.18	432.51	0	2.18	1008.21	7.47	1006.26	7.45	-1.96	-0.19
43	136	93	50	2176	0.86484	443.71	0.59191	278.19	447.06	-0.86	2.14	1008.32	7.41	1007.42	7.41	-0.91	-0.09
43	137	94	51	2192	0.86142	444.12	0.59307	278.21	461.75	0	2.09	1010.02	7.37	1007.99	7.36	-2.03	-0.2
43	138	95	52	2208	0.85801	444.51	0.59420	278.24	476.58	-0.85	2.05	1009.87	7.32	1008.88	7.31	-0.99	-0.1
43	139	96	53	2224	0.85461	444.89	0.59532	278.28	491.55	0	2.02	1011.3	7.28	1009.19	7.26	-2.11	-0.21
43	140	97	54	2240	0.85122	445.24	0.59643	278.32	506.65	-0.85	1.98	1010.92	7.22	1009.83	7.21	-1.09	-0.11
43	141	98	55	2256	0.84785	445.59	0.59752	278.37	521.89	0	1.94	1012.1	7.18	1009.88	7.16	-2.22	-0.22
43	142	99	56	2272	0.84448	445.91	0.59859	278.43	537.26	-0.84	1.91	1011.47	7.12	1010.27	7.11	-1.2	-0.12
43	143	100	57	2288	0.84112	446.22	0.59965	278.49	552.75	0	1.87	1012.41	7.08	1010.07	7.06	-2.34	-0.23
43	144	101	58	2304	0.83777	446.51	0.60069	278.56	568.37	-0.83	1.84	1011.56	7.02	1010.22	7.02	-1.34	-0.13
43	145	102	59	2320	0.83444	446.79	0.60172	278.64	584.11	0	1.81	1012.27	6.98	1009.79	6.96	-2.48	-0.25
43	146	103	60	2336	0.83111	447.06	0.60274	278.72	599.97	-0.83	1.78	1011.2	6.93	1009.7	6.92	-1.5	-0.15
43	147	104	61	2352	0.82780	447.31	0.60374	278.81	615.95	0	1.75	1011.68	6.88	1009.04	6.86	-2.64	-0.26
43	148	105	62	2368	0.82451	447.55	0.60473	278.9	632.04	-0.82	1.72	1010.41	6.83	1008.74	6.82	-1.68	-0.17
43	149	106	63	2384	0.82122	447.77	0.60571	279	648.24	0	1.69	1010.68	6.78	1007.85	6.76	-2.83	-0.28
43	150	107	64	2400	0.81796	447.98	0.60667	279.11	664.55	-0.82	1.67	1009.21	6.73	1007.33	6.72	-1.88	-0.19
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
44	87	43	-1	1392	0.99987	380.85	0.49713	310.23	0.28	0	9.53	710.17	8.16	716.14	8.23	5.97	0.83
44	88	44	0	1408	1.00000	383.82	0.50000	309.03	0	1.07	10	726.22	8.25	730.94	8.31	4.72	0.65
44	89	45	1	1424	0.99987	386.67	0.50281	307.89	0.27	0	9.54	738.71	8.3	742.65	8.34	3.94	0.53
44	90	46	2	1440	0.99951	389.42	0.50556	306.8	1.08	1.05	9.11	752.87	8.37	756.58	8.41	3.72	0.49

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
44	91	47	3	1456	0.99891	392.06	0.50824	305.77	2.4	0	8.71	764.48	8.4	767.49	8.43	3.01	0.39
44	92	48	4	1472	0.99811	394.61	0.51087	304.78	4.21	1.04	8.33	777.76	8.45	780.61	8.48	2.84	0.36
44	93	49	5	1488	0.99711	397.07	0.51344	303.84	6.52	0	7.98	788.55	8.48	790.76	8.5	2.21	0.28
44	94	50	6	1504	0.99593	399.44	0.51596	302.95	9.28	1.03	7.65	801.01	8.52	803.1	8.54	2.09	0.26
44	95	51	7	1520	0.99457	401.72	0.51842	302.1	12.5	0	7.34	811.02	8.54	812.53	8.55	1.51	0.19
44	96	52	8	1536	0.99306	403.91	0.52083	301.29	16.16	1.02	7.05	822.7	8.57	824.14	8.58	1.44	0.18
44	97	53	9	1552	0.99139	406.03	0.52320	300.52	20.25	0	6.77	831.97	8.58	832.9	8.59	0.92	0.11
44	98	54	10	1568	0.98959	408.08	0.52551	299.79	24.74	1.01	6.51	842.92	8.6	843.81	8.61	0.89	0.11
44	99	55	11	1584	0.98765	410.04	0.52778	299.09	29.64	0	6.27	851.5	8.6	851.92	8.61	0.42	0.05
44	100	56	12	1600	0.98560	411.94	0.53000	298.43	34.93	1	6.04	861.75	8.62	862.18	8.62	0.43	0.05
44	101	57	13	1616	0.98343	413.77	0.53218	297.8	40.59	0	5.82	869.67	8.61	869.67	8.61	0	0
44	102	58	14	1632	0.98116	415.54	0.53431	297.2	46.62	0.99	5.62	879.26	8.62	879.3	8.62	0.04	0
44	103	59	15	1648	0.97879	417.24	0.53641	296.63	53	0	5.42	886.56	8.61	886.21	8.6	-0.35	-0.04
44	104	60	16	1664	0.97633	418.88	0.53846	296.09	59.73	0.98	5.24	895.53	8.61	895.25	8.61	-0.28	-0.03
44	105	61	17	1680	0.97379	420.46	0.54048	295.58	66.79	0	5.07	902.24	8.59	901.61	8.59	-0.63	-0.07
44	106	62	18	1696	0.97116	421.99	0.54245	295.09	74.18	0.97	4.9	910.62	8.59	910.08	8.59	-0.54	-0.06
44	107	63	19	1712	0.96847	423.46	0.54439	294.63	81.89	0	4.74	916.77	8.57	915.91	8.56	-0.86	-0.09
44	108	64	20	1728	0.96571	424.88	0.54630	294.19	89.9	0.96	4.59	924.58	8.56	923.83	8.55	-0.75	-0.08
44	109	65	21	1744	0.96288	426.24	0.54817	293.78	98.21	0	4.45	930.21	8.53	929.16	8.52	-1.05	-0.11
44	110	66	22	1760	0.96000	427.56	0.55000	293.39	106.82	0.95	4.32	937.49	8.52	936.57	8.51	-0.92	-0.1
44	111	67	23	1776	0.95707	428.84	0.55180	293.03	115.71	0	4.19	942.62	8.49	941.42	8.48	-1.19	-0.13
44	112	68	24	1792	0.95408	430.06	0.55357	292.68	124.88	0.94	4.07	949.39	8.48	948.34	8.47	-1.05	-0.11
44	113	69	25	1808	0.95105	431.25	0.55531	292.35	134.31	0	3.95	954.04	8.44	952.73	8.43	-1.31	-0.14
44	114	70	26	1824	0.94798	432.39	0.55702	292.05	144.01	0.94	3.84	960.33	8.42	959.19	8.41	-1.15	-0.12
44	115	71	27	1840	0.94488	433.49	0.55870	291.76	153.96	0	3.73	964.53	8.39	963.14	8.38	-1.39	-0.14
44	116	72	28	1856	0.94174	434.55	0.56035	291.49	164.16	0.93	3.63	970.36	8.37	969.14	8.35	-1.22	-0.13
44	117	73	29	1872	0.93856	435.57	0.56197	291.23	174.6	0	3.53	974.13	8.33	972.67	8.31	-1.45	-0.15
44	118	74	30	1888	0.93536	436.55	0.56356	291	185.28	0.92	3.44	979.53	8.3	978.25	8.29	-1.28	-0.13
44	119	75	31	1904	0.93214	437.5	0.56513	290.78	196.19	0	3.35	982.88	8.26	981.38	8.25	-1.5	-0.15
44	120	76	32	1920	0.92889	438.42	0.56667	290.57	207.32	0.91	3.26	987.86	8.23	986.54	8.22	-1.32	-0.13
44	121	77	33	1936	0.92562	439.3	0.56818	290.39	218.68	0	3.18	990.82	8.19	989.29	8.18	-1.53	-0.15
44	122	78	34	1952	0.92233	440.15	0.56967	290.21	230.24	0.91	3.1	995.41	8.16	994.06	8.15	-1.35	-0.14
44	123	79	35	1968	0.91903	440.96	0.57114	290.05	242.02	0	3.03	997.99	8.11	996.45	8.1	-1.55	-0.16
44	124	80	36	1984	0.91571	441.75	0.57258	289.9	254	0.9	2.95	1002.2	8.08	1000.83	8.07	-1.37	-0.14
44	125	81	37	2000	0.91238	442.51	0.57400	289.77	266.18	0	2.88	1004.43	8.04	1002.87	8.02	-1.57	-0.16
44	126	82	38	2016	0.90905	443.24	0.57540	289.65	278.55	0.89	2.82	1008.28	8	1006.89	7.99	-1.39	-0.14
44	127	83	39	2032	0.90570	443.94	0.57677	289.54	291.11	0	2.75	1010.17	7.95	1008.59	7.94	-1.58	-0.16
44	128	84	40	2048	0.90234	444.61	0.57813	289.44	303.86	0.88	2.69	1013.67	7.92	1012.26	7.91	-1.4	-0.14
44	129	85	41	2064	0.89898	445.26	0.57946	289.36	316.78	0	2.63	1015.23	7.87	1013.63	7.86	-1.6	-0.16
44	130	86	42	2080	0.89562	445.88	0.58077	289.28	329.89	0.88	2.57	1018.4	7.83	1016.97	7.82	-1.42	-0.14
44	131	87	43	2096	0.89226	446.48	0.58206	289.22	343.17	0	2.52	1019.65	7.78	1018.03	7.77	-1.62	-0.16
44	132	88	44	2112	0.88889	447.06	0.58333	289.16	356.61	0.87	2.47	1022.5	7.75	1021.05	7.74	-1.45	-0.14
44	133	89	45	2128	0.88552	447.61	0.58459	289.12	370.22	0	2.41	1023.46	7.7	1021.81	7.68	-1.65	-0.16
44	134	90	46	2144	0.88216	448.14	0.58582	289.09	383.99	0.86	2.37	1026	7.66	1024.52	7.65	-1.48	-0.14
44	135	91	47	2160	0.87879	448.65	0.58704	289.06	397.92	0	2.32	1026.68	7.61	1024.99	7.59	-1.68	-0.16
44	136	92	48	2176	0.87543	449.14	0.58824	289.05	412.01	0.86	2.27	1028.93	7.57	1027.41	7.55	-1.52	-0.15
44	137	93	49	2192	0.87208	449.61	0.58942	289.04	426.24	0	2.23	1029.33	7.51	1027.6	7.5	-1.73	-0.17

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
44	138	94	50	2208	0.86873	450.06	0.59058	289.05	440.62	0.85	2.18	1031.31	7.47	1029.72	7.46	-1.58	-0.15
44	139	95	51	2224	0.86538	450.49	0.59173	289.06	455.15	0	2.14	1031.44	7.42	1029.65	7.41	-1.79	-0.17
44	140	96	52	2240	0.86204	450.9	0.59286	289.07	469.82	0.85	2.1	1033.15	7.38	1031.5	7.37	-1.65	-0.16
44	141	97	53	2256	0.85871	451.3	0.59397	289.1	484.63	0	2.06	1033.04	7.33	1031.17	7.31	-1.87	-0.18
44	142	98	54	2272	0.85539	451.67	0.59507	289.14	499.57	0.84	2.02	1034.49	7.29	1032.75	7.27	-1.74	-0.17
44	143	99	55	2288	0.85207	452.03	0.59615	289.18	514.64	0	1.99	1034.13	7.23	1032.17	7.22	-1.96	-0.19
44	144	100	56	2304	0.84877	452.37	0.59722	289.23	529.85	0.83	1.95	1035.33	7.19	1033.5	7.18	-1.84	-0.18
44	145	101	57	2320	0.84547	452.7	0.59828	289.28	545.18	0	1.92	1034.75	7.14	1032.68	7.12	-2.07	-0.2
44	146	102	58	2336	0.84218	453.01	0.59932	289.35	560.64	0.83	1.89	1035.71	7.09	1033.75	7.08	-1.96	-0.19
44	147	103	59	2352	0.83891	453.31	0.60034	289.42	576.22	0	1.85	1034.91	7.04	1032.7	7.03	-2.2	-0.21
44	148	104	60	2368	0.83565	453.59	0.60135	289.49	591.92	0.82	1.82	1035.64	7	1033.54	6.98	-2.1	-0.2
44	149	105	61	2384	0.83240	453.86	0.60235	289.57	607.74	0	1.79	1034.62	6.94	1032.27	6.93	-2.35	-0.23
44	150	106	62	2400	0.82916	454.11	0.60333	289.66	623.67	0.82	1.76	1035.14	6.9	1032.87	6.89	-2.26	-0.22
44	151	107	63	2416	0.82593	454.36	0.60431	289.75	639.71	0	1.73	1033.91	6.85	1031.38	6.83	-2.53	-0.25
44	152	108	64	2432	0.82272	454.58	0.60526	289.85	655.87	0.81	1.71	1034.21	6.8	1031.77	6.79	-2.45	-0.24
44	153	109	65	2448	0.81951	454.8	0.60621	289.96	672.13	0	1.68	1032.79	6.75	1030.07	6.73	-2.72	-0.26
44	154	110	66	2464	0.81633	455	0.60714	290.07	688.5	0.81	1.65	1032.89	6.71	1030.23	6.69	-2.65	-0.26
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
45	89	44	-1	1424	0.99987	386.67	0.49719	322.04	0.27	0	9.54	724.55	8.14	730.64	8.21	6.09	0.83
45	90	45	0	1440	1.00000	389.61	0.50000	320.83	0	-1.05	10	738.51	8.21	744.27	8.27	5.76	0.77
45	91	46	1	1456	0.99988	392.44	0.50275	319.67	0.27	0	9.55	753.17	8.28	757.22	8.32	4.05	0.53
45	92	47	2	1472	0.99953	395.17	0.50544	318.56	1.05	-1.04	9.13	765.3	8.32	770.03	8.37	4.73	0.61
45	93	48	3	1488	0.99896	397.81	0.50807	317.51	2.35	0	8.73	779.08	8.38	782.17	8.41	3.09	0.4
45	94	49	4	1504	0.99819	400.34	0.51064	316.5	4.13	-1.03	8.36	790.36	8.41	794.2	8.45	3.84	0.48
45	95	50	5	1520	0.99723	402.79	0.51316	315.54	6.38	0	8.02	803.3	8.46	805.56	8.48	2.26	0.28
45	96	51	6	1536	0.99609	405.15	0.51563	314.63	9.09	-1.02	7.69	813.8	8.48	816.85	8.51	3.06	0.37
45	97	52	7	1552	0.99479	407.43	0.51804	313.76	12.25	0	7.39	825.95	8.51	827.49	8.53	1.54	0.19
45	98	53	8	1568	0.99334	409.62	0.52041	312.93	15.84	-1.01	7.1	835.7	8.53	838.08	8.55	2.39	0.28
45	99	54	9	1584	0.99174	411.74	0.52273	312.14	19.84	0	6.83	847.1	8.56	848.02	8.57	0.92	0.11
45	100	55	10	1600	0.99000	413.78	0.52500	311.39	24.25	-1	6.57	856.14	8.56	857.95	8.58	1.81	0.21
45	101	56	11	1616	0.98814	415.75	0.52723	310.68	29.06	0	6.33	866.84	8.58	867.23	8.59	0.39	0.05
45	102	57	12	1632	0.98616	417.65	0.52941	309.99	34.25	-0.99	6.1	875.21	8.58	876.53	8.59	1.32	0.15
45	103	58	13	1648	0.98407	419.49	0.53155	309.35	39.81	0	5.89	885.24	8.59	885.19	8.59	-0.06	-0.01
45	104	59	14	1664	0.98188	421.26	0.53365	308.73	45.73	-0.98	5.68	892.98	8.59	893.89	8.6	0.9	0.1
45	105	60	15	1680	0.97959	422.97	0.53571	308.14	52	0	5.49	902.38	8.59	901.95	8.59	-0.43	-0.05
45	106	61	16	1696	0.97722	424.62	0.53774	307.58	58.61	-0.97	5.3	909.52	8.58	910.08	8.59	0.56	0.06
45	107	62	17	1712	0.97476	426.21	0.53972	307.05	65.55	0	5.13	918.32	8.58	917.57	8.58	-0.74	-0.08
45	108	63	18	1728	0.97222	427.74	0.54167	306.55	72.82	-0.96	4.97	924.89	8.56	925.16	8.57	0.27	0.03
45	109	64	19	1744	0.96962	429.23	0.54358	306.07	80.4	0	4.81	933.11	8.56	932.11	8.55	-1	-0.11
45	110	65	20	1760	0.96694	430.66	0.54546	305.62	88.28	-0.95	4.66	939.15	8.54	939.18	8.54	0.03	0
45	111	66	21	1776	0.96421	432.04	0.54730	305.19	96.46	0	4.52	946.83	8.53	945.62	8.52	-1.21	-0.13
45	112	67	22	1792	0.96142	433.37	0.54911	304.79	104.93	-0.94	4.38	952.35	8.5	952.19	8.5	-0.16	-0.02
45	113	68	23	1808	0.95857	434.66	0.55089	304.4	113.68	0	4.25	959.52	8.49	958.14	8.48	-1.38	-0.14
45	114	69	24	1824	0.95568	435.9	0.55263	304.04	122.7	-0.94	4.13	964.55	8.46	964.24	8.46	-0.32	-0.03
45	115	70	25	1840	0.95274	437.09	0.55435	303.7	131.99	0	4.01	971.23	8.45	969.72	8.43	-1.51	-0.16
45	116	71	26	1856	0.94976	438.25	0.55603	303.37	141.55	-0.93	3.9	975.8	8.41	975.36	8.41	-0.44	-0.05

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
45	117	72	27	1872	0.94675	439.37	0.55769	303.07	151.35	0	3.79	982.01	8.39	980.39	8.38	-1.62	-0.16
45	118	73	28	1888	0.94369	440.44	0.55932	302.78	161.4	-0.92	3.69	986.15	8.36	985.61	8.35	-0.54	-0.05
45	119	74	29	1904	0.94061	441.48	0.56092	302.52	171.69	0	3.59	991.91	8.34	990.21	8.32	-1.7	-0.17
45	120	75	30	1920	0.93750	442.48	0.56250	302.27	182.22	-0.91	3.5	995.62	8.3	995.01	8.29	-0.61	-0.06
45	121	76	31	1936	0.93436	443.45	0.56405	302.03	192.97	0	3.41	1000.96	8.27	999.2	8.26	-1.76	-0.18
45	122	77	32	1952	0.93120	444.38	0.56557	301.81	203.95	-0.91	3.32	1004.27	8.23	1003.6	8.23	-0.67	-0.07
45	123	78	33	1968	0.92802	445.28	0.56707	301.61	215.15	0	3.24	1009.2	8.2	1007.4	8.19	-1.81	-0.18
45	124	79	34	1984	0.92482	446.14	0.56855	301.42	226.56	-0.9	3.16	1012.14	8.16	1011.42	8.16	-0.72	-0.07
45	125	80	35	2000	0.92160	446.98	0.57000	301.25	238.18	0	3.09	1016.68	8.13	1014.84	8.12	-1.85	-0.18
45	126	81	36	2016	0.91837	447.78	0.57143	301.09	250	-0.89	3.01	1019.25	8.09	1018.49	8.08	-0.76	-0.07
45	127	82	37	2032	0.91512	448.56	0.57284	300.94	262.02	0	2.94	1023.43	8.06	1021.55	8.04	-1.88	-0.18
45	128	83	38	2048	0.91187	449.3	0.57422	300.81	274.23	-0.88	2.87	1025.65	8.01	1024.85	8.01	-0.8	-0.08
45	129	84	39	2064	0.90860	450.02	0.57558	300.69	286.63	0	2.81	1029.47	7.98	1027.56	7.97	-1.91	-0.19
45	130	85	40	2080	0.90533	450.72	0.57692	300.58	299.22	-0.88	2.75	1031.36	7.93	1030.53	7.93	-0.83	-0.08
45	131	86	41	2096	0.90205	451.38	0.57824	300.48	311.99	0	2.69	1034.84	7.9	1032.9	7.88	-1.94	-0.19
45	132	87	42	2112	0.89876	452.02	0.57955	300.39	324.93	-0.87	2.63	1036.41	7.85	1035.55	7.85	-0.87	-0.08
45	133	88	43	2128	0.89547	452.64	0.58083	300.32	338.04	0	2.57	1039.57	7.82	1037.6	7.8	-1.97	-0.19
45	134	89	44	2144	0.89218	453.24	0.58209	300.25	351.33	-0.86	2.52	1040.84	7.77	1039.93	7.76	-0.9	-0.09
45	135	90	45	2160	0.88889	453.81	0.58333	300.2	364.78	0	2.47	1043.68	7.73	1041.67	7.72	-2.01	-0.19
45	136	91	46	2176	0.88560	454.36	0.58456	300.16	378.39	-0.86	2.42	1044.66	7.68	1043.71	7.67	-0.95	-0.09
45	137	92	47	2192	0.88231	454.88	0.58577	300.12	392.16	0	2.37	1047.2	7.64	1045.15	7.63	-2.05	-0.2
45	138	93	48	2208	0.87902	455.39	0.58696	300.1	406.08	-0.85	2.32	1047.9	7.59	1046.89	7.59	-1.01	-0.1
45	139	94	49	2224	0.87573	455.88	0.58813	300.08	420.15	0	2.28	1050.16	7.56	1048.06	7.54	-2.11	-0.2
45	140	95	50	2240	0.87245	456.35	0.58929	300.07	434.38	-0.85	2.23	1050.59	7.5	1049.52	7.5	-1.07	-0.1
45	141	96	51	2256	0.86917	456.79	0.59043	300.08	448.74	0	2.19	1052.58	7.47	1050.4	7.45	-2.17	-0.21
45	142	97	52	2272	0.86590	457.22	0.59155	300.09	463.25	-0.84	2.15	1052.75	7.41	1051.6	7.41	-1.15	-0.11
45	143	98	53	2288	0.86263	457.63	0.59266	300.1	477.9	0	2.11	1054.47	7.37	1052.22	7.36	-2.26	-0.21
45	144	99	54	2304	0.85938	458.03	0.59375	300.13	492.68	-0.83	2.07	1054.4	7.32	1053.15	7.31	-1.25	-0.12
45	145	100	55	2320	0.85612	458.41	0.59483	300.16	507.6	0	2.03	1055.87	7.28	1053.52	7.27	-2.35	-0.22
45	146	101	56	2336	0.85288	458.77	0.59589	300.2	522.64	-0.83	2	1055.56	7.23	1054.2	7.22	-1.35	-0.13
45	147	102	57	2352	0.84965	459.11	0.59694	300.25	537.82	0	1.96	1056.78	7.19	1054.32	7.17	-2.47	-0.23
45	148	103	58	2368	0.84642	459.44	0.59797	300.31	553.12	-0.82	1.93	1056.24	7.14	1054.76	7.13	-1.48	-0.14
45	149	104	59	2384	0.84321	459.75	0.59899	300.37	568.54	0	1.9	1057.24	7.1	1054.64	7.08	-2.6	-0.25
45	150	105	60	2400	0.84000	460.05	0.60000	300.44	584.08	-0.82	1.86	1056.48	7.04	1054.85	7.03	-1.63	-0.15
45	151	106	61	2416	0.83681	460.34	0.60099	300.51	599.74	0	1.83	1057.24	7	1054.49	6.98	-2.75	-0.26
45	152	107	62	2432	0.83362	460.61	0.60197	300.59	615.52	-0.81	1.8	1056.27	6.95	1054.48	6.94	-1.79	-0.17
45	153	108	63	2448	0.83045	460.87	0.60294	300.68	631.4	0	1.77	1056.82	6.91	1053.9	6.89	-2.92	-0.28
45	154	109	64	2464	0.82729	461.11	0.60390	300.77	647.4	-0.81	1.75	1055.65	6.85	1053.67	6.84	-1.98	-0.19
45	155	110	65	2480	0.82414	461.34	0.60484	300.87	663.51	0	1.72	1055.99	6.81	1052.87	6.79	-3.12	-0.3
45	156	111	66	2496	0.82101	461.56	0.60577	300.97	679.73	-0.8	1.69	1054.62	6.76	1052.43	6.75	-2.19	-0.21
45	157	112	67	2512	0.81788	461.77	0.60669	301.08	696.05	0	1.67	1054.76	6.72	1051.43	6.7	-3.33	-0.32
45	158	113	68	2528	0.81477	461.97	0.60760	301.2	712.47	-0.8	1.64	1053.21	6.67	1050.78	6.65	-2.42	-0.23
Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
46	91	45	-1	1456	0.99988	392.44	0.49725	334.03	0.27	0	9.55	738.81	8.12	745	8.19	6.2	0.83
46	92	46	0	1472	1.00000	395.36	0.50000	332.8	0	1.04	10	754.89	8.21	759.87	8.26	4.98	0.66
46	93	47	1	1488	0.99988	398.17	0.50269	331.62	0.26	0	9.56	767.51	8.25	771.7	8.3	4.19	0.54

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
46	94	48	2	1504	0.99955	400.89	0.50532	330.49	1.03	1.03	9.15	781.76	8.32	785.72	8.36	3.96	0.5
46	95	49	3	1520	0.99900	403.51	0.50790	329.42	2.3	0	8.76	793.53	8.35	796.77	8.39	3.24	0.41
46	96	50	4	1536	0.99826	406.03	0.51042	328.4	4.04	1.02	8.39	806.94	8.41	810.01	8.44	3.07	0.38
46	97	51	5	1552	0.99734	408.47	0.51289	327.42	6.25	0	8.05	817.91	8.43	820.33	8.46	2.42	0.29
46	98	52	6	1568	0.99625	410.82	0.51531	326.49	8.91	1.01	7.73	830.52	8.47	832.81	8.5	2.29	0.28
46	99	53	7	1584	0.99500	413.09	0.51768	325.6	12	0	7.43	840.73	8.49	842.43	8.51	1.7	0.2
46	100	54	8	1600	0.99360	415.29	0.52000	324.76	15.52	1	7.15	852.58	8.53	854.2	8.54	1.62	0.19
46	101	55	9	1616	0.99206	417.4	0.52228	323.95	19.45	0	6.88	862.07	8.54	863.16	8.55	1.09	0.13
46	102	56	10	1632	0.99039	419.44	0.52451	323.18	23.78	0.99	6.62	873.21	8.56	874.26	8.57	1.05	0.12
46	103	57	11	1648	0.98860	421.42	0.52670	322.44	28.5	0	6.39	882.02	8.56	882.59	8.57	0.56	0.06
46	104	58	12	1664	0.98669	423.32	0.52885	321.74	33.6	0.98	6.16	892.48	8.58	893.04	8.59	0.56	0.06
46	105	59	13	1680	0.98467	425.16	0.53095	321.07	39.06	0	5.95	900.65	8.58	900.77	8.58	0.12	0.01
46	106	60	14	1696	0.98256	426.94	0.53302	320.44	44.87	0.97	5.74	910.46	8.59	910.61	8.59	0.15	0.02
46	107	61	15	1712	0.98035	428.65	0.53505	319.83	51.04	0	5.55	918.03	8.58	917.77	8.58	-0.26	-0.03
46	108	62	16	1728	0.97805	430.31	0.53704	319.26	57.54	0.96	5.37	927.23	8.59	927.03	8.58	-0.2	-0.02
46	109	63	17	1744	0.97568	431.91	0.53899	318.71	64.36	0	5.19	934.21	8.57	933.64	8.57	-0.57	-0.06
46	110	64	18	1760	0.97322	433.45	0.54091	318.19	71.51	0.95	5.03	942.83	8.57	942.35	8.57	-0.48	-0.05
46	111	65	19	1776	0.97070	434.95	0.54279	317.69	78.96	0	4.87	949.27	8.55	948.44	8.54	-0.83	-0.09
46	112	66	20	1792	0.96811	436.39	0.54464	317.22	86.72	0.94	4.72	957.34	8.55	956.62	8.54	-0.72	-0.08
46	113	67	21	1808	0.96546	437.78	0.54646	316.78	94.77	0	4.58	963.25	8.52	962.22	8.52	-1.03	-0.11
46	114	68	22	1824	0.96276	439.13	0.54825	316.36	103.11	0.94	4.45	970.8	8.52	969.89	8.51	-0.91	-0.09
46	115	69	23	1840	0.96000	440.42	0.55000	315.96	111.72	0	4.32	976.22	8.49	975.02	8.48	-1.2	-0.12
46	116	70	24	1856	0.95719	441.68	0.55172	315.58	120.61	0.93	4.19	983.26	8.48	982.2	8.47	-1.06	-0.11
46	117	71	25	1872	0.95434	442.89	0.55342	315.22	129.76	0	4.08	988.21	8.45	986.87	8.43	-1.34	-0.14
46	118	72	26	1888	0.95145	444.06	0.55509	314.88	139.17	0.92	3.96	994.78	8.43	993.59	8.42	-1.18	-0.12
46	119	73	27	1904	0.94852	445.19	0.55672	314.56	148.83	0	3.86	999.28	8.4	997.84	8.39	-1.44	-0.14
46	120	74	28	1920	0.94556	446.28	0.55833	314.26	158.73	0.91	3.75	1005.39	8.38	1004.11	8.37	-1.28	-0.13
46	121	75	29	1936	0.94256	447.34	0.55992	313.98	168.88	0	3.65	1009.46	8.34	1007.94	8.33	-1.52	-0.15
46	122	76	30	1952	0.93953	448.35	0.56148	313.71	179.26	0.91	3.56	1015.15	8.32	1013.8	8.31	-1.35	-0.13
46	123	77	31	1968	0.93648	449.33	0.56301	313.46	189.86	0	3.47	1018.81	8.28	1017.23	8.27	-1.58	-0.16
46	124	78	32	1984	0.93340	450.28	0.56452	313.23	200.69	0.9	3.38	1024.08	8.26	1022.67	8.25	-1.41	-0.14
46	125	79	33	2000	0.93030	451.2	0.56600	313.01	211.74	0	3.3	1027.35	8.22	1025.73	8.21	-1.63	-0.16
46	126	80	34	2016	0.92719	452.08	0.56746	312.81	222.99	0.89	3.22	1032.23	8.19	1030.78	8.18	-1.45	-0.14
46	127	81	35	2032	0.92405	452.93	0.56890	312.62	234.46	0	3.14	1035.13	8.15	1033.47	8.14	-1.66	-0.16
46	128	82	36	2048	0.92090	453.75	0.57031	312.45	246.12	0.88	3.07	1039.62	8.12	1038.14	8.11	-1.48	-0.14
46	129	83	37	2064	0.91773	454.55	0.57171	312.29	257.99	0	3	1042.17	8.08	1040.48	8.07	-1.69	-0.16
46	130	84	38	2080	0.91456	455.31	0.57308	312.14	270.05	0.88	2.93	1046.31	8.05	1044.8	8.04	-1.51	-0.14
46	131	85	39	2096	0.91137	456.05	0.57443	312.01	282.29	0	2.86	1048.52	8	1046.8	7.99	-1.72	-0.16
46	132	86	40	2112	0.90817	456.76	0.57576	311.89	294.72	0.87	2.8	1052.3	7.97	1050.77	7.96	-1.54	-0.15
46	133	87	41	2128	0.90497	457.44	0.57707	311.78	307.33	0	2.74	1054.19	7.93	1052.45	7.91	-1.74	-0.17
46	134	88	42	2144	0.90176	458.1	0.57836	311.68	320.12	0.86	2.68	1057.64	7.89	1056.08	7.88	-1.56	-0.15
46	135	89	43	2160	0.89855	458.74	0.57963	311.6	333.07	0	2.62	1059.22	7.85	1057.45	7.83	-1.77	-0.17
46	136	90	44	2176	0.89533	459.35	0.58088	311.52	346.2	0.86	2.57	1062.36	7.81	1060.76	7.8	-1.59	-0.15
46	137	91	45	2192	0.89211	459.94	0.58212	311.46	359.49	0	2.52	1063.63	7.76	1061.83	7.75	-1.8	-0.17
46	138	92	46	2208	0.88889	460.51	0.58333	311.4	372.94	0.85	2.47	1066.47	7.73	1064.84	7.72	-1.63	-0.15
46	139	93	47	2224	0.88567	461.05	0.58453	311.36	386.55	0	2.42	1067.45	7.68	1065.62	7.67	-1.84	-0.17
46	140	94	48	2240	0.88245	461.58	0.58571	311.32	400.32	0.85	2.37	1070	7.64	1068.32	7.63	-1.67	-0.16

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
46	141	95	49	2256	0.87923	462.08	0.58688	311.3	414.24	0	2.32	1070.71	7.59	1068.83	7.58	-1.89	-0.18
46	142	96	50	2272	0.87602	462.57	0.58803	311.28	428.3	0.84	2.28	1072.97	7.56	1071.25	7.54	-1.73	-0.16
46	143	97	51	2288	0.87281	463.03	0.58916	311.27	442.51	0	2.24	1073.43	7.51	1071.48	7.49	-1.95	-0.18
46	144	98	52	2304	0.86960	463.48	0.59028	311.27	456.86	0.83	2.19	1075.42	7.47	1073.62	7.46	-1.8	-0.17
46	145	99	53	2320	0.86640	463.91	0.59138	311.28	471.35	0	2.15	1075.62	7.42	1073.6	7.4	-2.02	-0.19
46	146	100	54	2336	0.86320	464.32	0.59247	311.3	485.98	0.83	2.12	1077.35	7.38	1075.47	7.37	-1.88	-0.17
46	147	101	55	2352	0.86001	464.71	0.59354	311.32	500.74	0	2.08	1077.31	7.33	1075.2	7.31	-2.11	-0.2
46	148	102	56	2368	0.85683	465.09	0.59460	311.35	515.63	0.82	2.04	1078.79	7.29	1076.82	7.28	-1.97	-0.18
46	149	103	57	2384	0.85366	465.45	0.59564	311.39	530.65	0	2.01	1078.51	7.24	1076.3	7.22	-2.21	-0.21
46	150	104	58	2400	0.85049	465.8	0.59667	311.44	545.79	0.82	1.97	1079.76	7.2	1077.67	7.18	-2.09	-0.19
46	151	105	59	2416	0.84733	466.13	0.59768	311.49	561.06	0	1.94	1079.26	7.15	1076.93	7.13	-2.33	-0.22
46	152	106	60	2432	0.84418	466.45	0.59868	311.55	576.45	0.81	1.91	1080.27	7.11	1078.05	7.09	-2.22	-0.21
46	153	107	61	2448	0.84104	466.75	0.59967	311.62	591.95	0	1.87	1079.55	7.06	1077.08	7.04	-2.47	-0.23
46	154	108	62	2464	0.83792	467.03	0.60065	311.7	607.57	0.81	1.84	1080.35	7.02	1077.98	7	-2.37	-0.22
46	155	109	63	2480	0.83480	467.31	0.60161	311.78	623.31	0	1.81	1079.42	6.96	1076.79	6.95	-2.63	-0.24
46	156	110	64	2496	0.83169	467.57	0.60256	311.86	639.16	0.8	1.79	1080	6.92	1077.46	6.91	-2.54	-0.24
46	157	111	65	2512	0.82859	467.82	0.60350	311.95	655.12	0	1.76	1078.87	6.87	1076.06	6.85	-2.81	-0.26
46	158	112	66	2528	0.82551	468.05	0.60443	312.05	671.18	0.8	1.73	1079.24	6.83	1076.51	6.81	-2.73	-0.25
46	159	113	67	2544	0.82244	468.28	0.60535	312.15	687.35	0	1.7	1077.92	6.78	1074.91	6.76	-3.01	-0.28
46	160	114	68	2560	0.81938	468.49	0.60625	312.26	703.62	0.79	1.68	1078.1	6.74	1075.15	6.72	-2.94	-0.27
46	161	115	69	2576	0.81633	468.69	0.60714	312.38	720	0	1.65	1076.59	6.69	1073.35	6.67	-3.24	-0.3
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
47	93	46	-1	1488	0.99988	398.17	0.49731	346.19	0.26	0	9.56	752.93	8.1	759.23	8.16	6.3	0.83
47	94	47	0	1504	1.00000	401.07	0.50000	344.94	0	-1.03	10	766.96	8.16	772.94	8.22	5.99	0.77
47	95	48	1	1520	0.99989	403.86	0.50263	343.75	0.26	0	9.57	781.7	8.23	785.99	8.27	4.29	0.55
47	96	49	2	1536	0.99957	406.56	0.50521	342.6	1.01	-1.02	9.16	793.96	8.27	798.91	8.32	4.94	0.62
47	97	50	3	1552	0.99904	409.17	0.50773	341.51	2.25	0	8.78	807.85	8.33	811.17	8.36	3.32	0.41
47	98	51	4	1568	0.99833	411.68	0.51020	340.47	3.96	-1.01	8.42	819.3	8.36	823.33	8.4	4.03	0.49
47	99	52	5	1584	0.99745	414.11	0.51263	339.48	6.12	0	8.09	832.38	8.41	834.84	8.43	2.46	0.3
47	100	53	6	1600	0.99640	416.46	0.51500	338.53	8.73	-1	7.77	843.06	8.43	846.29	8.46	3.23	0.38
47	101	54	7	1616	0.99520	418.72	0.51733	337.62	11.77	0	7.47	855.36	8.47	857.09	8.49	1.72	0.2
47	102	55	8	1632	0.99385	420.91	0.51961	336.75	15.22	-0.99	7.19	865.32	8.48	867.85	8.51	2.54	0.29
47	103	56	9	1648	0.99237	423.02	0.52185	335.93	19.08	0	6.93	876.9	8.51	877.98	8.52	1.08	0.12
47	104	57	10	1664	0.99075	425.07	0.52404	335.14	23.33	-0.98	6.68	886.16	8.52	888.1	8.54	1.94	0.22
47	105	58	11	1680	0.98903	427.04	0.52619	334.38	27.96	0	6.44	897.05	8.54	897.58	8.55	0.53	0.06
47	106	59	12	1696	0.98718	428.95	0.52830	333.67	32.97	-0.97	6.22	905.66	8.54	907.09	8.56	1.42	0.16
47	107	60	13	1712	0.98524	430.79	0.53037	332.98	38.33	0	6	915.9	8.56	915.96	8.56	0.06	0.01
47	108	61	14	1728	0.98320	432.57	0.53241	332.33	44.05	-0.96	5.8	923.89	8.55	924.88	8.56	0.99	0.11
47	109	62	15	1744	0.98106	434.29	0.53440	331.7	50.11	0	5.61	933.51	8.56	933.17	8.56	-0.34	-0.04
47	110	63	16	1760	0.97884	435.96	0.53636	331.11	56.5	-0.95	5.43	940.91	8.55	941.53	8.56	0.62	0.07
47	111	64	17	1776	0.97654	437.56	0.53829	330.54	63.21	0	5.26	949.93	8.56	949.26	8.55	-0.67	-0.07
47	112	65	18	1792	0.97417	439.12	0.54018	330	70.24	-0.94	5.09	956.78	8.54	957.09	8.55	0.3	0.03
47	113	66	19	1808	0.97173	440.62	0.54204	329.49	77.58	0	4.94	965.24	8.54	964.29	8.53	-0.95	-0.1
47	114	67	20	1824	0.96922	442.07	0.54386	329.01	85.21	-0.94	4.79	971.56	8.52	971.61	8.52	0.05	0
47	115	68	21	1840	0.96665	443.48	0.54565	328.54	93.14	0	4.64	979.49	8.52	978.3	8.51	-1.18	-0.12
47	116	69	22	1856	0.96403	444.83	0.54741	328.1	101.34	-0.93	4.51	985.3	8.49	985.13	8.49	-0.17	-0.02

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
47	117	70	23	1872	0.96136	446.15	0.54915	327.69	109.83	0	4.38	992.72	8.48	991.35	8.47	-1.37	-0.14
47	118	71	24	1888	0.95863	447.41	0.55085	327.29	118.58	-0.92	4.26	998.05	8.46	997.71	8.46	-0.34	-0.03
47	119	72	25	1904	0.95587	448.64	0.55252	326.92	127.6	0	4.14	1004.99	8.45	1003.46	8.43	-1.53	-0.15
47	120	73	26	1920	0.95306	449.82	0.55417	326.56	136.87	-0.91	4.03	1009.86	8.42	1009.37	8.41	-0.49	-0.05
47	121	74	27	1936	0.95021	450.97	0.55579	326.23	146.39	0	3.92	1016.34	8.4	1014.68	8.39	-1.65	-0.16
47	122	75	28	1952	0.94733	452.07	0.55738	325.91	156.15	-0.91	3.81	1020.77	8.37	1020.17	8.36	-0.6	-0.06
47	123	76	29	1968	0.94441	453.14	0.55894	325.61	166.15	0	3.71	1026.81	8.35	1025.06	8.33	-1.75	-0.17
47	124	77	30	1984	0.94147	454.17	0.56048	325.33	176.39	-0.9	3.62	1030.83	8.31	1030.13	8.31	-0.69	-0.07
47	125	78	31	2000	0.93850	455.17	0.56200	325.07	186.85	0	3.53	1036.44	8.29	1034.61	8.28	-1.83	-0.18
47	126	79	32	2016	0.93550	456.13	0.56349	324.82	197.53	-0.89	3.44	1040.06	8.25	1039.29	8.25	-0.77	-0.07
47	127	80	33	2032	0.93248	457.06	0.56496	324.59	208.43	0	3.36	1045.27	8.23	1043.38	8.22	-1.89	-0.18
47	128	81	34	2048	0.92944	457.96	0.56641	324.38	219.54	-0.88	3.28	1048.52	8.19	1047.68	8.19	-0.83	-0.08
47	129	82	35	2064	0.92639	458.83	0.56783	324.18	230.85	0	3.2	1053.34	8.17	1051.4	8.15	-1.94	-0.18
47	130	83	36	2080	0.92331	459.67	0.56923	323.99	242.37	-0.88	3.13	1056.22	8.12	1055.34	8.12	-0.88	-0.08
47	131	84	37	2096	0.92023	460.48	0.57061	323.82	254.08	0	3.05	1060.68	8.1	1058.69	8.08	-1.99	-0.19
47	132	85	38	2112	0.91713	461.26	0.57197	323.66	265.98	-0.87	2.98	1063.21	8.05	1062.28	8.05	-0.93	-0.09
47	133	86	39	2128	0.91401	462.01	0.57331	323.51	278.08	0	2.92	1067.31	8.02	1065.29	8.01	-2.02	-0.19
47	134	87	40	2144	0.91089	462.74	0.57463	323.38	290.35	-0.86	2.85	1069.52	7.98	1068.55	7.97	-0.97	-0.09
47	135	88	41	2160	0.90776	463.44	0.57593	323.26	302.81	0	2.79	1073.28	7.95	1071.22	7.93	-2.06	-0.19
47	136	89	42	2176	0.90463	464.12	0.57721	323.15	315.44	-0.86	2.73	1075.17	7.91	1074.16	7.9	-1.01	-0.09
47	137	90	43	2192	0.90149	464.77	0.57847	323.05	328.25	0	2.68	1078.61	7.87	1076.51	7.86	-2.1	-0.19
47	138	91	44	2208	0.89834	465.4	0.57971	322.96	341.22	-0.85	2.62	1080.19	7.83	1079.13	7.82	-1.05	-0.1
47	139	92	45	2224	0.89519	466.01	0.58094	322.89	354.36	0	2.57	1083.32	7.79	1081.18	7.78	-2.14	-0.2
47	140	93	46	2240	0.89204	466.59	0.58214	322.82	367.65	-0.85	2.52	1084.6	7.75	1083.5	7.74	-1.1	-0.1
47	141	94	47	2256	0.88889	467.16	0.58333	322.77	381.11	0	2.47	1087.43	7.71	1085.25	7.7	-2.19	-0.2
47	142	95	48	2272	0.88574	467.7	0.58451	322.72	394.72	-0.84	2.42	1088.44	7.67	1087.28	7.66	-1.16	-0.11
47	143	96	49	2288	0.88259	468.22	0.58566	322.68	408.48	0	2.37	1090.98	7.63	1088.74	7.61	-2.24	-0.21
47	144	97	50	2304	0.87944	468.72	0.58681	322.66	422.39	-0.83	2.33	1091.72	7.58	1090.5	7.57	-1.22	-0.11
47	145	98	51	2320	0.87629	469.2	0.58793	322.64	436.45	0	2.28	1093.99	7.54	1091.68	7.53	-2.31	-0.21
47	146	99	52	2336	0.87315	469.67	0.58904	322.63	450.65	-0.83	2.24	1094.47	7.5	1093.17	7.49	-1.3	-0.12
47	147	100	53	2352	0.87001	470.11	0.59014	322.63	464.98	0	2.2	1096.47	7.46	1094.09	7.44	-2.38	-0.22
47	148	101	54	2368	0.86687	470.54	0.59122	322.64	479.45	-0.82	2.16	1096.7	7.41	1095.32	7.4	-1.39	-0.13
47	149	102	55	2384	0.86375	470.95	0.59228	322.65	494.06	0	2.12	1098.45	7.37	1095.98	7.36	-2.48	-0.23
47	150	103	56	2400	0.86062	471.35	0.59333	322.68	508.8	-0.82	2.08	1098.44	7.32	1096.96	7.31	-1.49	-0.14
47	151	104	57	2416	0.85751	471.73	0.59437	322.71	523.66	0	2.05	1099.95	7.28	1097.37	7.27	-2.58	-0.24
47	152	105	58	2432	0.85440	472.09	0.59540	322.75	538.66	-0.81	2.01	1099.71	7.23	1098.1	7.22	-1.61	-0.15
47	153	106	59	2448	0.85130	472.44	0.59641	322.79	553.77	0	1.98	1100.98	7.2	1098.27	7.18	-2.7	-0.25
47	154	107	60	2464	0.84820	472.77	0.59740	322.85	569.01	-0.81	1.95	1100.52	7.15	1098.77	7.13	-1.74	-0.16
47	155	108	61	2480	0.84512	473.09	0.59839	322.9	584.36	0	1.91	1101.56	7.11	1098.71	7.09	-2.84	-0.26
47	156	109	62	2496	0.84205	473.39	0.59936	322.97	599.84	-0.8	1.88	1100.89	7.06	1098.99	7.04	-1.9	-0.17
47	157	110	63	2512	0.83898	473.68	0.60032	323.04	615.42	0	1.85	1101.71	7.02	1098.7	7	-3	-0.27
47	158	111	64	2528	0.83592	473.96	0.60127	323.12	631.12	-0.8	1.82	1100.83	6.97	1098.76	6.95	-2.07	-0.19
47	159	112	65	2544	0.83288	474.22	0.60220	323.21	646.93	0	1.8	1101.44	6.93	1098.26	6.91	-3.18	-0.29
47	160	113	66	2560	0.82984	474.47	0.60313	323.3	662.84	-0.79	1.77	1100.36	6.88	1098.1	6.86	-2.26	-0.21
47	161	114	67	2576	0.82682	474.71	0.60404	323.39	678.87	0	1.74	1100.77	6.84	1097.39	6.82	-3.38	-0.31
47	162	115	68	2592	0.82381	474.94	0.60494	323.5	694.99	-0.79	1.72	1099.5	6.79	1097.02	6.77	-2.48	-0.23
47	163	116	69	2608	0.82081	475.15	0.60583	323.6	711.22	0	1.69	1099.71	6.75	1096.11	6.72	-3.61	-0.33

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
47	164	117	70	2624	0.81782	475.36	0.60671	323.72	727.55	-0.78	1.67	1098.26	6.7	1095.54	6.68	-2.72	-0.25
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
48	95	47	-1	1520	0.99989	403.86	0.49737	358.53	0.26	0	9.57	766.92	8.07	773.33	8.14	6.41	0.83
48	96	48	0	1536	1.00000	406.74	0.50000	357.26	0	1.02	10	783.02	8.16	788.25	8.21	5.23	0.66
48	97	49	1	1552	0.99989	409.52	0.50258	356.05	0.25	0	9.58	795.76	8.2	800.19	8.25	4.43	0.55
48	98	50	2	1568	0.99958	412.2	0.50510	354.89	0.99	1.01	9.18	810.11	8.27	814.3	8.31	4.19	0.51
48	99	51	3	1584	0.99908	414.79	0.50758	353.78	2.2	0	8.8	822.03	8.3	825.49	8.34	3.46	0.42
48	100	52	4	1600	0.99840	417.29	0.51000	352.72	3.88	1	8.45	835.56	8.36	838.84	8.39	3.28	0.39
48	101	53	5	1616	0.99755	419.71	0.51238	351.71	6	0	8.12	846.7	8.38	849.32	8.41	2.61	0.31
48	102	54	6	1632	0.99654	422.05	0.51471	350.74	8.56	0.99	7.81	859.45	8.43	861.94	8.45	2.48	0.29
48	103	55	7	1648	0.99538	424.31	0.51699	349.81	11.54	0	7.52	869.85	8.45	871.73	8.46	1.88	0.22
48	104	56	8	1664	0.99408	426.49	0.51923	348.93	14.93	0.98	7.24	881.87	8.48	883.66	8.5	1.79	0.2
48	105	57	9	1680	0.99265	428.61	0.52143	348.08	18.72	0	6.98	891.57	8.49	892.81	8.5	1.24	0.14
48	106	58	10	1696	0.99110	430.65	0.52359	347.27	22.9	0.97	6.73	902.88	8.52	904.08	8.53	1.2	0.13
48	107	59	11	1712	0.98943	432.62	0.52570	346.5	27.45	0	6.49	911.92	8.52	912.61	8.53	0.69	0.08
48	108	60	12	1728	0.98765	434.53	0.52778	345.76	32.36	0.96	6.27	922.57	8.54	923.26	8.55	0.69	0.07
48	109	61	13	1744	0.98578	436.38	0.52982	345.06	37.64	0	6.06	930.98	8.54	931.21	8.54	0.22	0.02
48	110	62	14	1760	0.98380	438.17	0.53182	344.39	43.26	0.95	5.86	941	8.55	941.25	8.56	0.25	0.03
48	111	63	15	1776	0.98174	439.89	0.53378	343.75	49.21	0	5.67	948.82	8.55	948.64	8.55	-0.17	-0.02
48	112	64	16	1792	0.97959	441.56	0.53571	343.14	55.5	0.94	5.49	958.24	8.56	958.12	8.55	-0.12	-0.01
48	113	65	17	1808	0.97737	443.18	0.53761	342.55	62.1	0	5.32	965.48	8.54	964.97	8.54	-0.51	-0.05
48	114	66	18	1824	0.97507	444.74	0.53947	342	69.02	0.94	5.15	974.33	8.55	973.9	8.54	-0.43	-0.04
48	115	67	19	1840	0.97270	446.25	0.54130	341.47	76.24	0	5	981.04	8.53	980.25	8.52	-0.79	-0.08
48	116	68	20	1856	0.97027	447.71	0.54310	340.96	83.75	0.93	4.85	989.34	8.53	988.66	8.52	-0.69	-0.07
48	117	69	21	1872	0.96778	449.13	0.54487	340.48	91.56	0	4.71	995.54	8.51	994.52	8.5	-1.02	-0.1
48	118	70	22	1888	0.96524	450.5	0.54661	340.03	99.64	0.92	4.57	1003.33	8.5	1002.43	8.5	-0.9	-0.09
48	119	71	23	1904	0.96264	451.82	0.54832	339.59	108	0	4.44	1009.03	8.48	1007.83	8.47	-1.2	-0.12
48	120	72	24	1920	0.96000	453.1	0.55000	339.18	116.62	0.91	4.32	1016.33	8.47	1015.26	8.46	-1.07	-0.11
48	121	73	25	1936	0.95731	454.34	0.55165	338.79	125.5	0	4.2	1021.57	8.44	1020.21	8.43	-1.36	-0.13
48	122	74	26	1952	0.95458	455.53	0.55328	338.42	134.64	0.91	4.09	1028.39	8.43	1027.18	8.42	-1.21	-0.12
48	123	75	27	1968	0.95181	456.69	0.55488	338.07	144.03	0	3.98	1033.19	8.4	1031.71	8.39	-1.48	-0.14
48	124	76	28	1984	0.94901	457.81	0.55645	337.74	153.65	0.9	3.87	1039.57	8.38	1038.24	8.37	-1.32	-0.13
48	125	77	29	2000	0.94618	458.9	0.55800	337.43	163.52	0	3.77	1043.94	8.35	1042.36	8.34	-1.58	-0.15
48	126	78	30	2016	0.94331	459.94	0.55952	337.13	173.61	0.89	3.68	1049.89	8.33	1048.47	8.32	-1.41	-0.13
48	127	79	31	2032	0.94042	460.95	0.56102	336.85	183.93	0	3.59	1053.85	8.3	1052.2	8.29	-1.65	-0.16
48	128	80	32	2048	0.93750	461.93	0.56250	336.59	194.47	0.88	3.5	1059.39	8.28	1057.91	8.26	-1.48	-0.14
48	129	81	33	2064	0.93456	462.88	0.56395	336.35	205.22	0	3.41	1062.97	8.24	1061.25	8.23	-1.71	-0.16
48	130	82	34	2080	0.93160	463.79	0.56539	336.12	216.19	0.88	3.33	1068.11	8.22	1066.58	8.2	-1.54	-0.14
48	131	83	35	2096	0.92862	464.68	0.56679	335.9	227.35	0	3.26	1071.32	8.18	1069.56	8.16	-1.76	-0.16
48	132	84	36	2112	0.92562	465.53	0.56818	335.7	238.72	0.87	3.18	1076.09	8.15	1074.51	8.14	-1.58	-0.15
48	133	85	37	2128	0.92261	466.36	0.56955	335.52	250.29	0	3.11	1078.94	8.11	1077.14	8.1	-1.8	-0.17
48	134	86	38	2144	0.91958	467.16	0.57090	335.35	262.04	0.86	3.04	1083.36	8.08	1081.74	8.07	-1.62	-0.15
48	135	87	39	2160	0.91654	467.93	0.57222	335.19	273.99	0	2.97	1085.87	8.04	1084.03	8.03	-1.84	-0.17
48	136	88	40	2176	0.91350	468.67	0.57353	335.04	286.12	0.86	2.91	1089.94	8.01	1088.28	8	-1.65	-0.15
48	137	89	41	2192	0.91044	469.39	0.57482	334.91	298.42	0	2.85	1092.13	7.97	1090.26	7.96	-1.87	-0.17
48	138	90	42	2208	0.90737	470.08	0.57609	334.79	310.9	0.85	2.79	1095.86	7.94	1094.18	7.93	-1.69	-0.15

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
48	139	91	43	2224	0.90430	470.75	0.57734	334.68	323.56	0	2.73	1097.74	7.9	1095.84	7.88	-1.9	-0.17
48	140	92	44	2240	0.90122	471.4	0.57857	334.58	336.38	0.85	2.67	1101.16	7.87	1099.44	7.85	-1.72	-0.16
48	141	93	45	2256	0.89814	472.02	0.57979	334.49	349.37	0	2.62	1102.74	7.82	1100.81	7.81	-1.94	-0.18
48	142	94	46	2272	0.89506	472.62	0.58099	334.41	362.51	0.84	2.57	1105.86	7.79	1104.09	7.78	-1.76	-0.16
48	143	95	47	2288	0.89198	473.2	0.58217	334.35	375.82	0	2.51	1107.15	7.74	1105.17	7.73	-1.98	-0.18
48	144	96	48	2304	0.88889	473.76	0.58333	334.29	389.28	0.83	2.47	1109.97	7.71	1108.16	7.7	-1.81	-0.16
48	145	97	49	2320	0.88580	474.3	0.58448	334.25	402.89	0	2.42	1110.99	7.66	1108.96	7.65	-2.02	-0.18
48	146	98	50	2336	0.88272	474.82	0.58562	334.21	416.65	0.83	2.37	1113.53	7.63	1111.67	7.61	-1.86	-0.17
48	147	99	51	2352	0.87963	475.32	0.58674	334.18	430.55	0	2.33	1114.28	7.58	1112.2	7.57	-2.08	-0.19
48	148	100	52	2368	0.87655	475.8	0.58784	334.16	444.6	0.82	2.29	1116.55	7.54	1114.63	7.53	-1.93	-0.17
48	149	101	53	2384	0.87347	476.26	0.58893	334.15	458.78	0	2.24	1117.05	7.5	1114.9	7.48	-2.15	-0.19
48	150	102	54	2400	0.87040	476.7	0.59000	334.15	473.1	0.82	2.2	1119.06	7.46	1117.06	7.45	-2	-0.18
48	151	103	55	2416	0.86733	477.13	0.59106	334.16	487.56	0	2.17	1119.32	7.41	1117.08	7.4	-2.23	-0.2
48	152	104	56	2432	0.86427	477.54	0.59211	334.17	502.15	0.81	2.13	1121.08	7.38	1118.98	7.36	-2.09	-0.19
48	153	105	57	2448	0.86121	477.94	0.59314	334.2	516.86	0	2.09	1121.1	7.33	1118.77	7.31	-2.33	-0.21
48	154	106	58	2464	0.85816	478.32	0.59416	334.23	531.71	0.81	2.06	1122.61	7.29	1120.42	7.28	-2.2	-0.2
48	155	107	59	2480	0.85511	478.68	0.59516	334.26	546.67	0	2.02	1122.41	7.24	1119.97	7.23	-2.44	-0.22
48	156	108	60	2496	0.85207	479.03	0.59615	334.31	561.76	0.8	1.99	1123.69	7.2	1121.37	7.19	-2.32	-0.21
48	157	109	61	2512	0.84904	479.36	0.59713	334.36	576.97	0	1.96	1123.27	7.15	1120.7	7.14	-2.57	-0.23
48	158	110	62	2528	0.84602	479.68	0.59810	334.42	592.29	0.8	1.92	1124.33	7.12	1121.87	7.1	-2.46	-0.22
48	159	111	63	2544	0.84301	479.99	0.59906	334.48	607.73	0	1.89	1123.69	7.07	1120.98	7.05	-2.72	-0.24
48	160	112	64	2560	0.84000	480.28	0.60000	334.55	623.28	0.79	1.86	1124.54	7.03	1121.92	7.01	-2.62	-0.23
48	161	113	65	2576	0.83701	480.56	0.60093	334.63	638.94	0	1.83	1123.7	6.98	1120.82	6.96	-2.88	-0.26
48	162	114	66	2592	0.83402	480.83	0.60185	334.72	654.71	0.79	1.81	1124.34	6.94	1121.55	6.92	-2.79	-0.25
48	163	115	67	2608	0.83104	481.08	0.60276	334.81	670.59	0	1.78	1123.31	6.89	1120.24	6.87	-3.07	-0.27
48	164	116	68	2624	0.82808	481.32	0.60366	334.9	686.57	0.78	1.75	1123.74	6.85	1120.75	6.83	-2.99	-0.27
48	165	117	69	2640	0.82512	481.55	0.60455	335	702.65	0	1.73	1122.52	6.8	1119.24	6.78	-3.28	-0.29
48	166	118	70	2656	0.82218	481.77	0.60542	335.11	718.84	0.78	1.7	1122.76	6.76	1119.55	6.74	-3.21	-0.29
48	167	119	71	2672	0.81925	481.98	0.60629	335.22	735.12	0	1.68	1121.36	6.71	1117.85	6.69	-3.51	-0.31
48	168	120	72	2688	0.81633	482.18	0.60714	335.34	751.5	0.77	1.65	1121.41	6.68	1117.96	6.65	-3.45	-0.31
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
49	97	48	-1	1552	0.99989	409.52	0.49742	371.04	0.25	0	9.58	780.77	8.05	787.29	8.12	6.51	0.83
49	98	49	0	1568	1.00000	412.37	0.50000	369.75	0	-1.01	10	794.87	8.11	801.07	8.17	6.2	0.77
49	99	50	1	1584	0.99990	415.13	0.50253	368.52	0.24	0	9.58	809.69	8.18	814.21	8.22	4.52	0.56
49	100	51	2	1600	0.99960	417.79	0.50500	367.34	0.97	-1	9.19	822.09	8.22	827.23	8.27	5.14	0.62
49	101	52	3	1616	0.99912	420.37	0.50743	366.22	2.16	0	8.83	836.08	8.28	839.61	8.31	3.53	0.42
49	102	53	4	1632	0.99846	422.86	0.50980	365.14	3.81	-0.99	8.48	847.68	8.31	851.89	8.35	4.21	0.49
49	103	54	5	1648	0.99764	425.27	0.51214	364.11	5.89	0	8.16	860.89	8.36	863.55	8.38	2.66	0.31
49	104	55	6	1664	0.99667	427.6	0.51442	363.12	8.4	-0.98	7.85	871.74	8.38	875.14	8.41	3.39	0.39
49	105	56	7	1680	0.99556	429.86	0.51667	362.18	11.32	0	7.56	884.2	8.42	886.1	8.44	1.9	0.21
49	106	57	8	1696	0.99430	432.04	0.51887	361.27	14.65	-0.97	7.28	894.35	8.44	897.03	8.46	2.68	0.3
49	107	58	9	1712	0.99293	434.15	0.52103	360.41	18.37	0	7.02	906.09	8.47	907.33	8.48	1.24	0.14
49	108	59	10	1728	0.99143	436.19	0.52315	359.58	22.48	-0.96	6.78	915.57	8.48	917.63	8.5	2.06	0.22
49	109	60	11	1744	0.98982	438.17	0.52523	358.79	26.95	0	6.55	926.64	8.5	927.3	8.51	0.67	0.07
49	110	61	12	1760	0.98810	440.08	0.52727	358.04	31.78	-0.95	6.32	935.47	8.5	937	8.52	1.53	0.16
49	111	62	13	1776	0.98628	441.93	0.52928	357.31	36.97	0	6.11	945.91	8.52	946.08	8.52	0.17	0.02

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
49	112	63	14	1792	0.98438	443.72	0.53125	356.62	42.49	-0.94	5.92	954.14	8.52	955.2	8.53	1.07	0.11
49	113	64	15	1808	0.98238	445.45	0.53319	355.97	48.35	0	5.73	963.96	8.53	963.71	8.53	-0.25	-0.03
49	114	65	16	1824	0.98030	447.13	0.53509	355.34	54.53	-0.94	5.55	971.61	8.52	972.29	8.53	0.68	0.07
49	115	66	17	1840	0.97815	448.75	0.53696	354.73	61.03	0	5.37	980.86	8.53	980.25	8.52	-0.6	-0.06
49	116	67	18	1856	0.97592	450.32	0.53879	354.16	67.84	-0.93	5.21	987.96	8.52	988.3	8.52	0.34	0.03
49	117	68	19	1872	0.97363	451.84	0.54060	353.61	74.95	0	5.06	996.65	8.52	995.75	8.51	-0.91	-0.09
49	118	69	20	1888	0.97127	453.31	0.54237	353.09	82.35	-0.92	4.91	1003.23	8.5	1003.3	8.5	0.06	0.01
49	119	70	21	1904	0.96886	454.74	0.54412	352.6	90.03	0	4.77	1011.4	8.5	1010.24	8.49	-1.16	-0.11
49	120	71	22	1920	0.96639	456.12	0.54583	352.12	97.99	-0.91	4.63	1017.49	8.48	1017.31	8.48	-0.17	-0.02
49	121	72	23	1936	0.96387	457.45	0.54752	351.67	106.23	0	4.5	1025.15	8.47	1023.78	8.46	-1.37	-0.13
49	122	73	24	1952	0.96130	458.74	0.54918	351.25	114.72	-0.91	4.38	1030.76	8.45	1030.4	8.45	-0.37	-0.04
49	123	74	25	1968	0.95869	459.99	0.55081	350.84	123.48	0	4.26	1037.95	8.44	1036.41	8.43	-1.54	-0.15
49	124	75	26	1984	0.95604	461.2	0.55242	350.45	132.49	-0.9	4.15	1043.11	8.41	1042.58	8.41	-0.53	-0.05
49	125	76	27	2000	0.95334	462.37	0.55400	350.09	141.74	0	4.04	1049.84	8.4	1048.16	8.39	-1.68	-0.16
49	126	77	28	2016	0.95062	463.51	0.55556	349.74	151.23	-0.89	3.93	1054.56	8.37	1053.9	8.36	-0.66	-0.06
49	127	78	29	2032	0.94786	464.6	0.55709	349.41	160.96	0	3.83	1060.86	8.35	1059.06	8.34	-1.8	-0.17
49	128	79	30	2048	0.94507	465.66	0.55859	349.1	170.92	-0.88	3.74	1065.17	8.32	1064.4	8.32	-0.77	-0.07
49	129	80	31	2064	0.94225	466.69	0.56008	348.81	181.1	0	3.64	1071.04	8.3	1069.15	8.29	-1.89	-0.18
49	130	81	32	2080	0.93941	467.68	0.56154	348.53	191.5	-0.88	3.56	1074.96	8.27	1074.11	8.26	-0.85	-0.08
49	131	82	33	2096	0.93654	468.64	0.56298	348.28	202.11	0	3.47	1080.44	8.25	1078.47	8.23	-1.97	-0.18
49	132	83	34	2112	0.93366	469.57	0.56439	348.03	212.94	-0.87	3.39	1083.98	8.21	1083.05	8.2	-0.93	-0.09
49	133	84	35	2128	0.93075	470.47	0.56579	347.8	223.96	0	3.31	1089.07	8.19	1087.04	8.17	-2.03	-0.19
49	134	85	36	2144	0.92782	471.34	0.56716	347.59	235.19	-0.86	3.24	1092.25	8.15	1091.26	8.14	-0.99	-0.09
49	135	86	37	2160	0.92488	472.18	0.56852	347.39	246.61	0	3.16	1096.98	8.13	1094.9	8.11	-2.08	-0.19
49	136	87	38	2176	0.92193	473	0.56985	347.21	258.22	-0.86	3.09	1099.81	8.09	1098.77	8.08	-1.04	-0.09
49	137	88	39	2192	0.91896	473.78	0.57117	347.04	270.02	0	3.03	1104.19	8.06	1102.06	8.04	-2.13	-0.19
49	138	89	40	2208	0.91598	474.54	0.57246	346.88	282	-0.85	2.96	1106.69	8.02	1105.6	8.01	-1.09	-0.1
49	139	90	41	2224	0.91300	475.28	0.57374	346.73	294.16	0	2.9	1110.73	7.99	1108.56	7.98	-2.17	-0.2
49	140	91	42	2240	0.91000	475.99	0.57500	346.6	306.49	-0.85	2.84	1112.91	7.95	1111.77	7.94	-1.14	-0.1
49	141	92	43	2256	0.90700	476.67	0.57624	346.48	319	0	2.78	1116.63	7.92	1114.41	7.9	-2.21	-0.2
49	142	93	44	2272	0.90399	477.33	0.57747	346.37	331.68	-0.84	2.72	1118.51	7.88	1117.32	7.87	-1.19	-0.11
49	143	94	45	2288	0.90097	477.97	0.57867	346.27	344.51	0	2.67	1121.91	7.85	1119.65	7.83	-2.26	-0.2
49	144	95	46	2304	0.89796	478.59	0.57986	346.18	357.51	-0.83	2.61	1123.5	7.8	1122.26	7.79	-1.24	-0.11
49	145	96	47	2320	0.89494	479.19	0.58103	346.1	370.67	0	2.56	1126.6	7.77	1124.3	7.75	-2.31	-0.21
49	146	97	48	2336	0.89191	479.76	0.58219	346.04	383.98	-0.83	2.51	1127.91	7.73	1126.61	7.72	-1.29	-0.11
49	147	98	49	2352	0.88889	480.32	0.58333	345.98	397.44	0	2.47	1130.73	7.69	1128.36	7.68	-2.36	-0.21
49	148	99	50	2368	0.88587	480.85	0.58446	345.93	411.06	-0.82	2.42	1131.76	7.65	1130.4	7.64	-1.36	-0.12
49	149	100	51	2384	0.88284	481.37	0.58557	345.89	424.81	0	2.38	1134.3	7.61	1131.88	7.6	-2.42	-0.21
49	150	101	52	2400	0.87982	481.86	0.58667	345.87	438.71	-0.82	2.33	1135.08	7.57	1133.65	7.56	-1.43	-0.13
49	151	102	53	2416	0.87680	482.34	0.58775	345.85	452.75	0	2.29	1137.35	7.53	1134.86	7.52	-2.5	-0.22
49	152	103	54	2432	0.87379	482.8	0.58882	345.84	466.92	-0.81	2.25	1137.88	7.49	1136.36	7.48	-1.51	-0.13
49	153	104	55	2448	0.87078	483.25	0.58987	345.83	481.23	0	2.21	1139.9	7.45	1137.32	7.43	-2.58	-0.23
49	154	105	56	2464	0.86777	483.67	0.59091	345.84	495.67	-0.81	2.17	1140.18	7.4	1138.57	7.39	-1.61	-0.14
49	155	106	57	2480	0.86477	484.08	0.59194	345.85	510.24	0	2.13	1141.96	7.37	1139.27	7.35	-2.68	-0.24
49	156	107	58	2496	0.86177	484.48	0.59295	345.87	524.93	-0.8	2.1	1142.01	7.32	1140.29	7.31	-1.72	-0.15
49	157	108	59	2512	0.85878	484.86	0.59395	345.9	539.75	0	2.06	1143.55	7.28	1140.75	7.27	-2.8	-0.25
49	158	109	60	2528	0.85579	485.22	0.59494	345.94	554.69	-0.8	2.03	1143.38	7.24	1141.53	7.22	-1.85	-0.16

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
49	159	110	61	2544	0.85281	485.57	0.59591	345.98	569.76	0	2	1144.68	7.2	1141.76	7.18	-2.93	-0.26
49	160	111	62	2560	0.84984	485.91	0.59688	346.03	584.93	-0.79	1.96	1144.3	7.15	1142.31	7.14	-1.99	-0.17
49	161	112	63	2576	0.84688	486.23	0.59783	346.09	600.23	0	1.93	1145.38	7.11	1142.31	7.1	-3.07	-0.27
49	162	113	64	2592	0.84393	486.54	0.59877	346.16	615.63	-0.79	1.9	1144.79	7.07	1142.64	7.05	-2.15	-0.19
49	163	114	65	2608	0.84098	486.83	0.59969	346.23	631.15	0	1.87	1145.66	7.03	1142.43	7.01	-3.24	-0.28
49	164	115	66	2624	0.83804	487.11	0.60061	346.3	646.78	-0.78	1.84	1144.87	6.98	1142.54	6.97	-2.33	-0.2
49	165	116	67	2640	0.83512	487.38	0.60152	346.39	662.51	0	1.82	1145.54	6.94	1142.11	6.92	-3.42	-0.3
49	166	117	68	2656	0.83220	487.64	0.60241	346.47	678.35	-0.78	1.79	1144.55	6.89	1142.03	6.88	-2.53	-0.22
49	167	118	69	2672	0.82929	487.89	0.60329	346.57	694.29	0	1.76	1145.02	6.86	1141.39	6.83	-3.63	-0.32
49	168	119	70	2688	0.82639	488.12	0.60417	346.67	710.33	-0.77	1.74	1143.85	6.81	1141.1	6.79	-2.75	-0.24
49	169	120	71	2704	0.82350	488.34	0.60503	346.77	726.47	0	1.71	1144.13	6.77	1140.27	6.75	-3.86	-0.34
49	170	121	72	2720	0.82062	488.55	0.60588	346.89	742.71	-0.77	1.69	1142.77	6.72	1139.79	6.7	-2.99	-0.26
49	171	122	73	2736	0.81776	488.75	0.60673	347	759.05	0	1.66	1142.86	6.68	1138.76	6.66	-4.1	-0.36
49	172	123	74	2752	0.81490	488.94	0.60756	347.12	775.48	-0.76	1.64	1141.34	6.64	1138.09	6.62	-3.25	-0.29
Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
50	99	49	-1	1584	0.99990	415.13	0.49748	383.71	0.24	0	9.58	794.5	8.03	801.11	8.09	6.61	0.83
50	100	50	0	1600	1.00000	417.96	0.50000	382.41	0	1	10	810.63	8.11	816.09	8.16	5.46	0.67
50	101	51	1	1616	0.99990	420.7	0.50248	381.16	0.24	0	9.59	823.49	8.15	828.14	8.2	4.65	0.56
50	102	52	2	1632	0.99962	423.35	0.50490	379.97	0.95	0.99	9.21	837.93	8.21	842.33	8.26	4.41	0.52
50	103	53	3	1648	0.99915	425.92	0.50728	378.83	2.12	0	8.85	849.99	8.25	853.65	8.29	3.67	0.43
50	104	54	4	1664	0.99852	428.4	0.50962	377.73	3.73	0.98	8.51	863.63	8.3	867.11	8.34	3.48	0.4
50	105	55	5	1680	0.99773	430.8	0.51191	376.68	5.78	0	8.19	874.93	8.33	877.73	8.36	2.8	0.32
50	106	56	6	1696	0.99680	433.12	0.51415	375.68	8.24	0.97	7.88	887.81	8.38	890.48	8.4	2.67	0.3
50	107	57	7	1712	0.99572	435.37	0.51636	374.71	11.11	0	7.6	898.4	8.4	900.44	8.42	2.05	0.23
50	108	58	8	1728	0.99451	437.55	0.51852	373.79	14.38	0.96	7.33	910.56	8.43	912.52	8.45	1.96	0.21
50	109	59	9	1744	0.99318	439.66	0.52064	372.91	18.04	0	7.07	920.46	8.44	921.85	8.46	1.39	0.15
50	110	60	10	1760	0.99174	441.7	0.52273	372.06	22.07	0.95	6.83	931.95	8.47	933.29	8.48	1.34	0.14
50	111	61	11	1776	0.99018	443.67	0.52478	371.26	26.47	0	6.6	941.2	8.48	942.02	8.49	0.82	0.09
50	112	62	12	1792	0.98852	445.59	0.52679	370.48	31.22	0.94	6.38	952.03	8.5	952.84	8.51	0.81	0.08
50	113	63	13	1808	0.98677	447.44	0.52876	369.74	36.32	0	6.17	960.67	8.5	961	8.5	0.33	0.03
50	114	64	14	1824	0.98492	449.23	0.53070	369.03	41.75	0.94	5.97	970.89	8.52	971.24	8.52	0.35	0.04
50	115	65	15	1840	0.98299	450.97	0.53261	368.36	47.52	0	5.78	978.94	8.51	978.85	8.51	-0.09	-0.01
50	116	66	16	1856	0.98098	452.65	0.53448	367.71	53.6	0.93	5.6	988.57	8.52	988.53	8.52	-0.04	0
50	117	67	17	1872	0.97889	454.28	0.53633	367.09	60	0	5.43	996.06	8.51	995.62	8.51	-0.44	-0.04
50	118	68	18	1888	0.97673	455.86	0.53814	366.5	66.7	0.92	5.27	1005.13	8.52	1004.76	8.51	-0.37	-0.04
50	119	69	19	1904	0.97451	457.39	0.53992	365.94	73.7	0	5.11	1012.09	8.5	1011.35	8.5	-0.74	-0.07
50	120	70	20	1920	0.97222	458.87	0.54167	365.4	80.99	0.91	4.97	1020.63	8.51	1019.98	8.5	-0.65	-0.06
50	121	71	21	1936	0.96988	460.3	0.54339	364.88	88.56	0	4.82	1027.08	8.49	1026.09	8.48	-0.99	-0.1
50	122	72	22	1952	0.96748	461.69	0.54508	364.39	96.4	0.91	4.69	1035.11	8.48	1034.23	8.48	-0.88	-0.09
50	123	73	23	1968	0.96503	463.04	0.54675	363.93	104.51	0	4.56	1041.08	8.46	1039.88	8.45	-1.2	-0.12
50	124	74	24	1984	0.96254	464.34	0.54839	363.48	112.89	0.9	4.44	1048.62	8.46	1047.55	8.45	-1.07	-0.1
50	125	75	25	2000	0.96000	465.6	0.55000	363.06	121.52	0	4.32	1054.14	8.43	1052.76	8.42	-1.37	-0.13
50	126	76	26	2016	0.95742	466.82	0.55159	362.66	130.4	0.89	4.2	1061.21	8.42	1059.98	8.41	-1.23	-0.12
50	127	77	27	2032	0.95480	468.01	0.55315	362.28	139.53	0	4.09	1066.29	8.4	1064.77	8.38	-1.51	-0.14
50	128	78	28	2048	0.95215	469.15	0.55469	361.92	148.89	0.88	3.99	1072.92	8.38	1071.56	8.37	-1.36	-0.13
50	129	79	29	2064	0.94946	470.26	0.55620	361.57	158.49	0	3.89	1077.57	8.35	1075.94	8.34	-1.63	-0.15

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
50	130	80	30	2080	0.94675	471.34	0.55769	361.25	168.31	0.88	3.79	1083.78	8.34	1082.31	8.33	-1.46	-0.14
50	131	81	31	2096	0.94400	472.38	0.55916	360.94	178.36	0	3.7	1088.03	8.31	1086.31	8.29	-1.72	-0.16
50	132	82	32	2112	0.94123	473.38	0.56061	360.65	188.62	0.87	3.61	1093.83	8.29	1092.28	8.27	-1.55	-0.14
50	133	83	33	2128	0.93844	474.36	0.56203	360.38	199.1	0	3.53	1097.69	8.25	1095.9	8.24	-1.79	-0.16
50	134	84	34	2144	0.93562	475.3	0.56343	360.12	209.78	0.86	3.44	1103.1	8.23	1101.49	8.22	-1.62	-0.15
50	135	85	35	2160	0.93279	476.22	0.56482	359.88	220.67	0	3.37	1106.6	8.2	1104.75	8.18	-1.85	-0.17
50	136	86	36	2176	0.92993	477.1	0.56618	359.65	231.75	0.86	3.29	1111.64	8.17	1109.97	8.16	-1.67	-0.15
50	137	87	37	2192	0.92706	477.96	0.56752	359.44	243.03	0	3.22	1114.78	8.14	1112.88	8.12	-1.9	-0.17
50	138	88	38	2208	0.92418	478.79	0.56884	359.24	254.5	0.85	3.15	1119.46	8.11	1117.74	8.1	-1.72	-0.15
50	139	89	39	2224	0.92128	479.59	0.57014	359.06	266.16	0	3.08	1122.27	8.07	1120.33	8.06	-1.94	-0.17
50	140	90	40	2240	0.91837	480.36	0.57143	358.89	278	0.85	3.01	1126.61	8.05	1124.85	8.03	-1.76	-0.16
50	141	91	41	2256	0.91545	481.11	0.57270	358.73	290.02	0	2.95	1129.09	8.01	1127.11	7.99	-1.98	-0.18
50	142	92	42	2272	0.91252	481.84	0.57394	358.58	302.21	0.84	2.89	1133.1	7.98	1131.3	7.97	-1.8	-0.16
50	143	93	43	2288	0.90958	482.54	0.57518	358.45	314.57	0	2.83	1135.27	7.94	1133.25	7.92	-2.02	-0.18
50	144	94	44	2304	0.90664	483.22	0.57639	358.33	327.1	0.83	2.77	1138.96	7.91	1137.12	7.9	-1.84	-0.16
50	145	95	45	2320	0.90369	483.87	0.57759	358.22	339.8	0	2.72	1140.83	7.87	1138.77	7.85	-2.06	-0.18
50	146	96	46	2336	0.90073	484.51	0.57877	358.12	352.65	0.83	2.66	1144.22	7.84	1142.33	7.82	-1.88	-0.16
50	147	97	47	2352	0.89777	485.12	0.57993	358.03	365.66	0	2.61	1145.8	7.79	1143.7	7.78	-2.1	-0.18
50	148	98	48	2368	0.89481	485.71	0.58108	357.95	378.83	0.82	2.56	1148.89	7.76	1146.97	7.75	-1.93	-0.17
50	149	99	49	2384	0.89185	486.28	0.58222	357.88	392.15	0	2.51	1150.2	7.72	1148.06	7.71	-2.15	-0.19
50	150	100	50	2400	0.88889	486.83	0.58333	357.83	405.61	0.82	2.47	1153.01	7.69	1151.03	7.67	-1.98	-0.17
50	151	101	51	2416	0.88593	487.36	0.58444	357.78	419.22	0	2.42	1154.06	7.64	1151.85	7.63	-2.2	-0.19
50	152	102	52	2432	0.88296	487.87	0.58553	357.74	432.97	0.81	2.38	1156.6	7.61	1154.56	7.6	-2.04	-0.18
50	153	103	53	2448	0.88000	488.37	0.58660	357.71	446.87	0	2.33	1157.39	7.56	1155.12	7.55	-2.27	-0.2
50	154	104	54	2464	0.87705	488.84	0.58766	357.69	460.9	0.81	2.29	1159.67	7.53	1157.55	7.52	-2.11	-0.18
50	155	105	55	2480	0.87409	489.3	0.58871	357.68	475.06	0	2.25	1160.21	7.49	1157.86	7.47	-2.35	-0.2
50	156	106	56	2496	0.87114	489.75	0.58974	357.68	489.36	0.8	2.21	1162.24	7.45	1160.04	7.44	-2.2	-0.19
50	157	107	57	2512	0.86819	490.17	0.59076	357.68	503.78	0	2.18	1162.54	7.4	1160.11	7.39	-2.44	-0.21
50	158	108	58	2528	0.86525	490.58	0.59177	357.69	518.33	0.8	2.14	1164.33	7.37	1162.03	7.35	-2.3	-0.2
50	159	109	59	2544	0.86231	490.98	0.59277	357.71	533.01	0	2.1	1164.4	7.32	1161.87	7.31	-2.54	-0.22
50	160	110	60	2560	0.85938	491.36	0.59375	357.74	547.8	0.79	2.07	1165.96	7.29	1163.55	7.27	-2.41	-0.21
50	161	111	61	2576	0.85645	491.72	0.59472	357.78	562.72	0	2.04	1165.81	7.24	1163.16	7.22	-2.66	-0.23
50	162	112	62	2592	0.85353	492.07	0.59568	357.82	577.76	0.79	2	1167.14	7.2	1164.6	7.19	-2.54	-0.22
50	163	113	63	2608	0.85062	492.41	0.59663	357.87	592.91	0	1.97	1166.78	7.16	1163.99	7.14	-2.79	-0.24
50	164	114	64	2624	0.84771	492.73	0.59756	357.93	608.17	0.78	1.94	1167.89	7.12	1165.21	7.1	-2.68	-0.23
50	165	115	65	2640	0.84481	493.04	0.59849	357.99	623.55	0	1.91	1167.33	7.07	1164.39	7.06	-2.95	-0.25
50	166	116	66	2656	0.84192	493.34	0.59940	358.06	639.03	0.78	1.88	1168.23	7.04	1165.39	7.02	-2.84	-0.24
50	167	117	67	2672	0.83904	493.62	0.60030	358.13	654.62	0	1.85	1167.47	6.99	1164.36	6.97	-3.12	-0.27
50	168	118	68	2688	0.83617	493.9	0.60119	358.22	670.32	0.77	1.83	1168.17	6.95	1165.14	6.94	-3.03	-0.26
50	169	119	69	2704	0.83330	494.15	0.60207	358.3	686.12	0	1.8	1167.22	6.91	1163.91	6.89	-3.31	-0.28
50	170	120	70	2720	0.83045	494.4	0.60294	358.4	702.02	0.77	1.77	1167.72	6.87	1164.49	6.85	-3.23	-0.28
50	171	121	71	2736	0.82761	494.64	0.60380	358.5	718.02	0	1.75	1166.59	6.82	1163.07	6.8	-3.52	-0.3
50	172	122	72	2752	0.82477	494.87	0.60465	358.6	734.13	0.76	1.72	1166.89	6.78	1163.44	6.76	-3.45	-0.3
50	173	123	73	2768	0.82195	495.08	0.60549	358.71	750.32	0	1.7	1165.59	6.74	1161.83	6.72	-3.75	-0.32
50	174	124	74	2784	0.81913	495.28	0.60632	358.83	766.61	0.76	1.68	1165.71	6.7	1162.01	6.68	-3.7	-0.32
50	175	125	75	2800	0.81633	495.48	0.60714	358.95	783	0	1.65	1164.23	6.65	1160.22	6.63	-4.01	-0.35

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
51	101	50	-1	1616	0.99990	420.7	0.49753	396.56	0.24	0	9.59	808.09	8	814.79	8.07	6.71	0.82
51	102	51	0	1632	1.00000	423.51	0.50000	395.24	0	-0.99	10	822.25	8.06	828.66	8.12	6.4	0.77
51	103	52	1	1648	0.99991	426.24	0.50243	393.98	0.24	0	9.6	837.15	8.13	841.89	8.17	4.74	0.56
51	104	53	2	1664	0.99963	428.87	0.50481	392.77	0.93	-0.98	9.22	849.67	8.17	855	8.22	5.33	0.62
51	105	54	3	1680	0.99918	431.43	0.50714	391.61	2.08	0	8.87	863.76	8.23	867.49	8.26	3.73	0.43
51	106	55	4	1696	0.99858	433.9	0.50943	390.49	3.66	-0.97	8.53	875.51	8.26	879.9	8.3	4.38	0.5
51	107	56	5	1712	0.99782	436.29	0.51168	389.42	5.67	0	8.22	888.83	8.31	891.68	8.33	2.85	0.32
51	108	57	6	1728	0.99691	438.61	0.51389	388.4	8.09	-0.96	7.92	899.86	8.33	903.41	8.36	3.55	0.39
51	109	58	7	1744	0.99588	440.85	0.51606	387.42	10.91	0	7.64	912.45	8.37	914.52	8.39	2.07	0.23
51	110	59	8	1760	0.99471	443.02	0.51818	386.48	14.12	-0.95	7.37	922.78	8.39	925.6	8.41	2.82	0.3
51	111	60	9	1776	0.99343	445.13	0.52027	385.58	17.72	0	7.11	934.69	8.42	936.07	8.43	1.39	0.15
51	112	61	10	1792	0.99203	447.17	0.52232	384.72	21.68	-0.94	6.87	944.36	8.43	946.54	8.45	2.18	0.23
51	113	62	11	1808	0.99052	449.14	0.52434	383.89	26	0	6.64	955.61	8.46	956.4	8.46	0.79	0.08
51	114	63	12	1824	0.98892	451.06	0.52632	383.1	30.68	-0.94	6.43	964.66	8.46	966.28	8.48	1.62	0.17
51	115	64	13	1840	0.98722	452.91	0.52826	382.34	35.69	0	6.22	975.28	8.48	975.56	8.48	0.28	0.03
51	116	65	14	1856	0.98543	454.71	0.53017	381.61	41.04	-0.93	6.02	983.73	8.48	984.88	8.49	1.15	0.12
51	117	66	15	1872	0.98356	456.45	0.53205	380.92	46.71	0	5.84	993.75	8.49	993.59	8.49	-0.16	-0.02
51	118	67	16	1888	0.98161	458.14	0.53390	380.25	52.7	-0.92	5.66	1001.64	8.49	1002.38	8.49	0.73	0.07
51	119	68	17	1904	0.97959	459.77	0.53571	379.62	59	0	5.49	1011.1	8.5	1010.56	8.49	-0.54	-0.05
51	120	69	18	1920	0.97750	461.36	0.53750	379.01	65.6	-0.91	5.33	1018.45	8.49	1018.83	8.49	0.38	0.04
51	121	70	19	1936	0.97534	462.9	0.53926	378.43	72.49	0	5.17	1027.36	8.49	1026.5	8.48	-0.86	-0.08
51	122	71	20	1952	0.97313	464.38	0.54098	377.87	79.67	-0.91	5.02	1034.19	8.48	1034.27	8.48	0.08	0.01
51	123	72	21	1968	0.97085	465.83	0.54268	377.34	87.13	0	4.88	1042.59	8.48	1041.46	8.47	-1.13	-0.11
51	124	73	22	1984	0.96852	467.22	0.54436	376.84	94.86	-0.9	4.75	1048.93	8.46	1048.76	8.46	-0.17	-0.02
51	125	74	23	2000	0.96614	468.58	0.54600	376.35	102.85	0	4.62	1056.83	8.45	1055.47	8.44	-1.36	-0.13
51	126	75	24	2016	0.96372	469.89	0.54762	375.89	111.11	-0.89	4.49	1062.71	8.43	1062.32	8.43	-0.38	-0.04
51	127	76	25	2032	0.96125	471.17	0.54921	375.45	119.62	0	4.37	1070.13	8.43	1068.59	8.41	-1.55	-0.14
51	128	77	26	2048	0.95874	472.4	0.55078	375.04	128.38	-0.88	4.26	1075.56	8.4	1075	8.4	-0.56	-0.05
51	129	78	27	2064	0.95619	473.59	0.55233	374.64	137.38	0	4.15	1082.54	8.39	1080.83	8.38	-1.7	-0.16
51	130	79	28	2080	0.95361	474.75	0.55385	374.26	146.62	-0.88	4.05	1087.54	8.37	1086.83	8.36	-0.71	-0.07
51	131	80	29	2096	0.95099	475.88	0.55534	373.9	156.09	0	3.95	1094.08	8.35	1092.25	8.34	-1.83	-0.17
51	132	81	30	2112	0.94835	476.96	0.55682	373.56	165.78	-0.87	3.85	1098.67	8.32	1097.84	8.32	-0.83	-0.08
51	133	82	31	2128	0.94567	478.02	0.55827	373.24	175.7	0	3.76	1104.8	8.31	1102.86	8.29	-1.94	-0.18
51	134	83	32	2144	0.94297	479.04	0.55970	372.94	185.83	-0.86	3.67	1109	8.28	1108.07	8.27	-0.93	-0.08
51	135	84	33	2160	0.94025	480.03	0.56111	372.65	196.17	0	3.58	1114.73	8.26	1112.7	8.24	-2.03	-0.18
51	136	85	34	2176	0.93750	480.99	0.56250	372.38	206.72	-0.86	3.5	1118.56	8.22	1117.54	8.22	-1.02	-0.09
51	137	86	35	2192	0.93473	481.91	0.56387	372.12	217.47	0	3.42	1123.91	8.2	1121.81	8.19	-2.1	-0.19
51	138	87	36	2208	0.93195	482.81	0.56522	371.88	228.42	-0.85	3.34	1127.38	8.17	1126.29	8.16	-1.09	-0.1
51	139	88	37	2224	0.92914	483.68	0.56655	371.66	239.56	0	3.27	1132.37	8.15	1130.2	8.13	-2.17	-0.19
51	140	89	38	2240	0.92633	484.53	0.56786	371.45	250.89	-0.85	3.2	1135.48	8.11	1134.33	8.1	-1.15	-0.1
51	141	90	39	2256	0.92350	485.34	0.56915	371.25	262.41	0	3.13	1140.12	8.09	1137.9	8.07	-2.22	-0.2
51	142	91	40	2272	0.92065	486.13	0.57042	371.07	274.11	-0.84	3.06	1142.91	8.05	1141.71	8.04	-1.21	-0.11
51	143	92	41	2288	0.91780	486.9	0.57168	370.89	285.99	0	3	1147.22	8.02	1144.95	8.01	-2.27	-0.2
51	144	93	42	2304	0.91493	487.64	0.57292	370.74	298.04	-0.83	2.94	1149.69	7.98	1148.43	7.98	-1.26	-0.11
51	145	94	43	2320	0.91206	488.36	0.57414	370.59	310.26	0	2.88	1153.67	7.96	1151.35	7.94	-2.32	-0.2

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
51	146	95	44	2336	0.90918	489.05	0.57534	370.46	322.65	-0.83	2.82	1155.83	7.92	1154.53	7.91	-1.31	-0.11
51	147	96	45	2352	0.90629	489.72	0.57653	370.34	335.2	0	2.76	1159.51	7.89	1157.14	7.87	-2.36	-0.2
51	148	97	46	2368	0.90340	490.37	0.57770	370.23	347.92	-0.82	2.71	1161.38	7.85	1160.02	7.84	-1.36	-0.12
51	149	98	47	2384	0.90050	490.99	0.57886	370.13	360.79	0	2.66	1164.75	7.82	1162.34	7.8	-2.41	-0.21
51	150	99	48	2400	0.89760	491.6	0.58000	370.04	373.81	-0.82	2.61	1166.34	7.78	1164.92	7.77	-1.42	-0.12
51	151	100	49	2416	0.89470	492.19	0.58113	369.96	386.99	0	2.56	1169.43	7.74	1166.96	7.73	-2.47	-0.21
51	152	101	50	2432	0.89179	492.75	0.58224	369.89	400.31	-0.81	2.51	1170.75	7.7	1169.27	7.69	-1.48	-0.13
51	153	102	51	2448	0.88889	493.3	0.58333	369.83	413.78	0	2.47	1173.55	7.67	1171.02	7.65	-2.53	-0.22
51	154	103	52	2464	0.88598	493.83	0.58442	369.79	427.39	-0.81	2.42	1174.61	7.63	1173.07	7.62	-1.55	-0.13
51	155	104	53	2480	0.88308	494.34	0.58548	369.75	441.14	0	2.38	1177.16	7.59	1174.56	7.58	-2.6	-0.22
51	156	105	54	2496	0.88018	494.83	0.58654	369.72	455.03	-0.8	2.34	1177.96	7.55	1176.34	7.54	-1.63	-0.14
51	157	106	55	2512	0.87728	495.3	0.58758	369.7	469.05	0	2.3	1180.25	7.52	1177.57	7.5	-2.68	-0.23
51	158	107	56	2528	0.87438	495.76	0.58861	369.68	483.2	-0.8	2.26	1180.82	7.47	1179.1	7.46	-1.72	-0.15
51	159	108	57	2544	0.87149	496.2	0.58962	369.68	497.48	0	2.22	1182.85	7.44	1180.08	7.42	-2.77	-0.24
51	160	109	58	2560	0.86859	496.63	0.59063	369.68	511.89	-0.79	2.18	1183.19	7.39	1181.37	7.38	-1.82	-0.15
51	161	110	59	2576	0.86571	497.04	0.59162	369.69	526.43	0	2.15	1184.99	7.36	1182.11	7.34	-2.88	-0.24
51	162	111	60	2592	0.86283	497.43	0.59259	369.71	541.08	-0.79	2.11	1185.09	7.32	1183.16	7.3	-1.94	-0.16
51	163	112	61	2608	0.85995	497.81	0.59356	369.74	555.86	0	2.08	1186.66	7.28	1183.66	7.26	-3	-0.25
51	164	113	62	2624	0.85708	498.18	0.59451	369.77	570.75	-0.78	2.04	1186.55	7.24	1184.49	7.22	-2.07	-0.17
51	165	114	63	2640	0.85422	498.53	0.59546	369.82	585.76	0	2.01	1187.9	7.2	1184.77	7.18	-3.13	-0.26
51	166	115	64	2656	0.85136	498.87	0.59639	369.86	600.89	-0.78	1.98	1187.58	7.15	1185.37	7.14	-2.22	-0.19
51	167	116	65	2672	0.84851	499.19	0.59731	369.92	616.12	0	1.95	1188.71	7.12	1185.43	7.1	-3.29	-0.28
51	168	117	66	2688	0.84566	499.5	0.59821	369.98	631.47	-0.77	1.92	1188.19	7.07	1185.81	7.06	-2.38	-0.2
51	169	118	67	2704	0.84283	499.8	0.59911	370.05	646.92	0	1.89	1189.12	7.04	1185.66	7.02	-3.46	-0.29
51	170	119	68	2720	0.84000	500.09	0.60000	370.12	662.48	-0.77	1.86	1188.4	6.99	1185.84	6.98	-2.56	-0.22
51	171	120	69	2736	0.83718	500.36	0.60088	370.21	678.14	0	1.84	1189.13	6.95	1185.48	6.93	-3.65	-0.31
51	172	121	70	2752	0.83437	500.63	0.60174	370.29	693.91	-0.76	1.81	1188.22	6.91	1185.46	6.89	-2.77	-0.23
51	173	122	71	2768	0.83157	500.88	0.60260	370.38	709.77	0	1.78	1188.75	6.87	1184.9	6.85	-3.85	-0.33
51	174	123	72	2784	0.82878	501.12	0.60345	370.48	725.74	-0.76	1.76	1187.67	6.83	1184.68	6.81	-2.99	-0.25
51	175	124	73	2800	0.82599	501.34	0.60429	370.59	741.8	0	1.73	1188.01	6.79	1183.92	6.77	-4.08	-0.34
51	176	125	74	2816	0.82322	501.56	0.60511	370.7	757.95	-0.75	1.71	1186.75	6.74	1183.51	6.72	-3.23	-0.27
51	177	126	75	2832	0.82045	501.77	0.60593	370.81	774.2	0	1.69	1186.9	6.71	1182.57	6.68	-4.33	-0.37
51	178	127	76	2848	0.81770	501.97	0.60674	370.93	790.54	-0.75	1.66	1185.47	6.66	1181.98	6.64	-3.49	-0.3
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
52	103	51	-1	1648	0.99991	426.24	0.49757	409.58	0.24	0	9.6	821.55	7.98	828.35	8.04	6.8	0.82
52	104	52	0	1664	1.00000	429.03	0.50000	408.24	0	0.98	10	837.7	8.05	843.38	8.11	5.68	0.67
52	105	53	1	1680	0.99991	431.74	0.50238	406.96	0.23	0	9.61	850.67	8.1	855.53	8.15	4.86	0.57
52	106	54	2	1696	0.99964	434.36	0.50472	405.73	0.92	0.97	9.24	865.2	8.16	869.81	8.21	4.62	0.53
52	107	55	3	1712	0.99921	436.9	0.50701	404.55	2.04	0	8.89	877.39	8.2	881.25	8.24	3.86	0.44
52	108	56	4	1728	0.99863	439.36	0.50926	403.42	3.6	0.96	8.56	891.14	8.25	894.81	8.29	3.67	0.41
52	109	57	5	1744	0.99790	441.74	0.51147	402.34	5.57	0	8.25	902.6	8.28	905.58	8.31	2.98	0.33
52	110	58	6	1760	0.99703	444.05	0.51364	401.3	7.95	0.95	7.95	915.61	8.32	918.45	8.35	2.84	0.31
52	111	59	7	1776	0.99602	446.29	0.51577	400.3	10.72	0	7.67	926.36	8.35	928.57	8.37	2.21	0.24
52	112	60	8	1792	0.99490	448.46	0.51786	399.34	13.88	0.94	7.41	938.68	8.38	940.79	8.4	2.11	0.22
52	113	61	9	1808	0.99366	450.56	0.51991	398.42	17.41	0	7.16	948.76	8.4	950.3	8.41	1.53	0.16
52	114	62	10	1824	0.99231	452.6	0.52193	397.54	21.3	0.94	6.92	960.41	8.42	961.88	8.44	1.48	0.15

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
52	115	63	11	1840	0.99085	454.58	0.52391	396.7	25.55	0	6.69	969.86	8.43	970.81	8.44	0.94	0.1
52	116	64	12	1856	0.98930	456.49	0.52586	395.89	30.15	0.93	6.48	980.87	8.46	981.8	8.46	0.92	0.09
52	117	65	13	1872	0.98765	458.35	0.52778	395.11	35.09	0	6.27	989.73	8.46	990.16	8.46	0.43	0.04
52	118	66	14	1888	0.98592	460.15	0.52966	394.37	40.35	0.92	6.08	1000.13	8.48	1000.58	8.48	0.45	0.04
52	119	67	15	1904	0.98411	461.9	0.53151	393.65	45.93	0	5.89	1008.41	8.47	1008.4	8.47	-0.01	0
52	120	68	16	1920	0.98222	463.59	0.53333	392.97	51.83	0.91	5.71	1018.24	8.49	1018.27	8.49	0.04	0
52	121	69	17	1936	0.98026	465.23	0.53512	392.32	58.03	0	5.54	1025.96	8.48	1025.58	8.48	-0.38	-0.04
52	122	70	18	1952	0.97823	466.82	0.53689	391.69	64.53	0.91	5.38	1035.24	8.49	1034.93	8.48	-0.31	-0.03
52	123	71	19	1968	0.97614	468.36	0.53862	391.09	71.32	0	5.23	1042.45	8.48	1041.75	8.47	-0.7	-0.07
52	124	72	20	1984	0.97399	469.86	0.54032	390.52	78.39	0.9	5.08	1051.2	8.48	1050.59	8.47	-0.61	-0.06
52	125	73	21	2000	0.97178	471.31	0.54200	389.97	85.74	0	4.94	1057.91	8.46	1056.94	8.46	-0.97	-0.09
52	126	74	22	2016	0.96951	472.72	0.54365	389.45	93.36	0.89	4.8	1066.16	8.46	1065.3	8.45	-0.86	-0.08
52	127	75	23	2032	0.96720	474.08	0.54528	388.95	101.25	0	4.67	1072.39	8.44	1071.19	8.43	-1.2	-0.11
52	128	76	24	2048	0.96484	475.41	0.54688	388.47	109.39	0.88	4.55	1080.16	8.44	1079.09	8.43	-1.07	-0.1
52	129	77	25	2064	0.96244	476.69	0.54845	388.02	117.78	0	4.43	1085.94	8.42	1084.55	8.41	-1.39	-0.13
52	130	78	26	2080	0.96000	477.93	0.55000	387.59	126.42	0.88	4.32	1093.25	8.41	1092.01	8.4	-1.25	-0.11
52	131	79	27	2096	0.95752	479.14	0.55153	387.17	135.3	0	4.21	1098.59	8.39	1097.05	8.37	-1.54	-0.14
52	132	80	28	2112	0.95501	480.31	0.55303	386.78	144.41	0.87	4.1	1105.47	8.37	1104.08	8.36	-1.39	-0.13
52	133	81	29	2128	0.95246	481.45	0.55451	386.41	153.76	0	4	1110.39	8.35	1108.72	8.34	-1.67	-0.15
52	134	82	30	2144	0.94988	482.55	0.55597	386.05	163.32	0.86	3.91	1116.85	8.33	1115.34	8.32	-1.51	-0.14
52	135	83	31	2160	0.94727	483.61	0.55741	385.72	173.11	0	3.81	1121.37	8.31	1119.6	8.29	-1.78	-0.16
52	136	84	32	2176	0.94464	484.65	0.55882	385.4	183.11	0.86	3.72	1127.42	8.29	1125.81	8.28	-1.61	-0.14
52	137	85	33	2192	0.94198	485.65	0.56022	385.09	193.33	0	3.64	1131.56	8.26	1129.7	8.25	-1.86	-0.16
52	138	86	34	2208	0.93930	486.62	0.56159	384.81	203.74	0.85	3.55	1137.23	8.24	1135.54	8.23	-1.69	-0.15
52	139	87	35	2224	0.93660	487.56	0.56295	384.54	214.36	0	3.47	1141.01	8.21	1139.07	8.19	-1.93	-0.17
52	140	88	36	2240	0.93388	488.48	0.56429	384.29	225.18	0.85	3.4	1146.3	8.19	1144.55	8.18	-1.75	-0.15
52	141	89	37	2256	0.93114	489.36	0.56560	384.05	236.19	0	3.32	1149.73	8.15	1147.73	8.14	-1.99	-0.17
52	142	90	38	2272	0.92839	490.22	0.56690	383.82	247.39	0.84	3.25	1154.66	8.13	1152.85	8.12	-1.81	-0.16
52	143	91	39	2288	0.92562	491.05	0.56818	383.61	258.77	0	3.18	1157.75	8.1	1155.71	8.08	-2.04	-0.18
52	144	92	40	2304	0.92284	491.85	0.56944	383.42	270.33	0.83	3.11	1162.35	8.07	1160.49	8.06	-1.86	-0.16
52	145	93	41	2320	0.92005	492.63	0.57069	383.23	282.07	0	3.05	1165.11	8.04	1163.02	8.02	-2.09	-0.18
52	146	94	42	2336	0.91725	493.39	0.57192	383.06	293.99	0.83	2.99	1169.38	8.01	1167.47	8	-1.9	-0.16
52	147	95	43	2352	0.91443	494.12	0.57313	382.9	306.07	0	2.93	1171.83	7.97	1169.7	7.96	-2.13	-0.18
52	148	96	44	2368	0.91161	494.83	0.57432	382.76	318.32	0.82	2.87	1175.78	7.94	1173.84	7.93	-1.95	-0.17
52	149	97	45	2384	0.90879	495.51	0.57550	382.63	330.74	0	2.81	1177.94	7.91	1175.77	7.89	-2.17	-0.18
52	150	98	46	2400	0.90596	496.18	0.57667	382.5	343.31	0.82	2.76	1181.58	7.88	1179.59	7.86	-1.99	-0.17
52	151	99	47	2416	0.90312	496.82	0.57782	382.39	356.04	0	2.71	1183.45	7.84	1181.24	7.82	-2.21	-0.19
52	152	100	48	2432	0.90028	497.44	0.57895	382.29	368.93	0.81	2.65	1186.81	7.81	1184.77	7.79	-2.04	-0.17
52	153	101	49	2448	0.89743	498.04	0.58007	382.21	381.96	0	2.61	1188.4	7.77	1186.14	7.75	-2.26	-0.19
52	154	102	50	2464	0.89459	498.62	0.58117	382.13	395.14	0.81	2.56	1191.47	7.74	1189.38	7.72	-2.09	-0.18
52	155	103	51	2480	0.89174	499.18	0.58226	382.06	408.47	0	2.51	1192.8	7.7	1190.48	7.68	-2.32	-0.19
52	156	104	52	2496	0.88889	499.73	0.58333	382	421.94	0.8	2.47	1195.6	7.66	1193.45	7.65	-2.15	-0.18
52	157	105	53	2512	0.88604	500.25	0.58440	381.95	435.56	0	2.42	1196.67	7.62	1194.29	7.61	-2.38	-0.2
52	158	106	54	2528	0.88319	500.76	0.58544	381.91	449.3	0.8	2.38	1199.2	7.59	1196.99	7.58	-2.22	-0.19
52	159	107	55	2544	0.88035	501.25	0.58648	381.88	463.18	0	2.34	1200.03	7.55	1197.58	7.53	-2.45	-0.2
52	160	108	56	2560	0.87750	501.72	0.58750	381.86	477.2	0.79	2.3	1202.31	7.51	1200.02	7.5	-2.29	-0.19
52	161	109	57	2576	0.87466	502.18	0.58851	381.84	491.34	0	2.26	1202.9	7.47	1200.37	7.46	-2.53	-0.21

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
52	162	110	58	2592	0.87182	502.62	0.58951	381.84	505.61	0.79	2.22	1204.94	7.44	1202.56	7.42	-2.38	-0.2
52	163	111	59	2608	0.86898	503.04	0.59049	381.84	520.01	0	2.19	1205.3	7.39	1202.67	7.38	-2.63	-0.22
52	164	112	60	2624	0.86615	503.45	0.59146	381.85	534.53	0.78	2.15	1207.1	7.36	1204.62	7.35	-2.49	-0.21
52	165	113	61	2640	0.86332	503.85	0.59242	381.87	549.16	0	2.12	1207.24	7.32	1204.5	7.3	-2.74	-0.23
52	166	114	62	2656	0.86050	504.23	0.59337	381.9	563.92	0.78	2.08	1208.82	7.28	1206.21	7.27	-2.61	-0.22
52	167	115	63	2672	0.85769	504.59	0.59431	381.93	578.79	0	2.05	1208.74	7.24	1205.88	7.22	-2.86	-0.24
52	168	116	64	2688	0.85488	504.94	0.59524	381.97	593.78	0.77	2.02	1210.1	7.2	1207.36	7.19	-2.74	-0.23
52	169	117	65	2704	0.85207	505.28	0.59615	382.02	608.88	0	1.99	1209.81	7.16	1206.81	7.14	-3	-0.25
52	170	118	66	2720	0.84927	505.61	0.59706	382.07	624.08	0.77	1.96	1210.96	7.12	1208.07	7.11	-2.89	-0.24
52	171	119	67	2736	0.84648	505.92	0.59795	382.13	639.4	0	1.93	1210.47	7.08	1207.32	7.06	-3.16	-0.26
52	172	120	68	2752	0.84370	506.22	0.59884	382.2	654.82	0.76	1.9	1211.42	7.04	1208.36	7.03	-3.06	-0.25
52	173	121	69	2768	0.84092	506.51	0.59971	382.27	670.35	0	1.87	1210.74	7	1207.41	6.98	-3.33	-0.28
52	174	122	70	2784	0.83816	506.79	0.60058	382.35	685.98	0.76	1.85	1211.49	6.96	1208.24	6.94	-3.24	-0.27
52	175	123	71	2800	0.83540	507.05	0.60143	382.44	701.71	0	1.82	1210.62	6.92	1207.09	6.9	-3.53	-0.29
52	176	124	72	2816	0.83265	507.31	0.60227	382.53	717.54	0.75	1.79	1211.18	6.88	1207.73	6.86	-3.45	-0.29
52	177	125	73	2832	0.82990	507.55	0.60311	382.63	733.46	0	1.77	1210.13	6.84	1206.39	6.82	-3.74	-0.31
52	178	126	74	2848	0.82717	507.78	0.60393	382.73	749.48	0.75	1.74	1210.5	6.8	1206.83	6.78	-3.67	-0.3
52	179	127	75	2864	0.82444	508	0.60475	382.84	765.6	0	1.72	1209.28	6.76	1205.3	6.73	-3.98	-0.33
52	180	128	76	2880	0.82173	508.21	0.60556	382.95	781.81	0.75	1.7	1209.47	6.72	1205.55	6.7	-3.92	-0.32
52	181	129	77	2896	0.81902	508.41	0.60635	383.07	798.11	0	1.68	1208.08	6.67	1203.85	6.65	-4.23	-0.35
52	182	130	78	2912	0.81633	508.6	0.60714	383.19	814.5	0.74	1.65	1208.1	6.64	1203.91	6.61	-4.18	-0.35
Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
53	105	52	-1	1680	0.99991	431.74	0.49762	422.77	0.23	0	9.61	834.87	7.95	841.76	8.02	6.89	0.82
53	106	53	0	1696	1.00000	434.52	0.50000	421.41	0	-0.97	10	849.1	8.01	855.7	8.07	6.6	0.77
53	107	54	1	1712	0.99991	437.21	0.50234	420.11	0.23	0	9.62	864.07	8.08	869.01	8.12	4.94	0.57
53	108	55	2	1728	0.99966	439.81	0.50463	418.87	0.9	-0.96	9.25	876.71	8.12	882.22	8.17	5.51	0.62
53	109	56	3	1744	0.99924	442.34	0.50688	417.67	2	0	8.91	890.89	8.17	894.82	8.21	3.92	0.44
53	110	57	4	1760	0.99868	444.79	0.50909	416.52	3.53	-0.95	8.58	902.79	8.21	907.33	8.25	4.55	0.5
53	111	58	5	1776	0.99797	447.17	0.51126	415.42	5.47	0	8.28	916.22	8.25	919.25	8.28	3.02	0.33
53	112	59	6	1792	0.99713	449.47	0.51339	414.36	7.8	-0.94	7.99	927.41	8.28	931.1	8.31	3.7	0.4
53	113	60	7	1808	0.99616	451.7	0.51549	413.34	10.53	0	7.71	940.13	8.32	942.36	8.34	2.23	0.24
53	114	61	8	1824	0.99508	453.87	0.51754	412.37	13.63	-0.94	7.45	950.64	8.34	953.59	8.36	2.95	0.31
53	115	62	9	1840	0.99388	455.97	0.51957	411.43	17.11	0	7.2	962.7	8.37	964.22	8.38	1.53	0.16
53	116	63	10	1856	0.99257	458	0.52155	410.53	20.94	-0.93	6.96	972.56	8.38	974.85	8.4	2.29	0.24
53	117	64	11	1872	0.99116	459.98	0.52350	409.67	25.12	0	6.74	983.97	8.41	984.89	8.42	0.92	0.09
53	118	65	12	1888	0.98966	461.89	0.52542	408.84	29.64	-0.92	6.52	993.22	8.42	994.94	8.43	1.72	0.17
53	119	66	13	1904	0.98807	463.75	0.52731	408.05	34.5	0	6.32	1004.02	8.44	1004.41	8.44	0.39	0.04
53	120	67	14	1920	0.98639	465.55	0.52917	407.29	39.68	-0.91	6.13	1012.69	8.44	1013.91	8.45	1.22	0.12
53	121	68	15	1936	0.98463	467.3	0.53099	406.56	45.18	0	5.94	1022.9	8.45	1022.83	8.45	-0.07	-0.01
53	122	69	16	1952	0.98280	469	0.53279	405.86	50.99	-0.91	5.76	1031.01	8.45	1031.81	8.46	0.79	0.08
53	123	70	17	1968	0.98090	470.65	0.53455	405.18	57.1	0	5.6	1040.67	8.46	1040.2	8.46	-0.47	-0.05
53	124	71	18	1984	0.97893	472.24	0.53629	404.54	63.5	-0.9	5.44	1048.25	8.45	1048.67	8.46	0.42	0.04
53	125	72	19	2000	0.97690	473.79	0.53800	403.93	70.19	0	5.28	1057.37	8.46	1056.56	8.45	-0.81	-0.08
53	126	73	20	2016	0.97481	475.3	0.53968	403.34	77.16	-0.89	5.13	1064.45	8.45	1064.55	8.45	0.1	0.01
53	127	74	21	2032	0.97266	476.76	0.54134	402.77	84.4	0	4.99	1073.06	8.45	1071.96	8.44	-1.1	-0.1
53	128	75	22	2048	0.97046	478.17	0.54297	402.23	91.92	-0.88	4.86	1079.65	8.43	1079.48	8.43	-0.17	-0.02

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
53	129	76	23	2064	0.96821	479.55	0.54457	401.72	99.69	0	4.73	1087.77	8.43	1086.43	8.42	-1.34	-0.12
53	130	77	24	2080	0.96592	480.88	0.54615	401.22	107.72	-0.88	4.61	1093.9	8.41	1093.51	8.41	-0.4	-0.04
53	131	78	25	2096	0.96358	482.17	0.54771	400.75	116	0	4.49	1101.56	8.41	1100.01	8.4	-1.55	-0.14
53	132	79	26	2112	0.96120	483.43	0.54924	400.3	124.52	-0.87	4.37	1107.25	8.39	1106.66	8.38	-0.59	-0.05
53	133	80	27	2128	0.95879	484.65	0.55075	399.88	133.28	0	4.26	1114.46	8.38	1112.74	8.37	-1.72	-0.15
53	134	81	28	2144	0.95634	485.83	0.55224	399.47	142.27	-0.86	4.16	1119.72	8.36	1118.97	8.35	-0.75	-0.07
53	135	82	29	2160	0.95386	486.97	0.55370	399.08	151.5	0	4.06	1126.51	8.34	1124.64	8.33	-1.87	-0.17
53	136	83	30	2176	0.95134	488.09	0.55515	398.71	160.94	-0.86	3.96	1131.36	8.32	1130.48	8.31	-0.89	-0.08
53	137	84	31	2192	0.94880	489.17	0.55657	398.36	170.6	0	3.87	1137.74	8.3	1135.75	8.29	-1.99	-0.18
53	138	85	32	2208	0.94623	490.21	0.55797	398.02	180.48	-0.85	3.78	1142.21	8.28	1141.21	8.27	-1	-0.09
53	139	86	33	2224	0.94364	491.23	0.55935	397.71	190.57	0	3.69	1148.19	8.26	1146.1	8.25	-2.09	-0.18
53	140	87	34	2240	0.94102	492.21	0.56071	397.41	200.86	-0.85	3.61	1152.28	8.23	1151.19	8.22	-1.1	-0.1
53	141	88	35	2256	0.93838	493.17	0.56206	397.13	211.35	0	3.53	1157.89	8.21	1155.71	8.2	-2.17	-0.19
53	142	89	36	2272	0.93573	494.09	0.56338	396.86	222.03	-0.84	3.45	1161.63	8.18	1160.45	8.17	-1.18	-0.1
53	143	90	37	2288	0.93305	494.99	0.56469	396.61	232.91	0	3.37	1166.87	8.16	1164.62	8.14	-2.24	-0.19
53	144	91	38	2304	0.93036	495.86	0.56597	396.37	243.97	-0.83	3.3	1170.26	8.13	1169.02	8.12	-1.25	-0.11
53	145	92	39	2320	0.92766	496.71	0.56724	396.14	255.22	0	3.23	1175.15	8.1	1172.85	8.09	-2.31	-0.2
53	146	93	40	2336	0.92494	497.53	0.56849	395.93	266.65	-0.83	3.16	1178.22	8.07	1176.91	8.06	-1.31	-0.11
53	147	94	41	2352	0.92221	498.32	0.56973	395.74	278.26	0	3.1	1182.78	8.05	1180.42	8.03	-2.36	-0.2
53	148	95	42	2368	0.91947	499.09	0.57095	395.56	290.04	-0.82	3.04	1185.53	8.01	1184.16	8	-1.37	-0.12
53	149	96	43	2384	0.91672	499.84	0.57215	395.39	301.99	0	2.98	1189.76	7.98	1187.35	7.97	-2.41	-0.2
53	150	97	44	2400	0.91396	500.56	0.57333	395.23	314.11	-0.82	2.92	1192.21	7.95	1190.79	7.94	-1.42	-0.12
53	151	98	45	2416	0.91119	501.26	0.57450	395.08	326.38	0	2.86	1196.13	7.92	1193.67	7.91	-2.46	-0.21
53	152	99	46	2432	0.90841	501.94	0.57566	394.95	338.82	-0.81	2.81	1198.29	7.88	1196.81	7.87	-1.47	-0.12
53	153	100	47	2448	0.90564	502.59	0.57680	394.83	351.42	0	2.75	1201.91	7.86	1199.4	7.84	-2.51	-0.21
53	154	101	48	2464	0.90285	503.23	0.57792	394.72	364.17	-0.81	2.7	1203.78	7.82	1202.25	7.81	-1.53	-0.13
53	155	102	49	2480	0.90006	503.84	0.57903	394.62	377.06	0	2.65	1207.12	7.79	1204.56	7.77	-2.57	-0.21
53	156	103	50	2496	0.89727	504.44	0.58013	394.53	390.11	-0.8	2.6	1208.72	7.75	1207.13	7.74	-1.59	-0.13
53	157	104	51	2512	0.89448	505.02	0.58121	394.45	403.3	0	2.56	1211.79	7.72	1209.16	7.7	-2.63	-0.22
53	158	105	52	2528	0.89168	505.57	0.58228	394.38	416.64	-0.8	2.51	1213.12	7.68	1211.47	7.67	-1.66	-0.14
53	159	106	53	2544	0.88889	506.11	0.58333	394.32	430.11	0	2.47	1215.92	7.65	1213.23	7.63	-2.69	-0.22
53	160	107	54	2560	0.88609	506.63	0.58438	394.27	443.72	-0.79	2.42	1217.01	7.61	1215.27	7.6	-1.73	-0.14
53	161	108	55	2576	0.88330	507.14	0.58540	394.23	457.47	0	2.38	1219.55	7.57	1216.78	7.56	-2.77	-0.23
53	162	109	56	2592	0.88051	507.63	0.58642	394.2	471.34	-0.79	2.34	1220.39	7.53	1218.57	7.52	-1.82	-0.15
53	163	110	57	2608	0.87772	508.1	0.58742	394.18	485.35	0	2.3	1222.68	7.5	1219.82	7.48	-2.85	-0.23
53	164	111	58	2624	0.87493	508.55	0.58842	394.16	499.48	-0.78	2.26	1223.29	7.46	1221.37	7.45	-1.91	-0.16
53	165	112	59	2640	0.87214	508.99	0.58939	394.15	513.74	0	2.23	1225.34	7.43	1222.39	7.41	-2.95	-0.24
53	166	113	60	2656	0.86936	509.42	0.59036	394.16	528.12	-0.78	2.19	1225.72	7.38	1223.7	7.37	-2.02	-0.16
53	167	114	61	2672	0.86658	509.82	0.59132	394.17	542.63	0	2.16	1227.54	7.35	1224.48	7.33	-3.06	-0.25
53	168	115	62	2688	0.86380	510.22	0.59226	394.18	557.25	-0.77	2.12	1227.7	7.31	1225.56	7.3	-2.14	-0.17
53	169	116	63	2704	0.86103	510.6	0.59320	394.21	571.98	0	2.09	1229.3	7.27	1226.11	7.26	-3.19	-0.26
53	170	117	64	2720	0.85827	510.97	0.59412	394.24	586.83	-0.77	2.06	1229.25	7.23	1226.98	7.22	-2.27	-0.19
53	171	118	65	2736	0.85551	511.32	0.59503	394.28	601.8	0	2.03	1230.63	7.2	1227.3	7.18	-3.33	-0.27
53	172	119	66	2752	0.85276	511.66	0.59593	394.33	616.87	-0.76	2	1230.38	7.15	1227.95	7.14	-2.43	-0.2
53	173	120	67	2768	0.85001	511.99	0.59682	394.38	632.05	0	1.97	1231.55	7.12	1228.07	7.1	-3.48	-0.28
53	174	121	68	2784	0.84727	512.3	0.59770	394.44	647.34	-0.76	1.94	1231.1	7.08	1228.51	7.06	-2.59	-0.21
53	175	122	69	2800	0.84454	512.6	0.59857	394.51	662.73	0	1.91	1232.07	7.04	1228.41	7.02	-3.66	-0.3

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
53	176	123	70	2816	0.84181	512.89	0.59943	394.58	678.23	-0.75	1.88	1231.43	7	1228.65	6.98	-2.78	-0.23
53	177	124	71	2832	0.83910	513.17	0.60028	394.66	693.82	0	1.85	1232.2	6.96	1228.36	6.94	-3.85	-0.31
53	178	125	72	2848	0.83638	513.44	0.60112	394.74	709.52	-0.75	1.83	1231.38	6.92	1228.4	6.9	-2.98	-0.24
53	179	126	73	2864	0.83368	513.69	0.60196	394.83	725.31	0	1.8	1231.96	6.88	1227.91	6.86	-4.06	-0.33
53	180	127	74	2880	0.83099	513.94	0.60278	394.93	741.2	-0.75	1.78	1230.96	6.84	1227.75	6.82	-3.21	-0.26
53	181	128	75	2896	0.82830	514.17	0.60359	395.03	757.19	0	1.75	1231.36	6.8	1227.07	6.78	-4.29	-0.35
53	182	129	76	2912	0.82563	514.4	0.60440	395.14	773.27	-0.74	1.73	1230.19	6.76	1226.74	6.74	-3.45	-0.28
53	183	130	77	2928	0.82296	514.61	0.60519	395.25	789.44	0	1.71	1230.41	6.72	1225.87	6.7	-4.54	-0.37
53	184	131	78	2944	0.82030	514.82	0.60598	395.37	805.7	-0.74	1.69	1229.07	6.68	1225.35	6.66	-3.72	-0.3
53	185	132	79	2960	0.81765	515.01	0.60676	395.49	822.04	0	1.66	1229.12	6.64	1224.31	6.62	-4.81	-0.39
53	186	133	80	2976	0.81501	515.2	0.60753	395.62	838.48	-0.73	1.64	1227.62	6.6	1223.61	6.58	-4	-0.33
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
54	107	53	-1	1712	0.99991	437.21	0.49766	436.12	0.23	0	9.62	848.06	7.93	855.05	7.99	6.98	0.82
54	108	54	0	1728	1.00000	439.96	0.50000	434.75	0	0.96	10	864.25	8	870.14	8.06	5.89	0.68
54	109	55	1	1744	0.99992	442.64	0.50229	433.43	0.22	0	9.62	877.33	8.05	882.39	8.1	5.06	0.57
54	110	56	2	1760	0.99967	445.23	0.50455	432.17	0.88	0.95	9.26	891.93	8.11	896.74	8.15	4.81	0.54
54	111	57	3	1776	0.99927	447.75	0.50676	430.96	1.97	0	8.93	904.26	8.15	908.3	8.18	4.05	0.45
54	112	58	4	1792	0.99872	450.19	0.50893	429.79	3.47	0.94	8.61	918.11	8.2	921.96	8.23	3.85	0.42
54	113	59	5	1808	0.99804	452.55	0.51106	428.67	5.37	0	8.3	929.71	8.23	932.86	8.26	3.15	0.34
54	114	60	6	1824	0.99723	454.85	0.51316	427.59	7.67	0.94	8.02	942.84	8.27	945.85	8.3	3.01	0.32
54	115	61	7	1840	0.99630	457.08	0.51522	426.56	10.35	0	7.74	953.76	8.29	956.12	8.31	2.36	0.25
54	116	62	8	1856	0.99524	459.24	0.51724	425.56	13.4	0.93	7.49	966.21	8.33	968.47	8.35	2.26	0.23
54	117	63	9	1872	0.99408	461.33	0.51923	424.61	16.82	0	7.24	976.48	8.35	978.15	8.36	1.67	0.17
54	118	64	10	1888	0.99282	463.37	0.52119	423.69	20.59	0.92	7.01	988.28	8.38	989.88	8.39	1.61	0.16
54	119	65	11	1904	0.99146	465.34	0.52311	422.81	24.7	0	6.78	997.93	8.39	998.99	8.39	1.06	0.11
54	120	66	12	1920	0.99000	467.26	0.52500	421.97	29.16	0.91	6.57	1009.1	8.41	1010.14	8.42	1.03	0.1
54	121	67	13	1936	0.98846	469.12	0.52686	421.15	33.94	0	6.37	1018.16	8.41	1018.69	8.42	0.53	0.05
54	122	68	14	1952	0.98683	470.92	0.52869	420.37	39.04	0.91	6.18	1028.74	8.43	1029.28	8.44	0.54	0.05
54	123	69	15	1968	0.98513	472.68	0.53049	419.63	44.45	0	5.99	1037.24	8.43	1037.31	8.43	0.07	0.01
54	124	70	16	1984	0.98335	474.38	0.53226	418.91	50.17	0.9	5.82	1047.25	8.45	1047.36	8.45	0.11	0.01
54	125	71	17	2000	0.98150	476.03	0.53400	418.22	56.19	0	5.65	1055.21	8.44	1054.89	8.44	-0.32	-0.03
54	126	72	18	2016	0.97959	477.63	0.53571	417.56	62.5	0.89	5.49	1064.69	8.45	1064.43	8.45	-0.26	-0.02
54	127	73	19	2032	0.97762	479.19	0.53740	416.93	69.09	0	5.33	1072.12	8.44	1071.47	8.44	-0.66	-0.06
54	128	74	20	2048	0.97559	480.7	0.53906	416.32	75.96	0.88	5.19	1081.09	8.45	1080.51	8.44	-0.58	-0.05
54	129	75	21	2064	0.97350	482.17	0.54070	415.74	83.11	0	5.05	1088.03	8.43	1087.09	8.43	-0.95	-0.09
54	130	76	22	2080	0.97136	483.59	0.54231	415.19	90.51	0.88	4.91	1096.5	8.43	1095.66	8.43	-0.84	-0.08
54	131	77	23	2096	0.96917	484.97	0.54389	414.65	98.18	0	4.78	1102.98	8.42	1101.79	8.41	-1.19	-0.11
54	132	78	24	2112	0.96694	486.32	0.54546	414.14	106.1	0.87	4.66	1110.97	8.42	1109.9	8.41	-1.07	-0.1
54	133	79	25	2128	0.96467	487.62	0.54699	413.66	114.27	0	4.54	1117	8.4	1115.6	8.39	-1.4	-0.13
54	134	80	26	2144	0.96235	488.88	0.54851	413.19	122.67	0.86	4.43	1124.54	8.39	1123.28	8.38	-1.26	-0.11
54	135	81	27	2160	0.96000	490.11	0.55000	412.75	131.32	0	4.32	1130.14	8.37	1128.57	8.36	-1.57	-0.14
54	136	82	28	2176	0.95761	491.3	0.55147	412.32	140.2	0.86	4.21	1137.24	8.36	1135.82	8.35	-1.42	-0.12
54	137	83	29	2192	0.95519	492.46	0.55292	411.92	149.3	0	4.11	1142.43	8.34	1140.72	8.33	-1.71	-0.15
54	138	84	30	2208	0.95274	493.59	0.55435	411.54	158.62	0.85	4.01	1149.12	8.33	1147.57	8.32	-1.55	-0.14
54	139	85	31	2224	0.95026	494.68	0.55576	411.17	168.17	0	3.92	1153.91	8.3	1152.08	8.29	-1.83	-0.16
54	140	86	32	2240	0.94776	495.74	0.55714	410.82	177.92	0.85	3.83	1160.2	8.29	1158.54	8.28	-1.66	-0.14

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
54	141	87	33	2256	0.94522	496.76	0.55851	410.49	187.88	0	3.74	1164.61	8.26	1162.68	8.25	-1.93	-0.17
54	142	88	34	2272	0.94267	497.76	0.55986	410.18	198.05	0.84	3.66	1170.51	8.24	1168.76	8.23	-1.75	-0.15
54	143	89	35	2288	0.94010	498.73	0.56119	409.88	208.41	0	3.58	1174.56	8.21	1172.55	8.2	-2.01	-0.17
54	144	90	36	2304	0.93750	499.67	0.56250	409.6	218.97	0.83	3.5	1180.1	8.2	1178.27	8.18	-1.83	-0.16
54	145	91	37	2320	0.93489	500.58	0.56379	409.33	229.72	0	3.42	1183.79	8.16	1181.72	8.15	-2.07	-0.18
54	146	92	38	2336	0.93226	501.46	0.56507	409.08	240.66	0.83	3.35	1188.98	8.14	1187.09	8.13	-1.89	-0.16
54	147	93	39	2352	0.92961	502.32	0.56633	408.84	251.78	0	3.28	1192.34	8.11	1190.21	8.1	-2.13	-0.18
54	148	94	40	2368	0.92695	503.15	0.56757	408.62	263.08	0.82	3.21	1197.18	8.09	1195.24	8.08	-1.95	-0.16
54	149	95	41	2384	0.92428	503.96	0.56879	408.41	274.55	0	3.15	1200.22	8.06	1198.04	8.04	-2.18	-0.18
54	150	96	42	2400	0.92160	504.74	0.57000	408.22	286.2	0.82	3.09	1204.74	8.03	1202.74	8.02	-2	-0.17
54	151	97	43	2416	0.91891	505.5	0.57119	408.04	298.02	0	3.02	1207.47	8	1205.24	7.98	-2.23	-0.18
54	152	98	44	2432	0.91621	506.24	0.57237	407.87	310	0.81	2.96	1211.67	7.97	1209.62	7.96	-2.04	-0.17
54	153	99	45	2448	0.91350	506.95	0.57353	407.71	322.15	0	2.91	1214.1	7.94	1211.83	7.92	-2.27	-0.19
54	154	100	46	2464	0.91078	507.65	0.57468	407.57	334.45	0.81	2.85	1218	7.91	1215.91	7.9	-2.09	-0.17
54	155	101	47	2480	0.90805	508.32	0.57581	407.43	346.91	0	2.8	1220.14	7.87	1217.82	7.86	-2.32	-0.19
54	156	102	48	2496	0.90533	508.97	0.57692	407.31	359.53	0.8	2.75	1223.74	7.84	1221.61	7.83	-2.14	-0.17
54	157	103	49	2512	0.90259	509.6	0.57803	407.2	372.29	0	2.7	1225.61	7.81	1223.24	7.79	-2.36	-0.19
54	158	104	50	2528	0.89986	510.21	0.57911	407.1	385.2	0.8	2.65	1228.93	7.78	1226.75	7.76	-2.19	-0.18
54	159	105	51	2544	0.89712	510.8	0.58019	407.01	398.26	0	2.6	1230.53	7.74	1228.11	7.72	-2.42	-0.2
54	160	106	52	2560	0.89438	511.37	0.58125	406.93	411.46	0.79	2.55	1233.58	7.71	1231.34	7.7	-2.24	-0.18
54	161	107	53	2576	0.89163	511.92	0.58230	406.86	424.8	0	2.51	1234.93	7.67	1232.45	7.65	-2.48	-0.2
54	162	108	54	2592	0.88889	512.46	0.58333	406.8	438.28	0.79	2.47	1237.72	7.64	1235.41	7.63	-2.31	-0.19
54	163	109	55	2608	0.88615	512.98	0.58436	406.75	451.89	0	2.42	1238.81	7.6	1236.27	7.58	-2.54	-0.21
54	164	110	56	2624	0.88340	513.48	0.58537	406.71	465.63	0.78	2.38	1241.35	7.57	1238.97	7.55	-2.38	-0.19
54	165	111	57	2640	0.88066	513.96	0.58636	406.67	479.5	0	2.34	1242.2	7.53	1239.58	7.51	-2.62	-0.21
54	166	112	58	2656	0.87792	514.43	0.58735	406.65	493.5	0.78	2.31	1244.49	7.5	1242.03	7.48	-2.46	-0.2
54	167	113	59	2672	0.87518	514.89	0.58832	406.63	507.63	0	2.27	1245.12	7.46	1242.41	7.44	-2.71	-0.22
54	168	114	60	2688	0.87245	515.33	0.58929	406.63	521.88	0.77	2.23	1247.17	7.42	1244.62	7.41	-2.56	-0.21
54	169	115	61	2704	0.86972	515.75	0.59024	406.63	536.24	0	2.2	1247.58	7.38	1244.77	7.37	-2.81	-0.23
54	170	116	62	2720	0.86699	516.16	0.59118	406.64	550.73	0.77	2.16	1249.4	7.35	1246.74	7.33	-2.67	-0.21
54	171	117	63	2736	0.86427	516.55	0.59211	406.65	565.33	0	2.13	1249.59	7.31	1246.67	7.29	-2.92	-0.23
54	172	118	64	2752	0.86155	516.93	0.59302	406.68	580.05	0.76	2.1	1251.2	7.27	1248.41	7.26	-2.79	-0.22
54	173	119	65	2768	0.85883	517.3	0.59393	406.71	594.88	0	2.06	1251.18	7.23	1248.13	7.21	-3.05	-0.24
54	174	120	66	2784	0.85612	517.65	0.59483	406.75	609.82	0.76	2.03	1252.57	7.2	1249.65	7.18	-2.92	-0.23
54	175	121	67	2800	0.85342	517.99	0.59571	406.79	624.87	0	2	1252.35	7.16	1249.16	7.14	-3.19	-0.26
54	176	122	68	2816	0.85072	518.32	0.59659	406.85	640.02	0.75	1.97	1253.54	7.12	1250.46	7.1	-3.08	-0.25
54	177	123	69	2832	0.84803	518.64	0.59746	406.9	655.29	0	1.95	1253.12	7.08	1249.77	7.06	-3.35	-0.27
54	178	124	70	2848	0.84535	518.94	0.59832	406.97	670.65	0.75	1.92	1254.11	7.05	1250.86	7.03	-3.25	-0.26
54	179	125	71	2864	0.84267	519.23	0.59916	407.04	686.11	0	1.89	1253.5	7	1249.97	6.98	-3.53	-0.28
54	180	126	72	2880	0.84000	519.51	0.60000	407.12	701.68	0.75	1.86	1254.3	6.97	1250.86	6.95	-3.44	-0.27
54	181	127	73	2896	0.83734	519.78	0.60083	407.2	717.34	0	1.84	1253.51	6.93	1249.78	6.9	-3.73	-0.3
54	182	128	74	2912	0.83468	520.04	0.60165	407.29	733.1	0.74	1.81	1254.12	6.89	1250.48	6.87	-3.64	-0.29
54	183	129	75	2928	0.83203	520.29	0.60246	407.39	748.96	0	1.79	1253.15	6.85	1249.21	6.83	-3.94	-0.32
54	184	130	76	2944	0.82940	520.53	0.60326	407.49	764.91	0.74	1.76	1253.58	6.81	1249.71	6.79	-3.87	-0.31
54	185	131	77	2960	0.82676	520.75	0.60405	407.59	780.95	0	1.74	1252.45	6.77	1248.27	6.75	-4.18	-0.33
54	186	132	78	2976	0.82414	520.97	0.60484	407.71	797.08	0.73	1.72	1252.7	6.73	1248.58	6.71	-4.12	-0.33
54	187	133	79	2992	0.82153	521.18	0.60562	407.82	813.3	0	1.7	1251.4	6.69	1246.96	6.67	-4.43	-0.36

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Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
54	188	134	80	3008	0.81892	521.37	0.60638	407.94	829.61	0.73	1.67	1251.48	6.66	1247.1	6.63	-4.38	-0.35
54	189	135	81	3024	0.81633	521.56	0.60714	408.07	846	0	1.65	1250.02	6.61	1245.31	6.59	-4.71	-0.38
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
55	109	54	-1	1744	0.99992	442.64	0.49771	449.63	0.22	0	9.62	861.13	7.9	868.19	7.97	7.07	0.81
55	110	55	0	1760	1.00000	445.38	0.50000	448.25	0	-0.95	10	875.42	7.96	882.19	8.02	6.78	0.77
55	111	56	1	1776	0.99992	448.04	0.50225	448.92	0.22	0	9.63	890.45	8.02	895.59	8.07	5.14	0.57
55	112	57	2	1792	0.99968	450.62	0.50446	445.64	0.87	-0.94	9.28	903.21	8.06	908.89	8.12	5.68	0.62
55	113	58	3	1808	0.99930	453.12	0.50664	444.41	1.93	0	8.94	917.48	8.12	921.59	8.16	4.11	0.45
55	114	59	4	1824	0.99877	455.55	0.50877	443.22	3.41	-0.94	8.63	929.51	8.15	934.22	8.19	4.7	0.5
55	115	60	5	1840	0.99811	457.91	0.51087	442.08	5.28	0	8.33	943.06	8.2	946.25	8.23	3.19	0.34
55	116	61	6	1856	0.99733	460.2	0.51293	440.99	7.54	-0.93	8.05	954.4	8.23	958.23	8.26	3.84	0.4
55	117	62	7	1872	0.99642	462.42	0.51496	439.94	10.17	0	7.78	967.25	8.27	969.63	8.29	2.38	0.25
55	118	63	8	1888	0.99540	464.57	0.51695	438.93	13.18	-0.92	7.52	977.93	8.29	981	8.31	3.07	0.31
55	119	64	9	1904	0.99428	466.67	0.51891	437.95	16.54	0	7.28	990.12	8.32	991.78	8.33	1.66	0.17
55	120	65	10	1920	0.99306	468.7	0.52083	437.02	20.25	-0.91	7.05	1000.17	8.33	1002.57	8.35	2.4	0.24
55	121	66	11	1936	0.99174	470.68	0.52273	436.12	24.3	0	6.83	1011.73	8.36	1012.77	8.37	1.03	0.1
55	122	67	12	1952	0.99033	472.59	0.52459	435.26	28.68	-0.91	6.62	1021.18	8.37	1022.99	8.39	1.81	0.18
55	123	68	13	1968	0.98883	474.45	0.52642	434.43	33.39	0	6.42	1032.15	8.39	1032.63	8.4	0.49	0.05
55	124	69	14	1984	0.98725	476.26	0.52823	433.63	38.41	-0.9	6.22	1041.02	8.4	1042.32	8.41	1.29	0.12
55	125	70	15	2000	0.98560	478.02	0.53000	432.86	43.75	0	6.04	1051.41	8.41	1051.42	8.41	0.01	0
55	126	71	16	2016	0.98388	479.72	0.53175	432.13	49.38	-0.89	5.87	1059.74	8.41	1060.59	8.42	0.85	0.08
55	127	72	17	2032	0.98208	481.38	0.53347	431.42	55.31	0	5.7	1069.59	8.42	1069.18	8.42	-0.41	-0.04
55	128	73	18	2048	0.98023	482.99	0.53516	430.75	61.53	-0.88	5.54	1077.39	8.42	1077.85	8.42	0.46	0.04
55	129	74	19	2064	0.97831	484.55	0.53682	430.1	68.03	0	5.39	1086.71	8.42	1085.95	8.42	-0.76	-0.07
55	130	75	20	2080	0.97633	486.07	0.53846	429.47	74.8	-0.88	5.24	1094.02	8.42	1094.14	8.42	0.12	0.01
55	131	76	21	2096	0.97430	487.54	0.54008	428.88	81.85	0	5.1	1102.84	8.42	1101.77	8.41	-1.07	-0.1
55	132	77	22	2112	0.97222	488.97	0.54167	428.3	89.15	-0.87	4.97	1109.67	8.41	1109.5	8.41	-0.16	-0.01
55	133	78	23	2128	0.97009	490.36	0.54323	427.76	96.71	0	4.84	1118	8.41	1116.67	8.4	-1.33	-0.12
55	134	79	24	2144	0.96792	491.71	0.54478	427.23	104.53	-0.86	4.71	1124.38	8.39	1123.97	8.39	-0.41	-0.04
55	135	80	25	2160	0.96571	493.03	0.54630	426.73	112.59	0	4.59	1132.25	8.39	1130.7	8.38	-1.55	-0.14
55	136	81	26	2176	0.96345	494.3	0.54779	426.25	120.88	-0.86	4.48	1138.19	8.37	1137.58	8.36	-0.61	-0.05
55	137	82	27	2192	0.96116	495.54	0.54927	425.79	129.42	0	4.37	1145.63	8.36	1143.89	8.35	-1.74	-0.15
55	138	83	28	2208	0.95883	496.74	0.55073	425.35	138.18	-0.85	4.26	1151.14	8.34	1150.35	8.34	-0.79	-0.07
55	139	84	29	2224	0.95647	497.91	0.55216	424.93	147.17	0	4.16	1158.16	8.33	1156.26	8.32	-1.9	-0.16
55	140	85	30	2240	0.95408	499.04	0.55357	424.53	156.38	-0.85	4.07	1163.27	8.31	1162.33	8.3	-0.94	-0.08
55	141	86	31	2256	0.95166	500.15	0.55497	424.15	165.8	0	3.97	1169.88	8.3	1167.85	8.28	-2.03	-0.17
55	142	87	32	2272	0.94922	501.22	0.55634	423.79	175.43	-0.84	3.88	1174.61	8.27	1173.54	8.26	-1.06	-0.09
55	143	88	33	2288	0.94675	502.26	0.55769	423.44	185.27	0	3.79	1180.82	8.26	1178.68	8.24	-2.14	-0.18
55	144	89	34	2304	0.94425	503.27	0.55903	423.11	195.31	-0.83	3.71	1185.18	8.23	1184.01	8.22	-1.17	-0.1
55	145	90	35	2320	0.94174	504.25	0.56035	422.8	205.56	0	3.63	1191.03	8.21	1188.79	8.2	-2.24	-0.19
55	146	91	36	2336	0.93920	505.2	0.56164	422.51	215.99	-0.83	3.55	1195.03	8.19	1193.77	8.18	-1.26	-0.11
55	147	92	37	2352	0.93665	506.12	0.56293	422.23	226.61	0	3.47	1200.51	8.17	1198.2	8.15	-2.31	-0.19
55	148	93	38	2368	0.93408	507.02	0.56419	421.96	237.43	-0.82	3.4	1204.17	8.14	1202.84	8.13	-1.34	-0.11
55	149	94	39	2384	0.93149	507.89	0.56544	421.71	248.42	0	3.33	1209.31	8.12	1206.93	8.1	-2.38	-0.2
55	150	95	40	2400	0.92889	508.74	0.56667	421.48	259.59	-0.82	3.26	1212.64	8.08	1211.24	8.07	-1.4	-0.12
55	151	96	41	2416	0.92628	509.56	0.56788	421.26	270.94	0	3.2	1217.45	8.06	1215	8.05	-2.44	-0.2

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
55	152	97	42	2432	0.92365	510.35	0.56908	421.05	282.46	-0.81	3.13	1220.46	8.03	1219	8.02	-1.47	-0.12
55	153	98	43	2448	0.92101	511.13	0.57026	420.85	294.15	0	3.07	1224.94	8.01	1222.45	7.99	-2.5	-0.2
55	154	99	44	2464	0.91837	511.88	0.57143	420.67	306	-0.81	3.01	1227.66	7.97	1226.13	7.96	-1.52	-0.12
55	155	100	45	2480	0.91571	512.6	0.57258	420.5	318.02	0	2.95	1231.83	7.95	1229.28	7.93	-2.55	-0.21
55	156	101	46	2496	0.91305	513.31	0.57372	420.35	330.19	-0.8	2.9	1234.25	7.91	1232.67	7.9	-1.58	-0.13
55	157	102	47	2512	0.91038	513.99	0.57484	420.2	342.52	0	2.84	1238.13	7.89	1235.52	7.87	-2.6	-0.21
55	158	103	48	2528	0.90771	514.66	0.57595	420.07	355	-0.8	2.79	1240.27	7.85	1238.63	7.84	-1.63	-0.13
55	159	104	49	2544	0.90503	515.3	0.57704	419.95	367.64	0	2.74	1243.86	7.82	1241.2	7.81	-2.66	-0.21
55	160	105	50	2560	0.90234	515.93	0.57813	419.83	380.42	-0.79	2.69	1245.72	7.79	1244.03	7.78	-1.69	-0.14
55	161	106	51	2576	0.89966	516.53	0.57919	419.73	393.35	0	2.64	1249.03	7.76	1246.32	7.74	-2.72	-0.22
55	162	107	52	2592	0.89697	517.12	0.58025	419.64	406.41	-0.79	2.6	1250.64	7.72	1248.88	7.71	-1.76	-0.14
55	163	108	53	2608	0.89428	517.68	0.58129	419.56	419.62	0	2.55	1253.68	7.69	1250.91	7.67	-2.78	-0.22
55	164	109	54	2624	0.89158	518.23	0.58232	419.49	432.97	-0.78	2.51	1255.04	7.65	1253.21	7.64	-1.83	-0.15
55	165	110	55	2640	0.88889	518.77	0.58333	419.43	446.44	0	2.47	1257.82	7.62	1254.97	7.61	-2.85	-0.23
55	166	111	56	2656	0.88620	519.28	0.58434	419.38	460.06	-0.78	2.42	1258.93	7.58	1257.03	7.57	-1.91	-0.15
55	167	112	57	2672	0.88350	519.78	0.58533	419.34	473.8	0	2.38	1261.47	7.55	1258.54	7.54	-2.93	-0.23
55	168	113	58	2688	0.88081	520.26	0.58631	419.3	487.66	-0.77	2.35	1262.34	7.51	1260.35	7.5	-1.99	-0.16
55	169	114	59	2704	0.87812	520.73	0.58728	419.28	501.66	0	2.31	1264.64	7.48	1261.62	7.47	-3.02	-0.24
55	170	115	60	2720	0.87543	521.18	0.58824	419.26	515.77	-0.77	2.27	1265.29	7.44	1263.19	7.43	-2.09	-0.17
55	171	116	61	2736	0.87275	521.62	0.58918	419.26	530.01	0	2.24	1267.35	7.41	1264.23	7.39	-3.12	-0.25
55	172	117	62	2752	0.87007	522.04	0.59012	419.26	544.36	-0.76	2.2	1267.78	7.37	1265.57	7.36	-2.2	-0.17
55	173	118	63	2768	0.86739	522.45	0.59104	419.26	558.83	0	2.17	1269.62	7.34	1266.39	7.32	-3.23	-0.26
55	174	119	64	2784	0.86471	522.84	0.59195	419.28	573.42	-0.76	2.13	1269.83	7.3	1267.5	7.28	-2.33	-0.18
55	175	120	65	2800	0.86204	523.22	0.59286	419.3	588.12	0	2.1	1271.45	7.27	1268.09	7.25	-3.36	-0.26
55	176	121	66	2816	0.85938	523.59	0.59375	419.33	602.93	-0.75	2.07	1271.46	7.22	1269	7.21	-2.47	-0.19
55	177	122	67	2832	0.85671	523.95	0.59463	419.37	617.85	0	2.04	1272.88	7.19	1269.37	7.17	-3.5	-0.28
55	178	123	68	2848	0.85406	524.29	0.59551	419.41	632.87	-0.75	2.01	1272.68	7.15	1270.07	7.14	-2.62	-0.21
55	179	124	69	2864	0.85141	524.62	0.59637	419.47	648	0	1.98	1273.89	7.12	1270.23	7.1	-3.66	-0.29
55	180	125	70	2880	0.84877	524.93	0.59722	419.52	663.24	-0.75	1.95	1273.51	7.08	1270.72	7.06	-2.79	-0.22
55	181	126	71	2896	0.84613	525.24	0.59807	419.59	678.58	0	1.93	1274.52	7.04	1270.69	7.02	-3.84	-0.3
55	182	127	72	2912	0.84350	525.53	0.59890	419.66	694.01	-0.74	1.9	1273.96	7	1270.98	6.98	-2.98	-0.23
55	183	128	73	2928	0.84087	525.81	0.59973	419.73	709.55	0	1.87	1274.78	6.97	1270.75	6.94	-4.03	-0.32
55	184	129	74	2944	0.83826	526.09	0.60054	419.82	725.18	-0.74	1.85	1274.03	6.92	1270.85	6.91	-3.18	-0.25
55	185	130	75	2960	0.83565	526.35	0.60135	419.91	740.91	0	1.82	1274.66	6.89	1270.42	6.87	-4.24	-0.33
55	186	131	76	2976	0.83304	526.6	0.60215	420	756.73	-0.73	1.8	1273.74	6.85	1270.33	6.83	-3.41	-0.27
55	187	132	77	2992	0.83045	526.84	0.60294	420.1	772.64	0	1.77	1274.2	6.81	1269.73	6.79	-4.47	-0.35
55	188	133	78	3008	0.82786	527.07	0.60372	420.21	788.64	-0.73	1.75	1273.11	6.77	1269.46	6.75	-3.65	-0.29
55	189	134	79	3024	0.82529	527.29	0.60450	420.32	804.74	0	1.73	1273.39	6.74	1268.67	6.71	-4.72	-0.37
55	190	135	80	3040	0.82272	527.5	0.60526	420.43	820.92	-0.73	1.71	1272.13	6.7	1268.22	6.67	-3.91	-0.31
55	191	136	81	3056	0.82015	527.7	0.60602	420.55	837.19	0	1.68	1272.25	6.66	1267.25	6.63	-4.99	-0.39
55	192	137	82	3072	0.81760	527.89	0.60677	420.68	853.54	-0.72	1.66	1270.83	6.62	1266.63	6.6	-4.2	-0.33
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
56	111	55	-1	1776	0.99992	448.04	0.49775	463.32	0.22	0	9.63	874.06	7.87	881.21	7.94	7.15	0.81
56	112	56	0	1792	1.00000	450.76	0.50000	461.91	0	0.94	10	890.27	7.95	896.36	8	6.09	0.68
56	113	57	1	1808	0.99992	453.41	0.50221	460.57	0.21	0	9.64	903.45	8	908.7	8.04	5.25	0.58
56	114	58	2	1824	0.99969	455.97	0.50439	459.27	0.85	0.94	9.29	918.13	8.05	923.13	8.1	5	0.54

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
56	115	59	3	1840	0.99932	458.46	0.50652	458.02	1.9	0	8.96	930.58	8.09	934.8	8.13	4.22	0.45
56	116	60	4	1856	0.99881	460.88	0.50862	456.82	3.35	0.93	8.65	944.53	8.14	948.55	8.18	4.02	0.42
56	117	61	5	1872	0.99817	463.23	0.51068	455.66	5.19	0	8.36	956.27	8.17	959.58	8.2	3.31	0.35
56	118	62	6	1888	0.99742	465.51	0.51271	454.55	7.41	0.92	8.08	969.52	8.22	972.68	8.24	3.16	0.33
56	119	63	7	1904	0.99654	467.73	0.51471	453.48	10	0	7.81	980.6	8.24	983.1	8.26	2.51	0.25
56	120	64	8	1920	0.99556	469.88	0.51667	452.45	12.96	0.91	7.56	993.18	8.28	995.58	8.3	2.4	0.24
56	121	65	9	1936	0.99447	471.97	0.51860	451.46	16.27	0	7.32	1003.62	8.29	1005.41	8.31	1.8	0.18
56	122	66	10	1952	0.99328	474	0.52049	450.51	19.92	0.91	7.09	1015.56	8.32	1017.29	8.34	1.73	0.17
56	123	67	11	1968	0.99200	475.98	0.52236	449.59	23.91	0	6.87	1025.39	8.34	1026.56	8.35	1.17	0.11
56	124	68	12	1984	0.99064	477.89	0.52419	448.71	28.22	0.9	6.66	1036.73	8.36	1037.87	8.37	1.14	0.11
56	125	69	13	2000	0.98918	479.75	0.52600	447.87	32.86	0	6.46	1045.98	8.37	1046.61	8.37	0.62	0.06
56	126	70	14	2016	0.98765	481.56	0.52778	447.05	37.81	0.89	6.27	1056.74	8.39	1057.36	8.39	0.63	0.06
56	127	71	15	2032	0.98605	483.32	0.52953	446.27	43.06	0	6.09	1065.43	8.39	1065.58	8.39	0.15	0.01
56	128	72	16	2048	0.98438	485.03	0.53125	445.52	48.62	0.88	5.92	1075.63	8.4	1075.81	8.4	0.18	0.02
56	129	73	17	2064	0.98263	486.69	0.53295	444.79	54.46	0	5.75	1083.8	8.4	1083.54	8.4	-0.26	-0.02
56	130	74	18	2080	0.98083	488.3	0.53462	444.1	60.59	0.88	5.59	1093.47	8.41	1093.26	8.41	-0.21	-0.02
56	131	75	19	2096	0.97896	489.87	0.53626	443.43	67	0	5.44	1101.13	8.41	1100.51	8.4	-0.62	-0.06
56	132	76	20	2112	0.97704	491.4	0.53788	442.79	73.68	0.87	5.29	1110.29	8.41	1109.75	8.41	-0.54	-0.05
56	133	77	21	2128	0.97507	492.88	0.53947	442.18	80.63	0	5.15	1117.47	8.4	1116.55	8.4	-0.92	-0.08
56	134	78	22	2144	0.97305	494.32	0.54105	441.59	87.83	0.86	5.02	1126.14	8.4	1125.32	8.4	-0.82	-0.07
56	135	79	23	2160	0.97097	495.71	0.54259	441.03	95.29	0	4.89	1132.86	8.39	1131.67	8.38	-1.18	-0.1
56	136	80	24	2176	0.96886	497.07	0.54412	440.48	103	0.86	4.77	1141.06	8.39	1140	8.38	-1.07	-0.09
56	137	81	25	2192	0.96670	498.4	0.54562	439.97	110.95	0	4.65	1147.33	8.37	1145.93	8.36	-1.4	-0.12
56	138	82	26	2208	0.96450	499.68	0.54710	439.47	119.14	0.85	4.53	1155.09	8.37	1153.82	8.36	-1.27	-0.11
56	139	83	27	2224	0.96227	500.93	0.54856	438.99	127.57	0	4.42	1160.93	8.35	1159.34	8.34	-1.59	-0.14
56	140	84	28	2240	0.96000	502.14	0.55000	438.54	136.22	0.85	4.32	1168.26	8.34	1166.82	8.33	-1.44	-0.12
56	141	85	29	2256	0.95770	503.32	0.55142	438.11	145.09	0	4.22	1173.7	8.32	1171.95	8.31	-1.74	-0.15
56	142	86	30	2272	0.95537	504.46	0.55282	437.69	154.19	0.84	4.12	1180.61	8.31	1179.03	8.3	-1.59	-0.13
56	143	87	31	2288	0.95301	505.58	0.55420	437.29	163.5	0	4.02	1185.66	8.29	1183.78	8.28	-1.87	-0.16
56	144	88	32	2304	0.95062	506.66	0.55556	436.92	173.01	0.83	3.93	1192.18	8.28	1190.47	8.27	-1.71	-0.14
56	145	89	33	2320	0.94821	507.71	0.55690	436.56	182.73	0	3.84	1196.84	8.25	1194.86	8.24	-1.98	-0.17
56	146	90	34	2336	0.94577	508.73	0.55822	436.22	192.66	0.83	3.76	1202.98	8.24	1201.17	8.23	-1.81	-0.15
56	147	91	35	2352	0.94331	509.72	0.55952	435.89	202.78	0	3.68	1207.29	8.21	1205.21	8.2	-2.07	-0.17
56	148	92	36	2368	0.94083	510.69	0.56081	435.58	213.09	0.82	3.6	1213.06	8.2	1211.17	8.18	-1.9	-0.16
56	149	93	37	2384	0.93834	511.62	0.56208	435.29	223.59	0	3.52	1217.02	8.17	1214.87	8.15	-2.15	-0.18
56	150	94	38	2400	0.93582	512.53	0.56333	435.01	234.28	0.82	3.45	1222.44	8.15	1220.48	8.14	-1.97	-0.16
56	151	95	39	2416	0.93329	513.42	0.56457	434.75	245.15	0	3.38	1226.07	8.12	1223.85	8.1	-2.21	-0.18
56	152	96	40	2432	0.93075	514.28	0.56579	434.5	256.2	0.81	3.31	1231.15	8.1	1229.12	8.09	-2.03	-0.17
56	153	97	41	2448	0.92819	515.11	0.56699	434.26	267.42	0	3.24	1234.45	8.07	1232.18	8.05	-2.27	-0.18
56	154	98	42	2464	0.92562	515.92	0.56818	434.04	278.81	0.81	3.18	1239.21	8.05	1237.13	8.03	-2.08	-0.17
56	155	99	43	2480	0.92304	516.71	0.56936	433.84	290.38	0	3.12	1242.2	8.01	1239.88	8	-2.32	-0.19
56	156	100	44	2496	0.92045	517.47	0.57051	433.64	302.1	0.8	3.06	1246.65	7.99	1244.51	7.98	-2.13	-0.17
56	157	101	45	2512	0.91785	518.21	0.57166	433.46	313.99	0	3	1249.34	7.96	1246.97	7.94	-2.37	-0.19
56	158	102	46	2528	0.91524	518.93	0.57279	433.29	326.04	0.8	2.94	1253.48	7.93	1251.3	7.92	-2.18	-0.17
56	159	103	47	2544	0.91262	519.63	0.57390	433.14	338.24	0	2.89	1255.89	7.9	1253.47	7.88	-2.41	-0.19
56	160	104	48	2560	0.91000	520.3	0.57500	432.99	350.6	0.79	2.84	1259.74	7.87	1257.51	7.86	-2.23	-0.18
56	161	105	49	2576	0.90737	520.96	0.57609	432.86	363.1	0	2.79	1261.87	7.84	1259.41	7.82	-2.46	-0.2

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
56	162	106	50	2592	0.90474	521.6	0.57716	432.74	375.75	0.79	2.74	1265.44	7.81	1263.16	7.8	-2.28	-0.18
56	163	107	51	2608	0.90210	522.22	0.57822	432.62	388.55	0	2.69	1267.3	7.77	1264.79	7.76	-2.51	-0.2
56	164	108	52	2624	0.89947	522.82	0.57927	432.52	401.49	0.78	2.64	1270.6	7.75	1268.26	7.73	-2.33	-0.18
56	165	109	53	2640	0.89682	523.4	0.58030	432.43	414.57	0	2.59	1272.2	7.71	1269.63	7.69	-2.57	-0.2
56	166	110	54	2656	0.89418	523.96	0.58133	432.35	427.78	0.78	2.55	1275.23	7.68	1272.84	7.67	-2.39	-0.19
56	167	111	55	2672	0.89153	524.51	0.58234	432.28	441.13	0	2.51	1276.59	7.64	1273.96	7.63	-2.63	-0.21
56	168	112	56	2688	0.88889	525.04	0.58333	432.22	454.61	0.77	2.47	1279.37	7.62	1276.91	7.6	-2.46	-0.19
56	169	113	57	2704	0.88624	525.55	0.58432	432.17	468.22	0	2.43	1280.49	7.58	1277.79	7.56	-2.7	-0.21
56	170	114	58	2720	0.88360	526.04	0.58529	432.12	481.96	0.77	2.39	1283.02	7.55	1280.49	7.53	-2.54	-0.2
56	171	115	59	2736	0.88096	526.53	0.58626	432.09	495.82	0	2.35	1283.91	7.51	1281.13	7.49	-2.78	-0.22
56	172	116	60	2752	0.87831	526.99	0.58721	432.06	509.81	0.76	2.31	1286.21	7.48	1283.59	7.46	-2.62	-0.2
56	173	117	61	2768	0.87567	527.44	0.58815	432.05	523.92	0	2.27	1286.87	7.44	1284	7.42	-2.87	-0.22
56	174	118	62	2784	0.87304	527.88	0.58908	432.04	538.14	0.76	2.24	1288.94	7.41	1286.22	7.39	-2.72	-0.21
56	175	119	63	2800	0.87040	528.3	0.59000	432.04	552.48	0	2.2	1289.38	7.37	1286.41	7.35	-2.97	-0.23
56	176	120	64	2816	0.86777	528.71	0.59091	432.04	566.94	0.75	2.17	1291.23	7.34	1288.4	7.32	-2.83	-0.22
56	177	121	65	2832	0.86514	529.1	0.59181	432.06	581.51	0	2.14	1291.47	7.3	1288.38	7.28	-3.09	-0.24
56	178	122	66	2848	0.86252	529.48	0.59270	432.08	596.19	0.75	2.11	1293.1	7.26	1290.15	7.25	-2.96	-0.23
56	179	123	67	2864	0.85990	529.85	0.59358	432.11	610.98	0	2.08	1293.14	7.22	1289.92	7.21	-3.22	-0.25
56	180	124	68	2880	0.85728	530.2	0.59444	432.15	625.88	0.75	2.05	1294.56	7.19	1291.47	7.17	-3.09	-0.24
56	181	125	69	2896	0.85468	530.54	0.59530	432.19	640.88	0	2.02	1294.4	7.15	1291.03	7.13	-3.37	-0.26
56	182	126	70	2912	0.85207	530.87	0.59615	432.24	655.99	0.74	1.99	1295.62	7.12	1292.37	7.1	-3.25	-0.25
56	183	127	71	2928	0.84947	531.19	0.59700	432.3	671.2	0	1.96	1295.27	7.08	1291.74	7.06	-3.53	-0.27
56	184	128	72	2944	0.84688	531.5	0.59783	432.36	686.51	0.74	1.93	1296.3	7.05	1292.88	7.03	-3.42	-0.26
56	185	129	73	2960	0.84430	531.79	0.59865	432.43	701.92	0	1.91	1295.77	7	1292.06	6.98	-3.71	-0.29
56	186	130	74	2976	0.84172	532.08	0.59946	432.5	717.42	0.73	1.88	1296.61	6.97	1293	6.95	-3.61	-0.28
56	187	131	75	2992	0.83914	532.35	0.60027	432.59	733.02	0	1.86	1295.89	6.93	1291.99	6.91	-3.91	-0.3
56	188	132	76	3008	0.83658	532.61	0.60106	432.67	748.72	0.73	1.83	1296.55	6.9	1292.73	6.88	-3.82	-0.3
56	189	133	77	3024	0.83402	532.87	0.60185	432.77	764.51	0	1.81	1295.66	6.86	1291.54	6.83	-4.12	-0.32
56	190	134	78	3040	0.83147	533.11	0.60263	432.87	780.39	0.73	1.78	1296.15	6.82	1292.1	6.8	-4.04	-0.31
56	191	135	79	3056	0.82893	533.34	0.60340	432.97	796.36	0	1.76	1295.09	6.78	1290.74	6.76	-4.36	-0.34
56	192	136	80	3072	0.82639	533.56	0.60417	433.08	812.41	0.72	1.74	1295.4	6.75	1291.11	6.72	-4.29	-0.33
56	193	137	81	3088	0.82386	533.78	0.60492	433.2	828.56	0	1.72	1294.18	6.71	1289.57	6.68	-4.61	-0.36
56	194	138	82	3104	0.82134	533.98	0.60567	433.32	844.79	0.72	1.69	1294.33	6.67	1289.77	6.65	-4.56	-0.35
56	195	139	83	3120	0.81883	534.18	0.60641	433.44	861.1	0	1.67	1292.95	6.63	1288.07	6.61	-4.89	-0.38
56	196	140	84	3136	0.81633	534.36	0.60714	433.57	877.5	0.71	1.65	1292.93	6.6	1288.09	6.57	-4.84	-0.38
Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
57	113	56	-1	1808	0.99992	453.41	0.49779	477.16	0.21	0	9.64	886.85	7.85	894.09	7.91	7.24	0.81
57	114	57	0	1824	1.00000	456.11	0.50000	475.74	0	-0.94	10	901.21	7.91	908.16	7.97	6.95	0.77
57	115	58	1	1840	0.99992	458.74	0.50217	474.38	0.21	0	9.64	916.31	7.97	921.63	8.01	5.32	0.58
57	116	59	2	1856	0.99970	461.29	0.50431	473.06	0.84	-0.93	9.3	929.18	8.01	935.02	8.06	5.84	0.62
57	117	60	3	1872	0.99934	463.77	0.50641	471.8	1.87	0	8.98	943.54	8.06	947.82	8.1	4.28	0.45
57	118	61	4	1888	0.99885	466.18	0.50848	470.58	3.29	-0.92	8.67	955.69	8.1	960.55	8.14	4.85	0.51
57	119	62	5	1904	0.99824	468.52	0.51050	469.41	5.1	0	8.38	969.35	8.15	972.69	8.17	3.35	0.34
57	120	63	6	1920	0.99750	470.8	0.51250	468.28	7.29	-0.91	8.11	980.83	8.17	984.8	8.21	3.97	0.4
57	121	64	7	1936	0.99665	473.01	0.51446	467.19	9.84	0	7.84	993.8	8.21	996.32	8.23	2.52	0.25
57	122	65	8	1952	0.99570	475.16	0.51639	466.15	12.75	-0.91	7.59	1004.64	8.23	1007.83	8.26	3.19	0.32

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
57	123	66	9	1968	0.99465	477.24	0.51829	465.14	16	0	7.35	1016.97	8.27	1018.76	8.28	1.79	0.18
57	124	67	10	1984	0.99350	479.27	0.52016	464.17	19.6	-0.9	7.13	1027.19	8.28	1029.69	8.3	2.5	0.24
57	125	68	11	2000	0.99226	481.24	0.52200	463.23	23.53	0	6.91	1038.91	8.31	1040.05	8.32	1.15	0.11
57	126	69	12	2016	0.99093	483.16	0.52381	462.34	27.78	-0.89	6.7	1048.54	8.32	1050.44	8.34	1.9	0.18
57	127	70	13	2032	0.98952	485.02	0.52559	461.47	32.35	0	6.51	1059.67	8.34	1060.25	8.35	0.58	0.05
57	128	71	14	2048	0.98804	486.83	0.52734	460.64	37.22	-0.88	6.32	1068.74	8.35	1070.1	8.36	1.36	0.13
57	129	72	15	2064	0.98648	488.6	0.52907	459.84	42.4	0	6.14	1079.3	8.37	1079.39	8.37	0.09	0.01
57	130	73	16	2080	0.98485	490.31	0.53077	459.07	47.88	-0.88	5.96	1087.83	8.37	1088.73	8.37	0.9	0.08
57	131	74	17	2096	0.98316	491.97	0.53244	458.33	53.64	0	5.8	1097.86	8.38	1097.52	8.38	-0.34	-0.03
57	132	75	18	2112	0.98141	493.59	0.53409	457.62	59.68	-0.87	5.64	1105.88	8.38	1106.38	8.38	0.5	0.04
57	133	76	19	2128	0.97959	495.16	0.53571	456.94	66	0	5.49	1115.39	8.39	1114.67	8.38	-0.72	-0.06
57	134	77	20	2144	0.97772	496.69	0.53731	456.28	72.59	-0.86	5.34	1122.92	8.38	1123.06	8.38	0.15	0.01
57	135	78	21	2160	0.97580	498.18	0.53889	455.65	79.44	0	5.2	1131.93	8.38	1130.9	8.38	-1.04	-0.09
57	136	79	22	2176	0.97383	499.63	0.54044	455.04	86.55	-0.86	5.07	1138.99	8.37	1138.84	8.37	-0.16	-0.01
57	137	80	23	2192	0.97182	501.03	0.54197	454.46	93.91	0	4.94	1147.53	8.38	1146.22	8.37	-1.32	-0.11
57	138	81	24	2208	0.96975	502.4	0.54348	453.9	101.52	-0.85	4.82	1154.14	8.36	1153.73	8.36	-0.42	-0.04
57	139	82	25	2224	0.96765	503.73	0.54496	453.37	109.37	0	4.7	1162.23	8.36	1160.68	8.35	-1.55	-0.13
57	140	83	26	2240	0.96551	505.02	0.54643	452.86	117.45	-0.85	4.58	1168.4	8.35	1167.77	8.34	-0.64	-0.05
57	141	84	27	2256	0.96333	506.28	0.54787	452.37	125.77	0	4.47	1176.06	8.34	1174.3	8.33	-1.75	-0.15
57	142	85	28	2272	0.96112	507.5	0.54930	451.9	134.32	-0.84	4.37	1181.82	8.32	1180.99	8.32	-0.83	-0.07
57	143	86	29	2288	0.95887	508.69	0.55070	451.45	143.08	0	4.27	1189.05	8.32	1187.13	8.3	-1.92	-0.16
57	144	87	30	2304	0.95660	509.85	0.55208	451.02	152.06	-0.83	4.17	1194.41	8.29	1193.42	8.29	-0.99	-0.08
57	145	88	31	2320	0.95429	510.97	0.55345	450.61	161.26	0	4.07	1201.24	8.28	1199.17	8.27	-2.07	-0.17
57	146	89	32	2336	0.95196	512.06	0.55480	450.21	170.66	-0.83	3.98	1206.22	8.26	1205.1	8.25	-1.12	-0.09
57	147	90	33	2352	0.94960	513.12	0.55612	449.84	180.27	0	3.9	1212.67	8.25	1210.48	8.23	-2.19	-0.18
57	148	91	34	2368	0.94722	514.16	0.55743	449.48	190.07	-0.82	3.81	1217.28	8.22	1216.04	8.22	-1.24	-0.1
57	149	92	35	2384	0.94482	515.16	0.55873	449.14	200.07	0	3.73	1223.35	8.21	1221.06	8.2	-2.29	-0.19
57	150	93	36	2400	0.94240	516.14	0.56000	448.82	210.27	-0.82	3.65	1227.61	8.18	1226.27	8.18	-1.34	-0.11
57	151	94	37	2416	0.93996	517.08	0.56126	448.51	220.65	0	3.57	1233.32	8.17	1230.94	8.15	-2.38	-0.19
57	152	95	38	2432	0.93750	518.01	0.56250	448.22	231.22	-0.81	3.5	1237.24	8.14	1235.82	8.13	-1.42	-0.11
57	153	96	39	2448	0.93503	518.9	0.56373	447.95	241.97	0	3.43	1242.61	8.12	1240.16	8.11	-2.45	-0.2
57	154	97	40	2464	0.93254	519.77	0.56494	447.68	252.89	-0.81	3.36	1246.2	8.09	1244.71	8.08	-1.49	-0.12
57	155	98	41	2480	0.93003	520.62	0.56613	447.44	263.99	0	3.29	1251.24	8.07	1248.72	8.06	-2.52	-0.2
57	156	99	42	2496	0.92752	521.44	0.56731	447.2	275.26	-0.8	3.23	1254.52	8.04	1252.96	8.03	-1.56	-0.12
57	157	100	43	2512	0.92499	522.24	0.56847	446.98	286.7	0	3.17	1259.24	8.02	1256.66	8	-2.58	-0.21
57	158	101	44	2528	0.92245	523.02	0.56962	446.78	298.3	-0.8	3.1	1262.21	7.99	1260.59	7.98	-1.62	-0.13
57	159	102	45	2544	0.91990	523.77	0.57076	446.59	310.07	0	3.05	1266.63	7.97	1263.99	7.95	-2.63	-0.21
57	160	103	46	2560	0.91734	524.5	0.57188	446.4	321.99	-0.79	2.99	1269.31	7.93	1267.63	7.92	-1.68	-0.13
57	161	104	47	2576	0.91478	525.21	0.57298	446.24	334.06	0	2.93	1273.42	7.91	1270.73	7.89	-2.69	-0.21
57	162	105	48	2592	0.91221	525.9	0.57407	446.08	346.29	-0.79	2.88	1275.82	7.88	1274.09	7.86	-1.73	-0.14
57	163	106	49	2608	0.90963	526.57	0.57515	445.93	358.67	0	2.83	1279.65	7.85	1276.91	7.83	-2.74	-0.21
57	164	107	50	2624	0.90705	527.22	0.57622	445.8	371.2	-0.78	2.78	1281.78	7.82	1279.99	7.8	-1.79	-0.14
57	165	108	51	2640	0.90446	527.86	0.57727	445.68	383.87	0	2.73	1285.33	7.79	1282.53	7.77	-2.8	-0.22
57	166	109	52	2656	0.90187	528.47	0.57831	445.57	396.68	-0.78	2.68	1287.19	7.75	1285.34	7.74	-1.85	-0.14
57	167	110	53	2672	0.89928	529.06	0.57934	445.46	409.63	0	2.64	1290.48	7.73	1287.62	7.71	-2.86	-0.22
57	168	111	54	2688	0.89668	529.64	0.58036	445.37	422.72	-0.77	2.59	1292.09	7.69	1290.17	7.68	-1.92	-0.15
57	169	112	55	2704	0.89409	530.2	0.58136	445.29	435.94	0	2.55	1295.12	7.66	1292.2	7.65	-2.92	-0.23

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
57	170	113	56	2720	0.89149	530.74	0.58235	445.22	449.29	-0.77	2.51	1296.48	7.63	1294.49	7.61	-1.99	-0.15
57	171	114	57	2736	0.88889	531.27	0.58333	445.16	462.78	0	2.47	1299.26	7.6	1296.27	7.58	-2.99	-0.23
57	172	115	58	2752	0.88629	531.78	0.58430	445.11	476.39	-0.76	2.43	1300.39	7.56	1298.32	7.55	-2.07	-0.16
57	173	116	59	2768	0.88369	532.27	0.58526	445.06	490.12	0	2.39	1302.93	7.53	1299.85	7.51	-3.08	-0.24
57	174	117	60	2784	0.88109	532.75	0.58621	445.03	503.98	-0.76	2.35	1303.83	7.49	1301.67	7.48	-2.16	-0.17
57	175	118	61	2800	0.87850	533.21	0.58714	445	517.96	0	2.31	1306.14	7.46	1302.97	7.45	-3.17	-0.24
57	176	119	62	2816	0.87590	533.66	0.58807	444.98	532.06	-0.75	2.28	1306.82	7.43	1304.56	7.41	-2.26	-0.17
57	177	120	63	2832	0.87331	534.1	0.58898	444.97	546.28	0	2.24	1308.9	7.39	1305.62	7.38	-3.27	-0.25
57	178	121	64	2848	0.87072	534.52	0.58989	444.97	560.61	-0.75	2.21	1309.36	7.36	1306.99	7.34	-2.37	-0.18
57	179	122	65	2864	0.86814	534.92	0.59078	444.98	575.05	0	2.18	1311.22	7.33	1307.83	7.31	-3.39	-0.26
57	180	123	66	2880	0.86556	535.32	0.59167	444.99	589.61	-0.75	2.14	1311.48	7.29	1308.98	7.27	-2.5	-0.19
57	181	124	67	2896	0.86298	535.7	0.59254	445.01	604.27	0	2.11	1313.13	7.25	1309.62	7.24	-3.52	-0.27
57	182	125	68	2912	0.86040	536.07	0.59341	445.04	619.04	-0.74	2.08	1313.19	7.22	1310.55	7.2	-2.64	-0.2
57	183	126	69	2928	0.85783	536.42	0.59426	445.08	633.92	0	2.05	1314.64	7.18	1310.98	7.16	-3.66	-0.28
57	184	127	70	2944	0.85527	536.76	0.59511	445.12	648.9	-0.74	2.02	1314.5	7.14	1311.71	7.13	-2.79	-0.21
57	185	128	71	2960	0.85271	537.09	0.59595	445.17	663.98	0	2	1315.75	7.11	1311.93	7.09	-3.82	-0.29
57	186	129	72	2976	0.85016	537.41	0.59677	445.22	679.17	-0.73	1.97	1315.43	7.07	1312.46	7.06	-2.97	-0.23
57	187	130	73	2992	0.84761	537.72	0.59759	445.28	694.45	0	1.94	1316.48	7.04	1312.49	7.02	-4	-0.3
57	188	131	74	3008	0.84507	538.02	0.59840	445.35	709.83	-0.73	1.91	1315.98	7	1312.83	6.98	-3.15	-0.24
57	189	132	75	3024	0.84253	538.3	0.59921	445.43	725.31	0	1.89	1316.85	6.97	1312.66	6.95	-4.19	-0.32
57	190	133	76	3040	0.84000	538.58	0.60000	445.51	740.88	-0.73	1.86	1316.17	6.93	1312.81	6.91	-3.36	-0.26
57	191	134	77	3056	0.83748	538.84	0.60079	445.6	756.54	0	1.84	1316.86	6.89	1312.45	6.87	-4.4	-0.34
57	192	135	78	3072	0.83496	539.1	0.60156	445.69	772.3	-0.72	1.82	1316.01	6.85	1312.42	6.84	-3.58	-0.27
57	193	136	79	3088	0.83245	539.34	0.60233	445.79	788.15	0	1.79	1316.52	6.82	1311.89	6.8	-4.63	-0.35
57	194	137	80	3104	0.82995	539.58	0.60309	445.89	804.08	-0.72	1.77	1315.5	6.78	1311.68	6.76	-3.82	-0.29
57	195	138	81	3120	0.82746	539.8	0.60385	446	820.1	0	1.75	1315.84	6.75	1310.96	6.72	-4.88	-0.37
57	196	139	82	3136	0.82497	540.02	0.60459	446.11	836.21	-0.71	1.73	1314.67	6.71	1310.58	6.69	-4.09	-0.31
57	197	140	83	3152	0.82249	540.23	0.60533	446.23	852.4	0	1.7	1314.84	6.67	1309.69	6.65	-5.15	-0.39
57	198	141	84	3168	0.82002	540.43	0.60606	446.36	868.68	-0.71	1.68	1313.51	6.63	1309.14	6.61	-4.37	-0.33
57	199	142	85	3184	0.81756	540.61	0.60678	446.49	885.04	0	1.66	1313.52	6.6	1308.09	6.57	-5.44	-0.42
57	200	143	86	3200	0.81510	540.79	0.60750	446.62	901.48	-0.71	1.64	1312.04	6.56	1307.37	6.54	-4.67	-0.36
Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
58	115	57	-1	1840	0.99992	458.74	0.49783	491.17	0.21	0	9.64	899.52	7.82	906.84	7.89	7.32	0.81
58	116	58	0	1856	1.00000	461.43	0.50000	489.74	0	0.93	10	915.76	7.89	922.04	7.95	6.27	0.68
58	117	59	1	1872	0.99993	464.05	0.50214	488.35	0.21	0	9.65	929.04	7.94	934.47	7.99	5.43	0.58
58	118	60	2	1888	0.99971	466.59	0.50424	487.02	0.82	0.92	9.31	943.8	8	948.97	8.04	5.17	0.54
58	119	61	3	1904	0.99936	469.05	0.50630	485.74	1.84	0	9	956.36	8.04	960.75	8.07	4.39	0.46
58	120	62	4	1920	0.99889	471.45	0.50833	484.51	3.24	0.91	8.69	970.41	8.09	974.59	8.12	4.19	0.43
58	121	63	5	1936	0.99829	473.79	0.51033	483.32	5.02	0	8.41	982.28	8.12	985.75	8.15	3.47	0.35
58	122	64	6	1952	0.99758	476.05	0.51230	482.17	7.17	0.91	8.13	995.64	8.16	998.95	8.19	3.31	0.33
58	123	65	7	1968	0.99676	478.26	0.51423	481.07	9.68	0	7.87	1006.87	8.19	1009.51	8.21	2.64	0.26
58	124	66	8	1984	0.99584	480.4	0.51613	480	12.54	0.9	7.63	1019.58	8.22	1022.11	8.24	2.53	0.25
58	125	67	9	2000	0.99482	482.49	0.51800	478.98	15.75	0	7.39	1030.18	8.24	1032.1	8.26	1.92	0.19
58	126	68	10	2016	0.99370	484.51	0.51984	477.99	19.29	0.89	7.17	1042.27	8.27	1044.11	8.29	1.85	0.18
58	127	69	11	2032	0.99250	486.48	0.52165	477.04	23.16	0	6.95	1052.27	8.29	1053.55	8.3	1.28	0.12
58	128	70	12	2048	0.99121	488.4	0.52344	476.12	27.35	0.88	6.75	1063.76	8.31	1065	8.32	1.24	0.12

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
58	129	71	13	2064	0.98984	490.26	0.52519	475.24	31.85	0	6.55	1073.2	8.32	1073.91	8.32	0.71	0.07
58	130	72	14	2080	0.98840	492.07	0.52692	474.39	36.65	0.88	6.36	1084.12	8.34	1084.83	8.34	0.71	0.07
58	131	73	15	2096	0.98689	493.84	0.52863	473.57	41.76	0	6.18	1093.01	8.34	1093.23	8.35	0.22	0.02
58	132	74	16	2112	0.98531	495.55	0.53030	472.79	47.16	0.87	6.01	1103.39	8.36	1103.63	8.36	0.25	0.02
58	133	75	17	2128	0.98366	497.22	0.53196	472.03	52.84	0	5.85	1111.76	8.36	1111.55	8.36	-0.21	-0.02
58	134	76	18	2144	0.98196	498.84	0.53358	471.3	58.8	0.86	5.69	1121.61	8.37	1121.46	8.37	-0.15	-0.01
58	135	77	19	2160	0.98019	500.42	0.53519	470.6	65.03	0	5.54	1129.49	8.37	1128.91	8.36	-0.58	-0.05
58	136	78	20	2176	0.97837	501.96	0.53677	469.93	71.53	0.86	5.39	1138.84	8.37	1138.33	8.37	-0.5	-0.04
58	137	79	21	2192	0.97650	503.45	0.53832	469.28	78.29	0	5.25	1146.23	8.37	1145.34	8.36	-0.9	-0.08
58	138	80	22	2208	0.97459	504.9	0.53986	468.66	85.3	0.85	5.12	1155.1	8.37	1154.3	8.36	-0.8	-0.07
58	139	81	23	2224	0.97262	506.32	0.54137	468.06	92.57	0	4.99	1162.04	8.36	1160.87	8.35	-1.17	-0.1
58	140	82	24	2240	0.97061	507.69	0.54286	467.49	100.08	0.85	4.87	1170.45	8.36	1169.39	8.35	-1.06	-0.09
58	141	83	25	2256	0.96856	509.03	0.54433	466.94	107.83	0	4.75	1176.95	8.35	1175.55	8.34	-1.41	-0.12
58	142	84	26	2272	0.96648	510.33	0.54578	466.41	115.81	0.84	4.63	1184.92	8.34	1183.64	8.34	-1.28	-0.11
58	143	85	27	2288	0.96435	511.6	0.54720	465.9	124.03	0	4.52	1191	8.33	1189.39	8.32	-1.61	-0.14
58	144	86	28	2304	0.96219	512.83	0.54861	465.42	132.46	0.83	4.42	1198.54	8.32	1197.08	8.31	-1.46	-0.12
58	145	87	29	2320	0.96000	514.03	0.55000	464.95	141.12	0	4.32	1204.22	8.3	1202.44	8.29	-1.77	-0.15
58	146	88	30	2336	0.95778	515.19	0.55137	464.51	149.99	0.83	4.22	1211.35	8.3	1209.73	8.29	-1.62	-0.13
58	147	89	31	2352	0.95553	516.33	0.55272	464.08	159.08	0	4.12	1216.64	8.28	1214.72	8.26	-1.92	-0.16
58	148	90	32	2368	0.95325	517.43	0.55405	463.68	168.37	0.82	4.03	1223.38	8.27	1221.63	8.25	-1.75	-0.14
58	149	91	33	2384	0.95095	518.5	0.55537	463.29	177.86	0	3.94	1228.3	8.24	1226.26	8.23	-2.04	-0.17
58	150	92	34	2400	0.94862	519.54	0.55667	462.92	187.55	0.82	3.86	1234.66	8.23	1232.8	8.22	-1.86	-0.15
58	151	93	35	2416	0.94627	520.56	0.55795	462.56	197.44	0	3.78	1239.21	8.21	1237.08	8.19	-2.13	-0.17
58	152	94	36	2432	0.94391	521.55	0.55921	462.22	207.52	0.81	3.7	1245.22	8.19	1243.26	8.18	-1.96	-0.16
58	153	95	37	2448	0.94152	522.51	0.56046	461.9	217.79	0	3.62	1249.43	8.17	1247.21	8.15	-2.22	-0.18
58	154	96	38	2464	0.93911	523.44	0.56169	461.6	228.24	0.81	3.55	1255.08	8.15	1253.04	8.14	-2.04	-0.16
58	155	97	39	2480	0.93669	524.35	0.56290	461.31	238.87	0	3.48	1258.95	8.12	1256.66	8.11	-2.29	-0.18
58	156	98	40	2496	0.93425	525.23	0.56410	461.03	249.67	0.8	3.41	1264.27	8.1	1262.17	8.09	-2.1	-0.17
58	157	99	41	2512	0.93180	526.09	0.56529	460.77	260.65	0	3.34	1267.83	8.08	1265.47	8.06	-2.35	-0.19
58	158	100	42	2528	0.92934	526.92	0.56646	460.53	271.8	0.8	3.27	1272.82	8.06	1270.65	8.04	-2.16	-0.17
58	159	101	43	2544	0.92686	527.73	0.56761	460.3	283.12	0	3.21	1276.06	8.03	1273.66	8.01	-2.41	-0.19
58	160	102	44	2560	0.92438	528.52	0.56875	460.08	294.6	0.79	3.15	1280.74	8	1278.53	7.99	-2.22	-0.17
58	161	103	45	2576	0.92188	529.29	0.56988	459.87	306.24	0	3.09	1283.69	7.97	1281.24	7.96	-2.45	-0.19
58	162	104	46	2592	0.91937	530.03	0.57099	459.68	318.04	0.79	3.03	1288.07	7.95	1285.8	7.94	-2.27	-0.18
58	163	105	47	2608	0.91686	530.76	0.57209	459.5	329.99	0	2.98	1290.73	7.92	1288.23	7.9	-2.5	-0.19
58	164	106	48	2624	0.91434	531.46	0.57317	459.33	342.1	0.78	2.93	1294.82	7.9	1292.5	7.88	-2.31	-0.18
58	165	107	49	2640	0.91181	532.14	0.57424	459.17	354.35	0	2.87	1297.2	7.86	1294.66	7.85	-2.55	-0.2
58	166	108	50	2656	0.90928	532.81	0.57530	459.03	366.75	0.78	2.82	1301.01	7.84	1298.65	7.82	-2.36	-0.18
58	167	109	51	2672	0.90674	533.45	0.57635	458.9	379.3	0	2.77	1303.13	7.8	1300.53	7.79	-2.6	-0.2
58	168	110	52	2688	0.90420	534.08	0.57738	458.77	391.99	0.77	2.73	1306.66	7.78	1304.25	7.76	-2.41	-0.19
58	169	111	53	2704	0.90165	534.68	0.57840	458.66	404.81	0	2.68	1308.52	7.74	1305.87	7.73	-2.65	-0.2
58	170	112	54	2720	0.89910	535.27	0.57941	458.56	417.78	0.77	2.63	1311.79	7.72	1309.32	7.7	-2.47	-0.19
58	171	113	55	2736	0.89655	535.85	0.58041	458.47	430.87	0	2.59	1313.4	7.68	1310.7	7.66	-2.71	-0.21
58	172	114	56	2752	0.89400	536.4	0.58140	458.39	444.1	0.76	2.55	1316.42	7.65	1313.89	7.64	-2.53	-0.19
58	173	115	57	2768	0.89144	536.94	0.58237	458.31	457.46	0	2.51	1317.79	7.62	1315.02	7.6	-2.77	-0.21
58	174	116	58	2784	0.88889	537.46	0.58333	458.25	470.94	0.76	2.47	1320.57	7.59	1317.96	7.57	-2.6	-0.2
58	175	117	59	2800	0.88634	537.97	0.58429	458.2	484.56	0	2.43	1321.7	7.55	1318.86	7.54	-2.84	-0.22

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
58	176	118	60	2816	0.88378	538.46	0.58523	458.15	498.29	0.75	2.39	1324.24	7.52	1321.56	7.51	-2.68	-0.2
58	177	119	61	2832	0.88123	538.94	0.58616	458.12	512.14	0	2.35	1325.15	7.49	1322.23	7.47	-2.93	-0.22
58	178	120	62	2848	0.87868	539.4	0.58708	458.09	526.12	0.75	2.32	1327.46	7.46	1324.69	7.44	-2.77	-0.21
58	179	121	63	2864	0.87613	539.85	0.58799	458.07	540.21	0	2.28	1328.15	7.42	1325.13	7.4	-3.02	-0.23
58	180	122	64	2880	0.87358	540.28	0.58889	458.06	554.41	0.75	2.25	1330.24	7.39	1327.37	7.37	-2.87	-0.22
58	181	123	65	2896	0.87104	540.7	0.58978	458.06	568.73	0	2.21	1330.72	7.35	1327.6	7.33	-3.12	-0.24
58	182	124	66	2912	0.86849	541.11	0.59066	458.06	583.16	0.74	2.18	1332.59	7.32	1329.61	7.31	-2.98	-0.22
58	183	125	67	2928	0.86596	541.5	0.59153	458.08	597.7	0	2.15	1332.87	7.28	1329.63	7.27	-3.24	-0.24
58	184	126	68	2944	0.86342	541.88	0.59239	458.1	612.35	0.74	2.12	1334.53	7.25	1331.42	7.24	-3.11	-0.23
58	185	127	69	2960	0.86089	542.25	0.59324	458.12	627.1	0	2.09	1334.61	7.21	1331.24	7.2	-3.37	-0.25
58	186	128	70	2976	0.85837	542.6	0.59409	458.16	641.96	0.73	2.06	1336.07	7.18	1332.82	7.17	-3.25	-0.24
58	187	129	71	2992	0.85584	542.95	0.59492	458.2	656.92	0	2.03	1335.96	7.14	1332.44	7.13	-3.52	-0.26
58	188	130	72	3008	0.85333	543.28	0.59575	458.25	671.98	0.73	2	1337.23	7.11	1333.82	7.09	-3.4	-0.26
58	189	131	73	3024	0.85082	543.6	0.59656	458.3	687.14	0	1.97	1336.93	7.07	1333.25	7.05	-3.69	-0.28
58	190	132	74	3040	0.84831	543.91	0.59737	458.36	702.4	0.73	1.95	1338	7.04	1334.43	7.02	-3.58	-0.27
58	191	133	75	3056	0.84581	544.21	0.59817	458.43	717.75	0	1.92	1337.53	7	1333.67	6.98	-3.86	-0.29
58	192	134	76	3072	0.84332	544.49	0.59896	458.5	733.2	0.72	1.9	1338.42	6.97	1334.65	6.95	-3.77	-0.28
58	193	135	77	3088	0.84083	544.77	0.59974	458.58	748.75	0	1.87	1337.77	6.93	1333.71	6.91	-4.06	-0.3
58	194	136	78	3104	0.83835	545.04	0.60052	458.67	764.38	0.72	1.85	1338.48	6.9	1334.51	6.88	-3.97	-0.3
58	195	137	79	3120	0.83587	545.29	0.60128	458.76	780.1	0	1.82	1337.67	6.86	1333.39	6.84	-4.28	-0.32
58	196	138	80	3136	0.83340	545.54	0.60204	458.86	795.92	0.71	1.8	1338.2	6.83	1334	6.81	-4.2	-0.31
58	197	139	81	3152	0.83094	545.78	0.60279	458.96	811.82	0	1.78	1337.22	6.79	1332.71	6.77	-4.51	-0.34
58	198	140	82	3168	0.82849	546.01	0.60354	459.07	827.81	0.71	1.76	1337.59	6.76	1333.14	6.73	-4.44	-0.33
58	199	141	83	3184	0.82604	546.22	0.60427	459.18	843.88	0	1.73	1336.45	6.72	1331.68	6.69	-4.76	-0.36
58	200	142	84	3200	0.82360	546.43	0.60500	459.3	860.04	0.71	1.71	1336.65	6.68	1331.94	6.66	-4.7	-0.35
58	201	143	85	3216	0.82117	546.64	0.60572	459.42	876.28	0	1.69	1335.36	6.64	1330.32	6.62	-5.04	-0.38
58	202	144	86	3232	0.81874	546.83	0.60644	459.55	892.6	0.7	1.67	1335.4	6.61	1330.41	6.59	-4.99	-0.37
58	203	145	87	3248	0.81633	547.01	0.60714	459.68	909	0	1.65	1333.96	6.57	1328.63	6.54	-5.33	-0.4
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
59	117	58	-1	1872	0.99993	464.05	0.49786	505.34	0.21	0	9.65	912.06	7.8	919.45	7.86	7.39	0.8
59	118	59	0	1888	1.00000	466.72	0.50000	503.89	0	-0.92	10	926.47	7.85	933.58	7.91	7.11	0.76
59	119	60	1	1904	0.99993	469.32	0.50210	502.49	0.2	0	9.65	941.64	7.91	947.14	7.96	5.5	0.58
59	120	61	2	1920	0.99972	471.85	0.50417	501.14	0.81	-0.91	9.32	954.61	7.96	960.6	8.01	5.99	0.62
59	121	62	3	1936	0.99939	474.31	0.50620	499.85	1.81	0	9.01	969.05	8.01	973.49	8.05	4.44	0.46
59	122	63	4	1952	0.99893	476.7	0.50820	498.59	3.19	-0.91	8.71	981.33	8.04	986.32	8.08	4.99	0.51
59	123	64	5	1968	0.99835	479.02	0.51016	497.39	4.94	0	8.43	995.09	8.09	998.58	8.12	3.5	0.35
59	124	65	6	1984	0.99766	481.28	0.51210	496.22	7.06	-0.9	8.16	1006.7	8.12	1010.8	8.15	4.1	0.41
59	125	66	7	2000	0.99686	483.48	0.51400	495.1	9.53	0	7.9	1019.8	8.16	1022.46	8.18	2.66	0.26
59	126	67	8	2016	0.99597	485.62	0.51587	494.02	12.35	-0.89	7.66	1030.79	8.18	1034.09	8.21	3.3	0.32
59	127	68	9	2032	0.99498	487.7	0.51772	492.98	15.5	0	7.43	1043.25	8.21	1045.16	8.23	1.91	0.18
59	128	69	10	2048	0.99390	489.72	0.51953	491.97	18.99	-0.88	7.2	1053.63	8.23	1056.23	8.25	2.6	0.25
59	129	70	11	2064	0.99273	491.69	0.52132	491	22.8	0	6.99	1065.49	8.26	1066.75	8.27	1.25	0.12
59	130	71	12	2080	0.99148	493.61	0.52308	490.07	26.93	-0.88	6.79	1075.3	8.27	1077.28	8.29	1.98	0.18
59	131	72	13	2096	0.99015	495.47	0.52481	489.17	31.37	0	6.59	1086.58	8.29	1087.26	8.3	0.67	0.06
59	132	73	14	2112	0.98875	497.28	0.52652	488.3	36.1	-0.87	6.41	1095.84	8.3	1097.27	8.31	1.43	0.13
59	133	74	15	2128	0.98728	499.05	0.52820	487.47	41.14	0	6.23	1106.57	8.32	1106.73	8.32	0.16	0.01

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
59	134	75	16	2144	0.98574	500.77	0.52985	486.67	46.46	-0.86	6.06	1115.3	8.32	1116.25	8.33	0.95	0.09
59	135	76	17	2160	0.98414	502.44	0.53148	485.89	52.06	0	5.89	1125.5	8.34	1125.22	8.33	-0.28	-0.03
59	136	77	18	2176	0.98248	504.06	0.53309	485.15	57.94	-0.86	5.74	1133.73	8.34	1134.26	8.34	0.53	0.05
59	137	78	19	2192	0.98077	505.65	0.53467	484.43	64.09	0	5.59	1143.42	8.35	1142.75	8.34	-0.67	-0.06
59	138	79	20	2208	0.97900	507.19	0.53623	483.74	70.5	-0.85	5.44	1151.16	8.34	1151.33	8.34	0.17	0.01
59	139	80	21	2224	0.97718	508.69	0.53777	483.08	77.17	0	5.3	1160.37	8.35	1159.36	8.34	-1.01	-0.09
59	140	81	22	2240	0.97531	510.15	0.53929	482.44	84.09	-0.85	5.17	1167.64	8.34	1167.49	8.34	-0.15	-0.01
59	141	82	23	2256	0.97339	511.57	0.54078	481.83	91.27	0	5.04	1176.38	8.34	1175.08	8.33	-1.3	-0.11
59	142	83	24	2272	0.97143	512.95	0.54225	481.24	98.68	-0.84	4.92	1183.21	8.33	1182.79	8.33	-0.42	-0.04
59	143	84	25	2288	0.96944	514.29	0.54371	480.67	106.33	0	4.8	1191.5	8.33	1189.95	8.32	-1.55	-0.13
59	144	85	26	2304	0.96740	515.6	0.54514	480.13	114.22	-0.83	4.68	1197.91	8.32	1197.25	8.31	-0.66	-0.05
59	145	86	27	2320	0.96533	516.88	0.54655	479.6	122.33	0	4.57	1205.77	8.32	1204	8.3	-1.77	-0.15
59	146	87	28	2336	0.96322	518.12	0.54795	479.1	130.66	-0.83	4.47	1211.76	8.3	1210.9	8.29	-0.86	-0.07
59	147	88	29	2352	0.96108	519.33	0.54932	478.62	139.21	0	4.37	1219.2	8.29	1217.26	8.28	-1.95	-0.16
59	148	89	30	2368	0.95891	520.5	0.55068	478.16	147.98	-0.82	4.27	1224.8	8.28	1223.77	8.27	-1.03	-0.08
59	149	90	31	2384	0.95671	521.64	0.55201	477.72	156.96	0	4.17	1231.85	8.27	1229.75	8.25	-2.1	-0.17
59	150	91	32	2400	0.95449	522.76	0.55333	477.3	166.14	-0.82	4.08	1237.07	8.25	1235.89	8.24	-1.18	-0.1
59	151	92	33	2416	0.95224	523.84	0.55464	476.9	175.52	0	3.99	1243.73	8.24	1241.5	8.22	-2.23	-0.18
59	152	93	34	2432	0.94997	524.89	0.55592	476.51	185.1	-0.81	3.91	1248.59	8.21	1247.29	8.21	-1.3	-0.1
59	153	94	35	2448	0.94767	525.92	0.55719	476.14	194.88	0	3.83	1254.88	8.2	1252.54	8.19	-2.35	-0.19
59	154	95	36	2464	0.94535	526.92	0.55844	475.79	204.84	-0.81	3.75	1259.39	8.18	1257.98	8.17	-1.41	-0.11
59	155	96	37	2480	0.94302	527.89	0.55968	475.46	214.99	0	3.67	1265.33	8.16	1262.89	8.15	-2.44	-0.19
59	156	97	38	2496	0.94066	528.83	0.56090	475.14	225.33	-0.8	3.59	1269.49	8.14	1268	8.13	-1.5	-0.12
59	157	98	39	2512	0.93829	529.75	0.56210	474.84	235.84	0	3.52	1275.09	8.12	1272.57	8.11	-2.52	-0.2
59	158	99	40	2528	0.93591	530.65	0.56329	474.55	246.53	-0.8	3.45	1278.93	8.09	1277.35	8.08	-1.58	-0.12
59	159	100	41	2544	0.93351	531.52	0.56447	474.28	257.39	0	3.39	1284.2	8.08	1281.61	8.06	-2.59	-0.2
59	160	101	42	2560	0.93109	532.36	0.56563	474.02	268.42	-0.79	3.32	1287.72	8.05	1286.08	8.04	-1.65	-0.13
59	161	102	43	2576	0.92867	533.19	0.56677	473.77	279.62	0	3.26	1292.68	8.03	1290.02	8.01	-2.65	-0.21
59	162	103	44	2592	0.92623	533.99	0.56790	473.54	290.98	-0.79	3.2	1295.9	8	1294.19	7.99	-1.71	-0.13
59	163	104	45	2608	0.92378	534.77	0.56902	473.32	302.5	0	3.14	1300.54	7.98	1297.83	7.96	-2.71	-0.21
59	164	105	46	2624	0.92133	535.52	0.57012	473.12	314.18	-0.78	3.08	1303.47	7.95	1301.71	7.94	-1.77	-0.14
59	165	106	47	2640	0.91886	536.26	0.57121	472.93	326.02	0	3.02	1307.82	7.93	1305.06	7.91	-2.77	-0.21
59	166	107	48	2656	0.91639	536.97	0.57229	472.75	338	-0.78	2.97	1310.47	7.89	1308.65	7.88	-1.82	-0.14
59	167	108	49	2672	0.91391	537.67	0.57335	472.58	350.13	0	2.92	1314.54	7.87	1311.72	7.85	-2.82	-0.21
59	168	109	50	2688	0.91142	538.35	0.57441	472.42	362.41	-0.77	2.87	1316.91	7.84	1315.03	7.83	-1.88	-0.14
59	169	110	51	2704	0.90893	539	0.57544	472.28	374.84	0	2.82	1320.7	7.81	1317.83	7.8	-2.87	-0.22
59	170	111	52	2720	0.90644	539.64	0.57647	472.14	387.4	-0.77	2.77	1322.82	7.78	1320.88	7.77	-1.94	-0.15
59	171	112	53	2736	0.90394	540.26	0.57749	472.02	400.11	0	2.72	1326.33	7.76	1323.41	7.74	-2.93	-0.22
59	172	113	54	2752	0.90143	540.86	0.57849	471.91	412.95	-0.76	2.68	1328.2	7.72	1326.2	7.71	-2	-0.15
59	173	114	55	2768	0.89893	541.45	0.57948	471.81	425.92	0	2.63	1331.46	7.7	1328.47	7.68	-2.99	-0.23
59	174	115	56	2784	0.89642	542.02	0.58046	471.71	439.03	-0.76	2.59	1333.07	7.66	1331.01	7.65	-2.07	-0.16
59	175	116	57	2800	0.89391	542.57	0.58143	471.63	452.26	0	2.55	1336.09	7.63	1333.03	7.62	-3.06	-0.23
59	176	117	58	2816	0.89140	543.1	0.58239	471.56	465.62	-0.75	2.51	1337.47	7.6	1335.33	7.59	-2.14	-0.16
59	177	118	59	2832	0.88889	543.62	0.58333	471.49	479.11	0	2.47	1340.24	7.57	1337.11	7.55	-3.13	-0.23
59	178	119	60	2848	0.88638	544.13	0.58427	471.44	492.72	-0.75	2.43	1341.39	7.54	1339.17	7.52	-2.22	-0.17
59	179	120	61	2864	0.88387	544.62	0.58520	471.4	506.45	0	2.39	1343.92	7.51	1340.71	7.49	-3.21	-0.24
59	180	121	62	2880	0.88136	545.09	0.58611	471.36	520.3	-0.75	2.35	1344.85	7.47	1342.54	7.46	-2.31	-0.17

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
59	181	122	63	2896	0.87885	545.55	0.58702	471.33	534.27	0	2.32	1347.16	7.44	1343.86	7.42	-3.31	-0.25
59	182	123	64	2912	0.87634	546	0.58791	471.31	548.36	-0.74	2.28	1347.88	7.41	1345.46	7.39	-2.42	-0.18
59	183	124	65	2928	0.87384	546.43	0.58880	471.3	562.55	0	2.25	1349.97	7.38	1346.56	7.36	-3.41	-0.25
59	184	125	66	2944	0.87134	546.85	0.58967	471.3	576.86	-0.74	2.22	1350.48	7.34	1347.95	7.33	-2.53	-0.19
59	185	126	67	2960	0.86884	547.25	0.59054	471.3	591.28	0	2.18	1352.36	7.31	1348.83	7.29	-3.53	-0.26
59	186	127	68	2976	0.86634	547.65	0.59140	471.31	605.8	-0.73	2.15	1352.66	7.27	1350.01	7.26	-2.66	-0.2
59	187	128	69	2992	0.86385	548.03	0.59225	471.33	620.43	0	2.12	1354.33	7.24	1350.67	7.22	-3.66	-0.27
59	188	129	70	3008	0.86136	548.39	0.59309	471.36	635.17	-0.73	2.09	1354.45	7.2	1351.65	7.19	-2.8	-0.21
59	189	130	71	3024	0.85888	548.75	0.59392	471.39	650.01	0	2.06	1355.92	7.17	1352.11	7.15	-3.8	-0.28
59	190	131	72	3040	0.85640	549.09	0.59474	471.43	664.94	-0.73	2.04	1355.84	7.14	1352.89	7.12	-2.95	-0.22
59	191	132	73	3056	0.85392	549.43	0.59555	471.48	679.98	0	2.01	1357.12	7.11	1353.16	7.08	-3.96	-0.29
59	192	133	74	3072	0.85145	549.75	0.59635	471.53	695.12	-0.72	1.98	1356.86	7.07	1353.74	7.05	-3.12	-0.23
59	193	134	75	3088	0.84899	550.06	0.59715	471.59	710.35	0	1.96	1357.95	7.04	1353.81	7.01	-4.14	-0.31
59	194	135	76	3104	0.84653	550.36	0.59794	471.66	725.68	-0.72	1.93	1357.51	7	1354.2	6.98	-3.31	-0.24
59	195	136	77	3120	0.84408	550.65	0.59872	471.73	741.11	0	1.9	1358.42	6.97	1354.09	6.94	-4.33	-0.32
59	196	137	78	3136	0.84163	550.93	0.59949	471.81	756.62	-0.71	1.88	1357.81	6.93	1354.3	6.91	-3.51	-0.26
59	197	138	79	3152	0.83919	551.19	0.60025	471.89	772.23	0	1.86	1358.54	6.9	1354	6.87	-4.54	-0.34
59	198	139	80	3168	0.83675	551.45	0.60101	471.98	787.92	-0.71	1.83	1357.76	6.86	1354.03	6.84	-3.74	-0.28
59	199	140	81	3184	0.83432	551.7	0.60176	472.08	803.7	0	1.81	1358.33	6.83	1353.55	6.8	-4.77	-0.35
59	200	141	82	3200	0.83190	551.94	0.60250	472.18	819.57	-0.71	1.79	1357.39	6.79	1353.41	6.77	-3.98	-0.29
59	201	142	83	3216	0.82948	552.17	0.60323	472.29	835.53	0	1.77	1357.78	6.76	1352.76	6.73	-5.02	-0.37
59	202	143	84	3232	0.82708	552.39	0.60396	472.4	851.57	-0.7	1.74	1356.68	6.72	1352.45	6.7	-4.23	-0.31
59	203	144	85	3248	0.82467	552.61	0.60468	472.52	867.69	0	1.72	1356.91	6.68	1351.63	6.66	-5.28	-0.39
59	204	145	86	3264	0.82228	552.81	0.60539	472.64	883.89	-0.7	1.7	1355.66	6.65	1351.15	6.62	-4.51	-0.33
59	205	146	87	3280	0.81989	553	0.60610	472.77	900.18	0	1.68	1355.73	6.61	1350.17	6.59	-5.57	-0.41
59	206	147	88	3296	0.81751	553.19	0.60680	472.9	916.54	-0.7	1.66	1354.33	6.57	1349.53	6.55	-4.81	-0.36
Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
60	119	59	-1	1904	0.99993	469.32	0.49790	519.67	0.2	0	9.65	924.46	7.77	931.93	7.83	7.47	0.8
60	120	60	0	1920	1.00000	471.98	0.50000	518.2	0	0.91	10	940.73	7.84	947.18	7.89	6.45	0.68
60	121	61	1	1936	0.99993	474.56	0.50207	516.79	0.2	0	9.66	954.1	7.89	959.7	7.93	5.6	0.58
60	122	62	2	1952	0.99973	477.08	0.50410	515.43	0.8	0.91	9.33	968.94	7.94	974.27	7.99	5.34	0.55
60	123	63	3	1968	0.99941	479.53	0.50610	514.11	1.78	0	9.03	981.61	7.98	986.16	8.02	4.55	0.46
60	124	64	4	1984	0.99896	481.91	0.50807	512.84	3.14	0.9	8.73	995.75	8.03	1000.09	8.07	4.34	0.43
60	125	65	5	2000	0.99840	484.22	0.51000	511.62	4.86	0	8.45	1007.75	8.06	1011.36	8.09	3.61	0.36
60	126	66	6	2016	0.99773	486.48	0.51191	510.44	6.94	0.89	8.19	1021.22	8.1	1024.67	8.13	3.45	0.34
60	127	67	7	2032	0.99696	488.67	0.51378	509.3	9.38	0	7.93	1032.59	8.13	1035.36	8.15	2.78	0.27
60	128	68	8	2048	0.99609	490.8	0.51563	508.2	12.15	0.88	7.69	1045.42	8.17	1048.08	8.19	2.66	0.25
60	129	69	9	2064	0.99513	492.88	0.51744	507.14	15.26	0	7.46	1056.17	8.19	1058.21	8.2	2.03	0.19
60	130	70	10	2080	0.99408	494.9	0.51923	506.12	18.7	0.88	7.24	1068.39	8.22	1070.35	8.23	1.96	0.18
60	131	71	11	2096	0.99295	496.87	0.52099	505.13	22.46	0	7.03	1078.57	8.23	1079.95	8.24	1.38	0.13
60	132	72	12	2112	0.99174	498.79	0.52273	504.18	26.52	0.87	6.83	1090.21	8.26	1091.54	8.27	1.34	0.12
60	133	73	13	2128	0.99045	500.65	0.52444	503.27	30.9	0	6.63	1099.82	8.27	1100.62	8.28	0.8	0.07
60	134	74	14	2144	0.98908	502.46	0.52612	502.38	35.57	0.86	6.45	1110.9	8.29	1111.69	8.3	0.79	0.07
60	135	75	15	2160	0.98765	504.23	0.52778	501.53	40.53	0	6.27	1119.98	8.3	1120.27	8.3	0.29	0.03
60	136	76	16	2176	0.98616	505.95	0.52941	500.71	45.78	0.86	6.1	1130.52	8.31	1130.83	8.31	0.31	0.03
60	137	77	17	2192	0.98460	507.62	0.53102	499.92	51.31	0	5.94	1139.09	8.31	1138.94	8.31	-0.15	-0.01

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
60	138	78	18	2208	0.98299	509.26	0.53261	499.16	57.1	0.85	5.78	1149.12	8.33	1149.01	8.33	-0.11	-0.01
60	139	79	19	2224	0.98132	510.84	0.53417	498.42	63.17	0	5.63	1157.19	8.33	1156.66	8.32	-0.54	-0.05
60	140	80	20	2240	0.97959	512.39	0.53571	497.72	69.5	0.85	5.49	1166.73	8.33	1166.26	8.33	-0.47	-0.04
60	141	81	21	2256	0.97782	513.89	0.53723	497.04	76.08	0	5.35	1174.34	8.33	1173.46	8.32	-0.87	-0.07
60	142	82	22	2272	0.97600	515.36	0.53873	496.38	82.92	0.84	5.22	1183.4	8.33	1182.61	8.33	-0.78	-0.07
60	143	83	23	2288	0.97413	516.78	0.54021	495.75	90	0	5.09	1190.55	8.33	1189.39	8.32	-1.16	-0.1
60	144	84	24	2304	0.97222	518.17	0.54167	495.15	97.32	0.83	4.97	1199.16	8.33	1198.11	8.32	-1.05	-0.09
60	145	85	25	2320	0.97027	519.53	0.54310	494.56	104.88	0	4.85	1205.88	8.32	1204.47	8.31	-1.41	-0.12
60	146	86	26	2336	0.96829	520.84	0.54452	494	112.66	0.83	4.73	1214.05	8.32	1212.76	8.31	-1.29	-0.11
60	147	87	27	2352	0.96626	522.13	0.54592	493.47	120.67	0	4.62	1220.36	8.3	1218.73	8.29	-1.62	-0.13
60	148	88	28	2368	0.96421	523.38	0.54730	492.95	128.91	0.82	4.52	1228.11	8.3	1226.62	8.29	-1.48	-0.12
60	149	89	29	2384	0.96212	524.59	0.54866	492.46	137.36	0	4.42	1234.01	8.28	1232.21	8.27	-1.8	-0.15
60	150	90	30	2400	0.96000	525.78	0.55000	491.98	146.02	0.82	4.32	1241.36	8.28	1239.71	8.26	-1.65	-0.13
60	151	91	31	2416	0.95785	526.93	0.55133	491.53	154.89	0	4.22	1246.88	8.26	1244.92	8.24	-1.96	-0.16
60	152	92	32	2432	0.95568	528.05	0.55263	491.09	163.97	0.81	4.13	1253.83	8.25	1252.04	8.24	-1.79	-0.14
60	153	93	33	2448	0.95348	529.14	0.55392	490.67	173.24	0	4.04	1258.98	8.23	1256.9	8.22	-2.08	-0.17
60	154	94	34	2464	0.95126	530.21	0.55520	490.27	182.71	0.81	3.96	1265.57	8.22	1263.65	8.21	-1.91	-0.15
60	155	95	35	2480	0.94901	531.24	0.55645	489.89	192.38	0	3.87	1270.36	8.2	1268.17	8.18	-2.19	-0.17
60	156	96	36	2496	0.94675	532.25	0.55769	489.52	202.23	0.8	3.79	1276.58	8.18	1274.57	8.17	-2.02	-0.16
60	157	97	37	2512	0.94446	533.23	0.55892	489.18	212.27	0	3.72	1281.03	8.16	1278.75	8.14	-2.28	-0.18
60	158	98	38	2528	0.94216	534.19	0.56013	488.84	222.49	0.8	3.64	1286.91	8.14	1284.81	8.13	-2.1	-0.16
60	159	99	39	2544	0.93984	535.12	0.56132	488.53	232.89	0	3.57	1291.03	8.12	1288.67	8.1	-2.36	-0.18
60	160	100	40	2560	0.93750	536.03	0.56250	488.23	243.47	0.79	3.5	1296.57	8.1	1294.39	8.09	-2.17	-0.17
60	161	101	41	2576	0.93515	536.91	0.56367	487.94	254.22	0	3.43	1300.37	8.08	1297.94	8.06	-2.43	-0.19
60	162	102	42	2592	0.93279	537.77	0.56482	487.67	265.13	0.79	3.37	1305.59	8.06	1303.35	8.05	-2.24	-0.17
60	163	103	43	2608	0.93041	538.6	0.56595	487.41	276.21	0	3.3	1309.08	8.03	1306.6	8.02	-2.48	-0.19
60	164	104	44	2624	0.92802	539.41	0.56707	487.17	287.46	0.78	3.24	1313.99	8.01	1311.69	8	-2.29	-0.17
60	165	105	45	2640	0.92562	540.2	0.56818	486.94	298.86	0	3.18	1317.18	7.98	1314.65	7.97	-2.54	-0.19
60	166	106	46	2656	0.92321	540.97	0.56928	486.72	310.42	0.78	3.12	1321.79	7.96	1319.44	7.95	-2.35	-0.18
60	167	107	47	2672	0.92079	541.72	0.57036	486.51	322.13	0	3.07	1324.7	7.93	1322.11	7.92	-2.58	-0.2
60	168	108	48	2688	0.91837	542.45	0.57143	486.32	334	0.77	3.01	1329.01	7.91	1326.62	7.9	-2.39	-0.18
60	169	109	49	2704	0.91593	543.16	0.57249	486.14	346.01	0	2.96	1331.65	7.88	1329.02	7.86	-2.63	-0.2
60	170	110	50	2720	0.91350	543.84	0.57353	485.98	358.17	0.77	2.91	1335.68	7.86	1333.24	7.84	-2.44	-0.18
60	171	111	51	2736	0.91105	544.51	0.57456	485.82	370.48	0	2.86	1338.05	7.82	1335.37	7.81	-2.68	-0.2
60	172	112	52	2752	0.90860	545.16	0.57558	485.67	382.92	0.76	2.81	1341.81	7.8	1339.32	7.79	-2.49	-0.19
60	173	113	53	2768	0.90615	545.8	0.57659	485.54	395.51	0	2.76	1343.92	7.77	1341.19	7.75	-2.73	-0.2
60	174	114	54	2784	0.90369	546.41	0.57759	485.42	408.23	0.76	2.72	1347.42	7.74	1344.88	7.73	-2.54	-0.19
60	175	115	55	2800	0.90122	547.01	0.57857	485.3	421.08	0	2.67	1349.28	7.71	1346.5	7.69	-2.78	-0.21
60	176	116	56	2816	0.89876	547.59	0.57955	485.2	434.07	0.75	2.63	1352.53	7.68	1349.93	7.67	-2.6	-0.19
60	177	117	57	2832	0.89629	548.15	0.58051	485.11	447.18	0	2.59	1354.15	7.65	1351.31	7.63	-2.84	-0.21
60	178	118	58	2848	0.89383	548.7	0.58146	485.03	460.42	0.75	2.54	1357.15	7.62	1354.48	7.61	-2.66	-0.2
60	179	119	59	2864	0.89136	549.23	0.58240	484.95	473.79	0	2.5	1358.53	7.59	1355.63	7.57	-2.9	-0.21
60	180	120	60	2880	0.88889	549.75	0.58333	484.89	487.28	0.75	2.47	1361.3	7.56	1358.56	7.55	-2.73	-0.2
60	181	121	61	2896	0.88642	550.25	0.58425	484.83	500.89	0	2.43	1362.46	7.53	1359.48	7.51	-2.98	-0.22
60	182	122	62	2912	0.88395	550.74	0.58517	484.79	514.62	0.74	2.39	1364.99	7.5	1362.18	7.48	-2.81	-0.21
60	183	123	63	2928	0.88148	551.21	0.58607	484.75	528.47	0	2.36	1365.93	7.46	1362.87	7.45	-3.06	-0.22
60	184	124	64	2944	0.87902	551.67	0.58696	484.72	542.43	0.74	2.32	1368.24	7.44	1365.34	7.42	-2.9	-0.21

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
60	185	125	65	2960	0.87655	552.11	0.58784	484.7	556.5	0	2.29	1368.97	7.4	1365.81	7.38	-3.16	-0.23
60	186	126	66	2976	0.87409	552.54	0.58871	484.69	570.69	0.73	2.25	1371.06	7.37	1368.06	7.36	-3	-0.22
60	187	127	67	2992	0.87163	552.96	0.58957	484.68	584.99	0	2.22	1371.59	7.33	1368.33	7.32	-3.26	-0.24
60	188	128	68	3008	0.86917	553.37	0.59043	484.69	599.39	0.73	2.19	1373.47	7.31	1370.36	7.29	-3.12	-0.23
60	189	129	69	3024	0.86672	553.76	0.59127	484.7	613.9	0	2.16	1373.8	7.27	1370.42	7.25	-3.38	-0.25
60	190	130	70	3040	0.86427	554.14	0.59211	484.72	628.52	0.73	2.13	1375.48	7.24	1372.24	7.22	-3.24	-0.24
60	191	131	71	3056	0.86182	554.51	0.59293	484.74	643.23	0	2.1	1375.62	7.2	1372.1	7.18	-3.51	-0.26
60	192	132	72	3072	0.85938	554.86	0.59375	484.77	658.05	0.72	2.07	1377.1	7.17	1373.72	7.15	-3.39	-0.25
60	193	133	73	3088	0.85694	555.21	0.59456	484.81	672.97	0	2.04	1377.05	7.13	1373.39	7.12	-3.66	-0.27
60	194	134	74	3104	0.85450	555.54	0.59536	484.86	687.99	0.72	2.01	1378.34	7.1	1374.8	7.09	-3.54	-0.26
60	195	135	75	3120	0.85207	555.86	0.59615	484.91	703.11	0	1.99	1378.11	7.07	1374.28	7.05	-3.82	-0.28
60	196	136	76	3136	0.84965	556.17	0.59694	484.97	718.32	0.71	1.96	1379.22	7.04	1375.5	7.02	-3.71	-0.27
60	197	137	77	3152	0.84723	556.47	0.59772	485.04	733.62	0	1.94	1378.81	7	1374.8	6.98	-4	-0.29
60	198	138	78	3168	0.84481	556.76	0.59849	485.11	749.02	0.71	1.91	1379.73	6.97	1375.83	6.95	-3.9	-0.28
60	199	139	79	3184	0.84240	557.05	0.59925	485.19	764.5	0	1.89	1379.15	6.93	1374.95	6.91	-4.2	-0.31
60	200	140	80	3200	0.84000	557.32	0.60000	485.27	780.08	0.71	1.86	1379.91	6.9	1375.8	6.88	-4.11	-0.3
60	201	141	81	3216	0.83760	557.58	0.60075	485.36	795.75	0	1.84	1379.16	6.86	1374.75	6.84	-4.41	-0.32
60	202	142	82	3232	0.83521	557.83	0.60149	485.45	811.5	0.7	1.82	1379.74	6.83	1375.41	6.81	-4.33	-0.31
60	203	143	83	3248	0.83283	558.07	0.60222	485.56	827.34	0	1.8	1378.84	6.79	1374.19	6.77	-4.64	-0.34
60	204	144	84	3264	0.83045	558.3	0.60294	485.66	843.26	0.7	1.77	1379.25	6.76	1374.68	6.74	-4.57	-0.33
60	205	145	85	3280	0.82808	558.52	0.60366	485.77	859.26	0	1.75	1378.19	6.72	1373.3	6.7	-4.89	-0.36
60	206	146	86	3296	0.82571	558.74	0.60437	485.89	875.35	0.7	1.73	1378.45	6.69	1373.62	6.67	-4.83	-0.35
60	207	147	87	3312	0.82336	558.95	0.60507	486.01	891.52	0	1.71	1377.23	6.65	1372.07	6.63	-5.16	-0.38
60	208	148	88	3328	0.82101	559.14	0.60577	486.14	907.77	0.69	1.69	1377.33	6.62	1372.23	6.6	-5.11	-0.37
60	209	149	89	3344	0.81866	559.33	0.60646	486.27	924.1	0	1.67	1375.97	6.58	1370.52	6.56	-5.45	-0.4
60	210	150	90	3360	0.81633	559.52	0.60714	486.41	940.5	0.69	1.65	1375.92	6.55	1370.51	6.53	-5.41	-0.39
Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
61	121	60	-1	1936	0.99993	474.56	0.49793	534.16	0.2	0	9.66	936.73	7.74	944.28	7.8	7.54	0.8
61	122	61	0	1952	1.00000	477.21	0.50000	532.68	0	-0.91	10	951.21	7.8	958.47	7.86	7.26	0.76
61	123	62	1	1968	0.99993	479.78	0.50203	531.25	0.2	0	9.66	966.44	7.86	972.1	7.9	5.66	0.58
61	124	63	2	1984	0.99974	482.28	0.50403	529.87	0.78	-0.9	9.35	979.51	7.9	985.65	7.95	6.14	0.62
61	125	64	3	2000	0.99942	484.72	0.50600	528.54	1.75	0	9.04	994.03	7.95	998.63	7.99	4.6	0.46
61	126	65	4	2016	0.99899	487.09	0.50794	527.25	3.09	-0.89	8.75	1006.43	7.99	1011.56	8.03	5.12	0.51
61	127	66	5	2032	0.99845	489.4	0.50984	526.01	4.78	0	8.48	1020.28	8.03	1023.92	8.06	3.64	0.36
61	128	67	6	2048	0.99780	491.65	0.51172	524.81	6.84	-0.88	8.21	1032.03	8.06	1036.25	8.1	4.22	0.41
61	129	68	7	2064	0.99706	493.83	0.51357	523.66	9.23	0	7.96	1045.24	8.1	1048.03	8.12	2.79	0.27
61	130	69	8	2080	0.99621	495.96	0.51539	522.54	11.97	-0.88	7.72	1056.37	8.13	1059.78	8.15	3.41	0.32
61	131	70	9	2096	0.99528	498.04	0.51718	521.46	15.03	0	7.49	1068.96	8.16	1070.99	8.18	2.03	0.19
61	132	71	10	2112	0.99426	500.06	0.51894	520.42	18.42	-0.87	7.27	1079.51	8.18	1082.2	8.2	2.69	0.25
61	133	72	11	2128	0.99316	502.02	0.52068	519.42	22.12	0	7.07	1091.5	8.21	1092.86	8.22	1.35	0.12
61	134	73	12	2144	0.99198	503.94	0.52239	518.45	26.13	-0.86	6.87	1101.48	8.22	1103.54	8.24	2.06	0.19
61	135	74	13	2160	0.99073	505.8	0.52407	517.52	30.44	0	6.67	1112.91	8.24	1113.67	8.25	0.76	0.07
61	136	75	14	2176	0.98940	507.61	0.52574	516.62	35.05	-0.86	6.49	1122.35	8.25	1123.84	8.26	1.49	0.13
61	137	76	15	2192	0.98801	509.38	0.52737	515.75	39.94	0	6.31	1133.24	8.27	1133.47	8.27	0.23	0.02
61	138	77	16	2208	0.98656	511.11	0.52899	514.91	45.12	-0.85	6.14	1142.16	8.28	1143.16	8.28	1	0.09
61	139	78	17	2224	0.98504	512.78	0.53058	514.11	50.57	0	5.98	1152.52	8.29	1152.29	8.29	-0.23	-0.02

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
61	140	79	18	2240	0.98347	514.42	0.53214	513.33	56.3	-0.85	5.83	1160.94	8.29	1161.51	8.3	0.57	0.05
61	141	80	19	2256	0.98184	516.01	0.53369	512.58	62.28	0	5.68	1170.81	8.3	1170.18	8.3	-0.63	-0.05
61	142	81	20	2272	0.98016	517.56	0.53521	511.85	68.53	-0.84	5.53	1178.76	8.3	1178.94	8.3	0.19	0.02
61	143	82	21	2288	0.97843	519.07	0.53671	511.16	75.03	0	5.4	1188.14	8.31	1187.16	8.3	-0.98	-0.08
61	144	83	22	2304	0.97666	520.54	0.53819	510.49	81.78	-0.83	5.26	1195.63	8.3	1195.49	8.3	-0.14	-0.01
61	145	84	23	2320	0.97484	521.97	0.53966	509.84	88.77	0	5.14	1204.56	8.31	1203.27	8.3	-1.29	-0.11
61	146	85	24	2336	0.97298	523.37	0.54110	509.22	96	-0.83	5.01	1211.6	8.3	1211.17	8.3	-0.43	-0.04
61	147	86	25	2352	0.97108	524.73	0.54252	508.62	103.46	0	4.9	1220.09	8.3	1218.54	8.29	-1.55	-0.13
61	148	87	26	2368	0.96914	526.05	0.54392	508.05	111.15	-0.82	4.78	1226.71	8.29	1226.04	8.28	-0.68	-0.06
61	149	88	27	2384	0.96716	527.34	0.54530	507.49	119.06	0	4.67	1234.77	8.29	1233	8.28	-1.78	-0.14
61	150	89	28	2400	0.96516	528.6	0.54667	506.96	127.2	-0.82	4.57	1240.99	8.27	1240.1	8.27	-0.89	-0.07
61	151	90	29	2416	0.96312	529.82	0.54801	506.45	135.55	0	4.46	1248.64	8.27	1246.67	8.26	-1.97	-0.16
61	152	91	30	2432	0.96105	531.02	0.54934	505.96	144.11	-0.81	4.37	1254.47	8.25	1253.39	8.25	-1.07	-0.09
61	153	92	31	2448	0.95895	532.18	0.55065	505.49	152.88	0	4.27	1261.72	8.25	1259.59	8.23	-2.13	-0.17
61	154	93	32	2464	0.95682	533.31	0.55195	505.04	161.85	-0.81	4.18	1267.17	8.23	1265.95	8.22	-1.23	-0.1
61	155	94	33	2480	0.95467	534.41	0.55323	504.61	171.02	0	4.09	1274.05	8.22	1271.77	8.2	-2.28	-0.18
61	156	95	34	2496	0.95250	535.49	0.55449	504.19	180.39	-0.8	4	1279.14	8.2	1277.78	8.19	-1.36	-0.11
61	157	96	35	2512	0.95030	536.53	0.55573	503.8	189.94	0	3.92	1285.65	8.19	1283.25	8.17	-2.4	-0.19
61	158	97	36	2528	0.94809	537.55	0.55696	503.42	199.69	-0.8	3.84	1290.39	8.17	1288.91	8.16	-1.47	-0.11
61	159	98	37	2544	0.94585	538.54	0.55818	503.05	209.62	0	3.76	1296.54	8.15	1294.05	8.14	-2.5	-0.19
61	160	99	38	2560	0.94359	539.51	0.55938	502.71	219.73	-0.79	3.69	1300.95	8.13	1299.38	8.12	-1.57	-0.12
61	161	100	39	2576	0.94132	540.45	0.56056	502.38	230.02	0	3.62	1306.77	8.12	1304.18	8.1	-2.58	-0.2
61	162	101	40	2592	0.93903	541.37	0.56173	502.06	240.48	-0.79	3.55	1310.85	8.09	1309.19	8.08	-1.65	-0.13
61	163	102	41	2608	0.93673	542.26	0.56288	501.76	251.12	0	3.48	1316.34	8.08	1313.68	8.06	-2.66	-0.2
61	164	103	42	2624	0.93441	543.13	0.56402	501.48	261.92	-0.78	3.41	1320.1	8.05	1318.38	8.04	-1.73	-0.13
61	165	104	43	2640	0.93208	543.98	0.56515	501.21	272.88	0	3.35	1325.28	8.03	1322.55	8.02	-2.72	-0.21
61	166	105	44	2656	0.92974	544.8	0.56627	500.95	284.01	-0.78	3.28	1328.74	8	1326.95	7.99	-1.79	-0.14
61	167	106	45	2672	0.92739	545.6	0.56737	500.71	295.3	0	3.22	1333.61	7.99	1330.83	7.97	-2.78	-0.21
61	168	107	46	2688	0.92503	546.38	0.56845	500.48	306.75	-0.77	3.17	1336.79	7.96	1334.93	7.95	-1.85	-0.14
61	169	108	47	2704	0.92266	547.14	0.56953	500.26	318.34	0	3.11	1341.36	7.94	1338.52	7.92	-2.84	-0.21
61	170	109	48	2720	0.92028	547.88	0.57059	500.06	330.09	-0.77	3.05	1344.25	7.91	1342.34	7.9	-1.91	-0.14
61	171	110	49	2736	0.91789	548.6	0.57164	499.87	341.99	0	3	1348.54	7.89	1345.65	7.87	-2.89	-0.21
61	172	111	50	2752	0.91550	549.3	0.57267	499.69	354.03	-0.76	2.95	1351.16	7.86	1349.2	7.84	-1.96	-0.15
61	173	112	51	2768	0.91309	549.98	0.57370	499.52	366.22	0	2.9	1355.17	7.83	1352.23	7.82	-2.94	-0.22
61	174	113	52	2784	0.91069	550.64	0.57471	499.37	378.55	-0.76	2.85	1357.53	7.8	1355.52	7.79	-2.02	-0.15
61	175	114	53	2800	0.90828	551.29	0.57571	499.22	391.01	0	2.8	1361.28	7.78	1358.28	7.76	-3	-0.22
61	176	115	54	2816	0.90586	551.92	0.57671	499.09	403.61	-0.75	2.76	1363.39	7.75	1361.31	7.73	-2.08	-0.15
61	177	116	55	2832	0.90344	552.52	0.57768	498.96	416.35	0	2.71	1366.87	7.72	1363.82	7.71	-3.05	-0.22
61	178	117	56	2848	0.90102	553.12	0.57865	498.85	429.22	-0.75	2.67	1368.73	7.69	1366.6	7.68	-2.14	-0.16
61	179	118	57	2864	0.89860	553.69	0.57961	498.75	442.21	0	2.63	1371.97	7.66	1368.86	7.65	-3.11	-0.23
61	180	119	58	2880	0.89617	554.25	0.58056	498.65	455.33	-0.75	2.58	1373.6	7.63	1371.39	7.62	-2.21	-0.16
61	181	120	59	2896	0.89375	554.8	0.58149	498.57	468.58	0	2.54	1376.59	7.61	1373.41	7.59	-3.18	-0.23
61	182	121	60	2912	0.89132	555.33	0.58242	498.5	481.95	-0.74	2.5	1377.99	7.57	1375.71	7.56	-2.28	-0.17
61	183	122	61	2928	0.88889	555.84	0.58333	498.43	495.44	0	2.47	1380.75	7.55	1377.49	7.53	-3.26	-0.24
61	184	123	62	2944	0.88646	556.34	0.58424	498.38	509.06	-0.74	2.43	1381.92	7.51	1379.56	7.5	-2.36	-0.17
61	185	124	63	2960	0.88403	556.82	0.58514	498.33	522.78	0	2.39	1384.46	7.48	1381.12	7.47	-3.34	-0.24
61	186	125	64	2976	0.88161	557.29	0.58602	498.29	536.63	-0.73	2.36	1385.41	7.45	1382.96	7.44	-2.45	-0.18

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
61	187	126	65	2992	0.87918	557.75	0.58690	498.26	550.58	0	2.32	1387.73	7.42	1384.29	7.4	-3.43	-0.25
61	188	127	66	3008	0.87675	558.19	0.58777	498.24	564.65	-0.73	2.29	1388.47	7.39	1385.92	7.37	-2.56	-0.18
61	189	128	67	3024	0.87433	558.62	0.58862	498.23	578.83	0	2.26	1390.58	7.36	1387.04	7.34	-3.54	-0.26
61	190	129	68	3040	0.87191	559.04	0.58947	498.22	593.11	-0.73	2.22	1391.12	7.32	1388.45	7.31	-2.67	-0.19
61	191	130	69	3056	0.86949	559.44	0.59031	498.22	607.51	0	2.19	1393.02	7.29	1389.36	7.27	-3.66	-0.26
61	192	131	70	3072	0.86708	559.84	0.59115	498.23	622	-0.72	2.16	1393.37	7.26	1390.57	7.24	-2.8	-0.2
61	193	132	71	3088	0.86467	560.22	0.59197	498.25	636.6	0	2.13	1395.06	7.23	1391.27	7.21	-3.79	-0.27
61	194	133	72	3104	0.86226	560.58	0.59278	498.28	651.31	-0.72	2.1	1395.22	7.19	1392.28	7.18	-2.94	-0.21
61	195	134	73	3120	0.85986	560.94	0.59359	498.31	666.11	0	2.08	1396.72	7.16	1392.79	7.14	-3.93	-0.28
61	196	135	74	3136	0.85746	561.29	0.59439	498.35	681.01	-0.71	2.05	1396.69	7.13	1393.6	7.11	-3.09	-0.22
61	197	136	75	3152	0.85506	561.62	0.59518	498.39	696	0	2.02	1398.01	7.1	1393.92	7.08	-4.09	-0.29
61	198	137	76	3168	0.85267	561.94	0.59596	498.44	711.1	-0.71	1.99	1397.8	7.06	1394.54	7.04	-3.26	-0.23
61	199	138	77	3184	0.85028	562.25	0.59673	498.5	726.28	0	1.97	1398.93	7.03	1394.66	7.01	-4.26	-0.31
61	200	139	78	3200	0.84790	562.56	0.59750	498.57	741.56	-0.71	1.94	1398.55	6.99	1395.1	6.98	-3.45	-0.25
61	201	140	79	3216	0.84552	562.85	0.59826	498.64	756.93	0	1.92	1399.5	6.96	1395.05	6.94	-4.46	-0.32
61	202	141	80	3232	0.84315	563.13	0.59901	498.71	772.39	-0.7	1.89	1398.95	6.93	1395.31	6.91	-3.65	-0.26
61	203	142	81	3248	0.84079	563.4	0.59975	498.8	787.94	0	1.87	1399.73	6.9	1395.07	6.87	-4.66	-0.33
61	204	143	82	3264	0.83843	563.66	0.60049	498.88	803.58	-0.7	1.85	1399.02	6.86	1395.15	6.84	-3.87	-0.28
61	205	144	83	3280	0.83607	563.92	0.60122	498.98	819.3	0	1.83	1399.63	6.83	1394.74	6.8	-4.89	-0.35
61	206	145	84	3296	0.83373	564.16	0.60194	499.08	835.11	-0.7	1.8	1398.76	6.79	1394.65	6.77	-4.1	-0.29
61	207	146	85	3312	0.83139	564.4	0.60266	499.18	851	0	1.78	1399.2	6.76	1394.07	6.73	-5.13	-0.37
61	208	147	86	3328	0.82905	564.62	0.60337	499.29	866.98	-0.69	1.76	1398.18	6.72	1393.82	6.7	-4.36	-0.31
61	209	148	87	3344	0.82672	564.84	0.60407	499.41	883.03	0	1.74	1398.46	6.69	1393.07	6.67	-5.39	-0.39
61	210	149	88	3360	0.82440	565.05	0.60476	499.53	899.16	-0.69	1.72	1397.29	6.65	1392.66	6.63	-4.63	-0.33
61	211	150	89	3376	0.82208	565.25	0.60545	499.66	915.38	0	1.7	1397.42	6.62	1391.75	6.6	-5.67	-0.41
61	212	151	90	3392	0.81978	565.44	0.60613	499.79	931.67	-0.69	1.68	1396.1	6.59	1391.17	6.56	-4.93	-0.35
61	213	152	91	3408	0.81747	565.63	0.60681	499.92	948.04	0	1.66	1396.08	6.55	1390.1	6.53	-5.97	-0.43
61	214	153	92	3424	0.81518	565.8	0.60748	500.06	964.48	-0.68	1.64	1394.61	6.52	1389.38	6.49	-5.24	-0.38
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
62	123	61	-1	1968	0.99993	479.78	0.49797	548.81	0.2	0	9.66	948.88	7.71	956.49	7.78	7.62	0.8
62	124	62	0	1984	1.00000	482.41	0.50000	547.31	0	0.9	10	965.18	7.78	971.79	7.84	6.62	0.68
62	125	63	1	2000	0.99994	484.97	0.50200	545.87	0.19	0	9.67	978.64	7.83	984.4	7.88	5.76	0.58
62	126	64	2	2016	0.99975	487.46	0.50397	544.47	0.77	0.89	9.36	993.54	7.89	999.04	7.93	5.49	0.55
62	127	65	3	2032	0.99944	489.89	0.50591	543.12	1.72	0	9.06	1006.33	7.92	1011.02	7.96	4.7	0.46
62	128	66	4	2048	0.99902	492.25	0.50781	541.82	3.04	0.88	8.77	1020.55	7.97	1025.03	8.01	4.49	0.44
62	129	67	5	2064	0.99850	494.55	0.50969	540.56	4.71	0	8.5	1032.68	8.01	1036.42	8.03	3.75	0.36
62	130	68	6	2080	0.99787	496.79	0.51154	539.35	6.73	0.88	8.24	1046.25	8.05	1049.83	8.08	3.58	0.34
62	131	69	7	2096	0.99715	498.97	0.51336	538.17	9.09	0	7.99	1057.75	8.07	1060.65	8.1	2.9	0.27
62	132	70	8	2112	0.99633	501.09	0.51515	537.04	11.79	0.87	7.75	1070.7	8.11	1073.48	8.13	2.78	0.26
62	133	71	9	2128	0.99542	503.16	0.51692	535.95	14.81	0	7.53	1081.61	8.13	1083.75	8.15	2.14	0.2
62	134	72	10	2144	0.99443	505.18	0.51866	534.89	18.15	0.86	7.31	1093.96	8.16	1096.02	8.18	2.06	0.19
62	135	73	11	2160	0.99336	507.14	0.52037	533.87	21.8	0	7.1	1104.29	8.18	1105.76	8.19	1.47	0.13
62	136	74	12	2176	0.99222	509.06	0.52206	532.89	25.75	0.86	6.9	1116.07	8.21	1117.5	8.22	1.43	0.13
62	137	75	13	2192	0.99100	510.92	0.52372	531.94	30	0	6.71	1125.85	8.22	1126.74	8.22	0.88	0.08
62	138	76	14	2208	0.98971	512.74	0.52536	531.02	34.54	0.85	6.53	1137.08	8.24	1137.95	8.25	0.87	0.08
62	139	77	15	2224	0.98836	514.51	0.52698	530.13	39.37	0	6.36	1146.34	8.25	1146.7	8.25	0.36	0.03

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
62	140	78	16	2240	0.98694	516.23	0.52857	529.28	44.48	0.85	6.19	1157.04	8.26	1157.42	8.27	0.37	0.03
62	141	79	17	2256	0.98546	517.91	0.53014	528.45	49.86	0	6.03	1165.8	8.27	1165.7	8.27	-0.1	-0.01
62	142	80	18	2272	0.98393	519.55	0.53169	527.66	55.51	0.84	5.87	1176	8.28	1175.94	8.28	-0.06	0
62	143	81	19	2288	0.98235	521.14	0.53322	526.89	61.42	0	5.72	1184.27	8.28	1183.77	8.28	-0.5	-0.04
62	144	82	20	2304	0.98071	522.7	0.53472	526.15	67.58	0.83	5.58	1193.98	8.29	1193.55	8.29	-0.44	-0.04
62	145	83	21	2320	0.97903	524.21	0.53621	525.44	74	0	5.44	1201.79	8.29	1200.94	8.28	-0.85	-0.07
62	146	84	22	2336	0.97729	525.69	0.53767	524.75	80.66	0.83	5.31	1211.03	8.29	1210.27	8.29	-0.76	-0.06
62	147	85	23	2352	0.97552	527.13	0.53912	524.09	87.57	0	5.18	1218.4	8.29	1217.25	8.28	-1.15	-0.09
62	148	86	24	2368	0.97370	528.53	0.54054	523.45	94.71	0.82	5.06	1227.19	8.29	1226.15	8.28	-1.05	-0.09
62	149	87	25	2384	0.97185	529.9	0.54195	522.84	102.08	0	4.94	1234.13	8.28	1232.71	8.27	-1.41	-0.11
62	150	88	26	2400	0.96996	531.23	0.54333	522.25	109.68	0.82	4.83	1242.49	8.28	1241.2	8.27	-1.29	-0.1
62	151	89	27	2416	0.96803	532.53	0.54470	521.68	117.5	0	4.72	1249.02	8.27	1247.38	8.26	-1.64	-0.13
62	152	90	28	2432	0.96607	533.79	0.54605	521.13	125.54	0.81	4.61	1256.96	8.27	1255.46	8.26	-1.5	-0.12
62	153	91	29	2448	0.96407	535.02	0.54739	520.61	133.79	0	4.51	1263.09	8.26	1261.26	8.24	-1.83	-0.15
62	154	92	30	2464	0.96205	536.22	0.54870	520.1	142.25	0.81	4.41	1270.64	8.25	1268.96	8.24	-1.68	-0.13
62	155	93	31	2480	0.96000	537.4	0.55000	519.62	150.92	0	4.32	1276.39	8.23	1274.39	8.22	-1.99	-0.16
62	156	94	32	2496	0.95792	538.54	0.55128	519.15	159.79	0.8	4.23	1283.55	8.23	1281.72	8.22	-1.83	-0.14
62	157	95	33	2512	0.95582	539.65	0.55255	518.7	168.86	0	4.14	1288.93	8.21	1286.8	8.2	-2.13	-0.17
62	158	96	34	2528	0.95369	540.73	0.55380	518.27	178.12	0.8	4.05	1295.72	8.2	1293.76	8.19	-1.96	-0.15
62	159	97	35	2544	0.95155	541.79	0.55503	517.86	187.57	0	3.97	1300.75	8.18	1298.5	8.17	-2.25	-0.17
62	160	98	36	2560	0.94938	542.82	0.55625	517.47	197.21	0.79	3.89	1307.18	8.17	1305.11	8.16	-2.07	-0.16
62	161	99	37	2576	0.94719	543.82	0.55745	517.09	207.03	0	3.81	1311.86	8.15	1309.52	8.13	-2.34	-0.18
62	162	100	38	2592	0.94498	544.8	0.55864	516.73	217.03	0.79	3.73	1317.96	8.14	1315.79	8.12	-2.16	-0.16
62	163	101	39	2608	0.94275	545.75	0.55982	516.39	227.21	0	3.66	1322.31	8.11	1319.88	8.1	-2.43	-0.18
62	164	102	40	2624	0.94051	546.67	0.56098	516.06	237.57	0.78	3.59	1328.07	8.1	1325.83	8.08	-2.24	-0.17
62	165	103	41	2640	0.93826	547.58	0.56212	515.75	248.09	0	3.52	1332.1	8.07	1329.61	8.06	-2.5	-0.19
62	166	104	42	2656	0.93599	548.46	0.56325	515.45	258.78	0.78	3.46	1337.54	8.06	1335.23	8.04	-2.31	-0.17
62	167	105	43	2672	0.93370	549.31	0.56437	515.17	269.64	0	3.39	1341.27	8.03	1338.71	8.02	-2.56	-0.19
62	168	106	44	2688	0.93141	550.15	0.56548	514.9	280.65	0.77	3.33	1346.4	8.01	1344.03	8	-2.37	-0.18
62	169	107	45	2704	0.92910	550.96	0.56657	514.65	291.83	0	3.27	1349.83	7.99	1347.22	7.97	-2.61	-0.19
62	170	108	46	2720	0.92678	551.75	0.56765	514.4	303.16	0.77	3.21	1354.66	7.97	1352.24	7.95	-2.42	-0.18
62	171	109	47	2736	0.92446	552.52	0.56871	514.17	314.64	0	3.15	1357.81	7.94	1355.15	7.92	-2.66	-0.2
62	172	110	48	2752	0.92212	553.28	0.56977	513.96	326.28	0.76	3.1	1362.35	7.92	1359.88	7.91	-2.47	-0.18
62	173	111	49	2768	0.91978	554.01	0.57081	513.76	338.06	0	3.04	1365.22	7.89	1362.51	7.88	-2.71	-0.2
62	174	112	50	2784	0.91743	554.72	0.57184	513.56	349.99	0.76	2.99	1369.48	7.87	1366.96	7.86	-2.52	-0.18
62	175	113	51	2800	0.91507	555.41	0.57286	513.39	362.06	0	2.94	1372.08	7.84	1369.33	7.82	-2.75	-0.2
62	176	114	52	2816	0.91271	556.09	0.57386	513.22	374.27	0.75	2.89	1376.07	7.82	1373.51	7.8	-2.56	-0.19
62	177	115	53	2832	0.91034	556.74	0.57486	513.06	386.62	0	2.84	1378.42	7.79	1375.62	7.77	-2.8	-0.2
62	178	116	54	2848	0.90797	557.38	0.57584	512.92	399.1	0.75	2.8	1382.14	7.76	1379.53	7.75	-2.61	-0.19
62	179	117	55	2864	0.90559	558	0.57682	512.78	411.72	0	2.75	1384.24	7.73	1381.4	7.72	-2.85	-0.21
62	180	118	56	2880	0.90321	558.61	0.57778	512.66	424.47	0.75	2.71	1387.71	7.71	1385.05	7.69	-2.66	-0.19
62	181	119	57	2896	0.90083	559.19	0.57873	512.55	437.35	0	2.66	1389.57	7.68	1386.67	7.66	-2.9	-0.21
62	182	120	58	2912	0.89844	559.77	0.57967	512.44	450.36	0.74	2.62	1392.8	7.65	1390.08	7.64	-2.72	-0.2
62	183	121	59	2928	0.89606	560.32	0.58060	512.35	463.49	0	2.58	1394.42	7.62	1391.46	7.6	-2.96	-0.21
62	184	122	60	2944	0.89367	560.86	0.58152	512.27	476.74	0.74	2.54	1397.41	7.59	1394.63	7.58	-2.78	-0.2
62	185	123	61	2960	0.89128	561.39	0.58243	512.19	490.12	0	2.5	1398.81	7.56	1395.78	7.54	-3.03	-0.22
62	186	124	62	2976	0.88889	561.9	0.58333	512.13	503.61	0.73	2.47	1401.56	7.54	1398.71	7.52	-2.85	-0.2

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
62	187	125	63	2992	0.88650	562.39	0.58423	512.07	517.22	0	2.43	1402.74	7.5	1399.64	7.48	-3.1	-0.22
62	188	126	64	3008	0.88411	562.88	0.58511	512.02	530.95	0.73	2.39	1405.28	7.47	1402.34	7.46	-2.93	-0.21
62	189	127	65	3024	0.88172	563.35	0.58598	511.98	544.79	0	2.36	1406.24	7.44	1403.06	7.42	-3.18	-0.23
62	190	128	66	3040	0.87934	563.8	0.58684	511.95	558.74	0.73	2.32	1408.56	7.41	1405.53	7.4	-3.02	-0.22
62	191	129	67	3056	0.87695	564.24	0.58770	511.93	572.8	0	2.29	1409.32	7.38	1406.04	7.36	-3.28	-0.23
62	192	130	68	3072	0.87457	564.67	0.58854	511.92	586.97	0.72	2.26	1411.43	7.35	1408.3	7.33	-3.13	-0.22
62	193	131	69	3088	0.87218	565.09	0.58938	511.91	601.24	0	2.23	1411.99	7.32	1408.6	7.3	-3.38	-0.24
62	194	132	70	3104	0.86981	565.49	0.59021	511.91	615.62	0.72	2.2	1413.89	7.29	1410.65	7.27	-3.24	-0.23
62	195	133	71	3120	0.86743	565.88	0.59103	511.92	630.11	0	2.17	1414.26	7.25	1410.75	7.23	-3.5	-0.25
62	196	134	72	3136	0.86506	566.26	0.59184	511.94	644.69	0.71	2.14	1415.96	7.22	1412.6	7.21	-3.36	-0.24
62	197	135	73	3152	0.86269	566.63	0.59264	511.96	659.38	0	2.11	1416.14	7.19	1412.51	7.17	-3.64	-0.26
62	198	136	74	3168	0.86032	566.99	0.59343	511.99	674.16	0.71	2.08	1417.65	7.16	1414.15	7.14	-3.5	-0.25
62	199	137	75	3184	0.85796	567.33	0.59422	512.03	689.05	0	2.05	1417.65	7.12	1413.87	7.1	-3.78	-0.27
62	200	138	76	3200	0.85560	567.67	0.59500	512.07	704.02	0.71	2.03	1418.97	7.09	1415.32	7.08	-3.66	-0.26
62	201	139	77	3216	0.85325	567.99	0.59577	512.12	719.09	0	2	1418.8	7.06	1414.85	7.04	-3.94	-0.28
62	202	140	78	3232	0.85090	568.3	0.59654	512.18	734.26	0.7	1.98	1419.94	7.03	1416.11	7.01	-3.83	-0.27
62	203	141	79	3248	0.84855	568.61	0.59729	512.24	749.51	0	1.95	1419.59	6.99	1415.47	6.97	-4.12	-0.29
62	204	142	80	3264	0.84621	568.9	0.59804	512.31	764.86	0.7	1.93	1420.56	6.96	1416.54	6.94	-4.02	-0.28
62	205	143	81	3280	0.84388	569.18	0.59878	512.39	780.29	0	1.9	1420.04	6.93	1415.72	6.91	-4.31	-0.3
62	206	144	82	3296	0.84155	569.46	0.59952	512.47	795.82	0.7	1.88	1420.83	6.9	1416.62	6.88	-4.22	-0.3
62	207	145	83	3312	0.83923	569.72	0.60024	512.56	811.43	0	1.86	1420.15	6.86	1415.63	6.84	-4.52	-0.32
62	208	146	84	3328	0.83691	569.97	0.60096	512.65	827.12	0.69	1.83	1420.78	6.83	1416.34	6.81	-4.44	-0.31
62	209	147	85	3344	0.83460	570.22	0.60168	512.75	842.9	0	1.81	1419.95	6.79	1415.19	6.77	-4.75	-0.34
62	210	148	86	3360	0.83229	570.46	0.60238	512.85	858.76	0.69	1.79	1420.41	6.76	1415.74	6.74	-4.68	-0.33
62	211	149	87	3376	0.82999	570.68	0.60308	512.96	874.7	0	1.77	1419.42	6.73	1414.42	6.7	-5	-0.35
62	212	150	88	3392	0.82770	570.9	0.60377	513.08	890.72	0.69	1.75	1419.73	6.7	1414.8	6.67	-4.93	-0.35
62	213	151	89	3408	0.82541	571.12	0.60446	513.2	906.82	0	1.73	1418.59	6.66	1413.33	6.64	-5.26	-0.37
62	214	152	90	3424	0.82313	571.32	0.60514	513.32	923	0.68	1.71	1418.75	6.63	1413.54	6.61	-5.21	-0.37
62	215	153	91	3440	0.82086	571.51	0.60581	513.45	939.26	0	1.69	1417.46	6.59	1411.92	6.57	-5.55	-0.39
62	216	154	92	3456	0.81859	571.7	0.60648	513.59	955.59	0.68	1.67	1417.47	6.56	1411.97	6.54	-5.5	-0.39
62	217	155	93	3472	0.81633	571.88	0.60714	513.73	972	0	1.65	1416.04	6.53	1410.2	6.5	-5.85	-0.41
Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
63	125	62	-1	2000	0.99994	484.97	0.49800	563.62	0.19	0	9.67	960.89	7.69	968.58	7.75	7.69	0.79
63	126	63	0	2016	1.00000	487.58	0.50000	562.1	0	-0.89	10	975.42	7.74	982.83	7.8	7.41	0.75
63	127	64	1	2032	0.99994	490.13	0.50197	560.64	0.19	0	9.67	990.71	7.8	996.53	7.85	5.82	0.58
63	128	65	2	2048	0.99976	492.61	0.50391	559.23	0.76	-0.88	9.36	1003.88	7.84	1010.15	7.89	6.27	0.62
63	129	66	3	2064	0.99946	495.02	0.50581	557.86	1.7	0	9.07	1018.48	7.9	1023.23	7.93	4.74	0.46
63	130	67	4	2080	0.99905	497.38	0.50769	556.55	2.99	-0.88	8.79	1031	7.93	1036.24	7.97	5.25	0.51
63	131	68	5	2096	0.99854	499.67	0.50954	555.27	4.64	0	8.52	1044.94	7.98	1048.71	8.01	3.77	0.36
63	132	69	6	2112	0.99793	501.9	0.51136	554.04	6.63	-0.87	8.26	1056.82	8.01	1061.15	8.04	4.33	0.41
63	133	70	7	2128	0.99723	504.08	0.51316	552.85	8.96	0	8.02	1070.13	8.05	1073.04	8.07	2.91	0.27
63	134	71	8	2144	0.99644	506.2	0.51493	551.7	11.61	-0.86	7.78	1081.41	8.07	1084.92	8.1	3.51	0.32
63	135	72	9	2160	0.99556	508.26	0.51667	550.59	14.59	0	7.56	1094.11	8.1	1096.25	8.12	2.14	0.19
63	136	73	10	2176	0.99459	510.28	0.51838	549.52	17.88	-0.86	7.34	1104.81	8.12	1107.59	8.14	2.78	0.25
63	137	74	11	2192	0.99355	512.24	0.52007	548.48	21.48	0	7.14	1116.94	8.15	1118.39	8.16	1.45	0.13
63	138	75	12	2208	0.99244	514.15	0.52174	547.48	25.38	-0.85	6.94	1127.08	8.17	1129.21	8.18	2.13	0.19

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
63	139	76	13	2224	0.99125	516.02	0.52338	546.51	29.57	0	6.75	1138.65	8.19	1139.49	8.2	0.84	0.07
63	140	77	14	2240	0.99000	517.83	0.52500	545.58	34.05	-0.85	6.57	1148.26	8.2	1149.82	8.21	1.55	0.14
63	141	78	15	2256	0.98868	519.6	0.52660	544.67	38.82	0	6.4	1159.3	8.22	1159.6	8.22	0.3	0.03
63	142	79	16	2272	0.98730	521.33	0.52817	543.8	43.86	-0.84	6.23	1168.4	8.23	1169.45	8.24	1.05	0.09
63	143	80	17	2288	0.98587	523.01	0.52972	542.96	49.17	0	6.07	1178.93	8.24	1178.76	8.24	-0.17	-0.01
63	144	81	18	2304	0.98438	524.65	0.53125	542.15	54.74	-0.83	5.92	1187.54	8.25	1188.14	8.25	0.6	0.05
63	145	82	19	2320	0.98283	526.25	0.53276	541.37	60.58	0	5.77	1197.58	8.26	1196.98	8.26	-0.59	-0.05
63	146	83	20	2336	0.98124	527.81	0.53425	540.61	66.66	-0.83	5.63	1205.72	8.26	1205.92	8.26	0.21	0.02
63	147	84	21	2352	0.97959	529.33	0.53571	539.88	73	0	5.49	1215.28	8.27	1214.32	8.26	-0.96	-0.08
63	148	85	22	2368	0.97790	530.81	0.53716	539.18	79.58	-0.82	5.36	1222.97	8.26	1222.83	8.26	-0.14	-0.01
63	149	86	23	2384	0.97617	532.25	0.53859	538.5	86.4	0	5.23	1232.08	8.27	1230.8	8.26	-1.27	-0.1
63	150	87	24	2400	0.97440	533.66	0.54000	537.85	93.45	-0.82	5.11	1239.33	8.26	1238.89	8.26	-0.44	-0.04
63	151	88	25	2416	0.97259	535.04	0.54139	537.22	100.74	0	4.99	1248	8.26	1246.45	8.25	-1.55	-0.12
63	152	89	26	2432	0.97074	536.37	0.54276	536.61	108.24	-0.81	4.88	1254.84	8.26	1254.14	8.25	-0.7	-0.06
63	153	90	27	2448	0.96886	537.68	0.54412	536.02	115.97	0	4.77	1263.09	8.26	1261.3	8.24	-1.79	-0.14
63	154	91	28	2464	0.96694	538.95	0.54546	535.46	123.92	-0.81	4.66	1269.52	8.24	1268.6	8.24	-0.92	-0.07
63	155	92	29	2480	0.96500	540.19	0.54677	534.92	132.07	0	4.56	1277.37	8.24	1275.38	8.23	-1.99	-0.16
63	156	93	30	2496	0.96302	541.4	0.54808	534.4	140.44	-0.8	4.46	1283.42	8.23	1282.31	8.22	-1.11	-0.09
63	157	94	31	2512	0.96101	542.58	0.54936	533.9	149.01	0	4.36	1290.87	8.22	1288.71	8.21	-2.17	-0.17
63	158	95	32	2528	0.95898	543.73	0.55063	533.42	157.78	-0.8	4.27	1296.55	8.21	1295.27	8.2	-1.28	-0.1
63	159	96	33	2544	0.95692	544.85	0.55189	532.96	166.75	0	4.18	1303.63	8.2	1301.31	8.18	-2.31	-0.18
63	160	97	34	2560	0.95484	545.94	0.55313	532.52	175.91	-0.79	4.1	1308.94	8.18	1307.52	8.17	-1.42	-0.11
63	161	98	35	2576	0.95274	547.01	0.55435	532.09	185.26	0	4.01	1315.66	8.17	1313.22	8.16	-2.44	-0.19
63	162	99	36	2592	0.95062	548.05	0.55556	531.68	194.79	-0.79	3.93	1320.63	8.15	1319.09	8.14	-1.54	-0.12
63	163	100	37	2608	0.94847	549.06	0.55675	531.29	204.51	0	3.85	1326.99	8.14	1324.44	8.13	-2.55	-0.19
63	164	101	38	2624	0.94631	550.05	0.55793	530.92	214.4	-0.78	3.78	1331.63	8.12	1329.99	8.11	-1.64	-0.12
63	165	102	39	2640	0.94413	551.01	0.55909	530.56	224.48	0	3.71	1337.66	8.11	1335.02	8.09	-2.64	-0.2
63	166	103	40	2656	0.94194	551.94	0.56024	530.22	234.72	-0.78	3.63	1341.97	8.08	1340.24	8.07	-1.73	-0.13
63	167	104	41	2672	0.93973	552.86	0.56138	529.9	245.14	0	3.57	1347.67	8.07	1344.95	8.05	-2.72	-0.2
63	168	105	42	2688	0.93750	553.75	0.56250	529.59	255.72	-0.77	3.5	1351.68	8.05	1349.87	8.03	-1.8	-0.13
63	169	106	43	2704	0.93526	554.62	0.56361	529.29	266.46	0	3.43	1357.07	8.03	1354.27	8.01	-2.79	-0.21
63	170	107	44	2720	0.93301	555.46	0.56471	529.01	277.37	-0.77	3.37	1360.77	8	1358.89	7.99	-1.87	-0.14
63	171	108	45	2736	0.93075	556.29	0.56579	528.74	288.43	0	3.31	1365.85	7.99	1363	7.97	-2.85	-0.21
63	172	109	46	2752	0.92848	557.09	0.56686	528.49	299.65	-0.76	3.25	1369.26	7.96	1367.33	7.95	-1.93	-0.14
63	173	110	47	2768	0.92619	557.87	0.56792	528.24	311.03	0	3.19	1374.05	7.94	1371.14	7.93	-2.91	-0.21
63	174	111	48	2784	0.92390	558.63	0.56897	528.02	322.55	-0.76	3.14	1377.18	7.91	1375.19	7.9	-1.99	-0.14
63	175	112	49	2800	0.92160	559.37	0.57000	527.8	334.22	0	3.09	1381.69	7.9	1378.73	7.88	-2.96	-0.21
63	176	113	50	2816	0.91929	560.1	0.57102	527.6	346.03	-0.75	3.03	1384.55	7.87	1382.51	7.86	-2.04	-0.15
63	177	114	51	2832	0.91698	560.8	0.57203	527.41	357.99	0	2.98	1388.78	7.85	1385.77	7.83	-3.01	-0.22
63	178	115	52	2848	0.91466	561.49	0.57303	527.23	370.09	-0.75	2.93	1391.38	7.82	1389.28	7.8	-2.1	-0.15
63	179	116	53	2864	0.91233	562.16	0.57402	527.06	382.32	0	2.88	1395.34	7.8	1392.28	7.78	-3.06	-0.22
63	180	117	54	2880	0.91000	562.81	0.57500	526.91	394.7	-0.75	2.84	1397.68	7.76	1395.54	7.75	-2.15	-0.15
63	181	118	55	2896	0.90767	563.44	0.57597	526.76	407.2	0	2.79	1401.39	7.74	1398.28	7.73	-3.11	-0.22
63	182	119	56	2912	0.90533	564.05	0.57692	526.63	419.83	-0.74	2.75	1403.49	7.71	1401.28	7.7	-2.21	-0.16
63	183	120	57	2928	0.90298	564.65	0.57787	526.5	432.6	0	2.7	1406.95	7.69	1403.78	7.67	-3.17	-0.23
63	184	121	58	2944	0.90064	565.24	0.57880	526.39	445.49	-0.74	2.66	1408.81	7.66	1406.54	7.64	-2.27	-0.16
63	185	122	59	2960	0.89829	565.8	0.57973	526.29	458.51	0	2.62	1412.02	7.63	1408.8	7.62	-3.23	-0.23

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
63	186	123	60	2976	0.89594	566.36	0.58065	526.19	471.64	-0.73	2.58	1413.65	7.6	1411.32	7.59	-2.33	-0.17
63	187	124	61	2992	0.89359	566.89	0.58155	526.11	484.9	0	2.54	1416.64	7.58	1413.34	7.56	-3.3	-0.23
63	188	125	62	3008	0.89124	567.42	0.58245	526.03	498.28	-0.73	2.5	1418.04	7.54	1415.64	7.53	-2.41	-0.17
63	189	126	63	3024	0.88889	567.92	0.58333	525.97	511.78	0	2.47	1420.8	7.52	1417.43	7.5	-3.37	-0.24
63	190	127	64	3040	0.88654	568.42	0.58421	525.91	525.39	-0.73	2.43	1421.99	7.48	1419.5	7.47	-2.49	-0.18
63	191	128	65	3056	0.88419	568.9	0.58508	525.86	539.11	0	2.39	1424.52	7.46	1421.07	7.44	-3.45	-0.24
63	192	129	66	3072	0.88184	569.36	0.58594	525.82	552.95	-0.72	2.36	1425.5	7.42	1422.92	7.41	-2.58	-0.18
63	193	130	67	3088	0.87949	569.82	0.58679	525.79	566.89	0	2.33	1427.82	7.4	1424.28	7.38	-3.55	-0.25
63	194	131	68	3104	0.87714	570.26	0.58763	525.77	580.95	-0.72	2.29	1428.6	7.36	1425.92	7.35	-2.68	-0.19
63	195	132	69	3120	0.87479	570.69	0.58846	525.75	595.11	0	2.26	1430.72	7.34	1427.06	7.32	-3.65	-0.26
63	196	133	70	3136	0.87245	571.1	0.58929	525.74	609.38	-0.71	2.23	1431.3	7.3	1428.5	7.29	-2.8	-0.2
63	197	134	71	3152	0.87011	571.5	0.59010	525.75	623.74	0	2.2	1433.21	7.28	1429.44	7.26	-3.77	-0.26
63	198	135	72	3168	0.86777	571.89	0.59091	525.75	638.21	-0.71	2.17	1433.6	7.24	1430.68	7.23	-2.92	-0.2
63	199	136	73	3184	0.86543	572.27	0.59171	525.77	652.79	0	2.14	1435.31	7.21	1431.42	7.19	-3.9	-0.27
63	200	137	74	3200	0.86310	572.64	0.59250	525.79	667.46	-0.71	2.11	1435.52	7.18	1432.46	7.16	-3.06	-0.21
63	201	138	75	3216	0.86077	573	0.59328	525.82	682.22	0	2.09	1437.04	7.15	1433	7.13	-4.04	-0.28
63	202	139	76	3232	0.85845	573.34	0.59406	525.86	697.09	-0.7	2.06	1437.07	7.11	1433.86	7.1	-3.21	-0.22
63	203	140	77	3248	0.85612	573.68	0.59483	525.9	712.04	0	2.03	1438.41	7.09	1434.21	7.07	-4.2	-0.29
63	204	141	78	3264	0.85381	574	0.59559	525.95	727.09	-0.7	2.01	1438.26	7.05	1434.88	7.03	-3.38	-0.24
63	205	142	79	3280	0.85149	574.32	0.59634	526.01	742.24	0	1.98	1439.42	7.02	1435.05	7	-4.37	-0.3
63	206	143	80	3296	0.84919	574.62	0.59709	526.07	757.47	-0.7	1.96	1439.1	6.99	1435.54	6.97	-3.56	-0.25
63	207	144	81	3312	0.84688	574.92	0.59783	526.14	772.79	0	1.93	1440.09	6.96	1435.53	6.93	-4.56	-0.32
63	208	145	82	3328	0.84458	575.2	0.59856	526.21	788.2	-0.69	1.91	1439.6	6.92	1435.84	6.9	-3.76	-0.26
63	209	146	83	3344	0.84229	575.48	0.59928	526.29	803.7	0	1.89	1440.42	6.89	1435.66	6.87	-4.76	-0.33
63	210	147	84	3360	0.84000	575.74	0.60000	526.38	819.28	-0.69	1.86	1439.77	6.86	1435.8	6.84	-3.98	-0.28
63	211	148	85	3376	0.83772	576	0.60071	526.47	834.95	0	1.84	1440.43	6.83	1435.44	6.8	-4.98	-0.35
63	212	149	86	3392	0.83544	576.25	0.60142	526.57	850.69	-0.69	1.82	1439.62	6.79	1435.41	6.77	-4.21	-0.29
63	213	150	87	3408	0.83317	576.48	0.60211	526.67	866.53	0	1.8	1440.12	6.76	1434.89	6.74	-5.22	-0.36
63	214	151	88	3424	0.83090	576.71	0.60280	526.78	882.44	-0.68	1.78	1439.16	6.73	1434.7	6.7	-4.46	-0.31
63	215	152	89	3440	0.82864	576.94	0.60349	526.9	898.43	0	1.76	1439.5	6.7	1434.02	6.67	-5.48	-0.38
63	216	153	90	3456	0.82639	577.15	0.60417	527.01	914.5	-0.68	1.74	1438.4	6.66	1433.67	6.64	-4.73	-0.33
63	217	154	91	3472	0.82414	577.36	0.60484	527.14	930.64	0	1.72	1438.58	6.63	1432.83	6.6	-5.75	-0.4
63	218	155	92	3488	0.82190	577.55	0.60551	527.27	946.87	-0.68	1.7	1437.33	6.59	1432.32	6.57	-5.02	-0.35
63	219	156	93	3504	0.81967	577.74	0.60616	527.4	963.16	0	1.68	1437.37	6.56	1431.32	6.54	-6.05	-0.42
63	220	157	94	3520	0.81744	577.93	0.60682	527.54	979.54	-0.67	1.66	1435.99	6.53	1430.66	6.5	-5.32	-0.37
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
64	127	63	-1	2032	0.99994	490.13	0.49803	578.58	0.19	0	9.67	972.77	7.66	980.53	7.72	7.76	0.79
64	128	64	0	2048	1.00000	492.73	0.50000	577.05	0	0.88	10	989.1	7.73	995.88	7.78	6.77	0.68
64	129	65	1	2064	0.99994	495.26	0.50194	575.57	0.19	0	9.68	1002.65	7.77	1008.56	7.82	5.91	0.59
64	130	66	2	2080	0.99976	497.73	0.50385	574.15	0.75	0.88	9.37	1017.63	7.83	1023.27	7.87	5.64	0.55
64	131	67	3	2096	0.99948	500.14	0.50573	572.76	1.67	0	9.08	1030.51	7.87	1035.35	7.9	4.84	0.47
64	132	68	4	2112	0.99908	502.48	0.50758	571.43	2.95	0.87	8.8	1044.82	7.92	1049.44	7.95	4.62	0.44
64	133	69	5	2128	0.99859	504.76	0.50940	570.14	4.57	0	8.54	1057.07	7.95	1060.94	7.98	3.88	0.37
64	134	70	6	2144	0.99800	506.99	0.51119	568.89	6.53	0.86	8.29	1070.74	7.99	1074.44	8.02	3.71	0.35
64	135	71	7	2160	0.99731	509.16	0.51296	567.68	8.83	0	8.04	1082.37	8.02	1085.39	8.04	3.02	0.28
64	136	72	8	2176	0.99654	511.28	0.51471	566.52	11.44	0.86	7.81	1095.43	8.05	1098.32	8.08	2.89	0.26

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
64	137	73	9	2192	0.99568	513.34	0.51642	565.39	14.38	0	7.59	1106.48	8.08	1108.73	8.09	2.25	0.2
64	138	74	10	2208	0.99475	515.35	0.51812	564.3	17.62	0.85	7.38	1118.95	8.11	1121.12	8.12	2.16	0.19
64	139	75	11	2224	0.99374	517.31	0.51978	563.25	21.17	0	7.17	1129.44	8.13	1131.01	8.14	1.56	0.14
64	140	76	12	2240	0.99265	519.22	0.52143	562.23	25.02	0.85	6.98	1141.35	8.15	1142.87	8.16	1.51	0.13
64	141	77	13	2256	0.99150	521.08	0.52305	561.24	29.16	0	6.79	1151.31	8.17	1152.26	8.17	0.96	0.08
64	142	78	14	2272	0.99028	522.9	0.52465	560.29	33.58	0.84	6.61	1162.68	8.19	1163.62	8.19	0.94	0.08
64	143	79	15	2288	0.98900	524.67	0.52622	559.37	38.28	0	6.44	1172.11	8.2	1172.53	8.2	0.42	0.04
64	144	80	16	2304	0.98765	526.4	0.52778	558.48	43.25	0.83	6.27	1182.97	8.22	1183.4	8.22	0.43	0.04
64	145	81	17	2320	0.98625	528.08	0.52931	557.63	48.49	0	6.11	1191.91	8.22	1191.85	8.22	-0.05	0
64	146	82	18	2336	0.98480	529.73	0.53082	556.8	54	0.83	5.96	1202.26	8.23	1202.25	8.23	-0.01	0
64	147	83	19	2352	0.98329	531.33	0.53231	556	59.76	0	5.81	1210.73	8.24	1210.26	8.23	-0.47	-0.04
64	148	84	20	2368	0.98174	532.89	0.53378	555.23	65.77	0.82	5.67	1220.6	8.25	1220.2	8.24	-0.41	-0.03
64	149	85	21	2384	0.98014	534.42	0.53524	554.48	72.03	0	5.53	1228.61	8.25	1227.78	8.24	-0.83	-0.07
64	150	86	22	2400	0.97849	535.9	0.53667	553.76	78.53	0.82	5.4	1238.03	8.25	1237.28	8.25	-0.75	-0.06
64	151	87	23	2416	0.97680	537.35	0.53808	553.07	85.26	0	5.27	1245.59	8.25	1244.45	8.24	-1.15	-0.09
64	152	88	24	2432	0.97507	538.77	0.53947	552.4	92.23	0.81	5.15	1254.57	8.25	1253.53	8.25	-1.04	-0.08
64	153	89	25	2448	0.97330	540.14	0.54085	551.75	99.43	0	5.03	1261.71	8.25	1260.29	8.24	-1.42	-0.11
64	154	90	26	2464	0.97150	541.49	0.54221	551.13	106.85	0.81	4.92	1270.26	8.25	1268.96	8.24	-1.3	-0.1
64	155	91	27	2480	0.96966	542.8	0.54355	550.53	114.49	0	4.81	1276.99	8.24	1275.34	8.23	-1.65	-0.13
64	156	92	28	2496	0.96778	544.08	0.54487	549.95	122.34	0.8	4.71	1285.13	8.24	1283.61	8.23	-1.52	-0.12
64	157	93	29	2512	0.96588	545.33	0.54618	549.4	130.4	0	4.6	1291.47	8.23	1289.62	8.21	-1.86	-0.14
64	158	94	30	2528	0.96395	546.55	0.54747	548.86	138.67	0.8	4.5	1299.22	8.22	1297.51	8.21	-1.71	-0.13
64	159	95	31	2544	0.96199	547.73	0.54874	548.35	147.15	0	4.41	1305.18	8.21	1303.15	8.2	-2.03	-0.16
64	160	96	32	2560	0.96000	548.89	0.55000	547.85	155.82	0.79	4.32	1312.55	8.2	1310.68	8.19	-1.87	-0.14
64	161	97	33	2576	0.95799	550.02	0.55124	547.37	164.69	0	4.23	1318.14	8.19	1315.97	8.17	-2.17	-0.17
64	162	98	34	2592	0.95595	551.12	0.55247	546.92	173.75	0.79	4.14	1325.14	8.18	1323.13	8.17	-2.01	-0.15
64	163	99	35	2608	0.95389	552.2	0.55368	546.48	183	0	4.06	1330.39	8.16	1328.09	8.15	-2.3	-0.17
64	164	100	36	2624	0.95181	553.24	0.55488	546.06	192.43	0.78	3.98	1337.03	8.15	1334.91	8.14	-2.12	-0.16
64	165	101	37	2640	0.94972	554.27	0.55606	545.65	202.04	0	3.9	1341.94	8.13	1339.53	8.12	-2.4	-0.18
64	166	102	38	2656	0.94760	555.26	0.55723	545.27	211.84	0.78	3.82	1348.24	8.12	1346.01	8.11	-2.22	-0.17
64	167	103	39	2672	0.94546	556.23	0.55838	544.89	221.8	0	3.75	1352.82	8.1	1350.33	8.09	-2.49	-0.18
64	168	104	40	2688	0.94331	557.18	0.55952	544.54	231.94	0.77	3.68	1358.79	8.09	1356.48	8.07	-2.3	-0.17
64	169	105	41	2704	0.94114	558.1	0.56065	544.2	242.25	0	3.61	1363.05	8.07	1360.48	8.05	-2.57	-0.19
64	170	106	42	2720	0.93896	559	0.56177	543.88	252.73	0.77	3.54	1368.7	8.05	1366.32	8.04	-2.38	-0.17
64	171	107	43	2736	0.93677	559.88	0.56287	543.57	263.37	0	3.48	1372.66	8.03	1370.03	8.01	-2.63	-0.19
64	172	108	44	2752	0.93456	560.74	0.56395	543.27	274.16	0.76	3.41	1378	8.01	1375.56	8	-2.44	-0.18
64	173	109	45	2768	0.93234	561.57	0.56503	542.99	285.12	0	3.35	1381.67	7.99	1378.98	7.97	-2.69	-0.19
64	174	110	46	2784	0.93011	562.39	0.56609	542.73	296.23	0.76	3.29	1386.71	7.97	1384.22	7.96	-2.49	-0.18
64	175	111	47	2800	0.92787	563.18	0.56714	542.47	307.49	0	3.24	1390.09	7.94	1387.35	7.93	-2.74	-0.2
64	176	112	48	2816	0.92562	563.95	0.56818	542.23	318.9	0.75	3.18	1394.84	7.93	1392.3	7.91	-2.54	-0.18
64	177	113	49	2832	0.92336	564.71	0.56921	542.01	330.46	0	3.13	1397.95	7.9	1395.17	7.88	-2.78	-0.2
64	178	114	50	2848	0.92110	565.44	0.57023	541.79	342.17	0.75	3.07	1402.42	7.88	1399.84	7.86	-2.59	-0.18
64	179	115	51	2864	0.91882	566.16	0.57123	541.59	354.01	0	3.02	1405.26	7.85	1402.44	7.83	-2.83	-0.2
64	180	116	52	2880	0.91654	566.85	0.57222	541.4	366	0.75	2.97	1409.47	7.83	1406.84	7.82	-2.63	-0.19
64	181	117	53	2896	0.91426	567.53	0.57320	541.22	378.12	0	2.92	1412.05	7.8	1409.18	7.79	-2.87	-0.2
64	182	118	54	2912	0.91197	568.19	0.57418	541.05	390.38	0.74	2.88	1415.99	7.78	1413.31	7.77	-2.68	-0.19
64	183	119	55	2928	0.90967	568.84	0.57514	540.9	402.77	0	2.83	1418.32	7.75	1415.41	7.73	-2.91	-0.21

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
64	184	120	56	2944	0.90737	569.46	0.57609	540.75	415.3	0.74	2.79	1422.01	7.73	1419.29	7.71	-2.72	-0.19
64	185	121	57	2960	0.90507	570.07	0.57703	540.62	427.95	0	2.74	1424.1	7.7	1421.14	7.68	-2.96	-0.21
64	186	122	58	2976	0.90276	570.67	0.57796	540.49	440.73	0.73	2.7	1427.54	7.67	1424.77	7.66	-2.77	-0.19
64	187	123	59	2992	0.90046	571.25	0.57888	540.38	453.63	0	2.66	1429.4	7.64	1426.39	7.63	-3.01	-0.21
64	188	124	60	3008	0.89814	571.81	0.57979	540.28	466.65	0.73	2.62	1432.61	7.62	1429.78	7.61	-2.83	-0.2
64	189	125	61	3024	0.89583	572.36	0.58069	540.18	479.8	0	2.58	1434.24	7.59	1431.17	7.57	-3.07	-0.21
64	190	126	62	3040	0.89352	572.89	0.58158	540.1	493.06	0.73	2.54	1437.21	7.56	1434.32	7.55	-2.89	-0.2
64	191	127	63	3056	0.89120	573.41	0.58246	540.02	506.45	0	2.5	1438.62	7.53	1435.49	7.52	-3.14	-0.22
64	192	128	64	3072	0.88889	573.92	0.58333	539.95	519.94	0.72	2.47	1441.37	7.51	1438.41	7.49	-2.96	-0.21
64	193	129	65	3088	0.88657	574.41	0.58420	539.9	533.56	0	2.43	1442.57	7.47	1439.36	7.46	-3.21	-0.22
64	194	130	66	3104	0.88426	574.89	0.58505	539.85	547.28	0.72	2.4	1445.1	7.45	1442.06	7.43	-3.04	-0.21
64	195	131	67	3120	0.88195	575.35	0.58590	539.81	561.11	0	2.36	1446.09	7.42	1442.8	7.4	-3.29	-0.23
64	196	132	68	3136	0.87963	575.8	0.58674	539.78	575.05	0.71	2.33	1448.41	7.39	1445.28	7.37	-3.13	-0.22
64	197	133	69	3152	0.87732	576.24	0.58756	539.75	589.1	0	2.3	1449.2	7.36	1445.82	7.34	-3.39	-0.23
64	198	134	70	3168	0.87501	576.67	0.58838	539.74	603.25	0.71	2.27	1451.32	7.33	1448.09	7.31	-3.23	-0.22
64	199	135	71	3184	0.87271	577.08	0.58920	539.73	617.51	0	2.23	1451.92	7.3	1448.43	7.28	-3.49	-0.24
64	200	136	72	3200	0.87040	577.48	0.59000	539.73	631.86	0.71	2.2	1453.84	7.27	1450.49	7.25	-3.34	-0.23
64	201	137	73	3216	0.86810	577.88	0.59080	539.73	646.32	0	2.18	1454.24	7.24	1450.63	7.22	-3.61	-0.25
64	202	138	74	3232	0.86580	578.25	0.59158	539.75	660.88	0.7	2.15	1455.97	7.21	1452.5	7.19	-3.47	-0.24
64	203	139	75	3248	0.86350	578.62	0.59237	539.77	675.54	0	2.12	1456.19	7.17	1452.45	7.15	-3.74	-0.26
64	204	140	76	3264	0.86121	578.98	0.59314	539.8	690.29	0.7	2.09	1457.73	7.15	1454.12	7.13	-3.61	-0.25
64	205	141	77	3280	0.85892	579.33	0.59390	539.83	705.13	0	2.06	1457.77	7.11	1453.89	7.09	-3.88	-0.27
64	206	142	78	3296	0.85663	579.66	0.59466	539.88	720.07	0.7	2.04	1459.13	7.08	1455.37	7.06	-3.76	-0.26
64	207	143	79	3312	0.85435	579.99	0.59541	539.92	735.1	0	2.01	1459	7.05	1454.96	7.03	-4.04	-0.28
64	208	144	80	3328	0.85207	580.3	0.59615	539.98	750.22	0.69	1.99	1460.18	7.02	1456.25	7	-3.93	-0.27
64	209	145	81	3344	0.84980	580.61	0.59689	540.04	765.43	0	1.96	1459.88	6.99	1455.67	6.96	-4.22	-0.29
64	210	146	82	3360	0.84753	580.9	0.59762	540.11	780.73	0.69	1.94	1460.89	6.96	1456.78	6.94	-4.11	-0.28
64	211	147	83	3376	0.84526	581.19	0.59834	540.18	796.12	0	1.92	1460.43	6.92	1456.02	6.9	-4.41	-0.3
64	212	148	84	3392	0.84301	581.46	0.59906	540.26	811.59	0.69	1.89	1461.27	6.89	1456.96	6.87	-4.31	-0.3
64	213	149	85	3408	0.84075	581.73	0.59977	540.35	827.14	0	1.87	1460.65	6.86	1456.03	6.84	-4.62	-0.32
64	214	150	86	3424	0.83850	581.99	0.60047	540.44	842.78	0.68	1.85	1461.32	6.83	1456.8	6.81	-4.53	-0.31
64	215	151	87	3440	0.83626	582.24	0.60116	540.54	858.5	0	1.83	1460.55	6.79	1455.71	6.77	-4.84	-0.33
64	216	152	88	3456	0.83402	582.48	0.60185	540.64	874.3	0.68	1.81	1461.07	6.76	1456.31	6.74	-4.76	-0.33
64	217	153	89	3472	0.83179	582.71	0.60254	540.75	890.19	0	1.79	1460.14	6.73	1455.06	6.71	-5.08	-0.35
64	218	154	90	3488	0.82956	582.94	0.60321	540.86	906.15	0.68	1.77	1460.5	6.7	1455.49	6.68	-5.01	-0.34
64	219	155	91	3504	0.82734	583.15	0.60388	540.98	922.18	0	1.75	1459.43	6.66	1454.09	6.64	-5.34	-0.37
64	220	156	92	3520	0.82512	583.36	0.60455	541.1	938.3	0.67	1.73	1459.64	6.63	1454.36	6.61	-5.28	-0.36
64	221	157	93	3536	0.82292	583.56	0.60520	541.23	954.49	0	1.71	1458.43	6.6	1452.81	6.57	-5.62	-0.39
64	222	158	94	3552	0.82071	583.75	0.60586	541.36	970.75	0.67	1.69	1458.49	6.57	1452.93	6.54	-5.57	-0.38
64	223	159	95	3568	0.81852	583.94	0.60650	541.5	987.09	0	1.67	1457.14	6.53	1451.23	6.51	-5.92	-0.41
64	224	160	96	3584	0.81633	584.11	0.60714	541.64	1003.5	0.67	1.65	1457.06	6.5	1451.19	6.48	-5.87	-0.4
Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
65	129	64	-1	2064	0.99994	495.26	0.49806	593.7	0.19	0	9.68	984.53	7.63	992.35	7.69	7.82	0.79
65	130	65	0	2080	1.00000	497.85	0.50000	592.16	0	-0.88	10	999.12	7.69	1006.66	7.74	7.54	0.75
65	131	66	1	2096	0.99994	500.37	0.50191	590.66	0.19	0	9.68	1014.47	7.74	1020.43	7.79	5.96	0.58
65	132	67	2	2112	0.99977	502.83	0.50379	589.22	0.74	-0.87	9.38	1027.73	7.79	1034.13	7.83	6.4	0.62

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
65	133	68	3	2128	0.99949	505.22	0.50564	587.82	1.65	0	9.1	1042.41	7.84	1047.29	7.87	4.88	0.47
65	134	69	4	2144	0.99911	507.56	0.50746	586.47	2.9	-0.86	8.82	1055.03	7.87	1060.39	7.91	5.37	0.51
65	135	70	5	2160	0.99863	509.83	0.50926	585.16	4.5	0	8.56	1069.06	7.92	1072.96	7.95	3.9	0.36
65	136	71	6	2176	0.99805	512.05	0.51103	583.9	6.44	-0.86	8.31	1081.06	7.95	1085.5	7.98	4.44	0.41
65	137	72	7	2192	0.99739	514.22	0.51277	582.68	8.7	0	8.07	1094.48	7.99	1097.5	8.01	3.03	0.28
65	138	73	8	2208	0.99664	516.33	0.51449	581.49	11.28	-0.85	7.84	1105.89	8.01	1109.49	8.04	3.61	0.33
65	139	74	9	2224	0.99581	518.39	0.51619	580.35	14.17	0	7.62	1118.71	8.05	1120.95	8.06	2.24	0.2
65	140	75	10	2240	0.99490	520.39	0.51786	579.24	17.38	-0.85	7.41	1129.55	8.07	1132.42	8.09	2.86	0.25
65	141	76	11	2256	0.99391	522.35	0.51950	578.17	20.88	0	7.21	1141.81	8.1	1143.35	8.11	1.54	0.13
65	142	77	12	2272	0.99286	524.26	0.52113	577.14	24.67	-0.84	7.01	1152.11	8.11	1154.31	8.13	2.2	0.19
65	143	78	13	2288	0.99174	526.12	0.52273	576.13	28.75	0	6.83	1163.82	8.14	1164.73	8.14	0.92	0.08
65	144	79	14	2304	0.99055	527.94	0.52431	575.17	33.12	-0.83	6.65	1173.59	8.15	1175.2	8.16	1.61	0.14
65	145	80	15	2320	0.98930	529.71	0.52586	574.23	37.76	0	6.48	1184.78	8.17	1185.14	8.17	0.36	0.03
65	146	81	16	2336	0.98799	531.44	0.52740	573.33	42.66	-0.83	6.31	1194.05	8.18	1195.14	8.19	1.09	0.09
65	147	82	17	2352	0.98663	533.13	0.52891	572.45	47.84	0	6.15	1204.73	8.2	1204.61	8.19	-0.12	-0.01
65	148	83	18	2368	0.98521	534.77	0.53041	571.61	53.27	-0.82	6	1213.52	8.2	1214.15	8.2	0.63	0.05
65	149	84	19	2384	0.98374	536.38	0.53188	570.79	58.96	0	5.85	1223.72	8.21	1223.17	8.21	-0.55	-0.05
65	150	85	20	2400	0.98222	537.95	0.53333	570	64.9	-0.82	5.71	1232.05	8.21	1232.27	8.22	0.22	0.02
65	151	86	21	2416	0.98066	539.47	0.53477	569.24	71.08	0	5.58	1241.78	8.22	1240.85	8.22	-0.93	-0.08
65	152	87	22	2432	0.97905	540.97	0.53618	568.5	77.5	-0.81	5.44	1249.66	8.22	1249.53	8.22	-0.13	-0.01
65	153	88	23	2448	0.97740	542.42	0.53758	567.79	84.16	0	5.32	1258.95	8.23	1257.69	8.22	-1.26	-0.1
65	154	89	24	2464	0.97571	543.84	0.53896	567.11	91.04	-0.81	5.2	1266.4	8.22	1265.96	8.22	-0.44	-0.04
65	155	90	25	2480	0.97399	545.22	0.54032	566.45	98.15	0	5.08	1275.25	8.23	1273.71	8.22	-1.55	-0.12
65	156	91	26	2496	0.97222	546.58	0.54167	565.81	105.49	-0.8	4.97	1282.29	8.22	1281.58	8.22	-0.71	-0.06
65	157	92	27	2512	0.97043	547.89	0.54299	565.19	113.04	0	4.86	1290.73	8.22	1288.93	8.21	-1.8	-0.14
65	158	93	28	2528	0.96860	549.18	0.54430	564.6	120.8	-0.8	4.75	1297.37	8.21	1296.43	8.21	-0.95	-0.07
65	159	94	29	2544	0.96673	550.44	0.54560	564.03	128.77	0	4.65	1305.41	8.21	1303.4	8.2	-2.01	-0.15
65	160	95	30	2560	0.96484	551.66	0.54688	563.48	136.95	-0.79	4.55	1311.67	8.2	1310.52	8.19	-1.15	-0.09
65	161	96	31	2576	0.96293	552.86	0.54814	562.95	145.33	0	4.45	1319.32	8.19	1317.12	8.18	-2.19	-0.17
65	162	97	32	2592	0.96098	554.02	0.54938	562.44	153.91	-0.79	4.36	1325.21	8.18	1323.89	8.17	-1.32	-0.1
65	163	98	33	2608	0.95901	555.16	0.55061	561.95	162.68	0	4.27	1332.48	8.17	1330.13	8.16	-2.35	-0.18
65	164	99	34	2624	0.95702	556.27	0.55183	561.48	171.64	-0.78	4.19	1338.02	8.16	1336.55	8.15	-1.47	-0.11
65	165	100	35	2640	0.95501	557.35	0.55303	561.02	180.79	0	4.1	1344.94	8.15	1342.45	8.14	-2.49	-0.19
65	166	101	36	2656	0.95297	558.41	0.55422	560.59	190.12	-0.78	4.02	1350.12	8.13	1348.53	8.12	-1.6	-0.12
65	167	102	37	2672	0.95091	559.44	0.55539	560.17	199.64	0	3.94	1356.69	8.12	1354.09	8.11	-2.6	-0.19
65	168	103	38	2688	0.94884	560.45	0.55655	559.77	209.33	-0.77	3.87	1361.55	8.1	1359.85	8.09	-1.71	-0.13
65	169	104	39	2704	0.94675	561.43	0.55769	559.38	219.2	0	3.79	1367.79	8.09	1365.09	8.08	-2.7	-0.2
65	170	105	40	2720	0.94464	562.38	0.55882	559.02	229.23	-0.77	3.72	1372.32	8.07	1370.53	8.06	-1.8	-0.13
65	171	106	41	2736	0.94251	563.32	0.55994	558.66	239.44	0	3.65	1378.24	8.06	1375.45	8.04	-2.78	-0.2
65	172	107	42	2752	0.94037	564.23	0.56105	558.33	249.81	-0.76	3.59	1382.46	8.04	1380.58	8.03	-1.88	-0.14
65	173	108	43	2768	0.93822	565.12	0.56214	558.01	260.34	0	3.52	1388.06	8.02	1385.21	8.01	-2.85	-0.21
65	174	109	44	2784	0.93606	565.98	0.56322	557.7	271.03	-0.76	3.46	1391.99	8	1390.04	7.99	-1.95	-0.14
65	175	110	45	2800	0.93388	566.83	0.56429	557.4	281.88	0	3.4	1397.28	7.98	1394.37	7.97	-2.92	-0.21
65	176	111	46	2816	0.93169	567.65	0.56534	557.13	292.88	-0.75	3.34	1400.92	7.96	1398.91	7.95	-2.01	-0.14
65	177	112	47	2832	0.92949	568.45	0.56638	556.86	304.04	0	3.28	1405.93	7.94	1402.95	7.93	-2.97	-0.21
65	178	113	48	2848	0.92728	569.24	0.56742	556.61	315.34	-0.75	3.22	1409.28	7.92	1407.22	7.91	-2.07	-0.15
65	179	114	49	2864	0.92507	570	0.56844	556.37	326.79	0	3.17	1414	7.9	1410.98	7.88	-3.02	-0.21

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
65	180	115	50	2880	0.92284	570.75	0.56944	556.14	338.39	-0.75	3.11	1417.09	7.87	1414.97	7.86	-2.12	-0.15
65	181	116	51	2896	0.92061	571.47	0.57044	555.93	350.12	0	3.06	1421.54	7.85	1418.46	7.84	-3.07	-0.22
65	182	117	52	2912	0.91837	572.18	0.57143	555.73	362	-0.74	3.01	1424.36	7.83	1422.2	7.81	-2.17	-0.15
65	183	118	53	2928	0.91612	572.87	0.57240	555.54	374.01	0	2.96	1428.54	7.81	1425.42	7.79	-3.12	-0.22
65	184	119	54	2944	0.91387	573.54	0.57337	555.36	386.16	-0.74	2.92	1431.12	7.78	1428.9	7.77	-2.22	-0.16
65	185	120	55	2960	0.91161	574.2	0.57432	555.19	398.44	0	2.87	1435.04	7.76	1431.87	7.74	-3.17	-0.22
65	186	121	56	2976	0.90935	574.83	0.57527	555.04	410.85	-0.73	2.82	1437.37	7.73	1435.09	7.72	-2.27	-0.16
65	187	122	57	2992	0.90709	575.46	0.57620	554.89	423.39	0	2.78	1441.04	7.71	1437.82	7.69	-3.22	-0.22
65	188	123	58	3008	0.90482	576.06	0.57713	554.76	436.06	-0.73	2.74	1443.13	7.68	1440.8	7.66	-2.33	-0.16
65	189	124	59	3024	0.90255	576.65	0.57804	554.63	448.85	0	2.7	1446.56	7.65	1443.29	7.64	-3.27	-0.23
65	190	125	60	3040	0.90028	577.23	0.57895	554.52	461.77	-0.73	2.65	1448.42	7.62	1446.03	7.61	-2.39	-0.16
65	191	126	61	3056	0.89800	577.79	0.57984	554.41	474.8	0	2.61	1451.61	7.6	1448.28	7.58	-3.33	-0.23
65	192	127	62	3072	0.89573	578.33	0.58073	554.32	487.96	-0.72	2.58	1453.25	7.57	1450.8	7.56	-2.45	-0.17
65	193	128	63	3088	0.89345	578.86	0.58161	554.23	501.23	0	2.54	1456.22	7.55	1452.82	7.53	-3.4	-0.23
65	194	129	64	3104	0.89117	579.38	0.58247	554.16	514.61	-0.72	2.5	1457.64	7.51	1455.12	7.5	-2.52	-0.17
65	195	130	65	3120	0.88889	579.88	0.58333	554.09	528.11	0	2.47	1460.39	7.49	1456.91	7.47	-3.47	-0.24
65	196	131	66	3136	0.88661	580.37	0.58418	554.03	541.72	-0.71	2.43	1461.59	7.46	1458.99	7.44	-2.6	-0.18
65	197	132	67	3152	0.88433	580.85	0.58503	553.98	555.44	0	2.4	1464.13	7.43	1460.57	7.41	-3.55	-0.24
65	198	133	68	3168	0.88205	581.31	0.58586	553.94	569.27	-0.71	2.36	1465.13	7.4	1462.44	7.39	-2.69	-0.18
65	199	134	69	3184	0.87978	581.76	0.58668	553.91	583.21	0	2.33	1467.46	7.37	1463.81	7.36	-3.65	-0.25
65	200	135	70	3200	0.87750	582.2	0.58750	553.88	597.25	-0.71	2.3	1468.27	7.34	1465.47	7.33	-2.79	-0.19
65	201	136	71	3216	0.87523	582.62	0.58831	553.87	611.39	0	2.27	1470.39	7.32	1466.64	7.3	-3.75	-0.26
65	202	137	72	3232	0.87295	583.03	0.58911	553.86	625.64	-0.7	2.24	1471	7.28	1468.1	7.27	-2.9	-0.2
65	203	138	73	3248	0.87068	583.44	0.58990	553.86	639.99	0	2.21	1472.93	7.26	1469.07	7.24	-3.86	-0.26
65	204	139	74	3264	0.86842	583.83	0.59069	553.86	654.43	-0.7	2.18	1473.36	7.22	1470.33	7.21	-3.03	-0.21
65	205	140	75	3280	0.86615	584.2	0.59146	553.87	668.98	0	2.15	1475.1	7.2	1471.11	7.18	-3.99	-0.27
65	206	141	76	3296	0.86389	584.57	0.59223	553.9	683.62	-0.7	2.12	1475.34	7.16	1472.18	7.15	-3.16	-0.21
65	207	142	77	3312	0.86163	584.93	0.59300	553.92	698.35	0	2.1	1476.89	7.13	1472.76	7.11	-4.13	-0.28
65	208	143	78	3328	0.85938	585.28	0.59375	553.96	713.18	-0.69	2.07	1476.96	7.1	1473.65	7.08	-3.31	-0.22
65	209	144	79	3344	0.85712	585.61	0.59450	554	728.1	0	2.04	1478.33	7.07	1474.05	7.05	-4.29	-0.29
65	210	145	80	3360	0.85488	585.94	0.59524	554.05	743.11	-0.69	2.02	1478.23	7.04	1474.76	7.02	-3.48	-0.24
65	211	146	81	3376	0.85263	586.25	0.59597	554.1	758.21	0	1.99	1479.43	7.01	1474.97	6.99	-4.45	-0.3
65	212	147	82	3392	0.85039	586.56	0.59670	554.16	773.4	-0.69	1.97	1479.16	6.98	1475.5	6.96	-3.66	-0.25
65	213	148	83	3408	0.84816	586.85	0.59742	554.23	788.68	0	1.95	1480.19	6.95	1475.55	6.93	-4.64	-0.31
65	214	149	84	3424	0.84593	587.14	0.59813	554.3	804.04	-0.68	1.92	1479.76	6.91	1475.9	6.9	-3.85	-0.26
65	215	150	85	3440	0.84370	587.42	0.59884	554.38	819.48	0	1.9	1480.62	6.89	1475.78	6.86	-4.84	-0.33
65	216	151	86	3456	0.84148	587.69	0.59954	554.46	835.01	-0.68	1.88	1480.03	6.85	1475.97	6.83	-4.07	-0.28
65	217	152	87	3472	0.83926	587.95	0.60023	554.55	850.63	0	1.86	1480.73	6.82	1475.67	6.8	-5.06	-0.34
65	218	153	88	3488	0.83705	588.2	0.60092	554.65	866.32	-0.68	1.84	1479.99	6.79	1475.69	6.77	-4.29	-0.29
65	219	154	89	3504	0.83485	588.44	0.60160	554.75	882.09	0	1.81	1480.53	6.76	1475.24	6.74	-5.29	-0.36
65	220	155	90	3520	0.83265	588.68	0.60227	554.86	897.95	-0.67	1.79	1479.64	6.73	1475.1	6.71	-4.54	-0.31
65	221	156	91	3536	0.83045	588.9	0.60294	554.97	913.88	0	1.77	1480.03	6.7	1474.48	6.67	-5.54	-0.38
65	222	157	92	3552	0.82826	589.12	0.60360	555.09	929.88	-0.67	1.75	1478.99	6.66	1474.19	6.64	-4.8	-0.33
65	223	158	93	3568	0.82608	589.33	0.60426	555.21	945.97	0	1.74	1479.23	6.63	1473.42	6.61	-5.81	-0.39
65	224	159	94	3584	0.82390	589.53	0.60491	555.34	962.12	-0.67	1.72	1478.05	6.6	1472.97	6.58	-5.08	-0.35
65	225	160	95	3600	0.82173	589.73	0.60556	555.47	978.35	0	1.7	1478.14	6.57	1472.04	6.54	-6.1	-0.41
65	226	161	96	3616	0.81956	589.92	0.60620	555.61	994.66	-0.67	1.68	1476.83	6.53	1471.45	6.51	-5.38	-0.37

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
65	227	162	97	3632	0.81740	590.1	0.60683	555.75	1011.04	0	1.66	1476.78	6.51	1470.38	6.48	-6.41	-0.44
65	228	163	98	3648	0.81525	590.27	0.60746	555.9	1027.48	-0.66	1.64	1475.34	6.47	1469.63	6.45	-5.7	-0.39
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
66	131	65	-1	2096	0.99994	500.37	0.49809	608.98	0.19	0	9.68	996.15	7.6	1004.04	7.66	7.89	0.79
66	132	66	0	2112	1.00000	502.94	0.50000	607.42	0	0.87	10	1012.51	7.67	1019.43	7.72	6.92	0.68
66	133	67	1	2128	0.99994	505.45	0.50188	605.91	0.18	0	9.69	1026.15	7.72	1032.19	7.76	6.05	0.59
66	134	68	2	2144	0.99978	507.9	0.50373	604.45	0.73	0.86	9.39	1041.18	7.77	1046.97	7.81	5.78	0.55
66	135	69	3	2160	0.99951	510.28	0.50556	603.04	1.62	0	9.11	1054.17	7.81	1059.14	7.85	4.97	0.47
66	136	70	4	2176	0.99914	512.61	0.50735	601.67	2.86	0.86	8.84	1068.56	7.86	1073.31	7.89	4.75	0.44
66	137	71	5	2192	0.99867	514.88	0.50912	600.34	4.44	0	8.58	1080.92	7.89	1084.92	7.92	4	0.37
66	138	72	6	2208	0.99811	517.09	0.51087	599.06	6.34	0.85	8.33	1094.68	7.93	1098.51	7.96	3.83	0.35
66	139	73	7	2224	0.99746	519.25	0.51259	597.82	8.57	0	8.09	1106.45	7.96	1109.57	7.98	3.13	0.28
66	140	74	8	2240	0.99674	521.35	0.51429	596.62	11.12	0.85	7.87	1119.61	8	1122.61	8.02	3	0.27
66	141	75	9	2256	0.99593	523.41	0.51596	595.46	13.97	0	7.65	1130.8	8.02	1133.15	8.04	2.35	0.21
66	142	76	10	2272	0.99504	525.41	0.51761	594.34	17.13	0.84	7.44	1143.39	8.05	1145.65	8.07	2.26	0.2
66	143	77	11	2288	0.99408	527.37	0.51923	593.25	20.59	0	7.24	1154.03	8.07	1155.68	8.08	1.65	0.14
66	144	78	12	2304	0.99306	529.28	0.52083	592.2	24.33	0.83	7.05	1166.07	8.1	1167.67	8.11	1.59	0.14
66	145	79	13	2320	0.99196	531.14	0.52241	591.18	28.36	0	6.86	1176.18	8.11	1177.21	8.12	1.03	0.09
66	146	80	14	2336	0.99081	532.96	0.52397	590.2	32.67	0.83	6.68	1187.69	8.13	1188.7	8.14	1.01	0.08
66	147	81	15	2352	0.98959	534.73	0.52551	589.25	37.24	0	6.51	1197.29	8.14	1197.77	8.15	0.48	0.04
66	148	82	16	2368	0.98831	536.46	0.52703	588.32	42.09	0.82	6.35	1208.3	8.16	1208.78	8.17	0.49	0.04
66	149	83	17	2384	0.98698	538.15	0.52852	587.43	47.2	0	6.19	1217.41	8.17	1217.4	8.17	-0.01	0
66	150	84	18	2400	0.98560	539.8	0.53000	586.57	52.57	0.82	6.04	1227.92	8.19	1227.95	8.19	0.03	0
66	151	85	19	2416	0.98417	541.4	0.53146	585.74	58.18	0	5.9	1236.57	8.19	1236.13	8.19	-0.43	-0.04
66	152	86	20	2432	0.98269	542.97	0.53290	584.93	64.05	0.81	5.75	1246.61	8.2	1246.23	8.2	-0.38	-0.03
66	153	87	21	2448	0.98116	544.51	0.53431	584.16	70.16	0	5.62	1254.8	8.2	1253.99	8.2	-0.81	-0.06
66	154	88	22	2464	0.97959	546	0.53571	583.4	76.5	0.81	5.49	1264.39	8.21	1263.66	8.21	-0.73	-0.06
66	155	89	23	2480	0.97798	547.46	0.53710	582.68	83.08	0	5.36	1272.15	8.21	1271.01	8.2	-1.14	-0.09
66	156	90	24	2496	0.97633	548.89	0.53846	581.98	89.88	0.8	5.24	1281.3	8.21	1280.26	8.21	-1.04	-0.08
66	157	91	25	2512	0.97464	550.28	0.53981	581.3	96.91	0	5.12	1288.64	8.21	1287.21	8.2	-1.42	-0.11
66	158	92	26	2528	0.97292	551.63	0.54114	580.65	104.16	0.8	5.01	1297.37	8.21	1296.06	8.2	-1.31	-0.1
66	159	93	27	2544	0.97116	552.96	0.54245	580.02	111.62	0	4.9	1304.3	8.2	1302.63	8.19	-1.67	-0.13
66	160	94	28	2560	0.96938	554.25	0.54375	579.41	119.3	0.79	4.8	1312.63	8.2	1311.09	8.19	-1.54	-0.12
66	161	95	29	2576	0.96756	555.51	0.54503	578.82	127.18	0	4.69	1319.17	8.19	1317.29	8.18	-1.88	-0.14
66	162	96	30	2592	0.96571	556.75	0.54630	578.26	135.27	0.79	4.59	1327.11	8.19	1325.37	8.18	-1.74	-0.13
66	163	97	31	2608	0.96383	557.95	0.54755	577.71	143.56	0	4.5	1333.28	8.18	1331.22	8.17	-2.06	-0.15
66	164	98	32	2624	0.96193	559.12	0.54878	577.19	152.04	0.78	4.41	1340.84	8.18	1338.93	8.16	-1.91	-0.14
66	165	99	33	2640	0.96000	560.27	0.55000	576.68	160.72	0	4.32	1346.65	8.16	1344.43	8.15	-2.22	-0.16
66	166	100	34	2656	0.95805	561.39	0.55121	576.19	169.59	0.78	4.23	1353.84	8.16	1351.79	8.14	-2.05	-0.15
66	167	101	35	2672	0.95608	562.48	0.55240	575.73	178.64	0	4.15	1359.3	8.14	1356.96	8.13	-2.35	-0.17
66	168	102	36	2688	0.95408	563.54	0.55357	575.28	187.88	0.77	4.07	1366.14	8.13	1363.97	8.12	-2.17	-0.16
66	169	103	37	2704	0.95207	564.58	0.55473	574.85	197.29	0	3.99	1371.27	8.11	1368.81	8.1	-2.46	-0.18
66	170	104	38	2720	0.95004	565.6	0.55588	574.43	206.88	0.77	3.91	1377.77	8.1	1375.49	8.09	-2.28	-0.17
66	171	105	39	2736	0.94798	566.59	0.55702	574.03	216.65	0	3.84	1382.57	8.09	1380.02	8.07	-2.55	-0.18
66	172	106	40	2752	0.94592	567.55	0.55814	573.65	226.58	0.76	3.77	1388.74	8.07	1386.38	8.06	-2.37	-0.17
66	173	107	41	2768	0.94383	568.5	0.55925	573.28	236.68	0	3.7	1393.23	8.05	1390.6	8.04	-2.63	-0.19

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
66	174	108	42	2784	0.94174	569.42	0.56035	572.93	246.95	0.76	3.63	1399.08	8.04	1396.64	8.03	-2.44	-0.17
66	175	109	43	2800	0.93962	570.31	0.56143	572.6	257.38	0	3.56	1403.27	8.02	1400.57	8	-2.7	-0.19
66	176	110	44	2816	0.93750	571.19	0.56250	572.28	267.97	0.75	3.5	1408.81	8	1406.31	7.99	-2.5	-0.18
66	177	111	45	2832	0.93536	572.05	0.56356	571.97	278.71	0	3.44	1412.7	7.98	1409.95	7.97	-2.76	-0.2
66	178	112	46	2848	0.93322	572.88	0.56461	571.68	289.61	0.75	3.38	1417.95	7.97	1415.39	7.95	-2.56	-0.18
66	179	113	47	2864	0.93106	573.69	0.56564	571.4	300.66	0	3.32	1421.56	7.94	1418.75	7.93	-2.81	-0.2
66	180	114	48	2880	0.92889	574.49	0.56667	571.14	311.86	0.75	3.26	1426.52	7.93	1423.91	7.91	-2.61	-0.18
66	181	115	49	2896	0.92671	575.26	0.56768	570.89	323.2	0	3.21	1429.86	7.9	1427	7.88	-2.85	-0.2
66	182	116	50	2912	0.92453	576.02	0.56868	570.65	334.69	0.74	3.15	1434.54	7.88	1431.89	7.87	-2.65	-0.19
66	183	117	51	2928	0.92233	576.75	0.56967	570.42	346.32	0	3.1	1437.61	7.86	1434.71	7.84	-2.89	-0.2
66	184	118	52	2944	0.92013	577.47	0.57065	570.21	358.09	0.74	3.05	1442.02	7.84	1439.32	7.82	-2.7	-0.19
66	185	119	53	2960	0.91793	578.17	0.57162	570.01	369.99	0	3	1444.83	7.81	1441.89	7.79	-2.93	-0.2
66	186	120	54	2976	0.91571	578.85	0.57258	569.82	382.03	0.73	2.95	1448.98	7.79	1446.24	7.78	-2.74	-0.19
66	187	121	55	2992	0.91350	579.52	0.57353	569.64	394.2	0	2.91	1451.54	7.76	1448.57	7.75	-2.98	-0.21
66	188	122	56	3008	0.91127	580.17	0.57447	569.47	406.51	0.73	2.86	1455.44	7.74	1452.66	7.73	-2.78	-0.19
66	189	123	57	3024	0.90905	580.8	0.57540	569.32	418.94	0	2.82	1457.76	7.71	1454.74	7.7	-3.02	-0.21
66	190	124	58	3040	0.90681	581.42	0.57632	569.17	431.5	0.73	2.77	1461.41	7.69	1458.59	7.68	-2.82	-0.19
66	191	125	59	3056	0.90458	582.02	0.57723	569.04	444.18	0	2.73	1463.5	7.66	1460.43	7.65	-3.06	-0.21
66	192	126	60	3072	0.90234	582.61	0.57813	568.91	456.98	0.72	2.69	1466.91	7.64	1464.04	7.63	-2.87	-0.2
66	193	127	61	3088	0.90011	583.18	0.57902	568.8	469.91	0	2.65	1468.77	7.61	1465.65	7.59	-3.11	-0.21
66	194	128	62	3104	0.89786	583.73	0.57990	568.69	482.95	0.72	2.61	1471.95	7.59	1469.02	7.57	-2.93	-0.2
66	195	129	63	3120	0.89562	584.27	0.58077	568.6	496.11	0	2.57	1473.59	7.56	1470.42	7.54	-3.17	-0.22
66	196	130	64	3136	0.89338	584.8	0.58163	568.51	509.39	0.71	2.54	1476.55	7.53	1473.56	7.52	-2.99	-0.2
66	197	131	65	3152	0.89113	585.31	0.58249	568.44	522.78	0	2.5	1477.97	7.5	1474.74	7.49	-3.23	-0.22
66	198	132	66	3168	0.88889	585.81	0.58333	568.37	536.28	0.71	2.47	1480.72	7.48	1477.66	7.46	-3.06	-0.21
66	199	133	67	3184	0.88664	586.3	0.58417	568.31	549.89	0	2.43	1481.93	7.45	1478.63	7.43	-3.31	-0.22
66	200	134	68	3200	0.88440	586.77	0.58500	568.26	563.61	0.71	2.4	1484.46	7.42	1481.33	7.41	-3.14	-0.21
66	201	135	69	3216	0.88216	587.23	0.58582	568.22	577.43	0	2.37	1485.48	7.39	1482.09	7.37	-3.39	-0.23
66	202	136	70	3232	0.87991	587.68	0.58663	568.18	591.36	0.7	2.33	1487.81	7.37	1484.58	7.35	-3.22	-0.22
66	203	137	71	3248	0.87767	588.12	0.58744	568.16	605.4	0	2.3	1488.63	7.33	1485.14	7.32	-3.48	-0.23
66	204	138	72	3264	0.87543	588.54	0.58824	568.14	619.54	0.7	2.27	1490.75	7.31	1487.43	7.29	-3.32	-0.22
66	205	139	73	3280	0.87320	588.95	0.58902	568.13	633.77	0	2.24	1491.38	7.28	1487.8	7.26	-3.58	-0.24
66	206	140	74	3296	0.87096	589.36	0.58981	568.13	648.11	0.7	2.21	1493.31	7.25	1489.88	7.23	-3.43	-0.23
66	207	141	75	3312	0.86873	589.75	0.59058	568.13	662.54	0	2.18	1493.76	7.22	1490.06	7.2	-3.7	-0.25
66	208	142	76	3328	0.86649	590.12	0.59135	568.15	677.08	0.69	2.16	1495.5	7.19	1491.95	7.17	-3.56	-0.24
66	209	143	77	3344	0.86427	590.49	0.59211	568.17	691.7	0	2.13	1495.77	7.16	1491.94	7.14	-3.83	-0.26
66	210	144	78	3360	0.86204	590.85	0.59286	568.19	706.42	0.69	2.1	1497.33	7.13	1493.64	7.11	-3.69	-0.25
66	211	145	79	3376	0.85982	591.19	0.59360	568.23	721.23	0	2.08	1497.42	7.1	1493.45	7.08	-3.97	-0.27
66	212	146	80	3392	0.85760	591.53	0.59434	568.27	736.13	0.69	2.05	1498.81	7.07	1494.96	7.05	-3.84	-0.26
66	213	147	81	3408	0.85539	591.86	0.59507	568.31	751.13	0	2.02	1498.73	7.04	1494.6	7.02	-4.13	-0.28
66	214	148	82	3424	0.85318	592.17	0.59579	568.37	766.21	0.68	2	1499.94	7.01	1495.93	6.99	-4.01	-0.27
66	215	149	83	3440	0.85097	592.48	0.59651	568.43	781.37	0	1.98	1499.7	6.98	1495.4	6.96	-4.3	-0.29
66	216	150	84	3456	0.84877	592.78	0.59722	568.49	796.63	0.68	1.95	1500.74	6.95	1496.55	6.93	-4.18	-0.28
66	217	151	85	3472	0.84657	593.07	0.59793	568.56	811.97	0	1.93	1500.33	6.91	1495.85	6.89	-4.48	-0.3
66	218	152	86	3488	0.84437	593.34	0.59862	568.64	827.39	0.68	1.91	1501.21	6.89	1496.83	6.87	-4.38	-0.29
66	219	153	87	3504	0.84218	593.62	0.59932	568.73	842.89	0	1.89	1500.65	6.85	1495.97	6.83	-4.69	-0.31
66	220	154	88	3520	0.84000	593.88	0.60000	568.82	858.48	0.67	1.86	1501.37	6.82	1496.77	6.8	-4.59	-0.31

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
66	221	155	89	3536	0.83782	594.13	0.60068	568.91	874.15	0	1.84	1500.66	6.79	1495.75	6.77	-4.9	-0.33
66	222	156	90	3552	0.83565	594.37	0.60135	569.01	889.89	0.67	1.82	1501.22	6.76	1496.4	6.74	-4.82	-0.32
66	223	157	91	3568	0.83348	594.61	0.60202	569.12	905.72	0	1.8	1500.36	6.73	1495.22	6.71	-5.14	-0.34
66	224	158	92	3584	0.83131	594.84	0.60268	569.23	921.62	0.67	1.78	1500.77	6.7	1495.7	6.68	-5.07	-0.34
66	225	159	93	3600	0.82916	595.06	0.60333	569.34	937.59	0	1.76	1499.77	6.67	1494.37	6.64	-5.39	-0.36
66	226	160	94	3616	0.82700	595.27	0.60398	569.47	953.65	0.67	1.74	1500.03	6.64	1494.7	6.61	-5.33	-0.36
66	227	161	95	3632	0.82486	595.48	0.60463	569.59	969.77	0	1.72	1498.88	6.6	1493.22	6.58	-5.67	-0.38
66	228	162	96	3648	0.82272	595.67	0.60526	569.72	985.97	0.66	1.71	1499	6.57	1493.39	6.55	-5.61	-0.38
66	229	163	97	3664	0.82058	595.86	0.60590	569.86	1002.24	0	1.69	1497.72	6.54	1491.76	6.51	-5.96	-0.4
66	230	164	98	3680	0.81845	596.05	0.60652	570	1018.59	0.66	1.67	1497.7	6.51	1491.79	6.49	-5.91	-0.4
66	231	165	99	3696	0.81633	596.22	0.60714	570.15	1035	0	1.65	1496.29	6.48	1490.02	6.45	-6.26	-0.42
Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
67	133	66	-1	2128	0.99994	505.45	0.49812	624.41	0.18	0	9.69	1007.65	7.58	1015.59	7.64	7.95	0.78
67	134	67	0	2144	1.00000	508.01	0.50000	622.84	0	-0.86	10	1022.29	7.63	1029.96	7.69	7.67	0.74
67	135	68	1	2160	0.99995	510.51	0.50185	621.31	0.18	0	9.69	1037.7	7.69	1043.8	7.73	6.1	0.58
67	136	69	2	2176	0.99978	512.94	0.50368	619.83	0.72	-0.86	9.4	1051.05	7.73	1057.57	7.78	6.52	0.62
67	137	70	3	2192	0.99952	515.32	0.50547	618.41	1.6	0	9.12	1065.8	7.78	1070.81	7.82	5.01	0.47
67	138	71	4	2208	0.99916	517.63	0.50725	617.02	2.82	-0.85	8.85	1078.53	7.82	1084	7.86	5.48	0.51
67	139	72	5	2224	0.99871	519.9	0.50899	615.68	4.37	0	8.6	1092.65	7.86	1096.67	7.89	4.02	0.37
67	140	73	6	2240	0.99816	522.1	0.51071	614.38	6.25	-0.85	8.35	1104.77	7.89	1109.31	7.92	4.54	0.41
67	141	74	7	2256	0.99754	524.26	0.51241	613.13	8.45	0	8.12	1118.28	7.93	1121.42	7.95	3.13	0.28
67	142	75	8	2272	0.99683	526.36	0.51409	611.91	10.96	-0.84	7.89	1129.82	7.96	1133.52	7.98	3.7	0.33
67	143	76	9	2288	0.99604	528.41	0.51573	610.73	13.78	0	7.68	1142.76	7.99	1145.09	8.01	2.34	0.2
67	144	77	10	2304	0.99518	530.41	0.51736	609.59	16.9	-0.83	7.47	1153.74	8.01	1156.68	8.03	2.94	0.25
67	145	78	11	2320	0.99425	532.36	0.51897	608.49	20.3	0	7.27	1166.12	8.04	1167.74	8.05	1.63	0.14
67	146	79	12	2336	0.99325	534.27	0.52055	607.42	24	-0.83	7.08	1176.57	8.06	1178.83	8.07	2.27	0.19
67	147	80	13	2352	0.99218	536.13	0.52211	606.39	27.98	0	6.9	1188.41	8.08	1189.4	8.09	0.99	0.08
67	148	81	14	2368	0.99105	537.95	0.52365	605.38	32.23	-0.82	6.72	1198.34	8.1	1200	8.11	1.66	0.14
67	149	82	15	2384	0.98987	539.72	0.52517	604.42	36.75	0	6.55	1209.67	8.12	1210.09	8.12	0.42	0.04
67	150	83	16	2400	0.98862	541.45	0.52667	603.48	41.53	-0.82	6.39	1219.11	8.13	1220.24	8.13	1.13	0.09
67	151	84	17	2416	0.98733	543.14	0.52815	602.57	46.58	0	6.23	1229.94	8.15	1229.86	8.14	-0.08	-0.01
67	152	85	18	2432	0.98598	544.79	0.52961	601.69	51.88	-0.81	6.08	1238.9	8.15	1239.56	8.16	0.66	0.05
67	153	86	19	2448	0.98458	546.4	0.53105	600.84	57.43	0	5.94	1249.26	8.17	1248.74	8.16	-0.52	-0.04
67	154	87	20	2464	0.98313	547.98	0.53247	600.02	63.22	-0.81	5.8	1257.77	8.17	1258.01	8.17	0.24	0.02
67	155	88	21	2480	0.98164	549.51	0.53387	599.23	69.26	0	5.66	1267.66	8.18	1266.75	8.17	-0.91	-0.07
67	156	89	22	2496	0.98011	551.01	0.53526	598.46	75.53	-0.8	5.53	1275.73	8.18	1275.6	8.18	-0.13	-0.01
67	157	90	23	2512	0.97854	552.48	0.53662	597.72	82.03	0	5.4	1285.18	8.19	1283.94	8.18	-1.25	-0.1
67	158	91	24	2528	0.97693	553.9	0.53798	597	88.75	-0.8	5.28	1292.83	8.18	1292.38	8.18	-0.45	-0.03
67	159	92	25	2544	0.97528	555.3	0.53931	596.31	95.7	0	5.17	1301.86	8.19	1300.31	8.18	-1.55	-0.12
67	160	93	26	2560	0.97359	556.66	0.54063	595.64	102.87	-0.79	5.05	1309.09	8.18	1308.36	8.18	-0.73	-0.06
67	161	94	27	2576	0.97188	557.99	0.54193	594.99	110.25	0	4.94	1317.71	8.18	1315.9	8.17	-1.81	-0.14
67	162	95	28	2592	0.97013	559.29	0.54321	594.37	117.84	-0.79	4.84	1324.55	8.18	1323.58	8.17	-0.97	-0.07
67	163	96	29	2608	0.96835	560.56	0.54448	593.77	125.63	0	4.74	1332.77	8.18	1330.74	8.16	-2.03	-0.15
67	164	97	30	2624	0.96654	561.8	0.54573	593.19	133.63	-0.78	4.64	1339.23	8.17	1338.05	8.16	-1.18	-0.09
67	165	98	31	2640	0.96470	563.01	0.54697	592.63	141.83	0	4.54	1347.07	8.16	1344.85	8.15	-2.22	-0.17
67	166	99	32	2656	0.96284	564.19	0.54819	592.09	150.22	-0.78	4.45	1353.17	8.15	1351.8	8.14	-1.37	-0.1

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
67	167	100	33	2672	0.96095	565.35	0.54940	591.57	158.81	0	4.36	1360.64	8.15	1358.25	8.13	-2.39	-0.18
67	168	101	34	2688	0.95904	566.47	0.55060	591.07	167.58	-0.77	4.27	1366.38	8.13	1364.86	8.12	-1.52	-0.11
67	169	102	35	2704	0.95711	567.57	0.55178	590.59	176.54	0	4.19	1373.49	8.13	1370.96	8.11	-2.53	-0.18
67	170	103	36	2720	0.95516	568.65	0.55294	590.12	185.68	-0.77	4.11	1378.9	8.11	1377.24	8.1	-1.66	-0.12
67	171	104	37	2736	0.95318	569.69	0.55409	589.68	195	0	4.03	1385.66	8.1	1383.01	8.09	-2.65	-0.19
67	172	105	38	2752	0.95119	570.72	0.55523	589.25	204.49	-0.76	3.95	1390.73	8.09	1388.97	8.08	-1.77	-0.13
67	173	106	39	2768	0.94918	571.72	0.55636	588.84	214.16	0	3.88	1397.17	8.08	1394.42	8.06	-2.75	-0.2
67	174	107	40	2784	0.94715	572.69	0.55747	588.44	223.99	-0.76	3.81	1401.92	8.06	1400.06	8.05	-1.87	-0.13
67	175	108	41	2800	0.94511	573.64	0.55857	588.06	234	0	3.74	1408.04	8.05	1405.19	8.03	-2.84	-0.2
67	176	109	42	2816	0.94305	574.57	0.55966	587.7	244.16	-0.75	3.67	1412.48	8.03	1410.53	8.01	-1.95	-0.14
67	177	110	43	2832	0.94098	575.48	0.56073	587.35	254.49	0	3.6	1418.28	8.01	1415.37	8	-2.92	-0.21
67	178	111	44	2848	0.93890	576.37	0.56180	587.02	264.97	-0.75	3.54	1422.43	7.99	1420.41	7.98	-2.02	-0.14
67	179	112	45	2864	0.93680	577.23	0.56285	586.7	275.62	0	3.48	1427.93	7.98	1424.95	7.96	-2.98	-0.21
67	180	113	46	2880	0.93469	578.08	0.56389	586.4	286.41	-0.75	3.42	1431.79	7.95	1429.71	7.94	-2.08	-0.15
67	181	114	47	2896	0.93257	578.9	0.56492	586.1	297.36	0	3.36	1437	7.94	1433.96	7.92	-3.04	-0.21
67	182	115	48	2912	0.93044	579.7	0.56593	585.83	308.45	-0.74	3.3	1440.58	7.92	1438.44	7.9	-2.14	-0.15
67	183	116	49	2928	0.92831	580.49	0.56694	585.56	319.69	0	3.25	1445.51	7.9	1442.42	7.88	-3.09	-0.21
67	184	117	50	2944	0.92616	581.25	0.56794	585.31	331.07	-0.74	3.19	1448.82	7.87	1446.63	7.86	-2.19	-0.15
67	185	118	51	2960	0.92400	582	0.56892	585.08	342.59	0	3.14	1453.47	7.86	1450.34	7.84	-3.13	-0.22
67	186	119	52	2976	0.92184	582.73	0.56989	584.85	354.26	-0.73	3.09	1456.52	7.83	1454.28	7.82	-2.24	-0.15
67	187	120	53	2992	0.91967	583.44	0.57086	584.64	366.06	0	3.04	1460.91	7.81	1457.73	7.8	-3.18	-0.22
67	188	121	54	3008	0.91750	584.13	0.57181	584.44	377.99	-0.73	2.99	1463.7	7.79	1461.42	7.77	-2.29	-0.16
67	189	122	55	3024	0.91532	584.81	0.57275	584.25	390.05	0	2.95	1467.83	7.77	1464.61	7.75	-3.22	-0.22
67	190	123	56	3040	0.91313	585.47	0.57368	584.07	402.25	-0.73	2.9	1470.38	7.74	1468.05	7.73	-2.33	-0.16
67	191	124	57	3056	0.91094	586.11	0.57461	583.9	414.57	0	2.86	1474.27	7.72	1471	7.7	-3.27	-0.22
67	192	125	58	3072	0.90875	586.74	0.57552	583.75	427.02	-0.72	2.81	1476.58	7.69	1474.2	7.68	-2.38	-0.16
67	193	126	59	3088	0.90655	587.35	0.57643	583.6	439.6	0	2.77	1480.22	7.67	1476.9	7.65	-3.32	-0.22
67	194	127	60	3104	0.90435	587.95	0.57732	583.47	452.3	-0.72	2.73	1482.3	7.64	1479.87	7.63	-2.43	-0.16
67	195	128	61	3120	0.90214	588.53	0.57821	583.34	465.11	0	2.69	1485.71	7.62	1482.34	7.6	-3.37	-0.23
67	196	129	62	3136	0.89994	589.09	0.57908	583.23	478.05	-0.71	2.65	1487.56	7.59	1485.07	7.58	-2.49	-0.17
67	197	130	63	3152	0.89773	589.65	0.57995	583.12	491.1	0	2.61	1490.74	7.57	1487.32	7.55	-3.42	-0.23
67	198	131	64	3168	0.89552	590.18	0.58081	583.03	504.27	-0.71	2.57	1492.38	7.54	1489.83	7.52	-2.55	-0.17
67	199	132	65	3184	0.89331	590.71	0.58166	582.94	517.55	0	2.54	1495.34	7.51	1491.85	7.5	-3.49	-0.23
67	200	133	66	3200	0.89110	591.22	0.58250	582.86	530.94	-0.71	2.5	1496.77	7.48	1494.15	7.47	-2.62	-0.18
67	201	134	67	3216	0.88889	591.72	0.58333	582.79	544.44	0	2.47	1499.51	7.46	1495.95	7.44	-3.56	-0.24
67	202	135	68	3232	0.88668	592.2	0.58416	582.73	558.06	-0.7	2.43	1500.74	7.43	1498.04	7.42	-2.7	-0.18
67	203	136	69	3248	0.88447	592.67	0.58498	582.68	571.77	0	2.4	1503.27	7.41	1499.63	7.39	-3.64	-0.24
67	204	137	70	3264	0.88226	593.13	0.58578	582.64	585.6	-0.7	2.37	1504.3	7.37	1501.51	7.36	-2.79	-0.19
67	205	138	71	3280	0.88005	593.58	0.58659	582.61	599.52	0	2.33	1506.63	7.35	1502.9	7.33	-3.73	-0.25
67	206	139	72	3296	0.87784	594.01	0.58738	582.58	613.55	-0.7	2.3	1507.46	7.32	1504.58	7.3	-2.89	-0.19
67	207	140	73	3312	0.87563	594.43	0.58816	582.56	627.68	0	2.27	1509.6	7.29	1505.77	7.27	-3.83	-0.25
67	208	141	74	3328	0.87343	594.85	0.58894	582.55	641.91	-0.69	2.24	1510.25	7.26	1507.25	7.25	-3	-0.2
67	209	142	75	3344	0.87123	595.25	0.58971	582.55	656.23	0	2.22	1512.19	7.24	1508.24	7.22	-3.94	-0.26
67	210	143	76	3360	0.86903	595.63	0.59048	582.55	670.66	-0.69	2.19	1512.65	7.2	1509.53	7.19	-3.12	-0.21
67	211	144	77	3376	0.86683	596.01	0.59123	582.56	685.18	0	2.16	1514.41	7.18	1510.34	7.16	-4.07	-0.27
67	212	145	78	3392	0.86463	596.38	0.59198	582.58	699.79	-0.69	2.13	1514.7	7.14	1511.44	7.13	-3.25	-0.22
67	213	146	79	3408	0.86244	596.74	0.59272	582.61	714.49	0	2.11	1516.27	7.12	1512.06	7.1	-4.2	-0.28

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
67	214	147	80	3424	0.86025	597.08	0.59346	582.64	729.29	-0.68	2.08	1516.39	7.09	1512.99	7.07	-3.4	-0.22
67	215	148	81	3440	0.85806	597.42	0.59419	582.68	744.17	0	2.05	1517.78	7.06	1513.43	7.04	-4.36	-0.29
67	216	149	82	3456	0.85588	597.75	0.59491	582.73	759.15	-0.68	2.03	1517.73	7.03	1514.17	7.01	-3.56	-0.24
67	217	150	83	3472	0.85370	598.06	0.59562	582.78	774.21	0	2.01	1518.96	7	1514.44	6.98	-4.52	-0.3
67	218	151	84	3488	0.85153	598.37	0.59633	582.84	789.35	-0.68	1.98	1518.74	6.97	1515.01	6.95	-3.73	-0.25
67	219	152	85	3504	0.84936	598.67	0.59703	582.9	804.59	0	1.96	1519.8	6.94	1515.1	6.92	-4.7	-0.31
67	220	153	86	3520	0.84719	598.96	0.59773	582.97	819.9	-0.67	1.94	1519.43	6.91	1515.5	6.89	-3.93	-0.26
67	221	154	87	3536	0.84503	599.24	0.59842	583.05	835.3	0	1.91	1520.32	6.88	1515.43	6.86	-4.9	-0.32
67	222	155	88	3552	0.84287	599.51	0.59910	583.13	850.78	-0.67	1.89	1519.8	6.85	1515.66	6.83	-4.13	-0.27
67	223	156	89	3568	0.84072	599.77	0.59978	583.22	866.34	0	1.87	1520.53	6.82	1515.42	6.8	-5.11	-0.34
67	224	157	90	3584	0.83857	600.03	0.60045	583.31	881.98	-0.67	1.85	1519.86	6.79	1515.5	6.77	-4.35	-0.29
67	225	158	91	3600	0.83643	600.27	0.60111	583.41	897.7	0	1.83	1520.44	6.76	1515.1	6.73	-5.34	-0.35
67	226	159	92	3616	0.83429	600.51	0.60177	583.52	913.5	-0.67	1.81	1519.61	6.72	1515.02	6.7	-4.59	-0.3
67	227	160	93	3632	0.83215	600.74	0.60242	583.63	929.37	0	1.79	1520.05	6.7	1514.46	6.67	-5.58	-0.37
67	228	161	94	3648	0.83003	600.97	0.60307	583.75	945.32	-0.66	1.77	1519.08	6.66	1514.23	6.64	-4.85	-0.32
67	229	162	95	3664	0.82790	601.18	0.60371	583.87	961.34	0	1.75	1519.37	6.63	1513.52	6.61	-5.85	-0.39
67	230	163	96	3680	0.82578	601.39	0.60435	583.99	977.44	-0.66	1.73	1518.26	6.6	1513.13	6.58	-5.13	-0.34
67	231	164	97	3696	0.82367	601.59	0.60498	584.12	993.6	0	1.71	1518.4	6.57	1512.27	6.55	-6.13	-0.41
67	232	165	98	3712	0.82157	601.78	0.60560	584.26	1009.84	-0.66	1.7	1517.16	6.54	1511.74	6.52	-5.42	-0.36
67	233	166	99	3728	0.81947	601.96	0.60622	584.4	1026.15	0	1.68	1517.16	6.51	1510.74	6.48	-6.43	-0.43
67	234	167	100	3744	0.81737	602.14	0.60684	584.54	1042.53	-0.65	1.66	1515.79	6.48	1510.06	6.45	-5.73	-0.38
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
68	135	67	-1	2160	0.99995	510.51	0.49815	640	0.18	0	9.69	1019.01	7.55	1027.02	7.61	8.01	0.78
68	136	68	0	2176	1.00000	513.05	0.50000	638.41	0	0.86	10	1035.4	7.61	1042.46	7.67	7.06	0.68
68	137	69	1	2192	0.99995	515.54	0.50183	636.87	0.18	0	9.7	1049.12	7.66	1055.3	7.7	6.18	0.59
68	138	70	2	2208	0.99979	517.96	0.50362	635.37	0.7	0.85	9.41	1064.22	7.71	1070.13	7.75	5.91	0.55
68	139	71	3	2224	0.99953	520.33	0.50540	633.93	1.57	0	9.13	1077.3	7.75	1082.4	7.79	5.09	0.47
68	140	72	4	2240	0.99918	522.64	0.50714	632.53	2.78	0.85	8.87	1091.77	7.8	1096.64	7.83	4.87	0.44
68	141	73	5	2256	0.99874	524.89	0.50887	631.17	4.31	0	8.62	1104.24	7.83	1108.35	7.86	4.11	0.37
68	142	74	6	2272	0.99822	527.09	0.51056	629.86	6.17	0.84	8.37	1118.1	7.87	1122.04	7.9	3.94	0.35
68	143	75	7	2288	0.99760	529.24	0.51224	628.59	8.34	0	8.14	1129.98	7.9	1133.21	7.92	3.23	0.29
68	144	76	8	2304	0.99691	531.33	0.51389	627.35	10.81	0.83	7.92	1143.25	7.94	1146.35	7.96	3.1	0.27
68	145	77	9	2320	0.99615	533.38	0.51552	626.16	13.59	0	7.71	1154.57	7.96	1157.01	7.98	2.44	0.21
68	146	78	10	2336	0.99531	535.38	0.51712	625	16.67	0.83	7.5	1167.28	8	1169.63	8.01	2.34	0.2
68	147	79	11	2352	0.99440	537.33	0.51871	623.88	20.03	0	7.3	1178.06	8.01	1179.79	8.03	1.73	0.15
68	148	80	12	2368	0.99343	539.24	0.52027	622.8	23.68	0.82	7.11	1190.23	8.04	1191.9	8.05	1.67	0.14
68	149	81	13	2384	0.99239	541.1	0.52181	621.75	27.6	0	6.93	1200.49	8.06	1201.59	8.06	1.1	0.09
68	150	82	14	2400	0.99129	542.91	0.52333	620.73	31.8	0.82	6.76	1212.13	8.08	1213.21	8.09	1.07	0.09
68	151	83	15	2416	0.99013	544.69	0.52483	619.74	36.26	0	6.59	1221.9	8.09	1222.43	8.1	0.53	0.04
68	152	84	16	2432	0.98892	546.42	0.52632	618.79	40.99	0.81	6.43	1233.04	8.11	1233.58	8.12	0.54	0.04
68	153	85	17	2448	0.98765	548.11	0.52778	617.86	45.98	0	6.27	1242.32	8.12	1242.36	8.12	0.04	0
68	154	86	18	2464	0.98634	549.76	0.52922	616.97	51.21	0.81	6.12	1252.98	8.14	1253.05	8.14	0.07	0.01
68	155	87	19	2480	0.98497	551.38	0.53065	616.1	56.69	0	5.98	1261.8	8.14	1261.4	8.14	-0.4	-0.03
68	156	88	20	2496	0.98356	552.95	0.53205	615.27	62.42	0.8	5.84	1272	8.15	1271.65	8.15	-0.35	-0.03
68	157	89	21	2512	0.98211	554.49	0.53344	614.46	68.38	0	5.7	1280.37	8.16	1279.58	8.15	-0.79	-0.06
68	158	90	22	2528	0.98061	555.99	0.53481	613.67	74.58	0.8	5.57	1290.12	8.17	1289.41	8.16	-0.72	-0.06

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
68	159	91	23	2544	0.97908	557.46	0.53616	612.92	81	0	5.45	1298.07	8.16	1296.94	8.16	-1.13	-0.09
68	160	92	24	2560	0.97750	558.9	0.53750	612.18	87.65	0.79	5.33	1307.39	8.17	1306.35	8.16	-1.03	-0.08
68	161	93	25	2576	0.97589	560.3	0.53882	611.48	94.52	0	5.21	1314.92	8.17	1313.49	8.16	-1.43	-0.11
68	162	94	26	2592	0.97424	561.67	0.54012	610.79	101.6	0.79	5.1	1323.82	8.17	1322.51	8.16	-1.31	-0.1
68	163	95	27	2608	0.97256	563	0.54141	610.13	108.9	0	4.99	1330.95	8.17	1329.27	8.16	-1.68	-0.13
68	164	96	28	2624	0.97085	564.31	0.54268	609.49	116.41	0.78	4.88	1339.46	8.17	1337.9	8.16	-1.55	-0.12
68	165	97	29	2640	0.96911	565.58	0.54394	608.87	124.12	0	4.78	1346.2	8.16	1344.3	8.15	-1.9	-0.14
68	166	98	30	2656	0.96734	566.83	0.54518	608.28	132.03	0.78	4.68	1354.32	8.16	1352.56	8.15	-1.76	-0.13
68	167	99	31	2672	0.96554	568.05	0.54641	607.7	140.14	0	4.59	1360.69	8.15	1358.6	8.14	-2.09	-0.15
68	168	100	32	2688	0.96372	569.23	0.54762	607.15	148.44	0.77	4.49	1368.44	8.15	1366.5	8.13	-1.94	-0.14
68	169	101	33	2704	0.96187	570.4	0.54882	606.61	156.94	0	4.4	1374.45	8.13	1372.2	8.12	-2.26	-0.16
68	170	102	34	2720	0.96000	571.53	0.55000	606.1	165.62	0.77	4.32	1381.83	8.13	1379.74	8.12	-2.09	-0.15
68	171	103	35	2736	0.95811	572.64	0.55117	605.6	174.49	0	4.23	1387.51	8.11	1385.11	8.1	-2.4	-0.17
68	172	104	36	2752	0.95619	573.72	0.55233	605.13	183.53	0.76	4.15	1394.54	8.11	1392.32	8.09	-2.22	-0.16
68	173	105	37	2768	0.95426	574.78	0.55347	604.67	192.76	0	4.07	1399.88	8.09	1397.36	8.08	-2.51	-0.18
68	174	106	38	2784	0.95231	575.81	0.55460	604.22	202.15	0.76	4	1406.57	8.08	1404.24	8.07	-2.33	-0.17
68	175	107	39	2800	0.95034	576.82	0.55571	603.8	211.72	0	3.92	1411.59	8.07	1408.97	8.05	-2.61	-0.19
68	176	108	40	2816	0.94835	577.8	0.55682	603.39	221.46	0.75	3.85	1417.95	8.06	1415.53	8.04	-2.42	-0.17
68	177	109	41	2832	0.94634	578.76	0.55791	603	231.37	0	3.78	1422.66	8.04	1419.96	8.02	-2.69	-0.19
68	178	110	42	2848	0.94433	579.7	0.55899	602.62	241.43	0.75	3.71	1428.71	8.03	1426.21	8.01	-2.5	-0.18
68	179	111	43	2864	0.94229	580.62	0.56006	602.26	251.66	0	3.65	1433.11	8.01	1430.34	7.99	-2.77	-0.19
68	180	112	44	2880	0.94025	581.51	0.56111	601.91	262.05	0.75	3.58	1438.86	7.99	1436.29	7.98	-2.57	-0.18
68	181	113	45	2896	0.93819	582.39	0.56216	601.58	272.59	0	3.52	1442.97	7.97	1440.14	7.96	-2.82	-0.2
68	182	114	46	2912	0.93612	583.24	0.56319	601.26	283.28	0.74	3.46	1448.42	7.96	1445.79	7.94	-2.62	-0.18
68	183	115	47	2928	0.93404	584.07	0.56421	600.96	294.12	0	3.4	1452.24	7.94	1449.37	7.92	-2.88	-0.2
68	184	116	48	2944	0.93195	584.89	0.56522	600.67	305.12	0.74	3.34	1457.41	7.92	1454.73	7.91	-2.67	-0.18
68	185	117	49	2960	0.92985	585.68	0.56622	600.4	316.25	0	3.29	1460.96	7.9	1458.04	7.88	-2.92	-0.2
68	186	118	50	2976	0.92774	586.46	0.56720	600.13	327.53	0.73	3.23	1465.85	7.88	1463.13	7.87	-2.72	-0.19
68	187	119	51	2992	0.92562	587.21	0.56818	599.88	338.95	0	3.18	1469.13	7.86	1466.17	7.84	-2.96	-0.2
68	188	120	52	3008	0.92350	587.95	0.56915	599.65	350.51	0.73	3.13	1473.75	7.84	1470.99	7.82	-2.76	-0.19
68	189	121	53	3024	0.92136	588.67	0.57011	599.42	362.2	0	3.08	1476.78	7.81	1473.78	7.8	-3	-0.2
68	190	122	54	3040	0.91922	589.38	0.57105	599.21	374.03	0.73	3.03	1481.14	7.8	1478.34	7.78	-2.8	-0.19
68	191	123	55	3056	0.91708	590.06	0.57199	599.01	385.99	0	2.98	1483.92	7.77	1480.88	7.75	-3.04	-0.2
68	192	124	56	3072	0.91493	590.73	0.57292	598.82	398.08	0.72	2.94	1488.02	7.75	1485.19	7.74	-2.83	-0.19
68	193	125	57	3088	0.91278	591.39	0.57383	598.64	410.3	0	2.89	1490.56	7.72	1487.49	7.71	-3.07	-0.21
68	194	126	58	3104	0.91062	592.02	0.57474	598.48	422.65	0.72	2.85	1494.42	7.7	1491.55	7.69	-2.87	-0.19
68	195	127	59	3120	0.90846	592.65	0.57564	598.32	435.11	0	2.81	1496.73	7.68	1493.61	7.66	-3.11	-0.21
68	196	128	60	3136	0.90629	593.25	0.57653	598.17	447.7	0.71	2.76	1500.35	7.65	1497.43	7.64	-2.92	-0.19
68	197	129	61	3152	0.90412	593.84	0.57741	598.04	460.41	0	2.72	1502.43	7.63	1499.27	7.61	-3.16	-0.21
68	198	130	62	3168	0.90195	594.42	0.57828	597.91	473.24	0.71	2.68	1505.82	7.61	1502.85	7.59	-2.96	-0.2
68	199	131	63	3184	0.89978	594.98	0.57915	597.8	486.19	0	2.65	1507.67	7.58	1504.47	7.56	-3.2	-0.21
68	200	132	64	3200	0.89760	595.53	0.58000	597.69	499.25	0.71	2.61	1510.84	7.55	1507.82	7.54	-3.02	-0.2
68	201	133	65	3216	0.89542	596.07	0.58085	597.6	512.43	0	2.57	1512.48	7.52	1509.22	7.51	-3.26	-0.22
68	202	134	66	3232	0.89325	596.59	0.58168	597.51	525.71	0.7	2.54	1515.43	7.5	1512.36	7.49	-3.08	-0.2
68	203	135	67	3248	0.89107	597.09	0.58251	597.43	539.11	0	2.5	1516.87	7.47	1513.55	7.46	-3.32	-0.22
68	204	136	68	3264	0.88889	597.59	0.58333	597.36	552.61	0.7	2.47	1519.6	7.45	1516.46	7.43	-3.14	-0.21
68	205	137	69	3280	0.88671	598.07	0.58415	597.3	566.22	0	2.43	1520.84	7.42	1517.45	7.4	-3.39	-0.22

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
68	206	138	70	3296	0.88453	598.54	0.58495	597.25	579.94	0.7	2.4	1523.37	7.39	1520.15	7.38	-3.22	-0.21
68	207	139	71	3312	0.88235	599	0.58575	597.21	593.76	0	2.37	1524.4	7.36	1520.94	7.35	-3.47	-0.23
68	208	140	72	3328	0.88018	599.44	0.58654	597.17	607.68	0.69	2.34	1526.73	7.34	1523.43	7.32	-3.3	-0.22
68	209	141	73	3344	0.87800	599.88	0.58732	597.15	621.7	0	2.31	1527.58	7.31	1524.02	7.29	-3.56	-0.23
68	210	142	74	3360	0.87583	600.3	0.58810	597.13	635.82	0.69	2.28	1529.72	7.28	1526.32	7.27	-3.4	-0.22
68	211	143	75	3376	0.87366	600.71	0.58886	597.12	650.04	0	2.25	1530.38	7.25	1526.72	7.24	-3.66	-0.24
68	212	144	76	3392	0.87149	601.11	0.58962	597.11	664.36	0.69	2.22	1532.33	7.23	1528.82	7.21	-3.51	-0.23
68	213	145	77	3408	0.86932	601.5	0.59038	597.11	678.77	0	2.19	1532.81	7.2	1529.04	7.18	-3.77	-0.25
68	214	146	78	3424	0.86715	601.87	0.59112	597.13	693.28	0.68	2.16	1534.57	7.17	1530.95	7.15	-3.63	-0.24
68	215	147	79	3440	0.86499	602.24	0.59186	597.14	707.88	0	2.14	1534.88	7.14	1530.98	7.12	-3.9	-0.25
68	216	148	80	3456	0.86283	602.6	0.59259	597.17	722.57	0.68	2.11	1536.46	7.11	1532.7	7.1	-3.76	-0.25
68	217	149	81	3472	0.86067	602.94	0.59332	597.2	737.34	0	2.09	1536.6	7.08	1532.56	7.06	-4.04	-0.26
68	218	150	82	3488	0.85851	603.28	0.59404	597.24	752.21	0.68	2.06	1538.01	7.06	1534.1	7.04	-3.9	-0.25
68	219	151	83	3504	0.85636	603.61	0.59475	597.28	767.17	0	2.04	1537.98	7.02	1533.79	7	-4.19	-0.27
68	220	152	84	3520	0.85422	603.93	0.59546	597.33	782.21	0.67	2.01	1539.22	7	1535.15	6.98	-4.06	-0.26
68	221	153	85	3536	0.85207	604.23	0.59615	597.39	797.34	0	1.99	1539.02	6.96	1534.67	6.94	-4.35	-0.28
68	222	154	86	3552	0.84993	604.53	0.59685	597.46	812.55	0.67	1.97	1540.1	6.94	1535.86	6.92	-4.24	-0.28
68	223	155	87	3568	0.84780	604.82	0.59753	597.53	827.84	0	1.94	1539.75	6.9	1535.21	6.88	-4.54	-0.3
68	224	156	88	3584	0.84566	605.11	0.59821	597.6	843.22	0.67	1.92	1540.66	6.88	1536.23	6.86	-4.43	-0.29
68	225	157	89	3600	0.84354	605.38	0.59889	597.68	858.68	0	1.9	1540.16	6.85	1535.43	6.82	-4.73	-0.31
68	226	158	90	3616	0.84141	605.64	0.59956	597.77	874.21	0.67	1.88	1540.92	6.82	1536.28	6.8	-4.64	-0.3
68	227	159	91	3632	0.83929	605.9	0.60022	597.86	889.83	0	1.86	1540.27	6.79	1535.32	6.76	-4.95	-0.32
68	228	160	92	3648	0.83718	606.15	0.60088	597.96	905.52	0.66	1.84	1540.87	6.76	1536.01	6.74	-4.86	-0.32
68	229	161	93	3664	0.83507	606.39	0.60153	598.07	921.29	0	1.82	1540.07	6.73	1534.9	6.7	-5.18	-0.34
68	230	162	94	3680	0.83297	606.62	0.60217	598.18	937.13	0.66	1.8	1540.53	6.7	1535.43	6.68	-5.1	-0.33
68	231	163	95	3696	0.83087	606.84	0.60281	598.29	953.05	0	1.78	1539.59	6.66	1534.17	6.64	-5.43	-0.35
68	232	164	96	3712	0.82878	607.06	0.60345	598.41	969.05	0.66	1.76	1539.9	6.64	1534.54	6.61	-5.36	-0.35
68	233	165	97	3728	0.82669	607.27	0.60408	598.54	985.11	0	1.74	1538.83	6.6	1533.13	6.58	-5.69	-0.37
68	234	166	98	3744	0.82460	607.47	0.60470	598.67	1001.25	0.65	1.72	1538.99	6.58	1533.36	6.55	-5.63	-0.37
68	235	167	99	3760	0.82253	607.66	0.60532	598.8	1017.46	0	1.7	1537.78	6.54	1531.81	6.52	-5.97	-0.39
68	236	168	100	3776	0.82045	607.85	0.60593	598.94	1033.74	0.65	1.69	1537.81	6.52	1531.89	6.49	-5.92	-0.39
68	237	169	101	3792	0.81839	608.03	0.60654	599.08	1050.08	0	1.67	1536.47	6.48	1530.2	6.46	-6.27	-0.41
68	238	170	102	3808	0.81633	608.21	0.60714	599.23	1066.5	0.65	1.65	1536.36	6.46	1530.13	6.43	-6.23	-0.41
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
69	137	68	-1	2192	0.99995	515.54	0.49818	655.73	0.18	0	9.7	1030.25	7.52	1038.32	7.58	8.07	0.78
69	138	69	0	2208	1.00000	518.07	0.50000	654.13	0	-0.85	10	1044.95	7.57	1052.74	7.63	7.79	0.74
69	139	70	1	2224	0.99995	520.54	0.50180	652.57	0.17	0	9.7	1060.41	7.63	1066.65	7.67	6.23	0.58
69	140	71	2	2240	0.99980	522.96	0.50357	651.07	0.69	-0.85	9.42	1073.86	7.67	1080.49	7.72	6.63	0.61
69	141	72	3	2256	0.99955	525.31	0.50532	649.61	1.55	0	9.15	1088.67	7.72	1093.81	7.76	5.13	0.47
69	142	73	4	2272	0.99921	527.61	0.50704	648.19	2.74	-0.84	8.88	1101.5	7.76	1107.08	7.8	5.58	0.5
69	143	74	5	2288	0.99878	529.86	0.50874	646.82	4.25	0	8.63	1115.7	7.8	1119.84	7.83	4.13	0.37
69	144	75	6	2304	0.99826	532.05	0.51042	645.49	6.08	-0.83	8.39	1127.94	7.83	1132.57	7.87	4.63	0.41
69	145	76	7	2320	0.99767	534.2	0.51207	644.2	8.22	0	8.16	1141.55	7.87	1144.79	7.9	3.24	0.28
69	146	77	8	2336	0.99700	536.29	0.51370	642.95	10.67	-0.83	7.94	1153.21	7.9	1156.99	7.92	3.78	0.33
69	147	78	9	2352	0.99625	538.33	0.51531	641.74	13.41	0	7.73	1166.26	7.93	1168.68	7.95	2.43	0.21
69	148	79	10	2368	0.99544	540.33	0.51689	640.56	16.44	-0.82	7.53	1177.37	7.96	1180.39	7.98	3.01	0.26

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
69	149	80	11	2384	0.99455	542.27	0.51846	639.43	19.76	0	7.33	1189.87	7.99	1191.57	8	1.71	0.14
69	150	81	12	2400	0.99360	544.18	0.52000	638.33	23.36	-0.82	7.15	1200.46	8	1202.79	8.02	2.33	0.19
69	151	82	13	2416	0.99259	546.04	0.52152	637.26	27.24	0	6.97	1212.43	8.03	1213.49	8.04	1.06	0.09
69	152	83	14	2432	0.99152	547.85	0.52303	636.22	31.38	-0.81	6.79	1222.52	8.04	1224.23	8.05	1.71	0.14
69	153	84	15	2448	0.99039	549.63	0.52451	635.22	35.79	0	6.62	1233.98	8.07	1234.46	8.07	0.48	0.04
69	154	85	16	2464	0.98921	551.36	0.52597	634.25	40.46	-0.81	6.46	1243.58	8.08	1244.75	8.08	1.17	0.09
69	155	86	17	2480	0.98797	553.05	0.52742	633.31	45.39	0	6.31	1254.56	8.09	1254.52	8.09	-0.03	0
69	156	87	18	2496	0.98669	554.71	0.52885	632.4	50.56	-0.8	6.16	1263.69	8.1	1264.37	8.1	0.68	0.05
69	157	88	19	2512	0.98535	556.32	0.53026	631.52	55.98	0	6.02	1274.2	8.12	1273.71	8.11	-0.49	-0.04
69	158	89	20	2528	0.98398	557.9	0.53165	630.67	61.63	-0.8	5.88	1282.88	8.12	1283.13	8.12	0.25	0.02
69	159	90	21	2544	0.98256	559.44	0.53302	629.84	67.53	0	5.74	1292.93	8.13	1292.04	8.13	-0.89	-0.07
69	160	91	22	2560	0.98109	560.95	0.53438	629.04	73.65	-0.79	5.61	1301.18	8.13	1301.05	8.13	-0.13	-0.01
69	161	92	23	2576	0.97959	562.42	0.53571	628.27	80	0	5.49	1310.8	8.14	1309.56	8.13	-1.24	-0.09
69	162	93	24	2592	0.97805	563.86	0.53704	627.52	86.57	-0.79	5.37	1318.63	8.14	1318.17	8.14	-0.46	-0.03
69	163	94	25	2608	0.97648	565.27	0.53834	626.8	93.37	0	5.25	1327.82	8.15	1326.27	8.14	-1.55	-0.12
69	164	95	26	2624	0.97487	566.64	0.53963	626.1	100.37	-0.78	5.14	1335.25	8.14	1334.5	8.14	-0.75	-0.06
69	165	96	27	2640	0.97322	567.98	0.54091	625.42	107.59	0	5.03	1344.04	8.15	1342.22	8.13	-1.82	-0.14
69	166	97	28	2656	0.97155	569.3	0.54217	624.77	115.01	-0.78	4.92	1351.07	8.14	1350.07	8.13	-1	-0.07
69	167	98	29	2672	0.96985	570.58	0.54341	624.13	122.64	0	4.82	1359.47	8.14	1357.42	8.13	-2.05	-0.15
69	168	99	30	2688	0.96811	571.83	0.54464	623.52	130.47	-0.77	4.72	1366.13	8.13	1364.91	8.12	-1.22	-0.09
69	169	100	31	2704	0.96635	573.05	0.54586	622.93	138.49	0	4.63	1374.15	8.13	1371.9	8.12	-2.25	-0.16
69	170	101	32	2720	0.96457	574.25	0.54706	622.36	146.71	-0.77	4.54	1380.45	8.12	1379.04	8.11	-1.41	-0.1
69	171	102	33	2736	0.96276	575.42	0.54825	621.82	155.11	0	4.45	1388.1	8.12	1385.68	8.1	-2.42	-0.17
69	172	103	34	2752	0.96093	576.56	0.54942	621.29	163.71	-0.76	4.36	1394.05	8.1	1392.47	8.1	-1.57	-0.11
69	173	104	35	2768	0.95907	577.67	0.55058	620.77	172.48	0	4.28	1401.35	8.1	1398.77	8.09	-2.57	-0.18
69	174	105	36	2784	0.95719	578.76	0.55172	620.28	181.43	-0.76	4.19	1406.96	8.09	1405.24	8.08	-1.71	-0.12
69	175	106	37	2800	0.95530	579.83	0.55286	619.81	190.56	0	4.11	1413.91	8.08	1411.21	8.06	-2.7	-0.19
69	176	107	38	2816	0.95338	580.87	0.55398	619.35	199.87	-0.75	4.04	1419.19	8.06	1417.36	8.05	-1.83	-0.13
69	177	108	39	2832	0.95145	581.88	0.55509	618.91	209.34	0	3.96	1425.82	8.06	1423.01	8.04	-2.81	-0.2
69	178	109	40	2848	0.94950	582.88	0.55618	618.49	218.99	-0.75	3.89	1430.79	8.04	1428.85	8.03	-1.93	-0.14
69	179	110	41	2864	0.94754	583.85	0.55726	618.08	228.8	0	3.82	1437.09	8.03	1434.2	8.01	-2.9	-0.2
69	180	111	42	2880	0.94556	584.8	0.55833	617.69	238.77	-0.75	3.75	1441.75	8.01	1439.73	8	-2.02	-0.14
69	181	112	43	2896	0.94356	585.72	0.55939	617.32	248.9	0	3.69	1447.75	8	1444.77	7.98	-2.98	-0.21
69	182	113	44	2912	0.94155	586.63	0.56044	616.96	259.18	-0.74	3.62	1452.11	7.98	1450.02	7.97	-2.09	-0.14
69	183	114	45	2928	0.93953	587.51	0.56148	616.62	269.63	0	3.56	1457.81	7.97	1454.77	7.95	-3.04	-0.21
69	184	115	46	2944	0.93750	588.37	0.56250	616.29	280.22	-0.74	3.5	1461.88	7.95	1459.73	7.93	-2.16	-0.15
69	185	116	47	2960	0.93546	589.21	0.56351	615.97	290.96	0	3.44	1467.29	7.93	1464.19	7.91	-3.1	-0.21
69	186	117	48	2976	0.93340	590.04	0.56452	615.67	301.85	-0.73	3.38	1471.09	7.91	1468.88	7.9	-2.21	-0.15
69	187	118	49	2992	0.93134	590.84	0.56551	615.38	312.89	0	3.33	1476.22	7.89	1473.07	7.88	-3.15	-0.21
69	188	119	50	3008	0.92927	591.63	0.56649	615.11	324.06	-0.73	3.27	1479.74	7.87	1477.48	7.86	-2.26	-0.15
69	189	120	51	3024	0.92719	592.39	0.56746	614.85	335.38	0	3.22	1484.6	7.86	1481.4	7.84	-3.19	-0.22
69	190	121	52	3040	0.92510	593.14	0.56842	614.6	346.84	-0.73	3.17	1487.86	7.83	1485.56	7.82	-2.31	-0.16
69	191	122	53	3056	0.92300	593.87	0.56937	614.36	358.43	0	3.12	1492.45	7.81	1489.22	7.8	-3.23	-0.22
69	192	123	54	3072	0.92090	594.59	0.57031	614.14	370.16	-0.72	3.07	1495.47	7.79	1493.12	7.78	-2.35	-0.16
69	193	124	55	3088	0.91879	595.28	0.57124	613.93	382.01	0	3.02	1499.8	7.77	1496.52	7.75	-3.27	-0.22
69	194	125	56	3104	0.91668	595.96	0.57217	613.73	394	-0.72	2.97	1502.57	7.75	1500.17	7.73	-2.39	-0.16
69	195	126	57	3120	0.91456	596.63	0.57308	613.54	406.11	0	2.93	1506.65	7.73	1503.34	7.71	-3.32	-0.22

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
69	196	127	58	3136	0.91243	597.27	0.57398	613.36	418.35	-0.71	2.89	1509.18	7.7	1506.75	7.69	-2.44	-0.16
69	197	128	59	3152	0.91030	597.91	0.57487	613.19	430.72	0	2.84	1513.03	7.68	1509.67	7.66	-3.36	-0.22
69	198	129	60	3168	0.90817	598.52	0.57576	613.04	443.2	-0.71	2.8	1515.33	7.65	1512.84	7.64	-2.48	-0.16
69	199	130	61	3184	0.90604	599.12	0.57663	612.89	455.81	0	2.76	1518.93	7.63	1515.53	7.62	-3.4	-0.22
69	200	131	62	3200	0.90390	599.71	0.57750	612.76	468.54	-0.71	2.72	1521.01	7.61	1518.48	7.59	-2.53	-0.17
69	201	132	63	3216	0.90176	600.28	0.57836	612.63	481.38	0	2.68	1524.39	7.58	1520.94	7.57	-3.45	-0.23
69	202	133	64	3232	0.89962	600.84	0.57921	612.51	494.33	-0.7	2.64	1526.25	7.56	1523.66	7.54	-2.59	-0.17
69	203	134	65	3248	0.89747	601.39	0.58005	612.41	507.4	0	2.61	1529.41	7.53	1525.9	7.52	-3.5	-0.23
69	204	135	66	3264	0.89533	601.92	0.58088	612.31	520.58	-0.7	2.57	1531.06	7.51	1528.41	7.49	-2.65	-0.17
69	205	136	67	3280	0.89318	602.44	0.58171	612.22	533.87	0	2.53	1534	7.48	1530.43	7.47	-3.57	-0.23
69	206	137	68	3296	0.89104	602.94	0.58252	612.15	547.27	-0.7	2.5	1535.44	7.45	1532.73	7.44	-2.71	-0.18
69	207	138	69	3312	0.88889	603.43	0.58333	612.08	560.78	0	2.47	1538.18	7.43	1534.54	7.41	-3.63	-0.24
69	208	139	70	3328	0.88674	603.91	0.58414	612.02	574.39	-0.69	2.43	1539.42	7.4	1536.63	7.39	-2.79	-0.18
69	209	140	71	3344	0.88460	604.38	0.58493	611.96	588.1	0	2.4	1541.95	7.38	1538.24	7.36	-3.71	-0.24
69	210	141	72	3360	0.88245	604.84	0.58571	611.92	601.92	-0.69	2.37	1543	7.35	1540.13	7.33	-2.87	-0.19
69	211	142	73	3376	0.88030	605.28	0.58649	611.88	615.84	0	2.34	1545.34	7.32	1541.54	7.31	-3.8	-0.25
69	212	143	74	3392	0.87816	605.71	0.58726	611.86	629.85	-0.69	2.31	1546.2	7.29	1543.23	7.28	-2.97	-0.19
69	213	144	75	3408	0.87602	606.13	0.58803	611.84	643.97	0	2.28	1548.34	7.27	1544.45	7.25	-3.9	-0.25
69	214	145	76	3424	0.87388	606.54	0.58879	611.82	658.18	-0.68	2.25	1549.02	7.24	1545.95	7.22	-3.07	-0.2
69	215	146	77	3440	0.87174	606.94	0.58954	611.82	672.49	0	2.22	1550.98	7.21	1546.97	7.2	-4.01	-0.26
69	216	147	78	3456	0.86960	607.33	0.59028	611.82	686.89	-0.68	2.19	1551.48	7.18	1548.29	7.17	-3.19	-0.21
69	217	148	79	3472	0.86746	607.71	0.59101	611.83	701.38	0	2.17	1553.25	7.16	1549.12	7.14	-4.13	-0.27
69	218	149	80	3488	0.86533	608.07	0.59174	611.85	715.97	-0.68	2.14	1553.58	7.13	1550.26	7.11	-3.32	-0.21
69	219	150	81	3504	0.86320	608.43	0.59247	611.87	730.64	0	2.12	1555.17	7.1	1550.91	7.08	-4.26	-0.27
69	220	151	82	3520	0.86107	608.78	0.59318	611.9	745.41	-0.67	2.09	1555.33	7.07	1551.87	7.05	-3.46	-0.22
69	221	152	83	3536	0.85895	609.11	0.59389	611.94	760.26	0	2.07	1556.76	7.04	1552.35	7.02	-4.41	-0.28
69	222	153	84	3552	0.85683	609.44	0.59460	611.98	775.2	-0.67	2.04	1556.75	7.01	1553.13	7	-3.62	-0.23
69	223	154	85	3568	0.85471	609.76	0.59529	612.03	790.22	0	2.02	1558.01	6.99	1553.44	6.97	-4.57	-0.29
69	224	155	86	3584	0.85260	610.07	0.59598	612.09	805.33	-0.67	1.99	1557.84	6.95	1554.05	6.94	-3.79	-0.24
69	225	156	87	3600	0.85049	610.37	0.59667	612.15	820.52	0	1.97	1558.93	6.93	1554.19	6.91	-4.74	-0.31
69	226	157	88	3616	0.84838	610.66	0.59735	612.22	835.79	-0.67	1.95	1558.61	6.9	1554.64	6.88	-3.98	-0.26
69	227	158	89	3632	0.84628	610.94	0.59802	612.3	851.14	0	1.93	1559.54	6.87	1554.61	6.85	-4.93	-0.32
69	228	159	90	3648	0.84418	611.22	0.59868	612.38	866.58	-0.66	1.91	1559.07	6.84	1554.89	6.82	-4.18	-0.27
69	229	160	91	3664	0.84209	611.48	0.59935	612.46	882.09	0	1.88	1559.85	6.81	1554.71	6.79	-5.14	-0.33
69	230	161	92	3680	0.84000	611.74	0.60000	612.56	897.68	-0.66	1.86	1559.23	6.78	1554.83	6.76	-4.39	-0.28
69	231	162	93	3696	0.83792	611.99	0.60065	612.65	913.35	0	1.84	1559.85	6.75	1554.49	6.73	-5.36	-0.35
69	232	163	94	3712	0.83584	612.23	0.60129	612.76	929.09	-0.66	1.82	1559.09	6.72	1554.46	6.7	-4.63	-0.3
69	233	164	95	3728	0.83376	612.46	0.60193	612.87	944.91	0	1.8	1559.57	6.69	1553.96	6.67	-5.6	-0.36
69	234	165	96	3744	0.83169	612.69	0.60256	612.98	960.8	-0.65	1.79	1558.66	6.66	1553.79	6.64	-4.88	-0.31
69	235	166	97	3760	0.82962	612.91	0.60319	613.1	976.76	0	1.77	1559	6.63	1553.14	6.61	-5.86	-0.38
69	236	167	98	3776	0.82756	613.12	0.60381	613.22	992.8	-0.65	1.75	1557.95	6.6	1552.81	6.58	-5.14	-0.33
69	237	168	99	3792	0.82551	613.32	0.60443	613.35	1008.91	0	1.73	1558.15	6.57	1552.01	6.55	-6.13	-0.4
69	238	169	100	3808	0.82346	613.52	0.60504	613.49	1025.09	-0.65	1.71	1556.97	6.54	1551.54	6.52	-5.43	-0.35
69	239	170	101	3824	0.82141	613.71	0.60565	613.62	1041.33	0	1.7	1557.03	6.51	1550.6	6.49	-6.42	-0.41
69	240	171	102	3840	0.81938	613.89	0.60625	613.77	1057.65	-0.65	1.68	1555.72	6.48	1549.99	6.46	-5.73	-0.37
69	241	172	103	3856	0.81734	614.07	0.60685	613.92	1074.03	0	1.66	1555.64	6.45	1548.91	6.43	-6.73	-0.43
69	242	173	104	3872	0.81531	614.24	0.60744	614.07	1090.48	-0.64	1.64	1554.21	6.42	1548.16	6.4	-6.05	-0.39

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
70	139	69	-1	2224	0.99995	520.54	0.49820	671.63	0.17	0	9.7	1041.36	7.49	1049.48	7.55	8.12	0.77
70	140	70	0	2240	1.00000	523.06	0.50000	670.01	0	0.85	10	1057.78	7.56	1064.97	7.61	7.19	0.68
70	141	71	1	2256	0.99995	525.52	0.50177	668.43	0.17	0	9.71	1071.58	7.6	1077.88	7.64	6.31	0.59
70	142	72	2	2272	0.99980	527.93	0.50352	666.91	0.69	0.84	9.43	1086.74	7.65	1092.78	7.7	6.04	0.55
70	143	73	3	2288	0.99956	530.28	0.50525	665.44	1.53	0	9.16	1099.92	7.69	1105.13	7.73	5.21	0.47
70	144	74	4	2304	0.99923	532.57	0.50694	664	2.7	0.83	8.9	1114.46	7.74	1119.45	7.77	4.99	0.45
70	145	75	5	2320	0.99881	534.81	0.50862	662.61	4.2	0	8.65	1127.03	7.77	1131.26	7.8	4.22	0.37
70	146	76	6	2336	0.99831	536.99	0.51027	661.27	6	0.83	8.41	1140.98	7.81	1145.02	7.84	4.04	0.35
70	147	77	7	2352	0.99773	539.13	0.51191	659.96	8.11	0	8.19	1152.98	7.84	1156.31	7.87	3.33	0.29
70	148	78	8	2368	0.99708	541.22	0.51351	658.7	10.52	0.82	7.97	1166.35	7.88	1169.54	7.9	3.19	0.27
70	149	79	9	2384	0.99635	543.26	0.51510	657.47	13.23	0	7.76	1177.8	7.9	1180.33	7.92	2.53	0.21
70	150	80	10	2400	0.99556	545.25	0.51667	656.28	16.22	0.82	7.56	1190.62	7.94	1193.05	7.95	2.43	0.2
70	151	81	11	2416	0.99469	547.2	0.51821	655.13	19.5	0	7.36	1201.54	7.96	1203.34	7.97	1.8	0.15
70	152	82	12	2432	0.99377	549.1	0.51974	654.01	23.06	0.81	7.18	1213.82	7.99	1215.57	8	1.74	0.14
70	153	83	13	2448	0.99278	550.95	0.52124	652.93	26.89	0	7	1224.23	8	1225.39	8.01	1.16	0.09
70	154	84	14	2464	0.99174	552.77	0.52273	651.88	30.98	0.81	6.83	1236.01	8.03	1237.14	8.03	1.13	0.09
70	155	85	15	2480	0.99064	554.54	0.52419	650.86	35.34	0	6.66	1245.92	8.04	1246.51	8.04	0.59	0.05
70	156	86	16	2496	0.98948	556.28	0.52564	649.87	39.95	0.8	6.5	1257.2	8.06	1257.79	8.06	0.59	0.05
70	157	87	17	2512	0.98828	557.97	0.52707	648.91	44.81	0	6.35	1266.65	8.07	1266.72	8.07	0.08	0.01
70	158	88	18	2528	0.98702	559.63	0.52848	647.99	49.92	0.8	6.2	1277.45	8.09	1277.56	8.09	0.1	0.01
70	159	89	19	2544	0.98572	561.25	0.52987	647.09	55.28	0	6.05	1286.44	8.09	1286.06	8.09	-0.38	-0.03
70	160	90	20	2560	0.98438	562.83	0.53125	646.22	60.87	0.79	5.92	1296.79	8.1	1296.46	8.1	-0.33	-0.03
70	161	91	21	2576	0.98299	564.37	0.53261	645.38	66.69	0	5.78	1305.34	8.11	1304.56	8.1	-0.78	-0.06
70	162	92	22	2592	0.98156	565.88	0.53395	644.56	72.75	0.79	5.65	1315.25	8.12	1314.54	8.11	-0.7	-0.05
70	163	93	23	2608	0.98009	567.36	0.53528	643.77	79.02	0	5.53	1323.37	8.12	1322.24	8.11	-1.13	-0.09
70	164	94	24	2624	0.97858	568.8	0.53659	643.01	85.52	0.78	5.41	1332.85	8.13	1331.82	8.12	-1.03	-0.08
70	165	95	25	2640	0.97704	570.21	0.53788	642.27	92.24	0	5.29	1340.57	8.12	1339.13	8.12	-1.43	-0.11
70	166	96	26	2656	0.97547	571.59	0.53916	641.56	99.17	0.78	5.18	1349.64	8.13	1348.32	8.12	-1.32	-0.1
70	167	97	27	2672	0.97386	572.94	0.54042	640.86	106.31	0	5.07	1356.96	8.13	1355.26	8.12	-1.7	-0.13
70	168	98	28	2688	0.97222	574.26	0.54167	640.19	113.65	0.77	4.97	1365.63	8.13	1364.06	8.12	-1.57	-0.12
70	169	99	29	2704	0.97055	575.55	0.54290	639.55	121.2	0	4.86	1372.57	8.12	1370.64	8.11	-1.93	-0.14
70	170	100	30	2720	0.96886	576.8	0.54412	638.92	128.94	0.77	4.77	1380.86	8.12	1379.08	8.11	-1.79	-0.13
70	171	101	31	2736	0.96714	578.03	0.54532	638.32	136.88	0	4.67	1387.44	8.11	1385.31	8.1	-2.13	-0.15
70	172	102	32	2752	0.96539	579.24	0.54651	637.73	145.01	0.76	4.58	1395.36	8.11	1393.38	8.1	-1.97	-0.14
70	173	103	33	2768	0.96361	580.41	0.54769	637.17	153.33	0	4.49	1401.58	8.1	1399.28	8.09	-2.3	-0.16
70	174	104	34	2784	0.96182	581.56	0.54885	636.63	161.83	0.76	4.4	1409.14	8.1	1407.01	8.09	-2.13	-0.15
70	175	105	35	2800	0.96000	582.68	0.55000	636.1	170.52	0	4.32	1415.01	8.09	1412.57	8.07	-2.44	-0.17
70	176	106	36	2816	0.95816	583.78	0.55114	635.59	179.38	0.75	4.24	1422.23	8.08	1419.96	8.07	-2.27	-0.16
70	177	107	37	2832	0.95630	584.85	0.55226	635.11	188.42	0	4.16	1427.77	8.07	1425.21	8.05	-2.57	-0.18
70	178	108	38	2848	0.95443	585.9	0.55337	634.64	197.64	0.75	4.08	1434.66	8.06	1432.27	8.05	-2.38	-0.17
70	179	109	39	2864	0.95253	586.92	0.55447	634.18	207.02	0	4	1439.88	8.04	1437.21	8.03	-2.67	-0.19
70	180	110	40	2880	0.95062	587.93	0.55556	633.75	216.57	0.75	3.93	1446.44	8.04	1443.96	8.02	-2.48	-0.17
70	181	111	41	2896	0.94869	588.9	0.55663	633.33	226.28	0	3.86	1451.35	8.02	1448.59	8	-2.76	-0.19
70	182	112	42	2912	0.94675	589.86	0.55769	632.92	236.16	0.74	3.79	1457.59	8.01	1455.03	7.99	-2.56	-0.18
70	183	113	43	2928	0.94479	590.79	0.55874	632.54	246.19	0	3.73	1462.2	7.99	1459.38	7.97	-2.83	-0.19

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
70	184	114	44	2944	0.94282	591.71	0.55978	632.16	256.38	0.74	3.66	1468.15	7.98	1465.52	7.96	-2.63	-0.18
70	185	115	45	2960	0.94083	592.6	0.56081	631.81	266.73	0	3.6	1472.47	7.96	1469.58	7.94	-2.89	-0.2
70	186	116	46	2976	0.93884	593.47	0.56183	631.47	277.22	0.73	3.54	1478.11	7.95	1475.42	7.93	-2.69	-0.18
70	187	117	47	2992	0.93683	594.32	0.56283	631.14	287.87	0	3.48	1482.15	7.93	1479.21	7.91	-2.94	-0.2
70	188	118	48	3008	0.93481	595.16	0.56383	630.82	298.66	0.73	3.42	1487.51	7.91	1484.77	7.9	-2.74	-0.18
70	189	119	49	3024	0.93279	595.97	0.56482	630.52	309.59	0	3.37	1491.28	7.89	1488.29	7.87	-2.99	-0.2
70	190	120	50	3040	0.93075	596.76	0.56579	630.24	320.67	0.73	3.31	1496.36	7.88	1493.58	7.86	-2.78	-0.19
70	191	121	51	3056	0.92870	597.54	0.56675	629.96	331.89	0	3.26	1499.86	7.85	1496.84	7.84	-3.02	-0.2
70	192	122	52	3072	0.92665	598.3	0.56771	629.7	343.24	0.72	3.21	1504.68	7.84	1501.86	7.82	-2.82	-0.19
70	193	123	53	3088	0.92459	599.04	0.56865	629.46	354.74	0	3.16	1507.93	7.81	1504.87	7.8	-3.06	-0.2
70	194	124	54	3104	0.92252	599.76	0.56959	629.22	366.36	0.72	3.11	1512.48	7.8	1509.63	7.78	-2.85	-0.19
70	195	125	55	3120	0.92045	600.47	0.57051	629	378.12	0	3.06	1515.48	7.77	1512.38	7.76	-3.09	-0.2
70	196	126	56	3136	0.91837	601.16	0.57143	628.79	390	0.71	3.01	1519.78	7.75	1516.89	7.74	-2.89	-0.19
70	197	127	57	3152	0.91628	601.83	0.57234	628.59	402.01	0	2.97	1522.54	7.73	1519.41	7.71	-3.13	-0.21
70	198	128	58	3168	0.91419	602.49	0.57323	628.4	414.15	0.71	2.92	1526.6	7.71	1523.67	7.7	-2.92	-0.19
70	199	129	59	3184	0.91210	603.13	0.57412	628.22	426.41	0	2.88	1529.12	7.68	1525.96	7.67	-3.16	-0.21
70	200	130	60	3200	0.91000	603.76	0.57500	628.05	438.8	0.71	2.84	1532.94	7.66	1529.98	7.65	-2.96	-0.19
70	201	131	61	3216	0.90790	604.37	0.57587	627.9	451.3	0	2.8	1535.23	7.64	1532.04	7.62	-3.2	-0.21
70	202	132	62	3232	0.90579	604.97	0.57673	627.75	463.92	0.7	2.76	1538.82	7.62	1535.82	7.6	-3	-0.2
70	203	133	63	3248	0.90369	605.55	0.57759	627.61	476.66	0	2.72	1540.89	7.59	1537.66	7.57	-3.24	-0.21
70	204	134	64	3264	0.90158	606.12	0.57843	627.49	489.51	0.7	2.68	1544.26	7.57	1541.22	7.55	-3.04	-0.2
70	205	135	65	3280	0.89947	606.67	0.57927	627.37	502.48	0	2.64	1546.12	7.54	1542.84	7.53	-3.28	-0.21
70	206	136	66	3296	0.89735	607.21	0.58010	627.27	515.55	0.7	2.6	1549.27	7.52	1546.18	7.51	-3.09	-0.2
70	207	137	67	3312	0.89524	607.74	0.58092	627.17	528.74	0	2.57	1550.92	7.49	1547.58	7.48	-3.33	-0.22
70	208	138	68	3328	0.89312	608.26	0.58173	627.08	542.04	0.69	2.53	1553.85	7.47	1550.71	7.46	-3.15	-0.2
70	209	139	69	3344	0.89101	608.76	0.58254	627	555.44	0	2.5	1555.3	7.44	1551.91	7.43	-3.39	-0.22
70	210	140	70	3360	0.88889	609.25	0.58333	626.93	568.94	0.69	2.47	1558.03	7.42	1554.82	7.4	-3.21	-0.21
70	211	141	71	3376	0.88677	609.73	0.58412	626.87	582.56	0	2.43	1559.28	7.39	1555.82	7.37	-3.46	-0.22
70	212	142	72	3392	0.88466	610.19	0.58491	626.82	596.27	0.69	2.4	1561.81	7.37	1558.53	7.35	-3.28	-0.21
70	213	143	73	3408	0.88254	610.65	0.58568	626.77	610.08	0	2.37	1562.87	7.34	1559.33	7.32	-3.53	-0.23
70	214	144	74	3424	0.88043	611.09	0.58645	626.74	624	0.68	2.34	1565.2	7.31	1561.84	7.3	-3.37	-0.22
70	215	145	75	3440	0.87831	611.52	0.58721	626.71	638.01	0	2.31	1566.08	7.28	1562.46	7.27	-3.62	-0.23
70	216	146	76	3456	0.87620	611.94	0.58796	626.69	652.12	0.68	2.28	1568.22	7.26	1564.76	7.24	-3.46	-0.22
70	217	147	77	3472	0.87409	612.35	0.58871	626.67	666.32	0	2.25	1568.91	7.23	1565.2	7.21	-3.72	-0.24
70	218	148	78	3488	0.87198	612.74	0.58945	626.67	680.62	0.68	2.23	1570.87	7.21	1567.31	7.19	-3.56	-0.23
70	219	149	79	3504	0.86987	613.13	0.59018	626.67	695.01	0	2.2	1571.39	7.18	1567.56	7.16	-3.83	-0.24
70	220	150	80	3520	0.86777	613.51	0.59091	626.68	709.49	0.67	2.17	1573.17	7.15	1569.49	7.13	-3.68	-0.23
70	221	151	81	3536	0.86567	613.88	0.59163	626.69	724.06	0	2.15	1573.52	7.12	1569.57	7.1	-3.95	-0.25
70	222	152	82	3552	0.86357	614.23	0.59234	626.72	738.72	0.67	2.12	1575.12	7.1	1571.32	7.08	-3.81	-0.24
70	223	153	83	3568	0.86147	614.58	0.59305	626.75	753.47	0	2.09	1575.3	7.06	1571.22	7.05	-4.08	-0.26
70	224	154	84	3584	0.85938	614.92	0.59375	626.78	768.3	0.67	2.07	1576.73	7.04	1572.79	7.02	-3.95	-0.25
70	225	155	85	3600	0.85728	615.25	0.59444	626.83	783.23	0	2.05	1576.75	7.01	1572.52	6.99	-4.23	-0.27
70	226	156	86	3616	0.85520	615.56	0.59513	626.88	798.23	0.67	2.02	1578.02	6.98	1573.91	6.96	-4.1	-0.26
70	227	157	87	3632	0.85311	615.87	0.59582	626.93	813.32	0	2	1577.87	6.95	1573.48	6.93	-4.39	-0.28
70	228	158	88	3648	0.85103	616.17	0.59649	626.99	828.49	0.66	1.98	1578.98	6.93	1574.71	6.91	-4.27	-0.27
70	229	159	89	3664	0.84895	616.47	0.59716	627.06	843.74	0	1.95	1578.68	6.89	1574.11	6.87	-4.57	-0.29
70	230	160	90	3680	0.84688	616.75	0.59783	627.14	859.07	0.66	1.93	1579.63	6.87	1575.17	6.85	-4.46	-0.28

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
70	231	161	91	3696	0.84481	617.03	0.59849	627.22	874.49	0	1.91	1579.19	6.84	1574.42	6.82	-4.76	-0.3
70	232	162	92	3712	0.84275	617.29	0.59914	627.3	889.97	0.66	1.89	1579.98	6.81	1575.32	6.79	-4.66	-0.3
70	233	163	93	3728	0.84069	617.55	0.59979	627.39	905.54	0	1.87	1579.39	6.78	1574.42	6.76	-4.97	-0.32
70	234	164	94	3744	0.83863	617.8	0.60043	627.49	921.18	0.65	1.85	1580.03	6.75	1575.15	6.73	-4.88	-0.31
70	235	165	95	3760	0.83658	618.04	0.60106	627.59	936.9	0	1.83	1579.29	6.72	1574.1	6.7	-5.19	-0.33
70	236	166	96	3776	0.83453	618.28	0.60170	627.7	952.69	0.65	1.81	1579.79	6.69	1574.68	6.67	-5.11	-0.32
70	237	167	97	3792	0.83249	618.51	0.60232	627.81	968.56	0	1.79	1578.92	6.66	1573.48	6.64	-5.43	-0.35
70	238	168	98	3808	0.83045	618.73	0.60294	627.93	984.49	0.65	1.77	1579.27	6.64	1573.91	6.61	-5.36	-0.34
70	239	169	99	3824	0.82842	618.94	0.60356	628.05	1000.5	0	1.76	1578.26	6.6	1572.57	6.58	-5.69	-0.36
70	240	170	100	3840	0.82639	619.15	0.60417	628.18	1016.58	0.65	1.74	1578.48	6.58	1572.85	6.55	-5.62	-0.36
70	241	171	101	3856	0.82437	619.35	0.60477	628.31	1032.73	0	1.72	1577.33	6.54	1571.37	6.52	-5.97	-0.38
70	242	172	102	3872	0.82235	619.54	0.60537	628.45	1048.95	0.64	1.7	1577.41	6.52	1571.5	6.49	-5.91	-0.38
70	243	173	103	3888	0.82034	619.72	0.60597	628.59	1065.23	0	1.69	1576.14	6.49	1569.88	6.46	-6.26	-0.4
70	244	174	104	3904	0.81833	619.9	0.60656	628.74	1081.58	0.64	1.67	1576.08	6.46	1569.87	6.43	-6.21	-0.4
70	245	175	105	3920	0.81633	620.07	0.60714	628.89	1098	0	1.65	1574.69	6.43	1568.12	6.4	-6.57	-0.42
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
71	141	70	-1	2256	0.99995	525.52	0.49823	687.67	0.17	0	9.71	1052.34	7.46	1060.52	7.52	8.18	0.77
71	142	71	0	2272	1.00000	528.03	0.50000	686.03	0	-0.84	10	1067.09	7.51	1075	7.57	7.9	0.74
71	143	72	1	2288	0.99995	530.48	0.50175	684.45	0.17	0	9.71	1082.61	7.57	1088.97	7.62	6.36	0.58
71	144	73	2	2304	0.99981	532.88	0.50347	682.91	0.68	-0.83	9.43	1096.14	7.61	1102.88	7.66	6.74	0.61
71	145	74	3	2320	0.99957	535.21	0.50517	681.42	1.51	0	9.17	1111.03	7.66	1116.27	7.7	5.25	0.47
71	146	75	4	2336	0.99925	537.5	0.50685	679.97	2.67	-0.83	8.91	1123.95	7.7	1129.63	7.74	5.68	0.5
71	147	76	5	2352	0.99884	539.73	0.50850	678.57	4.14	0	8.67	1138.23	7.74	1142.48	7.77	4.24	0.37
71	148	77	6	2368	0.99836	541.91	0.51014	677.2	5.92	-0.82	8.43	1150.58	7.77	1155.3	7.81	4.72	0.41
71	149	78	7	2384	0.99779	544.04	0.51175	675.88	8	0	8.21	1164.28	7.81	1167.61	7.84	3.33	0.29
71	150	79	8	2400	0.99716	546.13	0.51333	674.6	10.38	-0.82	7.99	1176.07	7.84	1179.93	7.87	3.86	0.33
71	151	80	9	2416	0.99645	548.16	0.51490	673.36	13.06	0	7.79	1189.21	7.88	1191.73	7.89	2.51	0.21
71	152	81	10	2432	0.99567	550.15	0.51645	672.15	16.01	-0.81	7.59	1200.46	7.9	1203.54	7.92	3.08	0.26
71	153	82	11	2448	0.99483	552.09	0.51797	670.98	19.25	0	7.39	1213.07	7.93	1214.85	7.94	1.78	0.15
71	154	83	12	2464	0.99393	553.99	0.51948	669.85	22.76	-0.81	7.21	1223.8	7.95	1226.19	7.96	2.38	0.19
71	155	84	13	2480	0.99297	555.85	0.52097	668.75	26.54	0	7.03	1235.89	7.97	1237.02	7.98	1.12	0.09
71	156	85	14	2496	0.99195	557.66	0.52244	667.68	30.58	-0.8	6.86	1246.13	7.99	1247.89	8	1.76	0.14
71	157	86	15	2512	0.99087	559.44	0.52389	666.65	34.89	0	6.69	1257.72	8.01	1258.26	8.01	0.53	0.04
71	158	87	16	2528	0.98975	561.17	0.52532	665.64	39.44	-0.8	6.54	1267.48	8.02	1268.68	8.03	1.2	0.09
71	159	88	17	2544	0.98857	562.87	0.52673	664.67	44.25	0	6.38	1278.59	8.04	1278.6	8.04	0.01	0
71	160	89	18	2560	0.98734	564.53	0.52813	663.73	49.3	-0.79	6.23	1287.89	8.05	1288.59	8.05	0.7	0.05
71	161	90	19	2576	0.98607	566.15	0.52950	662.81	54.59	0	6.09	1298.54	8.07	1298.08	8.06	-0.46	-0.04
71	162	91	20	2592	0.98476	567.73	0.53086	661.93	60.12	-0.79	5.95	1307.39	8.07	1307.65	8.07	0.26	0.02
71	163	92	21	2608	0.98340	569.28	0.53221	661.07	65.88	0	5.82	1317.59	8.08	1316.72	8.08	-0.87	-0.07
71	164	93	22	2624	0.98201	570.79	0.53354	660.24	71.86	-0.78	5.69	1326.02	8.09	1325.89	8.08	-0.12	-0.01
71	165	94	23	2640	0.98057	572.27	0.53485	659.43	78.07	0	5.57	1335.79	8.1	1334.56	8.09	-1.23	-0.09
71	166	95	24	2656	0.97910	573.72	0.53615	658.65	84.5	-0.78	5.45	1343.8	8.1	1343.33	8.09	-0.47	-0.03
71	167	96	25	2672	0.97759	575.13	0.53743	657.9	91.14	0	5.33	1353.16	8.1	1351.61	8.09	-1.55	-0.11
71	168	97	26	2688	0.97605	576.52	0.53869	657.17	98	-0.77	5.22	1360.77	8.1	1360	8.1	-0.77	-0.06
71	169	98	27	2704	0.97448	577.87	0.53994	656.46	105.06	0	5.11	1369.72	8.1	1367.89	8.09	-1.83	-0.13
71	170	99	28	2720	0.97287	579.19	0.54118	655.78	112.32	-0.77	5.01	1376.95	8.1	1375.92	8.09	-1.03	-0.07

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
71	171	100	29	2736	0.97124	580.49	0.54240	655.11	119.79	0	4.91	1385.51	8.1	1383.44	8.09	-2.07	-0.15
71	172	101	30	2752	0.96958	581.75	0.54361	654.47	127.45	-0.76	4.81	1392.37	8.1	1391.11	8.09	-1.26	-0.09
71	173	102	31	2768	0.96789	582.99	0.54480	653.86	135.31	0	4.71	1400.56	8.1	1398.28	8.08	-2.28	-0.16
71	174	103	32	2784	0.96618	584.2	0.54598	653.26	143.36	-0.76	4.62	1407.05	8.09	1405.6	8.08	-1.45	-0.1
71	175	104	33	2800	0.96444	585.38	0.54714	652.68	151.59	0	4.53	1414.88	8.09	1412.42	8.07	-2.46	-0.17
71	176	105	34	2816	0.96268	586.53	0.54830	652.12	160.01	-0.75	4.44	1421.03	8.07	1419.41	8.06	-1.62	-0.11
71	177	106	35	2832	0.96090	587.66	0.54944	651.58	168.6	0	4.36	1428.51	8.07	1425.9	8.06	-2.61	-0.18
71	178	107	36	2848	0.95910	588.77	0.55056	651.06	177.38	-0.75	4.28	1434.32	8.06	1432.55	8.05	-1.77	-0.12
71	179	108	37	2864	0.95727	589.85	0.55168	650.56	186.33	0	4.2	1441.46	8.05	1438.71	8.04	-2.75	-0.19
71	180	109	38	2880	0.95543	590.9	0.55278	650.07	195.45	-0.75	4.12	1446.95	8.04	1445.05	8.03	-1.89	-0.13
71	181	110	39	2896	0.95357	591.94	0.55387	649.61	204.74	0	4.05	1453.76	8.03	1450.9	8.02	-2.86	-0.2
71	182	111	40	2912	0.95170	592.95	0.55495	649.16	214.2	-0.74	3.97	1458.93	8.02	1456.93	8.01	-2	-0.14
71	183	112	41	2928	0.94980	593.93	0.55601	648.72	223.82	0	3.9	1465.42	8.01	1462.47	7.99	-2.95	-0.2
71	184	113	42	2944	0.94790	594.9	0.55707	648.31	233.6	-0.74	3.83	1470.29	7.99	1468.2	7.98	-2.09	-0.14
71	185	114	43	2960	0.94598	595.84	0.55811	647.91	243.54	0	3.77	1476.48	7.98	1473.44	7.96	-3.03	-0.21
71	186	115	44	2976	0.94404	596.76	0.55914	647.52	253.64	-0.73	3.7	1481.05	7.96	1478.88	7.95	-2.16	-0.15
71	187	116	45	2992	0.94209	597.66	0.56016	647.15	263.89	0	3.64	1486.94	7.95	1483.84	7.93	-3.1	-0.21
71	188	117	46	3008	0.94013	598.54	0.56117	646.8	274.29	-0.73	3.58	1491.22	7.93	1488.99	7.92	-2.23	-0.15
71	189	118	47	3024	0.93816	599.4	0.56217	646.46	284.84	0	3.52	1496.82	7.92	1493.66	7.9	-3.16	-0.21
71	190	119	48	3040	0.93618	600.25	0.56316	646.13	295.53	-0.73	3.46	1500.83	7.9	1498.55	7.89	-2.28	-0.15
71	191	120	49	3056	0.93419	601.07	0.56414	645.82	306.37	0	3.4	1506.15	7.89	1502.94	7.87	-3.21	-0.21
71	192	121	50	3072	0.93218	601.87	0.56510	645.52	317.35	-0.72	3.35	1509.89	7.86	1507.56	7.85	-2.33	-0.15
71	193	122	51	3088	0.93017	602.66	0.56606	645.23	328.47	0	3.3	1514.94	7.85	1511.69	7.83	-3.25	-0.22
71	194	123	52	3104	0.92815	603.42	0.56701	644.96	339.72	-0.72	3.24	1518.42	7.83	1516.04	7.81	-2.37	-0.16
71	195	124	53	3120	0.92613	604.17	0.56795	644.7	351.12	0	3.19	1523.2	7.81	1519.91	7.79	-3.29	-0.22
71	196	125	54	3136	0.92409	604.91	0.56888	644.46	362.64	-0.71	3.14	1526.43	7.79	1524.01	7.78	-2.41	-0.16
71	197	126	55	3152	0.92205	605.62	0.56980	644.22	374.3	0	3.1	1530.96	7.77	1527.63	7.75	-3.33	-0.22
71	198	127	56	3168	0.92001	606.32	0.57071	644	386.08	-0.71	3.05	1533.94	7.75	1531.48	7.73	-2.45	-0.16
71	199	128	57	3184	0.91796	607.01	0.57161	643.79	397.99	0	3	1538.22	7.73	1534.86	7.71	-3.36	-0.22
71	200	129	58	3200	0.91590	607.67	0.57250	643.59	410.03	-0.71	2.96	1540.96	7.7	1538.47	7.69	-2.49	-0.16
71	201	130	59	3216	0.91384	608.32	0.57338	643.4	422.19	0	2.91	1545	7.69	1541.6	7.67	-3.4	-0.22
71	202	131	60	3232	0.91177	608.96	0.57426	643.22	434.47	-0.7	2.87	1547.51	7.66	1544.99	7.65	-2.53	-0.16
71	203	132	61	3248	0.90970	609.58	0.57512	643.05	446.87	0	2.83	1551.32	7.64	1547.89	7.63	-3.44	-0.22
71	204	133	62	3264	0.90763	610.19	0.57598	642.9	459.39	-0.7	2.79	1553.61	7.62	1551.04	7.6	-2.57	-0.17
71	205	134	63	3280	0.90556	610.78	0.57683	642.75	472.03	0	2.75	1557.19	7.6	1553.71	7.58	-3.48	-0.22
71	206	135	64	3296	0.90348	611.36	0.57767	642.62	484.78	-0.7	2.71	1559.26	7.57	1556.64	7.56	-2.62	-0.17
71	207	136	65	3312	0.90140	611.93	0.57850	642.49	497.64	0	2.67	1562.62	7.55	1559.09	7.53	-3.52	-0.23
71	208	137	66	3328	0.89932	612.48	0.57933	642.37	510.62	-0.69	2.64	1564.48	7.52	1561.81	7.51	-2.67	-0.17
71	209	138	67	3344	0.89723	613.01	0.58014	642.27	523.7	0	2.6	1567.62	7.5	1564.04	7.48	-3.57	-0.23
71	210	139	68	3360	0.89515	613.54	0.58095	642.17	536.9	-0.69	2.57	1569.27	7.47	1566.55	7.46	-2.72	-0.17
71	211	140	69	3376	0.89306	614.05	0.58175	642.08	550.2	0	2.53	1572.2	7.45	1568.57	7.43	-3.63	-0.23
71	212	141	70	3392	0.89098	614.55	0.58255	642	563.6	-0.69	2.5	1573.66	7.42	1570.87	7.41	-2.79	-0.18
71	213	142	71	3408	0.88889	615.04	0.58333	641.93	577.11	0	2.47	1576.39	7.4	1572.69	7.38	-3.7	-0.23
71	214	143	72	3424	0.88680	615.51	0.58411	641.87	590.72	-0.68	2.43	1577.65	7.37	1574.79	7.36	-2.86	-0.18
71	215	144	73	3440	0.88472	615.98	0.58488	641.81	604.43	0	2.4	1580.18	7.35	1576.41	7.33	-3.77	-0.24
71	216	145	74	3456	0.88263	616.43	0.58565	641.77	618.24	-0.68	2.37	1581.25	7.32	1578.31	7.31	-2.94	-0.19
71	217	146	75	3472	0.88055	616.87	0.58641	641.73	632.15	0	2.34	1583.59	7.3	1579.74	7.28	-3.85	-0.24

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
71	218	147	76	3488	0.87846	617.3	0.58716	641.7	646.16	-0.68	2.31	1584.48	7.27	1581.44	7.25	-3.03	-0.19
71	219	148	77	3504	0.87638	617.72	0.58790	641.68	660.26	0	2.28	1586.63	7.24	1582.68	7.23	-3.95	-0.25
71	220	149	78	3520	0.87430	618.12	0.58864	641.67	674.46	-0.67	2.26	1587.33	7.22	1584.2	7.2	-3.13	-0.2
71	221	150	79	3536	0.87222	618.52	0.58937	641.66	688.74	0	2.23	1589.3	7.19	1585.25	7.17	-4.05	-0.26
71	222	151	80	3552	0.87014	618.91	0.59009	641.66	703.12	-0.67	2.2	1589.84	7.16	1586.59	7.15	-3.25	-0.2
71	223	152	81	3568	0.86807	619.28	0.59081	641.67	717.59	0	2.17	1591.63	7.14	1587.46	7.12	-4.17	-0.26
71	224	153	82	3584	0.86599	619.65	0.59152	641.68	732.15	-0.67	2.15	1591.99	7.11	1588.62	7.09	-3.37	-0.21
71	225	154	83	3600	0.86392	620.01	0.59222	641.71	746.8	0	2.12	1593.61	7.08	1589.31	7.06	-4.3	-0.27
71	226	155	84	3616	0.86185	620.36	0.59292	641.73	761.54	-0.67	2.1	1593.81	7.05	1590.3	7.04	-3.51	-0.22
71	227	156	85	3632	0.85979	620.69	0.59361	641.77	776.36	0	2.07	1595.26	7.03	1590.82	7.01	-4.44	-0.28
71	228	157	86	3648	0.85773	621.02	0.59430	641.81	791.26	-0.66	2.05	1595.3	7	1591.64	6.98	-3.66	-0.23
71	229	158	87	3664	0.85567	621.34	0.59498	641.86	806.25	0	2.03	1596.58	6.97	1591.98	6.95	-4.59	-0.29
71	230	159	88	3680	0.85361	621.65	0.59565	641.92	821.32	-0.66	2	1596.46	6.94	1592.64	6.92	-3.83	-0.24
71	231	160	89	3696	0.85156	621.95	0.59632	641.98	836.47	0	1.98	1597.58	6.92	1592.82	6.9	-4.77	-0.3
71	232	161	90	3712	0.84951	622.25	0.59698	642.04	851.7	-0.66	1.96	1597.31	6.88	1593.31	6.87	-4.01	-0.25
71	233	162	91	3728	0.84746	622.53	0.59764	642.12	867.01	0	1.94	1598.28	6.86	1593.33	6.84	-4.95	-0.31
71	234	163	92	3744	0.84542	622.81	0.59829	642.2	882.4	-0.65	1.92	1597.86	6.83	1593.66	6.81	-4.2	-0.26
71	235	164	93	3760	0.84339	623.07	0.59894	642.28	897.87	0	1.9	1598.68	6.8	1593.52	6.78	-5.15	-0.32
71	236	165	94	3776	0.84135	623.33	0.59958	642.37	913.41	-0.65	1.88	1598.11	6.77	1593.7	6.75	-4.41	-0.28
71	237	166	95	3792	0.83932	623.59	0.60021	642.47	929.03	0	1.86	1598.78	6.75	1593.41	6.72	-5.37	-0.34
71	238	167	96	3808	0.83730	623.83	0.60084	642.57	944.72	-0.65	1.84	1598.07	6.71	1593.43	6.7	-4.64	-0.29
71	239	168	97	3824	0.83528	624.07	0.60146	642.67	960.49	0	1.82	1598.59	6.69	1592.99	6.67	-5.6	-0.35
71	240	169	98	3840	0.83326	624.3	0.60208	642.79	976.32	-0.65	1.8	1597.75	6.66	1592.87	6.64	-4.88	-0.31
71	241	170	99	3856	0.83125	624.52	0.60270	642.9	992.23	0	1.78	1598.12	6.63	1592.28	6.61	-5.85	-0.37
71	242	171	100	3872	0.82925	624.73	0.60331	643.03	1008.21	-0.64	1.76	1597.15	6.6	1592.01	6.58	-5.14	-0.32
71	243	172	101	3888	0.82725	624.94	0.60391	643.15	1024.26	0	1.75	1597.39	6.57	1591.27	6.55	-6.11	-0.38
71	244	173	102	3904	0.82525	625.14	0.60451	643.29	1040.38	-0.64	1.73	1596.28	6.54	1590.86	6.52	-5.41	-0.34
71	245	174	103	3920	0.82326	625.34	0.60510	643.42	1056.57	0	1.71	1596.38	6.52	1589.99	6.49	-6.39	-0.4
71	246	175	104	3936	0.82127	625.52	0.60569	643.56	1072.82	-0.64	1.69	1595.14	6.48	1589.44	6.46	-5.71	-0.36
71	247	176	105	3952	0.81929	625.71	0.60628	643.71	1089.15	0	1.68	1595.12	6.46	1588.42	6.43	-6.69	-0.42
71	248	177	106	3968	0.81731	625.88	0.60686	643.86	1105.53	-0.64	1.66	1593.75	6.43	1587.73	6.4	-6.02	-0.38
Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
72	143	71	-1	2288	0.99995	530.48	0.49825	703.86	0.17	0	9.71	1063.19	7.43	1071.43	7.49	8.23	0.77
72	144	72	0	2304	1.00000	532.98	0.50000	702.21	0	0.83	10	1079.64	7.5	1086.96	7.55	7.32	0.67
72	145	73	1	2320	0.99995	535.42	0.50172	700.61	0.17	0	9.71	1093.52	7.54	1099.94	7.59	6.43	0.58
72	146	74	2	2336	0.99981	537.8	0.50343	699.06	0.67	0.83	9.44	1108.74	7.59	1114.89	7.64	6.15	0.55
72	147	75	3	2352	0.99958	540.13	0.50510	697.55	1.49	0	9.18	1122.01	7.63	1127.33	7.67	5.32	0.47
72	148	76	4	2368	0.99927	542.41	0.50676	696.09	2.63	0.82	8.93	1136.62	7.68	1141.72	7.71	5.1	0.45
72	149	77	5	2384	0.99887	544.63	0.50839	694.67	4.08	0	8.69	1149.3	7.71	1153.63	7.74	4.32	0.37
72	150	78	6	2400	0.99840	546.81	0.51000	693.29	5.84	0.82	8.45	1163.33	7.76	1167.48	7.78	4.14	0.35
72	151	79	7	2416	0.99785	548.93	0.51159	691.95	7.9	0	8.23	1175.45	7.78	1178.87	7.81	3.42	0.29
72	152	80	8	2432	0.99723	551.01	0.51316	690.65	10.25	0.81	8.02	1188.92	7.82	1192.2	7.84	3.28	0.28
72	153	81	9	2448	0.99654	553.04	0.51471	689.39	12.89	0	7.81	1200.49	7.85	1203.1	7.86	2.61	0.22
72	154	82	10	2464	0.99578	555.03	0.51623	688.17	15.81	0.81	7.61	1213.41	7.88	1215.92	7.9	2.51	0.21
72	155	83	11	2480	0.99496	556.97	0.51774	686.99	19	0	7.42	1224.47	7.9	1226.34	7.91	1.88	0.15
72	156	84	12	2496	0.99408	558.87	0.51923	685.84	22.47	0.8	7.24	1236.87	7.93	1238.68	7.94	1.81	0.15

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
72	157	85	13	2512	0.99314	560.72	0.52070	684.72	26.2	0	7.06	1247.42	7.95	1248.64	7.95	1.22	0.1
72	158	86	14	2528	0.99215	562.54	0.52215	683.64	30.2	0.8	6.89	1259.32	7.97	1260.5	7.98	1.19	0.09
72	159	87	15	2544	0.99110	564.31	0.52359	682.59	34.45	0	6.73	1269.38	7.98	1270.02	7.99	0.63	0.05
72	160	88	16	2560	0.99000	566.04	0.52500	681.57	38.95	0.79	6.57	1280.8	8	1281.42	8.01	0.63	0.05
72	161	89	17	2576	0.98885	567.74	0.52640	680.58	43.71	0	6.42	1290.39	8.01	1290.51	8.02	0.11	0.01
72	162	90	18	2592	0.98765	569.4	0.52778	679.62	48.7	0.79	6.27	1301.34	8.03	1301.48	8.03	0.13	0.01
72	163	91	19	2608	0.98641	571.02	0.52914	678.69	53.93	0	6.13	1310.49	8.04	1310.14	8.04	-0.35	-0.03
72	164	92	20	2624	0.98513	572.61	0.53049	677.79	59.39	0.78	5.99	1320.99	8.05	1320.68	8.05	-0.3	-0.02
72	165	93	21	2640	0.98380	574.16	0.53182	676.91	65.08	0	5.86	1329.7	8.06	1328.94	8.05	-0.76	-0.06
72	166	94	22	2656	0.98244	575.68	0.53313	676.07	71	0.78	5.73	1339.76	8.07	1339.07	8.07	-0.69	-0.05
72	167	95	23	2672	0.98103	577.16	0.53443	675.25	77.14	0	5.61	1348.06	8.07	1346.94	8.07	-1.12	-0.08
72	168	96	24	2688	0.97959	578.61	0.53571	674.45	83.5	0.77	5.49	1357.7	8.08	1356.67	8.08	-1.03	-0.08
72	169	97	25	2704	0.97812	580.03	0.53698	673.68	90.07	0	5.37	1365.59	8.08	1364.15	8.07	-1.44	-0.11
72	170	98	26	2720	0.97661	581.42	0.53824	672.93	96.85	0.77	5.26	1374.82	8.09	1373.49	8.08	-1.33	-0.1
72	171	99	27	2736	0.97507	582.78	0.53947	672.21	103.84	0	5.15	1382.33	8.08	1380.61	8.07	-1.71	-0.12
72	172	100	28	2752	0.97350	584.1	0.54070	671.51	111.03	0.76	5.05	1391.17	8.09	1389.58	8.08	-1.59	-0.11
72	173	101	29	2768	0.97190	585.4	0.54191	670.84	118.41	0	4.95	1398.3	8.08	1396.34	8.07	-1.95	-0.14
72	174	102	30	2784	0.97027	586.67	0.54310	670.18	126	0.76	4.85	1406.76	8.08	1404.94	8.07	-1.81	-0.13
72	175	103	31	2800	0.96862	587.91	0.54429	669.55	133.77	0	4.75	1413.52	8.08	1411.36	8.06	-2.16	-0.15
72	176	104	32	2816	0.96694	589.13	0.54546	668.93	141.74	0.75	4.66	1421.62	8.08	1419.61	8.07	-2.01	-0.14
72	177	105	33	2832	0.96524	590.32	0.54661	668.34	149.89	0	4.57	1428.03	8.07	1425.69	8.05	-2.34	-0.16
72	178	106	34	2848	0.96352	591.48	0.54775	667.77	158.22	0.75	4.48	1435.77	8.07	1433.59	8.05	-2.17	-0.15
72	179	107	35	2864	0.96177	592.62	0.54888	667.21	166.73	0	4.4	1441.84	8.05	1439.35	8.04	-2.49	-0.17
72	180	108	36	2880	0.96000	593.73	0.55000	666.68	175.42	0.75	4.32	1449.24	8.05	1446.92	8.04	-2.32	-0.16
72	181	109	37	2896	0.95821	594.82	0.55111	666.16	184.28	0	4.24	1454.98	8.04	1452.36	8.02	-2.62	-0.18
72	182	110	38	2912	0.95641	595.88	0.55220	665.66	193.32	0.74	4.16	1462.04	8.03	1459.61	8.02	-2.44	-0.17
72	183	111	39	2928	0.95458	596.92	0.55328	665.18	202.52	0	4.09	1467.46	8.02	1464.74	8	-2.72	-0.19
72	184	112	40	2944	0.95274	597.94	0.55435	664.72	211.89	0.74	4.01	1474.21	8.01	1471.67	8	-2.54	-0.17
72	185	113	41	2960	0.95088	598.93	0.55541	664.27	221.42	0	3.94	1479.32	8	1476.51	7.98	-2.82	-0.19
72	186	114	42	2976	0.94901	599.9	0.55645	663.84	231.11	0.73	3.87	1485.75	7.99	1483.13	7.97	-2.62	-0.18
72	187	115	43	2992	0.94713	600.86	0.55749	663.43	240.95	0	3.81	1490.57	7.97	1487.68	7.96	-2.89	-0.19
72	188	116	44	3008	0.94522	601.79	0.55851	663.03	250.96	0.73	3.74	1496.7	7.96	1494.01	7.95	-2.69	-0.18
72	189	117	45	3024	0.94331	602.7	0.55952	662.65	261.11	0	3.68	1501.22	7.94	1498.27	7.93	-2.95	-0.2
72	190	118	46	3040	0.94139	603.58	0.56053	662.28	271.42	0.73	3.62	1507.06	7.93	1504.31	7.92	-2.75	-0.18
72	191	119	47	3056	0.93945	604.45	0.56152	661.93	281.87	0	3.56	1511.3	7.91	1508.3	7.9	-3.01	-0.2
72	192	120	48	3072	0.93750	605.3	0.56250	661.59	292.47	0.72	3.5	1516.86	7.9	1514.06	7.89	-2.8	-0.18
72	193	121	49	3088	0.93554	606.14	0.56347	661.27	303.21	0	3.44	1520.83	7.88	1517.78	7.86	-3.05	-0.2
72	194	122	50	3104	0.93357	606.95	0.56443	660.95	314.09	0.72	3.39	1526.11	7.87	1523.27	7.85	-2.84	-0.19
72	195	123	51	3120	0.93160	607.74	0.56539	660.66	325.12	0	3.33	1529.82	7.85	1526.73	7.83	-3.09	-0.2
72	196	124	52	3136	0.92961	608.52	0.56633	660.37	336.28	0.71	3.28	1534.83	7.83	1531.95	7.82	-2.88	-0.19
72	197	125	53	3152	0.92762	609.28	0.56726	660.1	347.57	0	3.23	1538.28	7.81	1535.16	7.79	-3.12	-0.2
72	198	126	54	3168	0.92562	610.02	0.56818	659.84	359	0.71	3.18	1543.03	7.79	1540.12	7.78	-2.91	-0.19
72	199	127	55	3184	0.92361	610.75	0.56910	659.6	370.55	0	3.13	1546.24	7.77	1543.09	7.75	-3.15	-0.2
72	200	128	56	3200	0.92160	611.45	0.57000	659.36	382.24	0.71	3.09	1550.74	7.75	1547.8	7.74	-2.94	-0.19
72	201	129	57	3216	0.91958	612.15	0.57090	659.14	394.05	0	3.04	1553.7	7.73	1550.52	7.71	-3.18	-0.2
72	202	130	58	3232	0.91756	612.82	0.57178	658.93	405.99	0.7	2.99	1557.95	7.71	1554.99	7.7	-2.97	-0.19
72	203	131	59	3248	0.91553	613.49	0.57266	658.73	418.05	0	2.95	1560.68	7.69	1557.48	7.67	-3.21	-0.21

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
72	204	132	60	3264	0.91350	614.13	0.57353	658.54	430.23	0.7	2.91	1564.7	7.67	1561.7	7.66	-3	-0.19
72	205	133	61	3280	0.91146	614.76	0.57439	658.36	442.54	0	2.87	1567.2	7.64	1563.97	7.63	-3.24	-0.21
72	206	134	62	3296	0.90942	615.38	0.57524	658.2	454.96	0.7	2.82	1570.99	7.63	1567.96	7.61	-3.03	-0.19
72	207	135	63	3312	0.90737	615.98	0.57609	658.04	467.49	0	2.79	1573.27	7.6	1570	7.58	-3.27	-0.21
72	208	136	64	3328	0.90533	616.57	0.57692	657.89	480.14	0.69	2.75	1576.83	7.58	1573.77	7.57	-3.07	-0.19
72	209	137	65	3344	0.90328	617.14	0.57775	657.76	492.91	0	2.71	1578.9	7.55	1575.6	7.54	-3.3	-0.21
72	210	138	66	3360	0.90122	617.7	0.57857	657.63	505.78	0.69	2.67	1582.25	7.53	1579.14	7.52	-3.11	-0.2
72	211	139	67	3376	0.89917	618.25	0.57938	657.51	518.76	0	2.64	1584.1	7.51	1580.76	7.49	-3.35	-0.21
72	212	140	68	3392	0.89712	618.79	0.58019	657.41	531.86	0.69	2.6	1587.24	7.49	1584.08	7.47	-3.15	-0.2
72	213	141	69	3408	0.89506	619.31	0.58099	657.31	545.06	0	2.57	1588.89	7.46	1585.5	7.44	-3.39	-0.21
72	214	142	70	3424	0.89300	619.82	0.58178	657.22	558.36	0.68	2.53	1591.82	7.44	1588.61	7.42	-3.21	-0.2
72	215	143	71	3440	0.89095	620.32	0.58256	657.14	571.77	0	2.5	1593.28	7.41	1589.83	7.39	-3.45	-0.22
72	216	144	72	3456	0.88889	620.8	0.58333	657.07	585.28	0.68	2.47	1596	7.39	1592.73	7.37	-3.27	-0.21
72	217	145	73	3472	0.88683	621.27	0.58410	657.01	598.89	0	2.43	1597.27	7.36	1593.75	7.34	-3.51	-0.22
72	218	146	74	3488	0.88477	621.73	0.58486	656.95	612.6	0.68	2.4	1599.8	7.34	1596.46	7.32	-3.33	-0.21
72	219	147	75	3504	0.88272	622.18	0.58562	656.91	626.41	0	2.37	1600.88	7.31	1597.29	7.29	-3.59	-0.22
72	220	148	76	3520	0.88066	622.62	0.58636	656.87	640.31	0.67	2.34	1603.21	7.29	1599.8	7.27	-3.41	-0.21
72	221	149	77	3536	0.87861	623.05	0.58710	656.84	654.31	0	2.31	1604.11	7.26	1600.44	7.24	-3.67	-0.23
72	222	150	78	3552	0.87655	623.47	0.58784	656.81	668.41	0.67	2.29	1606.27	7.24	1602.76	7.22	-3.5	-0.22
72	223	151	79	3568	0.87450	623.88	0.58857	656.8	682.6	0	2.26	1606.99	7.21	1603.23	7.19	-3.76	-0.23
72	224	152	80	3584	0.87245	624.27	0.58929	656.79	696.88	0.67	2.23	1608.96	7.18	1605.36	7.17	-3.6	-0.22
72	225	153	81	3600	0.87040	624.66	0.59000	656.79	711.24	0	2.2	1609.51	7.15	1605.64	7.14	-3.86	-0.24
72	226	154	82	3616	0.86835	625.03	0.59071	656.8	725.7	0.67	2.18	1611.31	7.13	1607.59	7.11	-3.71	-0.23
72	227	155	83	3632	0.86631	625.4	0.59141	656.81	740.25	0	2.15	1611.69	7.1	1607.71	7.08	-3.98	-0.25
72	228	156	84	3648	0.86427	625.76	0.59211	656.84	754.89	0.66	2.13	1613.31	7.08	1609.48	7.06	-3.84	-0.24
72	229	157	85	3664	0.86223	626.1	0.59280	656.86	769.6	0	2.1	1613.53	7.05	1609.42	7.03	-4.11	-0.26
72	230	158	86	3680	0.86019	626.44	0.59348	656.9	784.41	0.66	2.08	1614.99	7.02	1611.02	7	-3.97	-0.25
72	231	159	87	3696	0.85816	626.77	0.59416	656.94	799.3	0	2.06	1615.05	6.99	1610.8	6.97	-4.25	-0.26
72	232	160	88	3712	0.85612	627.09	0.59483	656.99	814.27	0.66	2.03	1616.34	6.97	1612.22	6.95	-4.12	-0.26
72	233	161	89	3728	0.85410	627.4	0.59549	657.04	829.32	0	2.01	1616.25	6.94	1611.84	6.92	-4.41	-0.27
72	234	162	90	3744	0.85207	627.7	0.59615	657.1	844.45	0.65	1.99	1617.38	6.91	1613.1	6.89	-4.29	-0.27
72	235	163	91	3760	0.85005	628	0.59681	657.17	859.66	0	1.97	1617.14	6.88	1612.56	6.86	-4.58	-0.28
72	236	164	92	3776	0.84803	628.28	0.59746	657.24	874.95	0.65	1.95	1618.12	6.86	1613.65	6.84	-4.47	-0.28
72	237	165	93	3792	0.84602	628.56	0.59810	657.32	890.32	0	1.92	1617.72	6.83	1612.96	6.81	-4.77	-0.3
72	238	166	94	3808	0.84401	628.83	0.59874	657.4	905.77	0.65	1.9	1618.55	6.8	1613.89	6.78	-4.66	-0.29
72	239	167	95	3824	0.84200	629.09	0.59937	657.49	921.29	0	1.88	1618.02	6.77	1613.05	6.75	-4.97	-0.31
72	240	168	96	3840	0.84000	629.34	0.60000	657.59	936.88	0.65	1.86	1618.7	6.74	1613.83	6.72	-4.87	-0.3
72	241	169	97	3856	0.83800	629.59	0.60062	657.69	952.55	0	1.84	1618.02	6.71	1612.84	6.69	-5.19	-0.32
72	242	170	98	3872	0.83601	629.83	0.60124	657.79	968.29	0.64	1.83	1618.56	6.69	1613.46	6.67	-5.1	-0.32
72	243	171	99	3888	0.83402	630.06	0.60185	657.9	984.1	0	1.81	1617.74	6.66	1612.33	6.64	-5.42	-0.34
72	244	172	100	3904	0.83203	630.28	0.60246	658.02	999.98	0.64	1.79	1618.14	6.63	1612.81	6.61	-5.34	-0.33
72	245	173	101	3920	0.83005	630.5	0.60306	658.14	1015.94	0	1.77	1617.19	6.6	1611.53	6.58	-5.67	-0.35
72	246	174	102	3936	0.82808	630.71	0.60366	658.27	1031.96	0.64	1.75	1617.45	6.58	1611.86	6.55	-5.6	-0.35
72	247	175	103	3952	0.82611	630.91	0.60425	658.4	1048.05	0	1.74	1616.37	6.54	1610.44	6.52	-5.93	-0.37
72	248	176	104	3968	0.82414	631.11	0.60484	658.53	1064.21	0.64	1.72	1616.5	6.52	1610.63	6.49	-5.87	-0.36
72	249	177	105	3984	0.82218	631.3	0.60542	658.67	1080.43	0	1.7	1615.3	6.49	1609.08	6.46	-6.22	-0.39
72	250	178	106	4000	0.82022	631.48	0.60600	658.82	1096.72	0.63	1.69	1615.29	6.46	1609.13	6.44	-6.16	-0.38

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
72	251	179	107	4016	0.81827	631.66	0.60657	658.97	1113.08	0	1.67	1613.96	6.43	1607.44	6.4	-6.52	-0.41
72	252	180	108	4032	0.81633	631.83	0.60714	659.12	1129.5	0.63	1.65	1613.83	6.4	1607.35	6.38	-6.47	-0.4
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
73	145	72	-1	2320	0.99995	535.42	0.49828	720.21	0.17	0	9.71	1073.92	7.41	1082.2	7.46	8.28	0.77
73	146	73	0	2336	1.00000	537.9	0.50000	718.54	0	-0.83	10	1088.73	7.46	1096.74	7.51	8.01	0.73
73	147	74	1	2352	0.99995	540.33	0.50170	716.93	0.17	0	9.72	1104.29	7.51	1110.77	7.56	6.47	0.58
73	148	75	2	2368	0.99982	542.7	0.50338	715.36	0.66	-0.82	9.45	1117.91	7.55	1124.74	7.6	6.84	0.61
73	149	76	3	2384	0.99960	545.03	0.50503	713.83	1.47	0	9.19	1132.86	7.6	1138.21	7.64	5.35	0.47
73	150	77	4	2400	0.99929	547.29	0.50667	712.36	2.6	-0.82	8.94	1145.88	7.64	1151.65	7.68	5.77	0.5
73	151	78	5	2416	0.99890	549.51	0.50828	710.92	4.03	0	8.7	1160.24	7.68	1164.58	7.71	4.34	0.37
73	152	79	6	2432	0.99844	551.68	0.50987	709.53	5.76	-0.81	8.47	1172.69	7.72	1177.5	7.75	4.8	0.41
73	153	80	7	2448	0.99791	553.8	0.51144	708.17	7.8	0	8.25	1186.48	7.75	1189.91	7.78	3.42	0.29
73	154	81	8	2464	0.99730	555.87	0.51299	706.86	10.12	-0.81	8.04	1198.39	7.78	1202.32	7.81	3.93	0.33
73	155	82	9	2480	0.99663	557.9	0.51452	705.58	12.72	0	7.84	1211.63	7.82	1214.23	7.83	2.6	0.21
73	156	83	10	2496	0.99589	559.88	0.51603	704.34	15.6	-0.8	7.64	1223.01	7.84	1226.15	7.86	3.14	0.26
73	157	84	11	2512	0.99509	561.82	0.51752	703.14	18.76	0	7.45	1235.73	7.87	1237.58	7.88	1.85	0.15
73	158	85	12	2528	0.99423	563.72	0.51899	701.98	22.19	-0.8	7.27	1246.59	7.89	1249.03	7.91	2.44	0.19
73	159	86	13	2544	0.99332	565.57	0.52044	700.84	25.88	0	7.09	1258.8	7.92	1259.98	7.92	1.18	0.09
73	160	87	14	2560	0.99234	567.38	0.52188	699.74	29.82	-0.79	6.92	1269.18	7.93	1270.98	7.94	1.8	0.14
73	161	88	15	2576	0.99132	569.16	0.52329	698.68	34.03	0	6.76	1280.9	7.96	1281.48	7.96	0.58	0.05
73	162	89	16	2592	0.99025	570.89	0.52469	697.64	38.48	-0.79	6.6	1290.81	7.97	1292.04	7.98	1.23	0.1
73	163	90	17	2608	0.98912	572.59	0.52607	696.64	43.17	0	6.45	1302.05	7.99	1302.1	7.99	0.05	0
73	164	91	18	2624	0.98795	574.25	0.52744	695.66	48.11	-0.78	6.31	1311.51	8	1312.23	8	0.72	0.06
73	165	92	19	2640	0.98674	575.87	0.52879	694.72	53.28	0	6.17	1322.3	8.01	1321.87	8.01	-0.43	-0.03
73	166	93	20	2656	0.98548	577.46	0.53012	693.8	58.68	-0.78	6.03	1331.31	8.02	1331.58	8.02	0.27	0.02
73	167	94	21	2672	0.98419	579.02	0.53144	692.91	64.31	0	5.9	1341.66	8.03	1340.81	8.03	-0.85	-0.06
73	168	95	22	2688	0.98285	580.54	0.53274	692.05	70.16	-0.77	5.77	1350.25	8.04	1350.13	8.04	-0.13	-0.01
73	169	96	23	2704	0.98148	582.02	0.53402	691.21	76.24	0	5.65	1360.18	8.05	1358.95	8.04	-1.23	-0.09
73	170	97	24	2720	0.98007	583.48	0.53529	690.4	82.52	-0.77	5.53	1368.36	8.05	1367.88	8.05	-0.48	-0.03
73	171	98	25	2736	0.97863	584.9	0.53655	689.61	89.02	0	5.41	1377.87	8.06	1376.32	8.05	-1.55	-0.11
73	172	99	26	2752	0.97715	586.29	0.53779	688.85	95.73	-0.76	5.3	1385.66	8.06	1384.87	8.05	-0.79	-0.06
73	173	100	27	2768	0.97564	587.66	0.53902	688.12	102.64	0	5.19	1394.78	8.06	1392.94	8.05	-1.84	-0.13
73	174	101	28	2784	0.97411	588.99	0.54023	687.4	109.76	-0.76	5.09	1402.18	8.06	1401.13	8.05	-1.06	-0.08
73	175	102	29	2800	0.97254	590.29	0.54143	686.71	117.07	0	4.99	1410.92	8.06	1408.83	8.05	-2.09	-0.15
73	176	103	30	2816	0.97095	591.57	0.54261	686.04	124.57	-0.75	4.89	1417.96	8.06	1416.66	8.05	-1.29	-0.09
73	177	104	31	2832	0.96933	592.82	0.54379	685.39	132.27	0	4.79	1426.32	8.06	1424.01	8.05	-2.31	-0.16
73	178	105	32	2848	0.96768	594.04	0.54494	684.76	140.15	-0.75	4.7	1433	8.05	1431.5	8.04	-1.5	-0.1
73	179	106	33	2864	0.96601	595.23	0.54609	684.15	148.22	0	4.61	1441	8.05	1438.51	8.04	-2.5	-0.17
73	180	107	34	2880	0.96432	596.4	0.54722	683.57	156.47	-0.75	4.52	1447.34	8.04	1445.67	8.03	-1.67	-0.12
73	181	108	35	2896	0.96261	597.54	0.54834	683	164.9	0	4.44	1455	8.04	1452.34	8.02	-2.66	-0.18
73	182	109	36	2912	0.96087	598.66	0.54945	682.45	173.5	-0.74	4.36	1461	8.03	1459.18	8.02	-1.82	-0.12
73	183	110	37	2928	0.95912	599.76	0.55055	681.92	182.28	0	4.28	1468.32	8.02	1465.53	8.01	-2.79	-0.19
73	184	111	38	2944	0.95735	600.83	0.55163	681.41	191.23	-0.74	4.2	1474	8.01	1472.05	8	-1.95	-0.13
73	185	112	39	2960	0.95556	601.88	0.55270	680.91	200.34	0	4.13	1481	8.01	1478.09	7.99	-2.91	-0.2
73	186	113	40	2976	0.95375	602.9	0.55376	680.44	209.62	-0.73	4.05	1486.36	7.99	1484.3	7.98	-2.06	-0.14
73	187	114	41	2992	0.95193	603.9	0.55481	679.98	219.06	0	3.98	1493.04	7.98	1490.03	7.97	-3.01	-0.2

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
73	188	115	42	3008	0.95009	604.88	0.55585	679.53	228.66	-0.73	3.91	1498.11	7.97	1495.95	7.96	-2.15	-0.14
73	189	116	43	3024	0.94824	605.84	0.55688	679.11	238.42	0	3.85	1504.48	7.96	1501.39	7.94	-3.09	-0.21
73	190	117	44	3040	0.94637	606.78	0.55790	678.7	248.33	-0.73	3.78	1509.25	7.94	1507.02	7.93	-2.23	-0.15
73	191	118	45	3056	0.94449	607.7	0.55890	678.3	258.39	0	3.72	1515.33	7.93	1512.17	7.92	-3.16	-0.21
73	192	119	46	3072	0.94260	608.6	0.55990	677.92	268.6	-0.72	3.66	1519.81	7.92	1517.52	7.9	-2.3	-0.15
73	193	120	47	3088	0.94070	609.48	0.56088	677.55	278.96	0	3.6	1525.6	7.9	1522.39	7.89	-3.22	-0.21
73	194	121	48	3104	0.93878	610.33	0.56186	677.2	289.47	-0.72	3.54	1529.81	7.89	1527.46	7.87	-2.35	-0.15
73	195	122	49	3120	0.93686	611.17	0.56282	676.86	300.12	0	3.48	1535.32	7.87	1532.06	7.86	-3.27	-0.21
73	196	123	50	3136	0.93492	612	0.56378	676.54	310.91	-0.71	3.43	1539.27	7.85	1536.87	7.84	-2.4	-0.16
73	197	124	51	3152	0.93298	612.8	0.56472	676.23	321.83	0	3.37	1544.51	7.84	1541.2	7.82	-3.31	-0.21
73	198	125	52	3168	0.93103	613.58	0.56566	675.94	332.9	-0.71	3.32	1548.19	7.82	1545.75	7.81	-2.44	-0.16
73	199	126	53	3184	0.92907	614.35	0.56658	675.65	344.09	0	3.27	1553.17	7.8	1549.82	7.79	-3.34	-0.22
73	200	127	54	3200	0.92710	615.1	0.56750	675.38	355.42	-0.71	3.22	1556.6	7.78	1554.12	7.77	-2.48	-0.16
73	201	128	55	3216	0.92513	615.84	0.56841	675.12	366.88	0	3.17	1561.32	7.77	1557.95	7.75	-3.38	-0.22
73	202	129	56	3232	0.92315	616.56	0.56931	674.88	378.47	-0.7	3.12	1564.51	7.75	1562	7.73	-2.51	-0.16
73	203	130	57	3248	0.92116	617.26	0.57020	674.64	390.19	0	3.07	1568.98	7.73	1565.58	7.71	-3.41	-0.22
73	204	131	58	3264	0.91917	617.94	0.57108	674.42	402.03	-0.7	3.03	1571.93	7.71	1569.39	7.69	-2.54	-0.16
73	205	132	59	3280	0.91717	618.61	0.57195	674.21	413.99	0	2.99	1576.17	7.69	1572.73	7.67	-3.44	-0.22
73	206	133	60	3296	0.91517	619.27	0.57282	674.01	426.08	-0.7	2.94	1578.89	7.66	1576.31	7.65	-2.58	-0.16
73	207	134	61	3312	0.91316	619.91	0.57367	673.82	438.28	0	2.9	1582.88	7.65	1579.42	7.63	-3.47	-0.22
73	208	135	62	3328	0.91115	620.54	0.57452	673.65	450.6	-0.69	2.86	1585.38	7.62	1582.77	7.61	-2.61	-0.16
73	209	136	63	3344	0.90914	621.15	0.57536	673.48	463.04	0	2.82	1589.15	7.6	1585.65	7.59	-3.5	-0.22
73	210	137	64	3360	0.90712	621.75	0.57619	673.32	475.59	-0.69	2.78	1591.43	7.58	1588.78	7.57	-2.65	-0.17
73	211	138	65	3376	0.90510	622.33	0.57701	673.18	488.26	0	2.74	1594.98	7.56	1591.44	7.54	-3.54	-0.22
73	212	139	66	3392	0.90308	622.9	0.57783	673.04	501.03	-0.69	2.7	1597.05	7.53	1594.36	7.52	-2.69	-0.17
73	213	140	67	3408	0.90106	623.46	0.57864	672.91	513.92	0	2.67	1600.38	7.51	1596.8	7.5	-3.58	-0.22
73	214	141	68	3424	0.89903	624	0.57944	672.8	526.91	-0.68	2.63	1602.24	7.49	1599.51	7.47	-2.73	-0.17
73	215	142	69	3440	0.89700	624.53	0.58023	672.69	540.01	0	2.6	1605.37	7.47	1601.74	7.45	-3.63	-0.23
73	216	143	70	3456	0.89498	625.05	0.58102	672.59	553.21	-0.68	2.56	1607.03	7.44	1604.24	7.43	-2.79	-0.17
73	217	144	71	3472	0.89295	625.56	0.58180	672.5	566.52	0	2.53	1609.95	7.42	1606.27	7.4	-3.68	-0.23
73	218	145	72	3488	0.89092	626.05	0.58257	672.42	579.93	-0.68	2.5	1611.41	7.39	1608.57	7.38	-2.85	-0.18
73	219	146	73	3504	0.88889	626.53	0.58333	672.35	593.44	0	2.47	1614.14	7.37	1610.4	7.35	-3.74	-0.23
73	220	147	74	3520	0.88686	627.01	0.58409	672.29	607.06	-0.67	2.43	1615.41	7.34	1612.5	7.33	-2.91	-0.18
73	221	148	75	3536	0.88483	627.47	0.58484	672.23	620.76	0	2.4	1617.94	7.32	1614.13	7.3	-3.81	-0.24
73	222	149	76	3552	0.88280	627.91	0.58559	672.18	634.57	-0.67	2.37	1619.04	7.29	1616.04	7.28	-2.99	-0.19
73	223	150	77	3568	0.88077	628.35	0.58632	672.15	648.47	0	2.35	1621.38	7.27	1617.49	7.25	-3.89	-0.24
73	224	151	78	3584	0.87875	628.78	0.58705	672.11	662.47	-0.67	2.32	1622.29	7.24	1619.21	7.23	-3.08	-0.19
73	225	152	79	3600	0.87672	629.19	0.58778	672.09	676.56	0	2.29	1624.45	7.22	1620.47	7.2	-3.98	-0.25
73	226	153	80	3616	0.87470	629.6	0.58850	672.08	690.74	-0.67	2.26	1625.19	7.19	1622.01	7.18	-3.17	-0.2
73	227	154	81	3632	0.87267	630	0.58921	672.07	705.01	0	2.23	1627.17	7.17	1623.09	7.15	-4.08	-0.25
73	228	155	82	3648	0.87065	630.38	0.58991	672.07	719.37	-0.66	2.21	1627.73	7.14	1624.45	7.12	-3.28	-0.2
73	229	156	83	3664	0.86863	630.76	0.59061	672.07	733.81	0	2.18	1629.54	7.12	1625.35	7.1	-4.19	-0.26
73	230	157	84	3680	0.86662	631.12	0.59130	672.09	748.35	-0.66	2.16	1629.94	7.09	1626.54	7.07	-3.4	-0.21
73	231	158	85	3696	0.86460	631.48	0.59199	672.11	762.97	0	2.13	1631.58	7.06	1627.26	7.04	-4.32	-0.27
73	232	159	86	3712	0.86259	631.83	0.59267	672.13	777.68	-0.66	2.11	1631.82	7.03	1628.28	7.02	-3.54	-0.22
73	233	160	87	3728	0.86058	632.16	0.59335	672.17	792.47	0	2.08	1633.29	7.01	1628.83	6.99	-4.45	-0.27
73	234	161	88	3744	0.85857	632.49	0.59402	672.21	807.34	-0.65	2.06	1633.37	6.98	1629.69	6.96	-3.68	-0.23

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
73	235	162	89	3760	0.85657	632.81	0.59468	672.25	822.29	0	2.04	1634.68	6.96	1630.08	6.94	-4.6	-0.28
73	236	163	90	3776	0.85457	633.13	0.59534	672.31	837.33	-0.65	2.02	1634.61	6.93	1630.77	6.91	-3.84	-0.24
73	237	164	91	3792	0.85257	633.43	0.59599	672.37	852.44	0	1.99	1635.76	6.9	1630.99	6.88	-4.77	-0.29
73	238	165	92	3808	0.85058	633.72	0.59664	672.43	867.63	-0.65	1.97	1635.54	6.87	1631.52	6.86	-4.01	-0.25
73	239	166	93	3824	0.84859	634.01	0.59728	672.5	882.9	0	1.95	1636.54	6.85	1631.59	6.83	-4.94	-0.3
73	240	167	94	3840	0.84660	634.29	0.59792	672.58	898.25	-0.65	1.93	1636.17	6.82	1631.97	6.8	-4.2	-0.26
73	241	168	95	3856	0.84461	634.56	0.59855	672.66	913.67	0	1.91	1637.02	6.79	1631.88	6.77	-5.14	-0.31
73	242	169	96	3872	0.84263	634.82	0.59917	672.75	929.17	-0.64	1.89	1636.51	6.76	1632.1	6.74	-4.4	-0.27
73	243	170	97	3888	0.84066	635.08	0.59979	672.84	944.74	0	1.87	1637.21	6.74	1631.86	6.72	-5.35	-0.33
73	244	171	98	3904	0.83869	635.32	0.60041	672.94	960.38	-0.64	1.85	1636.56	6.71	1631.94	6.69	-4.62	-0.28
73	245	172	99	3920	0.83672	635.56	0.60102	673.05	976.1	0	1.83	1637.12	6.68	1631.55	6.66	-5.57	-0.34
73	246	173	100	3936	0.83475	635.8	0.60163	673.16	991.89	-0.64	1.81	1636.33	6.65	1631.48	6.63	-4.86	-0.3
73	247	174	101	3952	0.83280	636.02	0.60223	673.27	1007.74	0	1.8	1636.76	6.63	1630.94	6.6	-5.81	-0.36
73	248	175	102	3968	0.83084	636.24	0.60282	673.4	1023.67	-0.64	1.78	1635.84	6.6	1630.73	6.58	-5.11	-0.31
73	249	176	103	3984	0.82889	636.45	0.60341	673.52	1039.67	0	1.76	1636.12	6.57	1630.05	6.55	-6.07	-0.37
73	250	177	104	4000	0.82694	636.66	0.60400	673.65	1055.73	-0.63	1.74	1635.08	6.54	1629.7	6.52	-5.38	-0.33
73	251	178	105	4016	0.82500	636.85	0.60458	673.79	1071.86	0	1.73	1635.23	6.51	1628.88	6.49	-6.34	-0.39
73	252	179	106	4032	0.82307	637.05	0.60516	673.93	1088.05	-0.63	1.71	1634.05	6.48	1628.39	6.46	-5.66	-0.35
73	253	180	107	4048	0.82114	637.23	0.60573	674.07	1104.32	0	1.69	1634.08	6.46	1627.44	6.43	-6.63	-0.41
73	254	181	108	4064	0.81921	637.41	0.60630	674.22	1120.64	-0.63	1.68	1632.78	6.43	1626.82	6.4	-5.96	-0.37
73	255	182	109	4080	0.81729	637.58	0.60686	674.37	1137.03	0	1.66	1632.67	6.4	1625.73	6.38	-6.94	-0.43
73	256	183	110	4096	0.81537	637.75	0.60742	674.53	1153.48	-0.62	1.65	1631.26	6.37	1624.97	6.35	-6.28	-0.39
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
74	147	73	-1	2352	0.99995	540.33	0.49830	736.7	0.17	0	9.72	1084.52	7.38	1092.85	7.43	8.34	0.76
74	148	74	0	2368	1.00000	542.8	0.50000	735.02	0	0.82	10	1100.99	7.44	1108.43	7.49	7.43	0.67
74	149	75	1	2384	0.99996	545.22	0.50168	733.39	0.16	0	9.72	1114.95	7.48	1121.49	7.53	6.54	0.58
74	150	76	2	2400	0.99982	547.59	0.50333	731.81	0.65	0.82	9.46	1130.23	7.53	1136.49	7.58	6.26	0.55
74	151	77	3	2416	0.99961	549.9	0.50497	730.27	1.45	0	9.2	1143.58	7.57	1149.01	7.61	5.43	0.47
74	152	78	4	2432	0.99931	552.16	0.50658	728.77	2.56	0.81	8.95	1158.27	7.62	1163.47	7.65	5.2	0.45
74	153	79	5	2448	0.99893	554.37	0.50817	727.32	3.98	0	8.72	1171.05	7.65	1175.47	7.68	4.42	0.38
74	154	80	6	2464	0.99848	556.53	0.50974	725.91	5.69	0.81	8.49	1185.16	7.7	1189.4	7.72	4.23	0.36
74	155	81	7	2480	0.99796	558.65	0.51129	724.54	7.7	0	8.27	1197.39	7.73	1200.89	7.75	3.51	0.29
74	156	82	8	2496	0.99737	560.71	0.51282	723.21	9.99	0.8	8.06	1210.95	7.76	1214.31	7.78	3.36	0.28
74	157	83	9	2512	0.99671	562.74	0.51433	721.92	12.56	0	7.86	1222.64	7.79	1225.32	7.8	2.68	0.22
74	158	84	10	2528	0.99599	564.72	0.51582	720.67	15.41	0.8	7.67	1235.67	7.82	1238.25	7.84	2.58	0.21
74	159	85	11	2544	0.99521	566.65	0.51730	719.45	18.53	0	7.48	1246.85	7.84	1248.79	7.85	1.94	0.16
74	160	86	12	2560	0.99438	568.55	0.51875	718.27	21.91	0.79	7.3	1259.36	7.87	1261.23	7.88	1.87	0.15
74	161	87	13	2576	0.99348	570.4	0.52019	717.12	25.56	0	7.12	1270.05	7.89	1271.32	7.9	1.27	0.1
74	162	88	14	2592	0.99253	572.21	0.52161	716	29.46	0.79	6.96	1282.07	7.91	1283.31	7.92	1.24	0.1
74	163	89	15	2608	0.99153	573.98	0.52301	714.92	33.61	0	6.79	1292.28	7.93	1292.96	7.93	0.68	0.05
74	164	90	16	2624	0.99048	575.72	0.52439	713.87	38.01	0.78	6.64	1303.82	7.95	1304.49	7.95	0.67	0.05
74	165	91	17	2640	0.98939	577.42	0.52576	712.85	42.65	0	6.49	1313.57	7.96	1313.71	7.96	0.14	0.01
74	166	92	18	2656	0.98824	579.08	0.52711	711.86	47.53	0.78	6.34	1324.65	7.98	1324.81	7.98	0.16	0.01
74	167	93	19	2672	0.98706	580.7	0.52844	710.9	52.64	0	6.2	1333.96	7.99	1333.63	7.99	-0.33	-0.02
74	168	94	20	2688	0.98583	582.29	0.52976	709.96	57.99	0.77	6.07	1344.59	8	1344.31	8	-0.28	-0.02
74	169	95	21	2704	0.98456	583.85	0.53107	709.06	63.55	0	5.93	1353.47	8.01	1352.72	8	-0.75	-0.06

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
74	170	96	22	2720	0.98325	585.37	0.53235	708.18	69.34	0.77	5.81	1363.68	8.02	1363	8.02	-0.68	-0.05
74	171	97	23	2736	0.98191	586.86	0.53363	707.33	75.35	0	5.68	1372.14	8.02	1371.02	8.02	-1.12	-0.08
74	172	98	24	2752	0.98053	588.32	0.53488	706.5	81.57	0.76	5.57	1381.93	8.03	1380.9	8.03	-1.03	-0.07
74	173	99	25	2768	0.97912	589.75	0.53613	705.7	88	0	5.45	1390	8.03	1388.56	8.03	-1.45	-0.1
74	174	100	26	2784	0.97767	591.15	0.53736	704.92	94.64	0.76	5.34	1399.39	8.04	1398.05	8.03	-1.34	-0.1
74	175	101	27	2800	0.97620	592.51	0.53857	704.17	101.48	0	5.23	1407.07	8.04	1405.34	8.03	-1.73	-0.12
74	176	102	28	2816	0.97469	593.85	0.53977	703.44	108.52	0.75	5.13	1416.07	8.05	1414.47	8.04	-1.61	-0.11
74	177	103	29	2832	0.97316	595.16	0.54096	702.73	115.75	0	5.03	1423.38	8.04	1421.4	8.03	-1.98	-0.14
74	178	104	30	2848	0.97159	596.44	0.54214	702.05	123.18	0.75	4.93	1432.01	8.04	1430.17	8.03	-1.84	-0.13
74	179	105	31	2864	0.97001	597.69	0.54330	701.38	130.8	0	4.83	1438.96	8.04	1436.76	8.03	-2.19	-0.15
74	180	106	32	2880	0.96840	598.92	0.54444	700.74	138.6	0.75	4.74	1447.22	8.04	1445.18	8.03	-2.04	-0.14
74	181	107	33	2896	0.96676	600.12	0.54558	700.12	146.59	0	4.65	1453.82	8.03	1451.44	8.02	-2.38	-0.16
74	182	108	34	2912	0.96510	601.3	0.54670	699.52	154.76	0.74	4.56	1461.73	8.03	1459.51	8.02	-2.21	-0.15
74	183	109	35	2928	0.96342	602.45	0.54781	698.94	163.11	0	4.48	1467.99	8.02	1465.46	8.01	-2.53	-0.17
74	184	110	36	2944	0.96172	603.57	0.54891	698.37	171.63	0.74	4.4	1475.56	8.02	1473.2	8.01	-2.36	-0.16
74	185	111	37	2960	0.96000	604.67	0.55000	697.83	180.32	0	4.32	1481.5	8.01	1478.83	7.99	-2.67	-0.18
74	186	112	38	2976	0.95826	605.75	0.55108	697.3	189.18	0.73	4.24	1488.74	8	1486.25	7.99	-2.49	-0.17
74	187	113	39	2992	0.95650	606.81	0.55214	696.79	198.21	0	4.16	1494.35	7.99	1491.57	7.98	-2.78	-0.19
74	188	114	40	3008	0.95473	607.84	0.55319	696.3	207.4	0.73	4.09	1501.28	7.99	1498.69	7.97	-2.59	-0.17
74	189	115	41	3024	0.95294	608.85	0.55423	695.83	216.75	0	4.02	1506.59	7.97	1503.71	7.96	-2.87	-0.19
74	190	116	42	3040	0.95114	609.84	0.55526	695.37	226.27	0.73	3.95	1513.2	7.96	1510.52	7.95	-2.68	-0.18
74	191	117	43	3056	0.94932	610.8	0.55628	694.93	235.93	0	3.88	1518.21	7.95	1515.26	7.93	-2.95	-0.19
74	192	118	44	3072	0.94748	611.75	0.55729	694.51	245.75	0.72	3.82	1524.53	7.94	1521.78	7.93	-2.75	-0.18
74	193	119	45	3088	0.94564	612.68	0.55829	694.1	255.73	0	3.76	1529.25	7.92	1526.24	7.91	-3.02	-0.2
74	194	120	46	3104	0.94378	613.58	0.55928	693.71	265.85	0.72	3.69	1535.27	7.91	1532.46	7.9	-2.81	-0.18
74	195	121	47	3120	0.94191	614.47	0.56026	693.33	276.12	0	3.63	1539.72	7.9	1536.65	7.88	-3.07	-0.2
74	196	122	48	3136	0.94003	615.34	0.56122	692.96	286.53	0.71	3.58	1545.46	7.88	1542.6	7.87	-2.86	-0.19
74	197	123	49	3152	0.93813	616.18	0.56218	692.62	297.09	0	3.52	1549.63	7.87	1546.52	7.85	-3.11	-0.2
74	198	124	50	3168	0.93623	617.01	0.56313	692.28	307.78	0.71	3.46	1555.1	7.85	1552.2	7.84	-2.9	-0.19
74	199	125	51	3184	0.93432	617.83	0.56407	691.96	318.61	0	3.41	1559.01	7.83	1555.86	7.82	-3.15	-0.2
74	200	126	52	3200	0.93240	618.62	0.56500	691.65	329.58	0.71	3.36	1564.21	7.82	1561.27	7.81	-2.94	-0.19
74	201	127	53	3216	0.93047	619.4	0.56592	691.36	340.69	0	3.3	1567.86	7.8	1564.69	7.78	-3.18	-0.2
74	202	128	54	3232	0.92854	620.16	0.56683	691.07	351.92	0.7	3.25	1572.81	7.79	1569.84	7.77	-2.97	-0.19
74	203	129	55	3248	0.92659	620.9	0.56773	690.8	363.29	0	3.2	1576.21	7.76	1573.01	7.75	-3.21	-0.2
74	204	130	56	3264	0.92464	621.63	0.56863	690.55	374.78	0.7	3.16	1580.9	7.75	1577.91	7.73	-2.99	-0.19
74	205	131	57	3280	0.92269	622.34	0.56951	690.3	386.4	0	3.11	1584.07	7.73	1580.84	7.71	-3.23	-0.2
74	206	132	58	3296	0.92073	623.03	0.57039	690.07	398.15	0.7	3.07	1588.52	7.71	1585.5	7.7	-3.02	-0.19
74	207	133	59	3312	0.91876	623.71	0.57126	689.85	410.01	0	3.02	1591.45	7.69	1588.2	7.67	-3.25	-0.2
74	208	134	60	3328	0.91679	624.38	0.57212	689.64	422	0.69	2.98	1595.66	7.67	1592.62	7.66	-3.04	-0.19
74	209	135	61	3344	0.91481	625.03	0.57297	689.44	434.11	0	2.94	1598.36	7.65	1595.09	7.63	-3.28	-0.21
74	210	136	62	3360	0.91283	625.66	0.57381	689.25	446.33	0.69	2.89	1602.34	7.63	1599.28	7.62	-3.06	-0.19
74	211	137	63	3376	0.91085	626.28	0.57465	689.07	458.67	0	2.85	1604.83	7.61	1601.53	7.59	-3.3	-0.21
74	212	138	64	3392	0.90886	626.89	0.57547	688.9	471.13	0.69	2.81	1608.58	7.59	1605.49	7.57	-3.09	-0.19
74	213	139	65	3408	0.90688	627.48	0.57629	688.75	483.69	0	2.78	1610.85	7.56	1607.52	7.55	-3.33	-0.21
74	214	140	66	3424	0.90488	628.06	0.57710	688.6	496.37	0.68	2.74	1614.39	7.54	1611.26	7.53	-3.12	-0.19
74	215	141	67	3440	0.90289	628.63	0.57791	688.46	509.16	0	2.7	1616.45	7.52	1613.09	7.5	-3.36	-0.21
74	216	142	68	3456	0.90089	629.18	0.57870	688.34	522.05	0.68	2.67	1619.77	7.5	1616.61	7.48	-3.16	-0.2

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
74	217	143	69	3472	0.89889	629.72	0.57949	688.22	535.06	0	2.63	1621.63	7.47	1618.23	7.46	-3.4	-0.21
74	218	144	70	3488	0.89689	630.25	0.58028	688.11	548.16	0.68	2.6	1624.75	7.45	1621.55	7.44	-3.2	-0.2
74	219	145	71	3504	0.89489	630.77	0.58105	688.01	561.37	0	2.56	1626.41	7.43	1622.97	7.41	-3.44	-0.21
74	220	146	72	3520	0.89289	631.27	0.58182	687.92	574.68	0.67	2.53	1629.32	7.41	1626.08	7.39	-3.25	-0.2
74	221	147	73	3536	0.89089	631.76	0.58258	687.84	588.1	0	2.5	1630.79	7.38	1627.3	7.36	-3.49	-0.21
74	222	148	74	3552	0.88889	632.24	0.58333	687.77	601.61	0.67	2.47	1633.51	7.36	1630.21	7.34	-3.3	-0.2
74	223	149	75	3568	0.88689	632.71	0.58408	687.71	615.22	0	2.44	1634.79	7.33	1631.24	7.31	-3.55	-0.22
74	224	150	76	3584	0.88489	633.17	0.58482	687.65	628.93	0.67	2.41	1637.32	7.31	1633.95	7.29	-3.37	-0.21
74	225	151	77	3600	0.88288	633.62	0.58556	687.6	642.73	0	2.38	1638.42	7.28	1634.8	7.27	-3.62	-0.22
74	226	152	78	3616	0.88088	634.05	0.58628	687.56	656.63	0.67	2.35	1640.77	7.26	1637.32	7.24	-3.44	-0.21
74	227	153	79	3632	0.87888	634.48	0.58700	687.53	670.62	0	2.32	1641.69	7.23	1637.99	7.22	-3.7	-0.23
74	228	154	80	3648	0.87689	634.89	0.58772	687.51	684.7	0.66	2.29	1643.85	7.21	1640.32	7.19	-3.53	-0.22
74	229	155	81	3664	0.87489	635.3	0.58843	687.49	698.88	0	2.26	1644.6	7.18	1640.81	7.17	-3.79	-0.23
74	230	156	82	3680	0.87289	635.69	0.58913	687.48	713.14	0.66	2.24	1646.58	7.16	1642.96	7.14	-3.62	-0.22
74	231	157	83	3696	0.87090	636.08	0.58983	687.48	727.49	0	2.21	1647.16	7.13	1643.28	7.11	-3.89	-0.24
74	232	158	84	3712	0.86891	636.45	0.59052	687.49	741.93	0.66	2.19	1648.98	7.11	1645.25	7.09	-3.73	-0.23
74	233	159	85	3728	0.86692	636.82	0.59120	687.5	756.45	0	2.16	1649.39	7.08	1645.4	7.06	-4	-0.24
74	234	160	86	3744	0.86493	637.18	0.59188	687.52	771.06	0.65	2.14	1651.04	7.06	1647.19	7.04	-3.85	-0.23
74	235	161	87	3760	0.86294	637.52	0.59255	687.54	785.75	0	2.11	1651.3	7.03	1647.18	7.01	-4.12	-0.25
74	236	162	88	3776	0.86096	637.86	0.59322	687.58	800.53	0.65	2.09	1652.78	7	1648.8	6.99	-3.98	-0.24
74	237	163	89	3792	0.85898	638.19	0.59388	687.62	815.38	0	2.07	1652.88	6.97	1648.62	6.96	-4.26	-0.26
74	238	164	90	3808	0.85700	638.51	0.59454	687.66	830.32	0.65	2.04	1654.2	6.95	1650.08	6.93	-4.12	-0.25
74	239	165	91	3824	0.85503	638.82	0.59519	687.71	845.34	0	2.02	1654.15	6.92	1649.74	6.9	-4.41	-0.27
74	240	166	92	3840	0.85306	639.13	0.59583	687.77	860.43	0.65	2	1655.31	6.9	1651.03	6.88	-4.28	-0.26
74	241	167	93	3856	0.85109	639.42	0.59647	687.84	875.61	0	1.98	1655.11	6.87	1650.54	6.85	-4.57	-0.28
74	242	168	94	3872	0.84912	639.71	0.59711	687.91	890.86	0.64	1.96	1656.13	6.84	1651.68	6.83	-4.45	-0.27
74	243	169	95	3888	0.84716	639.99	0.59774	687.98	906.18	0	1.94	1655.78	6.81	1651.03	6.79	-4.75	-0.29
74	244	170	96	3904	0.84520	640.26	0.59836	688.06	921.58	0.64	1.92	1656.65	6.79	1652.01	6.77	-4.64	-0.28
74	245	171	97	3920	0.84325	640.52	0.59898	688.15	937.06	0	1.9	1656.16	6.76	1651.22	6.74	-4.95	-0.3
74	246	172	98	3936	0.84130	640.78	0.59959	688.24	952.61	0.64	1.88	1656.88	6.74	1652.04	6.72	-4.84	-0.29
74	247	173	99	3952	0.83935	641.03	0.60020	688.34	968.23	0	1.86	1656.26	6.71	1651.1	6.68	-5.15	-0.31
74	248	174	100	3968	0.83741	641.27	0.60081	688.45	983.92	0.64	1.84	1656.84	6.68	1651.78	6.66	-5.06	-0.31
74	249	175	101	3984	0.83547	641.5	0.60141	688.56	999.68	0	1.82	1656.08	6.65	1650.7	6.63	-5.38	-0.33
74	250	176	102	4000	0.83354	641.73	0.60200	688.67	1015.51	0.63	1.8	1656.52	6.63	1651.23	6.6	-5.29	-0.32
74	251	177	103	4016	0.83161	641.95	0.60259	688.79	1031.41	0	1.78	1655.63	6.6	1650.01	6.57	-5.62	-0.34
74	252	178	104	4032	0.82968	642.16	0.60318	688.92	1047.38	0.63	1.77	1655.93	6.57	1650.39	6.55	-5.54	-0.34
74	253	179	105	4048	0.82776	642.37	0.60376	689.05	1063.42	0	1.75	1654.92	6.54	1649.04	6.52	-5.88	-0.36
74	254	180	106	4064	0.82584	642.57	0.60433	689.18	1079.52	0.63	1.73	1655.09	6.52	1649.28	6.49	-5.81	-0.35
74	255	181	107	4080	0.82393	642.76	0.60490	689.32	1095.69	0	1.72	1653.95	6.49	1647.79	6.46	-6.15	-0.37
74	256	182	108	4096	0.82202	642.95	0.60547	689.46	1111.92	0.62	1.7	1653.99	6.46	1647.9	6.44	-6.09	-0.37
74	257	183	109	4112	0.82012	643.13	0.60603	689.61	1128.22	0	1.68	1652.72	6.43	1646.28	6.41	-6.44	-0.39
74	258	184	110	4128	0.81822	643.31	0.60659	689.76	1144.58	0.62	1.67	1652.64	6.41	1646.25	6.38	-6.39	-0.39
74	259	185	111	4144	0.81633	643.48	0.60714	689.92	1161	0	1.65	1651.26	6.38	1644.5	6.35	-6.75	-0.41
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
75	149	74	-1	2384	0.99996	545.22	0.49832	753.35	0.16	0	9.72	1094.99	7.35	1103.37	7.41	8.38	0.76
75	150	75	0	2400	1.00000	547.68	0.50000	751.65	0	-0.82	10	1109.85	7.4	1117.96	7.45	8.11	0.73

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
75	151	76	1	2416	0.99996	550.09	0.50166	750.01	0.16	0	9.73	1125.47	7.45	1132.05	7.5	6.58	0.58
75	152	77	2	2432	0.99983	552.44	0.50329	748.41	0.64	-0.81	9.46	1139.16	7.49	1146.09	7.54	6.93	0.6
75	153	78	3	2448	0.99962	554.75	0.50490	746.85	1.43	0	9.21	1154.18	7.54	1159.63	7.58	5.46	0.47
75	154	79	4	2464	0.99933	557	0.50649	745.34	2.53	-0.81	8.97	1167.29	7.58	1173.14	7.62	5.86	0.5
75	155	80	5	2480	0.99896	559.2	0.50807	743.88	3.93	0	8.73	1181.73	7.62	1186.16	7.65	4.43	0.37
75	156	81	6	2496	0.99852	561.36	0.50962	742.45	5.62	-0.8	8.51	1194.28	7.66	1199.16	7.69	4.88	0.41
75	157	82	7	2512	0.99801	563.47	0.51115	741.06	7.6	0	8.29	1208.16	7.7	1211.67	7.72	3.51	0.29
75	158	83	8	2528	0.99744	565.53	0.51266	739.72	9.86	-0.8	8.08	1220.18	7.72	1224.17	7.75	4	0.33
75	159	84	9	2544	0.99680	567.55	0.51415	738.41	12.4	0	7.88	1233.52	7.76	1236.19	7.77	2.67	0.22
75	160	85	10	2560	0.99609	569.53	0.51563	737.14	15.22	-0.79	7.69	1245.01	7.78	1248.22	7.8	3.2	0.26
75	161	86	11	2576	0.99533	571.46	0.51708	735.91	18.3	0	7.51	1257.84	7.81	1259.75	7.82	1.91	0.15
75	162	87	12	2592	0.99451	573.35	0.51852	734.71	21.64	-0.79	7.33	1268.84	7.83	1271.32	7.85	2.48	0.2
75	163	88	13	2608	0.99364	575.2	0.51994	733.54	25.25	0	7.15	1281.16	7.86	1282.39	7.87	1.23	0.1
75	164	89	14	2624	0.99271	577.02	0.52134	732.41	29.1	-0.78	6.99	1291.68	7.88	1293.51	7.89	1.84	0.14
75	165	90	15	2640	0.99174	578.79	0.52273	731.31	33.21	0	6.83	1303.52	7.9	1304.14	7.9	0.63	0.05
75	166	91	16	2656	0.99071	580.52	0.52410	730.25	37.56	-0.78	6.67	1313.57	7.91	1314.83	7.92	1.26	0.1
75	167	92	17	2672	0.98964	582.22	0.52545	729.21	42.14	0	6.52	1324.94	7.93	1325.02	7.93	0.08	0.01
75	168	93	18	2688	0.98852	583.88	0.52679	728.2	46.97	-0.77	6.38	1334.55	7.94	1335.29	7.95	0.74	0.06
75	169	94	19	2704	0.98736	585.51	0.52811	727.23	52.02	0	6.24	1345.47	7.96	1345.07	7.96	-0.41	-0.03
75	170	95	20	2720	0.98616	587.1	0.52941	726.28	57.31	-0.77	6.1	1354.65	7.97	1354.93	7.97	0.28	0.02
75	171	96	21	2736	0.98492	588.66	0.53070	725.36	62.81	0	5.97	1365.14	7.98	1364.3	7.98	-0.84	-0.06
75	172	97	22	2752	0.98364	590.19	0.53198	724.46	68.54	-0.76	5.84	1373.89	7.99	1373.76	7.99	-0.13	-0.01
75	173	98	23	2768	0.98233	591.68	0.53324	723.59	74.48	0	5.72	1383.96	8	1382.74	7.99	-1.22	-0.09
75	174	99	24	2784	0.98098	593.14	0.53448	722.75	80.64	-0.76	5.6	1392.31	8	1391.82	8	-0.49	-0.04
75	175	100	25	2800	0.97959	594.57	0.53571	721.94	87	0	5.49	1401.98	8.01	1400.42	8	-1.56	-0.11
75	176	101	26	2816	0.97818	595.97	0.53693	721.14	93.57	-0.75	5.38	1409.94	8.01	1409.13	8.01	-0.81	-0.06
75	177	102	27	2832	0.97673	597.35	0.53814	720.38	100.34	0	5.27	1419.21	8.02	1417.36	8.01	-1.85	-0.13
75	178	103	28	2848	0.97526	598.69	0.53933	719.63	107.3	-0.75	5.17	1426.79	8.02	1425.71	8.01	-1.09	-0.08
75	179	104	29	2864	0.97375	600	0.54050	718.91	114.47	0	5.06	1435.69	8.02	1433.58	8.01	-2.11	-0.15
75	180	105	30	2880	0.97222	601.29	0.54167	718.21	121.82	-0.75	4.97	1442.91	8.02	1441.58	8.01	-1.33	-0.09
75	181	106	31	2896	0.97067	602.55	0.54282	717.53	129.36	0	4.87	1451.43	8.02	1449.1	8.01	-2.34	-0.16
75	182	107	32	2912	0.96909	603.78	0.54396	716.87	137.09	-0.74	4.78	1458.3	8.01	1456.76	8	-1.54	-0.11
75	183	108	33	2928	0.96748	604.99	0.54508	716.24	145	0	4.69	1466.47	8.01	1463.94	8	-2.53	-0.17
75	184	109	34	2944	0.96586	606.17	0.54620	715.62	153.09	-0.74	4.6	1472.99	8.01	1471.27	8	-1.72	-0.12
75	185	110	35	2960	0.96421	607.32	0.54730	715.02	161.35	0	4.52	1480.82	8	1478.12	7.99	-2.7	-0.18
75	186	111	36	2976	0.96254	608.46	0.54839	714.45	169.79	-0.73	4.44	1487.01	7.99	1485.13	7.98	-1.88	-0.13
75	187	112	37	2992	0.96085	609.56	0.54947	713.89	178.4	0	4.36	1494.5	7.99	1491.66	7.98	-2.84	-0.19
75	188	113	38	3008	0.95914	610.65	0.55053	713.35	187.18	-0.73	4.28	1500.37	7.98	1498.36	7.97	-2.01	-0.13
75	189	114	39	3024	0.95742	611.71	0.55159	712.83	196.12	0	4.2	1507.54	7.98	1504.58	7.96	-2.96	-0.2
75	190	115	40	3040	0.95568	612.75	0.55263	712.32	205.23	-0.73	4.13	1513.1	7.96	1510.98	7.95	-2.12	-0.14
75	191	116	41	3056	0.95392	613.77	0.55367	711.84	214.5	0	4.06	1519.96	7.96	1516.9	7.94	-3.06	-0.2
75	192	117	42	3072	0.95215	614.76	0.55469	711.37	223.92	-0.72	3.99	1525.22	7.94	1523	7.93	-2.22	-0.15
75	193	118	43	3088	0.95036	615.74	0.55570	710.91	233.5	0	3.92	1531.77	7.94	1528.63	7.92	-3.15	-0.21
75	194	119	44	3104	0.94856	616.69	0.55670	710.47	243.23	-0.72	3.86	1536.74	7.92	1534.44	7.91	-2.3	-0.15
75	195	120	45	3120	0.94675	617.62	0.55769	710.05	253.12	0	3.79	1543	7.91	1539.78	7.9	-3.22	-0.21
75	196	121	46	3136	0.94492	618.54	0.55867	709.65	263.15	-0.71	3.73	1547.68	7.9	1545.32	7.88	-2.36	-0.15
75	197	122	47	3152	0.94308	619.43	0.55965	709.26	273.33	0	3.67	1553.65	7.89	1550.38	7.87	-3.27	-0.21

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
75	198	123	48	3168	0.94123	620.31	0.56061	708.88	283.65	-0.71	3.61	1558.06	7.87	1555.64	7.86	-2.42	-0.16
75	199	124	49	3184	0.93937	621.17	0.56156	708.52	294.12	0	3.56	1563.76	7.86	1560.43	7.84	-3.32	-0.21
75	200	125	50	3200	0.93750	622	0.56250	708.17	304.72	-0.71	3.5	1567.9	7.84	1565.44	7.83	-2.47	-0.16
75	201	126	51	3216	0.93562	622.82	0.56343	707.84	315.46	0	3.44	1573.33	7.83	1569.96	7.81	-3.36	-0.21
75	202	127	52	3232	0.93373	623.63	0.56436	707.52	326.34	-0.7	3.39	1577.21	7.81	1574.7	7.8	-2.5	-0.16
75	203	128	53	3248	0.93184	624.41	0.56527	707.21	337.35	0	3.34	1582.37	7.79	1578.97	7.78	-3.4	-0.22
75	204	129	54	3264	0.92993	625.18	0.56618	706.91	348.49	-0.7	3.29	1586.01	7.77	1583.47	7.76	-2.54	-0.16
75	205	130	55	3280	0.92802	625.93	0.56707	706.63	359.76	0	3.24	1590.91	7.76	1587.49	7.74	-3.43	-0.22
75	206	131	56	3296	0.92610	626.67	0.56796	706.36	371.16	-0.7	3.19	1594.3	7.74	1591.73	7.73	-2.57	-0.16
75	207	132	57	3312	0.92418	627.39	0.56884	706.11	382.69	0	3.15	1598.96	7.72	1595.51	7.71	-3.45	-0.22
75	208	133	58	3328	0.92225	628.09	0.56971	705.86	394.34	-0.69	3.1	1602.12	7.7	1599.52	7.69	-2.6	-0.16
75	209	134	59	3344	0.92031	628.78	0.57057	705.63	406.11	0	3.06	1606.54	7.69	1603.06	7.67	-3.48	-0.22
75	210	135	60	3360	0.91837	629.45	0.57143	705.41	418	-0.69	3.01	1609.46	7.66	1606.84	7.65	-2.62	-0.16
75	211	136	61	3376	0.91642	630.11	0.57228	705.2	430.01	0	2.97	1613.65	7.65	1610.14	7.63	-3.5	-0.22
75	212	137	62	3392	0.91447	630.76	0.57311	705	442.14	-0.69	2.93	1616.34	7.62	1613.69	7.61	-2.65	-0.16
75	213	138	63	3408	0.91252	631.39	0.57394	704.81	454.38	0	2.89	1620.3	7.61	1616.77	7.59	-3.53	-0.22
75	214	139	64	3424	0.91056	632	0.57477	704.64	466.74	-0.68	2.85	1622.78	7.58	1620.1	7.57	-2.68	-0.17
75	215	140	65	3440	0.90860	632.61	0.57558	704.47	479.21	0	2.81	1626.52	7.57	1622.96	7.55	-3.56	-0.22
75	216	141	66	3456	0.90664	633.19	0.57639	704.31	491.8	-0.68	2.77	1628.79	7.54	1626.08	7.53	-2.71	-0.17
75	217	142	67	3472	0.90467	633.77	0.57719	704.16	504.49	0	2.73	1632.31	7.52	1628.72	7.51	-3.59	-0.22
75	218	143	68	3488	0.90270	634.33	0.57798	704.03	517.29	-0.68	2.7	1634.37	7.5	1631.63	7.48	-2.75	-0.17
75	219	144	69	3504	0.90073	634.88	0.57877	703.9	530.19	0	2.66	1637.69	7.48	1634.06	7.46	-3.62	-0.22
75	220	145	70	3520	0.89876	635.42	0.57955	703.78	543.2	-0.67	2.63	1639.55	7.45	1636.76	7.44	-2.79	-0.17
75	221	146	71	3536	0.89679	635.94	0.58032	703.67	556.32	0	2.59	1642.66	7.43	1638.99	7.42	-3.67	-0.22
75	222	147	72	3552	0.89481	636.46	0.58108	703.58	569.53	-0.67	2.56	1644.33	7.41	1641.49	7.39	-2.84	-0.17
75	223	148	73	3568	0.89284	636.96	0.58184	703.48	582.85	0	2.53	1647.24	7.39	1643.52	7.37	-3.72	-0.23
75	224	149	74	3584	0.89086	637.45	0.58259	703.4	596.26	-0.67	2.5	1648.71	7.36	1645.82	7.35	-2.89	-0.18
75	225	150	75	3600	0.88889	637.93	0.58333	703.33	609.78	0	2.47	1651.43	7.34	1647.66	7.32	-3.77	-0.23
75	226	151	76	3616	0.88691	638.39	0.58407	703.27	623.39	-0.67	2.44	1652.72	7.31	1649.77	7.3	-2.95	-0.18
75	227	152	77	3632	0.88494	638.85	0.58480	703.21	637.1	0	2.41	1655.25	7.29	1651.42	7.27	-3.84	-0.23
75	228	153	78	3648	0.88296	639.29	0.58553	703.16	650.9	-0.66	2.38	1656.36	7.26	1653.34	7.25	-3.03	-0.18
75	229	154	79	3664	0.88099	639.73	0.58625	703.12	664.79	0	2.35	1658.71	7.24	1654.8	7.23	-3.91	-0.24
75	230	155	80	3680	0.87902	640.15	0.58696	703.09	678.78	-0.66	2.32	1659.64	7.22	1656.54	7.2	-3.11	-0.19
75	231	156	81	3696	0.87705	640.57	0.58766	703.06	692.85	0	2.29	1661.81	7.19	1657.82	7.18	-4	-0.24
75	232	157	82	3712	0.87507	640.97	0.58836	703.05	707.02	-0.66	2.27	1662.58	7.17	1659.38	7.15	-3.2	-0.19
75	233	158	83	3728	0.87311	641.37	0.58906	703.04	721.27	0	2.24	1664.57	7.14	1660.48	7.13	-4.09	-0.25
75	234	159	84	3744	0.87114	641.75	0.58974	703.03	735.61	-0.65	2.21	1665.17	7.12	1661.86	7.1	-3.3	-0.2
75	235	160	85	3760	0.86917	642.12	0.59043	703.04	750.04	0	2.19	1666.99	7.09	1662.79	7.08	-4.2	-0.25
75	236	161	86	3776	0.86721	642.49	0.59110	703.05	764.55	-0.65	2.16	1667.42	7.07	1664.01	7.05	-3.42	-0.21
75	237	162	87	3792	0.86525	642.85	0.59177	703.07	779.15	0	2.14	1669.08	7.04	1664.76	7.02	-4.32	-0.26
75	238	163	88	3808	0.86329	643.19	0.59244	703.09	793.83	-0.65	2.12	1669.36	7.01	1665.81	7	-3.54	-0.21
75	239	164	89	3824	0.86133	643.53	0.59310	703.12	808.59	0	2.09	1670.85	6.99	1666.4	6.97	-4.45	-0.27
75	240	165	90	3840	0.85938	643.86	0.59375	703.16	823.43	-0.65	2.07	1670.97	6.96	1667.29	6.95	-3.68	-0.22
75	241	166	91	3856	0.85742	644.18	0.59440	703.21	838.35	0	2.05	1672.31	6.94	1667.72	6.92	-4.59	-0.28
75	242	167	92	3872	0.85547	644.49	0.59504	703.26	853.35	-0.64	2.03	1672.28	6.91	1668.44	6.89	-3.83	-0.23
75	243	168	93	3888	0.85353	644.8	0.59568	703.32	868.43	0	2	1673.46	6.89	1668.71	6.87	-4.75	-0.28
75	244	169	94	3904	0.85159	645.09	0.59631	703.38	883.59	-0.64	1.98	1673.28	6.86	1669.28	6.84	-4	-0.24

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
75	245	170	95	3920	0.84965	645.38	0.59694	703.45	898.82	0	1.96	1674.31	6.83	1669.4	6.81	-4.92	-0.29
75	246	171	96	3936	0.84771	645.66	0.59756	703.52	914.12	-0.64	1.94	1673.99	6.8	1669.81	6.79	-4.18	-0.25
75	247	172	97	3952	0.84578	645.94	0.59818	703.61	929.5	0	1.92	1674.88	6.78	1669.77	6.76	-5.1	-0.31
75	248	173	98	3968	0.84385	646.2	0.59879	703.69	944.96	-0.64	1.9	1674.42	6.75	1670.04	6.73	-4.38	-0.26
75	249	174	99	3984	0.84192	646.46	0.59940	703.78	960.48	0	1.88	1675.16	6.73	1669.85	6.71	-5.31	-0.32
75	250	175	100	4000	0.84000	646.71	0.60000	703.88	976.08	-0.63	1.86	1674.56	6.7	1669.97	6.68	-4.59	-0.27
75	251	176	101	4016	0.83808	646.95	0.60060	703.99	991.75	0	1.85	1675.16	6.67	1669.64	6.65	-5.52	-0.33
75	252	177	102	4032	0.83617	647.19	0.60119	704.09	1007.49	-0.63	1.83	1674.43	6.64	1669.62	6.63	-4.81	-0.29
75	253	178	103	4048	0.83426	647.41	0.60178	704.21	1023.29	0	1.81	1674.89	6.62	1669.14	6.6	-5.75	-0.34
75	254	179	104	4064	0.83235	647.64	0.60236	704.33	1039.17	-0.63	1.79	1674.03	6.59	1668.98	6.57	-5.06	-0.3
75	255	180	105	4080	0.83045	647.85	0.60294	704.45	1055.11	0	1.77	1674.36	6.57	1668.36	6.54	-6	-0.36
75	256	181	106	4096	0.82855	648.06	0.60352	704.58	1071.12	-0.62	1.76	1673.37	6.54	1668.06	6.52	-5.31	-0.32
75	257	182	107	4112	0.82666	648.26	0.60409	704.71	1087.19	0	1.74	1673.57	6.51	1667.31	6.49	-6.27	-0.38
75	258	183	108	4128	0.82477	648.46	0.60465	704.85	1103.33	-0.62	1.72	1672.46	6.48	1666.87	6.46	-5.59	-0.34
75	259	184	109	4144	0.82289	648.65	0.60521	704.99	1119.54	0	1.71	1672.53	6.46	1665.98	6.43	-6.55	-0.39
75	260	185	110	4160	0.82101	648.83	0.60577	705.14	1135.81	-0.62	1.69	1671.29	6.43	1665.41	6.41	-5.88	-0.35
75	261	186	111	4176	0.81913	649.01	0.60632	705.29	1152.14	0	1.68	1671.24	6.4	1664.39	6.38	-6.85	-0.41
75	262	187	112	4192	0.81726	649.18	0.60687	705.45	1168.53	-0.62	1.66	1669.89	6.37	1663.7	6.35	-6.19	-0.37
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
76	151	75	-1	2416	0.99996	550.09	0.49834	770.14	0.16	0	9.73	1105.33	7.32	1113.77	7.38	8.43	0.76
76	152	76	0	2432	1.00000	552.54	0.50000	768.43	0	0.81	10	1121.84	7.38	1129.38	7.43	7.54	0.67
76	153	77	1	2448	0.99996	554.94	0.50163	766.77	0.16	0	9.73	1135.86	7.42	1142.51	7.47	6.65	0.58
76	154	78	2	2464	0.99983	557.28	0.50325	765.15	0.63	0.81	9.47	1151.21	7.48	1157.57	7.52	6.36	0.55
76	155	79	3	2480	0.99963	559.58	0.50484	763.58	1.41	0	9.22	1164.64	7.51	1170.17	7.55	5.53	0.47
76	156	80	4	2496	0.99934	561.82	0.50641	762.06	2.5	0.8	8.98	1179.4	7.56	1184.69	7.59	5.29	0.45
76	157	81	5	2512	0.99899	564.02	0.50796	760.58	3.88	0	8.75	1192.28	7.59	1196.78	7.62	4.51	0.38
76	158	82	6	2528	0.99856	566.17	0.50949	759.14	5.55	0.8	8.53	1206.47	7.64	1210.79	7.66	4.32	0.36
76	159	83	7	2544	0.99806	568.27	0.51101	757.73	7.5	0	8.31	1218.8	7.67	1222.39	7.69	3.59	0.29
76	160	84	8	2560	0.99750	570.33	0.51250	756.37	9.74	0.79	8.11	1232.45	7.7	1235.89	7.72	3.44	0.28
76	161	85	9	2576	0.99688	572.35	0.51398	755.05	12.25	0	7.91	1244.26	7.73	1247.01	7.75	2.75	0.22
76	162	86	10	2592	0.99619	574.32	0.51543	753.76	15.03	0.79	7.72	1257.39	7.76	1260.03	7.78	2.65	0.21
76	163	87	11	2608	0.99545	576.25	0.51687	752.51	18.08	0	7.53	1268.69	7.78	1270.69	7.8	2	0.16
76	164	88	12	2624	0.99465	578.14	0.51829	751.3	21.38	0.78	7.35	1281.32	7.81	1283.24	7.82	1.93	0.15
76	165	89	13	2640	0.99379	579.99	0.51970	750.12	24.94	0	7.18	1292.13	7.83	1293.46	7.84	1.32	0.1
76	166	90	14	2656	0.99289	581.8	0.52108	748.97	28.75	0.78	7.02	1304.27	7.86	1305.55	7.86	1.28	0.1
76	167	91	15	2672	0.99193	583.57	0.52246	747.86	32.81	0	6.86	1314.62	7.87	1315.34	7.88	0.72	0.05
76	168	92	16	2688	0.99093	585.31	0.52381	746.77	37.11	0.77	6.7	1326.28	7.89	1326.99	7.9	0.71	0.05
76	169	93	17	2704	0.98988	587.01	0.52515	745.72	41.65	0	6.55	1336.18	7.91	1336.35	7.91	0.17	0.01
76	170	94	18	2720	0.98879	588.67	0.52647	744.7	46.42	0.77	6.41	1347.39	7.93	1347.58	7.93	0.19	0.01
76	171	95	19	2736	0.98765	590.3	0.52778	743.71	51.42	0	6.27	1356.85	7.93	1356.54	7.93	-0.31	-0.02
76	172	96	20	2752	0.98648	591.89	0.52907	742.74	56.65	0.76	6.14	1367.62	7.95	1367.35	7.95	-0.27	-0.02
76	173	97	21	2768	0.98527	593.45	0.53035	741.8	62.09	0	6.01	1376.66	7.96	1375.92	7.95	-0.74	-0.05
76	174	98	22	2784	0.98401	594.98	0.53161	740.89	67.76	0.76	5.88	1387.01	7.97	1386.33	7.97	-0.68	-0.05
76	175	99	23	2800	0.98273	596.48	0.53286	740.01	73.64	0	5.76	1395.63	7.98	1394.51	7.97	-1.12	-0.08
76	176	100	24	2816	0.98141	597.94	0.53409	739.15	79.73	0.75	5.64	1405.57	7.99	1404.54	7.98	-1.04	-0.07
76	177	101	25	2832	0.98005	599.38	0.53531	738.32	86.02	0	5.53	1413.81	7.99	1412.35	7.98	-1.45	-0.1

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
76	178	102	26	2848	0.97866	600.78	0.53652	737.51	92.52	0.75	5.41	1423.35	8	1422	7.99	-1.35	-0.1
76	179	103	27	2864	0.97725	602.16	0.53771	736.73	99.22	0	5.31	1431.2	8	1429.45	7.99	-1.75	-0.12
76	180	104	28	2880	0.97580	603.5	0.53889	735.97	106.12	0.75	5.2	1440.36	8	1438.73	7.99	-1.63	-0.11
76	181	105	29	2896	0.97433	604.82	0.54006	735.23	113.21	0	5.1	1447.84	8	1445.84	7.99	-2	-0.14
76	182	106	30	2912	0.97283	606.11	0.54121	734.52	120.49	0.74	5	1456.63	8	1454.76	7.99	-1.87	-0.13
76	183	107	31	2928	0.97130	607.38	0.54235	733.83	127.96	0	4.91	1463.75	8	1461.53	7.99	-2.23	-0.15
76	184	108	32	2944	0.96975	608.61	0.54348	733.15	135.61	0.74	4.82	1472.18	8	1470.1	7.99	-2.08	-0.14
76	185	109	33	2960	0.96818	609.83	0.54460	732.5	143.44	0	4.73	1478.96	7.99	1476.54	7.98	-2.42	-0.16
76	186	110	34	2976	0.96659	611.01	0.54570	731.87	151.45	0.73	4.64	1487.04	7.99	1484.78	7.98	-2.26	-0.15
76	187	111	35	2992	0.96497	612.18	0.54679	731.26	159.64	0	4.56	1493.48	7.99	1490.9	7.97	-2.58	-0.17
76	188	112	36	3008	0.96333	613.31	0.54787	730.67	168	0.73	4.47	1501.22	7.99	1498.82	7.97	-2.41	-0.16
76	189	113	37	3024	0.96168	614.43	0.54894	730.1	176.52	0	4.39	1507.34	7.98	1504.63	7.96	-2.72	-0.18
76	190	114	38	3040	0.96000	615.52	0.55000	729.54	185.22	0.73	4.32	1514.76	7.97	1512.22	7.96	-2.54	-0.17
76	191	115	39	3056	0.95831	616.59	0.55105	729.01	194.08	0	4.24	1520.56	7.96	1517.73	7.95	-2.83	-0.19
76	192	116	40	3072	0.95660	617.63	0.55208	728.49	203.1	0.72	4.17	1527.66	7.96	1525.02	7.94	-2.65	-0.17
76	193	117	41	3088	0.95487	618.66	0.55311	727.99	212.29	0	4.1	1533.16	7.94	1530.23	7.93	-2.93	-0.19
76	194	118	42	3104	0.95313	619.66	0.55412	727.51	221.62	0.72	4.03	1539.95	7.94	1537.22	7.92	-2.74	-0.18
76	195	119	43	3120	0.95137	620.64	0.55513	727.04	231.12	0	3.96	1545.16	7.92	1542.14	7.91	-3.01	-0.2
76	196	120	44	3136	0.94960	621.61	0.55612	726.59	240.77	0.71	3.9	1551.65	7.92	1548.84	7.9	-2.81	-0.18
76	197	121	45	3152	0.94782	622.55	0.55711	726.15	250.56	0	3.83	1556.57	7.9	1553.49	7.89	-3.08	-0.2
76	198	122	46	3168	0.94603	623.47	0.55808	725.74	260.51	0.71	3.77	1562.77	7.89	1559.9	7.88	-2.87	-0.18
76	199	123	47	3184	0.94422	624.37	0.55905	725.33	270.6	0	3.71	1567.41	7.88	1564.28	7.86	-3.13	-0.2
76	200	124	48	3200	0.94240	625.25	0.56000	724.94	280.83	0.71	3.65	1573.33	7.87	1570.41	7.85	-2.92	-0.19
76	201	125	49	3216	0.94057	626.12	0.56095	724.57	291.2	0	3.59	1577.7	7.85	1574.53	7.83	-3.18	-0.2
76	202	126	50	3232	0.93873	626.97	0.56188	724.21	301.72	0.7	3.54	1583.35	7.84	1580.39	7.82	-2.96	-0.19
76	203	127	51	3248	0.93688	627.79	0.56281	723.86	312.37	0	3.48	1587.46	7.82	1584.25	7.8	-3.21	-0.2
76	204	128	52	3264	0.93503	628.61	0.56373	723.53	323.15	0.7	3.43	1592.84	7.81	1589.85	7.79	-2.99	-0.19
76	205	129	53	3280	0.93316	629.4	0.56463	723.21	334.07	0	3.38	1596.69	7.79	1593.46	7.77	-3.24	-0.2
76	206	130	54	3296	0.93129	630.18	0.56553	722.91	345.12	0.7	3.33	1601.82	7.78	1598.8	7.76	-3.02	-0.19
76	207	131	55	3312	0.92940	630.94	0.56643	722.61	356.3	0	3.28	1605.42	7.76	1602.16	7.74	-3.26	-0.2
76	208	132	56	3328	0.92752	631.68	0.56731	722.33	367.61	0.69	3.23	1610.3	7.74	1607.26	7.73	-3.04	-0.19
76	209	133	57	3344	0.92562	632.41	0.56818	722.06	379.04	0	3.18	1613.67	7.72	1610.39	7.71	-3.28	-0.2
76	210	134	58	3360	0.92372	633.12	0.56905	721.81	390.6	0.69	3.13	1618.3	7.71	1615.23	7.69	-3.06	-0.19
76	211	135	59	3376	0.92181	633.82	0.56991	721.56	402.28	0	3.09	1621.43	7.68	1618.13	7.67	-3.3	-0.2
76	212	136	60	3392	0.91990	634.5	0.57076	721.33	414.08	0.69	3.05	1625.82	7.67	1622.74	7.65	-3.08	-0.19
76	213	137	61	3408	0.91798	635.17	0.57160	721.11	425.99	0	3	1628.73	7.65	1625.41	7.63	-3.31	-0.2
76	214	138	62	3424	0.91606	635.82	0.57243	720.9	438.03	0.68	2.96	1632.89	7.63	1629.79	7.62	-3.1	-0.19
76	215	139	63	3440	0.91414	636.46	0.57326	720.7	450.18	0	2.92	1635.58	7.61	1632.25	7.59	-3.33	-0.2
76	216	140	64	3456	0.91221	637.09	0.57407	720.52	462.44	0.68	2.88	1639.52	7.59	1636.4	7.58	-3.12	-0.19
76	217	141	65	3472	0.91028	637.7	0.57489	720.34	474.82	0	2.84	1641.99	7.57	1638.64	7.55	-3.35	-0.2
76	218	142	66	3488	0.90834	638.3	0.57569	720.17	487.3	0.68	2.8	1645.71	7.55	1642.57	7.53	-3.14	-0.19
76	219	143	67	3504	0.90640	638.88	0.57648	720.01	499.9	0	2.77	1647.97	7.52	1644.6	7.51	-3.38	-0.21
76	220	144	68	3520	0.90446	639.45	0.57727	719.87	512.6	0.67	2.73	1651.48	7.51	1648.31	7.49	-3.17	-0.19
76	221	145	69	3536	0.90252	640.01	0.57805	719.73	525.41	0	2.69	1653.54	7.48	1650.14	7.47	-3.4	-0.21
76	222	146	70	3552	0.90058	640.56	0.57883	719.6	538.33	0.67	2.66	1656.84	7.46	1653.64	7.45	-3.2	-0.19
76	223	147	71	3568	0.89863	641.09	0.57960	719.48	551.35	0	2.63	1658.7	7.44	1655.27	7.42	-3.43	-0.21
76	224	148	72	3584	0.89668	641.61	0.58036	719.38	564.47	0.67	2.59	1661.8	7.42	1658.57	7.4	-3.23	-0.2

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
76	225	149	73	3600	0.89474	642.12	0.58111	719.28	577.69	0	2.56	1663.47	7.39	1660	7.38	-3.47	-0.21
76	226	150	74	3616	0.89279	642.62	0.58186	719.18	591.01	0.67	2.53	1666.38	7.37	1663.1	7.36	-3.28	-0.2
76	227	151	75	3632	0.89084	643.11	0.58260	719.1	604.43	0	2.5	1667.86	7.35	1664.34	7.33	-3.52	-0.21
76	228	152	76	3648	0.88889	643.58	0.58333	719.03	617.94	0.66	2.47	1670.57	7.33	1667.24	7.31	-3.33	-0.2
76	229	153	77	3664	0.88694	644.05	0.58406	718.96	631.56	0	2.44	1671.87	7.3	1668.29	7.29	-3.57	-0.21
76	230	154	78	3680	0.88499	644.5	0.58478	718.91	645.26	0.66	2.41	1674.4	7.28	1671.01	7.27	-3.39	-0.2
76	231	155	79	3696	0.88304	644.95	0.58550	718.86	659.06	0	2.38	1675.51	7.25	1671.88	7.24	-3.64	-0.22
76	232	156	80	3712	0.88109	645.38	0.58621	718.82	672.95	0.66	2.35	1677.86	7.23	1674.4	7.22	-3.46	-0.21
76	233	157	81	3728	0.87915	645.8	0.58691	718.78	686.93	0	2.32	1678.81	7.21	1675.1	7.19	-3.71	-0.22
76	234	158	82	3744	0.87720	646.22	0.58761	718.76	701	0.65	2.3	1680.98	7.18	1677.44	7.17	-3.54	-0.21
76	235	159	83	3760	0.87526	646.62	0.58830	718.74	715.16	0	2.27	1681.75	7.16	1677.96	7.14	-3.79	-0.23
76	236	160	84	3776	0.87331	647.01	0.58898	718.73	729.4	0.65	2.24	1683.75	7.13	1680.12	7.12	-3.63	-0.22
76	237	161	85	3792	0.87137	647.4	0.58966	718.73	743.74	0	2.22	1684.36	7.11	1680.47	7.09	-3.89	-0.23
76	238	162	86	3808	0.86943	647.77	0.59034	718.73	758.15	0.65	2.19	1686.19	7.08	1682.46	7.07	-3.73	-0.22
76	239	163	87	3824	0.86749	648.14	0.59100	718.74	772.66	0	2.17	1686.64	7.06	1682.64	7.04	-3.99	-0.24
76	240	164	88	3840	0.86556	648.49	0.59167	718.76	787.24	0.65	2.14	1688.3	7.03	1684.46	7.02	-3.84	-0.23
76	241	165	89	3856	0.86362	648.84	0.59232	718.78	801.91	0	2.12	1688.59	7.01	1684.48	6.99	-4.11	-0.24
76	242	166	90	3872	0.86169	649.18	0.59298	718.81	816.65	0.64	2.1	1690.1	6.98	1686.13	6.97	-3.96	-0.24
76	243	167	91	3888	0.85976	649.51	0.59362	718.85	831.48	0	2.07	1690.24	6.96	1686	6.94	-4.24	-0.25
76	244	168	92	3904	0.85783	649.83	0.59426	718.89	846.39	0.64	2.05	1691.59	6.93	1687.48	6.92	-4.1	-0.24
76	245	169	93	3920	0.85591	650.14	0.59490	718.94	861.37	0	2.03	1691.58	6.9	1687.19	6.89	-4.38	-0.26
76	246	170	94	3936	0.85399	650.45	0.59553	719	876.43	0.64	2.01	1692.77	6.88	1688.52	6.86	-4.25	-0.25
76	247	171	95	3952	0.85207	650.74	0.59615	719.06	891.57	0	1.99	1692.62	6.85	1688.07	6.83	-4.54	-0.27
76	248	172	96	3968	0.85016	651.03	0.59677	719.13	906.78	0.64	1.97	1693.66	6.83	1689.24	6.81	-4.42	-0.26
76	249	173	97	3984	0.84824	651.31	0.59739	719.21	922.07	0	1.95	1693.36	6.8	1688.65	6.78	-4.71	-0.28
76	250	174	98	4000	0.84634	651.59	0.59800	719.29	937.43	0.63	1.93	1694.26	6.78	1689.66	6.76	-4.6	-0.27
76	251	175	99	4016	0.84443	651.85	0.59861	719.37	952.86	0	1.91	1693.83	6.75	1688.92	6.73	-4.9	-0.29
76	252	176	100	4032	0.84253	652.11	0.59921	719.46	968.36	0.63	1.89	1694.58	6.72	1689.79	6.71	-4.79	-0.28
76	253	177	101	4048	0.84063	652.36	0.59980	719.56	983.94	0	1.87	1694.01	6.7	1688.91	6.68	-5.1	-0.3
76	254	178	102	4064	0.83874	652.6	0.60039	719.66	999.58	0.63	1.85	1694.63	6.67	1689.63	6.65	-5	-0.3
76	255	179	103	4080	0.83685	652.84	0.60098	719.77	1015.3	0	1.83	1693.92	6.64	1688.6	6.62	-5.32	-0.31
76	256	180	104	4096	0.83496	653.07	0.60156	719.88	1031.08	0.62	1.82	1694.4	6.62	1689.18	6.6	-5.23	-0.31
76	257	181	105	4112	0.83308	653.3	0.60214	720	1046.93	0	1.8	1693.57	6.59	1688.02	6.57	-5.55	-0.33
76	258	182	106	4128	0.83120	653.51	0.60271	720.12	1062.85	0.62	1.78	1693.92	6.57	1688.45	6.54	-5.47	-0.32
76	259	183	107	4144	0.82933	653.72	0.60328	720.25	1078.83	0	1.76	1692.96	6.54	1687.16	6.51	-5.8	-0.34
76	260	184	108	4160	0.82746	653.93	0.60385	720.38	1094.88	0.62	1.75	1693.18	6.51	1687.45	6.49	-5.72	-0.34
76	261	185	109	4176	0.82559	654.12	0.60441	720.52	1110.99	0	1.73	1692.09	6.48	1686.03	6.46	-6.06	-0.36
76	262	186	110	4192	0.82373	654.31	0.60496	720.66	1127.17	0.62	1.71	1692.18	6.46	1686.19	6.44	-6	-0.36
76	263	187	111	4208	0.82187	654.5	0.60551	720.81	1143.41	0	1.7	1690.98	6.43	1684.63	6.41	-6.34	-0.38
76	264	188	112	4224	0.82002	654.68	0.60606	720.96	1159.71	0.62	1.68	1690.95	6.41	1684.66	6.38	-6.29	-0.37
76	265	189	113	4240	0.81817	654.85	0.60660	721.12	1176.08	0	1.67	1689.62	6.38	1682.98	6.35	-6.64	-0.39
76	266	190	114	4256	0.81633	655.02	0.60714	721.28	1192.5	0.61	1.65	1689.47	6.35	1682.87	6.33	-6.6	-0.39
Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
77	153	76	-1	2448	0.99996	554.94	0.49837	787.08	0.16	0	9.73	1115.55	7.29	1124.03	7.35	8.47	0.75
77	154	77	0	2464	1.00000	557.38	0.50000	785.36	0	-0.81	10	1130.46	7.34	1138.67	7.39	8.2	0.72
77	155	78	1	2480	0.99996	559.76	0.50161	783.68	0.16	0	9.73	1146.13	7.39	1152.82	7.44	6.68	0.58

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Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
77	156	79	2	2496	0.99984	562.1	0.50321	782.05	0.62	-0.8	9.48	1159.9	7.44	1166.92	7.48	7.02	0.6
77	157	80	3	2512	0.99964	564.39	0.50478	780.46	1.4	0	9.23	1174.98	7.48	1180.53	7.52	5.55	0.47
77	158	81	4	2528	0.99936	566.62	0.50633	778.92	2.47	-0.8	8.99	1188.18	7.52	1194.12	7.56	5.94	0.5
77	159	82	5	2544	0.99901	568.81	0.50786	777.43	3.83	0	8.76	1202.7	7.56	1207.22	7.59	4.52	0.37
77	160	83	6	2560	0.99859	570.96	0.50938	775.97	5.48	-0.79	8.54	1215.35	7.6	1220.3	7.63	4.95	0.41
77	161	84	7	2576	0.99811	573.06	0.51087	774.55	7.41	0	8.33	1229.31	7.64	1232.9	7.66	3.59	0.29
77	162	85	8	2592	0.99756	575.11	0.51235	773.18	9.62	-0.79	8.13	1241.44	7.66	1245.5	7.69	4.06	0.33
77	163	86	9	2608	0.99695	577.12	0.51380	771.84	12.1	0	7.93	1254.87	7.7	1257.61	7.72	2.74	0.22
77	164	87	10	2624	0.99628	579.09	0.51524	770.53	14.85	-0.78	7.74	1266.49	7.72	1269.74	7.74	3.26	0.26
77	165	88	11	2640	0.99556	581.02	0.51667	769.27	17.86	0	7.56	1279.41	7.75	1281.39	7.77	1.97	0.15
77	166	89	12	2656	0.99477	582.91	0.51807	768.04	21.12	-0.78	7.38	1290.54	7.77	1293.06	7.79	2.53	0.2
77	167	90	13	2672	0.99394	584.75	0.51946	766.84	24.64	0	7.21	1302.97	7.8	1304.26	7.81	1.29	0.1
77	168	91	14	2688	0.99306	586.56	0.52083	765.68	28.41	-0.77	7.05	1313.62	7.82	1315.49	7.83	1.87	0.14
77	169	92	15	2704	0.99212	588.33	0.52219	764.55	32.43	0	6.89	1325.58	7.84	1326.25	7.85	0.67	0.05
77	170	93	16	2720	0.99114	590.07	0.52353	763.45	36.68	-0.77	6.73	1335.77	7.86	1337.06	7.87	1.28	0.1
77	171	94	17	2736	0.99012	591.77	0.52485	762.38	41.16	0	6.59	1347.27	7.88	1347.38	7.88	0.11	0.01
77	172	95	18	2752	0.98905	593.43	0.52616	761.34	45.88	-0.76	6.44	1357.02	7.89	1357.78	7.89	0.76	0.06
77	173	96	19	2768	0.98794	595.06	0.52746	760.33	50.83	0	6.3	1368.08	7.91	1367.69	7.91	-0.39	-0.03
77	174	97	20	2784	0.98679	596.66	0.52874	759.35	56	-0.76	6.17	1377.4	7.92	1377.69	7.92	0.29	0.02
77	175	98	21	2800	0.98560	598.22	0.53000	758.4	61.39	0	6.04	1388.03	7.93	1387.2	7.93	-0.83	-0.06
77	176	99	22	2816	0.98438	599.75	0.53125	757.48	66.99	-0.75	5.92	1396.94	7.94	1396.81	7.94	-0.13	-0.01
77	177	100	23	2832	0.98312	601.25	0.53249	756.58	72.81	0	5.79	1407.16	7.95	1405.94	7.94	-1.22	-0.09
77	178	101	24	2848	0.98182	602.72	0.53371	755.71	78.84	-0.75	5.68	1415.67	7.95	1415.17	7.95	-0.5	-0.04
77	179	102	25	2864	0.98049	604.16	0.53492	754.86	85.07	0	5.56	1425.48	7.96	1423.92	7.95	-1.57	-0.11
77	180	103	26	2880	0.97914	605.56	0.53611	754.03	91.5	-0.75	5.45	1433.61	7.96	1432.78	7.96	-0.83	-0.06
77	181	104	27	2896	0.97775	606.94	0.53729	753.24	98.13	0	5.34	1443.03	7.97	1441.16	7.96	-1.87	-0.13
77	182	105	28	2912	0.97633	608.29	0.53846	752.46	104.96	-0.74	5.24	1450.79	7.97	1449.67	7.97	-1.11	-0.08
77	183	106	29	2928	0.97489	609.62	0.53962	751.71	111.98	0	5.14	1459.84	7.98	1457.7	7.97	-2.14	-0.15
77	184	107	30	2944	0.97342	610.91	0.54076	750.98	119.19	-0.74	5.04	1467.23	7.97	1465.86	7.97	-1.36	-0.09
77	185	108	31	2960	0.97192	612.18	0.54189	750.27	126.58	0	4.95	1475.91	7.98	1473.55	7.97	-2.37	-0.16
77	186	109	32	2976	0.97040	613.43	0.54301	749.59	134.16	-0.73	4.85	1482.95	7.97	1481.37	7.96	-1.58	-0.11
77	187	110	33	2992	0.96886	614.64	0.54412	748.92	141.91	0	4.77	1491.29	7.97	1488.72	7.96	-2.57	-0.17
77	188	111	34	3008	0.96729	615.84	0.54521	748.27	149.85	-0.73	4.68	1497.99	7.97	1496.22	7.96	-1.77	-0.12
77	189	112	35	3024	0.96571	617	0.54630	747.65	157.96	0	4.59	1505.98	7.97	1503.25	7.95	-2.74	-0.18
77	190	113	36	3040	0.96410	618.15	0.54737	747.04	166.24	-0.73	4.51	1512.36	7.96	1510.43	7.95	-1.93	-0.13
77	191	114	37	3056	0.96247	619.27	0.54843	746.46	174.69	0	4.43	1520.02	7.96	1517.13	7.94	-2.89	-0.19
77	192	115	38	3072	0.96083	620.37	0.54948	745.89	183.3	-0.72	4.36	1526.08	7.95	1524.01	7.94	-2.07	-0.14
77	193	116	39	3088	0.95917	621.44	0.55052	745.34	192.08	0	4.28	1533.42	7.95	1530.41	7.93	-3.01	-0.2
77	194	117	40	3104	0.95749	622.5	0.55155	744.81	201.02	-0.72	4.21	1539.16	7.93	1536.98	7.92	-2.18	-0.14
77	195	118	41	3120	0.95579	623.53	0.55256	744.3	210.12	0	4.14	1546.19	7.93	1543.08	7.91	-3.11	-0.2
77	196	119	42	3136	0.95408	624.54	0.55357	743.8	219.38	-0.71	4.07	1551.64	7.92	1549.36	7.9	-2.28	-0.15
77	197	120	43	3152	0.95236	625.53	0.55457	743.32	228.78	0	4	1558.37	7.91	1555.17	7.89	-3.2	-0.21
77	198	121	44	3168	0.95062	626.49	0.55556	742.85	238.35	-0.71	3.93	1563.53	7.9	1561.16	7.88	-2.36	-0.15
77	199	122	45	3184	0.94887	627.44	0.55653	742.41	248.06	0	3.87	1569.96	7.89	1566.69	7.87	-3.27	-0.21
77	200	123	46	3200	0.94710	628.37	0.55750	741.97	257.91	-0.71	3.81	1574.84	7.87	1572.41	7.86	-2.43	-0.15
77	201	124	47	3216	0.94532	629.28	0.55846	741.56	267.92	0	3.75	1580.99	7.87	1577.65	7.85	-3.33	-0.21
77	202	125	48	3232	0.94354	630.17	0.55941	741.16	278.06	-0.7	3.69	1585.59	7.85	1583.1	7.84	-2.49	-0.16

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
77	203	126	49	3248	0.94174	631.05	0.56035	740.77	288.35	0	3.63	1591.46	7.84	1588.08	7.82	-3.38	-0.21
77	204	127	50	3264	0.93993	631.9	0.56128	740.4	298.77	-0.7	3.57	1595.8	7.82	1593.27	7.81	-2.53	-0.16
77	205	128	51	3280	0.93811	632.74	0.56220	740.04	309.33	0	3.52	1601.41	7.81	1597.99	7.8	-3.42	-0.21
77	206	129	52	3296	0.93628	633.56	0.56311	739.69	320.03	-0.7	3.46	1605.48	7.79	1602.92	7.78	-2.57	-0.16
77	207	130	53	3312	0.93444	634.36	0.56401	739.36	330.86	0	3.41	1610.83	7.78	1607.38	7.77	-3.45	-0.21
77	208	131	54	3328	0.93260	635.14	0.56490	739.05	341.82	-0.69	3.36	1614.66	7.76	1612.06	7.75	-2.6	-0.16
77	209	132	55	3344	0.93075	635.91	0.56579	738.74	352.91	0	3.31	1619.75	7.75	1616.27	7.73	-3.48	-0.22
77	210	133	56	3360	0.92889	636.67	0.56667	738.45	364.12	-0.69	3.26	1623.33	7.73	1620.71	7.72	-2.63	-0.16
77	211	134	57	3376	0.92702	637.4	0.56754	738.17	375.47	0	3.22	1628.18	7.72	1624.68	7.7	-3.5	-0.22
77	212	135	58	3392	0.92515	638.12	0.56840	737.9	386.93	-0.69	3.17	1631.53	7.7	1628.88	7.68	-2.65	-0.16
77	213	136	59	3408	0.92327	638.83	0.56925	737.65	398.52	0	3.12	1636.13	7.68	1632.61	7.66	-3.52	-0.22
77	214	137	60	3424	0.92139	639.52	0.57009	737.4	410.22	-0.68	3.08	1639.25	7.66	1636.58	7.65	-2.67	-0.16
77	215	138	61	3440	0.91950	640.2	0.57093	737.17	422.05	0	3.04	1643.62	7.64	1640.08	7.63	-3.54	-0.22
77	216	139	62	3456	0.91761	640.86	0.57176	736.95	433.99	-0.68	3	1646.51	7.62	1643.82	7.61	-2.69	-0.16
77	217	140	63	3472	0.91571	641.51	0.57258	736.74	446.05	0	2.95	1650.66	7.61	1647.1	7.59	-3.56	-0.22
77	218	141	64	3488	0.91381	642.14	0.57339	736.54	458.22	-0.68	2.91	1653.33	7.58	1650.62	7.57	-2.71	-0.16
77	219	142	65	3504	0.91191	642.76	0.57420	736.36	470.5	0	2.87	1657.26	7.57	1653.68	7.55	-3.58	-0.22
77	220	143	66	3520	0.91000	643.37	0.57500	736.18	482.9	-0.67	2.84	1659.72	7.54	1656.99	7.53	-2.73	-0.16
77	221	144	67	3536	0.90809	643.96	0.57579	736.01	495.4	0	2.8	1663.43	7.53	1659.83	7.51	-3.6	-0.22
77	222	145	68	3552	0.90618	644.54	0.57658	735.86	508.01	-0.67	2.76	1665.69	7.5	1662.93	7.49	-2.76	-0.17
77	223	146	69	3568	0.90426	645.11	0.57735	735.71	520.72	0	2.73	1669.19	7.49	1665.56	7.47	-3.62	-0.22
77	224	147	70	3584	0.90234	645.66	0.57813	735.57	533.54	-0.67	2.69	1671.25	7.46	1668.45	7.45	-2.79	-0.17
77	225	148	71	3600	0.90043	646.21	0.57889	735.44	546.47	0	2.66	1674.54	7.44	1670.88	7.43	-3.66	-0.22
77	226	149	72	3616	0.89850	646.74	0.57965	735.32	559.5	-0.67	2.62	1676.4	7.42	1673.57	7.41	-2.83	-0.17
77	227	150	73	3632	0.89658	647.26	0.58040	735.21	572.62	0	2.59	1679.5	7.4	1675.8	7.38	-3.69	-0.22
77	228	151	74	3648	0.89466	647.76	0.58114	735.11	585.85	-0.66	2.56	1681.17	7.37	1678.3	7.36	-2.87	-0.17
77	229	152	75	3664	0.89274	648.26	0.58188	735.02	599.17	0	2.53	1684.07	7.35	1680.33	7.34	-3.74	-0.22
77	230	153	76	3680	0.89081	648.74	0.58261	734.94	612.59	-0.66	2.5	1685.56	7.33	1682.64	7.32	-2.92	-0.17
77	231	154	77	3696	0.88889	649.22	0.58333	734.87	626.11	0	2.47	1688.27	7.31	1684.48	7.29	-3.79	-0.22
77	232	155	78	3712	0.88697	649.68	0.58405	734.8	639.72	-0.66	2.44	1689.58	7.28	1686.6	7.27	-2.98	-0.18
77	233	156	79	3728	0.88504	650.13	0.58476	734.74	653.43	0	2.41	1692.11	7.26	1688.26	7.25	-3.85	-0.23
77	234	157	80	3744	0.88312	650.58	0.58547	734.69	667.22	-0.65	2.38	1693.24	7.24	1690.19	7.22	-3.04	-0.18
77	235	158	81	3760	0.88120	651.01	0.58617	734.65	681.11	0	2.35	1695.58	7.22	1691.67	7.2	-3.92	-0.23
77	236	159	82	3776	0.87927	651.43	0.58686	734.62	695.08	-0.65	2.32	1696.54	7.19	1693.42	7.18	-3.12	-0.18
77	237	160	83	3792	0.87735	651.84	0.58755	734.59	709.15	0	2.3	1698.72	7.17	1694.72	7.15	-3.99	-0.24
77	238	161	84	3808	0.87543	652.24	0.58824	734.57	723.3	-0.65	2.27	1699.51	7.14	1696.3	7.13	-3.2	-0.19
77	239	162	85	3824	0.87351	652.63	0.58891	734.56	737.54	0	2.25	1701.51	7.12	1697.43	7.1	-4.08	-0.24
77	240	163	86	3840	0.87160	653.02	0.58958	734.56	751.86	-0.65	2.22	1702.14	7.09	1698.84	7.08	-3.3	-0.19
77	241	164	87	3856	0.86968	653.39	0.59025	734.56	766.27	0	2.2	1703.98	7.07	1699.79	7.05	-4.18	-0.25
77	242	165	88	3872	0.86777	653.76	0.59091	734.57	780.76	-0.64	2.17	1704.44	7.04	1701.03	7.03	-3.41	-0.2
77	243	166	89	3888	0.86586	654.11	0.59156	734.59	795.33	0	2.15	1706.12	7.02	1701.82	7	-4.3	-0.25
77	244	167	90	3904	0.86395	654.46	0.59221	734.61	809.99	-0.64	2.12	1706.43	6.99	1702.9	6.98	-3.53	-0.21
77	245	168	91	3920	0.86204	654.8	0.59286	734.64	824.72	0	2.1	1707.95	6.97	1703.52	6.95	-4.42	-0.26
77	246	169	92	3936	0.86014	655.13	0.59350	734.68	839.53	-0.64	2.08	1708.11	6.94	1704.44	6.93	-3.66	-0.21
77	247	170	93	3952	0.85823	655.45	0.59413	734.72	854.42	0	2.06	1709.47	6.92	1704.91	6.9	-4.56	-0.27
77	248	171	94	3968	0.85634	655.76	0.59476	734.77	869.39	-0.64	2.04	1709.48	6.89	1705.67	6.88	-3.81	-0.22
77	249	172	95	3984	0.85444	656.07	0.59538	734.82	884.44	0	2.01	1710.69	6.87	1705.98	6.85	-4.71	-0.28

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
77	250	173	96	4000	0.85254	656.36	0.59600	734.88	899.56	-0.63	1.99	1710.56	6.84	1706.59	6.83	-3.97	-0.23
77	251	174	97	4016	0.85065	656.65	0.59661	734.95	914.75	0	1.97	1711.62	6.82	1706.75	6.8	-4.87	-0.29
77	252	175	98	4032	0.84877	656.94	0.59722	735.03	930.02	-0.63	1.95	1711.34	6.79	1707.2	6.77	-4.14	-0.24
77	253	176	99	4048	0.84688	657.21	0.59783	735.1	945.36	0	1.93	1712.26	6.77	1707.21	6.75	-5.05	-0.3
77	254	177	100	4064	0.84500	657.48	0.59843	735.19	960.77	-0.63	1.91	1711.85	6.74	1707.52	6.72	-4.33	-0.25
77	255	178	101	4080	0.84312	657.74	0.59902	735.28	976.25	0	1.89	1712.63	6.72	1707.38	6.7	-5.24	-0.31
77	256	179	102	4096	0.84125	657.99	0.59961	735.38	991.81	-0.62	1.88	1712.08	6.69	1707.55	6.67	-4.53	-0.27
77	257	180	103	4112	0.83938	658.23	0.60020	735.48	1007.43	0	1.86	1712.72	6.66	1707.27	6.64	-5.45	-0.32
77	258	181	104	4128	0.83751	658.47	0.60078	735.58	1023.12	-0.62	1.84	1712.04	6.64	1707.29	6.62	-4.75	-0.28
77	259	182	105	4144	0.83565	658.7	0.60135	735.7	1038.88	0	1.82	1712.54	6.61	1706.87	6.59	-5.67	-0.33
77	260	183	106	4160	0.83379	658.93	0.60192	735.81	1054.7	-0.62	1.8	1711.74	6.58	1706.76	6.56	-4.98	-0.29
77	261	184	107	4176	0.83193	659.15	0.60249	735.94	1070.6	0	1.79	1712.11	6.56	1706.2	6.54	-5.91	-0.35
77	262	185	108	4192	0.83008	659.36	0.60305	736.06	1086.55	-0.62	1.77	1711.18	6.53	1705.95	6.51	-5.23	-0.31
77	263	186	109	4208	0.82823	659.57	0.60361	736.19	1102.58	0	1.75	1711.42	6.51	1705.25	6.48	-6.17	-0.36
77	264	187	110	4224	0.82639	659.76	0.60417	736.33	1118.66	-0.62	1.74	1710.36	6.48	1704.87	6.46	-5.49	-0.32
77	265	188	111	4240	0.82455	659.96	0.60472	736.47	1134.81	0	1.72	1710.48	6.45	1704.04	6.43	-6.44	-0.38
77	266	189	112	4256	0.82272	660.14	0.60526	736.62	1151.02	-0.61	1.71	1709.31	6.43	1703.53	6.4	-5.77	-0.34
77	267	190	113	4272	0.82088	660.32	0.60581	736.77	1167.3	0	1.69	1709.3	6.4	1702.57	6.38	-6.72	-0.39
77	268	191	114	4288	0.81906	660.5	0.60634	736.92	1183.63	-0.61	1.68	1708.01	6.37	1701.94	6.35	-6.07	-0.36
77	269	192	115	4304	0.81724	660.67	0.60688	737.08	1200.03	0	1.66	1707.88	6.35	1700.85	6.32	-7.03	-0.41
77	270	193	116	4320	0.81542	660.83	0.60741	737.25	1216.49	-0.61	1.65	1706.47	6.32	1700.09	6.3	-6.39	-0.38
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
78	155	77	-1	2480	0.99996	559.76	0.49839	804.17	0.16	0	9.73	1125.65	7.26	1134.17	7.32	8.52	0.75
78	156	78	0	2496	1.00000	562.19	0.50000	802.43	0	0.8	10	1142.18	7.32	1149.82	7.37	7.64	0.66
78	157	79	1	2512	0.99996	564.57	0.50159	800.74	0.16	0	9.74	1156.27	7.36	1163.02	7.41	6.74	0.58
78	158	80	2	2528	0.99984	566.9	0.50317	799.09	0.62	0.8	9.48	1171.67	7.42	1178.13	7.46	6.46	0.55
78	159	81	3	2544	0.99964	569.17	0.50472	797.49	1.38	0	9.24	1185.19	7.45	1190.81	7.49	5.62	0.47
78	160	82	4	2560	0.99938	571.4	0.50625	795.94	2.43	0.79	9	1200.02	7.5	1205.4	7.53	5.38	0.45
78	161	83	5	2576	0.99904	573.59	0.50776	794.42	3.78	0	8.78	1212.99	7.53	1217.58	7.56	4.59	0.38
78	162	84	6	2592	0.99863	575.73	0.50926	792.95	5.41	0.79	8.56	1227.26	7.58	1231.66	7.6	4.4	0.36
78	163	85	7	2608	0.99816	577.82	0.51074	791.52	7.32	0	8.35	1239.69	7.61	1243.35	7.63	3.66	0.29
78	164	86	8	2624	0.99762	579.87	0.51220	790.13	9.5	0.78	8.15	1253.43	7.64	1256.94	7.66	3.51	0.28
78	165	87	9	2640	0.99703	581.88	0.51364	788.77	11.95	0	7.95	1265.35	7.67	1268.17	7.69	2.82	0.22
78	166	88	10	2656	0.99637	583.84	0.51506	787.45	14.67	0.78	7.76	1278.58	7.7	1281.28	7.72	2.71	0.21
78	167	89	11	2672	0.99566	585.77	0.51647	786.17	17.65	0	7.58	1290	7.72	1292.06	7.74	2.06	0.16
78	168	90	12	2688	0.99490	587.65	0.51786	784.93	20.88	0.77	7.41	1302.73	7.75	1304.71	7.77	1.98	0.15
78	169	91	13	2704	0.99408	589.5	0.51923	783.71	24.36	0	7.24	1313.67	7.77	1315.05	7.78	1.37	0.1
78	170	92	14	2720	0.99322	591.31	0.52059	782.53	28.08	0.77	7.08	1325.92	7.8	1327.25	7.81	1.33	0.1
78	171	93	15	2736	0.99231	593.08	0.52193	781.39	32.05	0	6.92	1336.41	7.82	1337.16	7.82	0.75	0.06
78	172	94	16	2752	0.99135	594.81	0.52326	780.27	36.25	0.76	6.77	1348.19	7.84	1348.93	7.84	0.74	0.05
78	173	95	17	2768	0.99034	596.51	0.52457	779.19	40.69	0	6.62	1358.23	7.85	1358.43	7.85	0.2	0.01
78	174	96	18	2784	0.98930	598.18	0.52586	778.14	45.36	0.76	6.48	1369.57	7.87	1369.78	7.87	0.21	0.02
78	175	97	19	2800	0.98821	599.81	0.52714	777.11	50.25	0	6.34	1379.17	7.88	1378.88	7.88	-0.29	-0.02
78	176	98	20	2816	0.98709	601.4	0.52841	776.11	55.37	0.75	6.2	1390.08	7.9	1389.82	7.9	-0.25	-0.02
78	177	99	21	2832	0.98592	602.97	0.52966	775.15	60.7	0	6.08	1399.26	7.91	1398.53	7.9	-0.73	-0.05
78	178	100	22	2848	0.98472	604.5	0.53090	774.21	66.24	0.75	5.95	1409.75	7.92	1409.08	7.92	-0.67	-0.05

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
78	179	101	23	2864	0.98349	606	0.53212	773.29	72	0	5.83	1418.53	7.92	1417.41	7.92	-1.12	-0.08
78	180	102	24	2880	0.98222	607.47	0.53333	772.4	77.96	0.75	5.71	1428.62	7.94	1427.58	7.93	-1.04	-0.07
78	181	103	25	2896	0.98092	608.91	0.53453	771.54	84.13	0	5.6	1437.01	7.94	1435.55	7.93	-1.46	-0.1
78	182	104	26	2912	0.97959	610.32	0.53571	770.7	90.5	0.74	5.49	1446.7	7.95	1445.34	7.94	-1.36	-0.09
78	183	105	27	2928	0.97823	611.71	0.53689	769.89	97.07	0	5.38	1454.72	7.95	1452.95	7.94	-1.77	-0.12
78	184	106	28	2944	0.97684	613.06	0.53804	769.1	103.82	0.74	5.28	1464.03	7.96	1462.38	7.95	-1.65	-0.11
78	185	107	29	2960	0.97543	614.39	0.53919	768.33	110.77	0	5.18	1471.68	7.96	1469.65	7.94	-2.03	-0.14
78	186	108	30	2976	0.97399	615.69	0.54032	767.59	117.91	0.73	5.08	1480.62	7.96	1478.73	7.95	-1.9	-0.13
78	187	109	31	2992	0.97252	616.97	0.54144	766.87	125.23	0	4.98	1487.92	7.96	1485.66	7.94	-2.26	-0.15
78	188	110	32	3008	0.97103	618.21	0.54255	766.17	132.74	0.73	4.89	1496.51	7.96	1494.39	7.95	-2.11	-0.14
78	189	111	33	3024	0.96951	619.44	0.54365	765.49	140.42	0	4.8	1503.46	7.95	1501.01	7.94	-2.46	-0.16
78	190	112	34	3040	0.96798	620.63	0.54474	764.83	148.28	0.73	4.72	1511.7	7.96	1509.41	7.94	-2.3	-0.15
78	191	113	35	3056	0.96642	621.81	0.54581	764.19	156.31	0	4.63	1518.33	7.95	1515.7	7.94	-2.63	-0.17
78	192	114	36	3072	0.96484	622.96	0.54688	763.57	164.51	0.72	4.55	1526.23	7.95	1523.78	7.94	-2.45	-0.16
78	193	115	37	3088	0.96325	624.09	0.54793	762.97	172.88	0	4.47	1532.53	7.94	1529.76	7.93	-2.77	-0.18
78	194	116	38	3104	0.96163	625.19	0.54897	762.39	181.42	0.72	4.39	1540.11	7.94	1537.53	7.93	-2.59	-0.17
78	195	117	39	3120	0.96000	626.27	0.55000	761.82	190.12	0	4.32	1546.1	7.93	1543.21	7.91	-2.89	-0.19
78	196	118	40	3136	0.95835	627.33	0.55102	761.28	198.98	0.71	4.24	1553.37	7.93	1550.67	7.91	-2.7	-0.17
78	197	119	41	3152	0.95669	628.37	0.55203	760.75	208	0	4.17	1559.06	7.91	1556.07	7.9	-2.99	-0.19
78	198	120	42	3168	0.95501	629.39	0.55303	760.24	217.17	0.71	4.1	1566.02	7.91	1563.22	7.9	-2.79	-0.18
78	199	121	43	3184	0.95331	630.38	0.55402	759.75	226.5	0	4.04	1571.41	7.9	1568.34	7.88	-3.07	-0.2
78	200	122	44	3200	0.95160	631.36	0.55500	759.27	235.97	0.71	3.97	1578.08	7.89	1575.21	7.88	-2.87	-0.18
78	201	123	45	3216	0.94988	632.31	0.55597	758.81	245.6	0	3.91	1583.18	7.88	1580.04	7.86	-3.14	-0.2
78	202	124	46	3232	0.94814	633.25	0.55693	758.36	255.37	0.7	3.84	1589.56	7.87	1586.63	7.85	-2.93	-0.18
78	203	125	47	3248	0.94640	634.17	0.55788	757.93	265.29	0	3.78	1594.39	7.85	1591.2	7.84	-3.19	-0.2
78	204	126	48	3264	0.94464	635.07	0.55882	757.52	275.35	0.7	3.72	1600.49	7.85	1597.51	7.83	-2.98	-0.19
78	205	127	49	3280	0.94287	635.95	0.55976	757.12	285.55	0	3.66	1605.05	7.83	1601.81	7.81	-3.24	-0.2
78	206	128	50	3296	0.94109	636.81	0.56068	756.73	295.89	0.7	3.61	1610.87	7.82	1607.85	7.81	-3.02	-0.19
78	207	129	51	3312	0.93930	637.65	0.56159	756.36	306.36	0	3.55	1615.17	7.8	1611.9	7.79	-3.27	-0.2
78	208	130	52	3328	0.93750	638.48	0.56250	756.01	316.97	0.69	3.5	1620.73	7.79	1617.68	7.78	-3.05	-0.19
78	209	131	53	3344	0.93569	639.29	0.56340	755.66	327.71	0	3.45	1624.78	7.77	1621.49	7.76	-3.3	-0.2
78	210	132	54	3360	0.93388	640.09	0.56429	755.33	338.58	0.69	3.4	1630.09	7.76	1627.01	7.75	-3.07	-0.19
78	211	133	55	3376	0.93206	640.86	0.56517	755.02	349.58	0	3.35	1633.89	7.74	1630.57	7.73	-3.32	-0.2
78	212	134	56	3392	0.93022	641.62	0.56604	754.71	360.71	0.69	3.3	1638.94	7.73	1635.85	7.72	-3.09	-0.19
78	213	135	57	3408	0.92839	642.37	0.56690	754.42	371.96	0	3.25	1642.5	7.71	1639.17	7.7	-3.33	-0.2
78	214	136	58	3424	0.92654	643.1	0.56776	754.15	383.33	0.68	3.2	1647.31	7.7	1644.2	7.68	-3.11	-0.19
78	215	137	59	3440	0.92469	643.81	0.56861	753.88	394.83	0	3.16	1650.64	7.68	1647.3	7.66	-3.34	-0.2
78	216	138	60	3456	0.92284	644.51	0.56944	753.62	406.44	0.68	3.11	1655.22	7.66	1652.09	7.65	-3.12	-0.19
78	217	139	61	3472	0.92098	645.2	0.57028	753.38	418.18	0	3.07	1658.32	7.64	1654.96	7.63	-3.35	-0.2
78	218	140	62	3488	0.91912	645.87	0.57110	753.15	430.03	0.68	3.03	1662.66	7.63	1659.53	7.61	-3.13	-0.19
78	219	141	63	3504	0.91725	646.52	0.57192	752.93	441.99	0	2.99	1665.54	7.61	1662.18	7.59	-3.36	-0.2
78	220	142	64	3520	0.91537	647.16	0.57273	752.72	454.07	0.67	2.95	1669.66	7.59	1666.52	7.58	-3.15	-0.19
78	221	143	65	3536	0.91350	647.79	0.57353	752.52	466.26	0	2.91	1672.33	7.57	1668.95	7.55	-3.38	-0.2
78	222	144	66	3552	0.91161	648.41	0.57432	752.34	478.56	0.67	2.87	1676.23	7.55	1673.07	7.54	-3.16	-0.19
78	223	145	67	3568	0.90973	649.01	0.57511	752.16	490.97	0	2.83	1678.69	7.53	1675.3	7.51	-3.39	-0.2
78	224	146	68	3584	0.90784	649.6	0.57589	751.99	503.49	0.67	2.79	1682.38	7.51	1679.2	7.5	-3.18	-0.19
78	225	147	69	3600	0.90596	650.18	0.57667	751.83	516.12	0	2.76	1684.63	7.49	1681.23	7.47	-3.41	-0.2

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
78	226	148	70	3616	0.90407	650.74	0.57743	751.69	528.84	0.67	2.72	1688.12	7.47	1684.92	7.46	-3.2	-0.19
78	227	149	71	3632	0.90217	651.29	0.57819	751.55	541.68	0	2.69	1690.17	7.45	1686.74	7.43	-3.43	-0.2
78	228	150	72	3648	0.90028	651.83	0.57895	751.42	554.61	0.66	2.65	1693.46	7.43	1690.23	7.41	-3.22	-0.19
78	229	151	73	3664	0.89838	652.36	0.57969	751.3	567.64	0	2.62	1695.32	7.4	1691.86	7.39	-3.46	-0.2
78	230	152	74	3680	0.89648	652.87	0.58044	751.19	580.78	0.66	2.59	1698.41	7.38	1695.15	7.37	-3.25	-0.19
78	231	153	75	3696	0.89459	653.38	0.58117	751.09	594.01	0	2.56	1700.08	7.36	1696.59	7.34	-3.49	-0.21
78	232	154	76	3712	0.89269	653.87	0.58190	751	607.34	0.66	2.53	1702.97	7.34	1699.68	7.33	-3.29	-0.19
78	233	155	77	3728	0.89079	654.36	0.58262	750.92	620.76	0	2.5	1704.47	7.32	1700.93	7.3	-3.53	-0.21
78	234	156	78	3744	0.88889	654.83	0.58333	750.84	634.28	0.65	2.47	1707.17	7.3	1703.84	7.28	-3.34	-0.2
78	235	157	79	3760	0.88699	655.29	0.58404	750.77	647.89	0	2.44	1708.49	7.27	1704.9	7.25	-3.58	-0.21
78	236	158	80	3776	0.88509	655.74	0.58475	750.72	661.59	0.65	2.41	1711.01	7.25	1707.62	7.24	-3.39	-0.2
78	237	159	81	3792	0.88319	656.18	0.58544	750.67	675.39	0	2.38	1712.15	7.22	1708.51	7.21	-3.64	-0.21
78	238	160	82	3808	0.88129	656.61	0.58613	750.62	689.27	0.65	2.35	1714.5	7.2	1711.05	7.19	-3.45	-0.2
78	239	161	83	3824	0.87940	657.03	0.58682	750.59	703.24	0	2.33	1715.47	7.18	1711.76	7.16	-3.71	-0.22
78	240	162	84	3840	0.87750	657.44	0.58750	750.56	717.3	0.65	2.3	1717.64	7.16	1714.12	7.14	-3.53	-0.21
78	241	163	85	3856	0.87561	657.84	0.58817	750.54	731.44	0	2.27	1718.45	7.13	1714.66	7.11	-3.78	-0.22
78	242	164	86	3872	0.87371	658.23	0.58884	750.53	745.67	0.64	2.25	1720.45	7.11	1716.84	7.09	-3.61	-0.21
78	243	165	87	3888	0.87182	658.62	0.58951	750.52	759.99	0	2.22	1721.09	7.08	1717.22	7.07	-3.87	-0.23
78	244	166	88	3904	0.86993	658.99	0.59016	750.53	774.39	0.64	2.2	1722.94	7.06	1719.23	7.05	-3.71	-0.22
78	245	167	89	3920	0.86804	659.35	0.59082	750.54	788.87	0	2.17	1723.42	7.03	1719.45	7.02	-3.97	-0.23
78	246	168	90	3936	0.86615	659.71	0.59146	750.55	803.43	0.64	2.15	1725.1	7.01	1721.29	7	-3.81	-0.22
78	247	169	91	3952	0.86427	660.06	0.59211	750.57	818.07	0	2.13	1725.43	6.99	1721.35	6.97	-4.08	-0.24
78	248	170	92	3968	0.86238	660.39	0.59274	750.6	832.79	0.64	2.11	1726.95	6.96	1723.02	6.95	-3.93	-0.23
78	249	171	93	3984	0.86050	660.72	0.59337	750.64	847.59	0	2.08	1727.13	6.94	1722.93	6.92	-4.2	-0.24
78	250	172	94	4000	0.85862	661.05	0.59400	750.68	862.46	0.63	2.06	1728.5	6.91	1724.44	6.9	-4.06	-0.24
78	251	173	95	4016	0.85675	661.36	0.59462	750.73	877.42	0	2.04	1728.54	6.89	1724.19	6.87	-4.34	-0.25
78	252	174	96	4032	0.85488	661.67	0.59524	750.78	892.44	0.63	2.02	1729.76	6.86	1725.55	6.85	-4.2	-0.24
78	253	175	97	4048	0.85301	661.96	0.59585	750.84	907.55	0	2	1729.64	6.84	1725.15	6.82	-4.49	-0.26
78	254	176	98	4064	0.85114	662.25	0.59646	750.91	922.72	0.63	1.98	1730.72	6.81	1726.36	6.8	-4.36	-0.25
78	255	177	99	4080	0.84927	662.54	0.59706	750.98	937.97	0	1.96	1730.47	6.79	1725.81	6.77	-4.66	-0.27
78	256	178	100	4096	0.84741	662.81	0.59766	751.06	953.29	0.62	1.94	1731.4	6.76	1726.86	6.75	-4.53	-0.26
78	257	179	101	4112	0.84555	663.08	0.59825	751.15	968.68	0	1.92	1731.01	6.74	1726.18	6.72	-4.83	-0.28
78	258	180	102	4128	0.84370	663.34	0.59884	751.24	984.15	0.62	1.9	1731.8	6.71	1727.08	6.69	-4.72	-0.27
78	259	181	103	4144	0.84185	663.59	0.59942	751.33	999.68	0	1.88	1731.28	6.68	1726.25	6.67	-5.03	-0.29
78	260	182	104	4160	0.84000	663.84	0.60000	751.43	1015.28	0.62	1.86	1731.93	6.66	1727.01	6.64	-4.92	-0.28
78	261	183	105	4176	0.83816	664.08	0.60058	751.54	1030.95	0	1.85	1731.28	6.63	1726.05	6.61	-5.23	-0.3
78	262	184	106	4192	0.83632	664.31	0.60115	751.65	1046.68	0.62	1.83	1731.8	6.61	1726.66	6.59	-5.14	-0.3
78	263	185	107	4208	0.83448	664.54	0.60171	751.76	1062.49	0	1.81	1731.02	6.58	1725.56	6.56	-5.46	-0.32
78	264	186	108	4224	0.83265	664.76	0.60227	751.88	1078.35	0.62	1.79	1731.41	6.56	1726.04	6.54	-5.37	-0.31
78	265	187	109	4240	0.83082	664.97	0.60283	752.01	1094.29	0	1.78	1730.51	6.53	1724.81	6.51	-5.7	-0.33
78	266	188	110	4256	0.82899	665.18	0.60338	752.14	1110.28	0.61	1.76	1730.77	6.51	1725.15	6.49	-5.62	-0.33
78	267	189	111	4272	0.82717	665.38	0.60393	752.28	1126.34	0	1.74	1729.74	6.48	1723.79	6.46	-5.95	-0.35
78	268	190	112	4288	0.82535	665.57	0.60448	752.42	1142.47	0.61	1.73	1729.88	6.45	1724	6.43	-5.88	-0.34
78	269	191	113	4304	0.82354	665.76	0.60502	752.56	1158.65	0	1.71	1728.73	6.43	1722.51	6.4	-6.22	-0.36
78	270	192	114	4320	0.82173	665.95	0.60556	752.71	1174.9	0.61	1.7	1728.75	6.4	1722.59	6.38	-6.16	-0.36
78	271	193	115	4336	0.81992	666.12	0.60609	752.87	1191.21	0	1.68	1727.49	6.37	1720.98	6.35	-6.51	-0.38
78	272	194	116	4352	0.81812	666.29	0.60662	753.03	1207.57	0.61	1.67	1727.38	6.35	1720.92	6.33	-6.45	-0.38

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Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
78	273	195	117	4368	0.81633	666.46	0.60714	753.19	1224	0	1.65	1726	6.32	1719.19	6.3	-6.81	-0.4
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
79	157	78	-1	2512	0.99996	564.57	0.49841	821.4	0.16	0	9.74	1135.61	7.23	1144.17	7.29	8.56	0.75
79	158	79	0	2528	1.00000	566.99	0.50000	819.65	0	-0.8	10	1150.57	7.28	1158.86	7.33	8.29	0.72
79	159	80	1	2544	0.99996	569.35	0.50157	817.94	0.15	0	9.74	1166.29	7.34	1173.07	7.38	6.78	0.58
79	160	81	2	2560	0.99984	571.67	0.50313	816.28	0.61	-0.79	9.49	1180.14	7.38	1187.23	7.42	7.1	0.6
79	161	82	3	2576	0.99965	573.94	0.50466	814.67	1.36	0	9.25	1195.28	7.42	1200.92	7.46	5.64	0.47
79	162	83	4	2592	0.99939	576.17	0.50617	813.1	2.4	-0.79	9.01	1208.56	7.46	1214.57	7.5	6.01	0.49
79	163	84	5	2608	0.99906	578.34	0.50767	811.57	3.73	0	8.79	1223.15	7.5	1227.75	7.53	4.6	0.37
79	164	85	6	2624	0.99866	580.47	0.50915	810.08	5.35	-0.78	8.58	1235.9	7.54	1240.92	7.57	5.02	0.4
79	165	86	7	2640	0.99820	582.56	0.51061	808.63	7.23	0	8.37	1249.94	7.58	1253.6	7.6	3.66	0.29
79	166	87	8	2656	0.99768	584.61	0.51205	807.22	9.39	-0.78	8.17	1262.17	7.6	1266.29	7.63	4.12	0.33
79	167	88	9	2672	0.99710	586.61	0.51347	805.85	11.81	0	7.97	1275.7	7.64	1278.5	7.66	2.8	0.22
79	168	89	10	2688	0.99646	588.57	0.51488	804.52	14.5	-0.77	7.79	1287.43	7.66	1290.73	7.68	3.31	0.26
79	169	90	11	2704	0.99576	590.49	0.51627	803.22	17.44	0	7.61	1300.45	7.69	1302.48	7.71	2.03	0.16
79	170	91	12	2720	0.99502	592.38	0.51765	801.96	20.63	-0.77	7.43	1311.7	7.72	1314.27	7.73	2.57	0.2
79	171	92	13	2736	0.99422	594.22	0.51901	800.73	24.07	0	7.27	1324.24	7.74	1325.57	7.75	1.33	0.1
79	172	93	14	2752	0.99338	596.03	0.52035	799.54	27.76	-0.76	7.1	1335.02	7.76	1336.92	7.77	1.9	0.14
79	173	94	15	2768	0.99248	597.8	0.52168	798.37	31.68	0	6.95	1347.09	7.79	1347.8	7.79	0.7	0.05
79	174	95	16	2784	0.99154	599.53	0.52299	797.24	35.84	-0.76	6.8	1357.42	7.8	1358.73	7.81	1.3	0.1
79	175	96	17	2800	0.99056	601.23	0.52429	796.14	40.23	0	6.65	1369.04	7.82	1369.18	7.82	0.14	0.01
79	176	97	18	2816	0.98954	602.9	0.52557	795.08	44.85	-0.75	6.51	1378.94	7.83	1379.7	7.84	0.77	0.06
79	177	98	19	2832	0.98848	604.53	0.52684	794.04	49.69	0	6.37	1390.12	7.85	1389.75	7.85	-0.37	-0.03
79	178	99	20	2848	0.98738	606.13	0.52809	793.02	54.75	-0.75	6.24	1399.59	7.86	1399.88	7.86	0.29	0.02
79	179	100	21	2864	0.98624	607.69	0.52933	792.04	60.02	0	6.11	1410.35	7.88	1409.53	7.87	-0.82	-0.06
79	180	101	22	2880	0.98506	609.23	0.53056	791.08	65.51	-0.75	5.98	1419.41	7.89	1419.28	7.88	-0.14	-0.01
79	181	102	23	2896	0.98385	610.73	0.53177	790.16	71.21	0	5.86	1429.77	7.9	1428.55	7.89	-1.22	-0.09
79	182	103	24	2912	0.98261	612.21	0.53297	789.25	77.11	-0.74	5.75	1438.44	7.9	1437.92	7.9	-0.52	-0.04
79	183	104	25	2928	0.98134	613.65	0.53415	788.37	83.22	0	5.63	1448.39	7.91	1446.82	7.91	-1.57	-0.11
79	184	105	26	2944	0.98003	615.06	0.53533	787.52	89.52	-0.74	5.52	1456.68	7.92	1455.83	7.91	-0.85	-0.06
79	185	106	27	2960	0.97870	616.45	0.53649	786.69	96.02	0	5.42	1466.25	7.93	1464.37	7.92	-1.89	-0.13
79	186	107	28	2976	0.97734	617.81	0.53763	785.89	102.71	-0.73	5.31	1474.17	7.93	1473.02	7.92	-1.14	-0.08
79	187	108	29	2992	0.97595	619.14	0.53877	785.11	109.6	0	5.21	1483.37	7.93	1481.21	7.92	-2.16	-0.15
79	188	109	30	3008	0.97454	620.45	0.53989	784.35	116.66	-0.73	5.12	1490.93	7.93	1489.53	7.92	-1.4	-0.09
79	189	110	31	3024	0.97310	621.73	0.54101	783.61	123.91	0	5.02	1499.77	7.94	1497.37	7.92	-2.4	-0.16
79	190	111	32	3040	0.97163	622.98	0.54211	782.89	131.35	-0.73	4.93	1506.98	7.93	1505.36	7.92	-1.63	-0.11
79	191	112	33	3056	0.97015	624.21	0.54319	782.2	138.96	0	4.84	1515.48	7.93	1512.87	7.92	-2.6	-0.17
79	192	113	34	3072	0.96864	625.41	0.54427	781.53	146.74	-0.72	4.75	1522.35	7.93	1520.53	7.92	-1.82	-0.12
79	193	114	35	3088	0.96711	626.59	0.54534	780.87	154.7	0	4.67	1530.51	7.93	1527.73	7.92	-2.78	-0.18
79	194	115	36	3104	0.96557	627.75	0.54639	780.24	162.83	-0.72	4.59	1537.06	7.92	1535.07	7.91	-1.99	-0.13
79	195	116	37	3120	0.96400	628.88	0.54744	779.62	171.12	0	4.51	1544.88	7.92	1541.95	7.91	-2.93	-0.19
79	196	117	38	3136	0.96241	629.99	0.54847	779.03	179.58	-0.71	4.43	1551.12	7.91	1548.99	7.9	-2.13	-0.14
79	197	118	39	3152	0.96081	631.08	0.54949	778.45	188.2	0	4.35	1558.63	7.91	1555.56	7.9	-3.06	-0.2
79	198	119	40	3168	0.95919	632.14	0.55051	777.89	196.98	-0.71	4.28	1564.55	7.9	1562.31	7.89	-2.25	-0.14
79	199	120	41	3184	0.95755	633.19	0.55151	777.35	205.92	0	4.21	1571.75	7.9	1568.58	7.88	-3.17	-0.2
79	200	121	42	3200	0.95590	634.21	0.55250	776.83	215.01	-0.71	4.14	1577.38	7.89	1575.04	7.88	-2.35	-0.15

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
79	201	122	43	3216	0.95423	635.21	0.55348	776.32	224.25	0	4.07	1584.28	7.88	1581.02	7.87	-3.26	-0.21
79	202	123	44	3232	0.95255	636.2	0.55446	775.83	233.65	-0.7	4.01	1589.62	7.87	1587.19	7.86	-2.43	-0.15
79	203	124	45	3248	0.95086	637.16	0.55542	775.36	243.19	0	3.94	1596.23	7.86	1592.9	7.85	-3.33	-0.21
79	204	125	46	3264	0.94915	638.1	0.55637	774.9	252.88	-0.7	3.88	1601.29	7.85	1598.8	7.84	-2.5	-0.16
79	205	126	47	3280	0.94744	639.03	0.55732	774.46	262.71	0	3.82	1607.62	7.84	1604.23	7.83	-3.39	-0.21
79	206	127	48	3296	0.94571	639.94	0.55825	774.03	272.69	-0.7	3.76	1612.41	7.83	1609.85	7.81	-2.55	-0.16
79	207	128	49	3312	0.94397	640.82	0.55918	773.62	282.8	0	3.7	1618.46	7.82	1615.02	7.8	-3.44	-0.21
79	208	129	50	3328	0.94222	641.69	0.56010	773.22	293.06	-0.69	3.64	1622.98	7.8	1620.38	7.79	-2.6	-0.16
79	209	130	51	3344	0.94046	642.55	0.56101	772.84	303.44	0	3.59	1628.76	7.79	1625.29	7.78	-3.47	-0.21
79	210	131	52	3360	0.93869	643.38	0.56191	772.47	313.96	-0.69	3.53	1633.03	7.78	1630.4	7.76	-2.63	-0.16
79	211	132	53	3376	0.93691	644.2	0.56280	772.11	324.62	0	3.48	1638.55	7.77	1635.05	7.75	-3.5	-0.21
79	212	133	54	3392	0.93512	645	0.56368	771.77	335.4	-0.69	3.43	1642.57	7.75	1639.91	7.74	-2.66	-0.16
79	213	134	55	3408	0.93333	645.78	0.56455	771.44	346.31	0	3.38	1647.84	7.74	1644.31	7.72	-3.53	-0.21
79	214	135	56	3424	0.93152	646.55	0.56542	771.13	357.35	-0.68	3.33	1651.62	7.72	1648.93	7.71	-2.68	-0.16
79	215	136	57	3440	0.92971	647.31	0.56628	770.83	368.51	0	3.28	1656.64	7.71	1653.09	7.69	-3.54	-0.21
79	216	137	58	3456	0.92790	648.04	0.56713	770.54	379.8	-0.68	3.24	1660.18	7.69	1657.48	7.67	-2.7	-0.16
79	217	138	59	3472	0.92608	648.77	0.56797	770.26	391.2	0	3.19	1664.96	7.67	1661.4	7.66	-3.56	-0.21
79	218	139	60	3488	0.92425	649.47	0.56881	769.99	402.73	-0.68	3.15	1668.27	7.65	1665.56	7.64	-2.72	-0.16
79	219	140	61	3504	0.92242	650.17	0.56964	769.74	414.38	0	3.1	1672.82	7.64	1669.25	7.62	-3.57	-0.21
79	220	141	62	3520	0.92058	650.85	0.57046	769.5	426.14	-0.67	3.06	1675.91	7.62	1673.18	7.61	-2.73	-0.16
79	221	142	63	3536	0.91874	651.51	0.57127	769.27	438.01	0	3.02	1680.23	7.6	1676.65	7.59	-3.58	-0.21
79	222	143	64	3552	0.91689	652.16	0.57207	769.05	450	-0.67	2.98	1683.1	7.58	1680.36	7.57	-2.74	-0.16
79	223	144	65	3568	0.91504	652.8	0.57287	768.84	462.1	0	2.94	1687.21	7.57	1683.61	7.55	-3.6	-0.21
79	224	145	66	3584	0.91319	653.42	0.57366	768.64	474.31	-0.67	2.9	1689.86	7.54	1687.11	7.53	-2.76	-0.16
79	225	146	67	3600	0.91133	654.03	0.57444	768.45	486.63	0	2.86	1693.75	7.53	1690.14	7.51	-3.61	-0.21
79	226	147	68	3616	0.90947	654.63	0.57522	768.27	499.06	-0.67	2.83	1696.2	7.51	1693.43	7.49	-2.78	-0.16
79	227	148	69	3632	0.90761	655.21	0.57599	768.11	511.59	0	2.79	1699.88	7.49	1696.25	7.47	-3.63	-0.21
79	228	149	70	3648	0.90574	655.79	0.57675	767.95	524.23	-0.66	2.75	1702.13	7.47	1699.34	7.45	-2.8	-0.16
79	229	150	71	3664	0.90387	656.35	0.57751	767.8	536.97	0	2.72	1705.61	7.45	1701.96	7.43	-3.65	-0.21
79	230	151	72	3680	0.90200	656.89	0.57826	767.66	549.81	-0.66	2.69	1707.66	7.42	1704.84	7.41	-2.82	-0.17
79	231	152	73	3696	0.90013	657.43	0.57900	767.54	562.75	0	2.65	1710.94	7.41	1707.26	7.39	-3.67	-0.22
79	232	153	74	3712	0.89826	657.96	0.57974	767.42	575.79	-0.66	2.62	1712.8	7.38	1709.95	7.37	-2.85	-0.17
79	233	154	75	3728	0.89639	658.47	0.58047	767.31	588.93	0	2.59	1715.88	7.36	1712.18	7.35	-3.7	-0.22
79	234	155	76	3744	0.89451	658.97	0.58120	767.2	602.17	-0.65	2.56	1717.56	7.34	1714.67	7.33	-2.89	-0.17
79	235	156	77	3760	0.89264	659.46	0.58192	767.11	615.5	0	2.53	1720.45	7.32	1716.71	7.31	-3.74	-0.22
79	236	157	78	3776	0.89076	659.94	0.58263	767.03	628.93	-0.65	2.5	1721.95	7.3	1719.02	7.28	-2.93	-0.17
79	237	158	79	3792	0.88889	660.41	0.58333	766.95	642.44	0	2.47	1724.66	7.28	1720.87	7.26	-3.79	-0.22
79	238	159	80	3808	0.88701	660.87	0.58403	766.89	656.06	-0.65	2.44	1725.98	7.25	1722.99	7.24	-2.98	-0.17
79	239	160	81	3824	0.88514	661.32	0.58473	766.83	669.76	0	2.41	1728.51	7.23	1724.66	7.22	-3.84	-0.22
79	240	161	82	3840	0.88326	661.76	0.58542	766.78	683.55	-0.65	2.38	1729.65	7.21	1726.61	7.19	-3.04	-0.18
79	241	162	83	3856	0.88139	662.19	0.58610	766.73	697.43	0	2.35	1732.01	7.19	1728.1	7.17	-3.9	-0.23
79	242	163	84	3872	0.87952	662.61	0.58678	766.7	711.4	-0.64	2.33	1732.99	7.16	1729.87	7.15	-3.11	-0.18
79	243	164	85	3888	0.87764	663.02	0.58745	766.67	725.45	0	2.3	1735.17	7.14	1731.19	7.12	-3.98	-0.23
79	244	165	86	3904	0.87577	663.42	0.58812	766.65	739.59	-0.64	2.28	1735.98	7.11	1732.79	7.1	-3.19	-0.18
79	245	166	87	3920	0.87390	663.81	0.58878	766.64	753.81	0	2.25	1738	7.09	1733.94	7.08	-4.06	-0.23
79	246	167	88	3936	0.87203	664.19	0.58943	766.63	768.12	-0.64	2.23	1738.65	7.07	1735.37	7.05	-3.28	-0.19
79	247	168	89	3952	0.87017	664.56	0.59008	766.63	782.51	0	2.2	1740.5	7.05	1736.35	7.03	-4.15	-0.24

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Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
79	248	169	90	3968	0.86830	664.93	0.59073	766.64	796.97	-0.64	2.18	1741	7.02	1737.62	7.01	-3.38	-0.19
79	249	170	91	3984	0.86644	665.28	0.59137	766.65	811.52	0	2.15	1742.69	7	1738.44	6.98	-4.26	-0.24
79	250	171	92	4000	0.86458	665.63	0.59200	766.68	826.15	-0.63	2.13	1743.04	6.97	1739.54	6.96	-3.5	-0.2
79	251	172	93	4016	0.86272	665.97	0.59263	766.7	840.86	0	2.11	1744.58	6.95	1740.2	6.93	-4.37	-0.25
79	252	173	94	4032	0.86086	666.3	0.59325	766.74	855.65	-0.63	2.09	1744.78	6.92	1741.15	6.91	-3.62	-0.21
79	253	174	95	4048	0.85900	666.62	0.59387	766.78	870.51	0	2.07	1746.16	6.9	1741.65	6.88	-4.5	-0.26
79	254	175	96	4064	0.85715	666.93	0.59449	766.83	885.45	-0.63	2.04	1746.21	6.87	1742.45	6.86	-3.76	-0.22
79	255	176	97	4080	0.85530	667.24	0.59510	766.88	900.46	0	2.02	1747.45	6.85	1742.8	6.83	-4.65	-0.27
79	256	177	98	4096	0.85346	667.54	0.59570	766.94	915.54	-0.62	2	1747.36	6.83	1743.45	6.81	-3.91	-0.22
79	257	178	99	4112	0.85161	667.83	0.59630	767.01	930.7	0	1.98	1748.45	6.8	1743.64	6.78	-4.8	-0.28
79	258	179	100	4128	0.84977	668.11	0.59690	767.08	945.93	-0.62	1.96	1748.22	6.78	1744.14	6.76	-4.08	-0.23
79	259	180	101	4144	0.84793	668.39	0.59749	767.16	961.23	0	1.94	1749.17	6.75	1744.19	6.73	-4.97	-0.29
79	260	181	102	4160	0.84610	668.66	0.59808	767.24	976.61	-0.62	1.92	1748.8	6.73	1744.55	6.71	-4.26	-0.24
79	261	182	103	4176	0.84426	668.92	0.59866	767.33	992.05	0	1.91	1749.61	6.7	1744.46	6.68	-5.16	-0.3
79	262	183	104	4192	0.84243	669.17	0.59924	767.42	1007.56	-0.62	1.89	1749.12	6.68	1744.67	6.66	-4.45	-0.26
79	263	184	105	4208	0.84061	669.42	0.59981	767.52	1023.14	0	1.87	1749.79	6.65	1744.43	6.63	-5.36	-0.31
79	264	185	106	4224	0.83879	669.66	0.60038	767.63	1038.79	-0.62	1.85	1749.16	6.63	1744.51	6.61	-4.66	-0.27
79	265	186	107	4240	0.83697	669.9	0.60094	767.74	1054.5	0	1.83	1749.7	6.6	1744.13	6.58	-5.57	-0.32
79	266	187	108	4256	0.83515	670.12	0.60150	767.85	1070.28	-0.61	1.82	1748.95	6.58	1744.07	6.56	-4.88	-0.28
79	267	188	109	4272	0.83334	670.34	0.60206	767.97	1086.12	0	1.8	1749.36	6.55	1743.56	6.53	-5.8	-0.33
79	268	189	110	4288	0.83153	670.56	0.60261	768.1	1102.03	-0.61	1.78	1748.49	6.52	1743.37	6.51	-5.12	-0.29
79	269	190	111	4304	0.82973	670.77	0.60316	768.23	1118	0	1.77	1748.77	6.5	1742.73	6.48	-6.04	-0.35
79	270	191	112	4320	0.82793	670.97	0.60370	768.36	1134.04	-0.61	1.75	1747.77	6.47	1742.4	6.45	-5.37	-0.31
79	271	192	113	4336	0.82613	671.17	0.60424	768.5	1150.13	0	1.74	1747.93	6.45	1741.63	6.43	-6.3	-0.36
79	272	193	114	4352	0.82434	671.36	0.60478	768.65	1166.29	-0.61	1.72	1746.82	6.42	1741.17	6.4	-5.64	-0.32
79	273	194	115	4368	0.82255	671.54	0.60531	768.8	1182.51	0	1.7	1746.85	6.4	1740.28	6.37	-6.58	-0.38
79	274	195	116	4384	0.82077	671.72	0.60584	768.95	1198.79	-0.6	1.69	1745.62	6.37	1739.69	6.35	-5.93	-0.34
79	275	196	117	4400	0.81899	671.89	0.60636	769.11	1215.13	0	1.67	1745.54	6.35	1738.67	6.32	-6.87	-0.4
79	276	197	118	4416	0.81721	672.06	0.60688	769.27	1231.53	-0.6	1.66	1744.2	6.32	1737.97	6.3	-6.23	-0.36
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
80	159	79	-1	2544	0.99996	569.35	0.49843	838.78	0.15	0	9.74	1145.45	7.2	1154.06	7.26	8.6	0.75
80	160	80	0	2560	1.00000	571.76	0.50000	837.01	0	0.79	10	1162.02	7.26	1169.76	7.31	7.74	0.66
80	161	81	1	2576	0.99996	574.12	0.50155	835.29	0.15	0	9.74	1176.18	7.31	1183.02	7.35	6.84	0.58
80	162	82	2	2592	0.99985	576.43	0.50309	833.62	0.6	0.79	9.49	1191.63	7.36	1198.18	7.4	6.55	0.55
80	163	83	3	2608	0.99966	578.69	0.50460	831.99	1.34	0	9.26	1205.23	7.39	1210.94	7.43	5.7	0.47
80	164	84	4	2624	0.99941	580.91	0.50610	830.4	2.38	0.78	9.03	1220.12	7.44	1225.59	7.47	5.46	0.45
80	165	85	5	2640	0.99908	583.08	0.50758	828.86	3.69	0	8.8	1233.18	7.47	1237.85	7.5	4.67	0.38
80	166	86	6	2656	0.99869	585.2	0.50904	827.35	5.28	0.78	8.59	1247.53	7.52	1252.01	7.54	4.48	0.36
80	167	87	7	2672	0.99824	587.29	0.51048	825.89	7.15	0	8.39	1260.06	7.55	1263.8	7.57	3.73	0.3
80	168	88	8	2688	0.99773	589.33	0.51191	824.47	9.28	0.77	8.19	1273.89	7.58	1277.47	7.6	3.58	0.28
80	169	89	9	2704	0.99716	591.32	0.51331	823.08	11.67	0	8	1285.92	7.61	1288.8	7.63	2.88	0.22
80	170	90	10	2720	0.99654	593.28	0.51471	821.73	14.33	0.77	7.81	1299.24	7.64	1302	7.66	2.77	0.21
80	171	91	11	2736	0.99586	595.2	0.51608	820.42	17.23	0	7.63	1310.78	7.67	1312.89	7.68	2.11	0.16
80	172	92	12	2752	0.99513	597.08	0.51744	819.14	20.39	0.76	7.46	1323.61	7.7	1325.64	7.71	2.03	0.15
80	173	93	13	2768	0.99435	598.93	0.51879	817.9	23.8	0	7.29	1334.67	7.71	1336.09	7.72	1.41	0.11
80	174	94	14	2784	0.99353	600.73	0.52012	816.69	27.44	0.76	7.13	1347.03	7.74	1348.4	7.75	1.37	0.1

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
80	175	95	15	2800	0.99265	602.5	0.52143	815.51	31.32	0	6.98	1357.65	7.76	1358.43	7.76	0.79	0.06
80	176	96	16	2816	0.99174	604.24	0.52273	814.36	35.43	0.75	6.83	1369.55	7.78	1370.32	7.79	0.77	0.06
80	177	97	17	2832	0.99078	605.93	0.52401	813.25	39.78	0	6.68	1379.72	7.8	1379.95	7.8	0.22	0.02
80	178	98	18	2848	0.98977	607.6	0.52528	812.16	44.34	0.75	6.54	1391.18	7.82	1391.42	7.82	0.23	0.02
80	179	99	19	2864	0.98873	609.23	0.52654	811.11	49.13	0	6.4	1400.93	7.83	1400.65	7.82	-0.28	-0.02
80	180	100	20	2880	0.98765	610.83	0.52778	810.08	54.14	0.75	6.27	1411.96	7.84	1411.72	7.84	-0.24	-0.02
80	181	101	21	2896	0.98654	612.4	0.52901	809.08	59.36	0	6.14	1421.3	7.85	1420.57	7.85	-0.73	-0.05
80	182	102	22	2912	0.98539	613.94	0.53022	808.11	64.8	0.74	6.02	1431.92	7.87	1431.25	7.86	-0.67	-0.05
80	183	103	23	2928	0.98420	615.44	0.53142	807.17	70.44	0	5.9	1440.85	7.87	1439.73	7.87	-1.13	-0.08
80	184	104	24	2944	0.98299	616.92	0.53261	806.25	76.28	0.74	5.78	1451.07	7.89	1450.03	7.88	-1.05	-0.07
80	185	105	25	2960	0.98174	618.37	0.53378	805.35	82.32	0	5.67	1459.63	7.89	1458.15	7.88	-1.48	-0.1
80	186	106	26	2976	0.98046	619.78	0.53495	804.49	88.56	0.73	5.56	1469.46	7.9	1468.08	7.89	-1.38	-0.09
80	187	107	27	2992	0.97915	621.17	0.53610	803.64	95	0	5.45	1477.64	7.9	1475.85	7.89	-1.79	-0.12
80	188	108	28	3008	0.97782	622.54	0.53723	802.82	101.63	0.73	5.35	1487.09	7.91	1485.42	7.9	-1.67	-0.11
80	189	109	29	3024	0.97646	623.87	0.53836	802.03	108.44	0	5.25	1494.91	7.91	1492.85	7.9	-2.06	-0.14
80	190	110	30	3040	0.97507	625.18	0.53947	801.25	115.44	0.73	5.15	1504	7.92	1502.08	7.91	-1.93	-0.13
80	191	111	31	3056	0.97366	626.47	0.54058	800.5	122.62	0	5.06	1511.47	7.91	1509.18	7.9	-2.29	-0.15
80	192	112	32	3072	0.97222	627.72	0.54167	799.77	129.99	0.72	4.97	1520.21	7.92	1518.06	7.91	-2.15	-0.14
80	193	113	33	3088	0.97076	628.96	0.54275	799.06	137.52	0	4.88	1527.33	7.91	1524.84	7.9	-2.5	-0.16
80	194	114	34	3104	0.96929	630.16	0.54381	798.37	145.24	0.72	4.79	1535.73	7.92	1533.4	7.9	-2.34	-0.15
80	195	115	35	3120	0.96778	631.35	0.54487	797.7	153.12	0	4.71	1542.53	7.91	1539.86	7.9	-2.67	-0.17
80	196	116	36	3136	0.96626	632.51	0.54592	797.06	161.17	0.71	4.62	1550.6	7.91	1548.1	7.9	-2.5	-0.16
80	197	117	37	3152	0.96473	633.65	0.54695	796.43	169.39	0	4.54	1557.07	7.9	1554.25	7.89	-2.82	-0.18
80	198	118	38	3168	0.96317	634.77	0.54798	795.82	177.77	0.71	4.47	1564.82	7.9	1562.18	7.89	-2.64	-0.17
80	199	119	39	3184	0.96159	635.86	0.54900	795.23	186.32	0	4.39	1570.98	7.89	1568.04	7.88	-2.94	-0.19
80	200	120	40	3200	0.96000	636.93	0.55000	794.66	195.02	0.71	4.32	1578.42	7.89	1575.66	7.88	-2.75	-0.17
80	201	121	41	3216	0.95839	637.98	0.55100	794.1	203.88	0	4.25	1584.28	7.88	1581.24	7.87	-3.05	-0.19
80	202	122	42	3232	0.95677	639.01	0.55198	793.56	212.89	0.7	4.18	1591.41	7.88	1588.56	7.86	-2.85	-0.18
80	203	123	43	3248	0.95513	640.02	0.55296	793.04	222.06	0	4.11	1596.99	7.87	1593.85	7.85	-3.13	-0.2
80	204	124	44	3264	0.95348	641.01	0.55392	792.54	231.37	0.7	4.04	1603.82	7.86	1600.89	7.85	-2.93	-0.18
80	205	125	45	3280	0.95181	641.98	0.55488	792.05	240.83	0	3.98	1609.11	7.85	1605.91	7.83	-3.2	-0.2
80	206	126	46	3296	0.95014	642.93	0.55583	791.58	250.44	0.7	3.91	1615.66	7.84	1612.67	7.83	-2.99	-0.19
80	207	127	47	3312	0.94845	643.87	0.55676	791.13	260.19	0	3.85	1620.67	7.83	1617.42	7.81	-3.26	-0.2
80	208	128	48	3328	0.94675	644.78	0.55769	790.69	270.08	0.69	3.79	1626.94	7.82	1623.9	7.81	-3.04	-0.19
80	209	129	49	3344	0.94503	645.67	0.55861	790.26	280.11	0	3.74	1631.69	7.81	1628.39	7.79	-3.3	-0.2
80	210	130	50	3360	0.94331	646.55	0.55952	789.85	290.28	0.69	3.68	1637.69	7.8	1634.61	7.78	-3.08	-0.19
80	211	131	51	3376	0.94158	647.41	0.56043	789.46	300.58	0	3.62	1642.17	7.78	1638.84	7.77	-3.33	-0.2
80	212	132	52	3392	0.93984	648.25	0.56132	789.08	311.02	0.69	3.57	1647.91	7.77	1644.8	7.76	-3.11	-0.19
80	213	133	53	3408	0.93809	649.08	0.56221	788.71	321.58	0	3.52	1652.14	7.76	1648.79	7.74	-3.35	-0.2
80	214	134	54	3424	0.93633	649.89	0.56308	788.36	332.28	0.68	3.47	1657.62	7.75	1654.49	7.73	-3.13	-0.19
80	215	135	55	3440	0.93456	650.68	0.56395	788.02	343.11	0	3.41	1661.61	7.73	1658.24	7.71	-3.37	-0.2
80	216	136	56	3456	0.93279	651.46	0.56482	787.69	354.06	0.68	3.37	1666.84	7.72	1663.7	7.7	-3.14	-0.19
80	217	137	57	3472	0.93100	652.22	0.56567	787.38	365.13	0	3.32	1670.59	7.7	1667.21	7.68	-3.38	-0.2
80	218	138	58	3488	0.92922	652.96	0.56651	787.07	376.33	0.68	3.27	1675.58	7.69	1672.43	7.67	-3.16	-0.19
80	219	139	59	3504	0.92742	653.69	0.56735	786.78	387.65	0	3.23	1679.1	7.67	1675.71	7.65	-3.39	-0.2
80	220	140	60	3520	0.92562	654.41	0.56818	786.51	399.09	0.67	3.18	1683.85	7.65	1680.69	7.64	-3.16	-0.19
80	221	141	61	3536	0.92381	655.11	0.56901	786.24	410.64	0	3.14	1687.14	7.63	1683.75	7.62	-3.39	-0.2

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
80	222	142	62	3552	0.92200	655.8	0.56982	785.99	422.31	0.67	3.09	1691.66	7.62	1688.5	7.61	-3.17	-0.19
80	223	143	63	3568	0.92019	656.47	0.57063	785.75	434.1	0	3.05	1694.73	7.6	1691.34	7.58	-3.4	-0.2
80	224	144	64	3584	0.91837	657.13	0.57143	785.52	446	0.67	3.01	1699.03	7.58	1695.86	7.57	-3.17	-0.19
80	225	145	65	3600	0.91654	657.77	0.57222	785.3	458.01	0	2.97	1701.89	7.56	1698.49	7.55	-3.4	-0.2
80	226	146	66	3616	0.91472	658.41	0.57301	785.09	470.13	0.67	2.93	1705.97	7.55	1702.79	7.53	-3.18	-0.19
80	227	147	67	3632	0.91288	659.02	0.57379	784.89	482.36	0	2.89	1708.62	7.53	1705.21	7.51	-3.41	-0.2
80	228	148	68	3648	0.91105	659.63	0.57456	784.7	494.7	0.66	2.86	1712.49	7.51	1709.3	7.5	-3.19	-0.19
80	229	149	69	3664	0.90921	660.22	0.57533	784.53	507.14	0	2.82	1714.93	7.49	1711.51	7.47	-3.42	-0.2
80	230	150	70	3680	0.90737	660.8	0.57609	784.36	519.69	0.66	2.79	1718.59	7.47	1715.4	7.46	-3.2	-0.19
80	231	151	71	3696	0.90553	661.37	0.57684	784.2	532.34	0	2.75	1720.84	7.45	1717.41	7.43	-3.43	-0.2
80	232	152	72	3712	0.90369	661.93	0.57759	784.05	545.09	0.66	2.72	1724.3	7.43	1721.09	7.42	-3.21	-0.19
80	233	153	73	3728	0.90184	662.47	0.57833	783.92	557.94	0	2.68	1726.35	7.41	1722.91	7.39	-3.44	-0.2
80	234	154	74	3744	0.89999	663.01	0.57906	783.79	570.89	0.65	2.65	1729.62	7.39	1726.39	7.38	-3.23	-0.19
80	235	155	75	3760	0.89814	663.53	0.57979	783.67	583.94	0	2.62	1731.48	7.37	1728.01	7.35	-3.47	-0.2
80	236	156	76	3776	0.89629	664.04	0.58051	783.56	597.09	0.65	2.59	1734.55	7.35	1731.3	7.34	-3.26	-0.19
80	237	157	77	3792	0.89444	664.54	0.58122	783.46	610.33	0	2.55	1736.23	7.33	1732.74	7.31	-3.49	-0.2
80	238	158	78	3808	0.89259	665.03	0.58193	783.36	623.66	0.65	2.52	1739.12	7.31	1735.83	7.29	-3.29	-0.19
80	239	159	79	3824	0.89074	665.51	0.58264	783.28	637.09	0	2.5	1740.62	7.28	1737.09	7.27	-3.53	-0.2
80	240	160	80	3840	0.88889	665.97	0.58333	783.2	650.61	0.65	2.47	1743.33	7.26	1740	7.25	-3.33	-0.19
80	241	161	81	3856	0.88704	666.43	0.58403	783.13	664.22	0	2.44	1744.65	7.24	1741.08	7.22	-3.57	-0.21
80	242	162	82	3872	0.88519	666.88	0.58471	783.07	677.92	0.64	2.41	1747.18	7.22	1743.8	7.21	-3.38	-0.19
80	243	163	83	3888	0.88333	667.32	0.58539	783.02	691.71	0	2.38	1748.33	7.19	1744.71	7.18	-3.62	-0.21
80	244	164	84	3904	0.88148	667.74	0.58607	782.98	705.59	0.64	2.36	1750.69	7.17	1747.25	7.16	-3.44	-0.2
80	245	165	85	3920	0.87963	668.16	0.58674	782.94	719.55	0	2.33	1751.68	7.15	1747.99	7.13	-3.68	-0.21
80	246	166	86	3936	0.87778	668.57	0.58740	782.91	733.6	0.64	2.3	1753.86	7.13	1750.36	7.12	-3.5	-0.2
80	247	167	87	3952	0.87594	668.97	0.58806	782.89	747.73	0	2.28	1754.69	7.1	1750.93	7.09	-3.75	-0.21
80	248	168	88	3968	0.87409	669.36	0.58871	782.88	761.95	0.64	2.25	1756.7	7.08	1753.13	7.07	-3.58	-0.2
80	249	169	89	3984	0.87224	669.74	0.58936	782.87	776.25	0	2.23	1757.37	7.06	1753.54	7.04	-3.84	-0.22
80	250	170	90	4000	0.87040	670.11	0.59000	782.87	790.62	0.63	2.2	1759.23	7.04	1755.56	7.02	-3.67	-0.21
80	251	171	91	4016	0.86856	670.48	0.59064	782.88	805.08	0	2.18	1759.74	7.01	1755.81	7	-3.93	-0.22
80	252	172	92	4032	0.86672	670.83	0.59127	782.89	819.62	0.63	2.16	1761.44	6.99	1757.68	6.97	-3.77	-0.21
80	253	173	93	4048	0.86488	671.18	0.59190	782.91	834.24	0	2.14	1761.8	6.96	1757.77	6.95	-4.03	-0.23
80	254	174	94	4064	0.86304	671.52	0.59252	782.94	848.94	0.63	2.11	1763.35	6.94	1759.47	6.93	-3.88	-0.22
80	255	175	95	4080	0.86121	671.85	0.59314	782.98	863.71	0	2.09	1763.56	6.92	1759.41	6.9	-4.15	-0.24
80	256	176	96	4096	0.85938	672.17	0.59375	783.02	878.55	0.62	2.07	1764.96	6.89	1760.96	6.88	-4	-0.23
80	257	177	97	4112	0.85755	672.48	0.59436	783.06	893.48	0	2.05	1765.03	6.87	1760.75	6.85	-4.28	-0.24
80	258	178	98	4128	0.85572	672.79	0.59496	783.12	908.47	0.62	2.03	1766.27	6.85	1762.14	6.83	-4.14	-0.23
80	259	179	99	4144	0.85389	673.09	0.59556	783.17	923.54	0	2.01	1766.2	6.82	1761.78	6.8	-4.42	-0.25
80	260	180	100	4160	0.85207	673.38	0.59615	783.24	938.68	0.62	1.99	1767.31	6.8	1763.02	6.78	-4.29	-0.24
80	261	181	101	4176	0.85025	673.66	0.59674	783.31	953.9	0	1.97	1767.1	6.77	1762.52	6.75	-4.58	-0.26
80	262	182	102	4192	0.84844	673.94	0.59733	783.39	969.18	0.62	1.95	1768.06	6.75	1763.61	6.73	-4.45	-0.25
80	263	183	103	4208	0.84662	674.21	0.59791	783.47	984.53	0	1.93	1767.72	6.72	1762.97	6.7	-4.75	-0.27
80	264	184	104	4224	0.84481	674.47	0.59849	783.56	999.96	0.62	1.91	1768.54	6.7	1763.92	6.68	-4.63	-0.26
80	265	185	105	4240	0.84301	674.73	0.59906	783.65	1015.45	0	1.89	1768.07	6.67	1763.14	6.65	-4.93	-0.28
80	266	186	106	4256	0.84120	674.98	0.59962	783.75	1031	0.61	1.88	1768.76	6.65	1763.94	6.63	-4.82	-0.27
80	267	187	107	4272	0.83940	675.22	0.60019	783.85	1046.63	0	1.86	1768.16	6.62	1763.03	6.6	-5.13	-0.29
80	268	188	108	4288	0.83760	675.46	0.60075	783.96	1062.32	0.61	1.84	1768.72	6.6	1763.69	6.58	-5.02	-0.28

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
80	269	189	109	4304	0.83581	675.68	0.60130	784.08	1078.08	0	1.82	1767.99	6.57	1762.65	6.55	-5.34	-0.3
80	270	190	110	4320	0.83402	675.91	0.60185	784.2	1093.9	0.61	1.81	1768.42	6.55	1763.17	6.53	-5.25	-0.3
80	271	191	111	4336	0.83223	676.12	0.60240	784.32	1109.78	0	1.79	1767.57	6.52	1762	6.5	-5.57	-0.32
80	272	192	112	4352	0.83045	676.33	0.60294	784.45	1125.73	0.61	1.77	1767.87	6.5	1762.39	6.48	-5.48	-0.31
80	273	193	113	4368	0.82867	676.54	0.60348	784.58	1141.74	0	1.76	1766.9	6.47	1761.08	6.45	-5.81	-0.33
80	274	194	114	4384	0.82690	676.74	0.60402	784.72	1157.81	0.6	1.74	1767.08	6.45	1761.34	6.43	-5.74	-0.33
80	275	195	115	4400	0.82512	676.93	0.60455	784.87	1173.94	0	1.73	1765.99	6.42	1759.92	6.4	-6.07	-0.35
80	276	196	116	4416	0.82336	677.11	0.60507	785.01	1190.14	0.6	1.71	1766.05	6.4	1760.04	6.38	-6	-0.34
80	277	197	117	4432	0.82159	677.3	0.60560	785.17	1206.39	0	1.7	1764.85	6.37	1758.5	6.35	-6.35	-0.36
80	278	198	118	4448	0.81983	677.47	0.60612	785.32	1222.7	0.6	1.68	1764.79	6.35	1758.5	6.33	-6.29	-0.36
80	279	199	119	4464	0.81808	677.64	0.60663	785.49	1239.07	0	1.67	1763.47	6.32	1756.83	6.3	-6.64	-0.38
80	280	200	120	4480	0.81633	677.8	0.60714	785.65	1255.5	0.6	1.65	1763.29	6.3	1756.7	6.27	-6.59	-0.38
Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
81	161	80	-1	2576	0.99996	574.12	0.49845	856.3	0.15	0	9.74	1155.17	7.17	1163.81	7.23	8.64	0.74
81	162	81	0	2592	1.00000	576.52	0.50000	854.52	0	-0.79	10	1170.18	7.22	1178.55	7.27	8.37	0.71
81	163	82	1	2608	0.99996	578.86	0.50153	852.79	0.15	0	9.75	1185.94	7.28	1192.81	7.32	6.87	0.58
81	164	83	2	2624	0.99985	581.17	0.50305	851.1	0.59	-0.78	9.5	1199.86	7.32	1207.04	7.36	7.17	0.59
81	165	84	3	2640	0.99967	583.42	0.50455	849.45	1.33	0	9.26	1215.06	7.36	1220.79	7.4	5.72	0.47
81	166	85	4	2656	0.99942	585.63	0.50602	847.85	2.35	-0.78	9.04	1228.43	7.4	1234.51	7.44	6.08	0.49
81	167	86	5	2672	0.99910	587.79	0.50749	846.29	3.65	0	8.82	1243.09	7.44	1247.77	7.47	4.68	0.37
81	168	87	6	2688	0.99872	589.91	0.50893	844.77	5.22	-0.77	8.61	1255.93	7.48	1261.01	7.51	5.08	0.4
81	169	88	7	2704	0.99828	591.99	0.51036	843.3	7.06	0	8.4	1270.06	7.52	1273.78	7.54	3.73	0.29
81	170	89	8	2720	0.99779	594.03	0.51177	841.86	9.17	-0.77	8.21	1282.39	7.54	1286.56	7.57	4.17	0.32
81	171	90	9	2736	0.99723	596.02	0.51316	840.46	11.54	0	8.02	1296	7.58	1298.87	7.6	2.86	0.22
81	172	91	10	2752	0.99662	597.98	0.51454	839.09	14.16	-0.76	7.83	1307.84	7.6	1311.19	7.62	3.35	0.26
81	173	92	11	2768	0.99596	599.89	0.51590	837.76	17.04	0	7.66	1320.97	7.64	1323.05	7.65	2.08	0.16
81	174	93	12	2784	0.99524	601.77	0.51724	836.47	20.16	-0.76	7.49	1332.33	7.66	1334.93	7.67	2.6	0.2
81	175	94	13	2800	0.99448	603.61	0.51857	835.21	23.52	0	7.32	1344.97	7.69	1346.35	7.69	1.37	0.1
81	176	95	14	2816	0.99367	605.42	0.51989	833.98	27.13	-0.75	7.16	1355.88	7.7	1357.81	7.71	1.93	0.14
81	177	96	15	2832	0.99282	607.18	0.52119	832.79	30.97	0	7.01	1368.06	7.73	1368.8	7.73	0.74	0.05
81	178	97	16	2848	0.99192	608.92	0.52247	831.63	35.04	-0.75	6.86	1378.52	7.74	1379.85	7.75	1.32	0.1
81	179	98	17	2864	0.99098	610.62	0.52374	830.5	39.33	0	6.71	1390.26	7.77	1390.42	7.77	0.16	0.01
81	180	99	18	2880	0.99000	612.28	0.52500	829.4	43.86	-0.75	6.57	1400.29	7.78	1401.07	7.78	0.78	0.06
81	181	100	19	2896	0.98898	613.92	0.52624	828.33	48.59	0	6.43	1411.6	7.8	1411.25	7.8	-0.35	-0.03
81	182	101	20	2912	0.98792	615.52	0.52747	827.28	53.55	-0.74	6.3	1421.21	7.81	1421.5	7.81	0.29	0.02
81	183	102	21	2928	0.98683	617.09	0.52869	826.27	58.72	0	6.18	1432.1	7.83	1431.29	7.82	-0.81	-0.06
81	184	103	22	2944	0.98570	618.62	0.52989	825.28	64.1	-0.74	6.05	1441.31	7.83	1441.17	7.83	-0.15	-0.01
81	185	104	23	2960	0.98454	620.13	0.53108	824.32	69.68	0	5.93	1451.8	7.85	1450.58	7.84	-1.22	-0.08
81	186	105	24	2976	0.98335	621.61	0.53226	823.39	75.46	-0.73	5.82	1460.62	7.85	1460.09	7.85	-0.53	-0.04
81	187	106	25	2992	0.98213	623.06	0.53342	822.48	81.45	0	5.7	1470.71	7.86	1469.13	7.86	-1.58	-0.11
81	188	107	26	3008	0.98087	624.48	0.53457	821.6	87.63	-0.73	5.59	1479.16	7.87	1478.28	7.86	-0.87	-0.06
81	189	108	27	3024	0.97959	625.88	0.53571	820.74	94	0	5.49	1488.87	7.88	1486.97	7.87	-1.9	-0.13
81	190	109	28	3040	0.97828	627.24	0.53684	819.9	100.56	-0.73	5.39	1496.95	7.88	1495.77	7.87	-1.18	-0.08
81	191	110	29	3056	0.97695	628.58	0.53796	819.09	107.31	0	5.29	1506.3	7.89	1504.11	7.87	-2.18	-0.15
81	192	111	30	3072	0.97559	629.89	0.53906	818.3	114.25	-0.72	5.19	1514.02	7.89	1512.58	7.88	-1.44	-0.1
81	193	112	31	3088	0.97420	631.18	0.54016	817.54	121.36	0	5.09	1523.01	7.89	1520.58	7.88	-2.43	-0.16

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
81	194	113	32	3104	0.97279	632.45	0.54124	816.79	128.65	-0.72	5	1530.39	7.89	1528.72	7.88	-1.67	-0.11
81	195	114	33	3120	0.97136	633.68	0.54231	816.07	136.12	0	4.91	1539.04	7.89	1536.4	7.88	-2.64	-0.17
81	196	115	34	3136	0.96991	634.9	0.54337	815.37	143.76	-0.71	4.83	1546.09	7.89	1544.22	7.88	-1.87	-0.12
81	197	116	35	3152	0.96844	636.09	0.54442	814.69	151.57	0	4.74	1554.4	7.89	1551.57	7.88	-2.82	-0.18
81	198	117	36	3168	0.96694	637.25	0.54546	814.02	159.55	-0.71	4.66	1561.12	7.88	1559.08	7.87	-2.04	-0.13
81	199	118	37	3184	0.96543	638.4	0.54648	813.38	167.7	0	4.58	1569.1	7.88	1566.12	7.87	-2.98	-0.19
81	200	119	38	3200	0.96390	639.52	0.54750	812.76	176.01	-0.71	4.5	1575.51	7.88	1573.33	7.87	-2.19	-0.14
81	201	120	39	3216	0.96235	640.62	0.54851	812.15	184.47	0	4.43	1583.18	7.88	1580.07	7.86	-3.11	-0.2
81	202	121	40	3232	0.96079	641.7	0.54951	811.57	193.1	-0.7	4.35	1589.29	7.87	1586.98	7.86	-2.31	-0.15
81	203	122	41	3248	0.95921	642.75	0.55049	811	201.88	0	4.28	1596.65	7.87	1593.43	7.85	-3.22	-0.2
81	204	123	42	3264	0.95761	643.79	0.55147	810.45	210.81	-0.7	4.21	1602.46	7.86	1600.05	7.84	-2.41	-0.15
81	205	124	43	3280	0.95600	644.81	0.55244	809.91	219.9	0	4.14	1609.52	7.85	1606.21	7.84	-3.31	-0.21
81	206	125	44	3296	0.95438	645.8	0.55340	809.4	229.13	-0.7	4.08	1615.04	7.84	1612.55	7.83	-2.5	-0.15
81	207	126	45	3312	0.95274	646.78	0.55435	808.9	238.52	0	4.01	1621.82	7.83	1618.43	7.82	-3.39	-0.21
81	208	127	46	3328	0.95109	647.74	0.55529	808.41	248.04	-0.69	3.95	1627.06	7.82	1624.5	7.81	-2.56	-0.16
81	209	128	47	3344	0.94943	648.68	0.55622	807.95	257.71	0	3.89	1633.56	7.82	1630.11	7.8	-3.45	-0.21
81	210	129	48	3360	0.94776	649.6	0.55714	807.49	267.52	-0.69	3.83	1638.53	7.8	1635.91	7.79	-2.62	-0.16
81	211	130	49	3376	0.94607	650.5	0.55806	807.06	277.47	0	3.77	1644.75	7.8	1641.25	7.78	-3.49	-0.21
81	212	131	50	3392	0.94438	651.38	0.55896	806.63	287.55	-0.69	3.71	1649.46	7.78	1646.79	7.77	-2.66	-0.16
81	213	132	51	3408	0.94267	652.25	0.55986	806.23	297.77	0	3.66	1655.41	7.77	1651.88	7.76	-3.53	-0.21
81	214	133	52	3424	0.94096	653.1	0.56075	805.83	308.12	-0.68	3.6	1659.86	7.76	1657.17	7.74	-2.7	-0.16
81	215	134	53	3440	0.93923	653.93	0.56163	805.45	318.61	0	3.55	1665.56	7.75	1662	7.73	-3.56	-0.21
81	216	135	54	3456	0.93750	654.75	0.56250	805.09	329.22	-0.68	3.5	1669.76	7.73	1667.04	7.72	-2.72	-0.16
81	217	136	55	3472	0.93576	655.55	0.56336	804.74	339.96	0	3.45	1675.2	7.72	1671.63	7.7	-3.58	-0.21
81	218	137	56	3488	0.93401	656.33	0.56422	804.4	350.82	-0.68	3.4	1679.17	7.7	1676.43	7.69	-2.74	-0.16
81	219	138	57	3504	0.93226	657.1	0.56507	804.07	361.81	0	3.35	1684.36	7.69	1680.77	7.67	-3.59	-0.21
81	220	139	58	3520	0.93050	657.86	0.56591	803.76	372.92	-0.67	3.3	1688.09	7.67	1685.34	7.66	-2.75	-0.16
81	221	140	59	3536	0.92873	658.59	0.56674	803.46	384.16	0	3.26	1693.05	7.66	1689.45	7.64	-3.6	-0.21
81	222	141	60	3552	0.92695	659.32	0.56757	803.17	395.51	-0.67	3.21	1696.55	7.64	1693.78	7.63	-2.76	-0.16
81	223	142	61	3568	0.92517	660.03	0.56839	802.89	406.98	0	3.17	1701.27	7.63	1697.67	7.61	-3.61	-0.21
81	224	143	62	3584	0.92339	660.72	0.56920	802.63	418.56	-0.67	3.13	1704.55	7.61	1701.78	7.6	-2.77	-0.16
81	225	144	63	3600	0.92160	661.4	0.57000	802.38	430.26	0	3.09	1709.05	7.6	1705.43	7.58	-3.61	-0.21
81	226	145	64	3616	0.91981	662.07	0.57080	802.14	442.07	-0.67	3.04	1712.1	7.58	1709.33	7.56	-2.78	-0.16
81	227	146	65	3632	0.91801	662.72	0.57159	801.91	453.99	0	3	1716.38	7.56	1712.77	7.55	-3.62	-0.21
81	228	147	66	3648	0.91621	663.36	0.57237	801.69	466.03	-0.66	2.96	1719.23	7.54	1716.44	7.53	-2.78	-0.16
81	229	148	67	3664	0.91440	663.99	0.57314	801.48	478.17	0	2.93	1723.29	7.53	1719.67	7.51	-3.62	-0.21
81	230	149	68	3680	0.91259	664.6	0.57391	801.28	490.41	-0.66	2.89	1725.93	7.5	1723.14	7.49	-2.79	-0.16
81	231	150	69	3696	0.91078	665.2	0.57468	801.09	502.77	0	2.85	1729.79	7.49	1726.16	7.47	-3.63	-0.21
81	232	151	70	3712	0.90896	665.79	0.57543	800.91	515.23	-0.66	2.82	1732.22	7.47	1729.42	7.45	-2.8	-0.16
81	233	152	71	3728	0.90715	666.37	0.57618	800.75	527.79	0	2.78	1735.88	7.45	1732.24	7.43	-3.64	-0.21
81	234	153	72	3744	0.90533	666.94	0.57692	800.59	540.45	-0.65	2.75	1738.12	7.43	1735.3	7.42	-2.82	-0.16
81	235	154	73	3760	0.90350	667.49	0.57766	800.44	553.21	0	2.71	1741.57	7.41	1737.92	7.4	-3.65	-0.21
81	236	155	74	3776	0.90168	668.03	0.57839	800.3	566.07	-0.65	2.68	1743.62	7.39	1740.79	7.38	-2.84	-0.16
81	237	156	75	3792	0.89986	668.56	0.57911	800.17	579.03	0	2.65	1746.88	7.37	1743.21	7.36	-3.67	-0.21
81	238	157	76	3808	0.89803	669.08	0.57983	800.05	592.09	-0.65	2.62	1748.74	7.35	1745.88	7.34	-2.86	-0.16
81	239	158	77	3824	0.89620	669.59	0.58054	799.94	605.24	0	2.58	1751.81	7.33	1748.11	7.31	-3.7	-0.21
81	240	159	78	3840	0.89438	670.08	0.58125	799.84	618.49	-0.65	2.55	1753.5	7.31	1750.61	7.29	-2.89	-0.17

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
81	241	160	79	3856	0.89255	670.57	0.58195	799.75	631.83	0	2.52	1756.38	7.29	1752.65	7.27	-3.73	-0.21
81	242	161	80	3872	0.89072	671.05	0.58265	799.66	645.26	-0.64	2.49	1757.89	7.26	1754.96	7.25	-2.93	-0.17
81	243	162	81	3888	0.88889	671.51	0.58333	799.59	658.78	0	2.47	1760.59	7.25	1756.82	7.23	-3.77	-0.21
81	244	163	82	3904	0.88706	671.97	0.58402	799.52	672.39	-0.64	2.44	1761.92	7.22	1758.95	7.21	-2.97	-0.17
81	245	164	83	3920	0.88523	672.41	0.58469	799.46	686.09	0	2.41	1764.45	7.2	1760.63	7.19	-3.82	-0.22
81	246	165	84	3936	0.88340	672.85	0.58537	799.4	699.88	-0.64	2.38	1765.62	7.18	1762.59	7.17	-3.03	-0.17
81	247	166	85	3952	0.88158	673.27	0.58603	799.36	713.75	0	2.36	1767.97	7.16	1764.1	7.14	-3.87	-0.22
81	248	167	86	3968	0.87975	673.69	0.58669	799.32	727.71	-0.64	2.33	1768.97	7.13	1765.88	7.12	-3.09	-0.17
81	249	168	87	3984	0.87792	674.1	0.58735	799.29	741.75	0	2.31	1771.16	7.11	1767.22	7.1	-3.94	-0.22
81	250	169	88	4000	0.87610	674.5	0.58800	799.27	755.88	-0.63	2.28	1772	7.09	1768.84	7.08	-3.16	-0.18
81	251	170	89	4016	0.87427	674.89	0.58865	799.26	770.08	0	2.26	1774.03	7.07	1770.01	7.05	-4.02	-0.23
81	252	171	90	4032	0.87245	675.27	0.58929	799.25	784.38	-0.63	2.23	1774.71	7.04	1771.46	7.03	-3.25	-0.18
81	253	172	91	4048	0.87063	675.64	0.58992	799.25	798.75	0	2.21	1776.57	7.02	1772.47	7.01	-4.1	-0.23
81	254	173	92	4064	0.86881	676	0.59055	799.26	813.2	-0.63	2.18	1777.1	7	1773.76	6.98	-3.34	-0.19
81	255	174	93	4080	0.86699	676.36	0.59118	799.27	827.72	0	2.16	1778.81	6.98	1774.61	6.96	-4.2	-0.24
81	256	175	94	4096	0.86517	676.7	0.59180	799.29	842.33	-0.62	2.14	1779.19	6.95	1775.75	6.94	-3.44	-0.19
81	257	176	95	4112	0.86336	677.04	0.59241	799.32	857.01	0	2.12	1780.75	6.93	1776.44	6.91	-4.31	-0.24
81	258	177	96	4128	0.86155	677.37	0.59302	799.35	871.77	-0.62	2.1	1780.98	6.9	1777.42	6.89	-3.56	-0.2
81	259	178	97	4144	0.85974	677.69	0.59363	799.39	886.6	0	2.07	1782.39	6.88	1777.96	6.86	-4.43	-0.25
81	260	179	98	4160	0.85793	678.01	0.59423	799.43	901.51	-0.62	2.05	1782.48	6.86	1778.79	6.84	-3.69	-0.21
81	261	180	99	4176	0.85612	678.32	0.59483	799.49	916.49	0	2.03	1783.74	6.83	1779.17	6.82	-4.57	-0.26
81	262	181	100	4192	0.85432	678.62	0.59542	799.54	931.55	-0.62	2.01	1783.69	6.81	1779.86	6.79	-3.84	-0.22
81	263	182	101	4208	0.85252	678.91	0.59601	799.61	946.67	0	1.99	1784.81	6.79	1780.09	6.77	-4.71	-0.26
81	264	183	102	4224	0.85072	679.19	0.59659	799.68	961.87	-0.62	1.97	1784.62	6.76	1780.63	6.74	-3.99	-0.22
81	265	184	103	4240	0.84893	679.47	0.59717	799.75	977.13	0	1.95	1785.6	6.74	1780.73	6.72	-4.88	-0.27
81	266	185	104	4256	0.84714	679.74	0.59774	799.83	992.47	-0.61	1.94	1785.28	6.71	1781.12	6.7	-4.16	-0.23
81	267	186	105	4272	0.84535	680	0.59832	799.92	1007.87	0	1.92	1786.12	6.69	1781.07	6.67	-5.05	-0.28
81	268	187	106	4288	0.84356	680.26	0.59888	800.01	1023.34	-0.61	1.9	1785.68	6.66	1781.33	6.65	-4.35	-0.24
81	269	188	107	4304	0.84178	680.51	0.59944	800.11	1038.88	0	1.88	1786.38	6.64	1781.14	6.62	-5.24	-0.29
81	270	189	108	4320	0.84000	680.75	0.60000	800.21	1054.48	-0.61	1.86	1785.81	6.61	1781.26	6.6	-4.54	-0.26
81	271	190	109	4336	0.83822	680.99	0.60055	800.32	1070.15	0	1.85	1786.38	6.59	1780.94	6.57	-5.44	-0.31
81	272	191	110	4352	0.83645	681.22	0.60110	800.44	1085.88	-0.61	1.83	1785.68	6.57	1780.93	6.55	-4.76	-0.27
81	273	192	111	4368	0.83468	681.45	0.60165	800.55	1101.68	0	1.81	1786.13	6.54	1780.47	6.52	-5.66	-0.32
81	274	193	112	4384	0.83292	681.66	0.60219	800.68	1117.54	-0.6	1.8	1785.31	6.52	1780.32	6.5	-4.99	-0.28
81	275	194	113	4400	0.83115	681.88	0.60273	800.81	1133.47	0	1.78	1785.63	6.49	1779.74	6.47	-5.9	-0.33
81	276	195	114	4416	0.82940	682.08	0.60326	800.94	1149.45	-0.6	1.76	1784.69	6.47	1779.46	6.45	-5.23	-0.29
81	277	196	115	4432	0.82764	682.28	0.60379	801.08	1165.5	0	1.75	1784.89	6.44	1778.75	6.42	-6.15	-0.35
81	278	197	116	4448	0.82589	682.47	0.60432	801.22	1181.6	-0.6	1.73	1783.83	6.42	1778.34	6.4	-5.49	-0.31
81	279	198	117	4464	0.82414	682.66	0.60484	801.37	1197.77	0	1.72	1783.91	6.39	1777.5	6.37	-6.41	-0.36
81	280	199	118	4480	0.82240	682.85	0.60536	801.52	1214	-0.6	1.7	1782.74	6.37	1776.98	6.35	-5.76	-0.32
81	281	200	119	4496	0.82066	683.02	0.60587	801.68	1230.28	0	1.69	1782.7	6.34	1776.01	6.32	-6.69	-0.38
81	282	201	120	4512	0.81892	683.19	0.60638	801.84	1246.63	-0.6	1.67	1781.42	6.32	1775.37	6.3	-6.05	-0.34
81	283	202	121	4528	0.81719	683.36	0.60689	802	1263.03	0	1.66	1781.27	6.29	1774.28	6.27	-6.99	-0.39
81	284	203	122	4544	0.81546	683.52	0.60739	802.17	1279.49	-0.59	1.65	1779.87	6.27	1773.51	6.24	-6.36	-0.36
Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
82	163	81	-1	2608	0.99996	578.86	0.49847	873.97	0.15	0	9.75	1164.76	7.15	1173.44	7.2	8.68	0.74

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
82	164	82	0	2624	1.00000	581.25	0.50000	872.18	0	0.78	10	1181.35	7.2	1189.18	7.25	7.83	0.66
82	165	83	1	2640	0.99996	583.59	0.50152	870.43	0.15	0	9.75	1195.58	7.25	1202.5	7.29	6.92	0.58
82	166	84	2	2656	0.99986	585.88	0.50301	868.72	0.59	0.78	9.51	1211.09	7.3	1217.72	7.34	6.63	0.54
82	167	85	3	2672	0.99968	588.13	0.50449	867.06	1.31	0	9.27	1224.77	7.33	1230.55	7.37	5.78	0.47
82	168	86	4	2688	0.99943	590.33	0.50595	865.45	2.32	0.77	9.05	1239.72	7.38	1245.26	7.41	5.54	0.45
82	169	87	5	2704	0.99913	592.49	0.50740	863.87	3.6	0	8.83	1252.87	7.41	1257.61	7.44	4.74	0.38
82	170	88	6	2720	0.99875	594.6	0.50882	862.34	5.16	0.77	8.62	1267.29	7.45	1271.84	7.48	4.55	0.36
82	171	89	7	2736	0.99832	596.67	0.51023	860.85	6.98	0	8.42	1279.92	7.48	1283.72	7.51	3.8	0.3
82	172	90	8	2752	0.99784	598.71	0.51163	859.39	9.06	0.76	8.23	1293.83	7.52	1297.47	7.54	3.64	0.28
82	173	91	9	2768	0.99729	600.7	0.51301	857.97	11.4	0	8.04	1305.96	7.55	1308.9	7.57	2.94	0.22
82	174	92	10	2784	0.99670	602.65	0.51437	856.59	14	0.76	7.86	1319.37	7.58	1322.19	7.6	2.82	0.21
82	175	93	11	2800	0.99605	604.56	0.51571	855.25	16.84	0	7.68	1331.02	7.61	1333.18	7.62	2.16	0.16
82	176	94	12	2816	0.99535	606.44	0.51705	853.94	19.93	0.75	7.51	1343.95	7.64	1346.03	7.65	2.07	0.15
82	177	95	13	2832	0.99461	608.28	0.51836	852.67	23.26	0	7.35	1355.14	7.66	1356.59	7.66	1.45	0.11
82	178	96	14	2848	0.99381	610.08	0.51966	851.43	26.83	0.75	7.19	1367.61	7.68	1369.01	7.69	1.4	0.1
82	179	97	15	2864	0.99298	611.85	0.52095	850.22	30.62	0	7.03	1378.35	7.7	1379.16	7.7	0.82	0.06
82	180	98	16	2880	0.99210	613.58	0.52222	849.04	34.65	0.75	6.88	1390.36	7.72	1391.15	7.73	0.8	0.06
82	181	99	17	2896	0.99118	615.28	0.52348	847.89	38.9	0	6.74	1400.67	7.74	1400.91	7.74	0.24	0.02
82	182	100	18	2912	0.99022	616.95	0.52473	846.78	43.38	0.74	6.6	1412.24	7.76	1412.5	7.76	0.25	0.02
82	183	101	19	2928	0.98922	618.58	0.52596	845.69	48.07	0	6.47	1422.13	7.77	1421.86	7.77	-0.27	-0.02
82	184	102	20	2944	0.98819	620.18	0.52717	844.63	52.97	0.74	6.33	1433.29	7.79	1433.05	7.79	-0.24	-0.02
82	185	103	21	2960	0.98712	621.75	0.52838	843.6	58.09	0	6.21	1442.77	7.8	1442.04	7.79	-0.72	-0.05
82	186	104	22	2976	0.98601	623.29	0.52957	842.6	63.41	0.73	6.08	1453.51	7.81	1452.85	7.81	-0.67	-0.05
82	187	105	23	2992	0.98487	624.8	0.53075	841.63	68.94	0	5.97	1462.6	7.82	1461.47	7.82	-1.13	-0.08
82	188	106	24	3008	0.98370	626.28	0.53192	840.68	74.66	0.73	5.85	1472.95	7.83	1471.9	7.83	-1.05	-0.07
82	189	107	25	3024	0.98250	627.74	0.53307	839.75	80.59	0	5.74	1481.66	7.84	1480.17	7.83	-1.49	-0.1
82	190	108	26	3040	0.98127	629.16	0.53421	838.86	86.71	0.73	5.63	1491.63	7.85	1490.23	7.84	-1.4	-0.09
82	191	109	27	3056	0.98002	630.56	0.53534	837.98	93.02	0	5.52	1499.96	7.85	1498.15	7.84	-1.81	-0.12
82	192	110	28	3072	0.97873	631.93	0.53646	837.13	99.52	0.72	5.42	1509.56	7.86	1507.87	7.85	-1.69	-0.11
82	193	111	29	3088	0.97742	633.27	0.53757	836.31	106.21	0	5.32	1517.54	7.86	1515.45	7.85	-2.09	-0.14
82	194	112	30	3104	0.97609	634.59	0.53866	835.5	113.07	0.72	5.22	1526.78	7.87	1524.82	7.86	-1.96	-0.13
82	195	113	31	3120	0.97473	635.88	0.53974	834.72	120.12	0	5.13	1534.41	7.87	1532.08	7.86	-2.33	-0.15
82	196	114	32	3136	0.97334	637.15	0.54082	833.96	127.35	0.71	5.04	1543.3	7.87	1541.11	7.86	-2.18	-0.14
82	197	115	33	3152	0.97194	638.39	0.54188	833.22	134.75	0	4.95	1550.59	7.87	1548.05	7.86	-2.54	-0.16
82	198	116	34	3168	0.97051	639.61	0.54293	832.51	142.32	0.71	4.86	1559.14	7.87	1556.76	7.86	-2.38	-0.15
82	199	117	35	3184	0.96907	640.8	0.54397	831.81	150.06	0	4.78	1566.1	7.87	1563.39	7.86	-2.72	-0.17
82	200	118	36	3200	0.96760	641.97	0.54500	831.14	157.97	0.71	4.7	1574.33	7.87	1571.78	7.86	-2.55	-0.16
82	201	119	37	3216	0.96612	643.12	0.54602	830.48	166.04	0	4.62	1580.98	7.87	1578.1	7.85	-2.87	-0.18
82	202	120	38	3232	0.96461	644.25	0.54703	829.84	174.27	0.7	4.54	1588.88	7.87	1586.19	7.85	-2.69	-0.17
82	203	121	39	3248	0.96309	645.36	0.54803	829.22	182.66	0	4.46	1595.22	7.86	1592.22	7.84	-3	-0.19
82	204	122	40	3264	0.96155	646.44	0.54902	828.62	191.21	0.7	4.39	1602.81	7.86	1600	7.84	-2.81	-0.18
82	205	123	41	3280	0.96000	647.5	0.55000	828.04	199.92	0	4.32	1608.85	7.85	1605.75	7.83	-3.11	-0.19
82	206	124	42	3296	0.95843	648.55	0.55097	827.48	208.78	0.7	4.25	1616.14	7.85	1613.24	7.83	-2.91	-0.18
82	207	125	43	3312	0.95685	649.57	0.55193	826.93	217.79	0	4.18	1621.89	7.84	1618.7	7.82	-3.19	-0.2
82	208	126	44	3328	0.95525	650.57	0.55289	826.4	226.94	0.69	4.11	1628.89	7.83	1625.9	7.82	-2.99	-0.18
82	209	127	45	3344	0.95364	651.55	0.55383	825.89	236.24	0	4.05	1634.36	7.82	1631.1	7.8	-3.26	-0.2
82	210	128	46	3360	0.95202	652.52	0.55476	825.39	245.69	0.69	3.99	1641.07	7.81	1638.02	7.8	-3.05	-0.19

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
82	211	129	47	3376	0.95038	653.46	0.55569	824.91	255.28	0	3.92	1646.27	7.8	1642.95	7.79	-3.32	-0.2
82	212	130	48	3392	0.94874	654.39	0.55660	824.44	265.01	0.69	3.86	1652.71	7.8	1649.6	7.78	-3.1	-0.19
82	213	131	49	3408	0.94708	655.3	0.55751	824	274.87	0	3.81	1657.63	7.78	1654.27	7.77	-3.36	-0.2
82	214	132	50	3424	0.94541	656.19	0.55841	823.56	284.88	0.68	3.75	1663.8	7.77	1660.66	7.76	-3.14	-0.19
82	215	133	51	3440	0.94373	657.07	0.55930	823.14	295.01	0	3.69	1668.47	7.76	1665.08	7.74	-3.39	-0.2
82	216	134	52	3456	0.94204	657.92	0.56019	822.73	305.28	0.68	3.64	1674.38	7.75	1671.21	7.74	-3.17	-0.19
82	217	135	53	3472	0.94035	658.76	0.56106	822.34	315.68	0	3.59	1678.79	7.74	1675.38	7.72	-3.41	-0.2
82	218	136	54	3488	0.93864	659.59	0.56193	821.97	326.21	0.68	3.53	1684.44	7.73	1681.26	7.71	-3.18	-0.19
82	219	137	55	3504	0.93693	660.4	0.56279	821.6	336.87	0	3.48	1688.62	7.71	1685.19	7.69	-3.43	-0.2
82	220	138	56	3520	0.93521	661.19	0.56364	821.25	347.65	0.67	3.43	1694.02	7.7	1690.82	7.69	-3.2	-0.19
82	221	139	57	3536	0.93348	661.96	0.56448	820.91	358.55	0	3.38	1697.95	7.68	1694.52	7.67	-3.43	-0.2
82	222	140	58	3552	0.93174	662.72	0.56532	820.59	369.58	0.67	3.34	1703.12	7.67	1699.91	7.66	-3.2	-0.19
82	223	141	59	3568	0.93000	663.47	0.56614	820.28	380.73	0	3.29	1706.82	7.65	1703.38	7.64	-3.44	-0.2
82	224	142	60	3584	0.92825	664.2	0.56696	819.98	391.99	0.67	3.25	1711.74	7.64	1708.54	7.63	-3.21	-0.19
82	225	143	61	3600	0.92650	664.92	0.56778	819.69	403.37	0	3.2	1715.22	7.62	1711.78	7.61	-3.44	-0.2
82	226	144	62	3616	0.92474	665.62	0.56858	819.42	414.87	0.67	3.16	1719.92	7.61	1716.71	7.6	-3.2	-0.19
82	227	145	63	3632	0.92298	666.31	0.56938	819.15	426.49	0	3.12	1723.17	7.59	1719.74	7.58	-3.43	-0.2
82	228	146	64	3648	0.92121	666.98	0.57018	818.9	438.21	0.66	3.08	1727.65	7.58	1724.44	7.56	-3.2	-0.19
82	229	147	65	3664	0.91943	667.64	0.57096	818.66	450.05	0	3.04	1730.69	7.56	1727.26	7.54	-3.43	-0.2
82	230	148	66	3680	0.91766	668.29	0.57174	818.43	461.99	0.66	3	1734.94	7.54	1731.74	7.53	-3.2	-0.18
82	231	149	67	3696	0.91588	668.93	0.57251	818.21	474.04	0	2.96	1737.78	7.52	1734.35	7.51	-3.43	-0.2
82	232	150	68	3712	0.91409	669.55	0.57328	818	486.21	0.66	2.92	1741.82	7.51	1738.62	7.49	-3.2	-0.18
82	233	151	69	3728	0.91230	670.16	0.57403	817.8	498.47	0	2.88	1744.45	7.49	1741.02	7.47	-3.43	-0.2
82	234	152	70	3744	0.91051	670.76	0.57479	817.62	510.84	0.65	2.85	1748.29	7.47	1745.08	7.46	-3.2	-0.18
82	235	153	71	3760	0.90872	671.34	0.57553	817.44	523.31	0	2.81	1750.72	7.45	1747.29	7.44	-3.43	-0.2
82	236	154	72	3776	0.90692	671.91	0.57627	817.27	535.89	0.65	2.78	1754.35	7.43	1751.15	7.42	-3.21	-0.18
82	237	155	73	3792	0.90513	672.48	0.57700	817.11	548.56	0	2.74	1756.59	7.41	1753.16	7.4	-3.43	-0.2
82	238	156	74	3808	0.90333	673.02	0.57773	816.97	561.34	0.65	2.71	1760.03	7.4	1756.82	7.38	-3.21	-0.18
82	239	157	75	3824	0.90153	673.56	0.57845	816.83	574.21	0	2.68	1762.08	7.37	1758.64	7.36	-3.44	-0.2
82	240	158	76	3840	0.89972	674.09	0.57917	816.7	587.18	0.65	2.64	1765.33	7.36	1762.1	7.34	-3.23	-0.18
82	241	159	77	3856	0.89792	674.61	0.57988	816.58	600.24	0	2.61	1767.19	7.33	1763.73	7.32	-3.46	-0.2
82	242	160	78	3872	0.89611	675.11	0.58058	816.47	613.4	0.64	2.58	1770.25	7.32	1767.01	7.3	-3.25	-0.18
82	243	161	79	3888	0.89431	675.61	0.58128	816.36	626.65	0	2.55	1771.94	7.29	1768.46	7.28	-3.48	-0.2
82	244	162	80	3904	0.89250	676.09	0.58197	816.27	639.99	0.64	2.52	1774.82	7.27	1771.54	7.26	-3.27	-0.18
82	245	163	81	3920	0.89070	676.56	0.58265	816.18	653.42	0	2.49	1776.33	7.25	1772.82	7.24	-3.51	-0.2
82	246	164	82	3936	0.88889	677.03	0.58333	816.11	666.94	0.64	2.47	1779.03	7.23	1775.72	7.22	-3.31	-0.19
82	247	165	83	3952	0.88708	677.48	0.58401	816.04	680.56	0	2.44	1780.36	7.21	1776.82	7.19	-3.54	-0.2
82	248	166	84	3968	0.88528	677.92	0.58468	815.98	694.25	0.64	2.41	1782.89	7.19	1779.54	7.18	-3.35	-0.19
82	249	167	85	3984	0.88347	678.36	0.58534	815.92	708.04	0	2.38	1784.06	7.16	1780.47	7.15	-3.59	-0.2
82	250	168	86	4000	0.88166	678.78	0.58600	815.88	721.91	0.63	2.36	1786.42	7.15	1783.02	7.13	-3.4	-0.19
82	251	169	87	4016	0.87986	679.2	0.58665	815.84	735.86	0	2.33	1787.43	7.12	1783.79	7.11	-3.64	-0.2
82	252	170	88	4032	0.87806	679.61	0.58730	815.81	749.9	0.63	2.31	1789.62	7.1	1786.16	7.09	-3.46	-0.19
82	253	171	89	4048	0.87625	680	0.58795	815.79	764.02	0	2.28	1790.47	7.08	1786.76	7.06	-3.71	-0.21
82	254	172	90	4064	0.87445	680.39	0.58858	815.77	778.22	0.63	2.26	1792.5	7.06	1788.97	7.04	-3.53	-0.2
82	255	173	91	4080	0.87265	680.77	0.58922	815.76	792.51	0	2.23	1793.19	7.03	1789.41	7.02	-3.78	-0.21
82	256	174	92	4096	0.87085	681.14	0.58984	815.76	806.87	0.62	2.21	1795.06	7.01	1791.46	7	-3.61	-0.2
82	257	175	93	4112	0.86905	681.51	0.59047	815.77	821.31	0	2.19	1795.61	6.99	1791.74	6.97	-3.87	-0.22

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
82	258	176	94	4128	0.86726	681.86	0.59109	815.78	835.83	0.62	2.16	1797.32	6.97	1793.62	6.95	-3.7	-0.21
82	259	177	95	4144	0.86546	682.21	0.59170	815.8	850.42	0	2.14	1797.72	6.94	1793.75	6.93	-3.96	-0.22
82	260	178	96	4160	0.86367	682.54	0.59231	815.83	865.09	0.62	2.12	1799.28	6.92	1795.48	6.91	-3.8	-0.21
82	261	179	97	4176	0.86188	682.88	0.59291	815.86	879.84	0	2.1	1799.53	6.89	1795.46	6.88	-4.07	-0.23
82	262	180	98	4192	0.86009	683.2	0.59351	815.9	894.66	0.62	2.08	1800.95	6.87	1797.03	6.86	-3.92	-0.22
82	263	181	99	4208	0.85830	683.51	0.59411	815.94	909.55	0	2.06	1801.06	6.85	1796.86	6.83	-4.19	-0.23
82	264	182	100	4224	0.85652	683.82	0.59470	815.99	924.52	0.62	2.04	1802.33	6.83	1798.28	6.81	-4.05	-0.23
82	265	183	101	4240	0.85474	684.12	0.59528	816.05	939.55	0	2.02	1802.3	6.8	1797.97	6.78	-4.33	-0.24
82	266	184	102	4256	0.85296	684.41	0.59587	816.11	954.66	0.61	2	1803.43	6.78	1799.24	6.76	-4.19	-0.23
82	267	185	103	4272	0.85118	684.7	0.59644	816.18	969.84	0	1.98	1803.26	6.75	1798.79	6.74	-4.47	-0.25
82	268	186	104	4288	0.84941	684.98	0.59702	816.26	985.09	0.61	1.96	1804.25	6.73	1799.91	6.72	-4.34	-0.24
82	269	187	105	4304	0.84764	685.25	0.59758	816.34	1000.4	0	1.94	1803.96	6.71	1799.32	6.69	-4.63	-0.26
82	270	188	106	4320	0.84587	685.51	0.59815	816.42	1015.79	0.61	1.92	1804.81	6.68	1800.3	6.67	-4.51	-0.25
82	271	189	107	4336	0.84411	685.77	0.59871	816.51	1031.24	0	1.9	1804.38	6.66	1799.57	6.64	-4.81	-0.27
82	272	190	108	4352	0.84234	686.02	0.59927	816.61	1046.76	0.61	1.89	1805.11	6.64	1800.42	6.62	-4.69	-0.26
82	273	191	109	4368	0.84059	686.27	0.59982	816.71	1062.34	0	1.87	1804.55	6.61	1799.56	6.59	-5	-0.28
82	274	192	110	4384	0.83883	686.5	0.60037	816.82	1077.99	0.6	1.85	1805.15	6.59	1800.26	6.57	-4.89	-0.27
82	275	193	111	4400	0.83708	686.74	0.60091	816.93	1093.7	0	1.84	1804.47	6.56	1799.27	6.54	-5.2	-0.29
82	276	194	112	4416	0.83533	686.96	0.60145	817.05	1109.47	0.6	1.82	1804.94	6.54	1799.84	6.52	-5.1	-0.28
82	277	195	113	4432	0.83358	687.18	0.60199	817.17	1125.31	0	1.8	1804.14	6.51	1798.72	6.49	-5.42	-0.3
82	278	196	114	4448	0.83184	687.39	0.60252	817.3	1141.21	0.6	1.79	1804.48	6.49	1799.16	6.47	-5.33	-0.3
82	279	197	115	4464	0.83010	687.6	0.60305	817.43	1157.17	0	1.77	1803.56	6.46	1797.91	6.44	-5.65	-0.31
82	280	198	116	4480	0.82837	687.8	0.60357	817.57	1173.2	0.6	1.76	1803.79	6.44	1798.22	6.42	-5.57	-0.31
82	281	199	117	4496	0.82664	688	0.60409	817.71	1189.28	0	1.74	1802.75	6.42	1796.85	6.39	-5.9	-0.33
82	282	200	118	4512	0.82491	688.19	0.60461	817.86	1205.42	0.6	1.72	1802.85	6.39	1797.03	6.37	-5.83	-0.32
82	283	201	119	4528	0.82318	688.37	0.60512	818.01	1221.62	0	1.71	1801.71	6.37	1795.54	6.34	-6.17	-0.34
82	284	202	120	4544	0.82146	688.55	0.60563	818.17	1237.88	0.59	1.7	1801.69	6.34	1795.59	6.32	-6.1	-0.34
82	285	203	121	4560	0.81975	688.72	0.60614	818.33	1254.2	0	1.68	1800.44	6.32	1793.99	6.29	-6.45	-0.36
82	286	204	122	4576	0.81804	688.89	0.60664	818.49	1270.57	0.59	1.67	1800.31	6.29	1793.92	6.27	-6.39	-0.36
82	287	205	123	4592	0.81633	689.05	0.60714	818.66	1287	0	1.65	1798.94	6.27	1792.2	6.24	-6.74	-0.38
Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
83	165	82	-1	2640	0.99996	583.59	0.49849	891.79	0.15	0	9.75	1174.22	7.12	1182.94	7.17	8.72	0.74
83	166	83	0	2656	1.00000	585.97	0.50000	889.98	0	-0.78	10	1189.28	7.16	1197.73	7.22	8.45	0.71
83	167	84	1	2672	0.99996	588.3	0.50150	888.21	0.15	0	9.75	1205.1	7.22	1212.05	7.26	6.95	0.57
83	168	85	2	2688	0.99986	590.58	0.50298	886.49	0.58	-0.77	9.51	1219.09	7.26	1226.33	7.3	7.24	0.59
83	169	86	3	2704	0.99969	592.82	0.50444	884.82	1.3	0	9.28	1234.35	7.3	1240.15	7.34	5.8	0.47
83	170	87	4	2720	0.99945	595.01	0.50588	883.19	2.29	-0.77	9.06	1247.8	7.34	1253.94	7.38	6.14	0.49
83	171	88	5	2736	0.99915	597.16	0.50731	881.6	3.56	0	8.84	1262.52	7.38	1267.27	7.41	4.75	0.37
83	172	89	6	2752	0.99878	599.27	0.50872	880.05	5.1	-0.76	8.64	1275.45	7.42	1280.59	7.45	5.14	0.4
83	173	90	7	2768	0.99836	601.34	0.51012	878.54	6.9	0	8.44	1289.66	7.45	1293.45	7.48	3.79	0.29
83	174	91	8	2784	0.99789	603.37	0.51149	877.07	8.96	-0.76	8.24	1302.09	7.48	1306.31	7.51	4.22	0.32
83	175	92	9	2800	0.99736	605.36	0.51286	875.64	11.28	0	8.06	1315.79	7.52	1318.71	7.54	2.92	0.22
83	176	93	10	2816	0.99677	607.3	0.51421	874.24	13.84	-0.75	7.88	1327.73	7.54	1331.13	7.56	3.39	0.25
83	177	94	11	2832	0.99614	609.21	0.51554	872.88	16.65	0	7.7	1340.95	7.58	1343.08	7.59	2.13	0.16
83	178	95	12	2848	0.99546	611.09	0.51685	871.56	19.71	-0.75	7.53	1352.43	7.6	1355.07	7.61	2.64	0.19
83	179	96	13	2864	0.99473	612.92	0.51816	870.27	23	0	7.37	1365.18	7.63	1366.59	7.63	1.41	0.1

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
83	180	97	14	2880	0.99395	614.73	0.51944	869.01	26.53	-0.75	7.21	1376.2	7.65	1378.15	7.66	1.95	0.14
83	181	98	15	2896	0.99313	616.49	0.52072	867.79	30.29	0	7.06	1388.49	7.67	1389.26	7.68	0.76	0.06
83	182	99	16	2912	0.99227	618.22	0.52198	866.6	34.27	-0.74	6.91	1399.08	7.69	1400.42	7.69	1.34	0.1
83	183	100	17	2928	0.99137	619.92	0.52322	865.43	38.48	0	6.77	1410.93	7.71	1411.11	7.71	0.18	0.01
83	184	101	18	2944	0.99043	621.59	0.52446	864.3	42.91	-0.74	6.63	1421.09	7.72	1421.88	7.73	0.78	0.06
83	185	102	19	2960	0.98945	623.22	0.52568	863.2	47.55	0	6.5	1432.52	7.74	1432.18	7.74	-0.34	-0.02
83	186	103	20	2976	0.98844	624.83	0.52688	862.13	52.4	-0.73	6.37	1442.27	7.75	1442.56	7.76	0.29	0.02
83	187	104	21	2992	0.98739	626.4	0.52808	861.08	57.47	0	6.24	1453.29	7.77	1452.48	7.77	-0.81	-0.06
83	188	105	22	3008	0.98631	627.94	0.52926	860.06	62.74	-0.73	6.12	1462.64	7.78	1462.49	7.78	-0.16	-0.01
83	189	106	23	3024	0.98519	629.45	0.53042	859.07	68.21	0	6	1473.26	7.8	1472.03	7.79	-1.23	-0.08
83	190	107	24	3040	0.98404	630.94	0.53158	858.11	73.88	-0.73	5.88	1482.23	7.8	1481.68	7.8	-0.55	-0.04
83	191	108	25	3056	0.98287	632.39	0.53272	857.17	79.75	0	5.77	1492.46	7.81	1490.86	7.81	-1.6	-0.11
83	192	109	26	3072	0.98166	633.82	0.53385	856.26	85.81	-0.72	5.66	1501.05	7.82	1500.15	7.81	-0.9	-0.06
83	193	110	27	3088	0.98043	635.22	0.53497	855.37	92.06	0	5.56	1510.91	7.83	1508.98	7.82	-1.92	-0.13
83	194	111	28	3104	0.97917	636.59	0.53608	854.51	98.5	-0.72	5.45	1519.14	7.83	1517.93	7.82	-1.21	-0.08
83	195	112	29	3120	0.97788	637.94	0.53718	853.66	105.12	0	5.35	1528.63	7.84	1526.42	7.83	-2.21	-0.14
83	196	113	30	3136	0.97657	639.26	0.53827	852.85	111.93	-0.71	5.26	1536.51	7.84	1535.03	7.83	-1.48	-0.1
83	197	114	31	3152	0.97524	640.55	0.53934	852.05	118.91	0	5.16	1545.65	7.85	1543.19	7.83	-2.46	-0.16
83	198	115	32	3168	0.97388	641.83	0.54040	851.28	126.07	-0.71	5.07	1553.19	7.84	1551.48	7.84	-1.72	-0.11
83	199	116	33	3184	0.97250	643.07	0.54146	850.53	133.4	0	4.98	1561.99	7.85	1559.31	7.84	-2.68	-0.17
83	200	117	34	3200	0.97110	644.3	0.54250	849.79	140.9	-0.71	4.9	1569.2	7.85	1567.28	7.84	-1.92	-0.12
83	201	118	35	3216	0.96968	645.5	0.54353	849.08	148.57	0	4.81	1577.66	7.85	1574.79	7.83	-2.87	-0.18
83	202	119	36	3232	0.96824	646.67	0.54455	848.39	156.41	-0.7	4.73	1584.55	7.84	1582.46	7.83	-2.09	-0.13
83	203	120	37	3248	0.96678	647.83	0.54557	847.72	164.41	0	4.65	1592.69	7.85	1589.66	7.83	-3.03	-0.19
83	204	121	38	3264	0.96530	648.96	0.54657	847.07	172.57	-0.7	4.57	1599.27	7.84	1597.02	7.83	-2.24	-0.14
83	205	122	39	3280	0.96381	650.07	0.54756	846.44	180.89	0	4.5	1607.09	7.84	1603.93	7.82	-3.16	-0.2
83	206	123	40	3296	0.96230	651.16	0.54854	845.83	189.37	-0.7	4.42	1613.37	7.83	1611	7.82	-2.37	-0.15
83	207	124	41	3312	0.96077	652.23	0.54952	845.23	198	0	4.35	1620.89	7.83	1617.62	7.81	-3.28	-0.2
83	208	125	42	3328	0.95923	653.28	0.55048	844.65	206.78	-0.69	4.28	1626.88	7.82	1624.4	7.81	-2.47	-0.15
83	209	126	43	3344	0.95767	654.31	0.55144	844.09	215.71	0	4.21	1634.1	7.82	1630.73	7.8	-3.37	-0.21
83	210	127	44	3360	0.95610	655.32	0.55238	843.55	224.79	-0.69	4.15	1639.8	7.81	1637.24	7.8	-2.56	-0.16
83	211	128	45	3376	0.95452	656.31	0.55332	843.02	234.02	0	4.08	1646.74	7.8	1643.29	7.79	-3.45	-0.21
83	212	129	46	3392	0.95292	657.28	0.55425	842.51	243.38	-0.69	4.02	1652.16	7.79	1649.53	7.78	-2.63	-0.16
83	213	130	47	3408	0.95131	658.23	0.55516	842.02	252.89	0	3.96	1658.81	7.79	1655.31	7.77	-3.51	-0.21
83	214	131	48	3424	0.94969	659.16	0.55608	841.54	262.54	-0.68	3.9	1663.97	7.78	1661.28	7.76	-2.69	-0.16
83	215	132	49	3440	0.94806	660.08	0.55698	841.08	272.33	0	3.84	1670.35	7.77	1666.8	7.75	-3.55	-0.21
83	216	133	50	3456	0.94642	660.98	0.55787	840.63	282.25	-0.68	3.78	1675.24	7.76	1672.51	7.74	-2.73	-0.16
83	217	134	51	3472	0.94476	661.86	0.55876	840.2	292.31	0	3.73	1681.36	7.75	1677.77	7.73	-3.59	-0.21
83	218	135	52	3488	0.94310	662.72	0.55963	839.78	302.5	-0.68	3.67	1685.99	7.73	1683.23	7.72	-2.76	-0.16
83	219	136	53	3504	0.94143	663.57	0.56050	839.38	312.81	0	3.62	1691.86	7.73	1688.24	7.71	-3.61	-0.21
83	220	137	54	3520	0.93975	664.4	0.56136	838.99	323.26	-0.67	3.57	1696.24	7.71	1693.46	7.7	-2.78	-0.16
83	221	138	55	3536	0.93806	665.22	0.56222	838.61	333.83	0	3.52	1701.85	7.7	1698.23	7.68	-3.63	-0.21
83	222	139	56	3552	0.93637	666.01	0.56306	838.25	344.53	-0.67	3.47	1706	7.68	1703.2	7.67	-2.8	-0.16
83	223	140	57	3568	0.93467	666.8	0.56390	837.9	355.35	0	3.42	1711.37	7.67	1707.73	7.66	-3.64	-0.21
83	224	141	58	3584	0.93296	667.57	0.56473	837.57	366.29	-0.67	3.37	1715.27	7.66	1712.47	7.64	-2.81	-0.16
83	225	142	59	3600	0.93124	668.32	0.56556	837.24	377.36	0	3.32	1720.4	7.65	1716.76	7.63	-3.64	-0.21
83	226	143	60	3616	0.92952	669.06	0.56637	836.93	388.54	-0.67	3.28	1724.08	7.63	1721.27	7.62	-2.81	-0.16

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
83	227	144	61	3632	0.92779	669.78	0.56718	836.63	399.84	0	3.23	1728.98	7.62	1725.34	7.6	-3.64	-0.21
83	228	145	62	3648	0.92605	670.49	0.56798	836.35	411.25	-0.66	3.19	1732.44	7.6	1729.63	7.59	-2.81	-0.16
83	229	146	63	3664	0.92432	671.19	0.56878	836.07	422.78	0	3.15	1737.11	7.59	1733.47	7.57	-3.64	-0.21
83	230	147	64	3680	0.92257	671.87	0.56957	835.81	434.42	-0.66	3.11	1740.35	7.57	1737.54	7.55	-2.81	-0.16
83	231	148	65	3696	0.92082	672.54	0.57035	835.56	446.17	0	3.07	1744.8	7.55	1741.16	7.54	-3.64	-0.21
83	232	149	66	3712	0.91907	673.2	0.57112	835.32	458.03	-0.66	3.03	1747.83	7.53	1745.02	7.52	-2.81	-0.16
83	233	150	67	3728	0.91731	673.84	0.57189	835.09	469.99	0	2.99	1752.07	7.52	1748.43	7.5	-3.64	-0.21
83	234	151	68	3744	0.91555	674.47	0.57265	834.87	482.07	-0.65	2.95	1754.89	7.5	1752.08	7.49	-2.81	-0.16
83	235	152	69	3760	0.91379	675.09	0.57340	834.66	494.25	0	2.91	1758.92	7.48	1755.28	7.47	-3.64	-0.21
83	236	153	70	3776	0.91202	675.69	0.57415	834.46	506.53	-0.65	2.88	1761.54	7.46	1758.73	7.45	-2.81	-0.16
83	237	154	71	3792	0.91025	676.28	0.57490	834.27	518.92	0	2.84	1765.36	7.45	1761.73	7.43	-3.64	-0.21
83	238	155	72	3808	0.90848	676.87	0.57563	834.1	531.4	-0.65	2.81	1767.79	7.43	1764.98	7.42	-2.82	-0.16
83	239	156	73	3824	0.90671	677.43	0.57636	833.93	543.99	0	2.77	1771.42	7.41	1767.78	7.4	-3.64	-0.21
83	240	157	74	3840	0.90493	677.99	0.57708	833.77	556.68	-0.65	2.74	1773.65	7.39	1770.83	7.38	-2.82	-0.16
83	241	158	75	3856	0.90315	678.54	0.57780	833.62	569.46	0	2.71	1777.08	7.37	1773.43	7.36	-3.65	-0.21
83	242	159	76	3872	0.90137	679.07	0.57851	833.48	582.34	-0.64	2.67	1779.13	7.35	1776.29	7.34	-2.83	-0.16
83	243	160	77	3888	0.89959	679.6	0.57922	833.36	595.32	0	2.64	1782.37	7.33	1778.71	7.32	-3.66	-0.21
83	244	161	78	3904	0.89781	680.11	0.57992	833.23	608.39	-0.64	2.61	1784.24	7.31	1781.38	7.3	-2.85	-0.16
83	245	162	79	3920	0.89603	680.61	0.58061	833.12	621.55	0	2.58	1787.29	7.3	1783.61	7.28	-3.68	-0.21
83	246	163	80	3936	0.89424	681.1	0.58130	833.02	634.81	-0.64	2.55	1788.98	7.27	1786.11	7.26	-2.88	-0.16
83	247	164	81	3952	0.89246	681.59	0.58198	832.92	648.15	0	2.52	1791.86	7.25	1788.15	7.24	-3.7	-0.21
83	248	165	82	3968	0.89067	682.06	0.58266	832.84	661.59	-0.64	2.49	1793.37	7.23	1790.47	7.22	-2.91	-0.16
83	249	166	83	3984	0.88889	682.52	0.58333	832.76	675.11	0	2.47	1796.07	7.21	1792.34	7.2	-3.74	-0.21
83	250	167	84	4000	0.88710	682.97	0.58400	832.69	688.72	-0.63	2.44	1797.42	7.19	1794.48	7.18	-2.95	-0.16
83	251	168	85	4016	0.88532	683.41	0.58466	832.63	702.42	0	2.41	1799.95	7.17	1796.17	7.16	-3.78	-0.21
83	252	169	86	4032	0.88354	683.85	0.58532	832.58	716.2	-0.63	2.39	1801.13	7.15	1798.14	7.14	-2.99	-0.17
83	253	170	87	4048	0.88175	684.27	0.58597	832.53	730.07	0	2.36	1803.49	7.13	1799.66	7.11	-3.83	-0.21
83	254	171	88	4064	0.87997	684.69	0.58661	832.49	744.02	-0.63	2.33	1804.51	7.1	1801.46	7.09	-3.05	-0.17
83	255	172	89	4080	0.87819	685.09	0.58726	832.46	758.05	0	2.31	1806.7	7.09	1802.82	7.07	-3.89	-0.22
83	256	173	90	4096	0.87640	685.49	0.58789	832.44	772.17	-0.62	2.28	1807.57	7.06	1804.45	7.05	-3.11	-0.17
83	257	174	91	4112	0.87462	685.87	0.58852	832.42	786.36	0	2.26	1809.6	7.04	1805.65	7.03	-3.95	-0.22
83	258	175	92	4128	0.87284	686.25	0.58915	832.41	800.64	-0.62	2.24	1810.31	7.02	1807.12	7	-3.19	-0.18
83	259	176	93	4144	0.87107	686.62	0.58977	832.41	814.99	0	2.21	1812.19	7	1808.16	6.98	-4.03	-0.22
83	260	177	94	4160	0.86929	686.99	0.59039	832.41	829.42	-0.62	2.19	1812.75	6.97	1809.47	6.96	-3.28	-0.18
83	261	178	95	4176	0.86752	687.34	0.59100	832.43	843.93	0	2.17	1814.47	6.95	1810.35	6.94	-4.12	-0.23
83	262	179	96	4192	0.86574	687.69	0.59160	832.44	858.51	-0.62	2.15	1814.88	6.93	1811.51	6.91	-3.37	-0.19
83	263	180	97	4208	0.86397	688.03	0.59221	832.47	873.17	0	2.12	1816.46	6.91	1812.23	6.89	-4.22	-0.23
83	264	181	98	4224	0.86220	688.36	0.59280	832.5	887.9	-0.62	2.1	1816.73	6.88	1813.24	6.87	-3.48	-0.19
83	265	182	99	4240	0.86043	688.68	0.59340	832.54	902.71	0	2.08	1818.15	6.86	1813.82	6.84	-4.34	-0.24
83	266	183	100	4256	0.85867	688.99	0.59399	832.58	917.59	-0.61	2.06	1818.28	6.84	1814.68	6.82	-3.6	-0.2
83	267	184	101	4272	0.85691	689.3	0.59457	832.63	932.54	0	2.04	1819.57	6.81	1815.1	6.8	-4.46	-0.25
83	268	185	102	4288	0.85515	689.6	0.59515	832.69	947.56	-0.61	2.02	1819.56	6.79	1815.82	6.78	-3.74	-0.21
83	269	186	103	4304	0.85339	689.9	0.59573	832.75	962.66	0	2	1820.7	6.77	1816.1	6.75	-4.6	-0.25
83	270	187	104	4320	0.85163	690.18	0.59630	832.82	977.82	-0.61	1.98	1820.56	6.74	1816.67	6.73	-3.89	-0.21
83	271	188	105	4336	0.84988	690.46	0.59686	832.89	993.05	0	1.96	1821.57	6.72	1816.81	6.7	-4.76	-0.26
83	272	189	106	4352	0.84813	690.73	0.59743	832.97	1008.35	-0.61	1.95	1821.29	6.7	1817.24	6.68	-4.05	-0.22
83	273	190	107	4368	0.84638	691	0.59799	833.06	1023.71	0	1.93	1822.16	6.67	1817.24	6.66	-4.92	-0.27

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
83	274	191	108	4384	0.84464	691.26	0.59854	833.15	1039.14	-0.6	1.91	1821.76	6.65	1817.54	6.63	-4.22	-0.23
83	275	192	109	4400	0.84290	691.51	0.59909	833.24	1054.64	0	1.89	1822.5	6.63	1817.4	6.61	-5.1	-0.28
83	276	193	110	4416	0.84116	691.75	0.59964	833.34	1070.2	-0.6	1.88	1821.97	6.6	1817.56	6.59	-4.41	-0.24
83	277	194	111	4432	0.83942	691.99	0.60018	833.45	1085.83	0	1.86	1822.58	6.58	1817.29	6.56	-5.29	-0.29
83	278	195	112	4448	0.83769	692.23	0.60072	833.56	1101.52	-0.6	1.84	1821.93	6.55	1817.32	6.54	-4.61	-0.25
83	279	196	113	4464	0.83596	692.45	0.60125	833.68	1117.27	0	1.82	1822.42	6.53	1816.92	6.51	-5.5	-0.3
83	280	197	114	4480	0.83424	692.67	0.60179	833.8	1133.09	-0.6	1.81	1821.65	6.51	1816.82	6.49	-4.83	-0.27
83	281	198	115	4496	0.83251	692.89	0.60231	833.93	1148.97	0	1.79	1822.01	6.48	1816.28	6.46	-5.73	-0.32
83	282	199	116	4512	0.83079	693.1	0.60284	834.06	1164.9	-0.6	1.78	1821.12	6.46	1816.06	6.44	-5.06	-0.28
83	283	200	117	4528	0.82908	693.3	0.60336	834.2	1180.9	0	1.76	1821.36	6.44	1815.4	6.41	-5.96	-0.33
83	284	201	118	4544	0.82737	693.5	0.60387	834.34	1196.96	-0.59	1.75	1820.36	6.41	1815.05	6.39	-5.31	-0.29
83	285	202	119	4560	0.82566	693.69	0.60439	834.48	1213.08	0	1.73	1820.48	6.39	1814.26	6.37	-6.22	-0.34
83	286	203	120	4576	0.82395	693.87	0.60490	834.63	1229.25	-0.59	1.72	1819.36	6.36	1813.79	6.34	-5.57	-0.31
83	287	204	121	4592	0.82225	694.06	0.60540	834.79	1245.49	0	1.7	1819.37	6.34	1812.88	6.32	-6.49	-0.36
83	288	205	122	4608	0.82055	694.23	0.60590	834.95	1261.78	-0.59	1.69	1818.14	6.31	1812.29	6.29	-5.85	-0.32
83	289	206	123	4624	0.81886	694.4	0.60640	835.11	1278.12	0	1.67	1818.04	6.29	1811.26	6.27	-6.77	-0.37
83	290	207	124	4640	0.81717	694.56	0.60690	835.28	1294.53	-0.59	1.66	1816.7	6.26	1810.55	6.24	-6.15	-0.34
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
84	167	83	-1	2672	0.99996	588.3	0.49850	909.74	0.15	0	9.75	1183.56	7.09	1192.32	7.14	8.75	0.73
84	168	84	0	2688	1.00000	590.67	0.50000	907.92	0	0.77	10	1200.19	7.14	1208.1	7.19	7.91	0.65
84	169	85	1	2704	0.99997	592.99	0.50148	906.14	0.14	0	9.75	1214.48	7.19	1221.48	7.23	7	0.57
84	170	86	2	2720	0.99986	595.26	0.50294	904.41	0.57	0.77	9.52	1230.04	7.24	1236.75	7.28	6.71	0.54
84	171	87	3	2736	0.99969	597.49	0.50439	902.72	1.28	0	9.29	1243.8	7.27	1249.65	7.31	5.86	0.47
84	172	88	4	2752	0.99946	599.68	0.50581	901.07	2.27	0.76	9.07	1258.81	7.32	1264.43	7.35	5.61	0.44
84	173	89	5	2768	0.99917	601.82	0.50723	899.47	3.52	0	8.86	1272.05	7.35	1276.85	7.38	4.81	0.38
84	174	90	6	2784	0.99881	603.93	0.50862	897.9	5.04	0.76	8.65	1286.54	7.39	1291.15	7.42	4.61	0.36
84	175	91	7	2800	0.99840	605.99	0.51000	896.38	6.82	0	8.45	1299.26	7.42	1303.12	7.45	3.86	0.3
84	176	92	8	2816	0.99793	608.01	0.51136	894.89	8.86	0.75	8.26	1313.25	7.46	1316.95	7.48	3.7	0.28
84	177	93	9	2832	0.99742	609.99	0.51271	893.45	11.15	0	8.08	1325.49	7.49	1328.47	7.51	2.99	0.22
84	178	94	10	2848	0.99684	611.94	0.51405	892.04	13.69	0.75	7.9	1338.98	7.52	1341.85	7.54	2.87	0.21
84	179	95	11	2864	0.99622	613.85	0.51536	890.66	16.47	0	7.73	1350.75	7.55	1352.95	7.56	2.2	0.16
84	180	96	12	2880	0.99556	615.72	0.51667	889.32	19.49	0.75	7.56	1363.77	7.58	1365.89	7.59	2.11	0.15
84	181	97	13	2896	0.99484	617.55	0.51796	888.02	22.75	0	7.4	1375.08	7.6	1376.56	7.61	1.49	0.11
84	182	98	14	2912	0.99408	619.35	0.51923	886.74	26.24	0.74	7.24	1387.64	7.62	1389.08	7.63	1.43	0.1
84	183	99	15	2928	0.99328	621.12	0.52049	885.5	29.96	0	7.09	1398.51	7.64	1399.35	7.65	0.84	0.06
84	184	100	16	2944	0.99244	622.85	0.52174	884.3	33.9	0.74	6.94	1410.63	7.67	1411.45	7.67	0.82	0.06
84	185	101	17	2960	0.99156	624.55	0.52297	883.12	38.07	0	6.8	1421.06	7.68	1421.33	7.68	0.26	0.02
84	186	102	18	2976	0.99064	626.22	0.52419	881.97	42.45	0.73	6.66	1432.76	7.7	1433.02	7.7	0.27	0.02
84	187	103	19	2992	0.98968	627.85	0.52540	880.85	47.04	0	6.53	1442.78	7.72	1442.52	7.71	-0.26	-0.02
84	188	104	20	3008	0.98868	629.45	0.52660	879.77	51.85	0.73	6.4	1454.06	7.73	1453.83	7.73	-0.23	-0.02
84	189	105	21	3024	0.98765	631.03	0.52778	878.71	56.86	0	6.27	1463.67	7.74	1462.95	7.74	-0.72	-0.05
84	190	106	22	3040	0.98659	632.57	0.52895	877.67	62.08	0.73	6.15	1474.55	7.76	1473.88	7.76	-0.67	-0.05
84	191	107	23	3056	0.98550	634.08	0.53011	876.67	67.5	0	6.03	1483.78	7.77	1482.64	7.76	-1.14	-0.08
84	192	108	24	3072	0.98438	635.57	0.53125	875.69	73.12	0.72	5.92	1494.26	7.78	1493.2	7.78	-1.07	-0.07
84	193	109	25	3088	0.98322	637.03	0.53238	874.74	78.93	0	5.8	1503.11	7.79	1501.61	7.78	-1.51	-0.1
84	194	110	26	3104	0.98204	638.46	0.53351	873.81	84.93	0.72	5.7	1513.22	7.8	1511.8	7.79	-1.41	-0.09

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
84	195	111	27	3120	0.98083	639.86	0.53462	872.9	91.12	0	5.59	1521.7	7.8	1519.87	7.79	-1.83	-0.12
84	196	112	28	3136	0.97959	641.24	0.53571	872.02	97.5	0.71	5.49	1531.44	7.81	1529.72	7.8	-1.72	-0.11
84	197	113	29	3152	0.97833	642.59	0.53680	871.17	104.06	0	5.39	1539.57	7.82	1537.46	7.8	-2.12	-0.14
84	198	114	30	3168	0.97704	643.91	0.53788	870.34	110.8	0.71	5.29	1548.95	7.82	1546.97	7.81	-1.99	-0.13
84	199	115	31	3184	0.97573	645.21	0.53895	869.53	117.72	0	5.2	1556.74	7.82	1554.38	7.81	-2.37	-0.15
84	200	116	32	3200	0.97440	646.49	0.54000	868.74	124.81	0.71	5.11	1565.78	7.83	1563.56	7.82	-2.22	-0.14
84	201	117	33	3216	0.97305	647.74	0.54105	867.97	132.08	0	5.02	1573.23	7.83	1570.65	7.81	-2.58	-0.16
84	202	118	34	3232	0.97167	648.96	0.54208	867.23	139.51	0.7	4.93	1581.93	7.83	1579.51	7.82	-2.42	-0.15
84	203	119	35	3248	0.97027	650.17	0.54310	866.5	147.12	0	4.85	1589.06	7.83	1586.29	7.81	-2.76	-0.17
84	204	120	36	3264	0.96886	651.35	0.54412	865.8	154.88	0.7	4.77	1597.43	7.83	1594.84	7.82	-2.6	-0.16
84	205	121	37	3280	0.96742	652.51	0.54512	865.11	162.81	0	4.69	1604.25	7.83	1601.33	7.81	-2.92	-0.18
84	206	122	38	3296	0.96597	653.65	0.54612	864.45	170.9	0.7	4.61	1612.3	7.83	1609.56	7.81	-2.74	-0.17
84	207	123	39	3312	0.96450	654.77	0.54710	863.8	179.15	0	4.53	1618.81	7.82	1615.76	7.81	-3.05	-0.19
84	208	124	40	3328	0.96302	655.86	0.54808	863.17	187.56	0.69	4.46	1626.56	7.82	1623.7	7.81	-2.86	-0.18
84	209	125	41	3344	0.96152	656.94	0.54904	862.57	196.11	0	4.39	1632.77	7.81	1629.61	7.8	-3.16	-0.19
84	210	126	42	3360	0.96000	657.99	0.55000	861.97	204.82	0.69	4.32	1640.22	7.81	1637.26	7.8	-2.96	-0.18
84	211	127	43	3376	0.95847	659.02	0.55095	861.4	213.68	0	4.25	1646.15	7.8	1642.89	7.79	-3.25	-0.2
84	212	128	44	3392	0.95692	660.04	0.55189	860.85	222.68	0.69	4.18	1653.3	7.8	1650.26	7.78	-3.05	-0.18
84	213	129	45	3408	0.95537	661.04	0.55282	860.31	231.83	0	4.12	1658.95	7.79	1655.62	7.77	-3.32	-0.2
84	214	130	46	3424	0.95380	662.01	0.55374	859.78	241.12	0.68	4.05	1665.82	7.78	1662.71	7.77	-3.11	-0.19
84	215	131	47	3440	0.95221	662.97	0.55465	859.28	250.55	0	3.99	1671.19	7.77	1667.81	7.76	-3.38	-0.2
84	216	132	48	3456	0.95062	663.91	0.55556	858.79	260.12	0.68	3.93	1677.79	7.77	1674.63	7.75	-3.16	-0.19
84	217	133	49	3472	0.94901	664.83	0.55645	858.31	269.83	0	3.87	1682.9	7.76	1679.48	7.74	-3.42	-0.2
84	218	134	50	3488	0.94740	665.74	0.55734	857.85	279.67	0.68	3.82	1689.23	7.75	1686.03	7.73	-3.2	-0.19
84	219	135	51	3504	0.94577	666.63	0.55822	857.41	289.65	0	3.76	1694.08	7.74	1690.63	7.72	-3.45	-0.2
84	220	136	52	3520	0.94413	667.5	0.55909	856.98	299.76	0.67	3.71	1700.15	7.73	1696.92	7.71	-3.22	-0.19
84	221	137	53	3536	0.94249	668.35	0.55996	856.56	310	0	3.65	1704.74	7.71	1701.27	7.7	-3.47	-0.2
84	222	138	54	3552	0.94083	669.19	0.56081	856.16	320.36	0.67	3.6	1710.56	7.71	1707.32	7.69	-3.24	-0.19
84	223	139	55	3568	0.93917	670.01	0.56166	855.77	330.85	0	3.55	1714.91	7.69	1711.43	7.67	-3.48	-0.2
84	224	140	56	3584	0.93750	670.82	0.56250	855.4	341.47	0.67	3.5	1720.48	7.68	1717.24	7.67	-3.25	-0.19
84	225	141	57	3600	0.93582	671.61	0.56333	855.03	352.21	0	3.45	1724.6	7.66	1721.11	7.65	-3.49	-0.2
84	226	142	58	3616	0.93414	672.39	0.56416	854.69	363.07	0.67	3.4	1729.93	7.65	1726.68	7.64	-3.25	-0.19
84	227	143	59	3632	0.93245	673.15	0.56498	854.35	374.05	0	3.36	1733.81	7.64	1730.33	7.62	-3.48	-0.2
84	228	144	60	3648	0.93075	673.89	0.56579	854.03	385.15	0.66	3.31	1738.91	7.63	1735.66	7.61	-3.25	-0.19
84	229	145	61	3664	0.92904	674.62	0.56659	853.72	396.36	0	3.27	1742.56	7.61	1739.08	7.59	-3.48	-0.2
84	230	146	62	3680	0.92734	675.34	0.56739	853.42	407.69	0.66	3.22	1747.43	7.6	1744.19	7.58	-3.24	-0.19
84	231	147	63	3696	0.92562	676.05	0.56818	853.14	419.13	0	3.18	1750.87	7.58	1747.4	7.56	-3.47	-0.2
84	232	148	64	3712	0.92390	676.74	0.56897	852.86	430.69	0.66	3.14	1755.51	7.57	1752.28	7.55	-3.23	-0.18
84	233	149	65	3728	0.92218	677.41	0.56974	852.6	442.35	0	3.1	1758.73	7.55	1755.27	7.53	-3.46	-0.2
84	234	150	66	3744	0.92045	678.08	0.57051	852.35	454.13	0.65	3.06	1763.16	7.53	1759.94	7.52	-3.22	-0.18
84	235	151	67	3760	0.91871	678.73	0.57128	852.11	466.01	0	3.02	1766.17	7.52	1762.73	7.5	-3.45	-0.2
84	236	152	68	3776	0.91698	679.36	0.57203	851.88	478	0.65	2.98	1770.39	7.5	1767.17	7.49	-3.22	-0.18
84	237	153	69	3792	0.91524	679.99	0.57279	851.66	490.09	0	2.94	1773.2	7.48	1769.76	7.47	-3.44	-0.19
84	238	154	70	3808	0.91350	680.6	0.57353	851.45	502.29	0.65	2.91	1777.21	7.47	1774	7.45	-3.21	-0.18
84	239	155	71	3824	0.91175	681.2	0.57427	851.26	514.59	0	2.87	1779.82	7.45	1776.39	7.43	-3.43	-0.19
84	240	156	72	3840	0.91000	681.79	0.57500	851.07	527	0.65	2.84	1783.63	7.43	1780.43	7.42	-3.2	-0.18
84	241	157	73	3856	0.90825	682.37	0.57573	850.89	539.5	0	2.8	1786.05	7.41	1782.62	7.4	-3.43	-0.19

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
84	242	158	74	3872	0.90650	682.93	0.57645	850.72	552.1	0.64	2.77	1789.66	7.4	1786.46	7.38	-3.2	-0.18
84	243	159	75	3888	0.90474	683.49	0.57716	850.57	564.8	0	2.74	1791.89	7.37	1788.46	7.36	-3.42	-0.19
84	244	160	76	3904	0.90298	684.03	0.57787	850.42	577.59	0.64	2.7	1795.31	7.36	1792.11	7.34	-3.2	-0.18
84	245	161	77	3920	0.90122	684.56	0.57857	850.28	590.48	0	2.67	1797.35	7.34	1793.93	7.32	-3.43	-0.19
84	246	162	78	3936	0.89947	685.08	0.57927	850.15	603.46	0.64	2.64	1800.58	7.32	1797.38	7.31	-3.21	-0.18
84	247	163	79	3952	0.89770	685.59	0.57996	850.03	616.54	0	2.61	1802.45	7.3	1799.02	7.28	-3.44	-0.19
84	248	164	80	3968	0.89594	686.09	0.58065	849.91	629.71	0.64	2.58	1805.5	7.28	1802.28	7.27	-3.22	-0.18
84	249	165	81	3984	0.89418	686.58	0.58133	849.81	642.97	0	2.55	1807.19	7.26	1803.74	7.24	-3.45	-0.19
84	250	166	82	4000	0.89242	687.06	0.58200	849.72	656.32	0.63	2.52	1810.06	7.24	1806.82	7.23	-3.24	-0.18
84	251	167	83	4016	0.89065	687.53	0.58267	849.63	669.75	0	2.49	1811.58	7.22	1808.11	7.2	-3.47	-0.19
84	252	168	84	4032	0.88889	687.99	0.58333	849.55	683.28	0.63	2.47	1814.28	7.2	1811.01	7.19	-3.27	-0.18
84	253	169	85	4048	0.88713	688.44	0.58399	849.48	696.89	0	2.44	1815.63	7.18	1812.13	7.16	-3.5	-0.19
84	254	170	86	4064	0.88536	688.88	0.58465	849.42	710.59	0.63	2.41	1818.15	7.16	1814.85	7.15	-3.3	-0.18
84	255	171	87	4080	0.88360	689.31	0.58529	849.36	724.37	0	2.39	1819.34	7.13	1815.8	7.12	-3.54	-0.19
84	256	172	88	4096	0.88184	689.74	0.58594	849.32	738.23	0.62	2.36	1821.7	7.12	1818.36	7.1	-3.34	-0.18
84	257	173	89	4112	0.88007	690.15	0.58658	849.28	752.18	0	2.34	1822.73	7.09	1819.15	7.08	-3.59	-0.2
84	258	174	90	4128	0.87831	690.55	0.58721	849.25	766.2	0.62	2.31	1824.93	7.07	1821.53	7.06	-3.4	-0.19
84	259	175	91	4144	0.87655	690.95	0.58784	849.22	780.31	0	2.29	1825.8	7.05	1822.16	7.04	-3.64	-0.2
84	260	176	92	4160	0.87479	691.34	0.58846	849.2	794.5	0.62	2.26	1827.84	7.03	1824.38	7.02	-3.46	-0.19
84	261	177	93	4176	0.87304	691.71	0.58908	849.19	808.77	0	2.24	1828.56	7.01	1824.85	6.99	-3.71	-0.2
84	262	178	94	4192	0.87128	692.08	0.58970	849.19	823.11	0.62	2.22	1830.44	6.99	1826.91	6.97	-3.53	-0.19
84	263	179	95	4208	0.86952	692.45	0.59030	849.2	837.54	0	2.19	1831.02	6.96	1827.23	6.95	-3.79	-0.21
84	264	180	96	4224	0.86777	692.8	0.59091	849.21	852.03	0.62	2.17	1832.75	6.94	1829.13	6.93	-3.61	-0.2
84	265	181	97	4240	0.86602	693.15	0.59151	849.22	866.61	0	2.15	1833.17	6.92	1829.3	6.9	-3.88	-0.21
84	266	182	98	4256	0.86427	693.48	0.59211	849.25	881.25	0.61	2.13	1834.76	6.9	1831.05	6.88	-3.71	-0.2
84	267	183	99	4272	0.86252	693.82	0.59270	849.28	895.97	0	2.11	1835.04	6.87	1831.06	6.86	-3.98	-0.22
84	268	184	100	4288	0.86077	694.14	0.59328	849.32	910.77	0.61	2.09	1836.48	6.85	1832.66	6.84	-3.82	-0.21
84	269	185	101	4304	0.85903	694.45	0.59387	849.36	925.63	0	2.07	1836.62	6.83	1832.53	6.81	-4.09	-0.22
84	270	186	102	4320	0.85728	694.76	0.59444	849.41	940.57	0.61	2.05	1837.92	6.81	1833.98	6.79	-3.94	-0.21
84	271	187	103	4336	0.85554	695.06	0.59502	849.46	955.58	0	2.03	1837.92	6.78	1833.71	6.77	-4.21	-0.23
84	272	188	104	4352	0.85381	695.36	0.59559	849.52	970.65	0.61	2.01	1839.08	6.76	1835.01	6.75	-4.07	-0.22
84	273	189	105	4368	0.85207	695.64	0.59615	849.59	985.8	0	1.99	1838.96	6.74	1834.6	6.72	-4.35	-0.24
84	274	190	106	4384	0.85034	695.92	0.59672	849.66	1001.01	0.6	1.97	1839.98	6.72	1835.76	6.7	-4.21	-0.23
84	275	191	107	4400	0.84861	696.19	0.59727	849.74	1016.29	0	1.95	1839.72	6.69	1835.22	6.67	-4.5	-0.25
84	276	192	108	4416	0.84688	696.46	0.59783	849.83	1031.64	0.6	1.93	1840.61	6.67	1836.24	6.65	-4.37	-0.24
84	277	193	109	4432	0.84516	696.72	0.59838	849.92	1047.05	0	1.92	1840.23	6.64	1835.56	6.63	-4.67	-0.25
84	278	194	110	4448	0.84344	696.97	0.59892	850.01	1062.53	0.6	1.9	1840.98	6.62	1836.44	6.61	-4.54	-0.25
84	279	195	111	4464	0.84172	697.22	0.59946	850.11	1078.07	0	1.88	1840.48	6.6	1835.63	6.58	-4.85	-0.26
84	280	196	112	4480	0.84000	697.46	0.60000	850.22	1093.68	0.6	1.86	1841.1	6.58	1836.37	6.56	-4.73	-0.26
84	281	197	113	4496	0.83829	697.69	0.60053	850.33	1109.35	0	1.85	1840.47	6.55	1835.44	6.53	-5.04	-0.27
84	282	198	114	4512	0.83658	697.92	0.60106	850.44	1125.08	0.6	1.83	1840.98	6.53	1836.05	6.51	-4.93	-0.27
84	283	199	115	4528	0.83487	698.14	0.60159	850.57	1140.87	0	1.81	1840.23	6.5	1834.98	6.48	-5.25	-0.29
84	284	200	116	4544	0.83317	698.36	0.60211	850.69	1156.73	0.59	1.8	1840.61	6.48	1835.46	6.46	-5.15	-0.28
84	285	201	117	4560	0.83147	698.57	0.60263	850.82	1172.64	0	1.78	1839.75	6.46	1834.28	6.44	-5.47	-0.3
84	286	202	118	4576	0.82977	698.78	0.60315	850.96	1188.62	0.59	1.77	1840.01	6.43	1834.63	6.41	-5.38	-0.29
84	287	203	119	4592	0.82808	698.97	0.60366	851.1	1204.65	0	1.75	1839.03	6.41	1833.32	6.39	-5.71	-0.31
84	288	204	120	4608	0.82639	699.17	0.60417	851.24	1220.75	0.59	1.74	1839.17	6.39	1833.55	6.37	-5.62	-0.31

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
84	289	205	121	4624	0.82470	699.36	0.60467	851.39	1236.9	0	1.72	1838.08	6.36	1832.12	6.34	-5.96	-0.33
84	290	206	122	4640	0.82302	699.54	0.60517	851.55	1253.11	0.59	1.71	1838.11	6.34	1832.22	6.32	-5.88	-0.32
84	291	207	123	4656	0.82134	699.71	0.60567	851.71	1269.37	0	1.69	1836.9	6.31	1830.68	6.29	-6.23	-0.34
84	292	208	124	4672	0.81967	699.89	0.60616	851.87	1285.69	0.59	1.68	1836.82	6.29	1830.66	6.27	-6.16	-0.34
84	293	209	125	4688	0.81799	700.05	0.60666	852.04	1302.07	0	1.67	1835.51	6.26	1829	6.24	-6.51	-0.36
84	294	210	126	4704	0.81633	700.21	0.60714	852.21	1318.5	0.58	1.65	1835.31	6.24	1828.86	6.22	-6.45	-0.35
Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
85	169	84	-1	2704	0.99997	592.99	0.49852	927.84	0.14	0	9.75	1192.78	7.06	1201.57	7.11	8.79	0.73
85	170	85	0	2720	1.00000	595.34	0.50000	926	0	-0.77	10	1207.88	7.11	1216.4	7.16	8.52	0.7
85	171	86	1	2736	0.99997	597.66	0.50146	924.21	0.14	0	9.76	1223.75	7.16	1230.77	7.2	7.03	0.57
85	172	87	2	2752	0.99987	599.92	0.50291	922.46	0.57	-0.76	9.52	1237.81	7.2	1245.11	7.24	7.31	0.59
85	173	88	3	2768	0.99970	602.15	0.50434	920.76	1.27	0	9.3	1253.12	7.24	1259	7.28	5.87	0.47
85	174	89	4	2784	0.99947	604.33	0.50575	919.1	2.24	-0.76	9.08	1266.66	7.28	1272.86	7.32	6.2	0.49
85	175	90	5	2800	0.99918	606.47	0.50714	917.48	3.48	0	8.87	1281.44	7.32	1286.26	7.35	4.81	0.37
85	176	91	6	2816	0.99884	608.56	0.50852	915.9	4.98	-0.75	8.67	1294.47	7.35	1299.65	7.38	5.19	0.4
85	177	92	7	2832	0.99844	610.62	0.50989	914.36	6.74	0	8.47	1308.74	7.39	1312.59	7.42	3.85	0.29
85	178	93	8	2848	0.99798	612.64	0.51124	912.86	8.76	-0.75	8.28	1321.27	7.42	1325.54	7.45	4.27	0.32
85	179	94	9	2864	0.99747	614.62	0.51257	911.4	11.02	0	8.1	1335.06	7.46	1338.03	7.48	2.97	0.22
85	180	95	10	2880	0.99691	616.56	0.51389	909.97	13.54	-0.75	7.92	1347.11	7.48	1350.53	7.5	3.43	0.25
85	181	96	11	2896	0.99631	618.46	0.51519	908.58	16.29	0	7.75	1360.41	7.52	1362.58	7.53	2.17	0.16
85	182	97	12	2912	0.99565	620.33	0.51648	907.23	19.28	-0.74	7.58	1372	7.54	1374.67	7.55	2.66	0.19
85	183	98	13	2928	0.99495	622.16	0.51776	905.91	22.5	0	7.42	1384.85	7.57	1386.29	7.58	1.45	0.1
85	184	99	14	2944	0.99421	623.96	0.51902	904.62	25.96	-0.74	7.26	1395.99	7.59	1397.96	7.6	1.97	0.14
85	185	100	15	2960	0.99343	625.73	0.52027	903.36	29.64	0	7.11	1408.39	7.61	1409.18	7.62	0.79	0.06
85	186	101	16	2976	0.99260	627.46	0.52151	902.14	33.54	-0.73	6.97	1419.1	7.63	1420.45	7.64	1.35	0.1
85	187	102	17	2992	0.99174	629.16	0.52273	900.95	37.66	0	6.83	1431.06	7.65	1431.26	7.65	0.2	0.01
85	188	103	18	3008	0.99083	630.82	0.52394	899.79	42	-0.73	6.69	1441.35	7.67	1442.14	7.67	0.79	0.05
85	189	104	19	3024	0.98989	632.46	0.52513	898.65	46.55	0	6.56	1452.9	7.69	1452.56	7.69	-0.33	-0.02
85	190	105	20	3040	0.98892	634.06	0.52632	897.55	51.31	-0.73	6.43	1462.78	7.7	1463.07	7.7	0.28	0.02
85	191	106	21	3056	0.98791	635.64	0.52749	896.47	56.27	0	6.3	1473.92	7.72	1473.11	7.71	-0.81	-0.05
85	192	107	22	3072	0.98687	637.18	0.52865	895.43	61.44	-0.72	6.18	1483.41	7.73	1483.24	7.73	-0.17	-0.01
85	193	108	23	3088	0.98580	638.7	0.52979	894.41	66.8	0	6.06	1494.15	7.74	1492.92	7.74	-1.23	-0.08
85	194	109	24	3104	0.98470	640.18	0.53093	893.41	72.37	-0.72	5.95	1503.27	7.75	1502.7	7.75	-0.57	-0.04
85	195	110	25	3120	0.98356	641.64	0.53205	892.44	78.12	0	5.84	1513.63	7.76	1512.02	7.75	-1.61	-0.11
85	196	111	26	3136	0.98240	643.08	0.53316	891.5	84.07	-0.71	5.73	1522.37	7.77	1521.44	7.76	-0.93	-0.06
85	197	112	27	3152	0.98122	644.48	0.53426	890.58	90.2	0	5.62	1532.36	7.78	1530.41	7.77	-1.95	-0.13
85	198	113	28	3168	0.98000	645.86	0.53535	889.69	96.52	-0.71	5.52	1540.74	7.78	1539.5	7.78	-1.24	-0.08
85	199	114	29	3184	0.97876	647.21	0.53643	888.82	103.02	0	5.42	1550.37	7.79	1548.13	7.78	-2.24	-0.14
85	200	115	30	3200	0.97750	648.54	0.53750	887.97	109.7	-0.71	5.33	1558.41	7.79	1556.89	7.78	-1.52	-0.1
85	201	116	31	3216	0.97621	649.85	0.53856	887.15	116.55	0	5.23	1567.69	7.8	1565.19	7.79	-2.5	-0.16
85	202	117	32	3232	0.97490	651.13	0.53960	886.34	123.58	-0.7	5.14	1575.39	7.8	1573.62	7.79	-1.76	-0.11
85	203	118	33	3248	0.97357	652.38	0.54064	885.56	130.78	0	5.05	1584.33	7.8	1581.61	7.79	-2.72	-0.17
85	204	119	34	3264	0.97222	653.61	0.54167	884.8	138.15	-0.7	4.97	1591.7	7.8	1589.73	7.79	-1.97	-0.12
85	205	120	35	3280	0.97085	654.82	0.54268	884.06	145.69	0	4.88	1600.31	7.81	1597.4	7.79	-2.91	-0.18
85	206	121	36	3296	0.96946	656.01	0.54369	883.35	153.39	-0.7	4.8	1607.36	7.8	1605.21	7.79	-2.15	-0.13
85	207	122	37	3312	0.96805	657.17	0.54469	882.65	161.25	0	4.72	1615.65	7.81	1612.57	7.79	-3.08	-0.19

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
85	208	123	38	3328	0.96662	658.32	0.54567	881.97	169.27	-0.69	4.64	1622.4	7.8	1620.09	7.79	-2.3	-0.14
85	209	124	39	3344	0.96518	659.44	0.54665	881.31	177.45	0	4.57	1630.37	7.8	1627.16	7.79	-3.22	-0.2
85	210	125	40	3360	0.96372	660.54	0.54762	880.67	185.78	-0.69	4.49	1636.82	7.79	1634.39	7.78	-2.43	-0.15
85	211	126	41	3376	0.96224	661.62	0.54858	880.05	194.26	0	4.42	1644.49	7.79	1641.16	7.78	-3.33	-0.2
85	212	127	42	3392	0.96075	662.68	0.54953	879.44	202.9	-0.69	4.35	1650.65	7.79	1648.11	7.77	-2.54	-0.15
85	213	128	43	3408	0.95925	663.72	0.55047	878.85	211.68	0	4.28	1658.03	7.78	1654.6	7.77	-3.43	-0.21
85	214	129	44	3424	0.95773	664.74	0.55140	878.28	220.61	-0.68	4.22	1663.9	7.78	1661.27	7.76	-2.63	-0.16
85	215	130	45	3440	0.95619	665.74	0.55233	877.73	229.68	0	4.15	1670.99	7.77	1667.49	7.76	-3.5	-0.21
85	216	131	46	3456	0.95465	666.73	0.55324	877.2	238.9	-0.68	4.09	1676.59	7.76	1673.89	7.75	-2.7	-0.16
85	217	132	47	3472	0.95309	667.69	0.55415	876.68	248.25	0	4.03	1683.41	7.76	1679.84	7.74	-3.56	-0.21
85	218	133	48	3488	0.95152	668.64	0.55505	876.17	257.75	-0.68	3.97	1688.73	7.75	1685.98	7.73	-2.75	-0.16
85	219	134	49	3504	0.94994	669.57	0.55594	875.69	267.38	0	3.91	1695.28	7.74	1691.67	7.72	-3.61	-0.21
85	220	135	50	3520	0.94835	670.48	0.55682	875.21	277.14	-0.67	3.85	1700.34	7.73	1697.55	7.72	-2.79	-0.16
85	221	136	51	3536	0.94675	671.37	0.55769	874.76	287.04	0	3.79	1706.62	7.72	1702.98	7.71	-3.64	-0.21
85	222	137	52	3552	0.94513	672.25	0.55856	874.31	297.07	-0.67	3.74	1711.44	7.71	1708.61	7.7	-2.82	-0.17
85	223	138	53	3568	0.94351	673.11	0.55942	873.88	307.23	0	3.69	1717.46	7.7	1713.79	7.69	-3.67	-0.21
85	224	139	54	3584	0.94189	673.96	0.56027	873.47	317.51	-0.67	3.63	1722.02	7.69	1719.18	7.67	-2.84	-0.17
85	225	140	55	3600	0.94025	674.78	0.56111	873.07	327.92	0	3.58	1727.8	7.68	1724.12	7.66	-3.68	-0.21
85	226	141	56	3616	0.93860	675.6	0.56195	872.69	338.46	-0.67	3.53	1732.12	7.66	1729.27	7.65	-2.86	-0.17
85	227	142	57	3632	0.93695	676.4	0.56278	872.31	349.12	0	3.48	1737.66	7.65	1733.97	7.64	-3.69	-0.21
85	228	143	58	3648	0.93529	677.18	0.56360	871.95	359.9	-0.66	3.44	1741.74	7.64	1738.88	7.63	-2.86	-0.16
85	229	144	59	3664	0.93362	677.95	0.56441	871.61	370.8	0	3.39	1747.04	7.63	1743.35	7.61	-3.69	-0.21
85	230	145	60	3680	0.93195	678.7	0.56522	871.27	381.81	-0.66	3.34	1750.9	7.61	1748.04	7.6	-2.86	-0.16
85	231	146	61	3696	0.93027	679.44	0.56602	870.95	392.94	0	3.3	1755.96	7.6	1752.28	7.59	-3.68	-0.21
85	232	147	62	3712	0.92858	680.16	0.56681	870.64	404.19	-0.66	3.25	1759.6	7.58	1756.75	7.57	-2.86	-0.16
85	233	148	63	3728	0.92689	680.88	0.56760	870.35	415.55	0	3.21	1764.44	7.57	1760.77	7.56	-3.68	-0.21
85	234	149	64	3744	0.92520	681.57	0.56838	870.06	427.02	-0.65	3.17	1767.86	7.55	1765.01	7.54	-2.85	-0.16
85	235	150	65	3760	0.92350	682.26	0.56915	869.79	438.6	0	3.13	1772.48	7.54	1768.82	7.53	-3.67	-0.21
85	236	151	66	3776	0.92179	682.93	0.56992	869.53	450.3	-0.65	3.09	1775.69	7.52	1772.85	7.51	-2.84	-0.16
85	237	152	67	3792	0.92008	683.59	0.57068	869.27	462.09	0	3.05	1780.09	7.51	1776.44	7.5	-3.65	-0.21
85	238	153	68	3808	0.91837	684.23	0.57143	869.04	474	-0.65	3.01	1783.1	7.49	1780.27	7.48	-2.83	-0.16
85	239	154	69	3824	0.91665	684.86	0.57218	868.81	486.01	0	2.97	1787.29	7.48	1783.65	7.46	-3.64	-0.2
85	240	155	70	3840	0.91493	685.48	0.57292	868.59	498.12	-0.65	2.94	1790.1	7.46	1787.27	7.45	-2.82	-0.16
85	241	156	71	3856	0.91321	686.09	0.57365	868.38	510.34	0	2.9	1794.09	7.44	1790.45	7.43	-3.64	-0.2
85	242	157	72	3872	0.91148	686.69	0.57438	868.18	522.66	-0.64	2.87	1796.69	7.42	1793.88	7.41	-2.82	-0.16
85	243	158	73	3888	0.90975	687.27	0.57510	868	535.07	0	2.83	1800.49	7.41	1796.86	7.39	-3.63	-0.2
85	244	159	74	3904	0.90802	687.85	0.57582	867.82	547.59	-0.64	2.8	1802.9	7.39	1800.09	7.38	-2.81	-0.16
85	245	160	75	3920	0.90629	688.41	0.57653	867.65	560.2	0	2.76	1806.5	7.37	1802.88	7.36	-3.63	-0.2
85	246	161	76	3936	0.90455	688.96	0.57724	867.49	572.91	-0.64	2.73	1808.73	7.35	1805.92	7.34	-2.81	-0.16
85	247	162	77	3952	0.90282	689.5	0.57794	867.34	585.72	0	2.7	1812.14	7.34	1808.52	7.32	-3.63	-0.2
85	248	163	78	3968	0.90108	690.03	0.57863	867.2	598.62	-0.64	2.67	1814.19	7.32	1811.37	7.3	-2.82	-0.16
85	249	164	79	3984	0.89934	690.55	0.57932	867.07	611.61	0	2.64	1817.41	7.3	1813.78	7.28	-3.63	-0.2
85	250	165	80	4000	0.89760	691.05	0.58000	866.95	624.69	-0.63	2.61	1819.28	7.28	1816.45	7.27	-2.83	-0.16
85	251	166	81	4016	0.89586	691.55	0.58068	866.84	637.86	0	2.58	1822.32	7.26	1818.68	7.25	-3.64	-0.2
85	252	167	82	4032	0.89412	692.04	0.58135	866.73	651.13	-0.63	2.55	1824.02	7.24	1821.17	7.23	-2.85	-0.16
85	253	168	83	4048	0.89238	692.52	0.58202	866.64	664.48	0	2.52	1826.89	7.22	1823.23	7.21	-3.66	-0.2
85	254	169	84	4064	0.89063	692.98	0.58268	866.55	677.92	-0.63	2.49	1828.41	7.2	1825.54	7.19	-2.87	-0.16

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
85	255	170	85	4080	0.88889	693.44	0.58333	866.47	691.44	0	2.47	1831.11	7.18	1827.42	7.17	-3.69	-0.2
85	256	171	86	4096	0.88715	693.89	0.58398	866.4	705.06	-0.62	2.44	1832.47	7.16	1829.57	7.15	-2.9	-0.16
85	257	172	87	4112	0.88540	694.33	0.58463	866.34	718.75	0	2.41	1834.99	7.14	1831.27	7.13	-3.72	-0.2
85	258	173	88	4128	0.88366	694.76	0.58527	866.28	732.53	-0.62	2.39	1836.19	7.12	1833.25	7.11	-2.94	-0.16
85	259	174	89	4144	0.88192	695.18	0.58591	866.24	746.39	0	2.36	1838.55	7.1	1834.79	7.08	-3.76	-0.21
85	260	175	90	4160	0.88018	695.59	0.58654	866.2	760.33	-0.62	2.34	1839.59	7.08	1836.61	7.06	-2.99	-0.16
85	261	176	91	4176	0.87844	695.99	0.58717	866.16	774.36	0	2.31	1841.8	7.06	1837.98	7.04	-3.81	-0.21
85	262	177	92	4192	0.87670	696.39	0.58779	866.14	788.46	-0.62	2.29	1842.68	7.03	1839.64	7.02	-3.05	-0.17
85	263	178	93	4208	0.87496	696.78	0.58840	866.12	802.64	0	2.26	1844.73	7.01	1840.85	7	-3.87	-0.21
85	264	179	94	4224	0.87322	697.15	0.58902	866.11	816.9	-0.62	2.24	1845.46	6.99	1842.35	6.98	-3.11	-0.17
85	265	180	95	4240	0.87149	697.52	0.58962	866.11	831.24	0	2.22	1847.35	6.97	1843.41	6.96	-3.94	-0.21
85	266	181	96	4256	0.86975	697.88	0.59023	866.11	845.65	-0.61	2.2	1847.94	6.95	1844.75	6.94	-3.19	-0.17
85	267	182	97	4272	0.86802	698.24	0.59082	866.12	860.14	0	2.17	1849.68	6.93	1845.65	6.91	-4.03	-0.22
85	268	183	98	4288	0.86628	698.58	0.59142	866.14	874.7	-0.61	2.15	1850.12	6.9	1846.84	6.89	-3.28	-0.18
85	269	184	99	4304	0.86455	698.92	0.59201	866.16	889.34	0	2.13	1851.71	6.88	1847.59	6.87	-4.12	-0.22
85	270	185	100	4320	0.86283	699.25	0.59259	866.19	904.05	-0.61	2.11	1852.01	6.86	1848.63	6.85	-3.38	-0.18
85	271	186	101	4336	0.86110	699.58	0.59317	866.23	918.83	0	2.09	1853.46	6.84	1849.24	6.82	-4.23	-0.23
85	272	187	102	4352	0.85938	699.89	0.59375	866.27	933.68	-0.61	2.07	1853.63	6.81	1850.13	6.8	-3.49	-0.19
85	273	188	103	4368	0.85765	700.2	0.59432	866.32	948.6	0	2.05	1854.93	6.79	1850.59	6.78	-4.34	-0.23
85	274	189	104	4384	0.85593	700.5	0.59489	866.37	963.59	-0.6	2.03	1854.96	6.77	1851.34	6.76	-3.62	-0.2
85	275	190	105	4400	0.85422	700.79	0.59546	866.43	978.66	0	2.01	1856.13	6.75	1851.66	6.73	-4.47	-0.24
85	276	191	106	4416	0.85250	701.08	0.59601	866.5	993.78	-0.6	1.99	1856.03	6.72	1852.27	6.71	-3.76	-0.2
85	277	192	107	4432	0.85079	701.36	0.59657	866.57	1008.98	0	1.97	1857.06	6.7	1852.45	6.69	-4.61	-0.25
85	278	193	108	4448	0.84908	701.64	0.59712	866.65	1024.24	-0.6	1.96	1856.83	6.68	1852.92	6.67	-3.91	-0.21
85	279	194	109	4464	0.84737	701.9	0.59767	866.73	1039.57	0	1.94	1857.73	6.66	1852.96	6.64	-4.77	-0.26
85	280	195	110	4480	0.84566	702.16	0.59821	866.82	1054.97	-0.6	1.92	1857.37	6.63	1853.3	6.62	-4.07	-0.22
85	281	196	111	4496	0.84396	702.42	0.59875	866.91	1070.43	0	1.9	1858.15	6.61	1853.21	6.6	-4.94	-0.27
85	282	197	112	4512	0.84226	702.66	0.59929	867.01	1085.95	-0.6	1.89	1857.66	6.59	1853.41	6.57	-4.25	-0.23
85	283	198	113	4528	0.84057	702.91	0.59982	867.12	1101.54	0	1.87	1858.31	6.57	1853.19	6.55	-5.12	-0.28
85	284	199	114	4544	0.83887	703.14	0.60035	867.23	1117.19	-0.59	1.85	1857.7	6.54	1853.26	6.53	-4.44	-0.24
85	285	200	115	4560	0.83718	703.37	0.60088	867.34	1132.9	0	1.84	1858.23	6.52	1852.91	6.5	-5.32	-0.29
85	286	201	116	4576	0.83549	703.59	0.60140	867.46	1148.67	-0.59	1.82	1857.5	6.49	1852.85	6.48	-4.65	-0.25
85	287	202	117	4592	0.83381	703.81	0.60192	867.59	1164.5	0	1.8	1857.9	6.47	1852.37	6.45	-5.53	-0.3
85	288	203	118	4608	0.83213	704.02	0.60243	867.72	1180.39	-0.59	1.79	1857.06	6.45	1852.19	6.43	-4.87	-0.26
85	289	204	119	4624	0.83045	704.23	0.60294	867.85	1196.35	0	1.77	1857.35	6.43	1851.59	6.41	-5.76	-0.31
85	290	205	120	4640	0.82878	704.43	0.60345	867.99	1212.36	-0.59	1.76	1856.39	6.4	1851.29	6.38	-5.11	-0.28
85	291	206	121	4656	0.82710	704.62	0.60395	868.14	1228.43	0	1.74	1856.56	6.38	1850.56	6.36	-6	-0.32
85	292	207	122	4672	0.82544	704.81	0.60445	868.29	1244.55	-0.59	1.73	1855.49	6.35	1850.14	6.34	-5.36	-0.29
85	293	208	123	4688	0.82377	705	0.60495	868.44	1260.74	0	1.72	1855.54	6.33	1849.29	6.31	-6.26	-0.34
85	294	209	124	4704	0.82211	705.18	0.60544	868.6	1276.98	-0.58	1.7	1854.37	6.31	1848.75	6.29	-5.62	-0.3
85	295	210	125	4720	0.82045	705.35	0.60593	868.76	1293.27	0	1.69	1854.31	6.29	1847.78	6.26	-6.53	-0.35
85	296	211	126	4736	0.81880	705.52	0.60642	868.93	1309.62	-0.58	1.67	1853.03	6.26	1847.12	6.24	-5.91	-0.32
85	297	212	127	4752	0.81715	705.68	0.60690	869.1	1326.03	0	1.66	1852.86	6.24	1846.04	6.22	-6.82	-0.37
85	298	213	128	4768	0.81550	705.84	0.60738	869.27	1342.49	-0.58	1.65	1851.47	6.21	1845.27	6.19	-6.2	-0.34
Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
86	171	85	-1	2736	0.99997	597.66	0.49854	946.09	0.14	0	9.76	1201.87	7.03	1210.69	7.08	8.82	0.73

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
86	172	86	0	2752	1.00000	600	0.50000	944.23	0	0.76	10	1218.53	7.08	1226.52	7.13	7.99	0.65
86	173	87	1	2768	0.99997	602.31	0.50145	942.43	0.14	0	9.76	1232.89	7.13	1239.96	7.17	7.07	0.57
86	174	88	2	2784	0.99987	604.57	0.50287	940.66	0.56	0.76	9.53	1248.5	7.18	1255.28	7.21	6.78	0.54
86	175	89	3	2800	0.99971	606.78	0.50429	938.95	1.25	0	9.31	1262.33	7.21	1268.25	7.25	5.92	0.47
86	176	90	4	2816	0.99948	608.96	0.50568	937.27	2.21	0.75	9.09	1277.4	7.26	1283.08	7.29	5.68	0.44
86	177	91	5	2832	0.99920	611.09	0.50706	935.64	3.44	0	8.88	1290.72	7.29	1295.59	7.32	4.87	0.38
86	178	92	6	2848	0.99886	613.18	0.50843	934.04	4.93	0.75	8.68	1305.28	7.33	1309.95	7.36	4.67	0.36
86	179	93	7	2864	0.99847	615.23	0.50978	932.49	6.67	0	8.49	1318.1	7.36	1322.01	7.39	3.91	0.3
86	180	94	8	2880	0.99803	617.25	0.51111	930.97	8.66	0.75	8.3	1332.16	7.4	1335.91	7.42	3.75	0.28
86	181	95	9	2896	0.99753	619.22	0.51243	929.49	10.9	0	8.12	1344.5	7.43	1347.53	7.44	3.03	0.23
86	182	96	10	2912	0.99698	621.16	0.51374	928.05	13.39	0.74	7.94	1358.08	7.46	1360.99	7.48	2.91	0.21
86	183	97	11	2928	0.99639	623.06	0.51503	926.65	16.11	0	7.77	1369.95	7.49	1372.19	7.5	2.24	0.16
86	184	98	12	2944	0.99575	624.93	0.51630	925.28	19.07	0.74	7.6	1383.07	7.52	1385.22	7.53	2.15	0.16
86	185	99	13	2960	0.99506	626.76	0.51757	923.94	22.26	0	7.44	1394.49	7.54	1396	7.55	1.52	0.11
86	186	100	14	2976	0.99434	628.55	0.51882	922.64	25.68	0.73	7.29	1407.15	7.57	1408.61	7.57	1.46	0.1
86	187	101	15	2992	0.99357	630.32	0.52005	921.37	29.32	0	7.14	1418.13	7.58	1419	7.59	0.86	0.06
86	188	102	16	3008	0.99276	632.05	0.52128	920.13	33.18	0.73	6.99	1430.36	7.61	1431.2	7.61	0.84	0.06
86	189	103	17	3024	0.99191	633.75	0.52249	918.92	37.26	0	6.85	1440.92	7.62	1441.2	7.63	0.28	0.02
86	190	104	18	3040	0.99103	635.41	0.52368	917.74	41.56	0.73	6.72	1452.73	7.65	1453	7.65	0.28	0.02
86	191	105	19	3056	0.99010	637.05	0.52487	916.6	46.06	0	6.58	1462.88	7.66	1462.62	7.66	-0.25	-0.02
86	192	106	20	3072	0.98915	638.65	0.52604	915.48	50.78	0.72	6.46	1474.27	7.68	1474.05	7.68	-0.23	-0.02
86	193	107	21	3088	0.98816	640.23	0.52720	914.39	55.69	0	6.33	1484.03	7.69	1483.3	7.69	-0.73	-0.05
86	194	108	22	3104	0.98714	641.77	0.52835	913.32	60.81	0.72	6.21	1495.02	7.71	1494.35	7.7	-0.68	-0.05
86	195	109	23	3120	0.98609	643.29	0.52949	912.29	66.12	0	6.09	1504.39	7.71	1503.24	7.71	-1.15	-0.08
86	196	110	24	3136	0.98501	644.78	0.53061	911.28	71.63	0.71	5.98	1515	7.73	1513.92	7.72	-1.08	-0.07
86	197	111	25	3152	0.98390	646.24	0.53173	910.3	77.33	0	5.87	1524	7.74	1522.47	7.73	-1.53	-0.1
86	198	112	26	3168	0.98276	647.68	0.53283	909.34	83.22	0.71	5.76	1534.23	7.75	1532.8	7.74	-1.43	-0.09
86	199	113	27	3184	0.98159	649.08	0.53392	908.4	89.3	0	5.66	1542.87	7.75	1541.01	7.74	-1.86	-0.12
86	200	114	28	3200	0.98040	650.47	0.53500	907.5	95.56	0.71	5.55	1552.74	7.76	1550.99	7.75	-1.75	-0.11
86	201	115	29	3216	0.97918	651.82	0.53607	906.61	102	0	5.46	1561.02	7.77	1558.87	7.76	-2.15	-0.14
86	202	116	30	3232	0.97794	653.16	0.53713	905.75	108.62	0.7	5.36	1570.54	7.77	1568.52	7.76	-2.02	-0.13
86	203	117	31	3248	0.97668	654.46	0.53818	904.91	115.41	0	5.27	1578.48	7.78	1576.08	7.76	-2.4	-0.15
86	204	118	32	3264	0.97539	655.75	0.53922	904.09	122.38	0.7	5.17	1587.66	7.78	1585.4	7.77	-2.26	-0.14
86	205	119	33	3280	0.97409	657	0.54024	903.3	129.51	0	5.09	1595.27	7.78	1592.65	7.77	-2.62	-0.16
86	206	120	34	3296	0.97276	658.24	0.54126	902.52	136.82	0.7	5	1604.11	7.79	1601.65	7.77	-2.47	-0.15
86	207	121	35	3312	0.97141	659.45	0.54227	901.77	144.29	0	4.92	1611.4	7.78	1608.59	7.77	-2.81	-0.17
86	208	122	36	3328	0.97004	660.65	0.54327	901.04	151.92	0.69	4.83	1619.92	7.79	1617.28	7.78	-2.64	-0.16
86	209	123	37	3344	0.96866	661.82	0.54426	900.33	159.71	0	4.75	1626.9	7.78	1623.93	7.77	-2.97	-0.18
86	210	124	38	3360	0.96726	662.96	0.54524	899.63	167.66	0.69	4.68	1635.11	7.79	1632.31	7.77	-2.79	-0.17
86	211	125	39	3376	0.96584	664.09	0.54621	898.96	175.77	0	4.6	1641.78	7.78	1638.67	7.77	-3.11	-0.19
86	212	126	40	3392	0.96440	665.2	0.54717	898.31	184.03	0.69	4.53	1649.68	7.78	1646.76	7.77	-2.92	-0.18
86	213	127	41	3408	0.96295	666.28	0.54812	897.67	192.45	0	4.46	1656.06	7.77	1652.84	7.76	-3.22	-0.19
86	214	128	42	3424	0.96148	667.35	0.54907	897.05	201.01	0.68	4.39	1663.66	7.77	1660.64	7.76	-3.02	-0.18
86	215	129	43	3440	0.96000	668.39	0.55000	896.45	209.72	0	4.32	1669.75	7.77	1666.44	7.75	-3.31	-0.2
86	216	130	44	3456	0.95851	669.42	0.55093	895.87	218.58	0.68	4.25	1677.07	7.76	1673.96	7.75	-3.11	-0.19
86	217	131	45	3472	0.95700	670.43	0.55184	895.3	227.58	0	4.19	1682.88	7.76	1679.49	7.74	-3.39	-0.2
86	218	132	46	3488	0.95548	671.42	0.55275	894.75	236.72	0.68	4.12	1689.91	7.75	1686.74	7.74	-3.17	-0.19

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
86	219	133	47	3504	0.95394	672.39	0.55365	894.22	246	0	4.06	1695.45	7.74	1692.01	7.73	-3.44	-0.2
86	220	134	48	3520	0.95240	673.34	0.55455	893.7	255.42	0.67	4	1702.21	7.74	1698.99	7.72	-3.22	-0.19
86	221	135	49	3536	0.95084	674.28	0.55543	893.2	264.97	0	3.94	1707.49	7.73	1704.01	7.71	-3.48	-0.2
86	222	136	50	3552	0.94927	675.19	0.55631	892.72	274.66	0.67	3.88	1713.98	7.72	1710.72	7.71	-3.26	-0.19
86	223	137	51	3568	0.94770	676.09	0.55718	892.25	284.48	0	3.83	1719	7.71	1715.49	7.69	-3.51	-0.2
86	224	138	52	3584	0.94611	676.98	0.55804	891.79	294.43	0.67	3.77	1725.24	7.7	1721.95	7.69	-3.28	-0.19
86	225	139	53	3600	0.94451	677.85	0.55889	891.35	304.51	0	3.72	1730.01	7.69	1726.48	7.67	-3.53	-0.2
86	226	140	54	3616	0.94291	678.7	0.55974	890.93	314.72	0.67	3.67	1735.99	7.68	1732.69	7.67	-3.3	-0.19
86	227	141	55	3632	0.94130	679.53	0.56057	890.52	325.05	0	3.61	1740.52	7.67	1736.98	7.65	-3.54	-0.2
86	228	142	56	3648	0.93967	680.35	0.56140	890.12	335.5	0.66	3.56	1746.25	7.66	1742.95	7.64	-3.3	-0.19
86	229	143	57	3664	0.93805	681.16	0.56223	889.73	346.08	0	3.52	1750.54	7.64	1747	7.63	-3.54	-0.2
86	230	144	58	3680	0.93641	681.95	0.56304	889.36	356.78	0.66	3.47	1756.03	7.63	1752.73	7.62	-3.3	-0.19
86	231	145	59	3696	0.93477	682.72	0.56385	889	367.6	0	3.42	1760.09	7.62	1756.56	7.6	-3.53	-0.2
86	232	146	60	3712	0.93312	683.49	0.56466	888.66	378.53	0.66	3.37	1765.35	7.61	1762.06	7.6	-3.29	-0.19
86	233	147	61	3728	0.93146	684.23	0.56545	888.33	389.58	0	3.33	1769.19	7.59	1765.67	7.58	-3.52	-0.2
86	234	148	62	3744	0.92980	684.96	0.56624	888.01	400.75	0.65	3.29	1774.22	7.58	1770.94	7.57	-3.28	-0.19
86	235	149	63	3760	0.92813	685.68	0.56702	887.7	412.03	0	3.24	1777.83	7.57	1774.33	7.55	-3.51	-0.2
86	236	150	64	3776	0.92646	686.39	0.56780	887.4	423.42	0.65	3.2	1782.64	7.55	1779.38	7.54	-3.27	-0.18
86	237	151	65	3792	0.92478	687.08	0.56857	887.12	434.92	0	3.16	1786.05	7.54	1782.56	7.52	-3.49	-0.2
86	238	152	66	3808	0.92310	687.76	0.56933	886.85	446.53	0.65	3.12	1790.64	7.52	1787.39	7.51	-3.25	-0.18
86	239	153	67	3824	0.92141	688.42	0.57008	886.58	458.24	0	3.08	1793.83	7.51	1790.36	7.49	-3.47	-0.19
86	240	154	68	3840	0.91972	689.07	0.57083	886.33	470.07	0.65	3.04	1798.21	7.49	1794.98	7.48	-3.23	-0.18
86	241	155	69	3856	0.91803	689.71	0.57158	886.09	481.99	0	3	1801.2	7.47	1797.75	7.46	-3.45	-0.19
86	242	156	70	3872	0.91633	690.34	0.57231	885.87	494.02	0.64	2.97	1805.38	7.46	1802.16	7.45	-3.22	-0.18
86	243	157	71	3888	0.91463	690.96	0.57305	885.65	506.16	0	2.93	1808.17	7.44	1804.73	7.43	-3.44	-0.19
86	244	158	72	3904	0.91293	691.56	0.57377	885.44	518.39	0.64	2.9	1812.14	7.43	1808.94	7.41	-3.2	-0.18
86	245	159	73	3920	0.91122	692.15	0.57449	885.24	530.72	0	2.86	1814.74	7.41	1811.32	7.39	-3.42	-0.19
86	246	160	74	3936	0.90951	692.73	0.57520	885.06	543.16	0.64	2.83	1818.52	7.39	1815.33	7.38	-3.19	-0.18
86	247	161	75	3952	0.90780	693.3	0.57591	884.88	555.69	0	2.79	1820.93	7.37	1817.52	7.36	-3.41	-0.19
86	248	162	76	3968	0.90609	693.86	0.57661	884.71	568.31	0.64	2.76	1824.51	7.36	1821.34	7.34	-3.18	-0.17
86	249	163	77	3984	0.90437	694.41	0.57731	884.55	581.03	0	2.73	1826.74	7.34	1823.34	7.32	-3.4	-0.19
86	250	164	78	4000	0.90266	694.95	0.57800	884.4	593.85	0.63	2.7	1830.13	7.32	1826.96	7.31	-3.17	-0.17
86	251	165	79	4016	0.90094	695.47	0.57869	884.26	606.75	0	2.67	1832.18	7.3	1828.78	7.29	-3.39	-0.19
86	252	166	80	4032	0.89922	695.99	0.57937	884.13	619.75	0.63	2.64	1835.39	7.28	1832.22	7.27	-3.17	-0.17
86	253	167	81	4048	0.89750	696.49	0.58004	884.01	632.84	0	2.61	1837.26	7.26	1833.87	7.25	-3.4	-0.19
86	254	168	82	4064	0.89578	696.99	0.58071	883.9	646.02	0.63	2.58	1840.3	7.25	1837.12	7.23	-3.18	-0.17
86	255	169	83	4080	0.89406	697.47	0.58137	883.79	659.29	0	2.55	1842	7.22	1838.59	7.21	-3.4	-0.19
86	256	170	84	4096	0.89233	697.95	0.58203	883.7	672.64	0.62	2.52	1844.86	7.21	1841.67	7.19	-3.19	-0.17
86	257	171	85	4112	0.89061	698.41	0.58269	883.61	686.08	0	2.49	1846.39	7.18	1842.97	7.17	-3.42	-0.19
86	258	172	86	4128	0.88889	698.87	0.58333	883.53	699.61	0.62	2.47	1849.08	7.17	1845.87	7.15	-3.21	-0.17
86	259	173	87	4144	0.88717	699.32	0.58398	883.46	713.22	0	2.44	1850.44	7.14	1847	7.13	-3.44	-0.19
86	260	174	88	4160	0.88544	699.75	0.58462	883.39	726.92	0.62	2.41	1852.97	7.13	1849.74	7.11	-3.23	-0.17
86	261	175	89	4176	0.88372	700.18	0.58525	883.34	740.69	0	2.39	1854.17	7.1	1850.7	7.09	-3.47	-0.19
86	262	176	90	4192	0.88200	700.6	0.58588	883.29	754.55	0.62	2.36	1856.54	7.09	1853.27	7.07	-3.27	-0.18
86	263	177	91	4208	0.88028	701.01	0.58650	883.25	768.49	0	2.34	1857.58	7.06	1854.07	7.05	-3.51	-0.19
86	264	178	92	4224	0.87856	701.41	0.58712	883.22	782.51	0.62	2.31	1859.79	7.04	1856.47	7.03	-3.31	-0.18
86	265	179	93	4240	0.87684	701.81	0.58774	883.19	796.61	0	2.29	1860.68	7.02	1857.12	7.01	-3.56	-0.19

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
86	266	180	94	4256	0.87512	702.19	0.58835	883.17	810.78	0.61	2.27	1862.73	7	1859.36	6.99	-3.37	-0.18
86	267	181	95	4272	0.87340	702.57	0.58895	883.16	825.04	0	2.24	1863.48	6.98	1859.86	6.97	-3.62	-0.19
86	268	182	96	4288	0.87169	702.94	0.58955	883.16	839.36	0.61	2.22	1865.37	6.96	1861.94	6.95	-3.43	-0.18
86	269	183	97	4304	0.86997	703.3	0.59015	883.16	853.77	0	2.2	1865.97	6.94	1862.28	6.92	-3.69	-0.2
86	270	184	98	4320	0.86826	703.65	0.59074	883.17	868.25	0.61	2.18	1867.72	6.92	1864.21	6.9	-3.51	-0.19
86	271	185	99	4336	0.86655	704	0.59133	883.18	882.8	0	2.16	1868.17	6.89	1864.41	6.88	-3.77	-0.2
86	272	186	100	4352	0.86484	704.34	0.59191	883.21	897.42	0.61	2.14	1869.77	6.87	1866.18	6.86	-3.6	-0.19
86	273	187	101	4368	0.86313	704.67	0.59249	883.23	912.12	0	2.11	1870.09	6.85	1866.23	6.84	-3.86	-0.21
86	274	188	102	4384	0.86142	704.99	0.59307	883.27	926.89	0.6	2.09	1871.55	6.83	1867.85	6.82	-3.69	-0.2
86	275	189	103	4400	0.85972	705.31	0.59364	883.31	941.73	0	2.07	1871.73	6.81	1867.76	6.79	-3.96	-0.21
86	276	190	104	4416	0.85801	705.62	0.59420	883.36	956.64	0.6	2.05	1873.04	6.79	1869.24	6.77	-3.81	-0.2
86	277	191	105	4432	0.85631	705.92	0.59477	883.41	971.62	0	2.04	1873.09	6.76	1869.01	6.75	-4.08	-0.22
86	278	192	106	4448	0.85461	706.21	0.59532	883.47	986.66	0.6	2.02	1874.27	6.74	1870.34	6.73	-3.93	-0.21
86	279	193	107	4464	0.85292	706.5	0.59588	883.54	1001.77	0	2	1874.19	6.72	1869.98	6.7	-4.21	-0.22
86	280	194	108	4480	0.85122	706.78	0.59643	883.61	1016.96	0.6	1.98	1875.23	6.7	1871.17	6.68	-4.06	-0.22
86	281	195	109	4496	0.84953	707.05	0.59698	883.68	1032.2	0	1.96	1875.02	6.67	1870.67	6.66	-4.35	-0.23
86	282	196	110	4512	0.84785	707.32	0.59752	883.77	1047.51	0.6	1.94	1875.94	6.65	1871.72	6.64	-4.21	-0.23
86	283	197	111	4528	0.84616	707.58	0.59806	883.86	1062.89	0	1.93	1875.6	6.63	1871.09	6.61	-4.5	-0.24
86	284	198	112	4544	0.84448	707.84	0.59859	883.95	1078.33	0.59	1.91	1876.38	6.61	1872.01	6.59	-4.37	-0.23
86	285	199	113	4560	0.84280	708.09	0.59912	884.05	1093.83	0	1.89	1875.92	6.58	1871.25	6.57	-4.67	-0.25
86	286	200	114	4576	0.84112	708.33	0.59965	884.15	1109.4	0.59	1.87	1876.58	6.56	1872.03	6.55	-4.55	-0.24
86	287	201	115	4592	0.83944	708.57	0.60017	884.26	1125.03	0	1.86	1876	6.54	1871.15	6.52	-4.85	-0.26
86	288	202	116	4608	0.83777	708.8	0.60069	884.37	1140.72	0.59	1.84	1876.54	6.52	1871.8	6.5	-4.74	-0.25
86	289	203	117	4624	0.83610	709.02	0.60121	884.49	1156.47	0	1.83	1875.84	6.49	1870.79	6.47	-5.05	-0.27
86	290	204	118	4640	0.83444	709.24	0.60172	884.62	1172.28	0.59	1.81	1876.26	6.47	1871.31	6.45	-4.94	-0.26
86	291	205	119	4656	0.83277	709.45	0.60223	884.75	1188.15	0	1.8	1875.44	6.44	1870.18	6.43	-5.26	-0.28
86	292	206	120	4672	0.83111	709.66	0.60274	884.88	1204.08	0.59	1.78	1875.74	6.42	1870.58	6.41	-5.16	-0.28
86	293	207	121	4688	0.82946	709.86	0.60324	885.02	1220.07	0	1.76	1874.81	6.4	1869.33	6.38	-5.49	-0.29
86	294	208	122	4704	0.82780	710.06	0.60374	885.16	1236.11	0.58	1.75	1875	6.38	1869.6	6.36	-5.4	-0.29
86	295	209	123	4720	0.82615	710.25	0.60424	885.31	1252.22	0	1.74	1873.96	6.35	1868.23	6.33	-5.73	-0.31
86	296	210	124	4736	0.82451	710.43	0.60473	885.46	1268.38	0.58	1.72	1874.03	6.33	1868.38	6.31	-5.65	-0.3
86	297	211	125	4752	0.82286	710.61	0.60522	885.62	1284.59	0	1.71	1872.88	6.31	1866.9	6.29	-5.98	-0.32
86	298	212	126	4768	0.82122	710.79	0.60571	885.78	1300.86	0.58	1.69	1872.84	6.28	1866.93	6.26	-5.91	-0.32
86	299	213	127	4784	0.81959	710.96	0.60619	885.95	1317.19	0	1.68	1871.58	6.26	1865.33	6.24	-6.26	-0.34
86	300	214	128	4800	0.81796	711.12	0.60667	886.12	1333.57	0.58	1.67	1871.43	6.24	1865.24	6.22	-6.19	-0.33
86	301	215	129	4816	0.81633	711.28	0.60714	886.29	1350	0	1.65	1870.07	6.21	1863.53	6.19	-6.54	-0.35
Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
87	173	86	-1	2768	0.99997	602.31	0.49856	964.47	0.14	0	9.76	1210.84	7	1219.69	7.05	8.85	0.73
87	174	87	0	2784	1.00000	604.65	0.50000	962.6	0	-0.76	10	1225.99	7.05	1234.57	7.1	8.58	0.69
87	175	88	1	2800	0.99997	606.94	0.50143	960.78	0.14	0	9.76	1241.9	7.1	1249	7.14	7.1	0.57
87	176	89	2	2816	0.99987	609.19	0.50284	959	0.55	-0.75	9.53	1256.03	7.14	1263.4	7.18	7.37	0.58
87	177	90	3	2832	0.99971	611.4	0.50424	957.27	1.24	0	9.31	1271.4	7.18	1277.34	7.22	5.94	0.46
87	178	91	4	2848	0.99950	613.57	0.50562	955.58	2.19	-0.75	9.1	1285.01	7.22	1291.27	7.25	6.25	0.48
87	179	92	5	2864	0.99922	615.69	0.50698	953.93	3.4	0	8.89	1299.86	7.26	1304.74	7.29	4.87	0.37
87	180	93	6	2880	0.99889	617.78	0.50833	952.32	4.87	-0.75	8.69	1312.97	7.29	1318.21	7.32	5.24	0.4
87	181	94	7	2896	0.99850	619.83	0.50967	950.76	6.6	0	8.5	1327.32	7.33	1331.22	7.35	3.9	0.29

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
87	182	95	8	2912	0.99807	621.84	0.51099	949.22	8.57	-0.74	8.31	1339.94	7.36	1344.25	7.39	4.31	0.32
87	183	96	9	2928	0.99758	623.81	0.51230	947.73	10.79	0	8.13	1353.81	7.4	1356.83	7.41	3.02	0.22
87	184	97	10	2944	0.99705	625.74	0.51359	946.28	13.24	-0.74	7.96	1365.96	7.42	1369.42	7.44	3.46	0.25
87	185	98	11	2960	0.99647	627.64	0.51487	944.85	15.94	0	7.79	1379.36	7.46	1381.57	7.47	2.21	0.16
87	186	99	12	2976	0.99584	629.5	0.51613	943.47	18.87	-0.73	7.63	1391.05	7.48	1393.74	7.49	2.69	0.19
87	187	100	13	2992	0.99517	631.33	0.51738	942.12	22.02	0	7.47	1403.99	7.51	1405.47	7.52	1.48	0.11
87	188	101	14	3008	0.99446	633.13	0.51862	940.8	25.41	-0.73	7.31	1415.25	7.53	1417.24	7.54	1.99	0.14
87	189	102	15	3024	0.99370	634.89	0.51984	939.51	29.01	0	7.17	1427.75	7.55	1428.56	7.56	0.81	0.06
87	190	103	16	3040	0.99291	636.62	0.52105	938.26	32.84	-0.73	7.02	1438.58	7.57	1439.94	7.58	1.36	0.09
87	191	104	17	3056	0.99208	638.32	0.52225	937.04	36.88	0	6.88	1450.65	7.6	1450.86	7.6	0.21	0.01
87	192	105	18	3072	0.99121	639.98	0.52344	935.84	41.13	-0.72	6.75	1461.07	7.61	1461.86	7.61	0.79	0.05
87	193	106	19	3088	0.99031	641.62	0.52461	934.68	45.59	0	6.61	1472.73	7.63	1472.4	7.63	-0.33	-0.02
87	194	107	20	3104	0.98937	643.22	0.52577	933.55	50.26	-0.72	6.49	1482.74	7.64	1483.02	7.64	0.28	0.02
87	195	108	21	3120	0.98840	644.8	0.52692	932.44	55.12	0	6.36	1494	7.66	1493.19	7.66	-0.81	-0.05
87	196	109	22	3136	0.98740	646.35	0.52806	931.36	60.19	-0.71	6.24	1503.62	7.67	1503.44	7.67	-0.18	-0.01
87	197	110	23	3152	0.98637	647.87	0.52919	930.31	65.46	0	6.12	1514.49	7.69	1513.25	7.68	-1.24	-0.08
87	198	111	24	3168	0.98531	649.36	0.53030	929.29	70.91	-0.71	6.01	1523.74	7.7	1523.15	7.69	-0.59	-0.04
87	199	112	25	3184	0.98422	650.82	0.53141	928.29	76.56	0	5.9	1534.23	7.71	1532.6	7.7	-1.63	-0.11
87	200	113	26	3200	0.98310	652.26	0.53250	927.32	82.4	-0.71	5.79	1543.11	7.72	1542.16	7.71	-0.96	-0.06
87	201	114	27	3216	0.98196	653.67	0.53358	926.37	88.42	0	5.69	1553.23	7.73	1551.27	7.72	-1.97	-0.13
87	202	115	28	3232	0.98079	655.05	0.53465	925.45	94.62	-0.7	5.59	1561.76	7.73	1560.49	7.73	-1.28	-0.08
87	203	116	29	3248	0.97959	656.41	0.53571	924.55	101	0	5.49	1571.53	7.74	1569.26	7.73	-2.27	-0.14
87	204	117	30	3264	0.97837	657.75	0.53677	923.67	107.56	-0.7	5.39	1579.71	7.74	1578.15	7.74	-1.56	-0.1
87	205	118	31	3280	0.97713	659.06	0.53781	922.82	114.29	0	5.3	1589.13	7.75	1586.6	7.74	-2.53	-0.16
87	206	119	32	3296	0.97587	660.35	0.53884	921.99	121.2	-0.7	5.21	1596.98	7.75	1595.18	7.74	-1.81	-0.11
87	207	120	33	3312	0.97459	661.61	0.53986	921.18	128.27	0	5.12	1606.07	7.76	1603.31	7.75	-2.76	-0.17
87	208	121	34	3328	0.97328	662.85	0.54087	920.39	135.51	-0.69	5.03	1613.59	7.76	1611.57	7.75	-2.02	-0.13
87	209	122	35	3344	0.97196	664.07	0.54187	919.62	142.91	0	4.95	1622.35	7.76	1619.39	7.75	-2.96	-0.18
87	210	123	36	3360	0.97061	665.26	0.54286	918.87	150.48	-0.69	4.87	1629.56	7.76	1627.35	7.75	-2.21	-0.14
87	211	124	37	3376	0.96925	666.44	0.54384	918.15	158.21	0	4.79	1638	7.76	1634.87	7.75	-3.13	-0.19
87	212	125	38	3392	0.96787	667.59	0.54481	917.44	166.09	-0.69	4.71	1644.9	7.76	1642.54	7.75	-2.36	-0.14
87	213	126	39	3408	0.96648	668.72	0.54578	916.75	174.13	0	4.63	1653.03	7.76	1649.76	7.75	-3.27	-0.2
87	214	127	40	3424	0.96506	669.83	0.54673	916.09	182.32	-0.68	4.56	1659.64	7.76	1657.14	7.74	-2.49	-0.15
87	215	128	41	3440	0.96363	670.92	0.54767	915.44	190.66	0	4.49	1667.46	7.76	1664.08	7.74	-3.39	-0.2
87	216	129	42	3456	0.96219	671.99	0.54861	914.81	199.16	-0.68	4.42	1673.78	7.75	1671.18	7.74	-2.6	-0.16
87	217	130	43	3472	0.96073	673.05	0.54954	914.19	207.8	0	4.35	1681.32	7.75	1677.83	7.73	-3.48	-0.21
87	218	131	44	3488	0.95926	674.08	0.55046	913.6	216.58	-0.68	4.28	1687.35	7.74	1684.66	7.73	-2.69	-0.16
87	219	132	45	3504	0.95778	675.09	0.55137	913.02	225.51	0	4.22	1694.6	7.74	1691.04	7.72	-3.56	-0.21
87	220	133	46	3520	0.95628	676.09	0.55227	912.45	234.57	-0.67	4.16	1700.37	7.73	1697.6	7.72	-2.76	-0.16
87	221	134	47	3536	0.95477	677.06	0.55317	911.91	243.78	0	4.09	1707.34	7.73	1703.72	7.71	-3.62	-0.21
87	222	135	48	3552	0.95325	678.02	0.55405	911.38	253.12	-0.67	4.03	1712.83	7.72	1710.01	7.7	-2.82	-0.16
87	223	136	49	3568	0.95172	678.96	0.55493	910.87	262.6	0	3.97	1719.54	7.71	1715.87	7.69	-3.67	-0.21
87	224	137	50	3584	0.95018	679.89	0.55580	910.37	272.22	-0.67	3.92	1724.77	7.7	1721.91	7.69	-2.86	-0.17
87	225	138	51	3600	0.94862	680.8	0.55667	909.89	281.96	0	3.86	1731.22	7.69	1727.51	7.68	-3.7	-0.21
87	226	139	52	3616	0.94706	681.69	0.55752	909.42	291.84	-0.67	3.8	1736.2	7.68	1733.31	7.67	-2.89	-0.17
87	227	140	53	3632	0.94549	682.56	0.55837	908.97	301.84	0	3.75	1742.38	7.68	1738.66	7.66	-3.72	-0.21
87	228	141	54	3648	0.94391	683.42	0.55921	908.53	311.97	-0.66	3.7	1747.12	7.66	1744.21	7.65	-2.91	-0.17

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
87	229	142	55	3664	0.94232	684.26	0.56004	908.1	322.22	0	3.65	1753.06	7.66	1749.32	7.64	-3.73	-0.21
87	230	143	56	3680	0.94072	685.09	0.56087	907.69	332.6	-0.66	3.6	1757.55	7.64	1754.64	7.63	-2.91	-0.17
87	231	144	57	3696	0.93911	685.9	0.56169	907.3	343.1	0	3.55	1763.25	7.63	1759.51	7.62	-3.74	-0.21
87	232	145	58	3712	0.93750	686.7	0.56250	906.92	353.72	-0.66	3.5	1767.51	7.62	1764.6	7.61	-2.92	-0.17
87	233	146	59	3728	0.93588	687.48	0.56331	906.55	364.46	0	3.45	1772.97	7.61	1769.24	7.59	-3.73	-0.21
87	234	147	60	3744	0.93425	688.25	0.56410	906.19	375.31	-0.65	3.41	1777	7.59	1774.09	7.58	-2.91	-0.16
87	235	148	61	3760	0.93262	689	0.56489	905.85	386.28	0	3.36	1782.23	7.58	1778.51	7.57	-3.72	-0.21
87	236	149	62	3776	0.93098	689.74	0.56568	905.51	397.37	-0.65	3.32	1786.05	7.57	1783.15	7.56	-2.9	-0.16
87	237	150	63	3792	0.92934	690.46	0.56646	905.2	408.57	0	3.27	1791.05	7.56	1787.34	7.54	-3.71	-0.21
87	238	151	64	3808	0.92769	691.18	0.56723	904.89	419.88	-0.65	3.23	1794.64	7.54	1791.76	7.53	-2.89	-0.16
87	239	152	65	3824	0.92603	691.87	0.56799	904.59	431.29	0	3.19	1799.43	7.53	1795.74	7.51	-3.69	-0.21
87	240	153	66	3840	0.92438	692.56	0.56875	904.31	442.82	-0.65	3.15	1802.81	7.51	1799.94	7.5	-2.87	-0.16
87	241	154	67	3856	0.92271	693.23	0.56950	904.04	454.46	0	3.11	1807.38	7.5	1803.71	7.48	-3.67	-0.2
87	242	155	68	3872	0.92104	693.89	0.57025	903.78	466.2	-0.64	3.07	1810.56	7.48	1807.71	7.47	-2.85	-0.16
87	243	156	69	3888	0.91937	694.54	0.57099	903.53	478.04	0	3.03	1814.93	7.47	1811.27	7.45	-3.66	-0.2
87	244	157	70	3904	0.91770	695.18	0.57172	903.29	489.99	-0.64	3	1817.9	7.45	1815.07	7.44	-2.84	-0.16
87	245	158	71	3920	0.91602	695.8	0.57245	903.06	502.04	0	2.96	1822.06	7.44	1818.42	7.42	-3.64	-0.2
87	246	159	72	3936	0.91434	696.41	0.57317	902.84	514.19	-0.64	2.93	1824.84	7.42	1822.02	7.41	-2.82	-0.15
87	247	160	73	3952	0.91265	697.01	0.57389	902.63	526.44	0	2.89	1828.8	7.4	1825.18	7.39	-3.62	-0.2
87	248	161	74	3968	0.91097	697.6	0.57460	902.44	538.79	-0.64	2.86	1831.39	7.38	1828.59	7.37	-2.81	-0.15
87	249	162	75	3984	0.90928	698.17	0.57530	902.25	551.24	0	2.82	1835.16	7.37	1831.55	7.36	-3.61	-0.2
87	250	163	76	4000	0.90758	698.74	0.57600	902.07	563.78	-0.63	2.79	1837.56	7.35	1834.77	7.34	-2.8	-0.15
87	251	164	77	4016	0.90589	699.29	0.57669	901.9	576.42	0	2.76	1841.14	7.34	1837.54	7.32	-3.59	-0.2
87	252	165	78	4032	0.90420	699.84	0.57738	901.74	589.15	-0.63	2.73	1843.36	7.31	1840.57	7.3	-2.79	-0.15
87	253	166	79	4048	0.90250	700.37	0.57806	901.6	601.98	0	2.69	1846.75	7.3	1843.16	7.29	-3.59	-0.19
87	254	167	80	4064	0.90080	700.89	0.57874	901.45	614.89	-0.63	2.66	1848.79	7.28	1846.01	7.27	-2.79	-0.15
87	255	168	81	4080	0.89910	701.41	0.57941	901.32	627.9	0	2.63	1852	7.26	1848.42	7.25	-3.59	-0.19
87	256	169	82	4096	0.89740	701.91	0.58008	901.2	640.99	-0.62	2.6	1853.87	7.24	1851.09	7.23	-2.79	-0.15
87	257	170	83	4112	0.89570	702.4	0.58074	901.09	654.18	0	2.58	1856.91	7.23	1853.32	7.21	-3.59	-0.19
87	258	171	84	4128	0.89400	702.88	0.58140	900.98	667.45	-0.62	2.55	1858.61	7.2	1855.81	7.19	-2.8	-0.15
87	259	172	85	4144	0.89229	703.36	0.58205	900.89	680.81	0	2.52	1861.47	7.19	1857.87	7.17	-3.6	-0.19
87	260	173	86	4160	0.89059	703.82	0.58269	900.8	694.25	-0.62	2.49	1863	7.17	1860.19	7.15	-2.81	-0.15
87	261	174	87	4176	0.88889	704.28	0.58333	900.72	707.78	0	2.47	1865.69	7.15	1862.08	7.13	-3.62	-0.19
87	262	175	88	4192	0.88719	704.72	0.58397	900.65	721.39	-0.62	2.44	1867.07	7.13	1864.23	7.12	-2.84	-0.15
87	263	176	89	4208	0.88548	705.16	0.58460	900.58	735.08	0	2.41	1869.59	7.11	1865.95	7.09	-3.64	-0.2
87	264	177	90	4224	0.88378	705.58	0.58523	900.53	748.86	-0.62	2.39	1870.81	7.09	1867.94	7.08	-2.87	-0.15
87	265	178	91	4240	0.88208	706	0.58585	900.48	762.71	0	2.36	1873.17	7.07	1869.49	7.05	-3.68	-0.2
87	266	179	92	4256	0.88038	706.41	0.58647	900.44	776.65	-0.61	2.34	1874.23	7.05	1871.32	7.04	-2.91	-0.16
87	267	180	93	4272	0.87868	706.81	0.58708	900.4	790.66	0	2.32	1876.44	7.03	1872.72	7.01	-3.72	-0.2
87	268	181	94	4288	0.87698	707.21	0.58769	900.38	804.75	-0.61	2.29	1877.34	7.01	1874.39	6.99	-2.96	-0.16
87	269	182	95	4304	0.87528	707.59	0.58829	900.36	818.92	0	2.27	1879.4	6.99	1875.62	6.97	-3.77	-0.2
87	270	183	96	4320	0.87358	707.97	0.58889	900.34	833.17	-0.61	2.25	1880.16	6.96	1877.14	6.95	-3.02	-0.16
87	271	184	97	4336	0.87188	708.34	0.58948	900.34	847.49	0	2.22	1882.06	6.94	1878.22	6.93	-3.84	-0.2
87	272	185	98	4352	0.87019	708.7	0.59007	900.34	861.89	-0.61	2.2	1882.67	6.92	1879.58	6.91	-3.09	-0.16
87	273	186	99	4368	0.86849	709.05	0.59066	900.35	876.36	0	2.18	1884.43	6.9	1880.52	6.89	-3.91	-0.21
87	274	187	100	4384	0.86680	709.4	0.59124	900.36	890.9	-0.6	2.16	1884.9	6.88	1881.73	6.87	-3.17	-0.17
87	275	188	101	4400	0.86511	709.73	0.59182	900.38	905.51	0	2.14	1886.51	6.86	1882.51	6.85	-4	-0.21

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
87	276	189	102	4416	0.86342	710.06	0.59239	900.41	920.2	-0.6	2.12	1886.84	6.84	1883.58	6.82	-3.26	-0.17
87	277	190	103	4432	0.86173	710.39	0.59296	900.45	934.95	0	2.1	1888.31	6.82	1884.22	6.8	-4.09	-0.22
87	278	191	104	4448	0.86005	710.7	0.59353	900.49	949.78	-0.6	2.08	1888.51	6.79	1885.14	6.78	-3.36	-0.18
87	279	192	105	4464	0.85837	711.01	0.59409	900.53	964.68	0	2.06	1889.84	6.77	1885.64	6.76	-4.2	-0.22
87	280	193	106	4480	0.85668	711.31	0.59464	900.59	979.64	-0.6	2.04	1889.9	6.75	1886.42	6.74	-3.48	-0.18
87	281	194	107	4496	0.85500	711.61	0.59520	900.64	994.67	0	2.02	1891.1	6.73	1886.78	6.71	-4.32	-0.23
87	282	195	108	4512	0.85333	711.9	0.59575	900.71	1009.77	-0.6	2	1891.03	6.71	1887.43	6.69	-3.61	-0.19
87	283	196	109	4528	0.85165	712.18	0.59629	900.78	1024.93	0	1.98	1892.09	6.69	1887.64	6.67	-4.45	-0.24
87	284	197	110	4544	0.84998	712.45	0.59683	900.86	1040.16	-0.59	1.97	1891.9	6.66	1888.15	6.65	-3.75	-0.2
87	285	198	111	4560	0.84831	712.72	0.59737	900.94	1055.46	0	1.95	1892.83	6.64	1888.24	6.63	-4.6	-0.24
87	286	199	112	4576	0.84664	712.98	0.59790	901.02	1070.82	-0.59	1.93	1892.52	6.62	1888.61	6.6	-3.9	-0.21
87	287	200	113	4592	0.84498	713.24	0.59843	901.12	1086.24	0	1.91	1893.32	6.6	1888.56	6.58	-4.76	-0.25
87	288	201	114	4608	0.84332	713.49	0.59896	901.21	1101.72	-0.59	1.9	1892.88	6.57	1888.81	6.56	-4.07	-0.22
87	289	202	115	4624	0.84166	713.73	0.59948	901.32	1117.27	0	1.88	1893.56	6.55	1888.63	6.54	-4.93	-0.26
87	290	203	116	4640	0.84000	713.97	0.60000	901.43	1132.88	-0.59	1.86	1893	6.53	1888.75	6.51	-4.25	-0.23
87	291	204	117	4656	0.83835	714.2	0.60052	901.54	1148.55	0	1.85	1893.56	6.51	1888.44	6.49	-5.12	-0.27
87	292	205	118	4672	0.83670	714.43	0.60103	901.66	1164.28	-0.59	1.83	1892.88	6.48	1888.44	6.47	-4.45	-0.24
87	293	206	119	4688	0.83505	714.65	0.60154	901.78	1180.07	0	1.82	1893.32	6.46	1888	6.44	-5.32	-0.28
87	294	207	120	4704	0.83340	714.86	0.60204	901.91	1195.92	-0.58	1.8	1892.53	6.44	1887.87	6.42	-4.66	-0.25
87	295	208	121	4720	0.83176	715.07	0.60254	902.04	1211.83	0	1.79	1892.85	6.42	1887.32	6.4	-5.53	-0.29
87	296	209	122	4736	0.83012	715.27	0.60304	902.18	1227.79	-0.58	1.77	1891.95	6.39	1887.07	6.38	-4.88	-0.26
87	297	210	123	4752	0.82849	715.47	0.60354	902.32	1243.81	0	1.76	1892.15	6.37	1886.39	6.35	-5.76	-0.31
87	298	211	124	4768	0.82686	715.66	0.60403	902.47	1259.89	-0.58	1.74	1891.14	6.35	1886.02	6.33	-5.12	-0.27
87	299	212	125	4784	0.82523	715.85	0.60452	902.62	1276.03	0	1.73	1891.23	6.33	1885.22	6.31	-6.01	-0.32
87	300	213	126	4800	0.82360	716.03	0.60500	902.78	1292.22	-0.58	1.71	1890.11	6.3	1884.74	6.28	-5.37	-0.29
87	301	214	127	4816	0.82198	716.21	0.60548	902.94	1308.46	0	1.7	1890.09	6.28	1883.82	6.26	-6.27	-0.33
87	302	215	128	4832	0.82036	716.38	0.60596	903.1	1324.76	-0.58	1.69	1888.86	6.25	1883.22	6.24	-5.64	-0.3
87	303	216	129	4848	0.81874	716.55	0.60644	903.27	1341.12	0	1.67	1888.73	6.23	1882.19	6.21	-6.54	-0.35
87	304	217	130	4864	0.81713	716.71	0.60691	903.45	1357.53	-0.57	1.66	1887.4	6.21	1881.48	6.19	-5.93	-0.31
Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
88	175	87	-1	2800	0.99997	606.94	0.49857	983	0.14	0	9.76	1219.69	6.97	1228.57	7.02	8.88	0.72
88	176	88	0	2816	1.00000	609.27	0.50000	981.11	0	0.75	10	1236.37	7.02	1244.43	7.07	8.06	0.65
88	177	89	1	2832	0.99997	611.56	0.50141	979.28	0.14	0	9.77	1250.79	7.07	1257.94	7.11	7.14	0.57
88	178	90	2	2848	0.99987	613.8	0.50281	977.49	0.55	0.75	9.54	1266.45	7.11	1273.3	7.15	6.85	0.54
88	179	91	3	2864	0.99972	616	0.50419	975.74	1.22	0	9.32	1280.35	7.15	1286.34	7.19	5.99	0.47
88	180	92	4	2880	0.99951	618.16	0.50556	974.04	2.17	0.75	9.11	1295.49	7.2	1301.23	7.23	5.74	0.44
88	181	93	5	2896	0.99924	620.28	0.50691	972.37	3.37	0	8.9	1308.89	7.23	1313.81	7.26	4.93	0.38
88	182	94	6	2912	0.99891	622.36	0.50824	970.75	4.82	0.74	8.71	1323.52	7.27	1328.24	7.3	4.72	0.36
88	183	95	7	2928	0.99854	624.41	0.50956	969.16	6.52	0	8.52	1336.42	7.3	1340.38	7.32	3.96	0.3
88	184	96	8	2944	0.99811	626.41	0.51087	967.62	8.48	0.74	8.33	1350.56	7.34	1354.36	7.36	3.8	0.28
88	185	97	9	2960	0.99763	628.38	0.51216	966.11	10.67	0	8.15	1363	7.37	1366.07	7.38	3.08	0.23
88	186	98	10	2976	0.99711	630.31	0.51344	964.64	13.1	0.73	7.98	1376.66	7.4	1379.61	7.42	2.95	0.21
88	187	99	11	2992	0.99654	632.2	0.51471	963.2	15.77	0	7.81	1388.64	7.43	1390.91	7.44	2.27	0.16
88	188	100	12	3008	0.99593	634.07	0.51596	961.8	18.67	0.73	7.65	1401.84	7.46	1404.03	7.47	2.18	0.16
88	189	101	13	3024	0.99527	635.89	0.51720	960.44	21.79	0	7.49	1413.37	7.48	1414.92	7.49	1.54	0.11
88	190	102	14	3040	0.99457	637.69	0.51842	959.1	25.14	0.73	7.34	1426.14	7.51	1427.62	7.51	1.48	0.1

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
88	191	103	15	3056	0.99383	639.45	0.51963	957.8	28.71	0	7.19	1437.23	7.52	1438.12	7.53	0.88	0.06
88	192	104	16	3072	0.99306	641.17	0.52083	956.53	32.5	0.72	7.05	1449.57	7.55	1450.42	7.55	0.85	0.06
88	193	105	17	3088	0.99224	642.87	0.52202	955.29	36.5	0	6.91	1460.25	7.57	1460.53	7.57	0.29	0.02
88	194	106	18	3104	0.99139	644.54	0.52320	954.09	40.71	0.72	6.77	1472.16	7.59	1472.44	7.59	0.28	0.02
88	195	107	19	3120	0.99051	646.17	0.52436	952.91	45.12	0	6.64	1482.44	7.6	1482.19	7.6	-0.25	-0.02
88	196	108	20	3136	0.98959	647.78	0.52551	951.76	49.74	0.71	6.51	1493.95	7.62	1493.72	7.62	-0.23	-0.02
88	197	109	21	3152	0.98864	649.36	0.52665	950.64	54.57	0	6.39	1503.83	7.63	1503.1	7.63	-0.73	-0.05
88	198	110	22	3168	0.98765	650.9	0.52778	949.55	59.59	0.71	6.27	1514.95	7.65	1514.26	7.65	-0.69	-0.05
88	199	111	23	3184	0.98664	652.42	0.52889	948.48	64.8	0	6.15	1524.45	7.66	1523.29	7.65	-1.16	-0.08
88	200	112	24	3200	0.98560	653.92	0.53000	947.44	70.21	0.71	6.04	1535.18	7.68	1534.09	7.67	-1.09	-0.07
88	201	113	25	3216	0.98453	655.38	0.53110	946.43	75.8	0	5.93	1544.32	7.68	1542.77	7.68	-1.55	-0.1
88	202	114	26	3232	0.98343	656.82	0.53218	945.44	81.58	0.7	5.82	1554.68	7.7	1553.23	7.69	-1.46	-0.09
88	203	115	27	3248	0.98231	658.23	0.53325	944.48	87.55	0	5.72	1563.46	7.7	1561.57	7.69	-1.88	-0.12
88	204	116	28	3264	0.98116	659.62	0.53431	943.54	93.7	0.7	5.62	1573.46	7.71	1571.69	7.7	-1.78	-0.11
88	205	117	29	3280	0.97999	660.99	0.53537	942.63	100.02	0	5.52	1581.89	7.72	1579.71	7.71	-2.18	-0.14
88	206	118	30	3296	0.97879	662.32	0.53641	941.73	106.52	0.7	5.42	1591.54	7.73	1589.49	7.72	-2.06	-0.13
88	207	119	31	3312	0.97757	663.64	0.53744	940.87	113.19	0	5.33	1599.64	7.73	1597.19	7.72	-2.44	-0.15
88	208	120	32	3328	0.97633	664.93	0.53846	940.02	120.04	0.69	5.24	1608.95	7.74	1606.65	7.72	-2.3	-0.14
88	209	121	33	3344	0.97507	666.2	0.53947	939.2	127.05	0	5.15	1616.71	7.74	1614.05	7.72	-2.67	-0.17
88	210	122	34	3360	0.97379	667.44	0.54048	938.39	134.22	0.69	5.07	1625.7	7.74	1623.18	7.73	-2.51	-0.15
88	211	123	35	3376	0.97249	668.66	0.54147	937.61	141.57	0	4.98	1633.14	7.74	1630.28	7.73	-2.86	-0.18
88	212	124	36	3392	0.97116	669.86	0.54245	936.85	149.07	0.69	4.9	1641.81	7.74	1639.11	7.73	-2.69	-0.16
88	213	125	37	3408	0.96983	671.04	0.54343	936.11	156.73	0	4.82	1648.94	7.74	1645.91	7.73	-3.03	-0.18
88	214	126	38	3424	0.96847	672.2	0.54439	935.39	164.55	0.68	4.74	1657.29	7.74	1654.44	7.73	-2.85	-0.17
88	215	127	39	3440	0.96710	673.33	0.54535	934.69	172.52	0	4.67	1664.13	7.74	1660.96	7.73	-3.17	-0.19
88	216	128	40	3456	0.96571	674.45	0.54630	934.01	180.64	0.68	4.59	1672.17	7.74	1669.2	7.73	-2.98	-0.18
88	217	129	41	3472	0.96430	675.55	0.54724	933.35	188.92	0	4.52	1678.71	7.74	1675.43	7.72	-3.28	-0.2
88	218	130	42	3488	0.96288	676.62	0.54817	932.7	197.34	0.68	4.45	1686.47	7.74	1683.39	7.72	-3.08	-0.18
88	219	131	43	3504	0.96145	677.68	0.54909	932.08	205.91	0	4.38	1692.72	7.73	1689.35	7.71	-3.38	-0.2
88	220	132	44	3520	0.96000	678.72	0.55000	931.47	214.62	0.67	4.32	1700.19	7.73	1697.02	7.71	-3.17	-0.19
88	221	133	45	3536	0.95854	679.74	0.55091	930.87	223.48	0	4.25	1706.17	7.72	1702.72	7.7	-3.45	-0.2
88	222	134	46	3552	0.95707	680.74	0.55180	930.3	232.47	0.67	4.19	1713.35	7.72	1710.12	7.7	-3.23	-0.19
88	223	135	47	3568	0.95558	681.72	0.55269	929.74	241.6	0	4.13	1719.06	7.71	1715.56	7.69	-3.51	-0.2
88	224	136	48	3584	0.95408	682.68	0.55357	929.2	250.88	0.67	4.07	1725.98	7.71	1722.69	7.69	-3.28	-0.19
88	225	137	49	3600	0.95257	683.63	0.55444	928.67	260.28	0	4.01	1731.42	7.7	1727.88	7.68	-3.55	-0.21
88	226	138	50	3616	0.95105	684.56	0.55531	928.16	269.82	0.67	3.95	1738.07	7.69	1734.75	7.68	-3.32	-0.19
88	227	139	51	3632	0.94952	685.47	0.55617	927.67	279.49	0	3.89	1743.26	7.68	1739.69	7.66	-3.57	-0.21
88	228	140	52	3648	0.94798	686.37	0.55702	927.19	289.29	0.66	3.84	1749.65	7.67	1746.31	7.66	-3.34	-0.19
88	229	141	53	3664	0.94644	687.25	0.55786	926.72	299.21	0	3.78	1754.59	7.66	1751	7.65	-3.59	-0.21
88	230	142	54	3680	0.94488	688.12	0.55870	926.27	309.27	0.66	3.73	1760.73	7.66	1757.38	7.64	-3.35	-0.19
88	231	143	55	3696	0.94331	688.97	0.55952	925.84	319.44	0	3.68	1765.43	7.64	1761.84	7.63	-3.6	-0.2
88	232	144	56	3712	0.94174	689.8	0.56035	925.41	329.74	0.66	3.63	1771.33	7.64	1767.97	7.62	-3.36	-0.19
88	233	145	57	3728	0.94015	690.62	0.56116	925.01	340.17	0	3.58	1775.79	7.62	1772.2	7.61	-3.59	-0.2
88	234	146	58	3744	0.93856	691.42	0.56197	924.61	350.71	0.65	3.53	1781.44	7.61	1778.09	7.6	-3.35	-0.19
88	235	147	59	3760	0.93697	692.21	0.56277	924.23	361.37	0	3.48	1785.67	7.6	1782.09	7.58	-3.58	-0.2
88	236	148	60	3776	0.93536	692.98	0.56356	923.86	372.15	0.65	3.44	1791.1	7.59	1787.76	7.58	-3.34	-0.19
88	237	149	61	3792	0.93375	693.74	0.56435	923.51	383.04	0	3.39	1795.1	7.57	1791.54	7.56	-3.57	-0.2

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Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
88	238	150	62	3808	0.93214	694.49	0.56513	923.16	394.04	0.65	3.35	1800.3	7.56	1796.98	7.55	-3.32	-0.18
88	239	151	63	3824	0.93052	695.22	0.56590	922.83	405.16	0	3.31	1804.09	7.55	1800.54	7.53	-3.55	-0.2
88	240	152	64	3840	0.92889	695.94	0.56667	922.52	416.39	0.65	3.26	1809.06	7.54	1805.76	7.52	-3.3	-0.18
88	241	153	65	3856	0.92726	696.65	0.56743	922.21	427.73	0	3.22	1812.63	7.52	1809.11	7.51	-3.52	-0.19
88	242	154	66	3872	0.92562	697.34	0.56818	921.92	439.18	0.64	3.18	1817.39	7.51	1814.11	7.5	-3.28	-0.18
88	243	155	67	3888	0.92398	698.02	0.56893	921.63	450.73	0	3.14	1820.76	7.49	1817.26	7.48	-3.5	-0.19
88	244	156	68	3904	0.92233	698.69	0.56967	921.36	462.39	0.64	3.1	1825.3	7.48	1822.05	7.47	-3.25	-0.18
88	245	157	69	3920	0.92068	699.34	0.57041	921.1	474.16	0	3.06	1828.47	7.46	1825	7.45	-3.47	-0.19
88	246	158	70	3936	0.91903	699.98	0.57114	920.85	486.02	0.64	3.03	1832.81	7.45	1829.58	7.44	-3.23	-0.18
88	247	159	71	3952	0.91737	700.61	0.57186	920.61	497.99	0	2.99	1835.77	7.43	1832.33	7.42	-3.44	-0.19
88	248	160	72	3968	0.91571	701.23	0.57258	920.38	510.06	0.64	2.95	1839.91	7.42	1836.71	7.41	-3.2	-0.17
88	249	161	73	3984	0.91405	701.84	0.57329	920.17	522.23	0	2.92	1842.68	7.4	1839.26	7.39	-3.42	-0.19
88	250	162	74	4000	0.91238	702.43	0.57400	919.96	534.5	0.63	2.88	1846.62	7.39	1843.44	7.37	-3.18	-0.17
88	251	163	75	4016	0.91072	703.02	0.57470	919.76	546.87	0	2.85	1849.2	7.37	1845.81	7.35	-3.39	-0.18
88	252	164	76	4032	0.90905	703.59	0.57540	919.57	559.33	0.63	2.82	1852.95	7.35	1849.8	7.34	-3.16	-0.17
88	253	165	77	4048	0.90737	704.15	0.57609	919.4	571.88	0	2.79	1855.35	7.33	1851.98	7.32	-3.37	-0.18
88	254	166	78	4064	0.90570	704.71	0.57677	919.23	584.53	0.63	2.75	1858.92	7.32	1855.78	7.31	-3.14	-0.17
88	255	167	79	4080	0.90402	705.25	0.57745	919.07	597.27	0	2.72	1861.13	7.3	1857.77	7.29	-3.36	-0.18
88	256	168	80	4096	0.90234	705.78	0.57813	918.92	610.11	0.62	2.69	1864.51	7.28	1861.39	7.27	-3.13	-0.17
88	257	169	81	4112	0.90067	706.3	0.57879	918.78	623.03	0	2.66	1866.55	7.26	1863.21	7.25	-3.35	-0.18
88	258	170	82	4128	0.89898	706.81	0.57946	918.65	636.04	0.62	2.63	1869.76	7.25	1866.64	7.24	-3.12	-0.17
88	259	171	83	4144	0.89730	707.31	0.58012	918.53	649.15	0	2.6	1871.63	7.23	1868.29	7.21	-3.34	-0.18
88	260	172	84	4160	0.89562	707.8	0.58077	918.41	662.34	0.62	2.57	1874.65	7.21	1871.54	7.2	-3.12	-0.17
88	261	173	85	4176	0.89394	708.28	0.58142	918.31	675.61	0	2.55	1876.35	7.19	1873.01	7.18	-3.34	-0.18
88	262	174	86	4192	0.89226	708.75	0.58206	918.21	688.97	0.62	2.52	1879.21	7.17	1876.09	7.16	-3.12	-0.17
88	263	175	87	4208	0.89057	709.21	0.58270	918.12	702.42	0	2.49	1880.75	7.15	1877.4	7.14	-3.35	-0.18
88	264	176	88	4224	0.88889	709.66	0.58333	918.04	715.94	0.62	2.47	1883.44	7.13	1880.3	7.12	-3.13	-0.17
88	265	177	89	4240	0.88721	710.11	0.58396	917.97	729.56	0	2.44	1884.81	7.11	1881.45	7.1	-3.36	-0.18
88	266	178	90	4256	0.88552	710.54	0.58459	917.9	743.25	0.61	2.41	1887.34	7.1	1884.19	7.08	-3.15	-0.17
88	267	179	91	4272	0.88384	710.97	0.58521	917.85	757.02	0	2.39	1888.56	7.07	1885.17	7.06	-3.38	-0.18
88	268	180	92	4288	0.88216	711.38	0.58582	917.8	770.87	0.61	2.37	1890.92	7.06	1887.74	7.04	-3.18	-0.17
88	269	181	93	4304	0.88047	711.79	0.58643	917.75	784.81	0	2.34	1891.99	7.03	1888.57	7.02	-3.42	-0.18
88	270	182	94	4320	0.87879	712.19	0.58704	917.72	798.82	0.61	2.32	1894.2	7.02	1890.98	7	-3.22	-0.17
88	271	183	95	4336	0.87711	712.58	0.58764	917.69	812.9	0	2.29	1895.11	6.99	1891.66	6.98	-3.46	-0.18
88	272	184	96	4352	0.87543	712.97	0.58824	917.67	827.07	0.61	2.27	1897.17	6.97	1893.91	6.96	-3.26	-0.17
88	273	185	97	4368	0.87375	713.34	0.58883	917.66	841.3	0	2.25	1897.94	6.95	1894.43	6.94	-3.51	-0.19
88	274	186	98	4384	0.87208	713.71	0.58942	917.65	855.62	0.6	2.23	1899.85	6.93	1896.53	6.92	-3.32	-0.17
88	275	187	99	4400	0.87040	714.07	0.59000	917.65	870	0	2.2	1900.47	6.91	1896.91	6.9	-3.57	-0.19
88	276	188	100	4416	0.86873	714.43	0.59058	917.66	884.46	0.6	2.18	1902.23	6.89	1898.85	6.88	-3.39	-0.18
88	277	189	101	4432	0.86705	714.77	0.59116	917.67	899	0	2.16	1902.72	6.87	1899.08	6.86	-3.64	-0.19
88	278	190	102	4448	0.86538	715.11	0.59173	917.7	913.6	0.6	2.14	1904.34	6.85	1900.87	6.84	-3.46	-0.18
88	279	191	103	4464	0.86371	715.44	0.59229	917.72	928.28	0	2.12	1904.69	6.83	1900.96	6.81	-3.72	-0.2
88	280	192	104	4480	0.86204	715.76	0.59286	917.76	943.02	0.6	2.1	1906.16	6.81	1902.61	6.8	-3.55	-0.19
88	281	193	105	4496	0.86037	716.08	0.59342	917.8	957.83	0	2.08	1906.38	6.78	1902.56	6.77	-3.82	-0.2
88	282	194	106	4512	0.85871	716.39	0.59397	917.84	972.72	0.6	2.06	1907.71	6.76	1904.06	6.75	-3.65	-0.19
88	283	195	107	4528	0.85705	716.69	0.59452	917.89	987.67	0	2.04	1907.8	6.74	1903.87	6.73	-3.92	-0.21
88	284	196	108	4544	0.85539	716.98	0.59507	917.95	1002.68	0.59	2.02	1909	6.72	1905.24	6.71	-3.77	-0.2

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
88	285	197	109	4560	0.85373	717.27	0.59561	918.01	1017.77	0	2.01	1908.95	6.7	1904.91	6.68	-4.04	-0.21
88	286	198	110	4576	0.85207	717.55	0.59615	918.08	1032.91	0.59	1.99	1910.03	6.68	1906.14	6.66	-3.89	-0.2
88	287	199	111	4592	0.85042	717.83	0.59669	918.16	1048.13	0	1.97	1909.85	6.65	1905.68	6.64	-4.17	-0.22
88	288	200	112	4608	0.84877	718.1	0.59722	918.24	1063.41	0.59	1.95	1910.8	6.63	1906.77	6.62	-4.03	-0.21
88	289	201	113	4624	0.84712	718.36	0.59775	918.33	1078.75	0	1.94	1910.5	6.61	1906.18	6.6	-4.32	-0.23
88	290	202	114	4640	0.84547	718.62	0.59828	918.42	1094.15	0.59	1.92	1911.32	6.59	1907.14	6.58	-4.18	-0.22
88	291	203	115	4656	0.84383	718.87	0.59880	918.51	1109.62	0	1.9	1910.9	6.57	1906.43	6.55	-4.47	-0.23
88	292	204	116	4672	0.84218	719.11	0.59932	918.62	1125.15	0.59	1.89	1911.59	6.55	1907.25	6.53	-4.35	-0.23
88	293	205	117	4688	0.84055	719.35	0.59983	918.72	1140.74	0	1.87	1911.06	6.52	1906.41	6.51	-4.65	-0.24
88	294	206	118	4704	0.83891	719.58	0.60034	918.84	1156.39	0.58	1.85	1911.63	6.5	1907.1	6.49	-4.53	-0.24
88	295	207	119	4720	0.83728	719.81	0.60085	918.95	1172.1	0	1.84	1910.98	6.48	1906.14	6.46	-4.83	-0.25
88	296	208	120	4736	0.83565	720.03	0.60135	919.08	1187.87	0.58	1.82	1911.43	6.46	1906.71	6.44	-4.72	-0.25
88	297	209	121	4752	0.83402	720.25	0.60185	919.2	1203.69	0	1.81	1910.66	6.43	1905.63	6.42	-5.03	-0.26
88	298	210	122	4768	0.83240	720.46	0.60235	919.34	1219.58	0.58	1.79	1911	6.41	1906.07	6.4	-4.93	-0.26
88	299	211	123	4784	0.83077	720.66	0.60284	919.47	1235.52	0	1.78	1910.12	6.39	1904.87	6.37	-5.24	-0.28
88	300	212	124	4800	0.82916	720.86	0.60333	919.62	1251.52	0.58	1.76	1910.34	6.37	1905.19	6.35	-5.15	-0.27
88	301	213	125	4816	0.82754	721.06	0.60382	919.76	1267.58	0	1.75	1909.35	6.34	1903.88	6.33	-5.47	-0.29
88	302	214	126	4832	0.82593	721.24	0.60431	919.91	1283.69	0.58	1.73	1909.46	6.32	1904.08	6.3	-5.38	-0.28
88	303	215	127	4848	0.82432	721.43	0.60479	920.07	1299.86	0	1.72	1908.37	6.3	1902.65	6.28	-5.72	-0.3
88	304	216	128	4864	0.82272	721.61	0.60526	920.23	1316.08	0.57	1.71	1908.37	6.28	1902.73	6.26	-5.64	-0.3
88	305	217	129	4880	0.82111	721.78	0.60574	920.39	1332.35	0	1.69	1907.17	6.25	1901.19	6.23	-5.97	-0.31
88	306	218	130	4896	0.81951	721.95	0.60621	920.56	1348.68	0.57	1.68	1907.06	6.23	1901.16	6.21	-5.9	-0.31
88	307	219	131	4912	0.81792	722.11	0.60668	920.73	1365.07	0	1.67	1905.76	6.21	1899.51	6.19	-6.25	-0.33
88	308	220	132	4928	0.81633	722.27	0.60714	920.91	1381.5	0.57	1.65	1905.54	6.19	1899.36	6.17	-6.18	-0.33
Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
89	177	88	-1	2832	0.99997	611.56	0.49859	1001.66	0.14	0	9.77	1228.41	6.94	1237.32	6.99	8.91	0.72
89	178	89	0	2848	1.00000	613.88	0.50000	999.77	0	-0.75	10	1243.61	6.99	1252.25	7.04	8.64	0.69
89	179	90	1	2864	0.99997	616.16	0.50140	997.92	0.14	0	9.77	1259.56	7.04	1266.72	7.08	7.16	0.57
89	180	91	2	2880	0.99988	618.39	0.50278	996.11	0.54	-0.75	9.54	1273.76	7.08	1281.18	7.12	7.42	0.58
89	181	92	3	2896	0.99973	620.59	0.50414	994.35	1.21	0	9.33	1289.18	7.12	1295.18	7.16	6	0.46
89	182	93	4	2912	0.99952	622.74	0.50550	992.63	2.14	-0.74	9.12	1302.87	7.16	1309.17	7.19	6.3	0.48
89	183	94	5	2928	0.99925	624.85	0.50683	990.95	3.33	0	8.92	1317.78	7.2	1322.71	7.23	4.93	0.37
89	184	95	6	2944	0.99894	626.93	0.50815	989.31	4.77	-0.74	8.72	1330.97	7.23	1336.25	7.26	5.28	0.4
89	185	96	7	2960	0.99857	628.97	0.50946	987.71	6.45	0	8.53	1345.4	7.27	1349.35	7.29	3.95	0.29
89	186	97	8	2976	0.99815	630.97	0.51075	986.15	8.38	-0.73	8.35	1358.11	7.3	1362.45	7.33	4.34	0.32
89	187	98	9	2992	0.99768	632.93	0.51203	984.63	10.56	0	8.17	1372.05	7.34	1375.11	7.35	3.06	0.22
89	188	99	10	3008	0.99717	634.86	0.51330	983.14	12.96	-0.73	8	1384.3	7.36	1387.79	7.38	3.49	0.25
89	189	100	11	3024	0.99661	636.75	0.51455	981.69	15.6	0	7.83	1397.78	7.4	1400.03	7.41	2.24	0.16
89	190	101	12	3040	0.99601	638.61	0.51579	980.28	18.47	-0.73	7.67	1409.59	7.42	1412.3	7.43	2.71	0.19
89	191	102	13	3056	0.99537	640.43	0.51702	978.9	21.56	0	7.51	1422.62	7.45	1424.12	7.46	1.5	0.11
89	192	103	14	3072	0.99468	642.23	0.51823	977.55	24.88	-0.72	7.36	1433.99	7.47	1435.99	7.48	2	0.14
89	193	104	15	3088	0.99396	643.98	0.51943	976.23	28.41	0	7.21	1446.59	7.5	1447.42	7.5	0.83	0.06
89	194	105	16	3104	0.99320	645.71	0.52062	974.95	32.16	-0.72	7.07	1457.53	7.51	1458.9	7.52	1.36	0.09
89	195	106	17	3120	0.99240	647.41	0.52180	973.69	36.12	0	6.93	1469.71	7.54	1469.93	7.54	0.22	0.02
89	196	107	18	3136	0.99157	649.07	0.52296	972.47	40.29	-0.71	6.8	1480.25	7.55	1481.03	7.56	0.79	0.05
89	197	108	19	3152	0.99070	650.71	0.52411	971.28	44.67	0	6.67	1492.01	7.57	1491.69	7.57	-0.32	-0.02

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Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
89	198	109	20	3168	0.98980	652.32	0.52525	970.11	49.24	-0.71	6.54	1502.16	7.59	1502.42	7.59	0.27	0.02
89	199	110	21	3184	0.98886	653.89	0.52638	968.98	54.02	0	6.42	1513.53	7.61	1512.71	7.6	-0.81	-0.05
89	200	111	22	3200	0.98790	655.44	0.52750	967.87	58.99	-0.71	6.3	1523.29	7.62	1523.09	7.62	-0.2	-0.01
89	201	112	23	3216	0.98691	656.96	0.52861	966.79	64.16	0	6.18	1534.27	7.63	1533.02	7.63	-1.25	-0.08
89	202	113	24	3232	0.98588	658.46	0.52970	965.74	69.52	-0.7	6.07	1543.66	7.64	1543.04	7.64	-0.62	-0.04
89	203	114	25	3248	0.98483	659.93	0.53079	964.71	75.06	0	5.96	1554.27	7.66	1552.62	7.65	-1.65	-0.11
89	204	115	26	3264	0.98376	661.37	0.53186	963.71	80.79	-0.7	5.85	1563.29	7.66	1562.31	7.66	-0.99	-0.06
89	205	116	27	3280	0.98265	662.78	0.53293	962.73	86.7	0	5.75	1573.54	7.68	1571.55	7.67	-1.99	-0.13
89	206	117	28	3296	0.98153	664.17	0.53398	961.78	92.79	-0.7	5.65	1582.21	7.68	1580.9	7.67	-1.32	-0.08
89	207	118	29	3312	0.98037	665.54	0.53502	960.85	99.06	0	5.55	1592.11	7.69	1589.81	7.68	-2.3	-0.14
89	208	119	30	3328	0.97920	666.88	0.53606	959.94	105.5	-0.69	5.46	1600.44	7.69	1598.84	7.69	-1.6	-0.1
89	209	120	31	3344	0.97800	668.2	0.53708	959.06	112.11	0	5.36	1609.99	7.7	1607.43	7.69	-2.57	-0.16
89	210	121	32	3360	0.97678	669.49	0.53810	958.2	118.9	-0.69	5.27	1618	7.7	1616.14	7.7	-1.86	-0.11
89	211	122	33	3376	0.97554	670.76	0.53910	957.36	125.85	0	5.18	1627.21	7.71	1624.41	7.7	-2.8	-0.17
89	212	123	34	3392	0.97428	672.01	0.54009	956.54	132.96	-0.69	5.1	1634.89	7.71	1632.82	7.7	-2.07	-0.13
89	213	124	35	3408	0.97300	673.24	0.54108	955.75	140.24	0	5.02	1643.79	7.72	1640.78	7.7	-3	-0.18
89	214	125	36	3424	0.97170	674.44	0.54206	954.97	147.68	-0.68	4.93	1651.15	7.72	1648.89	7.71	-2.26	-0.14
89	215	126	37	3440	0.97038	675.62	0.54302	954.22	155.28	0	4.85	1659.73	7.72	1656.56	7.7	-3.18	-0.19
89	216	127	38	3456	0.96905	676.78	0.54398	953.49	163.03	-0.68	4.78	1666.8	7.72	1664.37	7.71	-2.42	-0.15
89	217	128	39	3472	0.96770	677.93	0.54493	952.77	170.93	0	4.7	1675.07	7.72	1671.75	7.7	-3.32	-0.2
89	218	129	40	3488	0.96633	679.05	0.54587	952.08	178.99	-0.68	4.63	1681.84	7.71	1679.28	7.7	-2.56	-0.15
89	219	130	41	3504	0.96495	680.15	0.54680	951.4	187.2	0	4.56	1689.81	7.72	1686.37	7.7	-3.44	-0.2
89	220	131	42	3520	0.96355	681.23	0.54773	950.74	195.55	-0.67	4.49	1696.29	7.71	1693.62	7.7	-2.67	-0.16
89	221	132	43	3536	0.96214	682.29	0.54864	950.1	204.05	0	4.42	1703.97	7.71	1700.43	7.69	-3.54	-0.21
89	222	133	44	3552	0.96072	683.33	0.54955	949.48	212.7	-0.67	4.35	1710.17	7.7	1707.41	7.69	-2.76	-0.16
89	223	134	45	3568	0.95928	684.36	0.55045	948.87	221.48	0	4.28	1717.57	7.7	1713.95	7.69	-3.62	-0.21
89	224	135	46	3584	0.95783	685.36	0.55134	948.29	230.4	-0.67	4.22	1723.5	7.69	1720.67	7.68	-2.83	-0.16
89	225	136	47	3600	0.95637	686.35	0.55222	947.71	239.47	0	4.16	1730.63	7.69	1726.94	7.68	-3.68	-0.21
89	226	137	48	3616	0.95489	687.32	0.55310	947.16	248.66	-0.67	4.1	1736.29	7.68	1733.4	7.67	-2.89	-0.17
89	227	138	49	3632	0.95341	688.28	0.55397	946.62	258	0	4.04	1743.14	7.68	1739.42	7.66	-3.73	-0.21
89	228	139	50	3648	0.95191	689.21	0.55483	946.1	267.46	-0.66	3.98	1748.55	7.67	1745.62	7.66	-2.93	-0.17
89	229	140	51	3664	0.95040	690.13	0.55568	945.59	277.06	0	3.92	1755.14	7.66	1751.38	7.65	-3.76	-0.21
89	230	141	52	3680	0.94889	691.04	0.55652	945.1	286.78	-0.66	3.87	1760.29	7.65	1757.34	7.64	-2.95	-0.17
89	231	142	53	3696	0.94736	691.92	0.55736	944.62	296.63	0	3.82	1766.64	7.65	1762.86	7.63	-3.78	-0.21
89	232	143	54	3712	0.94582	692.79	0.55819	944.16	306.61	-0.66	3.76	1771.54	7.64	1768.57	7.62	-2.97	-0.17
89	233	144	55	3728	0.94428	693.65	0.55901	943.71	316.71	0	3.71	1777.64	7.63	1773.85	7.61	-3.79	-0.21
89	234	145	56	3744	0.94273	694.49	0.55983	943.28	326.94	-0.65	3.66	1782.3	7.62	1779.33	7.6	-2.97	-0.17
89	235	146	57	3760	0.94117	695.31	0.56064	942.86	337.28	0	3.61	1788.16	7.61	1784.37	7.59	-3.79	-0.21
89	236	147	58	3776	0.93960	696.12	0.56144	942.45	347.75	-0.65	3.56	1792.59	7.6	1789.62	7.58	-2.97	-0.17
89	237	148	59	3792	0.93803	696.92	0.56224	942.06	358.33	0	3.51	1798.21	7.59	1794.43	7.57	-3.78	-0.21
89	238	149	60	3808	0.93645	697.7	0.56303	941.68	369.03	-0.65	3.47	1802.41	7.57	1799.45	7.56	-2.96	-0.16
89	239	150	61	3824	0.93486	698.47	0.56381	941.31	379.85	0	3.42	1807.8	7.56	1804.04	7.55	-3.76	-0.21
89	240	151	62	3840	0.93326	699.22	0.56458	940.96	390.77	-0.65	3.38	1811.78	7.55	1808.84	7.54	-2.95	-0.16
89	241	152	63	3856	0.93166	699.96	0.56535	940.62	401.81	0	3.34	1816.95	7.54	1813.2	7.52	-3.74	-0.21
89	242	153	64	3872	0.93006	700.68	0.56612	940.29	412.96	-0.64	3.29	1820.72	7.52	1817.79	7.51	-2.93	-0.16
89	243	154	65	3888	0.92845	701.4	0.56687	939.97	424.22	0	3.25	1825.66	7.51	1821.94	7.5	-3.72	-0.2
89	244	155	66	3904	0.92683	702.1	0.56762	939.66	435.59	-0.64	3.21	1829.22	7.5	1826.31	7.48	-2.9	-0.16

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
89	245	156	67	3920	0.92521	702.78	0.56837	939.37	447.07	0	3.17	1833.95	7.49	1830.25	7.47	-3.7	-0.2
89	246	157	68	3936	0.92359	703.46	0.56911	939.09	458.65	-0.64	3.13	1837.3	7.47	1834.42	7.46	-2.88	-0.16
89	247	158	69	3952	0.92196	704.12	0.56984	938.82	470.33	0	3.09	1841.83	7.46	1838.16	7.44	-3.67	-0.2
89	248	159	70	3968	0.92033	704.77	0.57057	938.56	482.12	-0.64	3.06	1844.98	7.44	1842.12	7.43	-2.85	-0.15
89	249	160	71	3984	0.91870	705.41	0.57129	938.31	494.01	0	3.02	1849.3	7.43	1845.65	7.41	-3.64	-0.2
89	250	161	72	4000	0.91706	706.03	0.57200	938.07	506	-0.63	2.98	1852.25	7.41	1849.42	7.4	-2.83	-0.15
89	251	162	73	4016	0.91541	706.65	0.57271	937.84	518.09	0	2.95	1856.37	7.4	1852.76	7.38	-3.61	-0.2
89	252	163	74	4032	0.91377	707.25	0.57341	937.62	530.28	-0.63	2.91	1859.14	7.38	1856.33	7.37	-2.8	-0.15
89	253	164	75	4048	0.91212	707.84	0.57411	937.42	542.56	0	2.88	1863.06	7.36	1859.47	7.35	-3.59	-0.19
89	254	165	76	4064	0.91047	708.42	0.57480	937.22	554.94	-0.63	2.85	1865.64	7.35	1862.86	7.33	-2.78	-0.15
89	255	166	77	4080	0.90882	708.99	0.57549	937.03	567.42	0	2.81	1869.38	7.33	1865.81	7.32	-3.57	-0.19
89	256	167	78	4096	0.90717	709.55	0.57617	936.85	579.98	-0.62	2.78	1871.77	7.31	1869.01	7.3	-2.76	-0.15
89	257	168	79	4112	0.90551	710.1	0.57685	936.68	592.64	0	2.75	1875.33	7.3	1871.78	7.28	-3.55	-0.19
89	258	169	80	4128	0.90385	710.63	0.57752	936.53	605.4	-0.62	2.72	1877.54	7.28	1874.79	7.27	-2.75	-0.15
89	259	170	81	4144	0.90219	711.16	0.57819	936.38	618.24	0	2.69	1880.91	7.26	1877.38	7.25	-3.53	-0.19
89	260	171	82	4160	0.90053	711.68	0.57885	936.24	631.17	-0.62	2.66	1882.95	7.24	1880.22	7.23	-2.74	-0.15
89	261	172	83	4176	0.89887	712.19	0.57950	936.1	644.19	0	2.63	1886.15	7.23	1882.63	7.21	-3.52	-0.19
89	262	173	84	4192	0.89721	712.68	0.58015	935.98	657.3	-0.62	2.6	1888.02	7.21	1885.29	7.2	-2.73	-0.14
89	263	174	85	4208	0.89555	713.17	0.58080	935.87	670.49	0	2.57	1891.04	7.19	1887.52	7.18	-3.52	-0.19
89	264	175	86	4224	0.89388	713.65	0.58144	935.76	683.77	-0.62	2.55	1892.75	7.17	1890.02	7.16	-2.73	-0.14
89	265	176	87	4240	0.89222	714.12	0.58208	935.66	697.13	0	2.52	1895.6	7.15	1892.08	7.14	-3.52	-0.19
89	266	177	88	4256	0.89055	714.58	0.58271	935.57	710.58	-0.61	2.49	1897.15	7.13	1894.41	7.12	-2.74	-0.14
89	267	178	89	4272	0.88889	715.03	0.58333	935.49	724.11	0	2.47	1899.83	7.12	1896.3	7.1	-3.53	-0.19
89	268	179	90	4288	0.88722	715.47	0.58396	935.42	737.72	-0.61	2.44	1901.22	7.09	1898.46	7.08	-2.76	-0.15
89	269	180	91	4304	0.88556	715.9	0.58457	935.35	751.41	0	2.42	1903.74	7.08	1900.19	7.06	-3.55	-0.19
89	270	181	92	4320	0.88390	716.33	0.58519	935.3	765.19	-0.61	2.39	1904.97	7.06	1902.19	7.05	-2.78	-0.15
89	271	182	93	4336	0.88223	716.74	0.58579	935.25	779.04	0	2.37	1907.34	7.04	1903.76	7.02	-3.58	-0.19
89	272	183	94	4352	0.88057	717.15	0.58640	935.2	792.96	-0.61	2.34	1908.42	7.02	1905.61	7.01	-2.81	-0.15
89	273	184	95	4368	0.87891	717.55	0.58700	935.17	806.97	0	2.32	1910.63	7	1907.02	6.99	-3.61	-0.19
89	274	185	96	4384	0.87724	717.94	0.58759	935.14	821.05	-0.6	2.3	1911.56	6.98	1908.71	6.97	-2.85	-0.15
89	275	186	97	4400	0.87558	718.33	0.58818	935.12	835.21	0	2.27	1913.62	6.96	1909.96	6.95	-3.66	-0.19
89	276	187	98	4416	0.87392	718.7	0.58877	935.11	849.44	-0.6	2.25	1914.4	6.94	1911.5	6.93	-2.9	-0.15
89	277	188	99	4432	0.87227	719.07	0.58935	935.1	863.75	0	2.23	1916.32	6.92	1912.61	6.9	-3.71	-0.19
89	278	189	100	4448	0.87061	719.43	0.58993	935.1	878.12	-0.6	2.21	1916.96	6.9	1913.99	6.88	-2.96	-0.15
89	279	190	101	4464	0.86895	719.78	0.59050	935.11	892.58	0	2.19	1918.73	6.88	1914.95	6.86	-3.77	-0.2
89	280	191	102	4480	0.86730	720.12	0.59107	935.12	907.1	-0.6	2.17	1919.23	6.85	1916.19	6.84	-3.04	-0.16
89	281	192	103	4496	0.86564	720.46	0.59164	935.14	921.69	0	2.14	1920.85	6.84	1917	6.82	-3.85	-0.2
89	282	193	104	4512	0.86399	720.79	0.59220	935.16	936.36	-0.6	2.12	1921.22	6.81	1918.1	6.8	-3.12	-0.16
89	283	194	105	4528	0.86234	721.12	0.59276	935.2	951.09	0	2.1	1922.7	6.79	1918.77	6.78	-3.94	-0.21
89	284	195	106	4544	0.86069	721.43	0.59331	935.24	965.89	-0.59	2.09	1922.94	6.77	1919.72	6.76	-3.21	-0.17
89	285	196	107	4560	0.85905	721.74	0.59386	935.28	980.76	0	2.07	1924.29	6.75	1920.25	6.74	-4.03	-0.21
89	286	197	108	4576	0.85740	722.04	0.59441	935.33	995.7	-0.59	2.05	1924.39	6.73	1921.07	6.72	-3.32	-0.17
89	287	198	109	4592	0.85576	722.34	0.59495	935.39	1010.7	0	2.03	1925.6	6.71	1921.46	6.69	-4.14	-0.22
89	288	199	110	4608	0.85412	722.63	0.59549	935.45	1025.77	-0.59	2.01	1925.58	6.69	1922.14	6.67	-3.44	-0.18
89	289	200	111	4624	0.85248	722.91	0.59602	935.52	1040.9	0	1.99	1926.66	6.67	1922.4	6.65	-4.27	-0.22
89	290	201	112	4640	0.85084	723.19	0.59655	935.59	1056.1	-0.59	1.97	1926.51	6.64	1922.94	6.63	-3.57	-0.19
89	291	202	113	4656	0.84921	723.46	0.59708	935.67	1071.36	0	1.96	1927.47	6.62	1923.07	6.61	-4.4	-0.23

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
89	292	203	114	4672	0.84758	723.72	0.59760	935.76	1086.68	-0.59	1.94	1927.19	6.6	1923.48	6.59	-3.71	-0.19
89	293	204	115	4688	0.84595	723.98	0.59812	935.85	1102.07	0	1.92	1928.03	6.58	1923.48	6.56	-4.55	-0.24
89	294	205	116	4704	0.84432	724.23	0.59864	935.95	1117.52	-0.58	1.91	1927.63	6.56	1923.76	6.54	-3.87	-0.2
89	295	206	117	4720	0.84270	724.47	0.59915	936.05	1133.03	0	1.89	1928.34	6.54	1923.63	6.52	-4.71	-0.24
89	296	207	118	4736	0.84108	724.71	0.59966	936.15	1148.6	-0.58	1.87	1927.83	6.51	1923.79	6.5	-4.04	-0.21
89	297	208	119	4752	0.83946	724.95	0.60017	936.26	1164.23	0	1.86	1928.42	6.49	1923.53	6.48	-4.89	-0.25
89	298	209	120	4768	0.83785	725.18	0.60067	936.38	1179.92	-0.58	1.84	1927.79	6.47	1923.57	6.45	-4.22	-0.22
89	299	210	121	4784	0.83623	725.4	0.60117	936.5	1195.67	0	1.83	1928.26	6.45	1923.18	6.43	-5.08	-0.26
89	300	211	122	4800	0.83462	725.61	0.60167	936.63	1211.47	-0.58	1.81	1927.52	6.43	1923.1	6.41	-4.42	-0.23
89	301	212	123	4816	0.83302	725.83	0.60216	936.76	1227.34	0	1.8	1927.87	6.4	1922.59	6.39	-5.28	-0.27
89	302	213	124	4832	0.83141	726.03	0.60265	936.9	1243.26	-0.58	1.78	1927.02	6.38	1922.39	6.37	-4.63	-0.24
89	303	214	125	4848	0.82981	726.23	0.60314	937.04	1259.24	0	1.77	1927.26	6.36	1921.76	6.34	-5.5	-0.29
89	304	215	126	4864	0.82821	726.43	0.60362	937.18	1275.27	-0.57	1.75	1926.3	6.34	1921.44	6.32	-4.86	-0.25
89	305	216	127	4880	0.82662	726.62	0.60410	937.34	1291.36	0	1.74	1926.43	6.32	1920.7	6.3	-5.73	-0.3
89	306	217	128	4896	0.82503	726.8	0.60458	937.49	1307.5	-0.57	1.73	1925.36	6.29	1920.26	6.28	-5.1	-0.27
89	307	218	129	4912	0.82344	726.98	0.60505	937.65	1323.7	0	1.71	1925.38	6.27	1919.4	6.25	-5.98	-0.31
89	308	219	130	4928	0.82185	727.16	0.60552	937.81	1339.95	-0.57	1.7	1924.21	6.25	1918.85	6.23	-5.35	-0.28
89	309	220	131	4944	0.82027	727.33	0.60599	937.98	1356.26	0	1.69	1924.12	6.23	1917.88	6.21	-6.24	-0.33
89	310	221	132	4960	0.81869	727.49	0.60645	938.15	1372.62	-0.57	1.67	1922.84	6.2	1917.22	6.18	-5.62	-0.29
89	311	222	133	4976	0.81711	727.65	0.60691	938.33	1389.03	0	1.66	1922.65	6.18	1916.14	6.16	-6.51	-0.34
89	312	223	134	4992	0.81554	727.81	0.60737	938.51	1405.49	-0.57	1.65	1921.27	6.16	1915.37	6.14	-5.91	-0.31
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
90	179	89	-1	2864	0.99997	616.16	0.49860	1020.47	0.14	0	9.77	1237.01	6.91	1245.95	6.96	8.94	0.72
90	180	90	0	2880	1.00000	618.47	0.50000	1018.56	0	0.75	10	1253.72	6.97	1261.85	7.01	8.13	0.64
90	181	91	1	2896	0.99997	620.74	0.50138	1016.69	0.13	0	9.77	1268.2	7.01	1275.41	7.05	7.21	0.57
90	182	92	2	2912	0.99988	622.96	0.50275	1014.88	0.54	0.74	9.55	1283.91	7.05	1290.83	7.09	6.91	0.54
90	183	93	3	2928	0.99973	625.15	0.50410	1013.1	1.2	0	9.33	1297.89	7.09	1303.93	7.13	6.05	0.46
90	184	94	4	2944	0.99953	627.3	0.50544	1011.36	2.12	0.74	9.13	1313.08	7.14	1318.88	7.17	5.8	0.44
90	185	95	5	2960	0.99927	629.41	0.50676	1009.67	3.29	0	8.93	1326.55	7.17	1331.53	7.2	4.98	0.37
90	186	96	6	2976	0.99896	631.48	0.50807	1008.02	4.72	0.73	8.73	1341.25	7.21	1346.03	7.24	4.77	0.35
90	187	97	7	2992	0.99860	633.51	0.50936	1006.41	6.39	0	8.55	1354.24	7.24	1358.25	7.26	4.01	0.29
90	188	98	8	3008	0.99819	635.51	0.51064	1004.83	8.3	0.73	8.36	1368.46	7.28	1372.3	7.3	3.84	0.28
90	189	99	9	3024	0.99773	637.47	0.51191	1003.29	10.44	0	8.19	1380.98	7.31	1384.1	7.32	3.12	0.23
90	190	100	10	3040	0.99723	639.39	0.51316	1001.79	12.83	0.73	8.02	1394.73	7.34	1397.72	7.36	2.99	0.21
90	191	101	11	3056	0.99668	641.28	0.51440	1000.32	15.44	0	7.85	1406.81	7.37	1409.11	7.38	2.3	0.16
90	192	102	12	3072	0.99609	643.14	0.51563	998.89	18.28	0.72	7.69	1420.1	7.4	1422.31	7.41	2.21	0.16
90	193	103	13	3088	0.99546	644.96	0.51684	997.5	21.34	0	7.54	1431.74	7.42	1433.31	7.43	1.57	0.11
90	194	104	14	3104	0.99479	646.75	0.51804	996.13	24.62	0.72	7.39	1444.6	7.45	1446.1	7.45	1.5	0.1
90	195	105	15	3120	0.99408	648.51	0.51923	994.8	28.12	0	7.24	1455.81	7.47	1456.7	7.47	0.9	0.06
90	196	106	16	3136	0.99334	650.23	0.52041	993.5	31.84	0.71	7.1	1468.24	7.49	1469.1	7.5	0.87	0.06
90	197	107	17	3152	0.99255	651.93	0.52157	992.23	35.76	0	6.96	1479.04	7.51	1479.33	7.51	0.29	0.02
90	198	108	18	3168	0.99174	653.59	0.52273	991	39.89	0.71	6.83	1491.06	7.53	1491.35	7.53	0.29	0.02
90	199	109	19	3184	0.99088	655.23	0.52387	989.79	44.22	0	6.7	1501.46	7.55	1501.21	7.54	-0.25	-0.02
90	200	110	20	3200	0.99000	656.84	0.52500	988.61	48.76	0.71	6.57	1513.08	7.57	1512.85	7.56	-0.23	-0.02
90	201	111	21	3216	0.98908	658.41	0.52612	987.46	53.49	0	6.45	1523.09	7.58	1522.35	7.57	-0.74	-0.05
90	202	112	22	3232	0.98814	659.96	0.52723	986.34	58.41	0.7	6.33	1534.32	7.6	1533.62	7.59	-0.7	-0.05

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Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
90	203	113	23	3248	0.98716	661.49	0.52833	985.24	63.53	0	6.21	1543.96	7.61	1542.78	7.6	-1.18	-0.08
90	204	114	24	3264	0.98616	662.98	0.52941	984.17	68.84	0.7	6.1	1554.81	7.62	1553.7	7.62	-1.11	-0.07
90	205	115	25	3280	0.98513	664.45	0.53049	983.13	74.33	0	5.99	1564.08	7.63	1562.51	7.62	-1.57	-0.1
90	206	116	26	3296	0.98407	665.9	0.53155	982.11	80.01	0.7	5.89	1574.57	7.64	1573.09	7.64	-1.48	-0.09
90	207	117	27	3312	0.98299	667.31	0.53261	981.12	85.87	0	5.78	1583.48	7.65	1581.57	7.64	-1.91	-0.12
90	208	118	28	3328	0.98188	668.71	0.53365	980.15	91.9	0.69	5.68	1593.61	7.66	1591.81	7.65	-1.81	-0.11
90	209	119	29	3344	0.98075	670.07	0.53469	979.21	98.11	0	5.58	1602.19	7.67	1599.97	7.66	-2.22	-0.14
90	210	120	30	3360	0.97959	671.42	0.53571	978.29	104.5	0.69	5.49	1611.97	7.68	1609.88	7.67	-2.09	-0.13
90	211	121	31	3376	0.97842	672.74	0.53673	977.39	111.06	0	5.4	1620.21	7.68	1617.73	7.67	-2.48	-0.15
90	212	122	32	3392	0.97722	674.04	0.53774	976.52	117.78	0.69	5.3	1629.66	7.69	1627.31	7.68	-2.34	-0.14
90	213	123	33	3408	0.97600	675.31	0.53873	975.67	124.67	0	5.22	1637.57	7.69	1634.85	7.68	-2.71	-0.17
90	214	124	34	3424	0.97476	676.56	0.53972	974.84	131.73	0.68	5.13	1646.69	7.69	1644.13	7.68	-2.56	-0.16
90	215	125	35	3440	0.97350	677.79	0.54070	974.03	138.94	0	5.05	1654.29	7.69	1651.37	7.68	-2.91	-0.18
90	216	126	36	3456	0.97222	679	0.54167	973.24	146.32	0.68	4.97	1663.09	7.7	1660.34	7.69	-2.74	-0.17
90	217	127	37	3472	0.97093	680.19	0.54263	972.47	153.85	0	4.89	1670.38	7.7	1667.3	7.68	-3.08	-0.18
90	218	128	38	3488	0.96962	681.35	0.54358	971.72	161.54	0.68	4.81	1678.87	7.7	1675.97	7.69	-2.9	-0.17
90	219	129	39	3504	0.96829	682.5	0.54452	970.99	169.38	0	4.73	1685.86	7.7	1682.64	7.68	-3.22	-0.19
90	220	130	40	3520	0.96694	683.62	0.54546	970.28	177.37	0.67	4.66	1694.05	7.7	1691.02	7.69	-3.03	-0.18
90	221	131	41	3536	0.96558	684.73	0.54638	969.59	185.51	0	4.59	1700.75	7.7	1697.41	7.68	-3.34	-0.2
90	222	132	42	3552	0.96421	685.82	0.54730	968.92	193.8	0.67	4.52	1708.65	7.7	1705.51	7.68	-3.14	-0.18
90	223	133	43	3568	0.96282	686.88	0.54821	968.27	202.23	0	4.45	1715.07	7.69	1711.63	7.68	-3.44	-0.2
90	224	134	44	3584	0.96142	687.93	0.54911	967.63	210.8	0.67	4.38	1722.68	7.69	1719.45	7.68	-3.23	-0.19
90	225	135	45	3600	0.96000	688.96	0.55000	967.02	219.52	0	4.32	1728.82	7.68	1725.31	7.67	-3.51	-0.2
90	226	136	46	3616	0.95857	689.97	0.55089	966.41	228.37	0.67	4.25	1736.16	7.68	1732.86	7.67	-3.3	-0.19
90	227	137	47	3632	0.95713	690.97	0.55176	965.83	237.37	0	4.19	1742.03	7.67	1738.46	7.66	-3.57	-0.21
90	228	138	48	3648	0.95568	691.94	0.55263	965.26	246.49	0.66	4.13	1749.09	7.67	1745.75	7.66	-3.35	-0.19
90	229	139	49	3664	0.95422	692.9	0.55349	964.71	255.75	0	4.07	1754.7	7.66	1751.09	7.65	-3.61	-0.21
90	230	140	50	3680	0.95274	693.84	0.55435	964.18	265.15	0.66	4.01	1761.51	7.66	1758.13	7.64	-3.38	-0.19
90	231	141	51	3696	0.95126	694.77	0.55520	963.66	274.67	0	3.96	1766.86	7.65	1763.22	7.63	-3.64	-0.21
90	232	142	52	3712	0.94976	695.68	0.55603	963.15	284.32	0.66	3.9	1773.41	7.64	1770	7.63	-3.4	-0.19
90	233	143	53	3728	0.94826	696.57	0.55687	962.66	294.1	0	3.85	1778.51	7.63	1774.86	7.62	-3.65	-0.21
90	234	144	54	3744	0.94675	697.45	0.55769	962.19	304	0.65	3.79	1784.81	7.63	1781.4	7.61	-3.41	-0.19
90	235	145	55	3760	0.94522	698.31	0.55851	961.73	314.03	0	3.74	1789.68	7.62	1786.02	7.6	-3.65	-0.2
90	236	146	56	3776	0.94369	699.16	0.55932	961.28	324.18	0.65	3.69	1795.73	7.61	1792.31	7.59	-3.41	-0.19
90	237	147	57	3792	0.94216	699.99	0.56013	960.85	334.45	0	3.64	1800.36	7.6	1796.71	7.58	-3.65	-0.2
90	238	148	58	3808	0.94061	700.8	0.56092	960.43	344.84	0.65	3.59	1806.17	7.59	1802.76	7.57	-3.4	-0.19
90	239	149	59	3824	0.93906	701.61	0.56172	960.03	355.35	0	3.55	1810.57	7.58	1806.93	7.56	-3.63	-0.2
90	240	150	60	3840	0.93750	702.39	0.56250	959.63	365.97	0.65	3.5	1816.15	7.57	1812.76	7.55	-3.39	-0.19
90	241	151	61	3856	0.93593	703.17	0.56328	959.26	376.71	0	3.45	1820.32	7.55	1816.71	7.54	-3.61	-0.2
90	242	152	62	3872	0.93436	703.93	0.56405	958.89	387.56	0.64	3.41	1825.68	7.54	1822.31	7.53	-3.36	-0.18
90	243	153	63	3888	0.93279	704.67	0.56482	958.54	398.52	0	3.37	1829.64	7.53	1826.05	7.51	-3.59	-0.2
90	244	154	64	3904	0.93120	705.4	0.56557	958.2	409.59	0.64	3.32	1834.77	7.52	1831.43	7.51	-3.34	-0.18
90	245	155	65	3920	0.92961	706.12	0.56633	957.87	420.78	0	3.28	1838.51	7.5	1834.96	7.49	-3.56	-0.19
90	246	156	66	3936	0.92802	706.83	0.56707	957.55	432.07	0.64	3.24	1843.43	7.49	1840.12	7.48	-3.31	-0.18
90	247	157	67	3952	0.92642	707.52	0.56781	957.25	443.46	0	3.2	1846.97	7.48	1843.44	7.46	-3.52	-0.19
90	248	158	68	3968	0.92482	708.21	0.56855	956.95	454.96	0.64	3.16	1851.67	7.47	1848.4	7.45	-3.27	-0.18
90	249	159	69	3984	0.92321	708.87	0.56928	956.67	466.57	0	3.12	1855.01	7.45	1851.52	7.44	-3.49	-0.19

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
90	250	160	70	4000	0.92160	709.53	0.57000	956.4	478.28	0.63	3.09	1859.51	7.44	1856.27	7.43	-3.24	-0.17
90	251	161	71	4016	0.91999	710.17	0.57072	956.14	490.09	0	3.05	1862.64	7.42	1859.19	7.41	-3.45	-0.19
90	252	162	72	4032	0.91837	710.81	0.57143	955.89	502	0.63	3.01	1866.94	7.41	1863.74	7.4	-3.2	-0.17
90	253	163	73	4048	0.91675	711.43	0.57213	955.66	514.01	0	2.98	1869.88	7.39	1866.46	7.38	-3.42	-0.18
90	254	164	74	4064	0.91512	712.04	0.57284	955.43	526.12	0.63	2.94	1873.99	7.38	1870.81	7.37	-3.17	-0.17
90	255	165	75	4080	0.91350	712.64	0.57353	955.21	538.32	0	2.91	1876.74	7.36	1873.35	7.35	-3.38	-0.18
90	256	166	76	4096	0.91187	713.22	0.57422	955	550.62	0.62	2.87	1880.65	7.35	1877.51	7.33	-3.14	-0.17
90	257	167	77	4112	0.91023	713.8	0.57490	954.81	563.02	0	2.84	1883.22	7.33	1879.86	7.31	-3.35	-0.18
90	258	168	78	4128	0.90860	714.37	0.57558	954.62	575.5	0.62	2.81	1886.94	7.31	1883.83	7.3	-3.11	-0.17
90	259	169	79	4144	0.90696	714.92	0.57626	954.44	588.09	0	2.78	1889.33	7.29	1886	7.28	-3.33	-0.18
90	260	170	80	4160	0.90533	715.47	0.57692	954.27	600.76	0.62	2.75	1892.87	7.28	1889.78	7.27	-3.09	-0.16
90	261	171	81	4176	0.90369	716	0.57759	954.11	613.52	0	2.72	1895.08	7.26	1891.78	7.25	-3.3	-0.17
90	262	172	82	4192	0.90205	716.52	0.57824	953.96	626.37	0.62	2.69	1898.44	7.25	1895.38	7.23	-3.06	-0.16
90	263	173	83	4208	0.90040	717.04	0.57890	953.82	639.31	0	2.66	1900.48	7.23	1897.2	7.21	-3.28	-0.17
90	264	174	84	4224	0.89876	717.54	0.57955	953.69	652.34	0.62	2.63	1903.67	7.21	1900.62	7.2	-3.05	-0.16
90	265	175	85	4240	0.89712	718.04	0.58019	953.57	665.45	0	2.6	1905.54	7.19	1902.28	7.18	-3.27	-0.17
90	266	176	86	4256	0.89547	718.52	0.58083	953.45	678.65	0.61	2.57	1908.56	7.18	1905.52	7.16	-3.04	-0.16
90	267	177	87	4272	0.89383	719	0.58146	953.35	691.93	0	2.54	1910.27	7.15	1907.01	7.14	-3.26	-0.17
90	268	178	88	4288	0.89218	719.47	0.58209	953.25	705.3	0.61	2.52	1913.11	7.14	1910.08	7.13	-3.04	-0.16
90	269	179	89	4304	0.89054	719.93	0.58271	953.16	718.75	0	2.49	1914.66	7.12	1911.4	7.11	-3.26	-0.17
90	270	180	90	4320	0.88889	720.37	0.58333	953.08	732.28	0.61	2.47	1917.35	7.1	1914.31	7.09	-3.04	-0.16
90	271	181	91	4336	0.88724	720.81	0.58395	953	745.89	0	2.44	1918.73	7.08	1915.47	7.07	-3.27	-0.17
90	272	182	92	4352	0.88560	721.25	0.58456	952.94	759.58	0.61	2.42	1921.26	7.06	1918.21	7.05	-3.05	-0.16
90	273	183	93	4368	0.88395	721.67	0.58517	952.88	773.35	0	2.39	1922.49	7.04	1919.21	7.03	-3.28	-0.17
90	274	184	94	4384	0.88231	722.08	0.58577	952.83	787.2	0.6	2.37	1924.86	7.03	1921.79	7.01	-3.07	-0.16
90	275	185	95	4400	0.88066	722.49	0.58636	952.78	801.12	0	2.34	1925.95	7	1922.64	6.99	-3.3	-0.17
90	276	186	96	4416	0.87902	722.89	0.58696	952.75	815.12	0.6	2.32	1928.16	6.99	1925.06	6.97	-3.1	-0.16
90	277	187	97	4432	0.87737	723.28	0.58755	952.72	829.2	0	2.3	1929.1	6.96	1925.76	6.95	-3.33	-0.17
90	278	188	98	4448	0.87573	723.66	0.58813	952.7	843.35	0.6	2.28	1931.16	6.95	1928.03	6.94	-3.14	-0.16
90	279	189	99	4464	0.87409	724.04	0.58871	952.68	857.58	0	2.25	1931.96	6.92	1928.58	6.91	-3.38	-0.18
90	280	190	100	4480	0.87245	724.4	0.58929	952.68	871.88	0.6	2.23	1933.87	6.91	1930.69	6.9	-3.18	-0.16
90	281	191	101	4496	0.87081	724.76	0.58986	952.67	886.25	0	2.21	1934.53	6.88	1931.1	6.87	-3.43	-0.18
90	282	192	102	4512	0.86917	725.11	0.59043	952.68	900.69	0.6	2.19	1936.3	6.87	1933.06	6.85	-3.24	-0.17
90	283	193	103	4528	0.86754	725.46	0.59099	952.69	915.2	0	2.17	1936.81	6.84	1933.32	6.83	-3.49	-0.18
90	284	194	104	4544	0.86590	725.8	0.59155	952.71	929.78	0.59	2.15	1938.45	6.83	1935.14	6.81	-3.31	-0.17
90	285	195	105	4560	0.86427	726.13	0.59211	952.74	944.44	0	2.13	1938.83	6.8	1935.26	6.79	-3.56	-0.18
90	286	196	106	4576	0.86263	726.45	0.59266	952.77	959.16	0.59	2.11	1940.32	6.78	1936.93	6.77	-3.39	-0.17
90	287	197	107	4592	0.86100	726.77	0.59321	952.81	973.95	0	2.09	1940.57	6.76	1936.92	6.75	-3.65	-0.19
90	288	198	108	4608	0.85938	727.08	0.59375	952.85	988.8	0.59	2.07	1941.93	6.74	1938.45	6.73	-3.48	-0.18
90	289	199	109	4624	0.85775	727.38	0.59429	952.9	1003.73	0	2.05	1942.04	6.72	1938.3	6.71	-3.75	-0.19
90	290	200	110	4640	0.85612	727.67	0.59483	952.96	1018.72	0.59	2.03	1943.27	6.7	1939.69	6.69	-3.58	-0.18
90	291	201	111	4656	0.85450	727.96	0.59536	953.02	1033.77	0	2.01	1943.26	6.68	1939.41	6.66	-3.85	-0.2
90	292	202	112	4672	0.85288	728.25	0.59589	953.09	1048.89	0.59	2	1944.36	6.66	1940.66	6.65	-3.7	-0.19
90	293	203	113	4688	0.85126	728.52	0.59642	953.16	1064.07	0	1.98	1944.23	6.64	1940.25	6.62	-3.98	-0.2
90	294	204	114	4704	0.84965	728.79	0.59694	953.24	1079.32	0.58	1.96	1945.2	6.62	1941.37	6.6	-3.83	-0.2
90	295	205	115	4720	0.84803	729.06	0.59746	953.32	1094.62	0	1.95	1944.94	6.59	1940.83	6.58	-4.11	-0.21
90	296	206	116	4736	0.84642	729.32	0.59797	953.41	1109.99	0.58	1.93	1945.79	6.57	1941.82	6.56	-3.97	-0.2

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
90	297	207	117	4752	0.84481	729.57	0.59849	953.51	1125.43	0	1.91	1945.41	6.55	1941.15	6.54	-4.26	-0.22
90	298	208	118	4768	0.84321	729.81	0.59899	953.61	1140.92	0.58	1.9	1946.13	6.53	1942.01	6.52	-4.12	-0.21
90	299	209	119	4784	0.84160	730.06	0.59950	953.71	1156.47	0	1.88	1945.64	6.51	1941.23	6.49	-4.42	-0.23
90	300	210	120	4800	0.84000	730.29	0.60000	953.83	1172.08	0.58	1.86	1946.25	6.49	1941.96	6.47	-4.29	-0.22
90	301	211	121	4816	0.83840	730.52	0.60050	953.94	1187.75	0	1.85	1945.64	6.46	1941.05	6.45	-4.59	-0.24
90	302	212	122	4832	0.83681	730.74	0.60099	954.06	1203.48	0.58	1.83	1946.13	6.44	1941.66	6.43	-4.47	-0.23
90	303	213	123	4848	0.83521	730.96	0.60149	954.19	1219.26	0	1.82	1945.41	6.42	1940.63	6.4	-4.78	-0.25
90	304	214	124	4864	0.83362	731.17	0.60197	954.32	1235.11	0.57	1.8	1945.78	6.4	1941.11	6.39	-4.67	-0.24
90	305	215	125	4880	0.83203	731.38	0.60246	954.45	1251.01	0	1.79	1944.95	6.38	1939.97	6.36	-4.98	-0.26
90	306	216	126	4896	0.83045	731.58	0.60294	954.59	1266.96	0.57	1.77	1945.21	6.36	1940.33	6.34	-4.87	-0.25
90	307	217	127	4912	0.82887	731.78	0.60342	954.74	1282.98	0	1.76	1944.27	6.33	1939.07	6.32	-5.19	-0.27
90	308	218	128	4928	0.82729	731.97	0.60390	954.89	1299.04	0.57	1.75	1944.42	6.31	1939.32	6.3	-5.1	-0.26
90	309	219	129	4944	0.82571	732.16	0.60437	955.04	1315.16	0	1.73	1943.37	6.29	1937.95	6.27	-5.42	-0.28
90	310	220	130	4960	0.82414	732.34	0.60484	955.2	1331.34	0.57	1.72	1943.41	6.27	1938.07	6.25	-5.34	-0.28
90	311	221	131	4976	0.82257	732.51	0.60531	955.36	1347.56	0	1.7	1942.26	6.25	1936.59	6.23	-5.67	-0.29
90	312	222	132	4992	0.82101	732.69	0.60577	955.53	1363.85	0.57	1.69	1942.2	6.22	1936.61	6.21	-5.59	-0.29
90	313	223	133	5008	0.81944	732.85	0.60623	955.7	1380.18	0	1.68	1940.94	6.2	1935.01	6.18	-5.93	-0.31
90	314	224	134	5024	0.81788	733.01	0.60669	955.88	1396.56	0.56	1.67	1940.77	6.18	1934.92	6.16	-5.86	-0.3
90	315	225	135	5040	0.81633	733.17	0.60714	956.06	1413	0	1.65	1939.42	6.16	1933.22	6.14	-6.21	-0.32
Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
91	181	90	-1	2896	0.99997	620.74	0.49862	1039.41	0.13	0	9.77	1245.49	6.88	1254.45	6.93	8.96	0.71
91	182	91	0	2912	1.00000	623.04	0.50000	1037.49	0	-0.74	10	1260.73	6.93	1269.42	6.97	8.69	0.68
91	183	92	1	2928	0.99997	625.3	0.50137	1035.61	0.13	0	9.77	1276.73	6.98	1283.95	7.02	7.23	0.56
91	184	93	2	2944	0.99988	627.52	0.50272	1033.78	0.53	-0.74	9.55	1290.99	7.02	1298.46	7.06	7.47	0.58
91	185	94	3	2960	0.99974	629.7	0.50405	1031.99	1.19	0	9.34	1306.47	7.06	1312.52	7.09	6.05	0.46
91	186	95	4	2976	0.99954	631.84	0.50538	1030.24	2.1	-0.73	9.14	1320.22	7.1	1326.57	7.13	6.35	0.48
91	187	96	5	2992	0.99929	633.95	0.50668	1028.53	3.26	0	8.94	1335.2	7.14	1340.18	7.17	4.98	0.37
91	188	97	6	3008	0.99898	636.01	0.50798	1026.86	4.67	-0.73	8.75	1348.47	7.17	1353.79	7.2	5.32	0.39
91	189	98	7	3024	0.99863	638.04	0.50926	1025.24	6.32	0	8.56	1362.97	7.21	1366.96	7.23	3.99	0.29
91	190	99	8	3040	0.99823	640.03	0.51053	1023.65	8.21	-0.73	8.38	1375.77	7.24	1380.14	7.26	4.37	0.32
91	191	100	9	3056	0.99778	641.99	0.51178	1022.09	10.34	0	8.2	1389.79	7.28	1392.88	7.29	3.09	0.22
91	192	101	10	3072	0.99729	643.91	0.51302	1020.58	12.69	-0.72	8.04	1402.14	7.3	1405.65	7.32	3.51	0.25
91	193	102	11	3088	0.99675	645.79	0.51425	1019.1	15.28	0	7.87	1415.7	7.34	1417.97	7.35	2.27	0.16
91	194	103	12	3104	0.99617	647.65	0.51546	1017.65	18.09	-0.72	7.71	1427.61	7.36	1430.33	7.37	2.73	0.19
91	195	104	13	3120	0.99556	649.47	0.51667	1016.24	21.12	0	7.56	1440.73	7.39	1442.25	7.4	1.52	0.11
91	196	105	14	3136	0.99490	651.25	0.51786	1014.86	24.38	-0.71	7.41	1452.2	7.41	1454.22	7.42	2.01	0.14
91	197	106	15	3152	0.99420	653.01	0.51904	1013.51	27.84	0	7.26	1464.9	7.44	1465.74	7.44	0.85	0.06
91	198	107	16	3168	0.99347	654.74	0.52020	1012.2	31.52	-0.71	7.12	1475.96	7.45	1477.33	7.46	1.37	0.09
91	199	108	17	3184	0.99270	656.43	0.52136	1010.92	35.4	0	6.99	1488.24	7.48	1488.47	7.48	0.23	0.02
91	200	109	18	3200	0.99190	658.1	0.52250	1009.66	39.49	-0.71	6.85	1498.89	7.49	1499.68	7.5	0.78	0.05
91	201	110	19	3216	0.99107	659.73	0.52363	1008.44	43.78	0	6.72	1510.77	7.52	1510.44	7.51	-0.32	-0.02
91	202	111	20	3232	0.99020	661.34	0.52475	1007.25	48.27	-0.7	6.6	1521.03	7.53	1521.29	7.53	0.25	0.02
91	203	112	21	3248	0.98930	662.92	0.52586	1006.08	52.96	0	6.48	1532.52	7.55	1531.69	7.55	-0.82	-0.05
91	204	113	22	3264	0.98837	664.47	0.52696	1004.94	57.84	-0.7	6.36	1542.4	7.56	1542.18	7.56	-0.22	-0.01
91	205	114	23	3280	0.98741	665.99	0.52805	1003.83	62.91	0	6.24	1553.5	7.58	1552.23	7.57	-1.27	-0.08
91	206	115	24	3296	0.98643	667.49	0.52913	1002.75	68.17	-0.7	6.13	1563.02	7.59	1562.38	7.58	-0.64	-0.04

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
91	207	116	25	3312	0.98541	668.96	0.53019	1001.69	73.62	0	6.02	1573.75	7.6	1572.09	7.59	-1.67	-0.11
91	208	117	26	3328	0.98438	670.41	0.53125	1000.66	79.24	-0.69	5.92	1582.91	7.61	1581.89	7.61	-1.02	-0.06
91	209	118	27	3344	0.98331	671.83	0.53230	999.65	85.05	0	5.81	1593.28	7.62	1591.26	7.61	-2.02	-0.13
91	210	119	28	3360	0.98222	673.22	0.53333	998.67	91.03	-0.69	5.71	1602.1	7.63	1600.74	7.62	-1.35	-0.08
91	211	120	29	3376	0.98111	674.59	0.53436	997.71	97.19	0	5.61	1612.12	7.64	1609.79	7.63	-2.33	-0.14
91	212	121	30	3392	0.97998	675.94	0.53538	996.78	103.52	-0.69	5.52	1620.6	7.64	1618.95	7.64	-1.65	-0.1
91	213	122	31	3408	0.97882	677.26	0.53639	995.87	110.02	0	5.43	1630.28	7.65	1627.67	7.64	-2.61	-0.16
91	214	123	32	3424	0.97764	678.56	0.53738	994.98	116.69	-0.68	5.34	1638.42	7.66	1636.52	7.65	-1.91	-0.12
91	215	124	33	3440	0.97644	679.84	0.53837	994.11	123.52	0	5.25	1647.78	7.66	1644.93	7.65	-2.85	-0.17
91	216	125	34	3456	0.97522	681.1	0.53935	993.27	130.51	-0.68	5.16	1655.6	7.66	1653.48	7.65	-2.13	-0.13
91	217	126	35	3472	0.97399	682.33	0.54032	992.45	137.67	0	5.08	1664.64	7.67	1661.58	7.66	-3.05	-0.18
91	218	127	36	3488	0.97273	683.54	0.54128	991.64	144.98	-0.68	5	1672.15	7.67	1669.83	7.66	-2.32	-0.14
91	219	128	37	3504	0.97146	684.73	0.54224	990.86	152.45	0	4.92	1680.87	7.68	1677.64	7.66	-3.23	-0.19
91	220	129	38	3520	0.97017	685.9	0.54318	990.1	160.08	-0.67	4.84	1688.09	7.67	1685.6	7.66	-2.48	-0.15
91	221	130	39	3536	0.96886	687.05	0.54412	989.36	167.85	0	4.77	1696.5	7.68	1693.12	7.66	-3.38	-0.2
91	222	131	40	3552	0.96754	688.18	0.54505	988.63	175.78	-0.67	4.69	1703.42	7.67	1700.8	7.66	-2.62	-0.15
91	223	132	41	3568	0.96620	689.29	0.54596	987.93	183.86	0	4.62	1711.54	7.68	1708.04	7.66	-3.5	-0.2
91	224	133	42	3584	0.96484	690.38	0.54688	987.25	192.08	-0.67	4.55	1718.18	7.67	1715.44	7.66	-2.74	-0.16
91	225	134	43	3600	0.96348	691.46	0.54778	986.58	200.44	0	4.48	1726.01	7.67	1722.4	7.66	-3.6	-0.21
91	226	135	44	3616	0.96210	692.51	0.54867	985.93	208.95	-0.67	4.41	1732.36	7.67	1729.53	7.65	-2.83	-0.16
91	227	136	45	3632	0.96070	693.54	0.54956	985.3	217.59	0	4.35	1739.91	7.66	1736.23	7.65	-3.68	-0.21
91	228	137	46	3648	0.95930	694.56	0.55044	984.68	226.38	-0.66	4.29	1746	7.66	1743.1	7.65	-2.9	-0.17
91	229	138	47	3664	0.95788	695.56	0.55131	984.09	235.3	0	4.22	1753.27	7.66	1749.53	7.64	-3.74	-0.21
91	230	139	48	3680	0.95645	696.54	0.55217	983.51	244.36	-0.66	4.16	1759.1	7.65	1756.14	7.64	-2.96	-0.17
91	231	140	49	3696	0.95501	697.51	0.55303	982.94	253.55	0	4.1	1766.1	7.65	1762.32	7.63	-3.79	-0.22
91	232	141	50	3712	0.95355	698.45	0.55388	982.39	262.87	-0.66	4.04	1771.67	7.64	1768.67	7.62	-2.99	-0.17
91	233	142	51	3728	0.95209	699.39	0.55472	981.86	272.32	0	3.99	1778.42	7.63	1774.6	7.62	-3.82	-0.22
91	234	143	52	3744	0.95062	700.3	0.55556	981.34	281.9	-0.65	3.93	1783.73	7.62	1780.71	7.61	-3.02	-0.17
91	235	144	53	3760	0.94914	701.2	0.55638	980.84	291.61	0	3.88	1790.23	7.62	1786.39	7.6	-3.84	-0.21
91	236	145	54	3776	0.94764	702.08	0.55720	980.36	301.44	-0.65	3.83	1795.3	7.61	1792.26	7.59	-3.03	-0.17
91	237	146	55	3792	0.94615	702.95	0.55802	979.88	311.39	0	3.77	1801.55	7.6	1797.7	7.59	-3.84	-0.21
91	238	147	56	3808	0.94464	703.8	0.55882	979.43	321.47	-0.65	3.72	1806.38	7.59	1803.34	7.58	-3.04	-0.17
91	239	148	57	3824	0.94312	704.64	0.55962	978.98	331.66	0	3.67	1812.39	7.58	1808.55	7.57	-3.84	-0.21
91	240	149	58	3840	0.94160	705.46	0.56042	978.55	341.98	-0.65	3.62	1816.99	7.57	1813.96	7.56	-3.03	-0.17
91	241	150	59	3856	0.94007	706.27	0.56120	978.14	352.41	0	3.58	1822.76	7.56	1818.93	7.55	-3.83	-0.21
91	242	151	60	3872	0.93853	707.07	0.56198	977.73	362.96	-0.64	3.53	1827.13	7.55	1824.12	7.54	-3.01	-0.17
91	243	152	61	3888	0.93699	707.85	0.56276	977.34	373.62	0	3.48	1832.68	7.54	1828.87	7.53	-3.81	-0.21
91	244	153	62	3904	0.93543	708.61	0.56353	976.97	384.39	-0.64	3.44	1836.83	7.53	1833.84	7.52	-2.99	-0.16
91	245	154	63	3920	0.93388	709.36	0.56429	976.6	395.28	0	3.4	1842.15	7.52	1838.37	7.5	-3.78	-0.21
91	246	155	64	3936	0.93232	710.1	0.56504	976.25	406.28	-0.64	3.35	1846.09	7.5	1843.12	7.49	-2.97	-0.16
91	247	156	65	3952	0.93075	710.83	0.56579	975.91	417.38	0	3.31	1851.19	7.49	1847.44	7.48	-3.75	-0.2
91	248	157	66	3968	0.92918	711.54	0.56653	975.58	428.6	-0.64	3.27	1854.91	7.48	1851.98	7.47	-2.94	-0.16
91	249	158	67	3984	0.92760	712.24	0.56727	975.27	439.91	0	3.23	1859.81	7.47	1856.09	7.45	-3.72	-0.2
91	250	159	68	4000	0.92602	712.93	0.56800	974.96	451.34	-0.63	3.19	1863.32	7.45	1860.42	7.44	-2.91	-0.16
91	251	160	69	4016	0.92443	713.61	0.56873	974.67	462.87	0	3.15	1868.01	7.44	1864.32	7.43	-3.68	-0.2
91	252	161	70	4032	0.92284	714.27	0.56944	974.39	474.5	-0.63	3.11	1871.33	7.43	1868.46	7.41	-2.87	-0.15
91	253	162	71	4048	0.92125	714.92	0.57016	974.12	486.23	0	3.08	1875.81	7.41	1872.16	7.4	-3.65	-0.19

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
91	254	163	72	4064	0.91965	715.56	0.57087	973.86	498.06	-0.63	3.04	1878.93	7.4	1876.09	7.39	-2.84	-0.15
91	255	164	73	4080	0.91805	716.19	0.57157	973.61	509.99	0	3	1883.21	7.39	1879.6	7.37	-3.61	-0.19
91	256	165	74	4096	0.91644	716.8	0.57227	973.38	522.02	-0.62	2.97	1886.14	7.37	1883.34	7.36	-2.8	-0.15
91	257	166	75	4112	0.91484	717.41	0.57296	973.15	534.15	0	2.94	1890.23	7.35	1886.65	7.34	-3.58	-0.19
91	258	167	76	4128	0.91323	718	0.57364	972.93	546.37	-0.62	2.9	1892.98	7.34	1890.2	7.33	-2.77	-0.15
91	259	168	77	4144	0.91161	718.59	0.57432	972.72	558.69	0	2.87	1896.87	7.32	1893.33	7.31	-3.54	-0.19
91	260	169	78	4160	0.91000	719.16	0.57500	972.53	571.1	-0.62	2.84	1899.44	7.31	1896.7	7.29	-2.74	-0.14
91	261	170	79	4176	0.90838	719.72	0.57567	972.34	583.6	0	2.8	1903.15	7.29	1899.63	7.28	-3.51	-0.18
91	262	171	80	4192	0.90677	720.27	0.57634	972.16	596.19	-0.62	2.77	1905.53	7.27	1902.82	7.26	-2.71	-0.14
91	263	172	81	4208	0.90515	720.82	0.57700	971.99	608.87	0	2.74	1909.06	7.26	1905.58	7.25	-3.49	-0.18
91	264	173	82	4224	0.90352	721.35	0.57765	971.83	621.64	-0.62	2.71	1911.27	7.24	1908.59	7.23	-2.69	-0.14
91	265	174	83	4240	0.90190	721.87	0.57830	971.68	634.5	0	2.68	1914.63	7.23	1911.17	7.21	-3.46	-0.18
91	266	175	84	4256	0.90028	722.38	0.57895	971.54	647.45	-0.61	2.65	1916.67	7.21	1914	7.2	-2.67	-0.14
91	267	176	85	4272	0.89865	722.88	0.57959	971.41	660.49	0	2.63	1919.85	7.19	1916.4	7.18	-3.45	-0.18
91	268	177	86	4288	0.89703	723.37	0.58022	971.28	673.6	-0.61	2.6	1921.72	7.17	1919.07	7.16	-2.66	-0.14
91	269	178	87	4304	0.89540	723.86	0.58086	971.17	686.81	0	2.57	1924.74	7.16	1921.3	7.14	-3.43	-0.18
91	270	179	88	4320	0.89377	724.33	0.58148	971.06	700.09	-0.61	2.54	1926.45	7.13	1923.8	7.13	-2.65	-0.14
91	271	180	89	4336	0.89215	724.8	0.58210	970.96	713.46	0	2.52	1929.29	7.12	1925.86	7.11	-3.43	-0.18
91	272	181	90	4352	0.89052	725.25	0.58272	970.87	726.91	-0.61	2.49	1930.84	7.1	1928.2	7.09	-2.65	-0.14
91	273	182	91	4368	0.88889	725.7	0.58333	970.79	740.44	0	2.47	1933.53	7.08	1930.1	7.07	-3.43	-0.18
91	274	183	92	4384	0.88726	726.14	0.58394	970.72	754.06	-0.6	2.44	1934.92	7.06	1932.27	7.05	-2.66	-0.14
91	275	184	93	4400	0.88563	726.57	0.58455	970.65	767.75	0	2.42	1937.45	7.05	1934.01	7.03	-3.44	-0.18
91	276	185	94	4416	0.88401	726.99	0.58515	970.59	781.51	-0.6	2.39	1938.69	7.02	1936.02	7.01	-2.67	-0.14
91	277	186	95	4432	0.88238	727.41	0.58574	970.54	795.36	0	2.37	1941.06	7.01	1937.61	6.99	-3.46	-0.18
91	278	187	96	4448	0.88075	727.81	0.58633	970.5	809.28	-0.6	2.34	1942.16	6.99	1939.46	6.98	-2.69	-0.14
91	279	188	97	4464	0.87913	728.21	0.58692	970.46	823.28	0	2.32	1944.38	6.97	1940.9	6.96	-3.48	-0.18
91	280	189	98	4480	0.87750	728.6	0.58750	970.43	837.35	-0.6	2.3	1945.33	6.95	1942.6	6.94	-2.73	-0.14
91	281	190	99	4496	0.87588	728.98	0.58808	970.41	851.49	0	2.28	1947.4	6.93	1943.88	6.92	-3.52	-0.18
91	282	191	100	4512	0.87425	729.35	0.58865	970.39	865.71	-0.6	2.26	1948.2	6.91	1945.43	6.9	-2.77	-0.14
91	283	192	101	4528	0.87263	729.72	0.58922	970.38	880	0	2.23	1950.13	6.89	1946.56	6.88	-3.56	-0.18
91	284	193	102	4544	0.87101	730.08	0.58979	970.38	894.37	-0.59	2.21	1950.79	6.87	1947.97	6.86	-2.82	-0.14
91	285	194	103	4560	0.86939	730.43	0.59035	970.39	908.8	0	2.19	1952.57	6.85	1948.95	6.84	-3.62	-0.19
91	286	195	104	4576	0.86777	730.77	0.59091	970.4	923.31	-0.59	2.17	1953.1	6.83	1950.22	6.82	-2.88	-0.15
91	287	196	105	4592	0.86615	731.11	0.59146	970.42	937.88	0	2.15	1954.74	6.81	1951.06	6.8	-3.68	-0.19
91	288	197	106	4608	0.86454	731.44	0.59201	970.44	952.52	-0.59	2.13	1955.14	6.79	1952.18	6.78	-2.96	-0.15
91	289	198	107	4624	0.86292	731.76	0.59256	970.47	967.23	0	2.11	1956.64	6.77	1952.88	6.76	-3.76	-0.19
91	290	199	108	4640	0.86131	732.08	0.59310	970.51	982.01	-0.59	2.09	1956.91	6.75	1953.87	6.74	-3.04	-0.16
91	291	200	109	4656	0.85970	732.39	0.59364	970.55	996.85	0	2.07	1958.28	6.73	1954.43	6.72	-3.85	-0.2
91	292	201	110	4672	0.85809	732.69	0.59418	970.6	1011.76	-0.59	2.06	1958.41	6.71	1955.28	6.7	-3.14	-0.16
91	293	202	111	4688	0.85648	732.99	0.59471	970.66	1026.74	0	2.04	1959.65	6.69	1955.7	6.67	-3.95	-0.2
91	294	203	112	4704	0.85488	733.28	0.59524	970.72	1041.78	-0.58	2.02	1959.66	6.67	1956.42	6.65	-3.24	-0.17
91	295	204	113	4720	0.85327	733.56	0.59576	970.78	1056.88	0	2	1960.77	6.65	1956.71	6.63	-4.06	-0.21
91	296	205	114	4736	0.85167	733.84	0.59628	970.86	1072.05	-0.58	1.98	1960.66	6.62	1957.3	6.61	-3.36	-0.17
91	297	206	115	4752	0.85007	734.11	0.59680	970.93	1087.28	0	1.97	1961.64	6.6	1957.46	6.59	-4.19	-0.21
91	298	207	116	4768	0.84848	734.38	0.59732	971.02	1102.57	-0.58	1.95	1961.41	6.58	1957.91	6.57	-3.5	-0.18
91	299	208	117	4784	0.84688	734.63	0.59783	971.11	1117.92	0	1.93	1962.27	6.56	1957.95	6.55	-4.32	-0.22
91	300	209	118	4800	0.84529	734.89	0.59833	971.2	1133.34	-0.58	1.92	1961.91	6.54	1958.27	6.53	-3.64	-0.19

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
91	301	210	119	4816	0.84370	735.13	0.59884	971.3	1148.81	0	1.9	1962.65	6.52	1958.18	6.51	-4.47	-0.23
91	302	211	120	4832	0.84211	735.38	0.59934	971.41	1164.34	-0.58	1.88	1962.18	6.5	1958.38	6.48	-3.8	-0.19
91	303	212	121	4848	0.84053	735.61	0.59984	971.52	1179.94	0	1.87	1962.8	6.48	1958.17	6.46	-4.64	-0.24
91	304	213	122	4864	0.83895	735.84	0.60033	971.63	1195.59	-0.57	1.85	1962.22	6.45	1958.25	6.44	-3.97	-0.2
91	305	214	123	4880	0.83737	736.07	0.60082	971.75	1211.3	0	1.84	1962.72	6.44	1957.91	6.42	-4.81	-0.25
91	306	215	124	4896	0.83579	736.29	0.60131	971.88	1227.06	-0.57	1.82	1962.03	6.41	1957.87	6.4	-4.16	-0.21
91	307	216	125	4912	0.83422	736.5	0.60179	972.01	1242.88	0	1.81	1962.42	6.39	1957.41	6.38	-5.01	-0.26
91	308	217	126	4928	0.83265	736.71	0.60227	972.14	1258.76	-0.57	1.79	1961.61	6.37	1957.26	6.35	-4.36	-0.22
91	309	218	127	4944	0.83108	736.91	0.60275	972.28	1274.7	0	1.78	1961.89	6.35	1956.68	6.33	-5.21	-0.27
91	310	219	128	4960	0.82951	737.11	0.60323	972.42	1290.69	-0.57	1.77	1960.98	6.33	1956.41	6.31	-4.57	-0.23
91	311	220	129	4976	0.82795	737.3	0.60370	972.57	1306.73	0	1.75	1961.14	6.31	1955.72	6.29	-5.43	-0.28
91	312	221	130	4992	0.82639	737.49	0.60417	972.73	1322.83	-0.57	1.74	1960.13	6.28	1955.33	6.27	-4.8	-0.25
91	313	222	131	5008	0.82483	737.67	0.60463	972.88	1338.98	0	1.72	1960.19	6.26	1954.52	6.24	-5.66	-0.29
91	314	223	132	5024	0.82328	737.85	0.60510	973.05	1355.19	-0.56	1.71	1959.06	6.24	1954.02	6.22	-5.04	-0.26
91	315	224	133	5040	0.82173	738.02	0.60556	973.21	1371.44	0	1.7	1959.02	6.22	1953.11	6.2	-5.91	-0.3
91	316	225	134	5056	0.82018	738.19	0.60601	973.38	1387.75	-0.56	1.68	1957.79	6.2	1952.5	6.18	-5.3	-0.27
91	317	226	135	5072	0.81864	738.36	0.60647	973.56	1404.11	0	1.67	1957.64	6.18	1951.47	6.16	-6.17	-0.32
91	318	227	136	5088	0.81710	738.52	0.60692	973.74	1420.53	-0.56	1.66	1956.32	6.15	1950.75	6.13	-5.57	-0.29
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
92	183	91	-1	2928	0.99997	625.3	0.49863	1058.5	0.13	0	9.77	1253.84	6.85	1262.83	6.9	8.99	0.71
92	184	92	0	2944	1.00000	627.6	0.50000	1056.56	0	0.74	10	1270.58	6.91	1278.77	6.95	8.19	0.64
92	185	93	1	2960	0.99997	629.85	0.50135	1054.67	0.13	0	9.78	1285.12	6.95	1292.39	6.99	7.26	0.56
92	186	94	2	2976	0.99988	632.06	0.50269	1052.82	0.52	0.73	9.56	1300.88	6.99	1307.85	7.03	6.97	0.53
92	187	95	3	2992	0.99974	634.24	0.50401	1051.02	1.17	0	9.35	1314.92	7.03	1321.02	7.06	6.1	0.46
92	188	96	4	3008	0.99955	636.37	0.50532	1049.25	2.07	0.73	9.15	1330.18	7.08	1336.02	7.11	5.85	0.44
92	189	97	5	3024	0.99930	638.47	0.50661	1047.53	3.22	0	8.95	1343.72	7.11	1348.75	7.14	5.03	0.37
92	190	98	6	3040	0.99900	640.53	0.50790	1045.85	4.62	0.73	8.76	1358.49	7.15	1363.31	7.18	4.82	0.35
92	191	99	7	3056	0.99866	642.55	0.50916	1044.21	6.25	0	8.57	1371.56	7.18	1375.61	7.2	4.05	0.29
92	192	100	8	3072	0.99826	644.54	0.51042	1042.6	8.12	0.72	8.39	1385.85	7.22	1389.73	7.24	3.88	0.28
92	193	101	9	3088	0.99783	646.49	0.51166	1041.03	10.23	0	8.22	1398.47	7.25	1401.62	7.26	3.15	0.22
92	194	102	10	3104	0.99734	648.41	0.51289	1039.5	12.56	0.72	8.05	1412.3	7.28	1415.31	7.3	3.02	0.21
92	195	103	11	3120	0.99682	650.29	0.51410	1038.01	15.12	0	7.89	1424.47	7.3	1426.8	7.32	2.33	0.16
92	196	104	12	3136	0.99625	652.14	0.51531	1036.55	17.91	0.71	7.73	1437.85	7.34	1440.08	7.35	2.23	0.16
92	197	105	13	3152	0.99565	653.96	0.51650	1035.12	20.91	0	7.58	1449.59	7.36	1451.18	7.37	1.59	0.11
92	198	106	14	3168	0.99500	655.75	0.51768	1033.73	24.13	0.71	7.43	1462.54	7.39	1464.06	7.39	1.52	0.1
92	199	107	15	3184	0.99432	657.5	0.51884	1032.37	27.56	0	7.29	1473.86	7.41	1474.77	7.41	0.91	0.06
92	200	108	16	3200	0.99360	659.22	0.52000	1031.04	31.2	0.71	7.15	1486.39	7.43	1487.26	7.44	0.87	0.06
92	201	109	17	3216	0.99285	660.92	0.52114	1029.74	35.05	0	7.01	1497.3	7.45	1497.6	7.45	0.3	0.02
92	202	110	18	3232	0.99206	662.58	0.52228	1028.47	39.1	0.7	6.88	1509.43	7.47	1509.72	7.47	0.29	0.02
92	203	111	19	3248	0.99124	664.22	0.52340	1027.23	43.35	0	6.75	1519.94	7.49	1519.69	7.49	-0.25	-0.02
92	204	112	20	3264	0.99039	665.83	0.52451	1026.02	47.8	0.7	6.62	1531.67	7.51	1531.44	7.51	-0.24	-0.02
92	205	113	21	3280	0.98951	667.41	0.52561	1024.84	52.45	0	6.5	1541.81	7.52	1541.06	7.52	-0.75	-0.05
92	206	114	22	3296	0.98860	668.96	0.52670	1023.69	57.28	0.7	6.39	1553.15	7.54	1552.44	7.54	-0.71	-0.05
92	207	115	23	3312	0.98765	670.48	0.52778	1022.57	62.31	0	6.27	1562.91	7.55	1561.72	7.54	-1.2	-0.08
92	208	116	24	3328	0.98669	671.98	0.52885	1021.47	67.52	0.69	6.16	1573.89	7.57	1572.75	7.56	-1.13	-0.07
92	209	117	25	3344	0.98569	673.45	0.52990	1020.4	72.91	0	6.05	1583.29	7.58	1581.7	7.57	-1.59	-0.1

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
92	210	118	26	3360	0.98467	674.9	0.53095	1019.35	78.49	0.69	5.95	1593.9	7.59	1592.39	7.58	-1.51	-0.09
92	211	119	27	3376	0.98363	676.32	0.53199	1018.33	84.25	0	5.84	1602.95	7.6	1601	7.59	-1.94	-0.12
92	212	120	28	3392	0.98256	677.72	0.53302	1017.33	90.18	0.69	5.74	1613.2	7.61	1611.36	7.6	-1.84	-0.11
92	213	121	29	3408	0.98146	679.09	0.53404	1016.36	96.28	0	5.64	1621.91	7.61	1619.66	7.6	-2.25	-0.14
92	214	122	30	3424	0.98035	680.44	0.53505	1015.41	102.56	0.68	5.55	1631.83	7.63	1629.7	7.62	-2.13	-0.13
92	215	123	31	3440	0.97921	681.77	0.53605	1014.48	109	0	5.46	1640.2	7.63	1637.68	7.62	-2.52	-0.15
92	216	124	32	3456	0.97805	683.07	0.53704	1013.58	115.61	0.68	5.37	1649.78	7.64	1647.4	7.63	-2.39	-0.14
92	217	125	33	3472	0.97687	684.35	0.53802	1012.7	122.39	0	5.28	1657.84	7.64	1655.08	7.63	-2.76	-0.17
92	218	126	34	3488	0.97568	685.61	0.53899	1011.84	129.32	0.68	5.19	1667.1	7.65	1664.49	7.64	-2.61	-0.16
92	219	127	35	3504	0.97446	686.85	0.53995	1011	136.42	0	5.11	1674.84	7.65	1671.88	7.63	-2.96	-0.18
92	220	128	36	3520	0.97322	688.06	0.54091	1010.19	143.67	0.67	5.03	1683.78	7.65	1680.98	7.64	-2.8	-0.17
92	221	129	37	3536	0.97197	689.26	0.54186	1009.39	151.08	0	4.95	1691.22	7.65	1688.08	7.64	-3.14	-0.19
92	222	130	38	3552	0.97070	690.43	0.54279	1008.62	158.64	0.67	4.87	1699.85	7.66	1696.89	7.64	-2.96	-0.17
92	223	131	39	3568	0.96941	691.59	0.54372	1007.86	166.36	0	4.8	1706.99	7.65	1703.71	7.64	-3.28	-0.19
92	224	132	40	3584	0.96811	692.72	0.54464	1007.13	174.22	0.67	4.72	1715.33	7.66	1712.23	7.64	-3.09	-0.18
92	225	133	41	3600	0.96680	693.84	0.54556	1006.41	182.23	0	4.65	1722.18	7.65	1718.77	7.64	-3.4	-0.2
92	226	134	42	3616	0.96546	694.93	0.54646	1005.71	190.38	0.67	4.58	1730.22	7.66	1727.02	7.64	-3.2	-0.19
92	227	135	43	3632	0.96412	696.01	0.54736	1005.03	198.68	0	4.51	1736.79	7.65	1733.29	7.64	-3.5	-0.2
92	228	136	44	3648	0.96276	697.07	0.54825	1004.37	207.12	0.66	4.45	1744.55	7.65	1741.26	7.64	-3.29	-0.19
92	229	137	45	3664	0.96139	698.11	0.54913	1003.72	215.7	0	4.38	1750.85	7.65	1747.27	7.63	-3.58	-0.2
92	230	138	46	3680	0.96000	699.13	0.55000	1003.1	224.42	0.66	4.32	1758.33	7.64	1754.97	7.63	-3.36	-0.19
92	231	139	47	3696	0.95860	700.13	0.55087	1002.49	233.27	0	4.25	1764.36	7.64	1760.73	7.62	-3.63	-0.21
92	232	140	48	3712	0.95719	701.12	0.55172	1001.89	242.26	0.66	4.19	1771.57	7.64	1768.17	7.62	-3.41	-0.19
92	233	141	49	3728	0.95577	702.09	0.55258	1001.31	251.38	0	4.13	1777.35	7.63	1773.67	7.61	-3.68	-0.21
92	234	142	50	3744	0.95434	703.05	0.55342	1000.75	260.63	0.65	4.08	1784.3	7.63	1780.85	7.61	-3.44	-0.19
92	235	143	51	3760	0.95290	703.98	0.55426	1000.21	270.01	0	4.02	1789.81	7.62	1786.11	7.6	-3.7	-0.21
92	236	144	52	3776	0.95145	704.9	0.55509	999.68	279.52	0.65	3.96	1796.51	7.61	1793.05	7.6	-3.46	-0.19
92	237	145	53	3792	0.94999	705.81	0.55591	999.17	289.16	0	3.91	1801.78	7.6	1798.07	7.59	-3.71	-0.21
92	238	146	54	3808	0.94852	706.7	0.55672	998.67	298.92	0.65	3.86	1808.23	7.6	1804.75	7.58	-3.47	-0.19
92	239	147	55	3824	0.94704	707.57	0.55753	998.18	308.8	0	3.8	1813.26	7.59	1809.54	7.57	-3.71	-0.21
92	240	148	56	3840	0.94556	708.43	0.55833	997.71	318.8	0.65	3.75	1819.46	7.58	1815.99	7.57	-3.47	-0.19
92	241	149	57	3856	0.94406	709.27	0.55913	997.26	328.92	0	3.7	1824.25	7.57	1820.55	7.55	-3.7	-0.2
92	242	150	58	3872	0.94256	710.1	0.55992	996.81	339.16	0.64	3.65	1830.22	7.56	1826.76	7.55	-3.46	-0.19
92	243	151	59	3888	0.94105	710.92	0.56070	996.39	349.52	0	3.61	1834.78	7.55	1831.1	7.54	-3.69	-0.2
92	244	152	60	3904	0.93953	711.72	0.56148	995.97	359.99	0.64	3.56	1840.52	7.54	1837.08	7.53	-3.44	-0.19
92	245	153	61	3920	0.93801	712.5	0.56225	995.57	370.58	0	3.51	1844.86	7.53	1841.2	7.52	-3.66	-0.2
92	246	154	62	3936	0.93648	713.27	0.56301	995.18	381.28	0.64	3.47	1850.37	7.52	1846.96	7.51	-3.41	-0.18
92	247	155	63	3952	0.93494	714.03	0.56377	994.81	392.09	0	3.43	1854.49	7.51	1850.86	7.49	-3.63	-0.2
92	248	156	64	3968	0.93340	714.78	0.56452	994.44	403.01	0.64	3.38	1859.78	7.5	1856.41	7.49	-3.37	-0.18
92	249	157	65	3984	0.93186	715.51	0.56526	994.09	414.04	0	3.34	1863.69	7.48	1860.1	7.47	-3.59	-0.19
92	250	158	66	4000	0.93030	716.23	0.56600	993.75	425.18	0.63	3.3	1868.77	7.48	1865.43	7.46	-3.34	-0.18
92	251	159	67	4016	0.92875	716.94	0.56673	993.43	436.42	0	3.26	1872.47	7.46	1868.92	7.45	-3.55	-0.19
92	252	160	68	4032	0.92719	717.63	0.56746	993.11	447.77	0.63	3.22	1877.33	7.45	1874.03	7.44	-3.3	-0.18
92	253	161	69	4048	0.92562	718.31	0.56818	992.81	459.22	0	3.18	1880.83	7.43	1877.32	7.42	-3.51	-0.19
92	254	162	70	4064	0.92405	718.98	0.56890	992.52	470.78	0.63	3.14	1885.49	7.42	1882.24	7.41	-3.26	-0.17
92	255	163	71	4080	0.92248	719.64	0.56961	992.24	482.43	0	3.11	1888.79	7.41	1885.33	7.39	-3.47	-0.18
92	256	164	72	4096	0.92090	720.29	0.57031	991.97	494.19	0.62	3.07	1893.25	7.4	1890.04	7.38	-3.21	-0.17

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
92	257	165	73	4112	0.91932	720.92	0.57101	991.71	506.04	0	3.03	1896.36	7.38	1892.94	7.37	-3.42	-0.18
92	258	166	74	4128	0.91773	721.55	0.57171	991.46	517.99	0.62	3	1900.62	7.37	1897.45	7.35	-3.17	-0.17
92	259	167	75	4144	0.91615	722.16	0.57239	991.22	530.04	0	2.96	1903.54	7.35	1900.16	7.34	-3.38	-0.18
92	260	168	76	4160	0.91456	722.76	0.57308	991	542.18	0.62	2.93	1907.61	7.34	1904.48	7.32	-3.13	-0.16
92	261	169	77	4176	0.91296	723.35	0.57376	990.78	554.42	0	2.9	1910.34	7.32	1907.01	7.31	-3.34	-0.17
92	262	170	78	4192	0.91137	723.93	0.57443	990.57	566.75	0.62	2.86	1914.23	7.31	1911.14	7.29	-3.09	-0.16
92	263	171	79	4208	0.90977	724.5	0.57510	990.38	579.18	0	2.83	1916.78	7.29	1913.49	7.28	-3.3	-0.17
92	264	172	80	4224	0.90817	725.06	0.57576	990.19	591.69	0.62	2.8	1920.48	7.27	1917.43	7.26	-3.05	-0.16
92	265	173	81	4240	0.90657	725.61	0.57642	990.01	604.29	0	2.77	1922.86	7.26	1919.6	7.24	-3.26	-0.17
92	266	174	82	4256	0.90497	726.14	0.57707	989.84	616.99	0.61	2.74	1926.38	7.24	1923.36	7.23	-3.02	-0.16
92	267	175	83	4272	0.90337	726.67	0.57772	989.68	629.77	0	2.71	1928.59	7.22	1925.36	7.21	-3.23	-0.17
92	268	176	84	4288	0.90176	727.19	0.57836	989.53	642.64	0.61	2.68	1931.93	7.21	1928.94	7.2	-2.99	-0.15
92	269	177	85	4304	0.90015	727.7	0.57900	989.39	655.59	0	2.65	1933.97	7.19	1930.77	7.18	-3.2	-0.17
92	270	178	86	4320	0.89855	728.2	0.57963	989.26	668.63	0.61	2.62	1937.14	7.17	1934.18	7.16	-2.96	-0.15
92	271	179	87	4336	0.89694	728.69	0.58026	989.13	681.76	0	2.6	1939.02	7.16	1935.84	7.14	-3.18	-0.16
92	272	180	88	4352	0.89533	729.17	0.58088	989.02	694.96	0.61	2.57	1942.02	7.14	1939.08	7.13	-2.94	-0.15
92	273	181	89	4368	0.89372	729.64	0.58150	988.91	708.26	0	2.54	1943.73	7.12	1940.57	7.11	-3.16	-0.16
92	274	182	90	4384	0.89211	730.11	0.58212	988.81	721.63	0.6	2.52	1946.58	7.1	1943.64	7.09	-2.93	-0.15
92	275	183	91	4400	0.89050	730.56	0.58273	988.72	735.08	0	2.49	1948.13	7.08	1944.98	7.07	-3.15	-0.16
92	276	184	92	4416	0.88889	731.01	0.58333	988.64	748.61	0.6	2.47	1950.81	7.07	1947.89	7.06	-2.93	-0.15
92	277	185	93	4432	0.88728	731.44	0.58394	988.56	762.22	0	2.44	1952.21	7.05	1949.06	7.04	-3.15	-0.16
92	278	186	94	4448	0.88567	731.87	0.58453	988.49	775.91	0.6	2.42	1954.74	7.03	1951.81	7.02	-2.93	-0.15
92	279	187	95	4464	0.88406	732.29	0.58513	988.43	789.68	0	2.39	1955.99	7.01	1952.83	7	-3.16	-0.16
92	280	188	96	4480	0.88245	732.71	0.58571	988.38	803.52	0.6	2.37	1958.36	6.99	1955.42	6.98	-2.94	-0.15
92	281	189	97	4496	0.88084	733.11	0.58630	988.34	817.44	0	2.35	1959.46	6.97	1956.29	6.96	-3.17	-0.16
92	282	190	98	4512	0.87923	733.51	0.58688	988.3	831.43	0.6	2.32	1961.68	6.96	1958.72	6.95	-2.96	-0.15
92	283	191	99	4528	0.87762	733.9	0.58746	988.27	845.5	0	2.3	1962.64	6.94	1959.44	6.92	-3.19	-0.16
92	284	192	100	4544	0.87602	734.28	0.58803	988.25	859.64	0.59	2.28	1964.71	6.92	1961.72	6.91	-2.99	-0.15
92	285	193	101	4560	0.87441	734.65	0.58860	988.23	873.85	0	2.26	1965.53	6.9	1962.3	6.89	-3.23	-0.16
92	286	194	102	4576	0.87281	735.02	0.58916	988.22	888.14	0.59	2.24	1967.45	6.88	1964.43	6.87	-3.03	-0.15
92	287	195	103	4592	0.87120	735.37	0.58972	988.22	902.49	0	2.22	1968.13	6.86	1964.86	6.85	-3.27	-0.17
92	288	196	104	4608	0.86960	735.73	0.59028	988.22	916.92	0.59	2.19	1969.92	6.84	1966.84	6.83	-3.08	-0.16
92	289	197	105	4624	0.86800	736.07	0.59083	988.23	931.41	0	2.17	1970.46	6.82	1967.14	6.81	-3.32	-0.17
92	290	198	106	4640	0.86640	736.41	0.59138	988.25	945.98	0.59	2.15	1972.11	6.8	1968.97	6.79	-3.13	-0.16
92	291	199	107	4656	0.86480	736.74	0.59192	988.28	960.61	0	2.13	1972.52	6.78	1969.13	6.77	-3.39	-0.17
92	292	200	108	4672	0.86320	737.06	0.59247	988.31	975.31	0.59	2.12	1974.03	6.76	1970.83	6.75	-3.2	-0.16
92	293	201	109	4688	0.86161	737.38	0.59300	988.34	990.07	0	2.1	1974.31	6.74	1970.85	6.73	-3.46	-0.18
92	294	202	110	4704	0.86001	737.69	0.59354	988.38	1004.9	0.58	2.08	1975.69	6.72	1972.4	6.71	-3.29	-0.17
92	295	203	111	4720	0.85842	737.99	0.59407	988.43	1019.8	0	2.06	1975.84	6.7	1972.29	6.69	-3.55	-0.18
92	296	204	112	4736	0.85683	738.29	0.59460	988.49	1034.76	0.58	2.04	1977.09	6.68	1973.71	6.67	-3.38	-0.17
92	297	205	113	4752	0.85524	738.58	0.59512	988.55	1049.79	0	2.02	1977.11	6.66	1973.47	6.64	-3.65	-0.18
92	298	206	114	4768	0.85366	738.86	0.59564	988.61	1064.88	0.58	2.01	1978.24	6.64	1974.75	6.63	-3.48	-0.18
92	299	207	115	4784	0.85207	739.14	0.59615	988.68	1080.03	0	1.99	1978.14	6.62	1974.38	6.6	-3.76	-0.19
92	300	208	116	4800	0.85049	739.41	0.59667	988.76	1095.24	0.58	1.97	1979.14	6.6	1975.53	6.59	-3.6	-0.18
92	301	209	117	4816	0.84891	739.67	0.59718	988.84	1110.52	0	1.95	1978.92	6.57	1975.04	6.56	-3.88	-0.2
92	302	210	118	4832	0.84733	739.93	0.59768	988.93	1125.86	0.58	1.94	1979.79	6.56	1976.06	6.54	-3.73	-0.19
92	303	211	119	4848	0.84576	740.19	0.59819	989.03	1141.25	0	1.92	1979.46	6.53	1975.44	6.52	-4.01	-0.2

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
92	304	212	120	4864	0.84418	740.44	0.59868	989.12	1156.71	0.57	1.91	1980.21	6.51	1976.34	6.5	-3.87	-0.2
92	305	213	121	4880	0.84261	740.68	0.59918	989.23	1172.22	0	1.89	1979.76	6.49	1975.6	6.48	-4.16	-0.21
92	306	214	122	4896	0.84104	740.91	0.59967	989.34	1187.8	0.57	1.87	1980.4	6.47	1976.37	6.46	-4.03	-0.2
92	307	215	123	4912	0.83948	741.15	0.60016	989.45	1203.43	0	1.86	1979.83	6.45	1975.51	6.43	-4.32	-0.22
92	308	216	124	4928	0.83792	741.37	0.60065	989.57	1219.12	0.57	1.84	1980.35	6.43	1976.15	6.42	-4.2	-0.21
92	309	217	125	4944	0.83636	741.59	0.60113	989.7	1234.87	0	1.83	1979.68	6.41	1975.18	6.39	-4.5	-0.23
92	310	218	126	4960	0.83480	741.81	0.60161	989.82	1250.67	0.57	1.81	1980.08	6.39	1975.7	6.37	-4.38	-0.22
92	311	219	127	4976	0.83324	742.02	0.60209	989.96	1266.53	0	1.8	1979.3	6.36	1974.61	6.35	-4.69	-0.24
92	312	220	128	4992	0.83169	742.22	0.60256	990.1	1282.44	0.57	1.79	1979.59	6.34	1975.02	6.33	-4.58	-0.23
92	313	221	129	5008	0.83014	742.42	0.60304	990.24	1298.41	0	1.77	1978.7	6.32	1973.81	6.31	-4.89	-0.25
92	314	222	130	5024	0.82859	742.61	0.60350	990.39	1314.43	0.56	1.76	1978.89	6.3	1974.1	6.29	-4.79	-0.24
92	315	223	131	5040	0.82705	742.8	0.60397	990.54	1330.51	0	1.74	1977.89	6.28	1972.78	6.26	-5.11	-0.26
92	316	224	132	5056	0.82551	742.99	0.60443	990.7	1346.64	0.56	1.73	1977.97	6.26	1972.96	6.24	-5.01	-0.25
92	317	225	133	5072	0.82397	743.17	0.60489	990.86	1362.82	0	1.72	1976.87	6.24	1971.53	6.22	-5.34	-0.27
92	318	226	134	5088	0.82244	743.34	0.60535	991.02	1379.05	0.56	1.7	1976.85	6.22	1971.59	6.2	-5.25	-0.27
92	319	227	135	5104	0.82090	743.51	0.60580	991.19	1395.34	0	1.69	1975.65	6.19	1970.06	6.18	-5.59	-0.28
92	320	228	136	5120	0.81938	743.68	0.60625	991.37	1411.67	0.56	1.68	1975.52	6.17	1970.01	6.16	-5.51	-0.28
92	321	229	137	5136	0.81785	743.84	0.60670	991.55	1428.06	0	1.67	1974.22	6.15	1968.37	6.13	-5.85	-0.3
92	322	230	138	5152	0.81633	743.99	0.60714	991.73	1444.5	0.56	1.65	1973.99	6.13	1968.21	6.11	-5.78	-0.29
Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
93	185	92	-1	2960	0.99997	629.85	0.49865	1077.72	0.13	0	9.78	1262.07	6.82	1271.09	6.87	9.01	0.71
93	186	93	0	2976	1.00000	632.14	0.50000	1075.77	0	-0.73	10	1277.36	6.87	1286.1	6.91	8.74	0.68
93	187	94	1	2992	0.99997	634.38	0.50134	1073.87	0.13	0	9.78	1293.4	6.92	1300.68	6.96	7.28	0.56
93	188	95	2	3008	0.99989	636.59	0.50266	1072	0.52	-0.73	9.56	1307.72	6.96	1315.24	7	7.51	0.57
93	189	96	3	3024	0.99975	638.75	0.50397	1070.18	1.16	0	9.36	1323.26	7	1329.36	7.03	6.1	0.46
93	190	97	4	3040	0.99956	640.88	0.50526	1068.41	2.05	-0.73	9.15	1337.09	7.04	1343.47	7.07	6.39	0.48
93	191	98	5	3056	0.99932	642.97	0.50655	1066.67	3.19	0	8.96	1352.12	7.08	1357.15	7.11	5.02	0.37
93	192	99	6	3072	0.99902	645.03	0.50781	1064.97	4.57	-0.72	8.77	1365.48	7.11	1370.83	7.14	5.35	0.39
93	193	100	7	3088	0.99869	647.05	0.50907	1063.32	6.19	0	8.59	1380.04	7.15	1384.07	7.17	4.03	0.29
93	194	101	8	3104	0.99830	649.03	0.51031	1061.7	8.04	-0.72	8.41	1392.92	7.18	1397.33	7.2	4.4	0.32
93	195	102	9	3120	0.99787	650.98	0.51154	1060.12	10.12	0	8.24	1407.02	7.22	1410.15	7.23	3.13	0.22
93	196	103	10	3136	0.99740	652.89	0.51276	1058.57	12.44	-0.71	8.07	1419.46	7.24	1422.99	7.26	3.53	0.25
93	197	104	11	3152	0.99688	654.77	0.51396	1057.06	14.97	0	7.91	1433.11	7.27	1435.41	7.29	2.3	0.16
93	198	105	12	3168	0.99633	656.62	0.51515	1055.58	17.73	-0.71	7.75	1445.11	7.3	1447.85	7.31	2.74	0.19
93	199	106	13	3184	0.99573	658.44	0.51633	1054.14	20.7	0	7.6	1458.32	7.33	1459.87	7.34	1.54	0.11
93	200	107	14	3200	0.99510	660.22	0.51750	1052.73	23.89	-0.71	7.45	1469.9	7.35	1471.92	7.36	2.02	0.14
93	201	108	15	3216	0.99443	661.97	0.51866	1051.36	27.29	0	7.31	1482.69	7.38	1483.55	7.38	0.86	0.06
93	202	109	16	3232	0.99373	663.7	0.51980	1050.01	30.9	-0.7	7.17	1493.86	7.4	1495.23	7.4	1.37	0.09
93	203	110	17	3248	0.99299	665.39	0.52094	1048.7	34.71	0	7.03	1506.24	7.42	1506.47	7.42	0.24	0.02
93	204	111	18	3264	0.99222	667.05	0.52206	1047.42	38.72	-0.7	6.9	1517.01	7.44	1517.79	7.44	0.77	0.05
93	205	112	19	3280	0.99141	668.69	0.52317	1046.16	42.93	0	6.78	1528.99	7.46	1528.66	7.46	-0.33	-0.02
93	206	113	20	3296	0.99057	670.3	0.52427	1044.94	47.34	-0.7	6.65	1539.38	7.47	1539.62	7.47	0.24	0.02
93	207	114	21	3312	0.98971	671.88	0.52536	1043.75	51.94	0	6.53	1550.97	7.49	1550.13	7.49	-0.83	-0.05
93	208	115	22	3328	0.98881	673.43	0.52644	1042.58	56.74	-0.69	6.41	1560.98	7.5	1560.74	7.5	-0.24	-0.02
93	209	116	23	3344	0.98789	674.95	0.52751	1041.44	61.72	0	6.3	1572.19	7.52	1570.91	7.52	-1.29	-0.08
93	210	117	24	3360	0.98694	676.45	0.52857	1040.33	66.88	-0.69	6.19	1581.84	7.53	1581.17	7.53	-0.67	-0.04

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Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
93	211	118	25	3376	0.98596	677.93	0.52962	1039.24	72.23	0	6.08	1592.69	7.55	1591	7.54	-1.69	-0.11
93	212	119	26	3392	0.98496	679.38	0.53066	1038.18	77.75	-0.69	5.97	1601.98	7.56	1600.93	7.55	-1.05	-0.07
93	213	120	27	3408	0.98393	680.8	0.53169	1037.14	83.46	0	5.87	1612.47	7.57	1610.42	7.56	-2.05	-0.13
93	214	121	28	3424	0.98288	682.2	0.53271	1036.13	89.34	-0.68	5.77	1621.42	7.58	1620.03	7.57	-1.39	-0.09
93	215	122	29	3440	0.98181	683.58	0.53372	1035.14	95.39	0	5.68	1631.57	7.59	1629.2	7.58	-2.37	-0.15
93	216	123	30	3456	0.98071	684.93	0.53472	1034.18	101.61	-0.68	5.58	1640.18	7.59	1638.49	7.59	-1.69	-0.1
93	217	124	31	3472	0.97959	686.26	0.53571	1033.24	108	0	5.49	1649.99	7.6	1647.34	7.59	-2.65	-0.16
93	218	125	32	3488	0.97845	687.56	0.53670	1032.32	114.55	-0.68	5.4	1658.28	7.61	1656.32	7.6	-1.96	-0.12
93	219	126	33	3504	0.97729	688.85	0.53767	1031.43	121.27	0	5.31	1667.76	7.62	1664.87	7.6	-2.89	-0.17
93	220	127	34	3520	0.97612	690.11	0.53864	1030.56	128.15	-0.67	5.23	1675.73	7.62	1673.55	7.61	-2.18	-0.13
93	221	128	35	3536	0.97492	691.35	0.53959	1029.7	135.19	0	5.14	1684.9	7.62	1681.8	7.61	-3.1	-0.18
93	222	129	36	3552	0.97370	692.57	0.54054	1028.87	142.38	-0.67	5.06	1692.56	7.62	1690.18	7.61	-2.38	-0.14
93	223	130	37	3568	0.97247	693.77	0.54148	1028.06	149.73	0	4.98	1701.42	7.63	1698.14	7.61	-3.28	-0.19
93	224	131	38	3584	0.97122	694.95	0.54241	1027.28	157.23	-0.67	4.9	1708.78	7.63	1706.23	7.62	-2.55	-0.15
93	225	132	39	3600	0.96996	696.11	0.54333	1026.51	164.88	0	4.83	1717.33	7.63	1713.9	7.62	-3.43	-0.2
93	226	133	40	3616	0.96867	697.24	0.54425	1025.76	172.68	-0.67	4.76	1724.41	7.63	1721.72	7.62	-2.69	-0.16
93	227	134	41	3632	0.96738	698.36	0.54515	1025.03	180.63	0	4.68	1732.66	7.63	1729.1	7.62	-3.56	-0.21
93	228	135	42	3648	0.96607	699.46	0.54605	1024.31	188.72	-0.66	4.61	1739.45	7.63	1736.65	7.62	-2.8	-0.16
93	229	136	43	3664	0.96474	700.55	0.54694	1023.62	196.95	0	4.54	1747.42	7.63	1743.76	7.61	-3.66	-0.21
93	230	137	44	3680	0.96340	701.61	0.54783	1022.94	205.33	-0.66	4.48	1753.94	7.63	1751.04	7.61	-2.9	-0.17
93	231	138	45	3696	0.96205	702.65	0.54870	1022.29	213.84	0	4.41	1761.63	7.63	1757.89	7.61	-3.74	-0.21
93	232	139	46	3712	0.96069	703.68	0.54957	1021.65	222.49	-0.66	4.35	1767.87	7.62	1764.9	7.61	-2.97	-0.17
93	233	140	47	3728	0.95931	704.69	0.55043	1021.02	231.28	0	4.29	1775.29	7.62	1771.49	7.6	-3.81	-0.21
93	234	141	48	3744	0.95792	705.68	0.55128	1020.42	240.2	-0.65	4.23	1781.27	7.61	1778.25	7.6	-3.02	-0.17
93	235	142	49	3760	0.95652	706.66	0.55213	1019.83	249.25	0	4.17	1788.43	7.61	1784.58	7.59	-3.85	-0.22
93	236	143	50	3776	0.95511	707.62	0.55297	1019.25	258.43	-0.65	4.11	1794.15	7.6	1791.09	7.59	-3.06	-0.17
93	237	144	51	3792	0.95369	708.56	0.55380	1018.7	267.75	0	4.05	1801.05	7.6	1797.17	7.58	-3.88	-0.22
93	238	145	52	3808	0.95226	709.49	0.55462	1018.15	277.18	-0.65	3.99	1806.52	7.59	1803.44	7.58	-3.09	-0.17
93	239	146	53	3824	0.95082	710.4	0.55544	1017.63	286.75	0	3.94	1813.17	7.59	1809.27	7.57	-3.9	-0.22
93	240	147	54	3840	0.94938	711.29	0.55625	1017.12	296.43	-0.65	3.89	1818.4	7.58	1815.3	7.56	-3.1	-0.17
93	241	148	55	3856	0.94792	712.17	0.55705	1016.62	306.24	0	3.83	1824.8	7.57	1820.9	7.56	-3.9	-0.21
93	242	149	56	3872	0.94645	713.03	0.55785	1016.14	316.18	-0.64	3.78	1829.79	7.56	1826.7	7.55	-3.1	-0.17
93	243	150	57	3888	0.94498	713.88	0.55864	1015.67	326.23	0	3.73	1835.95	7.56	1832.06	7.54	-3.89	-0.21
93	244	151	58	3904	0.94350	714.72	0.55943	1015.22	336.39	-0.64	3.68	1840.72	7.54	1837.63	7.53	-3.09	-0.17
93	245	152	59	3920	0.94201	715.54	0.56020	1014.78	346.68	0	3.64	1846.64	7.54	1842.77	7.52	-3.88	-0.21
93	246	153	60	3936	0.94051	716.35	0.56098	1014.35	357.08	-0.64	3.59	1851.18	7.53	1848.11	7.51	-3.07	-0.17
93	247	154	61	3952	0.93901	717.14	0.56174	1013.94	367.59	0	3.54	1856.88	7.52	1853.02	7.5	-3.85	-0.21
93	248	155	62	3968	0.93750	717.92	0.56250	1013.54	378.22	-0.64	3.5	1861.19	7.5	1858.15	7.49	-3.04	-0.16
93	249	156	63	3984	0.93599	718.68	0.56325	1013.15	388.96	0	3.46	1866.67	7.5	1862.85	7.48	-3.82	-0.21
93	250	157	64	4000	0.93446	719.43	0.56400	1012.78	399.8	-0.63	3.41	1870.77	7.48	1867.76	7.47	-3.01	-0.16
93	251	158	65	4016	0.93294	720.17	0.56474	1012.41	410.76	0	3.37	1876.02	7.47	1872.24	7.46	-3.79	-0.2
93	252	159	66	4032	0.93141	720.9	0.56548	1012.07	421.82	-0.63	3.33	1879.91	7.46	1876.94	7.45	-2.97	-0.16
93	253	160	67	4048	0.92987	721.61	0.56621	1011.73	432.99	0	3.29	1884.96	7.45	1881.21	7.44	-3.75	-0.2
93	254	161	68	4064	0.92833	722.31	0.56693	1011.4	444.26	-0.63	3.25	1888.65	7.44	1885.71	7.42	-2.94	-0.16
93	255	162	69	4080	0.92678	723	0.56765	1011.09	455.64	0	3.21	1893.48	7.43	1889.78	7.41	-3.7	-0.2
93	256	163	70	4096	0.92523	723.68	0.56836	1010.79	467.11	-0.62	3.17	1896.97	7.41	1894.07	7.4	-2.89	-0.15
93	257	164	71	4112	0.92368	724.34	0.56907	1010.5	478.69	0	3.13	1901.6	7.4	1897.94	7.38	-3.66	-0.19

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
93	258	165	72	4128	0.92212	725	0.56977	1010.22	490.37	-0.62	3.1	1904.89	7.38	1902.04	7.37	-2.85	-0.15
93	259	166	73	4144	0.92056	725.64	0.57046	1009.95	502.15	0	3.06	1909.33	7.37	1905.72	7.36	-3.61	-0.19
93	260	167	74	4160	0.91899	726.27	0.57115	1009.69	514.02	-0.62	3.03	1912.43	7.36	1909.62	7.34	-2.81	-0.15
93	261	168	75	4176	0.91743	726.89	0.57184	1009.44	525.99	0	2.99	1916.67	7.34	1913.1	7.33	-3.57	-0.19
93	262	169	76	4192	0.91586	727.49	0.57252	1009.2	538.06	-0.62	2.96	1919.58	7.33	1916.82	7.32	-2.76	-0.14
93	263	170	77	4208	0.91428	728.09	0.57319	1008.98	550.22	0	2.92	1923.64	7.31	1920.11	7.3	-3.52	-0.18
93	264	171	78	4224	0.91271	728.68	0.57386	1008.76	562.47	-0.62	2.89	1926.36	7.3	1923.64	7.29	-2.72	-0.14
93	265	172	79	4240	0.91113	729.25	0.57453	1008.55	574.82	0	2.86	1930.23	7.28	1926.75	7.27	-3.48	-0.18
93	266	173	80	4256	0.90955	729.82	0.57519	1008.35	587.26	-0.61	2.83	1932.78	7.27	1930.1	7.26	-2.68	-0.14
93	267	174	81	4272	0.90797	730.37	0.57584	1008.17	599.78	0	2.8	1936.47	7.25	1933.03	7.24	-3.44	-0.18
93	268	175	82	4288	0.90638	730.92	0.57649	1007.99	612.4	-0.61	2.77	1938.85	7.23	1936.2	7.22	-2.65	-0.14
93	269	176	83	4304	0.90480	731.46	0.57714	1007.82	625.1	0	2.74	1942.36	7.22	1938.95	7.21	-3.41	-0.18
93	270	177	84	4320	0.90321	731.98	0.57778	1007.66	637.9	-0.61	2.71	1944.56	7.2	1941.95	7.19	-2.61	-0.13
93	271	178	85	4336	0.90162	732.5	0.57841	1007.51	650.77	0	2.68	1947.9	7.19	1944.52	7.18	-3.38	-0.17
93	272	179	86	4352	0.90003	733	0.57904	1007.37	663.73	-0.61	2.65	1949.94	7.17	1947.35	7.16	-2.59	-0.13
93	273	180	87	4368	0.89844	733.5	0.57967	1007.23	676.78	0	2.62	1953.11	7.15	1949.76	7.14	-3.35	-0.17
93	274	181	88	4384	0.89685	733.99	0.58029	1007.11	689.91	-0.6	2.6	1954.98	7.13	1952.42	7.13	-2.57	-0.13
93	275	182	89	4400	0.89526	734.47	0.58091	1006.99	703.12	0	2.57	1957.98	7.12	1954.65	7.11	-3.33	-0.17
93	276	183	90	4416	0.89367	734.94	0.58152	1006.89	716.42	-0.6	2.54	1959.7	7.1	1957.15	7.09	-2.55	-0.13
93	277	184	91	4432	0.89208	735.4	0.58213	1006.79	729.79	0	2.52	1962.54	7.08	1959.22	7.07	-3.32	-0.17
93	278	185	92	4448	0.89048	735.85	0.58273	1006.69	743.24	-0.6	2.49	1964.1	7.07	1961.56	7.06	-2.54	-0.13
93	279	186	93	4464	0.88889	736.3	0.58333	1006.61	756.78	0	2.47	1966.78	7.05	1963.47	7.04	-3.31	-0.17
93	280	187	94	4480	0.88730	736.73	0.58393	1006.54	770.39	-0.6	2.44	1968.19	7.03	1965.65	7.02	-2.54	-0.13
93	281	188	95	4496	0.88570	737.16	0.58452	1006.47	784.08	0	2.42	1970.71	7.01	1967.4	7	-3.31	-0.17
93	282	189	96	4512	0.88411	737.58	0.58511	1006.41	797.84	-0.6	2.39	1971.97	6.99	1969.43	6.98	-2.54	-0.13
93	283	190	97	4528	0.88252	737.99	0.58569	1006.35	811.68	0	2.37	1974.34	6.98	1971.03	6.96	-3.32	-0.17
93	284	191	98	4544	0.88093	738.39	0.58627	1006.31	825.6	-0.59	2.35	1975.46	6.96	1972.9	6.95	-2.56	-0.13
93	285	192	99	4560	0.87934	738.79	0.58684	1006.27	839.59	0	2.32	1977.68	6.94	1974.35	6.93	-3.33	-0.17
93	286	193	100	4576	0.87775	739.17	0.58741	1006.24	853.65	-0.59	2.3	1978.65	6.92	1976.07	6.91	-2.58	-0.13
93	287	194	101	4592	0.87616	739.56	0.58798	1006.22	867.78	0	2.28	1980.73	6.9	1977.37	6.89	-3.36	-0.17
93	288	195	102	4608	0.87457	739.93	0.58854	1006.2	881.99	-0.59	2.26	1981.55	6.88	1978.94	6.87	-2.61	-0.13
93	289	196	103	4624	0.87298	740.29	0.58910	1006.19	896.27	0	2.24	1983.49	6.86	1980.09	6.85	-3.4	-0.17
93	290	197	104	4640	0.87139	740.65	0.58966	1006.19	910.61	-0.59	2.22	1984.18	6.84	1981.52	6.83	-2.66	-0.13
93	291	198	105	4656	0.86981	741	0.59021	1006.19	925.03	0	2.2	1985.97	6.82	1982.53	6.81	-3.44	-0.17
93	292	199	106	4672	0.86822	741.35	0.59075	1006.2	939.52	-0.59	2.18	1986.53	6.8	1983.82	6.79	-2.71	-0.14
93	293	200	107	4688	0.86664	741.68	0.59130	1006.22	954.07	0	2.16	1988.19	6.79	1984.69	6.77	-3.5	-0.18
93	294	201	108	4704	0.86506	742.01	0.59184	1006.24	968.69	-0.58	2.14	1988.61	6.76	1985.84	6.75	-2.77	-0.14
93	295	202	109	4720	0.86348	742.34	0.59237	1006.27	983.38	0	2.12	1990.13	6.75	1986.57	6.73	-3.57	-0.18
93	296	203	110	4736	0.86190	742.65	0.59291	1006.3	998.14	-0.58	2.1	1990.43	6.72	1987.58	6.71	-2.85	-0.14
93	297	204	111	4752	0.86032	742.96	0.59343	1006.35	1012.96	0	2.08	1991.82	6.71	1988.17	6.69	-3.64	-0.18
93	298	205	112	4768	0.85875	743.26	0.59396	1006.39	1027.84	-0.58	2.06	1991.98	6.68	1989.05	6.67	-2.93	-0.15
93	299	206	113	4784	0.85717	743.56	0.59448	1006.45	1042.79	0	2.04	1993.25	6.67	1989.51	6.65	-3.73	-0.19
93	300	207	114	4800	0.85560	743.85	0.59500	1006.51	1057.8	-0.58	2.03	1993.29	6.64	1990.26	6.63	-3.03	-0.15
93	301	208	115	4816	0.85403	744.14	0.59552	1006.57	1072.88	0	2.01	1994.43	6.63	1990.59	6.61	-3.83	-0.19
93	302	209	116	4832	0.85246	744.41	0.59603	1006.64	1088.01	-0.58	1.99	1994.35	6.6	1991.21	6.59	-3.14	-0.16
93	303	210	117	4848	0.85090	744.69	0.59654	1006.72	1103.21	0	1.98	1995.36	6.59	1991.41	6.57	-3.95	-0.2
93	304	211	118	4864	0.84933	744.95	0.59704	1006.8	1118.47	-0.57	1.96	1995.16	6.56	1991.9	6.55	-3.26	-0.16

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
93	305	212	119	4880	0.84777	745.21	0.59754	1006.89	1133.79	0	1.94	1996.05	6.54	1991.98	6.53	-4.07	-0.2
93	306	213	120	4896	0.84621	745.47	0.59804	1006.98	1149.17	-0.57	1.93	1995.73	6.52	1992.34	6.51	-3.39	-0.17
93	307	214	121	4912	0.84466	745.72	0.59853	1007.08	1164.61	0	1.91	1996.5	6.5	1992.29	6.49	-4.21	-0.21
93	308	215	122	4928	0.84310	745.96	0.59903	1007.18	1180.11	-0.57	1.89	1996.07	6.48	1992.54	6.47	-3.54	-0.18
93	309	216	123	4944	0.84155	746.2	0.59952	1007.29	1195.67	0	1.88	1996.73	6.46	1992.36	6.45	-4.36	-0.22
93	310	217	124	4960	0.84000	746.43	0.60000	1007.4	1211.28	-0.57	1.86	1996.18	6.44	1992.49	6.43	-3.7	-0.19
93	311	218	125	4976	0.83845	746.66	0.60048	1007.52	1226.95	0	1.85	1996.72	6.42	1992.19	6.41	-4.53	-0.23
93	312	219	126	4992	0.83691	746.88	0.60096	1007.64	1242.68	-0.57	1.83	1996.07	6.4	1992.2	6.39	-3.87	-0.19
93	313	220	127	5008	0.83537	747.09	0.60144	1007.77	1258.46	0	1.82	1996.49	6.38	1991.79	6.36	-4.71	-0.24
93	314	221	128	5024	0.83383	747.3	0.60191	1007.91	1274.3	-0.56	1.8	1995.73	6.36	1991.67	6.34	-4.06	-0.2
93	315	222	129	5040	0.83229	747.51	0.60238	1008.04	1290.19	0	1.79	1996.05	6.34	1991.15	6.32	-4.9	-0.25
93	316	223	130	5056	0.83076	747.71	0.60285	1008.19	1306.14	-0.56	1.78	1995.18	6.31	1990.92	6.3	-4.26	-0.21
93	317	224	131	5072	0.82923	747.91	0.60331	1008.33	1322.14	0	1.76	1995.39	6.29	1990.28	6.28	-5.11	-0.26
93	318	225	132	5088	0.82770	748.1	0.60377	1008.48	1338.19	-0.56	1.75	1994.41	6.27	1989.94	6.26	-4.47	-0.22
93	319	226	133	5104	0.82617	748.28	0.60423	1008.64	1354.3	0	1.74	1994.51	6.25	1989.19	6.24	-5.33	-0.27
93	320	227	134	5120	0.82465	748.46	0.60469	1008.8	1370.46	-0.56	1.72	1993.44	6.23	1988.74	6.21	-4.7	-0.24
93	321	228	135	5136	0.82313	748.64	0.60514	1008.97	1386.67	0	1.71	1993.43	6.21	1987.87	6.19	-5.56	-0.28
93	322	229	136	5152	0.82161	748.81	0.60559	1009.14	1402.93	-0.56	1.7	1992.26	6.19	1987.31	6.17	-4.95	-0.25
93	323	230	137	5168	0.82010	748.98	0.60604	1009.31	1419.25	0	1.68	1992.15	6.17	1986.34	6.15	-5.81	-0.29
93	324	231	138	5184	0.81859	749.14	0.60648	1009.49	1435.61	-0.56	1.67	1990.88	6.14	1985.68	6.13	-5.2	-0.26
93	325	232	139	5200	0.81708	749.3	0.60692	1009.67	1452.02	0	1.66	1990.67	6.13	1984.6	6.11	-6.07	-0.31
93	326	233	140	5216	0.81558	749.45	0.60736	1009.85	1468.49	-0.55	1.65	1989.3	6.1	1983.82	6.09	-5.48	-0.28
Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
94	187	93	-1	2992	0.99997	634.38	0.49866	1097.08	0.13	0	9.78	1270.18	6.79	1279.22	6.84	9.04	0.71
94	188	94	0	3008	1.00000	636.66	0.50000	1095.12	0	0.73	10	1286.95	6.85	1295.19	6.89	8.24	0.64
94	189	95	1	3024	0.99997	638.9	0.50132	1093.2	0.13	0	9.78	1301.55	6.89	1308.87	6.93	7.32	0.56
94	190	96	2	3040	0.99989	641.1	0.50263	1091.32	0.51	0.73	9.57	1317.36	6.93	1324.38	6.97	7.02	0.53
94	191	97	3	3056	0.99975	643.26	0.50393	1089.49	1.15	0	9.36	1331.47	6.97	1337.61	7	6.15	0.46
94	192	98	4	3072	0.99957	645.38	0.50521	1087.7	2.03	0.72	9.16	1346.78	7.01	1352.67	7.05	5.89	0.44
94	193	99	5	3088	0.99933	647.46	0.50648	1085.95	3.16	0	8.97	1360.4	7.05	1365.47	7.07	5.07	0.37
94	194	100	6	3104	0.99904	649.51	0.50773	1084.24	4.52	0.72	8.78	1375.23	7.09	1380.09	7.11	4.86	0.35
94	195	101	7	3120	0.99871	651.53	0.50897	1082.57	6.12	0	8.6	1388.38	7.12	1392.47	7.14	4.08	0.29
94	196	102	8	3136	0.99833	653.5	0.51020	1080.93	7.96	0.71	8.42	1402.74	7.16	1406.65	7.18	3.91	0.28
94	197	103	9	3152	0.99791	655.45	0.51142	1079.33	10.02	0	8.25	1415.45	7.19	1418.63	7.2	3.18	0.22
94	198	104	10	3168	0.99745	657.36	0.51263	1077.77	12.31	0.71	8.09	1429.36	7.22	1432.4	7.23	3.04	0.21
94	199	105	11	3184	0.99695	659.24	0.51382	1076.25	14.82	0	7.93	1441.62	7.24	1443.97	7.26	2.35	0.16
94	200	106	12	3200	0.99640	661.08	0.51500	1074.76	17.55	0.71	7.77	1455.09	7.28	1457.34	7.29	2.25	0.15
94	201	107	13	3216	0.99582	662.9	0.51617	1073.3	20.5	0	7.62	1466.93	7.3	1468.53	7.31	1.6	0.11
94	202	108	14	3232	0.99520	664.68	0.51733	1071.88	23.65	0.7	7.47	1479.97	7.33	1481.5	7.33	1.53	0.1
94	203	109	15	3248	0.99454	666.43	0.51847	1070.49	27.02	0	7.33	1491.39	7.35	1492.31	7.35	0.92	0.06
94	204	110	16	3264	0.99385	668.15	0.51961	1069.13	30.59	0.7	7.19	1504.02	7.37	1504.9	7.38	0.88	0.06
94	205	111	17	3280	0.99312	669.84	0.52073	1067.8	34.37	0	7.06	1515.04	7.39	1515.34	7.39	0.3	0.02
94	206	112	18	3296	0.99237	671.51	0.52185	1066.5	38.35	0.7	6.93	1527.27	7.41	1527.56	7.42	0.29	0.02
94	207	113	19	3312	0.99158	673.14	0.52295	1065.24	42.52	0	6.8	1537.9	7.43	1537.64	7.43	-0.26	-0.02
94	208	114	20	3328	0.99075	674.75	0.52404	1064	46.89	0.69	6.68	1549.73	7.45	1549.49	7.45	-0.24	-0.02
94	209	115	21	3344	0.98990	676.33	0.52512	1062.79	51.45	0	6.56	1559.99	7.46	1559.23	7.46	-0.76	-0.05

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Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
94	210	116	22	3360	0.98903	677.88	0.52619	1061.6	56.2	0.69	6.44	1571.44	7.48	1570.72	7.48	-0.72	-0.05
94	211	117	23	3376	0.98812	679.41	0.52725	1060.45	61.13	0	6.33	1581.33	7.49	1580.12	7.49	-1.21	-0.08
94	212	118	24	3392	0.98718	680.91	0.52830	1059.32	66.25	0.69	6.22	1592.42	7.51	1591.26	7.51	-1.15	-0.07
94	213	119	25	3408	0.98622	682.39	0.52934	1058.22	71.55	0	6.11	1601.95	7.52	1600.33	7.51	-1.62	-0.1
94	214	120	26	3424	0.98524	683.84	0.53037	1057.15	77.03	0.68	6	1612.67	7.54	1611.14	7.53	-1.53	-0.1
94	215	121	27	3440	0.98423	685.26	0.53140	1056.1	82.69	0	5.9	1621.86	7.54	1619.88	7.53	-1.98	-0.12
94	216	122	28	3456	0.98320	686.66	0.53241	1055.07	88.51	0.68	5.8	1632.23	7.56	1630.36	7.55	-1.87	-0.11
94	217	123	29	3472	0.98214	688.04	0.53341	1054.07	94.51	0	5.7	1641.08	7.56	1638.79	7.55	-2.29	-0.14
94	218	124	30	3488	0.98106	689.4	0.53440	1053.09	100.68	0.68	5.61	1651.12	7.57	1648.95	7.56	-2.17	-0.13
94	219	125	31	3504	0.97996	690.73	0.53539	1052.14	107.02	0	5.52	1659.63	7.58	1657.07	7.57	-2.57	-0.15
94	220	126	32	3520	0.97884	692.04	0.53636	1051.21	113.52	0.67	5.43	1669.34	7.59	1666.91	7.58	-2.43	-0.15
94	221	127	33	3536	0.97770	693.33	0.53733	1050.3	120.18	0	5.34	1677.54	7.59	1674.73	7.58	-2.81	-0.17
94	222	128	34	3552	0.97654	694.59	0.53829	1049.41	127	0.67	5.26	1686.92	7.6	1684.27	7.59	-2.66	-0.16
94	223	129	35	3568	0.97537	695.83	0.53924	1048.54	133.98	0	5.17	1694.81	7.6	1691.8	7.59	-3.02	-0.18
94	224	130	36	3584	0.97417	697.06	0.54018	1047.7	141.12	0.67	5.09	1703.88	7.61	1701.03	7.59	-2.85	-0.17
94	225	131	37	3600	0.97296	698.26	0.54111	1046.88	148.41	0	5.01	1711.47	7.61	1708.28	7.59	-3.19	-0.19
94	226	132	38	3616	0.97173	699.44	0.54204	1046.07	155.85	0.67	4.94	1720.24	7.61	1717.22	7.6	-3.01	-0.18
94	227	133	39	3632	0.97048	700.61	0.54295	1045.29	163.44	0	4.86	1727.53	7.61	1724.18	7.6	-3.34	-0.19
94	228	134	40	3648	0.96922	701.75	0.54386	1044.53	171.18	0.66	4.79	1736	7.61	1732.85	7.6	-3.15	-0.18
94	229	135	41	3664	0.96795	702.87	0.54476	1043.78	179.06	0	4.71	1743	7.61	1739.54	7.6	-3.46	-0.2
94	230	136	42	3680	0.96665	703.98	0.54565	1043.06	187.09	0.66	4.64	1751.18	7.61	1747.92	7.6	-3.26	-0.19
94	231	137	43	3696	0.96535	705.06	0.54654	1042.35	195.26	0	4.58	1757.91	7.61	1754.34	7.59	-3.56	-0.2
94	232	138	44	3712	0.96403	706.13	0.54741	1041.66	203.57	0.66	4.51	1765.81	7.61	1762.45	7.6	-3.35	-0.19
94	233	139	45	3728	0.96270	707.18	0.54828	1040.99	212.02	0	4.44	1772.26	7.61	1768.62	7.59	-3.64	-0.21
94	234	140	46	3744	0.96136	708.21	0.54915	1040.34	220.6	0.65	4.38	1779.88	7.61	1776.46	7.59	-3.42	-0.19
94	235	141	47	3760	0.96000	709.23	0.55000	1039.7	229.32	0	4.32	1786.07	7.6	1782.37	7.58	-3.7	-0.21
94	236	142	48	3776	0.95863	710.22	0.55085	1039.08	238.17	0.65	4.26	1793.43	7.6	1789.95	7.58	-3.47	-0.19
94	237	143	49	3792	0.95725	711.2	0.55169	1038.48	247.16	0	4.2	1799.35	7.59	1795.61	7.58	-3.74	-0.21
94	238	144	50	3808	0.95587	712.17	0.55252	1037.89	256.27	0.65	4.14	1806.45	7.59	1802.94	7.58	-3.51	-0.19
94	239	145	51	3824	0.95447	713.12	0.55335	1037.32	265.51	0	4.08	1812.13	7.58	1808.36	7.57	-3.77	-0.21
94	240	146	52	3840	0.95306	714.05	0.55417	1036.77	274.88	0.65	4.03	1818.97	7.58	1815.44	7.56	-3.53	-0.19
94	241	147	53	3856	0.95164	714.96	0.55498	1036.23	284.38	0	3.97	1824.4	7.57	1820.62	7.55	-3.78	-0.21
94	242	148	54	3872	0.95021	715.86	0.55579	1035.71	293.99	0.64	3.92	1830.99	7.57	1827.46	7.55	-3.53	-0.19
94	243	149	55	3888	0.94877	716.75	0.55658	1035.2	303.73	0	3.87	1836.18	7.56	1832.41	7.54	-3.77	-0.21
94	244	150	56	3904	0.94733	717.62	0.55738	1034.7	313.59	0.64	3.81	1842.54	7.55	1839.01	7.54	-3.53	-0.19
94	245	151	57	3920	0.94587	718.48	0.55816	1034.22	323.57	0	3.76	1847.49	7.54	1843.73	7.53	-3.76	-0.2
94	246	152	58	3936	0.94441	719.32	0.55894	1033.76	333.67	0.64	3.71	1853.61	7.53	1850.1	7.52	-3.51	-0.19
94	247	153	59	3952	0.94294	720.14	0.55972	1033.31	343.88	0	3.67	1858.33	7.52	1854.59	7.51	-3.74	-0.2
94	248	154	60	3968	0.94147	720.95	0.56048	1032.87	354.21	0.64	3.62	1864.22	7.52	1860.73	7.5	-3.49	-0.19
94	249	155	61	3984	0.93999	721.75	0.56125	1032.44	364.65	0	3.57	1868.72	7.5	1865.01	7.49	-3.71	-0.2
94	250	156	62	4000	0.93850	722.54	0.56200	1032.03	375.21	0.63	3.53	1874.38	7.5	1870.93	7.48	-3.45	-0.18
94	251	157	63	4016	0.93700	723.31	0.56275	1031.64	385.87	0	3.48	1878.67	7.48	1875	7.47	-3.67	-0.2
94	252	158	64	4032	0.93550	724.07	0.56349	1031.25	396.64	0.63	3.44	1884.11	7.48	1880.7	7.46	-3.41	-0.18
94	253	159	65	4048	0.93399	724.81	0.56423	1030.88	407.52	0	3.4	1888.19	7.46	1884.56	7.45	-3.63	-0.19
94	254	160	66	4064	0.93248	725.55	0.56496	1030.52	418.51	0.63	3.36	1893.41	7.45	1890.04	7.44	-3.37	-0.18
94	255	161	67	4080	0.93097	726.27	0.56569	1030.17	429.6	0	3.32	1897.28	7.44	1893.7	7.43	-3.58	-0.19
94	256	162	68	4096	0.92944	726.97	0.56641	1029.83	440.8	0.62	3.28	1902.3	7.43	1898.97	7.42	-3.32	-0.18

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
94	257	163	69	4112	0.92792	727.67	0.56712	1029.51	452.1	0	3.24	1905.96	7.42	1902.43	7.4	-3.53	-0.19
94	258	164	70	4128	0.92639	728.35	0.56783	1029.19	463.51	0.62	3.2	1910.77	7.41	1907.5	7.39	-3.27	-0.17
94	259	165	71	4144	0.92485	729.02	0.56853	1028.89	475.01	0	3.16	1914.24	7.39	1910.76	7.38	-3.48	-0.18
94	260	166	72	4160	0.92331	729.68	0.56923	1028.6	486.61	0.62	3.13	1918.85	7.38	1915.63	7.37	-3.22	-0.17
94	261	167	73	4176	0.92177	730.33	0.56992	1028.32	498.32	0	3.09	1922.12	7.36	1918.69	7.35	-3.43	-0.18
94	262	168	74	4192	0.92023	730.97	0.57061	1028.05	510.11	0.62	3.05	1926.54	7.35	1923.37	7.34	-3.17	-0.16
94	263	169	75	4208	0.91868	731.59	0.57129	1027.8	522.01	0	3.02	1929.62	7.34	1926.25	7.32	-3.38	-0.18
94	264	170	76	4224	0.91713	732.21	0.57197	1027.55	534	0.62	2.98	1933.85	7.33	1930.73	7.31	-3.12	-0.16
94	265	171	77	4240	0.91557	732.81	0.57264	1027.31	546.08	0	2.95	1936.75	7.31	1933.42	7.3	-3.32	-0.17
94	266	172	78	4256	0.91401	733.4	0.57331	1027.08	558.26	0.61	2.92	1940.78	7.3	1937.72	7.28	-3.07	-0.16
94	267	173	79	4272	0.91246	733.99	0.57397	1026.87	570.53	0	2.89	1943.5	7.28	1940.23	7.27	-3.27	-0.17
94	268	174	80	4288	0.91089	734.56	0.57463	1026.66	582.89	0.61	2.85	1947.36	7.27	1944.34	7.25	-3.02	-0.16
94	269	175	81	4304	0.90933	735.12	0.57528	1026.46	595.34	0	2.82	1949.9	7.25	1946.67	7.24	-3.22	-0.17
94	270	176	82	4320	0.90776	735.67	0.57593	1026.28	607.88	0.61	2.79	1953.57	7.24	1950.6	7.22	-2.97	-0.15
94	271	177	83	4336	0.90620	736.21	0.57657	1026.1	620.51	0	2.76	1955.94	7.22	1952.76	7.21	-3.18	-0.16
94	272	178	84	4352	0.90463	736.75	0.57721	1025.93	633.22	0.61	2.73	1959.44	7.2	1956.51	7.19	-2.93	-0.15
94	273	179	85	4368	0.90306	737.27	0.57784	1025.77	646.02	0	2.7	1961.65	7.19	1958.51	7.17	-3.14	-0.16
94	274	180	86	4384	0.90149	737.78	0.57847	1025.62	658.91	0.6	2.68	1964.97	7.17	1962.08	7.16	-2.89	-0.15
94	275	181	87	4400	0.89991	738.29	0.57909	1025.47	671.88	0	2.65	1967.01	7.15	1963.91	7.14	-3.1	-0.16
94	276	182	88	4416	0.89834	738.78	0.57971	1025.34	684.93	0.6	2.62	1970.17	7.14	1967.31	7.13	-2.86	-0.15
94	277	183	89	4432	0.89677	739.27	0.58033	1025.22	698.06	0	2.59	1972.05	7.12	1968.98	7.11	-3.07	-0.16
94	278	184	90	4448	0.89519	739.74	0.58094	1025.1	711.28	0.6	2.57	1975.04	7.1	1972.21	7.09	-2.83	-0.14
94	279	185	91	4464	0.89362	740.21	0.58154	1024.99	724.58	0	2.54	1976.76	7.09	1973.71	7.07	-3.05	-0.15
94	280	186	92	4480	0.89204	740.67	0.58214	1024.89	737.96	0.6	2.52	1979.6	7.07	1976.78	7.06	-2.81	-0.14
94	281	187	93	4496	0.89047	741.12	0.58274	1024.8	751.41	0	2.49	1981.16	7.05	1978.13	7.04	-3.03	-0.15
94	282	188	94	4512	0.88889	741.56	0.58333	1024.72	764.94	0.6	2.47	1983.84	7.03	1981.04	7.02	-2.8	-0.14
94	283	189	95	4528	0.88731	742	0.58392	1024.64	778.56	0	2.44	1985.25	7.02	1982.23	7	-3.02	-0.15
94	284	190	96	4544	0.88574	742.42	0.58451	1024.57	792.24	0.59	2.42	1987.77	7	1984.98	6.99	-2.79	-0.14
94	285	191	97	4560	0.88416	742.84	0.58509	1024.51	806.01	0	2.39	1989.04	6.98	1986.02	6.97	-3.01	-0.15
94	286	192	98	4576	0.88259	743.25	0.58566	1024.46	819.84	0.59	2.37	1991.41	6.96	1988.62	6.95	-2.79	-0.14
94	287	193	99	4592	0.88101	743.65	0.58624	1024.41	833.76	0	2.35	1992.53	6.94	1989.51	6.93	-3.02	-0.15
94	288	194	100	4608	0.87944	744.05	0.58681	1024.37	847.74	0.59	2.33	1994.75	6.93	1991.95	6.92	-2.8	-0.14
94	289	195	101	4624	0.87786	744.44	0.58737	1024.34	861.8	0	2.3	1995.73	6.91	1992.7	6.9	-3.03	-0.15
94	290	196	102	4640	0.87629	744.81	0.58793	1024.32	875.93	0.59	2.28	1997.81	6.89	1994.99	6.88	-2.82	-0.14
94	291	197	103	4656	0.87472	745.19	0.58849	1024.3	890.13	0	2.26	1998.65	6.87	1995.59	6.86	-3.06	-0.15
94	292	198	104	4672	0.87315	745.55	0.58904	1024.29	904.4	0.59	2.24	2000.59	6.85	1997.74	6.84	-2.85	-0.14
94	293	199	105	4688	0.87158	745.91	0.58959	1024.28	918.74	0	2.22	2001.29	6.83	1998.2	6.82	-3.09	-0.15
94	294	200	106	4704	0.87001	746.26	0.59014	1024.29	933.15	0.58	2.2	2003.09	6.81	2000.2	6.8	-2.89	-0.14
94	295	201	107	4720	0.86844	746.6	0.59068	1024.3	947.63	0	2.18	2003.66	6.79	2000.52	6.78	-3.13	-0.16
94	296	202	108	4736	0.86687	746.94	0.59122	1024.31	962.17	0.58	2.16	2005.32	6.77	2002.38	6.76	-2.94	-0.15
94	297	203	109	4752	0.86531	747.27	0.59175	1024.33	976.78	0	2.14	2005.76	6.75	2002.57	6.74	-3.19	-0.16
94	298	204	110	4768	0.86375	747.59	0.59228	1024.36	991.46	0.58	2.12	2007.29	6.74	2004.29	6.73	-3	-0.15
94	299	205	111	4784	0.86218	747.91	0.59281	1024.4	1006.2	0	2.1	2007.6	6.71	2004.34	6.7	-3.25	-0.16
94	300	206	112	4800	0.86062	748.22	0.59333	1024.44	1021.01	0.58	2.08	2009	6.7	2005.92	6.69	-3.07	-0.15
94	301	207	113	4816	0.85906	748.52	0.59385	1024.48	1035.88	0	2.07	2009.18	6.68	2005.85	6.66	-3.33	-0.17
94	302	208	114	4832	0.85751	748.82	0.59437	1024.54	1050.82	0.58	2.05	2010.45	6.66	2007.3	6.65	-3.15	-0.16
94	303	209	115	4848	0.85595	749.11	0.59488	1024.59	1065.82	0	2.03	2010.51	6.64	2007.09	6.62	-3.41	-0.17

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Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
94	304	210	116	4864	0.85440	749.39	0.59540	1024.66	1080.88	0.57	2.01	2011.65	6.62	2008.41	6.61	-3.25	-0.16
94	305	211	117	4880	0.85285	749.67	0.59590	1024.73	1096	0	2	2011.59	6.6	2008.08	6.58	-3.51	-0.17
94	306	212	118	4896	0.85130	749.95	0.59641	1024.8	1111.19	0.57	1.98	2012.62	6.58	2009.26	6.57	-3.35	-0.17
94	307	213	119	4912	0.84975	750.21	0.59691	1024.88	1126.43	0	1.96	2012.43	6.56	2008.81	6.54	-3.63	-0.18
94	308	214	120	4928	0.84820	750.47	0.59740	1024.97	1141.74	0.57	1.95	2013.34	6.54	2009.87	6.53	-3.47	-0.17
94	309	215	121	4944	0.84666	750.73	0.59790	1025.06	1157.1	0	1.93	2013.04	6.51	2009.29	6.5	-3.75	-0.19
94	310	216	122	4960	0.84512	750.98	0.59839	1025.16	1172.52	0.57	1.91	2013.82	6.5	2010.22	6.48	-3.6	-0.18
94	311	217	123	4976	0.84358	751.22	0.59888	1025.26	1188	0	1.9	2013.41	6.47	2009.53	6.46	-3.89	-0.19
94	312	218	124	4992	0.84205	751.46	0.59936	1025.37	1203.54	0.57	1.88	2014.08	6.46	2010.33	6.44	-3.75	-0.19
94	313	219	125	5008	0.84051	751.69	0.59984	1025.48	1219.14	0	1.87	2013.56	6.43	2009.52	6.42	-4.04	-0.2
94	314	220	126	5024	0.83898	751.92	0.60032	1025.6	1234.79	0.56	1.85	2014.11	6.41	2010.21	6.4	-3.9	-0.19
94	315	221	127	5040	0.83745	752.14	0.60079	1025.72	1250.5	0	1.84	2013.48	6.39	2009.28	6.38	-4.2	-0.21
94	316	222	128	5056	0.83592	752.36	0.60127	1025.85	1266.26	0.56	1.82	2013.92	6.37	2009.84	6.36	-4.07	-0.2
94	317	223	129	5072	0.83440	752.57	0.60174	1025.98	1282.08	0	1.81	2013.18	6.35	2008.8	6.34	-4.38	-0.22
94	318	224	130	5088	0.83288	752.78	0.60220	1026.12	1297.95	0.56	1.8	2013.51	6.33	2009.25	6.32	-4.26	-0.21
94	319	225	131	5104	0.83136	752.98	0.60267	1026.26	1313.88	0	1.78	2012.66	6.31	2008.1	6.29	-4.57	-0.23
94	320	226	132	5120	0.82984	753.18	0.60313	1026.41	1329.86	0.56	1.77	2012.89	6.29	2008.43	6.28	-4.46	-0.22
94	321	227	133	5136	0.82833	753.37	0.60358	1026.56	1345.89	0	1.75	2011.94	6.27	2007.17	6.25	-4.77	-0.24
94	322	228	134	5152	0.82682	753.56	0.60404	1026.71	1361.97	0.56	1.74	2012.05	6.25	2007.39	6.23	-4.67	-0.23
94	323	229	135	5168	0.82531	753.74	0.60449	1026.87	1378.11	0	1.73	2011	6.23	2006.02	6.21	-4.99	-0.25
94	324	230	136	5184	0.82381	753.92	0.60494	1027.04	1394.3	0.56	1.72	2011.02	6.21	2006.12	6.19	-4.89	-0.24
94	325	231	137	5200	0.82231	754.09	0.60539	1027.21	1410.54	0	1.7	2009.87	6.18	2004.64	6.17	-5.22	-0.26
94	326	232	138	5216	0.82081	754.26	0.60583	1027.38	1426.83	0.55	1.69	2009.78	6.16	2004.64	6.15	-5.13	-0.26
94	327	233	139	5232	0.81931	754.42	0.60627	1027.56	1443.17	0	1.68	2008.53	6.14	2003.06	6.13	-5.47	-0.27
94	328	234	140	5248	0.81782	754.58	0.60671	1027.74	1459.56	0.55	1.67	2008.34	6.12	2002.95	6.11	-5.39	-0.27
94	329	235	141	5264	0.81633	754.74	0.60714	1027.92	1476	0	1.65	2006.99	6.1	2001.26	6.08	-5.73	-0.29
Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
95	189	94	-1	3024	0.99997	638.9	0.49868	1116.58	0.13	0	9.78	1278.17	6.76	1287.23	6.81	9.06	0.7
95	190	95	0	3040	1.00000	641.17	0.50000	1114.61	0	-0.73	10	1293.5	6.81	1302.29	6.85	8.79	0.67
95	191	96	1	3056	0.99997	643.4	0.50131	1112.67	0.13	0	9.78	1309.59	6.86	1316.92	6.89	7.33	0.56
95	192	97	2	3072	0.99989	645.59	0.50260	1110.78	0.51	-0.72	9.57	1323.97	6.9	1331.53	6.94	7.55	0.57
95	193	98	3	3088	0.99976	647.74	0.50389	1108.93	1.14	0	9.37	1339.56	6.94	1345.71	6.97	6.15	0.46
95	194	99	4	3104	0.99958	649.86	0.50516	1107.13	2.01	-0.72	9.17	1353.46	6.98	1359.88	7.01	6.42	0.47
95	195	100	5	3120	0.99934	651.94	0.50641	1105.36	3.12	0	8.98	1368.55	7.02	1373.62	7.04	5.07	0.37
95	196	101	6	3136	0.99906	653.98	0.50765	1103.64	4.48	-0.71	8.79	1381.98	7.05	1387.36	7.08	5.38	0.39
95	197	102	7	3152	0.99874	655.99	0.50888	1101.95	6.06	0	8.61	1396.61	7.09	1400.68	7.11	4.07	0.29
95	198	103	8	3168	0.99837	657.96	0.51010	1100.3	7.88	-0.71	8.44	1409.58	7.12	1414.01	7.14	4.43	0.31
95	199	104	9	3184	0.99796	659.9	0.51131	1098.69	9.92	0	8.27	1423.75	7.15	1426.91	7.17	3.16	0.22
95	200	105	10	3200	0.99750	661.81	0.51250	1097.12	12.19	-0.71	8.11	1436.28	7.18	1439.83	7.2	3.55	0.25
95	201	106	11	3216	0.99701	663.69	0.51368	1095.58	14.68	0	7.95	1450.01	7.21	1452.33	7.23	2.32	0.16
95	202	107	12	3232	0.99647	665.53	0.51485	1094.07	17.38	-0.7	7.79	1462.11	7.24	1464.86	7.25	2.75	0.19
95	203	108	13	3248	0.99590	667.34	0.51601	1092.6	20.3	0	7.64	1475.4	7.27	1476.96	7.28	1.56	0.11
95	204	109	14	3264	0.99529	669.12	0.51716	1091.16	23.42	-0.7	7.5	1487.09	7.29	1489.11	7.3	2.02	0.14
95	205	110	15	3280	0.99465	670.87	0.51829	1089.76	26.76	0	7.35	1499.97	7.32	1500.83	7.32	0.87	0.06
95	206	111	16	3296	0.99397	672.59	0.51942	1088.38	30.3	-0.7	7.22	1511.25	7.34	1512.61	7.34	1.36	0.09
95	207	112	17	3312	0.99326	674.28	0.52053	1087.04	34.04	0	7.08	1523.72	7.36	1523.96	7.36	0.24	0.02

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
95	208	113	18	3328	0.99251	675.95	0.52164	1085.73	37.98	-0.69	6.95	1534.61	7.38	1535.37	7.38	0.76	0.05
95	209	114	19	3344	0.99174	677.58	0.52273	1084.44	42.12	0	6.83	1546.68	7.4	1546.35	7.4	-0.33	-0.02
95	210	115	20	3360	0.99093	679.19	0.52381	1083.19	46.44	-0.69	6.7	1557.19	7.42	1557.41	7.42	0.22	0.01
95	211	116	21	3376	0.99010	680.77	0.52488	1081.97	50.96	0	6.58	1568.88	7.44	1568.04	7.43	-0.84	-0.05
95	212	117	22	3392	0.98923	682.32	0.52594	1080.77	55.67	-0.69	6.47	1579.02	7.45	1578.75	7.45	-0.26	-0.02
95	213	118	23	3408	0.98834	683.85	0.52700	1079.6	60.56	0	6.35	1590.34	7.47	1589.04	7.46	-1.3	-0.08
95	214	119	24	3424	0.98742	685.35	0.52804	1078.46	65.64	-0.68	6.24	1600.11	7.48	1599.41	7.47	-0.7	-0.04
95	215	120	25	3440	0.98648	686.83	0.52907	1077.34	70.89	0	6.14	1611.07	7.49	1609.36	7.49	-1.72	-0.11
95	216	121	26	3456	0.98551	688.28	0.53009	1076.25	76.32	-0.68	6.03	1620.5	7.5	1619.41	7.5	-1.09	-0.07
95	217	122	27	3472	0.98452	689.71	0.53111	1075.19	81.93	0	5.93	1631.11	7.52	1629.03	7.51	-2.08	-0.13
95	218	123	28	3488	0.98350	691.11	0.53211	1074.15	87.71	-0.68	5.83	1640.19	7.52	1638.75	7.52	-1.44	-0.09
95	219	124	29	3504	0.98247	692.49	0.53311	1073.13	93.65	0	5.73	1650.45	7.54	1648.05	7.53	-2.4	-0.15
95	220	125	30	3520	0.98141	693.85	0.53409	1072.14	99.77	-0.67	5.64	1659.2	7.54	1657.46	7.53	-1.74	-0.11
95	221	126	31	3536	0.98032	695.18	0.53507	1071.17	106.05	0	5.55	1669.14	7.55	1666.45	7.54	-2.69	-0.16
95	222	127	32	3552	0.97922	696.5	0.53604	1070.23	112.5	-0.67	5.46	1677.56	7.56	1675.56	7.55	-2.01	-0.12
95	223	128	33	3568	0.97810	697.79	0.53700	1069.3	119.11	0	5.37	1687.17	7.57	1684.24	7.55	-2.94	-0.17
95	224	129	34	3584	0.97696	699.05	0.53795	1068.4	125.87	-0.67	5.29	1695.29	7.57	1693.05	7.56	-2.24	-0.13
95	225	130	35	3600	0.97580	700.3	0.53889	1067.52	132.8	0	5.2	1704.58	7.58	1701.43	7.56	-3.15	-0.19
95	226	131	36	3616	0.97463	701.53	0.53982	1066.67	139.87	-0.67	5.12	1712.39	7.58	1709.95	7.57	-2.44	-0.14
95	227	132	37	3632	0.97343	702.73	0.54075	1065.83	147.1	0	5.04	1721.38	7.58	1718.04	7.57	-3.34	-0.19
95	228	133	38	3648	0.97222	703.92	0.54167	1065.01	154.49	-0.66	4.97	1728.89	7.58	1726.27	7.57	-2.61	-0.15
95	229	134	39	3664	0.97100	705.09	0.54258	1064.21	162.02	0	4.89	1737.57	7.59	1734.08	7.57	-3.49	-0.2
95	230	135	40	3680	0.96975	706.23	0.54348	1063.44	169.69	-0.66	4.82	1744.79	7.59	1742.04	7.57	-2.75	-0.16
95	231	136	41	3696	0.96850	707.36	0.54437	1062.68	177.52	0	4.75	1753.19	7.59	1749.57	7.57	-3.62	-0.21
95	232	137	42	3712	0.96723	708.47	0.54526	1061.94	185.48	-0.66	4.68	1760.13	7.59	1757.25	7.57	-2.87	-0.16
95	233	138	43	3728	0.96594	709.56	0.54614	1061.22	193.59	0	4.61	1768.24	7.59	1764.51	7.57	-3.72	-0.21
95	234	139	44	3744	0.96464	710.63	0.54701	1060.52	201.83	-0.65	4.54	1774.9	7.59	1771.93	7.57	-2.97	-0.17
95	235	140	45	3760	0.96333	711.69	0.54787	1059.84	210.22	0	4.47	1782.73	7.59	1778.93	7.57	-3.81	-0.21
95	236	141	46	3776	0.96201	712.72	0.54873	1059.17	218.74	-0.65	4.41	1789.13	7.58	1786.09	7.57	-3.04	-0.17
95	237	142	47	3792	0.96067	713.74	0.54958	1058.52	227.39	0	4.35	1796.69	7.58	1792.82	7.56	-3.87	-0.22
95	238	143	48	3808	0.95933	714.75	0.55042	1057.89	236.18	-0.65	4.29	1802.82	7.57	1799.73	7.56	-3.1	-0.17
95	239	144	49	3824	0.95797	715.73	0.55126	1057.27	245.1	0	4.23	1810.12	7.57	1806.21	7.56	-3.91	-0.22
95	240	145	50	3840	0.95660	716.7	0.55208	1056.67	254.14	-0.65	4.17	1816	7.57	1812.87	7.55	-3.13	-0.17
95	241	146	51	3856	0.95522	717.65	0.55291	1056.09	263.32	0	4.11	1823.05	7.56	1819.1	7.55	-3.94	-0.22
95	242	147	52	3872	0.95383	718.59	0.55372	1055.52	272.62	-0.64	4.06	1828.68	7.56	1825.52	7.54	-3.16	-0.17
95	243	148	53	3888	0.95243	719.51	0.55453	1054.97	282.05	0	4	1835.47	7.55	1831.51	7.54	-3.96	-0.22
95	244	149	54	3904	0.95102	720.42	0.55533	1054.44	291.6	-0.64	3.95	1840.86	7.54	1837.69	7.53	-3.16	-0.17
95	245	150	55	3920	0.94960	721.31	0.55612	1053.92	301.27	0	3.9	1847.4	7.54	1843.45	7.52	-3.96	-0.21
95	246	151	56	3936	0.94818	722.19	0.55691	1053.41	311.06	-0.64	3.84	1852.56	7.53	1849.39	7.52	-3.16	-0.17
95	247	152	57	3952	0.94675	723.05	0.55769	1052.92	320.96	0	3.79	1858.86	7.53	1854.92	7.51	-3.95	-0.21
95	248	153	58	3968	0.94530	723.89	0.55847	1052.44	330.99	-0.64	3.74	1863.79	7.52	1860.64	7.5	-3.15	-0.17
95	249	154	59	3984	0.94386	724.73	0.55924	1051.98	341.13	0	3.7	1869.86	7.51	1865.93	7.49	-3.93	-0.21
95	250	155	60	4000	0.94240	725.54	0.56000	1051.53	351.39	-0.63	3.65	1874.56	7.5	1871.43	7.49	-3.12	-0.17
95	251	156	61	4016	0.94094	726.35	0.56076	1051.09	361.76	0	3.6	1880.41	7.49	1876.51	7.48	-3.9	-0.21
95	252	157	62	4032	0.93947	727.14	0.56151	1050.67	372.24	-0.63	3.56	1884.88	7.48	1881.79	7.47	-3.09	-0.16
95	253	158	63	4048	0.93799	727.92	0.56225	1050.26	382.83	0	3.51	1890.51	7.47	1886.64	7.46	-3.86	-0.2
95	254	159	64	4064	0.93651	728.68	0.56299	1049.86	393.53	-0.63	3.47	1894.77	7.46	1891.71	7.45	-3.06	-0.16

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
95	255	160	65	4080	0.93503	729.43	0.56373	1049.48	404.34	0	3.43	1900.18	7.45	1896.36	7.44	-3.82	-0.2
95	256	161	66	4096	0.93353	730.17	0.56445	1049.11	415.25	-0.62	3.39	1904.23	7.44	1901.22	7.43	-3.01	-0.16
95	257	162	67	4112	0.93204	730.9	0.56518	1048.75	426.27	0	3.35	1909.43	7.43	1905.65	7.41	-3.78	-0.2
95	258	163	68	4128	0.93053	731.61	0.56589	1048.4	437.4	-0.62	3.31	1913.27	7.42	1910.31	7.4	-2.97	-0.16
95	259	164	69	4144	0.92903	732.31	0.56660	1048.06	448.63	0	3.27	1918.26	7.41	1914.54	7.39	-3.73	-0.19
95	260	165	70	4160	0.92752	733	0.56731	1047.74	459.95	-0.62	3.23	1921.91	7.39	1918.99	7.38	-2.92	-0.15
95	261	166	71	4176	0.92600	733.68	0.56801	1047.43	471.38	0	3.19	1926.7	7.38	1923.03	7.37	-3.67	-0.19
95	262	167	72	4192	0.92448	734.34	0.56870	1047.13	482.91	-0.62	3.15	1930.15	7.37	1927.29	7.36	-2.87	-0.15
95	263	168	73	4208	0.92296	735	0.56939	1046.84	494.54	0	3.12	1934.74	7.36	1931.12	7.34	-3.62	-0.19
95	264	169	74	4224	0.92143	735.64	0.57008	1046.56	506.26	-0.62	3.08	1938	7.34	1935.19	7.33	-2.81	-0.15
95	265	170	75	4240	0.91990	736.27	0.57076	1046.29	518.08	0	3.05	1942.4	7.33	1938.83	7.32	-3.56	-0.18
95	266	171	76	4256	0.91837	736.9	0.57143	1046.03	530	-0.61	3.01	1945.47	7.31	1942.71	7.3	-2.76	-0.14
95	267	172	77	4272	0.91683	737.51	0.57210	1045.79	542.01	0	2.98	1949.68	7.3	1946.17	7.29	-3.51	-0.18
95	268	173	78	4288	0.91529	738.11	0.57276	1045.55	554.11	-0.61	2.95	1952.57	7.29	1949.86	7.28	-2.71	-0.14
95	269	174	79	4304	0.91375	738.69	0.57342	1045.32	566.31	0	2.91	1956.59	7.27	1953.13	7.26	-3.46	-0.18
95	270	175	80	4320	0.91221	739.27	0.57407	1045.1	578.59	-0.61	2.88	1959.3	7.26	1956.65	7.25	-2.66	-0.14
95	271	176	81	4336	0.91066	739.84	0.57472	1044.9	590.96	0	2.85	1963.15	7.24	1959.74	7.23	-3.41	-0.17
95	272	177	82	4352	0.90912	740.4	0.57537	1044.7	603.43	-0.61	2.82	1965.68	7.23	1963.08	7.22	-2.61	-0.13
95	273	178	83	4368	0.90757	740.95	0.57601	1044.51	615.98	0	2.79	1969.35	7.21	1965.99	7.2	-3.36	-0.17
95	274	179	84	4384	0.90602	741.49	0.57664	1044.33	628.62	-0.6	2.76	1971.72	7.2	1969.15	7.19	-2.56	-0.13
95	275	180	85	4400	0.90446	742.02	0.57727	1044.16	641.34	0	2.73	1975.21	7.18	1971.89	7.17	-3.31	-0.17
95	276	181	86	4416	0.90291	742.54	0.57790	1044	654.15	-0.6	2.7	1977.41	7.16	1974.88	7.16	-2.52	-0.13
95	277	182	87	4432	0.90135	743.05	0.57852	1043.85	667.04	0	2.67	1980.73	7.15	1977.46	7.14	-3.27	-0.17
95	278	183	88	4448	0.89980	743.55	0.57914	1043.71	680.02	-0.6	2.65	1982.77	7.13	1980.28	7.12	-2.49	-0.13
95	279	184	89	4464	0.89824	744.04	0.57975	1043.58	693.08	0	2.62	1985.92	7.12	1982.68	7.11	-3.24	-0.16
95	280	185	90	4480	0.89668	744.53	0.58036	1043.45	706.22	-0.6	2.59	1987.8	7.1	1985.34	7.09	-2.46	-0.12
95	281	186	91	4496	0.89513	745	0.58096	1043.33	719.44	0	2.57	1990.79	7.08	1987.58	7.07	-3.21	-0.16
95	282	187	92	4512	0.89357	745.47	0.58156	1043.23	732.74	-0.6	2.54	1992.51	7.07	1990.08	7.06	-2.43	-0.12
95	283	188	93	4528	0.89201	745.92	0.58216	1043.13	746.12	0	2.52	1995.35	7.05	1992.16	7.04	-3.19	-0.16
95	284	189	94	4544	0.89045	746.37	0.58275	1043.03	759.58	-0.59	2.49	1996.91	7.03	1994.5	7.02	-2.41	-0.12
95	285	190	95	4560	0.88889	746.81	0.58333	1042.95	773.11	0	2.47	1999.59	7.02	1996.42	7	-3.17	-0.16
95	286	191	96	4576	0.88733	747.25	0.58392	1042.87	786.72	-0.59	2.44	2001.01	7	1998.61	6.99	-2.4	-0.12
95	287	192	97	4592	0.88577	747.67	0.58450	1042.8	800.41	0	2.42	2003.54	6.98	2000.37	6.97	-3.16	-0.16
95	288	193	98	4608	0.88421	748.09	0.58507	1042.74	814.17	-0.59	2.4	2004.81	6.96	2002.41	6.95	-2.4	-0.12
95	289	194	99	4624	0.88265	748.5	0.58564	1042.69	828.01	0	2.37	2007.18	6.95	2004.02	6.93	-3.16	-0.16
95	290	195	100	4640	0.88109	748.9	0.58621	1042.64	841.91	-0.59	2.35	2008.31	6.93	2005.91	6.92	-2.4	-0.12
95	291	196	101	4656	0.87954	749.29	0.58677	1042.6	855.9	0	2.33	2010.54	6.91	2007.37	6.9	-3.17	-0.16
95	292	197	102	4672	0.87798	749.68	0.58733	1042.57	869.95	-0.59	2.31	2011.53	6.89	2009.11	6.88	-2.42	-0.12
95	293	198	103	4688	0.87642	750.06	0.58788	1042.54	884.07	0	2.28	2013.61	6.87	2010.43	6.86	-3.18	-0.16
95	294	199	104	4704	0.87487	750.43	0.58844	1042.53	898.27	-0.58	2.26	2014.46	6.85	2012.02	6.84	-2.44	-0.12
95	295	200	105	4720	0.87331	750.79	0.58898	1042.51	912.53	0	2.24	2016.41	6.84	2013.2	6.82	-3.21	-0.16
95	296	201	106	4736	0.87176	751.15	0.58953	1042.51	926.86	-0.58	2.22	2017.12	6.81	2014.65	6.81	-2.47	-0.12
95	297	202	107	4752	0.87021	751.5	0.59007	1042.51	941.27	0	2.2	2018.93	6.8	2015.68	6.79	-3.25	-0.16
95	298	203	108	4768	0.86866	751.84	0.59060	1042.52	955.74	-0.58	2.18	2019.51	6.78	2016.99	6.77	-2.51	-0.12
95	299	204	109	4784	0.86710	752.18	0.59114	1042.53	970.27	0	2.16	2021.18	6.76	2017.89	6.75	-3.29	-0.16
95	300	205	110	4800	0.86556	752.51	0.59167	1042.55	984.87	-0.58	2.14	2021.63	6.74	2019.06	6.73	-2.57	-0.13
95	301	206	111	4816	0.86401	752.83	0.59219	1042.58	999.54	0	2.12	2023.17	6.72	2019.82	6.71	-3.35	-0.17

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
95	302	207	112	4832	0.86246	753.15	0.59272	1042.62	1014.27	-0.58	2.11	2023.5	6.7	2020.86	6.69	-2.63	-0.13
95	303	208	113	4848	0.86092	753.46	0.59323	1042.66	1029.07	0	2.09	2024.91	6.68	2021.49	6.67	-3.42	-0.17
95	304	209	114	4864	0.85938	753.76	0.59375	1042.7	1043.93	-0.57	2.07	2025.1	6.66	2022.4	6.65	-2.71	-0.13
95	305	210	115	4880	0.85783	754.06	0.59426	1042.75	1058.85	0	2.05	2026.39	6.64	2022.89	6.63	-3.49	-0.17
95	306	211	116	4896	0.85630	754.35	0.59477	1042.81	1073.84	-0.57	2.03	2026.46	6.62	2023.67	6.61	-2.79	-0.14
95	307	212	117	4912	0.85476	754.63	0.59528	1042.87	1088.89	0	2.02	2027.62	6.6	2024.04	6.59	-3.59	-0.18
95	308	213	118	4928	0.85322	754.91	0.59578	1042.94	1103.99	-0.57	2	2027.58	6.58	2024.69	6.57	-2.89	-0.14
95	309	214	119	4944	0.85169	755.19	0.59628	1043.02	1119.16	0	1.98	2028.62	6.57	2024.93	6.55	-3.69	-0.18
95	310	215	120	4960	0.85016	755.45	0.59677	1043.1	1134.39	-0.57	1.97	2028.45	6.54	2025.46	6.53	-3	-0.15
95	311	216	121	4976	0.84863	755.72	0.59727	1043.18	1149.68	0	1.95	2029.37	6.53	2025.57	6.51	-3.8	-0.19
95	312	217	122	4992	0.84710	755.97	0.59776	1043.27	1165.03	-0.57	1.94	2029.09	6.5	2025.97	6.49	-3.12	-0.15
95	313	218	123	5008	0.84557	756.22	0.59824	1043.37	1180.44	0	1.92	2029.89	6.49	2025.96	6.47	-3.93	-0.19
95	314	219	124	5024	0.84405	756.47	0.59873	1043.47	1195.9	-0.56	1.9	2029.5	6.46	2026.25	6.45	-3.26	-0.16
95	315	220	125	5040	0.84253	756.71	0.59921	1043.58	1211.42	0	1.89	2030.18	6.45	2026.12	6.43	-4.07	-0.2
95	316	221	126	5056	0.84101	756.94	0.59968	1043.69	1227	-0.56	1.87	2029.68	6.42	2026.28	6.41	-3.4	-0.17
95	317	222	127	5072	0.83950	757.17	0.60016	1043.81	1242.63	0	1.86	2030.25	6.4	2026.03	6.39	-4.22	-0.21
95	318	223	128	5088	0.83798	757.39	0.60063	1043.93	1258.32	-0.56	1.84	2029.64	6.38	2026.08	6.37	-3.56	-0.18
95	319	224	129	5104	0.83647	757.61	0.60110	1044.06	1274.06	0	1.83	2030.1	6.36	2025.71	6.35	-4.39	-0.22
95	320	225	130	5120	0.83496	757.82	0.60156	1044.19	1289.86	-0.56	1.82	2029.38	6.34	2025.65	6.33	-3.74	-0.18
95	321	226	131	5136	0.83346	758.03	0.60203	1044.32	1305.72	0	1.8	2029.73	6.32	2025.17	6.31	-4.57	-0.23
95	322	227	132	5152	0.83195	758.23	0.60248	1044.46	1321.62	-0.56	1.79	2028.91	6.3	2024.99	6.29	-3.93	-0.19
95	323	228	133	5168	0.83045	758.43	0.60294	1044.61	1337.58	0	1.77	2029.15	6.28	2024.39	6.27	-4.76	-0.24
95	324	229	134	5184	0.82895	758.63	0.60340	1044.76	1353.59	-0.56	1.76	2028.23	6.26	2024.1	6.25	-4.13	-0.2
95	325	230	135	5200	0.82746	758.81	0.60385	1044.91	1369.66	0	1.75	2028.36	6.24	2023.4	6.23	-4.97	-0.25
95	326	231	136	5216	0.82596	759	0.60429	1045.07	1385.77	-0.55	1.73	2027.34	6.22	2022.99	6.21	-4.34	-0.21
95	327	232	137	5232	0.82447	759.18	0.60474	1045.24	1401.94	0	1.72	2027.37	6.2	2022.18	6.18	-5.19	-0.26
95	328	233	138	5248	0.82299	759.35	0.60518	1045.4	1418.16	-0.55	1.71	2026.24	6.18	2021.67	6.16	-4.57	-0.23
95	329	234	139	5264	0.82150	759.52	0.60562	1045.58	1434.42	0	1.7	2026.17	6.16	2020.75	6.14	-5.42	-0.27
95	330	235	140	5280	0.82002	759.69	0.60606	1045.75	1450.74	-0.55	1.68	2024.95	6.14	2020.14	6.12	-4.81	-0.24
95	331	236	141	5296	0.81854	759.85	0.60650	1045.93	1467.11	0	1.67	2024.78	6.12	2019.11	6.1	-5.67	-0.28
95	332	237	142	5312	0.81706	760	0.60693	1046.12	1483.52	-0.55	1.66	2023.46	6.09	2018.39	6.08	-5.07	-0.25
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
96	191	95	-1	3056	0.99997	643.4	0.49869	1136.22	0.13	0	9.78	1286.04	6.73	1295.12	6.78	9.08	0.7
96	192	96	0	3072	1.00000	645.66	0.50000	1134.23	0	0.72	10	1302.84	6.79	1311.13	6.83	8.29	0.63
96	193	97	1	3088	0.99997	647.88	0.50130	1132.28	0.13	0	9.78	1317.5	6.83	1324.86	6.86	7.37	0.56
96	194	98	2	3104	0.99989	650.06	0.50258	1130.38	0.5	0.72	9.58	1333.35	6.87	1340.41	6.91	7.06	0.53
96	195	99	3	3120	0.99976	652.21	0.50385	1128.52	1.12	0	9.37	1347.52	6.91	1353.71	6.94	6.19	0.46
96	196	100	4	3136	0.99958	654.32	0.50510	1126.7	1.99	0.71	9.18	1362.88	6.95	1368.82	6.98	5.93	0.43
96	197	101	5	3152	0.99936	656.4	0.50635	1124.92	3.09	0	8.99	1376.58	6.99	1381.69	7.01	5.11	0.37
96	198	102	6	3168	0.99908	658.43	0.50758	1123.18	4.43	0.71	8.8	1391.47	7.03	1396.37	7.05	4.89	0.35
96	199	103	7	3184	0.99876	660.44	0.50879	1121.48	6	0	8.63	1404.71	7.06	1408.82	7.08	4.11	0.29
96	200	104	8	3200	0.99840	662.41	0.51000	1119.81	7.8	0.71	8.45	1419.14	7.1	1423.08	7.12	3.94	0.28
96	201	105	9	3216	0.99800	664.35	0.51119	1118.19	9.82	0	8.29	1431.93	7.12	1435.13	7.14	3.2	0.22
96	202	106	10	3232	0.99755	666.25	0.51238	1116.6	12.07	0.7	8.12	1445.91	7.16	1448.98	7.17	3.07	0.21
96	203	107	11	3248	0.99706	668.12	0.51355	1115.04	14.53	0	7.96	1458.27	7.18	1460.64	7.2	2.37	0.16
96	204	108	12	3264	0.99654	669.96	0.51471	1113.52	17.21	0.7	7.81	1471.82	7.21	1474.09	7.23	2.27	0.15

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
96	205	109	13	3280	0.99598	671.77	0.51585	1112.04	20.1	0	7.66	1483.76	7.24	1485.37	7.25	1.61	0.11
96	206	110	14	3296	0.99538	673.55	0.51699	1110.58	23.2	0.7	7.52	1496.88	7.27	1498.43	7.27	1.54	0.1
96	207	111	15	3312	0.99475	675.3	0.51812	1109.16	26.5	0	7.38	1508.41	7.29	1509.34	7.29	0.92	0.06
96	208	112	16	3328	0.99408	677.02	0.51923	1107.77	30.01	0.69	7.24	1521.13	7.31	1522.01	7.32	0.88	0.06
96	209	113	17	3344	0.99338	678.71	0.52034	1106.42	33.72	0	7.11	1532.27	7.33	1532.56	7.33	0.3	0.02
96	210	114	18	3360	0.99265	680.37	0.52143	1105.09	37.62	0.69	6.98	1544.59	7.36	1544.87	7.36	0.28	0.02
96	211	115	19	3376	0.99189	682	0.52251	1103.79	41.72	0	6.85	1555.33	7.37	1555.07	7.37	-0.27	-0.02
96	212	116	20	3392	0.99110	683.61	0.52359	1102.52	46.01	0.69	6.73	1567.27	7.39	1567.01	7.39	-0.26	-0.02
96	213	117	21	3408	0.99028	685.19	0.52465	1101.29	50.49	0	6.61	1577.64	7.41	1576.87	7.4	-0.78	-0.05
96	214	118	22	3424	0.98943	686.75	0.52570	1100.07	55.15	0.68	6.49	1589.2	7.43	1588.46	7.42	-0.74	-0.05
96	215	119	23	3440	0.98856	688.27	0.52674	1098.89	60	0	6.38	1599.21	7.44	1597.98	7.43	-1.24	-0.08
96	216	120	24	3456	0.98765	689.78	0.52778	1097.73	65.03	0.68	6.27	1610.41	7.46	1609.23	7.45	-1.18	-0.07
96	217	121	25	3472	0.98673	691.26	0.52880	1096.6	70.24	0	6.16	1620.07	7.47	1618.42	7.46	-1.65	-0.1
96	218	122	26	3488	0.98578	692.71	0.52982	1095.5	75.62	0.68	6.06	1630.91	7.48	1629.34	7.47	-1.56	-0.1
96	219	123	27	3504	0.98480	694.14	0.53082	1094.42	81.18	0	5.96	1640.22	7.49	1638.21	7.48	-2.01	-0.12
96	220	124	28	3520	0.98380	695.54	0.53182	1093.36	86.91	0.67	5.86	1650.71	7.5	1648.8	7.49	-1.91	-0.12
96	221	125	29	3536	0.98278	696.93	0.53281	1092.33	92.81	0	5.76	1659.69	7.51	1657.36	7.5	-2.33	-0.14
96	222	126	30	3552	0.98174	698.29	0.53378	1091.33	98.88	0.67	5.67	1669.85	7.52	1667.64	7.51	-2.21	-0.13
96	223	127	31	3568	0.98068	699.62	0.53475	1090.35	105.11	0	5.58	1678.5	7.53	1675.89	7.52	-2.61	-0.16
96	224	128	32	3584	0.97959	700.94	0.53571	1089.39	111.5	0.67	5.49	1688.33	7.54	1685.86	7.53	-2.48	-0.15
96	225	129	33	3600	0.97849	702.23	0.53667	1088.45	118.05	0	5.4	1696.67	7.54	1693.81	7.53	-2.86	-0.17
96	226	130	34	3616	0.97737	703.5	0.53761	1087.53	124.76	0.67	5.32	1706.18	7.55	1703.47	7.54	-2.71	-0.16
96	227	131	35	3632	0.97623	704.75	0.53855	1086.64	131.63	0	5.23	1714.21	7.55	1711.14	7.54	-3.07	-0.18
96	228	132	36	3648	0.97507	705.98	0.53947	1085.77	138.65	0.66	5.15	1723.41	7.56	1720.51	7.55	-2.9	-0.17
96	229	133	37	3664	0.97389	707.19	0.54039	1084.92	145.83	0	5.07	1731.14	7.56	1727.89	7.55	-3.25	-0.19
96	230	134	38	3680	0.97270	708.38	0.54130	1084.09	153.15	0.66	5	1740.04	7.57	1736.96	7.55	-3.07	-0.18
96	231	135	39	3696	0.97150	709.55	0.54221	1083.28	160.62	0	4.92	1747.47	7.56	1744.07	7.55	-3.4	-0.2
96	232	136	40	3712	0.97027	710.7	0.54310	1082.49	168.24	0.66	4.85	1756.08	7.57	1752.86	7.56	-3.21	-0.18
96	233	137	41	3728	0.96904	711.83	0.54399	1081.72	176	0	4.78	1763.23	7.57	1759.7	7.55	-3.53	-0.2
96	234	138	42	3744	0.96778	712.95	0.54487	1080.96	183.9	0.65	4.71	1771.55	7.57	1768.22	7.56	-3.33	-0.19
96	235	139	43	3760	0.96652	714.04	0.54575	1080.23	191.95	0	4.64	1778.42	7.57	1774.79	7.55	-3.63	-0.2
96	236	140	44	3776	0.96524	715.12	0.54661	1079.51	200.13	0.65	4.57	1786.46	7.57	1783.04	7.56	-3.42	-0.19
96	237	141	45	3792	0.96395	716.18	0.54747	1078.82	208.45	0	4.5	1793.06	7.57	1789.35	7.55	-3.71	-0.21
96	238	142	46	3808	0.96264	717.22	0.54832	1078.14	216.91	0.65	4.44	1800.82	7.57	1797.33	7.55	-3.49	-0.19
96	239	143	47	3824	0.96133	718.24	0.54916	1077.48	225.5	0	4.38	1807.16	7.56	1803.39	7.55	-3.77	-0.21
96	240	144	48	3840	0.96000	719.25	0.55000	1076.83	234.22	0.65	4.32	1814.66	7.56	1811.12	7.55	-3.54	-0.2
96	241	145	49	3856	0.95866	720.24	0.55083	1076.2	243.07	0	4.26	1820.74	7.55	1816.93	7.54	-3.81	-0.21
96	242	146	50	3872	0.95731	721.22	0.55165	1075.59	252.05	0.64	4.2	1827.98	7.55	1824.41	7.54	-3.57	-0.2
96	243	147	51	3888	0.95595	722.17	0.55247	1075	261.16	0	4.14	1833.81	7.55	1829.98	7.53	-3.83	-0.21
96	244	148	52	3904	0.95458	723.12	0.55328	1074.42	270.4	0.64	4.09	1840.8	7.54	1837.21	7.53	-3.59	-0.2
96	245	149	53	3920	0.95320	724.04	0.55408	1073.85	279.75	0	4.03	1846.38	7.54	1842.54	7.52	-3.84	-0.21
96	246	150	54	3936	0.95181	724.95	0.55488	1073.31	289.23	0.64	3.98	1853.12	7.53	1849.53	7.52	-3.6	-0.19
96	247	151	55	3952	0.95042	725.85	0.55567	1072.77	298.84	0	3.92	1858.47	7.52	1854.63	7.51	-3.84	-0.21
96	248	152	56	3968	0.94901	726.73	0.55645	1072.25	308.56	0.64	3.87	1864.97	7.52	1861.38	7.51	-3.59	-0.19
96	249	153	57	3984	0.94760	727.6	0.55723	1071.75	318.4	0	3.82	1870.08	7.51	1866.26	7.5	-3.82	-0.2
96	250	154	58	4000	0.94618	728.45	0.55800	1071.26	328.35	0.63	3.77	1876.34	7.51	1872.77	7.49	-3.57	-0.19
96	251	155	59	4016	0.94475	729.29	0.55877	1070.79	338.43	0	3.73	1881.23	7.49	1877.43	7.48	-3.8	-0.2

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
96	252	156	60	4032	0.94331	730.11	0.55952	1070.32	348.61	0.63	3.68	1887.26	7.49	1883.72	7.48	-3.54	-0.19
96	253	157	61	4048	0.94187	730.92	0.56028	1069.88	358.91	0	3.63	1891.92	7.48	1888.16	7.46	-3.76	-0.2
96	254	158	62	4064	0.94042	731.72	0.56102	1069.44	369.32	0.63	3.59	1897.73	7.47	1894.23	7.46	-3.5	-0.18
96	255	159	63	4080	0.93896	732.5	0.56177	1069.02	379.84	0	3.54	1902.18	7.46	1898.46	7.44	-3.72	-0.2
96	256	160	64	4096	0.93750	733.27	0.56250	1068.61	390.47	0.62	3.5	1907.77	7.45	1904.31	7.44	-3.46	-0.18
96	257	161	65	4112	0.93603	734.03	0.56323	1068.22	401.21	0	3.46	1912	7.44	1908.33	7.43	-3.67	-0.19
96	258	162	66	4128	0.93456	734.78	0.56395	1067.83	412.05	0.62	3.41	1917.38	7.43	1913.97	7.42	-3.41	-0.18
96	259	163	67	4144	0.93308	735.51	0.56467	1067.46	423	0	3.37	1921.41	7.42	1917.79	7.4	-3.62	-0.19
96	260	164	68	4160	0.93160	736.23	0.56539	1067.11	434.05	0.62	3.33	1926.57	7.41	1923.22	7.4	-3.35	-0.17
96	261	165	69	4176	0.93011	736.94	0.56609	1066.76	445.2	0	3.29	1930.4	7.4	1926.84	7.38	-3.56	-0.18
96	262	166	70	4192	0.92862	737.63	0.56679	1066.43	456.46	0.62	3.26	1935.36	7.39	1932.06	7.37	-3.3	-0.17
96	263	167	71	4208	0.92712	738.32	0.56749	1066.1	467.81	0	3.22	1938.99	7.37	1935.49	7.36	-3.5	-0.18
96	264	168	72	4224	0.92562	738.99	0.56818	1065.79	479.27	0.62	3.18	1943.75	7.36	1940.51	7.35	-3.24	-0.17
96	265	169	73	4240	0.92412	739.65	0.56887	1065.49	490.82	0	3.14	1947.18	7.35	1943.74	7.33	-3.44	-0.18
96	266	170	74	4256	0.92261	740.3	0.56955	1065.2	502.47	0.61	3.11	1951.75	7.34	1948.58	7.33	-3.17	-0.16
96	267	171	75	4272	0.92110	740.94	0.57023	1064.92	514.22	0	3.07	1955	7.32	1951.62	7.31	-3.38	-0.17
96	268	172	76	4288	0.91958	741.56	0.57090	1064.65	526.06	0.61	3.04	1959.37	7.31	1956.26	7.3	-3.11	-0.16
96	269	173	77	4304	0.91806	742.18	0.57156	1064.4	537.99	0	3.01	1962.43	7.3	1959.12	7.28	-3.31	-0.17
96	270	174	78	4320	0.91654	742.79	0.57222	1064.15	550.02	0.61	2.97	1966.62	7.28	1963.57	7.27	-3.05	-0.16
96	271	175	79	4336	0.91502	743.38	0.57288	1063.91	562.14	0	2.94	1969.5	7.27	1966.25	7.26	-3.25	-0.17
96	272	176	80	4352	0.91350	743.97	0.57353	1063.69	574.35	0.61	2.91	1973.51	7.26	1970.52	7.24	-2.99	-0.15
96	273	177	81	4368	0.91197	744.54	0.57418	1063.47	586.65	0	2.88	1976.21	7.24	1973.02	7.23	-3.19	-0.16
96	274	178	82	4384	0.91044	745.11	0.57482	1063.26	599.04	0.6	2.85	1980.04	7.23	1977.11	7.22	-2.93	-0.15
96	275	179	83	4400	0.90891	745.66	0.57546	1063.07	611.52	0	2.81	1982.57	7.21	1979.44	7.2	-3.14	-0.16
96	276	180	84	4416	0.90737	746.21	0.57609	1062.88	624.08	0.6	2.79	1986.22	7.2	1983.34	7.19	-2.88	-0.15
96	277	181	85	4432	0.90584	746.74	0.57672	1062.7	636.73	0	2.76	1988.58	7.18	1985.5	7.17	-3.08	-0.16
96	278	182	86	4448	0.90430	747.27	0.57734	1062.53	649.46	0.6	2.73	1992.06	7.17	1989.24	7.16	-2.83	-0.14
96	279	183	87	4464	0.90276	747.79	0.57796	1062.37	662.28	0	2.7	1994.26	7.15	1991.23	7.14	-3.03	-0.15
96	280	184	88	4480	0.90122	748.3	0.57857	1062.22	675.18	0.6	2.67	1997.57	7.13	1994.79	7.12	-2.78	-0.14
96	281	185	89	4496	0.89969	748.79	0.57918	1062.08	688.16	0	2.64	1999.61	7.12	1996.62	7.11	-2.99	-0.15
96	282	186	90	4512	0.89814	749.29	0.57979	1061.94	701.23	0.6	2.62	2002.76	7.1	2000.02	7.09	-2.74	-0.14
96	283	187	91	4528	0.89660	749.77	0.58039	1061.82	714.37	0	2.59	2004.64	7.08	2001.69	7.07	-2.95	-0.15
96	284	188	92	4544	0.89506	750.24	0.58099	1061.7	727.6	0.59	2.57	2007.62	7.07	2004.92	7.06	-2.7	-0.13
96	285	189	93	4560	0.89352	750.7	0.58158	1061.59	740.9	0	2.54	2009.35	7.05	2006.43	7.04	-2.91	-0.15
96	286	190	94	4576	0.89198	751.16	0.58217	1061.49	754.28	0.59	2.51	2012.18	7.04	2009.5	7.03	-2.67	-0.13
96	287	191	95	4592	0.89043	751.61	0.58275	1061.4	767.74	0	2.49	2013.75	7.02	2010.86	7.01	-2.89	-0.14
96	288	192	96	4608	0.88889	752.05	0.58333	1061.31	781.28	0.59	2.47	2016.42	7	2013.77	6.99	-2.65	-0.13
96	289	193	97	4624	0.88735	752.48	0.58391	1061.23	794.89	0	2.44	2017.84	6.98	2014.98	6.97	-2.87	-0.14
96	290	194	98	4640	0.88580	752.9	0.58448	1061.16	808.57	0.59	2.42	2020.37	6.97	2017.73	6.96	-2.64	-0.13
96	291	195	99	4656	0.88426	753.32	0.58505	1061.1	822.33	0	2.4	2021.64	6.95	2018.79	6.94	-2.85	-0.14
96	292	196	100	4672	0.88272	753.72	0.58562	1061.05	836.17	0.59	2.37	2024.02	6.93	2021.39	6.92	-2.63	-0.13
96	293	197	101	4688	0.88118	754.12	0.58618	1061	850.07	0	2.35	2025.16	6.91	2022.31	6.9	-2.85	-0.14
96	294	198	102	4704	0.87963	754.52	0.58674	1060.96	864.05	0.58	2.33	2027.39	6.9	2024.76	6.89	-2.63	-0.13
96	295	199	103	4720	0.87809	754.9	0.58729	1060.93	878.1	0	2.31	2028.38	6.88	2025.53	6.87	-2.85	-0.14
96	296	200	104	4736	0.87655	755.28	0.58784	1060.9	892.22	0.58	2.29	2030.47	6.86	2027.83	6.85	-2.64	-0.13
96	297	201	105	4752	0.87501	755.65	0.58838	1060.88	906.41	0	2.27	2031.33	6.84	2028.46	6.83	-2.87	-0.14
96	298	202	106	4768	0.87347	756.01	0.58893	1060.87	920.67	0.58	2.24	2033.28	6.82	2030.62	6.81	-2.66	-0.13

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
96	299	203	107	4784	0.87194	756.37	0.58947	1060.86	934.99	0	2.22	2034	6.8	2031.11	6.79	-2.89	-0.14
96	300	204	108	4800	0.87040	756.72	0.59000	1060.86	949.38	0.58	2.2	2035.81	6.79	2033.13	6.78	-2.69	-0.13
96	301	205	109	4816	0.86887	757.06	0.59053	1060.87	963.85	0	2.19	2036.41	6.77	2033.48	6.76	-2.92	-0.14
96	302	206	110	4832	0.86733	757.4	0.59106	1060.89	978.37	0.58	2.17	2038.09	6.75	2035.36	6.74	-2.73	-0.13
96	303	207	111	4848	0.86580	757.73	0.59158	1060.91	992.96	0	2.15	2038.55	6.73	2035.58	6.72	-2.97	-0.15
96	304	208	112	4864	0.86427	758.05	0.59211	1060.93	1007.62	0.57	2.13	2040.1	6.71	2037.32	6.7	-2.77	-0.14
96	305	209	113	4880	0.86274	758.37	0.59262	1060.97	1022.34	0	2.11	2040.43	6.69	2037.41	6.68	-3.02	-0.15
96	306	210	114	4896	0.86121	758.68	0.59314	1061	1037.13	0.57	2.09	2041.85	6.67	2039.02	6.66	-2.83	-0.14
96	307	211	115	4912	0.85968	758.98	0.59365	1061.05	1051.98	0	2.07	2042.07	6.65	2038.98	6.64	-3.09	-0.15
96	308	212	116	4928	0.85816	759.28	0.59416	1061.1	1066.89	0.57	2.06	2043.36	6.63	2040.45	6.62	-2.91	-0.14
96	309	213	117	4944	0.85663	759.57	0.59466	1061.16	1081.86	0	2.04	2043.45	6.61	2040.29	6.6	-3.16	-0.16
96	310	214	118	4960	0.85511	759.86	0.59516	1061.22	1096.9	0.57	2.02	2044.62	6.6	2041.63	6.59	-2.99	-0.15
96	311	215	119	4976	0.85359	760.14	0.59566	1061.29	1111.99	0	2	2044.59	6.57	2041.34	6.56	-3.25	-0.16
96	312	216	120	4992	0.85207	760.41	0.59615	1061.36	1127.14	0.57	1.99	2045.64	6.56	2042.56	6.55	-3.08	-0.15
96	313	217	121	5008	0.85056	760.68	0.59665	1061.44	1142.36	0	1.97	2045.5	6.54	2042.14	6.52	-3.35	-0.16
96	314	218	122	5024	0.84904	760.94	0.59713	1061.52	1157.63	0.56	1.96	2046.42	6.52	2043.23	6.51	-3.19	-0.16
96	315	219	123	5040	0.84753	761.2	0.59762	1061.61	1172.96	0	1.94	2046.16	6.5	2042.7	6.48	-3.46	-0.17
96	316	220	124	5056	0.84602	761.45	0.59810	1061.71	1188.35	0.56	1.92	2046.98	6.48	2043.67	6.47	-3.31	-0.16
96	317	221	125	5072	0.84451	761.69	0.59858	1061.81	1203.8	0	1.91	2046.6	6.46	2043.02	6.44	-3.59	-0.18
96	318	222	126	5088	0.84301	761.93	0.59906	1061.92	1219.3	0.56	1.89	2047.3	6.44	2043.86	6.43	-3.44	-0.17
96	319	223	127	5104	0.84150	762.17	0.59953	1062.03	1234.86	0	1.88	2046.82	6.42	2043.09	6.4	-3.73	-0.18
96	320	224	128	5120	0.84000	762.4	0.60000	1062.14	1250.48	0.56	1.86	2047.4	6.4	2043.82	6.39	-3.59	-0.18
96	321	225	129	5136	0.83850	762.62	0.60047	1062.26	1266.15	0	1.85	2046.81	6.38	2042.94	6.36	-3.88	-0.19
96	322	226	130	5152	0.83701	762.84	0.60093	1062.39	1281.88	0.56	1.83	2047.29	6.36	2043.54	6.35	-3.74	-0.18
96	323	227	131	5168	0.83551	763.05	0.60139	1062.52	1297.66	0	1.82	2046.59	6.34	2042.55	6.32	-4.04	-0.2
96	324	228	132	5184	0.83402	763.26	0.60185	1062.66	1313.49	0.56	1.81	2046.95	6.32	2043.04	6.31	-3.91	-0.19
96	325	229	133	5200	0.83253	763.47	0.60231	1062.8	1329.38	0	1.79	2046.15	6.3	2041.94	6.28	-4.22	-0.21
96	326	230	134	5216	0.83104	763.67	0.60276	1062.94	1345.31	0.55	1.78	2046.41	6.28	2042.31	6.26	-4.1	-0.2
96	327	231	135	5232	0.82956	763.86	0.60321	1063.09	1361.31	0	1.77	2045.51	6.26	2041.1	6.24	-4.41	-0.22
96	328	232	136	5248	0.82808	764.05	0.60366	1063.24	1377.35	0.55	1.75	2045.66	6.24	2041.36	6.22	-4.3	-0.21
96	329	233	137	5264	0.82660	764.24	0.60410	1063.4	1393.44	0	1.74	2044.66	6.21	2040.05	6.2	-4.61	-0.23
96	330	234	138	5280	0.82512	764.42	0.60455	1063.57	1409.59	0.55	1.73	2044.71	6.2	2040.2	6.18	-4.51	-0.22
96	331	235	139	5296	0.82365	764.59	0.60499	1063.73	1425.78	0	1.71	2043.61	6.17	2038.77	6.16	-4.83	-0.24
96	332	236	140	5312	0.82218	764.76	0.60542	1063.9	1442.03	0.55	1.7	2043.55	6.16	2038.82	6.14	-4.73	-0.23
96	333	237	141	5328	0.82071	764.93	0.60586	1064.08	1458.32	0	1.69	2042.36	6.13	2037.29	6.12	-5.06	-0.25
96	334	238	142	5344	0.81925	765.09	0.60629	1064.26	1474.67	0.55	1.68	2042.2	6.11	2037.23	6.1	-4.97	-0.24
96	335	239	143	5360	0.81779	765.25	0.60672	1064.44	1491.06	0	1.66	2040.91	6.09	2035.6	6.08	-5.31	-0.26
96	336	240	144	5376	0.81633	765.41	0.60714	1064.63	1507.5	0.55	1.65	2040.66	6.07	2035.43	6.06	-5.23	-0.26
Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
97	193	96	-1	3088	0.99997	647.88	0.49871	1155.99	0.13	0	9.78	1293.78	6.7	1302.88	6.75	9.1	0.7
97	194	97	0	3104	1.00000	650.13	0.50000	1153.99	0	-0.72	10	1309.16	6.75	1317.99	6.79	8.82	0.67
97	195	98	1	3120	0.99997	652.35	0.50128	1152.03	0.12	0	9.79	1325.29	6.8	1332.66	6.83	7.38	0.55
97	196	99	2	3136	0.99990	654.53	0.50255	1150.11	0.5	-0.71	9.58	1339.73	6.84	1347.32	6.87	7.59	0.56
97	197	100	3	3152	0.99977	656.67	0.50381	1148.23	1.11	0	9.38	1355.37	6.88	1361.56	6.91	6.19	0.45
97	198	101	4	3168	0.99959	658.77	0.50505	1146.4	1.97	-0.71	9.19	1369.33	6.92	1375.79	6.95	6.45	0.47
97	199	102	5	3184	0.99937	660.84	0.50628	1144.61	3.06	0	9	1384.49	6.96	1389.59	6.98	5.1	0.37

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
97	200	103	6	3200	0.99910	662.87	0.50750	1142.85	4.39	-0.71	8.82	1397.99	6.99	1403.4	7.02	5.41	0.39
97	201	104	7	3216	0.99879	664.87	0.50871	1141.14	5.94	0	8.64	1412.69	7.03	1416.79	7.05	4.1	0.29
97	202	105	8	3232	0.99843	666.84	0.50990	1139.46	7.72	-0.7	8.47	1425.74	7.06	1430.19	7.08	4.44	0.31
97	203	106	9	3248	0.99803	668.77	0.51108	1137.82	9.73	0	8.3	1439.98	7.09	1443.16	7.11	3.18	0.22
97	204	107	10	3264	0.99760	670.67	0.51226	1136.21	11.95	-0.7	8.14	1452.6	7.12	1456.17	7.14	3.56	0.24
97	205	108	11	3280	0.99712	672.54	0.51342	1134.65	14.39	0	7.98	1466.41	7.15	1468.74	7.16	2.34	0.16
97	206	109	12	3296	0.99661	674.38	0.51456	1133.11	17.04	-0.7	7.83	1478.6	7.18	1481.36	7.19	2.76	0.19
97	207	110	13	3312	0.99606	676.19	0.51570	1131.61	19.91	0	7.68	1491.98	7.21	1493.55	7.22	1.57	0.11
97	208	111	14	3328	0.99547	677.96	0.51683	1130.14	22.98	-0.69	7.54	1503.76	7.23	1505.79	7.24	2.02	0.13
97	209	112	15	3344	0.99485	679.71	0.51794	1128.71	26.25	0	7.4	1516.73	7.26	1517.6	7.26	0.87	0.06
97	210	113	16	3360	0.99420	681.43	0.51905	1127.3	29.72	-0.69	7.26	1528.12	7.28	1529.47	7.28	1.36	0.09
97	211	114	17	3376	0.99351	683.12	0.52014	1125.93	33.4	0	7.13	1540.68	7.3	1540.92	7.3	0.24	0.02
97	212	115	18	3392	0.99279	684.78	0.52123	1124.59	37.27	-0.69	7	1551.68	7.32	1552.43	7.32	0.75	0.05
97	213	116	19	3408	0.99204	686.41	0.52230	1123.28	41.33	0	6.88	1563.86	7.34	1563.52	7.34	-0.34	-0.02
97	214	117	20	3424	0.99127	688.02	0.52336	1122	45.58	-0.68	6.75	1574.47	7.36	1574.68	7.36	0.2	0.01
97	215	118	21	3440	0.99046	689.6	0.52442	1120.74	50.02	0	6.63	1586.27	7.38	1585.41	7.37	-0.86	-0.05
97	216	119	22	3456	0.98963	691.15	0.52546	1119.52	54.64	-0.68	6.52	1596.52	7.39	1596.23	7.39	-0.29	-0.02
97	217	120	23	3472	0.98877	692.68	0.52650	1118.32	59.45	0	6.41	1607.96	7.41	1606.63	7.4	-1.33	-0.08
97	218	121	24	3488	0.98788	694.19	0.52752	1117.15	64.44	-0.68	6.3	1617.85	7.42	1617.12	7.42	-0.73	-0.05
97	219	122	25	3504	0.98697	695.67	0.52854	1116	69.6	0	6.19	1628.92	7.44	1627.18	7.43	-1.74	-0.11
97	220	123	26	3520	0.98603	697.12	0.52955	1114.88	74.94	-0.67	6.09	1638.47	7.45	1637.34	7.44	-1.13	-0.07
97	221	124	27	3536	0.98507	698.55	0.53054	1113.79	80.45	0	5.99	1649.19	7.46	1647.08	7.45	-2.11	-0.13
97	222	125	28	3552	0.98409	699.96	0.53153	1112.72	86.13	-0.67	5.89	1658.4	7.47	1656.93	7.46	-1.48	-0.09
97	223	126	29	3568	0.98309	701.34	0.53251	1111.68	91.98	0	5.79	1668.79	7.48	1666.35	7.47	-2.44	-0.15
97	224	127	30	3584	0.98206	702.71	0.53348	1110.66	98	-0.67	5.7	1677.67	7.49	1675.88	7.48	-1.79	-0.11
97	225	128	31	3600	0.98102	704.04	0.53444	1109.66	104.18	0	5.61	1687.73	7.5	1684.99	7.49	-2.73	-0.16
97	226	129	32	3616	0.97995	705.36	0.53540	1108.68	110.52	-0.67	5.52	1696.29	7.51	1694.23	7.5	-2.06	-0.12
97	227	130	33	3632	0.97887	706.66	0.53634	1107.73	117.02	0	5.43	1706.02	7.52	1703.04	7.5	-2.99	-0.18
97	228	131	34	3648	0.97776	707.93	0.53728	1106.8	123.67	-0.66	5.35	1714.27	7.52	1711.97	7.51	-2.3	-0.13
97	229	132	35	3664	0.97664	709.19	0.53821	1105.9	130.49	0	5.26	1723.69	7.53	1720.49	7.51	-3.2	-0.19
97	230	133	36	3680	0.97550	710.42	0.53913	1105.01	137.45	-0.66	5.18	1731.64	7.53	1729.14	7.52	-2.5	-0.14
97	231	134	37	3696	0.97435	711.63	0.54004	1104.15	144.57	0	5.1	1740.76	7.54	1737.36	7.52	-3.39	-0.2
97	232	135	38	3712	0.97317	712.83	0.54095	1103.3	151.83	-0.66	5.03	1748.41	7.54	1745.73	7.52	-2.67	-0.15
97	233	136	39	3728	0.97198	714	0.54185	1102.48	159.25	0	4.95	1757.23	7.54	1753.68	7.53	-3.55	-0.2
97	234	137	40	3744	0.97078	715.15	0.54274	1101.67	166.81	-0.65	4.88	1764.59	7.54	1761.77	7.53	-2.82	-0.16
97	235	138	41	3760	0.96956	716.29	0.54362	1100.89	174.51	0	4.81	1773.12	7.55	1769.44	7.53	-3.68	-0.21
97	236	139	42	3776	0.96833	717.41	0.54449	1100.12	182.35	-0.65	4.74	1780.2	7.54	1777.26	7.53	-2.94	-0.17
97	237	140	43	3792	0.96708	718.51	0.54536	1099.38	190.33	0	4.67	1788.45	7.55	1784.66	7.53	-3.79	-0.21
97	238	141	44	3808	0.96582	719.59	0.54622	1098.65	198.46	-0.65	4.6	1795.26	7.54	1792.22	7.53	-3.04	-0.17
97	239	142	45	3824	0.96455	720.65	0.54707	1097.94	206.72	0	4.53	1803.23	7.54	1799.36	7.53	-3.87	-0.22
97	240	143	46	3840	0.96326	721.7	0.54792	1097.25	215.11	-0.65	4.47	1809.77	7.54	1806.66	7.53	-3.11	-0.17
97	241	144	47	3856	0.96197	722.73	0.54876	1096.57	223.63	0	4.41	1817.48	7.54	1813.54	7.53	-3.93	-0.22
97	242	145	48	3872	0.96066	723.74	0.54959	1095.91	232.29	-0.64	4.35	1823.76	7.54	1820.59	7.52	-3.17	-0.17
97	243	146	49	3888	0.95934	724.73	0.55041	1095.27	241.08	0	4.29	1831.2	7.54	1827.22	7.52	-3.98	-0.22
97	244	147	50	3904	0.95801	725.71	0.55123	1094.65	250	-0.64	4.23	1837.23	7.53	1834.03	7.52	-3.2	-0.17
97	245	148	51	3920	0.95667	726.68	0.55204	1094.04	259.04	0	4.17	1844.42	7.53	1840.41	7.51	-4.01	-0.22
97	246	149	52	3936	0.95532	727.62	0.55285	1093.45	268.21	-0.64	4.12	1850.2	7.52	1846.97	7.51	-3.23	-0.17

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
97	247	150	53	3952	0.95396	728.55	0.55364	1092.87	277.5	0	4.06	1857.14	7.52	1853.12	7.5	-4.02	-0.22
97	248	151	54	3968	0.95259	729.47	0.55444	1092.31	286.91	-0.64	4.01	1862.68	7.51	1859.44	7.5	-3.23	-0.17
97	249	152	55	3984	0.95121	730.37	0.55522	1091.77	296.45	0	3.95	1869.37	7.51	1865.35	7.49	-4.02	-0.22
97	250	153	56	4000	0.94982	731.26	0.55600	1091.24	306.1	-0.63	3.9	1874.68	7.5	1871.45	7.49	-3.23	-0.17
97	251	154	57	4016	0.94843	732.13	0.55677	1090.72	315.87	0	3.85	1881.13	7.49	1877.13	7.48	-4	-0.21
97	252	155	58	4032	0.94703	732.99	0.55754	1090.22	325.76	-0.63	3.8	1886.21	7.48	1883	7.47	-3.21	-0.17
97	253	156	59	4048	0.94562	733.83	0.55830	1089.73	335.76	0	3.76	1892.43	7.48	1888.45	7.46	-3.98	-0.21
97	254	157	60	4064	0.94420	734.66	0.55906	1089.26	345.88	-0.63	3.71	1897.28	7.47	1894.1	7.46	-3.18	-0.17
97	255	158	61	4080	0.94278	735.48	0.55980	1088.8	356.11	0	3.66	1903.28	7.46	1899.33	7.45	-3.95	-0.21
97	256	159	62	4096	0.94135	736.28	0.56055	1088.35	366.45	-0.62	3.62	1907.91	7.45	1904.76	7.44	-3.15	-0.17
97	257	160	63	4112	0.93991	737.07	0.56128	1087.92	376.9	0	3.57	1913.68	7.45	1909.78	7.43	-3.91	-0.2
97	258	161	64	4128	0.93847	737.85	0.56202	1087.5	387.45	-0.62	3.53	1918.1	7.43	1915	7.42	-3.1	-0.16
97	259	162	65	4144	0.93702	738.61	0.56274	1087.1	398.12	0	3.49	1923.66	7.43	1919.8	7.41	-3.86	-0.2
97	260	163	66	4160	0.93556	739.36	0.56346	1086.7	408.89	-0.62	3.44	1927.87	7.41	1924.81	7.4	-3.06	-0.16
97	261	164	67	4176	0.93410	740.1	0.56418	1086.32	419.77	0	3.4	1933.22	7.41	1929.41	7.39	-3.81	-0.2
97	262	165	68	4192	0.93264	740.83	0.56489	1085.95	430.75	-0.62	3.36	1937.22	7.39	1934.22	7.38	-3	-0.16
97	263	166	69	4208	0.93117	741.54	0.56559	1085.59	441.83	0	3.32	1942.36	7.39	1938.61	7.37	-3.75	-0.19
97	264	167	70	4224	0.92970	742.24	0.56629	1085.25	453.01	-0.62	3.28	1946.17	7.37	1943.22	7.36	-2.94	-0.15
97	265	168	71	4240	0.92822	742.93	0.56698	1084.91	464.3	0	3.25	1951.1	7.36	1947.42	7.35	-3.69	-0.19
97	266	169	72	4256	0.92673	743.61	0.56767	1084.59	475.68	-0.61	3.21	1954.72	7.35	1951.83	7.34	-2.88	-0.15
97	267	170	73	4272	0.92525	744.28	0.56835	1084.28	487.16	0	3.17	1959.46	7.34	1955.83	7.33	-3.63	-0.19
97	268	171	74	4288	0.92376	744.93	0.56903	1083.98	498.74	-0.61	3.14	1962.87	7.32	1960.05	7.31	-2.82	-0.14
97	269	172	75	4304	0.92227	745.58	0.56970	1083.69	510.41	0	3.1	1967.42	7.31	1963.86	7.3	-3.56	-0.18
97	270	173	76	4320	0.92077	746.21	0.57037	1083.41	522.18	-0.61	3.07	1970.65	7.3	1967.9	7.29	-2.76	-0.14
97	271	174	77	4336	0.91927	746.83	0.57103	1083.15	534.04	0	3.03	1975.01	7.29	1971.51	7.27	-3.5	-0.18
97	272	175	78	4352	0.91777	747.45	0.57169	1082.89	545.99	-0.61	3	1978.06	7.27	1975.37	7.26	-2.7	-0.14
97	273	176	79	4368	0.91626	748.05	0.57234	1082.64	558.04	0	2.97	1982.24	7.26	1978.8	7.25	-3.43	-0.17
97	274	177	80	4384	0.91475	748.64	0.57299	1082.41	570.17	-0.6	2.93	1985.11	7.24	1982.47	7.24	-2.63	-0.13
97	275	178	81	4400	0.91324	749.22	0.57364	1082.18	582.4	0	2.9	1989.1	7.23	1985.73	7.22	-3.37	-0.17
97	276	179	82	4416	0.91173	749.79	0.57428	1081.96	594.71	-0.6	2.87	1991.8	7.22	1989.22	7.21	-2.58	-0.13
97	277	180	83	4432	0.91022	750.35	0.57491	1081.76	607.12	0	2.84	1995.61	7.2	1992.3	7.19	-3.31	-0.17
97	278	181	84	4448	0.90870	750.91	0.57554	1081.56	619.6	-0.6	2.81	1998.14	7.19	1995.62	7.18	-2.52	-0.13
97	279	182	85	4464	0.90718	751.45	0.57617	1081.37	632.18	0	2.78	2001.78	7.17	1998.53	7.16	-3.25	-0.16
97	280	183	86	4480	0.90566	751.98	0.57679	1081.19	644.84	-0.6	2.75	2004.14	7.16	2001.68	7.15	-2.46	-0.12
97	281	184	87	4496	0.90414	752.51	0.57740	1081.02	657.58	0	2.72	2007.61	7.14	2004.41	7.13	-3.2	-0.16
97	282	185	88	4512	0.90262	753.02	0.57801	1080.86	670.41	-0.6	2.7	2009.81	7.13	2007.4	7.12	-2.41	-0.12
97	283	186	89	4528	0.90110	753.53	0.57862	1080.71	683.32	0	2.67	2013.12	7.11	2009.96	7.1	-3.15	-0.16
97	284	187	90	4544	0.89957	754.02	0.57923	1080.57	696.31	-0.59	2.64	2015.15	7.1	2012.78	7.09	-2.37	-0.12
97	285	188	91	4560	0.89805	754.51	0.57983	1080.43	709.38	0	2.62	2018.29	7.08	2015.19	7.07	-3.11	-0.15
97	286	189	92	4576	0.89652	754.99	0.58042	1080.31	722.53	-0.59	2.59	2020.17	7.06	2017.85	7.06	-2.33	-0.12
97	287	190	93	4592	0.89500	755.46	0.58101	1080.19	735.76	0	2.56	2023.16	7.05	2020.09	7.04	-3.07	-0.15
97	288	191	94	4608	0.89347	755.92	0.58160	1080.08	749.06	-0.59	2.54	2024.88	7.03	2022.59	7.02	-2.29	-0.11
97	289	192	95	4624	0.89194	756.38	0.58218	1079.98	762.45	0	2.51	2027.71	7.02	2024.67	7.01	-3.04	-0.15
97	290	193	96	4640	0.89042	756.82	0.58276	1079.89	775.91	-0.59	2.49	2029.29	7	2027.02	6.99	-2.27	-0.11
97	291	194	97	4656	0.88889	757.26	0.58333	1079.8	789.44	0	2.47	2031.96	6.98	2028.95	6.97	-3.01	-0.15
97	292	195	98	4672	0.88736	757.69	0.58390	1079.72	803.06	-0.59	2.44	2033.39	6.96	2031.14	6.96	-2.25	-0.11
97	293	196	99	4688	0.88583	758.11	0.58447	1079.65	816.74	0	2.42	2035.92	6.95	2032.92	6.94	-2.99	-0.15

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
97	294	197	100	4704	0.88431	758.53	0.58503	1079.59	830.5	-0.58	2.4	2037.2	6.93	2034.97	6.92	-2.23	-0.11
97	295	198	101	4720	0.88278	758.93	0.58559	1079.53	844.33	0	2.37	2039.58	6.91	2036.6	6.9	-2.98	-0.15
97	296	199	102	4736	0.88126	759.33	0.58615	1079.49	858.23	-0.58	2.35	2040.72	6.89	2038.49	6.89	-2.23	-0.11
97	297	200	103	4752	0.87973	759.72	0.58670	1079.44	872.21	0	2.33	2042.96	6.88	2039.98	6.87	-2.98	-0.15
97	298	201	104	4768	0.87820	760.11	0.58725	1079.41	886.25	-0.58	2.31	2043.96	6.86	2041.73	6.85	-2.23	-0.11
97	299	202	105	4784	0.87668	760.48	0.58779	1079.38	900.36	0	2.29	2046.06	6.84	2043.07	6.83	-2.99	-0.15
97	300	203	106	4800	0.87516	760.85	0.58833	1079.36	914.55	-0.58	2.27	2046.92	6.82	2044.68	6.82	-2.25	-0.11
97	301	204	107	4816	0.87363	761.22	0.58887	1079.35	928.8	0	2.25	2048.88	6.81	2045.88	6.8	-3	-0.15
97	302	205	108	4832	0.87211	761.57	0.58940	1079.34	943.12	-0.58	2.23	2049.62	6.79	2047.35	6.78	-2.27	-0.11
97	303	206	109	4848	0.87059	761.92	0.58993	1079.34	957.5	0	2.21	2051.44	6.77	2048.41	6.76	-3.03	-0.15
97	304	207	110	4864	0.86907	762.26	0.59046	1079.35	971.96	-0.57	2.19	2052.04	6.75	2049.74	6.74	-2.3	-0.11
97	305	208	111	4880	0.86755	762.6	0.59098	1079.36	986.47	0	2.17	2053.73	6.73	2050.66	6.72	-3.07	-0.15
97	306	209	112	4896	0.86603	762.93	0.59150	1079.38	1001.06	-0.57	2.15	2054.21	6.71	2051.86	6.71	-2.34	-0.11
97	307	210	113	4912	0.86452	763.25	0.59202	1079.41	1015.71	0	2.13	2055.76	6.7	2052.65	6.69	-3.11	-0.15
97	308	211	114	4928	0.86300	763.57	0.59253	1079.44	1030.42	-0.57	2.11	2056.12	6.68	2053.72	6.67	-2.4	-0.12
97	309	212	115	4944	0.86149	763.88	0.59304	1079.48	1045.19	0	2.09	2057.54	6.66	2054.38	6.65	-3.17	-0.15
97	310	213	116	4960	0.85998	764.18	0.59355	1079.52	1060.03	-0.57	2.08	2057.77	6.64	2055.32	6.63	-2.46	-0.12
97	311	214	117	4976	0.85847	764.48	0.59405	1079.57	1074.93	0	2.06	2059.08	6.62	2055.84	6.61	-3.24	-0.16
97	312	215	118	4992	0.85696	764.77	0.59455	1079.63	1089.89	-0.57	2.04	2059.19	6.6	2056.65	6.59	-2.53	-0.12
97	313	216	119	5008	0.85545	765.06	0.59505	1079.69	1104.91	0	2.03	2060.37	6.58	2057.05	6.57	-3.31	-0.16
97	314	217	120	5024	0.85395	765.34	0.59554	1079.76	1119.99	-0.56	2.01	2060.36	6.56	2057.74	6.55	-2.62	-0.13
97	315	218	121	5040	0.85245	765.61	0.59603	1079.83	1135.13	0	1.99	2061.42	6.54	2058.01	6.53	-3.41	-0.17
97	316	219	122	5056	0.85095	765.88	0.59652	1079.91	1150.33	-0.56	1.98	2061.29	6.52	2058.57	6.51	-2.72	-0.13
97	317	220	123	5072	0.84945	766.14	0.59700	1079.99	1165.59	0	1.96	2062.23	6.51	2058.73	6.49	-3.51	-0.17
97	318	221	124	5088	0.84795	766.4	0.59748	1080.08	1180.9	-0.56	1.94	2061.99	6.48	2059.17	6.48	-2.83	-0.14
97	319	222	125	5104	0.84645	766.65	0.59796	1080.18	1196.28	0	1.93	2062.82	6.47	2059.2	6.46	-3.62	-0.18
97	320	223	126	5120	0.84496	766.9	0.59844	1080.28	1211.71	-0.56	1.91	2062.47	6.45	2059.52	6.44	-2.95	-0.14
97	321	224	127	5136	0.84347	767.14	0.59891	1080.38	1227.19	0	1.9	2063.18	6.43	2059.43	6.42	-3.75	-0.18
97	322	225	128	5152	0.84198	767.38	0.59938	1080.49	1242.74	-0.56	1.88	2062.72	6.41	2059.63	6.4	-3.09	-0.15
97	323	226	129	5168	0.84050	767.61	0.59985	1080.61	1258.34	0	1.87	2063.32	6.39	2059.43	6.38	-3.89	-0.19
97	324	227	130	5184	0.83901	767.83	0.60031	1080.73	1273.99	-0.56	1.85	2062.75	6.37	2059.52	6.36	-3.23	-0.16
97	325	228	131	5200	0.83753	768.05	0.60077	1080.85	1289.69	0	1.84	2063.24	6.35	2059.2	6.34	-4.04	-0.2
97	326	229	132	5216	0.83605	768.27	0.60123	1080.98	1305.46	-0.55	1.83	2062.57	6.33	2059.17	6.32	-3.39	-0.16
97	327	230	133	5232	0.83457	768.48	0.60168	1081.12	1321.27	0	1.81	2062.95	6.31	2058.74	6.3	-4.21	-0.2
97	328	231	134	5248	0.83310	768.68	0.60213	1081.26	1337.14	-0.55	1.8	2062.17	6.29	2058.6	6.28	-3.57	-0.17
97	329	232	135	5264	0.83163	768.88	0.60258	1081.4	1353.06	0	1.78	2062.45	6.27	2058.06	6.26	-4.39	-0.21
97	330	233	136	5280	0.83016	769.08	0.60303	1081.55	1369.03	-0.55	1.77	2061.57	6.25	2057.81	6.24	-3.76	-0.18
97	331	234	137	5296	0.82869	769.27	0.60347	1081.7	1385.05	0	1.76	2061.74	6.23	2057.16	6.21	-4.58	-0.22
97	332	235	138	5312	0.82723	769.46	0.60392	1081.86	1401.12	-0.55	1.75	2060.76	6.21	2056.8	6.2	-3.96	-0.19
97	333	236	139	5328	0.82576	769.64	0.60435	1082.02	1417.25	0	1.73	2060.83	6.19	2056.04	6.17	-4.79	-0.23
97	334	237	140	5344	0.82430	769.82	0.60479	1082.19	1433.42	-0.55	1.72	2059.75	6.17	2055.58	6.15	-4.17	-0.2
97	335	238	141	5360	0.82285	769.99	0.60522	1082.36	1449.64	0	1.71	2059.72	6.15	2054.71	6.13	-5.01	-0.24
97	336	239	142	5376	0.82139	770.16	0.60566	1082.53	1465.92	-0.55	1.69	2058.54	6.13	2054.14	6.11	-4.4	-0.21
97	337	240	143	5392	0.81994	770.32	0.60608	1082.71	1482.24	0	1.68	2058.41	6.11	2053.17	6.09	-5.24	-0.26
97	338	241	144	5408	0.81849	770.48	0.60651	1082.9	1498.61	-0.54	1.67	2057.14	6.09	2052.5	6.07	-4.64	-0.23
97	339	242	145	5424	0.81705	770.64	0.60693	1083.08	1515.02	0	1.66	2056.92	6.07	2051.43	6.05	-5.49	-0.27
97	340	243	146	5440	0.81561	770.79	0.60735	1083.27	1531.49	-0.54	1.65	2055.56	6.05	2050.65	6.03	-4.9	-0.24

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
98	195	97	-1	3120	0.99997	652.35	0.49872	1175.9	0.12	0	9.79	1301.41	6.67	1310.53	6.72	9.12	0.7
98	196	98	0	3136	1.00000	654.59	0.50000	1173.88	0	0.71	10	1318.24	6.73	1326.57	6.77	8.34	0.63
98	197	99	1	3152	0.99997	656.8	0.50127	1171.91	0.12	0	9.79	1332.95	6.77	1340.36	6.8	7.41	0.55
98	198	100	2	3168	0.99990	658.97	0.50253	1169.98	0.49	0.71	9.58	1348.85	6.81	1355.96	6.85	7.11	0.52
98	199	101	3	3184	0.99977	661.11	0.50377	1168.09	1.1	0	9.39	1363.09	6.85	1369.32	6.88	6.23	0.45
98	200	102	4	3200	0.99960	663.21	0.50500	1166.24	1.95	0.71	9.19	1378.51	6.89	1384.48	6.92	5.97	0.43
98	201	103	5	3216	0.99938	665.27	0.50622	1164.43	3.03	0	9.01	1392.27	6.93	1397.42	6.95	5.14	0.37
98	202	104	6	3232	0.99912	667.3	0.50743	1162.66	4.34	0.7	8.83	1407.22	6.97	1412.15	6.99	4.93	0.35
98	203	105	7	3248	0.99881	669.29	0.50862	1160.94	5.88	0	8.65	1420.54	7	1424.68	7.02	4.14	0.29
98	204	106	8	3264	0.99846	671.25	0.50980	1159.24	7.65	0.7	8.48	1435.04	7.03	1439	7.05	3.97	0.28
98	205	107	9	3280	0.99807	673.18	0.51098	1157.59	9.63	0	8.32	1447.91	7.06	1451.14	7.08	3.23	0.22
98	206	108	10	3296	0.99764	675.08	0.51214	1155.97	11.84	0.7	8.16	1461.97	7.1	1465.05	7.11	3.09	0.21
98	207	109	11	3312	0.99718	676.95	0.51329	1154.39	14.25	0	8	1474.42	7.12	1476.81	7.13	2.39	0.16
98	208	110	12	3328	0.99667	678.78	0.51442	1152.84	16.88	0.69	7.85	1488.04	7.15	1490.33	7.17	2.28	0.15
98	209	111	13	3344	0.99613	680.59	0.51555	1151.32	19.72	0	7.7	1500.08	7.18	1501.7	7.19	1.62	0.11
98	210	112	14	3360	0.99556	682.36	0.51667	1149.84	22.76	0.69	7.56	1513.29	7.21	1514.84	7.21	1.55	0.1
98	211	113	15	3376	0.99495	684.11	0.51777	1148.39	26	0	7.42	1524.92	7.23	1525.85	7.23	0.93	0.06
98	212	114	16	3392	0.99430	685.82	0.51887	1146.97	29.45	0.69	7.28	1537.73	7.25	1538.61	7.26	0.88	0.06
98	213	115	17	3408	0.99363	687.51	0.51995	1145.58	33.09	0	7.15	1548.97	7.27	1549.26	7.27	0.29	0.02
98	214	116	18	3424	0.99293	689.17	0.52103	1144.23	36.92	0.68	7.02	1561.39	7.3	1561.67	7.3	0.28	0.02
98	215	117	19	3440	0.99219	690.81	0.52209	1142.9	40.95	0	6.9	1572.25	7.31	1571.97	7.31	-0.28	-0.02
98	216	118	20	3456	0.99143	692.41	0.52315	1141.6	45.16	0.68	6.78	1584.28	7.33	1584.01	7.33	-0.27	-0.02
98	217	119	21	3472	0.99064	693.99	0.52419	1140.34	49.56	0	6.66	1594.77	7.35	1593.97	7.35	-0.8	-0.05
98	218	120	22	3488	0.98982	695.55	0.52523	1139.1	54.14	0.68	6.55	1606.43	7.37	1605.67	7.37	-0.76	-0.05
98	219	121	23	3504	0.98897	697.08	0.52626	1137.88	58.91	0	6.43	1616.56	7.38	1615.3	7.38	-1.26	-0.08
98	220	122	24	3520	0.98810	698.58	0.52727	1136.7	63.85	0.67	6.32	1627.87	7.4	1626.66	7.39	-1.2	-0.07
98	221	123	25	3536	0.98720	700.06	0.52828	1135.54	68.97	0	6.22	1637.65	7.41	1635.97	7.4	-1.68	-0.1
98	222	124	26	3552	0.98628	701.52	0.52928	1134.4	74.27	0.67	6.11	1648.6	7.43	1647	7.42	-1.6	-0.1
98	223	125	27	3568	0.98534	702.95	0.53027	1133.3	79.73	0	6.01	1658.04	7.44	1655.99	7.43	-2.05	-0.12
98	224	126	28	3584	0.98438	704.36	0.53125	1132.21	85.37	0.67	5.92	1668.64	7.45	1666.7	7.44	-1.95	-0.12
98	225	127	29	3600	0.98339	705.75	0.53222	1131.15	91.17	0	5.82	1677.75	7.46	1675.38	7.45	-2.37	-0.14
98	226	128	30	3616	0.98238	707.11	0.53319	1130.12	97.13	0.67	5.73	1688.03	7.47	1685.77	7.46	-2.25	-0.13
98	227	129	31	3632	0.98135	708.45	0.53414	1129.11	103.26	0	5.64	1696.81	7.47	1694.15	7.46	-2.66	-0.16
98	228	130	32	3648	0.98030	709.77	0.53509	1128.12	109.55	0.66	5.55	1706.76	7.49	1704.24	7.47	-2.52	-0.15
98	229	131	33	3664	0.97923	711.07	0.53603	1127.16	116	0	5.46	1715.23	7.49	1712.33	7.48	-2.91	-0.17
98	230	132	34	3680	0.97815	712.35	0.53696	1126.21	122.6	0.66	5.37	1724.87	7.5	1722.11	7.49	-2.76	-0.16
98	231	133	35	3696	0.97704	713.6	0.53788	1125.29	129.36	0	5.29	1733.04	7.5	1729.91	7.49	-3.13	-0.18
98	232	134	36	3712	0.97592	714.84	0.53879	1124.39	136.27	0.66	5.21	1742.36	7.51	1739.4	7.5	-2.96	-0.17
98	233	135	37	3728	0.97478	716.06	0.53970	1123.51	143.33	0	5.13	1750.23	7.51	1746.92	7.5	-3.31	-0.19
98	234	136	38	3744	0.97363	717.25	0.54060	1122.66	150.54	0.65	5.06	1759.26	7.52	1756.13	7.5	-3.13	-0.18
98	235	137	39	3760	0.97246	718.43	0.54149	1121.82	157.9	0	4.98	1766.84	7.52	1763.37	7.5	-3.46	-0.2
98	236	138	40	3776	0.97127	719.59	0.54237	1121	165.4	0.65	4.91	1775.57	7.52	1772.3	7.51	-3.27	-0.18
98	237	139	41	3792	0.97007	720.73	0.54325	1120.2	173.04	0	4.84	1782.86	7.52	1779.27	7.51	-3.59	-0.2
98	238	140	42	3808	0.96886	721.85	0.54412	1119.42	180.83	0.65	4.77	1791.32	7.53	1787.92	7.51	-3.39	-0.19
98	239	141	43	3824	0.96763	722.95	0.54498	1118.66	188.75	0	4.7	1798.33	7.52	1794.64	7.51	-3.7	-0.21

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
98	240	142	44	3840	0.96639	724.04	0.54583	1117.92	196.81	0.65	4.63	1806.51	7.53	1803.02	7.51	-3.48	-0.19
98	241	143	45	3856	0.96514	725.11	0.54668	1117.2	205.01	0	4.56	1813.25	7.52	1809.48	7.51	-3.78	-0.21
98	242	144	46	3872	0.96387	726.16	0.54752	1116.49	213.34	0.64	4.5	1821.16	7.53	1817.6	7.51	-3.56	-0.2
98	243	145	47	3888	0.96259	727.19	0.54835	1115.81	221.8	0	4.44	1827.64	7.52	1823.81	7.51	-3.83	-0.21
98	244	146	48	3904	0.96130	728.21	0.54918	1115.13	230.4	0.64	4.38	1835.28	7.52	1831.67	7.51	-3.61	-0.2
98	245	147	49	3920	0.96000	729.21	0.55000	1114.48	239.12	0	4.32	1841.51	7.52	1837.63	7.5	-3.88	-0.21
98	246	148	50	3936	0.95869	730.19	0.55081	1113.84	247.97	0.64	4.26	1848.89	7.52	1845.25	7.5	-3.64	-0.2
98	247	149	51	3952	0.95737	731.16	0.55162	1113.22	256.95	0	4.2	1854.87	7.51	1850.97	7.49	-3.9	-0.21
98	248	150	52	3968	0.95604	732.11	0.55242	1112.62	266.05	0.64	4.15	1862	7.51	1858.34	7.49	-3.66	-0.2
98	249	151	53	3984	0.95469	733.05	0.55321	1112.03	275.28	0	4.09	1867.73	7.5	1863.83	7.49	-3.91	-0.21
98	250	152	54	4000	0.95334	733.97	0.55400	1111.46	284.62	0.63	4.04	1874.62	7.5	1870.96	7.48	-3.66	-0.2
98	251	153	55	4016	0.95199	734.88	0.55478	1110.9	294.09	0	3.98	1880.12	7.49	1876.21	7.47	-3.9	-0.21
98	252	154	56	4032	0.95062	735.77	0.55556	1110.36	303.68	0.63	3.93	1886.76	7.49	1883.11	7.47	-3.65	-0.19
98	253	155	57	4048	0.94924	736.65	0.55632	1109.83	313.38	0	3.88	1892.02	7.48	1888.14	7.46	-3.88	-0.21
98	254	156	58	4064	0.94786	737.51	0.55709	1109.32	323.2	0.63	3.83	1898.43	7.47	1894.81	7.46	-3.63	-0.19
98	255	157	59	4080	0.94647	738.36	0.55784	1108.82	333.14	0	3.78	1903.47	7.46	1899.62	7.45	-3.85	-0.2
98	256	158	60	4096	0.94507	739.19	0.55859	1108.33	343.19	0.62	3.74	1909.65	7.46	1906.06	7.45	-3.59	-0.19
98	257	159	61	4112	0.94366	740.02	0.55934	1107.86	353.35	0	3.69	1914.47	7.45	1910.65	7.43	-3.81	-0.2
98	258	160	62	4128	0.94225	740.82	0.56008	1107.4	363.62	0.62	3.64	1920.42	7.44	1916.87	7.43	-3.55	-0.19
98	259	161	63	4144	0.94083	741.62	0.56081	1106.96	374	0	3.6	1925.03	7.43	1921.26	7.42	-3.77	-0.2
98	260	162	64	4160	0.93941	742.4	0.56154	1106.53	384.48	0.62	3.56	1930.76	7.43	1927.26	7.41	-3.5	-0.18
98	261	163	65	4176	0.93798	743.17	0.56226	1106.11	395.08	0	3.51	1935.15	7.41	1931.44	7.4	-3.71	-0.19
98	262	164	66	4192	0.93654	743.93	0.56298	1105.71	405.78	0.62	3.47	1940.68	7.41	1937.23	7.39	-3.45	-0.18
98	263	165	67	4208	0.93510	744.67	0.56369	1105.31	416.59	0	3.43	1944.86	7.39	1941.21	7.38	-3.65	-0.19
98	264	166	68	4224	0.93366	745.4	0.56439	1104.93	427.5	0.62	3.39	1950.17	7.39	1946.79	7.37	-3.38	-0.17
98	265	167	69	4240	0.93220	746.12	0.56509	1104.56	438.51	0	3.35	1954.16	7.37	1950.57	7.36	-3.59	-0.18
98	266	168	70	4256	0.93075	746.83	0.56579	1104.21	449.62	0.61	3.31	1959.27	7.37	1955.95	7.35	-3.32	-0.17
98	267	169	71	4272	0.92929	747.53	0.56648	1103.86	460.83	0	3.27	1963.05	7.35	1959.53	7.34	-3.52	-0.18
98	268	170	72	4288	0.92782	748.21	0.56716	1103.53	472.14	0.61	3.24	1967.96	7.34	1964.71	7.33	-3.25	-0.17
98	269	171	73	4304	0.92636	748.88	0.56784	1103.21	483.55	0	3.2	1971.55	7.33	1968.1	7.32	-3.45	-0.18
98	270	172	74	4320	0.92488	749.55	0.56852	1102.9	495.06	0.61	3.16	1976.27	7.32	1973.09	7.31	-3.18	-0.16
98	271	173	75	4336	0.92341	750.2	0.56919	1102.6	506.66	0	3.13	1979.67	7.31	1976.29	7.29	-3.38	-0.17
98	272	174	76	4352	0.92193	750.84	0.56985	1102.31	518.35	0.61	3.09	1984.2	7.29	1981.09	7.28	-3.11	-0.16
98	273	175	77	4368	0.92045	751.47	0.57051	1102.04	530.14	0	3.06	1987.42	7.28	1984.11	7.27	-3.31	-0.17
98	274	176	78	4384	0.91896	752.08	0.57117	1101.77	542.02	0.6	3.03	1991.76	7.27	1988.72	7.26	-3.04	-0.15
98	275	177	79	4400	0.91747	752.69	0.57182	1101.51	553.99	0	2.99	1994.79	7.25	1991.56	7.24	-3.24	-0.16
98	276	178	80	4416	0.91598	753.29	0.57246	1101.27	566.06	0.6	2.96	1998.95	7.24	1995.98	7.23	-2.97	-0.15
98	277	179	81	4432	0.91449	753.88	0.57311	1101.03	578.21	0	2.93	2001.81	7.23	1998.65	7.22	-3.16	-0.16
98	278	180	82	4448	0.91300	754.46	0.57374	1100.8	590.45	0.6	2.9	2005.79	7.22	2002.89	7.2	-2.9	-0.14
98	279	181	83	4464	0.91150	755.02	0.57437	1100.59	602.78	0	2.87	2008.48	7.2	2005.38	7.19	-3.1	-0.15
98	280	182	84	4480	0.91000	755.58	0.57500	1100.38	615.2	0.6	2.84	2012.28	7.19	2009.45	7.18	-2.83	-0.14
98	281	183	85	4496	0.90850	756.13	0.57562	1100.18	627.7	0	2.81	2014.8	7.17	2011.77	7.16	-3.03	-0.15
98	282	184	86	4512	0.90700	756.67	0.57624	1099.99	640.28	0.6	2.78	2018.43	7.16	2015.66	7.15	-2.77	-0.14
98	283	185	87	4528	0.90549	757.2	0.57686	1099.81	652.95	0	2.75	2020.78	7.14	2017.82	7.13	-2.97	-0.15
98	284	186	88	4544	0.90399	757.72	0.57747	1099.64	665.7	0.59	2.72	2024.24	7.13	2021.54	7.12	-2.71	-0.13
98	285	187	89	4560	0.90248	758.23	0.57807	1099.48	678.54	0	2.69	2026.44	7.11	2023.53	7.1	-2.91	-0.14
98	286	188	90	4576	0.90097	758.74	0.57867	1099.33	691.45	0.59	2.67	2029.74	7.1	2027.08	7.09	-2.65	-0.13

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Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
98	287	189	91	4592	0.89947	759.23	0.57927	1099.19	704.45	0	2.64	2031.77	7.08	2028.92	7.07	-2.85	-0.14
98	288	190	92	4608	0.89796	759.72	0.57986	1099.05	717.53	0.59	2.61	2034.91	7.07	2032.3	7.06	-2.6	-0.13
98	289	191	93	4624	0.89645	760.19	0.58045	1098.93	730.68	0	2.59	2036.79	7.05	2033.98	7.04	-2.8	-0.14
98	290	192	94	4640	0.89494	760.66	0.58103	1098.81	743.92	0.59	2.56	2039.76	7.03	2037.21	7.02	-2.56	-0.13
98	291	193	95	4656	0.89342	761.12	0.58162	1098.7	757.23	0	2.54	2041.49	7.02	2038.73	7.01	-2.76	-0.14
98	292	194	96	4672	0.89191	761.57	0.58219	1098.6	770.61	0.59	2.51	2044.32	7	2041.8	6.99	-2.52	-0.12
98	293	195	97	4688	0.89040	762.02	0.58277	1098.5	784.07	0	2.49	2045.89	6.98	2043.17	6.97	-2.72	-0.13
98	294	196	98	4704	0.88889	762.45	0.58333	1098.42	797.61	0.58	2.47	2048.57	6.97	2046.08	6.96	-2.48	-0.12
98	295	197	99	4720	0.88738	762.88	0.58390	1098.34	811.22	0	2.44	2050	6.95	2047.3	6.94	-2.7	-0.13
98	296	198	100	4736	0.88587	763.3	0.58446	1098.27	824.91	0.58	2.42	2052.52	6.93	2050.06	6.93	-2.46	-0.12
98	297	199	101	4752	0.88435	763.72	0.58502	1098.2	838.66	0	2.4	2053.81	6.92	2051.14	6.91	-2.67	-0.13
98	298	200	102	4768	0.88284	764.12	0.58557	1098.15	852.49	0.58	2.38	2056.19	6.9	2053.75	6.89	-2.44	-0.12
98	299	201	103	4784	0.88133	764.52	0.58612	1098.1	866.39	0	2.35	2057.34	6.88	2054.68	6.87	-2.66	-0.13
98	300	202	104	4800	0.87982	764.91	0.58667	1098.06	880.36	0.58	2.33	2059.58	6.87	2057.14	6.86	-2.43	-0.12
98	301	203	105	4816	0.87831	765.29	0.58721	1098.02	894.4	0	2.31	2060.59	6.85	2057.94	6.84	-2.65	-0.13
98	302	204	106	4832	0.87680	765.67	0.58775	1098	908.51	0.58	2.29	2062.69	6.83	2060.25	6.82	-2.43	-0.12
98	303	205	107	4848	0.87530	766.04	0.58828	1097.97	922.69	0	2.27	2063.57	6.81	2060.91	6.8	-2.66	-0.13
98	304	206	108	4864	0.87379	766.4	0.58882	1097.96	936.93	0.57	2.25	2065.52	6.79	2063.08	6.79	-2.44	-0.12
98	305	207	109	4880	0.87228	766.76	0.58934	1097.95	951.25	0	2.23	2066.27	6.77	2063.6	6.77	-2.67	-0.13
98	306	208	110	4896	0.87078	767.11	0.58987	1097.95	965.62	0.57	2.21	2068.1	6.76	2065.63	6.75	-2.46	-0.12
98	307	209	111	4912	0.86927	767.45	0.59039	1097.96	980.07	0	2.19	2068.71	6.74	2066.02	6.73	-2.69	-0.13
98	308	210	112	4928	0.86777	767.78	0.59091	1097.97	994.58	0.57	2.17	2070.41	6.72	2067.92	6.71	-2.49	-0.12
98	309	211	113	4944	0.86627	768.11	0.59142	1097.99	1009.15	0	2.15	2070.9	6.7	2068.17	6.69	-2.73	-0.13
98	310	212	114	4960	0.86477	768.44	0.59194	1098.02	1023.79	0.57	2.13	2072.46	6.69	2069.93	6.68	-2.53	-0.12
98	311	213	115	4976	0.86327	768.75	0.59244	1098.05	1038.49	0	2.12	2072.83	6.67	2070.06	6.66	-2.77	-0.13
98	312	214	116	4992	0.86177	769.06	0.59295	1098.08	1053.25	0.57	2.1	2074.26	6.65	2071.69	6.64	-2.58	-0.12
98	313	215	117	5008	0.86027	769.37	0.59345	1098.13	1068.08	0	2.08	2074.51	6.63	2071.68	6.62	-2.82	-0.14
98	314	216	118	5024	0.85878	769.67	0.59395	1098.18	1082.97	0.56	2.06	2075.82	6.61	2073.18	6.6	-2.64	-0.13
98	315	217	119	5040	0.85728	769.96	0.59444	1098.23	1097.91	0	2.05	2075.94	6.59	2073.05	6.58	-2.89	-0.14
98	316	218	120	5056	0.85579	770.24	0.59494	1098.29	1112.92	0.56	2.03	2077.13	6.57	2074.42	6.56	-2.71	-0.13
98	317	219	121	5072	0.85430	770.52	0.59543	1098.36	1127.99	0	2.01	2077.14	6.55	2074.17	6.54	-2.97	-0.14
98	318	220	122	5088	0.85281	770.8	0.59591	1098.43	1143.12	0.56	2	2078.21	6.54	2075.42	6.53	-2.79	-0.13
98	319	221	123	5104	0.85133	771.07	0.59640	1098.51	1158.3	0	1.98	2078.1	6.51	2075.05	6.5	-3.05	-0.15
98	320	222	124	5120	0.84984	771.33	0.59688	1098.59	1173.55	0.56	1.96	2079.05	6.5	2076.17	6.49	-2.89	-0.14
98	321	223	125	5136	0.84836	771.59	0.59735	1098.68	1188.85	0	1.95	2078.83	6.48	2075.68	6.47	-3.15	-0.15
98	322	224	126	5152	0.84688	771.84	0.59783	1098.77	1204.21	0.56	1.93	2079.67	6.46	2076.68	6.45	-2.99	-0.14
98	323	225	127	5168	0.84540	772.09	0.59830	1098.87	1219.62	0	1.92	2079.34	6.44	2076.07	6.43	-3.27	-0.16
98	324	226	128	5184	0.84393	772.33	0.59877	1098.98	1235.09	0.56	1.9	2080.06	6.42	2076.95	6.41	-3.11	-0.15
98	325	227	129	5200	0.84245	772.57	0.59923	1099.09	1250.62	0	1.89	2079.62	6.4	2076.23	6.39	-3.39	-0.16
98	326	228	130	5216	0.84098	772.8	0.59969	1099.2	1266.2	0.55	1.87	2080.23	6.38	2076.99	6.37	-3.25	-0.16
98	327	229	131	5232	0.83951	773.02	0.60015	1099.32	1281.83	0	1.86	2079.68	6.36	2076.15	6.35	-3.53	-0.17
98	328	230	132	5248	0.83804	773.25	0.60061	1099.44	1297.52	0.55	1.84	2080.19	6.34	2076.8	6.33	-3.39	-0.16
98	329	231	133	5264	0.83658	773.46	0.60106	1099.57	1313.26	0	1.83	2079.53	6.32	2075.85	6.31	-3.68	-0.18
98	330	232	134	5280	0.83512	773.67	0.60152	1099.71	1329.06	0.55	1.82	2079.93	6.3	2076.38	6.29	-3.55	-0.17
98	331	233	135	5296	0.83365	773.88	0.60196	1099.84	1344.9	0	1.8	2079.17	6.28	2075.33	6.27	-3.84	-0.19
98	332	234	136	5312	0.83220	774.08	0.60241	1099.99	1360.8	0.55	1.79	2079.47	6.26	2075.75	6.25	-3.72	-0.18
98	333	235	137	5328	0.83074	774.28	0.60285	1100.14	1376.76	0	1.78	2078.61	6.24	2074.59	6.23	-4.02	-0.19

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
98	334	236	138	5344	0.82929	774.47	0.60329	1100.29	1392.76	0.55	1.76	2078.8	6.22	2074.89	6.21	-3.9	-0.19
98	335	237	139	5360	0.82784	774.66	0.60373	1100.44	1408.81	0	1.75	2077.84	6.2	2073.63	6.19	-4.21	-0.2
98	336	238	140	5376	0.82639	774.84	0.60417	1100.61	1424.91	0.55	1.74	2077.92	6.18	2073.82	6.17	-4.1	-0.2
98	337	239	141	5392	0.82494	775.02	0.60460	1100.77	1441.07	0	1.73	2076.87	6.16	2072.45	6.15	-4.42	-0.21
98	338	240	142	5408	0.82350	775.19	0.60503	1100.94	1457.27	0.54	1.71	2076.85	6.14	2072.54	6.13	-4.31	-0.21
98	339	241	143	5424	0.82206	775.36	0.60546	1101.12	1473.52	0	1.7	2075.7	6.12	2071.07	6.11	-4.63	-0.22
98	340	242	144	5440	0.82062	775.53	0.60588	1101.29	1489.82	0.54	1.69	2075.59	6.1	2071.05	6.09	-4.54	-0.22
98	341	243	145	5456	0.81919	775.69	0.60631	1101.48	1506.16	0	1.68	2074.35	6.08	2069.48	6.07	-4.87	-0.24
98	342	244	146	5472	0.81776	775.85	0.60673	1101.66	1522.56	0.54	1.66	2074.14	6.06	2069.36	6.05	-4.78	-0.23
98	343	245	147	5488	0.81633	776	0.60714	1101.85	1539	0	1.65	2072.8	6.04	2067.69	6.03	-5.11	-0.25
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
99	197	98	-1	3152	0.99997	656.8	0.49873	1195.95	0.12	0	9.79	1308.92	6.64	1318.05	6.69	9.13	0.69
99	198	99	0	3168	1.00000	659.04	0.50000	1193.92	0	-0.71	10	1324.33	6.69	1333.19	6.73	8.86	0.66
99	199	100	1	3184	0.99998	661.24	0.50126	1191.93	0.12	0	9.79	1340.5	6.74	1347.92	6.77	7.42	0.55
99	200	101	2	3200	0.99990	663.4	0.50250	1189.98	0.49	-0.71	9.59	1355.01	6.78	1362.63	6.81	7.62	0.56
99	201	102	3	3216	0.99978	665.53	0.50373	1188.08	1.09	0	9.39	1370.69	6.82	1376.92	6.85	6.23	0.45
99	202	103	4	3232	0.99961	667.62	0.50495	1186.22	1.93	-0.7	9.2	1384.73	6.86	1391.2	6.89	6.48	0.47
99	203	104	5	3248	0.99939	669.68	0.50616	1184.4	3	0	9.02	1399.94	6.9	1405.07	6.92	5.13	0.37
99	204	105	6	3264	0.99914	671.71	0.50735	1182.61	4.3	-0.7	8.84	1413.52	6.93	1418.94	6.96	5.43	0.38
99	205	106	7	3280	0.99883	673.7	0.50854	1180.87	5.83	0	8.66	1428.27	6.97	1432.4	6.99	4.13	0.29
99	206	107	8	3296	0.99849	675.65	0.50971	1179.16	7.57	-0.7	8.5	1441.41	7	1445.87	7.02	4.46	0.31
99	207	108	9	3312	0.99811	677.58	0.51087	1177.49	9.54	0	8.33	1455.72	7.03	1458.92	7.05	3.2	0.22
99	208	109	10	3328	0.99769	679.47	0.51202	1175.86	11.72	-0.69	8.17	1468.42	7.06	1472	7.08	3.57	0.24
99	209	110	11	3344	0.99723	681.34	0.51316	1174.26	14.12	0	8.02	1482.3	7.09	1484.66	7.1	2.35	0.16
99	210	111	12	3360	0.99674	683.17	0.51429	1172.7	16.72	-0.69	7.87	1494.59	7.12	1497.35	7.13	2.76	0.18
99	211	112	13	3376	0.99620	684.97	0.51540	1171.17	19.53	0	7.72	1508.05	7.15	1509.63	7.15	1.58	0.1
99	212	113	14	3392	0.99564	686.74	0.51651	1169.67	22.54	-0.69	7.58	1519.93	7.17	1521.95	7.18	2.02	0.13
99	213	114	15	3408	0.99504	688.49	0.51761	1168.21	25.76	0	7.44	1532.99	7.2	1533.86	7.2	0.87	0.06
99	214	115	16	3424	0.99441	690.2	0.51869	1166.77	29.17	-0.68	7.31	1544.47	7.22	1545.82	7.22	1.35	0.09
99	215	116	17	3440	0.99375	691.89	0.51977	1165.37	32.78	0	7.17	1557.13	7.24	1557.36	7.24	0.23	0.01
99	216	117	18	3456	0.99306	693.55	0.52083	1164	36.58	-0.68	7.05	1568.23	7.26	1568.97	7.26	0.74	0.05
99	217	118	19	3472	0.99233	695.18	0.52189	1162.66	40.57	0	6.92	1580.51	7.28	1580.16	7.28	-0.35	-0.02
99	218	119	20	3488	0.99158	696.79	0.52294	1161.35	44.75	-0.68	6.8	1591.24	7.3	1591.42	7.3	0.18	0.01
99	219	120	21	3504	0.99081	698.37	0.52397	1160.07	49.11	0	6.68	1603.14	7.32	1602.26	7.32	-0.88	-0.05
99	220	121	22	3520	0.99000	699.93	0.52500	1158.81	53.66	-0.67	6.57	1613.5	7.33	1613.19	7.33	-0.32	-0.02
99	221	122	23	3536	0.98917	701.46	0.52602	1157.58	58.38	0	6.46	1625.04	7.35	1623.69	7.35	-1.35	-0.08
99	222	123	24	3552	0.98831	702.96	0.52703	1156.38	63.28	-0.67	6.35	1635.05	7.37	1634.29	7.36	-0.77	-0.05
99	223	124	25	3568	0.98743	704.44	0.52803	1155.21	68.36	0	6.24	1646.23	7.38	1644.46	7.37	-1.77	-0.11
99	224	125	26	3584	0.98653	705.9	0.52902	1154.06	73.61	-0.67	6.14	1655.9	7.39	1654.74	7.39	-1.17	-0.07
99	225	126	27	3600	0.98560	707.33	0.53000	1152.94	79.03	0	6.04	1666.74	7.41	1664.59	7.4	-2.15	-0.13
99	226	127	28	3616	0.98465	708.74	0.53097	1151.84	84.62	-0.67	5.94	1676.08	7.42	1674.55	7.41	-1.52	-0.09
99	227	128	29	3632	0.98368	710.13	0.53194	1150.77	90.37	0	5.85	1686.58	7.43	1684.09	7.42	-2.48	-0.15
99	228	129	30	3648	0.98269	711.5	0.53290	1149.72	96.29	-0.66	5.75	1695.59	7.44	1693.75	7.43	-1.84	-0.11
99	229	130	31	3664	0.98168	712.84	0.53384	1148.7	102.37	0	5.66	1705.76	7.45	1702.98	7.44	-2.78	-0.16
99	230	131	32	3680	0.98064	714.16	0.53478	1147.69	108.6	-0.66	5.57	1714.45	7.45	1712.34	7.44	-2.12	-0.12
99	231	132	33	3696	0.97959	715.46	0.53571	1146.71	115	0	5.49	1724.31	7.46	1721.27	7.45	-3.04	-0.18

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
99	232	133	34	3712	0.97852	716.74	0.53664	1145.76	121.55	-0.66	5.4	1732.69	7.47	1730.34	7.46	-2.36	-0.14
99	233	134	35	3728	0.97744	718	0.53755	1144.82	128.26	0	5.32	1742.24	7.48	1738.98	7.46	-3.26	-0.19
99	234	135	36	3744	0.97633	719.24	0.53846	1143.91	135.11	-0.65	5.24	1750.32	7.48	1747.76	7.47	-2.56	-0.15
99	235	136	37	3760	0.97521	720.46	0.53936	1143.02	142.12	0	5.16	1759.56	7.49	1756.12	7.47	-3.45	-0.2
99	236	137	38	3776	0.97407	721.66	0.54025	1142.15	149.27	-0.65	5.09	1767.35	7.49	1764.61	7.48	-2.74	-0.16
99	237	138	39	3792	0.97292	722.84	0.54114	1141.29	156.57	0	5.01	1776.3	7.49	1772.69	7.48	-3.61	-0.2
99	238	139	40	3808	0.97175	724.01	0.54202	1140.46	164.01	-0.65	4.94	1783.81	7.49	1780.92	7.48	-2.89	-0.16
99	239	140	41	3824	0.97057	725.15	0.54289	1139.65	171.6	0	4.87	1792.46	7.5	1788.72	7.48	-3.74	-0.21
99	240	141	42	3840	0.96938	726.27	0.54375	1138.86	179.32	-0.65	4.8	1799.69	7.5	1796.68	7.49	-3.01	-0.17
99	241	142	43	3856	0.96817	727.38	0.54461	1138.09	187.19	0	4.73	1808.07	7.5	1804.22	7.49	-3.85	-0.21
99	242	143	44	3872	0.96694	728.47	0.54546	1137.33	195.19	-0.64	4.66	1815.02	7.5	1811.92	7.49	-3.11	-0.17
99	243	144	45	3888	0.96571	729.54	0.54630	1136.59	203.33	0	4.59	1823.13	7.5	1819.19	7.49	-3.94	-0.22
99	244	145	46	3904	0.96446	730.6	0.54713	1135.88	211.6	-0.64	4.53	1829.82	7.5	1826.64	7.49	-3.18	-0.17
99	245	146	47	3920	0.96320	731.64	0.54796	1135.18	220	0	4.47	1837.66	7.5	1833.66	7.48	-4	-0.22
99	246	147	48	3936	0.96193	732.66	0.54878	1134.49	228.53	-0.64	4.41	1844.09	7.5	1840.85	7.48	-3.24	-0.18
99	247	148	49	3952	0.96065	733.66	0.54960	1133.83	237.19	0	4.35	1851.67	7.5	1847.62	7.48	-4.04	-0.22
99	248	149	50	3968	0.95935	734.65	0.55040	1133.18	245.98	-0.64	4.29	1857.85	7.49	1854.57	7.48	-3.28	-0.18
99	249	150	51	3984	0.95805	735.62	0.55121	1132.54	254.89	0	4.23	1865.17	7.49	1861.1	7.47	-4.07	-0.22
99	250	151	52	4000	0.95674	736.58	0.55200	1131.93	263.93	-0.63	4.17	1871.1	7.48	1867.81	7.47	-3.3	-0.18
99	251	152	53	4016	0.95541	737.52	0.55279	1131.33	273.09	0	4.12	1878.18	7.48	1874.1	7.47	-4.08	-0.22
99	252	153	54	4032	0.95408	738.45	0.55357	1130.74	282.38	-0.63	4.07	1883.87	7.48	1880.57	7.46	-3.3	-0.18
99	253	154	55	4048	0.95274	739.36	0.55435	1130.17	291.78	0	4.01	1890.7	7.47	1886.63	7.46	-4.08	-0.22
99	254	155	56	4064	0.95139	740.26	0.55512	1129.62	301.3	-0.63	3.96	1896.16	7.47	1892.87	7.45	-3.29	-0.17
99	255	156	57	4080	0.95004	741.14	0.55588	1129.08	310.93	0	3.91	1902.76	7.46	1898.7	7.45	-4.06	-0.21
99	256	157	58	4096	0.94867	742.01	0.55664	1128.55	320.69	-0.62	3.86	1907.99	7.45	1904.72	7.44	-3.27	-0.17
99	257	158	59	4112	0.94730	742.86	0.55739	1128.04	330.56	0	3.81	1914.35	7.45	1910.32	7.43	-4.04	-0.21
99	258	159	60	4128	0.94592	743.71	0.55814	1127.54	340.54	-0.62	3.77	1919.36	7.44	1916.12	7.43	-3.24	-0.17
99	259	160	61	4144	0.94453	744.53	0.55888	1127.06	350.63	0	3.72	1925.5	7.43	1921.5	7.42	-4	-0.21
99	260	161	62	4160	0.94314	745.35	0.55962	1126.59	360.83	-0.62	3.67	1930.29	7.42	1927.08	7.41	-3.2	-0.17
99	261	162	63	4176	0.94174	746.15	0.56035	1126.14	371.14	0	3.63	1936.2	7.42	1932.25	7.4	-3.95	-0.2
99	262	163	64	4192	0.94033	746.93	0.56107	1125.69	381.56	-0.62	3.58	1940.78	7.41	1937.62	7.4	-3.15	-0.16
99	263	164	65	4208	0.93892	747.71	0.56179	1125.26	392.09	0	3.54	1946.48	7.4	1942.58	7.39	-3.9	-0.2
99	264	165	66	4224	0.93750	748.47	0.56250	1124.85	402.72	-0.62	3.5	1950.85	7.39	1947.75	7.38	-3.1	-0.16
99	265	166	67	4240	0.93608	749.22	0.56321	1124.44	413.45	0	3.46	1956.34	7.38	1952.5	7.37	-3.84	-0.2
99	266	167	68	4256	0.93465	749.96	0.56391	1124.05	424.29	-0.61	3.42	1960.5	7.37	1957.46	7.36	-3.04	-0.16
99	267	168	69	4272	0.93322	750.69	0.56461	1123.67	435.23	0	3.38	1965.78	7.36	1962.01	7.35	-3.78	-0.19
99	268	169	70	4288	0.93178	751.4	0.56530	1123.31	446.28	-0.61	3.34	1969.75	7.35	1966.77	7.34	-2.97	-0.15
99	269	170	71	4304	0.93034	752.1	0.56599	1122.95	457.42	0	3.3	1974.83	7.34	1971.12	7.33	-3.71	-0.19
99	270	171	72	4320	0.92889	752.79	0.56667	1122.61	468.66	-0.61	3.26	1978.6	7.33	1975.69	7.32	-2.91	-0.15
99	271	172	73	4336	0.92744	753.47	0.56734	1122.28	480	0	3.23	1983.48	7.32	1979.85	7.31	-3.64	-0.18
99	272	173	74	4352	0.92598	754.14	0.56802	1121.96	491.43	-0.61	3.19	1987.06	7.31	1984.23	7.29	-2.83	-0.14
99	273	174	75	4368	0.92453	754.8	0.56868	1121.65	502.96	0	3.15	1991.75	7.3	1988.19	7.28	-3.56	-0.18
99	274	175	76	4384	0.92307	755.44	0.56934	1121.35	514.58	-0.6	3.12	1995.14	7.28	1992.38	7.27	-2.76	-0.14
99	275	176	77	4400	0.92160	756.08	0.57000	1121.06	526.3	0	3.09	1999.65	7.27	1996.16	7.26	-3.49	-0.17
99	276	177	78	4416	0.92013	756.7	0.57065	1120.78	538.11	-0.6	3.05	2002.86	7.26	2000.17	7.25	-2.69	-0.13
99	277	178	79	4432	0.91866	757.32	0.57130	1120.52	550.01	0	3.02	2007.18	7.25	2003.76	7.23	-3.42	-0.17
99	278	179	80	4448	0.91719	757.92	0.57194	1120.26	562	-0.6	2.99	2010.21	7.23	2007.59	7.22	-2.62	-0.13

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
99	279	180	81	4464	0.91571	758.51	0.57258	1120.01	574.08	0	2.95	2014.35	7.22	2011	7.21	-3.34	-0.17
99	280	181	82	4480	0.91424	759.1	0.57321	1119.78	586.25	-0.6	2.92	2017.2	7.2	2014.65	7.2	-2.55	-0.13
99	281	182	83	4496	0.91275	759.67	0.57384	1119.55	598.5	0	2.89	2021.16	7.19	2017.89	7.18	-3.27	-0.16
99	282	183	84	4512	0.91127	760.24	0.57447	1119.33	610.85	-0.6	2.86	2023.85	7.18	2021.37	7.17	-2.48	-0.12
99	283	184	85	4528	0.90979	760.79	0.57509	1119.13	623.28	0	2.83	2027.64	7.16	2024.44	7.15	-3.2	-0.16
99	284	185	86	4544	0.90830	761.34	0.57570	1118.93	635.79	-0.59	2.8	2030.15	7.15	2027.74	7.14	-2.41	-0.12
99	285	186	87	4560	0.90681	761.87	0.57632	1118.74	648.39	0	2.77	2033.77	7.14	2030.64	7.13	-3.13	-0.15
99	286	187	88	4576	0.90533	762.4	0.57692	1118.56	661.07	-0.59	2.75	2036.13	7.12	2033.78	7.11	-2.35	-0.12
99	287	188	89	4592	0.90384	762.92	0.57753	1118.39	673.83	0	2.72	2039.58	7.11	2036.51	7.1	-3.07	-0.15
99	288	189	90	4608	0.90234	763.43	0.57813	1118.23	686.67	-0.59	2.69	2041.77	7.09	2039.48	7.08	-2.29	-0.11
99	289	190	91	4624	0.90085	763.93	0.57872	1118.08	699.59	0	2.66	2045.06	7.08	2042.05	7.07	-3.01	-0.15
99	290	191	92	4640	0.89936	764.42	0.57931	1117.94	712.6	-0.59	2.64	2047.1	7.06	2044.86	7.05	-2.23	-0.11
99	291	192	93	4656	0.89786	764.9	0.57990	1117.8	725.68	0	2.61	2050.23	7.05	2047.27	7.04	-2.96	-0.14
99	292	193	94	4672	0.89637	765.38	0.58048	1117.67	738.84	-0.59	2.59	2052.11	7.03	2049.93	7.02	-2.18	-0.11
99	293	194	95	4688	0.89487	765.85	0.58106	1117.55	752.07	0	2.56	2055.09	7.01	2052.17	7	-2.91	-0.14
99	294	195	96	4704	0.89338	766.31	0.58163	1117.44	765.39	-0.58	2.54	2056.82	7	2054.68	6.99	-2.14	-0.1
99	295	196	97	4720	0.89188	766.76	0.58220	1117.34	778.78	0	2.51	2059.64	6.98	2056.77	6.97	-2.87	-0.14
99	296	197	98	4736	0.89039	767.2	0.58277	1117.25	792.24	-0.58	2.49	2061.22	6.96	2059.12	6.96	-2.1	-0.1
99	297	198	99	4752	0.88889	767.63	0.58333	1117.16	805.78	0	2.47	2063.89	6.95	2061.06	6.94	-2.84	-0.14
99	298	199	100	4768	0.88739	768.06	0.58389	1117.08	819.39	-0.58	2.44	2065.33	6.93	2063.26	6.92	-2.07	-0.1
99	299	200	101	4784	0.88590	768.48	0.58445	1117.01	833.07	0	2.42	2067.86	6.92	2065.05	6.91	-2.81	-0.14
99	300	201	102	4800	0.88440	768.89	0.58500	1116.95	846.83	-0.58	2.4	2069.16	6.9	2067.11	6.89	-2.05	-0.1
99	301	202	103	4816	0.88290	769.3	0.58555	1116.89	860.65	0	2.38	2071.54	6.88	2068.75	6.87	-2.79	-0.13
99	302	203	104	4832	0.88141	769.69	0.58609	1116.84	874.55	-0.58	2.35	2072.7	6.86	2070.66	6.86	-2.04	-0.1
99	303	204	105	4848	0.87991	770.08	0.58663	1116.8	888.52	0	2.33	2074.94	6.85	2072.16	6.84	-2.78	-0.13
99	304	205	106	4864	0.87842	770.46	0.58717	1116.76	902.55	-0.57	2.31	2075.96	6.83	2073.93	6.82	-2.03	-0.1
99	305	206	107	4880	0.87693	770.84	0.58771	1116.73	916.66	0	2.29	2078.06	6.81	2075.29	6.8	-2.77	-0.13
99	306	207	108	4896	0.87543	771.21	0.58824	1116.71	930.83	-0.57	2.27	2078.95	6.79	2076.92	6.79	-2.03	-0.1
99	307	208	109	4912	0.87394	771.57	0.58876	1116.7	945.07	0	2.25	2080.91	6.78	2078.13	6.77	-2.78	-0.13
99	308	209	110	4928	0.87245	771.93	0.58929	1116.69	959.38	-0.57	2.23	2081.67	6.76	2079.63	6.75	-2.04	-0.1
99	309	210	111	4944	0.87096	772.27	0.58981	1116.69	973.75	0	2.21	2083.5	6.74	2080.71	6.73	-2.79	-0.13
99	310	211	112	4960	0.86947	772.62	0.59032	1116.69	988.18	-0.57	2.19	2084.13	6.72	2082.07	6.72	-2.06	-0.1
99	311	212	113	4976	0.86798	772.95	0.59084	1116.71	1002.68	0	2.17	2085.83	6.71	2083.01	6.7	-2.82	-0.14
99	312	213	114	4992	0.86649	773.28	0.59135	1116.72	1017.25	-0.57	2.16	2086.34	6.69	2084.24	6.68	-2.1	-0.1
99	313	214	115	5008	0.86501	773.6	0.59185	1116.75	1031.88	0	2.14	2087.91	6.67	2085.06	6.66	-2.85	-0.14
99	314	215	116	5024	0.86352	773.92	0.59236	1116.78	1046.57	-0.56	2.12	2088.29	6.65	2086.15	6.64	-2.14	-0.1
99	315	216	117	5040	0.86204	774.23	0.59286	1116.82	1061.32	0	2.1	2089.74	6.63	2086.84	6.62	-2.9	-0.14
99	316	217	118	5056	0.86056	774.53	0.59335	1116.86	1076.13	-0.56	2.08	2090	6.61	2087.81	6.61	-2.19	-0.1
99	317	218	119	5072	0.85908	774.83	0.59385	1116.91	1091.01	0	2.07	2091.32	6.6	2088.36	6.59	-2.95	-0.14
99	318	219	120	5088	0.85760	775.12	0.59434	1116.96	1105.95	-0.56	2.05	2091.46	6.58	2089.21	6.57	-2.25	-0.11
99	319	220	121	5104	0.85612	775.41	0.59483	1117.02	1120.94	0	2.03	2092.66	6.56	2089.64	6.55	-3.02	-0.14
99	320	221	122	5120	0.85465	775.69	0.59531	1117.09	1136	-0.56	2.02	2092.68	6.54	2090.36	6.53	-2.33	-0.11
99	321	222	123	5136	0.85318	775.97	0.59579	1117.16	1151.11	0	2	2093.77	6.52	2090.67	6.51	-3.1	-0.15
99	322	223	124	5152	0.85170	776.24	0.59627	1117.23	1166.28	-0.56	1.98	2093.68	6.5	2091.26	6.49	-2.41	-0.12
99	323	224	125	5168	0.85023	776.5	0.59675	1117.32	1181.51	0	1.97	2094.64	6.48	2091.45	6.48	-3.19	-0.15
99	324	225	126	5184	0.84877	776.76	0.59722	1117.4	1196.79	-0.56	1.95	2094.44	6.46	2091.93	6.46	-2.51	-0.12
99	325	226	127	5200	0.84730	777.01	0.59769	1117.5	1212.14	0	1.94	2095.29	6.45	2092	6.44	-3.29	-0.16

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
99	326	227	128	5216	0.84584	777.26	0.59816	1117.59	1227.54	-0.55	1.92	2094.98	6.43	2092.36	6.42	-2.62	-0.13
99	327	228	129	5232	0.84437	777.5	0.59862	1117.7	1242.99	0	1.91	2095.72	6.41	2092.31	6.4	-3.41	-0.16
99	328	229	130	5248	0.84291	777.74	0.59909	1117.81	1258.5	-0.55	1.89	2095.3	6.39	2092.55	6.38	-2.74	-0.13
99	329	230	131	5264	0.84146	777.97	0.59954	1117.92	1274.06	0	1.88	2095.92	6.37	2092.39	6.36	-3.54	-0.17
99	330	231	132	5280	0.84000	778.2	0.60000	1118.04	1289.68	-0.55	1.86	2095.4	6.35	2092.52	6.34	-2.88	-0.14
99	331	232	133	5296	0.83855	778.42	0.60045	1118.16	1305.35	0	1.85	2095.92	6.33	2092.24	6.32	-3.68	-0.18
99	332	233	134	5312	0.83710	778.64	0.60090	1118.29	1321.08	-0.55	1.84	2095.28	6.31	2092.26	6.3	-3.03	-0.14
99	333	234	135	5328	0.83565	778.85	0.60135	1118.42	1336.85	0	1.82	2095.7	6.29	2091.87	6.28	-3.83	-0.18
99	334	235	136	5344	0.83420	779.06	0.60180	1118.56	1352.68	-0.55	1.81	2094.96	6.27	2091.78	6.26	-3.19	-0.15
99	335	236	137	5360	0.83276	779.26	0.60224	1118.7	1368.56	0	1.79	2095.27	6.25	2091.28	6.24	-3.99	-0.19
99	336	237	138	5376	0.83131	779.46	0.60268	1118.85	1384.49	-0.55	1.78	2094.44	6.23	2091.08	6.22	-3.36	-0.16
99	337	238	139	5392	0.82987	779.65	0.60312	1119	1400.47	0	1.77	2094.64	6.22	2090.47	6.2	-4.17	-0.2
99	338	239	140	5408	0.82844	779.84	0.60355	1119.16	1416.51	-0.54	1.76	2093.71	6.19	2090.16	6.18	-3.55	-0.17
99	339	240	141	5424	0.82700	780.03	0.60398	1119.32	1432.59	0	1.74	2093.81	6.18	2089.45	6.16	-4.37	-0.21
99	340	241	142	5440	0.82557	780.21	0.60441	1119.48	1448.72	-0.54	1.73	2092.78	6.16	2089.03	6.14	-3.75	-0.18
99	341	242	143	5456	0.82414	780.38	0.60484	1119.65	1464.9	0	1.72	2092.79	6.14	2088.21	6.12	-4.57	-0.22
99	342	243	144	5472	0.82272	780.55	0.60526	1119.82	1481.13	-0.54	1.71	2091.66	6.12	2087.7	6.1	-3.96	-0.19
99	343	244	145	5488	0.82129	780.72	0.60569	1120	1497.41	0	1.69	2091.57	6.1	2086.77	6.08	-4.79	-0.23
99	344	245	146	5504	0.81987	780.88	0.60611	1120.18	1513.73	-0.54	1.68	2090.35	6.08	2086.15	6.06	-4.19	-0.2
99	345	246	147	5520	0.81845	781.04	0.60652	1120.37	1530.1	0	1.67	2090.16	6.06	2085.13	6.04	-5.03	-0.24
99	346	247	148	5536	0.81703	781.19	0.60694	1120.56	1546.52	-0.54	1.66	2088.84	6.04	2084.41	6.02	-4.43	-0.21
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
100	199	99	-1	3184	0.99998	661.24	0.49874	1216.13	0.12	0	9.79	1316.3	6.61	1325.45	6.66	9.15	0.69
100	200	100	0	3200	1.00000	663.47	0.50000	1214.08	0	0.71	10	1333.15	6.67	1341.53	6.71	8.38	0.62
100	201	101	1	3216	0.99998	665.66	0.50124	1212.08	0.12	0	9.79	1347.93	6.71	1355.37	6.74	7.45	0.55
100	202	102	2	3232	0.99990	667.82	0.50248	1210.12	0.48	0.7	9.59	1363.87	6.75	1371.01	6.79	7.14	0.52
100	203	103	3	3248	0.99978	669.94	0.50370	1208.21	1.08	0	9.4	1378.17	6.79	1384.43	6.82	6.26	0.45
100	204	104	4	3264	0.99962	672.03	0.50490	1206.33	1.91	0.7	9.21	1393.64	6.83	1399.64	6.86	6	0.43
100	205	105	5	3280	0.99941	674.08	0.50610	1204.49	2.97	0	9.03	1407.48	6.87	1412.65	6.89	5.17	0.37
100	206	106	6	3296	0.99915	676.1	0.50728	1202.7	4.26	0.7	8.85	1422.49	6.91	1427.44	6.93	4.95	0.35
100	207	107	7	3312	0.99886	678.09	0.50845	1200.94	5.77	0	8.68	1435.88	6.94	1440.05	6.96	4.17	0.29
100	208	108	8	3328	0.99852	680.04	0.50962	1199.22	7.5	0.69	8.51	1450.44	6.97	1454.43	6.99	3.99	0.27
100	209	109	9	3344	0.99815	681.96	0.51077	1197.53	9.45	0	8.35	1463.4	7	1466.64	7.02	3.24	0.22
100	210	110	10	3360	0.99773	683.85	0.51191	1195.89	11.61	0.69	8.19	1477.53	7.04	1480.63	7.05	3.1	0.21
100	211	111	11	3376	0.99728	685.71	0.51303	1194.27	13.98	0	8.03	1490.07	7.06	1492.47	7.07	2.4	0.16
100	212	112	12	3392	0.99680	687.54	0.51415	1192.7	16.56	0.69	7.88	1503.77	7.09	1506.06	7.1	2.29	0.15
100	213	113	13	3408	0.99628	689.34	0.51526	1191.15	19.35	0	7.74	1515.9	7.12	1517.53	7.12	1.63	0.11
100	214	114	14	3424	0.99572	691.11	0.51636	1189.64	22.33	0.68	7.6	1529.2	7.15	1530.75	7.15	1.55	0.1
100	215	115	15	3440	0.99513	692.85	0.51744	1188.16	25.52	0	7.46	1540.92	7.17	1541.85	7.17	0.92	0.06
100	216	116	16	3456	0.99451	694.57	0.51852	1186.71	28.9	0.68	7.33	1553.82	7.19	1554.7	7.2	0.88	0.06
100	217	117	17	3472	0.99386	696.25	0.51959	1185.3	32.48	0	7.2	1565.16	7.21	1565.45	7.21	0.29	0.02
100	218	118	18	3488	0.99318	697.91	0.52064	1183.91	36.25	0.68	7.07	1577.67	7.24	1577.94	7.24	0.27	0.02
100	219	119	19	3504	0.99247	699.55	0.52169	1182.56	40.2	0	6.95	1588.64	7.25	1588.35	7.25	-0.29	-0.02
100	220	120	20	3520	0.99174	701.15	0.52273	1181.23	44.34	0.67	6.83	1600.77	7.28	1600.49	7.27	-0.29	-0.02
100	221	121	21	3536	0.99097	702.73	0.52378	1179.93	48.67	0	6.71	1611.37	7.29	1610.56	7.29	-0.82	-0.05
100	222	122	22	3552	0.99018	704.29	0.52478	1178.66	53.17	0.67	6.6	1623.14	7.31	1622.36	7.31	-0.78	-0.05

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
100	223	123	23	3568	0.98936	705.82	0.52579	1177.42	57.86	0	6.48	1633.38	7.32	1632.1	7.32	-1.29	-0.08
100	224	124	24	3584	0.98852	707.33	0.52679	1176.21	62.72	0.67	6.38	1644.79	7.34	1643.56	7.34	-1.23	-0.07
100	225	125	25	3600	0.98765	708.81	0.52778	1175.02	67.75	0	6.27	1654.69	7.35	1652.98	7.35	-1.71	-0.1
100	226	126	26	3616	0.98677	710.27	0.52876	1173.86	72.96	0.67	6.17	1665.75	7.37	1664.12	7.36	-1.63	-0.1
100	227	127	27	3632	0.98585	711.7	0.52974	1172.72	78.33	0	6.07	1675.31	7.38	1673.23	7.37	-2.08	-0.12
100	228	128	28	3648	0.98492	713.11	0.53070	1171.61	83.88	0.66	5.97	1686.03	7.39	1684.05	7.39	-1.99	-0.12
100	229	129	29	3664	0.98396	714.5	0.53166	1170.52	89.58	0	5.88	1695.27	7.4	1692.85	7.39	-2.42	-0.14
100	230	130	30	3680	0.98299	715.87	0.53261	1169.46	95.45	0.66	5.78	1705.66	7.42	1703.36	7.41	-2.3	-0.14
100	231	131	31	3696	0.98199	717.22	0.53355	1168.42	101.48	0	5.69	1714.57	7.42	1711.86	7.41	-2.71	-0.16
100	232	132	32	3712	0.98098	718.54	0.53448	1167.4	107.67	0.66	5.6	1724.64	7.43	1722.07	7.42	-2.57	-0.15
100	233	133	33	3728	0.97994	719.84	0.53541	1166.41	114.02	0	5.52	1733.24	7.44	1730.28	7.43	-2.96	-0.17
100	234	134	34	3744	0.97889	721.13	0.53633	1165.44	120.52	0.65	5.43	1743	7.45	1740.19	7.44	-2.81	-0.16
100	235	135	35	3760	0.97782	722.39	0.53723	1164.49	127.17	0	5.35	1751.3	7.45	1748.12	7.44	-3.18	-0.18
100	236	136	36	3776	0.97673	723.63	0.53814	1163.56	133.97	0.65	5.27	1760.75	7.46	1757.73	7.45	-3.02	-0.17
100	237	137	37	3792	0.97563	724.86	0.53903	1162.66	140.92	0	5.19	1768.75	7.46	1765.38	7.45	-3.37	-0.19
100	238	138	38	3808	0.97451	726.06	0.53992	1161.77	148.02	0.65	5.11	1777.91	7.47	1774.72	7.46	-3.19	-0.18
100	239	139	39	3824	0.97337	727.24	0.54080	1160.91	155.27	0	5.04	1785.62	7.47	1782.1	7.46	-3.53	-0.2
100	240	140	40	3840	0.97222	728.41	0.54167	1160.06	162.65	0.65	4.97	1794.49	7.48	1791.15	7.46	-3.34	-0.19
100	241	141	41	3856	0.97106	729.56	0.54253	1159.24	170.18	0	4.89	1801.92	7.48	1798.26	7.46	-3.66	-0.2
100	242	142	42	3872	0.96988	730.68	0.54339	1158.43	177.85	0.64	4.82	1810.5	7.48	1807.05	7.47	-3.46	-0.19
100	243	143	43	3888	0.96869	731.79	0.54424	1157.65	185.65	0	4.76	1817.66	7.48	1813.9	7.46	-3.76	-0.21
100	244	144	44	3904	0.96748	732.89	0.54508	1156.88	193.6	0.64	4.69	1825.97	7.48	1822.41	7.47	-3.55	-0.19
100	245	145	45	3920	0.96626	733.96	0.54592	1156.13	201.67	0	4.62	1832.86	7.48	1829.01	7.47	-3.84	-0.21
100	246	146	46	3936	0.96503	735.02	0.54675	1155.4	209.88	0.64	4.56	1840.89	7.48	1837.27	7.47	-3.62	-0.2
100	247	147	47	3952	0.96379	736.07	0.54757	1154.68	218.22	0	4.5	1847.52	7.48	1843.62	7.46	-3.9	-0.21
100	248	148	48	3968	0.96254	737.09	0.54839	1153.99	226.7	0.64	4.44	1855.3	7.48	1851.62	7.47	-3.67	-0.2
100	249	149	49	3984	0.96128	738.1	0.54920	1153.31	235.29	0	4.38	1861.67	7.48	1857.73	7.46	-3.94	-0.21
100	250	150	50	4000	0.96000	739.09	0.55000	1152.65	244.02	0.63	4.32	1869.19	7.48	1865.48	7.46	-3.71	-0.2
100	251	151	51	4016	0.95872	740.07	0.55080	1152	252.87	0	4.26	1875.32	7.47	1871.35	7.46	-3.97	-0.21
100	252	152	52	4032	0.95742	741.03	0.55159	1151.37	261.85	0.63	4.2	1882.58	7.47	1878.86	7.46	-3.72	-0.2
100	253	153	53	4048	0.95612	741.98	0.55237	1150.76	270.94	0	4.15	1888.47	7.46	1884.49	7.45	-3.97	-0.21
100	254	154	54	4064	0.95480	742.91	0.55315	1150.16	280.16	0.63	4.09	1895.49	7.46	1891.77	7.45	-3.72	-0.2
100	255	155	55	4080	0.95348	743.83	0.55392	1149.58	289.5	0	4.04	1901.14	7.46	1897.17	7.44	-3.97	-0.21
100	256	156	56	4096	0.95215	744.73	0.55469	1149.01	298.95	0.62	3.99	1907.92	7.45	1904.21	7.44	-3.71	-0.19
100	257	157	57	4112	0.95081	745.62	0.55545	1148.46	308.52	0	3.94	1913.34	7.44	1909.39	7.43	-3.94	-0.21
100	258	158	58	4128	0.94946	746.49	0.55620	1147.92	318.21	0.62	3.89	1919.89	7.44	1916.2	7.43	-3.68	-0.19
100	259	159	59	4144	0.94811	747.35	0.55695	1147.4	328.01	0	3.84	1925.08	7.43	1921.17	7.42	-3.91	-0.2
100	260	160	60	4160	0.94675	748.2	0.55769	1146.89	337.93	0.62	3.79	1931.4	7.43	1927.75	7.41	-3.65	-0.19
100	261	161	61	4176	0.94538	749.03	0.55843	1146.4	347.95	0	3.75	1936.37	7.42	1932.5	7.4	-3.87	-0.2
100	262	162	62	4192	0.94400	749.85	0.55916	1145.91	358.09	0.62	3.7	1942.47	7.41	1938.87	7.4	-3.6	-0.19
100	263	163	63	4208	0.94262	750.66	0.55989	1145.45	368.33	0	3.66	1947.22	7.4	1943.4	7.39	-3.82	-0.2
100	264	164	64	4224	0.94123	751.45	0.56061	1144.99	378.68	0.62	3.61	1953.1	7.4	1949.55	7.38	-3.55	-0.18
100	265	165	65	4240	0.93984	752.23	0.56132	1144.55	389.14	0	3.57	1957.65	7.39	1953.89	7.37	-3.76	-0.19
100	266	166	66	4256	0.93844	753	0.56203	1144.13	399.7	0.61	3.53	1963.31	7.38	1959.83	7.37	-3.49	-0.18
100	267	167	67	4272	0.93703	753.75	0.56273	1143.71	410.37	0	3.49	1967.65	7.37	1963.96	7.36	-3.69	-0.19
100	268	168	68	4288	0.93562	754.5	0.56343	1143.31	421.14	0.61	3.44	1973.11	7.36	1969.69	7.35	-3.42	-0.17
100	269	169	69	4304	0.93421	755.23	0.56413	1142.92	432.01	0	3.41	1977.25	7.35	1973.62	7.34	-3.62	-0.18

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
100	270	170	70	4320	0.93279	755.95	0.56482	1142.54	442.98	0.61	3.37	1982.5	7.34	1979.16	7.33	-3.35	-0.17
100	271	171	71	4336	0.93136	756.66	0.56550	1142.17	454.05	0	3.33	1986.44	7.33	1982.89	7.32	-3.55	-0.18
100	272	172	72	4352	0.92993	757.35	0.56618	1141.82	465.22	0.61	3.29	1991.5	7.32	1988.23	7.31	-3.27	-0.16
100	273	173	73	4368	0.92850	758.04	0.56685	1141.48	476.49	0	3.25	1995.24	7.31	1991.78	7.3	-3.47	-0.17
100	274	174	74	4384	0.92706	758.71	0.56752	1141.15	487.86	0.6	3.22	2000.11	7.3	1996.91	7.29	-3.19	-0.16
100	275	175	75	4400	0.92562	759.37	0.56818	1140.83	499.31	0	3.18	2003.66	7.29	2000.28	7.27	-3.39	-0.17
100	276	176	76	4416	0.92418	760.03	0.56884	1140.52	510.87	0.6	3.15	2008.34	7.28	2005.22	7.27	-3.11	-0.16
100	277	177	77	4432	0.92273	760.67	0.56950	1140.22	522.51	0	3.11	2011.71	7.26	2008.4	7.25	-3.31	-0.16
100	278	178	78	4448	0.92128	761.3	0.57014	1139.93	534.25	0.6	3.08	2016.19	7.25	2013.16	7.24	-3.03	-0.15
100	279	179	79	4464	0.91982	761.92	0.57079	1139.66	546.08	0	3.04	2019.39	7.24	2016.16	7.23	-3.22	-0.16
100	280	180	80	4480	0.91837	762.53	0.57143	1139.39	558	0.6	3.01	2023.69	7.23	2020.74	7.22	-2.95	-0.15
100	281	181	81	4496	0.91691	763.13	0.57206	1139.13	570.01	0	2.98	2026.71	7.21	2023.57	7.2	-3.14	-0.16
100	282	182	82	4512	0.91545	763.72	0.57270	1138.89	582.11	0.6	2.95	2030.83	7.2	2027.96	7.19	-2.87	-0.14
100	283	183	83	4528	0.91398	764.3	0.57332	1138.65	594.29	0	2.92	2033.67	7.19	2030.61	7.18	-3.06	-0.15
100	284	184	84	4544	0.91252	764.87	0.57394	1138.43	606.56	0.59	2.89	2037.62	7.17	2034.83	7.16	-2.79	-0.14
100	285	185	85	4560	0.91105	765.43	0.57456	1138.21	618.92	0	2.86	2040.3	7.16	2037.32	7.15	-2.98	-0.15
100	286	186	86	4576	0.90958	765.98	0.57518	1138	631.36	0.59	2.83	2044.07	7.15	2041.36	7.14	-2.71	-0.13
100	287	187	87	4592	0.90811	766.53	0.57578	1137.81	643.88	0	2.8	2046.58	7.13	2043.68	7.12	-2.91	-0.14
100	288	188	88	4608	0.90664	767.06	0.57639	1137.62	656.49	0.59	2.77	2050.19	7.12	2047.55	7.11	-2.64	-0.13
100	289	189	89	4624	0.90516	767.58	0.57699	1137.44	669.18	0	2.74	2052.54	7.1	2049.71	7.09	-2.83	-0.14
100	290	190	90	4640	0.90369	768.1	0.57759	1137.27	681.95	0.59	2.72	2055.98	7.09	2053.41	7.08	-2.57	-0.13
100	291	191	91	4656	0.90221	768.61	0.57818	1137.11	694.8	0	2.69	2058.17	7.07	2055.41	7.06	-2.77	-0.13
100	292	192	92	4672	0.90073	769.11	0.57877	1136.95	707.73	0.59	2.66	2061.46	7.06	2058.95	7.05	-2.51	-0.12
100	293	193	93	4688	0.89925	769.59	0.57935	1136.81	720.74	0	2.64	2063.49	7.04	2060.79	7.03	-2.7	-0.13
100	294	194	94	4704	0.89777	770.08	0.57993	1136.67	733.83	0.58	2.61	2066.62	7.03	2064.17	7.02	-2.44	-0.12
100	295	195	95	4720	0.89629	770.55	0.58051	1136.55	746.99	0	2.59	2068.5	7.01	2065.85	7	-2.64	-0.13
100	296	196	96	4736	0.89481	771.01	0.58108	1136.43	760.23	0.58	2.56	2071.47	7	2069.08	6.99	-2.39	-0.12
100	297	197	97	4752	0.89333	771.47	0.58165	1136.32	773.55	0	2.54	2073.2	6.98	2070.61	6.97	-2.59	-0.13
100	298	198	98	4768	0.89185	771.92	0.58222	1136.21	786.94	0.58	2.51	2076.02	6.97	2073.68	6.96	-2.34	-0.11
100	299	199	99	4784	0.89037	772.36	0.58278	1136.12	800.41	0	2.49	2077.6	6.95	2075.06	6.94	-2.55	-0.12
100	300	200	100	4800	0.88889	772.79	0.58333	1136.03	813.94	0.58	2.47	2080.27	6.93	2077.97	6.93	-2.3	-0.11
100	301	201	101	4816	0.88741	773.22	0.58389	1135.95	827.56	0	2.44	2081.72	6.92	2079.21	6.91	-2.51	-0.12
100	302	202	102	4832	0.88593	773.64	0.58444	1135.88	841.24	0.58	2.42	2084.24	6.9	2081.98	6.89	-2.27	-0.11
100	303	203	103	4848	0.88445	774.05	0.58498	1135.81	854.99	0	2.4	2085.54	6.88	2083.07	6.87	-2.47	-0.12
100	304	204	104	4864	0.88296	774.45	0.58553	1135.76	868.82	0.57	2.38	2087.93	6.87	2085.69	6.86	-2.24	-0.11
100	305	205	105	4880	0.88148	774.85	0.58607	1135.71	882.71	0	2.36	2089.09	6.85	2086.64	6.84	-2.45	-0.12
100	306	206	106	4896	0.88000	775.24	0.58660	1135.66	896.67	0.57	2.33	2091.33	6.83	2089.11	6.83	-2.22	-0.11
100	307	207	107	4912	0.87852	775.62	0.58713	1135.63	910.71	0	2.31	2092.36	6.82	2089.93	6.81	-2.44	-0.12
100	308	208	108	4928	0.87705	775.99	0.58766	1135.6	924.81	0.57	2.29	2094.46	6.8	2092.26	6.79	-2.21	-0.11
100	309	209	109	4944	0.87557	776.36	0.58819	1135.58	938.97	0	2.27	2095.36	6.78	2092.93	6.77	-2.43	-0.12
100	310	210	110	4960	0.87409	776.72	0.58871	1135.56	953.21	0.57	2.25	2097.33	6.77	2095.12	6.76	-2.21	-0.11
100	311	211	111	4976	0.87261	777.08	0.58923	1135.55	967.5	0	2.23	2098.1	6.75	2095.67	6.74	-2.43	-0.12
100	312	212	112	4992	0.87114	777.42	0.58974	1135.55	981.87	0.57	2.21	2099.94	6.73	2097.72	6.72	-2.22	-0.11
100	313	213	113	5008	0.86966	777.77	0.59026	1135.56	996.3	0	2.2	2100.58	6.71	2098.13	6.7	-2.44	-0.12
100	314	214	114	5024	0.86819	778.1	0.59076	1135.57	1010.79	0.56	2.18	2102.28	6.7	2100.05	6.69	-2.23	-0.11
100	315	215	115	5040	0.86672	778.43	0.59127	1135.58	1025.35	0	2.16	2102.8	6.68	2100.33	6.67	-2.47	-0.12
100	316	216	116	5056	0.86525	778.75	0.59177	1135.61	1039.96	0.56	2.14	2104.38	6.66	2102.12	6.65	-2.26	-0.11

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
100	317	217	117	5072	0.86378	779.07	0.59227	1135.64	1054.65	0	2.12	2104.77	6.64	2102.27	6.63	-2.5	-0.12
100	318	218	118	5088	0.86231	779.38	0.59277	1135.67	1069.39	0.56	2.1	2106.23	6.62	2103.93	6.62	-2.3	-0.11
100	319	219	119	5104	0.86084	779.68	0.59326	1135.71	1084.19	0	2.09	2106.5	6.6	2103.96	6.6	-2.54	-0.12
100	320	220	120	5120	0.85938	779.98	0.59375	1135.76	1099.05	0.56	2.07	2107.83	6.59	2105.48	6.58	-2.35	-0.11
100	321	221	121	5136	0.85791	780.27	0.59424	1135.82	1113.98	0	2.05	2107.99	6.57	2105.39	6.56	-2.59	-0.12
100	322	222	122	5152	0.85645	780.56	0.59472	1135.87	1128.96	0.56	2.04	2109.2	6.55	2106.79	6.54	-2.41	-0.11
100	323	223	123	5168	0.85499	780.84	0.59520	1135.94	1144	0	2.02	2109.24	6.53	2106.58	6.52	-2.66	-0.13
100	324	224	124	5184	0.85353	781.12	0.59568	1136.01	1159.1	0.56	2	2110.33	6.51	2107.85	6.51	-2.48	-0.12
100	325	225	125	5200	0.85207	781.39	0.59615	1136.09	1174.26	0	1.99	2110.25	6.49	2107.52	6.48	-2.74	-0.13
100	326	226	126	5216	0.85062	781.65	0.59663	1136.17	1189.48	0.55	1.97	2111.23	6.48	2108.67	6.47	-2.56	-0.12
100	327	227	127	5232	0.84916	781.91	0.59710	1136.25	1204.75	0	1.96	2111.05	6.46	2108.22	6.45	-2.82	-0.13
100	328	228	128	5248	0.84771	782.16	0.59756	1136.35	1220.07	0.55	1.94	2111.91	6.44	2109.25	6.43	-2.66	-0.13
100	329	229	129	5264	0.84626	782.41	0.59802	1136.44	1235.46	0	1.93	2111.61	6.42	2108.69	6.41	-2.92	-0.14
100	330	230	130	5280	0.84481	782.66	0.59849	1136.55	1250.89	0.55	1.91	2112.37	6.4	2109.6	6.39	-2.76	-0.13
100	331	231	131	5296	0.84337	782.89	0.59894	1136.65	1266.39	0	1.9	2111.96	6.38	2108.93	6.37	-3.04	-0.14
100	332	232	132	5312	0.84192	783.13	0.59940	1136.77	1281.93	0.55	1.88	2112.6	6.36	2109.72	6.35	-2.88	-0.14
100	333	233	133	5328	0.84048	783.36	0.59985	1136.88	1297.53	0	1.87	2112.1	6.34	2108.93	6.33	-3.16	-0.15
100	334	234	134	5344	0.83904	783.58	0.60030	1137.01	1313.19	0.55	1.85	2112.63	6.33	2109.62	6.32	-3.01	-0.14
100	335	235	135	5360	0.83760	783.8	0.60075	1137.13	1328.89	0	1.84	2112.02	6.3	2108.72	6.29	-3.3	-0.16
100	336	236	136	5376	0.83617	784.01	0.60119	1137.27	1344.65	0.55	1.83	2112.44	6.29	2109.29	6.28	-3.16	-0.15
100	337	237	137	5392	0.83474	784.22	0.60163	1137.4	1360.46	0	1.81	2111.73	6.27	2108.28	6.26	-3.45	-0.16
100	338	238	138	5408	0.83330	784.42	0.60207	1137.54	1376.32	0.54	1.8	2112.05	6.25	2108.74	6.24	-3.32	-0.16
100	339	239	139	5424	0.83188	784.62	0.60251	1137.69	1392.24	0	1.79	2111.24	6.23	2107.63	6.22	-3.61	-0.17
100	340	240	140	5440	0.83045	784.82	0.60294	1137.84	1408.2	0.54	1.77	2111.46	6.21	2107.98	6.2	-3.49	-0.17
100	341	241	141	5456	0.82903	785.01	0.60337	1138	1424.21	0	1.76	2110.55	6.19	2106.76	6.18	-3.79	-0.18
100	342	242	142	5472	0.82761	785.19	0.60380	1138.16	1440.27	0.54	1.75	2110.67	6.17	2107	6.16	-3.67	-0.17
100	343	243	143	5488	0.82619	785.37	0.60423	1138.32	1456.38	0	1.74	2109.66	6.15	2105.68	6.14	-3.98	-0.19
100	344	244	144	5504	0.82477	785.55	0.60465	1138.49	1472.54	0.54	1.72	2109.68	6.13	2105.81	6.12	-3.87	-0.18
100	345	245	145	5520	0.82336	785.72	0.60507	1138.66	1488.75	0	1.71	2108.58	6.11	2104.4	6.1	-4.18	-0.2
100	346	246	146	5536	0.82195	785.89	0.60549	1138.84	1505.01	0.54	1.7	2108.5	6.09	2104.42	6.08	-4.08	-0.19
100	347	247	147	5552	0.82054	786.05	0.60591	1139.02	1521.31	0	1.69	2107.3	6.07	2102.91	6.06	-4.4	-0.21
100	348	248	148	5568	0.81913	786.21	0.60632	1139.2	1537.66	0.54	1.68	2107.13	6.05	2102.83	6.04	-4.3	-0.2
100	349	249	149	5584	0.81773	786.37	0.60673	1139.39	1554.06	0	1.66	2105.84	6.03	2101.21	6.02	-4.63	-0.22
100	350	250	150	5600	0.81633	786.52	0.60714	1139.59	1570.5	0.53	1.65	2105.58	6.02	2101.04	6	-4.54	-0.22
Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
101	201	100	-1	3216	0.99998	665.66	0.49876	1236.44	0.12	0	9.79	1323.56	6.58	1332.73	6.63	9.16	0.69
101	202	101	0	3232	1.00000	667.89	0.50000	1234.39	0	-0.7	10	1339.02	6.63	1347.92	6.67	8.89	0.66
101	203	102	1	3248	0.99998	670.07	0.50123	1232.37	0.12	0	9.8	1355.23	6.68	1362.69	6.71	7.45	0.55
101	204	103	2	3264	0.99990	672.22	0.50245	1230.4	0.48	-0.7	9.6	1369.8	6.71	1377.45	6.75	7.65	0.56
101	205	104	3	3280	0.99979	674.34	0.50366	1228.47	1.07	0	9.4	1385.53	6.76	1391.79	6.79	6.26	0.45
101	206	105	4	3296	0.99962	676.42	0.50485	1226.58	1.89	-0.7	9.22	1399.63	6.79	1406.13	6.83	6.5	0.46
101	207	106	5	3312	0.99942	678.47	0.50604	1224.73	2.94	0	9.04	1414.9	6.84	1420.06	6.86	5.16	0.36
101	208	107	6	3328	0.99917	680.48	0.50721	1222.92	4.22	-0.69	8.86	1428.55	6.87	1433.99	6.89	5.44	0.38
101	209	108	7	3344	0.99888	682.46	0.50837	1221.14	5.72	0	8.69	1443.37	6.91	1447.51	6.93	4.15	0.29
101	210	109	8	3360	0.99855	684.41	0.50952	1219.41	7.43	-0.69	8.52	1456.58	6.94	1461.05	6.96	4.47	0.31
101	211	110	9	3376	0.99818	686.33	0.51066	1217.71	9.36	0	8.36	1470.96	6.97	1474.18	6.99	3.22	0.22

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
101	212	111	10	3392	0.99778	688.22	0.51179	1216.05	11.5	-0.69	8.2	1483.75	7	1487.33	7.02	3.58	0.24
101	213	112	11	3408	0.99733	690.07	0.51291	1214.42	13.85	0	8.05	1497.7	7.03	1500.07	7.04	2.36	0.16
101	214	113	12	3424	0.99686	691.9	0.51402	1212.83	16.41	-0.68	7.9	1510.08	7.06	1512.84	7.07	2.76	0.18
101	215	114	13	3440	0.99634	693.7	0.51512	1211.27	19.17	0	7.76	1523.62	7.09	1525.2	7.09	1.58	0.1
101	216	115	14	3456	0.99580	695.47	0.51620	1209.74	22.13	-0.68	7.62	1535.6	7.11	1537.61	7.12	2.02	0.13
101	217	116	15	3472	0.99522	697.21	0.51728	1208.25	25.29	0	7.48	1548.74	7.14	1549.61	7.14	0.87	0.06
101	218	117	16	3488	0.99461	698.92	0.51835	1206.79	28.64	-0.68	7.35	1560.32	7.16	1561.66	7.16	1.34	0.09
101	219	118	17	3504	0.99397	700.6	0.51941	1205.36	32.18	0	7.22	1573.07	7.18	1573.29	7.18	0.22	0.01
101	220	119	18	3520	0.99331	702.26	0.52046	1203.96	35.92	-0.67	7.09	1584.28	7.2	1584.99	7.2	0.72	0.05
101	221	120	19	3536	0.99261	703.9	0.52149	1202.59	39.84	0	6.97	1596.65	7.22	1596.28	7.22	-0.37	-0.02
101	222	121	20	3552	0.99188	705.5	0.52252	1201.25	43.95	-0.67	6.85	1607.48	7.24	1607.64	7.24	0.16	0.01
101	223	122	21	3568	0.99113	707.08	0.52354	1199.94	48.23	0	6.73	1619.48	7.26	1618.58	7.26	-0.9	-0.06
101	224	123	22	3584	0.99035	708.64	0.52455	1198.65	52.7	-0.67	6.62	1629.96	7.28	1629.61	7.28	-0.35	-0.02
101	225	124	23	3600	0.98955	710.17	0.52556	1197.4	57.35	0	6.51	1641.6	7.3	1640.22	7.29	-1.38	-0.08
101	226	125	24	3616	0.98872	711.68	0.52655	1196.17	62.17	-0.67	6.4	1651.73	7.31	1650.92	7.3	-0.8	-0.05
101	227	126	25	3632	0.98787	713.16	0.52753	1194.96	67.16	0	6.3	1663.02	7.33	1661.21	7.32	-1.8	-0.11
101	228	127	26	3648	0.98700	714.62	0.52851	1193.79	72.32	-0.66	6.19	1672.8	7.34	1671.6	7.33	-1.21	-0.07
101	229	128	27	3664	0.98610	716.05	0.52948	1192.64	77.65	0	6.09	1683.75	7.35	1681.56	7.34	-2.19	-0.13
101	230	129	28	3680	0.98518	717.47	0.53044	1191.51	83.15	-0.66	6	1693.21	7.36	1691.64	7.35	-1.57	-0.09
101	231	130	29	3696	0.98424	718.86	0.53139	1190.41	88.81	0	5.9	1703.82	7.38	1701.3	7.36	-2.53	-0.15
101	232	131	30	3712	0.98328	720.23	0.53233	1189.33	94.63	-0.66	5.81	1712.96	7.38	1711.07	7.38	-1.89	-0.11
101	233	132	31	3728	0.98230	721.58	0.53326	1188.28	100.62	0	5.72	1723.25	7.4	1720.42	7.38	-2.83	-0.16
101	234	133	32	3744	0.98130	722.9	0.53419	1187.25	106.76	-0.65	5.63	1732.07	7.4	1729.9	7.39	-2.17	-0.13
101	235	134	33	3760	0.98028	724.21	0.53511	1186.24	113.05	0	5.54	1742.04	7.41	1738.95	7.4	-3.09	-0.18
101	236	135	34	3776	0.97924	725.49	0.53602	1185.26	119.5	-0.65	5.46	1750.56	7.42	1748.14	7.41	-2.42	-0.14
101	237	136	35	3792	0.97819	726.76	0.53692	1184.3	126.1	0	5.38	1760.22	7.43	1756.91	7.41	-3.31	-0.19
101	238	137	36	3808	0.97712	728.01	0.53782	1183.35	132.85	-0.65	5.3	1768.44	7.43	1765.81	7.42	-2.63	-0.15
101	239	138	37	3824	0.97603	729.23	0.53870	1182.43	139.75	0	5.22	1777.8	7.44	1774.3	7.42	-3.51	-0.2
101	240	139	38	3840	0.97493	730.44	0.53958	1181.54	146.79	-0.65	5.14	1785.73	7.44	1782.92	7.43	-2.81	-0.16
101	241	140	39	3856	0.97381	731.62	0.54046	1180.66	153.98	0	5.07	1794.8	7.45	1791.13	7.43	-3.67	-0.2
101	242	141	40	3872	0.97268	732.79	0.54132	1179.8	161.31	-0.64	4.99	1802.44	7.45	1799.49	7.44	-2.96	-0.16
101	243	142	41	3888	0.97153	733.94	0.54218	1178.96	168.79	0	4.92	1811.23	7.45	1807.43	7.44	-3.81	-0.21
101	244	143	42	3904	0.97037	735.08	0.54303	1178.14	176.4	-0.64	4.85	1818.6	7.45	1815.52	7.44	-3.08	-0.17
101	245	144	43	3920	0.96920	736.19	0.54388	1177.34	184.15	0	4.78	1827.11	7.46	1823.19	7.44	-3.92	-0.21
101	246	145	44	3936	0.96801	737.29	0.54472	1176.56	192.03	-0.64	4.72	1834.2	7.46	1831.02	7.44	-3.18	-0.17
101	247	146	45	3952	0.96681	738.37	0.54555	1175.8	200.05	0	4.65	1842.44	7.46	1838.44	7.44	-4	-0.22
101	248	147	46	3968	0.96560	739.43	0.54637	1175.05	208.2	-0.64	4.59	1849.27	7.46	1846.01	7.44	-3.26	-0.18
101	249	148	47	3984	0.96437	740.48	0.54719	1174.33	216.48	0	4.53	1857.24	7.46	1853.18	7.44	-4.07	-0.22
101	250	149	48	4000	0.96314	741.51	0.54800	1173.62	224.89	-0.63	4.46	1863.82	7.46	1860.5	7.44	-3.31	-0.18
101	251	150	49	4016	0.96189	742.52	0.54881	1172.93	233.43	0	4.4	1871.53	7.46	1867.42	7.44	-4.11	-0.22
101	252	151	50	4032	0.96063	743.52	0.54960	1172.25	242.09	-0.63	4.35	1877.85	7.45	1874.5	7.44	-3.35	-0.18
101	253	152	51	4048	0.95937	744.5	0.55040	1171.59	250.88	0	4.29	1885.31	7.45	1881.18	7.44	-4.14	-0.22
101	254	153	52	4064	0.95809	745.47	0.55118	1170.95	259.79	-0.63	4.23	1891.39	7.45	1888.02	7.43	-3.37	-0.18
101	255	154	53	4080	0.95680	746.42	0.55196	1170.33	268.83	0	4.18	1898.61	7.45	1894.46	7.43	-4.15	-0.22
101	256	155	54	4096	0.95551	747.36	0.55273	1169.72	277.98	-0.62	4.12	1904.45	7.44	1901.07	7.43	-3.37	-0.18
101	257	156	55	4112	0.95420	748.28	0.55350	1169.12	287.25	0	4.07	1911.42	7.44	1907.28	7.42	-4.14	-0.22
101	258	157	56	4128	0.95289	749.19	0.55426	1168.54	296.64	-0.62	4.02	1917.02	7.43	1913.66	7.42	-3.36	-0.18

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
101	259	158	57	4144	0.95157	750.08	0.55502	1167.98	306.15	0	3.97	1923.76	7.43	1919.64	7.41	-4.12	-0.21
101	260	159	58	4160	0.95024	750.96	0.55577	1167.43	315.77	-0.62	3.92	1929.14	7.42	1925.8	7.41	-3.34	-0.17
101	261	160	59	4176	0.94890	751.82	0.55651	1166.89	325.51	0	3.87	1935.64	7.42	1931.55	7.4	-4.09	-0.21
101	262	161	60	4192	0.94756	752.67	0.55725	1166.37	335.36	-0.62	3.82	1940.8	7.41	1937.5	7.4	-3.3	-0.17
101	263	162	61	4208	0.94620	753.51	0.55799	1165.87	345.32	0	3.78	1947.08	7.4	1943.03	7.39	-4.05	-0.21
101	264	163	62	4224	0.94485	754.34	0.55871	1165.38	355.38	-0.62	3.73	1952.02	7.39	1948.76	7.38	-3.26	-0.17
101	265	164	63	4240	0.94348	755.15	0.55943	1164.9	365.56	0	3.68	1958.08	7.39	1954.08	7.37	-4	-0.2
101	266	165	64	4256	0.94211	755.95	0.56015	1164.43	375.84	-0.61	3.64	1962.8	7.38	1959.6	7.37	-3.21	-0.16
101	267	166	65	4272	0.94073	756.73	0.56086	1163.98	386.24	0	3.6	1968.65	7.37	1964.71	7.36	-3.94	-0.2
101	268	167	66	4288	0.93935	757.51	0.56157	1163.54	396.73	-0.61	3.55	1973.17	7.36	1970.02	7.35	-3.14	-0.16
101	269	168	67	4304	0.93796	758.27	0.56227	1163.11	407.33	0	3.51	1978.8	7.36	1974.92	7.34	-3.88	-0.2
101	270	169	68	4320	0.93657	759.02	0.56296	1162.7	418.03	-0.61	3.47	1983.11	7.34	1980.04	7.33	-3.08	-0.16
101	271	170	69	4336	0.93517	759.75	0.56365	1162.3	428.83	0	3.43	1988.54	7.34	1984.74	7.32	-3.81	-0.19
101	272	171	70	4352	0.93377	760.48	0.56434	1161.91	439.74	-0.61	3.39	1992.66	7.33	1989.65	7.31	-3.01	-0.15
101	273	172	71	4368	0.93236	761.19	0.56502	1161.53	450.74	0	3.35	1997.89	7.32	1994.16	7.3	-3.73	-0.19
101	274	173	72	4384	0.93095	761.89	0.56569	1161.17	461.84	-0.6	3.32	2001.81	7.31	1998.88	7.3	-2.93	-0.15
101	275	174	73	4400	0.92953	762.59	0.56636	1160.82	473.04	0	3.28	2006.84	7.3	2003.19	7.28	-3.65	-0.18
101	276	175	74	4416	0.92811	763.27	0.56703	1160.47	484.33	-0.6	3.24	2010.57	7.28	2007.72	7.27	-2.85	-0.14
101	277	176	75	4432	0.92669	763.93	0.56769	1160.14	495.72	0	3.21	2015.41	7.28	2011.84	7.26	-3.57	-0.18
101	278	177	76	4448	0.92526	764.59	0.56835	1159.83	507.2	-0.6	3.17	2018.95	7.26	2016.18	7.25	-2.77	-0.14
101	279	178	77	4464	0.92383	765.24	0.56900	1159.52	518.78	0	3.14	2023.6	7.25	2020.11	7.24	-3.49	-0.17
101	280	179	78	4480	0.92240	765.88	0.56964	1159.22	530.45	-0.6	3.1	2026.96	7.24	2024.27	7.23	-2.69	-0.13
101	281	180	79	4496	0.92096	766.5	0.57029	1158.93	542.21	0	3.07	2031.43	7.23	2028.02	7.22	-3.4	-0.17
101	282	181	80	4512	0.91952	767.12	0.57092	1158.66	554.06	-0.6	3.04	2034.61	7.21	2032.01	7.21	-2.6	-0.13
101	283	182	81	4528	0.91808	767.73	0.57156	1158.39	565.99	0	3.01	2038.89	7.2	2035.58	7.19	-3.32	-0.16
101	284	183	82	4544	0.91663	768.32	0.57218	1158.14	578.02	-0.59	2.97	2041.9	7.19	2039.38	7.18	-2.52	-0.12
101	285	184	83	4560	0.91519	768.91	0.57281	1157.89	590.13	0	2.94	2046.01	7.18	2042.78	7.17	-3.23	-0.16
101	286	185	84	4576	0.91374	769.48	0.57343	1157.65	602.33	-0.59	2.91	2048.85	7.16	2046.41	7.16	-2.44	-0.12
101	287	186	85	4592	0.91229	770.05	0.57404	1157.43	614.62	0	2.88	2052.78	7.15	2049.63	7.14	-3.15	-0.15
101	288	187	86	4608	0.91083	770.61	0.57465	1157.21	626.99	-0.59	2.85	2055.45	7.14	2053.09	7.13	-2.36	-0.12
101	289	188	87	4624	0.90938	771.16	0.57526	1157	639.44	0	2.82	2059.22	7.13	2056.14	7.11	-3.07	-0.15
101	290	189	88	4640	0.90792	771.7	0.57586	1156.81	651.98	-0.59	2.8	2061.72	7.11	2059.44	7.1	-2.29	-0.11
101	291	190	89	4656	0.90646	772.23	0.57646	1156.62	664.6	0	2.77	2065.32	7.1	2062.33	7.09	-3	-0.15
101	292	191	90	4672	0.90500	772.75	0.57706	1156.44	677.3	-0.59	2.74	2067.67	7.08	2065.46	7.07	-2.21	-0.11
101	293	192	91	4688	0.90354	773.26	0.57765	1156.27	690.08	0	2.71	2071.11	7.07	2068.18	7.06	-2.93	-0.14
101	294	193	92	4704	0.90208	773.77	0.57823	1156.11	702.93	-0.58	2.69	2073.29	7.05	2071.15	7.04	-2.14	-0.1
101	295	194	93	4720	0.90062	774.26	0.57881	1155.95	715.87	0	2.66	2076.57	7.04	2073.71	7.03	-2.86	-0.14
101	296	195	94	4736	0.89915	774.75	0.57939	1155.81	728.89	-0.58	2.63	2078.61	7.02	2076.53	7.02	-2.08	-0.1
101	297	196	95	4752	0.89769	775.23	0.57997	1155.67	741.98	0	2.61	2081.73	7.01	2078.93	7	-2.79	-0.13
101	298	197	96	4768	0.89622	775.7	0.58054	1155.55	755.15	-0.58	2.58	2083.61	6.99	2081.59	6.99	-2.02	-0.1
101	299	198	97	4784	0.89476	776.16	0.58110	1155.43	768.39	0	2.56	2086.58	6.98	2083.84	6.97	-2.74	-0.13
101	300	199	98	4800	0.89329	776.62	0.58167	1155.31	781.71	-0.58	2.54	2088.31	6.96	2086.35	6.95	-1.97	-0.09
101	301	200	99	4816	0.89182	777.07	0.58223	1155.21	795.11	0	2.51	2091.13	6.95	2088.44	6.94	-2.68	-0.13
101	302	201	100	4832	0.89036	777.51	0.58278	1155.12	808.57	-0.58	2.49	2092.72	6.93	2090.8	6.92	-1.92	-0.09
101	303	202	101	4848	0.88889	777.94	0.58333	1155.03	822.11	0	2.47	2095.39	6.92	2092.75	6.91	-2.64	-0.13
101	304	203	102	4864	0.88742	778.36	0.58388	1154.95	835.72	-0.57	2.44	2096.84	6.9	2094.96	6.89	-1.88	-0.09
101	305	204	103	4880	0.88596	778.78	0.58443	1154.88	849.4	0	2.42	2099.36	6.88	2096.76	6.87	-2.6	-0.12

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
101	306	205	104	4896	0.88449	779.19	0.58497	1154.81	863.16	-0.57	2.4	2100.67	6.86	2098.83	6.86	-1.85	-0.09
101	307	206	105	4912	0.88302	779.59	0.58551	1154.75	876.98	0	2.38	2103.06	6.85	2100.49	6.84	-2.57	-0.12
101	308	207	106	4928	0.88156	779.98	0.58604	1154.7	890.87	-0.57	2.36	2104.23	6.83	2102.41	6.83	-1.82	-0.09
101	309	208	107	4944	0.88009	780.37	0.58657	1154.66	904.83	0	2.34	2106.47	6.82	2103.92	6.81	-2.55	-0.12
101	310	209	108	4960	0.87863	780.75	0.58710	1154.62	918.86	-0.57	2.31	2107.51	6.8	2105.71	6.79	-1.81	-0.09
101	311	210	109	4976	0.87716	781.13	0.58762	1154.59	932.95	0	2.29	2109.62	6.78	2107.09	6.78	-2.54	-0.12
101	312	211	110	4992	0.87570	781.49	0.58814	1154.57	947.11	-0.57	2.27	2110.53	6.76	2108.73	6.76	-1.8	-0.09
101	313	212	111	5008	0.87424	781.86	0.58866	1154.55	961.34	0	2.25	2112.5	6.75	2109.97	6.74	-2.53	-0.12
101	314	213	112	5024	0.87277	782.21	0.58917	1154.54	975.63	-0.56	2.24	2113.28	6.73	2111.49	6.72	-1.8	-0.09
101	315	214	113	5040	0.87131	782.56	0.58968	1154.54	989.99	0	2.22	2115.13	6.71	2112.59	6.71	-2.54	-0.12
101	316	215	114	5056	0.86985	782.9	0.59019	1154.54	1004.41	-0.56	2.2	2115.78	6.7	2113.97	6.69	-1.81	-0.09
101	317	216	115	5072	0.86839	783.23	0.59069	1154.55	1018.9	0	2.18	2117.49	6.68	2114.94	6.67	-2.55	-0.12
101	318	217	116	5088	0.86694	783.56	0.59120	1154.57	1033.44	-0.56	2.16	2118.02	6.66	2116.19	6.65	-1.83	-0.09
101	319	218	117	5104	0.86548	783.88	0.59169	1154.59	1048.05	0	2.14	2119.61	6.64	2117.04	6.64	-2.57	-0.12
101	320	219	118	5120	0.86402	784.2	0.59219	1154.62	1062.72	-0.56	2.13	2120.02	6.63	2118.16	6.62	-1.86	-0.09
101	321	220	119	5136	0.86257	784.51	0.59268	1154.66	1077.46	0	2.11	2121.48	6.61	2118.88	6.6	-2.61	-0.12
101	322	221	120	5152	0.86112	784.82	0.59317	1154.7	1092.25	-0.56	2.09	2121.77	6.59	2119.87	6.58	-1.9	-0.09
101	323	222	121	5168	0.85967	785.11	0.59365	1154.74	1107.1	0	2.07	2123.11	6.57	2120.46	6.56	-2.65	-0.13
101	324	223	122	5184	0.85822	785.41	0.59414	1154.8	1122.01	-0.56	2.06	2123.28	6.55	2121.33	6.55	-1.95	-0.09
101	325	224	123	5200	0.85677	785.69	0.59462	1154.86	1136.98	0	2.04	2124.51	6.54	2121.8	6.53	-2.71	-0.13
101	326	225	124	5216	0.85532	785.98	0.59509	1154.92	1152.01	-0.55	2.02	2124.56	6.52	2122.55	6.51	-2.01	-0.09
101	327	226	125	5232	0.85388	786.25	0.59557	1154.99	1167.1	0	2.01	2125.67	6.5	2122.89	6.49	-2.77	-0.13
101	328	227	126	5248	0.85243	786.52	0.59604	1155.06	1182.24	-0.55	1.99	2125.61	6.48	2123.52	6.47	-2.09	-0.1
101	329	228	127	5264	0.85099	786.79	0.59651	1155.14	1197.44	0	1.98	2126.6	6.46	2123.75	6.46	-2.85	-0.13
101	330	229	128	5280	0.84955	787.05	0.59697	1155.23	1212.7	-0.55	1.96	2126.43	6.44	2124.26	6.44	-2.17	-0.1
101	331	230	129	5296	0.84811	787.3	0.59743	1155.32	1228.01	0	1.95	2127.31	6.43	2124.37	6.42	-2.94	-0.14
101	332	231	130	5312	0.84668	787.55	0.59789	1155.42	1243.38	-0.55	1.93	2127.03	6.41	2124.76	6.4	-2.27	-0.11
101	333	232	131	5328	0.84524	787.79	0.59835	1155.52	1258.8	0	1.92	2127.8	6.39	2124.75	6.38	-3.05	-0.14
101	334	233	132	5344	0.84381	788.03	0.59880	1155.63	1274.28	-0.55	1.9	2127.42	6.37	2125.03	6.36	-2.38	-0.11
101	335	234	133	5360	0.84238	788.27	0.59925	1155.74	1289.81	0	1.89	2128.07	6.35	2124.91	6.34	-3.16	-0.15
101	336	235	134	5376	0.84095	788.49	0.59970	1155.85	1305.39	-0.55	1.87	2127.58	6.33	2125.08	6.32	-2.5	-0.12
101	337	236	135	5392	0.83953	788.72	0.60015	1155.98	1321.03	0	1.86	2128.13	6.31	2124.85	6.31	-3.29	-0.15
101	338	237	136	5408	0.83810	788.94	0.60059	1156.1	1336.72	-0.54	1.85	2127.54	6.29	2124.9	6.29	-2.64	-0.12
101	339	238	137	5424	0.83668	789.15	0.60103	1156.23	1352.46	0	1.83	2127.99	6.28	2124.56	6.27	-3.43	-0.16
101	340	239	138	5440	0.83526	789.36	0.60147	1156.37	1368.25	-0.54	1.82	2127.29	6.26	2124.51	6.25	-2.78	-0.13
101	341	240	139	5456	0.83384	789.57	0.60191	1156.51	1384.09	0	1.81	2127.63	6.24	2124.06	6.23	-3.58	-0.17
101	342	241	140	5472	0.83243	789.77	0.60234	1156.66	1399.99	-0.54	1.79	2126.84	6.22	2123.9	6.21	-2.94	-0.14
101	343	242	141	5488	0.83101	789.96	0.60277	1156.81	1415.93	0	1.78	2127.08	6.2	2123.34	6.19	-3.74	-0.18
101	344	243	142	5504	0.82960	790.15	0.60320	1156.96	1431.92	-0.54	1.77	2126.19	6.18	2123.07	6.17	-3.12	-0.15
101	345	244	143	5520	0.82820	790.34	0.60362	1157.12	1447.97	0	1.75	2126.33	6.16	2122.41	6.15	-3.92	-0.18
101	346	245	144	5536	0.82679	790.52	0.60405	1157.28	1464.06	-0.54	1.74	2125.34	6.14	2122.04	6.13	-3.3	-0.16
101	347	246	145	5552	0.82539	790.7	0.60447	1157.45	1480.2	0	1.73	2125.38	6.13	2121.27	6.11	-4.11	-0.19
101	348	247	146	5568	0.82399	790.87	0.60489	1157.62	1496.38	-0.54	1.72	2124.3	6.1	2120.8	6.09	-3.5	-0.17
101	349	248	147	5584	0.82259	791.04	0.60530	1157.8	1512.62	0	1.7	2124.24	6.09	2119.93	6.07	-4.32	-0.2
101	350	249	148	5600	0.82119	791.21	0.60571	1157.98	1528.9	-0.53	1.69	2123.07	6.07	2119.36	6.06	-3.71	-0.18
101	351	250	149	5616	0.81980	791.37	0.60613	1158.16	1545.23	0	1.68	2122.92	6.05	2118.38	6.04	-4.54	-0.21
101	352	251	150	5632	0.81841	791.53	0.60653	1158.35	1561.6	-0.53	1.67	2121.65	6.03	2117.71	6.02	-3.94	-0.19

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
101	353	252	151	5648	0.81702	791.68	0.60694	1158.54	1578.02	0	1.66	2121.41	6.01	2116.64	6	-4.77	-0.23
101	354	253	152	5664	0.81563	791.83	0.60735	1158.74	1594.49	-0.53	1.65	2120.06	5.99	2115.87	5.98	-4.18	-0.2
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
102	203	101	-1	3248	0.99998	670.07	0.49877	1256.89	0.12	0	9.8	1330.71	6.56	1339.89	6.6	9.18	0.69
102	204	102	0	3264	1.00000	672.29	0.50000	1254.82	0	0.7	10	1347.59	6.61	1356.01	6.65	8.42	0.62
102	205	103	1	3280	0.99998	674.47	0.50122	1252.79	0.12	0	9.8	1362.42	6.65	1369.9	6.68	7.48	0.55
102	206	104	2	3296	0.99991	676.61	0.50243	1250.81	0.47	0.7	9.6	1378.41	6.69	1385.58	6.73	7.18	0.52
102	207	105	3	3312	0.99979	678.72	0.50362	1248.86	1.06	0	9.41	1392.77	6.73	1399.06	6.76	6.29	0.45
102	208	106	4	3328	0.99963	680.8	0.50481	1246.96	1.88	0.69	9.22	1408.29	6.77	1414.32	6.8	6.03	0.43
102	209	107	5	3344	0.99943	682.84	0.50598	1245.09	2.92	0	9.04	1422.2	6.8	1427.39	6.83	5.2	0.36
102	210	108	6	3360	0.99918	684.85	0.50714	1243.27	4.18	0.69	8.87	1437.26	6.84	1442.24	6.87	4.98	0.35
102	211	109	7	3376	0.99890	686.82	0.50829	1241.48	5.66	0	8.7	1450.73	6.88	1454.92	6.9	4.19	0.29
102	212	110	8	3392	0.99858	688.77	0.50943	1239.73	7.36	0.69	8.53	1465.36	6.91	1469.36	6.93	4.01	0.27
102	213	111	9	3408	0.99822	690.68	0.51056	1238.02	9.27	0	8.37	1478.4	6.94	1481.65	6.96	3.26	0.22
102	214	112	10	3424	0.99782	692.57	0.51168	1236.35	11.4	0.68	8.22	1492.59	6.97	1495.71	6.99	3.11	0.21
102	215	113	11	3440	0.99738	694.42	0.51279	1234.7	13.72	0	8.07	1505.22	7	1507.63	7.01	2.41	0.16
102	216	114	12	3456	0.99691	696.24	0.51389	1233.1	16.26	0.68	7.92	1519	7.03	1521.3	7.04	2.3	0.15
102	217	115	13	3472	0.99641	698.04	0.51498	1231.52	18.99	0	7.78	1531.22	7.06	1532.85	7.06	1.63	0.11
102	218	116	14	3488	0.99588	699.81	0.51606	1229.98	21.93	0.68	7.64	1544.6	7.09	1546.15	7.09	1.55	0.1
102	219	117	15	3504	0.99531	701.55	0.51712	1228.48	25.06	0	7.5	1556.42	7.11	1557.34	7.11	0.92	0.06
102	220	118	16	3520	0.99471	703.26	0.51818	1227	28.38	0.67	7.37	1569.41	7.13	1570.28	7.14	0.87	0.06
102	221	119	17	3536	0.99408	704.94	0.51923	1225.56	31.89	0	7.24	1580.85	7.15	1581.12	7.15	0.27	0.02
102	222	120	18	3552	0.99343	706.6	0.52027	1224.14	35.6	0.67	7.11	1593.45	7.18	1593.7	7.18	0.25	0.02
102	223	121	19	3568	0.99274	708.23	0.52130	1222.76	39.48	0	6.99	1604.52	7.2	1604.21	7.19	-0.31	-0.02
102	224	122	20	3584	0.99203	709.84	0.52233	1221.4	43.55	0.67	6.87	1616.75	7.22	1616.45	7.22	-0.3	-0.02
102	225	123	21	3600	0.99129	711.42	0.52333	1220.07	47.81	0	6.76	1627.46	7.23	1626.62	7.23	-0.84	-0.05
102	226	124	22	3616	0.99052	712.97	0.52434	1218.78	52.24	0.67	6.64	1639.32	7.25	1638.52	7.25	-0.81	-0.05
102	227	125	23	3632	0.98973	714.5	0.52533	1217.51	56.84	0	6.53	1649.68	7.27	1648.37	7.26	-1.32	-0.08
102	228	126	24	3648	0.98892	716.01	0.52632	1216.26	61.62	0.66	6.43	1661.19	7.29	1659.93	7.28	-1.26	-0.08
102	229	127	25	3664	0.98808	717.49	0.52729	1215.05	66.57	0	6.32	1671.21	7.3	1669.46	7.29	-1.74	-0.1
102	230	128	26	3680	0.98722	718.95	0.52826	1213.85	71.7	0.66	6.22	1682.37	7.31	1680.71	7.31	-1.67	-0.1
102	231	129	27	3696	0.98634	720.39	0.52922	1212.69	76.98	0	6.12	1692.06	7.32	1689.93	7.32	-2.12	-0.13
102	232	130	28	3712	0.98543	721.81	0.53017	1211.55	82.44	0.66	6.02	1702.89	7.34	1700.86	7.33	-2.03	-0.12
102	233	131	29	3728	0.98451	723.2	0.53112	1210.43	88.05	0	5.93	1712.24	7.35	1709.78	7.34	-2.46	-0.14
102	234	132	30	3744	0.98356	724.57	0.53205	1209.34	93.83	0.65	5.84	1722.75	7.36	1720.4	7.35	-2.35	-0.14
102	235	133	31	3760	0.98260	725.92	0.53298	1208.28	99.76	0	5.75	1731.79	7.37	1729.03	7.36	-2.76	-0.16
102	236	134	32	3776	0.98161	727.25	0.53390	1207.23	105.85	0.65	5.66	1741.97	7.38	1739.35	7.37	-2.63	-0.15
102	237	135	33	3792	0.98061	728.56	0.53481	1206.21	112.1	0	5.57	1750.7	7.39	1747.68	7.37	-3.02	-0.17
102	238	136	34	3808	0.97959	729.85	0.53571	1205.21	118.5	0.65	5.49	1760.58	7.4	1757.71	7.39	-2.87	-0.16
102	239	137	35	3824	0.97855	731.11	0.53661	1204.24	125.05	0	5.41	1769.01	7.4	1765.77	7.39	-3.24	-0.18
102	240	138	36	3840	0.97750	732.36	0.53750	1203.28	131.75	0.65	5.33	1778.58	7.41	1775.5	7.4	-3.08	-0.17
102	241	139	37	3856	0.97643	733.59	0.53838	1202.35	138.59	0	5.25	1786.71	7.41	1783.28	7.4	-3.43	-0.19
102	242	140	38	3872	0.97534	734.8	0.53926	1201.44	145.59	0.64	5.17	1795.99	7.42	1792.74	7.41	-3.25	-0.18
102	243	141	39	3888	0.97424	735.99	0.54012	1200.54	152.72	0	5.1	1803.84	7.42	1800.25	7.41	-3.59	-0.2
102	244	142	40	3904	0.97313	737.16	0.54098	1199.67	160	0.64	5.02	1812.83	7.43	1809.43	7.42	-3.4	-0.19
102	245	143	41	3920	0.97200	738.32	0.54184	1198.82	167.41	0	4.95	1820.4	7.43	1816.68	7.42	-3.72	-0.21

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
102	246	144	42	3936	0.97085	739.45	0.54268	1197.99	174.97	0.64	4.88	1829.11	7.44	1825.59	7.42	-3.52	-0.19
102	247	145	43	3952	0.96969	740.57	0.54352	1197.17	182.66	0	4.81	1836.41	7.43	1832.58	7.42	-3.83	-0.21
102	248	146	44	3968	0.96852	741.67	0.54436	1196.38	190.49	0.64	4.75	1844.84	7.44	1841.22	7.42	-3.62	-0.2
102	249	147	45	3984	0.96734	742.76	0.54518	1195.61	198.45	0	4.68	1851.87	7.44	1847.96	7.42	-3.91	-0.21
102	250	148	46	4000	0.96614	743.82	0.54600	1194.85	206.54	0.63	4.62	1860.04	7.44	1856.35	7.43	-3.69	-0.2
102	251	149	47	4016	0.96494	744.87	0.54681	1194.11	214.76	0	4.55	1866.81	7.44	1862.84	7.42	-3.97	-0.21
102	252	150	48	4032	0.96372	745.91	0.54762	1193.39	223.11	0.63	4.49	1874.72	7.44	1870.97	7.42	-3.74	-0.2
102	253	151	49	4048	0.96249	746.93	0.54842	1192.68	231.59	0	4.43	1881.24	7.44	1877.22	7.42	-4.01	-0.21
102	254	152	50	4064	0.96125	747.93	0.54921	1191.99	240.19	0.63	4.37	1888.89	7.44	1885.11	7.42	-3.78	-0.2
102	255	153	51	4080	0.96000	748.92	0.55000	1191.32	248.92	0	4.32	1895.16	7.43	1891.12	7.42	-4.04	-0.21
102	256	154	52	4096	0.95874	749.89	0.55078	1190.67	257.77	0.62	4.26	1902.56	7.43	1898.77	7.42	-3.79	-0.2
102	257	155	53	4112	0.95747	750.84	0.55156	1190.03	266.74	0	4.21	1908.59	7.43	1904.55	7.41	-4.04	-0.21
102	258	156	54	4128	0.95619	751.78	0.55233	1189.41	275.83	0.62	4.15	1915.75	7.43	1911.96	7.41	-3.79	-0.2
102	259	157	55	4144	0.95491	752.71	0.55309	1188.8	285.04	0	4.1	1921.54	7.42	1917.51	7.4	-4.03	-0.21
102	260	158	56	4160	0.95361	753.62	0.55385	1188.21	294.37	0.62	4.05	1928.46	7.42	1924.69	7.4	-3.77	-0.2
102	261	159	57	4176	0.95231	754.52	0.55460	1187.63	303.81	0	4	1934.03	7.41	1930.02	7.39	-4.01	-0.21
102	262	160	58	4192	0.95099	755.41	0.55534	1187.07	313.37	0.62	3.95	1940.71	7.41	1936.97	7.39	-3.75	-0.19
102	263	161	59	4208	0.94967	756.28	0.55608	1186.53	323.04	0	3.9	1946.05	7.4	1942.08	7.38	-3.97	-0.2
102	264	162	60	4224	0.94835	757.13	0.55682	1185.99	332.83	0.62	3.85	1952.51	7.4	1948.81	7.38	-3.71	-0.19
102	265	163	61	4240	0.94701	757.98	0.55755	1185.48	342.72	0	3.8	1957.63	7.39	1953.71	7.37	-3.93	-0.2
102	266	164	62	4256	0.94567	758.81	0.55827	1184.97	352.72	0.61	3.76	1963.87	7.38	1960.22	7.37	-3.66	-0.19
102	267	165	63	4272	0.94433	759.62	0.55899	1184.48	362.83	0	3.71	1968.78	7.37	1964.91	7.36	-3.87	-0.2
102	268	166	64	4288	0.94297	760.43	0.55970	1184.01	373.05	0.61	3.67	1974.8	7.37	1971.2	7.36	-3.6	-0.18
102	269	167	65	4304	0.94161	761.22	0.56041	1183.54	383.37	0	3.62	1979.49	7.36	1975.69	7.34	-3.81	-0.19
102	270	168	66	4320	0.94025	762	0.56111	1183.09	393.8	0.61	3.58	1985.3	7.35	1981.77	7.34	-3.53	-0.18
102	271	169	67	4336	0.93888	762.76	0.56181	1182.65	404.33	0	3.54	1989.79	7.34	1986.05	7.33	-3.73	-0.19
102	272	170	68	4352	0.93750	763.52	0.56250	1182.23	414.97	0.61	3.5	1995.39	7.34	1991.93	7.32	-3.46	-0.17
102	273	171	69	4368	0.93612	764.26	0.56319	1181.82	425.7	0	3.46	1999.68	7.32	1996.02	7.31	-3.66	-0.18
102	274	172	70	4384	0.93473	764.99	0.56387	1181.42	436.54	0.6	3.42	2005.08	7.32	2001.7	7.31	-3.38	-0.17
102	275	173	71	4400	0.93334	765.71	0.56455	1181.03	447.47	0	3.38	2009.17	7.31	2005.59	7.29	-3.57	-0.18
102	276	174	72	4416	0.93195	766.42	0.56522	1180.65	458.51	0.6	3.34	2014.37	7.3	2011.07	7.29	-3.29	-0.16
102	277	175	73	4432	0.93055	767.11	0.56588	1180.29	469.64	0	3.31	2018.26	7.29	2014.78	7.27	-3.49	-0.17
102	278	176	74	4448	0.92914	767.8	0.56655	1179.94	480.86	0.6	3.27	2023.27	7.28	2020.06	7.27	-3.21	-0.16
102	279	177	75	4464	0.92774	768.47	0.56720	1179.6	492.18	0	3.23	2026.98	7.27	2023.58	7.25	-3.4	-0.17
102	280	178	76	4480	0.92633	769.14	0.56786	1179.27	503.6	0.6	3.2	2031.79	7.26	2028.68	7.25	-3.12	-0.15
102	281	179	77	4496	0.92491	769.79	0.56851	1178.95	515.1	0	3.16	2035.32	7.24	2032.01	7.23	-3.31	-0.16
102	282	180	78	4512	0.92350	770.43	0.56915	1178.64	526.7	0.6	3.13	2039.95	7.23	2036.92	7.22	-3.03	-0.15
102	283	181	79	4528	0.92207	771.07	0.56979	1178.35	538.39	0	3.1	2043.29	7.22	2040.08	7.21	-3.22	-0.16
102	284	182	80	4544	0.92065	771.69	0.57042	1178.06	550.17	0.59	3.06	2047.74	7.21	2044.81	7.2	-2.93	-0.14
102	285	183	81	4560	0.91922	772.3	0.57105	1177.78	562.04	0	3.03	2050.91	7.2	2047.79	7.19	-3.12	-0.15
102	286	184	82	4576	0.91780	772.9	0.57168	1177.52	573.99	0.59	3	2055.18	7.19	2052.33	7.18	-2.84	-0.14
102	287	185	83	4592	0.91636	773.5	0.57230	1177.26	586.04	0	2.97	2058.17	7.17	2055.14	7.16	-3.03	-0.15
102	288	186	84	4608	0.91493	774.08	0.57292	1177.02	598.17	0.59	2.94	2062.27	7.16	2059.51	7.15	-2.75	-0.13
102	289	187	85	4624	0.91350	774.65	0.57353	1176.78	610.38	0	2.91	2065.09	7.15	2062.15	7.14	-2.94	-0.14
102	290	188	86	4640	0.91206	775.22	0.57414	1176.56	622.68	0.59	2.88	2069.01	7.13	2066.35	7.13	-2.66	-0.13
102	291	189	87	4656	0.91062	775.77	0.57474	1176.34	635.06	0	2.85	2071.68	7.12	2068.83	7.11	-2.85	-0.14
102	292	190	88	4672	0.90918	776.32	0.57534	1176.13	647.53	0.59	2.82	2075.43	7.11	2072.85	7.1	-2.58	-0.12

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
102	293	191	89	4688	0.90773	776.85	0.57594	1175.93	660.08	0	2.79	2077.93	7.09	2075.16	7.08	-2.77	-0.13
102	294	192	90	4704	0.90629	777.38	0.57653	1175.75	672.7	0.58	2.76	2081.52	7.08	2079.02	7.07	-2.5	-0.12
102	295	193	91	4720	0.90484	777.9	0.57712	1175.57	685.41	0	2.74	2083.86	7.06	2081.18	7.05	-2.68	-0.13
102	296	194	92	4736	0.90340	778.41	0.57770	1175.4	698.2	0.58	2.71	2087.29	7.05	2084.87	7.04	-2.42	-0.12
102	297	195	93	4752	0.90195	778.91	0.57828	1175.23	711.07	0	2.68	2089.47	7.04	2086.87	7.03	-2.61	-0.12
102	298	196	94	4768	0.90050	779.4	0.57886	1175.08	724.01	0.58	2.66	2092.74	7.02	2090.4	7.01	-2.34	-0.11
102	299	197	95	4784	0.89905	779.89	0.57943	1174.94	737.03	0	2.63	2094.77	7.01	2092.24	7	-2.53	-0.12
102	300	198	96	4800	0.89760	780.37	0.58000	1174.8	750.13	0.58	2.61	2097.89	6.99	2095.62	6.99	-2.27	-0.11
102	301	199	97	4816	0.89615	780.84	0.58057	1174.67	763.3	0	2.58	2099.77	6.98	2097.31	6.97	-2.47	-0.12
102	302	200	98	4832	0.89470	781.3	0.58113	1174.55	776.55	0.58	2.56	2102.73	6.96	2100.53	6.96	-2.21	-0.11
102	303	201	99	4848	0.89325	781.75	0.58168	1174.44	789.87	0	2.54	2104.47	6.95	2102.07	6.94	-2.4	-0.11
102	304	202	100	4864	0.89179	782.2	0.58224	1174.34	803.27	0.57	2.51	2107.28	6.93	2105.14	6.92	-2.15	-0.1
102	305	203	101	4880	0.89034	782.63	0.58279	1174.24	816.74	0	2.49	2108.88	6.91	2106.53	6.91	-2.35	-0.11
102	306	204	102	4896	0.88889	783.06	0.58333	1174.15	830.28	0.57	2.47	2111.55	6.9	2109.45	6.89	-2.1	-0.1
102	307	205	103	4912	0.88744	783.49	0.58388	1174.07	843.89	0	2.44	2113	6.88	2110.7	6.88	-2.3	-0.11
102	308	206	104	4928	0.88598	783.9	0.58442	1174	857.57	0.57	2.42	2115.52	6.87	2113.47	6.86	-2.05	-0.1
102	309	207	105	4944	0.88453	784.31	0.58495	1173.93	871.32	0	2.4	2116.84	6.85	2114.58	6.84	-2.26	-0.11
102	310	208	106	4960	0.88308	784.71	0.58548	1173.87	885.14	0.57	2.38	2119.22	6.84	2117.21	6.83	-2.01	-0.1
102	311	209	107	4976	0.88163	785.1	0.58601	1173.82	899.03	0	2.36	2120.4	6.82	2118.18	6.81	-2.22	-0.1
102	312	210	108	4992	0.88018	785.49	0.58654	1173.78	912.99	0.57	2.34	2122.65	6.8	2120.66	6.8	-1.98	-0.09
102	313	211	109	5008	0.87873	785.87	0.58706	1173.74	927.01	0	2.32	2123.69	6.78	2121.5	6.78	-2.2	-0.1
102	314	212	110	5024	0.87728	786.25	0.58758	1173.71	941.1	0.56	2.3	2125.8	6.77	2123.84	6.76	-1.96	-0.09
102	315	213	111	5040	0.87583	786.61	0.58810	1173.69	955.26	0	2.28	2126.72	6.75	2124.54	6.74	-2.18	-0.1
102	316	214	112	5056	0.87438	786.97	0.58861	1173.67	969.48	0.56	2.26	2128.7	6.74	2126.75	6.73	-1.95	-0.09
102	317	215	113	5072	0.87293	787.33	0.58912	1173.66	983.77	0	2.24	2129.49	6.72	2127.32	6.71	-2.17	-0.1
102	318	216	114	5088	0.87149	787.67	0.58962	1173.66	998.12	0.56	2.22	2131.34	6.7	2129.39	6.7	-1.95	-0.09
102	319	217	115	5104	0.87004	788.01	0.59013	1173.66	1012.53	0	2.2	2132	6.68	2129.83	6.68	-2.17	-0.1
102	320	218	116	5120	0.86859	788.35	0.59063	1173.67	1027.01	0.56	2.18	2133.72	6.67	2131.76	6.66	-1.96	-0.09
102	321	219	117	5136	0.86715	788.68	0.59112	1173.68	1041.54	0	2.16	2134.26	6.65	2132.08	6.64	-2.18	-0.1
102	322	220	118	5152	0.86571	789	0.59162	1173.7	1056.14	0.56	2.15	2135.85	6.63	2133.88	6.63	-1.97	-0.09
102	323	221	119	5168	0.86427	789.32	0.59211	1173.73	1070.81	0	2.13	2136.27	6.61	2134.07	6.61	-2.2	-0.1
102	324	222	120	5184	0.86283	789.63	0.59259	1173.77	1085.53	0.56	2.11	2137.75	6.6	2135.75	6.59	-2	-0.09
102	325	223	121	5200	0.86139	789.93	0.59308	1173.81	1100.31	0	2.09	2138.05	6.58	2135.81	6.57	-2.24	-0.1
102	326	224	122	5216	0.85995	790.23	0.59356	1173.85	1115.15	0.55	2.08	2139.4	6.56	2137.36	6.56	-2.04	-0.1
102	327	225	123	5232	0.85851	790.52	0.59404	1173.9	1130.05	0	2.06	2139.58	6.54	2137.3	6.54	-2.28	-0.11
102	328	226	124	5248	0.85708	790.81	0.59451	1173.96	1145.01	0.55	2.04	2140.81	6.53	2138.73	6.52	-2.08	-0.1
102	329	227	125	5264	0.85565	791.09	0.59499	1174.02	1160.03	0	2.03	2140.88	6.51	2138.55	6.5	-2.33	-0.11
102	330	228	126	5280	0.85422	791.37	0.59546	1174.09	1175.1	0.55	2.01	2142	6.49	2139.86	6.48	-2.14	-0.1
102	331	229	127	5296	0.85279	791.64	0.59592	1174.17	1190.23	0	2	2141.96	6.47	2139.56	6.46	-2.39	-0.11
102	332	230	128	5312	0.85136	791.9	0.59639	1174.25	1205.42	0.55	1.98	2142.96	6.45	2140.75	6.45	-2.21	-0.1
102	333	231	129	5328	0.84993	792.16	0.59685	1174.33	1220.66	0	1.97	2142.81	6.43	2140.34	6.43	-2.47	-0.12
102	334	232	130	5344	0.84851	792.42	0.59731	1174.42	1235.96	0.55	1.95	2143.7	6.42	2141.4	6.41	-2.3	-0.11
102	335	233	131	5360	0.84708	792.67	0.59776	1174.52	1251.31	0	1.94	2143.44	6.4	2140.88	6.39	-2.56	-0.12
102	336	234	132	5376	0.84566	792.91	0.59821	1174.62	1266.72	0.55	1.92	2144.22	6.38	2141.83	6.37	-2.39	-0.11
102	337	235	133	5392	0.84424	793.15	0.59867	1174.73	1282.18	0	1.91	2143.85	6.36	2141.19	6.35	-2.66	-0.12
102	338	236	134	5408	0.84283	793.39	0.59911	1174.84	1297.69	0.54	1.89	2144.52	6.34	2142.02	6.34	-2.5	-0.12
102	339	237	135	5424	0.84141	793.62	0.59956	1174.95	1313.26	0	1.88	2144.05	6.32	2141.28	6.32	-2.77	-0.13

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Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
102	340	238	136	5440	0.84000	793.84	0.60000	1175.07	1328.88	0.54	1.86	2144.61	6.31	2142	6.3	-2.61	-0.12
102	341	239	137	5456	0.83859	794.06	0.60044	1175.2	1344.55	0	1.85	2144.04	6.29	2141.15	6.28	-2.89	-0.14
102	342	240	138	5472	0.83718	794.28	0.60088	1175.33	1360.27	0.54	1.84	2144.5	6.27	2141.75	6.26	-2.75	-0.13
102	343	241	139	5488	0.83577	794.49	0.60131	1175.46	1376.05	0	1.82	2143.82	6.25	2140.79	6.24	-3.03	-0.14
102	344	242	140	5504	0.83437	794.69	0.60174	1175.6	1391.87	0.54	1.81	2144.18	6.23	2141.29	6.22	-2.89	-0.13
102	345	243	141	5520	0.83297	794.89	0.60217	1175.75	1407.75	0	1.8	2143.41	6.21	2140.23	6.2	-3.18	-0.15
102	346	244	142	5536	0.83157	795.09	0.60260	1175.9	1423.67	0.54	1.78	2143.66	6.2	2140.62	6.19	-3.05	-0.14
102	347	245	143	5552	0.83017	795.28	0.60303	1176.05	1439.64	0	1.77	2142.79	6.18	2139.45	6.17	-3.34	-0.16
102	348	246	144	5568	0.82878	795.47	0.60345	1176.21	1455.67	0.54	1.76	2142.95	6.16	2139.73	6.15	-3.21	-0.15
102	349	247	145	5584	0.82738	795.66	0.60387	1176.37	1471.74	0	1.75	2141.98	6.14	2138.46	6.13	-3.52	-0.16
102	350	248	146	5600	0.82599	795.83	0.60429	1176.54	1487.86	0.53	1.73	2142.04	6.12	2138.64	6.11	-3.4	-0.16
102	351	249	147	5616	0.82460	796.01	0.60470	1176.71	1504.02	0	1.72	2140.98	6.1	2137.27	6.09	-3.71	-0.17
102	352	250	148	5632	0.82322	796.18	0.60511	1176.89	1520.24	0.53	1.71	2140.94	6.08	2137.35	6.07	-3.59	-0.17
102	353	251	149	5648	0.82184	796.35	0.60552	1177.07	1536.5	0	1.7	2139.79	6.06	2135.88	6.05	-3.91	-0.18
102	354	252	150	5664	0.82045	796.51	0.60593	1177.25	1552.8	0.53	1.69	2139.65	6.04	2135.85	6.03	-3.8	-0.18
102	355	253	151	5680	0.81908	796.67	0.60634	1177.44	1569.16	0	1.68	2138.41	6.02	2134.29	6.01	-4.12	-0.19
102	356	254	152	5696	0.81770	796.82	0.60674	1177.63	1585.56	0.53	1.66	2138.19	6.01	2134.16	5.99	-4.03	-0.19
102	357	255	153	5712	0.81633	796.97	0.60714	1177.82	1602	0	1.65	2136.85	5.99	2132.5	5.97	-4.35	-0.2
Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
103	205	102	-1	3280	0.99998	674.47	0.49878	1277.48	0.12	0	9.8	1337.73	6.53	1346.92	6.57	9.19	0.68
103	206	103	0	3296	1.00000	676.67	0.50000	1275.39	0	-0.7	10	1353.24	6.57	1362.15	6.61	8.92	0.65
103	207	104	1	3312	0.99998	678.85	0.50121	1273.35	0.12	0	9.8	1369.48	6.62	1376.97	6.65	7.49	0.54
103	208	105	2	3328	0.99991	680.98	0.50240	1271.35	0.47	-0.69	9.6	1384.11	6.65	1391.78	6.69	7.67	0.55
103	209	106	3	3344	0.99979	683.09	0.50359	1269.39	1.05	0	9.41	1399.89	6.7	1406.18	6.73	6.29	0.45
103	210	107	4	3360	0.99964	685.16	0.50476	1267.47	1.86	-0.69	9.23	1414.05	6.73	1420.57	6.76	6.52	0.46
103	211	108	5	3376	0.99944	687.19	0.50592	1265.6	2.89	0	9.05	1429.37	6.77	1434.56	6.8	5.18	0.36
103	212	109	6	3392	0.99920	689.2	0.50708	1263.76	4.14	-0.69	8.88	1443.1	6.81	1448.55	6.83	5.46	0.38
103	213	110	7	3408	0.99892	691.17	0.50822	1261.96	5.61	0	8.71	1457.97	6.84	1462.14	6.86	4.17	0.28
103	214	111	8	3424	0.99860	693.11	0.50935	1260.19	7.29	-0.68	8.55	1471.26	6.88	1475.75	6.9	4.48	0.3
103	215	112	9	3440	0.99825	695.02	0.51047	1258.47	9.19	0	8.39	1485.71	6.91	1488.94	6.93	3.23	0.22
103	216	113	10	3456	0.99786	696.9	0.51157	1256.78	11.29	-0.68	8.23	1498.58	6.94	1502.17	6.95	3.58	0.24
103	217	114	11	3472	0.99743	698.75	0.51267	1255.12	13.6	0	8.08	1512.61	6.97	1514.98	6.98	2.37	0.16
103	218	115	12	3488	0.99697	700.58	0.51376	1253.5	16.11	-0.68	7.94	1525.07	7	1527.83	7.01	2.76	0.18
103	219	116	13	3504	0.99648	702.37	0.51484	1251.91	18.82	0	7.79	1538.69	7.03	1540.28	7.03	1.58	0.1
103	220	117	14	3520	0.99595	704.13	0.51591	1250.36	21.73	-0.67	7.65	1550.76	7.05	1552.77	7.06	2.01	0.13
103	221	118	15	3536	0.99539	705.87	0.51697	1248.84	24.83	0	7.52	1563.98	7.08	1564.85	7.08	0.87	0.06
103	222	119	16	3552	0.99481	707.58	0.51802	1247.35	28.12	-0.67	7.39	1575.67	7.1	1576.99	7.1	1.32	0.08
103	223	120	17	3568	0.99419	709.26	0.51906	1245.89	31.61	0	7.26	1588.5	7.12	1588.71	7.12	0.21	0.01
103	224	121	18	3584	0.99354	710.92	0.52009	1244.46	35.28	-0.67	7.14	1599.81	7.14	1600.51	7.15	0.7	0.04
103	225	122	19	3600	0.99287	712.55	0.52111	1243.06	39.13	0	7.01	1612.27	7.17	1611.89	7.16	-0.38	-0.02
103	226	123	20	3616	0.99217	714.16	0.52212	1241.69	43.17	-0.67	6.9	1623.22	7.18	1623.35	7.18	0.13	0.01
103	227	124	21	3632	0.99144	715.74	0.52313	1240.35	47.39	0	6.78	1635.31	7.2	1634.39	7.2	-0.92	-0.06
103	228	125	22	3648	0.99069	717.29	0.52412	1239.04	51.78	-0.66	6.67	1645.9	7.22	1645.52	7.22	-0.38	-0.02
103	229	126	23	3664	0.98991	718.82	0.52511	1237.75	56.35	0	6.56	1657.64	7.24	1656.23	7.23	-1.4	-0.08
103	230	127	24	3680	0.98911	720.33	0.52609	1236.49	61.09	-0.66	6.45	1667.88	7.25	1667.04	7.25	-0.84	-0.05
103	231	128	25	3696	0.98829	721.82	0.52706	1235.26	66	0	6.35	1679.27	7.27	1677.43	7.26	-1.84	-0.11

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
103	232	129	26	3712	0.98744	723.28	0.52802	1234.06	71.08	-0.66	6.25	1689.18	7.28	1687.92	7.28	-1.25	-0.07
103	233	130	27	3728	0.98657	724.72	0.52897	1232.88	76.33	0	6.15	1700.23	7.3	1698	7.29	-2.23	-0.13
103	234	131	28	3744	0.98568	726.13	0.52992	1231.72	81.73	-0.65	6.05	1709.81	7.31	1708.19	7.3	-1.62	-0.09
103	235	132	29	3760	0.98477	727.53	0.53085	1230.59	87.31	0	5.96	1720.53	7.32	1717.96	7.31	-2.57	-0.15
103	236	133	30	3776	0.98384	728.9	0.53178	1229.49	93.04	-0.65	5.86	1729.79	7.33	1727.84	7.32	-1.94	-0.11
103	237	134	31	3792	0.98289	730.25	0.53270	1228.41	98.92	0	5.77	1740.19	7.34	1737.32	7.33	-2.87	-0.17
103	238	135	32	3808	0.98192	731.58	0.53361	1227.35	104.97	-0.65	5.69	1749.14	7.35	1746.91	7.34	-2.23	-0.13
103	239	136	33	3824	0.98094	732.89	0.53452	1226.31	111.17	0	5.6	1759.22	7.36	1756.09	7.35	-3.14	-0.18
103	240	137	34	3840	0.97993	734.18	0.53542	1225.3	117.52	-0.65	5.52	1767.87	7.37	1765.39	7.36	-2.48	-0.14
103	241	138	35	3856	0.97891	735.45	0.53631	1224.31	124.02	0	5.43	1777.65	7.38	1774.28	7.36	-3.37	-0.19
103	242	139	36	3872	0.97787	736.7	0.53719	1223.34	130.66	-0.64	5.35	1786	7.38	1783.31	7.37	-2.69	-0.15
103	243	140	37	3888	0.97682	737.94	0.53807	1222.4	137.46	0	5.28	1795.48	7.39	1791.92	7.37	-3.57	-0.2
103	244	141	38	3904	0.97575	739.15	0.53893	1221.47	144.4	-0.64	5.2	1803.54	7.39	1800.67	7.38	-2.88	-0.16
103	245	142	39	3920	0.97466	740.34	0.53980	1220.57	151.48	0	5.12	1812.74	7.4	1809	7.38	-3.73	-0.21
103	246	143	40	3936	0.97356	741.52	0.54065	1219.68	158.7	-0.64	5.05	1820.51	7.4	1817.49	7.39	-3.03	-0.17
103	247	144	41	3952	0.97245	742.68	0.54150	1218.82	166.06	0	4.98	1829.43	7.41	1825.56	7.39	-3.87	-0.21
103	248	145	42	3968	0.97132	743.81	0.54234	1217.97	173.56	-0.64	4.91	1836.93	7.41	1833.77	7.39	-3.15	-0.17
103	249	146	43	3984	0.97018	744.94	0.54317	1217.14	181.2	0	4.84	1845.56	7.41	1841.58	7.4	-3.98	-0.22
103	250	147	44	4000	0.96902	746.04	0.54400	1216.34	188.97	-0.63	4.77	1852.8	7.41	1849.54	7.4	-3.26	-0.18
103	251	148	45	4016	0.96786	747.13	0.54482	1215.55	196.87	0	4.71	1861.16	7.41	1857.09	7.4	-4.07	-0.22
103	252	149	46	4032	0.96668	748.2	0.54564	1214.78	204.91	-0.63	4.65	1868.13	7.41	1864.8	7.4	-3.33	-0.18
103	253	150	47	4048	0.96549	749.25	0.54644	1214.02	213.07	0	4.58	1876.23	7.42	1872.1	7.4	-4.13	-0.22
103	254	151	48	4064	0.96429	750.29	0.54724	1213.29	221.36	-0.63	4.52	1882.95	7.41	1879.56	7.4	-3.39	-0.18
103	255	152	49	4080	0.96308	751.32	0.54804	1212.57	229.78	0	4.46	1890.79	7.41	1886.62	7.4	-4.18	-0.22
103	256	153	50	4096	0.96185	752.32	0.54883	1211.87	238.32	-0.62	4.4	1897.26	7.41	1893.84	7.4	-3.42	-0.18
103	257	154	51	4112	0.96062	753.31	0.54961	1211.19	246.99	0	4.35	1904.85	7.41	1900.65	7.4	-4.2	-0.22
103	258	155	52	4128	0.95938	754.29	0.55039	1210.52	255.78	-0.62	4.29	1911.08	7.41	1907.63	7.39	-3.44	-0.18
103	259	156	53	4144	0.95813	755.25	0.55116	1209.87	264.69	0	4.23	1918.42	7.41	1914.21	7.39	-4.21	-0.22
103	260	157	54	4160	0.95686	756.2	0.55192	1209.24	273.72	-0.62	4.18	1924.41	7.4	1920.96	7.39	-3.44	-0.18
103	261	158	55	4176	0.95559	757.13	0.55268	1208.62	282.87	0	4.13	1931.52	7.4	1927.31	7.38	-4.21	-0.22
103	262	159	56	4192	0.95432	758.04	0.55344	1208.01	292.13	-0.62	4.08	1937.27	7.39	1933.84	7.38	-3.43	-0.18
103	263	160	57	4208	0.95303	758.95	0.55418	1207.42	301.51	0	4.02	1944.14	7.39	1939.96	7.38	-4.18	-0.22
103	264	161	58	4224	0.95173	759.84	0.55492	1206.85	311.01	-0.62	3.97	1949.66	7.39	1946.26	7.37	-3.4	-0.17
103	265	162	59	4240	0.95043	760.71	0.55566	1206.29	320.61	0	3.93	1956.31	7.38	1952.16	7.37	-4.15	-0.21
103	266	163	60	4256	0.94912	761.57	0.55639	1205.75	330.33	-0.61	3.88	1961.61	7.37	1958.24	7.36	-3.37	-0.17
103	267	164	61	4272	0.94780	762.42	0.55712	1205.22	340.16	0	3.83	1968.03	7.37	1963.92	7.36	-4.11	-0.21
103	268	165	62	4288	0.94648	763.26	0.55784	1204.7	350.1	-0.61	3.78	1973.12	7.36	1969.8	7.35	-3.32	-0.17
103	269	166	63	4304	0.94515	764.08	0.55855	1204.2	360.15	0	3.74	1979.31	7.36	1975.26	7.34	-4.05	-0.21
103	270	167	64	4320	0.94381	764.89	0.55926	1203.71	370.3	-0.61	3.7	1984.19	7.35	1980.93	7.34	-3.26	-0.16
103	271	168	65	4336	0.94247	765.68	0.55996	1203.24	380.56	0	3.65	1990.17	7.34	1986.19	7.33	-3.99	-0.2
103	272	169	66	4352	0.94112	766.47	0.56066	1202.78	390.92	-0.61	3.61	1994.84	7.33	1991.65	7.32	-3.19	-0.16
103	273	170	67	4368	0.93977	767.24	0.56136	1202.33	401.38	0	3.57	2000.62	7.33	1996.7	7.31	-3.92	-0.2
103	274	171	68	4384	0.93841	768	0.56204	1201.89	411.95	-0.6	3.53	2005.08	7.32	2001.96	7.31	-3.12	-0.16
103	275	172	69	4400	0.93705	768.75	0.56273	1201.47	422.62	0	3.49	2010.65	7.31	2006.81	7.3	-3.84	-0.19
103	276	173	70	4416	0.93568	769.48	0.56341	1201.06	433.39	-0.6	3.45	2014.91	7.3	2011.87	7.29	-3.04	-0.15
103	277	174	71	4432	0.93430	770.21	0.56408	1200.66	444.26	0	3.41	2020.28	7.29	2016.53	7.28	-3.76	-0.19
103	278	175	72	4448	0.93292	770.92	0.56475	1200.28	455.22	-0.6	3.37	2024.35	7.28	2021.39	7.27	-2.96	-0.15

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
103	279	176	73	4464	0.93154	771.62	0.56541	1199.9	466.28	0	3.33	2029.53	7.27	2025.86	7.26	-3.67	-0.18
103	280	177	74	4480	0.93015	772.32	0.56607	1199.54	477.44	-0.6	3.3	2033.41	7.26	2030.54	7.25	-2.87	-0.14
103	281	178	75	4496	0.92876	773	0.56673	1199.19	488.69	0	3.26	2038.39	7.25	2034.81	7.24	-3.58	-0.18
103	282	179	76	4512	0.92737	773.67	0.56738	1198.85	500.04	-0.6	3.22	2042.08	7.24	2039.3	7.23	-2.78	-0.14
103	283	180	77	4528	0.92597	774.32	0.56802	1198.52	511.47	0	3.19	2046.87	7.23	2043.39	7.22	-3.49	-0.17
103	284	181	78	4544	0.92457	774.97	0.56866	1198.2	523	-0.59	3.16	2050.39	7.22	2047.7	7.21	-2.69	-0.13
103	285	182	79	4560	0.92316	775.61	0.56930	1197.89	534.62	0	3.12	2054.99	7.21	2051.6	7.2	-3.39	-0.17
103	286	183	80	4576	0.92176	776.24	0.56993	1197.6	546.33	-0.59	3.09	2058.33	7.2	2055.73	7.19	-2.6	-0.13
103	287	184	81	4592	0.92035	776.86	0.57056	1197.31	558.13	0	3.06	2062.76	7.19	2059.46	7.18	-3.3	-0.16
103	288	185	82	4608	0.91893	777.46	0.57118	1197.03	570.02	-0.59	3.02	2065.91	7.17	2063.41	7.16	-2.5	-0.12
103	289	186	83	4624	0.91752	778.06	0.57180	1196.77	581.99	0	2.99	2070.17	7.16	2066.96	7.15	-3.2	-0.15
103	290	187	84	4640	0.91610	778.65	0.57241	1196.51	594.05	-0.59	2.96	2073.15	7.15	2070.75	7.14	-2.41	-0.12
103	291	188	85	4656	0.91468	779.23	0.57302	1196.27	606.2	0	2.93	2077.23	7.14	2074.12	7.13	-3.11	-0.15
103	292	189	86	4672	0.91326	779.8	0.57363	1196.03	618.43	-0.59	2.9	2080.05	7.12	2077.74	7.12	-2.32	-0.11
103	293	190	87	4688	0.91183	780.36	0.57423	1195.81	630.74	0	2.87	2083.96	7.11	2080.94	7.1	-3.02	-0.15
103	294	191	88	4704	0.91041	780.91	0.57483	1195.59	643.14	-0.58	2.84	2086.62	7.1	2084.39	7.09	-2.23	-0.11
103	295	192	89	4720	0.90898	781.46	0.57542	1195.38	655.62	0	2.82	2090.36	7.09	2087.43	7.08	-2.93	-0.14
103	296	193	90	4736	0.90755	781.99	0.57601	1195.19	668.17	-0.58	2.79	2092.86	7.07	2090.72	7.06	-2.14	-0.1
103	297	194	91	4752	0.90612	782.51	0.57660	1195	680.81	0	2.76	2096.44	7.06	2093.59	7.05	-2.84	-0.14
103	298	195	92	4768	0.90469	783.03	0.57718	1194.82	693.53	-0.58	2.73	2098.78	7.04	2096.72	7.04	-2.06	-0.1
103	299	196	93	4784	0.90326	783.54	0.57776	1194.65	706.33	0	2.71	2102.2	7.03	2099.43	7.02	-2.76	-0.13
103	300	197	94	4800	0.90182	784.04	0.57833	1194.49	719.2	-0.58	2.68	2104.38	7.01	2102.4	7.01	-1.98	-0.09
103	301	198	95	4816	0.90039	784.53	0.57890	1194.33	732.15	0	2.66	2107.64	7	2104.96	6.99	-2.68	-0.13
103	302	199	96	4832	0.89895	785.01	0.57947	1194.19	745.18	-0.58	2.63	2109.68	6.99	2107.77	6.98	-1.91	-0.09
103	303	200	97	4848	0.89752	785.49	0.58003	1194.05	758.28	0	2.61	2112.79	6.97	2110.18	6.96	-2.61	-0.12
103	304	201	98	4864	0.89608	785.95	0.58059	1193.92	771.46	-0.57	2.58	2114.67	6.96	2112.84	6.95	-1.84	-0.09
103	305	202	99	4880	0.89464	786.41	0.58115	1193.8	784.71	0	2.56	2117.63	6.94	2115.09	6.93	-2.54	-0.12
103	306	203	100	4896	0.89320	786.86	0.58170	1193.69	798.04	-0.57	2.53	2119.37	6.93	2117.6	6.92	-1.77	-0.08
103	307	204	101	4912	0.89177	787.31	0.58225	1193.58	811.43	0	2.51	2122.18	6.91	2119.7	6.9	-2.48	-0.12
103	308	205	102	4928	0.89033	787.74	0.58279	1193.49	824.9	-0.57	2.49	2123.78	6.9	2122.07	6.89	-1.72	-0.08
103	309	206	103	4944	0.88889	788.17	0.58333	1193.4	838.44	0	2.47	2126.45	6.88	2124.02	6.87	-2.43	-0.11
103	310	207	104	4960	0.88745	788.59	0.58387	1193.32	852.06	-0.57	2.44	2127.91	6.86	2126.24	6.86	-1.67	-0.08
103	311	208	105	4976	0.88601	789.01	0.58441	1193.24	865.74	0	2.42	2130.43	6.85	2128.06	6.84	-2.38	-0.11
103	312	209	106	4992	0.88457	789.42	0.58494	1193.18	879.49	-0.57	2.4	2131.76	6.83	2130.13	6.83	-1.62	-0.08
103	313	210	107	5008	0.88314	789.82	0.58546	1193.12	893.3	0	2.38	2134.14	6.82	2131.8	6.81	-2.34	-0.11
103	314	211	108	5024	0.88170	790.21	0.58599	1193.07	907.19	-0.56	2.36	2135.33	6.8	2133.74	6.8	-1.59	-0.07
103	315	212	109	5040	0.88026	790.6	0.58651	1193.02	921.14	0	2.34	2137.58	6.79	2135.27	6.78	-2.3	-0.11
103	316	213	110	5056	0.87883	790.97	0.58703	1192.98	935.16	-0.56	2.32	2138.63	6.77	2137.07	6.76	-1.56	-0.07
103	317	214	111	5072	0.87739	791.35	0.58754	1192.95	949.25	0	2.3	2140.75	6.75	2138.47	6.75	-2.28	-0.11
103	318	215	112	5088	0.87595	791.71	0.58805	1192.93	963.4	-0.56	2.28	2141.67	6.73	2140.13	6.73	-1.54	-0.07
103	319	216	113	5104	0.87452	792.07	0.58856	1192.91	977.62	0	2.26	2143.66	6.72	2141.39	6.71	-2.26	-0.11
103	320	217	114	5120	0.87309	792.43	0.58906	1192.9	991.9	-0.56	2.24	2144.46	6.7	2142.93	6.7	-1.53	-0.07
103	321	218	115	5136	0.87165	792.77	0.58956	1192.9	1006.24	0	2.22	2146.31	6.69	2144.05	6.68	-2.26	-0.11
103	322	219	116	5152	0.87022	793.11	0.59006	1192.9	1020.65	-0.56	2.2	2146.99	6.67	2145.46	6.66	-1.53	-0.07
103	323	220	117	5168	0.86879	793.45	0.59056	1192.91	1035.12	0	2.18	2148.72	6.65	2146.46	6.65	-2.26	-0.11
103	324	221	118	5184	0.86736	793.78	0.59105	1192.92	1049.65	-0.56	2.17	2149.27	6.63	2147.73	6.63	-1.54	-0.07
103	325	222	119	5200	0.86593	794.1	0.59154	1192.94	1064.24	0	2.15	2150.87	6.62	2148.6	6.61	-2.27	-0.11

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
103	326	223	120	5216	0.86450	794.41	0.59203	1192.97	1078.89	-0.55	2.13	2151.3	6.6	2149.75	6.59	-1.56	-0.07
103	327	224	121	5232	0.86308	794.72	0.59251	1193	1093.6	0	2.11	2152.79	6.58	2150.49	6.58	-2.3	-0.11
103	328	225	122	5248	0.86165	795.03	0.59299	1193.04	1108.37	-0.55	2.1	2153.1	6.56	2151.51	6.56	-1.59	-0.07
103	329	226	123	5264	0.86023	795.33	0.59347	1193.09	1123.2	0	2.08	2154.46	6.55	2152.13	6.54	-2.33	-0.11
103	330	227	124	5280	0.85881	795.62	0.59394	1193.14	1138.09	-0.55	2.06	2154.66	6.53	2153.03	6.52	-1.63	-0.08
103	331	228	125	5296	0.85739	795.91	0.59441	1193.19	1153.04	0	2.05	2155.91	6.51	2153.53	6.51	-2.37	-0.11
103	332	229	126	5312	0.85597	796.19	0.59488	1193.26	1168.04	-0.55	2.03	2155.99	6.49	2154.31	6.49	-1.68	-0.08
103	333	230	127	5328	0.85455	796.47	0.59535	1193.32	1183.1	0	2.02	2157.12	6.48	2154.69	6.47	-2.43	-0.11
103	334	231	128	5344	0.85313	796.74	0.59581	1193.4	1198.22	-0.55	2	2157.09	6.46	2155.35	6.45	-1.74	-0.08
103	335	232	129	5360	0.85172	797	0.59627	1193.48	1213.4	0	1.98	2158.11	6.44	2155.62	6.43	-2.49	-0.12
103	336	233	130	5376	0.85031	797.26	0.59673	1193.56	1228.62	-0.55	1.97	2157.97	6.42	2156.16	6.42	-1.81	-0.08
103	337	234	131	5392	0.84889	797.52	0.59718	1193.65	1243.91	0	1.95	2158.88	6.41	2156.31	6.4	-2.57	-0.12
103	338	235	132	5408	0.84748	797.77	0.59763	1193.74	1259.25	-0.54	1.94	2158.63	6.39	2156.74	6.38	-1.9	-0.09
103	339	236	133	5424	0.84608	798.02	0.59808	1193.84	1274.64	0	1.92	2159.43	6.37	2156.77	6.36	-2.66	-0.12
103	340	237	134	5440	0.84467	798.26	0.59853	1193.95	1290.08	-0.54	1.91	2159.08	6.35	2157.09	6.34	-1.99	-0.09
103	341	238	135	5456	0.84327	798.49	0.59897	1194.06	1305.58	0	1.9	2159.76	6.33	2157	6.33	-2.76	-0.13
103	342	239	136	5472	0.84187	798.72	0.59942	1194.17	1321.13	-0.54	1.88	2159.31	6.31	2157.21	6.31	-2.1	-0.1
103	343	240	137	5488	0.84047	798.95	0.59985	1194.3	1336.73	0	1.87	2159.89	6.3	2157.02	6.29	-2.87	-0.13
103	344	241	138	5504	0.83907	799.17	0.60029	1194.42	1352.39	-0.54	1.85	2159.34	6.28	2157.12	6.27	-2.22	-0.1
103	345	242	139	5520	0.83767	799.38	0.60073	1194.55	1368.09	0	1.84	2159.81	6.26	2156.81	6.25	-3	-0.14
103	346	243	140	5536	0.83628	799.6	0.60116	1194.68	1383.85	-0.54	1.83	2159.16	6.24	2156.8	6.23	-2.36	-0.11
103	347	244	141	5552	0.83489	799.8	0.60159	1194.82	1399.66	0	1.81	2159.53	6.22	2156.39	6.21	-3.14	-0.15
103	348	245	142	5568	0.83350	800.01	0.60201	1194.97	1415.51	-0.54	1.8	2158.78	6.2	2156.28	6.2	-2.5	-0.12
103	349	246	143	5584	0.83211	800.2	0.60244	1195.12	1431.42	0	1.79	2159.05	6.19	2155.76	6.18	-3.29	-0.15
103	350	247	144	5600	0.83073	800.4	0.60286	1195.27	1447.37	-0.53	1.78	2158.2	6.17	2155.54	6.16	-2.66	-0.12
103	351	248	145	5616	0.82934	800.59	0.60328	1195.43	1463.38	0	1.76	2158.38	6.15	2154.92	6.14	-3.45	-0.16
103	352	249	146	5632	0.82796	800.77	0.60369	1195.59	1479.43	-0.53	1.75	2157.43	6.13	2154.6	6.12	-2.83	-0.13
103	353	250	147	5648	0.82659	800.95	0.60411	1195.75	1495.53	0	1.74	2157.51	6.11	2153.88	6.1	-3.63	-0.17
103	354	251	148	5664	0.82521	801.13	0.60452	1195.92	1511.67	-0.53	1.73	2156.47	6.09	2153.46	6.08	-3.02	-0.14
103	355	252	149	5680	0.82384	801.3	0.60493	1196.1	1527.87	0	1.72	2156.45	6.07	2152.63	6.06	-3.82	-0.18
103	356	253	150	5696	0.82247	801.47	0.60534	1196.28	1544.11	-0.53	1.7	2155.32	6.05	2152.11	6.05	-3.22	-0.15
103	357	254	151	5712	0.82110	801.63	0.60574	1196.46	1560.39	0	1.69	2155.21	6.04	2151.19	6.03	-4.02	-0.19
103	358	255	152	5728	0.81973	801.79	0.60615	1196.65	1576.72	-0.53	1.68	2153.99	6.02	2150.56	6.01	-3.43	-0.16
103	359	256	153	5744	0.81837	801.95	0.60655	1196.84	1593.1	0	1.67	2153.78	6	2149.54	5.99	-4.24	-0.2
103	360	257	154	5760	0.81701	802.1	0.60694	1197.03	1609.52	-0.53	1.66	2152.48	5.98	2148.82	5.97	-3.65	-0.17
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
104	207	103	-1	3312	0.99998	678.85	0.49879	1298.2	0.12	0	9.8	1344.64	6.5	1353.85	6.54	9.21	0.68
104	208	104	0	3328	1.00000	681.05	0.50000	1296.1	0	0.69	10	1361.55	6.55	1370	6.59	8.45	0.62
104	209	105	1	3344	0.99998	683.21	0.50120	1294.04	0.12	0	9.8	1376.43	6.59	1383.94	6.62	7.51	0.54
104	210	106	2	3360	0.99991	685.34	0.50238	1292.03	0.46	0.69	9.61	1392.46	6.63	1399.67	6.67	7.2	0.51
104	211	107	3	3376	0.99980	687.44	0.50356	1290.06	1.04	0	9.42	1406.88	6.67	1413.2	6.7	6.32	0.45
104	212	108	4	3392	0.99964	689.51	0.50472	1288.12	1.84	0.69	9.24	1422.45	6.71	1428.51	6.74	6.06	0.42
104	213	109	5	3408	0.99945	691.54	0.50587	1286.23	2.86	0	9.06	1436.43	6.74	1441.65	6.77	5.22	0.36
104	214	110	6	3424	0.99921	693.54	0.50701	1284.38	4.1	0.68	8.89	1451.55	6.78	1456.55	6.81	5	0.34
104	215	111	7	3440	0.99894	695.5	0.50814	1282.57	5.56	0	8.72	1465.09	6.81	1469.3	6.83	4.2	0.29
104	216	112	8	3456	0.99863	697.44	0.50926	1280.79	7.23	0.68	8.56	1479.78	6.85	1483.8	6.87	4.02	0.27

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
104	217	113	9	3472	0.99828	699.35	0.51037	1279.05	9.1	0	8.4	1492.9	6.88	1496.17	6.89	3.27	0.22
104	218	114	10	3488	0.99790	701.23	0.51147	1277.34	11.19	0.68	8.25	1507.17	6.91	1510.29	6.93	3.12	0.21
104	219	115	11	3504	0.99748	703.07	0.51256	1275.67	13.47	0	8.1	1519.88	6.94	1522.29	6.95	2.41	0.16
104	220	116	12	3520	0.99703	704.89	0.51364	1274.04	15.96	0.67	7.95	1533.73	6.97	1536.03	6.98	2.3	0.15
104	221	117	13	3536	0.99654	706.68	0.51471	1272.44	18.65	0	7.81	1546.04	7	1547.67	7	1.63	0.11
104	222	118	14	3552	0.99602	708.45	0.51577	1270.87	21.53	0.67	7.67	1559.5	7.02	1561.05	7.03	1.55	0.1
104	223	119	15	3568	0.99548	710.18	0.51682	1269.33	24.61	0	7.54	1571.42	7.05	1572.33	7.05	0.91	0.06
104	224	120	16	3584	0.99490	711.89	0.51786	1267.83	27.88	0.67	7.41	1584.49	7.07	1585.35	7.08	0.86	0.05
104	225	121	17	3600	0.99429	713.57	0.51889	1266.35	31.33	0	7.28	1596.03	7.09	1596.29	7.09	0.26	0.02
104	226	122	18	3616	0.99366	715.23	0.51991	1264.91	34.97	0.67	7.16	1608.72	7.12	1608.96	7.12	0.24	0.01
104	227	123	19	3632	0.99299	716.86	0.52093	1263.5	38.79	0	7.04	1619.89	7.14	1619.56	7.13	-0.33	-0.02
104	228	124	20	3648	0.99231	718.46	0.52193	1262.11	42.79	0.66	6.92	1632.21	7.16	1631.89	7.16	-0.33	-0.02
104	229	125	21	3664	0.99159	720.04	0.52293	1260.76	46.98	0	6.8	1643.03	7.17	1642.16	7.17	-0.87	-0.05
104	230	126	22	3680	0.99085	721.6	0.52391	1259.43	51.33	0.66	6.69	1654.99	7.2	1654.15	7.19	-0.84	-0.05
104	231	127	23	3696	0.99009	723.13	0.52489	1258.13	55.86	0	6.58	1665.46	7.21	1664.11	7.2	-1.35	-0.08
104	232	128	24	3712	0.98930	724.64	0.52586	1256.86	60.57	0.66	6.48	1677.07	7.23	1675.78	7.22	-1.3	-0.08
104	233	129	25	3728	0.98849	726.12	0.52682	1255.61	65.44	0	6.37	1687.2	7.24	1685.42	7.23	-1.78	-0.11
104	234	130	26	3744	0.98765	727.59	0.52778	1254.39	70.48	0.65	6.27	1698.47	7.26	1696.76	7.25	-1.71	-0.1
104	235	131	27	3760	0.98680	729.03	0.52872	1253.2	75.68	0	6.17	1708.27	7.27	1706.1	7.26	-2.17	-0.13
104	236	132	28	3776	0.98592	730.44	0.52966	1252.03	81.04	0.65	6.08	1719.21	7.28	1717.13	7.28	-2.07	-0.12
104	237	133	29	3792	0.98503	731.84	0.53059	1250.89	86.57	0	5.98	1728.68	7.29	1726.17	7.28	-2.51	-0.15
104	238	134	30	3808	0.98411	733.21	0.53151	1249.77	92.26	0.65	5.89	1739.3	7.31	1736.9	7.3	-2.4	-0.14
104	239	135	31	3824	0.98318	734.57	0.53243	1248.67	98.1	0	5.8	1748.46	7.32	1745.65	7.3	-2.81	-0.16
104	240	136	32	3840	0.98222	735.9	0.53333	1247.6	104.1	0.65	5.71	1758.76	7.33	1756.08	7.32	-2.68	-0.15
104	241	137	33	3856	0.98125	737.21	0.53423	1246.55	110.25	0	5.63	1767.61	7.33	1764.54	7.32	-3.07	-0.17
104	242	138	34	3872	0.98026	738.51	0.53512	1245.53	116.55	0.64	5.54	1777.6	7.35	1774.68	7.33	-2.93	-0.16
104	243	139	35	3888	0.97926	739.78	0.53601	1244.52	123	0	5.46	1786.16	7.35	1782.86	7.34	-3.3	-0.19
104	244	140	36	3904	0.97823	741.03	0.53689	1243.54	129.6	0.64	5.38	1795.85	7.36	1792.71	7.35	-3.14	-0.18
104	245	141	37	3920	0.97719	742.27	0.53776	1242.58	136.34	0	5.3	1804.12	7.36	1800.62	7.35	-3.49	-0.19
104	246	142	38	3936	0.97614	743.48	0.53862	1241.64	143.23	0.64	5.23	1813.51	7.37	1810.2	7.36	-3.32	-0.18
104	247	143	39	3952	0.97507	744.68	0.53947	1240.72	150.26	0	5.15	1821.49	7.37	1817.84	7.36	-3.66	-0.2
104	248	144	40	3968	0.97399	745.86	0.54032	1239.82	157.43	0.64	5.08	1830.61	7.38	1827.14	7.37	-3.47	-0.19
104	249	145	41	3984	0.97289	747.02	0.54117	1238.94	164.74	0	5.01	1838.31	7.38	1834.52	7.37	-3.79	-0.21
104	250	146	42	4000	0.97178	748.16	0.54200	1238.09	172.18	0.63	4.94	1847.14	7.39	1843.55	7.37	-3.59	-0.19
104	251	147	43	4016	0.97065	749.29	0.54283	1237.25	179.76	0	4.87	1854.58	7.39	1850.68	7.37	-3.9	-0.21
104	252	148	44	4032	0.96951	750.39	0.54365	1236.43	187.48	0.63	4.8	1863.14	7.39	1859.45	7.38	-3.69	-0.2
104	253	149	45	4048	0.96836	751.49	0.54447	1235.62	195.32	0	4.74	1870.31	7.39	1866.32	7.38	-3.98	-0.21
104	254	150	46	4064	0.96720	752.56	0.54528	1234.84	203.3	0.63	4.67	1878.6	7.4	1874.84	7.38	-3.76	-0.2
104	255	151	47	4080	0.96603	753.62	0.54608	1234.08	211.4	0	4.61	1885.51	7.39	1881.47	7.38	-4.05	-0.22
104	256	152	48	4096	0.96484	754.66	0.54688	1233.33	219.64	0.62	4.55	1893.55	7.4	1889.73	7.38	-3.81	-0.2
104	257	153	49	4112	0.96365	755.69	0.54767	1232.6	228	0	4.49	1900.21	7.39	1896.12	7.38	-4.09	-0.22
104	258	154	50	4128	0.96244	756.7	0.54845	1231.88	236.48	0.62	4.43	1907.99	7.4	1904.14	7.38	-3.85	-0.2
104	259	155	51	4144	0.96123	757.69	0.54923	1231.19	245.09	0	4.37	1914.4	7.39	1910.29	7.38	-4.11	-0.22
104	260	156	52	4160	0.96000	758.67	0.55000	1230.51	253.82	0.62	4.32	1921.93	7.39	1918.07	7.38	-3.86	-0.2
104	261	157	53	4176	0.95877	759.64	0.55077	1229.85	262.67	0	4.26	1928.11	7.39	1923.99	7.37	-4.11	-0.21
104	262	158	54	4192	0.95752	760.59	0.55153	1229.2	271.64	0.62	4.21	1935.4	7.39	1931.54	7.37	-3.86	-0.2
104	263	159	55	4208	0.95627	761.53	0.55228	1228.57	280.73	0	4.15	1941.34	7.38	1937.24	7.37	-4.1	-0.21

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
104	264	160	56	4224	0.95501	762.45	0.55303	1227.95	289.93	0.62	4.1	1948.39	7.38	1944.55	7.37	-3.84	-0.2
104	265	161	57	4240	0.95373	763.35	0.55377	1227.35	299.25	0	4.05	1954.1	7.37	1950.03	7.36	-4.07	-0.21
104	266	162	58	4256	0.95246	764.25	0.55451	1226.77	308.68	0.61	4	1960.92	7.37	1957.11	7.36	-3.81	-0.19
104	267	163	59	4272	0.95117	765.13	0.55524	1226.2	318.22	0	3.95	1966.41	7.36	1962.37	7.35	-4.04	-0.21
104	268	164	60	4288	0.94988	765.99	0.55597	1225.64	327.88	0.61	3.91	1973	7.36	1969.24	7.35	-3.77	-0.19
104	269	165	61	4304	0.94858	766.85	0.55669	1225.1	337.64	0	3.86	1978.27	7.35	1974.28	7.34	-3.99	-0.2
104	270	166	62	4320	0.94727	767.69	0.55741	1224.57	347.52	0.61	3.81	1984.65	7.35	1980.93	7.34	-3.71	-0.19
104	271	167	63	4336	0.94596	768.52	0.55812	1224.06	357.5	0	3.77	1989.7	7.34	1985.77	7.33	-3.92	-0.2
104	272	168	64	4352	0.94464	769.33	0.55882	1223.56	367.58	0.61	3.72	1995.86	7.34	1992.21	7.32	-3.65	-0.18
104	273	169	65	4368	0.94331	770.13	0.55952	1223.07	377.78	0	3.68	2000.7	7.33	1996.84	7.31	-3.86	-0.19
104	274	170	66	4384	0.94198	770.92	0.56022	1222.6	388.07	0.6	3.64	2006.64	7.32	2003.07	7.31	-3.57	-0.18
104	275	171	67	4400	0.94064	771.7	0.56091	1222.14	398.47	0	3.59	2011.28	7.31	2007.5	7.3	-3.78	-0.19
104	276	172	68	4416	0.93930	772.46	0.56159	1221.69	408.98	0.6	3.55	2017.02	7.31	2013.53	7.3	-3.5	-0.17
104	277	173	69	4432	0.93795	773.22	0.56227	1221.26	419.58	0	3.51	2021.46	7.3	2017.76	7.28	-3.69	-0.18
104	278	174	70	4448	0.93660	773.96	0.56295	1220.84	430.28	0.6	3.47	2027	7.29	2023.59	7.28	-3.41	-0.17
104	279	175	71	4464	0.93524	774.69	0.56362	1220.43	441.08	0	3.43	2031.24	7.28	2027.63	7.27	-3.6	-0.18
104	280	176	72	4480	0.93388	775.41	0.56429	1220.03	451.98	0.6	3.4	2036.58	7.27	2033.26	7.26	-3.32	-0.16
104	281	177	73	4496	0.93251	776.12	0.56495	1219.65	462.97	0	3.36	2040.62	7.26	2037.11	7.25	-3.51	-0.17
104	282	178	74	4512	0.93114	776.81	0.56560	1219.27	474.06	0.6	3.32	2045.77	7.25	2042.54	7.24	-3.22	-0.16
104	283	179	75	4528	0.92977	777.5	0.56625	1218.91	485.25	0	3.29	2049.63	7.24	2046.21	7.23	-3.41	-0.17
104	284	180	76	4544	0.92839	778.17	0.56690	1218.56	496.53	0.59	3.25	2054.58	7.23	2051.46	7.22	-3.13	-0.15
104	285	181	77	4560	0.92701	778.84	0.56754	1218.22	507.9	0	3.22	2058.26	7.22	2054.95	7.21	-3.31	-0.16
104	286	182	78	4576	0.92562	779.49	0.56818	1217.89	519.36	0.59	3.18	2063.03	7.21	2060	7.2	-3.03	-0.15
104	287	183	79	4592	0.92423	780.14	0.56882	1217.57	530.91	0	3.15	2066.52	7.2	2063.31	7.19	-3.21	-0.16
104	288	184	80	4608	0.92284	780.77	0.56944	1217.27	542.55	0.59	3.11	2071.11	7.19	2068.19	7.18	-2.92	-0.14
104	289	185	81	4624	0.92145	781.39	0.57007	1216.97	554.28	0	3.08	2074.43	7.18	2071.32	7.17	-3.11	-0.15
104	290	186	82	4640	0.92005	782.01	0.57069	1216.69	566.1	0.59	3.05	2078.84	7.17	2076.02	7.16	-2.82	-0.14
104	291	187	83	4656	0.91865	782.61	0.57131	1216.41	578.01	0	3.02	2081.99	7.15	2078.98	7.14	-3.01	-0.14
104	292	188	84	4672	0.91725	783.21	0.57192	1216.15	590	0.59	2.99	2086.22	7.14	2083.5	7.14	-2.72	-0.13
104	293	189	85	4688	0.91584	783.79	0.57253	1215.89	602.08	0	2.96	2089.2	7.13	2086.29	7.12	-2.9	-0.14
104	294	190	86	4704	0.91443	784.37	0.57313	1215.65	614.24	0.58	2.93	2093.26	7.12	2090.64	7.11	-2.62	-0.13
104	295	191	87	4720	0.91303	784.93	0.57373	1215.41	626.48	0	2.9	2096.07	7.11	2093.27	7.1	-2.8	-0.13
104	296	192	88	4736	0.91161	785.49	0.57432	1215.19	638.81	0.58	2.87	2099.97	7.09	2097.45	7.09	-2.52	-0.12
104	297	193	89	4752	0.91020	786.04	0.57492	1214.97	651.22	0	2.84	2102.62	7.08	2099.91	7.07	-2.7	-0.13
104	298	194	90	4768	0.90879	786.58	0.57550	1214.76	663.7	0.58	2.81	2106.35	7.07	2103.92	7.06	-2.43	-0.12
104	299	195	91	4784	0.90737	787.11	0.57609	1214.56	676.27	0	2.79	2108.84	7.05	2106.23	7.04	-2.61	-0.12
104	300	196	92	4800	0.90596	787.63	0.57667	1214.38	688.92	0.58	2.76	2112.41	7.04	2110.07	7.03	-2.33	-0.11
104	301	197	93	4816	0.90454	788.14	0.57724	1214.2	701.65	0	2.73	2114.74	7.03	2112.22	7.02	-2.52	-0.12
104	302	198	94	4832	0.90312	788.65	0.57782	1214.02	714.45	0.58	2.71	2118.15	7.01	2115.91	7.01	-2.24	-0.11
104	303	199	95	4848	0.90170	789.15	0.57838	1213.86	727.34	0	2.68	2120.33	7	2117.91	6.99	-2.43	-0.11
104	304	200	96	4864	0.90028	789.64	0.57895	1213.71	740.29	0.57	2.65	2123.59	6.99	2121.43	6.98	-2.16	-0.1
104	305	201	97	4880	0.89886	790.12	0.57951	1213.56	753.33	0	2.63	2125.62	6.97	2123.28	6.96	-2.35	-0.11
104	306	202	98	4896	0.89743	790.59	0.58007	1213.43	766.43	0.57	2.61	2128.73	6.96	2126.65	6.95	-2.08	-0.1
104	307	203	99	4912	0.89601	791.05	0.58062	1213.3	779.62	0	2.58	2130.61	6.94	2128.34	6.93	-2.27	-0.11
104	308	204	100	4928	0.89459	791.51	0.58117	1213.18	792.87	0.57	2.56	2133.57	6.93	2131.56	6.92	-2	-0.09
104	309	205	101	4944	0.89316	791.96	0.58172	1213.06	806.2	0	2.53	2135.31	6.91	2133.11	6.9	-2.2	-0.1
104	310	206	102	4960	0.89174	792.4	0.58226	1212.96	819.6	0.57	2.51	2138.12	6.9	2136.18	6.89	-1.94	-0.09

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
104	311	207	103	4976	0.89031	792.84	0.58280	1212.86	833.07	0	2.49	2139.72	6.88	2137.59	6.87	-2.13	-0.1
104	312	208	104	4992	0.88889	793.27	0.58333	1212.77	846.61	0.57	2.47	2142.38	6.87	2140.51	6.86	-1.87	-0.09
104	313	209	105	5008	0.88746	793.69	0.58387	1212.69	860.22	0	2.44	2143.85	6.85	2141.78	6.84	-2.07	-0.1
104	314	210	106	5024	0.88604	794.1	0.58440	1212.62	873.9	0.56	2.42	2146.37	6.84	2144.55	6.83	-1.82	-0.08
104	315	211	107	5040	0.88462	794.51	0.58492	1212.55	887.65	0	2.4	2147.7	6.82	2145.68	6.81	-2.02	-0.09
104	316	212	108	5056	0.88319	794.9	0.58544	1212.49	901.47	0.56	2.38	2150.08	6.8	2148.31	6.8	-1.77	-0.08
104	317	213	109	5072	0.88177	795.3	0.58596	1212.44	915.35	0	2.36	2151.28	6.79	2149.3	6.78	-1.97	-0.09
104	318	214	110	5088	0.88035	795.68	0.58648	1212.39	929.3	0.56	2.34	2153.53	6.77	2151.8	6.77	-1.73	-0.08
104	319	215	111	5104	0.87892	796.06	0.58699	1212.35	943.32	0	2.32	2154.59	6.75	2152.65	6.75	-1.94	-0.09
104	320	216	112	5120	0.87750	796.43	0.58750	1212.32	957.4	0.56	2.3	2156.71	6.74	2155.01	6.73	-1.7	-0.08
104	321	217	113	5136	0.87608	796.8	0.58801	1212.3	971.54	0	2.28	2157.64	6.72	2155.73	6.72	-1.91	-0.09
104	322	218	114	5152	0.87466	797.16	0.58851	1212.28	985.76	0.56	2.26	2159.63	6.71	2157.95	6.7	-1.68	-0.08
104	323	219	115	5168	0.87324	797.51	0.58901	1212.27	1000.03	0	2.24	2160.44	6.69	2158.55	6.68	-1.89	-0.09
104	324	220	116	5184	0.87182	797.86	0.58951	1212.26	1014.37	0.56	2.22	2162.3	6.67	2160.63	6.67	-1.66	-0.08
104	325	221	117	5200	0.87040	798.2	0.59000	1212.26	1028.76	0	2.2	2162.98	6.66	2161.1	6.65	-1.88	-0.09
104	326	222	118	5216	0.86898	798.53	0.59049	1212.27	1043.23	0.55	2.19	2164.72	6.64	2163.06	6.64	-1.66	-0.08
104	327	223	119	5232	0.86757	798.86	0.59098	1212.28	1057.75	0	2.17	2165.28	6.62	2163.4	6.62	-1.88	-0.09
104	328	224	120	5248	0.86615	799.18	0.59146	1212.3	1072.33	0.55	2.15	2166.89	6.61	2165.23	6.6	-1.66	-0.08
104	329	225	121	5264	0.86474	799.5	0.59195	1212.33	1086.97	0	2.13	2167.33	6.59	2165.45	6.58	-1.89	-0.09
104	330	226	122	5280	0.86332	799.81	0.59242	1212.36	1101.68	0.55	2.12	2168.82	6.57	2167.14	6.57	-1.68	-0.08
104	331	227	123	5296	0.86191	800.11	0.59290	1212.4	1116.44	0	2.1	2169.15	6.55	2167.24	6.55	-1.91	-0.09
104	332	228	124	5312	0.86050	800.41	0.59337	1212.45	1131.26	0.55	2.08	2170.52	6.54	2168.82	6.53	-1.7	-0.08
104	333	229	125	5328	0.85909	800.7	0.59384	1212.5	1146.13	0	2.07	2170.73	6.52	2168.79	6.51	-1.94	-0.09
104	334	230	126	5344	0.85769	800.99	0.59431	1212.55	1161.07	0.55	2.05	2171.99	6.5	2170.25	6.5	-1.74	-0.08
104	335	231	127	5360	0.85628	801.27	0.59478	1212.61	1176.06	0	2.03	2172.09	6.48	2170.11	6.48	-1.98	-0.09
104	336	232	128	5376	0.85488	801.55	0.59524	1212.68	1191.11	0.55	2.02	2173.22	6.47	2171.44	6.46	-1.79	-0.08
104	337	233	129	5392	0.85347	801.82	0.59570	1212.75	1206.22	0	2	2173.21	6.45	2171.18	6.44	-2.03	-0.09
104	338	234	130	5408	0.85207	802.09	0.59615	1212.83	1221.38	0.54	1.99	2174.24	6.43	2172.39	6.43	-1.84	-0.08
104	339	235	131	5424	0.85067	802.35	0.59661	1212.91	1236.59	0	1.97	2174.12	6.41	2172.03	6.41	-2.09	-0.1
104	340	236	132	5440	0.84927	802.6	0.59706	1213	1251.86	0.54	1.96	2175.03	6.4	2173.12	6.39	-1.91	-0.09
104	341	237	133	5456	0.84788	802.86	0.59751	1213.1	1267.18	0	1.94	2174.81	6.38	2172.64	6.37	-2.17	-0.1
104	342	238	134	5472	0.84648	803.1	0.59795	1213.2	1282.56	0.54	1.93	2175.61	6.36	2173.62	6.36	-1.99	-0.09
104	343	239	135	5488	0.84509	803.34	0.59840	1213.3	1297.99	0	1.91	2175.28	6.34	2173.03	6.34	-2.26	-0.1
104	344	240	136	5504	0.84370	803.58	0.59884	1213.41	1313.47	0.54	1.9	2175.98	6.33	2173.89	6.32	-2.09	-0.1
104	345	241	137	5520	0.84231	803.81	0.59928	1213.52	1329.01	0	1.89	2175.55	6.31	2173.19	6.3	-2.35	-0.11
104	346	242	138	5536	0.84092	804.04	0.59971	1213.64	1344.59	0.54	1.87	2176.14	6.29	2173.95	6.28	-2.19	-0.1
104	347	243	139	5552	0.83954	804.26	0.60014	1213.77	1360.23	0	1.86	2175.6	6.27	2173.14	6.26	-2.46	-0.11
104	348	244	140	5568	0.83816	804.48	0.60058	1213.9	1375.92	0.54	1.85	2176.09	6.25	2173.78	6.25	-2.31	-0.11
104	349	245	141	5584	0.83678	804.69	0.60100	1214.03	1391.66	0	1.83	2175.46	6.23	2172.87	6.23	-2.59	-0.12
104	350	246	142	5600	0.83540	804.9	0.60143	1214.17	1407.45	0.53	1.82	2175.84	6.22	2173.4	6.21	-2.44	-0.11
104	351	247	143	5616	0.83402	805.1	0.60185	1214.31	1423.29	0	1.81	2175.11	6.2	2172.39	6.19	-2.72	-0.13
104	352	248	144	5632	0.83265	805.3	0.60227	1214.46	1439.17	0.53	1.79	2175.4	6.18	2172.82	6.17	-2.58	-0.12
104	353	249	145	5648	0.83127	805.49	0.60269	1214.61	1455.11	0	1.78	2174.57	6.16	2171.7	6.15	-2.87	-0.13
104	354	250	146	5664	0.82990	805.68	0.60311	1214.77	1471.09	0.53	1.77	2174.76	6.14	2172.02	6.14	-2.74	-0.13
104	355	251	147	5680	0.82853	805.87	0.60352	1214.93	1487.12	0	1.76	2173.84	6.12	2170.8	6.11	-3.03	-0.14
104	356	252	148	5696	0.82717	806.05	0.60393	1215.09	1503.2	0.53	1.74	2173.93	6.11	2171.02	6.1	-2.9	-0.13
104	357	253	149	5712	0.82581	806.23	0.60434	1215.26	1519.33	0	1.73	2172.91	6.09	2169.71	6.08	-3.21	-0.15

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
104	358	254	150	5728	0.82444	806.4	0.60475	1215.44	1535.5	0.53	1.72	2172.91	6.07	2169.82	6.06	-3.09	-0.14
104	359	255	151	5744	0.82309	806.57	0.60515	1215.61	1551.72	0	1.71	2171.8	6.05	2168.41	6.04	-3.39	-0.16
104	360	256	152	5760	0.82173	806.74	0.60556	1215.8	1567.99	0.53	1.7	2171.7	6.03	2168.42	6.02	-3.28	-0.15
104	361	257	153	5776	0.82037	806.9	0.60596	1215.98	1584.3	0	1.69	2170.51	6.01	2166.91	6	-3.59	-0.17
104	362	258	154	5792	0.81902	807.06	0.60635	1216.17	1600.65	0.53	1.68	2170.32	6	2166.83	5.99	-3.49	-0.16
104	363	259	155	5808	0.81767	807.21	0.60675	1216.37	1617.06	0	1.66	2169.03	5.98	2165.22	5.96	-3.81	-0.18
104	364	260	156	5824	0.81633	807.36	0.60714	1216.57	1633.5	0.52	1.65	2168.75	5.96	2165.04	5.95	-3.71	-0.17
Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
105	209	104	-1	3344	0.99998	683.21	0.49880	1319.05	0.12	0	9.8	1351.43	6.47	1360.64	6.51	9.21	0.68
105	210	105	0	3360	1.00000	685.41	0.50000	1316.93	0	-0.69	10	1366.97	6.51	1375.91	6.55	8.94	0.65
105	211	106	1	3376	0.99998	687.56	0.50119	1314.86	0.12	0	9.8	1383.26	6.56	1390.77	6.59	7.51	0.54
105	212	107	2	3392	0.99991	689.69	0.50236	1312.84	0.46	-0.69	9.61	1397.94	6.59	1405.63	6.63	7.69	0.55
105	213	108	3	3408	0.99980	691.78	0.50352	1310.85	1.03	0	9.43	1413.76	6.64	1420.08	6.67	6.31	0.44
105	214	109	4	3424	0.99965	693.84	0.50467	1308.91	1.82	-0.68	9.24	1427.99	6.67	1434.53	6.7	6.53	0.46
105	215	110	5	3440	0.99946	695.87	0.50581	1307	2.84	0	9.07	1443.37	6.71	1448.57	6.74	5.2	0.36
105	216	111	6	3456	0.99923	697.86	0.50694	1305.14	4.06	-0.68	8.9	1457.16	6.75	1462.63	6.77	5.47	0.37
105	217	112	7	3472	0.99896	699.82	0.50807	1303.31	5.51	0	8.73	1472.09	6.78	1476.28	6.8	4.18	0.28
105	218	113	8	3488	0.99865	701.76	0.50917	1301.52	7.16	-0.68	8.57	1485.46	6.81	1489.95	6.83	4.49	0.3
105	219	114	9	3504	0.99831	703.66	0.51027	1299.76	9.02	0	8.41	1499.97	6.85	1503.21	6.86	3.24	0.22
105	220	115	10	3520	0.99793	705.54	0.51136	1298.04	11.09	-0.67	8.26	1512.93	6.88	1516.51	6.89	3.58	0.24
105	221	116	11	3536	0.99752	707.38	0.51244	1296.36	13.35	0	8.11	1527.02	6.91	1529.4	6.92	2.38	0.16
105	222	117	12	3552	0.99708	709.2	0.51351	1294.71	15.82	-0.67	7.97	1539.57	6.94	1542.33	6.95	2.75	0.18
105	223	118	13	3568	0.99660	710.98	0.51457	1293.09	18.48	0	7.83	1553.27	6.97	1554.85	6.97	1.58	0.1
105	224	119	14	3584	0.99609	712.74	0.51563	1291.51	21.34	-0.67	7.69	1565.43	6.99	1567.42	7	2	0.13
105	225	120	15	3600	0.99556	714.48	0.51667	1289.96	24.39	0	7.56	1578.73	7.02	1579.59	7.02	0.86	0.05
105	226	121	16	3616	0.99499	716.18	0.51770	1288.44	27.63	-0.67	7.43	1590.51	7.04	1591.81	7.04	1.3	0.08
105	227	122	17	3632	0.99439	717.87	0.51872	1286.95	31.05	0	7.3	1603.43	7.06	1603.63	7.06	0.2	0.01
105	228	123	18	3648	0.99377	719.52	0.51974	1285.49	34.66	-0.66	7.18	1614.84	7.08	1615.51	7.09	0.67	0.04
105	229	124	19	3664	0.99312	721.15	0.52074	1284.07	38.45	0	7.06	1627.39	7.11	1626.99	7.1	-0.4	-0.02
105	230	125	20	3680	0.99244	722.75	0.52174	1282.67	42.42	-0.66	6.94	1638.44	7.12	1638.54	7.12	0.1	0.01
105	231	126	21	3696	0.99174	724.33	0.52273	1281.3	46.57	0	6.83	1650.62	7.15	1649.68	7.14	-0.94	-0.06
105	232	127	22	3712	0.99101	725.89	0.52371	1279.96	50.89	-0.66	6.71	1661.32	7.16	1660.9	7.16	-0.42	-0.03
105	233	128	23	3728	0.99026	727.42	0.52468	1278.64	55.39	0	6.61	1673.15	7.18	1671.72	7.17	-1.43	-0.09
105	234	129	24	3744	0.98948	728.93	0.52564	1277.36	60.05	-0.65	6.5	1683.51	7.19	1682.63	7.19	-0.88	-0.05
105	235	130	25	3760	0.98868	730.42	0.52660	1276.1	64.88	0	6.4	1695	7.21	1693.13	7.2	-1.87	-0.11
105	236	131	26	3776	0.98786	731.88	0.52754	1274.86	69.88	-0.65	6.3	1705.02	7.22	1703.72	7.22	-1.3	-0.08
105	237	132	27	3792	0.98702	733.32	0.52848	1273.66	75.04	0	6.2	1716.18	7.24	1713.91	7.23	-2.27	-0.13
105	238	133	28	3808	0.98616	734.74	0.52941	1272.47	80.37	-0.65	6.1	1725.87	7.25	1724.2	7.24	-1.67	-0.1
105	239	134	29	3824	0.98528	736.14	0.53034	1271.32	85.85	0	6.01	1736.7	7.27	1734.09	7.26	-2.62	-0.15
105	240	135	30	3840	0.98438	737.51	0.53125	1270.18	91.49	-0.65	5.92	1746.08	7.28	1744.08	7.27	-2	-0.11
105	241	136	31	3856	0.98345	738.87	0.53216	1269.07	97.29	0	5.83	1756.59	7.29	1753.67	7.28	-2.92	-0.17
105	242	137	32	3872	0.98252	740.2	0.53306	1267.99	103.24	-0.64	5.74	1765.66	7.3	1763.37	7.29	-2.29	-0.13
105	243	138	33	3888	0.98156	741.52	0.53395	1266.93	109.34	0	5.65	1775.86	7.31	1772.67	7.29	-3.19	-0.18
105	244	139	34	3904	0.98058	742.81	0.53484	1265.89	115.6	-0.64	5.57	1784.63	7.31	1782.09	7.3	-2.54	-0.14
105	245	140	35	3920	0.97959	744.09	0.53571	1264.87	122	0	5.49	1794.53	7.32	1791.1	7.31	-3.43	-0.19
105	246	141	36	3936	0.97858	745.34	0.53659	1263.87	128.55	-0.64	5.41	1803.01	7.33	1800.25	7.32	-2.76	-0.15

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
105	247	142	37	3952	0.97756	746.58	0.53745	1262.9	135.24	0	5.33	1812.61	7.34	1808.98	7.32	-3.63	-0.2
105	248	143	38	3968	0.97652	747.8	0.53831	1261.95	142.08	-0.64	5.25	1820.8	7.34	1817.85	7.33	-2.95	-0.16
105	249	144	39	3984	0.97547	749	0.53916	1261.01	149.06	0	5.18	1830.11	7.35	1826.31	7.33	-3.8	-0.21
105	250	145	40	4000	0.97440	750.18	0.54000	1260.1	156.17	-0.63	5.11	1838.02	7.35	1834.92	7.34	-3.1	-0.17
105	251	146	41	4016	0.97332	751.34	0.54084	1259.21	163.43	0	5.04	1847.05	7.36	1843.12	7.34	-3.94	-0.21
105	252	147	42	4032	0.97222	752.49	0.54167	1258.34	170.82	-0.63	4.97	1854.69	7.36	1851.46	7.35	-3.23	-0.17
105	253	148	43	4048	0.97111	753.62	0.54249	1257.48	178.35	0	4.9	1863.45	7.37	1859.4	7.35	-4.05	-0.22
105	254	149	44	4064	0.96999	754.73	0.54331	1256.65	186	-0.63	4.83	1870.82	7.37	1867.49	7.35	-3.33	-0.18
105	255	150	45	4080	0.96886	755.83	0.54412	1255.84	193.8	0	4.77	1879.31	7.37	1875.17	7.35	-4.14	-0.22
105	256	151	46	4096	0.96771	756.9	0.54492	1255.04	201.72	-0.62	4.7	1886.42	7.37	1883.01	7.36	-3.41	-0.18
105	257	152	47	4112	0.96656	757.97	0.54572	1254.26	209.77	0	4.64	1894.64	7.37	1890.44	7.36	-4.2	-0.22
105	258	153	48	4128	0.96539	759.01	0.54651	1253.5	217.94	-0.62	4.58	1901.5	7.37	1898.03	7.36	-3.46	-0.18
105	259	154	49	4144	0.96421	760.04	0.54730	1252.76	226.24	0	4.52	1909.47	7.37	1905.22	7.36	-4.25	-0.22
105	260	155	50	4160	0.96302	761.06	0.54808	1252.03	234.67	-0.62	4.46	1916.08	7.37	1912.58	7.36	-3.5	-0.18
105	261	156	51	4176	0.96182	762.06	0.54885	1251.32	243.22	0	4.4	1923.8	7.37	1919.53	7.35	-4.27	-0.22
105	262	157	52	4192	0.96061	763.04	0.54962	1250.63	251.89	-0.62	4.34	1930.16	7.37	1926.65	7.35	-3.52	-0.18
105	263	158	53	4208	0.95939	764.01	0.55038	1249.96	260.68	0	4.29	1937.64	7.37	1933.36	7.35	-4.28	-0.22
105	264	159	54	4224	0.95816	764.97	0.55114	1249.3	269.59	-0.62	4.24	1943.77	7.36	1940.25	7.35	-3.52	-0.18
105	265	160	55	4240	0.95692	765.91	0.55189	1248.65	278.61	0	4.18	1951.01	7.36	1946.74	7.35	-4.27	-0.22
105	266	161	56	4256	0.95568	766.83	0.55263	1248.03	287.76	-0.61	4.13	1956.9	7.36	1953.4	7.34	-3.5	-0.18
105	267	162	57	4272	0.95443	767.75	0.55337	1247.41	297.01	0	4.08	1963.91	7.36	1959.66	7.34	-4.25	-0.22
105	268	163	58	4288	0.95316	768.64	0.55410	1246.82	306.38	-0.61	4.03	1969.58	7.35	1966.1	7.34	-3.47	-0.18
105	269	164	59	4304	0.95189	769.53	0.55483	1246.23	315.86	0	3.98	1976.35	7.35	1972.14	7.33	-4.21	-0.21
105	270	165	60	4320	0.95062	770.4	0.55556	1245.67	325.46	-0.61	3.93	1981.8	7.34	1978.37	7.33	-3.43	-0.17
105	271	166	61	4336	0.94933	771.26	0.55627	1245.11	335.16	0	3.89	1988.36	7.34	1984.19	7.32	-4.16	-0.21
105	272	167	62	4352	0.94804	772.1	0.55699	1244.57	344.97	-0.61	3.84	1993.59	7.33	1990.21	7.32	-3.38	-0.17
105	273	168	63	4368	0.94675	772.94	0.55769	1244.05	354.89	0	3.79	1999.92	7.33	1995.82	7.31	-4.1	-0.21
105	274	169	64	4384	0.94544	773.76	0.55839	1243.54	364.91	-0.6	3.75	2004.94	7.32	2001.63	7.31	-3.32	-0.17
105	275	170	65	4400	0.94413	774.56	0.55909	1243.04	375.04	0	3.71	2011.06	7.31	2007.03	7.3	-4.04	-0.2
105	276	171	66	4416	0.94282	775.36	0.55978	1242.56	385.27	-0.6	3.66	2015.88	7.3	2012.63	7.29	-3.24	-0.16
105	277	172	67	4432	0.94150	776.14	0.56047	1242.08	395.61	0	3.62	2021.79	7.3	2017.83	7.28	-3.96	-0.2
105	278	173	68	4448	0.94017	776.91	0.56115	1241.63	406.04	-0.6	3.58	2026.4	7.29	2023.23	7.28	-3.16	-0.16
105	279	174	69	4464	0.93884	777.67	0.56183	1241.18	416.58	0	3.54	2032.11	7.28	2028.23	7.27	-3.87	-0.19
105	280	175	70	4480	0.93750	778.42	0.56250	1240.75	427.22	-0.6	3.5	2036.52	7.27	2033.44	7.26	-3.08	-0.15
105	281	176	71	4496	0.93616	779.15	0.56317	1240.33	437.95	0	3.46	2042.03	7.27	2038.24	7.25	-3.78	-0.19
105	282	177	72	4512	0.93481	779.88	0.56383	1239.92	448.79	-0.6	3.42	2046.24	7.26	2043.26	7.25	-2.99	-0.15
105	283	178	73	4528	0.93346	780.59	0.56449	1239.52	459.71	0	3.38	2051.56	7.25	2047.87	7.24	-3.69	-0.18
105	284	179	74	4544	0.93211	781.29	0.56514	1239.14	470.74	-0.59	3.35	2055.58	7.24	2052.69	7.23	-2.89	-0.14
105	285	180	75	4560	0.93075	781.98	0.56579	1238.77	481.86	0	3.31	2060.71	7.23	2057.11	7.22	-3.59	-0.17
105	286	181	76	4576	0.92939	782.66	0.56643	1238.41	493.07	-0.59	3.28	2064.55	7.22	2061.75	7.21	-2.79	-0.14
105	287	182	77	4592	0.92802	783.33	0.56707	1238.06	504.37	0	3.24	2069.48	7.21	2065.99	7.2	-3.49	-0.17
105	288	183	78	4608	0.92665	783.99	0.56771	1237.72	515.77	-0.59	3.21	2073.14	7.2	2070.45	7.19	-2.69	-0.13
105	289	184	79	4624	0.92528	784.64	0.56834	1237.39	527.25	0	3.17	2077.89	7.19	2074.5	7.18	-3.39	-0.16
105	290	185	80	4640	0.92390	785.28	0.56897	1237.07	538.83	-0.59	3.14	2081.37	7.18	2078.78	7.17	-2.59	-0.12
105	291	186	81	4656	0.92252	785.91	0.56959	1236.77	550.49	0	3.11	2085.94	7.17	2082.66	7.16	-3.28	-0.16
105	292	187	82	4672	0.92114	786.53	0.57021	1236.47	562.24	-0.59	3.07	2089.25	7.15	2086.76	7.15	-2.49	-0.12
105	293	188	83	4688	0.91975	787.14	0.57082	1236.19	574.08	0	3.04	2093.64	7.15	2090.46	7.13	-3.18	-0.15

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
105	294	189	84	4704	0.91837	787.74	0.57143	1235.91	586	-0.58	3.01	2096.78	7.13	2094.39	7.12	-2.38	-0.11
105	295	190	85	4720	0.91698	788.33	0.57203	1235.65	598.01	0	2.98	2100.99	7.12	2097.92	7.11	-3.07	-0.15
105	296	191	86	4736	0.91559	788.91	0.57264	1235.39	610.1	-0.58	2.95	2103.96	7.11	2101.68	7.1	-2.28	-0.11
105	297	192	87	4752	0.91419	789.48	0.57323	1235.15	622.28	0	2.92	2108.01	7.1	2105.04	7.09	-2.97	-0.14
105	298	193	88	4768	0.91280	790.05	0.57383	1234.91	634.53	-0.58	2.89	2110.82	7.08	2108.64	7.08	-2.18	-0.1
105	299	194	89	4784	0.91140	790.6	0.57442	1234.69	646.87	0	2.86	2114.7	7.07	2111.83	7.06	-2.87	-0.14
105	300	195	90	4800	0.91000	791.15	0.57500	1234.47	659.29	-0.58	2.84	2117.35	7.06	2115.27	7.05	-2.08	-0.1
105	301	196	91	4816	0.90860	791.68	0.57558	1234.26	671.8	0	2.81	2121.07	7.05	2118.3	7.04	-2.77	-0.13
105	302	197	92	4832	0.90720	792.21	0.57616	1234.07	684.38	-0.58	2.78	2123.55	7.03	2121.57	7.03	-1.98	-0.09
105	303	198	93	4848	0.90579	792.73	0.57673	1233.88	697.03	0	2.76	2127.11	7.02	2124.44	7.01	-2.67	-0.13
105	304	199	94	4864	0.90439	793.24	0.57730	1233.7	709.77	-0.57	2.73	2129.45	7	2127.56	7	-1.89	-0.09
105	305	200	95	4880	0.90298	793.75	0.57787	1233.53	722.58	0	2.7	2132.85	6.99	2130.27	6.98	-2.58	-0.12
105	306	201	96	4896	0.90158	794.24	0.57843	1233.36	735.47	-0.57	2.68	2135.03	6.98	2133.23	6.97	-1.8	-0.08
105	307	202	97	4912	0.90017	794.73	0.57899	1233.21	748.44	0	2.65	2138.28	6.97	2135.79	6.96	-2.49	-0.12
105	308	203	98	4928	0.89876	795.21	0.57955	1233.06	761.47	-0.57	2.63	2140.31	6.95	2138.6	6.94	-1.72	-0.08
105	309	204	99	4944	0.89735	795.68	0.58010	1232.93	774.59	0	2.6	2143.41	6.94	2141.01	6.93	-2.41	-0.11
105	310	205	100	4960	0.89594	796.14	0.58065	1232.8	787.77	-0.57	2.58	2145.3	6.92	2143.67	6.92	-1.64	-0.08
105	311	206	101	4976	0.89453	796.6	0.58119	1232.68	801.03	0	2.56	2148.25	6.91	2145.92	6.9	-2.33	-0.11
105	312	207	102	4992	0.89312	797.04	0.58173	1232.56	814.36	-0.57	2.53	2150	6.89	2148.44	6.89	-1.56	-0.07
105	313	208	103	5008	0.89171	797.48	0.58227	1232.46	827.76	0	2.51	2152.81	6.88	2150.55	6.87	-2.26	-0.1
105	314	209	104	5024	0.89030	797.92	0.58280	1232.36	841.24	-0.56	2.49	2154.41	6.86	2152.92	6.86	-1.5	-0.07
105	315	210	105	5040	0.88889	798.34	0.58333	1232.27	854.78	0	2.47	2157.08	6.85	2154.88	6.84	-2.19	-0.1
105	316	211	106	5056	0.88748	798.76	0.58386	1232.19	868.39	-0.56	2.44	2158.54	6.83	2157.11	6.83	-1.43	-0.07
105	317	212	107	5072	0.88607	799.17	0.58439	1232.11	882.07	0	2.42	2161.07	6.82	2158.94	6.81	-2.13	-0.1
105	318	213	108	5088	0.88466	799.58	0.58491	1232.04	895.82	-0.56	2.4	2162.4	6.8	2161.02	6.8	-1.38	-0.06
105	319	214	109	5104	0.88325	799.98	0.58542	1231.98	909.63	0	2.38	2164.79	6.79	2162.71	6.78	-2.08	-0.1
105	320	215	110	5120	0.88184	800.37	0.58594	1231.93	923.51	-0.56	2.36	2165.99	6.77	2164.66	6.76	-1.33	-0.06
105	321	216	111	5136	0.88043	800.75	0.58645	1231.88	937.46	0	2.34	2168.25	6.75	2166.21	6.75	-2.04	-0.09
105	322	217	112	5152	0.87902	801.13	0.58696	1231.85	951.47	-0.56	2.32	2169.32	6.74	2168.02	6.73	-1.3	-0.06
105	323	218	113	5168	0.87761	801.5	0.58746	1231.81	965.55	0	2.3	2171.44	6.72	2169.44	6.72	-2	-0.09
105	324	219	114	5184	0.87620	801.87	0.58796	1231.79	979.69	-0.56	2.28	2172.38	6.7	2171.12	6.7	-1.27	-0.06
105	325	220	115	5200	0.87479	802.22	0.58846	1231.77	993.89	0	2.26	2174.38	6.69	2172.4	6.68	-1.98	-0.09
105	326	221	116	5216	0.87339	802.58	0.58896	1231.76	1008.16	-0.55	2.24	2175.2	6.67	2173.95	6.67	-1.25	-0.06
105	327	222	117	5232	0.87198	802.92	0.58945	1231.75	1022.49	0	2.23	2177.06	6.66	2175.1	6.65	-1.96	-0.09
105	328	223	118	5248	0.87058	803.26	0.58994	1231.75	1036.88	-0.55	2.21	2177.76	6.64	2176.52	6.64	-1.23	-0.06
105	329	224	119	5264	0.86917	803.6	0.59043	1231.76	1051.34	0	2.19	2179.5	6.62	2177.55	6.62	-1.95	-0.09
105	330	225	120	5280	0.86777	803.92	0.59091	1231.77	1065.85	-0.55	2.17	2180.07	6.61	2178.84	6.6	-1.23	-0.06
105	331	226	121	5296	0.86637	804.25	0.59139	1231.79	1080.43	0	2.15	2181.69	6.59	2179.74	6.59	-1.95	-0.09
105	332	227	122	5312	0.86497	804.56	0.59187	1231.82	1095.06	-0.55	2.14	2182.15	6.57	2180.91	6.57	-1.24	-0.06
105	333	228	123	5328	0.86357	804.87	0.59234	1231.85	1109.75	0	2.12	2183.65	6.56	2181.69	6.55	-1.96	-0.09
105	334	229	124	5344	0.86217	805.18	0.59281	1231.89	1124.5	-0.55	2.1	2183.99	6.54	2182.73	6.54	-1.26	-0.06
105	335	230	125	5360	0.86077	805.48	0.59328	1231.93	1139.31	0	2.09	2185.37	6.52	2183.39	6.52	-1.98	-0.09
105	336	231	126	5376	0.85938	805.77	0.59375	1231.98	1154.18	-0.55	2.07	2185.6	6.5	2184.31	6.5	-1.28	-0.06
105	337	232	127	5392	0.85798	806.06	0.59421	1232.03	1169.1	0	2.05	2186.86	6.49	2184.85	6.48	-2.02	-0.09
105	338	233	128	5408	0.85659	806.34	0.59468	1232.09	1184.08	-0.54	2.04	2186.98	6.47	2185.66	6.47	-1.32	-0.06
105	339	234	129	5424	0.85520	806.62	0.59513	1232.16	1199.12	0	2.02	2188.13	6.45	2186.07	6.45	-2.06	-0.09
105	340	235	130	5440	0.85381	806.89	0.59559	1232.23	1214.21	-0.54	2.01	2188.13	6.44	2186.76	6.43	-1.37	-0.06

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
105	341	236	131	5456	0.85242	807.16	0.59604	1232.31	1229.36	0	1.99	2189.17	6.42	2187.06	6.41	-2.11	-0.1
105	342	237	132	5472	0.85103	807.42	0.59649	1232.39	1244.56	-0.54	1.98	2189.07	6.4	2187.64	6.4	-1.43	-0.07
105	343	238	133	5488	0.84965	807.67	0.59694	1232.48	1259.82	0	1.96	2189.99	6.38	2187.82	6.38	-2.18	-0.1
105	344	239	134	5504	0.84826	807.92	0.59738	1232.57	1275.13	-0.54	1.95	2189.79	6.37	2188.28	6.36	-1.5	-0.07
105	345	240	135	5520	0.84688	808.17	0.59783	1232.67	1290.49	0	1.93	2190.6	6.35	2188.35	6.34	-2.25	-0.1
105	346	241	136	5536	0.84550	808.41	0.59827	1232.77	1305.9	-0.54	1.92	2190.29	6.33	2188.71	6.33	-1.59	-0.07
105	347	242	137	5552	0.84412	808.65	0.59870	1232.88	1321.37	0	1.9	2191	6.31	2188.66	6.31	-2.34	-0.11
105	348	243	138	5568	0.84275	808.88	0.59914	1233	1336.89	-0.54	1.89	2190.59	6.29	2188.91	6.29	-1.68	-0.08
105	349	244	139	5584	0.84137	809.11	0.59957	1233.11	1352.46	0	1.88	2191.2	6.28	2188.76	6.27	-2.44	-0.11
105	350	245	140	5600	0.84000	809.33	0.60000	1233.24	1368.08	-0.53	1.86	2190.68	6.26	2188.89	6.25	-1.79	-0.08
105	351	246	141	5616	0.83863	809.55	0.60043	1233.37	1383.75	0	1.85	2191.18	6.24	2188.63	6.24	-2.55	-0.12
105	352	247	142	5632	0.83726	809.76	0.60085	1233.5	1399.47	-0.53	1.84	2190.57	6.22	2188.66	6.22	-1.91	-0.09
105	353	248	143	5648	0.83590	809.97	0.60128	1233.64	1415.24	0	1.82	2190.97	6.21	2188.3	6.2	-2.67	-0.12
105	354	249	144	5664	0.83453	810.18	0.60170	1233.78	1431.06	-0.53	1.81	2190.26	6.19	2188.22	6.18	-2.04	-0.09
105	355	250	145	5680	0.83317	810.38	0.60211	1233.92	1446.93	0	1.8	2190.56	6.17	2187.75	6.16	-2.81	-0.13
105	356	251	146	5696	0.83181	810.57	0.60253	1234.08	1462.85	-0.53	1.79	2189.76	6.15	2187.57	6.14	-2.18	-0.1
105	357	252	147	5712	0.83045	810.76	0.60294	1234.23	1478.82	0	1.77	2189.96	6.13	2187	6.13	-2.96	-0.14
105	358	253	148	5728	0.82909	810.95	0.60335	1234.39	1494.83	-0.53	1.76	2189.06	6.11	2186.72	6.11	-2.34	-0.11
105	359	254	149	5744	0.82774	811.13	0.60376	1234.56	1510.89	0	1.75	2189.17	6.1	2186.05	6.09	-3.12	-0.14
105	360	255	150	5760	0.82639	811.31	0.60417	1234.73	1527	-0.53	1.74	2188.18	6.08	2185.67	6.07	-2.51	-0.11
105	361	256	151	5776	0.82504	811.49	0.60457	1234.9	1543.15	0	1.73	2188.19	6.06	2184.89	6.05	-3.3	-0.15
105	362	257	152	5792	0.82369	811.66	0.60497	1235.08	1559.35	-0.53	1.71	2187.11	6.04	2184.41	6.03	-2.69	-0.12
105	363	258	153	5808	0.82235	811.82	0.60537	1235.26	1575.59	0	1.7	2187.03	6.02	2183.54	6.02	-3.49	-0.16
105	364	259	154	5824	0.82101	811.99	0.60577	1235.44	1591.88	-0.52	1.69	2185.85	6.01	2182.97	6	-2.89	-0.13
105	365	260	155	5840	0.81967	812.15	0.60616	1235.63	1608.22	0	1.68	2185.68	5.99	2182	5.98	-3.69	-0.17
105	366	261	156	5856	0.81833	812.3	0.60656	1235.83	1624.6	-0.52	1.67	2184.42	5.97	2181.32	5.96	-3.1	-0.14
105	367	262	157	5872	0.81699	812.45	0.60695	1236.02	1641.02	0	1.66	2184.16	5.95	2180.26	5.94	-3.9	-0.18
105	368	263	158	5888	0.81566	812.6	0.60734	1236.23	1657.49	-0.52	1.65	2182.81	5.93	2179.49	5.92	-3.32	-0.15
Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
106	211	105	-1	3376	0.99998	687.56	0.49882	1340.03	0.12	0	9.8	1358.09	6.44	1367.32	6.48	9.23	0.67
106	212	106	0	3392	1.00000	689.75	0.50000	1337.9	0	0.69	10	1375.03	6.49	1383.51	6.53	8.48	0.61
106	213	107	1	3408	0.99998	691.9	0.50117	1335.82	0.11	0	9.8	1389.97	6.53	1397.5	6.56	7.54	0.54
106	214	108	2	3424	0.99991	694.02	0.50234	1333.78	0.46	0.68	9.62	1406.04	6.57	1413.27	6.6	7.23	0.51
106	215	109	3	3440	0.99981	696.11	0.50349	1331.78	1.02	0	9.43	1420.52	6.61	1426.86	6.64	6.34	0.44
106	216	110	4	3456	0.99966	698.16	0.50463	1329.82	1.81	0.68	9.25	1436.14	6.65	1442.22	6.68	6.08	0.42
106	217	111	5	3472	0.99947	700.18	0.50576	1327.9	2.81	0	9.08	1450.18	6.68	1455.42	6.71	5.23	0.36
106	218	112	6	3488	0.99924	702.17	0.50688	1326.02	4.03	0.68	8.91	1465.36	6.72	1470.37	6.74	5.01	0.34
106	219	113	7	3504	0.99898	704.13	0.50799	1324.18	5.46	0	8.74	1478.97	6.75	1483.19	6.77	4.22	0.28
106	220	114	8	3520	0.99868	706.06	0.50909	1322.38	7.09	0.67	8.58	1493.73	6.79	1497.76	6.81	4.03	0.27
106	221	115	9	3536	0.99834	707.96	0.51018	1320.61	8.94	0	8.43	1506.92	6.82	1510.2	6.83	3.28	0.22
106	222	116	10	3552	0.99797	709.83	0.51126	1318.87	10.99	0.67	8.28	1521.26	6.85	1524.38	6.87	3.13	0.21
106	223	117	11	3568	0.99757	711.67	0.51233	1317.18	13.23	0	8.13	1534.05	6.88	1536.46	6.89	2.41	0.16
106	224	118	12	3584	0.99713	713.49	0.51339	1315.51	15.68	0.67	7.99	1547.98	6.91	1550.27	6.92	2.3	0.15
106	225	119	13	3600	0.99666	715.27	0.51444	1313.88	18.32	0	7.85	1560.37	6.93	1562	6.94	1.62	0.1
106	226	120	14	3616	0.99616	717.03	0.51549	1312.28	21.15	0.67	7.71	1573.91	6.96	1575.45	6.97	1.54	0.1
106	227	121	15	3632	0.99563	718.76	0.51652	1310.72	24.18	0	7.58	1585.92	6.99	1586.82	6.99	0.9	0.06

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
106	228	122	16	3648	0.99508	720.47	0.51754	1309.19	27.39	0.66	7.45	1599.07	7.01	1599.92	7.02	0.85	0.05
106	229	123	17	3664	0.99449	722.15	0.51856	1307.68	30.78	0	7.32	1610.71	7.03	1610.95	7.03	0.24	0.02
106	230	124	18	3680	0.99388	723.8	0.51957	1306.21	34.36	0.66	7.2	1623.48	7.06	1623.7	7.06	0.22	0.01
106	231	125	19	3696	0.99324	725.43	0.52056	1304.77	38.12	0	7.08	1634.76	7.08	1634.4	7.08	-0.35	-0.02
106	232	126	20	3712	0.99257	727.03	0.52155	1303.36	42.06	0.66	6.96	1647.17	7.1	1646.82	7.1	-0.35	-0.02
106	233	127	21	3728	0.99188	728.61	0.52253	1301.97	46.17	0	6.85	1658.09	7.12	1657.2	7.11	-0.89	-0.05
106	234	128	22	3744	0.99116	730.17	0.52350	1300.62	50.46	0.65	6.74	1670.15	7.14	1669.28	7.13	-0.87	-0.05
106	235	129	23	3760	0.99042	731.7	0.52447	1299.29	54.92	0	6.63	1680.72	7.15	1679.34	7.15	-1.38	-0.08
106	236	130	24	3776	0.98966	733.21	0.52542	1297.99	59.54	0.65	6.52	1692.43	7.17	1691.1	7.17	-1.33	-0.08
106	237	131	25	3792	0.98887	734.7	0.52637	1296.72	64.34	0	6.42	1702.67	7.18	1700.85	7.18	-1.82	-0.11
106	238	132	26	3808	0.98807	736.16	0.52731	1295.47	69.3	0.65	6.32	1714.04	7.2	1712.3	7.19	-1.75	-0.1
106	239	133	27	3824	0.98724	737.6	0.52824	1294.25	74.42	0	6.22	1723.95	7.21	1721.74	7.2	-2.21	-0.13
106	240	134	28	3840	0.98639	739.02	0.52917	1293.05	79.7	0.65	6.13	1735	7.23	1732.88	7.22	-2.12	-0.12
106	241	135	29	3856	0.98552	740.42	0.53008	1291.88	85.14	0	6.03	1744.59	7.24	1742.03	7.23	-2.56	-0.15
106	242	136	30	3872	0.98463	741.8	0.53099	1290.73	90.74	0.64	5.94	1755.31	7.25	1752.87	7.24	-2.45	-0.14
106	243	137	31	3888	0.98373	743.16	0.53189	1289.61	96.49	0	5.85	1764.59	7.26	1761.73	7.25	-2.86	-0.16
106	244	138	32	3904	0.98280	744.49	0.53279	1288.51	102.4	0.64	5.76	1775	7.27	1772.27	7.26	-2.73	-0.15
106	245	139	33	3920	0.98186	745.81	0.53367	1287.43	108.46	0	5.68	1783.98	7.28	1780.85	7.27	-3.13	-0.18
106	246	140	34	3936	0.98090	747.11	0.53455	1286.38	114.66	0.64	5.6	1794.09	7.29	1791.1	7.28	-2.98	-0.17
106	247	141	35	3952	0.97992	748.38	0.53543	1285.35	121.02	0	5.51	1802.77	7.3	1799.41	7.29	-3.36	-0.19
106	248	142	36	3968	0.97893	749.64	0.53629	1284.34	127.52	0.64	5.44	1812.57	7.31	1809.37	7.3	-3.2	-0.18
106	249	143	37	3984	0.97792	750.88	0.53715	1283.35	134.16	0	5.36	1820.97	7.31	1817.41	7.3	-3.56	-0.2
106	250	144	38	4000	0.97690	752.1	0.53800	1282.38	140.95	0.63	5.28	1830.48	7.32	1827.1	7.31	-3.38	-0.19
106	251	145	39	4016	0.97586	753.3	0.53885	1281.44	147.87	0	5.21	1838.59	7.33	1834.87	7.31	-3.73	-0.2
106	252	146	40	4032	0.97481	754.49	0.53968	1280.51	154.94	0.63	5.13	1847.82	7.33	1844.29	7.32	-3.54	-0.19
106	253	147	41	4048	0.97374	755.66	0.54051	1279.61	162.14	0	5.06	1855.66	7.33	1851.79	7.32	-3.86	-0.21
106	254	148	42	4064	0.97266	756.81	0.54134	1278.72	169.48	0.63	4.99	1864.61	7.34	1860.95	7.33	-3.66	-0.2
106	255	149	43	4080	0.97157	757.94	0.54216	1277.86	176.95	0	4.93	1872.18	7.34	1868.21	7.33	-3.97	-0.21
106	256	150	44	4096	0.97046	759.05	0.54297	1277.01	184.56	0.62	4.86	1880.86	7.35	1877.1	7.33	-3.76	-0.2
106	257	151	45	4112	0.96934	760.15	0.54377	1276.18	192.29	0	4.79	1888.17	7.35	1884.11	7.33	-4.06	-0.22
106	258	152	46	4128	0.96821	761.23	0.54457	1275.37	200.16	0.62	4.73	1896.59	7.35	1892.75	7.34	-3.83	-0.2
106	259	153	47	4144	0.96707	762.3	0.54537	1274.58	208.15	0	4.67	1903.63	7.35	1899.51	7.33	-4.12	-0.22
106	260	154	48	4160	0.96592	763.35	0.54615	1273.81	216.27	0.62	4.61	1911.79	7.35	1907.91	7.34	-3.89	-0.2
106	261	155	49	4176	0.96475	764.38	0.54694	1273.05	224.52	0	4.55	1918.59	7.35	1914.43	7.33	-4.16	-0.22
106	262	156	50	4192	0.96358	765.4	0.54771	1272.31	232.89	0.62	4.49	1926.5	7.35	1922.58	7.34	-3.92	-0.2
106	263	157	51	4208	0.96240	766.41	0.54848	1271.59	241.38	0	4.43	1933.05	7.35	1928.87	7.33	-4.18	-0.22
106	264	158	52	4224	0.96120	767.4	0.54924	1270.89	249.99	0.62	4.37	1940.71	7.35	1936.78	7.34	-3.93	-0.2
106	265	159	53	4240	0.96000	768.37	0.55000	1270.2	258.72	0	4.32	1947.03	7.35	1942.84	7.33	-4.18	-0.22
106	266	160	54	4256	0.95879	769.33	0.55075	1269.53	267.57	0.61	4.26	1954.45	7.35	1950.52	7.33	-3.93	-0.2
106	267	161	55	4272	0.95757	770.27	0.55150	1268.87	276.54	0	4.21	1960.53	7.34	1956.36	7.33	-4.17	-0.21
106	268	162	56	4288	0.95634	771.2	0.55224	1268.23	285.62	0.61	4.16	1967.71	7.34	1963.81	7.33	-3.91	-0.2
106	269	163	57	4304	0.95510	772.12	0.55297	1267.61	294.81	0	4.11	1973.56	7.34	1969.42	7.32	-4.14	-0.21
106	270	164	58	4320	0.95386	773.02	0.55370	1267	304.12	0.61	4.06	1980.52	7.34	1976.65	7.32	-3.87	-0.2
106	271	165	59	4336	0.95260	773.91	0.55443	1266.4	313.54	0	4.01	1986.15	7.33	1982.05	7.31	-4.1	-0.21
106	272	166	60	4352	0.95134	774.79	0.55515	1265.83	323.07	0.61	3.96	1992.88	7.33	1989.05	7.31	-3.83	-0.19
106	273	167	61	4368	0.95007	775.65	0.55586	1265.26	332.71	0	3.91	1998.29	7.32	1994.24	7.3	-4.05	-0.2
106	274	168	62	4384	0.94880	776.5	0.55657	1264.71	342.46	0.6	3.87	2004.8	7.32	2001.03	7.3	-3.77	-0.19

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
106	275	169	63	4400	0.94752	777.34	0.55727	1264.17	352.32	0	3.82	2009.99	7.31	2006.01	7.29	-3.98	-0.2
106	276	170	64	4416	0.94623	778.16	0.55797	1263.65	362.28	0.6	3.78	2016.29	7.31	2012.59	7.29	-3.7	-0.18
106	277	171	65	4432	0.94494	778.98	0.55866	1263.14	372.34	0	3.73	2021.27	7.3	2017.37	7.28	-3.91	-0.19
106	278	172	66	4448	0.94364	779.78	0.55935	1262.65	382.51	0.6	3.69	2027.36	7.29	2023.73	7.28	-3.62	-0.18
106	279	173	67	4464	0.94233	780.56	0.56004	1262.16	392.78	0	3.65	2032.14	7.28	2028.31	7.27	-3.82	-0.19
106	280	174	68	4480	0.94102	781.34	0.56071	1261.69	403.16	0.6	3.61	2038.02	7.28	2034.48	7.27	-3.54	-0.17
106	281	175	69	4496	0.93970	782.1	0.56139	1261.24	413.63	0	3.57	2042.6	7.27	2038.86	7.26	-3.73	-0.18
106	282	176	70	4512	0.93838	782.86	0.56206	1260.79	424.2	0.6	3.53	2048.27	7.26	2044.83	7.25	-3.45	-0.17
106	283	177	71	4528	0.93706	783.6	0.56272	1260.36	434.87	0	3.49	2052.66	7.25	2049.02	7.24	-3.64	-0.18
106	284	178	72	4544	0.93573	784.33	0.56338	1259.94	445.64	0.59	3.45	2058.13	7.25	2054.79	7.24	-3.35	-0.16
106	285	179	73	4560	0.93439	785.04	0.56404	1259.54	456.5	0	3.41	2062.33	7.24	2058.79	7.22	-3.54	-0.17
106	286	180	74	4576	0.93305	785.75	0.56469	1259.14	467.46	0.59	3.37	2067.61	7.23	2064.37	7.22	-3.24	-0.16
106	287	181	75	4592	0.93171	786.45	0.56533	1258.76	478.51	0	3.34	2071.62	7.22	2068.19	7.21	-3.43	-0.17
106	288	182	76	4608	0.93036	787.13	0.56597	1258.39	489.65	0.59	3.3	2076.71	7.21	2073.57	7.2	-3.14	-0.15
106	289	183	77	4624	0.92901	787.81	0.56661	1258.03	500.89	0	3.27	2080.54	7.2	2077.21	7.19	-3.32	-0.16
106	290	184	78	4640	0.92766	788.48	0.56724	1257.68	512.22	0.59	3.23	2085.44	7.19	2082.41	7.18	-3.03	-0.15
106	291	185	79	4656	0.92630	789.13	0.56787	1257.34	523.64	0	3.2	2089.09	7.18	2085.88	7.17	-3.21	-0.15
106	292	186	80	4672	0.92494	789.78	0.56849	1257.01	535.15	0.59	3.16	2093.81	7.17	2090.89	7.16	-2.92	-0.14
106	293	187	81	4688	0.92358	790.41	0.56911	1256.7	546.74	0	3.13	2097.28	7.16	2094.18	7.15	-3.1	-0.15
106	294	188	82	4704	0.92221	791.03	0.56973	1256.39	558.43	0.58	3.1	2101.83	7.15	2099.02	7.14	-2.81	-0.13
106	295	189	83	4720	0.92084	791.65	0.57034	1256.1	570.2	0	3.07	2105.12	7.14	2102.14	7.13	-2.99	-0.14
106	296	190	84	4736	0.91947	792.26	0.57095	1255.81	582.05	0.58	3.04	2109.49	7.13	2106.8	7.12	-2.69	-0.13
106	297	191	85	4752	0.91809	792.85	0.57155	1255.54	593.99	0	3.01	2112.62	7.11	2109.75	7.1	-2.87	-0.14
106	298	192	86	4768	0.91672	793.44	0.57215	1255.27	606.02	0.58	2.98	2116.82	7.1	2114.24	7.09	-2.58	-0.12
106	299	193	87	4784	0.91534	794.02	0.57274	1255.02	618.13	0	2.95	2119.78	7.09	2117.02	7.08	-2.76	-0.13
106	300	194	88	4800	0.91396	794.59	0.57333	1254.78	630.32	0.58	2.92	2123.81	7.08	2121.34	7.07	-2.47	-0.12
106	301	195	89	4816	0.91257	795.15	0.57392	1254.54	642.59	0	2.89	2126.61	7.07	2123.96	7.06	-2.65	-0.12
106	302	196	90	4832	0.91119	795.7	0.57450	1254.31	654.94	0.58	2.86	2130.48	7.05	2128.12	7.05	-2.36	-0.11
106	303	197	91	4848	0.90980	796.24	0.57508	1254.1	667.38	0	2.83	2133.12	7.04	2130.58	7.03	-2.54	-0.12
106	304	198	92	4864	0.90841	796.77	0.57566	1253.89	679.89	0.57	2.81	2136.83	7.03	2134.57	7.02	-2.26	-0.11
106	305	199	93	4880	0.90703	797.3	0.57623	1253.69	692.48	0	2.78	2139.31	7.01	2136.88	7.01	-2.43	-0.11
106	306	200	94	4896	0.90564	797.82	0.57680	1253.5	705.15	0.57	2.75	2142.86	7	2140.71	7	-2.15	-0.1
106	307	201	95	4912	0.90424	798.32	0.57736	1253.32	717.89	0	2.73	2145.19	6.99	2142.86	6.98	-2.33	-0.11
106	308	202	96	4928	0.90285	798.82	0.57792	1253.15	730.71	0.57	2.7	2148.58	6.98	2146.53	6.97	-2.05	-0.1
106	309	203	97	4944	0.90146	799.32	0.57848	1252.99	743.61	0	2.68	2150.76	6.96	2148.53	6.95	-2.23	-0.1
106	310	204	98	4960	0.90006	799.8	0.57903	1252.83	756.58	0.57	2.65	2154.01	6.95	2152.05	6.94	-1.96	-0.09
106	311	205	99	4976	0.89867	800.28	0.57958	1252.69	769.62	0	2.63	2156.04	6.93	2153.9	6.93	-2.14	-0.1
106	312	206	100	4992	0.89727	800.75	0.58013	1252.55	782.74	0.57	2.6	2159.13	6.92	2157.26	6.91	-1.87	-0.09
106	313	207	101	5008	0.89588	801.21	0.58067	1252.42	795.93	0	2.58	2161.02	6.9	2158.97	6.9	-2.05	-0.1
106	314	208	102	5024	0.89448	801.66	0.58121	1252.3	809.19	0.56	2.56	2163.97	6.89	2162.18	6.89	-1.78	-0.08
106	315	209	103	5040	0.89308	802.11	0.58175	1252.19	822.52	0	2.53	2165.71	6.88	2163.74	6.87	-1.97	-0.09
106	316	210	104	5056	0.89168	802.55	0.58228	1252.08	835.93	0.56	2.51	2168.52	6.86	2166.81	6.86	-1.7	-0.08
106	317	211	105	5072	0.89029	802.98	0.58281	1251.98	849.4	0	2.49	2170.12	6.85	2168.23	6.84	-1.89	-0.09
106	318	212	106	5088	0.88889	803.4	0.58333	1251.89	862.94	0.56	2.47	2172.79	6.83	2171.16	6.83	-1.63	-0.08
106	319	213	107	5104	0.88749	803.82	0.58386	1251.81	876.56	0	2.44	2174.26	6.82	2172.44	6.81	-1.82	-0.08
106	320	214	108	5120	0.88609	804.23	0.58438	1251.73	890.23	0.56	2.42	2176.78	6.8	2175.22	6.8	-1.57	-0.07
106	321	215	109	5136	0.88470	804.64	0.58489	1251.66	903.98	0	2.4	2178.12	6.79	2176.36	6.78	-1.76	-0.08

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
106	322	216	110	5152	0.88330	805.03	0.58540	1251.6	917.79	0.56	2.38	2180.51	6.77	2179	6.77	-1.51	-0.07
106	323	217	111	5168	0.88190	805.42	0.58591	1251.55	931.67	0	2.36	2181.72	6.75	2180.01	6.75	-1.71	-0.08
106	324	218	112	5184	0.88051	805.81	0.58642	1251.5	945.62	0.56	2.34	2183.97	6.74	2182.52	6.74	-1.46	-0.07
106	325	219	113	5200	0.87911	806.18	0.58692	1251.46	959.62	0	2.32	2185.05	6.72	2183.39	6.72	-1.66	-0.08
106	326	220	114	5216	0.87772	806.55	0.58742	1251.43	973.7	0.55	2.3	2187.18	6.71	2185.76	6.7	-1.41	-0.06
106	327	221	115	5232	0.87632	806.92	0.58792	1251.4	987.83	0	2.28	2188.13	6.69	2186.51	6.69	-1.62	-0.07
106	328	222	116	5248	0.87493	807.28	0.58842	1251.38	1002.03	0.55	2.26	2190.12	6.68	2188.74	6.67	-1.38	-0.06
106	329	223	117	5264	0.87353	807.63	0.58891	1251.37	1016.3	0	2.25	2190.95	6.66	2189.36	6.65	-1.59	-0.07
106	330	224	118	5280	0.87214	807.97	0.58939	1251.36	1030.62	0.55	2.23	2192.82	6.64	2191.47	6.64	-1.35	-0.06
106	331	225	119	5296	0.87075	808.31	0.58988	1251.36	1045	0	2.21	2193.53	6.63	2191.96	6.62	-1.57	-0.07
106	332	226	120	5312	0.86936	808.65	0.59036	1251.37	1059.45	0.55	2.19	2195.27	6.61	2193.94	6.61	-1.34	-0.06
106	333	227	121	5328	0.86797	808.97	0.59084	1251.38	1073.96	0	2.17	2195.86	6.59	2194.31	6.59	-1.56	-0.07
106	334	228	122	5344	0.86658	809.3	0.59132	1251.4	1088.52	0.55	2.16	2197.49	6.58	2196.15	6.58	-1.33	-0.06
106	335	229	123	5360	0.86519	809.61	0.59179	1251.43	1103.15	0	2.14	2197.96	6.56	2196.4	6.56	-1.55	-0.07
106	336	230	124	5376	0.86380	809.92	0.59226	1251.46	1117.83	0.55	2.12	2199.46	6.55	2198.12	6.54	-1.34	-0.06
106	337	231	125	5392	0.86242	810.23	0.59273	1251.49	1132.57	0	2.11	2199.81	6.53	2198.25	6.52	-1.56	-0.07
106	338	232	126	5408	0.86103	810.53	0.59320	1251.54	1147.37	0.54	2.09	2201.2	6.51	2199.85	6.51	-1.35	-0.06
106	339	233	127	5424	0.85965	810.82	0.59366	1251.58	1162.23	0	2.07	2201.44	6.49	2199.86	6.49	-1.58	-0.07
106	340	234	128	5440	0.85827	811.11	0.59412	1251.64	1177.14	0.54	2.06	2202.71	6.48	2201.34	6.47	-1.37	-0.06
106	341	235	129	5456	0.85689	811.39	0.59458	1251.7	1192.11	0	2.04	2202.84	6.46	2201.24	6.46	-1.61	-0.07
106	342	236	130	5472	0.85551	811.67	0.59503	1251.76	1207.13	0.54	2.03	2204	6.44	2202.6	6.44	-1.41	-0.06
106	343	237	131	5488	0.85413	811.94	0.59548	1251.83	1222.21	0	2.01	2204.02	6.43	2202.38	6.42	-1.65	-0.07
106	344	238	132	5504	0.85276	812.21	0.59593	1251.91	1237.35	0.54	2	2205.07	6.41	2203.62	6.41	-1.45	-0.07
106	345	239	133	5520	0.85138	812.47	0.59638	1251.99	1252.53	0	1.98	2204.98	6.39	2203.29	6.39	-1.7	-0.08
106	346	240	134	5536	0.85001	812.73	0.59682	1252.08	1267.78	0.54	1.97	2205.92	6.38	2204.41	6.37	-1.51	-0.07
106	347	241	135	5552	0.84864	812.98	0.59726	1252.17	1283.07	0	1.95	2205.73	6.36	2203.97	6.35	-1.76	-0.08
106	348	242	136	5568	0.84727	813.22	0.59770	1252.27	1298.42	0.54	1.94	2206.56	6.34	2204.98	6.34	-1.58	-0.07
106	349	243	137	5584	0.84590	813.47	0.59814	1252.37	1313.82	0	1.92	2206.26	6.32	2204.43	6.32	-1.83	-0.08
106	350	244	138	5600	0.84454	813.7	0.59857	1252.48	1329.27	0.53	1.91	2206.99	6.31	2205.33	6.3	-1.66	-0.08
106	351	245	139	5616	0.84318	813.94	0.59900	1252.59	1344.77	0	1.9	2206.59	6.29	2204.67	6.28	-1.92	-0.09
106	352	246	140	5632	0.84181	814.17	0.59943	1252.71	1360.33	0.53	1.88	2207.21	6.27	2205.46	6.27	-1.75	-0.08
106	353	247	141	5648	0.84045	814.39	0.59986	1252.83	1375.93	0	1.87	2206.71	6.25	2204.7	6.25	-2.01	-0.09
106	354	248	142	5664	0.83910	814.61	0.60028	1252.96	1391.59	0.53	1.85	2207.23	6.24	2205.38	6.23	-1.85	-0.08
106	355	249	143	5680	0.83774	814.82	0.60070	1253.09	1407.29	0	1.84	2206.63	6.22	2204.51	6.21	-2.12	-0.1
106	356	250	144	5696	0.83638	815.03	0.60112	1253.23	1423.05	0.53	1.83	2207.05	6.2	2205.08	6.19	-1.97	-0.09
106	357	251	145	5712	0.83503	815.24	0.60154	1253.37	1438.85	0	1.82	2206.36	6.18	2204.12	6.17	-2.24	-0.1
106	358	252	146	5728	0.83368	815.44	0.60196	1253.52	1454.7	0.53	1.8	2206.68	6.16	2204.58	6.16	-2.09	-0.1
106	359	253	147	5744	0.83233	815.63	0.60237	1253.67	1470.6	0	1.79	2205.89	6.14	2203.51	6.14	-2.38	-0.11
106	360	254	148	5760	0.83099	815.83	0.60278	1253.82	1486.55	0.53	1.78	2206.11	6.13	2203.87	6.12	-2.24	-0.1
106	361	255	149	5776	0.82964	816.02	0.60319	1253.98	1502.54	0	1.77	2205.23	6.11	2202.7	6.1	-2.52	-0.11
106	362	256	150	5792	0.82830	816.2	0.60359	1254.15	1518.58	0.53	1.75	2205.35	6.09	2202.96	6.09	-2.39	-0.11
106	363	257	151	5808	0.82696	816.38	0.60399	1254.31	1534.67	0	1.74	2204.38	6.07	2201.7	6.07	-2.68	-0.12
106	364	258	152	5824	0.82563	816.56	0.60440	1254.49	1550.8	0.52	1.73	2204.41	6.06	2201.86	6.05	-2.55	-0.12
106	365	259	153	5840	0.82429	816.73	0.60480	1254.66	1566.98	0	1.72	2203.35	6.04	2200.49	6.03	-2.85	-0.13
106	366	260	154	5856	0.82296	816.89	0.60519	1254.84	1583.21	0.52	1.71	2203.28	6.02	2200.55	6.01	-2.73	-0.12
106	367	261	155	5872	0.82163	817.06	0.60559	1255.03	1599.48	0	1.7	2202.13	6	2199.09	5.99	-3.04	-0.14
106	368	262	156	5888	0.82030	817.22	0.60598	1255.22	1615.79	0.52	1.69	2201.98	5.98	2199.05	5.98	-2.93	-0.13

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
106	369	263	157	5904	0.81897	817.38	0.60637	1255.41	1632.15	0	1.67	2200.74	5.96	2197.5	5.96	-3.24	-0.15
106	370	264	158	5920	0.81765	817.53	0.60676	1255.61	1648.55	0.52	1.66	2200.49	5.95	2197.36	5.94	-3.13	-0.14
106	371	265	159	5936	0.81633	817.68	0.60714	1255.81	1665	0	1.65	2199.17	5.93	2195.72	5.92	-3.45	-0.16
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
107	213	106	-1	3408	0.99998	691.9	0.49883	1361.14	0.11	0	9.8	1364.64	6.41	1373.88	6.45	9.23	0.67
107	214	107	0	3424	1.00000	694.08	0.50000	1359.01	0	-0.68	10	1380.23	6.45	1389.19	6.49	8.96	0.64
107	215	108	1	3440	0.99998	696.23	0.50116	1356.91	0.11	0	9.81	1396.56	6.5	1404.09	6.53	7.54	0.54
107	216	109	2	3456	0.99991	698.34	0.50232	1354.86	0.45	-0.68	9.62	1411.29	6.53	1418.99	6.57	7.7	0.54
107	217	110	3	3472	0.99981	700.42	0.50346	1352.84	1.01	0	9.44	1427.16	6.58	1433.49	6.61	6.33	0.44
107	218	111	4	3488	0.99966	702.47	0.50459	1350.87	1.79	-0.68	9.26	1441.45	6.61	1448	6.64	6.55	0.45
107	219	112	5	3504	0.99948	704.48	0.50571	1348.94	2.78	0	9.09	1456.88	6.65	1462.1	6.68	5.22	0.36
107	220	113	6	3520	0.99926	706.47	0.50682	1347.05	3.99	-0.67	8.92	1470.74	6.69	1476.21	6.71	5.48	0.37
107	221	114	7	3536	0.99900	708.43	0.50792	1345.19	5.41	0	8.75	1485.73	6.72	1489.93	6.74	4.19	0.28
107	222	115	8	3552	0.99870	710.35	0.50901	1343.37	7.03	-0.67	8.6	1499.17	6.75	1503.66	6.77	4.49	0.3
107	223	116	9	3568	0.99837	712.25	0.51009	1341.59	8.86	0	8.44	1513.75	6.79	1516.99	6.8	3.25	0.21
107	224	117	10	3584	0.99801	714.11	0.51116	1339.84	10.89	-0.67	8.29	1526.78	6.82	1530.36	6.83	3.58	0.23
107	225	118	11	3600	0.99761	715.95	0.51222	1338.13	13.12	0	8.14	1540.95	6.85	1543.32	6.86	2.38	0.15
107	226	119	12	3616	0.99718	717.76	0.51327	1336.45	15.54	-0.67	8	1553.58	6.87	1556.33	6.89	2.75	0.18
107	227	120	13	3632	0.99672	719.55	0.51432	1334.8	18.16	0	7.86	1567.35	6.9	1568.93	6.91	1.58	0.1
107	228	121	14	3648	0.99623	721.3	0.51535	1333.19	20.97	-0.66	7.73	1579.6	6.93	1581.58	6.94	1.98	0.13
107	229	122	15	3664	0.99571	723.03	0.51638	1331.61	23.97	0	7.59	1592.98	6.96	1593.83	6.96	0.85	0.05
107	230	123	16	3680	0.99516	724.74	0.51739	1330.07	27.15	-0.66	7.47	1604.85	6.98	1606.14	6.98	1.28	0.08
107	231	124	17	3696	0.99458	726.41	0.51840	1328.55	30.52	0	7.34	1617.86	7	1618.04	7	0.18	0.01
107	232	125	18	3712	0.99398	728.07	0.51940	1327.06	34.07	-0.66	7.22	1629.36	7.02	1630.01	7.03	0.65	0.04
107	233	126	19	3728	0.99335	729.7	0.52039	1325.61	37.8	0	7.1	1642	7.05	1641.58	7.05	-0.42	-0.03
107	234	127	20	3744	0.99270	731.3	0.52137	1324.18	41.7	-0.65	6.98	1653.15	7.06	1653.22	7.07	0.07	0
107	235	128	21	3760	0.99201	732.88	0.52234	1322.78	45.78	0	6.87	1665.43	7.09	1664.46	7.08	-0.97	-0.06
107	236	129	22	3776	0.99131	734.43	0.52331	1321.41	50.03	-0.65	6.76	1676.23	7.1	1675.78	7.1	-0.45	-0.03
107	237	130	23	3792	0.99058	735.97	0.52426	1320.07	54.45	0	6.65	1688.16	7.12	1686.69	7.12	-1.47	-0.09
107	238	131	24	3808	0.98983	737.48	0.52521	1318.76	59.04	-0.65	6.55	1698.62	7.14	1697.7	7.13	-0.92	-0.05
107	239	132	25	3824	0.98906	738.96	0.52615	1317.47	63.8	0	6.44	1710.21	7.16	1708.3	7.15	-1.91	-0.11
107	240	133	26	3840	0.98826	740.43	0.52708	1316.21	68.72	-0.65	6.34	1720.34	7.17	1719	7.16	-1.35	-0.08
107	241	134	27	3856	0.98745	741.87	0.52801	1314.97	73.8	0	6.25	1731.6	7.19	1729.29	7.18	-2.31	-0.13
107	242	135	28	3872	0.98661	743.29	0.52893	1313.76	79.04	-0.64	6.15	1741.41	7.2	1739.69	7.19	-1.72	-0.1
107	243	136	29	3888	0.98576	744.69	0.52984	1312.58	84.44	0	6.06	1752.35	7.21	1749.68	7.2	-2.67	-0.15
107	244	137	30	3904	0.98488	746.07	0.53074	1311.42	90	-0.64	5.97	1761.84	7.22	1759.79	7.21	-2.06	-0.12
107	245	138	31	3920	0.98399	747.43	0.53163	1310.28	95.71	0	5.88	1772.46	7.23	1769.49	7.22	-2.98	-0.17
107	246	139	32	3936	0.98308	748.77	0.53252	1309.17	101.57	-0.64	5.79	1781.65	7.24	1779.3	7.23	-2.35	-0.13
107	247	140	33	3952	0.98215	750.09	0.53340	1308.07	107.58	0	5.71	1791.96	7.25	1788.71	7.24	-3.25	-0.18
107	248	141	34	3968	0.98120	751.38	0.53427	1307.01	113.74	-0.64	5.62	1800.85	7.26	1798.25	7.25	-2.61	-0.14
107	249	142	35	3984	0.98024	752.66	0.53514	1305.96	120.05	0	5.54	1810.87	7.27	1807.38	7.26	-3.49	-0.19
107	250	143	36	4000	0.97926	753.93	0.53600	1304.94	126.5	-0.63	5.46	1819.47	7.28	1816.64	7.27	-2.83	-0.16
107	251	144	37	4016	0.97827	755.17	0.53685	1303.94	133.1	0	5.38	1829.18	7.29	1825.49	7.27	-3.69	-0.2
107	252	145	38	4032	0.97726	756.39	0.53770	1302.96	139.83	-0.63	5.31	1837.5	7.29	1834.48	7.28	-3.02	-0.16
107	253	146	39	4048	0.97624	757.6	0.53854	1302	146.71	0	5.23	1846.93	7.3	1843.07	7.28	-3.86	-0.21
107	254	147	40	4064	0.97520	758.78	0.53937	1301.06	153.72	-0.63	5.16	1854.97	7.3	1851.79	7.29	-3.17	-0.17

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
107	255	148	41	4080	0.97415	759.95	0.54020	1300.14	160.87	0	5.09	1864.12	7.31	1860.12	7.29	-4.01	-0.22
107	256	149	42	4096	0.97308	761.11	0.54102	1299.24	168.16	-0.62	5.02	1871.89	7.31	1868.58	7.3	-3.3	-0.18
107	257	150	43	4112	0.97201	762.24	0.54183	1298.36	175.58	0	4.95	1880.77	7.32	1876.65	7.3	-4.12	-0.22
107	258	151	44	4128	0.97092	763.36	0.54264	1297.5	183.13	-0.62	4.89	1888.27	7.32	1884.86	7.31	-3.41	-0.18
107	259	152	45	4144	0.96981	764.46	0.54344	1296.66	190.81	0	4.82	1896.88	7.32	1892.67	7.31	-4.21	-0.22
107	260	153	46	4160	0.96870	765.55	0.54423	1295.84	198.63	-0.62	4.76	1904.12	7.32	1900.64	7.31	-3.49	-0.18
107	261	154	47	4176	0.96757	766.62	0.54502	1295.04	206.56	0	4.69	1912.48	7.33	1908.2	7.31	-4.28	-0.22
107	262	155	48	4192	0.96644	767.67	0.54580	1294.25	214.63	-0.62	4.63	1919.47	7.33	1915.92	7.31	-3.54	-0.18
107	263	156	49	4208	0.96529	768.71	0.54658	1293.48	222.82	0	4.57	1927.56	7.33	1923.24	7.31	-4.32	-0.22
107	264	157	50	4224	0.96413	769.73	0.54735	1292.73	231.13	-0.62	4.51	1934.31	7.33	1930.73	7.31	-3.58	-0.19
107	265	158	51	4240	0.96296	770.74	0.54811	1292	239.56	0	4.46	1942.16	7.33	1937.81	7.31	-4.34	-0.22
107	266	159	52	4256	0.96178	771.73	0.54887	1291.28	248.12	-0.61	4.4	1948.66	7.33	1945.06	7.31	-3.59	-0.18
107	267	160	53	4272	0.96060	772.71	0.54963	1290.58	256.79	0	4.34	1956.26	7.33	1951.91	7.31	-4.35	-0.22
107	268	161	54	4288	0.95940	773.67	0.55037	1289.89	265.58	-0.61	4.29	1962.53	7.32	1958.94	7.31	-3.59	-0.18
107	269	162	55	4304	0.95820	774.62	0.55112	1289.23	274.49	0	4.24	1969.9	7.32	1965.56	7.31	-4.34	-0.22
107	270	163	56	4320	0.95698	775.56	0.55185	1288.57	283.51	-0.61	4.18	1975.93	7.32	1972.36	7.31	-3.57	-0.18
107	271	164	57	4336	0.95576	776.48	0.55258	1287.94	292.64	0	4.13	1983.07	7.32	1978.76	7.3	-4.31	-0.22
107	272	165	58	4352	0.95453	777.39	0.55331	1287.32	301.89	-0.61	4.08	1988.88	7.31	1985.34	7.3	-3.54	-0.18
107	273	166	59	4368	0.95329	778.28	0.55403	1286.71	311.25	0	4.03	1995.79	7.31	1991.52	7.29	-4.27	-0.21
107	274	167	60	4384	0.95205	779.16	0.55475	1286.12	320.72	-0.6	3.99	2001.38	7.3	1997.88	7.29	-3.5	-0.18
107	275	168	61	4400	0.95080	780.03	0.55546	1285.54	330.3	0	3.94	2008.07	7.3	2003.84	7.29	-4.22	-0.21
107	276	169	62	4416	0.94954	780.88	0.55616	1284.98	339.99	-0.6	3.89	2013.44	7.3	2010	7.28	-3.44	-0.17
107	277	170	63	4432	0.94827	781.73	0.55686	1284.43	349.78	0	3.85	2019.91	7.29	2015.75	7.28	-4.16	-0.21
107	278	171	64	4448	0.94700	782.56	0.55755	1283.9	359.68	-0.6	3.8	2025.07	7.28	2021.7	7.27	-3.37	-0.17
107	279	172	65	4464	0.94572	783.37	0.55824	1283.38	369.68	0	3.76	2031.33	7.28	2027.24	7.27	-4.08	-0.2
107	280	173	66	4480	0.94444	784.18	0.55893	1282.87	379.79	-0.6	3.72	2036.28	7.27	2032.99	7.26	-3.3	-0.16
107	281	174	67	4496	0.94315	784.97	0.55961	1282.38	390	0	3.67	2042.33	7.27	2038.33	7.25	-4	-0.2
107	282	175	68	4512	0.94185	785.75	0.56028	1281.9	400.31	-0.6	3.63	2047.08	7.26	2043.87	7.25	-3.21	-0.16
107	283	176	69	4528	0.94055	786.52	0.56095	1281.43	410.71	0	3.59	2052.93	7.25	2049.02	7.24	-3.91	-0.19
107	284	177	70	4544	0.93925	787.28	0.56162	1280.97	421.22	-0.59	3.55	2057.48	7.24	2054.36	7.23	-3.12	-0.15
107	285	178	71	4560	0.93794	788.02	0.56228	1280.53	431.83	0	3.51	2063.13	7.24	2059.31	7.23	-3.82	-0.19
107	286	179	72	4576	0.93662	788.76	0.56294	1280.1	442.53	-0.59	3.47	2067.49	7.23	2064.47	7.22	-3.02	-0.15
107	287	180	73	4592	0.93530	789.48	0.56359	1279.68	453.33	0	3.44	2072.94	7.22	2069.23	7.21	-3.71	-0.18
107	288	181	74	4608	0.93398	790.19	0.56424	1279.28	464.22	-0.59	3.4	2077.11	7.21	2074.19	7.2	-2.92	-0.14
107	289	182	75	4624	0.93265	790.9	0.56488	1278.88	475.21	0	3.36	2082.37	7.21	2078.76	7.19	-3.61	-0.17
107	290	183	76	4640	0.93132	791.59	0.56552	1278.5	486.29	-0.59	3.33	2086.36	7.19	2083.55	7.18	-2.81	-0.13
107	291	184	77	4656	0.92998	792.27	0.56615	1278.13	497.46	0	3.29	2091.43	7.19	2087.93	7.18	-3.5	-0.17
107	292	185	78	4672	0.92865	792.94	0.56678	1277.77	508.72	-0.59	3.26	2095.23	7.18	2092.53	7.17	-2.7	-0.13
107	293	186	79	4688	0.92730	793.6	0.56741	1277.43	520.08	0	3.22	2100.12	7.17	2096.73	7.16	-3.39	-0.16
107	294	187	80	4704	0.92596	794.25	0.56803	1277.09	531.52	-0.58	3.19	2103.75	7.16	2101.16	7.15	-2.59	-0.12
107	295	188	81	4720	0.92461	794.89	0.56864	1276.76	543.05	0	3.16	2108.45	7.15	2105.18	7.14	-3.27	-0.16
107	296	189	82	4736	0.92326	795.52	0.56926	1276.45	554.67	-0.58	3.12	2111.91	7.13	2109.43	7.13	-2.48	-0.12
107	297	190	83	4752	0.92190	796.14	0.56987	1276.14	566.37	0	3.09	2116.44	7.13	2113.28	7.12	-3.16	-0.15
107	298	191	84	4768	0.92054	796.75	0.57047	1275.85	578.16	-0.58	3.06	2119.72	7.11	2117.36	7.11	-2.36	-0.11
107	299	192	85	4784	0.91918	797.36	0.57107	1275.56	590.04	0	3.03	2124.08	7.1	2121.04	7.09	-3.04	-0.14
107	300	193	86	4800	0.91782	797.95	0.57167	1275.29	601.99	-0.58	3	2127.19	7.09	2124.95	7.08	-2.25	-0.11
107	301	194	87	4816	0.91646	798.53	0.57226	1275.02	614.03	0	2.97	2131.38	7.08	2128.46	7.07	-2.92	-0.14

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
107	302	195	88	4832	0.91509	799.11	0.57285	1274.77	626.16	-0.58	2.94	2134.33	7.07	2132.2	7.06	-2.13	-0.1
107	303	196	89	4848	0.91372	799.67	0.57343	1274.53	638.36	0	2.91	2138.35	7.06	2135.54	7.05	-2.81	-0.13
107	304	197	90	4864	0.91235	800.23	0.57401	1274.29	650.65	-0.57	2.88	2141.14	7.04	2139.12	7.04	-2.02	-0.09
107	305	198	91	4880	0.91098	800.78	0.57459	1274.06	663.01	0	2.86	2145	7.03	2142.3	7.02	-2.7	-0.13
107	306	199	92	4896	0.90961	801.32	0.57516	1273.85	675.46	-0.57	2.83	2147.63	7.02	2145.72	7.01	-1.91	-0.09
107	307	200	93	4912	0.90823	801.85	0.57573	1273.64	687.98	0	2.8	2151.33	7.01	2148.75	7	-2.59	-0.12
107	308	201	94	4928	0.90686	802.37	0.57630	1273.44	700.58	-0.57	2.78	2153.81	6.99	2152.01	6.99	-1.8	-0.08
107	309	202	95	4944	0.90548	802.88	0.57686	1273.25	713.26	0	2.75	2157.35	6.98	2154.87	6.97	-2.48	-0.12
107	310	203	96	4960	0.90410	803.39	0.57742	1273.07	726.01	-0.57	2.72	2159.68	6.97	2157.98	6.96	-1.7	-0.08
107	311	204	97	4976	0.90272	803.89	0.57797	1272.9	738.84	0	2.7	2163.07	6.96	2160.69	6.95	-2.38	-0.11
107	312	205	98	4992	0.90134	804.38	0.57853	1272.74	751.74	-0.57	2.67	2165.25	6.94	2163.65	6.93	-1.6	-0.07
107	313	206	99	5008	0.89996	804.86	0.57907	1272.58	764.72	0	2.65	2168.49	6.93	2166.21	6.92	-2.28	-0.11
107	314	207	100	5024	0.89858	805.33	0.57962	1272.44	777.77	-0.56	2.62	2170.52	6.91	2169.01	6.91	-1.51	-0.07
107	315	208	101	5040	0.89719	805.8	0.58016	1272.3	790.89	0	2.6	2173.61	6.9	2171.42	6.89	-2.19	-0.1
107	316	209	102	5056	0.89581	806.26	0.58070	1272.17	804.09	-0.56	2.58	2175.5	6.88	2174.08	6.88	-1.42	-0.07
107	317	210	103	5072	0.89443	806.71	0.58123	1272.05	817.35	0	2.55	2178.44	6.87	2176.34	6.87	-2.1	-0.1
107	318	211	104	5088	0.89304	807.16	0.58176	1271.93	830.69	-0.56	2.53	2180.19	6.86	2178.86	6.85	-1.33	-0.06
107	319	212	105	5104	0.89166	807.6	0.58229	1271.83	844.09	0	2.51	2182.99	6.84	2180.98	6.84	-2.02	-0.09
107	320	213	106	5120	0.89027	808.03	0.58281	1271.73	857.57	-0.56	2.49	2184.61	6.83	2183.35	6.82	-1.25	-0.06
107	321	214	107	5136	0.88889	808.45	0.58333	1271.64	871.11	0	2.47	2187.27	6.81	2185.33	6.81	-1.94	-0.09
107	322	215	108	5152	0.88750	808.87	0.58385	1271.55	884.72	-0.56	2.44	2188.75	6.8	2187.56	6.79	-1.18	-0.05
107	323	216	109	5168	0.88612	809.27	0.58437	1271.48	898.4	0	2.42	2191.27	6.78	2189.4	6.78	-1.87	-0.09
107	324	217	110	5184	0.88474	809.68	0.58488	1271.41	912.15	-0.56	2.4	2192.62	6.77	2191.5	6.76	-1.12	-0.05
107	325	218	111	5200	0.88335	810.07	0.58539	1271.35	925.96	0	2.38	2195.01	6.75	2193.2	6.75	-1.81	-0.08
107	326	219	112	5216	0.88197	810.46	0.58589	1271.29	939.83	-0.55	2.36	2196.22	6.74	2195.16	6.73	-1.06	-0.05
107	327	220	113	5232	0.88058	810.84	0.58639	1271.24	953.77	0	2.34	2198.48	6.72	2196.73	6.72	-1.75	-0.08
107	328	221	114	5248	0.87920	811.22	0.58689	1271.2	967.78	-0.55	2.32	2199.57	6.71	2198.56	6.7	-1.01	-0.05
107	329	222	115	5264	0.87782	811.59	0.58739	1271.17	981.85	0	2.3	2201.7	6.69	2199.99	6.69	-1.71	-0.08
107	330	223	116	5280	0.87644	811.95	0.58788	1271.14	995.98	-0.55	2.28	2202.66	6.67	2201.69	6.67	-0.97	-0.04
107	331	224	117	5296	0.87506	812.31	0.58837	1271.12	1010.17	0	2.27	2204.66	6.66	2202.99	6.66	-1.67	-0.08
107	332	225	118	5312	0.87368	812.66	0.58886	1271.11	1024.43	-0.55	2.25	2205.5	6.64	2204.56	6.64	-0.94	-0.04
107	333	226	119	5328	0.87230	813.01	0.58934	1271.1	1038.75	0	2.23	2207.37	6.63	2205.73	6.62	-1.64	-0.07
107	334	227	120	5344	0.87092	813.35	0.58982	1271.1	1053.12	-0.55	2.21	2208.09	6.61	2207.18	6.61	-0.92	-0.04
107	335	228	121	5360	0.86954	813.68	0.59030	1271.11	1067.56	0	2.19	2209.84	6.6	2208.22	6.59	-1.62	-0.07
107	336	229	122	5376	0.86816	814.01	0.59077	1271.12	1082.06	-0.55	2.18	2210.44	6.58	2209.54	6.58	-0.9	-0.04
107	337	230	123	5392	0.86679	814.33	0.59125	1271.14	1096.62	0	2.16	2212.07	6.56	2210.47	6.56	-1.61	-0.07
107	338	231	124	5408	0.86541	814.65	0.59172	1271.16	1111.24	-0.54	2.14	2212.56	6.55	2211.66	6.54	-0.9	-0.04
107	339	232	125	5424	0.86404	814.96	0.59218	1271.19	1125.91	0	2.13	2214.07	6.53	2212.46	6.53	-1.61	-0.07
107	340	233	126	5440	0.86266	815.26	0.59265	1271.23	1140.64	-0.54	2.11	2214.44	6.51	2213.54	6.51	-0.9	-0.04
107	341	234	127	5456	0.86129	815.56	0.59311	1271.27	1155.43	0	2.09	2215.84	6.5	2214.22	6.49	-1.62	-0.07
107	342	235	128	5472	0.85992	815.85	0.59357	1271.32	1170.28	-0.54	2.08	2216.09	6.48	2215.18	6.48	-0.92	-0.04
107	343	236	129	5488	0.85855	816.14	0.59402	1271.37	1185.18	0	2.06	2217.37	6.46	2215.74	6.46	-1.64	-0.07
107	344	237	130	5504	0.85719	816.42	0.59448	1271.43	1200.13	-0.54	2.04	2217.52	6.45	2216.58	6.44	-0.94	-0.04
107	345	238	131	5520	0.85582	816.7	0.59493	1271.49	1215.15	0	2.03	2218.69	6.43	2217.02	6.43	-1.67	-0.08
107	346	239	132	5536	0.85446	816.97	0.59538	1271.56	1230.21	-0.54	2.01	2218.73	6.41	2217.75	6.41	-0.98	-0.04
107	347	240	133	5552	0.85309	817.24	0.59582	1271.64	1245.34	0	2	2219.78	6.4	2218.08	6.39	-1.71	-0.08
107	348	241	134	5568	0.85173	817.5	0.59626	1271.72	1260.51	-0.54	1.98	2219.71	6.38	2218.69	6.38	-1.03	-0.05

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
107	349	242	135	5584	0.85037	817.76	0.59671	1271.8	1275.74	0	1.97	2220.66	6.36	2218.91	6.36	-1.76	-0.08
107	350	243	136	5600	0.84901	818.01	0.59714	1271.9	1291.02	-0.53	1.96	2220.49	6.34	2219.4	6.34	-1.08	-0.05
107	351	244	137	5616	0.84766	818.26	0.59758	1271.99	1306.35	0	1.94	2221.33	6.33	2219.51	6.32	-1.82	-0.08
107	352	245	138	5632	0.84630	818.51	0.59801	1272.09	1321.74	-0.53	1.93	2221.05	6.31	2219.9	6.31	-1.15	-0.05
107	353	246	139	5648	0.84495	818.74	0.59844	1272.2	1337.18	0	1.91	2221.79	6.29	2219.9	6.29	-1.9	-0.09
107	354	247	140	5664	0.84360	818.98	0.59887	1272.31	1352.67	-0.53	1.9	2221.41	6.28	2220.18	6.27	-1.24	-0.06
107	355	248	141	5680	0.84225	819.21	0.59930	1272.43	1368.2	0	1.89	2222.05	6.26	2220.07	6.25	-1.98	-0.09
107	356	249	142	5696	0.84090	819.43	0.59972	1272.55	1383.79	-0.53	1.87	2221.57	6.24	2220.24	6.24	-1.33	-0.06
107	357	250	143	5712	0.83955	819.65	0.60014	1272.68	1399.43	0	1.86	2222.1	6.22	2220.02	6.22	-2.08	-0.09
107	358	251	144	5728	0.83821	819.86	0.60056	1272.81	1415.12	-0.53	1.85	2221.52	6.21	2220.09	6.2	-1.43	-0.06
107	359	252	145	5744	0.83687	820.07	0.60098	1272.95	1430.86	0	1.83	2221.96	6.19	2219.77	6.18	-2.19	-0.1
107	360	253	146	5760	0.83553	820.28	0.60139	1273.09	1446.64	-0.53	1.82	2221.28	6.17	2219.73	6.17	-1.55	-0.07
107	361	254	147	5776	0.83419	820.48	0.60180	1273.23	1462.48	0	1.81	2221.62	6.15	2219.31	6.15	-2.31	-0.1
107	362	255	148	5792	0.83285	820.68	0.60221	1273.38	1478.36	-0.53	1.8	2220.85	6.13	2219.17	6.13	-1.68	-0.08
107	363	256	149	5808	0.83152	820.87	0.60262	1273.54	1494.29	0	1.78	2221.09	6.12	2218.64	6.11	-2.45	-0.11
107	364	257	150	5824	0.83018	821.06	0.60302	1273.69	1510.26	-0.52	1.77	2220.23	6.1	2218.4	6.09	-1.82	-0.08
107	365	258	151	5840	0.82885	821.25	0.60343	1273.86	1526.28	0	1.76	2220.37	6.08	2217.78	6.08	-2.59	-0.12
107	366	259	152	5856	0.82753	821.43	0.60383	1274.02	1542.35	-0.52	1.75	2219.42	6.06	2217.44	6.06	-1.98	-0.09
107	367	260	153	5872	0.82620	821.61	0.60422	1274.2	1558.47	0	1.74	2219.46	6.05	2216.71	6.04	-2.75	-0.12
107	368	261	154	5888	0.82488	821.78	0.60462	1274.37	1574.63	-0.52	1.72	2218.42	6.03	2216.28	6.02	-2.14	-0.1
107	369	262	155	5904	0.82355	821.95	0.60501	1274.55	1590.83	0	1.71	2218.38	6.01	2215.45	6	-2.93	-0.13
107	370	263	156	5920	0.82224	822.11	0.60541	1274.74	1607.08	-0.52	1.7	2217.25	5.99	2214.92	5.99	-2.32	-0.1
107	371	264	157	5936	0.82092	822.28	0.60580	1274.93	1623.38	0	1.69	2217.11	5.98	2214	5.97	-3.11	-0.14
107	372	265	158	5952	0.81960	822.43	0.60618	1275.12	1639.71	-0.52	1.68	2215.9	5.96	2213.38	5.95	-2.52	-0.11
107	373	266	159	5968	0.81829	822.59	0.60657	1275.31	1656.1	0	1.67	2215.67	5.94	2212.36	5.93	-3.31	-0.15
107	374	267	160	5984	0.81698	822.74	0.60695	1275.51	1672.52	-0.52	1.66	2214.37	5.92	2211.64	5.91	-2.72	-0.12
Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
108	215	107	-1	3440	0.99998	696.23	0.49884	1382.39	0.11	0	9.81	1371.07	6.38	1380.32	6.42	9.24	0.67
108	216	108	0	3456	1.00000	698.4	0.50000	1380.24	0	0.68	10	1388.04	6.43	1396.54	6.47	8.5	0.61
108	217	109	1	3472	0.99998	700.54	0.50115	1378.13	0.11	0	9.81	1403.03	6.47	1410.58	6.5	7.56	0.54
108	218	110	2	3488	0.99992	702.65	0.50229	1376.06	0.45	0.68	9.62	1419.14	6.51	1426.39	6.54	7.25	0.51
108	219	111	3	3504	0.99981	704.72	0.50343	1374.04	1	0	9.44	1433.68	6.55	1440.04	6.58	6.36	0.44
108	220	112	4	3520	0.99967	706.76	0.50455	1372.05	1.77	0.67	9.26	1449.35	6.59	1455.44	6.62	6.09	0.42
108	221	113	5	3536	0.99949	708.77	0.50566	1370.11	2.76	0	9.09	1463.45	6.62	1468.7	6.65	5.25	0.36
108	222	114	6	3552	0.99927	710.75	0.50676	1368.2	3.96	0.67	8.93	1478.69	6.66	1483.71	6.68	5.02	0.34
108	223	115	7	3568	0.99902	712.71	0.50785	1366.33	5.36	0	8.76	1492.37	6.69	1496.6	6.71	4.22	0.28
108	224	116	8	3584	0.99872	714.63	0.50893	1364.5	6.97	0.67	8.61	1507.18	6.73	1511.22	6.75	4.04	0.27
108	225	117	9	3600	0.99840	716.52	0.51000	1362.7	8.78	0	8.45	1520.46	6.76	1523.74	6.77	3.28	0.22
108	226	118	10	3616	0.99804	718.38	0.51106	1360.94	10.79	0.67	8.3	1534.86	6.79	1537.98	6.81	3.13	0.2
108	227	119	11	3632	0.99765	720.22	0.51212	1359.21	13	0	8.16	1547.73	6.82	1550.14	6.83	2.41	0.16
108	228	120	12	3648	0.99723	722.03	0.51316	1357.52	15.41	0.66	8.02	1561.73	6.85	1564.02	6.86	2.3	0.15
108	229	121	13	3664	0.99678	723.81	0.51419	1355.86	18	0	7.88	1574.21	6.87	1575.83	6.88	1.62	0.1
108	230	122	14	3680	0.99630	725.56	0.51522	1354.23	20.79	0.66	7.74	1587.82	6.9	1589.35	6.91	1.53	0.1
108	231	123	15	3696	0.99578	727.29	0.51623	1352.64	23.76	0	7.61	1599.92	6.93	1600.81	6.93	0.89	0.06
108	232	124	16	3712	0.99524	728.99	0.51724	1351.08	26.92	0.66	7.49	1613.15	6.95	1613.99	6.96	0.83	0.05
108	233	125	17	3728	0.99468	730.67	0.51824	1349.55	30.26	0	7.36	1624.88	6.97	1625.11	6.97	0.23	0.01

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
108	234	126	18	3744	0.99408	732.32	0.51923	1348.05	33.78	0.65	7.24	1637.75	7	1637.94	7	0.2	0.01
108	235	127	19	3760	0.99346	733.95	0.52021	1346.58	37.48	0	7.12	1649.12	7.02	1648.74	7.02	-0.38	-0.02
108	236	128	20	3776	0.99282	735.55	0.52119	1345.14	41.35	0.65	7.01	1661.62	7.04	1661.24	7.04	-0.38	-0.02
108	237	129	21	3792	0.99215	737.13	0.52215	1343.73	45.4	0	6.89	1672.64	7.06	1671.72	7.05	-0.92	-0.06
108	238	130	22	3808	0.99146	738.69	0.52311	1342.34	49.61	0.65	6.78	1684.79	7.08	1683.89	7.08	-0.9	-0.05
108	239	131	23	3824	0.99074	740.22	0.52406	1340.99	54	0	6.68	1695.47	7.09	1694.05	7.09	-1.42	-0.08
108	240	132	24	3840	0.99000	741.73	0.52500	1339.66	58.55	0.65	6.57	1707.28	7.11	1705.91	7.11	-1.37	-0.08
108	241	133	25	3856	0.98924	743.21	0.52593	1338.36	63.27	0	6.47	1717.62	7.13	1715.76	7.12	-1.86	-0.11
108	242	134	26	3872	0.98846	744.68	0.52686	1337.08	68.16	0.64	6.37	1729.1	7.15	1727.31	7.14	-1.79	-0.1
108	243	135	27	3888	0.98765	746.12	0.52778	1335.83	73.2	0	6.27	1739.12	7.16	1736.86	7.15	-2.26	-0.13
108	244	136	28	3904	0.98683	747.55	0.52869	1334.61	78.4	0.64	6.18	1750.27	7.17	1748.1	7.16	-2.17	-0.12
108	245	137	29	3920	0.98599	748.95	0.52959	1333.41	83.76	0	6.08	1759.97	7.18	1757.36	7.17	-2.61	-0.15
108	246	138	30	3936	0.98513	750.33	0.53049	1332.23	89.27	0.64	5.99	1770.8	7.2	1768.3	7.19	-2.5	-0.14
108	247	139	31	3952	0.98425	751.69	0.53138	1331.08	94.94	0	5.9	1780.2	7.21	1777.28	7.2	-2.92	-0.16
108	248	140	32	3968	0.98335	753.03	0.53226	1329.95	100.75	0.64	5.82	1790.72	7.22	1787.93	7.21	-2.79	-0.16
108	249	141	33	3984	0.98244	754.35	0.53313	1328.85	106.72	0	5.73	1799.81	7.23	1796.62	7.22	-3.19	-0.18
108	250	142	34	4000	0.98150	755.65	0.53400	1327.77	112.83	0.63	5.65	1810.03	7.24	1806.98	7.23	-3.04	-0.17
108	251	143	35	4016	0.98056	756.93	0.53486	1326.71	119.1	0	5.57	1818.83	7.25	1815.41	7.23	-3.42	-0.19
108	252	144	36	4032	0.97959	758.19	0.53571	1325.67	125.5	0.63	5.49	1828.75	7.26	1825.49	7.24	-3.26	-0.18
108	253	145	37	4048	0.97861	759.44	0.53656	1324.66	132.05	0	5.41	1837.27	7.26	1833.64	7.25	-3.62	-0.2
108	254	146	38	4064	0.97762	760.66	0.53740	1323.66	138.74	0.63	5.33	1846.9	7.27	1843.45	7.26	-3.45	-0.19
108	255	147	39	4080	0.97661	761.87	0.53824	1322.69	145.56	0	5.26	1855.13	7.28	1851.34	7.26	-3.79	-0.2
108	256	148	40	4096	0.97559	763.06	0.53906	1321.74	152.53	0.62	5.19	1864.48	7.28	1860.88	7.27	-3.61	-0.19
108	257	149	41	4112	0.97455	764.24	0.53988	1320.81	159.63	0	5.12	1872.45	7.29	1868.51	7.27	-3.93	-0.21
108	258	150	42	4128	0.97350	765.39	0.54070	1319.9	166.86	0.62	5.05	1881.52	7.29	1877.79	7.28	-3.73	-0.2
108	259	151	43	4144	0.97244	766.53	0.54151	1319	174.23	0	4.98	1889.22	7.29	1885.17	7.28	-4.05	-0.21
108	260	152	44	4160	0.97136	767.65	0.54231	1318.13	181.73	0.62	4.91	1898.02	7.3	1894.19	7.29	-3.83	-0.2
108	261	153	45	4176	0.97027	768.76	0.54310	1317.28	189.36	0	4.85	1905.46	7.3	1901.32	7.28	-4.13	-0.22
108	262	154	46	4192	0.96917	769.85	0.54389	1316.44	197.11	0.62	4.78	1914	7.31	1910.09	7.29	-3.91	-0.2
108	263	155	47	4208	0.96806	770.92	0.54468	1315.62	205	0	4.72	1921.18	7.3	1916.98	7.29	-4.19	-0.22
108	264	156	48	4224	0.96694	771.98	0.54546	1314.82	213.01	0.62	4.66	1929.46	7.31	1925.5	7.29	-3.96	-0.21
108	265	157	49	4240	0.96581	773.02	0.54623	1314.04	221.14	0	4.6	1936.39	7.31	1932.16	7.29	-4.23	-0.22
108	266	158	50	4256	0.96467	774.05	0.54699	1313.28	229.4	0.61	4.54	1944.43	7.31	1940.44	7.29	-3.99	-0.21
108	267	159	51	4272	0.96352	775.06	0.54775	1312.53	237.77	0	4.48	1951.12	7.31	1946.86	7.29	-4.25	-0.22
108	268	160	52	4288	0.96235	776.05	0.54851	1311.8	246.27	0.61	4.43	1958.91	7.31	1954.9	7.29	-4	-0.2
108	269	161	53	4304	0.96118	777.04	0.54926	1311.09	254.89	0	4.37	1965.36	7.31	1961.1	7.29	-4.26	-0.22
108	270	162	54	4320	0.96000	778	0.55000	1310.39	263.62	0.61	4.32	1972.91	7.31	1968.91	7.29	-4	-0.2
108	271	163	55	4336	0.95881	778.96	0.55074	1309.71	272.47	0	4.26	1979.12	7.3	1974.88	7.29	-4.24	-0.21
108	272	164	56	4352	0.95761	779.9	0.55147	1309.05	281.43	0.61	4.21	1986.44	7.3	1982.46	7.29	-3.98	-0.2
108	273	165	57	4368	0.95641	780.82	0.55220	1308.4	290.51	0	4.16	1992.43	7.3	1988.22	7.28	-4.21	-0.21
108	274	166	58	4384	0.95519	781.73	0.55292	1307.77	299.7	0.6	4.11	1999.51	7.3	1995.57	7.28	-3.94	-0.2
108	275	167	59	4400	0.95397	782.63	0.55364	1307.15	309	0	4.06	2005.28	7.29	2001.11	7.28	-4.17	-0.21
108	276	168	60	4416	0.95274	783.52	0.55435	1306.55	318.41	0.6	4.01	2012.14	7.29	2008.25	7.28	-3.89	-0.19
108	277	169	61	4432	0.95151	784.39	0.55505	1305.96	327.93	0	3.97	2017.69	7.28	2013.58	7.27	-4.11	-0.2
108	278	170	62	4448	0.95026	785.25	0.55576	1305.38	337.55	0.6	3.92	2024.33	7.28	2020.51	7.27	-3.83	-0.19
108	279	171	63	4464	0.94901	786.1	0.55645	1304.82	347.28	0	3.87	2029.67	7.27	2025.63	7.26	-4.04	-0.2
108	280	172	64	4480	0.94776	786.93	0.55714	1304.28	357.12	0.6	3.83	2036.1	7.27	2032.34	7.26	-3.76	-0.18

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
108	281	173	65	4496	0.94649	787.75	0.55783	1303.75	367.06	0	3.79	2041.23	7.26	2037.26	7.25	-3.96	-0.19
108	282	174	66	4512	0.94522	788.56	0.55851	1303.23	377.1	0.6	3.74	2047.44	7.26	2043.77	7.25	-3.67	-0.18
108	283	175	67	4528	0.94395	789.36	0.55919	1302.72	387.25	0	3.7	2052.37	7.25	2048.49	7.24	-3.87	-0.19
108	284	176	68	4544	0.94267	790.15	0.55986	1302.23	397.5	0.59	3.66	2058.38	7.25	2054.8	7.24	-3.58	-0.17
108	285	177	69	4560	0.94139	790.92	0.56053	1301.75	407.84	0	3.62	2063.1	7.24	2059.33	7.23	-3.78	-0.18
108	286	178	70	4576	0.94010	791.68	0.56119	1301.29	418.29	0.59	3.58	2068.91	7.23	2065.43	7.22	-3.48	-0.17
108	287	179	71	4592	0.93880	792.43	0.56185	1300.83	428.83	0	3.54	2073.44	7.22	2069.77	7.21	-3.67	-0.18
108	288	180	72	4608	0.93750	793.17	0.56250	1300.39	439.47	0.59	3.5	2079.05	7.22	2075.68	7.21	-3.38	-0.16
108	289	181	73	4624	0.93620	793.9	0.56315	1299.96	450.2	0	3.46	2083.39	7.21	2079.83	7.2	-3.57	-0.17
108	290	182	74	4640	0.93489	794.62	0.56379	1299.55	461.03	0.59	3.42	2088.81	7.2	2085.54	7.19	-3.27	-0.16
108	291	183	75	4656	0.93357	795.33	0.56443	1299.14	471.96	0	3.39	2092.96	7.19	2089.51	7.18	-3.45	-0.17
108	292	184	76	4672	0.93226	796.02	0.56507	1298.75	482.97	0.59	3.35	2098.19	7.19	2095.04	7.17	-3.15	-0.15
108	293	185	77	4688	0.93094	796.71	0.56570	1298.37	494.08	0	3.32	2102.16	7.17	2098.82	7.16	-3.33	-0.16
108	294	186	78	4704	0.92961	797.39	0.56633	1298	505.28	0.58	3.28	2107.2	7.17	2104.17	7.16	-3.04	-0.14
108	295	187	79	4720	0.92829	798.05	0.56695	1297.64	516.56	0	3.25	2110.99	7.16	2107.78	7.15	-3.21	-0.15
108	296	188	80	4736	0.92695	798.71	0.56757	1297.29	527.94	0.58	3.21	2115.85	7.15	2112.94	7.14	-2.92	-0.14
108	297	189	81	4752	0.92562	799.35	0.56818	1296.96	539.4	0	3.18	2119.46	7.14	2116.37	7.13	-3.09	-0.15
108	298	190	82	4768	0.92428	799.99	0.56879	1296.63	550.96	0.58	3.15	2124.15	7.13	2121.35	7.12	-2.79	-0.13
108	299	191	83	4784	0.92294	800.62	0.56940	1296.32	562.6	0	3.12	2127.59	7.12	2124.62	7.11	-2.97	-0.14
108	300	192	84	4800	0.92160	801.23	0.57000	1296.01	574.32	0.58	3.09	2132.1	7.11	2129.43	7.1	-2.67	-0.13
108	301	193	85	4816	0.92026	801.84	0.57060	1295.72	586.13	0	3.05	2135.37	7.09	2132.52	7.08	-2.84	-0.13
108	302	194	86	4832	0.91891	802.44	0.57119	1295.44	598.02	0.58	3.02	2139.71	7.09	2137.16	7.08	-2.55	-0.12
108	303	195	87	4848	0.91756	803.03	0.57178	1295.16	610	0	2.99	2142.81	7.07	2140.09	7.06	-2.72	-0.13
108	304	196	88	4864	0.91621	803.61	0.57237	1294.9	622.05	0.57	2.96	2146.98	7.06	2144.56	7.05	-2.42	-0.11
108	305	197	89	4880	0.91485	804.18	0.57295	1294.64	634.19	0	2.94	2149.92	7.05	2147.33	7.04	-2.6	-0.12
108	306	198	90	4896	0.91350	804.74	0.57353	1294.4	646.41	0.57	2.91	2153.93	7.04	2151.63	7.03	-2.3	-0.11
108	307	199	91	4912	0.91214	805.29	0.57410	1294.16	658.71	0	2.88	2156.71	7.03	2154.24	7.02	-2.48	-0.11
108	308	200	92	4928	0.91078	805.84	0.57468	1293.94	671.09	0.57	2.85	2160.56	7.01	2158.37	7.01	-2.18	-0.1
108	309	201	93	4944	0.90942	806.37	0.57524	1293.72	683.54	0	2.82	2163.19	7	2160.83	6.99	-2.36	-0.11
108	310	202	94	4960	0.90805	806.9	0.57581	1293.52	696.08	0.57	2.8	2166.87	6.99	2164.8	6.98	-2.07	-0.1
108	311	203	95	4976	0.90669	807.42	0.57637	1293.32	708.69	0	2.77	2169.35	6.98	2167.1	6.97	-2.24	-0.1
108	312	204	96	4992	0.90533	807.93	0.57692	1293.13	721.37	0.57	2.75	2172.88	6.96	2170.92	6.96	-1.95	-0.09
108	313	205	97	5008	0.90396	808.44	0.57748	1292.95	734.13	0	2.72	2175.2	6.95	2173.07	6.94	-2.13	-0.1
108	314	206	98	5024	0.90259	808.93	0.57803	1292.77	746.97	0.56	2.7	2178.58	6.94	2176.74	6.93	-1.84	-0.08
108	315	207	99	5040	0.90122	809.42	0.57857	1292.61	759.88	0	2.67	2180.76	6.92	2178.74	6.92	-2.02	-0.09
108	316	208	100	5056	0.89986	809.9	0.57911	1292.46	772.86	0.56	2.65	2183.99	6.91	2182.25	6.91	-1.74	-0.08
108	317	209	101	5072	0.89849	810.38	0.57965	1292.31	785.92	0	2.62	2186.02	6.9	2184.1	6.89	-1.92	-0.09
108	318	210	102	5088	0.89712	810.84	0.58019	1292.17	799.05	0.56	2.6	2189.1	6.88	2187.47	6.88	-1.64	-0.07
108	319	211	103	5104	0.89575	811.3	0.58072	1292.04	812.24	0	2.58	2190.99	6.87	2189.18	6.86	-1.82	-0.08
108	320	212	104	5120	0.89438	811.75	0.58125	1291.92	825.51	0.56	2.55	2193.93	6.86	2192.39	6.85	-1.54	-0.07
108	321	213	105	5136	0.89300	812.19	0.58178	1291.8	838.85	0	2.53	2195.69	6.84	2193.96	6.83	-1.72	-0.08
108	322	214	106	5152	0.89163	812.63	0.58230	1291.7	852.26	0.56	2.51	2198.48	6.83	2197.03	6.82	-1.45	-0.07
108	323	215	107	5168	0.89026	813.06	0.58282	1291.6	865.73	0	2.49	2200.1	6.81	2198.46	6.81	-1.64	-0.07
108	324	216	108	5184	0.88889	813.48	0.58333	1291.51	879.28	0.56	2.47	2202.76	6.8	2201.39	6.79	-1.37	-0.06
108	325	217	109	5200	0.88752	813.89	0.58385	1291.42	892.89	0	2.44	2204.24	6.78	2202.68	6.78	-1.56	-0.07
108	326	218	110	5216	0.88615	814.3	0.58436	1291.35	906.57	0.55	2.42	2206.76	6.77	2205.47	6.77	-1.29	-0.06
108	327	219	111	5232	0.88477	814.7	0.58486	1291.28	920.31	0	2.4	2208.11	6.75	2206.63	6.75	-1.48	-0.07

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
108	328	220	112	5248	0.88340	815.1	0.58537	1291.21	934.12	0.55	2.38	2210.51	6.74	2209.28	6.74	-1.22	-0.06
108	329	221	113	5264	0.88203	815.49	0.58587	1291.16	947.99	0	2.36	2211.73	6.72	2210.31	6.72	-1.42	-0.06
108	330	222	114	5280	0.88066	815.87	0.58636	1291.11	961.93	0.55	2.34	2213.99	6.71	2212.82	6.71	-1.16	-0.05
108	331	223	115	5296	0.87929	816.24	0.58686	1291.07	975.93	0	2.32	2215.08	6.69	2213.72	6.69	-1.36	-0.06
108	332	224	116	5312	0.87792	816.61	0.58735	1291.03	990	0.55	2.31	2217.21	6.68	2216.1	6.68	-1.11	-0.05
108	333	225	117	5328	0.87655	816.98	0.58784	1291.01	1004.12	0	2.29	2218.18	6.66	2216.87	6.66	-1.31	-0.06
108	334	226	118	5344	0.87518	817.33	0.58832	1290.99	1018.31	0.55	2.27	2220.18	6.65	2219.12	6.64	-1.06	-0.05
108	335	227	119	5360	0.87382	817.68	0.58881	1290.97	1032.56	0	2.25	2221.03	6.63	2219.77	6.63	-1.27	-0.06
108	336	228	120	5376	0.87245	818.03	0.58929	1290.96	1046.88	0.55	2.23	2222.91	6.62	2221.88	6.61	-1.03	-0.05
108	337	229	121	5392	0.87108	818.37	0.58976	1290.96	1061.25	0	2.21	2223.64	6.6	2222.41	6.59	-1.23	-0.06
108	338	230	122	5408	0.86972	818.7	0.59024	1290.97	1075.68	0.54	2.2	2225.4	6.58	2224.4	6.58	-1	-0.04
108	339	231	123	5424	0.86835	819.03	0.59071	1290.98	1090.17	0	2.18	2226.01	6.57	2224.8	6.56	-1.21	-0.05
108	340	232	124	5440	0.86699	819.35	0.59118	1290.99	1104.72	0.54	2.16	2227.64	6.55	2226.66	6.55	-0.98	-0.04
108	341	233	125	5456	0.86563	819.66	0.59164	1291.02	1119.33	0	2.14	2228.14	6.53	2226.94	6.53	-1.2	-0.05
108	342	234	126	5472	0.86427	819.97	0.59211	1291.05	1133.99	0.54	2.13	2229.66	6.52	2228.69	6.52	-0.97	-0.04
108	343	235	127	5488	0.86291	820.28	0.59257	1291.08	1148.71	0	2.11	2230.04	6.5	2228.85	6.5	-1.19	-0.05
108	344	236	128	5504	0.86155	820.58	0.59302	1291.12	1163.49	0.54	2.1	2231.44	6.49	2230.47	6.48	-0.97	-0.04
108	345	237	129	5520	0.86019	820.87	0.59348	1291.17	1178.33	0	2.08	2231.71	6.47	2230.51	6.47	-1.2	-0.05
108	346	238	130	5536	0.85883	821.16	0.59393	1291.22	1193.22	0.54	2.06	2233	6.45	2232.02	6.45	-0.98	-0.04
108	347	239	131	5552	0.85748	821.44	0.59438	1291.28	1208.16	0	2.05	2233.16	6.44	2231.95	6.43	-1.21	-0.05
108	348	240	132	5568	0.85612	821.72	0.59483	1291.34	1223.16	0.54	2.03	2234.34	6.42	2233.33	6.42	-1.01	-0.05
108	349	241	133	5584	0.85477	821.99	0.59527	1291.41	1238.22	0	2.02	2234.39	6.4	2233.15	6.4	-1.24	-0.06
108	350	242	134	5600	0.85342	822.26	0.59571	1291.49	1253.33	0.53	2	2235.46	6.39	2234.42	6.38	-1.04	-0.05
108	351	243	135	5616	0.85207	822.52	0.59615	1291.57	1268.49	0	1.99	2235.4	6.37	2234.13	6.37	-1.28	-0.06
108	352	244	136	5632	0.85072	822.78	0.59659	1291.65	1283.71	0.53	1.97	2236.36	6.35	2235.28	6.35	-1.08	-0.05
108	353	245	137	5648	0.84938	823.04	0.59703	1291.74	1298.97	0	1.96	2236.21	6.33	2234.88	6.33	-1.33	-0.06
108	354	246	138	5664	0.84803	823.28	0.59746	1291.84	1314.29	0.53	1.95	2237.06	6.32	2235.92	6.32	-1.14	-0.05
108	355	247	139	5680	0.84669	823.53	0.59789	1291.94	1329.67	0	1.93	2236.8	6.3	2235.41	6.3	-1.39	-0.06
108	356	248	140	5696	0.84535	823.77	0.59832	1292.05	1345.09	0.53	1.92	2237.55	6.29	2236.34	6.28	-1.2	-0.05
108	357	249	141	5712	0.84401	824	0.59874	1292.16	1360.56	0	1.9	2237.19	6.27	2235.73	6.26	-1.46	-0.07
108	358	250	142	5728	0.84267	824.23	0.59916	1292.27	1376.08	0.53	1.89	2237.83	6.25	2236.55	6.25	-1.28	-0.06
108	359	251	143	5744	0.84133	824.45	0.59958	1292.39	1391.66	0	1.88	2237.37	6.23	2235.83	6.23	-1.54	-0.07
108	360	252	144	5760	0.84000	824.67	0.60000	1292.52	1407.28	0.53	1.86	2237.92	6.22	2236.55	6.21	-1.37	-0.06
108	361	253	145	5776	0.83867	824.89	0.60042	1292.65	1422.95	0	1.85	2237.36	6.2	2235.72	6.19	-1.63	-0.07
108	362	254	146	5792	0.83734	825.1	0.60083	1292.79	1438.67	0.53	1.84	2237.8	6.18	2236.33	6.18	-1.47	-0.07
108	363	255	147	5808	0.83601	825.31	0.60124	1292.93	1454.44	0	1.83	2237.15	6.16	2235.41	6.16	-1.74	-0.08
108	364	256	148	5824	0.83468	825.51	0.60165	1293.07	1470.26	0.52	1.81	2237.5	6.15	2235.91	6.14	-1.58	-0.07
108	365	257	149	5840	0.83336	825.71	0.60206	1293.22	1486.12	0	1.8	2236.75	6.13	2234.89	6.12	-1.86	-0.08
108	366	258	150	5856	0.83203	825.91	0.60246	1293.37	1502.03	0.52	1.79	2237	6.11	2235.29	6.11	-1.71	-0.08
108	367	259	151	5872	0.83071	826.1	0.60286	1293.53	1517.99	0	1.78	2236.16	6.09	2234.17	6.09	-1.99	-0.09
108	368	260	152	5888	0.82940	826.28	0.60326	1293.69	1533.99	0.52	1.76	2236.32	6.08	2234.47	6.07	-1.85	-0.08
108	369	261	153	5904	0.82808	826.46	0.60366	1293.86	1550.04	0	1.75	2235.38	6.06	2233.25	6.05	-2.14	-0.1
108	370	262	154	5920	0.82676	826.64	0.60405	1294.03	1566.14	0.52	1.74	2235.45	6.04	2233.45	6.04	-2	-0.09
108	371	263	155	5936	0.82545	826.82	0.60445	1294.21	1582.28	0	1.73	2234.43	6.02	2232.13	6.02	-2.29	-0.1
108	372	264	156	5952	0.82414	826.99	0.60484	1294.39	1598.47	0.52	1.72	2234.4	6.01	2232.24	6	-2.16	-0.1
108	373	265	157	5968	0.82283	827.15	0.60523	1294.57	1614.7	0	1.71	2233.29	5.99	2230.83	5.98	-2.46	-0.11
108	374	266	158	5984	0.82153	827.32	0.60562	1294.76	1630.97	0.52	1.7	2233.17	5.97	2230.83	5.96	-2.34	-0.1

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
108	375	267	159	6000	0.82022	827.48	0.60600	1294.95	1647.29	0	1.69	2231.97	5.95	2229.33	5.94	-2.64	-0.12
108	376	268	160	6016	0.81892	827.63	0.60638	1295.14	1663.65	0.52	1.67	2231.77	5.94	2229.24	5.93	-2.53	-0.11
108	377	269	161	6032	0.81762	827.78	0.60676	1295.34	1680.05	0	1.66	2230.49	5.92	2227.65	5.91	-2.84	-0.13
108	378	270	162	6048	0.81633	827.93	0.60714	1295.55	1696.5	0.51	1.65	2230.19	5.9	2227.46	5.89	-2.73	-0.12
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
109	217	108	-1	3472	0.99998	700.54	0.49885	1403.77	0.11	0	9.81	1377.39	6.35	1386.64	6.39	9.25	0.67
109	218	109	0	3488	1.00000	702.7	0.50000	1401.61	0	-0.68	10	1393.01	6.39	1401.98	6.43	8.97	0.64
109	219	110	1	3504	0.99998	704.84	0.50114	1399.48	0.11	0	9.81	1409.38	6.44	1416.94	6.47	7.56	0.53
109	220	111	2	3520	0.99992	706.94	0.50227	1397.4	0.44	-0.67	9.63	1424.17	6.47	1431.88	6.51	7.72	0.54
109	221	112	3	3536	0.99982	709.01	0.50339	1395.36	0.99	0	9.45	1440.08	6.52	1446.43	6.54	6.35	0.44
109	222	113	4	3552	0.99968	711.04	0.50451	1393.36	1.76	-0.67	9.27	1454.43	6.55	1460.99	6.58	6.55	0.45
109	223	114	5	3568	0.99950	713.05	0.50561	1391.4	2.73	0	9.1	1469.91	6.59	1475.14	6.61	5.23	0.35
109	224	115	6	3584	0.99928	715.03	0.50670	1389.48	3.92	-0.67	8.94	1483.84	6.62	1489.32	6.65	5.48	0.37
109	225	116	7	3600	0.99903	716.97	0.50778	1387.6	5.31	0	8.78	1498.89	6.66	1503.09	6.68	4.2	0.28
109	226	117	8	3616	0.99875	718.89	0.50885	1385.75	6.91	-0.67	8.62	1512.4	6.69	1516.89	6.71	4.49	0.3
109	227	118	9	3632	0.99843	720.78	0.50991	1383.94	8.7	0	8.47	1527.04	6.73	1530.29	6.74	3.25	0.21
109	228	119	10	3648	0.99808	722.64	0.51097	1382.17	10.7	-0.66	8.32	1540.15	6.76	1543.72	6.77	3.57	0.23
109	229	120	11	3664	0.99769	724.47	0.51201	1380.43	12.89	0	8.17	1554.39	6.79	1556.76	6.8	2.37	0.15
109	230	121	12	3680	0.99728	726.28	0.51304	1378.72	15.27	-0.66	8.03	1567.1	6.81	1569.83	6.83	2.73	0.17
109	231	122	13	3696	0.99683	728.06	0.51407	1377.05	17.85	0	7.89	1580.94	6.84	1582.51	6.85	1.57	0.1
109	232	123	14	3712	0.99636	729.81	0.51509	1375.41	20.61	-0.66	7.76	1593.28	6.87	1595.24	6.88	1.96	0.12
109	233	124	15	3728	0.99586	731.54	0.51609	1373.8	23.56	0	7.63	1606.74	6.9	1607.57	6.9	0.83	0.05
109	234	125	16	3744	0.99533	733.24	0.51709	1372.22	26.69	-0.65	7.5	1618.7	6.92	1619.96	6.92	1.26	0.08
109	235	126	17	3760	0.99477	734.91	0.51809	1370.68	30	0	7.38	1631.79	6.94	1631.95	6.94	0.16	0.01
109	236	127	18	3776	0.99418	736.56	0.51907	1369.17	33.49	-0.65	7.26	1643.39	6.96	1644.01	6.97	0.62	0.04
109	237	128	19	3792	0.99357	738.19	0.52004	1367.68	37.16	0	7.14	1656.11	6.99	1655.66	6.99	-0.45	-0.03
109	238	129	20	3808	0.99294	739.79	0.52101	1366.23	41	-0.65	7.03	1667.36	7.01	1667.39	7.01	0.03	0
109	239	130	21	3824	0.99228	741.37	0.52197	1364.8	45.02	0	6.91	1679.73	7.03	1678.72	7.02	-1	-0.06
109	240	131	22	3840	0.99160	742.92	0.52292	1363.4	49.2	-0.65	6.8	1690.63	7.04	1690.14	7.04	-0.49	-0.03
109	241	132	23	3856	0.99089	744.46	0.52386	1362.03	53.55	0	6.7	1702.65	7.06	1701.15	7.06	-1.5	-0.09
109	242	133	24	3872	0.99017	745.97	0.52479	1360.69	58.07	-0.64	6.59	1713.22	7.08	1712.25	7.08	-0.97	-0.06
109	243	134	25	3888	0.98942	747.45	0.52572	1359.37	62.76	0	6.49	1724.91	7.1	1722.95	7.09	-1.95	-0.11
109	244	135	26	3904	0.98865	748.92	0.52664	1358.08	67.6	-0.64	6.39	1735.15	7.11	1733.75	7.11	-1.4	-0.08
109	245	136	27	3920	0.98786	750.36	0.52755	1356.82	72.6	0	6.29	1746.51	7.13	1744.15	7.12	-2.36	-0.14
109	246	137	28	3936	0.98705	751.79	0.52846	1355.58	77.76	-0.64	6.2	1756.43	7.14	1754.65	7.13	-1.78	-0.1
109	247	138	29	3952	0.98622	753.19	0.52935	1354.37	83.08	0	6.11	1767.47	7.16	1764.75	7.14	-2.72	-0.15
109	248	139	30	3968	0.98537	754.57	0.53024	1353.18	88.55	-0.64	6.02	1777.08	7.17	1774.96	7.16	-2.12	-0.12
109	249	140	31	3984	0.98450	755.93	0.53112	1352.01	94.18	0	5.93	1787.8	7.18	1784.77	7.17	-3.03	-0.17
109	250	141	32	4000	0.98362	757.28	0.53200	1350.87	99.95	-0.63	5.84	1797.11	7.19	1794.7	7.18	-2.41	-0.13
109	251	142	33	4016	0.98272	758.6	0.53287	1349.76	105.87	0	5.76	1807.53	7.2	1804.22	7.19	-3.31	-0.18
109	252	143	34	4032	0.98180	759.9	0.53373	1348.66	111.94	-0.63	5.67	1816.54	7.21	1813.87	7.2	-2.67	-0.15
109	253	144	35	4048	0.98086	761.18	0.53459	1347.59	118.16	0	5.59	1826.66	7.22	1823.11	7.21	-3.55	-0.19
109	254	145	36	4064	0.97991	762.45	0.53543	1346.54	124.52	-0.63	5.51	1835.38	7.23	1832.48	7.21	-2.9	-0.16
109	255	146	37	4080	0.97895	763.7	0.53628	1345.51	131.02	0	5.44	1845.21	7.24	1841.46	7.22	-3.76	-0.2
109	256	147	38	4096	0.97797	764.93	0.53711	1344.5	137.66	-0.62	5.36	1853.65	7.24	1850.56	7.23	-3.09	-0.17
109	257	148	39	4112	0.97697	766.14	0.53794	1343.52	144.43	0	5.29	1863.2	7.25	1859.27	7.23	-3.93	-0.21

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
109	258	149	40	4128	0.97596	767.33	0.53876	1342.55	151.35	-0.62	5.21	1871.36	7.25	1868.11	7.24	-3.25	-0.17
109	259	150	41	4144	0.97494	768.5	0.53958	1341.61	158.4	0	5.14	1880.63	7.26	1876.56	7.25	-4.07	-0.22
109	260	151	42	4160	0.97391	769.66	0.54039	1340.68	165.58	-0.62	5.07	1888.53	7.26	1885.15	7.25	-3.38	-0.18
109	261	152	43	4176	0.97286	770.8	0.54119	1339.78	172.9	0	5.01	1897.52	7.27	1893.33	7.25	-4.19	-0.22
109	262	153	44	4192	0.97180	771.93	0.54199	1338.89	180.35	-0.62	4.94	1905.15	7.27	1901.67	7.26	-3.48	-0.18
109	263	154	45	4208	0.97072	773.04	0.54278	1338.02	187.92	0	4.87	1913.89	7.28	1909.61	7.26	-4.28	-0.22
109	264	155	46	4224	0.96964	774.13	0.54356	1337.17	195.63	-0.62	4.81	1921.26	7.28	1917.7	7.26	-3.56	-0.19
109	265	156	47	4240	0.96854	775.21	0.54434	1336.34	203.46	0	4.75	1929.74	7.28	1925.39	7.27	-4.35	-0.23
109	266	157	48	4256	0.96744	776.27	0.54511	1335.53	211.41	-0.61	4.69	1936.86	7.28	1933.24	7.27	-3.62	-0.19
109	267	158	49	4272	0.96632	777.31	0.54588	1334.74	219.49	0	4.63	1945.08	7.28	1940.69	7.27	-4.39	-0.23
109	268	159	50	4288	0.96519	778.35	0.54664	1333.96	227.69	-0.61	4.57	1951.96	7.28	1948.3	7.27	-3.66	-0.19
109	269	160	51	4304	0.96406	779.36	0.54740	1333.2	236.01	0	4.51	1959.93	7.29	1955.52	7.27	-4.42	-0.23
109	270	161	52	4320	0.96291	780.36	0.54815	1332.46	244.45	-0.61	4.45	1966.57	7.28	1962.9	7.27	-3.67	-0.19
109	271	162	53	4336	0.96175	781.35	0.54889	1331.74	253.01	0	4.4	1974.3	7.29	1969.88	7.27	-4.42	-0.22
109	272	163	54	4352	0.96059	782.32	0.54963	1331.03	261.69	-0.61	4.34	1980.7	7.28	1977.03	7.27	-3.67	-0.19
109	273	164	55	4368	0.95941	783.28	0.55037	1330.33	270.48	0	4.29	1988.2	7.28	1983.79	7.27	-4.41	-0.22
109	274	165	56	4384	0.95823	784.22	0.55110	1329.66	279.39	-0.6	4.24	1994.37	7.28	1990.72	7.27	-3.65	-0.18
109	275	166	57	4400	0.95704	785.15	0.55182	1329	288.4	0	4.19	2001.64	7.28	1997.25	7.26	-4.38	-0.22
109	276	167	58	4416	0.95584	786.07	0.55254	1328.35	297.53	-0.6	4.14	2007.58	7.27	2003.97	7.26	-3.61	-0.18
109	277	168	59	4432	0.95463	786.97	0.55325	1327.72	306.77	0	4.09	2014.62	7.27	2010.28	7.26	-4.34	-0.22
109	278	169	60	4448	0.95342	787.86	0.55396	1327.11	316.12	-0.6	4.04	2020.35	7.27	2016.78	7.25	-3.57	-0.18
109	279	170	61	4464	0.95220	788.74	0.55466	1326.51	325.58	0	3.99	2027.17	7.27	2022.88	7.25	-4.28	-0.21
109	280	171	62	4480	0.95097	789.6	0.55536	1325.92	335.15	-0.6	3.95	2032.68	7.26	2029.17	7.25	-3.51	-0.17
109	281	172	63	4496	0.94974	790.45	0.55605	1325.35	344.82	0	3.9	2039.28	7.26	2035.06	7.24	-4.22	-0.21
109	282	173	64	4512	0.94849	791.29	0.55674	1324.79	354.6	-0.6	3.86	2044.58	7.25	2041.15	7.24	-3.43	-0.17
109	283	174	65	4528	0.94725	792.12	0.55742	1324.25	364.48	0	3.81	2050.97	7.25	2046.83	7.23	-4.14	-0.2
109	284	175	66	4544	0.94599	792.93	0.55810	1323.72	374.46	-0.59	3.77	2056.07	7.24	2052.71	7.23	-3.35	-0.16
109	285	176	67	4560	0.94473	793.73	0.55877	1323.2	384.54	0	3.73	2062.25	7.24	2058.2	7.22	-4.05	-0.2
109	286	177	68	4576	0.94347	794.52	0.55944	1322.7	394.73	-0.59	3.68	2067.14	7.23	2063.88	7.22	-3.26	-0.16
109	287	178	69	4592	0.94220	795.3	0.56011	1322.21	405.01	0	3.64	2073.12	7.22	2069.17	7.21	-3.95	-0.19
109	288	179	70	4608	0.94092	796.07	0.56076	1321.73	415.39	-0.59	3.6	2077.82	7.21	2074.65	7.2	-3.16	-0.15
109	289	180	71	4624	0.93964	796.83	0.56142	1321.27	425.87	0	3.56	2083.6	7.21	2079.75	7.2	-3.85	-0.19
109	290	181	72	4640	0.93836	797.57	0.56207	1320.82	436.45	-0.59	3.52	2088.1	7.2	2085.04	7.19	-3.06	-0.15
109	291	182	73	4656	0.93707	798.31	0.56272	1320.38	447.12	0	3.49	2093.68	7.19	2089.94	7.18	-3.74	-0.18
109	292	183	74	4672	0.93578	799.03	0.56336	1319.95	457.89	-0.59	3.45	2098	7.18	2095.05	7.17	-2.95	-0.14
109	293	184	75	4688	0.93448	799.74	0.56399	1319.54	468.74	0	3.41	2103.39	7.18	2099.76	7.17	-3.63	-0.17
109	294	185	76	4704	0.93318	800.44	0.56463	1319.13	479.7	-0.58	3.38	2107.52	7.17	2104.69	7.16	-2.83	-0.13
109	295	186	77	4720	0.93187	801.13	0.56525	1318.74	490.74	0	3.34	2112.73	7.16	2109.22	7.15	-3.51	-0.17
109	296	187	78	4736	0.93056	801.82	0.56588	1318.36	501.87	-0.58	3.31	2116.68	7.15	2113.96	7.14	-2.71	-0.13
109	297	188	79	4752	0.92925	802.49	0.56650	1317.99	513.1	0	3.27	2121.7	7.14	2118.31	7.13	-3.39	-0.16
109	298	189	80	4768	0.92793	803.15	0.56711	1317.63	524.41	-0.58	3.24	2125.47	7.13	2122.88	7.12	-2.59	-0.12
109	299	190	81	4784	0.92661	803.8	0.56773	1317.29	535.81	0	3.21	2130.31	7.12	2127.05	7.11	-3.26	-0.15
109	300	191	82	4800	0.92529	804.44	0.56833	1316.95	547.3	-0.58	3.17	2133.91	7.11	2131.44	7.1	-2.47	-0.12
109	301	192	83	4816	0.92396	805.07	0.56894	1316.63	558.87	0	3.14	2138.57	7.1	2135.44	7.09	-3.14	-0.15
109	302	193	84	4832	0.92264	805.69	0.56954	1316.31	570.53	-0.58	3.11	2142	7.09	2139.66	7.08	-2.34	-0.11
109	303	194	85	4848	0.92130	806.31	0.57013	1316.01	582.27	0	3.08	2146.49	7.08	2143.48	7.07	-3.01	-0.14
109	304	195	86	4864	0.91997	806.91	0.57072	1315.72	594.1	-0.57	3.05	2149.75	7.07	2147.53	7.06	-2.22	-0.1

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
109	305	196	87	4880	0.91864	807.5	0.57131	1315.43	606.01	0	3.02	2154.07	7.06	2151.19	7.05	-2.88	-0.13
109	306	197	88	4896	0.91730	808.09	0.57190	1315.16	618	-0.57	2.99	2157.17	7.05	2155.08	7.04	-2.09	-0.1
109	307	198	89	4912	0.91596	808.67	0.57248	1314.89	630.07	0	2.96	2161.33	7.04	2158.57	7.03	-2.76	-0.13
109	308	199	90	4928	0.91462	809.23	0.57305	1314.64	642.23	-0.57	2.93	2164.26	7.03	2162.29	7.02	-1.97	-0.09
109	309	200	91	4944	0.91327	809.79	0.57363	1314.4	654.46	0	2.9	2168.26	7.02	2165.62	7.01	-2.63	-0.12
109	310	201	92	4960	0.91193	810.34	0.57419	1314.16	666.77	-0.57	2.88	2171.03	7	2169.19	7	-1.85	-0.09
109	311	202	93	4976	0.91058	810.88	0.57476	1313.94	679.16	0	2.85	2174.87	6.99	2172.36	6.99	-2.51	-0.12
109	312	203	94	4992	0.90923	811.42	0.57532	1313.72	691.63	-0.57	2.82	2177.49	6.98	2175.76	6.97	-1.72	-0.08
109	313	204	95	5008	0.90788	811.94	0.57588	1313.51	704.17	0	2.79	2181.17	6.97	2178.78	6.96	-2.39	-0.11
109	314	205	96	5024	0.90653	812.46	0.57643	1313.31	716.79	-0.56	2.77	2183.64	6.95	2182.03	6.95	-1.61	-0.07
109	315	206	97	5040	0.90518	812.97	0.57698	1313.12	729.49	0	2.74	2187.16	6.94	2184.89	6.94	-2.27	-0.1
109	316	207	98	5056	0.90382	813.47	0.57753	1312.94	742.26	-0.56	2.72	2189.48	6.93	2187.99	6.92	-1.49	-0.07
109	317	208	99	5072	0.90247	813.97	0.57808	1312.77	755.1	0	2.69	2192.86	6.92	2190.7	6.91	-2.16	-0.1
109	318	209	100	5088	0.90111	814.45	0.57862	1312.61	768.02	-0.56	2.67	2195.03	6.9	2193.65	6.9	-1.38	-0.06
109	319	210	101	5104	0.89976	814.93	0.57915	1312.45	781.01	0	2.65	2198.26	6.89	2196.21	6.88	-2.05	-0.09
109	320	211	102	5120	0.89840	815.4	0.57969	1312.31	794.07	-0.56	2.62	2200.29	6.88	2199.01	6.87	-1.28	-0.06
109	321	212	103	5136	0.89704	815.86	0.58022	1312.17	807.2	0	2.6	2203.37	6.86	2201.42	6.86	-1.95	-0.09
109	322	213	104	5152	0.89568	816.32	0.58075	1312.04	820.4	-0.56	2.58	2205.26	6.85	2204.09	6.84	-1.18	-0.05
109	323	214	105	5168	0.89433	816.77	0.58127	1311.91	833.67	0	2.55	2208.2	6.84	2206.35	6.83	-1.85	-0.08
109	324	215	106	5184	0.89297	817.21	0.58179	1311.8	847.01	-0.56	2.53	2209.95	6.82	2208.87	6.82	-1.08	-0.05
109	325	216	107	5200	0.89161	817.64	0.58231	1311.69	860.42	0	2.51	2212.75	6.81	2211	6.8	-1.75	-0.08
109	326	217	108	5216	0.89025	818.07	0.58282	1311.59	873.9	-0.55	2.49	2214.37	6.79	2213.38	6.79	-0.99	-0.04
109	327	218	109	5232	0.88889	818.49	0.58333	1311.5	887.44	0	2.47	2217.03	6.78	2215.36	6.77	-1.67	-0.08
109	328	219	110	5248	0.88753	818.91	0.58384	1311.41	901.06	-0.55	2.45	2218.52	6.76	2217.61	6.76	-0.91	-0.04
109	329	220	111	5264	0.88617	819.31	0.58435	1311.34	914.73	0	2.42	2221.04	6.75	2219.46	6.75	-1.59	-0.07
109	330	221	112	5280	0.88481	819.71	0.58485	1311.27	928.47	-0.55	2.4	2222.4	6.73	2221.56	6.73	-0.84	-0.04
109	331	222	113	5296	0.88345	820.11	0.58535	1311.2	942.28	0	2.38	2224.79	6.72	2223.28	6.72	-1.51	-0.07
109	332	223	114	5312	0.88210	820.49	0.58584	1311.15	956.15	-0.55	2.36	2226.02	6.7	2225.25	6.7	-0.77	-0.03
109	333	224	115	5328	0.88074	820.88	0.58634	1311.1	970.09	0	2.34	2228.28	6.69	2226.83	6.69	-1.45	-0.07
109	334	225	116	5344	0.87938	821.25	0.58683	1311.06	984.09	-0.55	2.33	2229.38	6.67	2228.68	6.67	-0.71	-0.03
109	335	226	117	5360	0.87802	821.62	0.58731	1311.02	998.15	0	2.31	2231.52	6.66	2230.13	6.66	-1.39	-0.06
109	336	227	118	5376	0.87667	821.98	0.58780	1310.99	1012.27	-0.55	2.29	2232.5	6.64	2231.84	6.64	-0.65	-0.03
109	337	228	119	5392	0.87531	822.34	0.58828	1310.97	1026.45	0	2.27	2234.51	6.63	2233.17	6.63	-1.34	-0.06
109	338	229	120	5408	0.87395	822.69	0.58876	1310.96	1040.7	-0.54	2.25	2235.37	6.61	2234.75	6.61	-0.61	-0.03
109	339	230	121	5424	0.87260	823.03	0.58923	1310.95	1055	0	2.23	2237.25	6.6	2235.95	6.6	-1.3	-0.06
109	340	231	122	5440	0.87125	823.37	0.58971	1310.94	1069.37	-0.54	2.22	2237.99	6.58	2237.41	6.58	-0.58	-0.03
109	341	232	123	5456	0.86989	823.7	0.59018	1310.95	1083.79	0	2.2	2239.75	6.57	2238.49	6.56	-1.27	-0.06
109	342	233	124	5472	0.86854	824.03	0.59064	1310.96	1098.28	-0.54	2.18	2240.38	6.55	2239.83	6.55	-0.55	-0.02
109	343	234	125	5488	0.86719	824.35	0.59111	1310.98	1112.82	0	2.16	2242.02	6.54	2240.78	6.53	-1.25	-0.06
109	344	235	126	5504	0.86584	824.67	0.59157	1311	1127.42	-0.54	2.15	2242.53	6.52	2242	6.52	-0.53	-0.02
109	345	236	127	5520	0.86449	824.98	0.59203	1311.03	1142.07	0	2.13	2244.06	6.5	2242.82	6.5	-1.23	-0.05
109	346	237	128	5536	0.86314	825.28	0.59249	1311.06	1156.79	-0.54	2.11	2244.45	6.49	2243.92	6.49	-0.53	-0.02
109	347	238	129	5552	0.86180	825.58	0.59294	1311.1	1171.55	0	2.1	2245.86	6.47	2244.63	6.47	-1.23	-0.05
109	348	239	130	5568	0.86045	825.87	0.59339	1311.15	1186.38	-0.54	2.08	2246.15	6.45	2245.62	6.45	-0.53	-0.02
109	349	240	131	5584	0.85911	826.16	0.59384	1311.2	1201.26	0	2.07	2247.45	6.44	2246.21	6.44	-1.24	-0.06
109	350	241	132	5600	0.85776	826.45	0.59429	1311.26	1216.2	-0.53	2.05	2247.62	6.42	2247.08	6.42	-0.54	-0.02
109	351	242	133	5616	0.85642	826.72	0.59473	1311.32	1231.18	0	2.04	2248.81	6.41	2247.56	6.4	-1.25	-0.06

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
109	352	243	134	5632	0.85508	827	0.59517	1311.39	1246.23	-0.53	2.02	2248.88	6.39	2248.31	6.39	-0.56	-0.03
109	353	244	135	5648	0.85374	827.27	0.59561	1311.46	1261.32	0	2.01	2249.95	6.37	2248.67	6.37	-1.28	-0.06
109	354	245	136	5664	0.85241	827.53	0.59605	1311.54	1276.47	-0.53	1.99	2249.92	6.36	2249.32	6.35	-0.6	-0.03
109	355	246	137	5680	0.85107	827.79	0.59648	1311.63	1291.68	0	1.98	2250.89	6.34	2249.57	6.34	-1.32	-0.06
109	356	247	138	5696	0.84974	828.04	0.59691	1311.71	1306.93	-0.53	1.96	2250.75	6.32	2250.1	6.32	-0.64	-0.03
109	357	248	139	5712	0.84840	828.29	0.59734	1311.81	1322.24	0	1.95	2251.61	6.31	2250.24	6.3	-1.37	-0.06
109	358	249	140	5728	0.84707	828.53	0.59777	1311.91	1337.59	-0.53	1.94	2251.37	6.29	2250.67	6.29	-0.7	-0.03
109	359	250	141	5744	0.84574	828.77	0.59819	1312.02	1353	0	1.92	2252.13	6.27	2250.7	6.27	-1.43	-0.06
109	360	251	142	5760	0.84441	829.01	0.59861	1312.13	1368.46	-0.53	1.91	2251.79	6.25	2251.02	6.25	-0.77	-0.03
109	361	252	143	5776	0.84309	829.24	0.59903	1312.24	1383.97	0	1.89	2252.45	6.24	2250.95	6.24	-1.5	-0.07
109	362	253	144	5792	0.84176	829.46	0.59945	1312.36	1399.53	-0.53	1.88	2252	6.22	2251.16	6.22	-0.85	-0.04
109	363	254	145	5808	0.84044	829.68	0.59986	1312.49	1415.13	0	1.87	2252.56	6.21	2250.98	6.2	-1.58	-0.07
109	364	255	146	5824	0.83912	829.9	0.60028	1312.62	1430.79	-0.52	1.86	2252.02	6.19	2251.09	6.18	-0.94	-0.04
109	365	256	147	5840	0.83780	830.11	0.60069	1312.75	1446.49	0	1.84	2252.49	6.17	2250.81	6.17	-1.68	-0.07
109	366	257	148	5856	0.83648	830.32	0.60109	1312.89	1462.25	-0.52	1.83	2251.85	6.15	2250.81	6.15	-1.04	-0.05
109	367	258	149	5872	0.83517	830.53	0.60150	1313.03	1478.04	0	1.82	2252.21	6.14	2250.43	6.13	-1.79	-0.08
109	368	259	150	5888	0.83386	830.73	0.60190	1313.18	1493.89	-0.52	1.81	2251.49	6.12	2250.33	6.12	-1.15	-0.05
109	369	260	151	5904	0.83254	830.92	0.60230	1313.33	1509.78	0	1.79	2251.75	6.1	2249.85	6.1	-1.91	-0.08
109	370	261	152	5920	0.83123	831.11	0.60270	1313.49	1525.72	-0.52	1.78	2250.93	6.08	2249.65	6.08	-1.28	-0.06
109	371	262	153	5936	0.82993	831.3	0.60310	1313.65	1541.71	0	1.77	2251.11	6.07	2249.07	6.06	-2.04	-0.09
109	372	263	154	5952	0.82862	831.48	0.60350	1313.82	1557.74	-0.52	1.76	2250.2	6.05	2248.77	6.05	-1.42	-0.06
109	373	264	155	5968	0.82732	831.66	0.60389	1313.99	1573.82	0	1.75	2250.28	6.03	2248.09	6.03	-2.18	-0.1
109	374	265	156	5984	0.82602	831.84	0.60428	1314.16	1589.94	-0.52	1.73	2249.28	6.01	2247.7	6.01	-1.57	-0.07
109	375	266	157	6000	0.82472	832.01	0.60467	1314.34	1606.11	0	1.72	2249.27	6	2246.92	5.99	-2.34	-0.1
109	376	267	158	6016	0.82342	832.18	0.60505	1314.52	1622.32	-0.52	1.71	2248.18	5.98	2246.44	5.97	-1.74	-0.08
109	377	268	159	6032	0.82213	832.34	0.60544	1314.71	1638.57	0	1.7	2248.08	5.96	2245.57	5.96	-2.51	-0.11
109	378	269	160	6048	0.82083	832.5	0.60582	1314.9	1654.87	-0.51	1.69	2246.9	5.94	2244.99	5.94	-1.92	-0.09
109	379	270	161	6064	0.81954	832.66	0.60620	1315.1	1671.21	0	1.68	2246.71	5.93	2244.02	5.92	-2.69	-0.12
109	380	271	162	6080	0.81826	832.81	0.60658	1315.3	1687.59	-0.51	1.67	2245.46	5.91	2243.35	5.9	-2.11	-0.09
109	381	272	163	6096	0.81697	832.96	0.60696	1315.5	1704.02	0	1.66	2245.18	5.89	2242.29	5.89	-2.89	-0.13
109	382	273	164	6112	0.81569	833.1	0.60733	1315.71	1720.49	-0.51	1.65	2243.84	5.87	2241.53	5.87	-2.31	-0.1
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
110	219	109	-1	3504	0.99998	704.84	0.49886	1425.28	0.11	0	9.81	1383.58	6.32	1392.84	6.36	9.26	0.66
110	220	110	0	3520	1.00000	707	0.50000	1423.1	0	0.67	10	1400.58	6.37	1409.09	6.4	8.52	0.6
110	221	111	1	3536	0.99998	709.12	0.50113	1420.97	0.11	0	9.81	1415.61	6.41	1423.19	6.44	7.58	0.53
110	222	112	2	3552	0.99992	711.22	0.50225	1418.87	0.44	0.67	9.63	1431.77	6.45	1439.03	6.48	7.26	0.5
110	223	113	3	3568	0.99982	713.28	0.50336	1416.82	0.98	0	9.45	1446.37	6.49	1452.74	6.51	6.37	0.44
110	224	114	4	3584	0.99968	715.31	0.50446	1414.81	1.74	0.67	9.28	1462.08	6.53	1468.19	6.55	6.1	0.42
110	225	115	5	3600	0.99951	717.31	0.50556	1412.83	2.71	0	9.11	1476.25	6.56	1481.51	6.58	5.26	0.35
110	226	116	6	3616	0.99930	719.29	0.50664	1410.9	3.89	0.67	8.94	1491.54	6.6	1496.57	6.62	5.03	0.34
110	227	117	7	3632	0.99905	721.23	0.50771	1409	5.27	0	8.79	1505.29	6.63	1509.52	6.65	4.23	0.28
110	228	118	8	3648	0.99877	723.14	0.50877	1407.14	6.85	0.66	8.63	1520.16	6.67	1524.2	6.69	4.04	0.26
110	229	119	9	3664	0.99846	725.03	0.50983	1405.32	8.63	0	8.48	1533.51	6.7	1536.79	6.71	3.28	0.21
110	230	120	10	3680	0.99811	726.88	0.51087	1403.53	10.61	0.66	8.33	1547.97	6.73	1551.1	6.74	3.13	0.2
110	231	121	11	3696	0.99773	728.71	0.51191	1401.77	12.78	0	8.19	1560.92	6.76	1563.33	6.77	2.41	0.15
110	232	122	12	3712	0.99733	730.52	0.51293	1400.05	15.14	0.66	8.05	1574.99	6.79	1577.28	6.8	2.29	0.15

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
110	233	123	13	3728	0.99689	732.29	0.51395	1398.37	17.69	0	7.91	1587.56	6.81	1589.16	6.82	1.61	0.1
110	234	124	14	3744	0.99642	734.04	0.51496	1396.71	20.43	0.65	7.78	1601.24	6.84	1602.76	6.85	1.52	0.09
110	235	125	15	3760	0.99593	735.77	0.51596	1395.09	23.36	0	7.65	1613.43	6.87	1614.31	6.87	0.87	0.05
110	236	126	16	3776	0.99540	737.47	0.51695	1393.5	26.46	0.65	7.52	1626.74	6.89	1627.56	6.9	0.82	0.05
110	237	127	17	3792	0.99486	739.14	0.51793	1391.94	29.75	0	7.4	1638.57	6.91	1638.77	6.91	0.2	0.01
110	238	128	18	3808	0.99428	740.79	0.51891	1390.41	33.21	0.65	7.28	1651.51	6.94	1651.69	6.94	0.18	0.01
110	239	129	19	3824	0.99368	742.42	0.51987	1388.92	36.85	0	7.16	1662.98	6.96	1662.57	6.96	-0.4	-0.02
110	240	130	20	3840	0.99306	744.02	0.52083	1387.45	40.66	0.65	7.05	1675.57	6.98	1675.16	6.98	-0.41	-0.02
110	241	131	21	3856	0.99241	745.59	0.52178	1386.01	44.65	0	6.94	1686.69	7	1685.73	6.99	-0.96	-0.06
110	242	132	22	3872	0.99174	747.15	0.52273	1384.59	48.8	0.64	6.83	1698.93	7.02	1697.99	7.02	-0.93	-0.06
110	243	133	23	3888	0.99104	748.68	0.52366	1383.21	53.12	0	6.72	1709.71	7.04	1708.26	7.03	-1.46	-0.09
110	244	134	24	3904	0.99033	750.19	0.52459	1381.85	57.6	0.64	6.62	1721.61	7.06	1720.2	7.05	-1.41	-0.08
110	245	135	25	3920	0.98959	751.68	0.52551	1380.52	62.24	0	6.51	1732.07	7.07	1730.16	7.06	-1.9	-0.11
110	246	136	26	3936	0.98883	753.15	0.52642	1379.22	67.05	0.64	6.42	1743.63	7.09	1741.8	7.08	-1.84	-0.11
110	247	137	27	3952	0.98805	754.59	0.52733	1377.94	72.02	0	6.32	1753.77	7.1	1751.46	7.09	-2.3	-0.13
110	248	138	28	3968	0.98725	756.02	0.52823	1376.69	77.14	0.64	6.22	1765.01	7.12	1762.8	7.11	-2.22	-0.13
110	249	139	29	3984	0.98644	757.42	0.52912	1375.46	82.42	0	6.13	1774.83	7.13	1772.17	7.12	-2.66	-0.15
110	250	140	30	4000	0.98560	758.8	0.53000	1374.26	87.85	0.63	6.04	1785.76	7.14	1783.21	7.13	-2.55	-0.14
110	251	141	31	4016	0.98475	760.17	0.53088	1373.08	93.43	0	5.95	1795.28	7.15	1792.3	7.14	-2.98	-0.17
110	252	142	32	4032	0.98388	761.51	0.53175	1371.93	99.16	0.63	5.87	1805.9	7.17	1803.05	7.15	-2.85	-0.16
110	253	143	33	4048	0.98299	762.83	0.53261	1370.8	105.04	0	5.78	1815.11	7.17	1811.86	7.16	-3.25	-0.18
110	254	144	34	4064	0.98208	764.14	0.53347	1369.69	111.06	0.63	5.7	1825.44	7.19	1822.33	7.17	-3.11	-0.17
110	255	145	35	4080	0.98116	765.42	0.53431	1368.6	117.23	0	5.62	1834.36	7.19	1830.87	7.18	-3.49	-0.19
110	256	146	36	4096	0.98023	766.69	0.53516	1367.54	123.55	0.62	5.54	1844.39	7.2	1841.06	7.19	-3.33	-0.18
110	257	147	37	4112	0.97927	767.94	0.53599	1366.5	130	0	5.46	1853.03	7.21	1849.33	7.2	-3.69	-0.2
110	258	148	38	4128	0.97831	769.17	0.53682	1365.47	136.59	0.62	5.39	1862.77	7.22	1859.25	7.21	-3.52	-0.19
110	259	149	39	4144	0.97733	770.38	0.53765	1364.48	143.32	0	5.31	1871.13	7.22	1867.27	7.21	-3.86	-0.21
110	260	150	40	4160	0.97633	771.58	0.53846	1363.5	150.19	0.62	5.24	1880.59	7.23	1876.92	7.22	-3.68	-0.2
110	261	151	41	4176	0.97532	772.76	0.53927	1362.54	157.19	0	5.17	1888.68	7.24	1884.68	7.22	-4.01	-0.21
110	262	152	42	4192	0.97430	773.92	0.54008	1361.6	164.32	0.62	5.1	1897.87	7.24	1894.07	7.23	-3.8	-0.2
110	263	153	43	4208	0.97327	775.07	0.54088	1360.68	171.59	0	5.03	1905.7	7.25	1901.58	7.23	-4.12	-0.22
110	264	154	44	4224	0.97222	776.19	0.54167	1359.78	178.99	0.62	4.97	1914.62	7.25	1910.71	7.24	-3.91	-0.2
110	265	155	45	4240	0.97116	777.31	0.54245	1358.9	186.51	0	4.9	1922.18	7.25	1917.98	7.24	-4.21	-0.22
110	266	156	46	4256	0.97009	778.4	0.54323	1358.04	194.16	0.61	4.84	1930.85	7.26	1926.86	7.24	-3.98	-0.21
110	267	157	47	4272	0.96901	779.48	0.54401	1357.2	201.94	0	4.77	1938.16	7.26	1933.89	7.24	-4.27	-0.22
110	268	158	48	4288	0.96792	780.55	0.54478	1356.37	209.84	0.61	4.71	1946.56	7.26	1942.53	7.25	-4.04	-0.21
110	269	159	49	4304	0.96682	781.6	0.54554	1355.57	217.87	0	4.65	1953.63	7.26	1949.31	7.25	-4.31	-0.22
110	270	160	50	4320	0.96571	782.63	0.54630	1354.78	226.01	0.61	4.59	1961.78	7.27	1957.72	7.25	-4.07	-0.21
110	271	161	51	4336	0.96458	783.65	0.54705	1354.01	234.28	0	4.54	1968.6	7.26	1964.27	7.25	-4.33	-0.22
110	272	162	52	4352	0.96345	784.65	0.54779	1353.25	242.66	0.61	4.48	1976.52	7.27	1972.44	7.25	-4.08	-0.21
110	273	163	53	4368	0.96231	785.64	0.54854	1352.51	251.17	0	4.42	1983.1	7.26	1978.77	7.25	-4.33	-0.22
110	274	164	54	4384	0.96116	786.62	0.54927	1351.79	259.79	0.6	4.37	1990.78	7.27	1986.71	7.25	-4.07	-0.2
110	275	165	55	4400	0.96000	787.58	0.55000	1351.09	268.52	0	4.32	1997.13	7.26	1992.81	7.25	-4.31	-0.22
110	276	166	56	4416	0.95883	788.53	0.55073	1350.4	277.37	0.6	4.26	2004.57	7.26	2000.52	7.25	-4.05	-0.2
110	277	167	57	4432	0.95766	789.46	0.55144	1349.73	286.33	0	4.21	2010.7	7.26	2006.41	7.24	-4.28	-0.21
110	278	168	58	4448	0.95647	790.38	0.55216	1349.07	295.4	0.6	4.16	2017.91	7.26	2013.9	7.24	-4.01	-0.2
110	279	169	59	4464	0.95528	791.29	0.55287	1348.43	304.58	0	4.11	2023.81	7.25	2019.58	7.24	-4.23	-0.21

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
110	280	170	60	4480	0.95408	792.18	0.55357	1347.8	313.88	0.6	4.07	2030.81	7.25	2026.85	7.24	-3.96	-0.2
110	281	171	61	4496	0.95288	793.06	0.55427	1347.19	323.27	0	4.02	2036.49	7.25	2032.32	7.23	-4.17	-0.21
110	282	172	62	4512	0.95166	793.93	0.55497	1346.59	332.78	0.6	3.97	2043.26	7.25	2039.37	7.23	-3.89	-0.19
110	283	173	63	4528	0.95044	794.79	0.55565	1346.01	342.39	0	3.93	2048.74	7.24	2044.64	7.22	-4.1	-0.2
110	284	174	64	4544	0.94922	795.63	0.55634	1345.44	352.11	0.59	3.88	2055.3	7.24	2051.48	7.22	-3.81	-0.19
110	285	175	65	4560	0.94798	796.46	0.55702	1344.88	361.93	0	3.84	2060.56	7.23	2056.55	7.22	-4.02	-0.2
110	286	176	66	4576	0.94675	797.28	0.55769	1344.34	371.85	0.59	3.79	2066.91	7.23	2063.19	7.21	-3.73	-0.18
110	287	177	67	4592	0.94550	798.09	0.55836	1343.81	381.87	0	3.75	2071.98	7.22	2068.05	7.21	-3.92	-0.19
110	288	178	68	4608	0.94425	798.89	0.55903	1343.3	392	0.59	3.71	2078.12	7.22	2074.49	7.2	-3.63	-0.17
110	289	179	69	4624	0.94300	799.67	0.55969	1342.8	402.22	0	3.67	2082.98	7.21	2079.16	7.19	-3.82	-0.18
110	290	180	70	4640	0.94174	800.44	0.56035	1342.31	412.54	0.59	3.63	2088.93	7.2	2085.4	7.19	-3.52	-0.17
110	291	181	71	4656	0.94047	801.2	0.56100	1341.84	422.96	0	3.59	2093.6	7.19	2089.88	7.18	-3.71	-0.18
110	292	182	72	4672	0.93920	801.95	0.56164	1341.37	433.47	0.59	3.55	2099.34	7.19	2095.93	7.18	-3.41	-0.16
110	293	183	73	4688	0.93793	802.69	0.56229	1340.92	444.08	0	3.51	2103.82	7.18	2100.22	7.17	-3.6	-0.17
110	294	184	74	4704	0.93665	803.42	0.56293	1340.48	454.78	0.58	3.47	2109.37	7.17	2106.08	7.16	-3.3	-0.16
110	295	185	75	4720	0.93536	804.14	0.56356	1340.06	465.58	0	3.44	2113.66	7.16	2110.19	7.15	-3.48	-0.16
110	296	186	76	4736	0.93408	804.84	0.56419	1339.65	476.47	0.58	3.4	2119.03	7.16	2115.85	7.15	-3.17	-0.15
110	297	187	77	4752	0.93279	805.54	0.56482	1339.24	487.45	0	3.37	2123.14	7.15	2119.78	7.14	-3.35	-0.16
110	298	188	78	4768	0.93149	806.23	0.56544	1338.85	498.52	0.58	3.33	2128.31	7.14	2125.27	7.13	-3.05	-0.14
110	299	189	79	4784	0.93019	806.9	0.56605	1338.47	509.68	0	3.3	2132.24	7.13	2129.02	7.12	-3.22	-0.15
110	300	190	80	4800	0.92889	807.57	0.56667	1338.11	520.92	0.58	3.26	2137.24	7.12	2134.32	7.11	-2.92	-0.14
110	301	191	81	4816	0.92758	808.23	0.56728	1337.75	532.26	0	3.23	2140.99	7.11	2137.9	7.1	-3.09	-0.14
110	302	192	82	4832	0.92628	808.87	0.56788	1337.4	543.68	0.58	3.2	2145.81	7.11	2143.03	7.1	-2.79	-0.13
110	303	193	83	4848	0.92496	809.51	0.56848	1337.07	555.19	0	3.16	2149.39	7.09	2146.44	7.08	-2.96	-0.14
110	304	194	84	4864	0.92365	810.14	0.56908	1336.74	566.79	0.57	3.13	2154.04	7.09	2151.39	7.08	-2.65	-0.12
110	305	195	85	4880	0.92233	810.75	0.56967	1336.43	578.47	0	3.1	2157.45	7.07	2154.63	7.06	-2.82	-0.13
110	306	196	86	4896	0.92101	811.36	0.57026	1336.13	590.23	0.57	3.07	2161.93	7.07	2159.41	7.06	-2.52	-0.12
110	307	197	87	4912	0.91969	811.96	0.57085	1335.83	602.07	0	3.04	2165.17	7.05	2162.49	7.04	-2.69	-0.12
110	308	198	88	4928	0.91837	812.55	0.57143	1335.55	614	0.57	3.01	2169.48	7.04	2167.09	7.04	-2.38	-0.11
110	309	199	89	4944	0.91704	813.14	0.57201	1335.28	626.01	0	2.98	2172.56	7.03	2170.01	7.02	-2.55	-0.12
110	310	200	90	4960	0.91571	813.71	0.57258	1335.01	638.1	0.57	2.95	2176.7	7.02	2174.45	7.01	-2.25	-0.1
110	311	201	91	4976	0.91438	814.27	0.57315	1334.76	650.26	0	2.93	2179.63	7.01	2177.21	7	-2.42	-0.11
110	312	202	92	4992	0.91305	814.83	0.57372	1334.52	662.51	0.57	2.9	2183.61	7	2181.49	6.99	-2.12	-0.1
110	313	203	93	5008	0.91172	815.38	0.57428	1334.28	674.84	0	2.87	2186.38	6.99	2184.09	6.98	-2.29	-0.1
110	314	204	94	5024	0.91038	815.92	0.57484	1334.06	687.24	0.56	2.84	2190.2	6.98	2188.21	6.97	-1.99	-0.09
110	315	205	95	5040	0.90905	816.45	0.57540	1333.84	699.72	0	2.82	2192.82	6.96	2190.66	6.95	-2.16	-0.1
110	316	206	96	5056	0.90771	816.97	0.57595	1333.63	712.27	0.56	2.79	2196.48	6.95	2194.62	6.95	-1.86	-0.08
110	317	207	97	5072	0.90637	817.48	0.57650	1333.43	724.9	0	2.77	2198.95	6.94	2196.92	6.93	-2.03	-0.09
110	318	208	98	5088	0.90503	817.99	0.57704	1333.24	737.6	0.56	2.74	2202.46	6.93	2200.73	6.92	-1.74	-0.08
110	319	209	99	5104	0.90369	818.49	0.57759	1333.06	750.38	0	2.72	2204.78	6.91	2202.88	6.91	-1.91	-0.09
110	320	210	100	5120	0.90234	818.98	0.57813	1332.89	763.23	0.56	2.69	2208.15	6.9	2206.53	6.9	-1.62	-0.07
110	321	211	101	5136	0.90100	819.46	0.57866	1332.73	776.16	0	2.67	2210.32	6.89	2208.53	6.88	-1.79	-0.08
110	322	212	102	5152	0.89966	819.94	0.57919	1332.57	789.15	0.56	2.64	2213.54	6.87	2212.04	6.87	-1.5	-0.07
110	323	213	103	5168	0.89831	820.41	0.57972	1332.42	802.22	0	2.62	2215.57	6.86	2213.9	6.85	-1.67	-0.08
110	324	214	104	5184	0.89697	820.87	0.58025	1332.28	815.35	0.56	2.6	2218.65	6.85	2217.26	6.84	-1.39	-0.06
110	325	215	105	5200	0.89562	821.33	0.58077	1332.15	828.56	0	2.57	2220.54	6.83	2218.98	6.83	-1.56	-0.07
110	326	216	106	5216	0.89428	821.77	0.58129	1332.03	841.83	0.55	2.55	2223.47	6.82	2222.19	6.82	-1.28	-0.06

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
110	327	217	107	5232	0.89293	822.21	0.58180	1331.91	855.18	0	2.53	2225.23	6.8	2223.77	6.8	-1.46	-0.07
110	328	218	108	5248	0.89158	822.64	0.58232	1331.81	868.59	0.55	2.51	2228.02	6.79	2226.84	6.79	-1.18	-0.05
110	329	219	109	5264	0.89024	823.07	0.58283	1331.71	882.07	0	2.49	2229.64	6.78	2228.28	6.77	-1.36	-0.06
110	330	220	110	5280	0.88889	823.49	0.58333	1331.61	895.61	0.55	2.47	2232.3	6.76	2231.21	6.76	-1.09	-0.05
110	331	221	111	5296	0.88754	823.9	0.58384	1331.53	909.22	0	2.45	2233.79	6.75	2232.52	6.74	-1.27	-0.06
110	332	222	112	5312	0.88620	824.31	0.58434	1331.45	922.9	0.55	2.42	2236.32	6.74	2235.32	6.73	-1	-0.04
110	333	223	113	5328	0.88485	824.71	0.58484	1331.38	936.64	0	2.4	2237.68	6.72	2236.49	6.72	-1.19	-0.05
110	334	224	114	5344	0.88350	825.1	0.58533	1331.32	950.45	0.55	2.38	2240.07	6.71	2239.15	6.7	-0.92	-0.04
110	335	225	115	5360	0.88216	825.49	0.58582	1331.26	964.31	0	2.37	2241.3	6.69	2240.2	6.69	-1.11	-0.05
110	336	226	116	5376	0.88081	825.87	0.58631	1331.21	978.25	0.55	2.35	2243.57	6.68	2242.72	6.67	-0.85	-0.04
110	337	227	117	5392	0.87947	826.24	0.58680	1331.17	992.24	0	2.33	2244.68	6.66	2243.64	6.66	-1.04	-0.05
110	338	228	118	5408	0.87812	826.61	0.58728	1331.13	1006.3	0.54	2.31	2246.81	6.65	2246.03	6.65	-0.78	-0.03
110	339	229	119	5424	0.87678	826.97	0.58776	1331.1	1020.42	0	2.29	2247.8	6.63	2246.82	6.63	-0.98	-0.04
110	340	230	120	5440	0.87543	827.33	0.58824	1331.08	1034.6	0.54	2.27	2249.81	6.62	2249.09	6.61	-0.73	-0.03
110	341	231	121	5456	0.87409	827.68	0.58871	1331.06	1048.83	0	2.25	2250.68	6.6	2249.75	6.6	-0.92	-0.04
110	342	232	122	5472	0.87275	828.02	0.58918	1331.05	1063.13	0.54	2.24	2252.57	6.59	2251.89	6.58	-0.68	-0.03
110	343	233	123	5488	0.87141	828.36	0.58965	1331.05	1077.49	0	2.22	2253.32	6.57	2252.44	6.57	-0.88	-0.04
110	344	234	124	5504	0.87007	828.69	0.59012	1331.05	1091.91	0.54	2.2	2255.09	6.56	2254.45	6.55	-0.64	-0.03
110	345	235	125	5520	0.86873	829.02	0.59058	1331.06	1106.39	0	2.18	2255.72	6.54	2254.87	6.54	-0.84	-0.04
110	346	236	126	5536	0.86739	829.34	0.59104	1331.08	1120.92	0.54	2.17	2257.37	6.52	2256.76	6.52	-0.61	-0.03
110	347	237	127	5552	0.86605	829.65	0.59150	1331.1	1135.51	0	2.15	2257.89	6.51	2257.07	6.5	-0.82	-0.04
110	348	238	128	5568	0.86471	829.96	0.59195	1331.13	1150.16	0.54	2.13	2259.42	6.49	2258.83	6.49	-0.59	-0.03
110	349	239	129	5584	0.86338	830.27	0.59241	1331.16	1164.86	0	2.12	2259.83	6.48	2259.03	6.47	-0.8	-0.04
110	350	240	130	5600	0.86204	830.57	0.59286	1331.2	1179.62	0.53	2.1	2261.25	6.46	2260.67	6.46	-0.58	-0.03
110	351	241	131	5616	0.86071	830.86	0.59331	1331.25	1194.43	0	2.09	2261.54	6.44	2260.75	6.44	-0.79	-0.04
110	352	242	132	5632	0.85938	831.15	0.59375	1331.3	1209.3	0.53	2.07	2262.85	6.43	2262.28	6.43	-0.57	-0.03
110	353	243	133	5648	0.85804	831.43	0.59419	1331.35	1224.23	0	2.05	2263.04	6.41	2262.24	6.41	-0.8	-0.04
110	354	244	134	5664	0.85671	831.71	0.59463	1331.42	1239.21	0.53	2.04	2264.24	6.4	2263.65	6.39	-0.58	-0.03
110	355	245	135	5680	0.85539	831.99	0.59507	1331.48	1254.24	0	2.02	2264.32	6.38	2263.51	6.38	-0.81	-0.04
110	356	246	136	5696	0.85406	832.25	0.59551	1331.56	1269.32	0.53	2.01	2265.4	6.36	2264.8	6.36	-0.6	-0.03
110	357	247	137	5712	0.85273	832.52	0.59594	1331.64	1284.46	0	2	2265.38	6.35	2264.55	6.34	-0.84	-0.04
110	358	248	138	5728	0.85141	832.78	0.59637	1331.72	1299.65	0.53	1.98	2266.36	6.33	2265.73	6.33	-0.63	-0.03
110	359	249	139	5744	0.85009	833.03	0.59680	1331.81	1314.89	0	1.97	2266.24	6.31	2265.37	6.31	-0.87	-0.04
110	360	250	140	5760	0.84877	833.28	0.59722	1331.9	1330.18	0.53	1.95	2267.11	6.3	2266.44	6.3	-0.67	-0.03
110	361	251	141	5776	0.84745	833.52	0.59765	1332	1345.53	0	1.94	2266.89	6.28	2265.97	6.28	-0.92	-0.04
110	362	252	142	5792	0.84613	833.76	0.59807	1332.11	1360.92	0.53	1.93	2267.66	6.26	2266.93	6.26	-0.73	-0.03
110	363	253	143	5808	0.84481	834	0.59849	1332.22	1376.36	0	1.91	2267.33	6.25	2266.36	6.24	-0.97	-0.04
110	364	254	144	5824	0.84350	834.23	0.59890	1332.33	1391.86	0.52	1.9	2268	6.23	2267.21	6.23	-0.79	-0.03
110	365	255	145	5840	0.84218	834.46	0.59932	1332.45	1407.4	0	1.89	2267.58	6.21	2266.53	6.21	-1.04	-0.05
110	366	256	146	5856	0.84087	834.68	0.59973	1332.57	1422.99	0.52	1.87	2268.15	6.2	2267.28	6.19	-0.87	-0.04
110	367	257	147	5872	0.83956	834.9	0.60014	1332.7	1438.63	0	1.86	2267.63	6.18	2266.5	6.18	-1.12	-0.05
110	368	258	148	5888	0.83826	835.11	0.60054	1332.84	1454.32	0.52	1.85	2268.1	6.16	2267.15	6.16	-0.95	-0.04
110	369	259	149	5904	0.83695	835.32	0.60095	1332.97	1470.06	0	1.83	2267.49	6.14	2266.27	6.14	-1.22	-0.05
110	370	260	150	5920	0.83565	835.52	0.60135	1333.12	1485.84	0.52	1.82	2267.86	6.13	2266.81	6.13	-1.05	-0.05
110	371	261	151	5936	0.83434	835.72	0.60175	1333.26	1501.67	0	1.81	2267.15	6.11	2265.83	6.11	-1.32	-0.06
110	372	262	152	5952	0.83304	835.92	0.60215	1333.42	1517.54	0.52	1.8	2267.43	6.1	2266.27	6.09	-1.16	-0.05
110	373	263	153	5968	0.83175	836.11	0.60255	1333.57	1533.47	0	1.79	2266.63	6.08	2265.2	6.07	-1.44	-0.06

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
110	374	264	154	5984	0.83045	836.3	0.60294	1333.73	1549.43	0.52	1.77	2266.82	6.06	2265.54	6.06	-1.29	-0.06
110	375	265	155	6000	0.82916	836.49	0.60333	1333.9	1565.45	0	1.76	2265.93	6.04	2264.36	6.04	-1.57	-0.07
110	376	266	156	6016	0.82786	836.67	0.60372	1334.07	1581.51	0.52	1.75	2266.03	6.03	2264.6	6.02	-1.42	-0.06
110	377	267	157	6032	0.82657	836.84	0.60411	1334.24	1597.61	0	1.74	2265.05	6.01	2263.34	6	-1.71	-0.08
110	378	268	158	6048	0.82529	837.02	0.60450	1334.42	1613.76	0.51	1.73	2265.05	5.99	2263.48	5.99	-1.57	-0.07
110	379	269	159	6064	0.82400	837.18	0.60488	1334.6	1629.95	0	1.72	2263.98	5.97	2262.12	5.97	-1.86	-0.08
110	380	270	160	6080	0.82272	837.35	0.60526	1334.79	1646.18	0.51	1.71	2263.9	5.96	2262.17	5.95	-1.73	-0.08
110	381	271	161	6096	0.82143	837.51	0.60564	1334.98	1662.46	0	1.7	2262.74	5.94	2260.72	5.93	-2.03	-0.09
110	382	272	162	6112	0.82015	837.67	0.60602	1335.17	1678.78	0.51	1.68	2262.57	5.92	2260.67	5.92	-1.9	-0.08
110	383	273	163	6128	0.81888	837.82	0.60640	1335.37	1695.15	0	1.67	2261.33	5.9	2259.13	5.9	-2.21	-0.1
110	384	274	164	6144	0.81760	837.97	0.60677	1335.57	1711.55	0.51	1.66	2261.08	5.89	2258.99	5.88	-2.09	-0.09
110	385	275	165	6160	0.81633	838.12	0.60714	1335.78	1728	0	1.65	2259.75	5.87	2257.35	5.86	-2.4	-0.11
Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
111	221	110	-1	3536	0.99998	709.12	0.49887	1446.92	0.11	0	9.81	1389.66	6.29	1398.92	6.33	9.26	0.66
111	222	111	0	3552	1.00000	711.27	0.50000	1444.73	0	-0.67	10	1405.32	6.33	1414.31	6.37	8.98	0.64
111	223	112	1	3568	0.99998	713.39	0.50112	1442.58	0.11	0	9.81	1421.73	6.38	1429.3	6.41	7.57	0.53
111	224	113	2	3584	0.99992	715.48	0.50223	1440.47	0.44	-0.67	9.63	1436.57	6.41	1444.29	6.45	7.72	0.53
111	225	114	3	3600	0.99982	717.54	0.50333	1438.41	0.98	0	9.46	1452.53	6.46	1458.89	6.48	6.36	0.44
111	226	115	4	3616	0.99969	719.57	0.50443	1436.38	1.73	-0.67	9.28	1466.94	6.49	1473.5	6.52	6.56	0.44
111	227	116	5	3632	0.99952	721.56	0.50551	1434.4	2.69	0	9.12	1482.47	6.53	1487.71	6.55	5.24	0.35
111	228	117	6	3648	0.99931	723.53	0.50658	1432.45	3.85	-0.66	8.95	1496.46	6.56	1501.94	6.59	5.48	0.36
111	229	118	7	3664	0.99907	725.47	0.50764	1430.54	5.22	0	8.8	1511.57	6.6	1515.77	6.62	4.2	0.28
111	230	119	8	3680	0.99879	727.38	0.50870	1428.66	6.79	-0.66	8.64	1525.15	6.63	1529.63	6.65	4.48	0.29
111	231	120	9	3696	0.99848	729.26	0.50974	1426.82	8.55	0	8.49	1539.85	6.67	1543.1	6.68	3.25	0.21
111	232	121	10	3712	0.99814	731.12	0.51078	1425.02	10.51	-0.66	8.34	1553.04	6.69	1556.6	6.71	3.56	0.23
111	233	122	11	3728	0.99777	732.94	0.51180	1423.25	12.67	0	8.2	1567.34	6.73	1569.71	6.74	2.37	0.15
111	234	123	12	3744	0.99737	734.74	0.51282	1421.52	15.01	-0.65	8.06	1580.14	6.75	1582.85	6.76	2.72	0.17
111	235	124	13	3760	0.99694	736.52	0.51383	1419.82	17.54	0	7.93	1594.05	6.78	1595.61	6.79	1.56	0.1
111	236	125	14	3776	0.99648	738.26	0.51483	1418.15	20.26	-0.65	7.79	1606.47	6.81	1608.41	6.82	1.94	0.12
111	237	126	15	3792	0.99599	739.99	0.51582	1416.51	23.16	0	7.67	1620	6.84	1620.82	6.84	0.82	0.05
111	238	127	16	3808	0.99548	741.68	0.51681	1414.91	26.24	-0.65	7.54	1632.06	6.86	1633.29	6.86	1.23	0.08
111	239	128	17	3824	0.99494	743.36	0.51778	1413.34	29.5	0	7.42	1645.22	6.88	1645.36	6.88	0.14	0.01
111	240	129	18	3840	0.99438	745.01	0.51875	1411.79	32.94	-0.65	7.3	1656.92	6.9	1657.5	6.91	0.59	0.04
111	241	130	19	3856	0.99379	746.63	0.51971	1410.28	36.55	0	7.18	1669.72	6.93	1669.25	6.93	-0.48	-0.03
111	242	131	20	3872	0.99317	748.23	0.52066	1408.8	40.33	-0.64	7.07	1681.07	6.95	1681.06	6.95	0	0
111	243	132	21	3888	0.99253	749.81	0.52161	1407.34	44.28	0	6.96	1693.52	6.97	1692.49	6.96	-1.04	-0.06
111	244	133	22	3904	0.99187	751.36	0.52254	1405.92	48.4	-0.64	6.85	1704.53	6.99	1703.99	6.98	-0.54	-0.03
111	245	134	23	3920	0.99119	752.9	0.52347	1404.52	52.68	0	6.74	1716.64	7.01	1715.1	7	-1.54	-0.09
111	246	135	24	3936	0.99048	754.41	0.52439	1403.15	57.13	-0.64	6.64	1727.31	7.02	1726.3	7.02	-1.02	-0.06
111	247	136	25	3952	0.98976	755.89	0.52530	1401.81	61.74	0	6.54	1739.09	7.04	1737.1	7.03	-2	-0.11
111	248	137	26	3968	0.98901	757.36	0.52621	1400.49	66.51	-0.64	6.44	1749.44	7.05	1747.99	7.05	-1.45	-0.08
111	249	138	27	3984	0.98824	758.81	0.52711	1399.2	71.44	0	6.34	1760.9	7.07	1758.49	7.06	-2.4	-0.14
111	250	139	28	4000	0.98746	760.23	0.52800	1397.93	76.52	-0.63	6.25	1770.93	7.08	1769.09	7.08	-1.83	-0.1
111	251	140	29	4016	0.98665	761.64	0.52888	1396.69	81.76	0	6.16	1782.07	7.1	1779.3	7.09	-2.77	-0.16
111	252	141	30	4032	0.98583	763.02	0.52976	1395.47	87.15	-0.63	6.07	1791.79	7.11	1789.61	7.1	-2.18	-0.12
111	253	142	31	4048	0.98499	764.39	0.53063	1394.28	92.69	0	5.98	1802.62	7.12	1799.53	7.11	-3.09	-0.17

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
111	254	143	32	4064	0.98413	765.73	0.53150	1393.11	98.38	-0.63	5.89	1812.04	7.13	1809.56	7.12	-2.48	-0.14
111	255	144	33	4080	0.98325	767.06	0.53235	1391.97	104.22	0	5.81	1822.56	7.15	1819.2	7.13	-3.37	-0.19
111	256	145	34	4096	0.98236	768.36	0.53320	1390.85	110.2	-0.62	5.72	1831.69	7.16	1828.95	7.14	-2.74	-0.15
111	257	146	35	4112	0.98145	769.65	0.53405	1389.75	116.33	0	5.64	1841.92	7.17	1838.31	7.15	-3.61	-0.2
111	258	147	36	4128	0.98053	770.92	0.53488	1388.67	122.59	-0.62	5.57	1850.76	7.17	1847.79	7.16	-2.97	-0.16
111	259	148	37	4144	0.97959	772.17	0.53571	1387.61	129	0	5.49	1860.7	7.18	1856.88	7.17	-3.82	-0.21
111	260	149	38	4160	0.97864	773.4	0.53654	1386.58	135.55	-0.62	5.41	1869.26	7.19	1866.1	7.18	-3.16	-0.17
111	261	150	39	4176	0.97767	774.62	0.53736	1385.57	142.23	0	5.34	1878.92	7.2	1874.92	7.18	-4	-0.21
111	262	151	40	4192	0.97669	775.82	0.53817	1384.57	149.05	-0.62	5.27	1887.21	7.2	1883.88	7.19	-3.33	-0.18
111	263	152	41	4208	0.97570	777	0.53897	1383.6	156	0	5.2	1896.59	7.21	1892.45	7.2	-4.15	-0.22
111	264	153	42	4224	0.97469	778.16	0.53977	1382.65	163.08	-0.62	5.13	1904.61	7.21	1901.15	7.2	-3.46	-0.18
111	265	154	43	4240	0.97367	779.31	0.54057	1381.72	170.3	0	5.06	1913.73	7.22	1909.46	7.21	-4.26	-0.22
111	266	155	44	4256	0.97264	780.44	0.54135	1380.81	177.65	-0.61	4.99	1921.48	7.22	1917.92	7.21	-3.56	-0.19
111	267	156	45	4272	0.97159	781.56	0.54214	1379.91	185.12	0	4.93	1930.34	7.23	1925.98	7.21	-4.36	-0.23
111	268	157	46	4288	0.97054	782.66	0.54291	1379.04	192.72	-0.61	4.86	1937.84	7.23	1934.19	7.22	-3.64	-0.19
111	269	158	47	4304	0.96947	783.74	0.54368	1378.18	200.44	0	4.8	1946.43	7.24	1942.01	7.22	-4.42	-0.23
111	270	159	48	4320	0.96840	784.81	0.54444	1377.35	208.29	-0.61	4.74	1953.68	7.24	1949.98	7.22	-3.7	-0.19
111	271	160	49	4336	0.96731	785.86	0.54520	1376.53	216.26	0	4.68	1962.03	7.24	1957.56	7.22	-4.47	-0.23
111	272	161	50	4352	0.96621	786.9	0.54596	1375.73	224.36	-0.61	4.62	1969.03	7.24	1965.3	7.23	-3.74	-0.19
111	273	162	51	4368	0.96510	787.92	0.54670	1374.94	232.57	0	4.56	1977.13	7.24	1972.64	7.23	-4.49	-0.23
111	274	163	52	4384	0.96398	788.93	0.54745	1374.17	240.9	-0.6	4.51	1983.9	7.24	1980.15	7.23	-3.75	-0.19
111	275	164	53	4400	0.96286	789.92	0.54818	1373.42	249.35	0	4.45	1991.76	7.24	1987.26	7.23	-4.49	-0.23
111	276	165	54	4416	0.96172	790.9	0.54891	1372.69	257.91	-0.6	4.4	1998.29	7.24	1994.54	7.23	-3.75	-0.19
111	277	166	55	4432	0.96058	791.87	0.54964	1371.97	266.59	0	4.34	2005.91	7.24	2001.43	7.23	-4.48	-0.22
111	278	167	56	4448	0.95942	792.82	0.55036	1371.27	275.38	-0.6	4.29	2012.22	7.24	2008.49	7.22	-3.73	-0.19
111	279	168	57	4464	0.95826	793.76	0.55108	1370.59	284.28	0	4.24	2019.61	7.24	2015.16	7.22	-4.45	-0.22
111	280	169	58	4480	0.95709	794.68	0.55179	1369.92	293.3	-0.6	4.19	2025.69	7.23	2022	7.22	-3.69	-0.18
111	281	170	59	4496	0.95592	795.59	0.55249	1369.26	302.42	0	4.14	2032.86	7.23	2028.45	7.22	-4.41	-0.22
111	282	171	60	4512	0.95473	796.49	0.55319	1368.62	311.66	-0.6	4.09	2038.72	7.23	2035.08	7.22	-3.64	-0.18
111	283	172	61	4528	0.95354	797.38	0.55389	1368	321	0	4.04	2045.67	7.23	2041.32	7.21	-4.35	-0.21
111	284	173	62	4544	0.95234	798.25	0.55458	1367.39	330.45	-0.59	4	2051.32	7.22	2047.74	7.21	-3.57	-0.17
111	285	174	63	4560	0.95114	799.11	0.55526	1366.8	340	0	3.95	2058.05	7.22	2053.77	7.21	-4.27	-0.21
111	286	175	64	4576	0.94992	799.96	0.55594	1366.22	349.65	-0.59	3.91	2063.49	7.21	2059.99	7.2	-3.5	-0.17
111	287	176	65	4592	0.94871	800.8	0.55662	1365.65	359.41	0	3.86	2070	7.21	2065.81	7.2	-4.19	-0.2
111	288	177	66	4608	0.94748	801.62	0.55729	1365.1	369.28	-0.59	3.82	2075.24	7.21	2071.83	7.19	-3.41	-0.16
111	289	178	67	4624	0.94625	802.43	0.55796	1364.56	379.24	0	3.78	2081.55	7.2	2077.45	7.19	-4.1	-0.2
111	290	179	68	4640	0.94502	803.23	0.55862	1364.03	389.3	-0.59	3.74	2086.58	7.2	2083.27	7.18	-3.31	-0.16
111	291	180	69	4656	0.94378	804.02	0.55928	1363.52	399.46	0	3.69	2092.69	7.19	2088.69	7.18	-4	-0.19
111	292	181	70	4672	0.94253	804.8	0.55993	1363.02	409.72	-0.59	3.65	2097.53	7.18	2094.32	7.17	-3.21	-0.15
111	293	182	71	4688	0.94128	805.56	0.56058	1362.53	420.08	0	3.61	2103.44	7.18	2099.55	7.17	-3.89	-0.19
111	294	183	72	4704	0.94003	806.32	0.56122	1362.06	430.53	-0.58	3.58	2108.08	7.17	2104.98	7.16	-3.1	-0.15
111	295	184	73	4720	0.93877	807.06	0.56186	1361.6	441.08	0	3.54	2113.8	7.17	2110.02	7.15	-3.77	-0.18
111	296	185	74	4736	0.93750	807.79	0.56250	1361.15	451.72	-0.58	3.5	2118.25	7.16	2115.27	7.15	-2.98	-0.14
111	297	186	75	4752	0.93623	808.52	0.56313	1360.72	462.45	0	3.46	2123.78	7.15	2120.13	7.14	-3.65	-0.17
111	298	187	76	4768	0.93496	809.23	0.56376	1360.29	473.28	-0.58	3.43	2128.05	7.14	2125.19	7.13	-2.86	-0.13
111	299	188	77	4784	0.93368	809.93	0.56438	1359.88	484.2	0	3.39	2133.39	7.14	2129.86	7.12	-3.52	-0.17
111	300	189	78	4800	0.93240	810.62	0.56500	1359.48	495.2	-0.58	3.36	2137.48	7.12	2134.75	7.12	-2.73	-0.13

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
111	301	190	79	4816	0.93112	811.3	0.56562	1359.09	506.3	0	3.32	2142.63	7.12	2139.24	7.11	-3.39	-0.16
111	302	191	80	4832	0.92983	811.97	0.56623	1358.71	517.49	-0.58	3.29	2146.54	7.11	2143.94	7.1	-2.6	-0.12
111	303	192	81	4848	0.92854	812.64	0.56683	1358.34	528.76	0	3.25	2151.52	7.1	2148.26	7.09	-3.26	-0.15
111	304	193	82	4864	0.92724	813.29	0.56743	1357.99	540.12	-0.57	3.22	2155.25	7.09	2152.79	7.08	-2.47	-0.11
111	305	194	83	4880	0.92595	813.93	0.56803	1357.64	551.56	0	3.19	2160.05	7.08	2156.93	7.07	-3.12	-0.14
111	306	195	84	4896	0.92464	814.56	0.56863	1357.31	563.09	-0.57	3.16	2163.62	7.07	2161.29	7.06	-2.33	-0.11
111	307	196	85	4912	0.92334	815.19	0.56922	1356.98	574.71	0	3.13	2168.25	7.06	2165.26	7.05	-2.99	-0.14
111	308	197	86	4928	0.92204	815.8	0.56981	1356.67	586.41	-0.57	3.1	2171.65	7.05	2169.45	7.04	-2.19	-0.1
111	309	198	87	4944	0.92073	816.4	0.57039	1356.37	598.19	0	3.07	2176.1	7.04	2173.25	7.03	-2.85	-0.13
111	310	199	88	4960	0.91942	817	0.57097	1356.07	610.05	-0.57	3.04	2179.34	7.03	2177.28	7.02	-2.06	-0.09
111	311	200	89	4976	0.91811	817.59	0.57154	1355.79	622	0	3.01	2183.63	7.02	2180.92	7.01	-2.71	-0.12
111	312	201	90	4992	0.91679	818.17	0.57212	1355.52	634.02	-0.57	2.98	2186.71	7.01	2184.79	7	-1.92	-0.09
111	313	202	91	5008	0.91547	818.74	0.57268	1355.26	646.12	0	2.95	2190.84	7	2188.26	6.99	-2.57	-0.12
111	314	203	92	5024	0.91416	819.3	0.57325	1355	658.3	-0.56	2.92	2193.75	6.99	2191.97	6.98	-1.79	-0.08
111	315	204	93	5040	0.91283	819.85	0.57381	1354.76	670.56	0	2.89	2197.72	6.98	2195.28	6.97	-2.44	-0.11
111	316	205	94	5056	0.91151	820.39	0.57437	1354.52	682.9	-0.56	2.87	2200.49	6.96	2198.83	6.96	-1.65	-0.08
111	317	206	95	5072	0.91019	820.93	0.57492	1354.3	695.32	0	2.84	2204.3	6.95	2201.99	6.95	-2.31	-0.1
111	318	207	96	5088	0.90886	821.46	0.57547	1354.08	707.8	-0.56	2.81	2206.91	6.94	2205.39	6.94	-1.52	-0.07
111	319	208	97	5104	0.90754	821.98	0.57602	1353.87	720.37	0	2.79	2210.57	6.93	2208.39	6.92	-2.17	-0.1
111	320	209	98	5120	0.90621	822.49	0.57656	1353.67	733.01	-0.56	2.76	2213.03	6.92	2211.64	6.91	-1.39	-0.06
111	321	210	99	5136	0.90488	823	0.57710	1353.48	745.72	0	2.74	2216.54	6.91	2214.49	6.9	-2.05	-0.09
111	322	211	100	5152	0.90355	823.49	0.57764	1353.3	758.51	-0.56	2.71	2218.85	6.89	2217.59	6.89	-1.27	-0.06
111	323	212	101	5168	0.90222	823.98	0.57817	1353.13	771.36	0	2.69	2222.21	6.88	2220.29	6.87	-1.92	-0.09
111	324	213	102	5184	0.90089	824.46	0.57870	1352.97	784.29	-0.56	2.67	2224.39	6.87	2223.24	6.86	-1.15	-0.05
111	325	214	103	5200	0.89956	824.94	0.57923	1352.81	797.29	0	2.64	2227.6	6.85	2225.8	6.85	-1.8	-0.08
111	326	215	104	5216	0.89823	825.4	0.57976	1352.66	810.37	-0.55	2.62	2229.63	6.84	2228.6	6.84	-1.03	-0.05
111	327	216	105	5232	0.89689	825.86	0.58028	1352.52	823.51	0	2.6	2232.7	6.83	2231.02	6.82	-1.69	-0.08
111	328	217	106	5248	0.89556	826.32	0.58079	1352.39	836.72	-0.55	2.57	2234.6	6.81	2233.68	6.81	-0.92	-0.04
111	329	218	107	5264	0.89423	826.76	0.58131	1352.27	849.99	0	2.55	2237.53	6.8	2235.95	6.8	-1.58	-0.07
111	330	219	108	5280	0.89289	827.2	0.58182	1352.15	863.34	-0.55	2.53	2239.29	6.79	2238.47	6.78	-0.81	-0.04
111	331	220	109	5296	0.89156	827.63	0.58233	1352.04	876.75	0	2.51	2242.08	6.77	2240.61	6.77	-1.47	-0.07
111	332	221	110	5312	0.89022	828.06	0.58283	1351.94	890.23	-0.55	2.49	2243.71	6.76	2242.99	6.76	-0.71	-0.03
111	333	222	111	5328	0.88889	828.47	0.58333	1351.85	903.78	0	2.47	2246.36	6.75	2244.99	6.74	-1.38	-0.06
111	334	223	112	5344	0.88755	828.88	0.58383	1351.76	917.39	-0.55	2.45	2247.86	6.73	2247.24	6.73	-0.62	-0.03
111	335	224	113	5360	0.88622	829.29	0.58433	1351.69	931.06	0	2.43	2250.38	6.72	2249.1	6.71	-1.28	-0.06
111	336	225	114	5376	0.88489	829.69	0.58482	1351.61	944.8	-0.55	2.41	2251.75	6.7	2251.22	6.7	-0.53	-0.02
111	337	226	115	5392	0.88355	830.08	0.58531	1351.55	958.61	0	2.39	2254.15	6.69	2252.95	6.69	-1.2	-0.05
111	338	227	116	5408	0.88222	830.47	0.58580	1351.49	972.48	-0.54	2.37	2255.39	6.67	2254.93	6.67	-0.45	-0.02
111	339	228	117	5424	0.88088	830.84	0.58628	1351.44	986.4	0	2.35	2257.65	6.66	2256.53	6.66	-1.12	-0.05
111	340	229	118	5440	0.87955	831.22	0.58677	1351.4	1000.4	-0.54	2.33	2258.77	6.64	2258.39	6.64	-0.38	-0.02
111	341	230	119	5456	0.87822	831.59	0.58724	1351.36	1014.45	0	2.31	2260.91	6.63	2259.86	6.63	-1.05	-0.05
111	342	231	120	5472	0.87689	831.95	0.58772	1351.33	1028.56	-0.54	2.29	2261.91	6.61	2261.59	6.61	-0.32	-0.01
111	343	232	121	5488	0.87555	832.3	0.58819	1351.31	1042.74	0	2.27	2263.92	6.6	2262.93	6.6	-0.99	-0.04
111	344	233	122	5504	0.87422	832.65	0.58866	1351.29	1056.97	-0.54	2.25	2264.8	6.58	2264.54	6.58	-0.26	-0.01
111	345	234	123	5520	0.87289	832.99	0.58913	1351.28	1071.26	0	2.24	2266.7	6.57	2265.76	6.57	-0.94	-0.04
111	346	235	124	5536	0.87156	833.33	0.58960	1351.28	1085.62	-0.54	2.22	2267.45	6.55	2267.24	6.55	-0.21	-0.01
111	347	236	125	5552	0.87023	833.66	0.59006	1351.28	1100.03	0	2.2	2269.23	6.54	2268.33	6.54	-0.9	-0.04

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
111	348	237	126	5568	0.86891	833.99	0.59052	1351.29	1114.5	-0.54	2.19	2269.87	6.52	2269.7	6.52	-0.18	-0.01
111	349	238	127	5584	0.86758	834.31	0.59097	1351.31	1129.02	0	2.17	2271.53	6.51	2270.67	6.51	-0.86	-0.04
111	350	239	128	5600	0.86625	834.63	0.59143	1351.33	1143.6	-0.53	2.15	2272.06	6.49	2271.92	6.49	-0.15	-0.01
111	351	240	129	5616	0.86493	834.94	0.59188	1351.35	1158.24	0	2.14	2273.6	6.48	2272.77	6.48	-0.84	-0.04
111	352	241	130	5632	0.86360	835.24	0.59233	1351.39	1172.94	-0.53	2.12	2274.02	6.46	2273.9	6.46	-0.13	-0.01
111	353	242	131	5648	0.86228	835.54	0.59278	1351.42	1187.69	0	2.1	2275.45	6.45	2274.63	6.44	-0.82	-0.04
111	354	243	132	5664	0.86096	835.83	0.59322	1351.47	1202.49	-0.53	2.09	2275.76	6.43	2275.64	6.43	-0.12	-0.01
111	355	244	133	5680	0.85964	836.12	0.59366	1351.52	1217.35	0	2.07	2277.08	6.41	2276.27	6.41	-0.81	-0.04
111	356	245	134	5696	0.85832	836.41	0.59410	1351.57	1232.26	-0.53	2.06	2277.28	6.4	2277.16	6.4	-0.12	-0.01
111	357	246	135	5712	0.85700	836.69	0.59454	1351.64	1247.23	0	2.04	2278.49	6.38	2277.67	6.38	-0.82	-0.04
111	358	247	136	5728	0.85569	836.96	0.59497	1351.7	1262.25	-0.53	2.03	2278.59	6.36	2278.46	6.36	-0.13	-0.01
111	359	248	137	5744	0.85437	837.23	0.59540	1351.78	1277.32	0	2.01	2279.69	6.35	2278.85	6.35	-0.83	-0.04
111	360	249	138	5760	0.85306	837.49	0.59583	1351.85	1292.45	-0.53	2	2279.68	6.33	2279.53	6.33	-0.15	-0.01
111	361	250	139	5776	0.85174	837.75	0.59626	1351.94	1307.63	0	1.98	2280.67	6.32	2279.81	6.32	-0.86	-0.04
111	362	251	140	5792	0.85043	838.01	0.59669	1352.02	1322.85	-0.53	1.97	2280.56	6.3	2280.38	6.3	-0.18	-0.01
111	363	252	141	5808	0.84912	838.26	0.59711	1352.12	1338.13	0	1.96	2281.45	6.28	2280.56	6.28	-0.89	-0.04
111	364	253	142	5824	0.84781	838.5	0.59753	1352.22	1353.46	-0.52	1.94	2281.24	6.27	2281.01	6.27	-0.22	-0.01
111	365	254	143	5840	0.84651	838.74	0.59795	1352.32	1368.84	0	1.93	2282.02	6.25	2281.09	6.25	-0.94	-0.04
111	366	255	144	5856	0.84520	838.98	0.59836	1352.43	1384.27	-0.52	1.92	2281.71	6.23	2281.44	6.23	-0.28	-0.01
111	367	256	145	5872	0.84390	839.21	0.59877	1352.54	1399.75	0	1.9	2282.4	6.22	2281.4	6.22	-1	-0.04
111	368	257	146	5888	0.84260	839.44	0.59919	1352.66	1415.28	-0.52	1.89	2281.99	6.2	2281.65	6.2	-0.34	-0.01
111	369	258	147	5904	0.84130	839.66	0.59959	1352.78	1430.86	0	1.88	2282.58	6.19	2281.51	6.18	-1.07	-0.05
111	370	259	148	5920	0.84000	839.88	0.60000	1352.91	1446.48	-0.52	1.86	2282.08	6.17	2281.66	6.17	-0.42	-0.02
111	371	260	149	5936	0.83870	840.09	0.60040	1353.04	1462.15	0	1.85	2282.56	6.15	2281.42	6.15	-1.15	-0.05
111	372	261	150	5952	0.83741	840.3	0.60081	1353.18	1477.87	-0.52	1.84	2281.97	6.13	2281.46	6.13	-0.51	-0.02
111	373	262	151	5968	0.83612	840.51	0.60121	1353.32	1493.64	0	1.83	2282.36	6.12	2281.12	6.12	-1.24	-0.05
111	374	263	152	5984	0.83483	840.71	0.60160	1353.47	1509.45	-0.52	1.81	2281.67	6.1	2281.06	6.1	-0.61	-0.03
111	375	264	153	6000	0.83354	840.91	0.60200	1353.62	1525.31	0	1.8	2281.97	6.09	2280.62	6.08	-1.35	-0.06
111	376	265	154	6016	0.83225	841.1	0.60239	1353.78	1541.21	-0.52	1.79	2281.18	6.07	2280.47	6.07	-0.72	-0.03
111	377	266	155	6032	0.83096	841.29	0.60279	1353.94	1557.16	0	1.78	2281.39	6.05	2279.92	6.05	-1.46	-0.06
111	378	267	156	6048	0.82968	841.47	0.60318	1354.1	1573.16	-0.51	1.77	2280.52	6.03	2279.67	6.03	-0.84	-0.04
111	379	268	157	6064	0.82840	841.65	0.60356	1354.27	1589.2	0	1.76	2280.63	6.02	2279.04	6.01	-1.59	-0.07
111	380	269	158	6080	0.82712	841.83	0.60395	1354.44	1605.29	-0.51	1.74	2279.67	6	2278.69	6	-0.98	-0.04
111	381	270	159	6096	0.82584	842.01	0.60433	1354.62	1621.41	0	1.73	2279.69	5.98	2277.96	5.98	-1.73	-0.08
111	382	271	160	6112	0.82457	842.18	0.60471	1354.8	1637.59	-0.51	1.72	2278.65	5.97	2277.52	5.96	-1.13	-0.05
111	383	272	161	6128	0.82329	842.34	0.60509	1354.99	1653.8	0	1.71	2278.58	5.95	2276.69	5.94	-1.89	-0.08
111	384	273	162	6144	0.82202	842.5	0.60547	1355.18	1670.06	-0.51	1.7	2277.45	5.93	2276.16	5.93	-1.29	-0.06
111	385	274	163	6160	0.82075	842.66	0.60584	1355.37	1686.36	0	1.69	2277.29	5.92	2275.24	5.91	-2.05	-0.09
111	386	275	164	6176	0.81949	842.82	0.60622	1355.57	1702.71	-0.51	1.68	2276.08	5.9	2274.61	5.89	-1.46	-0.06
111	387	276	165	6192	0.81822	842.97	0.60659	1355.77	1719.09	0	1.67	2275.83	5.88	2273.6	5.87	-2.23	-0.1
111	388	277	166	6208	0.81696	843.12	0.60696	1355.98	1735.52	-0.51	1.66	2274.54	5.86	2272.88	5.86	-1.65	-0.07
Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
112	223	111	-1	3568	0.99998	713.39	0.49888	1468.69	0.11	0	9.81	1395.62	6.26	1404.89	6.3	9.27	0.66
112	224	112	0	3584	1.00000	715.54	0.50000	1466.49	0	0.67	10	1412.64	6.31	1421.17	6.34	8.53	0.6
112	225	113	1	3600	0.99998	717.65	0.50111	1464.33	0.11	0	9.82	1427.73	6.35	1435.32	6.38	7.59	0.53
112	226	114	2	3616	0.99992	719.74	0.50221	1462.21	0.43	0.67	9.64	1443.93	6.39	1451.2	6.42	7.28	0.5

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
112	227	115	3	3632	0.99983	721.79	0.50330	1460.13	0.97	0	9.46	1458.58	6.43	1464.96	6.45	6.38	0.44
112	228	116	4	3648	0.99969	723.81	0.50439	1458.09	1.71	0.66	9.29	1474.34	6.47	1480.45	6.49	6.11	0.41
112	229	117	5	3664	0.99952	725.8	0.50546	1456.09	2.66	0	9.12	1488.57	6.5	1493.84	6.52	5.26	0.35
112	230	118	6	3680	0.99932	727.77	0.50652	1454.12	3.82	0.66	8.96	1503.91	6.54	1508.95	6.56	5.03	0.33
112	231	119	7	3696	0.99908	729.7	0.50758	1452.2	5.17	0	8.8	1517.73	6.57	1521.96	6.59	4.23	0.28
112	232	120	8	3712	0.99881	731.61	0.50862	1450.31	6.73	0.66	8.65	1532.66	6.61	1536.7	6.62	4.04	0.26
112	233	121	9	3728	0.99851	733.48	0.50966	1448.46	8.48	0	8.5	1546.08	6.64	1549.36	6.65	3.28	0.21
112	234	122	10	3744	0.99817	735.33	0.51068	1446.64	10.43	0.65	8.36	1560.61	6.67	1563.73	6.68	3.12	0.2
112	235	123	11	3760	0.99781	737.16	0.51170	1444.86	12.56	0	8.22	1573.63	6.7	1576.03	6.71	2.4	0.15
112	236	124	12	3776	0.99742	738.96	0.51271	1443.11	14.89	0.65	8.08	1587.77	6.73	1590.05	6.74	2.28	0.14
112	237	125	13	3792	0.99699	740.73	0.51371	1441.4	17.4	0	7.94	1600.42	6.75	1602.01	6.76	1.59	0.1
112	238	126	14	3808	0.99654	742.47	0.51471	1439.72	20.09	0.65	7.81	1614.18	6.78	1615.68	6.79	1.5	0.09
112	239	127	15	3824	0.99606	744.19	0.51569	1438.07	22.97	0	7.68	1626.45	6.81	1627.31	6.81	0.85	0.05
112	240	128	16	3840	0.99556	745.89	0.51667	1436.45	26.02	0.65	7.56	1639.84	6.83	1640.63	6.84	0.79	0.05
112	241	129	17	3856	0.99502	747.56	0.51764	1434.86	29.26	0	7.44	1651.76	6.85	1651.93	6.85	0.18	0.01
112	242	130	18	3872	0.99447	749.21	0.51860	1433.31	32.67	0.64	7.32	1664.78	6.88	1664.93	6.88	0.15	0.01
112	243	131	19	3888	0.99389	750.83	0.51955	1431.78	36.25	0	7.2	1676.34	6.9	1675.91	6.9	-0.43	-0.03
112	244	132	20	3904	0.99328	752.43	0.52049	1430.28	40	0.64	7.09	1689.01	6.92	1688.58	6.92	-0.44	-0.03
112	245	133	21	3920	0.99265	754.01	0.52143	1428.81	43.92	0	6.98	1700.23	6.94	1699.24	6.94	-0.99	-0.06
112	246	134	22	3936	0.99200	755.56	0.52236	1427.37	48.01	0.64	6.87	1712.56	6.96	1711.59	6.96	-0.97	-0.06
112	247	135	23	3952	0.99133	757.1	0.52328	1425.96	52.26	0	6.76	1723.45	6.98	1721.95	6.97	-1.5	-0.09
112	248	136	24	3968	0.99064	758.61	0.52419	1424.58	56.67	0.64	6.66	1735.44	7	1733.99	6.99	-1.45	-0.08
112	249	137	25	3984	0.98992	760.09	0.52510	1423.22	61.25	0	6.56	1746	7.01	1744.05	7	-1.95	-0.11
112	250	138	26	4000	0.98918	761.56	0.52600	1421.89	65.98	0.63	6.46	1757.66	7.03	1755.78	7.02	-1.88	-0.11
112	251	139	27	4016	0.98843	763.01	0.52689	1420.58	70.87	0	6.36	1767.9	7.04	1765.54	7.03	-2.35	-0.13
112	252	140	28	4032	0.98765	764.43	0.52778	1419.3	75.92	0.63	6.27	1779.24	7.06	1776.98	7.05	-2.27	-0.13
112	253	141	29	4048	0.98686	765.84	0.52866	1418.05	81.12	0	6.18	1789.17	7.07	1786.46	7.06	-2.72	-0.15
112	254	142	30	4064	0.98605	767.23	0.52953	1416.82	86.47	0.63	6.09	1800.2	7.09	1797.6	7.08	-2.61	-0.15
112	255	143	31	4080	0.98522	768.59	0.53039	1415.61	91.97	0	6	1809.83	7.1	1806.8	7.09	-3.03	-0.17
112	256	144	32	4096	0.98438	769.94	0.53125	1414.43	97.62	0.62	5.92	1820.56	7.11	1817.65	7.1	-2.91	-0.16
112	257	145	33	4112	0.98351	771.26	0.53210	1413.27	103.41	0	5.83	1829.89	7.12	1826.57	7.11	-3.31	-0.18
112	258	146	34	4128	0.98263	772.57	0.53295	1412.13	109.35	0.62	5.75	1840.31	7.13	1837.14	7.12	-3.17	-0.17
112	259	147	35	4144	0.98174	773.86	0.53378	1411.02	115.43	0	5.67	1849.35	7.14	1845.8	7.13	-3.55	-0.19
112	260	148	36	4160	0.98083	775.13	0.53462	1409.93	121.65	0.62	5.59	1859.49	7.15	1856.1	7.14	-3.4	-0.18
112	261	149	37	4176	0.97990	776.39	0.53544	1408.86	128.02	0	5.51	1868.25	7.16	1864.49	7.14	-3.76	-0.2
112	262	150	38	4192	0.97896	777.62	0.53626	1407.81	134.52	0.62	5.44	1878.1	7.17	1874.52	7.15	-3.59	-0.19
112	263	151	39	4208	0.97801	778.84	0.53707	1406.79	141.15	0	5.36	1886.58	7.17	1882.65	7.16	-3.94	-0.21
112	264	152	40	4224	0.97704	780.04	0.53788	1405.78	147.92	0.62	5.29	1896.16	7.18	1892.41	7.17	-3.75	-0.2
112	265	153	41	4240	0.97606	781.23	0.53868	1404.8	154.83	0	5.22	1904.37	7.19	1900.29	7.17	-4.08	-0.21
112	266	154	42	4256	0.97507	782.39	0.53947	1403.83	161.86	0.61	5.15	1913.68	7.19	1909.8	7.18	-3.88	-0.2
112	267	155	43	4272	0.97406	783.54	0.54026	1402.89	169.03	0	5.08	1921.62	7.2	1917.43	7.18	-4.19	-0.22
112	268	156	44	4288	0.97305	784.68	0.54105	1401.96	176.32	0.61	5.02	1930.66	7.2	1926.68	7.19	-3.98	-0.21
112	269	157	45	4304	0.97202	785.8	0.54182	1401.06	183.75	0	4.95	1938.35	7.21	1934.07	7.19	-4.28	-0.22
112	270	158	46	4320	0.97097	786.9	0.54259	1400.17	191.3	0.61	4.89	1947.13	7.21	1943.07	7.2	-4.06	-0.21
112	271	159	47	4336	0.96992	787.98	0.54336	1399.3	198.97	0	4.83	1954.57	7.21	1950.22	7.2	-4.35	-0.22
112	272	160	48	4352	0.96886	789.06	0.54412	1398.45	206.77	0.61	4.77	1963.1	7.22	1958.99	7.2	-4.11	-0.21
112	273	161	49	4368	0.96778	790.11	0.54487	1397.62	214.69	0	4.71	1970.29	7.22	1965.9	7.2	-4.39	-0.22

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
112	274	162	50	4384	0.96670	791.15	0.54562	1396.81	222.72	0.6	4.65	1978.57	7.22	1974.42	7.21	-4.14	-0.21
112	275	163	51	4400	0.96561	792.18	0.54636	1396.01	230.88	0	4.59	1985.52	7.22	1981.11	7.2	-4.41	-0.22
112	276	164	52	4416	0.96450	793.19	0.54710	1395.23	239.16	0.6	4.53	1993.55	7.22	1989.4	7.21	-4.15	-0.21
112	277	165	53	4432	0.96339	794.19	0.54783	1394.47	247.55	0	4.48	2000.27	7.22	1995.86	7.21	-4.41	-0.22
112	278	166	54	4448	0.96227	795.17	0.54856	1393.72	256.06	0.6	4.42	2008.07	7.22	2003.92	7.21	-4.15	-0.21
112	279	167	55	4464	0.96114	796.14	0.54928	1392.99	264.68	0	4.37	2014.55	7.22	2010.16	7.2	-4.39	-0.22
112	280	168	56	4480	0.96000	797.1	0.55000	1392.28	273.42	0.6	4.32	2022.12	7.22	2018	7.21	-4.12	-0.2
112	281	169	57	4496	0.95885	798.04	0.55071	1391.58	282.27	0	4.27	2028.38	7.22	2024.02	7.2	-4.35	-0.22
112	282	170	58	4512	0.95770	798.97	0.55142	1390.9	291.23	0.6	4.22	2035.72	7.22	2031.64	7.2	-4.08	-0.2
112	283	171	59	4528	0.95654	799.88	0.55212	1390.23	300.29	0	4.17	2041.76	7.21	2037.45	7.2	-4.3	-0.21
112	284	172	60	4544	0.95537	800.79	0.55282	1389.58	309.47	0.59	4.12	2048.87	7.21	2044.85	7.2	-4.02	-0.2
112	285	173	61	4560	0.95419	801.68	0.55351	1388.95	318.75	0	4.07	2054.69	7.21	2050.45	7.19	-4.24	-0.21
112	286	174	62	4576	0.95301	802.55	0.55420	1388.32	328.14	0.59	4.02	2061.59	7.21	2057.64	7.19	-3.95	-0.19
112	287	175	63	4592	0.95181	803.42	0.55488	1387.72	337.64	0	3.98	2067.2	7.2	2063.04	7.19	-4.16	-0.2
112	288	176	64	4608	0.95062	804.27	0.55556	1387.13	347.23	0.59	3.93	2073.89	7.2	2070.02	7.19	-3.87	-0.19
112	289	177	65	4624	0.94941	805.11	0.55623	1386.55	356.94	0	3.89	2079.29	7.19	2075.22	7.18	-4.08	-0.2
112	290	178	66	4640	0.94821	805.94	0.55690	1385.98	366.74	0.59	3.84	2085.77	7.19	2081.99	7.18	-3.78	-0.18
112	291	179	67	4656	0.94699	806.76	0.55756	1385.43	376.64	0	3.8	2090.97	7.19	2086.99	7.17	-3.98	-0.19
112	292	180	68	4672	0.94577	807.56	0.55822	1384.9	386.64	0.59	3.76	2097.24	7.18	2093.56	7.17	-3.68	-0.18
112	293	181	69	4688	0.94454	808.35	0.55887	1384.37	396.75	0	3.72	2102.25	7.17	2098.38	7.16	-3.87	-0.18
112	294	182	70	4704	0.94331	809.14	0.55952	1383.86	406.94	0.58	3.68	2108.32	7.17	2104.75	7.16	-3.57	-0.17
112	295	183	71	4720	0.94207	809.91	0.56017	1383.37	417.24	0	3.64	2113.13	7.16	2109.37	7.15	-3.76	-0.18
112	296	184	72	4736	0.94083	810.67	0.56081	1382.88	427.63	0.58	3.6	2119	7.16	2115.55	7.15	-3.45	-0.16
112	297	185	73	4752	0.93959	811.41	0.56145	1382.41	438.12	0	3.56	2123.62	7.15	2119.99	7.14	-3.63	-0.17
112	298	186	74	4768	0.93834	812.15	0.56208	1381.95	448.7	0.58	3.52	2129.3	7.15	2125.98	7.13	-3.33	-0.16
112	299	187	75	4784	0.93708	812.88	0.56271	1381.5	459.37	0	3.49	2133.73	7.14	2130.23	7.12	-3.5	-0.16
112	300	188	76	4800	0.93582	813.6	0.56333	1381.07	470.13	0.58	3.45	2139.23	7.13	2136.03	7.12	-3.2	-0.15
112	301	189	77	4816	0.93456	814.3	0.56395	1380.64	480.99	0	3.41	2143.48	7.12	2140.11	7.11	-3.37	-0.16
112	302	190	78	4832	0.93329	815	0.56457	1380.23	491.94	0.58	3.38	2148.79	7.12	2145.73	7.11	-3.06	-0.14
112	303	191	79	4848	0.93202	815.69	0.56518	1379.83	502.97	0	3.35	2152.86	7.11	2149.62	7.09	-3.23	-0.15
112	304	192	80	4864	0.93075	816.36	0.56579	1379.44	514.09	0.57	3.31	2157.98	7.1	2155.06	7.09	-2.92	-0.14
112	305	193	81	4880	0.92947	817.03	0.56639	1379.07	525.3	0	3.28	2161.88	7.09	2158.79	7.08	-3.09	-0.14
112	306	194	82	4896	0.92819	817.69	0.56699	1378.7	536.6	0.57	3.24	2166.83	7.08	2164.05	7.07	-2.78	-0.13
112	307	195	83	4912	0.92691	818.33	0.56759	1378.35	547.98	0	3.21	2170.55	7.07	2167.6	7.06	-2.95	-0.14
112	308	196	84	4928	0.92562	818.97	0.56818	1378	559.45	0.57	3.18	2175.33	7.06	2172.69	7.05	-2.64	-0.12
112	309	197	85	4944	0.92433	819.6	0.56877	1377.67	571	0	3.15	2178.88	7.05	2176.08	7.04	-2.8	-0.13
112	310	198	86	4960	0.92304	820.22	0.56936	1377.35	582.64	0.57	3.12	2183.49	7.04	2180.99	7.04	-2.49	-0.11
112	311	199	87	4976	0.92174	820.83	0.56994	1377.03	594.35	0	3.09	2186.87	7.03	2184.22	7.02	-2.66	-0.12
112	312	200	88	4992	0.92045	821.43	0.57051	1376.73	606.15	0.57	3.06	2191.31	7.02	2188.96	7.02	-2.35	-0.11
112	313	201	89	5008	0.91915	822.02	0.57109	1376.44	618.03	0	3.03	2194.54	7.01	2192.02	7	-2.51	-0.11
112	314	202	90	5024	0.91785	822.61	0.57166	1376.15	629.99	0.56	3	2198.81	7	2196.61	7	-2.2	-0.1
112	315	203	91	5040	0.91654	823.18	0.57222	1375.88	642.03	0	2.97	2201.88	6.99	2199.51	6.98	-2.37	-0.11
112	316	204	92	5056	0.91524	823.75	0.57279	1375.62	654.15	0.56	2.94	2205.99	6.98	2203.93	6.97	-2.06	-0.09
112	317	205	93	5072	0.91393	824.3	0.57334	1375.37	666.35	0	2.92	2208.9	6.97	2206.68	6.96	-2.22	-0.1
112	318	206	94	5088	0.91262	824.85	0.57390	1375.12	678.62	0.56	2.89	2212.85	6.96	2210.94	6.95	-1.92	-0.09
112	319	207	95	5104	0.91131	825.4	0.57445	1374.89	690.97	0	2.86	2215.61	6.95	2213.53	6.94	-2.08	-0.09
112	320	208	96	5120	0.91000	825.93	0.57500	1374.66	703.39	0.56	2.84	2219.41	6.94	2217.63	6.93	-1.78	-0.08

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
112	321	209	97	5136	0.90869	826.46	0.57555	1374.44	715.9	0	2.81	2222.02	6.92	2220.08	6.92	-1.94	-0.09
112	322	210	98	5152	0.90737	826.97	0.57609	1374.24	728.47	0.56	2.79	2225.66	6.91	2224.03	6.91	-1.64	-0.07
112	323	211	99	5168	0.90606	827.48	0.57663	1374.04	741.12	0	2.76	2228.12	6.9	2226.32	6.89	-1.8	-0.08
112	324	212	100	5184	0.90474	827.98	0.57716	1373.85	753.84	0.56	2.74	2231.62	6.89	2230.12	6.88	-1.5	-0.07
112	325	213	101	5200	0.90342	828.48	0.57769	1373.67	766.63	0	2.71	2233.93	6.87	2232.27	6.87	-1.67	-0.07
112	326	214	102	5216	0.90210	828.97	0.57822	1373.49	779.5	0.55	2.69	2237.28	6.86	2235.91	6.86	-1.37	-0.06
112	327	215	103	5232	0.90079	829.45	0.57875	1373.33	792.43	0	2.66	2239.46	6.85	2237.92	6.84	-1.54	-0.07
112	328	216	104	5248	0.89947	829.92	0.57927	1373.17	805.44	0.55	2.64	2242.66	6.84	2241.42	6.83	-1.24	-0.06
112	329	217	105	5264	0.89814	830.38	0.57979	1373.03	818.52	0	2.62	2244.69	6.82	2243.28	6.82	-1.41	-0.06
112	330	218	106	5280	0.89682	830.84	0.58030	1372.89	831.66	0.55	2.59	2247.76	6.81	2246.64	6.81	-1.12	-0.05
112	331	219	107	5296	0.89550	831.29	0.58082	1372.75	844.87	0	2.57	2249.65	6.8	2248.36	6.79	-1.29	-0.06
112	332	220	108	5312	0.89418	831.74	0.58133	1372.63	858.15	0.55	2.55	2252.58	6.78	2251.58	6.78	-1	-0.04
112	333	221	109	5328	0.89286	832.17	0.58183	1372.51	871.5	0	2.53	2254.34	6.77	2253.17	6.77	-1.18	-0.05
112	334	222	110	5344	0.89153	832.6	0.58234	1372.4	884.92	0.55	2.51	2257.13	6.76	2256.24	6.76	-0.89	-0.04
112	335	223	111	5360	0.89021	833.03	0.58284	1372.3	898.4	0	2.49	2258.76	6.74	2257.69	6.74	-1.07	-0.05
112	336	224	112	5376	0.88889	833.44	0.58333	1372.21	911.94	0.55	2.47	2261.42	6.73	2260.63	6.73	-0.79	-0.03
112	337	225	113	5392	0.88757	833.85	0.58383	1372.12	925.56	0	2.45	2262.92	6.71	2261.95	6.71	-0.96	-0.04
112	338	226	114	5408	0.88624	834.26	0.58432	1372.04	939.23	0.54	2.43	2265.44	6.7	2264.75	6.7	-0.69	-0.03
112	339	227	115	5424	0.88492	834.65	0.58481	1371.97	952.97	0	2.41	2266.81	6.69	2265.94	6.68	-0.87	-0.04
112	340	228	116	5440	0.88360	835.04	0.58529	1371.91	966.77	0.54	2.39	2269.21	6.67	2268.61	6.67	-0.6	-0.03
112	341	229	117	5456	0.88228	835.43	0.58578	1371.85	980.64	0	2.37	2270.45	6.66	2269.67	6.66	-0.78	-0.03
112	342	230	118	5472	0.88096	835.81	0.58626	1371.8	994.56	0.54	2.35	2272.72	6.65	2272.21	6.64	-0.51	-0.02
112	343	231	119	5488	0.87963	836.18	0.58674	1371.75	1008.55	0	2.33	2273.84	6.63	2273.15	6.63	-0.7	-0.03
112	344	232	120	5504	0.87831	836.55	0.58721	1371.72	1022.6	0.54	2.31	2275.99	6.62	2275.55	6.61	-0.44	-0.02
112	345	233	121	5520	0.87699	836.91	0.58768	1371.69	1036.71	0	2.29	2276.99	6.6	2276.36	6.6	-0.63	-0.03
112	346	234	122	5536	0.87567	837.26	0.58815	1371.66	1050.88	0.54	2.27	2279.01	6.59	2278.64	6.59	-0.37	-0.02
112	347	235	123	5552	0.87435	837.61	0.58862	1371.65	1065.11	0	2.26	2279.89	6.57	2279.33	6.57	-0.56	-0.02
112	348	236	124	5568	0.87304	837.95	0.58908	1371.63	1079.4	0.54	2.24	2281.79	6.56	2281.48	6.56	-0.31	-0.01
112	349	237	125	5584	0.87172	838.29	0.58954	1371.63	1093.74	0	2.22	2282.56	6.54	2282.06	6.54	-0.5	-0.02
112	350	238	126	5600	0.87040	838.62	0.59000	1371.63	1108.14	0.53	2.2	2284.34	6.53	2284.08	6.53	-0.26	-0.01
112	351	239	127	5616	0.86908	838.95	0.59046	1371.64	1122.61	0	2.19	2284.99	6.51	2284.54	6.51	-0.46	-0.02
112	352	240	128	5632	0.86777	839.27	0.59091	1371.65	1137.12	0.53	2.17	2286.66	6.5	2286.44	6.5	-0.21	-0.01
112	353	241	129	5648	0.86645	839.58	0.59136	1371.67	1151.7	0	2.15	2287.2	6.48	2286.78	6.48	-0.42	-0.02
112	354	242	130	5664	0.86514	839.89	0.59181	1371.7	1166.33	0.53	2.14	2288.75	6.47	2288.57	6.46	-0.18	-0.01
112	355	243	131	5680	0.86383	840.2	0.59225	1371.73	1181.01	0	2.12	2289.18	6.45	2288.79	6.45	-0.39	-0.02
112	356	244	132	5696	0.86252	840.5	0.59270	1371.77	1195.76	0.53	2.11	2290.61	6.43	2290.46	6.43	-0.16	-0.01
112	357	245	133	5712	0.86121	840.79	0.59314	1371.81	1210.55	0	2.09	2290.94	6.42	2290.57	6.42	-0.37	-0.02
112	358	246	134	5728	0.85990	841.08	0.59358	1371.86	1225.4	0.53	2.08	2292.26	6.4	2292.12	6.4	-0.14	-0.01
112	359	247	135	5744	0.85859	841.36	0.59401	1371.92	1240.3	0	2.06	2292.48	6.39	2292.12	6.38	-0.36	-0.02
112	360	248	136	5760	0.85728	841.64	0.59444	1371.98	1255.26	0.53	2.05	2293.69	6.37	2293.55	6.37	-0.14	-0.01
112	361	249	137	5776	0.85598	841.92	0.59488	1372.04	1270.27	0	2.03	2293.8	6.35	2293.44	6.35	-0.36	-0.02
112	362	250	138	5792	0.85468	842.19	0.59530	1372.12	1285.33	0.53	2.02	2294.91	6.34	2294.77	6.34	-0.14	-0.01
112	363	251	139	5808	0.85337	842.45	0.59573	1372.19	1300.44	0	2	2294.92	6.32	2294.55	6.32	-0.37	-0.02
112	364	252	140	5824	0.85207	842.71	0.59615	1372.27	1315.61	0.52	1.99	2295.92	6.31	2295.76	6.31	-0.16	-0.01
112	365	253	141	5840	0.85077	842.97	0.59658	1372.36	1330.82	0	1.97	2295.82	6.29	2295.43	6.29	-0.39	-0.02
112	366	254	142	5856	0.84947	843.22	0.59700	1372.45	1346.09	0.52	1.96	2296.72	6.28	2296.54	6.27	-0.19	-0.01
112	367	255	143	5872	0.84818	843.46	0.59741	1372.55	1361.4	0	1.95	2296.53	6.26	2296.1	6.26	-0.43	-0.02

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
112	368	256	144	5888	0.84688	843.7	0.59783	1372.66	1376.77	0.52	1.93	2297.33	6.24	2297.1	6.24	-0.23	-0.01
112	369	257	145	5904	0.84559	843.94	0.59824	1372.76	1392.19	0	1.92	2297.03	6.23	2296.56	6.22	-0.47	-0.02
112	370	258	146	5920	0.84430	844.17	0.59865	1372.88	1407.65	0.52	1.91	2297.73	6.21	2297.45	6.21	-0.28	-0.01
112	371	259	147	5936	0.84301	844.4	0.59906	1372.99	1423.16	0	1.89	2297.34	6.19	2296.81	6.19	-0.52	-0.02
112	372	260	148	5952	0.84172	844.62	0.59946	1373.12	1438.72	0.52	1.88	2297.94	6.18	2297.6	6.18	-0.34	-0.01
112	373	261	149	5968	0.84043	844.84	0.59987	1373.24	1454.33	0	1.87	2297.45	6.16	2296.86	6.16	-0.59	-0.03
112	374	262	150	5984	0.83914	845.06	0.60027	1373.38	1469.99	0.52	1.86	2297.95	6.14	2297.54	6.14	-0.41	-0.02
112	375	263	151	6000	0.83786	845.27	0.60067	1373.51	1485.69	0	1.84	2297.37	6.13	2296.7	6.12	-0.67	-0.03
112	376	264	152	6016	0.83658	845.47	0.60106	1373.65	1501.44	0.52	1.83	2297.78	6.11	2297.28	6.11	-0.5	-0.02
112	377	265	153	6032	0.83530	845.68	0.60146	1373.8	1517.24	0	1.82	2297.1	6.09	2296.35	6.09	-0.76	-0.03
112	378	266	154	6048	0.83402	845.87	0.60185	1373.95	1533.08	0.51	1.81	2297.42	6.08	2296.82	6.08	-0.59	-0.03
112	379	267	155	6064	0.83274	846.07	0.60224	1374.1	1548.97	0	1.79	2296.65	6.06	2295.79	6.06	-0.86	-0.04
112	380	268	156	6080	0.83147	846.26	0.60263	1374.26	1564.9	0.51	1.78	2296.87	6.04	2296.17	6.04	-0.7	-0.03
112	381	269	157	6096	0.83020	846.44	0.60302	1374.43	1580.88	0	1.77	2296.02	6.03	2295.05	6.02	-0.97	-0.04
112	382	270	158	6112	0.82893	846.63	0.60340	1374.6	1596.9	0.51	1.76	2296.15	6.01	2295.33	6.01	-0.82	-0.04
112	383	271	159	6128	0.82766	846.81	0.60379	1374.77	1612.97	0	1.75	2295.21	5.99	2294.11	5.99	-1.1	-0.05
112	384	272	160	6144	0.82639	846.98	0.60417	1374.94	1629.08	0.51	1.74	2295.24	5.98	2294.29	5.97	-0.95	-0.04
112	385	273	161	6160	0.82512	847.15	0.60455	1375.12	1645.23	0	1.73	2294.22	5.96	2292.98	5.96	-1.24	-0.05
112	386	274	162	6176	0.82386	847.32	0.60492	1375.31	1661.43	0.51	1.72	2294.17	5.94	2293.07	5.94	-1.1	-0.05
112	387	275	163	6192	0.82260	847.48	0.60530	1375.5	1677.67	0	1.71	2293.05	5.93	2291.67	5.92	-1.39	-0.06
112	388	276	164	6208	0.82134	847.64	0.60567	1375.69	1693.95	0.51	1.69	2292.91	5.91	2291.66	5.91	-1.25	-0.05
112	389	277	165	6224	0.82008	847.8	0.60604	1375.89	1710.28	0	1.68	2291.72	5.89	2290.17	5.89	-1.55	-0.07
112	390	278	166	6240	0.81883	847.95	0.60641	1376.09	1726.64	0.51	1.67	2291.49	5.88	2290.07	5.87	-1.42	-0.06
112	391	279	167	6256	0.81758	848.1	0.60678	1376.29	1743.05	0	1.66	2290.22	5.86	2288.49	5.85	-1.73	-0.08
112	392	280	168	6272	0.81633	848.25	0.60714	1376.5	1759.5	0.51	1.65	2289.91	5.84	2288.3	5.84	-1.61	-0.07
Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
113	225	112	-1	3600	0.99998	717.65	0.49889	1490.59	0.11	0	9.82	1401.46	6.23	1410.73	6.27	9.27	0.66
113	226	113	0	3616	1.00000	719.79	0.50000	1488.38	0	-0.67	10	1417.17	6.27	1426.16	6.31	8.99	0.63
113	227	114	1	3632	0.99998	721.9	0.50110	1486.2	0.11	0	9.82	1433.61	6.32	1441.19	6.35	7.59	0.53
113	228	115	2	3648	0.99992	723.98	0.50219	1484.07	0.43	-0.66	9.64	1448.5	6.35	1456.23	6.39	7.73	0.53
113	229	116	3	3664	0.99983	726.02	0.50328	1481.98	0.96	0	9.46	1464.51	6.4	1470.88	6.42	6.37	0.43
113	230	117	4	3680	0.99970	728.04	0.50435	1479.92	1.7	-0.66	9.3	1478.98	6.43	1485.53	6.46	6.56	0.44
113	231	118	5	3696	0.99953	730.03	0.50541	1477.91	2.64	0	9.13	1494.55	6.47	1499.8	6.49	5.25	0.35
113	232	119	6	3712	0.99933	731.99	0.50647	1475.93	3.79	-0.66	8.97	1508.61	6.5	1514.08	6.53	5.47	0.36
113	233	120	7	3728	0.99910	733.92	0.50751	1473.99	5.13	0	8.81	1523.77	6.54	1527.98	6.56	4.2	0.28
113	234	121	8	3744	0.99883	735.82	0.50855	1472.09	6.67	-0.65	8.66	1537.43	6.57	1541.9	6.59	4.47	0.29
113	235	122	9	3760	0.99853	737.69	0.50957	1470.23	8.41	0	8.51	1552.19	6.61	1555.43	6.62	3.24	0.21
113	236	123	10	3776	0.99821	739.54	0.51059	1468.4	10.34	-0.65	8.37	1565.44	6.63	1568.99	6.65	3.55	0.23
113	237	124	11	3792	0.99785	741.36	0.51160	1466.6	12.46	0	8.23	1579.81	6.67	1582.17	6.68	2.36	0.15
113	238	125	12	3808	0.99746	743.16	0.51261	1464.84	14.76	-0.65	8.09	1592.69	6.69	1595.39	6.7	2.7	0.17
113	239	126	13	3824	0.99704	744.93	0.51360	1463.11	17.25	0	7.96	1606.67	6.72	1608.21	6.73	1.54	0.1
113	240	127	14	3840	0.99660	746.67	0.51458	1461.41	19.92	-0.65	7.83	1619.17	6.75	1621.09	6.75	1.92	0.12
113	241	128	15	3856	0.99613	748.39	0.51556	1459.75	22.78	0	7.7	1632.78	6.78	1633.58	6.78	0.8	0.05
113	242	129	16	3872	0.99563	750.08	0.51653	1458.12	25.81	-0.64	7.58	1644.92	6.8	1646.13	6.8	1.21	0.07
113	243	130	17	3888	0.99511	751.75	0.51749	1456.52	29.02	0	7.45	1658.17	6.82	1658.28	6.82	0.12	0.01
113	244	131	18	3904	0.99456	753.4	0.51844	1454.95	32.4	-0.64	7.34	1669.95	6.84	1670.5	6.85	0.55	0.03

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
113	245	132	19	3920	0.99399	755.02	0.51939	1453.41	35.95	0	7.22	1682.84	6.87	1682.33	6.87	-0.51	-0.03
113	246	133	20	3936	0.99339	756.62	0.52033	1451.9	39.68	-0.64	7.11	1694.28	6.89	1694.24	6.89	-0.04	0
113	247	134	21	3952	0.99277	758.2	0.52126	1450.41	43.57	0	7	1706.82	6.91	1705.75	6.91	-1.07	-0.06
113	248	135	22	3968	0.99213	759.75	0.52218	1448.96	47.62	-0.64	6.89	1717.92	6.93	1717.34	6.92	-0.58	-0.03
113	249	136	23	3984	0.99147	761.28	0.52309	1447.53	51.84	0	6.78	1730.13	6.95	1728.54	6.94	-1.58	-0.09
113	250	137	24	4000	0.99078	762.79	0.52400	1446.14	56.22	-0.63	6.68	1740.9	6.96	1739.83	6.96	-1.07	-0.06
113	251	138	25	4016	0.99008	764.28	0.52490	1444.76	60.76	0	6.58	1752.77	6.98	1750.73	6.98	-2.04	-0.12
113	252	139	26	4032	0.98936	765.75	0.52579	1443.42	65.46	-0.63	6.48	1763.22	7	1761.72	6.99	-1.5	-0.09
113	253	140	27	4048	0.98861	767.2	0.52668	1442.1	70.32	0	6.39	1774.77	7.01	1772.32	7.01	-2.45	-0.14
113	254	141	28	4064	0.98785	768.62	0.52756	1440.81	75.32	-0.63	6.29	1784.91	7.03	1783.02	7.02	-1.89	-0.11
113	255	142	29	4080	0.98707	770.03	0.52843	1439.54	80.49	0	6.2	1796.15	7.04	1793.33	7.03	-2.82	-0.16
113	256	143	30	4096	0.98627	771.42	0.52930	1438.29	85.8	-0.62	6.11	1805.98	7.05	1803.74	7.05	-2.24	-0.12
113	257	144	31	4112	0.98545	772.78	0.53016	1437.07	91.26	0	6.03	1816.91	7.07	1813.77	7.06	-3.15	-0.17
113	258	145	32	4128	0.98462	774.13	0.53101	1435.88	96.86	-0.62	5.94	1826.44	7.08	1823.9	7.07	-2.54	-0.14
113	259	146	33	4144	0.98377	775.46	0.53185	1434.7	102.62	0	5.86	1837.07	7.09	1833.64	7.08	-3.43	-0.19
113	260	147	34	4160	0.98290	776.77	0.53269	1433.56	108.51	-0.62	5.77	1846.32	7.1	1843.5	7.09	-2.81	-0.15
113	261	148	35	4176	0.98202	778.06	0.53353	1432.43	114.55	0	5.69	1856.65	7.11	1852.97	7.1	-3.68	-0.2
113	262	149	36	4192	0.98112	779.34	0.53435	1431.32	120.73	-0.62	5.62	1865.61	7.12	1862.57	7.11	-3.04	-0.16
113	263	150	37	4208	0.98021	780.59	0.53517	1430.24	127.05	0	5.54	1875.66	7.13	1871.77	7.12	-3.89	-0.21
113	264	151	38	4224	0.97928	781.83	0.53599	1429.18	133.5	-0.62	5.46	1884.34	7.14	1881.1	7.13	-3.24	-0.17
113	265	152	39	4240	0.97834	783.05	0.53679	1428.14	140.09	0	5.39	1894.11	7.15	1890.04	7.13	-4.07	-0.22
113	266	153	40	4256	0.97739	784.25	0.53759	1427.12	146.81	-0.61	5.32	1902.51	7.15	1899.11	7.14	-3.4	-0.18
113	267	154	41	4272	0.97642	785.44	0.53839	1426.13	153.67	0	5.25	1912.01	7.16	1907.79	7.15	-4.22	-0.22
113	268	155	42	4288	0.97544	786.61	0.53918	1425.15	160.66	-0.61	5.18	1920.15	7.16	1916.61	7.15	-3.54	-0.18
113	269	156	43	4304	0.97445	787.76	0.53996	1424.19	167.78	0	5.11	1929.38	7.17	1925.04	7.16	-4.34	-0.23
113	270	157	44	4320	0.97344	788.9	0.54074	1423.25	175.02	-0.61	5.04	1937.26	7.18	1933.62	7.16	-3.64	-0.19
113	271	158	45	4336	0.97243	790.02	0.54151	1422.33	182.4	0	4.98	1946.23	7.18	1941.8	7.17	-4.43	-0.23
113	272	159	46	4352	0.97140	791.13	0.54228	1421.43	189.89	-0.61	4.91	1953.86	7.18	1950.13	7.17	-3.73	-0.19
113	273	160	47	4368	0.97036	792.22	0.54304	1420.55	197.52	0	4.85	1962.57	7.19	1958.07	7.17	-4.5	-0.23
113	274	161	48	4384	0.96931	793.29	0.54380	1419.69	205.26	-0.6	4.79	1969.95	7.19	1966.16	7.18	-3.78	-0.19
113	275	162	49	4400	0.96825	794.35	0.54455	1418.84	213.13	0	4.73	1978.41	7.19	1973.87	7.18	-4.54	-0.23
113	276	163	50	4416	0.96718	795.39	0.54529	1418.02	221.12	-0.6	4.67	1985.54	7.19	1981.73	7.18	-3.82	-0.19
113	277	164	51	4432	0.96610	796.42	0.54603	1417.21	229.22	0	4.61	1993.76	7.2	1989.2	7.18	-4.57	-0.23
113	278	165	52	4448	0.96501	797.44	0.54676	1416.42	237.44	-0.6	4.56	2000.66	7.2	1996.83	7.18	-3.83	-0.19
113	279	166	53	4464	0.96391	798.44	0.54749	1415.64	245.78	0	4.5	2008.64	7.2	2004.07	7.18	-4.57	-0.23
113	280	167	54	4480	0.96281	799.43	0.54821	1414.88	254.24	-0.6	4.45	2015.3	7.2	2011.48	7.18	-3.83	-0.19
113	281	168	55	4496	0.96169	800.4	0.54893	1414.14	262.81	0	4.4	2023.05	7.2	2018.49	7.18	-4.55	-0.23
113	282	169	56	4512	0.96057	801.36	0.54965	1413.41	271.49	-0.6	4.34	2029.48	7.2	2025.68	7.18	-3.8	-0.19
113	283	170	57	4528	0.95943	802.31	0.55035	1412.7	280.28	0	4.29	2037	7.2	2032.48	7.18	-4.52	-0.22
113	284	171	58	4544	0.95829	803.24	0.55106	1412.01	289.18	-0.59	4.24	2043.21	7.19	2039.45	7.18	-3.76	-0.18
113	285	172	59	4560	0.95714	804.16	0.55175	1411.33	298.19	0	4.19	2050.51	7.19	2046.03	7.18	-4.47	-0.22
113	286	173	60	4576	0.95599	805.07	0.55245	1410.67	307.31	-0.59	4.14	2056.5	7.19	2052.79	7.18	-3.71	-0.18
113	287	174	61	4592	0.95483	805.96	0.55314	1410.02	316.54	0	4.1	2063.57	7.19	2059.16	7.17	-4.41	-0.21
113	288	175	62	4608	0.95366	806.84	0.55382	1409.39	325.87	-0.59	4.05	2069.36	7.19	2065.72	7.17	-3.64	-0.18
113	289	176	63	4624	0.95248	807.71	0.55450	1408.77	335.31	0	4	2076.21	7.18	2071.88	7.17	-4.34	-0.21
113	290	177	64	4640	0.95130	808.57	0.55517	1408.17	344.85	-0.59	3.96	2081.79	7.18	2078.23	7.17	-3.56	-0.17
113	291	178	65	4656	0.95011	809.41	0.55584	1407.58	354.49	0	3.91	2088.43	7.18	2084.18	7.16	-4.25	-0.2

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
113	292	179	66	4672	0.94891	810.24	0.55651	1407	364.23	-0.59	3.87	2093.8	7.17	2090.33	7.16	-3.47	-0.17
113	293	180	67	4688	0.94771	811.07	0.55717	1406.44	374.08	0	3.83	2100.24	7.17	2096.09	7.15	-4.15	-0.2
113	294	181	68	4704	0.94650	811.87	0.55782	1405.89	384.02	-0.58	3.79	2105.41	7.16	2102.04	7.15	-3.37	-0.16
113	295	182	69	4720	0.94529	812.67	0.55848	1405.36	394.06	0	3.74	2111.65	7.16	2107.6	7.14	-4.04	-0.19
113	296	183	70	4736	0.94407	813.46	0.55912	1404.84	404.2	-0.58	3.7	2116.62	7.15	2113.36	7.14	-3.26	-0.15
113	297	184	71	4752	0.94285	814.23	0.55976	1404.33	414.44	0	3.66	2122.66	7.15	2118.73	7.13	-3.93	-0.19
113	298	185	72	4768	0.94162	815	0.56040	1403.83	424.77	-0.58	3.62	2127.44	7.14	2124.3	7.13	-3.14	-0.15
113	299	186	73	4784	0.94039	815.75	0.56104	1403.35	435.2	0	3.59	2133.29	7.13	2129.48	7.12	-3.81	-0.18
113	300	187	74	4800	0.93916	816.49	0.56167	1402.88	445.72	-0.58	3.55	2137.88	7.13	2134.86	7.12	-3.02	-0.14
113	301	188	75	4816	0.93792	817.23	0.56229	1402.42	456.33	0	3.51	2143.53	7.12	2139.86	7.11	-3.68	-0.17
113	302	189	76	4832	0.93667	817.95	0.56291	1401.98	467.03	-0.58	3.48	2147.94	7.11	2145.06	7.1	-2.89	-0.13
113	303	190	77	4848	0.93542	818.66	0.56353	1401.54	477.83	0	3.44	2153.41	7.11	2149.87	7.1	-3.54	-0.16
113	304	191	78	4864	0.93417	819.36	0.56415	1401.12	488.71	-0.57	3.4	2157.64	7.1	2154.89	7.09	-2.75	-0.13
113	305	192	79	4880	0.93291	820.05	0.56475	1400.71	499.68	0	3.37	2162.92	7.09	2159.52	7.08	-3.4	-0.16
113	306	193	80	4896	0.93165	820.73	0.56536	1400.31	510.74	-0.57	3.34	2166.97	7.08	2164.36	7.07	-2.61	-0.12
113	307	194	81	4912	0.93039	821.41	0.56596	1399.92	521.89	0	3.3	2172.08	7.08	2168.82	7.06	-3.26	-0.15
113	308	195	82	4928	0.92912	822.07	0.56656	1399.55	533.13	-0.57	3.27	2175.96	7.06	2173.49	7.06	-2.47	-0.11
113	309	196	83	4944	0.92785	822.72	0.56715	1399.18	544.45	0	3.24	2180.89	7.06	2177.77	7.05	-3.12	-0.14
113	310	197	84	4960	0.92658	823.36	0.56774	1398.83	555.85	-0.57	3.2	2184.59	7.05	2182.27	7.04	-2.32	-0.11
113	311	198	85	4976	0.92530	824	0.56833	1398.48	567.34	0	3.17	2189.35	7.04	2186.38	7.03	-2.97	-0.14
113	312	199	86	4992	0.92402	824.62	0.56891	1398.15	578.91	-0.57	3.14	2192.89	7.03	2190.72	7.02	-2.17	-0.1
113	313	200	87	5008	0.92274	825.24	0.56949	1397.83	590.57	0	3.11	2197.48	7.02	2194.66	7.01	-2.82	-0.13
113	314	201	88	5024	0.92146	825.84	0.57006	1397.52	602.31	-0.56	3.08	2200.86	7.01	2198.83	7	-2.03	-0.09
113	315	202	89	5040	0.92017	826.44	0.57064	1397.21	614.12	0	3.05	2205.28	7	2202.61	6.99	-2.67	-0.12
113	316	203	90	5056	0.91888	827.03	0.57120	1396.92	626.02	-0.56	3.02	2208.49	6.99	2206.61	6.98	-1.88	-0.09
113	317	204	91	5072	0.91759	827.61	0.57177	1396.64	638	0	2.99	2212.75	6.98	2210.23	6.97	-2.52	-0.11
113	318	205	92	5088	0.91630	828.18	0.57233	1396.37	650.05	-0.56	2.97	2215.81	6.97	2214.08	6.96	-1.73	-0.08
113	319	206	93	5104	0.91501	828.74	0.57288	1396.1	662.18	0	2.94	2219.91	6.96	2217.54	6.95	-2.37	-0.11
113	320	207	94	5120	0.91371	829.3	0.57344	1395.85	674.39	-0.56	2.91	2222.81	6.95	2221.23	6.94	-1.59	-0.07
113	321	208	95	5136	0.91241	829.84	0.57399	1395.61	686.68	0	2.89	2226.76	6.94	2224.53	6.93	-2.23	-0.1
113	322	209	96	5152	0.91112	830.38	0.57453	1395.37	699.04	-0.56	2.86	2229.51	6.92	2228.07	6.92	-1.44	-0.06
113	323	210	97	5168	0.90981	830.91	0.57508	1395.15	711.48	0	2.83	2233.3	6.91	2231.21	6.91	-2.08	-0.09
113	324	211	98	5184	0.90851	831.44	0.57562	1394.93	723.99	-0.56	2.81	2235.9	6.9	2234.6	6.9	-1.3	-0.06
113	325	212	99	5200	0.90721	831.95	0.57615	1394.72	736.57	0	2.78	2239.54	6.89	2237.6	6.88	-1.94	-0.09
113	326	213	100	5216	0.90591	832.46	0.57669	1394.52	749.23	-0.55	2.76	2241.99	6.88	2240.83	6.87	-1.16	-0.05
113	327	214	101	5232	0.90460	832.96	0.57722	1394.33	761.96	0	2.73	2245.48	6.87	2243.68	6.86	-1.8	-0.08
113	328	215	102	5248	0.90329	833.45	0.57774	1394.15	774.76	-0.55	2.71	2247.79	6.85	2246.77	6.85	-1.02	-0.05
113	329	216	103	5264	0.90199	833.94	0.57827	1393.98	787.63	0	2.69	2251.14	6.84	2249.47	6.84	-1.67	-0.07
113	330	217	104	5280	0.90068	834.41	0.57879	1393.81	800.57	-0.55	2.66	2253.31	6.83	2252.42	6.83	-0.89	-0.04
113	331	218	105	5296	0.89937	834.88	0.57931	1393.66	813.58	0	2.64	2256.51	6.82	2254.98	6.81	-1.54	-0.07
113	332	219	106	5312	0.89806	835.35	0.57982	1393.51	826.67	-0.55	2.62	2258.55	6.8	2257.78	6.8	-0.76	-0.03
113	333	220	107	5328	0.89675	835.8	0.58033	1393.37	839.81	0	2.59	2261.61	6.79	2260.2	6.79	-1.41	-0.06
113	334	221	108	5344	0.89544	836.25	0.58084	1393.24	853.03	-0.55	2.57	2263.51	6.78	2262.86	6.78	-0.64	-0.03
113	335	222	109	5360	0.89413	836.69	0.58134	1393.11	866.32	0	2.55	2266.43	6.77	2265.14	6.76	-1.29	-0.06
113	336	223	110	5376	0.89282	837.13	0.58185	1392.99	879.67	-0.55	2.53	2268.19	6.75	2267.67	6.75	-0.52	-0.02
113	337	224	111	5392	0.89151	837.56	0.58234	1392.89	893.08	0	2.51	2270.98	6.74	2269.81	6.74	-1.17	-0.05
113	338	225	112	5408	0.89020	837.98	0.58284	1392.78	906.56	-0.54	2.49	2272.61	6.72	2272.2	6.72	-0.41	-0.02

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
113	339	226	113	5424	0.88889	838.4	0.58333	1392.69	920.11	0	2.47	2275.27	6.71	2274.21	6.71	-1.06	-0.05
113	340	227	114	5440	0.88758	838.8	0.58382	1392.6	933.72	-0.54	2.45	2276.77	6.7	2276.47	6.7	-0.31	-0.01
113	341	228	115	5456	0.88627	839.21	0.58431	1392.52	947.4	0	2.43	2279.3	6.68	2278.34	6.68	-0.96	-0.04
113	342	229	116	5472	0.88496	839.6	0.58480	1392.45	961.13	-0.54	2.41	2280.68	6.67	2280.47	6.67	-0.21	-0.01
113	343	230	117	5488	0.88365	839.99	0.58528	1392.39	974.94	0	2.39	2283.07	6.66	2282.21	6.65	-0.87	-0.04
113	344	231	118	5504	0.88234	840.38	0.58576	1392.33	988.8	-0.54	2.37	2284.33	6.64	2284.21	6.64	-0.12	-0.01
113	345	232	119	5520	0.88103	840.75	0.58623	1392.28	1002.72	0	2.35	2286.6	6.63	2285.82	6.63	-0.78	-0.03
113	346	233	120	5536	0.87972	841.13	0.58671	1392.23	1016.71	-0.54	2.33	2287.73	6.61	2287.69	6.61	-0.04	0
113	347	234	121	5552	0.87841	841.49	0.58718	1392.19	1030.75	0	2.31	2289.88	6.6	2289.18	6.6	-0.7	-0.03
113	348	235	122	5568	0.87710	841.85	0.58764	1392.16	1044.86	-0.54	2.29	2290.89	6.58	2290.93	6.58	0.04	0
113	349	236	123	5584	0.87579	842.21	0.58811	1392.14	1059.02	0	2.28	2292.91	6.57	2292.29	6.57	-0.62	-0.03
113	350	237	124	5600	0.87448	842.55	0.58857	1392.12	1073.24	-0.53	2.26	2293.81	6.55	2293.91	6.55	0.11	0
113	351	238	125	5616	0.87318	842.9	0.58903	1392.11	1087.53	0	2.24	2295.71	6.54	2295.15	6.54	-0.56	-0.02
113	352	239	126	5632	0.87187	843.23	0.58949	1392.1	1101.87	-0.53	2.22	2296.49	6.52	2296.66	6.52	0.17	0.01
113	353	240	127	5648	0.87056	843.56	0.58994	1392.1	1116.26	0	2.21	2298.28	6.51	2297.77	6.51	-0.5	-0.02
113	354	241	128	5664	0.86926	843.89	0.59040	1392.11	1130.72	-0.53	2.19	2298.94	6.49	2299.16	6.49	0.22	0.01
113	355	242	129	5680	0.86796	844.21	0.59085	1392.12	1145.23	0	2.17	2300.61	6.48	2300.16	6.48	-0.45	-0.02
113	356	243	130	5696	0.86665	844.53	0.59129	1392.14	1159.79	-0.53	2.16	2301.16	6.46	2301.42	6.46	0.26	0.01
113	357	244	131	5712	0.86535	844.84	0.59174	1392.17	1174.42	0	2.14	2302.72	6.45	2302.3	6.45	-0.42	-0.02
113	358	245	132	5728	0.86405	845.14	0.59218	1392.2	1189.09	-0.53	2.13	2303.16	6.43	2303.46	6.43	0.29	0.01
113	359	246	133	5744	0.86275	845.44	0.59262	1392.24	1203.83	0	2.11	2304.61	6.42	2304.22	6.42	-0.39	-0.02
113	360	247	134	5760	0.86145	845.73	0.59306	1392.28	1218.61	-0.53	2.09	2304.94	6.4	2305.26	6.4	0.31	0.01
113	361	248	135	5776	0.86015	846.02	0.59349	1392.33	1233.45	0	2.08	2306.28	6.39	2305.91	6.39	-0.37	-0.02
113	362	249	136	5792	0.85886	846.31	0.59392	1392.38	1248.34	-0.53	2.06	2306.51	6.37	2306.83	6.37	0.33	0.01
113	363	250	137	5808	0.85756	846.59	0.59435	1392.44	1263.29	0	2.05	2307.73	6.36	2307.37	6.36	-0.36	-0.02
113	364	251	138	5824	0.85627	846.86	0.59478	1392.51	1278.29	-0.52	2.03	2307.86	6.34	2308.19	6.34	0.33	0.01
113	365	252	139	5840	0.85498	847.13	0.59521	1392.58	1293.34	0	2.02	2308.98	6.33	2308.61	6.32	-0.36	-0.02
113	366	253	140	5856	0.85368	847.4	0.59563	1392.65	1308.44	-0.52	2.01	2309	6.31	2309.32	6.31	0.32	0.01
113	367	254	141	5872	0.85239	847.66	0.59605	1392.74	1323.59	0	1.99	2310.01	6.29	2309.64	6.29	-0.37	-0.02
113	368	255	142	5888	0.85111	847.91	0.59647	1392.82	1338.79	-0.52	1.98	2309.93	6.28	2310.24	6.28	0.3	0.01
113	369	256	143	5904	0.84982	848.16	0.59688	1392.91	1354.05	0	1.96	2310.84	6.26	2310.45	6.26	-0.4	-0.02
113	370	257	144	5920	0.84853	848.41	0.59730	1393.01	1369.35	-0.52	1.95	2310.66	6.25	2310.94	6.25	0.28	0.01
113	371	258	145	5936	0.84725	848.65	0.59771	1393.11	1384.7	0	1.94	2311.47	6.23	2311.05	6.23	-0.43	-0.02
113	372	259	146	5952	0.84597	848.89	0.59812	1393.22	1400.1	-0.52	1.92	2311.2	6.21	2311.43	6.21	0.24	0.01
113	373	260	147	5968	0.84468	849.12	0.59853	1393.33	1415.55	0	1.91	2311.91	6.2	2311.44	6.2	-0.47	-0.02
113	374	261	148	5984	0.84340	849.35	0.59893	1393.45	1431.05	-0.52	1.9	2311.53	6.18	2311.72	6.18	0.19	0.01
113	375	262	149	6000	0.84213	849.57	0.59933	1393.57	1446.6	0	1.88	2312.15	6.17	2311.62	6.16	-0.53	-0.02
113	376	263	150	6016	0.84085	849.79	0.59973	1393.7	1462.19	-0.52	1.87	2311.68	6.15	2311.8	6.15	0.12	0.01
113	377	264	151	6032	0.83958	850.01	0.60013	1393.83	1477.83	0	1.86	2312.19	6.13	2311.6	6.13	-0.59	-0.03
113	378	265	152	6048	0.83830	850.22	0.60053	1393.96	1493.52	-0.51	1.85	2311.63	6.12	2311.68	6.12	0.05	0
113	379	266	153	6064	0.83703	850.43	0.60092	1394.1	1509.25	0	1.84	2312.05	6.1	2311.38	6.1	-0.67	-0.03
113	380	267	154	6080	0.83576	850.63	0.60132	1394.25	1525.03	-0.51	1.82	2311.4	6.08	2311.36	6.08	-0.04	0
113	381	268	155	6096	0.83449	850.83	0.60171	1394.4	1540.86	0	1.81	2311.72	6.07	2310.96	6.07	-0.76	-0.03
113	382	269	156	6112	0.83323	851.02	0.60209	1394.55	1556.73	-0.51	1.8	2310.98	6.05	2310.85	6.05	-0.13	-0.01
113	383	270	157	6128	0.83196	851.21	0.60248	1394.71	1572.65	0	1.79	2311.22	6.03	2310.35	6.03	-0.86	-0.04
113	384	271	158	6144	0.83070	851.4	0.60287	1394.87	1588.61	-0.51	1.78	2310.38	6.02	2310.14	6.02	-0.24	-0.01
113	385	272	159	6160	0.82944	851.59	0.60325	1395.04	1604.61	0	1.76	2310.53	6	2309.55	6	-0.98	-0.04

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
113	386	273	160	6176	0.82818	851.76	0.60363	1395.21	1620.66	-0.51	1.75	2309.61	5.98	2309.24	5.98	-0.36	-0.02
113	387	274	161	6192	0.82693	851.94	0.60401	1395.39	1636.75	0	1.74	2309.66	5.97	2308.56	5.97	-1.1	-0.05
113	388	275	162	6208	0.82567	852.11	0.60438	1395.57	1652.89	-0.51	1.73	2308.65	5.95	2308.16	5.95	-0.5	-0.02
113	389	276	163	6224	0.82442	852.28	0.60476	1395.75	1669.07	0	1.72	2308.62	5.93	2307.38	5.93	-1.24	-0.05
113	390	277	164	6240	0.82317	852.45	0.60513	1395.94	1685.29	-0.51	1.71	2307.53	5.92	2306.89	5.92	-0.64	-0.03
113	391	278	165	6256	0.82192	852.61	0.60550	1396.13	1701.55	0	1.7	2307.41	5.9	2306.01	5.9	-1.39	-0.06
113	392	279	166	6272	0.82067	852.77	0.60587	1396.33	1717.86	-0.51	1.69	2306.23	5.88	2305.43	5.88	-0.8	-0.03
113	393	280	167	6288	0.81943	852.92	0.60623	1396.53	1734.2	0	1.68	2306.03	5.87	2304.47	5.86	-1.56	-0.07
113	394	281	168	6304	0.81819	853.07	0.60660	1396.73	1750.59	-0.5	1.67	2304.77	5.85	2303.8	5.85	-0.97	-0.04
113	395	282	169	6320	0.81695	853.22	0.60696	1396.94	1767.02	0	1.66	2304.48	5.83	2302.75	5.83	-1.73	-0.08
113	396	283	170	6336	0.81571	853.36	0.60732	1397.15	1783.49	-0.5	1.65	2303.14	5.82	2301.99	5.81	-1.15	-0.05
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
114	227	113	-1	3632	0.99998	721.9	0.49890	1512.62	0.11	0	9.82	1407.19	6.2	1416.46	6.24	9.27	0.65
114	228	114	0	3648	1.00000	724.03	0.50000	1510.39	0	0.66	10	1424.24	6.25	1432.78	6.28	8.54	0.6
114	229	115	1	3664	0.99998	726.13	0.50109	1508.2	0.11	0	9.82	1439.37	6.29	1446.97	6.32	7.6	0.53
114	230	116	2	3680	0.99992	728.21	0.50217	1506.06	0.42	0.66	9.64	1455.61	6.33	1462.9	6.36	7.29	0.5
114	231	117	3	3696	0.99983	730.25	0.50325	1503.95	0.95	0	9.47	1470.32	6.37	1476.71	6.39	6.39	0.43
114	232	118	4	3712	0.99970	732.26	0.50431	1501.89	1.68	0.66	9.3	1486.13	6.41	1492.25	6.43	6.12	0.41
114	233	119	5	3728	0.99954	734.24	0.50537	1499.86	2.62	0	9.14	1500.42	6.44	1505.69	6.46	5.27	0.35
114	234	120	6	3744	0.99934	736.2	0.50641	1497.87	3.75	0.65	8.98	1515.81	6.48	1520.85	6.5	5.03	0.33
114	235	121	7	3760	0.99911	738.12	0.50745	1495.92	5.09	0	8.82	1529.7	6.51	1533.93	6.53	4.23	0.28
114	236	122	8	3776	0.99885	740.02	0.50848	1494	6.62	0.65	8.67	1544.69	6.55	1548.72	6.56	4.03	0.26
114	237	123	9	3792	0.99856	741.89	0.50949	1492.12	8.34	0	8.53	1558.17	6.57	1561.44	6.59	3.27	0.21
114	238	124	10	3808	0.99824	743.74	0.51050	1490.28	10.25	0.65	8.38	1572.76	6.61	1575.88	6.62	3.11	0.2
114	239	125	11	3824	0.99788	745.55	0.51151	1488.47	12.35	0	8.24	1585.87	6.64	1588.25	6.65	2.39	0.15
114	240	126	12	3840	0.99750	747.35	0.51250	1486.69	14.64	0.65	8.11	1600.07	6.67	1602.34	6.68	2.26	0.14
114	241	127	13	3856	0.99709	749.11	0.51349	1484.95	17.11	0	7.97	1612.8	6.69	1614.38	6.7	1.58	0.1
114	242	128	14	3872	0.99665	750.85	0.51446	1483.24	19.76	0.64	7.84	1626.63	6.72	1628.11	6.73	1.48	0.09
114	243	129	15	3888	0.99619	752.57	0.51543	1481.56	22.59	0	7.72	1638.99	6.74	1639.82	6.75	0.83	0.05
114	244	130	16	3904	0.99570	754.26	0.51639	1479.92	25.6	0.64	7.59	1652.45	6.77	1653.22	6.78	0.77	0.05
114	245	131	17	3920	0.99519	755.93	0.51735	1478.3	28.78	0	7.47	1664.45	6.79	1664.61	6.79	0.15	0.01
114	246	132	18	3936	0.99465	757.58	0.51829	1476.72	32.14	0.64	7.35	1677.56	6.82	1677.68	6.82	0.12	0.01
114	247	133	19	3952	0.99408	759.2	0.51923	1475.17	35.66	0	7.24	1689.21	6.84	1688.75	6.84	-0.47	-0.03
114	248	134	20	3968	0.99350	760.8	0.52016	1473.64	39.36	0.64	7.13	1701.97	6.86	1701.49	6.86	-0.47	-0.03
114	249	135	21	3984	0.99289	762.37	0.52108	1472.14	43.22	0	7.02	1713.28	6.88	1712.25	6.88	-1.03	-0.06
114	250	136	22	4000	0.99226	763.93	0.52200	1470.68	47.24	0.63	6.91	1725.7	6.9	1724.69	6.9	-1.01	-0.06
114	251	137	23	4016	0.99160	765.46	0.52291	1469.24	51.43	0	6.81	1736.68	6.92	1735.14	6.91	-1.54	-0.09
114	252	138	24	4032	0.99093	766.97	0.52381	1467.82	55.78	0.63	6.7	1748.76	6.94	1747.27	6.93	-1.5	-0.09
114	253	139	25	4048	0.99024	768.46	0.52470	1466.44	60.28	0	6.6	1759.42	6.95	1757.42	6.95	-2	-0.11
114	254	140	26	4064	0.98952	769.93	0.52559	1465.08	64.95	0.63	6.51	1771.18	6.97	1769.25	6.97	-1.93	-0.11
114	255	141	27	4080	0.98879	771.37	0.52647	1463.75	69.77	0	6.41	1781.52	6.99	1779.12	6.98	-2.41	-0.14
114	256	142	28	4096	0.98804	772.8	0.52734	1462.44	74.74	0.62	6.32	1792.96	7	1790.64	6.99	-2.32	-0.13
114	257	143	29	4112	0.98727	774.21	0.52821	1461.16	79.86	0	6.23	1803	7.02	1800.23	7	-2.77	-0.15
114	258	144	30	4128	0.98648	775.6	0.52907	1459.9	85.13	0.62	6.14	1814.13	7.03	1811.46	7.02	-2.67	-0.15
114	259	145	31	4144	0.98567	776.97	0.52992	1458.67	90.55	0	6.05	1823.86	7.04	1820.77	7.03	-3.09	-0.17
114	260	146	32	4160	0.98485	778.31	0.53077	1457.46	96.12	0.62	5.96	1834.69	7.06	1831.72	7.05	-2.97	-0.16

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
114	261	147	33	4176	0.98401	779.64	0.53161	1456.27	101.83	0	5.88	1844.13	7.07	1840.76	7.05	-3.38	-0.18
114	262	148	34	4192	0.98316	780.96	0.53244	1455.11	107.69	0.62	5.8	1854.67	7.08	1851.43	7.07	-3.24	-0.17
114	263	149	35	4208	0.98229	782.25	0.53327	1453.97	113.68	0	5.72	1863.82	7.09	1860.2	7.07	-3.62	-0.19
114	264	150	36	4224	0.98141	783.52	0.53409	1452.85	119.82	0.62	5.64	1874.06	7.1	1870.6	7.09	-3.46	-0.19
114	265	151	37	4240	0.98051	784.78	0.53491	1451.75	126.09	0	5.56	1882.94	7.11	1879.11	7.09	-3.83	-0.2
114	266	152	38	4256	0.97959	786.02	0.53571	1450.68	132.5	0.61	5.49	1892.9	7.12	1889.24	7.1	-3.66	-0.19
114	267	153	39	4272	0.97866	787.24	0.53652	1449.63	139.04	0	5.41	1901.5	7.12	1897.49	7.11	-4.01	-0.21
114	268	154	40	4288	0.97772	788.45	0.53731	1448.59	145.72	0.61	5.34	1911.19	7.13	1907.36	7.12	-3.82	-0.2
114	269	155	41	4304	0.97677	789.64	0.53810	1447.58	152.53	0	5.27	1919.52	7.14	1915.36	7.12	-4.15	-0.22
114	270	156	42	4320	0.97580	790.81	0.53889	1446.59	159.47	0.61	5.2	1928.93	7.14	1924.98	7.13	-3.95	-0.21
114	271	157	43	4336	0.97482	791.97	0.53967	1445.62	166.54	0	5.14	1937	7.15	1932.73	7.13	-4.27	-0.22
114	272	158	44	4352	0.97383	793.11	0.54044	1444.67	173.74	0.61	5.07	1946.16	7.15	1942.1	7.14	-4.06	-0.21
114	273	159	45	4368	0.97283	794.23	0.54121	1443.74	181.07	0	5	1953.97	7.16	1949.61	7.14	-4.36	-0.22
114	274	160	46	4384	0.97182	795.34	0.54197	1442.83	188.51	0.6	4.94	1962.87	7.16	1958.73	7.15	-4.14	-0.21
114	275	161	47	4400	0.97079	796.43	0.54273	1441.93	196.09	0	4.88	1970.43	7.17	1966	7.15	-4.43	-0.23
114	276	162	48	4416	0.96975	797.51	0.54348	1441.06	203.78	0.6	4.82	1979.07	7.17	1974.88	7.16	-4.19	-0.21
114	277	163	49	4432	0.96871	798.57	0.54422	1440.2	211.6	0	4.76	1986.39	7.17	1981.92	7.15	-4.47	-0.23
114	278	164	50	4448	0.96765	799.62	0.54496	1439.36	219.53	0.6	4.7	1994.79	7.18	1990.57	7.16	-4.22	-0.21
114	279	165	51	4464	0.96659	800.65	0.54570	1438.54	227.58	0	4.64	2001.87	7.18	1997.38	7.16	-4.49	-0.22
114	280	166	52	4480	0.96551	801.67	0.54643	1437.73	235.76	0.6	4.58	2010.02	7.18	2005.79	7.16	-4.23	-0.21
114	281	167	53	4496	0.96443	802.68	0.54715	1436.94	244.04	0	4.53	2016.86	7.18	2012.38	7.16	-4.49	-0.22
114	282	168	54	4512	0.96333	803.67	0.54787	1436.17	252.44	0.6	4.47	2024.78	7.18	2020.56	7.17	-4.22	-0.21
114	283	169	55	4528	0.96223	804.65	0.54859	1435.42	260.96	0	4.42	2031.4	7.18	2026.93	7.16	-4.47	-0.22
114	284	170	56	4544	0.96112	805.61	0.54930	1434.68	269.58	0.59	4.37	2039.09	7.18	2034.89	7.17	-4.2	-0.21
114	285	171	57	4560	0.96000	806.56	0.55000	1433.96	278.32	0	4.32	2045.48	7.18	2041.05	7.16	-4.43	-0.22
114	286	172	58	4576	0.95887	807.5	0.55070	1433.25	287.17	0.59	4.27	2052.94	7.18	2048.79	7.16	-4.15	-0.2
114	287	173	59	4592	0.95774	808.42	0.55139	1432.56	296.12	0	4.22	2059.11	7.17	2054.73	7.16	-4.38	-0.21
114	288	174	60	4608	0.95660	809.33	0.55208	1431.89	305.19	0.59	4.17	2066.35	7.17	2062.26	7.16	-4.09	-0.2
114	289	175	61	4624	0.95545	810.23	0.55277	1431.23	314.36	0	4.12	2072.31	7.17	2068	7.16	-4.31	-0.21
114	290	176	62	4640	0.95429	811.11	0.55345	1430.59	323.63	0.59	4.07	2079.33	7.17	2075.31	7.16	-4.02	-0.19
114	291	177	63	4656	0.95313	811.99	0.55412	1429.96	333.01	0	4.03	2085.07	7.17	2080.84	7.15	-4.23	-0.2
114	292	178	64	4672	0.95196	812.85	0.55480	1429.34	342.49	0.59	3.98	2091.89	7.16	2087.95	7.15	-3.94	-0.19
114	293	179	65	4688	0.95079	813.7	0.55546	1428.74	352.08	0	3.94	2097.42	7.16	2093.29	7.14	-4.14	-0.2
114	294	180	66	4704	0.94960	814.53	0.55612	1428.15	361.77	0.58	3.9	2104.03	7.16	2100.19	7.14	-3.84	-0.18
114	295	181	67	4720	0.94842	815.36	0.55678	1427.58	371.55	0	3.85	2109.36	7.15	2105.33	7.14	-4.03	-0.19
114	296	182	68	4736	0.94722	816.17	0.55743	1427.02	381.44	0.58	3.81	2115.76	7.15	2112.03	7.14	-3.73	-0.18
114	297	183	69	4752	0.94603	816.98	0.55808	1426.47	391.42	0	3.77	2120.9	7.14	2116.98	7.13	-3.92	-0.19
114	298	184	70	4768	0.94482	817.77	0.55873	1425.94	401.5	0.58	3.73	2127.1	7.14	2123.48	7.13	-3.62	-0.17
114	299	185	71	4784	0.94361	818.55	0.55937	1425.42	411.68	0	3.69	2132.04	7.13	2128.24	7.12	-3.8	-0.18
114	300	186	72	4800	0.94240	819.32	0.56000	1424.92	421.95	0.58	3.65	2138.05	7.13	2134.55	7.12	-3.49	-0.16
114	301	187	73	4816	0.94118	820.07	0.56063	1424.42	432.31	0	3.61	2142.8	7.12	2139.13	7.11	-3.67	-0.17
114	302	188	74	4832	0.93996	820.82	0.56126	1423.94	442.77	0.58	3.57	2148.61	7.11	2145.25	7.1	-3.36	-0.16
114	303	189	75	4848	0.93873	821.56	0.56188	1423.47	453.33	0	3.54	2153.18	7.11	2149.64	7.09	-3.54	-0.16
114	304	190	76	4864	0.93750	822.28	0.56250	1423.02	463.97	0.57	3.5	2158.8	7.1	2155.58	7.09	-3.22	-0.15
114	305	191	77	4880	0.93626	823	0.56312	1422.57	474.7	0	3.46	2163.19	7.09	2159.79	7.08	-3.39	-0.16
114	306	192	78	4896	0.93503	823.71	0.56373	1422.14	485.53	0.57	3.43	2168.63	7.09	2165.55	7.08	-3.08	-0.14
114	307	193	79	4912	0.93378	824.4	0.56433	1421.72	496.44	0	3.39	2172.83	7.08	2169.59	7.07	-3.25	-0.15

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
114	308	194	80	4928	0.93254	825.09	0.56494	1421.31	507.44	0.57	3.36	2178.09	7.07	2175.16	7.06	-2.93	-0.13
114	309	195	81	4944	0.93129	825.77	0.56553	1420.91	518.53	0	3.33	2182.12	7.06	2179.03	7.05	-3.1	-0.14
114	310	196	82	4960	0.93003	826.43	0.56613	1420.52	529.7	0.57	3.29	2187.21	7.06	2184.42	7.05	-2.78	-0.13
114	311	197	83	4976	0.92878	827.09	0.56672	1420.15	540.96	0	3.26	2191.06	7.05	2188.12	7.04	-2.95	-0.13
114	312	198	84	4992	0.92752	827.74	0.56731	1419.78	552.3	0.57	3.23	2195.97	7.04	2193.34	7.03	-2.63	-0.12
114	313	199	85	5008	0.92625	828.38	0.56789	1419.43	563.73	0	3.2	2199.66	7.03	2196.87	7.02	-2.79	-0.13
114	314	200	86	5024	0.92499	829	0.56847	1419.09	575.24	0.56	3.17	2204.4	7.02	2201.92	7.01	-2.47	-0.11
114	315	201	87	5040	0.92372	829.63	0.56905	1418.75	586.83	0	3.13	2207.92	7.01	2205.29	7	-2.63	-0.12
114	316	202	88	5056	0.92245	830.24	0.56962	1418.43	598.51	0.56	3.1	2212.49	7	2210.17	6.99	-2.32	-0.1
114	317	203	89	5072	0.92118	830.84	0.57019	1418.12	610.26	0	3.08	2215.86	6.99	2213.38	6.98	-2.48	-0.11
114	318	204	90	5088	0.91990	831.43	0.57076	1417.82	622.09	0.56	3.05	2220.26	6.98	2218.1	6.98	-2.16	-0.1
114	319	205	91	5104	0.91862	832.02	0.57132	1417.53	634.01	0	3.02	2223.46	6.97	2221.15	6.96	-2.32	-0.1
114	320	206	92	5120	0.91734	832.6	0.57188	1417.25	646	0.56	2.99	2227.71	6.96	2225.7	6.96	-2.01	-0.09
114	321	207	93	5136	0.91606	833.16	0.57243	1416.97	658.07	0	2.96	2230.76	6.95	2228.59	6.94	-2.16	-0.1
114	322	208	94	5152	0.91478	833.72	0.57298	1416.71	670.22	0.56	2.93	2234.84	6.94	2232.99	6.93	-1.85	-0.08
114	323	209	95	5168	0.91350	834.28	0.57353	1416.46	682.44	0	2.91	2237.74	6.93	2235.73	6.92	-2.01	-0.09
114	324	210	96	5184	0.91221	834.82	0.57407	1416.21	694.74	0.56	2.88	2241.67	6.92	2239.97	6.91	-1.7	-0.08
114	325	211	97	5200	0.91092	835.36	0.57462	1415.98	707.11	0	2.85	2244.41	6.91	2242.56	6.9	-1.85	-0.08
114	326	212	98	5216	0.90963	835.88	0.57515	1415.75	719.56	0.55	2.83	2248.19	6.9	2246.64	6.89	-1.54	-0.07
114	327	213	99	5232	0.90834	836.4	0.57569	1415.54	732.08	0	2.8	2250.78	6.88	2249.08	6.88	-1.7	-0.08
114	328	214	100	5248	0.90705	836.92	0.57622	1415.33	744.67	0.55	2.78	2254.41	6.87	2253.02	6.87	-1.39	-0.06
114	329	215	101	5264	0.90576	837.42	0.57675	1415.13	757.34	0	2.75	2256.86	6.86	2255.31	6.86	-1.55	-0.07
114	330	216	102	5280	0.90446	837.92	0.57727	1414.94	770.08	0.55	2.73	2260.35	6.85	2259.1	6.85	-1.25	-0.06
114	331	217	103	5296	0.90317	838.41	0.57780	1414.76	782.89	0	2.71	2262.65	6.84	2261.25	6.83	-1.41	-0.06
114	332	218	104	5312	0.90187	838.89	0.57831	1414.58	795.76	0.55	2.68	2265.99	6.83	2264.89	6.82	-1.11	-0.05
114	333	219	105	5328	0.90058	839.37	0.57883	1414.42	808.71	0	2.66	2268.16	6.81	2266.89	6.81	-1.27	-0.06
114	334	220	106	5344	0.89928	839.83	0.57934	1414.26	821.73	0.55	2.64	2271.36	6.8	2270.39	6.8	-0.97	-0.04
114	335	221	107	5360	0.89798	840.3	0.57985	1414.11	834.82	0	2.61	2273.39	6.79	2272.26	6.78	-1.13	-0.05
114	336	222	108	5376	0.89668	840.75	0.58036	1413.97	847.97	0.55	2.59	2276.45	6.78	2275.61	6.77	-0.83	-0.04
114	337	223	109	5392	0.89539	841.2	0.58086	1413.84	861.19	0	2.57	2278.34	6.76	2277.34	6.76	-1	-0.04
114	338	224	110	5408	0.89409	841.64	0.58136	1413.72	874.48	0.54	2.55	2281.26	6.75	2280.56	6.75	-0.71	-0.03
114	339	225	111	5424	0.89279	842.07	0.58186	1413.6	887.83	0	2.53	2283.03	6.73	2282.16	6.73	-0.87	-0.04
114	340	226	112	5440	0.89149	842.5	0.58235	1413.49	901.25	0.54	2.51	2285.81	6.72	2285.23	6.72	-0.58	-0.03
114	341	227	113	5456	0.89019	842.92	0.58285	1413.39	914.73	0	2.49	2287.45	6.71	2286.7	6.71	-0.75	-0.03
114	342	228	114	5472	0.88889	843.33	0.58333	1413.29	928.28	0.54	2.47	2290.1	6.7	2289.64	6.69	-0.47	-0.02
114	343	229	115	5488	0.88759	843.74	0.58382	1413.2	941.89	0	2.45	2291.61	6.68	2290.97	6.68	-0.64	-0.03
114	344	230	116	5504	0.88629	844.14	0.58430	1413.12	955.56	0.54	2.43	2294.13	6.67	2293.78	6.67	-0.36	-0.02
114	345	231	117	5520	0.88499	844.54	0.58478	1413.05	969.3	0	2.41	2295.52	6.65	2294.99	6.65	-0.53	-0.02
114	346	232	118	5536	0.88369	844.93	0.58526	1412.98	983.1	0.54	2.39	2297.91	6.64	2297.66	6.64	-0.25	-0.01
114	347	233	119	5552	0.88239	845.31	0.58574	1412.93	996.96	0	2.37	2299.17	6.63	2298.74	6.62	-0.43	-0.02
114	348	234	120	5568	0.88109	845.69	0.58621	1412.87	1010.88	0.54	2.35	2301.44	6.61	2301.29	6.61	-0.16	-0.01
114	349	235	121	5584	0.87980	846.06	0.58668	1412.83	1024.86	0	2.33	2302.58	6.6	2302.24	6.6	-0.34	-0.01
114	350	236	122	5600	0.87850	846.42	0.58714	1412.79	1038.9	0.53	2.31	2304.73	6.58	2304.66	6.58	-0.07	0
114	351	237	123	5616	0.87720	846.78	0.58761	1412.76	1053	0	2.3	2305.75	6.57	2305.5	6.57	-0.25	-0.01
114	352	238	124	5632	0.87590	847.14	0.58807	1412.73	1067.16	0.53	2.28	2307.78	6.56	2307.79	6.56	0.01	0
114	353	239	125	5648	0.87461	847.48	0.58853	1412.71	1081.38	0	2.26	2308.68	6.54	2308.5	6.54	-0.18	-0.01
114	354	240	126	5664	0.87331	847.83	0.58898	1412.7	1095.66	0.53	2.24	2310.59	6.53	2310.67	6.53	0.08	0

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
114	355	241	127	5680	0.87202	848.16	0.58944	1412.7	1109.99	0	2.23	2311.37	6.51	2311.27	6.51	-0.11	0
114	356	242	128	5696	0.87072	848.49	0.58989	1412.7	1124.38	0.53	2.21	2313.17	6.5	2313.31	6.5	0.15	0.01
114	357	243	129	5712	0.86943	848.82	0.59034	1412.7	1138.83	0	2.19	2313.84	6.48	2313.79	6.48	-0.05	0
114	358	244	130	5728	0.86814	849.14	0.59078	1412.71	1153.33	0.53	2.18	2315.52	6.47	2315.72	6.47	0.2	0.01
114	359	245	131	5744	0.86685	849.45	0.59123	1412.73	1167.89	0	2.16	2316.08	6.45	2316.08	6.45	0	0
114	360	246	132	5760	0.86556	849.76	0.59167	1412.76	1182.51	0.53	2.14	2317.64	6.44	2317.89	6.44	0.25	0.01
114	361	247	133	5776	0.86427	850.07	0.59211	1412.79	1197.17	0	2.13	2318.1	6.42	2318.14	6.42	0.05	0
114	362	248	134	5792	0.86298	850.37	0.59254	1412.82	1211.9	0.53	2.11	2319.55	6.41	2319.83	6.41	0.28	0.01
114	363	249	135	5808	0.86169	850.66	0.59298	1412.87	1226.67	0	2.1	2319.9	6.39	2319.97	6.39	0.08	0
114	364	250	136	5824	0.86040	850.95	0.59341	1412.91	1241.5	0.52	2.08	2321.24	6.38	2321.55	6.38	0.31	0.01
114	365	251	137	5840	0.85912	851.24	0.59384	1412.97	1256.39	0	2.07	2321.48	6.36	2321.58	6.36	0.1	0
114	366	252	138	5856	0.85783	851.52	0.59426	1413.03	1271.32	0.52	2.05	2322.71	6.35	2323.04	6.35	0.33	0.01
114	367	253	139	5872	0.85655	851.79	0.59469	1413.09	1286.31	0	2.04	2322.85	6.33	2322.96	6.33	0.11	0
114	368	254	140	5888	0.85527	852.06	0.59511	1413.16	1301.35	0.52	2.02	2323.98	6.32	2324.31	6.32	0.33	0.01
114	369	255	141	5904	0.85399	852.32	0.59553	1413.24	1316.43	0	2.01	2324.01	6.3	2324.13	6.3	0.12	0
114	370	256	142	5920	0.85271	852.58	0.59595	1413.32	1331.58	0.52	2	2325.04	6.28	2325.37	6.28	0.33	0.01
114	371	257	143	5936	0.85143	852.84	0.59636	1413.4	1346.77	0	1.98	2324.97	6.27	2325.08	6.27	0.11	0
114	372	258	144	5952	0.85016	853.09	0.59677	1413.49	1362.01	0.52	1.97	2325.89	6.25	2326.21	6.25	0.32	0.01
114	373	259	145	5968	0.84888	853.34	0.59719	1413.59	1377.3	0	1.95	2325.73	6.24	2325.82	6.24	0.09	0
114	374	260	146	5984	0.84761	853.58	0.59759	1413.69	1392.64	0.52	1.94	2326.55	6.22	2326.84	6.22	0.29	0.01
114	375	261	147	6000	0.84634	853.82	0.59800	1413.8	1408.02	0	1.93	2326.29	6.2	2326.35	6.2	0.06	0
114	376	262	148	6016	0.84507	854.05	0.59840	1413.91	1423.46	0.52	1.91	2327.01	6.19	2327.27	6.19	0.26	0.01
114	377	263	149	6032	0.84380	854.28	0.59881	1414.02	1438.94	0	1.9	2326.65	6.17	2326.67	6.17	0.02	0
114	378	264	150	6048	0.84253	854.51	0.59921	1414.15	1454.48	0.51	1.89	2327.28	6.16	2327.49	6.16	0.21	0.01
114	379	265	151	6064	0.84126	854.73	0.59960	1414.27	1470.05	0	1.88	2326.83	6.14	2326.79	6.14	-0.03	0
114	380	266	152	6080	0.84000	854.94	0.60000	1414.4	1485.68	0.51	1.86	2327.35	6.12	2327.51	6.13	0.15	0.01
114	381	267	153	6096	0.83874	855.15	0.60039	1414.54	1501.35	0	1.85	2326.81	6.11	2326.71	6.11	-0.1	0
114	382	268	154	6112	0.83748	855.36	0.60079	1414.68	1517.07	0.51	1.84	2327.24	6.09	2327.33	6.09	0.08	0
114	383	269	155	6128	0.83622	855.57	0.60118	1414.82	1532.83	0	1.83	2326.61	6.07	2326.43	6.07	-0.17	-0.01
114	384	270	156	6144	0.83496	855.77	0.60156	1414.97	1548.64	0.51	1.82	2326.95	6.06	2326.95	6.06	0	0
114	385	271	157	6160	0.83371	855.96	0.60195	1415.12	1564.5	0	1.8	2326.22	6.04	2325.96	6.04	-0.26	-0.01
114	386	272	158	6176	0.83245	856.16	0.60233	1415.28	1580.4	0.51	1.79	2326.47	6.03	2326.38	6.03	-0.09	0
114	387	273	159	6192	0.83120	856.34	0.60271	1415.44	1596.34	0	1.78	2325.65	6.01	2325.3	6.01	-0.36	-0.02
114	388	274	160	6208	0.82995	856.53	0.60309	1415.61	1612.33	0.51	1.77	2325.81	5.99	2325.62	5.99	-0.2	-0.01
114	389	275	161	6224	0.82870	856.71	0.60347	1415.78	1628.36	0	1.76	2324.91	5.98	2324.44	5.98	-0.47	-0.02
114	390	276	162	6240	0.82746	856.89	0.60385	1415.95	1644.43	0.51	1.75	2324.98	5.96	2324.67	5.96	-0.31	-0.01
114	391	277	163	6256	0.82621	857.06	0.60422	1416.13	1660.55	0	1.74	2323.99	5.94	2323.4	5.94	-0.59	-0.03
114	392	278	164	6272	0.82497	857.23	0.60459	1416.32	1676.71	0.51	1.73	2323.97	5.93	2323.53	5.93	-0.44	-0.02
114	393	279	165	6288	0.82373	857.39	0.60496	1416.5	1692.91	0	1.71	2322.9	5.91	2322.18	5.91	-0.72	-0.03
114	394	280	166	6304	0.82249	857.56	0.60533	1416.7	1709.16	0.5	1.7	2322.8	5.9	2322.21	5.89	-0.58	-0.03
114	395	281	167	6320	0.82125	857.72	0.60570	1416.89	1725.44	0	1.69	2321.64	5.88	2320.77	5.88	-0.87	-0.04
114	396	282	168	6336	0.82002	857.87	0.60606	1417.09	1741.77	0.5	1.68	2321.45	5.86	2320.72	5.86	-0.74	-0.03
114	397	283	169	6352	0.81879	858.02	0.60642	1417.29	1758.14	0	1.67	2320.21	5.84	2319.18	5.84	-1.03	-0.04
114	398	284	170	6368	0.81756	858.17	0.60678	1417.5	1774.55	0.5	1.66	2319.94	5.83	2319.04	5.83	-0.9	-0.04
114	399	285	171	6384	0.81633	858.32	0.60714	1417.71	1791	0	1.65	2318.62	5.81	2317.42	5.81	-1.2	-0.05
Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
115	229	114	-1	3664	0.99998	726.13	0.49891	1534.78	0.11	0	9.82	1412.8	6.17	1422.07	6.21	9.27	0.65
115	230	115	0	3680	1.00000	728.26	0.50000	1532.54	0	-0.66	10	1428.54	6.21	1437.53	6.25	8.99	0.63
115	231	116	1	3696	0.99998	730.36	0.50108	1530.34	0.11	0	9.82	1445.02	6.26	1452.61	6.29	7.59	0.52
115	232	117	2	3712	0.99993	732.42	0.50216	1528.18	0.42	-0.66	9.64	1459.97	6.29	1467.69	6.33	7.73	0.53
115	233	118	3	3728	0.99983	734.46	0.50322	1526.06	0.94	0	9.47	1476.01	6.33	1482.39	6.36	6.38	0.43
115	234	119	4	3744	0.99971	736.46	0.50427	1523.98	1.67	-0.65	9.31	1490.54	6.37	1497.09	6.4	6.55	0.44
115	235	120	5	3760	0.99955	738.44	0.50532	1521.94	2.6	0	9.15	1506.17	6.41	1511.41	6.43	5.25	0.35
115	236	121	6	3776	0.99935	740.39	0.50636	1519.94	3.72	-0.65	8.99	1520.29	6.44	1525.75	6.47	5.47	0.36
115	237	122	7	3792	0.99913	742.32	0.50738	1517.97	5.04	0	8.83	1535.5	6.48	1539.7	6.5	4.2	0.27
115	238	123	8	3808	0.99887	744.21	0.50840	1516.04	6.56	-0.65	8.68	1549.22	6.51	1553.68	6.53	4.46	0.29
115	239	124	9	3824	0.99858	746.08	0.50941	1514.15	8.27	0	8.54	1564.04	6.54	1567.28	6.56	3.24	0.21
115	240	125	10	3840	0.99826	747.92	0.51042	1512.29	10.17	-0.65	8.39	1577.37	6.57	1580.91	6.59	3.53	0.22
115	241	126	11	3856	0.99792	749.73	0.51141	1510.47	12.25	0	8.26	1591.8	6.6	1594.15	6.61	2.35	0.15
115	242	127	12	3872	0.99754	751.52	0.51240	1508.68	14.52	-0.64	8.12	1604.76	6.63	1607.43	6.64	2.68	0.17
115	243	128	13	3888	0.99714	753.29	0.51337	1506.92	16.97	0	7.99	1618.81	6.66	1620.33	6.67	1.53	0.09
115	244	129	14	3904	0.99671	755.03	0.51434	1505.2	19.6	-0.64	7.86	1631.39	6.69	1633.29	6.69	1.89	0.12
115	245	130	15	3920	0.99625	756.74	0.51531	1503.51	22.41	0	7.73	1645.07	6.71	1645.85	6.72	0.78	0.05
115	246	131	16	3936	0.99577	758.43	0.51626	1501.85	25.39	-0.64	7.61	1657.3	6.74	1658.47	6.74	1.17	0.07
115	247	132	17	3952	0.99526	760.1	0.51721	1500.22	28.55	0	7.49	1670.62	6.76	1670.71	6.76	0.09	0.01
115	248	133	18	3968	0.99473	761.74	0.51815	1498.62	31.88	-0.64	7.37	1682.49	6.78	1683.01	6.79	0.52	0.03
115	249	134	19	3984	0.99418	763.36	0.51908	1497.05	35.38	0	7.26	1695.46	6.81	1694.92	6.81	-0.54	-0.03
115	250	135	20	4000	0.99360	764.96	0.52000	1495.51	39.04	-0.63	7.15	1706.99	6.83	1706.91	6.83	-0.08	0
115	251	136	21	4016	0.99300	766.54	0.52092	1494	42.87	0	7.04	1719.62	6.85	1718.51	6.85	-1.11	-0.06
115	252	137	22	4032	0.99238	768.09	0.52183	1492.52	46.87	-0.63	6.93	1730.82	6.87	1730.19	6.87	-0.63	-0.04
115	253	138	23	4048	0.99174	769.62	0.52273	1491.07	51.02	0	6.83	1743.11	6.89	1741.49	6.88	-1.62	-0.09
115	254	139	24	4064	0.99107	771.13	0.52362	1489.64	55.34	-0.63	6.72	1753.98	6.91	1752.86	6.9	-1.12	-0.06
115	255	140	25	4080	0.99039	772.62	0.52451	1488.24	59.81	0	6.62	1765.95	6.93	1763.86	6.92	-2.09	-0.12
115	256	141	26	4096	0.98969	774.09	0.52539	1486.87	64.44	-0.62	6.53	1776.5	6.94	1774.94	6.93	-1.56	-0.09
115	257	142	27	4112	0.98896	775.54	0.52627	1485.52	69.23	0	6.43	1788.14	6.96	1785.64	6.95	-2.51	-0.14
115	258	143	28	4128	0.98822	776.97	0.52713	1484.2	74.16	-0.62	6.34	1798.39	6.97	1796.43	6.96	-1.95	-0.11
115	259	144	29	4144	0.98746	778.38	0.52799	1482.91	79.25	0	6.25	1809.72	6.99	1806.84	6.98	-2.88	-0.16
115	260	145	30	4160	0.98669	779.76	0.52885	1481.64	84.48	-0.62	6.16	1819.66	7	1817.36	6.99	-2.3	-0.13
115	261	146	31	4176	0.98589	781.13	0.52969	1480.39	89.86	0	6.07	1830.69	7.01	1827.48	7	-3.21	-0.18
115	262	147	32	4192	0.98508	782.48	0.53053	1479.16	95.39	-0.62	5.99	1840.33	7.02	1837.72	7.01	-2.61	-0.14
115	263	148	33	4208	0.98426	783.82	0.53137	1477.97	101.06	0	5.9	1851.06	7.04	1847.57	7.02	-3.49	-0.19
115	264	149	34	4224	0.98341	785.13	0.53220	1476.79	106.87	-0.62	5.82	1860.42	7.05	1857.53	7.04	-2.88	-0.16
115	265	150	35	4240	0.98256	786.42	0.53302	1475.64	112.83	0	5.74	1870.86	7.06	1867.11	7.05	-3.75	-0.2
115	266	151	36	4256	0.98168	787.7	0.53384	1474.5	118.92	-0.61	5.66	1879.93	7.07	1876.81	7.06	-3.12	-0.17
115	267	152	37	4272	0.98080	788.96	0.53464	1473.4	125.15	0	5.59	1890.08	7.08	1886.12	7.06	-3.96	-0.21
115	268	153	38	4288	0.97990	790.2	0.53545	1472.31	131.51	-0.61	5.51	1898.88	7.09	1895.56	7.07	-3.31	-0.17
115	269	154	39	4304	0.97898	791.43	0.53625	1471.24	138.01	0	5.44	1908.76	7.1	1904.61	7.08	-4.14	-0.22
115	270	155	40	4320	0.97805	792.63	0.53704	1470.2	144.65	-0.61	5.37	1917.28	7.1	1913.8	7.09	-3.48	-0.18
115	271	156	41	4336	0.97711	793.83	0.53782	1469.17	151.41	0	5.3	1926.89	7.11	1922.6	7.09	-4.29	-0.22
115	272	157	42	4352	0.97616	795	0.53860	1468.17	158.31	-0.61	5.23	1935.15	7.11	1931.53	7.1	-3.62	-0.19
115	273	158	43	4368	0.97519	796.16	0.53938	1467.18	165.33	0	5.16	1944.49	7.12	1940.08	7.11	-4.41	-0.23
115	274	159	44	4384	0.97421	797.3	0.54015	1466.22	172.48	-0.6	5.09	1952.49	7.13	1948.76	7.11	-3.73	-0.19
115	275	160	45	4400	0.97322	798.43	0.54091	1465.27	179.75	0	5.03	1961.57	7.13	1957.06	7.12	-4.51	-0.23

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
115	276	161	46	4416	0.97222	799.54	0.54167	1464.35	187.15	-0.6	4.97	1969.32	7.14	1965.51	7.12	-3.81	-0.19
115	277	162	47	4432	0.97121	800.64	0.54242	1463.44	194.68	0	4.9	1978.15	7.14	1973.57	7.12	-4.58	-0.23
115	278	163	48	4448	0.97019	801.72	0.54317	1462.55	202.32	-0.6	4.84	1985.65	7.14	1981.79	7.13	-3.87	-0.2
115	279	164	49	4464	0.96916	802.78	0.54391	1461.68	210.08	0	4.78	1994.23	7.15	1989.61	7.13	-4.62	-0.23
115	280	165	50	4480	0.96811	803.83	0.54464	1460.83	217.97	-0.6	4.72	2001.49	7.15	1997.59	7.13	-3.9	-0.2
115	281	166	51	4496	0.96706	804.87	0.54537	1460	225.97	0	4.67	2009.83	7.15	2005.18	7.14	-4.64	-0.23
115	282	167	52	4512	0.96600	805.89	0.54610	1459.18	234.09	-0.6	4.61	2016.85	7.15	2012.94	7.14	-3.91	-0.19
115	283	168	53	4528	0.96493	806.9	0.54682	1458.38	242.32	0	4.55	2024.95	7.16	2020.3	7.14	-4.65	-0.23
115	284	169	54	4544	0.96385	807.9	0.54754	1457.6	250.67	-0.59	4.5	2031.74	7.15	2027.84	7.14	-3.91	-0.19
115	285	170	55	4560	0.96276	808.88	0.54825	1456.83	259.13	0	4.45	2039.61	7.16	2034.98	7.14	-4.63	-0.23
115	286	171	56	4576	0.96166	809.84	0.54895	1456.08	267.7	-0.59	4.39	2046.17	7.15	2042.29	7.14	-3.88	-0.19
115	287	172	57	4592	0.96056	810.8	0.54965	1455.35	276.39	0	4.34	2053.81	7.16	2049.22	7.14	-4.59	-0.22
115	288	173	58	4608	0.95944	811.74	0.55035	1454.63	285.18	-0.59	4.29	2060.16	7.15	2056.31	7.14	-3.84	-0.19
115	289	174	59	4624	0.95832	812.67	0.55104	1453.93	294.08	0	4.24	2067.57	7.15	2063.02	7.14	-4.54	-0.22
115	290	175	60	4640	0.95719	813.58	0.55172	1453.24	303.09	-0.59	4.19	2073.7	7.15	2069.91	7.14	-3.78	-0.18
115	291	176	61	4656	0.95606	814.48	0.55241	1452.57	312.2	0	4.15	2080.89	7.15	2076.41	7.14	-4.48	-0.22
115	292	177	62	4672	0.95492	815.37	0.55308	1451.91	321.42	-0.59	4.1	2086.81	7.15	2083.09	7.13	-3.71	-0.18
115	293	178	63	4688	0.95377	816.25	0.55375	1451.27	330.75	0	4.05	2093.79	7.15	2089.39	7.13	-4.4	-0.21
115	294	179	64	4704	0.95261	817.11	0.55442	1450.64	340.17	-0.58	4.01	2099.49	7.14	2095.87	7.13	-3.63	-0.17
115	295	180	65	4720	0.95145	817.97	0.55509	1450.03	349.7	0	3.96	2106.26	7.14	2101.96	7.13	-4.31	-0.2
115	296	181	66	4736	0.95028	818.81	0.55574	1449.43	359.33	-0.58	3.92	2111.77	7.13	2108.23	7.12	-3.53	-0.17
115	297	182	67	4752	0.94911	819.64	0.55640	1448.85	369.06	0	3.88	2118.33	7.13	2114.13	7.12	-4.21	-0.2
115	298	183	68	4768	0.94793	820.46	0.55705	1448.28	378.89	-0.58	3.84	2123.64	7.13	2120.21	7.11	-3.43	-0.16
115	299	184	69	4784	0.94675	821.26	0.55769	1447.72	388.81	0	3.79	2130	7.12	2125.91	7.11	-4.09	-0.19
115	300	185	70	4800	0.94556	822.06	0.55833	1447.18	398.83	-0.58	3.75	2135.11	7.12	2131.8	7.11	-3.31	-0.16
115	301	186	71	4816	0.94436	822.84	0.55897	1446.65	408.95	0	3.71	2141.27	7.11	2137.3	7.1	-3.97	-0.19
115	302	187	72	4832	0.94316	823.62	0.55960	1446.13	419.16	-0.58	3.67	2146.19	7.11	2143	7.1	-3.19	-0.15
115	303	188	73	4848	0.94196	824.38	0.56023	1445.62	429.47	0	3.64	2152.16	7.1	2148.32	7.09	-3.84	-0.18
115	304	189	74	4864	0.94075	825.13	0.56086	1445.13	439.87	-0.57	3.6	2156.89	7.1	2153.83	7.08	-3.05	-0.14
115	305	190	75	4880	0.93953	825.87	0.56148	1444.65	450.36	0	3.56	2162.67	7.09	2158.96	7.08	-3.71	-0.17
115	306	191	76	4896	0.93831	826.6	0.56209	1444.19	460.95	-0.57	3.52	2167.22	7.08	2164.3	7.07	-2.92	-0.13
115	307	192	77	4912	0.93709	827.33	0.56270	1443.73	471.62	0	3.49	2172.81	7.08	2169.25	7.07	-3.57	-0.16
115	308	193	78	4928	0.93587	828.04	0.56331	1443.29	482.38	-0.57	3.45	2177.18	7.07	2174.4	7.06	-2.77	-0.13
115	309	194	79	4944	0.93464	828.74	0.56392	1442.86	493.24	0	3.42	2182.59	7.06	2179.17	7.05	-3.42	-0.16
115	310	195	80	4960	0.93340	829.43	0.56452	1442.44	504.17	-0.57	3.38	2186.78	7.05	2184.15	7.05	-2.62	-0.12
115	311	196	81	4976	0.93217	830.11	0.56511	1442.03	515.2	0	3.35	2192.01	7.05	2188.74	7.04	-3.27	-0.15
115	312	197	82	4992	0.93093	830.78	0.56571	1441.63	526.31	-0.57	3.32	2196.02	7.04	2193.55	7.03	-2.47	-0.11
115	313	198	83	5008	0.92968	831.44	0.56629	1441.25	537.51	0	3.28	2201.08	7.03	2197.97	7.02	-3.11	-0.14
115	314	199	84	5024	0.92844	832.1	0.56688	1440.87	548.79	-0.56	3.25	2204.93	7.02	2202.61	7.01	-2.32	-0.11
115	315	200	85	5040	0.92719	832.74	0.56746	1440.51	560.16	0	3.22	2209.81	7.02	2206.86	7.01	-2.95	-0.13
115	316	201	86	5056	0.92593	833.37	0.56804	1440.15	571.61	-0.56	3.19	2213.49	7	2211.33	7	-2.16	-0.1
115	317	202	87	5072	0.92468	834	0.56861	1439.81	583.14	0	3.16	2218.21	7	2215.41	6.99	-2.8	-0.13
115	318	203	88	5088	0.92342	834.61	0.56918	1439.48	594.75	-0.56	3.13	2221.72	6.99	2219.72	6.98	-2	-0.09
115	319	204	89	5104	0.92216	835.22	0.56975	1439.16	606.45	0	3.1	2226.27	6.98	2223.64	6.97	-2.64	-0.12
115	320	205	90	5120	0.92090	835.82	0.57031	1438.85	618.22	-0.56	3.07	2229.62	6.97	2227.78	6.96	-1.84	-0.08
115	321	206	91	5136	0.91963	836.41	0.57087	1438.55	630.07	0	3.04	2234.01	6.96	2231.54	6.95	-2.47	-0.11
115	322	207	92	5152	0.91837	836.99	0.57143	1438.25	642	-0.56	3.01	2237.21	6.95	2235.52	6.94	-1.68	-0.08

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Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
115	323	208	93	5168	0.91710	837.57	0.57198	1437.97	654.01	0	2.98	2241.44	6.94	2239.12	6.93	-2.31	-0.1
115	324	209	94	5184	0.91583	838.13	0.57253	1437.7	666.09	-0.56	2.96	2244.48	6.93	2242.95	6.92	-1.52	-0.07
115	325	210	95	5200	0.91456	838.69	0.57308	1437.44	678.25	0	2.93	2248.55	6.92	2246.4	6.91	-2.15	-0.1
115	326	211	96	5216	0.91328	839.24	0.57362	1437.18	690.49	-0.55	2.9	2251.44	6.91	2250.07	6.9	-1.37	-0.06
115	327	212	97	5232	0.91201	839.78	0.57416	1436.94	702.8	0	2.88	2255.36	6.9	2253.36	6.89	-2	-0.09
115	328	213	98	5248	0.91073	840.31	0.57470	1436.71	715.18	-0.55	2.85	2258.1	6.88	2256.89	6.88	-1.21	-0.05
115	329	214	99	5264	0.90945	840.84	0.57523	1436.48	727.64	0	2.83	2261.86	6.87	2260.02	6.87	-1.84	-0.08
115	330	215	100	5280	0.90817	841.36	0.57576	1436.26	740.17	-0.55	2.8	2264.46	6.86	2263.4	6.86	-1.06	-0.05
115	331	216	101	5296	0.90689	841.87	0.57628	1436.06	752.78	0	2.78	2268.08	6.85	2266.39	6.85	-1.69	-0.07
115	332	217	102	5312	0.90561	842.37	0.57681	1435.86	765.45	-0.55	2.75	2270.53	6.84	2269.62	6.84	-0.91	-0.04
115	333	218	103	5328	0.90433	842.86	0.57733	1435.67	778.2	0	2.73	2274	6.83	2272.46	6.82	-1.54	-0.07
115	334	219	104	5344	0.90304	843.35	0.57784	1435.48	791.01	-0.55	2.7	2276.31	6.82	2275.55	6.81	-0.76	-0.03
115	335	220	105	5360	0.90176	843.83	0.57836	1435.31	803.9	0	2.68	2279.64	6.8	2278.25	6.8	-1.39	-0.06
115	336	221	106	5376	0.90048	844.31	0.57887	1435.15	816.85	-0.55	2.66	2281.81	6.79	2281.19	6.79	-0.62	-0.03
115	337	222	107	5392	0.89919	844.77	0.57938	1434.99	829.88	0	2.64	2285	6.78	2283.75	6.78	-1.25	-0.05
115	338	223	108	5408	0.89790	845.23	0.57988	1434.84	842.97	-0.54	2.61	2287.03	6.77	2286.55	6.76	-0.48	-0.02
115	339	224	109	5424	0.89662	845.68	0.58038	1434.7	856.12	0	2.59	2290.09	6.76	2288.97	6.75	-1.11	-0.05
115	340	225	110	5440	0.89533	846.13	0.58088	1434.57	869.35	-0.54	2.57	2291.99	6.74	2291.64	6.74	-0.34	-0.02
115	341	226	111	5456	0.89404	846.57	0.58138	1434.44	882.64	0	2.55	2294.9	6.73	2293.92	6.73	-0.98	-0.04
115	342	227	112	5472	0.89275	847	0.58187	1434.32	895.99	-0.54	2.53	2296.67	6.72	2296.46	6.71	-0.22	-0.01
115	343	228	113	5488	0.89147	847.43	0.58236	1434.21	909.41	0	2.51	2299.46	6.7	2298.6	6.7	-0.85	-0.04
115	344	229	114	5504	0.89018	847.85	0.58285	1434.11	922.9	-0.54	2.49	2301.1	6.69	2301	6.69	-0.09	0
115	345	230	115	5520	0.88889	848.26	0.58333	1434.01	936.44	0	2.47	2303.75	6.68	2303.02	6.68	-0.73	-0.03
115	346	231	116	5536	0.88760	848.67	0.58382	1433.93	950.06	-0.54	2.45	2305.26	6.66	2305.28	6.66	0.02	0
115	347	232	117	5552	0.88631	849.07	0.58429	1433.85	963.73	0	2.43	2307.79	6.65	2307.17	6.65	-0.62	-0.03
115	348	233	118	5568	0.88502	849.46	0.58477	1433.77	977.46	-0.54	2.41	2309.17	6.64	2309.31	6.64	0.13	0.01
115	349	234	119	5584	0.88374	849.85	0.58524	1433.7	991.26	0	2.39	2311.57	6.62	2311.06	6.62	-0.51	-0.02
115	350	235	120	5600	0.88245	850.23	0.58571	1433.65	1005.12	-0.53	2.37	2312.84	6.61	2313.07	6.61	0.24	0.01
115	351	236	121	5616	0.88116	850.61	0.58618	1433.59	1019.04	0	2.35	2315.11	6.6	2314.7	6.59	-0.41	-0.02
115	352	237	122	5632	0.87988	850.98	0.58665	1433.55	1033.02	-0.53	2.33	2316.26	6.58	2316.59	6.58	0.33	0.01
115	353	238	123	5648	0.87859	851.34	0.58711	1433.51	1047.06	0	2.31	2318.41	6.57	2318.09	6.57	-0.32	-0.01
115	354	239	124	5664	0.87730	851.7	0.58757	1433.48	1061.15	-0.53	2.3	2319.44	6.55	2319.86	6.55	0.42	0.02
115	355	240	125	5680	0.87602	852.05	0.58803	1433.45	1075.31	0	2.28	2321.47	6.54	2321.24	6.54	-0.23	-0.01
115	356	241	126	5696	0.87473	852.4	0.58848	1433.43	1089.52	-0.53	2.26	2322.38	6.52	2322.88	6.52	0.5	0.02
115	357	242	127	5712	0.87345	852.74	0.58894	1433.42	1103.79	0	2.24	2324.3	6.51	2324.14	6.51	-0.16	-0.01
115	358	243	128	5728	0.87216	853.08	0.58939	1433.41	1118.12	-0.53	2.23	2325.09	6.49	2325.66	6.5	0.57	0.02
115	359	244	129	5744	0.87088	853.41	0.58983	1433.41	1132.5	0	2.21	2326.89	6.48	2326.8	6.48	-0.09	0
115	360	245	130	5760	0.86960	853.73	0.59028	1433.41	1146.94	-0.53	2.19	2327.58	6.47	2328.21	6.47	0.63	0.03
115	361	246	131	5776	0.86832	854.05	0.59072	1433.43	1161.44	0	2.18	2329.26	6.45	2329.23	6.45	-0.03	0
115	362	247	132	5792	0.86704	854.37	0.59116	1433.44	1175.99	-0.53	2.16	2329.83	6.44	2330.52	6.44	0.69	0.03
115	363	248	133	5808	0.86576	854.68	0.59160	1433.47	1190.6	0	2.15	2331.4	6.42	2331.43	6.42	0.02	0
115	364	249	134	5824	0.86448	854.98	0.59203	1433.5	1205.26	-0.52	2.13	2331.87	6.41	2332.6	6.41	0.73	0.03
115	365	250	135	5840	0.86320	855.28	0.59247	1433.53	1219.97	0	2.12	2333.33	6.39	2333.39	6.39	0.06	0
115	366	251	136	5856	0.86193	855.58	0.59290	1433.57	1234.74	-0.52	2.1	2333.69	6.38	2334.46	6.38	0.77	0.03
115	367	252	137	5872	0.86065	855.87	0.59332	1433.62	1249.56	0	2.08	2335.04	6.36	2335.14	6.36	0.1	0
115	368	253	138	5888	0.85938	856.15	0.59375	1433.67	1264.43	-0.52	2.07	2335.3	6.35	2336.09	6.35	0.79	0.03
115	369	254	139	5904	0.85810	856.43	0.59417	1433.73	1279.35	0	2.06	2336.54	6.33	2336.66	6.33	0.12	0.01

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
115	370	255	140	5920	0.85683	856.7	0.59460	1433.8	1294.33	-0.52	2.04	2336.69	6.32	2337.5	6.32	0.81	0.03
115	371	256	141	5936	0.85556	856.97	0.59501	1433.86	1309.36	0	2.03	2337.83	6.3	2337.96	6.3	0.13	0.01
115	372	257	142	5952	0.85429	857.24	0.59543	1433.94	1324.44	-0.52	2.01	2337.88	6.28	2338.7	6.29	0.82	0.03
115	373	258	143	5968	0.85302	857.5	0.59585	1434.02	1339.56	0	2	2338.92	6.27	2339.05	6.27	0.13	0.01
115	374	259	144	5984	0.85175	857.76	0.59626	1434.1	1354.74	-0.52	1.98	2338.87	6.25	2339.68	6.26	0.81	0.03
115	375	260	145	6000	0.85049	858.01	0.59667	1434.19	1369.97	0	1.97	2339.8	6.24	2339.92	6.24	0.12	0.01
115	376	261	146	6016	0.84923	858.25	0.59707	1434.29	1385.25	-0.52	1.96	2339.65	6.22	2340.45	6.22	0.8	0.03
115	377	262	147	6032	0.84796	858.5	0.59748	1434.39	1400.57	0	1.94	2340.48	6.21	2340.59	6.21	0.11	0
115	378	263	148	6048	0.84670	858.74	0.59788	1434.5	1415.95	-0.51	1.93	2340.24	6.19	2341.01	6.19	0.77	0.03
115	379	264	149	6064	0.84544	858.97	0.59829	1434.61	1431.37	0	1.92	2340.97	6.18	2341.05	6.18	0.08	0
115	380	265	150	6080	0.84418	859.2	0.59868	1434.72	1446.84	-0.51	1.91	2340.63	6.16	2341.37	6.16	0.74	0.03
115	381	266	151	6096	0.84293	859.42	0.59908	1434.84	1462.36	0	1.89	2341.27	6.15	2341.3	6.15	0.04	0
115	382	267	152	6112	0.84167	859.65	0.59948	1434.97	1477.92	-0.51	1.88	2340.83	6.13	2341.52	6.13	0.69	0.03
115	383	268	153	6128	0.84042	859.86	0.59987	1435.1	1493.53	0	1.87	2341.38	6.11	2341.36	6.11	-0.02	0
115	384	269	154	6144	0.83917	860.08	0.60026	1435.23	1509.19	-0.51	1.86	2340.85	6.1	2341.48	6.1	0.63	0.03
115	385	270	155	6160	0.83792	860.29	0.60065	1435.37	1524.89	0	1.84	2341.3	6.08	2341.22	6.08	-0.08	0
115	386	271	156	6176	0.83667	860.49	0.60104	1435.51	1540.64	-0.51	1.83	2340.68	6.06	2341.24	6.07	0.56	0.02
115	387	272	157	6192	0.83542	860.69	0.60142	1435.66	1556.43	0	1.82	2341.03	6.05	2340.88	6.05	-0.16	-0.01
115	388	273	158	6208	0.83418	860.89	0.60180	1435.81	1572.27	-0.51	1.81	2340.33	6.03	2340.8	6.03	0.48	0.02
115	389	274	159	6224	0.83293	861.08	0.60219	1435.97	1588.15	0	1.8	2340.59	6.02	2340.35	6.02	-0.24	-0.01
115	390	275	160	6240	0.83169	861.27	0.60256	1436.13	1604.08	-0.51	1.79	2339.8	6	2340.18	6	0.38	0.02
115	391	276	161	6256	0.83045	861.46	0.60294	1436.3	1620.05	0	1.77	2339.97	5.98	2339.63	5.98	-0.34	-0.01
115	392	277	162	6272	0.82921	861.64	0.60332	1436.47	1636.07	-0.51	1.76	2339.09	5.97	2339.37	5.97	0.28	0.01
115	393	278	163	6288	0.82798	861.82	0.60369	1436.64	1652.12	0	1.75	2339.17	5.95	2338.72	5.95	-0.45	-0.02
115	394	279	164	6304	0.82674	861.99	0.60406	1436.82	1668.22	-0.5	1.74	2338.2	5.93	2338.37	5.93	0.16	0.01
115	395	280	165	6320	0.82551	862.16	0.60443	1437	1684.36	0	1.73	2338.2	5.92	2337.63	5.92	-0.57	-0.02
115	396	281	166	6336	0.82428	862.33	0.60480	1437.19	1700.55	-0.5	1.72	2337.15	5.9	2337.18	5.9	0.03	0
115	397	282	167	6352	0.82305	862.49	0.60516	1437.38	1716.77	0	1.71	2337.06	5.89	2336.36	5.89	-0.71	-0.03
115	398	283	168	6368	0.82182	862.65	0.60553	1437.58	1733.04	-0.5	1.7	2335.93	5.87	2335.82	5.87	-0.11	0
115	399	284	169	6384	0.82060	862.81	0.60589	1437.77	1749.35	0	1.69	2335.76	5.85	2334.9	5.85	-0.85	-0.04
115	400	285	170	6400	0.81938	862.96	0.60625	1437.98	1765.7	-0.5	1.68	2334.54	5.84	2334.28	5.84	-0.26	-0.01
115	401	286	171	6416	0.81815	863.11	0.60661	1438.18	1782.09	0	1.67	2334.28	5.82	2333.27	5.82	-1.01	-0.04
115	402	287	172	6432	0.81694	863.26	0.60697	1438.39	1798.52	-0.5	1.66	2332.99	5.8	2332.56	5.8	-0.43	-0.02
Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
116	231	115	-1	3696	0.99998	730.36	0.49892	1557.07	0.11	0	9.82	1418.29	6.14	1427.57	6.18	9.28	0.65
116	232	116	0	3712	1.00000	732.48	0.50000	1554.81	0	0.66	10	1435.37	6.19	1443.92	6.22	8.55	0.59
116	233	117	1	3728	0.99998	734.57	0.50107	1552.6	0.1	0	9.82	1450.55	6.23	1458.16	6.26	7.61	0.52
116	234	118	2	3744	0.99993	736.63	0.50214	1550.43	0.42	0.65	9.65	1466.83	6.27	1474.12	6.3	7.29	0.49
116	235	119	3	3760	0.99984	738.66	0.50319	1548.3	0.93	0	9.48	1481.59	6.3	1487.98	6.33	6.39	0.43
116	236	120	4	3776	0.99971	740.66	0.50424	1546.2	1.65	0.65	9.31	1497.45	6.35	1503.57	6.37	6.12	0.41
116	237	121	5	3792	0.99956	742.63	0.50527	1544.15	2.57	0	9.15	1511.8	6.38	1517.06	6.4	5.27	0.35
116	238	122	6	3808	0.99936	744.58	0.50630	1542.13	3.69	0.65	9	1527.24	6.42	1532.27	6.44	5.03	0.33
116	239	123	7	3824	0.99914	746.5	0.50732	1540.15	5	0	8.84	1541.19	6.45	1545.41	6.47	4.22	0.27
116	240	124	8	3840	0.99889	748.39	0.50833	1538.21	6.51	0.65	8.69	1556.23	6.48	1560.26	6.5	4.03	0.26
116	241	125	9	3856	0.99861	750.25	0.50934	1536.3	8.2	0	8.55	1569.79	6.51	1573.05	6.53	3.26	0.21
116	242	126	10	3872	0.99829	752.09	0.51033	1534.43	10.08	0.64	8.41	1584.44	6.55	1587.55	6.56	3.1	0.2

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
116	243	127	11	3888	0.99795	753.9	0.51132	1532.6	12.15	0	8.27	1597.62	6.57	1599.99	6.58	2.37	0.15
116	244	128	12	3904	0.99758	755.69	0.51230	1530.79	14.4	0.64	8.13	1611.89	6.61	1614.14	6.62	2.25	0.14
116	245	129	13	3920	0.99719	757.45	0.51327	1529.02	16.83	0	8	1624.7	6.63	1626.25	6.64	1.56	0.1
116	246	130	14	3936	0.99676	759.19	0.51423	1527.29	19.44	0.64	7.87	1638.6	6.66	1640.06	6.67	1.46	0.09
116	247	131	15	3952	0.99631	760.9	0.51518	1525.58	22.23	0	7.75	1651.04	6.68	1651.85	6.69	0.81	0.05
116	248	132	16	3968	0.99584	762.59	0.51613	1523.91	25.19	0.64	7.63	1664.57	6.71	1665.32	6.71	0.74	0.04
116	249	133	17	3984	0.99534	764.26	0.51707	1522.27	28.32	0	7.51	1676.66	6.73	1676.79	6.73	0.12	0.01
116	250	134	18	4000	0.99482	765.9	0.51800	1520.65	31.62	0.63	7.39	1689.85	6.76	1689.93	6.76	0.09	0.01
116	251	135	19	4016	0.99427	767.52	0.51892	1519.07	35.1	0	7.28	1701.59	6.78	1701.09	6.78	-0.5	-0.03
116	252	136	20	4032	0.99370	769.11	0.51984	1517.52	38.73	0.63	7.17	1714.43	6.8	1713.92	6.8	-0.51	-0.03
116	253	137	21	4048	0.99311	770.69	0.52075	1515.99	42.54	0	7.06	1725.84	6.82	1724.77	6.82	-1.07	-0.06
116	254	138	22	4064	0.99250	772.24	0.52165	1514.5	46.5	0.63	6.95	1738.33	6.84	1737.28	6.84	-1.05	-0.06
116	255	139	23	4080	0.99187	773.77	0.52255	1513.03	50.63	0	6.85	1749.41	6.86	1747.83	6.85	-1.58	-0.09
116	256	140	24	4096	0.99121	775.28	0.52344	1511.59	54.91	0.62	6.75	1761.58	6.88	1760.04	6.88	-1.54	-0.09
116	257	141	25	4112	0.99054	776.77	0.52432	1510.18	59.35	0	6.65	1772.34	6.9	1770.3	6.89	-2.05	-0.12
116	258	142	26	4128	0.98984	778.24	0.52519	1508.79	63.94	0.62	6.55	1784.19	6.92	1782.21	6.91	-1.98	-0.11
116	259	143	27	4144	0.98913	779.69	0.52606	1507.43	68.69	0	6.45	1794.64	6.93	1792.18	6.92	-2.46	-0.14
116	260	144	28	4160	0.98840	781.12	0.52692	1506.1	73.59	0.62	6.36	1806.17	6.95	1803.8	6.94	-2.38	-0.13
116	261	145	29	4176	0.98765	782.53	0.52778	1504.79	78.64	0	6.27	1816.31	6.96	1813.48	6.95	-2.83	-0.16
116	262	146	30	4192	0.98689	783.92	0.52863	1503.5	83.84	0.62	6.18	1827.54	6.98	1824.82	6.96	-2.73	-0.15
116	263	147	31	4208	0.98611	785.29	0.52947	1502.24	89.18	0	6.1	1837.38	6.99	1834.23	6.97	-3.16	-0.17
116	264	148	32	4224	0.98531	786.64	0.53030	1501	94.67	0.62	6.01	1848.31	7	1845.28	6.99	-3.03	-0.16
116	265	149	33	4240	0.98449	787.97	0.53113	1499.79	100.3	0	5.93	1857.86	7.01	1854.42	7	-3.44	-0.19
116	266	150	34	4256	0.98366	789.29	0.53196	1498.6	106.07	0.61	5.85	1868.5	7.02	1865.19	7.01	-3.3	-0.18
116	267	151	35	4272	0.98282	790.58	0.53277	1497.43	111.99	0	5.77	1877.76	7.03	1874.07	7.02	-3.69	-0.2
116	268	152	36	4288	0.98196	791.86	0.53358	1496.29	118.04	0.61	5.69	1888.11	7.05	1884.58	7.03	-3.53	-0.19
116	269	153	37	4304	0.98108	793.12	0.53439	1495.17	124.22	0	5.61	1897.1	7.05	1893.19	7.04	-3.9	-0.21
116	270	154	38	4320	0.98019	794.37	0.53519	1494.07	130.54	0.61	5.54	1907.17	7.06	1903.43	7.05	-3.73	-0.2
116	271	155	39	4336	0.97929	795.6	0.53598	1492.99	137	0	5.46	1915.88	7.07	1911.8	7.05	-4.08	-0.21
116	272	156	40	4352	0.97837	796.81	0.53677	1491.93	143.59	0.61	5.39	1925.68	7.08	1921.78	7.07	-3.9	-0.2
116	273	157	41	4368	0.97745	798	0.53755	1490.89	150.31	0	5.32	1934.13	7.08	1929.89	7.07	-4.23	-0.22
116	274	158	42	4384	0.97650	799.18	0.53832	1489.87	157.15	0.6	5.25	1943.65	7.09	1939.62	7.08	-4.03	-0.21
116	275	159	43	4400	0.97555	800.34	0.53909	1488.88	164.13	0	5.19	1951.84	7.1	1947.49	7.08	-4.35	-0.22
116	276	160	44	4416	0.97459	801.48	0.53986	1487.9	171.23	0.6	5.12	1961.11	7.11	1956.97	7.09	-4.14	-0.21
116	277	161	45	4432	0.97361	802.61	0.54061	1486.94	178.46	0	5.05	1969.04	7.11	1964.6	7.09	-4.44	-0.23
116	278	162	46	4448	0.97262	803.73	0.54137	1486	185.81	0.6	4.99	1978.05	7.12	1973.83	7.1	-4.22	-0.21
116	279	163	47	4464	0.97162	804.83	0.54212	1485.08	193.29	0	4.93	1985.73	7.12	1981.23	7.1	-4.51	-0.23
116	280	164	48	4480	0.97061	805.91	0.54286	1484.18	200.88	0.6	4.87	1994.49	7.12	1990.22	7.11	-4.27	-0.21
116	281	165	49	4496	0.96959	806.98	0.54359	1483.3	208.59	0	4.81	2001.93	7.12	1997.39	7.11	-4.55	-0.23
116	282	166	50	4512	0.96856	808.03	0.54433	1482.43	216.43	0.6	4.75	2010.45	7.13	2006.15	7.11	-4.3	-0.21
116	283	167	51	4528	0.96752	809.07	0.54505	1481.59	224.38	0	4.69	2017.65	7.13	2013.08	7.11	-4.57	-0.23
116	284	168	52	4544	0.96648	810.1	0.54578	1480.76	232.45	0.59	4.63	2025.93	7.13	2021.61	7.12	-4.31	-0.21
116	285	169	53	4560	0.96542	811.11	0.54649	1479.95	240.63	0	4.58	2032.89	7.13	2028.33	7.12	-4.57	-0.23
116	286	170	54	4576	0.96435	812.11	0.54720	1479.15	248.92	0.59	4.52	2040.93	7.14	2036.63	7.12	-4.3	-0.21
116	287	171	55	4592	0.96328	813.09	0.54791	1478.37	257.33	0	4.47	2047.67	7.13	2043.13	7.12	-4.54	-0.22
116	288	172	56	4608	0.96219	814.06	0.54861	1477.61	265.85	0.59	4.42	2055.48	7.14	2051.21	7.12	-4.27	-0.21
116	289	173	57	4624	0.96110	815.02	0.54931	1476.86	274.48	0	4.37	2062	7.13	2057.5	7.12	-4.51	-0.22

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
116	290	174	58	4640	0.96000	815.97	0.55000	1476.13	283.22	0.59	4.32	2069.59	7.14	2065.36	7.12	-4.23	-0.2
116	291	175	59	4656	0.95889	816.9	0.55069	1475.42	292.07	0	4.27	2075.88	7.13	2071.43	7.12	-4.45	-0.21
116	292	176	60	4672	0.95778	817.82	0.55137	1474.72	301.02	0.59	4.22	2083.25	7.13	2079.08	7.12	-4.17	-0.2
116	293	177	61	4688	0.95666	818.72	0.55205	1474.04	310.08	0	4.17	2089.33	7.13	2084.95	7.12	-4.38	-0.21
116	294	178	62	4704	0.95553	819.62	0.55272	1473.37	319.24	0.58	4.12	2096.48	7.13	2092.39	7.12	-4.09	-0.2
116	295	179	63	4720	0.95439	820.5	0.55339	1472.72	328.51	0	4.08	2102.35	7.13	2098.06	7.11	-4.3	-0.2
116	296	180	64	4736	0.95325	821.37	0.55405	1472.08	337.88	0.58	4.03	2109.29	7.13	2105.29	7.11	-4	-0.19
116	297	181	65	4752	0.95210	822.22	0.55471	1471.45	347.35	0	3.99	2114.96	7.12	2110.76	7.11	-4.2	-0.2
116	298	182	66	4768	0.95095	823.07	0.55537	1470.84	356.93	0.58	3.94	2121.69	7.12	2117.79	7.11	-3.9	-0.18
116	299	183	67	4784	0.94979	823.9	0.55602	1470.25	366.6	0	3.9	2127.15	7.11	2123.06	7.1	-4.09	-0.19
116	300	184	68	4800	0.94862	824.73	0.55667	1469.67	376.37	0.58	3.86	2133.68	7.11	2129.89	7.1	-3.79	-0.18
116	301	185	69	4816	0.94745	825.54	0.55731	1469.1	386.24	0	3.82	2138.95	7.11	2134.97	7.09	-3.97	-0.19
116	302	186	70	4832	0.94627	826.34	0.55795	1468.54	396.2	0.58	3.78	2145.27	7.1	2141.61	7.09	-3.67	-0.17
116	303	187	71	4848	0.94509	827.12	0.55858	1468	406.26	0	3.74	2150.35	7.1	2146.5	7.08	-3.85	-0.18
116	304	188	72	4864	0.94391	827.9	0.55921	1467.47	416.42	0.57	3.7	2156.48	7.09	2152.95	7.08	-3.54	-0.16
116	305	189	73	4880	0.94271	828.67	0.55984	1466.96	426.66	0	3.66	2161.37	7.09	2157.66	7.07	-3.71	-0.17
116	306	190	74	4896	0.94152	829.43	0.56046	1466.45	437.01	0.57	3.62	2167.31	7.08	2163.91	7.07	-3.4	-0.16
116	307	191	75	4912	0.94032	830.17	0.56108	1465.96	447.44	0	3.58	2172.01	7.07	2168.44	7.06	-3.57	-0.16
116	308	192	76	4928	0.93911	830.91	0.56169	1465.49	457.96	0.57	3.55	2177.76	7.07	2174.51	7.06	-3.25	-0.15
116	309	193	77	4944	0.93790	831.63	0.56230	1465.02	468.58	0	3.51	2182.28	7.06	2178.86	7.05	-3.42	-0.16
116	310	194	78	4960	0.93669	832.35	0.56290	1464.57	479.28	0.57	3.48	2187.85	7.06	2184.74	7.05	-3.1	-0.14
116	311	195	79	4976	0.93547	833.06	0.56351	1464.12	490.07	0	3.44	2192.19	7.05	2188.92	7.04	-3.27	-0.15
116	312	196	80	4992	0.93425	833.75	0.56410	1463.69	500.95	0.57	3.41	2197.57	7.04	2194.63	7.03	-2.95	-0.13
116	313	197	81	5008	0.93303	834.44	0.56470	1463.28	511.92	0	3.37	2201.74	7.03	2198.63	7.02	-3.11	-0.14
116	314	198	82	5024	0.93180	835.11	0.56529	1462.87	522.97	0.56	3.34	2206.95	7.03	2204.16	7.02	-2.79	-0.13
116	315	199	83	5040	0.93057	835.78	0.56587	1462.47	534.11	0	3.31	2210.94	7.02	2208	7.01	-2.95	-0.13
116	316	200	84	5056	0.92934	836.44	0.56646	1462.09	545.33	0.56	3.27	2215.98	7.01	2213.35	7	-2.62	-0.12
116	317	201	85	5072	0.92810	837.09	0.56704	1461.71	556.64	0	3.24	2219.81	7	2217.02	6.99	-2.78	-0.13
116	318	202	86	5088	0.92686	837.73	0.56761	1461.35	568.03	0.56	3.21	2224.67	7	2222.21	6.99	-2.46	-0.11
116	319	203	87	5104	0.92562	838.36	0.56818	1461	579.5	0	3.18	2228.33	6.99	2225.72	6.98	-2.61	-0.12
116	320	204	88	5120	0.92438	838.98	0.56875	1460.66	591.05	0.56	3.15	2233.03	6.98	2230.74	6.97	-2.29	-0.1
116	321	205	89	5136	0.92313	839.59	0.56932	1460.33	602.68	0	3.12	2236.53	6.97	2234.08	6.96	-2.45	-0.11
116	322	206	90	5152	0.92188	840.19	0.56988	1460	614.39	0.56	3.09	2241.06	6.96	2238.94	6.95	-2.13	-0.09
116	323	207	91	5168	0.92063	840.79	0.57043	1459.69	626.18	0	3.06	2244.4	6.95	2242.12	6.94	-2.28	-0.1
116	324	208	92	5184	0.91937	841.38	0.57099	1459.39	638.05	0.56	3.03	2248.77	6.94	2246.82	6.93	-1.96	-0.09
116	325	209	93	5200	0.91812	841.95	0.57154	1459.1	650	0	3.01	2251.96	6.93	2249.85	6.92	-2.11	-0.09
116	326	210	94	5216	0.91686	842.52	0.57209	1458.82	662.02	0.55	2.98	2256.17	6.92	2254.38	6.92	-1.79	-0.08
116	327	211	95	5232	0.91560	843.09	0.57263	1458.55	674.12	0	2.95	2259.2	6.91	2257.26	6.9	-1.94	-0.09
116	328	212	96	5248	0.91434	843.64	0.57317	1458.29	686.29	0.55	2.93	2263.26	6.9	2261.64	6.9	-1.62	-0.07
116	329	213	97	5264	0.91307	844.19	0.57371	1458.03	698.54	0	2.9	2266.14	6.89	2264.37	6.88	-1.77	-0.08
116	330	214	98	5280	0.91181	844.72	0.57424	1457.79	710.86	0.55	2.87	2270.05	6.88	2268.59	6.87	-1.46	-0.06
116	331	215	99	5296	0.91054	845.25	0.57477	1457.55	723.26	0	2.85	2272.78	6.87	2271.17	6.86	-1.61	-0.07
116	332	216	100	5312	0.90928	845.78	0.57530	1457.33	735.73	0.55	2.82	2276.54	6.86	2275.24	6.85	-1.29	-0.06
116	333	217	101	5328	0.90801	846.29	0.57583	1457.11	748.27	0	2.8	2279.12	6.84	2277.68	6.84	-1.45	-0.06
116	334	218	102	5344	0.90674	846.8	0.57635	1456.9	760.88	0.55	2.77	2282.73	6.83	2281.6	6.83	-1.13	-0.05
116	335	219	103	5360	0.90547	847.3	0.57687	1456.7	773.57	0	2.75	2285.18	6.82	2283.89	6.82	-1.29	-0.06
116	336	220	104	5376	0.90420	847.79	0.57738	1456.51	786.32	0.55	2.73	2288.64	6.81	2287.67	6.81	-0.98	-0.04

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
116	337	221	105	5392	0.90292	848.28	0.57789	1456.33	799.14	0	2.7	2290.95	6.8	2289.82	6.79	-1.13	-0.05
116	338	222	106	5408	0.90165	848.76	0.57840	1456.16	812.03	0.54	2.68	2294.27	6.79	2293.45	6.79	-0.82	-0.04
116	339	223	107	5424	0.90038	849.23	0.57891	1455.99	824.99	0	2.66	2296.44	6.77	2295.46	6.77	-0.98	-0.04
116	340	224	108	5440	0.89910	849.69	0.57941	1455.83	838.02	0.54	2.63	2299.63	6.76	2298.95	6.76	-0.67	-0.03
116	341	225	109	5456	0.89783	850.15	0.57991	1455.69	851.12	0	2.61	2301.66	6.75	2300.83	6.75	-0.83	-0.04
116	342	226	110	5472	0.89655	850.6	0.58041	1455.54	864.28	0.54	2.59	2304.71	6.74	2304.18	6.74	-0.53	-0.02
116	343	227	111	5488	0.89527	851.05	0.58090	1455.41	877.51	0	2.57	2306.61	6.72	2305.92	6.72	-0.69	-0.03
116	344	228	112	5504	0.89400	851.48	0.58140	1455.28	890.8	0.54	2.55	2309.52	6.71	2309.13	6.71	-0.39	-0.02
116	345	229	113	5520	0.89272	851.92	0.58188	1455.17	904.16	0	2.53	2311.29	6.7	2310.74	6.7	-0.55	-0.02
116	346	230	114	5536	0.89144	852.34	0.58237	1455.06	917.58	0.54	2.51	2314.07	6.69	2313.82	6.69	-0.26	-0.01
116	347	231	115	5552	0.89017	852.76	0.58285	1454.95	931.06	0	2.49	2315.71	6.67	2315.29	6.67	-0.42	-0.02
116	348	232	116	5568	0.88889	853.17	0.58333	1454.86	944.61	0.54	2.47	2318.36	6.66	2318.24	6.66	-0.13	-0.01
116	349	233	117	5584	0.88761	853.58	0.58381	1454.77	958.22	0	2.45	2319.88	6.65	2319.59	6.65	-0.29	-0.01
116	350	234	118	5600	0.88634	853.97	0.58429	1454.69	971.9	0.53	2.43	2322.4	6.64	2322.4	6.64	-0.01	0
116	351	235	119	5616	0.88506	854.37	0.58476	1454.61	985.63	0	2.41	2323.8	6.62	2323.62	6.62	-0.17	-0.01
116	352	236	120	5632	0.88378	854.75	0.58523	1454.55	999.43	0.53	2.39	2326.2	6.61	2326.31	6.61	0.11	0
116	353	237	121	5648	0.88250	855.14	0.58569	1454.49	1013.28	0	2.37	2327.47	6.59	2327.41	6.59	-0.06	0
116	354	238	122	5664	0.88123	855.51	0.58616	1454.43	1027.2	0.53	2.35	2329.74	6.58	2329.96	6.58	0.22	0.01
116	355	239	123	5680	0.87995	855.88	0.58662	1454.39	1041.17	0	2.33	2330.89	6.57	2330.94	6.57	0.04	0
116	356	240	124	5696	0.87868	856.24	0.58708	1454.35	1055.21	0.53	2.32	2333.05	6.55	2333.37	6.55	0.32	0.01
116	357	241	125	5712	0.87740	856.6	0.58754	1454.31	1069.3	0	2.3	2334.08	6.54	2334.22	6.54	0.14	0.01
116	358	242	126	5728	0.87613	856.95	0.58799	1454.29	1083.45	0.53	2.28	2336.12	6.53	2336.53	6.53	0.41	0.02
116	359	243	127	5744	0.87485	857.3	0.58844	1454.27	1097.66	0	2.26	2337.04	6.51	2337.27	6.51	0.23	0.01
116	360	244	128	5760	0.87358	857.64	0.58889	1454.25	1111.92	0.53	2.25	2338.95	6.5	2339.45	6.5	0.49	0.02
116	361	245	129	5776	0.87231	857.98	0.58934	1454.24	1126.25	0	2.23	2339.76	6.48	2340.07	6.48	0.31	0.01
116	362	246	130	5792	0.87104	858.31	0.58978	1454.24	1140.62	0.53	2.21	2341.56	6.47	2342.13	6.47	0.57	0.02
116	363	247	131	5808	0.86977	858.63	0.59022	1454.25	1155.06	0	2.2	2342.26	6.45	2342.64	6.45	0.38	0.02
116	364	248	132	5824	0.86849	858.95	0.59066	1454.26	1169.55	0.52	2.18	2343.94	6.44	2344.58	6.44	0.64	0.03
116	365	249	133	5840	0.86723	859.27	0.59110	1454.28	1184.09	0	2.16	2344.53	6.42	2344.98	6.42	0.45	0.02
116	366	250	134	5856	0.86596	859.58	0.59153	1454.3	1198.69	0.52	2.15	2346.11	6.41	2346.8	6.41	0.7	0.03
116	367	251	135	5872	0.86469	859.88	0.59196	1454.33	1213.34	0	2.13	2346.58	6.39	2347.08	6.4	0.5	0.02
116	368	252	136	5888	0.86342	860.18	0.59239	1454.36	1228.05	0.52	2.12	2348.05	6.38	2348.8	6.38	0.75	0.03
116	369	253	137	5904	0.86216	860.48	0.59282	1454.4	1242.8	0	2.1	2348.42	6.36	2348.97	6.37	0.55	0.02
116	370	254	138	5920	0.86089	860.76	0.59324	1454.45	1257.61	0.52	2.09	2349.78	6.35	2350.57	6.35	0.79	0.03
116	371	255	139	5936	0.85963	861.05	0.59367	1454.5	1272.48	0	2.07	2350.05	6.33	2350.63	6.34	0.58	0.02
116	372	256	140	5952	0.85837	861.33	0.59409	1454.56	1287.39	0.52	2.06	2351.3	6.32	2352.12	6.32	0.82	0.03
116	373	257	141	5968	0.85710	861.6	0.59450	1454.62	1302.36	0	2.04	2351.46	6.3	2352.07	6.31	0.61	0.03
116	374	258	142	5984	0.85584	861.87	0.59492	1454.69	1317.37	0.52	2.03	2352.61	6.29	2353.45	6.29	0.84	0.04
116	375	259	143	6000	0.85459	862.14	0.59533	1454.76	1332.44	0	2.02	2352.67	6.27	2353.3	6.28	0.62	0.03
116	376	260	144	6016	0.85333	862.4	0.59575	1454.84	1347.56	0.52	2	2353.72	6.26	2354.57	6.26	0.85	0.04
116	377	261	145	6032	0.85207	862.66	0.59615	1454.93	1362.72	0	1.99	2353.68	6.24	2354.31	6.24	0.63	0.03
116	378	262	146	6048	0.85082	862.91	0.59656	1455.02	1377.94	0.51	1.97	2354.63	6.23	2355.47	6.23	0.85	0.04
116	379	263	147	6064	0.84956	863.16	0.59697	1455.11	1393.2	0	1.96	2354.49	6.21	2355.12	6.21	0.62	0.03
116	380	264	148	6080	0.84831	863.4	0.59737	1455.21	1408.52	0.51	1.95	2355.34	6.2	2356.17	6.2	0.84	0.04
116	381	265	149	6096	0.84706	863.64	0.59777	1455.31	1423.88	0	1.93	2355.11	6.18	2355.71	6.18	0.61	0.03
116	382	266	150	6112	0.84581	863.87	0.59817	1455.42	1439.29	0.51	1.92	2355.85	6.17	2356.67	6.17	0.82	0.03
116	383	267	151	6128	0.84456	864.1	0.59856	1455.54	1454.74	0	1.91	2355.53	6.15	2356.11	6.15	0.58	0.02

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
116	384	268	152	6144	0.84332	864.33	0.59896	1455.66	1470.24	0.51	1.9	2356.17	6.14	2356.96	6.14	0.78	0.03
116	385	269	153	6160	0.84207	864.55	0.59935	1455.78	1485.79	0	1.88	2355.76	6.12	2356.3	6.12	0.55	0.02
116	386	270	154	6176	0.84083	864.77	0.59974	1455.91	1501.39	0.51	1.87	2356.31	6.1	2357.05	6.11	0.74	0.03
116	387	271	155	6192	0.83959	864.98	0.60013	1456.04	1517.03	0	1.86	2355.8	6.09	2356.3	6.09	0.5	0.02
116	388	272	156	6208	0.83835	865.19	0.60052	1456.18	1532.72	0.51	1.85	2356.26	6.07	2356.94	6.07	0.68	0.03
116	389	273	157	6224	0.83711	865.4	0.60090	1456.33	1548.45	0	1.84	2355.66	6.06	2356.1	6.06	0.44	0.02
116	390	274	158	6240	0.83587	865.6	0.60128	1456.47	1564.23	0.51	1.82	2356.03	6.04	2356.65	6.04	0.62	0.03
116	391	275	159	6256	0.83464	865.8	0.60166	1456.62	1580.05	0	1.81	2355.34	6.02	2355.7	6.02	0.37	0.02
116	392	276	160	6272	0.83340	865.99	0.60204	1456.78	1595.92	0.51	1.8	2355.61	6.01	2356.16	6.01	0.54	0.02
116	393	277	161	6288	0.83217	866.18	0.60242	1456.94	1611.83	0	1.79	2354.84	5.99	2355.12	5.99	0.28	0.01
116	394	278	162	6304	0.83094	866.37	0.60279	1457.11	1627.78	0.5	1.78	2355.02	5.98	2355.48	5.98	0.45	0.02
116	395	279	163	6320	0.82971	866.55	0.60317	1457.28	1643.78	0	1.77	2354.16	5.96	2354.35	5.96	0.19	0.01
116	396	280	164	6336	0.82849	866.73	0.60354	1457.45	1659.82	0.5	1.76	2354.26	5.95	2354.61	5.95	0.35	0.01
116	397	281	165	6352	0.82726	866.91	0.60390	1457.63	1675.9	0	1.75	2353.31	5.93	2353.39	5.93	0.08	0
116	398	282	166	6368	0.82604	867.08	0.60427	1457.81	1692.02	0.5	1.73	2353.32	5.91	2353.56	5.91	0.24	0.01
116	399	283	167	6384	0.82482	867.25	0.60464	1457.99	1708.19	0	1.72	2352.29	5.9	2352.26	5.9	-0.04	0
116	400	284	168	6400	0.82360	867.41	0.60500	1458.18	1724.4	0.5	1.71	2352.22	5.88	2352.33	5.88	0.11	0
116	401	285	169	6416	0.82238	867.57	0.60536	1458.38	1740.65	0	1.7	2351.11	5.86	2350.94	5.86	-0.17	-0.01
116	402	286	170	6432	0.82117	867.73	0.60572	1458.58	1756.94	0.5	1.69	2350.95	5.85	2350.92	5.85	-0.02	0
116	403	287	171	6448	0.81996	867.88	0.60608	1458.78	1773.27	0	1.68	2349.75	5.83	2349.44	5.83	-0.31	-0.01
116	404	288	172	6464	0.81874	868.03	0.60644	1458.99	1789.64	0.5	1.67	2349.51	5.82	2349.34	5.82	-0.17	-0.01
116	405	289	173	6480	0.81753	868.18	0.60679	1459.19	1806.05	0	1.66	2348.24	5.8	2347.77	5.8	-0.47	-0.02
116	406	290	174	6496	0.81633	868.33	0.60714	1459.41	1822.5	0.5	1.65	2347.91	5.78	2347.58	5.78	-0.34	-0.01
Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
117	233	116	-1	3728	0.99998	734.57	0.49893	1579.48	0.1	0	9.82	1423.67	6.11	1432.94	6.15	9.27	0.65
117	234	117	0	3744	1.00000	736.68	0.50000	1577.22	0	-0.65	10	1439.45	6.15	1448.44	6.19	8.99	0.62
117	235	118	1	3760	0.99998	738.76	0.50106	1574.99	0.1	0	9.82	1455.96	6.2	1463.56	6.23	7.6	0.52
117	236	119	2	3776	0.99993	740.82	0.50212	1572.81	0.41	-0.65	9.65	1470.96	6.23	1478.69	6.27	7.72	0.52
117	237	120	3	3792	0.99984	742.84	0.50317	1570.66	0.93	0	9.48	1487.05	6.27	1493.43	6.3	6.38	0.43
117	238	121	4	3808	0.99972	744.84	0.50420	1568.55	1.64	-0.65	9.32	1501.63	6.31	1508.18	6.34	6.55	0.43
117	239	122	5	3824	0.99956	746.81	0.50523	1566.49	2.55	0	9.16	1517.31	6.35	1522.55	6.37	5.24	0.34
117	240	123	6	3840	0.99938	748.75	0.50625	1564.46	3.66	-0.65	9	1531.49	6.38	1536.95	6.4	5.46	0.36
117	241	124	7	3856	0.99916	750.67	0.50726	1562.47	4.96	0	8.85	1546.76	6.42	1550.96	6.44	4.2	0.27
117	242	125	8	3872	0.99891	752.55	0.50826	1560.51	6.45	-0.64	8.7	1560.55	6.45	1564.99	6.47	4.45	0.28
117	243	126	9	3888	0.99863	754.41	0.50926	1558.59	8.13	0	8.56	1575.42	6.48	1578.65	6.5	3.23	0.2
117	244	127	10	3904	0.99832	756.25	0.51025	1556.7	10	-0.64	8.42	1588.83	6.51	1592.34	6.53	3.51	0.22
117	245	128	11	3920	0.99798	758.06	0.51122	1554.85	12.05	0	8.28	1603.32	6.54	1605.65	6.55	2.33	0.15
117	246	129	12	3936	0.99762	759.84	0.51220	1553.04	14.28	-0.64	8.15	1616.35	6.57	1619	6.58	2.65	0.16
117	247	130	13	3952	0.99723	761.6	0.51316	1551.25	16.7	0	8.02	1630.47	6.6	1631.97	6.61	1.51	0.09
117	248	131	14	3968	0.99681	763.34	0.51411	1549.5	19.28	-0.64	7.89	1643.13	6.63	1644.99	6.63	1.86	0.11
117	249	132	15	3984	0.99637	765.05	0.51506	1547.78	22.05	0	7.76	1656.88	6.65	1657.63	6.66	0.75	0.05
117	250	133	16	4000	0.99590	766.74	0.51600	1546.1	24.99	-0.63	7.64	1669.19	6.68	1670.33	6.68	1.14	0.07
117	251	134	17	4016	0.99541	768.4	0.51693	1544.44	28.1	0	7.52	1682.59	6.7	1682.65	6.7	0.06	0
117	252	135	18	4032	0.99490	770.04	0.51786	1542.81	31.38	-0.63	7.41	1694.55	6.72	1695.03	6.73	0.48	0.03
117	253	136	19	4048	0.99436	771.66	0.51878	1541.22	34.82	0	7.29	1707.6	6.75	1707.02	6.75	-0.57	-0.03
117	254	137	20	4064	0.99380	773.26	0.51969	1539.65	38.43	-0.63	7.18	1719.22	6.77	1719.09	6.77	-0.13	-0.01

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
117	255	138	21	4080	0.99322	774.83	0.52059	1538.11	42.2	0	7.08	1731.93	6.79	1730.78	6.79	-1.15	-0.07
117	256	139	22	4096	0.99262	776.38	0.52148	1536.6	46.14	-0.62	6.97	1743.22	6.81	1742.55	6.81	-0.67	-0.04
117	257	140	23	4112	0.99199	777.91	0.52237	1535.12	50.23	0	6.87	1755.6	6.83	1753.93	6.82	-1.67	-0.1
117	258	141	24	4128	0.99135	779.42	0.52326	1533.67	54.49	-0.62	6.77	1766.56	6.85	1765.4	6.84	-1.17	-0.07
117	259	142	25	4144	0.99068	780.91	0.52413	1532.24	58.89	0	6.67	1778.62	6.87	1776.48	6.86	-2.14	-0.12
117	260	143	26	4160	0.99000	782.38	0.52500	1530.84	63.45	-0.62	6.57	1789.27	6.88	1787.66	6.88	-1.61	-0.09
117	261	144	27	4176	0.98930	783.83	0.52586	1529.47	68.17	0	6.48	1801.01	6.9	1798.45	6.89	-2.56	-0.14
117	262	145	28	4192	0.98858	785.26	0.52672	1528.12	73.03	-0.62	6.38	1811.35	6.91	1809.34	6.91	-2.01	-0.11
117	263	146	29	4208	0.98784	786.67	0.52757	1526.8	78.05	0	6.29	1822.78	6.93	1819.85	6.92	-2.93	-0.16
117	264	147	30	4224	0.98709	788.06	0.52841	1525.5	83.21	-0.62	6.2	1832.82	6.94	1830.46	6.93	-2.37	-0.13
117	265	148	31	4240	0.98632	789.43	0.52925	1524.22	88.51	0	6.12	1843.95	6.96	1840.68	6.95	-3.27	-0.18
117	266	149	32	4256	0.98553	790.78	0.53008	1522.97	93.96	-0.61	6.03	1853.7	6.97	1851.02	6.96	-2.68	-0.14
117	267	150	33	4272	0.98472	792.12	0.53090	1521.75	99.55	0	5.95	1864.53	6.98	1860.97	6.97	-3.56	-0.19
117	268	151	34	4288	0.98391	793.44	0.53172	1520.54	105.28	-0.61	5.87	1874	6.99	1871.04	6.98	-2.95	-0.16
117	269	152	35	4304	0.98307	794.73	0.53253	1519.36	111.16	0	5.79	1884.54	7.01	1880.72	6.99	-3.81	-0.2
117	270	153	36	4320	0.98222	796.01	0.53333	1518.2	117.16	-0.61	5.71	1893.72	7.01	1890.53	7	-3.19	-0.17
117	271	154	37	4336	0.98136	797.28	0.53413	1517.07	123.31	0	5.64	1903.98	7.03	1899.95	7.01	-4.03	-0.21
117	272	155	38	4352	0.98048	798.52	0.53493	1515.95	129.59	-0.61	5.56	1912.89	7.03	1909.5	7.02	-3.39	-0.18
117	273	156	39	4368	0.97959	799.75	0.53571	1514.86	136	0	5.49	1922.87	7.04	1918.66	7.03	-4.22	-0.22
117	274	157	40	4384	0.97869	800.96	0.53650	1513.79	142.54	-0.6	5.42	1931.51	7.05	1927.95	7.04	-3.56	-0.18
117	275	158	41	4400	0.97777	802.16	0.53727	1512.74	149.22	0	5.35	1941.23	7.06	1936.86	7.04	-4.37	-0.23
117	276	159	42	4416	0.97684	803.34	0.53804	1511.71	156.02	-0.6	5.28	1949.61	7.06	1945.91	7.05	-3.7	-0.19
117	277	160	43	4432	0.97590	804.5	0.53881	1510.7	162.95	0	5.21	1959.06	7.07	1954.57	7.06	-4.49	-0.23
117	278	161	44	4448	0.97495	805.65	0.53957	1509.71	170	-0.6	5.14	1967.18	7.08	1963.37	7.06	-3.81	-0.19
117	279	162	45	4464	0.97399	806.78	0.54032	1508.74	177.19	0	5.08	1976.37	7.08	1971.79	7.07	-4.59	-0.23
117	280	163	46	4480	0.97301	807.9	0.54107	1507.79	184.49	-0.6	5.02	1984.24	7.09	1980.35	7.07	-3.89	-0.2
117	281	164	47	4496	0.97202	809	0.54182	1506.85	191.91	0	4.95	1993.18	7.09	1988.53	7.08	-4.66	-0.23
117	282	165	48	4512	0.97103	810.09	0.54255	1505.94	199.46	-0.6	4.89	2000.81	7.1	1996.86	7.08	-3.95	-0.2
117	283	166	49	4528	0.97002	811.16	0.54329	1505.05	207.13	0	4.83	2009.5	7.1	2004.8	7.08	-4.7	-0.23
117	284	167	50	4544	0.96900	812.22	0.54401	1504.17	214.91	-0.59	4.77	2016.88	7.1	2012.9	7.09	-3.99	-0.2
117	285	168	51	4560	0.96798	813.26	0.54474	1503.31	222.81	0	4.72	2025.34	7.11	2020.61	7.09	-4.72	-0.23
117	286	169	52	4576	0.96694	814.29	0.54546	1502.47	230.83	-0.59	4.66	2032.48	7.11	2028.49	7.09	-4	-0.2
117	287	170	53	4592	0.96590	815.31	0.54617	1501.64	238.96	0	4.6	2040.7	7.11	2035.98	7.09	-4.72	-0.23
117	288	171	54	4608	0.96484	816.31	0.54688	1500.83	247.2	-0.59	4.55	2047.62	7.11	2043.63	7.1	-3.99	-0.2
117	289	172	55	4624	0.96378	817.3	0.54758	1500.04	255.56	0	4.5	2055.6	7.11	2050.9	7.1	-4.71	-0.23
117	290	173	56	4640	0.96271	818.27	0.54828	1499.27	264.02	-0.59	4.44	2062.29	7.11	2058.33	7.1	-3.96	-0.19
117	291	174	57	4656	0.96163	819.23	0.54897	1498.51	272.6	0	4.39	2070.05	7.11	2065.38	7.1	-4.67	-0.23
117	292	175	58	4672	0.96055	820.18	0.54966	1497.77	281.29	-0.59	4.34	2076.52	7.11	2072.6	7.1	-3.92	-0.19
117	293	176	59	4688	0.95945	821.11	0.55034	1497.04	290.08	0	4.29	2084.06	7.11	2079.44	7.1	-4.62	-0.22
117	294	177	60	4704	0.95835	822.04	0.55102	1496.33	298.98	-0.58	4.24	2090.31	7.11	2086.45	7.1	-3.86	-0.19
117	295	178	61	4720	0.95724	822.95	0.55170	1495.64	307.98	0	4.2	2097.63	7.11	2093.08	7.1	-4.55	-0.22
117	296	179	62	4736	0.95613	823.84	0.55237	1494.96	317.09	-0.58	4.15	2103.67	7.11	2099.89	7.09	-3.79	-0.18
117	297	180	63	4752	0.95501	824.73	0.55303	1494.29	326.31	0	4.1	2110.77	7.11	2106.31	7.09	-4.47	-0.21
117	298	181	64	4768	0.95388	825.6	0.55369	1493.64	335.62	-0.58	4.06	2116.61	7.1	2112.91	7.09	-3.7	-0.18
117	299	182	65	4784	0.95274	826.46	0.55435	1493.01	345.04	0	4.01	2123.5	7.1	2119.13	7.09	-4.37	-0.21
117	300	183	66	4800	0.95160	827.31	0.55500	1492.38	354.55	-0.58	3.97	2129.14	7.1	2125.54	7.09	-3.6	-0.17
117	301	184	67	4816	0.95045	828.15	0.55565	1491.78	364.17	0	3.93	2135.83	7.1	2131.56	7.08	-4.26	-0.2

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
117	302	185	68	4832	0.94930	828.98	0.55629	1491.18	373.88	-0.58	3.88	2141.26	7.09	2137.78	7.08	-3.49	-0.16
117	303	186	69	4848	0.94814	829.79	0.55693	1490.6	383.69	0	3.84	2147.75	7.09	2143.6	7.07	-4.15	-0.19
117	304	187	70	4864	0.94698	830.6	0.55757	1490.04	393.6	-0.57	3.8	2152.99	7.08	2149.62	7.07	-3.36	-0.16
117	305	188	71	4880	0.94581	831.39	0.55820	1489.49	403.61	0	3.76	2159.28	7.08	2155.26	7.07	-4.02	-0.19
117	306	189	72	4896	0.94464	832.17	0.55882	1488.95	413.7	-0.57	3.72	2164.33	7.07	2161.09	7.06	-3.23	-0.15
117	307	190	73	4912	0.94346	832.95	0.55945	1488.42	423.89	0	3.68	2170.43	7.07	2166.54	7.06	-3.88	-0.18
117	308	191	74	4928	0.94228	833.71	0.56007	1487.91	434.18	-0.57	3.65	2175.29	7.06	2172.19	7.05	-3.1	-0.14
117	309	192	75	4944	0.94109	834.46	0.56068	1487.4	444.55	0	3.61	2181.19	7.06	2177.45	7.05	-3.74	-0.17
117	310	193	76	4960	0.93990	835.2	0.56129	1486.92	455.02	-0.57	3.57	2185.87	7.05	2182.92	7.04	-2.95	-0.14
117	311	194	77	4976	0.93870	835.93	0.56190	1486.44	465.57	0	3.54	2191.59	7.05	2188	7.04	-3.59	-0.16
117	312	195	78	4992	0.93750	836.65	0.56250	1485.97	476.22	-0.57	3.5	2196.09	7.04	2193.29	7.03	-2.8	-0.13
117	313	196	79	5008	0.93630	837.36	0.56310	1485.52	486.95	0	3.46	2201.63	7.03	2198.2	7.02	-3.44	-0.16
117	314	197	80	5024	0.93509	838.06	0.56369	1485.08	497.77	-0.56	3.43	2205.95	7.03	2203.31	7.02	-2.64	-0.12
117	315	198	81	5040	0.93388	838.75	0.56429	1484.65	508.68	0	3.4	2211.31	7.02	2208.04	7.01	-3.28	-0.15
117	316	199	82	5056	0.93266	839.43	0.56487	1484.24	519.67	-0.56	3.36	2215.46	7.01	2212.98	7	-2.48	-0.11
117	317	200	83	5072	0.93145	840.1	0.56546	1483.83	530.75	0	3.33	2220.65	7.01	2217.54	7	-3.11	-0.14
117	318	201	84	5088	0.93022	840.76	0.56604	1483.43	541.91	-0.56	3.3	2224.63	7	2222.31	6.99	-2.32	-0.1
117	319	202	85	5104	0.92900	841.42	0.56661	1483.05	553.16	0	3.27	2229.64	6.99	2226.69	6.98	-2.95	-0.13
117	320	203	86	5120	0.92777	842.06	0.56719	1482.68	564.49	-0.56	3.23	2233.45	6.98	2231.3	6.97	-2.15	-0.1
117	321	204	87	5136	0.92654	842.7	0.56776	1482.31	575.9	0	3.2	2238.3	6.97	2235.52	6.96	-2.78	-0.12
117	322	205	88	5152	0.92531	843.32	0.56832	1481.96	587.39	-0.56	3.17	2241.94	6.96	2239.96	6.96	-1.98	-0.09
117	323	206	89	5168	0.92408	843.94	0.56889	1481.62	598.96	0	3.14	2246.62	6.96	2244.02	6.95	-2.6	-0.12
117	324	207	90	5184	0.92284	844.55	0.56944	1481.29	610.61	-0.56	3.11	2250.11	6.94	2248.3	6.94	-1.81	-0.08
117	325	208	91	5200	0.92160	845.15	0.57000	1480.97	622.34	0	3.09	2254.63	6.94	2252.19	6.93	-2.43	-0.11
117	326	209	92	5216	0.92036	845.74	0.57055	1480.66	634.15	-0.55	3.06	2257.96	6.93	2256.32	6.92	-1.64	-0.07
117	327	210	93	5232	0.91912	846.32	0.57110	1480.36	646.03	0	3.03	2262.31	6.92	2260.05	6.91	-2.26	-0.1
117	328	211	94	5248	0.91787	846.9	0.57165	1480.07	657.99	-0.55	3	2265.49	6.91	2264.02	6.9	-1.47	-0.06
117	329	212	95	5264	0.91662	847.47	0.57219	1479.79	670.03	0	2.97	2269.69	6.9	2267.6	6.89	-2.09	-0.09
117	330	213	96	5280	0.91537	848.02	0.57273	1479.52	682.14	-0.55	2.95	2272.71	6.89	2271.41	6.88	-1.3	-0.06
117	331	214	97	5296	0.91412	848.58	0.57326	1479.25	694.33	0	2.92	2276.76	6.88	2274.84	6.87	-1.92	-0.08
117	332	215	98	5312	0.91287	849.12	0.57380	1479	706.59	-0.55	2.89	2279.63	6.87	2278.5	6.86	-1.13	-0.05
117	333	216	99	5328	0.91161	849.65	0.57432	1478.76	718.93	0	2.87	2283.53	6.86	2281.78	6.85	-1.75	-0.08
117	334	217	100	5344	0.91036	850.18	0.57485	1478.52	731.34	-0.55	2.84	2286.26	6.85	2285.29	6.84	-0.96	-0.04
117	335	218	101	5360	0.90910	850.7	0.57537	1478.3	743.82	0	2.82	2290	6.84	2288.42	6.83	-1.58	-0.07
117	336	219	102	5376	0.90784	851.22	0.57589	1478.08	756.37	-0.55	2.79	2292.59	6.82	2291.79	6.82	-0.8	-0.03
117	337	220	103	5392	0.90659	851.72	0.57641	1477.87	768.99	0	2.77	2296.19	6.81	2294.77	6.81	-1.42	-0.06
117	338	221	104	5408	0.90533	852.22	0.57692	1477.67	781.68	-0.54	2.75	2298.63	6.8	2298	6.8	-0.64	-0.03
117	339	222	105	5424	0.90407	852.71	0.57743	1477.48	794.44	0	2.72	2302.09	6.79	2300.83	6.79	-1.26	-0.05
117	340	223	106	5440	0.90280	853.19	0.57794	1477.3	807.27	-0.54	2.7	2304.39	6.78	2303.92	6.78	-0.48	-0.02
117	341	224	107	5456	0.90154	853.67	0.57845	1477.13	820.17	0	2.68	2307.71	6.77	2306.61	6.76	-1.1	-0.05
117	342	225	108	5472	0.90028	854.14	0.57895	1476.96	833.14	-0.54	2.65	2309.88	6.75	2309.56	6.75	-0.32	-0.01
117	343	226	109	5488	0.89901	854.6	0.57945	1476.8	846.17	0	2.63	2313.06	6.74	2312.12	6.74	-0.94	-0.04
117	344	227	110	5504	0.89775	855.06	0.57994	1476.65	859.27	-0.54	2.61	2315.09	6.73	2314.92	6.73	-0.17	-0.01
117	345	228	111	5520	0.89648	855.51	0.58044	1476.51	872.43	0	2.59	2318.14	6.72	2317.34	6.72	-0.8	-0.03
117	346	229	112	5536	0.89522	855.95	0.58093	1476.38	885.66	-0.54	2.57	2320.04	6.71	2320.01	6.71	-0.03	0
117	347	230	113	5552	0.89395	856.39	0.58141	1476.25	898.96	0	2.55	2322.95	6.69	2322.3	6.69	-0.65	-0.03
117	348	231	114	5568	0.89269	856.82	0.58190	1476.13	912.32	-0.54	2.53	2324.72	6.68	2324.84	6.68	0.11	0

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
117	349	232	115	5584	0.89142	857.24	0.58238	1476.02	925.74	0	2.51	2327.51	6.67	2326.99	6.67	-0.51	-0.02
117	350	233	116	5600	0.89016	857.66	0.58286	1475.92	939.23	-0.53	2.49	2329.15	6.65	2329.4	6.66	0.25	0.01
117	351	234	117	5616	0.88889	858.07	0.58333	1475.82	952.78	0	2.47	2331.8	6.64	2331.42	6.64	-0.38	-0.02
117	352	235	118	5632	0.88762	858.47	0.58381	1475.73	966.39	-0.53	2.45	2333.32	6.63	2333.7	6.63	0.37	0.02
117	353	236	119	5648	0.88636	858.87	0.58428	1475.65	980.06	0	2.43	2335.85	6.62	2335.59	6.62	-0.26	-0.01
117	354	237	120	5664	0.88509	859.26	0.58475	1475.57	993.79	-0.53	2.41	2337.25	6.6	2337.74	6.6	0.5	0.02
117	355	238	121	5680	0.88383	859.65	0.58521	1475.51	1007.59	0	2.39	2339.65	6.59	2339.51	6.59	-0.14	-0.01
117	356	239	122	5696	0.88256	860.03	0.58567	1475.45	1021.44	-0.53	2.37	2340.93	6.58	2341.54	6.58	0.61	0.03
117	357	240	123	5712	0.88129	860.4	0.58613	1475.39	1035.36	0	2.35	2343.2	6.56	2343.18	6.56	-0.02	0
117	358	241	124	5728	0.88003	860.77	0.58659	1475.34	1049.33	-0.53	2.33	2344.36	6.55	2345.08	6.55	0.72	0.03
117	359	242	125	5744	0.87876	861.13	0.58705	1475.3	1063.36	0	2.32	2346.52	6.54	2346.6	6.54	0.08	0
117	360	243	126	5760	0.87750	861.49	0.58750	1475.27	1077.45	-0.53	2.3	2347.56	6.52	2348.38	6.52	0.82	0.03
117	361	244	127	5776	0.87624	861.84	0.58795	1475.24	1091.6	0	2.28	2349.6	6.51	2349.78	6.51	0.18	0.01
117	362	245	128	5792	0.87497	862.19	0.58840	1475.22	1105.8	-0.53	2.26	2350.53	6.49	2351.44	6.5	0.91	0.04
117	363	246	129	5808	0.87371	862.53	0.58884	1475.21	1120.06	0	2.25	2352.45	6.48	2352.72	6.48	0.27	0.01
117	364	247	130	5824	0.87245	862.86	0.58929	1475.2	1134.38	-0.52	2.23	2353.27	6.47	2354.26	6.47	0.99	0.04
117	365	248	131	5840	0.87119	863.19	0.58973	1475.2	1148.75	0	2.21	2355.08	6.45	2355.42	6.45	0.35	0.01
117	366	249	132	5856	0.86993	863.52	0.59016	1475.2	1163.17	-0.52	2.2	2355.78	6.44	2356.85	6.44	1.07	0.05
117	367	250	133	5872	0.86867	863.84	0.59060	1475.21	1177.66	0	2.18	2357.48	6.42	2357.9	6.42	0.42	0.02
117	368	251	134	5888	0.86741	864.15	0.59103	1475.23	1192.19	-0.52	2.17	2358.07	6.41	2359.21	6.41	1.14	0.05
117	369	252	135	5904	0.86615	864.46	0.59146	1475.25	1206.78	0	2.15	2359.66	6.39	2360.14	6.4	0.48	0.02
117	370	253	136	5920	0.86489	864.77	0.59189	1475.28	1221.43	-0.52	2.14	2360.15	6.38	2361.34	6.38	1.2	0.05
117	371	254	137	5936	0.86364	865.07	0.59232	1475.31	1236.12	0	2.12	2361.62	6.37	2362.16	6.37	0.54	0.02
117	372	255	138	5952	0.86238	865.36	0.59274	1475.35	1250.87	-0.52	2.11	2362	6.35	2363.25	6.35	1.24	0.05
117	373	256	139	5968	0.86113	865.65	0.59316	1475.4	1265.67	0	2.09	2363.37	6.34	2363.96	6.34	0.58	0.02
117	374	257	140	5984	0.85988	865.93	0.59358	1475.45	1280.52	-0.52	2.08	2363.65	6.32	2364.93	6.32	1.28	0.05
117	375	258	141	6000	0.85862	866.21	0.59400	1475.5	1295.43	0	2.06	2364.91	6.31	2365.53	6.31	0.62	0.03
117	376	259	142	6016	0.85737	866.49	0.59442	1475.57	1310.38	-0.52	2.05	2365.09	6.29	2366.4	6.29	1.31	0.06
117	377	260	143	6032	0.85612	866.76	0.59483	1475.63	1325.39	0	2.03	2366.25	6.28	2366.89	6.28	0.65	0.03
117	378	261	144	6048	0.85488	867.03	0.59524	1475.71	1340.44	-0.51	2.02	2366.33	6.26	2367.66	6.26	1.33	0.06
117	379	262	145	6064	0.85363	867.29	0.59565	1475.79	1355.55	0	2.01	2367.38	6.25	2368.04	6.25	0.66	0.03
117	380	263	146	6080	0.85238	867.54	0.59605	1475.87	1370.7	-0.51	1.99	2367.36	6.23	2368.7	6.23	1.34	0.06
117	381	264	147	6096	0.85114	867.8	0.59646	1475.96	1385.91	0	1.98	2368.32	6.22	2368.98	6.22	0.67	0.03
117	382	265	148	6112	0.84989	868.05	0.59686	1476.05	1401.16	-0.51	1.96	2368.2	6.2	2369.54	6.2	1.34	0.06
117	383	266	149	6128	0.84865	868.29	0.59726	1476.15	1416.46	0	1.95	2369.05	6.19	2369.71	6.19	0.66	0.03
117	384	267	150	6144	0.84741	868.53	0.59766	1476.25	1431.81	-0.51	1.94	2368.84	6.17	2370.17	6.17	1.33	0.06
117	385	268	151	6160	0.84617	868.76	0.59805	1476.36	1447.2	0	1.93	2369.6	6.15	2370.24	6.16	0.65	0.03
117	386	269	152	6176	0.84494	868.99	0.59845	1476.48	1462.65	-0.51	1.91	2369.29	6.14	2370.6	6.14	1.31	0.06
117	387	270	153	6192	0.84370	869.22	0.59884	1476.59	1478.14	0	1.9	2369.95	6.12	2370.57	6.13	0.62	0.03
117	388	271	154	6208	0.84247	869.44	0.59923	1476.72	1493.67	-0.51	1.89	2369.55	6.11	2370.82	6.11	1.28	0.05
117	389	272	155	6224	0.84123	869.66	0.59961	1476.85	1509.25	0	1.88	2370.12	6.09	2370.7	6.09	0.58	0.02
117	390	273	156	6240	0.84000	869.88	0.60000	1476.98	1524.88	-0.51	1.86	2369.62	6.08	2370.85	6.08	1.23	0.05
117	391	274	157	6256	0.83877	870.09	0.60038	1477.12	1540.55	0	1.85	2370.1	6.06	2370.63	6.06	0.53	0.02
117	392	275	158	6272	0.83754	870.29	0.60077	1477.26	1556.27	-0.51	1.84	2369.51	6.04	2370.69	6.05	1.18	0.05
117	393	276	159	6288	0.83632	870.5	0.60115	1477.4	1572.03	0	1.83	2369.9	6.03	2370.37	6.03	0.47	0.02
117	394	277	160	6304	0.83509	870.69	0.60152	1477.56	1587.84	-0.5	1.82	2369.22	6.01	2370.33	6.02	1.11	0.05
117	395	278	161	6320	0.83387	870.89	0.60190	1477.71	1603.69	0	1.81	2369.52	6	2369.92	6	0.4	0.02

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
117	396	279	162	6336	0.83265	871.08	0.60227	1477.87	1619.58	-0.5	1.79	2368.76	5.98	2369.79	5.98	1.03	0.04
117	397	280	163	6352	0.83143	871.27	0.60265	1478.04	1635.52	0	1.78	2368.96	5.97	2369.28	5.97	0.32	0.01
117	398	281	164	6368	0.83021	871.45	0.60302	1478.2	1651.5	-0.5	1.77	2368.12	5.95	2369.06	5.95	0.94	0.04
117	399	282	165	6384	0.82899	871.63	0.60338	1478.38	1667.52	0	1.76	2368.23	5.94	2368.46	5.94	0.23	0.01
117	400	283	166	6400	0.82778	871.81	0.60375	1478.55	1683.59	-0.5	1.75	2367.3	5.92	2368.14	5.92	0.84	0.04
117	401	284	167	6416	0.82656	871.98	0.60412	1478.74	1699.69	0	1.74	2367.33	5.9	2367.45	5.9	0.12	0.01
117	402	285	168	6432	0.82535	872.15	0.60448	1478.92	1715.84	-0.5	1.73	2366.32	5.89	2367.05	5.89	0.73	0.03
117	403	286	169	6448	0.82414	872.32	0.60484	1479.11	1732.03	0	1.72	2366.26	5.87	2366.26	5.87	0	0
117	404	287	170	6464	0.82293	872.48	0.60520	1479.3	1748.26	-0.5	1.71	2365.17	5.85	2365.77	5.86	0.6	0.03
117	405	288	171	6480	0.82173	872.64	0.60556	1479.5	1764.53	0	1.7	2365.03	5.84	2364.9	5.84	-0.13	-0.01
117	406	289	172	6496	0.82053	872.79	0.60591	1479.7	1780.84	-0.5	1.69	2363.85	5.82	2364.32	5.82	0.47	0.02
117	407	290	173	6512	0.81932	872.94	0.60627	1479.91	1797.2	0	1.68	2363.63	5.81	2363.36	5.81	-0.27	-0.01
117	408	291	174	6528	0.81812	873.09	0.60662	1480.12	1813.59	-0.5	1.67	2362.38	5.79	2362.69	5.79	0.32	0.01
117	409	292	175	6544	0.81693	873.24	0.60697	1480.33	1830.02	0	1.66	2362.07	5.78	2361.65	5.77	-0.43	-0.02
117	410	293	176	6560	0.81573	873.38	0.60732	1480.55	1846.49	-0.49	1.65	2360.74	5.76	2360.89	5.76	0.15	0.01
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
118	235	117	-1	3760	0.99998	738.76	0.49894	1602.03	0.1	0	9.82	1428.93	6.08	1438.2	6.12	9.28	0.64
118	236	118	0	3776	1.00000	740.87	0.50000	1599.75	0	0.65	10	1446.03	6.13	1454.59	6.16	8.56	0.59
118	237	119	1	3792	0.99998	742.95	0.50106	1597.51	0.1	0	9.82	1461.26	6.17	1468.87	6.2	7.61	0.52
118	238	120	2	3808	0.99993	745	0.50210	1595.31	0.41	0.65	9.65	1477.58	6.21	1484.87	6.24	7.29	0.49
118	239	121	3	3824	0.99984	747.02	0.50314	1593.15	0.92	0	9.49	1492.4	6.24	1498.79	6.27	6.39	0.43
118	240	122	4	3840	0.99972	749.01	0.50417	1591.03	1.63	0.65	9.32	1508.3	6.28	1514.41	6.31	6.12	0.4
118	241	123	5	3856	0.99957	750.98	0.50519	1588.95	2.53	0	9.17	1522.71	6.32	1527.97	6.34	5.26	0.34
118	242	124	6	3872	0.99939	752.91	0.50620	1586.91	3.63	0.64	9.01	1538.2	6.36	1543.23	6.38	5.03	0.33
118	243	125	7	3888	0.99917	754.82	0.50720	1584.9	4.92	0	8.86	1552.21	6.39	1556.43	6.41	4.22	0.27
118	244	126	8	3904	0.99893	756.71	0.50820	1582.94	6.4	0.64	8.71	1567.31	6.42	1571.33	6.44	4.02	0.26
118	245	127	9	3920	0.99865	758.56	0.50918	1581	8.07	0	8.57	1580.94	6.45	1584.19	6.47	3.25	0.21
118	246	128	10	3936	0.99835	760.4	0.51016	1579.1	9.92	0.64	8.43	1595.65	6.49	1598.74	6.5	3.09	0.19
118	247	129	11	3952	0.99802	762.2	0.51113	1577.24	11.95	0	8.29	1608.9	6.51	1611.25	6.52	2.36	0.15
118	248	130	12	3968	0.99766	763.99	0.51210	1575.41	14.17	0.64	8.16	1623.23	6.55	1625.46	6.55	2.23	0.14
118	249	131	13	3984	0.99727	765.74	0.51305	1573.61	16.56	0	8.03	1636.12	6.57	1637.65	6.58	1.53	0.09
118	250	132	14	4000	0.99686	767.48	0.51400	1571.85	19.13	0.63	7.9	1650.08	6.6	1651.52	6.61	1.44	0.09
118	251	133	15	4016	0.99643	769.18	0.51494	1570.11	21.87	0	7.78	1662.61	6.62	1663.39	6.63	0.78	0.05
118	252	134	16	4032	0.99597	770.87	0.51587	1568.41	24.79	0.63	7.66	1676.22	6.65	1676.93	6.65	0.71	0.04
118	253	135	17	4048	0.99549	772.53	0.51680	1566.74	27.88	0	7.54	1688.39	6.67	1688.48	6.67	0.09	0.01
118	254	136	18	4064	0.99498	774.17	0.51772	1565.1	31.13	0.63	7.43	1701.65	6.7	1701.7	6.7	0.05	0
118	255	137	19	4080	0.99445	775.79	0.51863	1563.49	34.55	0	7.31	1713.48	6.72	1712.94	6.72	-0.54	-0.03
118	256	138	20	4096	0.99390	777.39	0.51953	1561.91	38.13	0.62	7.2	1726.4	6.74	1725.85	6.74	-0.55	-0.03
118	257	139	21	4112	0.99332	778.96	0.52043	1560.36	41.88	0	7.1	1737.9	6.76	1736.78	6.76	-1.11	-0.06
118	258	140	22	4128	0.99273	780.51	0.52132	1558.84	45.78	0.62	6.99	1750.48	6.78	1749.38	6.78	-1.1	-0.06
118	259	141	23	4144	0.99211	782.04	0.52220	1557.34	49.85	0	6.89	1761.65	6.8	1760.02	6.8	-1.63	-0.09
118	260	142	24	4160	0.99148	783.55	0.52308	1555.88	54.07	0.62	6.79	1773.91	6.82	1772.32	6.82	-1.59	-0.09
118	261	143	25	4176	0.99083	785.04	0.52395	1554.44	58.44	0	6.69	1784.77	6.84	1782.67	6.83	-2.1	-0.12
118	262	144	26	4192	0.99015	786.51	0.52481	1553.02	62.97	0.62	6.59	1796.7	6.86	1794.67	6.85	-2.04	-0.11
118	263	145	27	4208	0.98946	787.96	0.52567	1551.63	67.65	0	6.5	1807.25	6.87	1804.73	6.86	-2.52	-0.14
118	264	146	28	4224	0.98875	789.39	0.52652	1550.27	72.48	0.62	6.41	1818.88	6.89	1816.44	6.88	-2.43	-0.13

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
118	265	147	29	4240	0.98802	790.8	0.52736	1548.93	77.46	0	6.32	1829.12	6.9	1826.23	6.89	-2.89	-0.16
118	266	148	30	4256	0.98728	792.19	0.52820	1547.62	82.58	0.61	6.23	1840.44	6.92	1837.66	6.91	-2.79	-0.15
118	267	149	31	4272	0.98652	793.56	0.52903	1546.33	87.85	0	6.14	1850.39	6.93	1847.17	6.92	-3.22	-0.17
118	268	150	32	4288	0.98574	794.92	0.52985	1545.07	93.26	0.61	6.06	1861.42	6.95	1858.32	6.93	-3.1	-0.17
118	269	151	33	4304	0.98495	796.25	0.53067	1543.83	98.82	0	5.97	1871.07	6.96	1867.56	6.94	-3.51	-0.19
118	270	152	34	4320	0.98414	797.57	0.53148	1542.61	104.51	0.61	5.89	1881.81	6.97	1878.44	6.96	-3.37	-0.18
118	271	153	35	4336	0.98332	798.87	0.53229	1541.42	110.34	0	5.81	1891.18	6.98	1887.42	6.96	-3.76	-0.2
118	272	154	36	4352	0.98248	800.15	0.53309	1540.25	116.31	0.61	5.74	1901.63	6.99	1898.03	6.98	-3.61	-0.19
118	273	155	37	4368	0.98163	801.42	0.53388	1539.1	122.41	0	5.66	1910.73	7	1906.76	6.98	-3.98	-0.21
118	274	156	38	4384	0.98077	802.66	0.53467	1537.97	128.65	0.6	5.59	1920.91	7.01	1917.1	7	-3.81	-0.2
118	275	157	39	4400	0.97989	803.9	0.53546	1536.87	135.01	0	5.51	1929.74	7.02	1925.58	7	-4.16	-0.22
118	276	158	40	4416	0.97900	805.11	0.53623	1535.78	141.51	0.6	5.44	1939.64	7.03	1935.66	7.01	-3.97	-0.21
118	277	159	41	4432	0.97809	806.31	0.53700	1534.72	148.14	0	5.37	1948.2	7.03	1943.89	7.02	-4.31	-0.22
118	278	160	42	4448	0.97718	807.49	0.53777	1533.67	154.9	0.6	5.3	1957.84	7.04	1953.73	7.03	-4.11	-0.21
118	279	161	43	4464	0.97625	808.66	0.53853	1532.65	161.79	0	5.23	1966.14	7.05	1961.71	7.03	-4.43	-0.23
118	280	162	44	4480	0.97531	809.81	0.53929	1531.65	168.8	0.6	5.17	1975.52	7.06	1971.3	7.04	-4.22	-0.21
118	281	163	45	4496	0.97435	810.94	0.54004	1530.67	175.93	0	5.1	1983.57	7.06	1979.05	7.04	-4.52	-0.23
118	282	164	46	4512	0.97339	812.06	0.54078	1529.7	183.18	0.6	5.04	1992.69	7.07	1988.39	7.05	-4.3	-0.22
118	283	165	47	4528	0.97242	813.17	0.54152	1528.76	190.56	0	4.98	2000.49	7.07	1995.91	7.05	-4.59	-0.23
118	284	166	48	4544	0.97143	814.26	0.54225	1527.83	198.06	0.59	4.92	2009.37	7.08	2005.01	7.06	-4.35	-0.22
118	285	167	49	4560	0.97044	815.33	0.54298	1526.92	205.68	0	4.86	2016.93	7.08	2012.3	7.06	-4.63	-0.23
118	286	168	50	4576	0.96944	816.39	0.54371	1526.03	213.41	0.59	4.8	2025.56	7.08	2021.17	7.07	-4.38	-0.22
118	287	169	51	4592	0.96842	817.44	0.54443	1525.16	221.26	0	4.74	2032.88	7.08	2028.23	7.07	-4.65	-0.23
118	288	170	52	4608	0.96740	818.47	0.54514	1524.3	229.23	0.59	4.68	2041.27	7.09	2036.88	7.07	-4.39	-0.22
118	289	171	53	4624	0.96637	819.49	0.54585	1523.47	237.31	0	4.63	2048.36	7.09	2043.72	7.07	-4.65	-0.23
118	290	172	54	4640	0.96533	820.49	0.54655	1522.65	245.5	0.59	4.57	2056.52	7.09	2052.14	7.08	-4.38	-0.21
118	291	173	55	4656	0.96428	821.48	0.54725	1521.84	253.81	0	4.52	2063.39	7.09	2058.76	7.07	-4.62	-0.22
118	292	174	56	4672	0.96322	822.46	0.54795	1521.06	262.22	0.59	4.47	2071.31	7.09	2066.96	7.08	-4.35	-0.21
118	293	175	57	4688	0.96215	823.43	0.54864	1520.29	270.75	0	4.42	2077.96	7.09	2073.37	7.08	-4.58	-0.22
118	294	176	58	4704	0.96108	824.38	0.54932	1519.53	279.38	0.58	4.37	2085.66	7.09	2081.36	7.08	-4.3	-0.21
118	295	177	59	4720	0.96000	825.32	0.55000	1518.8	288.12	0	4.32	2092.08	7.09	2087.56	7.08	-4.53	-0.22
118	296	178	60	4736	0.95891	826.24	0.55068	1518.07	296.97	0.58	4.27	2099.57	7.09	2095.33	7.08	-4.24	-0.2
118	297	179	61	4752	0.95782	827.16	0.55135	1517.37	305.92	0	4.22	2105.78	7.09	2101.33	7.08	-4.45	-0.21
118	298	180	62	4768	0.95671	828.06	0.55201	1516.67	314.97	0.58	4.17	2113.05	7.09	2108.89	7.08	-4.16	-0.2
118	299	181	63	4784	0.95561	828.95	0.55268	1516	324.13	0	4.13	2119.05	7.09	2114.68	7.07	-4.37	-0.21
118	300	182	64	4800	0.95449	829.83	0.55333	1515.34	333.39	0.58	4.08	2126.11	7.09	2122.04	7.07	-4.07	-0.19
118	301	183	65	4816	0.95337	830.69	0.55399	1514.69	342.75	0	4.04	2131.91	7.08	2127.64	7.07	-4.27	-0.2
118	302	184	66	4832	0.95224	831.54	0.55464	1514.05	352.21	0.58	3.99	2138.76	7.08	2134.79	7.07	-3.96	-0.19
118	303	185	67	4848	0.95111	832.39	0.55528	1513.44	361.77	0	3.95	2144.35	7.08	2140.2	7.06	-4.15	-0.19
118	304	186	68	4864	0.94997	833.22	0.55592	1512.83	371.43	0.57	3.91	2151	7.08	2147.16	7.06	-3.84	-0.18
118	305	187	69	4880	0.94882	834.04	0.55656	1512.24	381.19	0	3.87	2156.4	7.07	2152.37	7.06	-4.03	-0.19
118	306	188	70	4896	0.94767	834.85	0.55719	1511.66	391.04	0.57	3.83	2162.85	7.07	2159.13	7.06	-3.72	-0.17
118	307	189	71	4912	0.94651	835.64	0.55782	1511.1	400.98	0	3.79	2168.06	7.06	2164.16	7.05	-3.9	-0.18
118	308	190	72	4928	0.94535	836.43	0.55844	1510.55	411.02	0.57	3.75	2174.31	7.06	2170.73	7.05	-3.58	-0.16
118	309	191	73	4944	0.94419	837.21	0.55906	1510.01	421.16	0	3.71	2179.33	7.05	2175.58	7.04	-3.76	-0.17
118	310	192	74	4960	0.94302	837.97	0.55968	1509.49	431.38	0.57	3.67	2185.39	7.05	2181.96	7.04	-3.44	-0.16
118	311	193	75	4976	0.94184	838.73	0.56029	1508.97	441.7	0	3.63	2190.23	7.04	2186.62	7.03	-3.61	-0.16

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
118	312	194	76	4992	0.94066	839.47	0.56090	1508.47	452.11	0.57	3.59	2196.1	7.04	2192.82	7.03	-3.29	-0.15
118	313	195	77	5008	0.93948	840.21	0.56150	1507.99	462.61	0	3.56	2200.76	7.03	2197.31	7.02	-3.45	-0.16
118	314	196	78	5024	0.93829	840.93	0.56210	1507.51	473.2	0.56	3.52	2206.45	7.03	2203.32	7.02	-3.13	-0.14
118	315	197	79	5040	0.93710	841.65	0.56270	1507.05	483.87	0	3.49	2210.92	7.02	2207.63	7.01	-3.29	-0.15
118	316	198	80	5056	0.93591	842.35	0.56329	1506.6	494.63	0.56	3.45	2216.43	7.01	2213.47	7	-2.96	-0.13
118	317	199	81	5072	0.93471	843.05	0.56388	1506.16	505.48	0	3.42	2220.73	7.01	2217.61	7	-3.12	-0.14
118	318	200	82	5088	0.93351	843.73	0.56447	1505.73	516.41	0.56	3.39	2226.07	7	2223.27	6.99	-2.8	-0.13
118	319	201	83	5104	0.93230	844.41	0.56505	1505.31	527.43	0	3.35	2230.2	6.99	2227.24	6.98	-2.95	-0.13
118	320	202	84	5120	0.93109	845.07	0.56563	1504.91	538.54	0.56	3.32	2235.36	6.99	2232.73	6.98	-2.62	-0.12
118	321	203	85	5136	0.92988	845.73	0.56620	1504.52	549.72	0	3.29	2239.32	6.98	2236.54	6.97	-2.78	-0.12
118	322	204	86	5152	0.92867	846.38	0.56677	1504.13	560.99	0.56	3.26	2244.31	6.97	2241.86	6.96	-2.45	-0.11
118	323	205	87	5168	0.92745	847.02	0.56734	1503.76	572.34	0	3.23	2248.1	6.96	2245.5	6.95	-2.6	-0.12
118	324	206	88	5184	0.92623	847.65	0.56790	1503.4	583.77	0.56	3.2	2252.93	6.95	2250.66	6.95	-2.27	-0.1
118	325	207	89	5200	0.92501	848.27	0.56846	1503.05	595.28	0	3.17	2256.56	6.94	2254.14	6.94	-2.42	-0.11
118	326	208	90	5216	0.92378	848.89	0.56902	1502.71	606.88	0.55	3.14	2261.22	6.94	2259.13	6.93	-2.09	-0.09
118	327	209	91	5232	0.92256	849.49	0.56957	1502.38	618.54	0	3.11	2264.69	6.93	2262.45	6.92	-2.24	-0.1
118	328	210	92	5248	0.92133	850.09	0.57012	1502.06	630.29	0.55	3.08	2269.19	6.92	2267.28	6.91	-1.91	-0.08
118	329	211	93	5264	0.92010	850.68	0.57067	1501.75	642.12	0	3.05	2272.51	6.91	2270.45	6.9	-2.06	-0.09
118	330	212	94	5280	0.91886	851.26	0.57121	1501.45	654.02	0.55	3.02	2276.85	6.9	2275.12	6.89	-1.73	-0.08
118	331	213	95	5296	0.91763	851.83	0.57175	1501.16	666	0	3	2280.02	6.89	2278.13	6.88	-1.88	-0.08
118	332	214	96	5312	0.91639	852.39	0.57229	1500.87	678.05	0.55	2.97	2284.2	6.88	2282.65	6.88	-1.55	-0.07
118	333	215	97	5328	0.91515	852.95	0.57282	1500.6	690.17	0	2.94	2287.21	6.87	2285.51	6.86	-1.7	-0.07
118	334	216	98	5344	0.91391	853.5	0.57335	1500.34	702.38	0.55	2.92	2291.25	6.86	2289.87	6.86	-1.38	-0.06
118	335	217	99	5360	0.91267	854.04	0.57388	1500.09	714.65	0	2.89	2294.11	6.85	2292.59	6.84	-1.52	-0.07
118	336	218	100	5376	0.91142	854.57	0.57441	1499.84	727	0.55	2.87	2298	6.84	2296.8	6.84	-1.2	-0.05
118	337	219	101	5392	0.91018	855.1	0.57493	1499.61	739.42	0	2.84	2300.72	6.83	2299.37	6.82	-1.35	-0.06
118	338	220	102	5408	0.90893	855.61	0.57544	1499.38	751.9	0.54	2.82	2304.46	6.82	2303.43	6.81	-1.03	-0.04
118	339	221	103	5424	0.90768	856.12	0.57596	1499.17	764.47	0	2.79	2307.03	6.81	2305.86	6.8	-1.17	-0.05
118	340	222	104	5440	0.90644	856.63	0.57647	1498.96	777.1	0.54	2.77	2310.63	6.8	2309.77	6.79	-0.85	-0.04
118	341	223	105	5456	0.90519	857.12	0.57698	1498.76	789.8	0	2.74	2313.07	6.78	2312.06	6.78	-1	-0.04
118	342	224	106	5472	0.90394	857.61	0.57749	1498.57	802.56	0.54	2.72	2316.52	6.77	2315.83	6.77	-0.69	-0.03
118	343	225	107	5488	0.90269	858.09	0.57799	1498.39	815.4	0	2.7	2318.82	6.76	2317.98	6.76	-0.83	-0.04
118	344	226	108	5504	0.90143	858.57	0.57849	1498.21	828.31	0.54	2.68	2322.13	6.75	2321.61	6.75	-0.52	-0.02
118	345	227	109	5520	0.90018	859.03	0.57899	1498.05	841.28	0	2.65	2324.29	6.74	2323.62	6.74	-0.67	-0.03
118	346	228	110	5536	0.89893	859.5	0.57948	1497.89	854.32	0.54	2.63	2327.47	6.73	2327.11	6.73	-0.36	-0.02
118	347	229	111	5552	0.89767	859.95	0.57997	1497.74	867.42	0	2.61	2329.5	6.71	2328.99	6.71	-0.51	-0.02
118	348	230	112	5568	0.89642	860.4	0.58046	1497.6	880.59	0.54	2.59	2332.54	6.7	2332.34	6.7	-0.2	-0.01
118	349	231	113	5584	0.89517	860.84	0.58095	1497.46	893.82	0	2.57	2334.44	6.69	2334.09	6.69	-0.36	-0.02
118	350	232	114	5600	0.89391	861.27	0.58143	1497.33	907.12	0.53	2.55	2337.35	6.68	2337.3	6.68	-0.05	0
118	351	233	115	5616	0.89266	861.7	0.58191	1497.22	920.48	0	2.53	2339.13	6.66	2338.92	6.66	-0.21	-0.01
118	352	234	116	5632	0.89140	862.12	0.58239	1497.1	933.91	0.53	2.51	2341.9	6.65	2342	6.65	0.09	0
118	353	235	117	5648	0.89014	862.54	0.58286	1497	947.39	0	2.49	2343.55	6.64	2343.49	6.64	-0.06	0
118	354	236	118	5664	0.88889	862.95	0.58333	1496.9	960.94	0.53	2.47	2346.2	6.63	2346.43	6.63	0.23	0.01
118	355	237	119	5680	0.88763	863.35	0.58380	1496.81	974.56	0	2.45	2347.73	6.61	2347.8	6.61	0.07	0
118	356	238	120	5696	0.88638	863.75	0.58427	1496.73	988.23	0.53	2.43	2350.25	6.6	2350.62	6.6	0.37	0.02
118	357	239	121	5712	0.88512	864.14	0.58473	1496.66	1001.96	0	2.41	2351.65	6.59	2351.86	6.59	0.2	0.01
118	358	240	122	5728	0.88387	864.53	0.58520	1496.59	1015.75	0.53	2.39	2354.05	6.58	2354.55	6.58	0.49	0.02

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
118	359	241	123	5744	0.88261	864.9	0.58566	1496.53	1029.6	0	2.37	2355.34	6.56	2355.66	6.56	0.33	0.01
118	360	242	124	5760	0.88136	865.28	0.58611	1496.47	1043.52	0.53	2.35	2357.62	6.55	2358.23	6.55	0.61	0.03
118	361	243	125	5776	0.88010	865.65	0.58657	1496.42	1057.48	0	2.34	2358.78	6.53	2359.23	6.54	0.44	0.02
118	362	244	126	5792	0.87885	866.01	0.58702	1496.38	1071.51	0.53	2.32	2360.94	6.52	2361.67	6.52	0.73	0.03
118	363	245	127	5808	0.87760	866.37	0.58747	1496.35	1085.6	0	2.3	2361.99	6.51	2362.54	6.51	0.55	0.02
118	364	246	128	5824	0.87634	866.72	0.58791	1496.32	1099.74	0.52	2.28	2364.03	6.49	2364.86	6.5	0.83	0.04
118	365	247	129	5840	0.87509	867.06	0.58836	1496.3	1113.94	0	2.27	2364.97	6.48	2365.62	6.48	0.66	0.03
118	366	248	130	5856	0.87384	867.4	0.58880	1496.28	1128.19	0.52	2.25	2366.89	6.47	2367.82	6.47	0.93	0.04
118	367	249	131	5872	0.87259	867.74	0.58924	1496.27	1142.5	0	2.23	2367.72	6.45	2368.47	6.45	0.75	0.03
118	368	250	132	5888	0.87134	868.07	0.58967	1496.27	1156.87	0.52	2.22	2369.53	6.44	2370.55	6.44	1.02	0.04
118	369	251	133	5904	0.87009	868.39	0.59011	1496.27	1171.29	0	2.2	2370.24	6.42	2371.08	6.43	0.83	0.04
118	370	252	134	5920	0.86884	868.71	0.59054	1496.28	1185.76	0.52	2.18	2371.94	6.41	2373.04	6.41	1.1	0.05
118	371	253	135	5936	0.86759	869.03	0.59097	1496.3	1200.29	0	2.17	2372.55	6.4	2373.46	6.4	0.91	0.04
118	372	254	136	5952	0.86634	869.33	0.59140	1496.32	1214.88	0.52	2.15	2374.14	6.38	2375.31	6.39	1.17	0.05
118	373	255	137	5968	0.86510	869.64	0.59182	1496.35	1229.51	0	2.14	2374.64	6.37	2375.62	6.37	0.98	0.04
118	374	256	138	5984	0.86385	869.94	0.59225	1496.38	1244.2	0.52	2.12	2376.12	6.35	2377.35	6.36	1.23	0.05
118	375	257	139	6000	0.86261	870.23	0.59267	1496.42	1258.94	0	2.11	2376.52	6.34	2377.55	6.34	1.04	0.04
118	376	258	140	6016	0.86136	870.52	0.59309	1496.47	1273.73	0.52	2.09	2377.89	6.32	2379.17	6.33	1.28	0.05
118	377	259	141	6032	0.86012	870.81	0.59350	1496.52	1288.57	0	2.08	2378.18	6.31	2379.27	6.31	1.09	0.05
118	378	260	142	6048	0.85888	871.09	0.59392	1496.57	1303.47	0.51	2.06	2379.45	6.29	2380.78	6.3	1.33	0.06
118	379	261	143	6064	0.85764	871.36	0.59433	1496.63	1318.41	0	2.05	2379.64	6.28	2380.77	6.28	1.12	0.05
118	380	262	144	6080	0.85640	871.63	0.59474	1496.7	1333.41	0.51	2.04	2380.81	6.27	2382.17	6.27	1.36	0.06
118	381	263	145	6096	0.85516	871.9	0.59514	1496.77	1348.45	0	2.02	2380.9	6.25	2382.05	6.25	1.15	0.05
118	382	264	146	6112	0.85392	872.16	0.59555	1496.85	1363.55	0.51	2.01	2381.96	6.24	2383.35	6.24	1.38	0.06
118	383	265	147	6128	0.85269	872.42	0.59595	1496.93	1378.69	0	1.99	2381.96	6.22	2383.13	6.22	1.17	0.05
118	384	266	148	6144	0.85145	872.67	0.59635	1497.02	1393.88	0.51	1.98	2382.92	6.21	2384.32	6.21	1.4	0.06
118	385	267	149	6160	0.85022	872.92	0.59675	1497.11	1409.12	0	1.97	2382.82	6.19	2384	6.19	1.18	0.05
118	386	268	150	6176	0.84899	873.16	0.59715	1497.21	1424.41	0.51	1.96	2383.68	6.18	2385.08	6.18	1.4	0.06
118	387	269	151	6192	0.84776	873.4	0.59755	1497.31	1439.74	0	1.94	2383.48	6.16	2384.66	6.16	1.18	0.05
118	388	270	152	6208	0.84653	873.64	0.59794	1497.42	1455.13	0.51	1.93	2384.25	6.14	2385.65	6.15	1.4	0.06
118	389	271	153	6224	0.84530	873.87	0.59833	1497.53	1470.56	0	1.92	2383.96	6.13	2385.13	6.13	1.17	0.05
118	390	272	154	6240	0.84408	874.1	0.59872	1497.65	1486.03	0.51	1.9	2384.63	6.11	2386.01	6.12	1.38	0.06
118	391	273	155	6256	0.84285	874.32	0.59911	1497.77	1501.55	0	1.89	2384.24	6.1	2385.39	6.1	1.15	0.05
118	392	274	156	6272	0.84163	874.54	0.59949	1497.9	1517.12	0.51	1.88	2384.82	6.08	2386.17	6.09	1.35	0.06
118	393	275	157	6288	0.84041	874.75	0.59987	1498.03	1532.73	0	1.87	2384.35	6.07	2385.46	6.07	1.11	0.05
118	394	276	158	6304	0.83919	874.97	0.60025	1498.17	1548.39	0.5	1.86	2384.83	6.05	2386.14	6.06	1.31	0.05
118	395	277	159	6320	0.83797	875.17	0.60063	1498.31	1564.09	0	1.84	2384.27	6.04	2385.34	6.04	1.07	0.04
118	396	278	160	6336	0.83675	875.38	0.60101	1498.46	1579.84	0.5	1.83	2384.66	6.02	2385.92	6.03	1.26	0.05
118	397	279	161	6352	0.83554	875.58	0.60139	1498.61	1595.63	0	1.82	2384.01	6.01	2385.02	6.01	1.01	0.04
118	398	280	162	6368	0.83432	875.77	0.60176	1498.76	1611.46	0.5	1.81	2384.31	5.99	2385.51	5.99	1.2	0.05
118	399	281	163	6384	0.83311	875.96	0.60213	1498.92	1627.34	0	1.8	2383.57	5.97	2384.52	5.98	0.95	0.04
118	400	282	164	6400	0.83190	876.15	0.60250	1499.08	1643.26	0.5	1.79	2383.79	5.96	2384.91	5.96	1.12	0.05
118	401	283	165	6416	0.83069	876.34	0.60287	1499.25	1659.22	0	1.78	2382.96	5.94	2383.83	5.94	0.87	0.04
118	402	284	166	6432	0.82948	876.52	0.60323	1499.42	1675.23	0.5	1.77	2383.09	5.93	2384.13	5.93	1.04	0.04
118	403	285	167	6448	0.82828	876.69	0.60360	1499.6	1691.28	0	1.75	2382.18	5.91	2382.96	5.91	0.78	0.03
118	404	286	168	6464	0.82708	876.87	0.60396	1499.78	1707.37	0.5	1.74	2382.22	5.9	2383.16	5.9	0.94	0.04
118	405	287	169	6480	0.82587	877.04	0.60432	1499.97	1723.5	0	1.73	2381.23	5.88	2381.9	5.88	0.67	0.03

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
118	406	288	170	6496	0.82467	877.21	0.60468	1500.15	1739.67	0.5	1.72	2381.19	5.86	2382.02	5.87	0.83	0.03
118	407	289	171	6512	0.82348	877.37	0.60504	1500.35	1755.88	0	1.71	2380.11	5.85	2380.67	5.85	0.56	0.02
118	408	290	172	6528	0.82228	877.53	0.60539	1500.54	1772.14	0.5	1.7	2379.99	5.83	2380.7	5.84	0.71	0.03
118	409	291	173	6544	0.82109	877.69	0.60575	1500.74	1788.43	0	1.69	2378.83	5.82	2379.26	5.82	0.43	0.02
118	410	292	174	6560	0.81989	877.84	0.60610	1500.95	1804.76	0.49	1.68	2378.63	5.8	2379.2	5.8	0.58	0.02
118	411	293	175	6576	0.81870	877.99	0.60645	1501.16	1821.14	0	1.67	2377.39	5.78	2377.68	5.79	0.29	0.01
118	412	294	176	6592	0.81751	878.14	0.60680	1501.37	1837.55	0.49	1.66	2377.1	5.77	2377.53	5.77	0.43	0.02
118	413	295	177	6608	0.81633	878.28	0.60714	1501.59	1854	0	1.65	2375.79	5.75	2375.93	5.75	0.14	0.01
Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
119	237	118	-1	3792	0.99998	742.95	0.49895	1624.7	0.1	0	9.82	1434.07	6.05	1443.34	6.09	9.27	0.64
119	238	119	0	3808	1.00000	745.05	0.50000	1622.41	0	-0.65	10	1449.89	6.09	1458.88	6.13	8.99	0.62
119	239	120	1	3824	0.99998	747.12	0.50105	1620.16	0.1	0	9.83	1466.44	6.14	1474.04	6.17	7.6	0.52
119	240	121	2	3840	0.99993	749.17	0.50208	1617.94	0.41	-0.65	9.66	1481.49	6.17	1489.21	6.21	7.72	0.52
119	241	122	3	3856	0.99985	751.18	0.50311	1615.77	0.91	0	9.49	1497.62	6.21	1504	6.24	6.38	0.42
119	242	123	4	3872	0.99973	753.17	0.50413	1613.64	1.61	-0.64	9.33	1512.26	6.25	1518.8	6.28	6.54	0.43
119	243	124	5	3888	0.99958	755.13	0.50514	1611.55	2.51	0	9.17	1527.98	6.29	1533.22	6.31	5.24	0.34
119	244	125	6	3904	0.99940	757.06	0.50615	1609.49	3.6	-0.64	9.02	1542.22	6.32	1547.67	6.34	5.44	0.35
119	245	126	7	3920	0.99918	758.97	0.50714	1607.47	4.88	0	8.87	1557.55	6.36	1561.73	6.37	4.19	0.27
119	246	127	8	3936	0.99894	760.85	0.50813	1605.49	6.35	-0.64	8.72	1571.4	6.39	1575.83	6.41	4.43	0.28
119	247	128	9	3952	0.99867	762.7	0.50911	1603.54	8	0	8.58	1586.33	6.42	1589.54	6.44	3.21	0.2
119	248	129	10	3968	0.99837	764.53	0.51008	1601.63	9.84	-0.64	8.44	1599.81	6.45	1603.3	6.46	3.49	0.22
119	249	130	11	3984	0.99805	766.34	0.51104	1599.75	11.86	0	8.31	1614.36	6.48	1616.67	6.49	2.31	0.14
119	250	131	12	4000	0.99770	768.12	0.51200	1597.91	14.06	-0.63	8.17	1627.46	6.51	1630.09	6.52	2.63	0.16
119	251	132	13	4016	0.99732	769.87	0.51295	1596.1	16.43	0	8.05	1641.65	6.54	1643.13	6.55	1.48	0.09
119	252	133	14	4032	0.99691	771.6	0.51389	1594.32	18.98	-0.63	7.92	1654.39	6.57	1656.22	6.57	1.83	0.11
119	253	134	15	4048	0.99649	773.31	0.51482	1592.57	21.7	0	7.8	1668.21	6.59	1668.93	6.6	0.72	0.04
119	254	135	16	4064	0.99603	774.99	0.51575	1590.86	24.6	-0.63	7.68	1680.6	6.62	1681.71	6.62	1.1	0.07
119	255	136	17	4080	0.99556	776.65	0.51667	1589.17	27.66	0	7.56	1694.07	6.64	1694.1	6.64	0.03	0
119	256	137	18	4096	0.99506	778.29	0.51758	1587.52	30.89	-0.62	7.44	1706.12	6.66	1706.55	6.67	0.44	0.03
119	257	138	19	4112	0.99453	779.91	0.51848	1585.9	34.28	0	7.33	1719.24	6.69	1718.63	6.69	-0.61	-0.04
119	258	139	20	4128	0.99399	781.5	0.51938	1584.3	37.84	-0.62	7.22	1730.95	6.71	1730.78	6.71	-0.17	-0.01
119	259	140	21	4144	0.99343	783.08	0.52027	1582.74	41.56	0	7.11	1743.74	6.73	1742.55	6.73	-1.19	-0.07
119	260	141	22	4160	0.99284	784.63	0.52115	1581.2	45.43	-0.62	7.01	1755.13	6.75	1754.4	6.75	-0.72	-0.04
119	261	142	23	4176	0.99223	786.16	0.52203	1579.69	49.47	0	6.91	1767.59	6.77	1765.87	6.77	-1.72	-0.1
119	262	143	24	4192	0.99161	787.67	0.52290	1578.21	53.66	-0.62	6.81	1778.65	6.79	1777.43	6.78	-1.22	-0.07
119	263	144	25	4208	0.99096	789.16	0.52376	1576.76	58	0	6.71	1790.79	6.81	1788.6	6.8	-2.19	-0.12
119	264	145	26	4224	0.99030	790.63	0.52462	1575.33	62.5	-0.62	6.61	1801.54	6.82	1799.87	6.82	-1.67	-0.09
119	265	146	27	4240	0.98962	792.08	0.52547	1573.93	67.14	0	6.52	1813.37	6.84	1810.75	6.83	-2.61	-0.14
119	266	147	28	4256	0.98892	793.51	0.52632	1572.55	71.94	-0.61	6.43	1823.82	6.86	1821.74	6.85	-2.08	-0.11
119	267	148	29	4272	0.98820	794.92	0.52715	1571.2	76.88	0	6.34	1835.34	6.87	1832.34	6.86	-2.99	-0.16
119	268	149	30	4288	0.98747	796.31	0.52799	1569.88	81.97	-0.61	6.25	1845.48	6.89	1843.05	6.88	-2.44	-0.13
119	269	150	31	4304	0.98672	797.68	0.52881	1568.58	87.2	0	6.16	1856.7	6.9	1853.37	6.89	-3.33	-0.18
119	270	151	32	4320	0.98595	799.04	0.52963	1567.3	92.57	-0.61	6.08	1866.56	6.91	1863.81	6.9	-2.75	-0.15
119	271	152	33	4336	0.98517	800.37	0.53044	1566.04	98.09	0	6	1877.49	6.93	1873.86	6.91	-3.63	-0.19
119	272	153	34	4352	0.98438	801.69	0.53125	1564.81	103.74	-0.61	5.92	1887.06	6.94	1884.03	6.93	-3.03	-0.16
119	273	154	35	4368	0.98356	802.99	0.53205	1563.61	109.53	0	5.84	1897.7	6.95	1893.82	6.94	-3.88	-0.21

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
119	274	155	36	4384	0.98274	804.28	0.53285	1562.42	115.46	-0.6	5.76	1906.99	6.96	1903.73	6.95	-3.27	-0.17
119	275	156	37	4400	0.98190	805.54	0.53364	1561.26	121.52	0	5.68	1917.36	6.97	1913.25	6.96	-4.1	-0.21
119	276	157	38	4416	0.98104	806.79	0.53442	1560.12	127.72	-0.6	5.61	1926.38	6.98	1922.9	6.97	-3.47	-0.18
119	277	158	39	4432	0.98018	808.03	0.53520	1559	134.04	0	5.54	1936.47	6.99	1932.17	6.98	-4.29	-0.22
119	278	159	40	4448	0.97930	809.24	0.53597	1557.9	140.5	-0.6	5.46	1945.22	7	1941.57	6.98	-3.64	-0.19
119	279	160	41	4464	0.97841	810.44	0.53674	1556.83	147.09	0	5.39	1955.04	7.01	1950.59	6.99	-4.45	-0.23
119	280	161	42	4480	0.97750	811.63	0.53750	1555.77	153.8	-0.6	5.33	1963.53	7.01	1959.75	7	-3.78	-0.19
119	281	162	43	4496	0.97658	812.8	0.53826	1554.73	160.64	0	5.26	1973.09	7.02	1968.52	7.01	-4.57	-0.23
119	282	163	44	4512	0.97566	813.95	0.53901	1553.72	167.6	-0.6	5.19	1981.33	7.03	1977.43	7.01	-3.9	-0.2
119	283	164	45	4528	0.97472	815.09	0.53975	1552.72	174.69	0	5.13	1990.63	7.03	1985.96	7.02	-4.67	-0.23
119	284	165	46	4544	0.97377	816.21	0.54049	1551.74	181.9	-0.59	5.06	1998.62	7.04	1994.64	7.02	-3.98	-0.2
119	285	166	47	4560	0.97280	817.32	0.54123	1550.79	189.23	0	5	2007.67	7.04	2002.93	7.03	-4.74	-0.24
119	286	167	48	4576	0.97183	818.41	0.54196	1549.85	196.68	-0.59	4.94	2015.41	7.05	2011.38	7.03	-4.04	-0.2
119	287	168	49	4592	0.97085	819.49	0.54268	1548.93	204.25	0	4.88	2024.22	7.05	2019.44	7.04	-4.78	-0.24
119	288	169	50	4608	0.96986	820.55	0.54340	1548.02	211.94	-0.59	4.82	2031.73	7.05	2027.65	7.04	-4.07	-0.2
119	289	170	51	4624	0.96886	821.6	0.54412	1547.14	219.74	0	4.77	2040.29	7.06	2035.49	7.04	-4.8	-0.24
119	290	171	52	4640	0.96785	822.64	0.54483	1546.27	227.65	-0.59	4.71	2047.56	7.06	2043.48	7.05	-4.08	-0.2
119	291	172	53	4656	0.96683	823.66	0.54553	1545.42	235.68	0	4.65	2055.89	7.06	2051.09	7.05	-4.8	-0.23
119	292	173	54	4672	0.96580	824.67	0.54623	1544.59	243.83	-0.59	4.6	2062.93	7.06	2058.86	7.05	-4.07	-0.2
119	293	174	55	4688	0.96476	825.66	0.54693	1543.77	252.08	0	4.55	2071.03	7.07	2066.25	7.05	-4.78	-0.23
119	294	175	56	4704	0.96372	826.64	0.54762	1542.98	260.44	-0.58	4.49	2077.85	7.07	2073.8	7.05	-4.05	-0.2
119	295	176	57	4720	0.96267	827.61	0.54831	1542.19	268.92	0	4.44	2085.72	7.07	2080.98	7.05	-4.75	-0.23
119	296	177	58	4736	0.96161	828.56	0.54899	1541.43	277.5	-0.58	4.39	2092.32	7.07	2088.32	7.06	-4	-0.19
119	297	178	59	4752	0.96054	829.51	0.54966	1540.68	286.19	0	4.34	2099.97	7.07	2095.28	7.05	-4.69	-0.22
119	298	179	60	4768	0.95946	830.44	0.55034	1539.94	294.98	-0.58	4.29	2106.35	7.07	2102.42	7.06	-3.94	-0.19
119	299	180	61	4784	0.95838	831.35	0.55100	1539.22	303.88	0	4.24	2113.79	7.07	2109.17	7.05	-4.62	-0.22
119	300	181	62	4800	0.95729	832.26	0.55167	1538.52	312.88	-0.58	4.2	2119.96	7.07	2116.1	7.05	-3.86	-0.18
119	301	182	63	4816	0.95619	833.15	0.55233	1537.83	321.98	0	4.15	2127.18	7.07	2122.65	7.05	-4.53	-0.21
119	302	183	64	4832	0.95509	834.03	0.55298	1537.16	331.19	-0.58	4.11	2133.15	7.06	2129.38	7.05	-3.77	-0.18
119	303	184	65	4848	0.95398	834.9	0.55363	1536.5	340.5	0	4.06	2140.16	7.06	2135.73	7.05	-4.43	-0.21
119	304	185	66	4864	0.95287	835.76	0.55428	1535.85	349.9	-0.57	4.02	2145.92	7.06	2142.26	7.05	-3.66	-0.17
119	305	186	67	4880	0.95174	836.61	0.55492	1535.22	359.41	0	3.97	2152.73	7.06	2148.41	7.04	-4.32	-0.2
119	306	187	68	4896	0.95062	837.44	0.55556	1534.61	369.01	-0.57	3.93	2158.3	7.05	2154.75	7.04	-3.55	-0.16
119	307	188	69	4912	0.94949	838.27	0.55619	1534.01	378.71	0	3.89	2164.91	7.05	2160.71	7.04	-4.2	-0.19
119	308	189	70	4928	0.94835	839.08	0.55682	1533.42	388.51	-0.57	3.85	2170.28	7.05	2166.85	7.04	-3.42	-0.16
119	309	190	71	4944	0.94720	839.88	0.55744	1532.84	398.4	0	3.81	2176.69	7.04	2172.62	7.03	-4.07	-0.19
119	310	191	72	4960	0.94606	840.67	0.55807	1532.28	408.38	-0.57	3.77	2181.87	7.04	2178.58	7.03	-3.29	-0.15
119	311	192	73	4976	0.94490	841.45	0.55868	1531.73	418.46	0	3.73	2188.09	7.04	2184.16	7.02	-3.93	-0.18
119	312	193	74	4992	0.94375	842.22	0.55930	1531.2	428.63	-0.57	3.69	2193.08	7.03	2189.94	7.02	-3.14	-0.14
119	313	194	75	5008	0.94258	842.98	0.55990	1530.67	438.89	0	3.66	2199.11	7.03	2195.34	7.01	-3.78	-0.17
119	314	195	76	5024	0.94142	843.73	0.56051	1530.16	449.24	-0.56	3.62	2203.92	7.02	2200.93	7.01	-2.99	-0.14
119	315	196	77	5040	0.94025	844.47	0.56111	1529.67	459.68	0	3.58	2209.77	7.02	2206.15	7	-3.62	-0.16
119	316	197	78	5056	0.93907	845.2	0.56171	1529.18	470.21	-0.56	3.55	2214.4	7.01	2211.57	7	-2.83	-0.13
119	317	198	79	5072	0.93789	845.92	0.56230	1528.71	480.83	0	3.51	2220.06	7	2216.6	6.99	-3.46	-0.16
119	318	199	80	5088	0.93671	846.63	0.56289	1528.24	491.53	-0.56	3.48	2224.51	7	2221.85	6.99	-2.67	-0.12
119	319	200	81	5104	0.93553	847.33	0.56348	1527.79	502.32	0	3.44	2230	6.99	2226.71	6.98	-3.29	-0.15
119	320	201	82	5120	0.93434	848.02	0.56406	1527.36	513.2	-0.56	3.41	2234.28	6.98	2231.78	6.97	-2.5	-0.11

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
119	321	202	83	5136	0.93314	848.7	0.56464	1526.93	524.16	0	3.38	2239.59	6.98	2236.47	6.97	-3.12	-0.14
119	322	203	84	5152	0.93195	849.37	0.56522	1526.51	535.2	-0.56	3.34	2243.7	6.97	2241.38	6.96	-2.32	-0.1
119	323	204	85	5168	0.93075	850.03	0.56579	1526.11	546.33	0	3.31	2248.84	6.96	2245.9	6.95	-2.94	-0.13
119	324	205	86	5184	0.92955	850.69	0.56636	1525.72	557.54	-0.56	3.28	2252.78	6.95	2250.64	6.95	-2.15	-0.1
119	325	206	87	5200	0.92834	851.33	0.56692	1525.33	568.83	0	3.25	2257.75	6.95	2254.99	6.94	-2.76	-0.12
119	326	207	88	5216	0.92713	851.97	0.56749	1524.96	580.2	-0.55	3.22	2261.53	6.94	2259.57	6.93	-1.97	-0.09
119	327	208	89	5232	0.92592	852.59	0.56804	1524.6	591.65	0	3.19	2266.34	6.93	2263.76	6.92	-2.58	-0.11
119	328	209	90	5248	0.92471	853.21	0.56860	1524.25	603.19	-0.55	3.16	2269.96	6.92	2268.17	6.92	-1.78	-0.08
119	329	210	91	5264	0.92350	853.82	0.56915	1523.91	614.8	0	3.13	2274.6	6.91	2272.2	6.91	-2.4	-0.11
119	330	211	92	5280	0.92228	854.42	0.56970	1523.58	626.48	-0.55	3.1	2278.06	6.9	2276.46	6.9	-1.6	-0.07
119	331	212	93	5296	0.92106	855.02	0.57024	1523.26	638.25	0	3.07	2282.55	6.9	2280.33	6.89	-2.21	-0.1
119	332	213	94	5312	0.91984	855.6	0.57078	1522.95	650.09	-0.55	3.04	2285.85	6.89	2284.43	6.88	-1.42	-0.06
119	333	214	95	5328	0.91861	856.18	0.57132	1522.65	662.01	0	3.02	2290.18	6.88	2288.15	6.87	-2.03	-0.09
119	334	215	96	5344	0.91739	856.75	0.57186	1522.36	674	-0.55	2.99	2293.34	6.87	2292.1	6.86	-1.24	-0.05
119	335	216	97	5360	0.91616	857.31	0.57239	1522.08	686.07	0	2.96	2297.51	6.86	2295.66	6.85	-1.84	-0.08
119	336	217	98	5376	0.91493	857.86	0.57292	1521.81	698.21	-0.55	2.94	2300.51	6.85	2299.46	6.84	-1.05	-0.05
119	337	218	99	5392	0.91370	858.4	0.57344	1521.55	710.42	0	2.91	2304.54	6.84	2302.88	6.83	-1.66	-0.07
119	338	219	100	5408	0.91247	858.94	0.57396	1521.3	722.71	-0.54	2.89	2307.4	6.83	2306.52	6.82	-0.87	-0.04
119	339	220	101	5424	0.91124	859.47	0.57448	1521.05	735.07	0	2.86	2311.27	6.82	2309.79	6.81	-1.48	-0.06
119	340	221	102	5440	0.91000	859.99	0.57500	1520.82	747.5	-0.54	2.84	2313.99	6.81	2313.29	6.8	-0.7	-0.03
119	341	222	103	5456	0.90876	860.51	0.57551	1520.59	759.99	0	2.81	2317.72	6.8	2316.41	6.79	-1.3	-0.06
119	342	223	104	5472	0.90753	861.02	0.57602	1520.38	772.56	-0.54	2.79	2320.29	6.78	2319.77	6.78	-0.52	-0.02
119	343	224	105	5488	0.90629	861.52	0.57653	1520.17	785.2	0	2.76	2323.88	6.78	2322.75	6.77	-1.13	-0.05
119	344	225	106	5504	0.90505	862.01	0.57704	1519.97	797.91	-0.54	2.74	2326.31	6.76	2325.96	6.76	-0.35	-0.01
119	345	226	107	5520	0.90381	862.5	0.57754	1519.78	810.69	0	2.72	2329.76	6.75	2328.8	6.75	-0.95	-0.04
119	346	227	108	5536	0.90257	862.98	0.57804	1519.59	823.53	-0.54	2.7	2332.05	6.74	2331.88	6.74	-0.18	-0.01
119	347	228	109	5552	0.90133	863.45	0.57853	1519.42	836.44	0	2.67	2335.36	6.73	2334.58	6.73	-0.79	-0.03
119	348	229	110	5568	0.90009	863.92	0.57902	1519.25	849.42	-0.54	2.65	2337.53	6.72	2337.52	6.72	-0.01	0
119	349	230	111	5584	0.89884	864.38	0.57951	1519.09	862.46	0	2.63	2340.7	6.71	2340.08	6.71	-0.62	-0.03
119	350	231	112	5600	0.89760	864.83	0.58000	1518.94	875.57	-0.53	2.61	2342.73	6.69	2342.88	6.69	0.15	0.01
119	351	232	113	5616	0.89636	865.27	0.58048	1518.8	888.74	0	2.59	2345.77	6.68	2345.31	6.68	-0.46	-0.02
119	352	233	114	5632	0.89511	865.71	0.58097	1518.67	901.98	-0.53	2.57	2347.67	6.67	2347.98	6.67	0.31	0.01
119	353	234	115	5648	0.89387	866.15	0.58145	1518.54	915.28	0	2.55	2350.58	6.66	2350.27	6.66	-0.3	-0.01
119	354	235	116	5664	0.89262	866.57	0.58192	1518.42	928.65	-0.53	2.53	2352.35	6.65	2352.81	6.65	0.46	0.02
119	355	236	117	5680	0.89138	866.99	0.58239	1518.31	942.07	0	2.51	2355.13	6.63	2354.98	6.63	-0.15	-0.01
119	356	237	118	5696	0.89013	867.41	0.58287	1518.2	955.56	-0.53	2.49	2356.78	6.62	2357.39	6.62	0.61	0.03
119	357	238	119	5712	0.88889	867.82	0.58333	1518.11	969.11	0	2.47	2359.43	6.61	2359.42	6.61	-0.01	0
119	358	239	120	5728	0.88764	868.22	0.58380	1518.01	982.72	-0.53	2.45	2360.96	6.59	2361.71	6.6	0.75	0.03
119	359	240	121	5744	0.88640	868.62	0.58426	1517.93	996.39	0	2.43	2363.49	6.58	2363.61	6.58	0.13	0.01
119	360	241	122	5760	0.88515	869.01	0.58472	1517.86	1010.13	-0.53	2.41	2364.9	6.57	2365.77	6.57	0.88	0.04
119	361	242	123	5776	0.88391	869.39	0.58518	1517.79	1023.92	0	2.39	2367.3	6.56	2367.56	6.56	0.26	0.01
119	362	243	124	5792	0.88267	869.77	0.58564	1517.73	1037.77	-0.53	2.37	2368.59	6.54	2369.59	6.55	1.01	0.04
119	363	244	125	5808	0.88142	870.14	0.58609	1517.67	1051.67	0	2.35	2370.87	6.53	2371.25	6.53	0.38	0.02
119	364	245	126	5824	0.88018	870.51	0.58654	1517.62	1065.64	-0.52	2.34	2372.04	6.52	2373.17	6.52	1.13	0.05
119	365	246	127	5840	0.87893	870.87	0.58699	1517.58	1079.67	0	2.32	2374.2	6.5	2374.7	6.51	0.5	0.02
119	366	247	128	5856	0.87769	871.23	0.58743	1517.54	1093.75	-0.52	2.3	2375.26	6.49	2376.5	6.49	1.24	0.05
119	367	248	129	5872	0.87645	871.58	0.58788	1517.52	1107.88	0	2.28	2377.31	6.48	2377.92	6.48	0.61	0.03

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
119	368	249	130	5888	0.87521	871.92	0.58832	1517.49	1122.08	-0.52	2.27	2378.25	6.46	2379.6	6.47	1.34	0.06
119	369	250	131	5904	0.87397	872.26	0.58875	1517.48	1136.33	0	2.25	2380.18	6.45	2380.9	6.45	0.71	0.03
119	370	251	132	5920	0.87273	872.6	0.58919	1517.47	1150.63	-0.52	2.23	2381.02	6.44	2382.46	6.44	1.44	0.06
119	371	252	133	5936	0.87149	872.93	0.58962	1517.46	1164.99	0	2.22	2382.84	6.42	2383.64	6.42	0.81	0.03
119	372	253	134	5952	0.87025	873.25	0.59005	1517.47	1179.41	-0.52	2.2	2383.56	6.41	2385.09	6.41	1.53	0.06
119	373	254	135	5968	0.86901	873.57	0.59048	1517.48	1193.88	0	2.19	2385.27	6.39	2386.16	6.4	0.89	0.04
119	374	255	136	5984	0.86777	873.88	0.59091	1517.49	1208.4	-0.52	2.17	2385.88	6.38	2387.49	6.38	1.61	0.07
119	375	256	137	6000	0.86653	874.19	0.59133	1517.51	1222.97	0	2.16	2387.48	6.37	2388.45	6.37	0.97	0.04
119	376	257	138	6016	0.86530	874.5	0.59176	1517.54	1237.6	-0.52	2.14	2387.99	6.35	2389.67	6.36	1.68	0.07
119	377	258	139	6032	0.86406	874.8	0.59218	1517.57	1252.28	0	2.13	2389.48	6.34	2390.52	6.34	1.03	0.04
119	378	259	140	6048	0.86283	875.09	0.59259	1517.61	1267.01	-0.51	2.11	2389.89	6.32	2391.63	6.33	1.74	0.07
119	379	260	141	6064	0.86159	875.38	0.59301	1517.65	1281.79	0	2.1	2391.27	6.31	2392.36	6.31	1.09	0.05
119	380	261	142	6080	0.86036	875.66	0.59342	1517.7	1296.63	-0.51	2.08	2391.58	6.29	2393.37	6.3	1.79	0.07
119	381	262	143	6096	0.85913	875.94	0.59383	1517.76	1311.51	0	2.07	2392.85	6.28	2394	6.28	1.14	0.05
119	382	263	144	6112	0.85790	876.22	0.59424	1517.82	1326.45	-0.51	2.05	2393.06	6.26	2394.9	6.27	1.84	0.08
119	383	264	145	6128	0.85667	876.49	0.59465	1517.88	1341.43	0	2.04	2394.23	6.25	2395.42	6.25	1.18	0.05
119	384	265	146	6144	0.85544	876.76	0.59505	1517.95	1356.46	-0.51	2.03	2394.34	6.24	2396.21	6.24	1.87	0.08
119	385	266	147	6160	0.85422	877.02	0.59546	1518.03	1371.55	0	2.01	2395.41	6.22	2396.63	6.23	1.21	0.05
119	386	267	148	6176	0.85299	877.28	0.59586	1518.11	1386.68	-0.51	2	2395.42	6.21	2397.32	6.21	1.89	0.08
119	387	268	149	6192	0.85177	877.53	0.59625	1518.2	1401.86	0	1.98	2396.4	6.19	2397.63	6.2	1.23	0.05
119	388	269	150	6208	0.85054	877.78	0.59665	1518.29	1417.09	-0.51	1.97	2396.31	6.18	2398.21	6.18	1.91	0.08
119	389	270	151	6224	0.84932	878.02	0.59704	1518.39	1432.36	0	1.96	2397.18	6.16	2398.42	6.17	1.24	0.05
119	390	271	152	6240	0.84810	878.26	0.59744	1518.49	1447.68	-0.51	1.95	2397	6.15	2398.91	6.15	1.91	0.08
119	391	272	153	6256	0.84688	878.5	0.59783	1518.6	1463.05	0	1.93	2397.78	6.13	2399.02	6.14	1.24	0.05
119	392	273	154	6272	0.84566	878.73	0.59821	1518.71	1478.47	-0.51	1.92	2397.5	6.12	2399.41	6.12	1.9	0.08
119	393	274	155	6288	0.84445	878.96	0.59860	1518.83	1493.93	0	1.91	2398.19	6.1	2399.42	6.11	1.23	0.05
119	394	275	156	6304	0.84323	879.18	0.59899	1518.95	1509.44	-0.5	1.9	2397.82	6.09	2399.71	6.09	1.89	0.08
119	395	276	157	6320	0.84202	879.4	0.59937	1519.08	1524.99	0	1.88	2398.41	6.07	2399.62	6.07	1.21	0.05
119	396	277	158	6336	0.84081	879.62	0.59975	1519.21	1540.59	-0.5	1.87	2397.95	6.06	2399.81	6.06	1.86	0.08
119	397	278	159	6352	0.83960	879.83	0.60013	1519.34	1556.23	0	1.86	2398.45	6.04	2399.62	6.04	1.17	0.05
119	398	279	160	6368	0.83839	880.04	0.60050	1519.48	1571.92	-0.5	1.85	2397.9	6.02	2399.72	6.03	1.82	0.08
119	399	280	161	6384	0.83718	880.24	0.60088	1519.63	1587.65	0	1.84	2398.31	6.01	2399.44	6.01	1.13	0.05
119	400	281	162	6400	0.83598	880.44	0.60125	1519.78	1603.43	-0.5	1.83	2397.68	5.99	2399.44	6	1.77	0.07
119	401	282	163	6416	0.83477	880.64	0.60162	1519.93	1619.24	0	1.81	2398	5.98	2399.07	5.98	1.07	0.04
119	402	283	164	6432	0.83357	880.83	0.60199	1520.09	1635.11	-0.5	1.8	2397.27	5.96	2398.98	5.97	1.7	0.07
119	403	284	165	6448	0.83237	881.02	0.60236	1520.25	1651.01	0	1.79	2397.5	5.95	2398.51	5.95	1	0.04
119	404	285	166	6464	0.83117	881.21	0.60272	1520.42	1666.96	-0.5	1.78	2396.7	5.93	2398.33	5.94	1.63	0.07
119	405	286	167	6480	0.82997	881.39	0.60309	1520.59	1682.95	0	1.77	2396.84	5.92	2397.77	5.92	0.93	0.04
119	406	287	168	6496	0.82878	881.57	0.60345	1520.77	1698.98	-0.5	1.76	2395.95	5.9	2397.49	5.91	1.54	0.06
119	407	288	169	6512	0.82758	881.74	0.60381	1520.95	1715.05	0	1.75	2396.01	5.89	2396.84	5.89	0.84	0.03
119	408	289	170	6528	0.82639	881.91	0.60417	1521.13	1731.16	-0.5	1.74	2395.03	5.87	2396.48	5.87	1.45	0.06
119	409	290	171	6544	0.82520	882.08	0.60452	1521.32	1747.32	0	1.73	2395.01	5.86	2395.74	5.86	0.73	0.03
119	410	291	172	6560	0.82401	882.25	0.60488	1521.51	1763.51	-0.49	1.72	2393.95	5.84	2395.29	5.84	1.34	0.06
119	411	292	173	6576	0.82282	882.41	0.60523	1521.71	1779.75	0	1.71	2393.84	5.82	2394.46	5.83	0.62	0.03
119	412	293	174	6592	0.82164	882.56	0.60558	1521.91	1796.02	-0.49	1.7	2392.71	5.81	2393.93	5.81	1.22	0.05
119	413	294	175	6608	0.82045	882.72	0.60593	1522.11	1812.34	0	1.69	2392.52	5.79	2393.01	5.79	0.49	0.02
119	414	295	176	6624	0.81927	882.87	0.60628	1522.32	1828.69	-0.49	1.68	2391.3	5.78	2392.39	5.78	1.08	0.05

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
119	415	296	177	6640	0.81809	883.02	0.60663	1522.53	1845.09	0	1.67	2391.03	5.76	2391.39	5.76	0.36	0.01
119	416	297	178	6656	0.81692	883.16	0.60697	1522.75	1861.52	-0.49	1.66	2389.74	5.74	2390.68	5.75	0.94	0.04
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
120	239	119	-1	3824	0.99998	747.12	0.49895	1647.5	0.1	0	9.83	1439.1	6.02	1448.37	6.06	9.27	0.64
120	240	120	0	3840	1.00000	749.22	0.50000	1645.19	0	0.65	10	1456.23	6.07	1464.79	6.1	8.56	0.58
120	241	121	1	3856	0.99998	751.29	0.50104	1642.93	0.1	0	9.83	1471.51	6.11	1479.12	6.14	7.61	0.51
120	242	122	2	3872	0.99993	753.32	0.50207	1640.71	0.4	0.64	9.66	1487.87	6.15	1495.16	6.18	7.29	0.49
120	243	123	3	3888	0.99985	755.34	0.50309	1638.52	0.9	0	9.49	1502.73	6.18	1509.12	6.21	6.39	0.42
120	244	124	4	3904	0.99973	757.32	0.50410	1636.38	1.6	0.64	9.33	1518.68	6.22	1524.79	6.25	6.11	0.4
120	245	125	5	3920	0.99958	759.27	0.50510	1634.27	2.49	0	9.18	1533.15	6.26	1538.4	6.28	5.25	0.34
120	246	126	6	3936	0.99941	761.2	0.50610	1632.2	3.57	0.64	9.03	1548.69	6.3	1553.71	6.32	5.02	0.32
120	247	127	7	3952	0.99920	763.1	0.50709	1630.17	4.84	0	8.88	1562.77	6.33	1566.97	6.34	4.2	0.27
120	248	128	8	3968	0.99896	764.98	0.50807	1628.17	6.3	0.64	8.73	1577.92	6.36	1581.92	6.38	4	0.25
120	249	129	9	3984	0.99869	766.83	0.50904	1626.21	7.94	0	8.59	1591.61	6.39	1594.84	6.4	3.23	0.2
120	250	130	10	4000	0.99840	768.66	0.51000	1624.28	9.76	0.63	8.45	1606.38	6.43	1609.45	6.44	3.07	0.19
120	251	131	11	4016	0.99808	770.46	0.51096	1622.39	11.76	0	8.32	1619.7	6.45	1622.04	6.46	2.34	0.14
120	252	132	12	4032	0.99773	772.24	0.51191	1620.54	13.94	0.63	8.19	1634.1	6.48	1636.31	6.49	2.21	0.13
120	253	133	13	4048	0.99736	773.99	0.51285	1618.71	16.3	0	8.06	1647.06	6.51	1648.57	6.52	1.51	0.09
120	254	134	14	4064	0.99696	775.72	0.51378	1616.92	18.83	0.63	7.93	1661.09	6.54	1662.51	6.55	1.41	0.08
120	255	135	15	4080	0.99654	777.42	0.51471	1615.16	21.53	0	7.81	1673.7	6.56	1674.45	6.57	0.75	0.04
120	256	136	16	4096	0.99609	779.1	0.51563	1613.43	24.4	0.62	7.69	1687.38	6.59	1688.06	6.59	0.68	0.04
120	257	137	17	4112	0.99562	780.76	0.51654	1611.73	27.44	0	7.57	1699.63	6.61	1699.69	6.61	0.06	0
120	258	138	18	4128	0.99513	782.4	0.51744	1610.07	30.65	0.62	7.46	1712.97	6.64	1712.98	6.64	0.02	0
120	259	139	19	4144	0.99462	784.02	0.51834	1608.43	34.02	0	7.35	1724.89	6.66	1724.31	6.66	-0.58	-0.03
120	260	140	20	4160	0.99408	785.61	0.51923	1606.82	37.55	0.62	7.24	1737.88	6.68	1737.29	6.68	-0.59	-0.03
120	261	141	21	4176	0.99353	787.18	0.52012	1605.24	41.24	0	7.13	1749.47	6.7	1748.31	6.7	-1.16	-0.07
120	262	142	22	4192	0.99295	788.73	0.52099	1603.69	45.09	0.62	7.03	1762.13	6.73	1760.99	6.72	-1.14	-0.06
120	263	143	23	4208	0.99235	790.26	0.52186	1602.17	49.09	0	6.93	1773.4	6.74	1771.72	6.74	-1.68	-0.09
120	264	144	24	4224	0.99174	791.77	0.52273	1600.68	53.25	0.62	6.83	1785.74	6.76	1784.1	6.76	-1.64	-0.09
120	265	145	25	4240	0.99110	793.26	0.52359	1599.21	57.56	0	6.73	1796.69	6.78	1794.54	6.77	-2.15	-0.12
120	266	146	26	4256	0.99045	794.73	0.52444	1597.77	62.03	0.61	6.63	1808.72	6.8	1806.63	6.79	-2.09	-0.12
120	267	147	27	4272	0.98977	796.18	0.52528	1596.35	66.64	0	6.54	1819.36	6.81	1816.79	6.8	-2.57	-0.14
120	268	148	28	4288	0.98908	797.61	0.52612	1594.96	71.4	0.61	6.45	1831.08	6.83	1828.59	6.82	-2.49	-0.14
120	269	149	29	4304	0.98838	799.02	0.52695	1593.6	76.31	0	6.36	1841.43	6.85	1838.47	6.83	-2.95	-0.16
120	270	150	30	4320	0.98765	800.42	0.52778	1592.26	81.36	0.61	6.27	1852.84	6.86	1849.99	6.85	-2.85	-0.15
120	271	151	31	4336	0.98692	801.79	0.52860	1590.94	86.56	0	6.19	1862.89	6.87	1859.6	6.86	-3.29	-0.18
120	272	152	32	4352	0.98616	803.15	0.52941	1589.65	91.9	0.61	6.1	1874.01	6.89	1870.85	6.88	-3.17	-0.17
120	273	153	33	4368	0.98539	804.48	0.53022	1588.39	97.37	0	6.02	1883.78	6.9	1880.2	6.89	-3.58	-0.19
120	274	154	34	4384	0.98460	805.8	0.53102	1587.14	102.99	0.6	5.94	1894.61	6.91	1891.17	6.9	-3.44	-0.18
120	275	155	35	4400	0.98380	807.11	0.53182	1585.92	108.74	0	5.86	1904.09	6.92	1900.26	6.91	-3.84	-0.2
120	276	156	36	4416	0.98299	808.39	0.53261	1584.72	114.63	0.6	5.78	1914.64	6.94	1910.96	6.92	-3.68	-0.19
120	277	157	37	4432	0.98216	809.66	0.53339	1583.55	120.65	0	5.71	1923.85	6.95	1919.8	6.93	-4.05	-0.21
120	278	158	38	4448	0.98132	810.91	0.53417	1582.39	126.8	0.6	5.63	1934.12	6.96	1930.24	6.94	-3.88	-0.2
120	279	159	39	4464	0.98046	812.15	0.53495	1581.26	133.09	0	5.56	1943.06	6.96	1938.83	6.95	-4.24	-0.22
120	280	160	40	4480	0.97959	813.37	0.53571	1580.15	139.5	0.6	5.49	1953.07	6.98	1949.02	6.96	-4.05	-0.21
120	281	161	41	4496	0.97871	814.57	0.53648	1579.06	146.04	0	5.42	1961.75	6.98	1957.36	6.97	-4.39	-0.22

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
120	282	162	42	4512	0.97782	815.75	0.53723	1577.99	152.71	0.6	5.35	1971.49	6.99	1967.3	6.98	-4.19	-0.21
120	283	163	43	4528	0.97691	816.92	0.53799	1576.94	159.51	0	5.28	1979.91	7	1975.4	6.98	-4.51	-0.23
120	284	164	44	4544	0.97600	818.08	0.53873	1575.91	166.43	0.59	5.22	1989.39	7	1985.09	6.99	-4.3	-0.22
120	285	165	45	4560	0.97507	819.22	0.53947	1574.9	173.47	0	5.15	1997.56	7.01	1992.95	6.99	-4.61	-0.23
120	286	166	46	4576	0.97413	820.34	0.54021	1573.91	180.63	0.59	5.09	2006.79	7.02	2002.41	7	-4.38	-0.22
120	287	167	47	4592	0.97318	821.45	0.54094	1572.94	187.92	0	5.03	2014.71	7.02	2010.04	7	-4.67	-0.23
120	288	168	48	4608	0.97222	822.55	0.54167	1571.99	195.32	0.59	4.97	2023.69	7.03	2019.26	7.01	-4.43	-0.22
120	289	169	49	4624	0.97125	823.63	0.54239	1571.06	202.84	0	4.91	2031.38	7.03	2026.66	7.01	-4.71	-0.23
120	290	170	50	4640	0.97027	824.7	0.54310	1570.14	210.48	0.59	4.85	2040.12	7.03	2035.65	7.02	-4.47	-0.22
120	291	171	51	4656	0.96929	825.75	0.54381	1569.25	218.23	0	4.79	2047.56	7.04	2042.83	7.02	-4.73	-0.23
120	292	172	52	4672	0.96829	826.79	0.54452	1568.37	226.1	0.59	4.73	2056.06	7.04	2051.59	7.03	-4.47	-0.22
120	293	173	53	4688	0.96728	827.81	0.54522	1567.51	234.08	0	4.68	2063.28	7.04	2058.55	7.03	-4.73	-0.23
120	294	174	54	4704	0.96626	828.82	0.54592	1566.66	242.17	0.58	4.62	2071.55	7.05	2067.09	7.03	-4.46	-0.22
120	295	175	55	4720	0.96524	829.82	0.54661	1565.83	250.38	0	4.57	2078.54	7.05	2073.83	7.03	-4.71	-0.23
120	296	176	56	4736	0.96421	830.81	0.54730	1565.02	258.69	0.58	4.52	2086.58	7.05	2082.15	7.03	-4.43	-0.21
120	297	177	57	4752	0.96317	831.78	0.54798	1564.23	267.11	0	4.47	2093.35	7.05	2088.68	7.03	-4.66	-0.22
120	298	178	58	4768	0.96212	832.74	0.54866	1563.45	275.64	0.58	4.42	2101.17	7.05	2096.79	7.04	-4.38	-0.21
120	299	179	59	4784	0.96106	833.68	0.54933	1562.69	284.28	0	4.37	2107.72	7.05	2103.11	7.03	-4.6	-0.22
120	300	180	60	4800	0.96000	834.62	0.55000	1561.94	293.02	0.58	4.32	2115.32	7.05	2111	7.04	-4.31	-0.2
120	301	181	61	4816	0.95893	835.54	0.55066	1561.21	301.87	0	4.27	2121.66	7.05	2117.13	7.03	-4.53	-0.21
120	302	182	62	4832	0.95785	836.45	0.55133	1560.49	310.82	0.58	4.22	2129.04	7.05	2124.81	7.04	-4.23	-0.2
120	303	183	63	4848	0.95677	837.34	0.55198	1559.79	319.87	0	4.18	2135.17	7.05	2130.73	7.03	-4.44	-0.21
120	304	184	64	4864	0.95568	838.23	0.55263	1559.11	329.02	0.57	4.13	2142.35	7.05	2138.21	7.03	-4.14	-0.19
120	305	185	65	4880	0.95458	839.1	0.55328	1558.44	338.27	0	4.09	2148.27	7.04	2143.94	7.03	-4.33	-0.2
120	306	186	66	4896	0.95348	839.96	0.55392	1557.78	347.62	0.57	4.04	2155.24	7.04	2151.22	7.03	-4.03	-0.19
120	307	187	67	4912	0.95237	840.81	0.55456	1557.14	357.08	0	4	2160.97	7.04	2156.75	7.03	-4.22	-0.2
120	308	188	68	4928	0.95126	841.65	0.55520	1556.51	366.62	0.57	3.96	2167.74	7.04	2163.83	7.03	-3.91	-0.18
120	309	189	69	4944	0.95014	842.48	0.55583	1555.9	376.27	0	3.91	2173.26	7.03	2169.18	7.02	-4.09	-0.19
120	310	190	70	4960	0.94901	843.3	0.55645	1555.3	386.01	0.57	3.87	2179.83	7.03	2176.06	7.02	-3.77	-0.17
120	311	191	71	4976	0.94788	844.1	0.55707	1554.71	395.84	0	3.83	2185.17	7.03	2181.22	7.01	-3.95	-0.18
120	312	192	72	4992	0.94675	844.9	0.55769	1554.14	405.77	0.57	3.79	2191.55	7.02	2187.92	7.01	-3.63	-0.17
120	313	193	73	5008	0.94561	845.68	0.55831	1553.58	415.79	0	3.75	2196.7	7.02	2192.89	7.01	-3.8	-0.17
120	314	194	74	5024	0.94446	846.46	0.55892	1553.03	425.91	0.56	3.72	2202.88	7.02	2199.4	7	-3.48	-0.16
120	315	195	75	5040	0.94331	847.22	0.55952	1552.5	436.11	0	3.68	2207.85	7.01	2204.2	7	-3.65	-0.17
120	316	196	76	5056	0.94216	847.97	0.56013	1551.98	446.41	0.56	3.64	2213.84	7.01	2210.52	7	-3.32	-0.15
120	317	197	77	5072	0.94100	848.72	0.56073	1551.47	456.79	0	3.61	2218.63	7	2215.14	6.99	-3.48	-0.16
120	318	198	78	5088	0.93984	849.45	0.56132	1550.98	467.26	0.56	3.57	2224.44	7	2221.29	6.99	-3.16	-0.14
120	319	199	79	5104	0.93867	850.18	0.56191	1550.49	477.82	0	3.53	2229.05	6.99	2225.73	6.98	-3.32	-0.15
120	320	200	80	5120	0.93750	850.89	0.56250	1550.02	488.47	0.56	3.5	2234.68	6.98	2231.7	6.97	-2.99	-0.13
120	321	201	81	5136	0.93633	851.59	0.56308	1549.56	499.2	0	3.47	2239.11	6.98	2235.97	6.97	-3.14	-0.14
120	322	202	82	5152	0.93515	852.29	0.56367	1549.11	510.02	0.56	3.43	2244.57	6.97	2241.76	6.96	-2.81	-0.13
120	323	203	83	5168	0.93397	852.97	0.56424	1548.67	520.92	0	3.4	2248.83	6.96	2245.87	6.95	-2.96	-0.13
120	324	204	84	5184	0.93279	853.65	0.56482	1548.25	531.91	0.56	3.37	2254.12	6.96	2251.49	6.95	-2.63	-0.12
120	325	205	85	5200	0.93160	854.32	0.56539	1547.83	542.98	0	3.33	2258.21	6.95	2255.43	6.94	-2.78	-0.12
120	326	206	86	5216	0.93041	854.97	0.56595	1547.43	554.13	0.55	3.3	2263.32	6.94	2260.88	6.94	-2.44	-0.11
120	327	207	87	5232	0.92922	855.62	0.56651	1547.04	565.36	0	3.27	2267.25	6.93	2264.66	6.93	-2.59	-0.11
120	328	208	88	5248	0.92802	856.26	0.56707	1546.66	576.68	0.55	3.24	2272.2	6.93	2269.94	6.92	-2.26	-0.1

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
120	329	209	89	5264	0.92682	856.9	0.56763	1546.29	588.07	0	3.21	2275.96	6.92	2273.56	6.91	-2.4	-0.11
120	330	210	90	5280	0.92562	857.52	0.56818	1545.93	599.54	0.55	3.18	2280.75	6.91	2278.68	6.91	-2.07	-0.09
120	331	211	91	5296	0.92442	858.13	0.56873	1545.58	611.09	0	3.15	2284.35	6.9	2282.14	6.89	-2.21	-0.1
120	332	212	92	5312	0.92321	858.74	0.56928	1545.24	622.72	0.55	3.12	2288.97	6.89	2287.1	6.89	-1.88	-0.08
120	333	213	93	5328	0.92200	859.34	0.56982	1544.91	634.43	0	3.09	2292.42	6.88	2290.41	6.88	-2.02	-0.09
120	334	214	94	5344	0.92079	859.93	0.57036	1544.59	646.21	0.55	3.07	2296.89	6.88	2295.21	6.87	-1.68	-0.07
120	335	215	95	5360	0.91958	860.51	0.57090	1544.28	658.07	0	3.04	2300.19	6.87	2298.36	6.86	-1.83	-0.08
120	336	216	96	5376	0.91837	861.08	0.57143	1543.98	670	0.55	3.01	2304.5	6.86	2303	6.85	-1.49	-0.06
120	337	217	97	5392	0.91715	861.65	0.57196	1543.69	682.01	0	2.99	2307.64	6.85	2306.01	6.84	-1.63	-0.07
120	338	218	98	5408	0.91593	862.2	0.57249	1543.41	694.09	0.54	2.96	2311.8	6.84	2310.5	6.84	-1.3	-0.06
120	339	219	99	5424	0.91472	862.75	0.57301	1543.14	706.24	0	2.93	2314.8	6.83	2313.36	6.82	-1.44	-0.06
120	340	220	100	5440	0.91350	863.3	0.57353	1542.88	718.47	0.54	2.91	2318.81	6.82	2317.7	6.82	-1.11	-0.05
120	341	221	101	5456	0.91227	863.83	0.57405	1542.62	730.77	0	2.88	2321.66	6.81	2320.41	6.8	-1.25	-0.05
120	342	222	102	5472	0.91105	864.36	0.57456	1542.38	743.14	0.54	2.86	2325.52	6.8	2324.6	6.8	-0.92	-0.04
120	343	223	103	5488	0.90983	864.88	0.57507	1542.14	755.58	0	2.83	2328.23	6.79	2327.17	6.78	-1.06	-0.05
120	344	224	104	5504	0.90860	865.39	0.57558	1541.92	768.09	0.54	2.81	2331.95	6.78	2331.21	6.78	-0.74	-0.03
120	345	225	105	5520	0.90737	865.9	0.57609	1541.7	780.67	0	2.79	2334.52	6.77	2333.64	6.76	-0.88	-0.04
120	346	226	106	5536	0.90615	866.4	0.57659	1541.49	793.31	0.54	2.76	2338.1	6.76	2337.54	6.76	-0.56	-0.02
120	347	227	107	5552	0.90492	866.89	0.57709	1541.29	806.03	0	2.74	2340.53	6.75	2339.83	6.74	-0.7	-0.03
120	348	228	108	5568	0.90369	867.37	0.57759	1541.1	818.81	0.54	2.72	2343.97	6.74	2343.59	6.73	-0.37	-0.02
120	349	229	109	5584	0.90246	867.85	0.57808	1540.92	831.66	0	2.69	2346.26	6.72	2345.74	6.72	-0.52	-0.02
120	350	230	110	5600	0.90122	868.32	0.57857	1540.74	844.58	0.53	2.67	2349.56	6.71	2349.36	6.71	-0.2	-0.01
120	351	231	111	5616	0.89999	868.78	0.57906	1540.58	857.56	0	2.65	2351.72	6.7	2351.38	6.7	-0.34	-0.01
120	352	232	112	5632	0.89876	869.24	0.57955	1540.42	870.61	0.53	2.63	2354.89	6.69	2354.86	6.69	-0.03	0
120	353	233	113	5648	0.89753	869.69	0.58003	1540.27	883.72	0	2.61	2356.92	6.68	2356.75	6.68	-0.17	-0.01
120	354	234	114	5664	0.89629	870.14	0.58051	1540.12	896.9	0.53	2.59	2359.96	6.67	2360.1	6.67	0.14	0.01
120	355	235	115	5680	0.89506	870.58	0.58099	1539.99	910.14	0	2.57	2361.86	6.65	2361.85	6.65	-0.01	0
120	356	236	116	5696	0.89383	871.01	0.58146	1539.86	923.44	0.53	2.54	2364.76	6.64	2365.07	6.64	0.3	0.01
120	357	237	117	5712	0.89259	871.43	0.58193	1539.74	936.81	0	2.52	2366.54	6.63	2366.69	6.63	0.15	0.01
120	358	238	118	5728	0.89136	871.85	0.58240	1539.63	950.24	0.53	2.5	2369.31	6.62	2369.78	6.62	0.46	0.02
120	359	239	119	5744	0.89012	872.26	0.58287	1539.52	963.73	0	2.49	2370.97	6.6	2371.28	6.61	0.31	0.01
120	360	240	120	5760	0.88889	872.67	0.58333	1539.43	977.28	0.53	2.47	2373.62	6.59	2374.23	6.6	0.61	0.03
120	361	241	121	5776	0.88765	873.07	0.58380	1539.34	990.89	0	2.45	2375.15	6.58	2375.61	6.58	0.46	0.02
120	362	242	122	5792	0.88642	873.47	0.58425	1539.25	1004.56	0.53	2.43	2377.67	6.57	2378.43	6.57	0.76	0.03
120	363	243	123	5808	0.88519	873.86	0.58471	1539.18	1018.29	0	2.41	2379.09	6.55	2379.69	6.56	0.6	0.03
120	364	244	124	5824	0.88395	874.24	0.58517	1539.11	1032.08	0.52	2.39	2381.49	6.54	2382.39	6.55	0.9	0.04
120	365	245	125	5840	0.88272	874.62	0.58562	1539.04	1045.93	0	2.37	2382.78	6.53	2383.52	6.53	0.74	0.03
120	366	246	126	5856	0.88148	874.99	0.58607	1538.99	1059.83	0.52	2.36	2385.07	6.52	2386.09	6.52	1.03	0.04
120	367	247	127	5872	0.88025	875.36	0.58651	1538.94	1073.8	0	2.34	2386.24	6.5	2387.11	6.5	0.87	0.04
120	368	248	128	5888	0.87902	875.72	0.58696	1538.9	1087.82	0.52	2.32	2388.41	6.49	2389.56	6.49	1.15	0.05
120	369	249	129	5904	0.87778	876.07	0.58740	1538.86	1101.9	0	2.3	2389.47	6.48	2390.46	6.48	0.99	0.04
120	370	250	130	5920	0.87655	876.42	0.58784	1538.83	1116.03	0.52	2.29	2391.52	6.46	2392.79	6.47	1.27	0.05
120	371	251	131	5936	0.87532	876.77	0.58828	1538.81	1130.22	0	2.27	2392.47	6.45	2393.58	6.45	1.1	0.05
120	372	252	132	5952	0.87409	877.11	0.58871	1538.79	1144.46	0.52	2.25	2394.41	6.44	2395.79	6.44	1.38	0.06
120	373	253	133	5968	0.87286	877.44	0.58914	1538.78	1158.76	0	2.24	2395.25	6.42	2396.46	6.42	1.21	0.05
120	374	254	134	5984	0.87163	877.77	0.58957	1538.78	1173.12	0.52	2.22	2397.07	6.41	2398.55	6.41	1.48	0.06
120	375	255	135	6000	0.87040	878.09	0.59000	1538.78	1187.52	0	2.2	2397.81	6.39	2399.11	6.4	1.31	0.05

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
120	376	256	136	6016	0.86917	878.41	0.59043	1538.79	1201.99	0.52	2.19	2399.52	6.38	2401.09	6.39	1.58	0.07
120	377	257	137	6032	0.86794	878.73	0.59085	1538.8	1216.5	0	2.17	2400.14	6.37	2401.54	6.37	1.4	0.06
120	378	258	138	6048	0.86672	879.04	0.59127	1538.82	1231.07	0.51	2.16	2401.75	6.35	2403.41	6.36	1.66	0.07
120	379	259	139	6064	0.86549	879.34	0.59169	1538.85	1245.69	0	2.14	2402.27	6.34	2403.74	6.34	1.48	0.06
120	380	260	140	6080	0.86427	879.64	0.59211	1538.88	1260.36	0.51	2.13	2403.76	6.33	2405.5	6.33	1.74	0.07
120	381	261	141	6096	0.86304	879.93	0.59252	1538.92	1275.08	0	2.11	2404.18	6.31	2405.73	6.31	1.55	0.06
120	382	262	142	6112	0.86182	880.22	0.59293	1538.96	1289.86	0.51	2.1	2405.57	6.3	2407.37	6.3	1.8	0.07
120	383	263	143	6128	0.86060	880.51	0.59334	1539.01	1304.68	0	2.08	2405.89	6.28	2407.5	6.29	1.61	0.07
120	384	264	144	6144	0.85938	880.79	0.59375	1539.06	1319.55	0.51	2.07	2407.17	6.27	2409.03	6.27	1.86	0.08
120	385	265	145	6160	0.85816	881.06	0.59416	1539.12	1334.48	0	2.06	2407.39	6.25	2409.05	6.26	1.66	0.07
120	386	266	146	6176	0.85694	881.34	0.59456	1539.19	1349.45	0.51	2.04	2408.57	6.24	2410.48	6.24	1.91	0.08
120	387	267	147	6192	0.85572	881.6	0.59496	1539.26	1364.48	0	2.03	2408.69	6.22	2410.4	6.23	1.71	0.07
120	388	268	148	6208	0.85450	881.87	0.59536	1539.33	1379.55	0.51	2.01	2409.78	6.21	2411.72	6.22	1.94	0.08
120	389	269	149	6224	0.85329	882.12	0.59576	1539.41	1394.67	0	2	2409.8	6.19	2411.54	6.2	1.74	0.07
120	390	270	150	6240	0.85207	882.38	0.59615	1539.5	1409.84	0.51	1.99	2410.78	6.18	2412.75	6.19	1.97	0.08
120	391	271	151	6256	0.85086	882.63	0.59655	1539.59	1425.05	0	1.98	2410.7	6.17	2412.47	6.17	1.76	0.07
120	392	272	152	6272	0.84965	882.87	0.59694	1539.69	1440.32	0.51	1.96	2411.59	6.15	2413.58	6.16	1.99	0.08
120	393	273	153	6288	0.84844	883.11	0.59733	1539.79	1455.63	0	1.95	2411.42	6.14	2413.2	6.14	1.78	0.07
120	394	274	154	6304	0.84723	883.35	0.59772	1539.9	1470.98	0.5	1.94	2412.21	6.12	2414.21	6.13	2	0.08
120	395	275	155	6320	0.84602	883.58	0.59810	1540.01	1486.39	0	1.92	2411.95	6.11	2413.73	6.11	1.78	0.07
120	396	276	156	6336	0.84481	883.81	0.59849	1540.12	1501.83	0.5	1.91	2412.65	6.09	2414.64	6.1	1.99	0.08
120	397	277	157	6352	0.84361	884.03	0.59887	1540.24	1517.33	0	1.9	2412.29	6.08	2414.06	6.08	1.77	0.07
120	398	278	158	6368	0.84240	884.25	0.59925	1540.37	1532.87	0.5	1.89	2412.9	6.06	2414.88	6.07	1.98	0.08
120	399	279	159	6384	0.84120	884.47	0.59962	1540.5	1548.45	0	1.88	2412.45	6.05	2414.21	6.05	1.75	0.07
120	400	280	160	6400	0.84000	884.68	0.60000	1540.64	1564.08	0.5	1.86	2412.97	6.03	2414.92	6.04	1.96	0.08
120	401	281	161	6416	0.83880	884.89	0.60037	1540.78	1579.75	0	1.85	2412.43	6.02	2414.16	6.02	1.72	0.07
120	402	282	162	6432	0.83760	885.1	0.60075	1540.92	1595.47	0.5	1.84	2412.85	6	2414.77	6.01	1.92	0.08
120	403	283	163	6448	0.83641	885.3	0.60112	1541.07	1611.23	0	1.83	2412.23	5.99	2413.92	5.99	1.68	0.07
120	404	284	164	6464	0.83521	885.5	0.60149	1541.22	1627.03	0.5	1.82	2412.57	5.97	2414.44	5.98	1.87	0.08
120	405	285	165	6480	0.83402	885.69	0.60185	1541.38	1642.88	0	1.81	2411.86	5.96	2413.49	5.96	1.63	0.07
120	406	286	166	6496	0.83283	885.88	0.60222	1541.54	1658.77	0.5	1.8	2412.11	5.94	2413.92	5.95	1.82	0.08
120	407	287	167	6512	0.83164	886.07	0.60258	1541.71	1674.7	0	1.78	2411.31	5.92	2412.88	5.93	1.57	0.06
120	408	288	168	6528	0.83045	886.25	0.60294	1541.88	1690.67	0.5	1.77	2411.47	5.91	2413.22	5.91	1.75	0.07
120	409	289	169	6544	0.82926	886.43	0.60330	1542.05	1706.68	0	1.76	2410.6	5.89	2412.09	5.9	1.49	0.06
120	410	290	170	6560	0.82808	886.6	0.60366	1542.23	1722.74	0.49	1.75	2410.67	5.88	2412.34	5.88	1.67	0.07
120	411	291	171	6576	0.82690	886.78	0.60402	1542.42	1738.84	0	1.74	2409.72	5.86	2411.12	5.87	1.41	0.06
120	412	292	172	6592	0.82571	886.94	0.60437	1542.6	1754.97	0.49	1.73	2409.71	5.85	2411.28	5.85	1.57	0.07
120	413	293	173	6608	0.82453	887.11	0.60472	1542.79	1771.15	0	1.72	2408.67	5.83	2409.98	5.84	1.31	0.05
120	414	294	174	6624	0.82336	887.27	0.60507	1542.99	1787.37	0.49	1.71	2408.57	5.82	2410.04	5.82	1.47	0.06
120	415	295	175	6640	0.82218	887.43	0.60542	1543.19	1803.63	0	1.7	2407.46	5.8	2408.66	5.8	1.2	0.05
120	416	296	176	6656	0.82101	887.59	0.60577	1543.39	1819.92	0.49	1.69	2407.28	5.79	2408.64	5.79	1.35	0.06
120	417	297	177	6672	0.81983	887.74	0.60612	1543.6	1836.26	0	1.68	2406.09	5.77	2407.16	5.77	1.08	0.04
120	418	298	178	6688	0.81866	887.89	0.60646	1543.81	1852.63	0.49	1.67	2405.83	5.76	2407.06	5.76	1.22	0.05
120	419	299	179	6704	0.81749	888.03	0.60680	1544.02	1869.05	0	1.66	2404.56	5.74	2405.5	5.74	0.94	0.04
120	420	300	180	6720	0.81633	888.17	0.60714	1544.24	1885.5	0.49	1.65	2404.22	5.72	2405.31	5.73	1.08	0.05
Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
121	241	120	-1	3856	0.99998	751.29	0.49896	1670.43	0.1	0	9.83	1444.01	5.99	1453.28	6.03	9.26	0.64
121	242	121	0	3872	1.00000	753.38	0.50000	1668.11	0	-0.64	10	1459.87	6.03	1468.85	6.07	8.98	0.61
121	243	122	1	3888	0.99998	755.44	0.50103	1665.83	0.1	0	9.83	1476.46	6.08	1484.06	6.11	7.6	0.51
121	244	123	2	3904	0.99993	757.47	0.50205	1663.59	0.4	-0.64	9.66	1491.56	6.11	1499.27	6.14	7.71	0.51
121	245	124	3	3920	0.99985	759.48	0.50306	1661.4	0.9	0	9.5	1507.73	6.15	1514.1	6.18	6.37	0.42
121	246	125	4	3936	0.99974	761.45	0.50407	1659.24	1.59	-0.64	9.34	1522.42	6.19	1528.95	6.22	6.52	0.43
121	247	126	5	3952	0.99959	763.41	0.50506	1657.12	2.47	0	9.18	1538.19	6.23	1543.42	6.25	5.23	0.34
121	248	127	6	3968	0.99942	765.33	0.50605	1655.04	3.54	-0.64	9.03	1552.49	6.26	1557.92	6.28	5.43	0.35
121	249	128	7	3984	0.99921	767.23	0.50703	1652.99	4.8	0	8.89	1567.87	6.3	1572.04	6.31	4.17	0.27
121	250	129	8	4000	0.99898	769.1	0.50800	1650.98	6.25	-0.63	8.74	1581.78	6.33	1586.19	6.34	4.41	0.28
121	251	130	9	4016	0.99871	770.95	0.50896	1649.01	7.87	0	8.6	1596.77	6.36	1599.97	6.37	3.19	0.2
121	252	131	10	4032	0.99843	772.77	0.50992	1647.07	9.68	-0.63	8.46	1610.31	6.39	1613.78	6.4	3.47	0.21
121	253	132	11	4048	0.99811	774.57	0.51087	1645.16	11.67	0	8.33	1624.93	6.42	1627.22	6.43	2.29	0.14
121	254	133	12	4064	0.99777	776.34	0.51181	1643.29	13.84	-0.63	8.2	1638.1	6.45	1640.7	6.46	2.6	0.16
121	255	134	13	4080	0.99740	778.09	0.51275	1641.45	16.17	0	8.07	1652.35	6.48	1653.81	6.49	1.46	0.09
121	256	135	14	4096	0.99701	779.82	0.51367	1639.65	18.68	-0.62	7.95	1665.17	6.5	1666.97	6.51	1.8	0.11
121	257	136	15	4112	0.99659	781.52	0.51459	1637.87	21.37	0	7.83	1679.06	6.53	1679.75	6.54	0.69	0.04
121	258	137	16	4128	0.99615	783.2	0.51550	1636.13	24.22	-0.62	7.71	1691.53	6.56	1692.6	6.56	1.07	0.06
121	259	138	17	4144	0.99569	784.86	0.51641	1634.42	27.23	0	7.59	1705.07	6.58	1705.07	6.58	-0.01	0
121	260	139	18	4160	0.99521	786.5	0.51731	1632.74	30.41	-0.62	7.48	1717.2	6.6	1717.6	6.61	0.39	0.02
121	261	140	19	4176	0.99470	788.11	0.51820	1631.09	33.76	0	7.37	1730.41	6.63	1729.76	6.63	-0.65	-0.04
121	262	141	20	4192	0.99417	789.7	0.51908	1629.47	37.26	-0.62	7.26	1742.2	6.65	1741.99	6.65	-0.22	-0.01
121	263	142	21	4208	0.99362	791.28	0.51996	1627.88	40.93	0	7.15	1755.07	6.67	1753.84	6.67	-1.23	-0.07
121	264	143	22	4224	0.99306	792.83	0.52083	1626.31	44.75	-0.62	7.05	1766.55	6.69	1765.77	6.69	-0.78	-0.04
121	265	144	23	4240	0.99247	794.36	0.52170	1624.78	48.72	0	6.95	1779.09	6.71	1777.33	6.71	-1.76	-0.1
121	266	145	24	4256	0.99186	795.87	0.52256	1623.27	52.85	-0.61	6.85	1790.25	6.73	1788.97	6.73	-1.28	-0.07
121	267	146	25	4272	0.99123	797.35	0.52341	1621.79	57.14	0	6.75	1802.47	6.75	1800.23	6.74	-2.24	-0.12
121	268	147	26	4288	0.99059	798.82	0.52425	1620.33	61.57	-0.61	6.65	1813.32	6.77	1811.58	6.76	-1.73	-0.1
121	269	148	27	4304	0.98993	800.27	0.52509	1618.9	66.15	0	6.56	1825.23	6.79	1822.56	6.78	-2.67	-0.15
121	270	149	28	4320	0.98925	801.71	0.52593	1617.5	70.88	-0.61	6.47	1835.78	6.8	1833.64	6.79	-2.14	-0.12
121	271	150	29	4336	0.98855	803.12	0.52675	1616.12	75.75	0	6.38	1847.39	6.82	1844.33	6.81	-3.06	-0.17
121	272	151	30	4352	0.98784	804.51	0.52757	1614.77	80.77	-0.61	6.29	1857.64	6.83	1855.13	6.82	-2.5	-0.13
121	273	152	31	4368	0.98711	805.89	0.52839	1613.44	85.93	0	6.21	1868.95	6.85	1865.56	6.83	-3.4	-0.18
121	274	153	32	4384	0.98636	807.24	0.52920	1612.14	91.23	-0.6	6.12	1878.91	6.86	1876.09	6.85	-2.82	-0.15
121	275	154	33	4400	0.98560	808.58	0.53000	1610.86	96.67	0	6.04	1889.94	6.87	1886.24	6.86	-3.7	-0.2
121	276	155	34	4416	0.98483	809.9	0.53080	1609.6	102.24	-0.6	5.96	1899.61	6.88	1896.51	6.87	-3.1	-0.16
121	277	156	35	4432	0.98404	811.21	0.53159	1608.37	107.96	0	5.88	1910.35	6.9	1906.4	6.88	-3.96	-0.21
121	278	157	36	4448	0.98323	812.49	0.53237	1607.15	113.8	-0.6	5.8	1919.75	6.91	1916.4	6.89	-3.35	-0.17
121	279	158	37	4464	0.98241	813.76	0.53315	1605.97	119.79	0	5.73	1930.21	6.92	1926.03	6.9	-4.18	-0.22
121	280	159	38	4480	0.98158	815.02	0.53393	1604.8	125.9	-0.6	5.66	1939.34	6.93	1935.79	6.91	-3.55	-0.18
121	281	160	39	4496	0.98074	816.25	0.53470	1603.65	132.14	0	5.58	1949.53	6.94	1945.17	6.92	-4.37	-0.22
121	282	161	40	4512	0.97988	817.47	0.53546	1602.53	138.51	-0.6	5.51	1958.4	6.94	1954.67	6.93	-3.73	-0.19
121	283	162	41	4528	0.97901	818.68	0.53622	1601.43	145.01	0	5.44	1968.32	6.96	1963.8	6.94	-4.52	-0.23
121	284	163	42	4544	0.97813	819.87	0.53697	1600.34	151.64	-0.59	5.37	1976.93	6.96	1973.06	6.95	-3.87	-0.2
121	285	164	43	4560	0.97724	821.04	0.53772	1599.28	158.39	0	5.31	1986.59	6.97	1981.94	6.95	-4.65	-0.23
121	286	165	44	4576	0.97633	822.2	0.53846	1598.24	165.27	-0.59	5.24	1994.95	6.98	1990.96	6.96	-3.98	-0.2
121	287	166	45	4592	0.97542	823.34	0.53920	1597.22	172.26	0	5.18	2004.35	6.98	1999.61	6.97	-4.75	-0.24

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
121	288	167	46	4608	0.97449	824.47	0.53993	1596.21	179.38	-0.59	5.11	2012.46	6.99	2008.39	6.97	-4.07	-0.2
121	289	168	47	4624	0.97355	825.58	0.54066	1595.23	186.62	0	5.05	2021.62	7	2016.8	6.98	-4.82	-0.24
121	290	169	48	4640	0.97260	826.68	0.54138	1594.27	193.98	-0.59	4.99	2029.48	7	2025.36	6.98	-4.13	-0.2
121	291	170	49	4656	0.97165	827.76	0.54210	1593.32	201.45	0	4.93	2038.4	7	2033.53	6.99	-4.86	-0.24
121	292	171	50	4672	0.97068	828.83	0.54281	1592.39	209.04	-0.59	4.87	2046.02	7.01	2041.86	6.99	-4.16	-0.2
121	293	172	51	4688	0.96970	829.89	0.54352	1591.48	216.75	0	4.81	2054.7	7.01	2049.81	7	-4.89	-0.24
121	294	173	52	4704	0.96872	830.93	0.54422	1590.59	224.57	-0.58	4.76	2062.09	7.01	2057.92	7	-4.17	-0.2
121	295	174	53	4720	0.96772	831.96	0.54492	1589.72	232.5	0	4.7	2070.53	7.02	2065.64	7	-4.89	-0.24
121	296	175	54	4736	0.96672	832.97	0.54561	1588.86	240.54	-0.58	4.65	2077.69	7.02	2073.53	7.01	-4.16	-0.2
121	297	176	55	4752	0.96571	833.97	0.54630	1588.02	248.7	0	4.59	2085.91	7.02	2081.04	7.01	-4.86	-0.23
121	298	177	56	4768	0.96469	834.96	0.54698	1587.2	256.96	-0.58	4.54	2092.85	7.02	2088.71	7.01	-4.13	-0.2
121	299	178	57	4784	0.96366	835.93	0.54766	1586.39	265.33	0	4.49	2100.83	7.03	2096.01	7.01	-4.82	-0.23
121	300	179	58	4800	0.96262	836.9	0.54833	1585.6	273.81	-0.58	4.44	2107.55	7.03	2103.47	7.01	-4.08	-0.19
121	301	180	59	4816	0.96158	837.85	0.54900	1584.83	282.4	0	4.39	2115.32	7.03	2110.55	7.01	-4.77	-0.23
121	302	181	60	4832	0.96053	838.78	0.54967	1584.07	291.09	-0.58	4.34	2121.83	7.03	2117.81	7.01	-4.02	-0.19
121	303	182	61	4848	0.95947	839.71	0.55033	1583.33	299.88	0	4.29	2129.38	7.03	2124.69	7.01	-4.69	-0.22
121	304	183	62	4864	0.95841	840.62	0.55099	1582.6	308.78	-0.57	4.25	2135.68	7.03	2131.74	7.01	-3.94	-0.18
121	305	184	63	4880	0.95733	841.52	0.55164	1581.89	317.78	0	4.2	2143.02	7.03	2138.41	7.01	-4.6	-0.22
121	306	185	64	4896	0.95626	842.41	0.55229	1581.19	326.88	-0.57	4.15	2149.11	7.02	2145.26	7.01	-3.84	-0.18
121	307	186	65	4912	0.95517	843.29	0.55293	1580.51	336.08	0	4.11	2156.24	7.02	2151.74	7.01	-4.5	-0.21
121	308	187	66	4928	0.95408	844.15	0.55357	1579.84	345.37	-0.57	4.07	2162.13	7.02	2158.39	7.01	-3.73	-0.17
121	309	188	67	4944	0.95299	845.01	0.55421	1579.19	354.77	0	4.02	2169.06	7.02	2164.67	7.01	-4.39	-0.2
121	310	189	68	4960	0.95188	845.85	0.55484	1578.55	364.27	-0.57	3.98	2174.75	7.02	2171.13	7	-3.61	-0.17
121	311	190	69	4976	0.95078	846.68	0.55547	1577.92	373.86	0	3.94	2181.48	7.01	2177.22	7	-4.26	-0.2
121	312	191	70	4992	0.94966	847.5	0.55609	1577.31	383.54	-0.57	3.9	2186.97	7.01	2183.49	7	-3.48	-0.16
121	313	192	71	5008	0.94855	848.31	0.55671	1576.71	393.32	0	3.86	2193.51	7.01	2189.39	6.99	-4.12	-0.19
121	314	193	72	5024	0.94742	849.11	0.55733	1576.13	403.2	-0.56	3.82	2198.81	7	2195.47	6.99	-3.34	-0.15
121	315	194	73	5040	0.94629	849.9	0.55794	1575.56	413.16	0	3.78	2205.16	7	2201.18	6.99	-3.97	-0.18
121	316	195	74	5056	0.94516	850.68	0.55854	1575	423.22	-0.56	3.74	2210.28	6.99	2207.09	6.98	-3.19	-0.14
121	317	196	75	5072	0.94402	851.45	0.55915	1574.46	433.37	0	3.7	2216.43	6.99	2212.61	6.98	-3.82	-0.17
121	318	197	76	5088	0.94288	852.2	0.55975	1573.93	443.61	-0.56	3.66	2221.37	6.99	2218.34	6.98	-3.03	-0.14
121	319	198	77	5104	0.94174	852.95	0.56035	1573.41	453.93	0	3.63	2227.34	6.98	2223.68	6.97	-3.65	-0.16
121	320	199	78	5120	0.94059	853.69	0.56094	1572.9	464.35	-0.56	3.59	2232.09	6.98	2229.23	6.97	-2.86	-0.13
121	321	200	79	5136	0.93943	854.42	0.56153	1572.4	474.85	0	3.56	2237.88	6.97	2234.4	6.96	-3.48	-0.16
121	322	201	80	5152	0.93827	855.14	0.56211	1571.92	485.44	-0.56	3.52	2242.46	6.96	2239.77	6.96	-2.69	-0.12
121	323	202	81	5168	0.93711	855.84	0.56269	1571.45	496.12	0	3.49	2248.07	6.96	2244.77	6.95	-3.31	-0.15
121	324	203	82	5184	0.93595	856.54	0.56327	1570.99	506.88	-0.56	3.45	2252.48	6.95	2249.97	6.94	-2.51	-0.11
121	325	204	83	5200	0.93478	857.23	0.56385	1570.54	517.73	0	3.42	2257.92	6.95	2254.79	6.94	-3.12	-0.14
121	326	205	84	5216	0.93361	857.91	0.56442	1570.11	528.66	-0.55	3.39	2262.16	6.94	2259.82	6.93	-2.33	-0.1
121	327	206	85	5232	0.93243	858.59	0.56499	1569.68	539.67	0	3.36	2267.42	6.93	2264.48	6.93	-2.94	-0.13
121	328	207	86	5248	0.93125	859.25	0.56555	1569.27	550.76	-0.55	3.32	2271.49	6.93	2269.35	6.92	-2.14	-0.09
121	329	208	87	5264	0.93007	859.9	0.56611	1568.87	561.94	0	3.29	2276.59	6.92	2273.84	6.91	-2.75	-0.12
121	330	209	88	5280	0.92889	860.55	0.56667	1568.48	573.19	-0.55	3.26	2280.5	6.91	2278.54	6.9	-1.96	-0.09
121	331	210	89	5296	0.92770	861.18	0.56722	1568.1	584.53	0	3.23	2285.43	6.9	2282.87	6.9	-2.56	-0.11
121	332	211	90	5312	0.92651	861.81	0.56777	1567.73	595.94	-0.55	3.2	2289.18	6.9	2287.41	6.89	-1.76	-0.08
121	333	212	91	5328	0.92532	862.43	0.56832	1567.37	607.43	0	3.17	2293.94	6.89	2291.58	6.88	-2.36	-0.1
121	334	213	92	5344	0.92413	863.04	0.56886	1567.02	619	-0.55	3.14	2297.53	6.88	2295.97	6.87	-1.57	-0.07

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
121	335	214	93	5360	0.92293	863.64	0.56940	1566.68	630.65	0	3.12	2302.14	6.87	2299.97	6.87	-2.17	-0.09
121	336	215	94	5376	0.92173	864.24	0.56994	1566.35	642.37	-0.55	3.09	2305.58	6.86	2304.21	6.86	-1.38	-0.06
121	337	216	95	5392	0.92053	864.82	0.57048	1566.03	654.17	0	3.06	2310.03	6.85	2308.06	6.85	-1.97	-0.09
121	338	217	96	5408	0.91933	865.4	0.57101	1565.72	666.05	-0.54	3.03	2313.32	6.84	2312.14	6.84	-1.18	-0.05
121	339	218	97	5424	0.91813	865.97	0.57153	1565.42	678	0	3.01	2317.62	6.84	2315.84	6.83	-1.78	-0.08
121	340	219	98	5440	0.91692	866.53	0.57206	1565.13	690.02	-0.54	2.98	2320.75	6.83	2319.77	6.82	-0.99	-0.04
121	341	220	99	5456	0.91571	867.09	0.57258	1564.85	702.11	0	2.95	2324.9	6.82	2323.32	6.81	-1.58	-0.07
121	342	221	100	5472	0.91450	867.64	0.57310	1564.58	714.28	-0.54	2.93	2327.89	6.81	2327.1	6.8	-0.79	-0.03
121	343	222	101	5488	0.91329	868.18	0.57362	1564.32	726.52	0	2.9	2331.89	6.8	2330.5	6.79	-1.39	-0.06
121	344	223	102	5504	0.91208	868.71	0.57413	1564.07	738.83	-0.54	2.88	2334.73	6.79	2334.13	6.79	-0.6	-0.03
121	345	224	103	5520	0.91087	869.23	0.57464	1563.82	751.21	0	2.85	2338.59	6.78	2337.39	6.78	-1.2	-0.05
121	346	225	104	5536	0.90965	869.75	0.57515	1563.59	763.66	-0.54	2.83	2341.29	6.77	2340.88	6.77	-0.41	-0.02
121	347	226	105	5552	0.90844	870.26	0.57565	1563.36	776.18	0	2.81	2345	6.76	2344	6.76	-1.01	-0.04
121	348	227	106	5568	0.90722	870.76	0.57615	1563.15	788.77	-0.54	2.78	2347.57	6.75	2347.35	6.75	-0.22	-0.01
121	349	228	107	5584	0.90600	871.26	0.57665	1562.94	801.42	0	2.76	2351.14	6.74	2350.32	6.73	-0.82	-0.03
121	350	229	108	5600	0.90478	871.75	0.57714	1562.74	814.15	-0.53	2.74	2353.57	6.72	2353.53	6.72	-0.04	0
121	351	230	109	5616	0.90356	872.23	0.57764	1562.55	826.94	0	2.71	2357	6.72	2356.36	6.71	-0.63	-0.03
121	352	231	110	5632	0.90234	872.71	0.57813	1562.36	839.79	-0.53	2.69	2359.29	6.7	2359.44	6.7	0.14	0.01
121	353	232	111	5648	0.90112	873.18	0.57861	1562.19	852.72	0	2.67	2362.59	6.69	2362.13	6.69	-0.45	-0.02
121	354	233	112	5664	0.89990	873.64	0.57910	1562.02	865.71	-0.53	2.65	2364.75	6.68	2365.07	6.68	0.32	0.01
121	355	234	113	5680	0.89868	874.09	0.57958	1561.86	878.76	0	2.63	2367.91	6.67	2367.63	6.67	-0.28	-0.01
121	356	235	114	5696	0.89746	874.54	0.58006	1561.71	891.88	-0.53	2.61	2369.95	6.66	2370.44	6.66	0.5	0.02
121	357	236	115	5712	0.89623	874.99	0.58053	1561.57	905.06	0	2.58	2372.97	6.65	2372.87	6.65	-0.1	0
121	358	237	116	5728	0.89501	875.42	0.58101	1561.43	918.3	-0.53	2.56	2374.88	6.63	2375.55	6.64	0.66	0.03
121	359	238	117	5744	0.89379	875.85	0.58148	1561.3	931.61	0	2.54	2377.78	6.62	2377.84	6.62	0.06	0
121	360	239	118	5760	0.89256	876.28	0.58194	1561.18	944.97	-0.53	2.52	2379.56	6.61	2380.39	6.61	0.83	0.03
121	361	240	119	5776	0.89134	876.7	0.58241	1561.07	958.4	0	2.5	2382.34	6.6	2382.56	6.6	0.22	0.01
121	362	241	120	5792	0.89011	877.11	0.58287	1560.97	971.89	-0.53	2.49	2383.99	6.59	2384.98	6.59	0.99	0.04
121	363	242	121	5808	0.88889	877.51	0.58333	1560.87	985.44	0	2.47	2386.64	6.57	2387.02	6.58	0.38	0.02
121	364	243	122	5824	0.88767	877.91	0.58379	1560.78	999.06	-0.52	2.45	2388.18	6.56	2389.32	6.56	1.14	0.05
121	365	244	123	5840	0.88644	878.31	0.58425	1560.69	1012.73	0	2.43	2390.7	6.55	2391.23	6.55	0.53	0.02
121	366	245	124	5856	0.88522	878.7	0.58470	1560.61	1026.46	-0.52	2.41	2392.12	6.54	2393.41	6.54	1.28	0.05
121	367	246	125	5872	0.88399	879.08	0.58515	1560.54	1040.24	0	2.39	2394.53	6.52	2395.2	6.53	0.67	0.03
121	368	247	126	5888	0.88277	879.45	0.58560	1560.48	1054.09	-0.52	2.37	2395.83	6.51	2397.25	6.51	1.42	0.06
121	369	248	127	5904	0.88155	879.83	0.58604	1560.42	1067.99	0	2.36	2398.11	6.5	2398.92	6.5	0.81	0.03
121	370	249	128	5920	0.88032	880.19	0.58649	1560.38	1081.95	-0.52	2.34	2399.3	6.48	2400.85	6.49	1.55	0.06
121	371	250	129	5936	0.87910	880.55	0.58693	1560.33	1095.97	0	2.32	2401.47	6.47	2402.41	6.48	0.94	0.04
121	372	251	130	5952	0.87788	880.91	0.58737	1560.3	1110.05	-0.52	2.3	2402.54	6.46	2404.22	6.46	1.68	0.07
121	373	252	131	5968	0.87665	881.26	0.58780	1560.27	1124.18	0	2.29	2404.59	6.45	2405.65	6.45	1.06	0.04
121	374	253	132	5984	0.87543	881.6	0.58824	1560.24	1138.36	-0.52	2.27	2405.55	6.43	2407.35	6.44	1.8	0.07
121	375	254	133	6000	0.87421	881.94	0.58867	1560.22	1152.6	0	2.25	2407.49	6.42	2408.67	6.42	1.18	0.05
121	376	255	134	6016	0.87299	882.27	0.58910	1560.21	1166.89	-0.52	2.24	2408.34	6.41	2410.25	6.41	1.91	0.08
121	377	256	135	6032	0.87177	882.6	0.58952	1560.21	1181.24	0	2.22	2410.17	6.39	2411.45	6.4	1.28	0.05
121	378	257	136	6048	0.87055	882.93	0.58995	1560.21	1195.64	-0.51	2.21	2410.91	6.38	2412.92	6.38	2.01	0.08
121	379	258	137	6064	0.86933	883.24	0.59037	1560.22	1210.1	0	2.19	2412.63	6.37	2414.01	6.37	1.38	0.06
121	380	259	138	6080	0.86812	883.56	0.59079	1560.23	1224.61	-0.51	2.18	2413.27	6.35	2415.37	6.36	2.1	0.09
121	381	260	139	6096	0.86690	883.87	0.59121	1560.25	1239.17	0	2.16	2414.88	6.34	2416.35	6.34	1.47	0.06

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
121	382	261	140	6112	0.86568	884.17	0.59162	1560.27	1253.78	-0.51	2.15	2415.41	6.32	2417.6	6.33	2.18	0.09
121	383	262	141	6128	0.86447	884.47	0.59204	1560.31	1268.44	0	2.13	2416.91	6.31	2418.47	6.31	1.55	0.06
121	384	263	142	6144	0.86325	884.76	0.59245	1560.34	1283.15	-0.51	2.12	2417.34	6.3	2419.6	6.3	2.26	0.09
121	385	264	143	6160	0.86204	885.05	0.59286	1560.38	1297.92	0	2.1	2418.74	6.28	2420.37	6.29	1.62	0.07
121	386	265	144	6176	0.86083	885.34	0.59326	1560.43	1312.74	-0.51	2.09	2419.07	6.27	2421.4	6.27	2.33	0.1
121	387	266	145	6192	0.85962	885.62	0.59367	1560.49	1327.6	0	2.07	2420.37	6.25	2422.05	6.26	1.69	0.07
121	388	267	146	6208	0.85841	885.9	0.59407	1560.54	1342.52	-0.51	2.06	2420.6	6.24	2422.98	6.24	2.38	0.1
121	389	268	147	6224	0.85720	886.17	0.59447	1560.61	1357.48	0	2.05	2421.79	6.23	2423.53	6.23	1.74	0.07
121	390	269	148	6240	0.85599	886.43	0.59487	1560.68	1372.49	-0.51	2.03	2421.92	6.21	2424.35	6.22	2.43	0.1
121	391	270	149	6256	0.85478	886.7	0.59527	1560.75	1387.55	0	2.02	2423.01	6.2	2424.8	6.2	1.78	0.07
121	392	271	150	6272	0.85358	886.96	0.59566	1560.83	1402.66	-0.51	2	2423.05	6.18	2425.52	6.19	2.47	0.1
121	393	272	151	6288	0.85237	887.21	0.59606	1560.92	1417.82	0	1.99	2424.04	6.17	2425.86	6.17	1.82	0.07
121	394	273	152	6304	0.85117	887.46	0.59645	1561.01	1433.02	-0.5	1.98	2423.98	6.15	2426.48	6.16	2.5	0.1
121	395	274	153	6320	0.84997	887.7	0.59684	1561.11	1448.27	0	1.97	2424.88	6.14	2426.72	6.14	1.84	0.08
121	396	275	154	6336	0.84877	887.95	0.59722	1561.21	1463.57	-0.5	1.95	2424.73	6.12	2427.24	6.13	2.51	0.1
121	397	276	155	6352	0.84757	888.18	0.59761	1561.31	1478.92	0	1.94	2425.53	6.11	2427.38	6.11	1.85	0.08
121	398	277	156	6368	0.84637	888.42	0.59799	1561.42	1494.31	-0.5	1.93	2425.28	6.09	2427.8	6.1	2.52	0.1
121	399	278	157	6384	0.84517	888.64	0.59837	1561.54	1509.74	0	1.92	2425.99	6.08	2427.85	6.08	1.86	0.08
121	400	279	158	6400	0.84398	888.87	0.59875	1561.66	1525.22	-0.5	1.9	2425.65	6.06	2428.17	6.07	2.52	0.1
121	401	280	159	6416	0.84278	889.09	0.59913	1561.78	1540.75	0	1.89	2426.27	6.05	2428.12	6.06	1.85	0.08
121	402	281	160	6432	0.84159	889.31	0.59950	1561.91	1556.32	-0.5	1.88	2425.84	6.03	2428.35	6.04	2.5	0.1
121	403	282	161	6448	0.84040	889.52	0.59988	1562.05	1571.93	0	1.87	2426.37	6.02	2428.2	6.03	1.83	0.08
121	404	283	162	6464	0.83921	889.73	0.60025	1562.19	1587.59	-0.5	1.86	2425.85	6	2428.33	6.01	2.48	0.1
121	405	284	163	6480	0.83802	889.94	0.60062	1562.33	1603.29	0	1.84	2426.29	5.99	2428.09	6	1.8	0.07
121	406	285	164	6496	0.83683	890.14	0.60099	1562.48	1619.04	-0.5	1.83	2425.68	5.97	2428.13	5.98	2.44	0.1
121	407	286	165	6512	0.83565	890.34	0.60135	1562.63	1634.82	0	1.82	2426.03	5.96	2427.79	5.97	1.76	0.07
121	408	287	166	6528	0.83446	890.53	0.60172	1562.79	1650.66	-0.5	1.81	2425.34	5.94	2427.74	5.95	2.4	0.1
121	409	288	167	6544	0.83328	890.72	0.60208	1562.95	1666.53	0	1.8	2425.6	5.93	2427.31	5.93	1.71	0.07
121	410	289	168	6560	0.83210	890.91	0.60244	1563.11	1682.44	-0.49	1.79	2424.83	5.91	2427.17	5.92	2.34	0.1
121	411	290	169	6576	0.83092	891.09	0.60280	1563.28	1698.4	0	1.78	2425	5.9	2426.65	5.9	1.65	0.07
121	412	291	170	6592	0.82974	891.27	0.60316	1563.46	1714.4	-0.49	1.77	2424.15	5.88	2426.42	5.89	2.27	0.09
121	413	292	171	6608	0.82857	891.45	0.60351	1563.64	1730.44	0	1.76	2424.24	5.87	2425.81	5.87	1.57	0.06
121	414	293	172	6624	0.82739	891.62	0.60387	1563.82	1746.52	-0.49	1.75	2423.3	5.85	2425.49	5.86	2.19	0.09
121	415	294	173	6640	0.82622	891.79	0.60422	1564	1762.64	0	1.74	2423.3	5.84	2424.79	5.84	1.49	0.06
121	416	295	174	6656	0.82505	891.96	0.60457	1564.2	1778.8	-0.49	1.73	2422.29	5.82	2424.38	5.83	2.1	0.09
121	417	296	175	6672	0.82388	892.12	0.60492	1564.39	1795	0	1.72	2422.21	5.81	2423.6	5.81	1.39	0.06
121	418	297	176	6688	0.82272	892.28	0.60526	1564.59	1811.24	-0.49	1.71	2421.11	5.79	2423.1	5.8	1.99	0.08
121	419	298	177	6704	0.82155	892.44	0.60561	1564.79	1827.51	0	1.7	2420.95	5.78	2422.23	5.78	1.28	0.05
121	420	299	178	6720	0.82039	892.59	0.60595	1565	1843.83	-0.49	1.69	2419.78	5.76	2421.65	5.77	1.88	0.08
121	421	300	179	6736	0.81922	892.74	0.60630	1565.21	1860.19	0	1.68	2419.54	5.75	2420.7	5.75	1.16	0.05
121	422	301	180	6752	0.81806	892.89	0.60664	1565.42	1876.59	-0.49	1.67	2418.29	5.73	2420.03	5.73	1.75	0.07
121	423	302	181	6768	0.81691	893.03	0.60697	1565.64	1893.02	0	1.66	2417.97	5.72	2419	5.72	1.03	0.04
121	424	303	182	6784	0.81575	893.17	0.60731	1565.86	1909.49	-0.49	1.65	2416.64	5.7	2418.25	5.7	1.61	0.07
Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
122	243	121	-1	3888	0.99998	755.44	0.49897	1693.48	0.1	0	9.83	1448.81	5.96	1458.08	6	9.26	0.64
122	244	122	0	3904	1.00000	757.52	0.50000	1691.15	0	0.64	10	1465.97	6.01	1474.53	6.04	8.55	0.58

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
122	245	123	1	3920	0.99998	759.58	0.50102	1688.86	0.1	0	9.83	1481.3	6.05	1488.9	6.08	7.6	0.51
122	246	124	2	3936	0.99993	761.6	0.50203	1686.61	0.4	0.64	9.66	1497.69	6.09	1504.98	6.12	7.28	0.48
122	247	125	3	3952	0.99985	763.61	0.50304	1684.4	0.89	0	9.5	1512.61	6.12	1518.99	6.15	6.38	0.42
122	248	126	4	3968	0.99974	765.58	0.50403	1682.23	1.57	0.64	9.35	1528.6	6.16	1534.7	6.19	6.1	0.4
122	249	127	5	3984	0.99960	767.53	0.50502	1680.09	2.45	0	9.19	1543.12	6.2	1548.37	6.22	5.24	0.34
122	250	128	6	4000	0.99942	769.45	0.50600	1678	3.51	0.63	9.04	1558.72	6.23	1563.72	6.25	5	0.32
122	251	129	7	4016	0.99922	771.34	0.50697	1675.94	4.76	0	8.89	1572.85	6.27	1577.04	6.28	4.19	0.27
122	252	130	8	4032	0.99899	773.21	0.50794	1673.92	6.2	0.63	8.75	1588.06	6.3	1592.05	6.32	3.99	0.25
122	253	131	9	4048	0.99874	775.05	0.50889	1671.93	7.81	0	8.61	1601.82	6.33	1605.03	6.34	3.21	0.2
122	254	132	10	4064	0.99845	776.87	0.50984	1669.98	9.61	0.63	8.48	1616.65	6.36	1619.69	6.38	3.05	0.19
122	255	133	11	4080	0.99814	778.67	0.51078	1668.06	11.58	0	8.34	1630.04	6.39	1632.35	6.4	2.31	0.14
122	256	134	12	4096	0.99780	780.44	0.51172	1666.17	13.73	0.62	8.21	1644.5	6.42	1646.68	6.43	2.18	0.13
122	257	135	13	4112	0.99744	782.19	0.51265	1664.32	16.05	0	8.09	1657.53	6.45	1659.01	6.46	1.48	0.09
122	258	136	14	4128	0.99706	783.91	0.51357	1662.5	18.54	0.62	7.96	1671.63	6.48	1673.01	6.48	1.38	0.08
122	259	137	15	4144	0.99665	785.61	0.51448	1660.72	21.2	0	7.84	1684.31	6.5	1685.03	6.51	0.72	0.04
122	260	138	16	4160	0.99621	787.29	0.51539	1658.96	24.03	0.62	7.72	1698.06	6.53	1698.71	6.53	0.65	0.04
122	261	139	17	4176	0.99576	788.95	0.51628	1657.24	27.02	0	7.61	1710.4	6.55	1710.42	6.55	0.02	0
122	262	140	18	4192	0.99528	790.58	0.51718	1655.54	30.18	0.62	7.49	1723.8	6.58	1723.78	6.58	-0.02	0
122	263	141	19	4208	0.99478	792.2	0.51806	1653.88	33.5	0	7.38	1735.81	6.6	1735.19	6.6	-0.62	-0.04
122	264	142	20	4224	0.99426	793.79	0.51894	1652.24	36.98	0.62	7.27	1748.88	6.62	1748.24	6.62	-0.63	-0.04
122	265	143	21	4240	0.99372	795.36	0.51981	1650.64	40.62	0	7.17	1760.56	6.64	1759.35	6.64	-1.2	-0.07
122	266	144	22	4256	0.99316	796.91	0.52068	1649.06	44.41	0.61	7.07	1773.3	6.67	1772.11	6.66	-1.19	-0.07
122	267	145	23	4272	0.99258	798.44	0.52154	1647.51	48.36	0	6.96	1784.66	6.68	1782.93	6.68	-1.73	-0.1
122	268	146	24	4288	0.99198	799.95	0.52239	1645.99	52.46	0.61	6.87	1797.08	6.71	1795.39	6.7	-1.7	-0.09
122	269	147	25	4304	0.99136	801.44	0.52323	1644.49	56.71	0	6.77	1808.13	6.72	1805.92	6.71	-2.21	-0.12
122	270	148	26	4320	0.99073	802.91	0.52407	1643.02	61.11	0.61	6.67	1820.24	6.74	1818.09	6.73	-2.15	-0.12
122	271	149	27	4336	0.99007	804.36	0.52491	1641.58	65.66	0	6.58	1830.98	6.76	1828.34	6.75	-2.63	-0.14
122	272	150	28	4352	0.98940	805.79	0.52574	1640.16	70.36	0.61	6.49	1842.79	6.77	1840.23	6.77	-2.55	-0.14
122	273	151	29	4368	0.98872	807.2	0.52656	1638.77	75.2	0	6.4	1853.23	6.79	1850.21	6.78	-3.02	-0.16
122	274	152	30	4384	0.98801	808.6	0.52737	1637.41	80.18	0.6	6.31	1864.73	6.81	1861.82	6.79	-2.92	-0.16
122	275	153	31	4400	0.98729	809.97	0.52818	1636.07	85.31	0	6.23	1874.89	6.82	1871.53	6.81	-3.35	-0.18
122	276	154	32	4416	0.98656	811.33	0.52899	1634.75	90.57	0.6	6.14	1886.1	6.83	1882.87	6.82	-3.23	-0.17
122	277	155	33	4432	0.98581	812.67	0.52978	1633.45	95.97	0	6.06	1895.97	6.84	1892.32	6.83	-3.65	-0.19
122	278	156	34	4448	0.98504	813.99	0.53058	1632.18	101.51	0.6	5.98	1906.9	6.86	1903.38	6.85	-3.51	-0.18
122	279	157	35	4464	0.98426	815.3	0.53136	1630.94	107.19	0	5.9	1916.48	6.87	1912.58	6.86	-3.91	-0.2
122	280	158	36	4480	0.98347	816.58	0.53214	1629.71	113	0.6	5.83	1927.13	6.88	1923.38	6.87	-3.75	-0.2
122	281	159	37	4496	0.98266	817.86	0.53292	1628.51	118.94	0	5.75	1936.45	6.89	1932.32	6.88	-4.13	-0.21
122	282	160	38	4512	0.98184	819.11	0.53369	1627.33	125.01	0.6	5.68	1946.82	6.9	1942.86	6.89	-3.96	-0.2
122	283	161	39	4528	0.98101	820.35	0.53445	1626.17	131.21	0	5.61	1955.87	6.91	1951.56	6.9	-4.32	-0.22
122	284	162	40	4544	0.98016	821.57	0.53521	1625.03	137.54	0.59	5.53	1965.98	6.92	1961.85	6.91	-4.13	-0.21
122	285	163	41	4560	0.97930	822.78	0.53597	1623.92	144	0	5.47	1974.77	6.93	1970.3	6.91	-4.47	-0.23
122	286	164	42	4576	0.97843	823.97	0.53671	1622.82	150.58	0.59	5.4	1984.61	6.94	1980.34	6.92	-4.27	-0.22
122	287	165	43	4592	0.97755	825.14	0.53746	1621.75	157.29	0	5.33	1993.15	6.94	1988.55	6.93	-4.59	-0.23
122	288	166	44	4608	0.97666	826.3	0.53819	1620.69	164.12	0.59	5.26	2002.73	6.95	1998.35	6.94	-4.38	-0.22
122	289	167	45	4624	0.97576	827.45	0.53893	1619.66	171.08	0	5.2	2011.02	6.96	2006.33	6.94	-4.69	-0.23
122	290	168	46	4640	0.97484	828.58	0.53966	1618.64	178.15	0.59	5.14	2020.35	6.97	2015.89	6.95	-4.46	-0.22
122	291	169	47	4656	0.97391	829.69	0.54038	1617.65	185.34	0	5.07	2028.39	6.97	2023.64	6.95	-4.76	-0.24

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
122	292	170	48	4672	0.97298	830.79	0.54110	1616.67	192.65	0.59	5.01	2037.48	6.98	2032.96	6.96	-4.52	-0.22
122	293	171	49	4688	0.97203	831.88	0.54181	1615.71	200.08	0	4.95	2045.28	6.98	2040.48	6.96	-4.8	-0.24
122	294	172	50	4704	0.97108	832.95	0.54252	1614.77	207.62	0.58	4.9	2054.13	6.99	2049.58	6.97	-4.55	-0.22
122	295	173	51	4720	0.97011	834.01	0.54322	1613.85	215.28	0	4.84	2061.7	6.99	2056.88	6.97	-4.82	-0.23
122	296	174	52	4736	0.96914	835.06	0.54392	1612.94	223.05	0.58	4.78	2070.31	6.99	2065.75	6.98	-4.56	-0.22
122	297	175	53	4752	0.96816	836.09	0.54461	1612.06	230.94	0	4.73	2077.64	7	2072.83	6.98	-4.81	-0.23
122	298	176	54	4768	0.96716	837.1	0.54530	1611.19	238.93	0.58	4.67	2086.03	7	2081.48	6.98	-4.55	-0.22
122	299	177	55	4784	0.96616	838.11	0.54599	1610.34	247.04	0	4.62	2093.14	7	2088.35	6.98	-4.79	-0.23
122	300	178	56	4800	0.96516	839.1	0.54667	1609.5	255.25	0.58	4.57	2101.29	7	2096.78	6.99	-4.51	-0.22
122	301	179	57	4816	0.96414	840.08	0.54734	1608.68	263.57	0	4.51	2108.18	7	2103.44	6.99	-4.75	-0.23
122	302	180	58	4832	0.96312	841.04	0.54801	1607.88	272	0.58	4.46	2116.11	7.01	2111.65	6.99	-4.46	-0.21
122	303	181	59	4848	0.96208	842	0.54868	1607.09	280.54	0	4.41	2122.79	7.01	2118.1	6.99	-4.68	-0.22
122	304	182	60	4864	0.96105	842.94	0.54934	1606.32	289.18	0.57	4.37	2130.5	7.01	2126.11	6.99	-4.39	-0.21
122	305	183	61	4880	0.96000	843.86	0.55000	1605.57	297.92	0	4.32	2136.96	7.01	2132.36	6.99	-4.61	-0.22
122	306	184	62	4896	0.95895	844.78	0.55065	1604.83	306.77	0.57	4.27	2144.47	7.01	2140.16	6.99	-4.31	-0.2
122	307	185	63	4912	0.95789	845.69	0.55130	1604.11	315.71	0	4.22	2150.72	7.01	2146.21	6.99	-4.51	-0.21
122	308	186	64	4928	0.95682	846.58	0.55195	1603.4	324.76	0.57	4.18	2158.01	7.01	2153.81	6.99	-4.21	-0.2
122	309	187	65	4944	0.95575	847.46	0.55259	1602.7	333.91	0	4.13	2164.06	7	2159.66	6.99	-4.4	-0.2
122	310	188	66	4960	0.95467	848.33	0.55323	1602.02	343.15	0.57	4.09	2171.15	7	2167.06	6.99	-4.09	-0.19
122	311	189	67	4976	0.95359	849.19	0.55386	1601.36	352.5	0	4.05	2177	7	2172.72	6.99	-4.28	-0.2
122	312	190	68	4992	0.95250	850.03	0.55449	1600.71	361.94	0.57	4	2183.89	7	2179.92	6.99	-3.97	-0.18
122	313	191	69	5008	0.95140	850.87	0.55511	1600.07	371.48	0	3.96	2189.54	7	2185.39	6.98	-4.15	-0.19
122	314	192	70	5024	0.95030	851.69	0.55573	1599.45	381.11	0.56	3.92	2196.23	6.99	2192.4	6.98	-3.83	-0.17
122	315	193	71	5040	0.94920	852.51	0.55635	1598.84	390.83	0	3.88	2201.7	6.99	2197.69	6.98	-4.01	-0.18
122	316	194	72	5056	0.94809	853.31	0.55696	1598.25	400.65	0.56	3.84	2208.19	6.99	2204.51	6.98	-3.68	-0.17
122	317	195	73	5072	0.94697	854.1	0.55757	1597.67	410.56	0	3.8	2213.47	6.98	2209.62	6.97	-3.85	-0.17
122	318	196	74	5088	0.94585	854.89	0.55818	1597.1	420.57	0.56	3.76	2219.77	6.98	2216.25	6.97	-3.53	-0.16
122	319	197	75	5104	0.94472	855.66	0.55878	1596.54	430.66	0	3.73	2224.87	6.97	2221.17	6.96	-3.69	-0.17
122	320	198	76	5120	0.94359	856.42	0.55938	1596	440.84	0.56	3.69	2230.98	6.97	2227.62	6.96	-3.36	-0.15
122	321	199	77	5136	0.94246	857.17	0.55997	1595.47	451.12	0	3.65	2235.9	6.97	2232.37	6.95	-3.52	-0.16
122	322	200	78	5152	0.94132	857.91	0.56056	1594.95	461.48	0.56	3.62	2241.83	6.96	2238.64	6.95	-3.19	-0.14
122	323	201	79	5168	0.94018	858.65	0.56115	1594.45	471.92	0	3.58	2246.56	6.96	2243.22	6.94	-3.34	-0.15
122	324	202	80	5184	0.93903	859.37	0.56173	1593.95	482.46	0.56	3.55	2252.32	6.95	2249.31	6.94	-3.01	-0.13
122	325	203	81	5200	0.93788	860.08	0.56231	1593.47	493.08	0	3.51	2256.88	6.94	2253.72	6.93	-3.16	-0.14
122	326	204	82	5216	0.93673	860.79	0.56288	1593	503.78	0.55	3.48	2262.46	6.94	2259.64	6.93	-2.83	-0.13
122	327	205	83	5232	0.93557	861.48	0.56346	1592.54	514.57	0	3.44	2266.85	6.93	2263.88	6.92	-2.97	-0.13
122	328	206	84	5248	0.93441	862.16	0.56402	1592.1	525.44	0.55	3.41	2272.26	6.93	2269.62	6.92	-2.64	-0.12
122	329	207	85	5264	0.93325	862.84	0.56459	1591.66	536.4	0	3.38	2276.48	6.92	2273.7	6.91	-2.78	-0.12
122	330	208	86	5280	0.93208	863.51	0.56515	1591.24	547.43	0.55	3.35	2281.72	6.91	2279.27	6.91	-2.44	-0.11
122	331	209	87	5296	0.93092	864.17	0.56571	1590.83	558.55	0	3.32	2285.77	6.91	2283.19	6.9	-2.58	-0.11
122	332	210	88	5312	0.92974	864.82	0.56627	1590.43	569.75	0.55	3.28	2290.84	6.9	2288.6	6.89	-2.24	-0.1
122	333	211	89	5328	0.92857	865.46	0.56682	1590.04	581.03	0	3.25	2294.74	6.89	2292.35	6.88	-2.39	-0.1
122	334	212	90	5344	0.92739	866.09	0.56737	1589.66	592.38	0.55	3.22	2299.64	6.89	2297.6	6.88	-2.05	-0.09
122	335	213	91	5360	0.92621	866.71	0.56791	1589.29	603.82	0	3.2	2303.38	6.88	2301.2	6.87	-2.18	-0.09
122	336	214	92	5376	0.92503	867.33	0.56845	1588.93	615.33	0.55	3.17	2308.13	6.87	2306.28	6.86	-1.84	-0.08
122	337	215	93	5392	0.92384	867.93	0.56899	1588.58	626.92	0	3.14	2311.71	6.86	2309.72	6.85	-1.98	-0.09
122	338	216	94	5408	0.92266	868.53	0.56953	1588.24	638.58	0.54	3.11	2316.3	6.85	2314.65	6.85	-1.64	-0.07

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
122	339	217	95	5424	0.92147	869.12	0.57006	1587.91	650.33	0	3.08	2319.72	6.84	2317.94	6.84	-1.78	-0.08
122	340	218	96	5440	0.92028	869.71	0.57059	1587.59	662.14	0.54	3.05	2324.16	6.84	2322.72	6.83	-1.44	-0.06
122	341	219	97	5456	0.91908	870.28	0.57111	1587.29	674.03	0	3.03	2327.43	6.83	2325.86	6.82	-1.57	-0.07
122	342	220	98	5472	0.91789	870.85	0.57164	1586.99	685.99	0.54	3	2331.71	6.82	2330.48	6.81	-1.23	-0.05
122	343	221	99	5488	0.91669	871.41	0.57216	1586.7	698.03	0	2.98	2334.84	6.81	2333.47	6.8	-1.37	-0.06
122	344	222	100	5504	0.91550	871.96	0.57267	1586.42	710.14	0.54	2.95	2338.97	6.8	2337.94	6.8	-1.03	-0.04
122	345	223	101	5520	0.91430	872.5	0.57319	1586.15	722.32	0	2.92	2341.96	6.79	2340.79	6.78	-1.17	-0.05
122	346	224	102	5536	0.91309	873.04	0.57370	1585.88	734.57	0.54	2.9	2345.94	6.78	2345.11	6.78	-0.83	-0.04
122	347	225	103	5552	0.91189	873.57	0.57421	1585.63	746.89	0	2.87	2348.78	6.77	2347.82	6.77	-0.96	-0.04
122	348	226	104	5568	0.91069	874.09	0.57471	1585.39	759.28	0.54	2.85	2352.62	6.76	2351.99	6.76	-0.63	-0.03
122	349	227	105	5584	0.90948	874.61	0.57522	1585.15	771.74	0	2.83	2355.32	6.75	2354.56	6.75	-0.76	-0.03
122	350	228	106	5600	0.90828	875.12	0.57571	1584.93	784.27	0.53	2.8	2359.02	6.74	2358.59	6.74	-0.43	-0.02
122	351	229	107	5616	0.90707	875.62	0.57621	1584.71	796.87	0	2.78	2361.58	6.73	2361.01	6.73	-0.57	-0.02
122	352	230	108	5632	0.90586	876.11	0.57671	1584.5	809.53	0.53	2.76	2365.14	6.72	2364.9	6.72	-0.24	-0.01
122	353	231	109	5648	0.90465	876.6	0.57720	1584.3	822.27	0	2.73	2367.57	6.71	2367.19	6.71	-0.37	-0.02
122	354	232	110	5664	0.90344	877.08	0.57768	1584.11	835.06	0.53	2.71	2370.99	6.7	2370.94	6.7	-0.05	0
122	355	233	111	5680	0.90223	877.55	0.57817	1583.93	847.93	0	2.69	2373.28	6.69	2373.1	6.68	-0.18	-0.01
122	356	234	112	5696	0.90102	878.02	0.57865	1583.75	860.86	0.53	2.67	2376.57	6.68	2376.71	6.68	0.14	0.01
122	357	235	113	5712	0.89981	878.48	0.57913	1583.58	873.85	0	2.65	2378.73	6.66	2378.74	6.66	0	0
122	358	236	114	5728	0.89860	878.93	0.57961	1583.42	886.91	0.53	2.63	2381.89	6.65	2382.21	6.65	0.33	0.01
122	359	237	115	5744	0.89739	879.38	0.58008	1583.27	900.03	0	2.6	2383.92	6.64	2384.11	6.64	0.19	0.01
122	360	238	116	5760	0.89617	879.82	0.58056	1583.13	913.21	0.53	2.58	2386.95	6.63	2387.45	6.63	0.51	0.02
122	361	239	117	5776	0.89496	880.26	0.58103	1582.99	926.46	0	2.56	2388.85	6.62	2389.22	6.62	0.36	0.02
122	362	240	118	5792	0.89375	880.69	0.58149	1582.86	939.77	0.53	2.54	2391.75	6.61	2392.43	6.61	0.68	0.03
122	363	241	119	5808	0.89253	881.11	0.58196	1582.74	953.14	0	2.52	2393.53	6.59	2394.07	6.6	0.54	0.02
122	364	242	120	5824	0.89132	881.53	0.58242	1582.63	966.57	0.52	2.5	2396.3	6.58	2397.15	6.59	0.85	0.04
122	365	243	121	5840	0.89010	881.94	0.58288	1582.52	980.06	0	2.48	2397.96	6.57	2398.67	6.57	0.7	0.03
122	366	244	122	5856	0.88889	882.34	0.58333	1582.43	993.61	0.52	2.47	2400.61	6.56	2401.62	6.56	1.01	0.04
122	367	245	123	5872	0.88768	882.74	0.58379	1582.33	1007.22	0	2.45	2402.15	6.55	2403.02	6.55	0.86	0.04
122	368	246	124	5888	0.88646	883.13	0.58424	1582.25	1020.89	0.52	2.43	2404.68	6.53	2405.85	6.54	1.17	0.05
122	369	247	125	5904	0.88525	883.52	0.58469	1582.17	1034.62	0	2.41	2406.1	6.52	2407.12	6.52	1.02	0.04
122	370	248	126	5920	0.88403	883.9	0.58514	1582.1	1048.41	0.52	2.39	2408.5	6.51	2409.82	6.51	1.32	0.05
122	371	249	127	5936	0.88282	884.28	0.58558	1582.04	1062.25	0	2.37	2409.81	6.5	2410.98	6.5	1.17	0.05
122	372	250	128	5952	0.88161	884.65	0.58602	1581.98	1076.15	0.52	2.36	2412.09	6.48	2413.56	6.49	1.47	0.06
122	373	251	129	5968	0.88039	885.01	0.58646	1581.93	1090.11	0	2.34	2413.28	6.47	2414.59	6.47	1.31	0.05
122	374	252	130	5984	0.87918	885.37	0.58690	1581.89	1104.13	0.52	2.32	2415.45	6.46	2417.06	6.46	1.6	0.07
122	375	253	131	6000	0.87797	885.73	0.58733	1581.85	1118.2	0	2.31	2416.53	6.44	2417.98	6.45	1.44	0.06
122	376	254	132	6016	0.87675	886.08	0.58777	1581.82	1132.32	0.52	2.29	2418.59	6.43	2420.32	6.44	1.73	0.07
122	377	255	133	6032	0.87554	886.42	0.58820	1581.79	1146.5	0	2.27	2419.56	6.42	2421.13	6.42	1.57	0.06
122	378	256	134	6048	0.87433	886.76	0.58862	1581.78	1160.74	0.51	2.26	2421.5	6.41	2423.35	6.41	1.86	0.08
122	379	257	135	6064	0.87312	887.09	0.58905	1581.76	1175.02	0	2.24	2422.36	6.39	2424.05	6.4	1.69	0.07
122	380	258	136	6080	0.87191	887.42	0.58947	1581.76	1189.37	0.51	2.22	2424.19	6.38	2426.16	6.38	1.97	0.08
122	381	259	137	6096	0.87070	887.74	0.58990	1581.76	1203.76	0	2.21	2424.94	6.36	2426.74	6.37	1.8	0.07
122	382	260	138	6112	0.86949	888.06	0.59031	1581.77	1218.21	0.51	2.19	2426.67	6.35	2428.74	6.36	2.08	0.09
122	383	261	139	6128	0.86829	888.38	0.59073	1581.78	1232.71	0	2.18	2427.31	6.34	2429.21	6.34	1.9	0.08
122	384	262	140	6144	0.86708	888.69	0.59115	1581.8	1247.26	0.51	2.16	2428.93	6.33	2431.1	6.33	2.17	0.09
122	385	263	141	6160	0.86587	888.99	0.59156	1581.82	1261.87	0	2.15	2429.47	6.31	2431.47	6.32	2	0.08

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Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
122	386	264	142	6176	0.86467	889.29	0.59197	1581.85	1276.52	0.51	2.13	2430.98	6.3	2433.24	6.3	2.26	0.09
122	387	265	143	6192	0.86346	889.58	0.59238	1581.89	1291.23	0	2.12	2431.42	6.28	2433.5	6.29	2.08	0.09
122	388	266	144	6208	0.86226	889.87	0.59278	1581.93	1305.99	0.51	2.1	2432.83	6.27	2435.17	6.28	2.34	0.1
122	389	267	145	6224	0.86106	890.16	0.59319	1581.98	1320.79	0	2.09	2433.16	6.25	2435.32	6.26	2.16	0.09
122	390	268	146	6240	0.85986	890.44	0.59359	1582.03	1335.65	0.51	2.08	2434.47	6.24	2436.88	6.25	2.41	0.1
122	391	269	147	6256	0.85866	890.71	0.59399	1582.09	1350.55	0	2.06	2434.71	6.23	2436.93	6.23	2.22	0.09
122	392	270	148	6272	0.85746	890.99	0.59439	1582.15	1365.51	0.51	2.05	2435.91	6.21	2438.38	6.22	2.47	0.1
122	393	271	149	6288	0.85626	891.25	0.59478	1582.22	1380.51	0	2.03	2436.05	6.2	2438.33	6.2	2.28	0.09
122	394	272	150	6304	0.85506	891.52	0.59518	1582.29	1395.56	0.5	2.02	2437.16	6.19	2439.68	6.19	2.53	0.1
122	395	273	151	6320	0.85386	891.77	0.59557	1582.37	1410.66	0	2.01	2437.2	6.17	2439.53	6.18	2.33	0.1
122	396	274	152	6336	0.85267	892.03	0.59596	1582.46	1425.8	0.5	1.99	2438.21	6.16	2440.78	6.16	2.57	0.11
122	397	275	153	6352	0.85147	892.28	0.59635	1582.55	1441	0	1.98	2438.16	6.14	2440.53	6.15	2.37	0.1
122	398	276	154	6368	0.85028	892.52	0.59673	1582.64	1456.24	0.5	1.97	2439.07	6.13	2441.67	6.13	2.6	0.11
122	399	277	155	6384	0.84909	892.77	0.59712	1582.74	1471.52	0	1.96	2438.93	6.11	2441.32	6.12	2.39	0.1
122	400	278	156	6400	0.84790	893	0.59750	1582.85	1486.85	0.5	1.94	2439.74	6.1	2442.36	6.11	2.62	0.11
122	401	279	157	6416	0.84671	893.24	0.59788	1582.96	1502.23	0	1.93	2439.51	6.08	2441.92	6.09	2.41	0.1
122	402	280	158	6432	0.84552	893.47	0.59826	1583.07	1517.65	0.5	1.92	2440.23	6.07	2442.86	6.08	2.63	0.11
122	403	281	159	6448	0.84434	893.69	0.59864	1583.19	1533.12	0	1.91	2439.9	6.05	2442.32	6.06	2.42	0.1
122	404	282	160	6464	0.84315	893.91	0.59901	1583.31	1548.63	0.5	1.89	2440.53	6.04	2443.17	6.05	2.64	0.11
122	405	283	161	6480	0.84197	894.13	0.59938	1583.44	1564.19	0	1.88	2440.12	6.02	2442.53	6.03	2.41	0.1
122	406	284	162	6496	0.84079	894.35	0.59975	1583.58	1579.79	0.5	1.87	2440.66	6.01	2443.28	6.02	2.63	0.11
122	407	285	163	6512	0.83961	894.56	0.60012	1583.71	1595.43	0	1.86	2440.16	6	2442.56	6	2.4	0.1
122	408	286	164	6528	0.83843	894.76	0.60049	1583.86	1611.12	0.5	1.85	2440.6	5.98	2443.21	5.99	2.61	0.11
122	409	287	165	6544	0.83725	894.96	0.60086	1584	1626.85	0	1.84	2440.02	5.97	2442.39	5.97	2.37	0.1
122	410	288	166	6560	0.83607	895.16	0.60122	1584.16	1642.62	0.49	1.83	2440.38	5.95	2442.95	5.96	2.57	0.11
122	411	289	167	6576	0.83490	895.36	0.60158	1584.31	1658.44	0	1.81	2439.71	5.94	2442.04	5.94	2.34	0.1
122	412	290	168	6592	0.83373	895.55	0.60194	1584.44	1674.3	0.49	1.8	2439.98	5.92	2442.51	5.93	2.53	0.1
122	413	291	169	6608	0.83256	895.74	0.60230	1584.64	1690.19	0	1.79	2439.22	5.91	2441.51	5.91	2.29	0.09
122	414	292	170	6624	0.83139	895.92	0.60266	1584.81	1706.13	0.49	1.78	2439.41	5.89	2441.89	5.9	2.48	0.1
122	415	293	171	6640	0.83022	896.1	0.60301	1584.98	1722.12	0	1.77	2438.57	5.88	2440.8	5.88	2.23	0.09
122	416	294	172	6656	0.82905	896.28	0.60337	1585.16	1738.14	0.49	1.76	2438.67	5.86	2441.09	5.87	2.41	0.1
122	417	295	173	6672	0.82788	896.46	0.60372	1585.34	1754.2	0	1.75	2437.75	5.85	2439.92	5.85	2.16	0.09
122	418	296	174	6688	0.82672	896.63	0.60407	1585.53	1770.3	0.49	1.74	2437.77	5.83	2440.11	5.84	2.34	0.1
122	419	297	175	6704	0.82556	896.79	0.60442	1585.72	1786.45	0	1.73	2436.77	5.82	2438.85	5.82	2.08	0.09
122	420	298	176	6720	0.82440	896.96	0.60476	1585.91	1802.63	0.49	1.72	2436.71	5.8	2438.96	5.81	2.25	0.09
122	421	299	177	6736	0.82324	897.12	0.60511	1586.11	1818.85	0	1.71	2435.63	5.79	2437.62	5.79	1.99	0.08
122	422	300	178	6752	0.82208	897.28	0.60545	1586.31	1835.11	0.49	1.7	2435.49	5.77	2437.64	5.78	2.15	0.09
122	423	301	179	6768	0.82093	897.43	0.60579	1586.52	1851.42	0	1.69	2434.33	5.75	2436.21	5.76	1.88	0.08
122	424	302	180	6784	0.81978	897.58	0.60613	1586.72	1867.75	0.49	1.68	2434.11	5.74	2436.15	5.75	2.04	0.08
122	425	303	181	6800	0.81862	897.73	0.60647	1586.94	1884.13	0	1.67	2432.87	5.72	2434.64	5.73	1.77	0.07
122	426	304	182	6816	0.81747	897.87	0.60681	1587.16	1900.55	0.48	1.66	2432.57	5.71	2434.49	5.71	1.92	0.08
122	427	305	183	6832	0.81633	898.02	0.60714	1587.38	1917	0	1.65	2431.26	5.69	2432.9	5.7	1.64	0.07
Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
123	245	122	-1	3920	0.99998	759.58	0.49898	1716.66	0.1	0	9.83	1453.5	5.93	1462.75	5.97	9.25	0.63
123	246	123	0	3936	1.00000	761.66	0.50000	1714.31	0	-0.64	10	1469.39	5.97	1478.36	6.01	8.97	0.61
123	247	124	1	3952	0.99998	763.71	0.50101	1712.01	0.1	0	9.83	1486.02	6.02	1493.61	6.05	7.59	0.51

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
123	248	125	2	3968	0.99994	765.73	0.50202	1709.75	0.39	-0.64	9.67	1501.16	6.05	1508.86	6.08	7.69	0.51
123	249	126	3	3984	0.99986	767.72	0.50301	1707.53	0.88	0	9.51	1517.38	6.09	1523.74	6.12	6.36	0.42
123	250	127	4	4000	0.99974	769.69	0.50400	1705.34	1.56	-0.63	9.35	1532.12	6.13	1538.63	6.15	6.51	0.42
123	251	128	5	4016	0.99960	771.63	0.50498	1703.2	2.43	0	9.2	1547.94	6.17	1553.15	6.19	5.22	0.34
123	252	129	6	4032	0.99943	773.55	0.50595	1701.09	3.49	-0.63	9.05	1562.29	6.2	1567.7	6.22	5.41	0.34
123	253	130	7	4048	0.99923	775.44	0.50692	1699.01	4.73	0	8.9	1577.72	6.24	1581.88	6.25	4.16	0.26
123	254	131	8	4064	0.99901	777.31	0.50787	1696.98	6.15	-0.63	8.76	1591.7	6.27	1596.08	6.28	4.39	0.27
123	255	132	9	4080	0.99875	779.15	0.50882	1694.98	7.75	0	8.62	1606.74	6.3	1609.92	6.31	3.17	0.2
123	256	133	10	4096	0.99847	780.97	0.50977	1693.01	9.53	-0.62	8.49	1620.35	6.33	1623.79	6.34	3.44	0.21
123	257	134	11	4112	0.99817	782.76	0.51070	1691.08	11.49	0	8.35	1635.03	6.36	1637.29	6.37	2.27	0.14
123	258	135	12	4128	0.99784	784.53	0.51163	1689.18	13.62	-0.62	8.23	1648.27	6.39	1650.84	6.4	2.57	0.16
123	259	136	13	4144	0.99748	786.27	0.51255	1687.32	15.92	0	8.1	1662.59	6.42	1664.01	6.42	1.43	0.09
123	260	137	14	4160	0.99710	787.99	0.51346	1685.49	18.4	-0.62	7.98	1675.48	6.44	1677.24	6.45	1.76	0.11
123	261	138	15	4176	0.99670	789.69	0.51437	1683.68	21.04	0	7.86	1689.44	6.47	1690.1	6.48	0.66	0.04
123	262	139	16	4192	0.99627	791.37	0.51527	1681.92	23.85	-0.62	7.74	1701.99	6.5	1703.01	6.5	1.02	0.06
123	263	140	17	4208	0.99582	793.03	0.51616	1680.18	26.82	0	7.62	1715.6	6.52	1715.55	6.52	-0.05	0
123	264	141	18	4224	0.99535	794.66	0.51705	1678.47	29.95	-0.62	7.51	1727.81	6.54	1728.16	6.55	0.35	0.02
123	265	142	19	4240	0.99486	796.27	0.51793	1676.79	33.25	0	7.4	1741.09	6.57	1740.39	6.57	-0.69	-0.04
123	266	143	20	4256	0.99435	797.86	0.51880	1675.14	36.7	-0.61	7.29	1752.97	6.59	1752.7	6.59	-0.27	-0.02
123	267	144	21	4272	0.99381	799.43	0.51966	1673.52	40.31	0	7.19	1765.92	6.61	1764.64	6.61	-1.28	-0.07
123	268	145	22	4288	0.99326	800.98	0.52052	1671.93	44.08	-0.61	7.08	1777.48	6.63	1776.65	6.63	-0.83	-0.05
123	269	146	23	4304	0.99269	802.51	0.52138	1670.37	48	0	6.98	1790.1	6.65	1788.29	6.65	-1.82	-0.1
123	270	147	24	4320	0.99210	804.02	0.52222	1668.83	52.07	-0.61	6.88	1801.35	6.67	1800.01	6.67	-1.34	-0.07
123	271	148	25	4336	0.99149	805.51	0.52306	1667.33	56.3	0	6.79	1813.66	6.69	1811.36	6.68	-2.3	-0.13
123	272	149	26	4352	0.99086	806.98	0.52390	1665.84	60.67	-0.61	6.69	1824.6	6.71	1822.8	6.7	-1.8	-0.1
123	273	150	27	4368	0.99022	808.43	0.52473	1664.39	65.18	0	6.6	1836.6	6.73	1833.87	6.72	-2.73	-0.15
123	274	151	28	4384	0.98956	809.86	0.52555	1662.96	69.85	-0.6	6.51	1847.24	6.74	1845.03	6.73	-2.21	-0.12
123	275	152	29	4400	0.98888	811.27	0.52636	1661.55	74.65	0	6.42	1858.94	6.76	1855.82	6.75	-3.12	-0.17
123	276	153	30	4416	0.98819	812.67	0.52717	1660.17	79.6	-0.6	6.33	1869.29	6.77	1866.72	6.76	-2.58	-0.14
123	277	154	31	4432	0.98748	814.04	0.52798	1658.82	84.69	0	6.25	1880.7	6.79	1877.23	6.78	-3.46	-0.18
123	278	155	32	4448	0.98675	815.4	0.52878	1657.49	89.92	-0.6	6.17	1890.76	6.8	1887.86	6.79	-2.9	-0.15
123	279	156	33	4464	0.98601	816.74	0.52957	1656.18	95.29	0	6.08	1901.88	6.82	1898.11	6.8	-3.77	-0.2
123	280	157	34	4480	0.98526	818.07	0.53036	1654.9	100.79	-0.6	6	1911.66	6.83	1908.47	6.82	-3.18	-0.17
123	281	158	35	4496	0.98449	819.37	0.53114	1653.64	106.43	0	5.93	1922.49	6.84	1918.46	6.83	-4.03	-0.21
123	282	159	36	4512	0.98370	820.66	0.53192	1652.4	112.2	-0.6	5.85	1932	6.85	1928.57	6.84	-3.43	-0.18
123	283	160	37	4528	0.98291	821.94	0.53269	1651.18	118.1	0	5.77	1942.56	6.86	1938.3	6.85	-4.26	-0.22
123	284	161	38	4544	0.98210	823.19	0.53345	1649.99	124.13	-0.59	5.7	1951.79	6.87	1948.16	6.86	-3.64	-0.19
123	285	162	39	4560	0.98127	824.43	0.53421	1648.82	130.29	0	5.63	1962.08	6.88	1957.64	6.87	-4.45	-0.23
123	286	163	40	4576	0.98044	825.66	0.53497	1647.67	136.58	-0.59	5.56	1971.06	6.89	1967.25	6.88	-3.81	-0.19
123	287	164	41	4592	0.97959	826.87	0.53571	1646.54	143	0	5.49	1981.08	6.9	1976.48	6.89	-4.61	-0.23
123	288	165	42	4608	0.97873	828.06	0.53646	1645.43	149.54	-0.59	5.42	1989.8	6.91	1985.85	6.9	-3.96	-0.2
123	289	166	43	4624	0.97786	829.24	0.53720	1644.34	156.21	0	5.35	1999.57	6.92	1994.84	6.9	-4.73	-0.24
123	290	167	44	4640	0.97698	830.4	0.53793	1643.27	162.99	-0.59	5.29	2008.03	6.92	2003.96	6.91	-4.07	-0.2
123	291	168	45	4656	0.97609	831.54	0.53866	1642.23	169.9	0	5.22	2017.55	6.93	2012.72	6.92	-4.83	-0.24
123	292	169	46	4672	0.97518	832.68	0.53938	1641.2	176.93	-0.59	5.16	2025.77	6.94	2021.61	6.92	-4.16	-0.21
123	293	170	47	4688	0.97427	833.79	0.54010	1640.19	184.08	0	5.1	2035.03	6.95	2030.13	6.93	-4.9	-0.24
123	294	171	48	4704	0.97334	834.9	0.54082	1639.2	191.35	-0.58	5.04	2043.01	6.95	2038.8	6.93	-4.21	-0.21

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
123	295	172	49	4720	0.97241	835.99	0.54153	1638.23	198.73	0	4.98	2052.03	6.96	2047.09	6.94	-4.95	-0.24
123	296	173	50	4736	0.97147	837.06	0.54223	1637.28	206.23	-0.58	4.92	2059.77	6.96	2055.53	6.94	-4.25	-0.21
123	297	174	51	4752	0.97051	838.12	0.54293	1636.34	213.84	0	4.86	2068.56	6.96	2063.59	6.95	-4.97	-0.24
123	298	175	52	4768	0.96955	839.17	0.54362	1635.42	221.56	-0.58	4.81	2076.07	6.97	2071.81	6.95	-4.26	-0.21
123	299	176	53	4784	0.96858	840.2	0.54431	1634.52	229.4	0	4.75	2084.62	6.97	2079.65	6.96	-4.97	-0.24
123	300	177	54	4800	0.96760	841.22	0.54500	1633.64	237.35	-0.58	4.7	2091.9	6.97	2087.66	6.96	-4.25	-0.2
123	301	178	55	4816	0.96661	842.23	0.54568	1632.78	245.4	0	4.64	2100.23	6.98	2095.28	6.96	-4.95	-0.24
123	302	179	56	4832	0.96562	843.23	0.54636	1631.93	253.57	-0.58	4.59	2107.29	6.98	2103.07	6.96	-4.22	-0.2
123	303	180	57	4848	0.96461	844.21	0.54703	1631.1	261.84	0	4.54	2115.39	6.98	2110.48	6.97	-4.91	-0.23
123	304	181	58	4864	0.96360	845.18	0.54770	1630.29	270.22	-0.57	4.49	2122.23	6.98	2118.06	6.97	-4.17	-0.2
123	305	182	59	4880	0.96258	846.13	0.54836	1629.49	278.7	0	4.44	2130.11	6.98	2125.27	6.97	-4.85	-0.23
123	306	183	60	4896	0.96155	847.08	0.54902	1628.71	287.29	-0.57	4.39	2136.74	6.98	2132.64	6.97	-4.1	-0.19
123	307	184	61	4912	0.96052	848.01	0.54967	1627.94	295.99	0	4.34	2144.41	6.99	2139.64	6.97	-4.77	-0.22
123	308	185	62	4928	0.95948	848.93	0.55033	1627.19	304.78	-0.57	4.29	2150.83	6.98	2146.81	6.97	-4.02	-0.19
123	309	186	63	4944	0.95843	849.84	0.55097	1626.45	313.68	0	4.25	2158.28	6.98	2153.61	6.97	-4.68	-0.22
123	310	187	64	4960	0.95738	850.73	0.55161	1625.73	322.67	-0.57	4.2	2164.5	6.98	2160.58	6.97	-3.92	-0.18
123	311	188	65	4976	0.95632	851.62	0.55225	1625.03	331.77	0	4.16	2171.74	6.98	2167.17	6.97	-4.57	-0.21
123	312	189	66	4992	0.95525	852.49	0.55289	1624.34	340.96	-0.57	4.11	2177.76	6.98	2173.95	6.97	-3.81	-0.18
123	313	190	67	5008	0.95418	853.35	0.55351	1623.66	350.25	0	4.07	2184.8	6.98	2180.35	6.97	-4.45	-0.2
123	314	191	68	5024	0.95310	854.2	0.55414	1623	359.64	-0.56	4.03	2190.62	6.98	2186.94	6.96	-3.68	-0.17
123	315	192	69	5040	0.95202	855.04	0.55476	1622.35	369.12	0	3.99	2197.47	6.98	2193.15	6.96	-4.32	-0.2
123	316	193	70	5056	0.95093	855.87	0.55538	1621.72	378.7	-0.56	3.94	2203.09	6.97	2199.55	6.96	-3.54	-0.16
123	317	194	71	5072	0.94984	856.69	0.55599	1621.1	388.38	0	3.9	2209.74	6.97	2205.57	6.96	-4.17	-0.19
123	318	195	72	5088	0.94874	857.5	0.55660	1620.49	398.14	-0.56	3.86	2215.17	6.97	2211.78	6.96	-3.4	-0.15
123	319	196	73	5104	0.94763	858.29	0.55721	1619.9	408	0	3.82	2221.63	6.96	2217.61	6.95	-4.02	-0.18
123	320	197	74	5120	0.94652	859.08	0.55781	1619.32	417.95	-0.56	3.79	2226.88	6.96	2223.64	6.95	-3.24	-0.15
123	321	198	75	5136	0.94541	859.86	0.55841	1618.75	427.98	0	3.75	2233.15	6.96	2229.3	6.94	-3.86	-0.17
123	322	199	76	5152	0.94429	860.62	0.55901	1618.2	438.11	-0.56	3.71	2238.22	6.95	2235.14	6.94	-3.07	-0.14
123	323	200	77	5168	0.94317	861.38	0.55960	1617.66	448.33	0	3.67	2244.31	6.95	2240.62	6.94	-3.69	-0.16
123	324	201	78	5184	0.94204	862.12	0.56019	1617.13	458.64	-0.56	3.64	2249.19	6.94	2246.29	6.93	-2.9	-0.13
123	325	202	79	5200	0.94091	862.86	0.56077	1616.61	469.03	0	3.6	2255.1	6.94	2251.59	6.93	-3.51	-0.16
123	326	203	80	5216	0.93978	863.59	0.56135	1616.11	479.51	-0.55	3.57	2259.81	6.93	2257.09	6.92	-2.72	-0.12
123	327	204	81	5232	0.93864	864.3	0.56193	1615.62	490.07	0	3.53	2265.54	6.93	2262.21	6.92	-3.33	-0.15
123	328	205	82	5248	0.93750	865.01	0.56250	1615.14	500.72	-0.55	3.5	2270.08	6.92	2267.54	6.91	-2.53	-0.11
123	329	206	83	5264	0.93636	865.71	0.56307	1614.67	511.45	0	3.47	2275.63	6.92	2272.5	6.91	-3.14	-0.14
123	330	207	84	5280	0.93521	866.4	0.56364	1614.22	522.27	-0.55	3.43	2280	6.91	2277.66	6.9	-2.34	-0.1
123	331	208	85	5296	0.93406	867.08	0.56420	1613.77	533.17	0	3.4	2285.38	6.9	2282.44	6.9	-2.94	-0.13
123	332	209	86	5312	0.93290	867.75	0.56476	1613.34	544.15	-0.55	3.37	2289.59	6.9	2287.44	6.89	-2.15	-0.09
123	333	210	87	5328	0.93174	868.41	0.56532	1612.91	555.21	0	3.34	2294.8	6.89	2292.06	6.88	-2.74	-0.12
123	334	211	88	5344	0.93058	869.07	0.56587	1612.5	566.35	-0.55	3.31	2298.84	6.88	2296.89	6.88	-1.95	-0.08
123	335	212	89	5360	0.92942	869.71	0.56642	1612.1	577.57	0	3.28	2303.89	6.88	2301.35	6.87	-2.54	-0.11
123	336	213	90	5376	0.92825	870.35	0.56696	1611.71	588.87	-0.55	3.25	2307.77	6.87	2306.02	6.86	-1.75	-0.08
123	337	214	91	5392	0.92708	870.98	0.56751	1611.33	600.24	0	3.22	2312.66	6.86	2310.32	6.86	-2.34	-0.1
123	338	215	92	5408	0.92591	871.6	0.56805	1610.96	611.7	-0.54	3.19	2316.38	6.85	2314.84	6.85	-1.54	-0.07
123	339	216	93	5424	0.92474	872.21	0.56858	1610.61	623.23	0	3.16	2321.11	6.85	2318.98	6.84	-2.13	-0.09
123	340	217	94	5440	0.92356	872.81	0.56912	1610.26	634.84	-0.54	3.13	2324.68	6.84	2323.34	6.83	-1.34	-0.06
123	341	218	95	5456	0.92239	873.41	0.56965	1609.92	646.52	0	3.1	2329.25	6.83	2327.33	6.83	-1.92	-0.08

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
123	342	219	96	5472	0.92121	874	0.57018	1609.59	658.28	-0.54	3.08	2332.67	6.82	2331.54	6.82	-1.13	-0.05
123	343	220	97	5488	0.92003	874.58	0.57070	1609.27	670.11	0	3.05	2337.09	6.81	2335.37	6.81	-1.72	-0.07
123	344	221	98	5504	0.91884	875.15	0.57122	1608.97	682.02	-0.54	3.02	2340.35	6.8	2339.43	6.8	-0.92	-0.04
123	345	222	99	5520	0.91766	875.71	0.57174	1608.67	694	0	3	2344.62	6.8	2343.11	6.79	-1.51	-0.06
123	346	223	100	5536	0.91647	876.27	0.57225	1608.38	706.05	-0.54	2.97	2347.74	6.79	2347.02	6.78	-0.72	-0.03
123	347	224	101	5552	0.91528	876.82	0.57277	1608.1	718.17	0	2.94	2351.86	6.78	2350.56	6.77	-1.3	-0.06
123	348	225	102	5568	0.91409	877.36	0.57328	1607.83	730.36	-0.54	2.92	2354.84	6.77	2354.33	6.77	-0.51	-0.02
123	349	226	103	5584	0.91290	877.89	0.57378	1607.57	742.62	0	2.9	2358.81	6.76	2357.72	6.76	-1.1	-0.05
123	350	227	104	5600	0.91171	878.42	0.57429	1607.31	754.96	-0.53	2.87	2361.65	6.75	2361.34	6.75	-0.31	-0.01
123	351	228	105	5616	0.91051	878.94	0.57479	1607.07	767.36	0	2.85	2365.48	6.74	2364.59	6.74	-0.89	-0.04
123	352	229	106	5632	0.90932	879.45	0.57528	1606.84	779.83	-0.53	2.82	2368.17	6.73	2368.07	6.73	-0.11	0
123	353	230	107	5648	0.90812	879.96	0.57578	1606.61	792.37	0	2.8	2371.86	6.72	2371.17	6.72	-0.69	-0.03
123	354	231	108	5664	0.90692	880.46	0.57627	1606.39	804.97	-0.53	2.78	2374.42	6.71	2374.52	6.71	0.09	0
123	355	232	109	5680	0.90573	880.95	0.57676	1606.18	817.65	0	2.75	2377.98	6.7	2377.48	6.7	-0.49	-0.02
123	356	233	110	5696	0.90453	881.43	0.57725	1605.98	830.39	-0.53	2.73	2380.4	6.69	2380.69	6.69	0.29	0.01
123	357	234	111	5712	0.90333	881.91	0.57773	1605.79	843.19	0	2.71	2383.82	6.68	2383.52	6.68	-0.29	-0.01
123	358	235	112	5728	0.90213	882.38	0.57821	1605.61	856.06	-0.53	2.69	2386.11	6.67	2386.59	6.67	0.48	0.02
123	359	236	113	5744	0.90092	882.85	0.57869	1605.43	868.99	0	2.67	2389.39	6.66	2389.29	6.66	-0.1	0
123	360	237	114	5760	0.89972	883.31	0.57917	1605.26	881.99	-0.53	2.64	2391.55	6.64	2392.23	6.65	0.67	0.03
123	361	238	115	5776	0.89852	883.76	0.57964	1605.1	895.06	0	2.62	2394.7	6.63	2394.79	6.63	0.09	0
123	362	239	116	5792	0.89732	884.21	0.58011	1604.95	908.18	-0.53	2.6	2396.74	6.62	2397.6	6.62	0.86	0.04
123	363	240	117	5808	0.89611	884.65	0.58058	1604.81	921.37	0	2.58	2399.76	6.61	2400.03	6.61	0.27	0.01
123	364	241	118	5824	0.89491	885.08	0.58104	1604.67	934.62	-0.52	2.56	2401.67	6.6	2402.71	6.6	1.04	0.04
123	365	242	119	5840	0.89371	885.51	0.58151	1604.54	947.93	0	2.54	2404.56	6.59	2405.01	6.59	0.45	0.02
123	366	243	120	5856	0.89250	885.93	0.58197	1604.42	961.3	-0.52	2.52	2406.35	6.57	2407.57	6.58	1.22	0.05
123	367	244	121	5872	0.89130	886.34	0.58243	1604.31	974.73	0	2.5	2409.12	6.56	2409.74	6.57	0.62	0.03
123	368	245	122	5888	0.89009	886.75	0.58288	1604.2	988.23	-0.52	2.48	2410.78	6.55	2412.17	6.55	1.39	0.06
123	369	246	123	5904	0.88889	887.16	0.58333	1604.1	1001.78	0	2.47	2413.43	6.54	2414.22	6.54	0.79	0.03
123	370	247	124	5920	0.88768	887.55	0.58378	1604.01	1015.39	-0.52	2.45	2414.97	6.53	2416.52	6.53	1.55	0.06
123	371	248	125	5936	0.88648	887.95	0.58423	1603.93	1029.06	0	2.43	2417.5	6.52	2418.45	6.52	0.95	0.04
123	372	249	126	5952	0.88528	888.33	0.58468	1603.85	1042.79	-0.52	2.41	2418.93	6.5	2420.63	6.51	1.71	0.07
123	373	250	127	5968	0.88407	888.71	0.58512	1603.78	1056.57	0	2.39	2421.33	6.49	2422.44	6.49	1.11	0.05
123	374	251	128	5984	0.88287	889.09	0.58556	1603.71	1070.41	-0.52	2.38	2422.64	6.48	2424.5	6.48	1.86	0.08
123	375	252	129	6000	0.88166	889.46	0.58600	1603.65	1084.31	0	2.36	2424.93	6.47	2426.19	6.47	1.26	0.05
123	376	253	130	6016	0.88046	889.82	0.58644	1603.6	1098.27	-0.52	2.34	2426.13	6.45	2428.14	6.46	2	0.08
123	377	254	131	6032	0.87926	890.18	0.58687	1603.56	1112.28	0	2.32	2428.3	6.44	2429.71	6.44	1.4	0.06
123	378	255	132	6048	0.87806	890.54	0.58730	1603.52	1126.35	-0.51	2.31	2429.39	6.43	2431.53	6.43	2.14	0.09
123	379	256	133	6064	0.87685	890.88	0.58773	1603.49	1140.47	0	2.29	2431.45	6.42	2432.99	6.42	1.54	0.06
123	380	257	134	6080	0.87565	891.23	0.58816	1603.46	1154.64	-0.51	2.27	2432.43	6.4	2434.7	6.41	2.27	0.09
123	381	258	135	6096	0.87445	891.57	0.58858	1603.45	1168.87	0	2.26	2434.37	6.39	2436.04	6.39	1.66	0.07
123	382	259	136	6112	0.87325	891.9	0.58901	1603.43	1183.16	-0.51	2.24	2435.24	6.37	2437.64	6.38	2.39	0.1
123	383	260	137	6128	0.87205	892.23	0.58943	1603.43	1197.49	0	2.23	2437.08	6.36	2438.86	6.37	1.78	0.07
123	384	261	138	6144	0.87085	892.55	0.58984	1603.43	1211.88	-0.51	2.21	2437.84	6.35	2440.35	6.36	2.51	0.1
123	385	262	139	6160	0.86965	892.87	0.59026	1603.43	1226.32	0	2.2	2439.57	6.34	2441.46	6.34	1.89	0.08
123	386	263	140	6176	0.86845	893.18	0.59067	1603.44	1240.82	-0.51	2.18	2440.23	6.32	2442.84	6.33	2.61	0.11
123	387	264	141	6192	0.86726	893.49	0.59109	1603.46	1255.36	0	2.16	2441.85	6.31	2443.85	6.31	2	0.08
123	388	265	142	6208	0.86606	893.79	0.59150	1603.49	1269.96	-0.51	2.15	2442.4	6.29	2445.12	6.3	2.71	0.11

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
123	389	266	143	6224	0.86486	894.09	0.59190	1603.51	1284.61	0	2.14	2443.92	6.28	2446.01	6.29	2.09	0.09
123	390	267	144	6240	0.86367	894.39	0.59231	1603.55	1299.31	-0.51	2.12	2444.37	6.27	2447.17	6.27	2.8	0.11
123	391	268	145	6256	0.86248	894.68	0.59271	1603.59	1314.05	0	2.11	2445.79	6.26	2447.96	6.26	2.18	0.09
123	392	269	146	6272	0.86128	894.96	0.59311	1603.64	1328.85	-0.51	2.09	2446.14	6.24	2449.02	6.25	2.88	0.12
123	393	270	147	6288	0.86009	895.24	0.59351	1603.69	1343.7	0	2.08	2447.45	6.23	2449.7	6.23	2.25	0.09
123	394	271	148	6304	0.85890	895.52	0.59391	1603.75	1358.59	-0.5	2.06	2447.7	6.21	2450.65	6.22	2.95	0.12
123	395	272	149	6320	0.85771	895.79	0.59430	1603.81	1373.54	0	2.05	2448.91	6.2	2451.23	6.21	2.32	0.09
123	396	273	150	6336	0.85652	896.06	0.59470	1603.88	1388.53	-0.5	2.04	2449.07	6.18	2452.08	6.19	3.01	0.12
123	397	274	151	6352	0.85533	896.32	0.59509	1603.95	1403.57	0	2.02	2450.18	6.17	2452.56	6.18	2.38	0.1
123	398	275	152	6368	0.85415	896.58	0.59548	1604.03	1418.66	-0.5	2.01	2450.24	6.16	2453.31	6.16	3.07	0.12
123	399	276	153	6384	0.85296	896.83	0.59587	1604.11	1433.79	0	2	2451.26	6.14	2453.68	6.15	2.43	0.1
123	400	277	154	6400	0.85178	897.08	0.59625	1604.2	1448.97	-0.5	1.98	2451.23	6.13	2454.33	6.14	3.11	0.13
123	401	278	155	6416	0.85059	897.33	0.59663	1604.3	1464.2	0	1.97	2452.14	6.12	2454.61	6.12	2.46	0.1
123	402	279	156	6432	0.84941	897.57	0.59702	1604.4	1479.47	-0.5	1.96	2452.02	6.1	2455.16	6.11	3.14	0.13
123	403	280	157	6448	0.84823	897.81	0.59740	1604.5	1494.79	0	1.95	2452.84	6.09	2455.34	6.09	2.49	0.1
123	404	281	158	6464	0.84705	898.04	0.59777	1604.61	1510.16	-0.5	1.93	2452.63	6.07	2455.79	6.08	3.16	0.13
123	405	282	159	6480	0.84587	898.27	0.59815	1604.72	1525.57	0	1.92	2453.36	6.06	2455.87	6.06	2.51	0.1
123	406	283	160	6496	0.84469	898.5	0.59852	1604.84	1541.02	-0.5	1.91	2453.05	6.04	2456.22	6.05	3.17	0.13
123	407	284	161	6512	0.84352	898.72	0.59889	1604.96	1556.52	0	1.9	2453.69	6.03	2456.21	6.03	2.52	0.1
123	408	285	162	6528	0.84234	898.94	0.59927	1605.09	1572.06	-0.5	1.89	2453.29	6.01	2456.47	6.02	3.17	0.13
123	409	286	163	6544	0.84117	899.16	0.59963	1605.22	1587.65	0	1.88	2453.84	6	2456.36	6.01	2.51	0.1
123	410	287	164	6560	0.84000	899.37	0.60000	1605.36	1603.28	-0.49	1.86	2453.36	5.98	2456.53	5.99	3.17	0.13
123	411	288	165	6576	0.83883	899.57	0.60037	1605.5	1618.95	0	1.85	2453.82	5.97	2456.32	5.98	2.5	0.1
123	412	289	166	6592	0.83766	899.78	0.60073	1605.65	1634.67	-0.49	1.84	2453.25	5.95	2456.4	5.96	3.15	0.13
123	413	290	167	6608	0.83649	899.98	0.60109	1605.8	1650.43	0	1.83	2453.62	5.94	2456.1	5.95	2.48	0.1
123	414	291	168	6624	0.83533	900.17	0.60145	1605.96	1666.23	-0.49	1.82	2452.97	5.93	2456.08	5.93	3.11	0.13
123	415	292	169	6640	0.83417	900.37	0.60181	1606.12	1682.07	0	1.81	2453.26	5.91	2455.7	5.92	2.44	0.1
123	416	293	170	6656	0.83300	900.55	0.60216	1606.28	1697.95	-0.49	1.8	2452.52	5.9	2455.59	5.9	3.07	0.13
123	417	294	171	6672	0.83184	900.74	0.60252	1606.45	1713.88	0	1.79	2452.72	5.88	2455.11	5.89	2.39	0.1
123	418	295	172	6688	0.83068	900.92	0.60287	1606.62	1729.84	-0.49	1.78	2451.9	5.87	2454.92	5.87	3.02	0.12
123	419	296	173	6704	0.82952	901.1	0.60322	1606.8	1745.85	0	1.77	2452.02	5.85	2454.35	5.86	2.34	0.1
123	420	297	174	6720	0.82837	901.28	0.60357	1606.98	1761.89	-0.49	1.76	2451.12	5.84	2454.07	5.84	2.95	0.12
123	421	298	175	6736	0.82721	901.45	0.60392	1607.16	1777.98	0	1.74	2451.15	5.82	2453.42	5.83	2.27	0.09
123	422	299	176	6752	0.82606	901.62	0.60427	1607.35	1794.11	-0.49	1.73	2450.17	5.81	2453.05	5.81	2.88	0.12
123	423	300	177	6768	0.82491	901.78	0.60461	1607.55	1810.27	0	1.72	2450.12	5.79	2452.31	5.8	2.19	0.09
123	424	301	178	6784	0.82376	901.94	0.60495	1607.74	1826.48	-0.49	1.71	2449.06	5.78	2451.85	5.78	2.79	0.11
123	425	302	179	6800	0.82261	902.1	0.60529	1607.95	1842.72	0	1.71	2448.93	5.76	2451.03	5.77	2.09	0.09
123	426	303	180	6816	0.82146	902.26	0.60563	1608.15	1859.01	-0.48	1.7	2447.8	5.75	2450.49	5.75	2.69	0.11
123	427	304	181	6832	0.82032	902.41	0.60597	1608.36	1875.33	0	1.69	2447.59	5.73	2449.58	5.74	1.99	0.08
123	428	305	182	6848	0.81918	902.56	0.60631	1608.57	1891.69	-0.48	1.68	2446.38	5.72	2448.96	5.72	2.58	0.11
123	429	306	183	6864	0.81804	902.7	0.60664	1608.79	1908.08	0	1.67	2446.09	5.7	2447.96	5.71	1.87	0.08
123	430	307	184	6880	0.81690	902.85	0.60698	1609.01	1924.52	-0.48	1.66	2444.8	5.69	2447.26	5.69	2.46	0.1
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
124	247	123	-1	3952	0.99998	763.71	0.49899	1739.96	0.1	0	9.83	1458.07	5.9	1467.32	5.94	9.25	0.63
124	248	124	0	3968	1.00000	765.78	0.50000	1737.61	0	0.64	10	1475.25	5.95	1483.8	5.98	8.55	0.58
124	249	125	1	3984	0.99998	767.82	0.50100	1735.29	0.1	0	9.83	1490.62	5.99	1498.22	6.02	7.6	0.51

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
124	250	126	2	4000	0.99994	769.84	0.50200	1733.02	0.39	0.63	9.67	1507.06	6.03	1514.33	6.06	7.27	0.48
124	251	127	3	4016	0.99986	771.83	0.50299	1730.78	0.87	0	9.51	1522.03	6.06	1528.39	6.09	6.37	0.42
124	252	128	4	4032	0.99975	773.8	0.50397	1728.58	1.55	0.63	9.36	1538.06	6.1	1544.15	6.13	6.09	0.39
124	253	129	5	4048	0.99961	775.73	0.50494	1726.42	2.41	0	9.2	1552.64	6.14	1557.86	6.16	5.23	0.34
124	254	130	6	4064	0.99944	777.65	0.50591	1724.3	3.46	0.63	9.06	1568.28	6.17	1573.27	6.19	4.99	0.32
124	255	131	7	4080	0.99925	779.53	0.50686	1722.22	4.69	0	8.91	1582.47	6.21	1586.64	6.22	4.17	0.26
124	256	132	8	4096	0.99902	781.4	0.50781	1720.17	6.1	0.62	8.77	1597.73	6.24	1601.7	6.26	3.97	0.25
124	257	133	9	4112	0.99877	783.23	0.50876	1718.15	7.69	0	8.63	1611.55	6.27	1614.75	6.28	3.19	0.2
124	258	134	10	4128	0.99850	785.05	0.50969	1716.17	9.46	0.62	8.5	1626.44	6.3	1629.47	6.32	3.02	0.19
124	259	135	11	4144	0.99820	786.84	0.51062	1714.23	11.4	0	8.37	1639.9	6.33	1642.19	6.34	2.29	0.14
124	260	136	12	4160	0.99787	788.6	0.51154	1712.32	13.52	0.62	8.24	1654.42	6.36	1656.57	6.37	2.15	0.13
124	261	137	13	4176	0.99752	790.34	0.51245	1710.44	15.8	0	8.11	1667.52	6.39	1668.98	6.39	1.45	0.09
124	262	138	14	4192	0.99715	792.06	0.51336	1708.59	18.26	0.62	7.99	1681.69	6.42	1683.04	6.42	1.35	0.08
124	263	139	15	4208	0.99675	793.76	0.51426	1706.78	20.88	0	7.87	1694.45	6.44	1695.13	6.45	0.68	0.04
124	264	140	16	4224	0.99633	795.44	0.51515	1705	23.67	0.62	7.75	1708.27	6.47	1708.88	6.47	0.61	0.04
124	265	141	17	4240	0.99589	797.09	0.51604	1703.25	26.62	0	7.64	1720.68	6.49	1720.66	6.49	-0.02	0
124	266	142	18	4256	0.99542	798.72	0.51692	1701.52	29.73	0.61	7.53	1734.16	6.52	1734.1	6.52	-0.06	0
124	267	143	19	4272	0.99494	800.33	0.51779	1699.83	33	0	7.42	1746.25	6.54	1745.58	6.54	-0.67	-0.04
124	268	144	20	4288	0.99443	801.92	0.51866	1698.17	36.43	0.61	7.31	1759.4	6.56	1758.71	6.56	-0.68	-0.04
124	269	145	21	4304	0.99391	803.49	0.51952	1696.54	40.02	0	7.2	1771.16	6.58	1769.91	6.58	-1.25	-0.07
124	270	146	22	4320	0.99336	805.04	0.52037	1694.93	43.76	0.61	7.1	1783.98	6.61	1782.74	6.6	-1.24	-0.07
124	271	147	23	4336	0.99280	806.57	0.52122	1693.36	47.65	0	7	1795.43	6.63	1793.64	6.62	-1.78	-0.1
124	272	148	24	4352	0.99222	808.08	0.52206	1691.81	51.69	0.61	6.9	1807.93	6.65	1806.18	6.64	-1.75	-0.1
124	273	149	25	4368	0.99161	809.57	0.52289	1690.28	55.88	0	6.81	1819.07	6.66	1816.81	6.65	-2.26	-0.12
124	274	150	26	4384	0.99100	811.04	0.52372	1688.79	60.22	0.6	6.71	1831.27	6.68	1829.06	6.68	-2.21	-0.12
124	275	151	27	4400	0.99036	812.49	0.52455	1687.32	64.71	0	6.62	1842.1	6.7	1839.41	6.69	-2.7	-0.15
124	276	152	28	4416	0.98971	813.92	0.52536	1685.88	69.34	0.6	6.53	1853.99	6.72	1851.38	6.71	-2.62	-0.14
124	277	153	29	4432	0.98904	815.33	0.52617	1684.46	74.12	0	6.44	1864.53	6.73	1861.45	6.72	-3.08	-0.17
124	278	154	30	4448	0.98836	816.73	0.52698	1683.07	79.03	0.6	6.36	1876.13	6.75	1873.15	6.74	-2.98	-0.16
124	279	155	31	4464	0.98765	818.11	0.52778	1681.7	84.09	0	6.27	1886.38	6.76	1882.96	6.75	-3.42	-0.18
124	280	156	32	4480	0.98694	819.47	0.52857	1680.35	89.28	0.6	6.19	1897.69	6.78	1894.38	6.77	-3.31	-0.17
124	281	157	33	4496	0.98621	820.81	0.52936	1679.03	94.61	0	6.11	1907.66	6.79	1903.93	6.78	-3.72	-0.2
124	282	158	34	4512	0.98546	822.13	0.53014	1677.74	100.08	0.6	6.03	1918.68	6.8	1915.09	6.79	-3.59	-0.19
124	283	159	35	4528	0.98471	823.44	0.53092	1676.46	105.68	0	5.95	1928.37	6.81	1924.39	6.8	-3.99	-0.21
124	284	160	36	4544	0.98393	824.73	0.53169	1675.21	111.41	0.59	5.87	1939.11	6.83	1935.28	6.81	-3.83	-0.2
124	285	161	37	4560	0.98315	826.01	0.53246	1673.98	117.27	0	5.8	1948.54	6.84	1944.33	6.82	-4.21	-0.22
124	286	162	38	4576	0.98235	827.26	0.53322	1672.78	123.27	0.59	5.72	1959.01	6.85	1954.97	6.84	-4.04	-0.21
124	287	163	39	4592	0.98153	828.51	0.53397	1671.59	129.39	0	5.65	1968.17	6.86	1963.77	6.84	-4.4	-0.22
124	288	164	40	4608	0.98071	829.73	0.53472	1670.43	135.64	0.59	5.58	1978.37	6.87	1974.16	6.85	-4.21	-0.21
124	289	165	41	4624	0.97987	830.94	0.53547	1669.29	142.01	0	5.51	1987.27	6.88	1982.72	6.86	-4.55	-0.23
124	290	166	42	4640	0.97903	832.14	0.53621	1668.16	148.51	0.59	5.44	1997.22	6.89	1992.86	6.87	-4.35	-0.22
124	291	167	43	4656	0.97817	833.32	0.53694	1667.06	155.14	0	5.38	2005.86	6.89	2001.18	6.88	-4.68	-0.23
124	292	168	44	4672	0.97729	834.48	0.53767	1665.98	161.88	0.59	5.31	2015.55	6.9	2011.09	6.89	-4.47	-0.22
124	293	169	45	4688	0.97641	835.63	0.53840	1664.92	168.75	0	5.25	2023.95	6.91	2019.17	6.89	-4.78	-0.24
124	294	170	46	4704	0.97552	836.76	0.53912	1663.88	175.73	0.58	5.18	2033.39	6.92	2028.84	6.9	-4.55	-0.22
124	295	171	47	4720	0.97462	837.88	0.53983	1662.86	182.84	0	5.12	2041.54	6.92	2036.7	6.9	-4.84	-0.24
124	296	172	48	4736	0.97370	838.99	0.54054	1661.86	190.06	0.58	5.06	2050.74	6.93	2046.13	6.91	-4.61	-0.23

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
124	297	173	49	4752	0.97278	840.08	0.54125	1660.87	197.4	0	5	2058.65	6.93	2053.77	6.92	-4.89	-0.24
124	298	174	50	4768	0.97185	841.16	0.54195	1659.91	204.85	0.58	4.94	2067.61	6.94	2062.97	6.92	-4.64	-0.22
124	299	175	51	4784	0.97091	842.22	0.54264	1658.96	212.41	0	4.89	2075.29	6.94	2070.39	6.92	-4.9	-0.24
124	300	176	52	4800	0.96996	843.27	0.54333	1658.03	220.09	0.58	4.83	2084.01	6.95	2079.37	6.93	-4.64	-0.22
124	301	177	53	4816	0.96900	844.31	0.54402	1657.12	227.88	0	4.77	2091.46	6.95	2086.56	6.93	-4.9	-0.23
124	302	178	54	4832	0.96803	845.33	0.54470	1656.23	235.78	0.58	4.72	2099.96	6.95	2095.33	6.94	-4.63	-0.22
124	303	179	55	4848	0.96705	846.34	0.54538	1655.35	243.79	0	4.67	2107.18	6.95	2102.31	6.94	-4.87	-0.23
124	304	180	56	4864	0.96607	847.34	0.54605	1654.49	251.91	0.57	4.61	2115.45	6.96	2110.85	6.94	-4.6	-0.22
124	305	181	57	4880	0.96507	848.32	0.54672	1653.65	260.13	0	4.56	2122.46	6.96	2117.63	6.94	-4.83	-0.23
124	306	182	58	4896	0.96407	849.3	0.54739	1652.82	268.46	0.57	4.51	2130.51	6.96	2125.96	6.95	-4.54	-0.21
124	307	183	59	4912	0.96307	850.26	0.54805	1652.01	276.89	0	4.46	2137.3	6.96	2132.53	6.95	-4.76	-0.22
124	308	184	60	4928	0.96205	851.2	0.54870	1651.22	285.43	0.57	4.41	2145.13	6.96	2140.66	6.95	-4.47	-0.21
124	309	185	61	4944	0.96103	852.14	0.54935	1650.44	294.08	0	4.36	2151.71	6.96	2147.03	6.95	-4.68	-0.22
124	310	186	62	4960	0.96000	853.06	0.55000	1649.68	302.82	0.57	4.32	2159.33	6.97	2154.94	6.95	-4.38	-0.2
124	311	187	63	4976	0.95896	853.97	0.55064	1648.93	311.67	0	4.27	2165.7	6.96	2161.12	6.95	-4.59	-0.21
124	312	188	64	4992	0.95792	854.87	0.55128	1648.2	320.61	0.57	4.23	2173.11	6.97	2168.83	6.95	-4.28	-0.2
124	313	189	65	5008	0.95687	855.76	0.55192	1647.48	329.65	0	4.18	2179.28	6.96	2174.81	6.95	-4.48	-0.21
124	314	190	66	5024	0.95582	856.64	0.55255	1646.78	338.8	0.56	4.14	2186.49	6.96	2182.32	6.95	-4.16	-0.19
124	315	191	67	5040	0.95476	857.5	0.55318	1646.09	348.04	0	4.09	2192.46	6.96	2188.11	6.95	-4.35	-0.2
124	316	192	68	5056	0.95369	858.36	0.55380	1645.42	357.37	0.56	4.05	2199.47	6.96	2195.43	6.95	-4.03	-0.18
124	317	193	69	5072	0.95262	859.2	0.55442	1644.76	366.8	0	4.01	2205.25	6.96	2201.03	6.94	-4.21	-0.19
124	318	194	70	5088	0.95155	860.03	0.55503	1644.11	376.33	0.56	3.97	2212.05	6.96	2208.16	6.94	-3.89	-0.18
124	319	195	71	5104	0.95046	860.86	0.55564	1643.48	385.95	0	3.93	2217.64	6.95	2213.58	6.94	-4.07	-0.18
124	320	196	72	5120	0.94938	861.67	0.55625	1642.87	395.66	0.56	3.89	2224.25	6.95	2220.52	6.94	-3.74	-0.17
124	321	197	73	5136	0.94828	862.47	0.55685	1642.26	405.46	0	3.85	2229.65	6.95	2225.75	6.93	-3.91	-0.18
124	322	198	74	5152	0.94719	863.26	0.55745	1641.67	415.36	0.56	3.81	2236.08	6.94	2232.5	6.93	-3.58	-0.16
124	323	199	75	5168	0.94608	864.04	0.55805	1641.09	425.34	0	3.77	2241.3	6.94	2237.56	6.93	-3.74	-0.17
124	324	200	76	5184	0.94498	864.81	0.55864	1640.53	435.42	0.56	3.73	2247.53	6.94	2244.13	6.93	-3.4	-0.15
124	325	201	77	5200	0.94387	865.57	0.55923	1639.98	445.58	0	3.7	2252.57	6.93	2249.01	6.92	-3.56	-0.16
124	326	202	78	5216	0.94275	866.32	0.55982	1639.44	455.83	0.55	3.66	2258.63	6.93	2255.4	6.92	-3.22	-0.14
124	327	203	79	5232	0.94163	867.06	0.56040	1638.91	466.17	0	3.63	2263.49	6.92	2260.11	6.91	-3.38	-0.15
124	328	204	80	5248	0.94051	867.79	0.56098	1638.4	476.59	0.55	3.59	2269.36	6.92	2266.32	6.91	-3.04	-0.13
124	329	205	81	5264	0.93939	868.51	0.56155	1637.89	487.1	0	3.56	2274.05	6.91	2270.86	6.9	-3.19	-0.14
124	330	206	82	5280	0.93826	869.22	0.56212	1637.4	497.69	0.55	3.52	2279.75	6.91	2276.9	6.9	-2.85	-0.12
124	331	207	83	5296	0.93712	869.93	0.56269	1636.93	508.37	0	3.49	2284.26	6.9	2281.27	6.89	-2.99	-0.13
124	332	208	84	5312	0.93599	870.62	0.56325	1636.46	519.13	0.55	3.46	2289.79	6.9	2287.15	6.89	-2.65	-0.12
124	333	209	85	5328	0.93485	871.31	0.56381	1636	529.97	0	3.42	2294.14	6.89	2291.35	6.88	-2.79	-0.12
124	334	210	86	5344	0.93370	871.98	0.56437	1635.56	540.9	0.55	3.39	2299.5	6.88	2297.05	6.88	-2.44	-0.11
124	335	211	87	5360	0.93256	872.65	0.56493	1635.13	551.9	0	3.36	2303.68	6.88	2301.1	6.87	-2.58	-0.11
124	336	212	88	5376	0.93141	873.31	0.56548	1634.71	562.99	0.55	3.33	2308.87	6.87	2306.64	6.86	-2.24	-0.1
124	337	213	89	5392	0.93025	873.96	0.56602	1634.3	574.15	0	3.3	2312.9	6.86	2310.52	6.86	-2.37	-0.1
124	338	214	90	5408	0.92910	874.6	0.56657	1633.9	585.39	0.54	3.27	2317.93	6.86	2315.9	6.85	-2.03	-0.09
124	339	215	91	5424	0.92794	875.23	0.56711	1633.51	596.71	0	3.24	2321.79	6.85	2319.62	6.84	-2.16	-0.09
124	340	216	92	5440	0.92678	875.85	0.56765	1633.13	608.11	0.54	3.21	2326.66	6.84	2324.84	6.84	-1.82	-0.08
124	341	217	93	5456	0.92562	876.47	0.56818	1632.76	619.59	0	3.18	2330.36	6.83	2328.41	6.83	-1.95	-0.08
124	342	218	94	5472	0.92446	877.08	0.56871	1632.4	631.14	0.54	3.15	2335.07	6.83	2333.47	6.82	-1.6	-0.07
124	343	219	95	5488	0.92329	877.68	0.56924	1632.06	642.76	0	3.12	2338.63	6.82	2336.89	6.81	-1.73	-0.07

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Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
124	344	220	96	5504	0.92212	878.27	0.56977	1631.72	654.46	0.54	3.1	2343.18	6.81	2341.8	6.81	-1.39	-0.06
124	345	221	97	5520	0.92095	878.85	0.57029	1631.39	666.24	0	3.07	2346.59	6.8	2345.07	6.8	-1.52	-0.06
124	346	222	98	5536	0.91978	879.43	0.57081	1631.07	678.09	0.54	3.04	2350.99	6.79	2349.82	6.79	-1.17	-0.05
124	347	223	99	5552	0.91860	880	0.57133	1630.76	690.01	0	3.02	2354.25	6.78	2352.94	6.78	-1.3	-0.06
124	348	224	100	5568	0.91743	880.56	0.57184	1630.47	702	0.54	2.99	2358.5	6.78	2357.54	6.77	-0.96	-0.04
124	349	225	101	5584	0.91625	881.11	0.57235	1630.18	714.06	0	2.97	2361.61	6.77	2360.52	6.76	-1.09	-0.05
124	350	226	102	5600	0.91507	881.66	0.57286	1629.9	726.2	0.53	2.94	2365.72	6.76	2364.98	6.76	-0.74	-0.03
124	351	227	103	5616	0.91389	882.2	0.57336	1629.63	738.4	0	2.92	2368.69	6.75	2367.81	6.75	-0.87	-0.04
124	352	228	104	5632	0.91271	882.73	0.57386	1629.37	750.68	0.53	2.89	2372.65	6.74	2372.12	6.74	-0.53	-0.02
124	353	229	105	5648	0.91152	883.25	0.57436	1629.11	763.02	0	2.87	2375.48	6.73	2374.82	6.73	-0.66	-0.03
124	354	230	106	5664	0.91034	883.77	0.57486	1628.87	775.44	0.53	2.84	2379.3	6.72	2378.98	6.72	-0.32	-0.01
124	355	231	107	5680	0.90915	884.28	0.57535	1628.64	787.92	0	2.82	2381.99	6.71	2381.54	6.71	-0.45	-0.02
124	356	232	108	5696	0.90797	884.79	0.57584	1628.41	800.46	0.53	2.8	2385.67	6.7	2385.56	6.7	-0.11	0
124	357	233	109	5712	0.90678	885.28	0.57633	1628.19	813.08	0	2.77	2388.22	6.69	2387.98	6.69	-0.24	-0.01
124	358	234	110	5728	0.90559	885.77	0.57682	1627.98	825.76	0.53	2.75	2391.76	6.68	2391.86	6.68	0.1	0
124	359	235	111	5744	0.90440	886.25	0.57730	1627.78	838.51	0	2.73	2394.19	6.67	2394.15	6.67	-0.03	0
124	360	236	112	5760	0.90321	886.73	0.57778	1627.59	851.32	0.53	2.71	2397.59	6.66	2397.9	6.66	0.3	0.01
124	361	237	113	5776	0.90202	887.2	0.57826	1627.41	864.19	0	2.69	2399.88	6.65	2400.06	6.65	0.17	0.01
124	362	238	114	5792	0.90083	887.66	0.57873	1627.23	877.13	0.53	2.66	2403.16	6.64	2403.66	6.64	0.5	0.02
124	363	239	115	5808	0.89964	888.12	0.57920	1627.06	890.14	0	2.64	2405.32	6.63	2405.69	6.63	0.37	0.02
124	364	240	116	5824	0.89844	888.57	0.57967	1626.9	903.2	0.52	2.62	2408.47	6.62	2409.17	6.62	0.7	0.03
124	365	241	117	5840	0.89725	889.02	0.58014	1626.75	916.33	0	2.6	2410.5	6.6	2411.07	6.61	0.56	0.02
124	366	242	118	5856	0.89606	889.46	0.58060	1626.61	929.52	0.52	2.58	2413.52	6.59	2414.41	6.6	0.89	0.04
124	367	243	119	5872	0.89486	889.89	0.58106	1626.47	942.78	0	2.56	2415.43	6.58	2416.18	6.58	0.75	0.03
124	368	244	120	5888	0.89367	890.31	0.58152	1626.34	956.09	0.52	2.54	2418.32	6.57	2419.4	6.57	1.08	0.04
124	369	245	121	5904	0.89247	890.73	0.58198	1626.22	969.46	0	2.52	2420.11	6.56	2421.05	6.56	0.94	0.04
124	370	246	122	5920	0.89128	891.15	0.58243	1626.1	982.9	0.52	2.5	2422.87	6.55	2424.13	6.55	1.26	0.05
124	371	247	123	5936	0.89008	891.56	0.58288	1626	996.39	0	2.48	2424.54	6.54	2425.66	6.54	1.12	0.05
124	372	248	124	5952	0.88889	891.96	0.58333	1625.9	1009.94	0.52	2.47	2427.18	6.52	2428.62	6.53	1.43	0.06
124	373	249	125	5968	0.88769	892.35	0.58378	1625.8	1023.56	0	2.45	2428.73	6.51	2430.02	6.51	1.29	0.05
124	374	250	126	5984	0.88650	892.75	0.58423	1625.72	1037.22	0.52	2.43	2431.26	6.5	2432.86	6.5	1.6	0.07
124	375	251	127	6000	0.88531	893.13	0.58467	1625.64	1050.95	0	2.41	2432.69	6.49	2434.15	6.49	1.46	0.06
124	376	252	128	6016	0.88411	893.51	0.58511	1625.57	1064.74	0.52	2.39	2435.09	6.48	2436.86	6.48	1.77	0.07
124	377	253	129	6032	0.88292	893.89	0.58554	1625.5	1078.58	0	2.38	2436.41	6.46	2438.03	6.47	1.62	0.07
124	378	254	130	6048	0.88172	894.26	0.58598	1625.44	1092.47	0.51	2.36	2438.7	6.45	2440.62	6.46	1.92	0.08
124	379	255	131	6064	0.88053	894.62	0.58641	1625.39	1106.43	0	2.34	2439.9	6.44	2441.68	6.44	1.77	0.07
124	380	256	132	6080	0.87934	894.98	0.58684	1625.35	1120.43	0.51	2.32	2442.08	6.43	2444.15	6.43	2.07	0.08
124	381	257	133	6096	0.87814	895.33	0.58727	1625.31	1134.5	0	2.31	2443.17	6.41	2445.09	6.42	1.92	0.08
124	382	258	134	6112	0.87695	895.68	0.58770	1625.28	1148.61	0.51	2.29	2445.23	6.4	2447.45	6.41	2.22	0.09
124	383	259	135	6128	0.87576	896.02	0.58812	1625.25	1162.79	0	2.28	2446.22	6.39	2448.28	6.39	2.06	0.08
124	384	260	136	6144	0.87457	896.36	0.58854	1625.23	1177.01	0.51	2.26	2448.17	6.38	2450.52	6.38	2.35	0.1
124	385	261	137	6160	0.87338	896.69	0.58896	1625.22	1191.29	0	2.24	2449.04	6.36	2451.24	6.37	2.19	0.09
124	386	262	138	6176	0.87218	897.02	0.58938	1625.21	1205.62	0.51	2.23	2450.89	6.35	2453.36	6.36	2.48	0.1
124	387	263	139	6192	0.87100	897.34	0.58979	1625.21	1220	0	2.21	2451.66	6.34	2453.97	6.34	2.31	0.09
124	388	264	140	6208	0.86981	897.66	0.59021	1625.22	1234.44	0.51	2.2	2453.39	6.32	2455.99	6.33	2.6	0.11
124	389	265	141	6224	0.86862	897.97	0.59062	1625.23	1248.93	0	2.18	2454.06	6.31	2456.49	6.31	2.43	0.1
124	390	266	142	6240	0.86743	898.28	0.59103	1625.24	1263.46	0.51	2.17	2455.68	6.3	2458.39	6.3	2.71	0.11

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
124	391	267	143	6256	0.86624	898.58	0.59143	1625.27	1278.05	0	2.15	2456.25	6.28	2458.78	6.29	2.54	0.1
124	392	268	144	6272	0.86506	898.88	0.59184	1625.3	1292.69	0.51	2.14	2457.77	6.27	2460.58	6.28	2.81	0.11
124	393	269	145	6288	0.86387	899.18	0.59224	1625.33	1307.38	0	2.12	2458.23	6.26	2460.87	6.26	2.64	0.11
124	394	270	146	6304	0.86269	899.47	0.59264	1625.37	1322.12	0.5	2.11	2459.65	6.24	2462.56	6.25	2.9	0.12
124	395	271	147	6320	0.86150	899.75	0.59304	1625.42	1336.91	0	2.09	2460.01	6.23	2462.74	6.23	2.73	0.11
124	396	272	148	6336	0.86032	900.03	0.59343	1625.47	1351.75	0.5	2.08	2461.33	6.22	2464.32	6.22	2.99	0.12
124	397	273	149	6352	0.85914	900.31	0.59383	1625.52	1366.64	0	2.07	2461.6	6.2	2464.4	6.21	2.81	0.11
124	398	274	150	6368	0.85796	900.58	0.59422	1625.59	1381.57	0.5	2.05	2462.82	6.19	2465.88	6.2	3.06	0.12
124	399	275	151	6384	0.85678	900.85	0.59461	1625.65	1396.55	0	2.04	2462.99	6.17	2465.86	6.18	2.88	0.12
124	400	276	152	6400	0.85560	901.11	0.59500	1625.73	1411.58	0.5	2.03	2464.11	6.16	2467.24	6.17	3.13	0.13
124	401	277	153	6416	0.85442	901.37	0.59539	1625.8	1426.66	0	2.01	2464.18	6.15	2467.12	6.15	2.94	0.12
124	402	278	154	6432	0.85325	901.63	0.59577	1625.89	1441.78	0.5	2	2465.2	6.13	2468.39	6.14	3.19	0.13
124	403	279	155	6448	0.85207	901.88	0.59615	1625.97	1456.95	0	1.99	2465.18	6.12	2468.17	6.12	2.99	0.12
124	404	280	156	6464	0.85090	902.12	0.59654	1626.07	1472.17	0.5	1.98	2466.11	6.1	2469.35	6.11	3.23	0.13
124	405	281	157	6480	0.84972	902.37	0.59691	1626.17	1487.43	0	1.96	2466	6.09	2469.03	6.1	3.03	0.12
124	406	282	158	6496	0.84855	902.61	0.59729	1626.27	1502.74	0.5	1.95	2466.83	6.08	2470.1	6.08	3.27	0.13
124	407	283	159	6512	0.84738	902.84	0.59767	1626.38	1518.09	0	1.94	2466.63	6.06	2469.7	6.07	3.07	0.12
124	408	284	160	6528	0.84621	903.07	0.59804	1626.49	1533.49	0.5	1.93	2467.37	6.05	2470.67	6.06	3.3	0.13
124	409	285	161	6544	0.84505	903.3	0.59841	1626.61	1548.93	0	1.91	2467.08	6.03	2470.17	6.04	3.09	0.12
124	410	286	162	6560	0.84388	903.52	0.59878	1626.73	1564.41	0.49	1.9	2467.73	6.02	2471.04	6.03	3.31	0.13
124	411	287	163	6576	0.84271	903.74	0.59915	1626.86	1579.94	0	1.89	2467.35	6	2470.45	6.01	3.1	0.13
124	412	288	164	6592	0.84155	903.95	0.59952	1626.99	1595.52	0.49	1.88	2467.91	5.99	2471.23	6	3.32	0.13
124	413	289	165	6608	0.84039	904.17	0.59988	1627.13	1611.13	0	1.87	2467.44	5.97	2470.54	5.98	3.1	0.13
124	414	290	166	6624	0.83923	904.37	0.60024	1627.27	1626.79	0.49	1.86	2467.92	5.96	2471.23	5.97	3.31	0.13
124	415	291	167	6640	0.83807	904.58	0.60060	1627.41	1642.49	0	1.84	2467.36	5.95	2470.45	5.95	3.09	0.13
124	416	292	168	6656	0.83691	904.78	0.60096	1627.56	1658.24	0.49	1.83	2467.75	5.93	2471.05	5.94	3.3	0.13
124	417	293	169	6672	0.83575	904.97	0.60132	1627.72	1674.02	0	1.82	2467.11	5.92	2470.18	5.92	3.07	0.12
124	418	294	170	6688	0.83460	905.17	0.60168	1627.88	1689.85	0.49	1.81	2467.41	5.9	2470.68	5.91	3.27	0.13
124	419	295	171	6704	0.83344	905.36	0.60203	1628.04	1705.72	0	1.8	2466.69	5.89	2469.72	5.89	3.04	0.12
124	420	296	172	6720	0.83229	905.54	0.60238	1628.21	1721.62	0.49	1.79	2466.9	5.87	2470.14	5.88	3.23	0.13
124	421	297	173	6736	0.83114	905.73	0.60273	1628.38	1737.57	0	1.78	2466.1	5.86	2469.09	5.86	3	0.12
124	422	298	174	6752	0.82999	905.91	0.60308	1628.56	1753.56	0.49	1.77	2466.23	5.84	2469.41	5.85	3.19	0.13
124	423	299	175	6768	0.82884	906.08	0.60343	1628.74	1769.6	0	1.76	2465.34	5.83	2468.29	5.84	2.94	0.12
124	424	300	176	6784	0.82770	906.25	0.60377	1628.92	1785.67	0.49	1.75	2465.39	5.81	2468.52	5.82	3.13	0.13
124	425	301	177	6800	0.82655	906.42	0.60412	1629.11	1801.78	0	1.74	2464.43	5.8	2467.31	5.81	2.88	0.12
124	426	302	178	6816	0.82541	906.59	0.60446	1629.3	1817.92	0.48	1.73	2464.4	5.78	2467.45	5.79	3.05	0.12
124	427	303	179	6832	0.82427	906.75	0.60480	1629.5	1834.11	0	1.72	2463.35	5.77	2466.15	5.78	2.8	0.11
124	428	304	180	6848	0.82313	906.91	0.60514	1629.7	1850.34	0.48	1.71	2463.24	5.76	2466.21	5.76	2.97	0.12
124	429	305	181	6864	0.82199	907.07	0.60548	1629.9	1866.6	0	1.7	2462.12	5.74	2464.83	5.75	2.71	0.11
124	430	306	182	6880	0.82086	907.22	0.60581	1630.11	1882.91	0.48	1.69	2461.93	5.73	2464.81	5.73	2.88	0.12
124	431	307	183	6896	0.81972	907.37	0.60615	1630.32	1899.25	0	1.68	2460.73	5.71	2463.35	5.72	2.61	0.11
124	432	308	184	6912	0.81859	907.52	0.60648	1630.54	1915.63	0.48	1.67	2460.46	5.7	2463.23	5.7	2.77	0.11
124	433	309	185	6928	0.81746	907.66	0.60681	1630.76	1932.05	0	1.66	2459.19	5.68	2461.69	5.69	2.5	0.1
124	434	310	186	6944	0.81633	907.8	0.60714	1630.98	1948.5	0.48	1.65	2458.85	5.67	2461.5	5.67	2.65	0.11
Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
125	249	124	-1	3984	0.99998	767.82	0.49900	1763.39	0.1	0	9.83	1462.52	5.87	1471.76	5.91	9.24	0.63

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
125	250	125	0	4000	1.00000	769.89	0.50000	1761.02	0	-0.63	10	1478.45	5.91	1487.41	5.95	8.96	0.6
125	251	126	1	4016	0.99998	771.93	0.50100	1758.7	0.1	0	9.83	1495.11	5.96	1502.69	5.99	7.58	0.5
125	252	127	2	4032	0.99994	773.94	0.50198	1756.41	0.39	-0.63	9.67	1510.31	5.99	1517.98	6.02	7.68	0.51
125	253	128	3	4048	0.99986	775.93	0.50296	1754.16	0.87	0	9.51	1526.56	6.03	1532.91	6.06	6.35	0.41
125	254	129	4	4064	0.99975	777.89	0.50394	1751.95	1.54	-0.63	9.36	1541.36	6.07	1547.85	6.09	6.49	0.42
125	255	130	5	4080	0.99962	779.82	0.50490	1749.78	2.39	0	9.21	1557.22	6.11	1562.42	6.13	5.2	0.33
125	256	131	6	4096	0.99945	781.73	0.50586	1747.64	3.43	-0.62	9.06	1571.63	6.14	1577.02	6.16	5.38	0.34
125	257	132	7	4112	0.99926	783.61	0.50681	1745.54	4.65	0	8.92	1587.11	6.18	1591.25	6.19	4.14	0.26
125	258	133	8	4128	0.99904	785.47	0.50775	1743.48	6.05	-0.62	8.78	1601.15	6.21	1605.51	6.22	4.36	0.27
125	259	134	9	4144	0.99879	787.31	0.50869	1741.45	7.63	0	8.64	1616.25	6.24	1619.4	6.25	3.15	0.19
125	260	135	10	4160	0.99852	789.12	0.50962	1739.46	9.39	-0.62	8.51	1629.92	6.27	1633.33	6.28	3.41	0.21
125	261	136	11	4176	0.99822	790.9	0.51054	1737.5	11.31	0	8.38	1644.66	6.3	1646.9	6.31	2.24	0.14
125	262	137	12	4192	0.99790	792.67	0.51145	1735.58	13.41	-0.62	8.25	1657.97	6.33	1660.51	6.34	2.53	0.15
125	263	138	13	4208	0.99756	794.41	0.51236	1733.69	15.68	0	8.13	1672.35	6.36	1673.75	6.36	1.4	0.08
125	264	139	14	4224	0.99719	796.13	0.51326	1731.83	18.12	-0.62	8	1685.31	6.38	1687.04	6.39	1.72	0.1
125	265	140	15	4240	0.99680	797.82	0.51415	1730	20.72	0	7.88	1699.34	6.41	1699.96	6.41	0.62	0.04
125	266	141	16	4256	0.99638	799.49	0.51504	1728.2	23.49	-0.61	7.77	1711.96	6.44	1712.95	6.44	0.98	0.06
125	267	142	17	4272	0.99595	801.15	0.51592	1726.44	26.42	0	7.65	1725.65	6.46	1725.56	6.46	-0.09	-0.01
125	268	143	18	4288	0.99549	802.78	0.51679	1724.71	29.51	-0.61	7.54	1737.94	6.48	1738.24	6.49	0.3	0.02
125	269	144	19	4304	0.99501	804.39	0.51766	1723	32.76	0	7.43	1751.29	6.51	1750.55	6.51	-0.74	-0.04
125	270	145	20	4320	0.99451	805.97	0.51852	1721.32	36.16	-0.61	7.33	1763.26	6.53	1762.94	6.53	-0.32	-0.02
125	271	146	21	4336	0.99400	807.54	0.51937	1719.68	39.72	0	7.22	1776.28	6.55	1774.95	6.55	-1.33	-0.07
125	272	147	22	4352	0.99346	809.09	0.52022	1718.06	43.44	-0.61	7.12	1787.93	6.57	1787.04	6.57	-0.89	-0.05
125	273	148	23	4368	0.99290	810.62	0.52106	1716.47	47.3	0	7.02	1800.63	6.6	1798.76	6.59	-1.87	-0.1
125	274	149	24	4384	0.99233	812.13	0.52190	1714.91	51.32	-0.6	6.92	1811.97	6.61	1810.57	6.61	-1.4	-0.08
125	275	150	25	4400	0.99174	813.62	0.52273	1713.37	55.48	0	6.83	1824.36	6.63	1822	6.63	-2.36	-0.13
125	276	151	26	4416	0.99113	815.09	0.52355	1711.86	59.79	-0.6	6.73	1835.39	6.65	1833.53	6.64	-1.86	-0.1
125	277	152	27	4432	0.99050	816.54	0.52437	1710.38	64.25	0	6.64	1847.48	6.67	1844.69	6.66	-2.79	-0.15
125	278	153	28	4448	0.98986	817.97	0.52518	1708.92	68.84	-0.6	6.55	1858.21	6.68	1855.94	6.68	-2.28	-0.12
125	279	154	29	4464	0.98920	819.38	0.52599	1707.49	73.59	0	6.46	1870	6.7	1866.82	6.69	-3.18	-0.17
125	280	155	30	4480	0.98852	820.78	0.52679	1706.08	78.47	-0.6	6.38	1880.45	6.72	1877.8	6.71	-2.65	-0.14
125	281	156	31	4496	0.98783	822.16	0.52758	1704.7	83.49	0	6.29	1891.94	6.73	1888.41	6.72	-3.53	-0.19
125	282	157	32	4512	0.98712	823.52	0.52837	1703.35	88.65	-0.6	6.21	1902.1	6.75	1899.13	6.73	-2.97	-0.16
125	283	158	33	4528	0.98640	824.86	0.52915	1702.01	93.94	0	6.13	1913.31	6.76	1909.47	6.75	-3.84	-0.2
125	284	159	34	4544	0.98567	826.19	0.52993	1700.7	99.37	-0.59	6.05	1923.19	6.77	1919.93	6.76	-3.26	-0.17
125	285	160	35	4560	0.98492	827.49	0.53070	1699.41	104.94	0	5.97	1934.12	6.79	1930.02	6.77	-4.1	-0.21
125	286	161	36	4576	0.98416	828.79	0.53147	1698.15	110.63	-0.59	5.89	1943.73	6.8	1940.22	6.78	-3.51	-0.18
125	287	162	37	4592	0.98338	830.06	0.53223	1696.91	116.46	0	5.82	1954.39	6.81	1950.06	6.79	-4.33	-0.22
125	288	163	38	4608	0.98259	831.32	0.53299	1695.69	122.41	-0.59	5.75	1963.73	6.82	1960.01	6.81	-3.72	-0.19
125	289	164	39	4624	0.98179	832.57	0.53374	1694.49	128.5	0	5.67	1974.12	6.83	1969.59	6.82	-4.53	-0.23
125	290	165	40	4640	0.98098	833.79	0.53448	1693.31	134.71	-0.59	5.6	1983.2	6.84	1979.3	6.83	-3.9	-0.2
125	291	166	41	4656	0.98015	835.01	0.53522	1692.16	141.04	0	5.53	1993.33	6.85	1988.64	6.83	-4.69	-0.24
125	292	167	42	4672	0.97931	836.2	0.53596	1691.03	147.5	-0.59	5.47	2002.15	6.86	1998.11	6.84	-4.04	-0.2
125	293	168	43	4688	0.97846	837.38	0.53669	1689.91	154.08	0	5.4	2012.02	6.87	2007.21	6.85	-4.82	-0.24
125	294	169	44	4704	0.97760	838.55	0.53742	1688.82	160.78	-0.58	5.33	2020.6	6.87	2016.44	6.86	-4.16	-0.21
125	295	170	45	4720	0.97673	839.7	0.53814	1687.75	167.61	0	5.27	2030.22	6.88	2025.3	6.87	-4.92	-0.24
125	296	171	46	4736	0.97585	840.84	0.53885	1686.69	174.55	-0.58	5.21	2038.55	6.89	2034.3	6.87	-4.25	-0.21

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
125	297	172	47	4752	0.97496	841.96	0.53956	1685.66	181.61	0	5.14	2047.92	6.9	2042.93	6.88	-4.99	-0.24
125	298	173	48	4768	0.97406	843.07	0.54027	1684.64	188.79	-0.58	5.08	2056.01	6.9	2051.7	6.88	-4.3	-0.21
125	299	174	49	4784	0.97314	844.16	0.54097	1683.65	196.08	0	5.02	2065.14	6.91	2060.1	6.89	-5.03	-0.24
125	300	175	50	4800	0.97222	845.24	0.54167	1682.67	203.49	-0.58	4.97	2072.99	6.91	2068.65	6.9	-4.34	-0.21
125	301	176	51	4816	0.97129	846.31	0.54236	1681.71	211.01	0	4.91	2081.89	6.92	2076.83	6.9	-5.06	-0.24
125	302	177	52	4832	0.97035	847.36	0.54305	1680.77	218.64	-0.58	4.85	2089.51	6.92	2085.16	6.9	-4.35	-0.21
125	303	178	53	4848	0.96940	848.4	0.54373	1679.84	226.38	0	4.8	2098.17	6.92	2093.12	6.91	-5.05	-0.24
125	304	179	54	4864	0.96845	849.43	0.54441	1678.94	234.23	-0.57	4.74	2105.57	6.93	2101.23	6.91	-4.34	-0.21
125	305	180	55	4880	0.96748	850.44	0.54508	1678.05	242.2	0	4.69	2114	6.93	2108.97	6.91	-5.03	-0.24
125	306	181	56	4896	0.96651	851.44	0.54575	1677.18	250.26	-0.57	4.64	2121.18	6.93	2116.88	6.92	-4.31	-0.2
125	307	182	57	4912	0.96553	852.43	0.54642	1676.32	258.44	0	4.58	2129.39	6.94	2124.41	6.92	-4.99	-0.23
125	308	183	58	4928	0.96454	853.41	0.54708	1675.48	266.72	-0.57	4.53	2136.36	6.94	2132.1	6.92	-4.25	-0.2
125	309	184	59	4944	0.96354	854.37	0.54774	1674.66	275.11	0	4.48	2144.35	6.94	2139.42	6.92	-4.93	-0.23
125	310	185	60	4960	0.96254	855.32	0.54839	1673.85	283.6	-0.57	4.44	2151.1	6.94	2146.91	6.93	-4.18	-0.19
125	311	186	61	4976	0.96153	856.26	0.54904	1673.06	292.19	0	4.39	2158.88	6.94	2154.03	6.93	-4.85	-0.23
125	312	187	62	4992	0.96051	857.18	0.54968	1672.29	300.89	-0.57	4.34	2165.42	6.94	2161.32	6.93	-4.1	-0.19
125	313	188	63	5008	0.95949	858.1	0.55032	1671.53	309.68	0	4.29	2172.98	6.94	2168.23	6.93	-4.75	-0.22
125	314	189	64	5024	0.95846	859	0.55096	1670.79	318.57	-0.56	4.25	2179.32	6.94	2175.32	6.93	-4	-0.18
125	315	190	65	5040	0.95742	859.89	0.55159	1670.06	327.57	0	4.2	2186.68	6.94	2182.04	6.93	-4.64	-0.21
125	316	191	66	5056	0.95638	860.77	0.55222	1669.35	336.66	-0.56	4.16	2192.82	6.94	2188.94	6.93	-3.88	-0.18
125	317	192	67	5072	0.95533	861.64	0.55284	1668.65	345.85	0	4.12	2199.98	6.94	2195.46	6.93	-4.52	-0.21
125	318	193	68	5088	0.95427	862.5	0.55346	1667.96	355.13	-0.56	4.07	2205.92	6.94	2202.17	6.93	-3.75	-0.17
125	319	194	69	5104	0.95321	863.35	0.55408	1667.29	364.51	0	4.03	2212.88	6.94	2208.5	6.92	-4.38	-0.2
125	320	195	70	5120	0.95215	864.18	0.55469	1666.64	373.98	-0.56	3.99	2218.63	6.93	2215.02	6.92	-3.61	-0.16
125	321	196	71	5136	0.95108	865.01	0.55530	1665.99	383.55	0	3.95	2225.4	6.93	2221.16	6.92	-4.23	-0.19
125	322	197	72	5152	0.95000	865.83	0.55590	1665.36	393.21	-0.56	3.91	2230.95	6.93	2227.5	6.92	-3.46	-0.16
125	323	198	73	5168	0.94892	866.63	0.55650	1664.75	402.96	0	3.87	2237.53	6.93	2233.46	6.91	-4.07	-0.18
125	324	199	74	5184	0.94784	867.42	0.55710	1664.15	412.8	-0.56	3.83	2242.9	6.92	2239.61	6.91	-3.29	-0.15
125	325	200	75	5200	0.94675	868.21	0.55769	1663.56	422.73	0	3.79	2249.29	6.92	2245.39	6.91	-3.9	-0.17
125	326	201	76	5216	0.94565	868.98	0.55828	1662.98	432.75	-0.55	3.76	2254.48	6.92	2251.36	6.91	-3.12	-0.14
125	327	202	77	5232	0.94455	869.75	0.55887	1662.42	442.86	0	3.72	2260.69	6.91	2256.96	6.9	-3.73	-0.17
125	328	203	78	5248	0.94345	870.5	0.55945	1661.87	453.06	-0.55	3.68	2265.7	6.91	2262.76	6.9	-2.94	-0.13
125	329	204	79	5264	0.94234	871.25	0.56003	1661.33	463.34	0	3.65	2271.72	6.9	2268.18	6.89	-3.54	-0.16
125	330	205	80	5280	0.94123	871.98	0.56061	1660.81	473.71	-0.55	3.61	2276.56	6.9	2273.81	6.89	-2.75	-0.12
125	331	206	81	5296	0.94012	872.71	0.56118	1660.3	484.17	0	3.58	2282.41	6.9	2279.06	6.89	-3.35	-0.15
125	332	207	82	5312	0.93900	873.42	0.56175	1659.8	494.7	-0.55	3.54	2287.07	6.89	2284.51	6.88	-2.56	-0.11
125	333	208	83	5328	0.93788	874.13	0.56231	1659.31	505.33	0	3.51	2292.75	6.89	2289.59	6.88	-3.15	-0.14
125	334	209	84	5344	0.93675	874.83	0.56287	1658.83	516.03	-0.55	3.48	2297.24	6.88	2294.88	6.87	-2.36	-0.1
125	335	210	85	5360	0.93562	875.52	0.56343	1658.37	526.82	0	3.44	2302.74	6.87	2299.79	6.87	-2.95	-0.13
125	336	211	86	5376	0.93449	876.2	0.56399	1657.91	537.69	-0.55	3.41	2307.07	6.87	2304.92	6.86	-2.16	-0.09
125	337	212	87	5392	0.93335	876.87	0.56454	1657.47	548.64	0	3.38	2312.41	6.86	2309.67	6.85	-2.74	-0.12
125	338	213	88	5408	0.93222	877.53	0.56509	1657.04	559.66	-0.54	3.35	2316.57	6.85	2314.63	6.85	-1.95	-0.08
125	339	214	89	5424	0.93107	878.18	0.56563	1656.62	570.77	0	3.32	2321.75	6.85	2319.21	6.84	-2.53	-0.11
125	340	215	90	5440	0.92993	878.83	0.56618	1656.21	581.96	-0.54	3.29	2325.75	6.84	2324.02	6.84	-1.73	-0.07
125	341	216	91	5456	0.92879	879.47	0.56672	1655.81	593.22	0	3.26	2330.76	6.84	2328.44	6.83	-2.32	-0.1
125	342	217	92	5472	0.92764	880.1	0.56725	1655.42	604.57	-0.54	3.23	2334.61	6.83	2333.09	6.82	-1.52	-0.07
125	343	218	93	5488	0.92649	880.72	0.56778	1655.04	615.98	0	3.2	2339.46	6.82	2337.36	6.81	-2.1	-0.09

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
125	344	219	94	5504	0.92533	881.33	0.56831	1654.67	627.48	-0.54	3.17	2343.15	6.81	2341.85	6.81	-1.3	-0.06
125	345	220	95	5520	0.92418	881.93	0.56884	1654.32	639.05	0	3.15	2347.85	6.81	2345.97	6.8	-1.88	-0.08
125	346	221	96	5536	0.92302	882.53	0.56936	1653.97	650.69	-0.54	3.12	2351.39	6.8	2350.3	6.79	-1.09	-0.05
125	347	222	97	5552	0.92186	883.12	0.56989	1653.63	662.41	0	3.09	2355.93	6.79	2354.27	6.78	-1.66	-0.07
125	348	223	98	5568	0.92070	883.7	0.57040	1653.31	674.2	-0.54	3.06	2359.32	6.78	2358.46	6.78	-0.87	-0.04
125	349	224	99	5584	0.91953	884.27	0.57092	1652.99	686.06	0	3.04	2363.71	6.77	2362.27	6.77	-1.44	-0.06
125	350	225	100	5600	0.91837	884.84	0.57143	1652.68	698	-0.53	3.01	2366.96	6.76	2366.31	6.76	-0.65	-0.03
125	351	226	101	5616	0.91720	885.4	0.57194	1652.38	710.01	0	2.99	2371.2	6.76	2369.98	6.75	-1.22	-0.05
125	352	227	102	5632	0.91603	885.95	0.57244	1652.09	722.08	-0.53	2.96	2374.3	6.75	2373.87	6.74	-0.43	-0.02
125	353	228	103	5648	0.91486	886.49	0.57295	1651.81	734.23	0	2.94	2378.4	6.74	2377.4	6.73	-1	-0.04
125	354	229	104	5664	0.91369	887.03	0.57345	1651.54	746.45	-0.53	2.91	2381.36	6.73	2381.15	6.73	-0.21	-0.01
125	355	230	105	5680	0.91252	887.55	0.57394	1651.28	758.74	0	2.89	2385.31	6.72	2384.53	6.72	-0.79	-0.03
125	356	231	106	5696	0.91134	888.08	0.57444	1651.03	771.09	-0.53	2.86	2388.13	6.71	2388.14	6.71	0	0
125	357	232	107	5712	0.91017	888.59	0.57493	1650.79	783.51	0	2.84	2391.95	6.7	2391.38	6.7	-0.57	-0.02
125	358	233	108	5728	0.90899	889.1	0.57542	1650.55	796	-0.53	2.82	2394.63	6.69	2394.85	6.69	0.22	0.01
125	359	234	109	5744	0.90781	889.6	0.57591	1650.33	808.56	0	2.79	2398.3	6.68	2397.95	6.68	-0.35	-0.01
125	360	235	110	5760	0.90664	890.09	0.57639	1650.11	821.18	-0.53	2.77	2400.85	6.67	2401.29	6.67	0.43	0.02
125	361	236	111	5776	0.90546	890.58	0.57687	1649.9	833.87	0	2.75	2404.39	6.66	2404.25	6.66	-0.14	-0.01
125	362	237	112	5792	0.90428	891.06	0.57735	1649.7	846.63	-0.53	2.73	2406.81	6.65	2407.45	6.65	0.64	0.03
125	363	238	113	5808	0.90310	891.54	0.57782	1649.51	859.45	0	2.71	2410.21	6.64	2410.28	6.64	0.06	0
125	364	239	114	5824	0.90191	892.01	0.57830	1649.32	872.33	-0.52	2.68	2412.5	6.63	2413.35	6.63	0.84	0.03
125	365	240	115	5840	0.90073	892.47	0.57877	1649.15	885.27	0	2.66	2415.77	6.62	2416.04	6.62	0.27	0.01
125	366	241	116	5856	0.89955	892.92	0.57924	1648.98	898.28	-0.52	2.64	2417.94	6.61	2418.98	6.61	1.05	0.04
125	367	242	117	5872	0.89837	893.37	0.57970	1648.82	911.35	0	2.62	2421.08	6.6	2421.55	6.6	0.47	0.02
125	368	243	118	5888	0.89718	893.81	0.58016	1648.67	924.49	-0.52	2.6	2423.11	6.58	2424.36	6.59	1.24	0.05
125	369	244	119	5904	0.89600	894.25	0.58062	1648.52	937.68	0	2.58	2426.13	6.57	2426.79	6.58	0.67	0.03
125	370	245	120	5920	0.89481	894.68	0.58108	1648.38	950.94	-0.52	2.56	2428.04	6.56	2429.47	6.57	1.44	0.06
125	371	246	121	5936	0.89363	895.11	0.58154	1648.25	964.25	0	2.54	2430.93	6.55	2431.78	6.55	0.86	0.04
125	372	247	122	5952	0.89244	895.53	0.58199	1648.13	977.63	-0.52	2.52	2432.72	6.54	2434.34	6.54	1.62	0.07
125	373	248	123	5968	0.89126	895.94	0.58244	1648.02	991.06	0	2.5	2435.48	6.53	2436.53	6.53	1.04	0.04
125	374	249	124	5984	0.89007	896.35	0.58289	1647.91	1004.56	-0.52	2.48	2437.15	6.52	2438.96	6.52	1.81	0.07
125	375	250	125	6000	0.88889	896.75	0.58333	1647.81	1018.11	0	2.47	2439.8	6.51	2441.02	6.51	1.22	0.05
125	376	251	126	6016	0.88770	897.14	0.58378	1647.72	1031.72	-0.52	2.45	2441.35	6.49	2443.33	6.5	1.98	0.08
125	377	252	127	6032	0.88652	897.53	0.58422	1647.63	1045.39	0	2.43	2443.88	6.48	2445.27	6.49	1.4	0.06
125	378	253	128	6048	0.88533	897.92	0.58466	1647.55	1059.12	-0.51	2.41	2445.31	6.47	2447.47	6.47	2.15	0.09
125	379	254	129	6064	0.88415	898.3	0.58509	1647.48	1072.9	0	2.39	2447.72	6.46	2449.29	6.46	1.57	0.06
125	380	255	130	6080	0.88296	898.67	0.58553	1647.41	1086.74	-0.51	2.38	2449.04	6.44	2451.36	6.45	2.32	0.09
125	381	256	131	6096	0.88178	899.04	0.58596	1647.35	1100.63	0	2.36	2451.33	6.43	2453.06	6.44	1.73	0.07
125	382	257	132	6112	0.88060	899.4	0.58639	1647.3	1114.58	-0.51	2.34	2452.55	6.42	2455.02	6.43	2.47	0.1
125	383	258	133	6128	0.87941	899.76	0.58682	1647.26	1128.59	0	2.33	2454.72	6.41	2456.61	6.41	1.88	0.08
125	384	259	134	6144	0.87823	900.11	0.58724	1647.22	1142.65	-0.51	2.31	2455.82	6.4	2458.45	6.4	2.62	0.11
125	385	260	135	6160	0.87705	900.46	0.58766	1647.18	1156.76	0	2.29	2457.89	6.38	2459.92	6.39	2.03	0.08
125	386	261	136	6176	0.87586	900.8	0.58808	1647.16	1170.93	-0.51	2.28	2458.88	6.37	2461.65	6.38	2.77	0.11
125	387	262	137	6192	0.87468	901.14	0.58850	1647.14	1185.15	0	2.26	2460.84	6.36	2463.01	6.36	2.17	0.09
125	388	263	138	6208	0.87350	901.47	0.58892	1647.12	1199.42	-0.51	2.25	2461.72	6.34	2464.62	6.35	2.9	0.12
125	389	264	139	6224	0.87232	901.8	0.58933	1647.12	1213.75	0	2.23	2463.57	6.33	2465.87	6.34	2.3	0.09
125	390	265	140	6240	0.87114	902.12	0.58974	1647.11	1228.12	-0.51	2.21	2464.35	6.32	2467.38	6.33	3.03	0.12

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
125	391	266	141	6256	0.86996	902.44	0.59015	1647.12	1242.55	0	2.2	2466.09	6.31	2468.51	6.31	2.43	0.1
125	392	267	142	6272	0.86878	902.75	0.59056	1647.13	1257.04	-0.51	2.18	2466.76	6.29	2469.91	6.3	3.15	0.13
125	393	268	143	6288	0.86760	903.06	0.59097	1647.15	1271.57	0	2.17	2468.4	6.28	2470.94	6.29	2.54	0.1
125	394	269	144	6304	0.86642	903.36	0.59137	1647.17	1286.15	-0.5	2.15	2468.97	6.27	2472.23	6.27	3.26	0.13
125	395	270	145	6320	0.86525	903.66	0.59177	1647.2	1300.78	0	2.14	2470.5	6.25	2473.15	6.26	2.65	0.11
125	396	271	146	6336	0.86407	903.96	0.59217	1647.23	1315.46	-0.5	2.13	2470.98	6.24	2474.34	6.25	3.36	0.14
125	397	272	147	6352	0.86290	904.25	0.59257	1647.27	1330.19	0	2.11	2472.4	6.23	2475.15	6.23	2.75	0.11
125	398	273	148	6368	0.86172	904.53	0.59297	1647.31	1344.97	-0.5	2.1	2472.78	6.21	2476.24	6.22	3.46	0.14
125	399	274	149	6384	0.86055	904.81	0.59336	1647.36	1359.8	0	2.08	2474.11	6.2	2476.95	6.21	2.84	0.11
125	400	275	150	6400	0.85938	905.09	0.59375	1647.42	1374.68	-0.5	2.07	2474.38	6.19	2477.93	6.19	3.54	0.14
125	401	276	151	6416	0.85820	905.36	0.59414	1647.48	1389.6	0	2.06	2475.61	6.17	2478.53	6.18	2.92	0.12
125	402	277	152	6432	0.85703	905.63	0.59453	1647.55	1404.58	-0.5	2.04	2475.79	6.16	2479.41	6.17	3.62	0.15
125	403	278	153	6448	0.85586	905.89	0.59491	1647.62	1419.6	0	2.03	2476.92	6.15	2479.92	6.15	2.99	0.12
125	404	279	154	6464	0.85470	906.15	0.59530	1647.7	1434.66	-0.5	2.02	2477.01	6.13	2480.69	6.14	3.68	0.15
125	405	280	155	6480	0.85353	906.41	0.59568	1647.78	1449.78	0	2	2478.04	6.12	2481.1	6.13	3.06	0.12
125	406	281	156	6496	0.85236	906.66	0.59606	1647.87	1464.93	-0.5	1.99	2478.04	6.1	2481.78	6.11	3.74	0.15
125	407	282	157	6512	0.85120	906.9	0.59644	1647.96	1480.14	0	1.98	2478.98	6.09	2482.09	6.1	3.11	0.13
125	408	283	158	6528	0.85003	907.15	0.59681	1648.06	1495.39	-0.5	1.97	2478.88	6.08	2482.67	6.08	3.79	0.15
125	409	284	159	6544	0.84887	907.39	0.59719	1648.16	1510.68	0	1.95	2479.72	6.06	2482.88	6.07	3.15	0.13
125	410	285	160	6560	0.84771	907.62	0.59756	1648.27	1526.02	-0.49	1.94	2479.54	6.05	2483.36	6.06	3.82	0.15
125	411	286	161	6576	0.84655	907.85	0.59793	1648.38	1541.41	0	1.93	2480.29	6.03	2483.47	6.04	3.18	0.13
125	412	287	162	6592	0.84539	908.08	0.59830	1648.49	1556.84	-0.49	1.92	2480.01	6.02	2483.86	6.03	3.85	0.16
125	413	288	163	6608	0.84423	908.3	0.59867	1648.62	1572.31	0	1.91	2480.68	6.01	2483.88	6.01	3.21	0.13
125	414	289	164	6624	0.84308	908.52	0.59903	1648.74	1587.83	-0.49	1.89	2480.31	5.99	2484.18	6	3.87	0.16
125	415	290	165	6640	0.84192	908.74	0.59940	1648.87	1603.39	0	1.88	2480.88	5.98	2484.1	5.99	3.22	0.13
125	416	291	166	6656	0.84077	908.95	0.59976	1649.01	1618.99	-0.49	1.87	2480.43	5.96	2484.31	5.97	3.87	0.16
125	417	292	167	6672	0.83962	909.16	0.60012	1649.15	1634.63	0	1.86	2480.92	5.95	2484.14	5.96	3.22	0.13
125	418	293	168	6688	0.83847	909.36	0.60048	1649.3	1650.32	-0.49	1.85	2480.38	5.93	2484.25	5.94	3.87	0.16
125	419	294	169	6704	0.83732	909.56	0.60084	1649.45	1666.05	0	1.84	2480.78	5.92	2483.99	5.93	3.21	0.13
125	420	295	170	6720	0.83617	909.76	0.60119	1649.6	1681.82	-0.49	1.83	2480.16	5.91	2484.01	5.91	3.85	0.16
125	421	296	171	6736	0.83502	909.96	0.60154	1649.76	1697.63	0	1.82	2480.47	5.89	2483.66	5.9	3.19	0.13
125	422	297	172	6752	0.83388	910.15	0.60190	1649.92	1713.48	-0.49	1.81	2479.77	5.88	2483.59	5.89	3.83	0.15
125	423	298	173	6768	0.83273	910.33	0.60225	1650.09	1729.38	0	1.79	2480	5.86	2483.16	5.87	3.16	0.13
125	424	299	174	6784	0.83159	910.52	0.60259	1650.26	1745.31	-0.49	1.78	2479.21	5.85	2483	5.86	3.79	0.15
125	425	300	175	6800	0.83045	910.7	0.60294	1650.43	1761.29	0	1.77	2479.36	5.83	2482.48	5.84	3.12	0.13
125	426	301	176	6816	0.82931	910.87	0.60329	1650.61	1777.3	-0.48	1.76	2478.49	5.82	2482.23	5.83	3.74	0.15
125	427	302	177	6832	0.82817	911.05	0.60363	1650.8	1793.36	0	1.75	2478.55	5.8	2481.62	5.81	3.07	0.12
125	428	303	178	6848	0.82704	911.22	0.60397	1650.98	1809.45	-0.48	1.74	2477.61	5.79	2481.29	5.8	3.68	0.15
125	429	304	179	6864	0.82590	911.39	0.60431	1651.18	1825.58	0	1.73	2477.59	5.78	2480.59	5.78	3	0.12
125	430	305	180	6880	0.82477	911.55	0.60465	1651.37	1841.75	-0.48	1.72	2476.57	5.76	2480.18	5.77	3.61	0.15
125	431	306	181	6896	0.82364	911.71	0.60499	1651.57	1857.96	0	1.71	2476.47	5.75	2479.4	5.75	2.93	0.12
125	432	307	182	6912	0.82251	911.87	0.60532	1651.78	1874.21	-0.48	1.7	2475.37	5.73	2478.9	5.74	3.53	0.14
125	433	308	183	6928	0.82138	912.02	0.60566	1651.98	1890.5	0	1.69	2475.19	5.72	2478.03	5.72	2.84	0.11
125	434	309	184	6944	0.82026	912.17	0.60599	1652.19	1906.82	-0.48	1.69	2474.02	5.7	2477.45	5.71	3.44	0.14
125	435	310	185	6960	0.81913	912.32	0.60632	1652.41	1923.18	0	1.68	2473.76	5.69	2476.5	5.69	2.74	0.11
125	436	311	186	6976	0.81801	912.47	0.60665	1652.63	1939.58	-0.48	1.67	2472.51	5.67	2475.84	5.68	3.33	0.13
125	437	312	187	6992	0.81689	912.61	0.60698	1652.85	1956.02	0	1.66	2472.18	5.66	2474.81	5.66	2.63	0.11

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
125	438	313	188	7008	0.81577	912.75	0.60731	1653.08	1972.49	-0.48	1.65	2470.85	5.64	2474.07	5.65	3.21	0.13
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
126	251	125	-1	4016	0.99998	771.93	0.49900	1786.95	0.1	0	9.83	1466.86	5.84	1476.1	5.88	9.24	0.63
126	252	126	0	4032	1.00000	773.99	0.50000	1784.57	0	0.63	10	1484.07	5.89	1492.61	5.92	8.54	0.57
126	253	127	1	4048	0.99998	776.02	0.50099	1782.23	0.1	0	9.84	1499.49	5.93	1507.07	5.96	7.58	0.5
126	254	128	2	4064	0.99994	778.03	0.50197	1779.93	0.38	0.63	9.67	1515.96	5.97	1523.22	6	7.26	0.48
126	255	129	3	4080	0.99986	780.01	0.50294	1777.66	0.86	0	9.52	1530.98	6	1537.34	6.03	6.36	0.41
126	256	130	4	4096	0.99976	781.97	0.50391	1775.44	1.53	0.62	9.36	1547.06	6.04	1553.13	6.07	6.07	0.39
126	257	131	5	4112	0.99962	783.9	0.50486	1773.26	2.37	0	9.22	1561.69	6.08	1566.9	6.1	5.21	0.33
126	258	132	6	4128	0.99946	785.8	0.50581	1771.11	3.41	0.62	9.07	1577.38	6.11	1582.35	6.13	4.97	0.31
126	259	133	7	4144	0.99927	787.68	0.50676	1769	4.62	0	8.93	1591.63	6.15	1595.78	6.16	4.15	0.26
126	260	134	8	4160	0.99905	789.54	0.50769	1766.92	6.01	0.62	8.79	1606.94	6.18	1610.89	6.2	3.95	0.24
126	261	135	9	4176	0.99881	791.37	0.50862	1764.88	7.57	0	8.65	1620.83	6.21	1624	6.22	3.17	0.2
126	262	136	10	4192	0.99854	793.18	0.50954	1762.88	9.32	0.62	8.52	1635.77	6.24	1638.77	6.25	3	0.18
126	263	137	11	4208	0.99825	794.96	0.51046	1760.9	11.23	0	8.39	1649.3	6.27	1651.55	6.28	2.26	0.14
126	264	138	12	4224	0.99793	796.72	0.51136	1758.97	13.31	0.62	8.26	1663.88	6.3	1666	6.31	2.12	0.13
126	265	139	13	4240	0.99759	798.46	0.51226	1757.06	15.57	0	8.14	1677.05	6.33	1678.47	6.33	1.42	0.08
126	266	140	14	4256	0.99723	800.17	0.51316	1755.19	17.98	0.61	8.02	1691.28	6.36	1692.6	6.36	1.31	0.08
126	267	141	15	4272	0.99684	801.87	0.51405	1753.35	20.57	0	7.9	1704.11	6.38	1704.76	6.38	0.65	0.04
126	268	142	16	4288	0.99644	803.54	0.51493	1751.54	23.32	0.61	7.78	1718	6.41	1718.57	6.41	0.57	0.03
126	269	143	17	4304	0.99601	805.19	0.51580	1749.76	26.22	0	7.67	1730.49	6.43	1730.43	6.43	-0.06	0
126	270	144	18	4320	0.99556	806.82	0.51667	1748.01	29.29	0.61	7.56	1744.04	6.46	1743.94	6.46	-0.11	-0.01
126	271	145	19	4336	0.99508	808.43	0.51753	1746.29	32.52	0	7.45	1756.21	6.48	1755.5	6.48	-0.71	-0.04
126	272	146	20	4352	0.99459	810.02	0.51838	1744.6	35.9	0.61	7.34	1769.43	6.51	1768.7	6.5	-0.73	-0.04
126	273	147	21	4368	0.99408	811.58	0.51923	1742.94	39.43	0	7.24	1781.28	6.52	1779.98	6.52	-1.3	-0.07
126	274	148	22	4384	0.99355	813.13	0.52007	1741.31	43.12	0.6	7.14	1794.18	6.55	1792.88	6.54	-1.29	-0.07
126	275	149	23	4400	0.99301	814.66	0.52091	1739.71	46.96	0	7.04	1805.71	6.57	1803.87	6.56	-1.84	-0.1
126	276	150	24	4416	0.99244	816.17	0.52174	1738.13	50.95	0.6	6.94	1818.3	6.59	1816.49	6.58	-1.81	-0.1
126	277	151	25	4432	0.99185	817.65	0.52256	1736.58	55.08	0	6.85	1829.53	6.6	1827.2	6.6	-2.32	-0.13
126	278	152	26	4448	0.99125	819.12	0.52338	1735.06	59.36	0.6	6.75	1841.81	6.63	1839.54	6.62	-2.27	-0.12
126	279	153	27	4464	0.99064	820.57	0.52419	1733.56	63.79	0	6.66	1852.73	6.64	1849.97	6.63	-2.76	-0.15
126	280	154	28	4480	0.99000	822.01	0.52500	1732.09	68.36	0.6	6.57	1864.71	6.66	1862.03	6.65	-2.68	-0.14
126	281	155	29	4496	0.98935	823.42	0.52580	1730.65	73.06	0	6.48	1875.35	6.67	1872.2	6.66	-3.15	-0.17
126	282	156	30	4512	0.98868	824.82	0.52660	1729.23	77.91	0.6	6.4	1887.03	6.69	1883.98	6.68	-3.05	-0.16
126	283	157	31	4528	0.98800	826.2	0.52739	1727.83	82.9	0	6.31	1897.38	6.7	1893.88	6.69	-3.49	-0.18
126	284	158	32	4544	0.98730	827.56	0.52817	1726.46	88.03	0.59	6.23	1908.77	6.72	1905.4	6.71	-3.38	-0.18
126	285	159	33	4560	0.98659	828.9	0.52895	1725.12	93.29	0	6.15	1918.84	6.73	1915.04	6.72	-3.8	-0.2
126	286	160	34	4576	0.98587	830.23	0.52972	1723.79	98.68	0.59	6.07	1929.96	6.75	1926.29	6.74	-3.66	-0.19
126	287	161	35	4592	0.98513	831.54	0.53049	1722.49	104.21	0	5.99	1939.75	6.76	1935.69	6.74	-4.06	-0.21
126	288	162	36	4608	0.98438	832.83	0.53125	1721.22	109.87	0.59	5.92	1950.59	6.77	1946.68	6.76	-3.91	-0.2
126	289	163	37	4624	0.98361	834.11	0.53201	1719.96	115.66	0	5.84	1960.12	6.78	1955.83	6.77	-4.29	-0.22
126	290	164	38	4640	0.98283	835.37	0.53276	1718.73	121.57	0.59	5.77	1970.68	6.8	1966.56	6.78	-4.12	-0.21
126	291	165	39	4656	0.98204	836.61	0.53351	1717.52	127.62	0	5.7	1979.95	6.8	1975.47	6.79	-4.48	-0.23
126	292	166	40	4672	0.98124	837.84	0.53425	1716.33	133.79	0.59	5.63	1990.25	6.82	1985.96	6.8	-4.3	-0.22
126	293	167	41	4688	0.98042	839.06	0.53498	1715.16	140.08	0	5.56	1999.26	6.82	1994.62	6.81	-4.64	-0.23
126	294	168	42	4704	0.97959	840.26	0.53571	1714.01	146.5	0.58	5.49	2009.3	6.83	2004.86	6.82	-4.44	-0.22

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
126	295	169	43	4720	0.97875	841.44	0.53644	1712.89	153.04	0	5.42	2018.05	6.84	2013.29	6.82	-4.77	-0.24
126	296	170	44	4736	0.97790	842.61	0.53716	1711.78	159.7	0.58	5.36	2027.85	6.85	2023.3	6.84	-4.55	-0.22
126	297	171	45	4752	0.97704	843.76	0.53788	1710.69	166.48	0	5.29	2036.35	6.86	2031.49	6.84	-4.86	-0.24
126	298	172	46	4768	0.97617	844.9	0.53859	1709.63	173.38	0.58	5.23	2045.9	6.87	2041.26	6.85	-4.64	-0.23
126	299	173	47	4784	0.97529	846.03	0.53930	1708.58	180.4	0	5.17	2054.16	6.87	2049.23	6.85	-4.93	-0.24
126	300	174	48	4800	0.97440	847.14	0.54000	1707.55	187.53	0.58	5.11	2063.46	6.88	2058.77	6.86	-4.69	-0.23
126	301	175	49	4816	0.97350	848.23	0.54070	1706.54	194.78	0	5.05	2071.49	6.88	2066.52	6.87	-4.97	-0.24
126	302	176	50	4832	0.97259	849.32	0.54139	1705.55	202.14	0.58	4.99	2080.55	6.89	2075.83	6.87	-4.72	-0.23
126	303	177	51	4848	0.97167	850.38	0.54208	1704.58	209.62	0	4.93	2088.35	6.89	2083.36	6.88	-4.99	-0.24
126	304	178	52	4864	0.97074	851.44	0.54276	1703.63	217.2	0.57	4.88	2097.18	6.9	2092.44	6.88	-4.73	-0.23
126	305	179	53	4880	0.96980	852.48	0.54344	1702.69	224.9	0	4.82	2104.74	6.9	2099.76	6.88	-4.99	-0.24
126	306	180	54	4896	0.96886	853.51	0.54412	1701.77	232.71	0.57	4.77	2113.34	6.91	2108.63	6.89	-4.72	-0.22
126	307	181	55	4912	0.96790	854.53	0.54479	1700.87	240.62	0	4.71	2120.69	6.91	2115.73	6.89	-4.96	-0.23
126	308	182	56	4928	0.96694	855.53	0.54546	1699.99	248.64	0.57	4.66	2129.07	6.91	2124.38	6.9	-4.68	-0.22
126	309	183	57	4944	0.96597	856.52	0.54612	1699.12	256.77	0	4.61	2136.19	6.91	2131.28	6.9	-4.91	-0.23
126	310	184	58	4960	0.96500	857.5	0.54677	1698.27	265.01	0.57	4.56	2144.35	6.92	2139.72	6.9	-4.63	-0.22
126	311	185	59	4976	0.96401	858.47	0.54743	1697.44	273.34	0	4.51	2151.26	6.92	2146.41	6.9	-4.85	-0.23
126	312	186	60	4992	0.96302	859.42	0.54808	1696.62	281.79	0.57	4.46	2159.2	6.92	2154.65	6.91	-4.55	-0.21
126	313	187	61	5008	0.96202	860.36	0.54872	1695.82	290.33	0	4.41	2165.9	6.92	2161.14	6.9	-4.76	-0.22
126	314	188	62	5024	0.96101	861.29	0.54936	1695.03	298.97	0.56	4.36	2173.63	6.92	2169.17	6.91	-4.46	-0.21
126	315	189	63	5040	0.96000	862.21	0.55000	1694.26	307.72	0	4.32	2180.13	6.92	2175.46	6.91	-4.67	-0.21
126	316	190	64	5056	0.95898	863.12	0.55063	1693.5	316.56	0.56	4.27	2187.65	6.92	2183.29	6.91	-4.36	-0.2
126	317	191	65	5072	0.95796	864.01	0.55126	1692.76	325.51	0	4.23	2193.94	6.92	2189.39	6.91	-4.55	-0.21
126	318	192	66	5088	0.95692	864.9	0.55189	1692.04	334.55	0.56	4.18	2201.26	6.92	2197.02	6.91	-4.24	-0.19
126	319	193	67	5104	0.95589	865.77	0.55251	1691.33	343.69	0	4.14	2207.36	6.92	2202.93	6.91	-4.42	-0.2
126	320	194	68	5120	0.95484	866.63	0.55313	1690.63	352.92	0.56	4.1	2214.47	6.92	2210.37	6.91	-4.1	-0.19
126	321	195	69	5136	0.95380	867.48	0.55374	1689.95	362.25	0	4.05	2220.37	6.92	2216.1	6.9	-4.28	-0.19
126	322	196	70	5152	0.95274	868.32	0.55435	1689.28	371.67	0.56	4.01	2227.3	6.92	2223.34	6.9	-3.95	-0.18
126	323	197	71	5168	0.95168	869.15	0.55495	1688.63	381.18	0	3.97	2233.01	6.91	2228.88	6.9	-4.13	-0.19
126	324	198	72	5184	0.95062	869.97	0.55556	1687.99	390.79	0.56	3.93	2239.74	6.91	2235.94	6.9	-3.8	-0.17
126	325	199	73	5200	0.94955	870.78	0.55615	1687.37	400.49	0	3.89	2245.26	6.91	2241.3	6.9	-3.96	-0.18
126	326	200	74	5216	0.94847	871.58	0.55675	1686.75	410.28	0.55	3.85	2251.8	6.91	2248.17	6.9	-3.63	-0.16
126	327	201	75	5232	0.94740	872.36	0.55734	1686.15	420.16	0	3.82	2257.14	6.9	2253.35	6.89	-3.79	-0.17
126	328	202	76	5248	0.94631	873.14	0.55793	1685.57	430.12	0.55	3.78	2263.5	6.9	2260.05	6.89	-3.45	-0.15
126	329	203	77	5264	0.94522	873.91	0.55851	1684.99	440.18	0	3.74	2268.66	6.9	2265.05	6.88	-3.6	-0.16
126	330	204	78	5280	0.94413	874.67	0.55909	1684.43	450.32	0.55	3.71	2274.83	6.89	2271.57	6.88	-3.26	-0.14
126	331	205	79	5296	0.94304	875.42	0.55967	1683.88	460.55	0	3.67	2279.82	6.89	2276.4	6.88	-3.41	-0.15
126	332	206	80	5312	0.94194	876.16	0.56024	1683.35	470.87	0.55	3.63	2285.81	6.88	2282.74	6.88	-3.07	-0.13
126	333	207	81	5328	0.94083	876.89	0.56081	1682.83	481.27	0	3.6	2290.62	6.88	2287.4	6.87	-3.22	-0.14
126	334	208	82	5344	0.93973	877.61	0.56138	1682.31	491.75	0.55	3.57	2296.44	6.88	2293.57	6.87	-2.87	-0.13
126	335	209	83	5360	0.93861	878.32	0.56194	1681.82	502.32	0	3.53	2301.08	6.87	2298.07	6.86	-3.01	-0.13
126	336	210	84	5376	0.93750	879.02	0.56250	1681.33	512.97	0.55	3.5	2306.73	6.87	2304.06	6.86	-2.66	-0.12
126	337	211	85	5392	0.93638	879.71	0.56306	1680.85	523.7	0	3.47	2311.2	6.86	2308.4	6.85	-2.8	-0.12
126	338	212	86	5408	0.93526	880.4	0.56361	1680.39	534.51	0.54	3.43	2316.68	6.85	2314.23	6.85	-2.45	-0.11
126	339	213	87	5424	0.93414	881.07	0.56416	1679.94	545.41	0	3.4	2320.99	6.85	2318.4	6.84	-2.59	-0.11
126	340	214	88	5440	0.93301	881.74	0.56471	1679.49	556.38	0.54	3.37	2326.3	6.84	2324.06	6.84	-2.24	-0.1
126	341	215	89	5456	0.93188	882.4	0.56525	1679.06	567.44	0	3.34	2330.44	6.83	2328.08	6.83	-2.37	-0.1

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
126	342	216	90	5472	0.93075	883.05	0.56579	1678.64	578.57	0.54	3.31	2335.59	6.83	2333.58	6.82	-2.02	-0.09
126	343	217	91	5488	0.92961	883.69	0.56633	1678.24	589.78	0	3.28	2339.58	6.82	2337.43	6.81	-2.15	-0.09
126	344	218	92	5504	0.92848	884.32	0.56686	1677.84	601.06	0.54	3.25	2344.57	6.82	2342.78	6.81	-1.79	-0.08
126	345	219	93	5520	0.92734	884.95	0.56739	1677.45	612.42	0	3.22	2348.4	6.81	2346.48	6.8	-1.92	-0.08
126	346	220	94	5536	0.92619	885.56	0.56792	1677.07	623.86	0.54	3.19	2353.23	6.8	2351.66	6.8	-1.57	-0.07
126	347	221	95	5552	0.92505	886.17	0.56844	1676.71	635.38	0	3.17	2356.91	6.79	2355.22	6.79	-1.7	-0.07
126	348	222	96	5568	0.92390	886.77	0.56897	1676.35	646.96	0.54	3.14	2361.59	6.79	2360.25	6.78	-1.34	-0.06
126	349	223	97	5584	0.92275	887.37	0.56948	1676	658.62	0	3.11	2365.12	6.78	2363.65	6.77	-1.47	-0.06
126	350	224	98	5600	0.92160	887.95	0.57000	1675.67	670.36	0.53	3.09	2369.64	6.77	2368.53	6.77	-1.12	-0.05
126	351	225	99	5616	0.92045	888.53	0.57051	1675.34	682.17	0	3.06	2373.02	6.76	2371.78	6.76	-1.24	-0.05
126	352	226	100	5632	0.91929	889.1	0.57102	1675.02	694.05	0.53	3.03	2377.4	6.75	2376.51	6.75	-0.89	-0.04
126	353	227	101	5648	0.91814	889.66	0.57153	1674.72	706	0	3.01	2380.63	6.74	2379.62	6.74	-1.01	-0.04
126	354	228	102	5664	0.91698	890.22	0.57203	1674.42	718.02	0.53	2.98	2384.86	6.74	2384.2	6.74	-0.66	-0.03
126	355	229	103	5680	0.91582	890.77	0.57254	1674.13	730.11	0	2.96	2387.95	6.73	2387.17	6.72	-0.78	-0.03
126	356	230	104	5696	0.91466	891.31	0.57303	1673.85	742.27	0.53	2.93	2392.04	6.72	2391.6	6.72	-0.43	-0.02
126	357	231	105	5712	0.91350	891.84	0.57353	1673.58	754.5	0	2.91	2394.99	6.71	2394.43	6.71	-0.56	-0.02
126	358	232	106	5728	0.91233	892.37	0.57402	1673.32	766.8	0.53	2.88	2398.93	6.7	2398.72	6.7	-0.21	-0.01
126	359	233	107	5744	0.91117	892.89	0.57451	1673.07	779.16	0	2.86	2401.75	6.69	2401.42	6.69	-0.33	-0.01
126	360	234	108	5760	0.91000	893.4	0.57500	1672.82	791.6	0.53	2.84	2405.55	6.68	2405.56	6.68	0.01	0
126	361	235	109	5776	0.90883	893.9	0.57549	1672.59	804.09	0	2.81	2408.23	6.67	2408.12	6.67	-0.11	0
126	362	236	110	5792	0.90767	894.4	0.57597	1672.36	816.66	0.53	2.79	2411.89	6.66	2412.13	6.66	0.24	0.01
126	363	237	111	5808	0.90650	894.89	0.57645	1672.14	829.29	0	2.77	2414.44	6.65	2414.55	6.65	0.11	0
126	364	238	112	5824	0.90533	895.38	0.57692	1671.93	841.99	0.52	2.75	2417.97	6.64	2418.42	6.64	0.46	0.02
126	365	239	113	5840	0.90416	895.86	0.57740	1671.73	854.75	0	2.72	2420.38	6.63	2420.71	6.63	0.33	0.01
126	366	240	114	5856	0.90298	896.33	0.57787	1671.54	867.57	0.52	2.7	2423.78	6.62	2424.45	6.62	0.67	0.03
126	367	241	115	5872	0.90181	896.8	0.57834	1671.36	880.46	0	2.68	2426.06	6.61	2426.61	6.61	0.55	0.02
126	368	242	116	5888	0.90064	897.26	0.57880	1671.18	893.41	0.52	2.66	2429.33	6.6	2430.21	6.6	0.88	0.04
126	369	243	117	5904	0.89947	897.71	0.57927	1671.01	906.43	0	2.64	2431.49	6.59	2432.25	6.59	0.76	0.03
126	370	244	118	5920	0.89829	898.16	0.57973	1670.85	919.5	0.52	2.62	2434.63	6.58	2435.72	6.58	1.09	0.04
126	371	245	119	5936	0.89712	898.6	0.58019	1670.7	932.64	0	2.6	2436.66	6.57	2437.62	6.57	0.96	0.04
126	372	246	120	5952	0.89594	899.04	0.58065	1670.55	945.84	0.52	2.58	2439.67	6.56	2440.97	6.56	1.29	0.05
126	373	247	121	5968	0.89477	899.46	0.58110	1670.42	959.1	0	2.56	2441.58	6.55	2442.75	6.55	1.16	0.05
126	374	248	122	5984	0.89359	899.89	0.58155	1670.29	972.41	0.52	2.54	2444.47	6.54	2445.96	6.54	1.49	0.06
126	375	249	123	6000	0.89242	900.31	0.58200	1670.16	985.79	0	2.52	2446.26	6.52	2447.62	6.53	1.36	0.06
126	376	250	124	6016	0.89124	900.72	0.58245	1670.05	999.23	0.52	2.5	2449.02	6.51	2450.71	6.52	1.69	0.07
126	377	251	125	6032	0.89007	901.12	0.58289	1669.94	1012.72	0	2.48	2450.7	6.5	2452.25	6.5	1.55	0.06
126	378	252	126	6048	0.88889	901.52	0.58333	1669.84	1026.28	0.51	2.47	2453.34	6.49	2455.21	6.5	1.87	0.08
126	379	253	127	6064	0.88771	901.92	0.58377	1669.74	1039.89	0	2.45	2454.9	6.48	2456.63	6.48	1.74	0.07
126	380	254	128	6080	0.88654	902.31	0.58421	1669.66	1053.56	0.51	2.43	2457.42	6.47	2459.48	6.47	2.06	0.08
126	381	255	129	6096	0.88536	902.69	0.58465	1669.58	1067.28	0	2.41	2458.86	6.45	2460.78	6.46	1.92	0.08
126	382	256	130	6112	0.88419	903.07	0.58508	1669.51	1081.06	0.51	2.39	2461.27	6.44	2463.5	6.45	2.23	0.09
126	383	257	131	6128	0.88301	903.44	0.58551	1669.44	1094.9	0	2.38	2462.6	6.43	2464.69	6.44	2.09	0.08
126	384	258	132	6144	0.88184	903.81	0.58594	1669.38	1108.79	0.51	2.36	2464.89	6.42	2467.29	6.43	2.4	0.1
126	385	259	133	6160	0.88066	904.17	0.58636	1669.33	1122.74	0	2.34	2466.11	6.41	2468.36	6.41	2.26	0.09
126	386	260	134	6176	0.87949	904.53	0.58679	1669.28	1136.74	0.51	2.33	2468.28	6.39	2470.85	6.4	2.56	0.1
126	387	261	135	6192	0.87831	904.88	0.58721	1669.24	1150.8	0	2.31	2469.39	6.38	2471.81	6.39	2.42	0.1
126	388	262	136	6208	0.87714	905.23	0.58763	1669.21	1164.91	0.51	2.29	2471.46	6.37	2474.18	6.38	2.72	0.11

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
126	389	263	137	6224	0.87597	905.57	0.58805	1669.18	1179.07	0	2.28	2472.46	6.36	2475.03	6.36	2.57	0.1
126	390	264	138	6240	0.87479	905.91	0.58846	1669.16	1193.29	0.51	2.26	2474.42	6.34	2477.28	6.35	2.87	0.12
126	391	265	139	6256	0.87362	906.24	0.58888	1669.14	1207.55	0	2.25	2475.31	6.33	2478.02	6.34	2.71	0.11
126	392	266	140	6272	0.87245	906.57	0.58929	1669.14	1221.88	0.51	2.23	2477.16	6.32	2480.17	6.33	3.01	0.12
126	393	267	141	6288	0.87128	906.89	0.58970	1669.13	1236.25	0	2.22	2477.95	6.31	2480.8	6.31	2.85	0.11
126	394	268	142	6304	0.87011	907.2	0.59010	1669.14	1250.67	0.5	2.2	2479.69	6.29	2482.83	6.3	3.14	0.13
126	395	269	143	6320	0.86894	907.52	0.59051	1669.15	1265.14	0	2.19	2480.38	6.28	2483.36	6.29	2.98	0.12
126	396	270	144	6336	0.86777	907.83	0.59091	1669.16	1279.67	0.5	2.17	2482.02	6.27	2485.28	6.28	3.26	0.13
126	397	271	145	6352	0.86660	908.13	0.59131	1669.18	1294.24	0	2.16	2482.6	6.25	2485.7	6.26	3.1	0.12
126	398	272	146	6368	0.86543	908.43	0.59171	1669.21	1308.87	0.5	2.14	2484.14	6.24	2487.52	6.25	3.38	0.14
126	399	273	147	6384	0.86427	908.72	0.59211	1669.24	1323.54	0	2.13	2484.62	6.23	2487.83	6.24	3.21	0.13
126	400	274	148	6400	0.86310	909.01	0.59250	1669.28	1338.27	0.5	2.11	2486.05	6.22	2489.54	6.22	3.49	0.14
126	401	275	149	6416	0.86194	909.3	0.59289	1669.33	1353.04	0	2.1	2486.44	6.2	2489.76	6.21	3.32	0.13
126	402	276	150	6432	0.86077	909.58	0.59328	1669.38	1367.86	0.5	2.09	2487.77	6.19	2491.36	6.2	3.59	0.14
126	403	277	151	6448	0.85961	909.85	0.59367	1669.43	1382.73	0	2.07	2488.06	6.17	2491.47	6.18	3.41	0.14
126	404	278	152	6464	0.85845	910.13	0.59406	1669.49	1397.64	0.5	2.06	2489.3	6.16	2492.97	6.17	3.68	0.15
126	405	279	153	6480	0.85728	910.39	0.59444	1669.56	1412.6	0	2.05	2489.49	6.15	2492.99	6.16	3.5	0.14
126	406	280	154	6496	0.85612	910.66	0.59483	1669.63	1427.61	0.5	2.03	2490.63	6.13	2494.39	6.14	3.76	0.15
126	407	281	155	6512	0.85496	910.92	0.59521	1669.71	1442.67	0	2.02	2490.73	6.12	2494.3	6.13	3.57	0.14
126	408	282	156	6528	0.85381	911.17	0.59559	1669.79	1457.77	0.5	2.01	2491.77	6.11	2495.6	6.12	3.83	0.15
126	409	283	157	6544	0.85265	911.43	0.59597	1669.87	1472.92	0	1.99	2491.78	6.09	2495.42	6.1	3.64	0.15
126	410	284	158	6560	0.85149	911.67	0.59634	1669.96	1488.11	0.49	1.98	2492.73	6.08	2496.61	6.09	3.89	0.16
126	411	285	159	6576	0.85034	911.92	0.59672	1670.06	1503.35	0	1.97	2492.64	6.06	2496.34	6.07	3.7	0.15
126	412	286	160	6592	0.84919	912.16	0.59709	1670.16	1518.64	0.49	1.96	2493.5	6.05	2497.44	6.06	3.94	0.16
126	413	287	161	6608	0.84803	912.39	0.59746	1670.27	1533.96	0	1.95	2493.32	6.04	2497.06	6.05	3.74	0.15
126	414	288	162	6624	0.84688	912.62	0.59783	1670.38	1549.34	0.49	1.93	2494.09	6.02	2498.07	6.03	3.98	0.16
126	415	289	163	6640	0.84573	912.85	0.59819	1670.5	1564.75	0	1.92	2493.82	6.01	2497.6	6.02	3.78	0.15
126	416	290	164	6656	0.84458	913.07	0.59856	1670.62	1580.21	0.49	1.91	2494.5	6	2498.51	6.01	4.01	0.16
126	417	291	165	6672	0.84344	913.29	0.59892	1670.74	1595.71	0	1.9	2494.14	5.98	2497.95	5.99	3.81	0.15
126	418	292	166	6688	0.84229	913.51	0.59928	1670.88	1611.26	0.49	1.89	2494.73	5.97	2498.76	5.98	4.03	0.16
126	419	293	167	6704	0.84114	913.72	0.59964	1671.01	1626.85	0	1.87	2494.29	5.95	2498.11	5.96	3.82	0.15
126	420	294	168	6720	0.84000	913.93	0.60000	1671.15	1642.48	0.49	1.86	2494.79	5.94	2498.83	5.95	4.04	0.16
126	421	295	169	6736	0.83886	914.14	0.60036	1671.29	1658.15	0	1.85	2494.27	5.92	2498.1	5.93	3.83	0.15
126	422	296	170	6752	0.83772	914.34	0.60071	1671.44	1673.87	0.49	1.84	2494.68	5.91	2498.72	5.92	4.04	0.16
126	423	297	171	6768	0.83658	914.54	0.60106	1671.6	1689.62	0	1.83	2494.07	5.9	2497.9	5.91	3.82	0.15
126	424	298	172	6784	0.83544	914.73	0.60142	1671.75	1705.42	0.49	1.82	2494.4	5.88	2498.43	5.89	4.03	0.16
126	425	299	173	6800	0.83430	914.92	0.60177	1671.92	1721.26	0	1.81	2493.71	5.87	2497.52	5.88	3.81	0.15
126	426	300	174	6816	0.83317	915.11	0.60211	1672.08	1737.14	0.48	1.8	2493.95	5.85	2497.96	5.86	4.01	0.16
126	427	301	175	6832	0.83203	915.3	0.60246	1672.25	1753.06	0	1.79	2493.18	5.84	2496.96	5.85	3.78	0.15
126	428	302	176	6848	0.83090	915.48	0.60280	1672.43	1769.02	0.48	1.78	2493.34	5.83	2497.32	5.83	3.98	0.16
126	429	303	177	6864	0.82977	915.65	0.60315	1672.61	1785.01	0	1.77	2492.49	5.81	2496.24	5.82	3.74	0.15
126	430	304	178	6880	0.82864	915.83	0.60349	1672.79	1801.05	0.48	1.76	2492.57	5.8	2496.51	5.81	3.94	0.16
126	431	305	179	6896	0.82752	916	0.60383	1672.98	1817.13	0	1.75	2491.64	5.78	2495.34	5.79	3.69	0.15
126	432	306	180	6912	0.82639	916.17	0.60417	1673.17	1833.25	0.48	1.74	2491.64	5.77	2495.52	5.78	3.88	0.16
126	433	307	181	6928	0.82526	916.33	0.60450	1673.36	1849.4	0	1.73	2490.63	5.75	2494.27	5.76	3.64	0.15
126	434	308	182	6944	0.82414	916.49	0.60484	1673.56	1865.59	0.48	1.72	2490.55	5.74	2494.36	5.75	3.82	0.15
126	435	309	183	6960	0.82302	916.65	0.60517	1673.76	1881.83	0	1.71	2489.47	5.72	2493.03	5.73	3.56	0.14

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Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
126	436	310	184	6976	0.82190	916.81	0.60551	1673.97	1898.1	0.48	1.7	2489.3	5.71	2493.04	5.72	3.74	0.15
126	437	311	185	6992	0.82078	916.96	0.60584	1674.18	1914.4	0	1.69	2488.15	5.69	2491.63	5.7	3.48	0.14
126	438	312	186	7008	0.81967	917.11	0.60616	1674.4	1930.75	0.48	1.68	2487.91	5.68	2491.56	5.69	3.65	0.15
126	439	313	187	7024	0.81855	917.26	0.60649	1674.61	1947.13	0	1.67	2486.67	5.66	2490.06	5.67	3.39	0.14
126	440	314	188	7040	0.81744	917.4	0.60682	1674.84	1963.55	0.48	1.66	2486.36	5.65	2489.91	5.66	3.55	0.14
126	441	315	189	7056	0.81633	917.54	0.60714	1675.06	1980	0	1.65	2485.05	5.64	2488.33	5.64	3.28	0.13
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
127	253	126	-1	4048	0.99998	776.02	0.49901	1810.63	0.1	0	9.84	1471.09	5.81	1480.31	5.85	9.23	0.62
127	254	127	0	4064	1.00000	778.08	0.50000	1808.23	0	-0.63	10	1487.06	5.85	1496	5.89	8.94	0.6
127	255	128	1	4080	0.99999	780.11	0.50098	1805.88	0.1	0	9.84	1503.75	5.9	1511.32	5.93	7.57	0.5
127	256	129	2	4096	0.99994	782.11	0.50195	1803.57	0.38	-0.62	9.68	1518.99	5.93	1526.65	5.96	7.66	0.5
127	257	130	3	4112	0.99986	784.09	0.50292	1801.29	0.85	0	9.52	1535.29	5.97	1541.62	6	6.33	0.41
127	258	131	4	4128	0.99976	786.04	0.50388	1799.06	1.51	-0.62	9.37	1550.14	6.01	1556.6	6.03	6.47	0.42
127	259	132	5	4144	0.99963	787.96	0.50483	1796.86	2.36	0	9.22	1566.04	6.05	1571.23	6.07	5.18	0.33
127	260	133	6	4160	0.99947	789.86	0.50577	1794.7	3.38	-0.62	9.08	1580.51	6.08	1585.87	6.1	5.36	0.34
127	261	134	7	4176	0.99928	791.74	0.50671	1792.57	4.58	0	8.93	1596.04	6.12	1600.15	6.13	4.12	0.26
127	262	135	8	4192	0.99907	793.59	0.50763	1790.49	5.96	-0.62	8.8	1610.14	6.15	1614.47	6.16	4.33	0.27
127	263	136	9	4208	0.99883	795.42	0.50856	1788.43	7.52	0	8.66	1625.29	6.18	1628.42	6.19	3.13	0.19
127	264	137	10	4224	0.99857	797.22	0.50947	1786.41	9.25	-0.62	8.53	1639.03	6.21	1642.41	6.22	3.38	0.21
127	265	138	11	4240	0.99828	799.01	0.51038	1784.43	11.14	0	8.4	1653.82	6.24	1656.03	6.25	2.21	0.13
127	266	139	12	4256	0.99797	800.76	0.51128	1782.48	13.21	-0.61	8.27	1667.2	6.27	1669.7	6.28	2.5	0.15
127	267	140	13	4272	0.99763	802.5	0.51217	1780.56	15.45	0	8.15	1681.64	6.3	1683.01	6.3	1.36	0.08
127	268	141	14	4288	0.99727	804.21	0.51306	1778.67	17.85	-0.61	8.03	1694.68	6.32	1696.36	6.33	1.68	0.1
127	269	142	15	4304	0.99689	805.91	0.51394	1776.82	20.42	0	7.91	1708.77	6.35	1709.36	6.35	0.59	0.03
127	270	143	16	4320	0.99649	807.58	0.51482	1775	23.14	-0.61	7.8	1721.47	6.38	1722.41	6.38	0.94	0.05
127	271	144	17	4336	0.99607	809.22	0.51568	1773.21	26.03	0	7.68	1735.22	6.4	1735.09	6.4	-0.13	-0.01
127	272	145	18	4352	0.99562	810.85	0.51654	1771.44	29.08	-0.61	7.57	1747.59	6.42	1747.85	6.43	0.25	0.01
127	273	146	19	4368	0.99516	812.46	0.51740	1769.71	32.28	0	7.47	1761.02	6.45	1760.23	6.45	-0.78	-0.04
127	274	147	20	4384	0.99467	814.05	0.51825	1768.01	35.64	-0.6	7.36	1773.06	6.47	1772.69	6.47	-0.38	-0.02
127	275	148	21	4400	0.99417	815.61	0.51909	1766.34	39.15	0	7.26	1786.16	6.5	1784.78	6.49	-1.38	-0.08
127	276	149	22	4416	0.99365	817.16	0.51993	1764.69	42.81	-0.6	7.15	1797.9	6.51	1796.95	6.51	-0.95	-0.05
127	277	150	23	4432	0.99311	818.69	0.52076	1763.07	46.62	0	7.06	1810.68	6.54	1808.75	6.53	-1.92	-0.11
127	278	151	24	4448	0.99255	820.19	0.52158	1761.48	50.58	-0.6	6.96	1822.1	6.55	1820.64	6.55	-1.46	-0.08
127	279	152	25	4464	0.99197	821.68	0.52240	1759.92	54.69	0	6.86	1834.57	6.58	1832.16	6.57	-2.42	-0.13
127	280	153	26	4480	0.99138	823.15	0.52321	1758.39	58.94	-0.6	6.77	1845.7	6.59	1843.77	6.58	-1.93	-0.1
127	281	154	27	4496	0.99077	824.6	0.52402	1756.88	63.33	0	6.68	1857.87	6.61	1855.01	6.6	-2.86	-0.15
127	282	155	28	4512	0.99014	826.03	0.52482	1755.39	67.87	-0.6	6.59	1868.7	6.63	1866.35	6.62	-2.35	-0.13
127	283	156	29	4528	0.98950	827.45	0.52562	1753.93	72.55	0	6.5	1880.57	6.65	1877.32	6.63	-3.25	-0.17
127	284	157	30	4544	0.98884	828.85	0.52641	1752.5	77.37	-0.59	6.42	1891.11	6.66	1888.39	6.65	-2.72	-0.14
127	285	158	31	4560	0.98817	830.23	0.52719	1751.09	82.32	0	6.33	1902.69	6.68	1899.09	6.66	-3.6	-0.19
127	286	159	32	4576	0.98748	831.59	0.52797	1749.71	87.41	-0.59	6.25	1912.95	6.69	1909.9	6.68	-3.05	-0.16
127	287	160	33	4592	0.98678	832.93	0.52875	1748.35	92.64	0	6.17	1924.25	6.7	1920.34	6.69	-3.91	-0.2
127	288	161	34	4608	0.98606	834.26	0.52951	1747.01	98	-0.59	6.09	1934.23	6.72	1930.89	6.7	-3.34	-0.17
127	289	162	35	4624	0.98533	835.57	0.53028	1745.7	103.49	0	6.01	1945.25	6.73	1941.07	6.72	-4.18	-0.22
127	290	163	36	4640	0.98459	836.87	0.53103	1744.41	109.11	-0.59	5.94	1954.96	6.74	1951.37	6.73	-3.59	-0.18
127	291	164	37	4656	0.98383	838.14	0.53179	1743.14	114.86	0	5.86	1965.71	6.76	1961.3	6.74	-4.41	-0.22

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
127	292	165	38	4672	0.98306	839.41	0.53253	1741.89	120.74	-0.59	5.79	1975.16	6.76	1971.35	6.75	-3.81	-0.19
127	293	166	39	4688	0.98228	840.65	0.53328	1740.67	126.75	0	5.72	1985.65	6.78	1981.04	6.76	-4.61	-0.23
127	294	167	40	4704	0.98149	841.88	0.53401	1739.47	132.88	-0.58	5.65	1994.83	6.79	1990.85	6.77	-3.99	-0.2
127	295	168	41	4720	0.98068	843.1	0.53475	1738.29	139.14	0	5.58	2005.06	6.8	2000.29	6.78	-4.77	-0.24
127	296	169	42	4736	0.97987	844.3	0.53547	1737.13	145.51	-0.58	5.51	2013.99	6.8	2009.86	6.79	-4.13	-0.21
127	297	170	43	4752	0.97904	845.48	0.53620	1735.99	152.01	0	5.44	2023.96	6.81	2019.06	6.8	-4.9	-0.24
127	298	171	44	4768	0.97820	846.66	0.53691	1734.87	158.63	-0.58	5.38	2032.64	6.82	2028.39	6.81	-4.25	-0.21
127	299	172	45	4784	0.97735	847.81	0.53763	1733.77	165.37	0	5.31	2042.36	6.83	2037.36	6.81	-5	-0.25
127	300	173	46	4800	0.97649	848.95	0.53833	1732.69	172.23	-0.58	5.25	2050.8	6.84	2046.46	6.82	-4.34	-0.21
127	301	174	47	4816	0.97562	850.08	0.53904	1731.63	179.2	0	5.19	2060.27	6.84	2055.2	6.83	-5.08	-0.25
127	302	175	48	4832	0.97474	851.19	0.53974	1730.59	186.29	-0.58	5.13	2068.48	6.85	2064.08	6.83	-4.4	-0.21
127	303	176	49	4848	0.97385	852.29	0.54043	1729.57	193.5	0	5.07	2077.71	6.86	2072.59	6.84	-5.12	-0.25
127	304	177	50	4864	0.97295	853.38	0.54112	1728.57	200.82	-0.57	5.01	2085.68	6.86	2081.25	6.85	-4.43	-0.21
127	305	178	51	4880	0.97204	854.45	0.54180	1727.58	208.25	0	4.95	2094.68	6.87	2089.53	6.85	-5.14	-0.25
127	306	179	52	4896	0.97112	855.51	0.54248	1726.62	215.79	-0.57	4.9	2102.42	6.87	2097.97	6.86	-4.44	-0.21
127	307	180	53	4912	0.97020	856.55	0.54316	1725.67	223.44	0	4.84	2111.18	6.88	2106.04	6.86	-5.14	-0.24
127	308	181	54	4928	0.96926	857.58	0.54383	1724.74	231.2	-0.57	4.79	2118.7	6.88	2114.27	6.86	-4.43	-0.21
127	309	182	55	4944	0.96832	858.6	0.54450	1723.82	239.07	0	4.74	2127.24	6.88	2122.12	6.87	-5.12	-0.24
127	310	183	56	4960	0.96737	859.61	0.54516	1722.93	247.05	-0.57	4.68	2134.53	6.89	2130.14	6.87	-4.4	-0.21
127	311	184	57	4976	0.96641	860.6	0.54582	1722.05	255.13	0	4.63	2142.85	6.89	2137.78	6.87	-5.07	-0.24
127	312	185	58	4992	0.96544	861.58	0.54647	1721.19	263.31	-0.57	4.58	2149.93	6.89	2145.59	6.88	-4.34	-0.2
127	313	186	59	5008	0.96447	862.55	0.54713	1720.34	271.6	0	4.53	2158.03	6.89	2153.03	6.88	-5.01	-0.23
127	314	187	60	5024	0.96349	863.51	0.54777	1719.51	280	-0.56	4.48	2164.9	6.89	2160.63	6.88	-4.27	-0.2
127	315	188	61	5040	0.96250	864.46	0.54841	1718.7	288.49	0	4.43	2172.79	6.9	2167.86	6.88	-4.93	-0.23
127	316	189	62	5056	0.96151	865.39	0.54905	1717.9	297.09	-0.56	4.39	2179.45	6.9	2175.27	6.88	-4.18	-0.19
127	317	190	63	5072	0.96050	866.31	0.54969	1717.12	305.78	0	4.34	2187.13	6.9	2182.3	6.88	-4.83	-0.22
127	318	191	64	5088	0.95950	867.22	0.55031	1716.35	314.58	-0.56	4.29	2193.58	6.9	2189.51	6.89	-4.08	-0.19
127	319	192	65	5104	0.95848	868.12	0.55094	1715.6	323.47	0	4.25	2201.06	6.9	2196.35	6.89	-4.71	-0.21
127	320	193	66	5120	0.95746	869.01	0.55156	1714.86	332.46	-0.56	4.21	2207.32	6.9	2203.36	6.89	-3.96	-0.18
127	321	194	67	5136	0.95644	869.88	0.55218	1714.14	341.55	0	4.16	2214.59	6.9	2210	6.88	-4.59	-0.21
127	322	195	68	5152	0.95540	870.75	0.55280	1713.43	350.73	-0.56	4.12	2220.65	6.9	2216.83	6.88	-3.82	-0.17
127	323	196	69	5168	0.95437	871.6	0.55341	1712.74	360.01	0	4.08	2227.73	6.9	2223.28	6.88	-4.45	-0.2
127	324	197	70	5184	0.95332	872.45	0.55401	1712.06	369.38	-0.56	4.04	2233.59	6.89	2229.92	6.88	-3.68	-0.16
127	325	198	71	5200	0.95228	873.28	0.55462	1711.39	378.84	0	4	2240.48	6.89	2236.18	6.88	-4.29	-0.19
127	326	199	72	5216	0.95122	874.1	0.55522	1710.74	388.4	-0.55	3.95	2246.16	6.89	2242.64	6.88	-3.52	-0.16
127	327	200	73	5232	0.95016	874.91	0.55581	1710.11	398.05	0	3.92	2252.85	6.89	2248.72	6.88	-4.13	-0.18
127	328	201	74	5248	0.94910	875.72	0.55640	1709.48	407.78	-0.55	3.88	2258.34	6.89	2254.99	6.87	-3.35	-0.15
127	329	202	75	5264	0.94803	876.51	0.55699	1708.87	417.61	0	3.84	2264.85	6.88	2260.9	6.87	-3.95	-0.17
127	330	203	76	5280	0.94696	877.29	0.55758	1708.28	427.52	-0.55	3.8	2270.16	6.88	2266.99	6.87	-3.17	-0.14
127	331	204	77	5296	0.94588	878.06	0.55816	1707.69	437.53	0	3.76	2276.48	6.88	2272.71	6.87	-3.77	-0.17
127	332	205	78	5312	0.94480	878.82	0.55874	1707.12	447.62	-0.55	3.73	2281.62	6.87	2278.63	6.86	-2.98	-0.13
127	333	206	79	5328	0.94372	879.58	0.55931	1706.56	457.79	0	3.69	2287.76	6.87	2284.18	6.86	-3.58	-0.16
127	334	207	80	5344	0.94263	880.32	0.55988	1706.02	468.06	-0.55	3.66	2292.72	6.86	2289.93	6.86	-2.79	-0.12
127	335	208	81	5360	0.94154	881.05	0.56045	1705.48	478.4	0	3.62	2298.69	6.86	2295.31	6.85	-3.38	-0.15
127	336	209	82	5376	0.94044	881.78	0.56101	1704.96	488.83	-0.55	3.59	2303.47	6.86	2300.88	6.85	-2.59	-0.11
127	337	210	83	5392	0.93934	882.49	0.56157	1704.45	499.35	0	3.55	2309.26	6.85	2306.09	6.84	-3.17	-0.14
127	338	211	84	5408	0.93824	883.2	0.56213	1703.95	509.94	-0.54	3.52	2313.88	6.85	2311.5	6.84	-2.38	-0.1

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Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
127	339	212	85	5424	0.93713	883.9	0.56268	1703.47	520.62	0	3.49	2319.5	6.84	2316.54	6.83	-2.96	-0.13
127	340	213	86	5440	0.93602	884.59	0.56324	1702.99	531.38	-0.54	3.46	2323.96	6.84	2321.79	6.83	-2.17	-0.09
127	341	214	87	5456	0.93491	885.27	0.56378	1702.53	542.22	0	3.42	2329.41	6.83	2326.67	6.82	-2.75	-0.12
127	342	215	88	5472	0.93379	885.94	0.56433	1702.08	553.14	-0.54	3.39	2333.7	6.82	2331.75	6.82	-1.95	-0.08
127	343	216	89	5488	0.93267	886.6	0.56487	1701.64	564.14	0	3.36	2338.99	6.82	2336.47	6.81	-2.52	-0.11
127	344	217	90	5504	0.93155	887.25	0.56541	1701.21	575.21	-0.54	3.33	2343.12	6.81	2341.39	6.81	-1.73	-0.07
127	345	218	91	5520	0.93043	887.9	0.56594	1700.79	586.37	0	3.3	2348.25	6.81	2345.95	6.8	-2.3	-0.1
127	346	219	92	5536	0.92930	888.54	0.56647	1700.38	597.6	-0.54	3.27	2352.22	6.8	2350.72	6.79	-1.5	-0.06
127	347	220	93	5552	0.92817	889.16	0.56700	1699.98	608.9	0	3.24	2357.19	6.79	2355.12	6.79	-2.07	-0.09
127	348	221	94	5568	0.92704	889.79	0.56753	1699.6	620.29	-0.54	3.22	2361.01	6.78	2359.74	6.78	-1.28	-0.05
127	349	222	95	5584	0.92590	890.4	0.56805	1699.22	631.74	0	3.19	2365.82	6.78	2363.98	6.77	-1.84	-0.08
127	350	223	96	5600	0.92477	891	0.56857	1698.85	643.28	-0.53	3.16	2369.49	6.77	2368.44	6.77	-1.05	-0.04
127	351	224	97	5616	0.92363	891.6	0.56909	1698.5	654.88	0	3.13	2374.15	6.76	2372.54	6.76	-1.61	-0.07
127	352	225	98	5632	0.92249	892.19	0.56960	1698.15	666.56	-0.53	3.11	2377.67	6.75	2376.85	6.75	-0.82	-0.03
127	353	226	99	5648	0.92135	892.77	0.57011	1697.82	678.31	0	3.08	2382.18	6.75	2380.8	6.74	-1.38	-0.06
127	354	227	100	5664	0.92020	893.35	0.57062	1697.49	690.14	-0.53	3.05	2385.55	6.74	2384.96	6.74	-0.58	-0.02
127	355	228	101	5680	0.91906	893.91	0.57113	1697.17	702.03	0	3.03	2389.91	6.73	2388.76	6.73	-1.15	-0.05
127	356	229	102	5696	0.91791	894.47	0.57163	1696.87	713.99	-0.53	3	2393.14	6.72	2392.78	6.72	-0.35	-0.01
127	357	230	103	5712	0.91676	895.03	0.57213	1696.57	726.03	0	2.98	2397.35	6.72	2396.44	6.71	-0.92	-0.04
127	358	231	104	5728	0.91561	895.57	0.57263	1696.28	738.13	-0.53	2.95	2400.44	6.71	2400.32	6.7	-0.12	-0.01
127	359	232	105	5744	0.91446	896.11	0.57312	1696	750.31	0	2.93	2404.51	6.7	2403.83	6.7	-0.69	-0.03
127	360	233	106	5760	0.91330	896.64	0.57361	1695.73	762.55	-0.53	2.9	2407.46	6.69	2407.57	6.69	0.11	0
127	361	234	107	5776	0.91215	897.16	0.57410	1695.47	774.86	0	2.88	2411.39	6.68	2410.93	6.68	-0.46	-0.02
127	362	235	108	5792	0.91099	897.68	0.57459	1695.22	787.23	-0.53	2.86	2414.2	6.67	2414.53	6.67	0.34	0.01
127	363	236	109	5808	0.90984	898.19	0.57507	1694.97	799.68	0	2.83	2417.99	6.66	2417.77	6.66	-0.23	-0.01
127	364	237	110	5824	0.90868	898.69	0.57555	1694.74	812.19	-0.52	2.81	2420.67	6.65	2421.23	6.65	0.56	0.02
127	365	238	111	5840	0.90752	899.19	0.57603	1694.51	824.76	0	2.79	2424.32	6.64	2424.32	6.64	0	0
127	366	239	112	5856	0.90636	899.68	0.57650	1694.3	837.4	-0.52	2.77	2426.87	6.63	2427.65	6.63	0.79	0.03
127	367	240	113	5872	0.90520	900.16	0.57698	1694.09	850.1	0	2.74	2430.39	6.62	2430.61	6.62	0.22	0.01
127	368	241	114	5888	0.90404	900.64	0.57745	1693.88	862.87	-0.52	2.72	2432.8	6.61	2433.81	6.61	1.01	0.04
127	369	242	115	5904	0.90287	901.11	0.57791	1693.69	875.7	0	2.7	2436.19	6.6	2436.64	6.6	0.44	0.02
127	370	243	116	5920	0.90171	901.58	0.57838	1693.51	888.6	-0.52	2.68	2438.48	6.59	2439.7	6.59	1.22	0.05
127	371	244	117	5936	0.90055	902.04	0.57884	1693.33	901.55	0	2.66	2441.74	6.58	2442.4	6.58	0.66	0.03
127	372	245	118	5952	0.89938	902.49	0.57930	1693.16	914.57	-0.52	2.64	2443.9	6.57	2445.34	6.57	1.44	0.06
127	373	246	119	5968	0.89822	902.93	0.57976	1693	927.65	0	2.62	2447.03	6.56	2447.9	6.56	0.87	0.04
127	374	247	120	5984	0.89705	903.37	0.58021	1692.85	940.79	-0.52	2.6	2449.07	6.55	2450.71	6.55	1.65	0.07
127	375	248	121	6000	0.89589	903.81	0.58067	1692.7	953.99	0	2.58	2452.08	6.54	2453.16	6.54	1.08	0.04
127	376	249	122	6016	0.89472	904.23	0.58112	1692.56	967.26	-0.52	2.56	2453.99	6.53	2455.84	6.53	1.85	0.08
127	377	250	123	6032	0.89355	904.66	0.58157	1692.43	980.58	0	2.54	2456.87	6.52	2458.16	6.52	1.28	0.05
127	378	251	124	6048	0.89239	905.07	0.58201	1692.31	993.96	-0.51	2.52	2458.67	6.5	2460.72	6.51	2.05	0.08
127	379	252	125	6064	0.89122	905.48	0.58245	1692.19	1007.39	0	2.5	2461.43	6.49	2462.91	6.5	1.48	0.06
127	380	253	126	6080	0.89006	905.89	0.58290	1692.09	1020.89	-0.51	2.48	2463.11	6.48	2465.35	6.49	2.25	0.09
127	381	254	127	6096	0.88889	906.29	0.58333	1691.98	1034.44	0	2.47	2465.75	6.47	2467.42	6.48	1.67	0.07
127	382	255	128	6112	0.88772	906.68	0.58377	1691.89	1048.06	-0.51	2.45	2467.31	6.46	2469.74	6.47	2.44	0.1
127	383	256	129	6128	0.88656	907.07	0.58420	1691.8	1061.72	0	2.43	2469.83	6.45	2471.7	6.45	1.86	0.08
127	384	257	130	6144	0.88539	907.45	0.58464	1691.72	1075.45	-0.51	2.41	2471.28	6.44	2473.9	6.44	2.62	0.11
127	385	258	131	6160	0.88422	907.83	0.58507	1691.65	1089.23	0	2.4	2473.69	6.43	2475.73	6.43	2.04	0.08

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
127	386	259	132	6176	0.88306	908.2	0.58549	1691.58	1103.06	-0.51	2.38	2475.02	6.41	2477.82	6.42	2.8	0.11
127	387	260	133	6192	0.88189	908.57	0.58592	1691.52	1116.95	0	2.36	2477.32	6.4	2479.54	6.41	2.22	0.09
127	388	261	134	6208	0.88073	908.93	0.58634	1691.47	1130.9	-0.51	2.34	2478.54	6.39	2481.51	6.4	2.97	0.12
127	389	262	135	6224	0.87956	909.29	0.58676	1691.42	1144.9	0	2.33	2480.72	6.38	2483.11	6.38	2.38	0.1
127	390	263	136	6240	0.87840	909.64	0.58718	1691.38	1158.95	-0.51	2.31	2481.84	6.36	2484.97	6.37	3.13	0.13
127	391	264	137	6256	0.87723	909.98	0.58760	1691.35	1173.05	0	2.3	2483.91	6.35	2486.45	6.36	2.55	0.1
127	392	265	138	6272	0.87607	910.33	0.58801	1691.32	1187.21	-0.51	2.28	2484.92	6.34	2488.2	6.35	3.28	0.13
127	393	266	139	6288	0.87490	910.66	0.58842	1691.3	1201.42	0	2.26	2486.88	6.33	2489.58	6.33	2.7	0.11
127	394	267	140	6304	0.87374	910.99	0.58883	1691.28	1215.69	-0.5	2.25	2487.78	6.31	2491.21	6.32	3.43	0.14
127	395	268	141	6320	0.87258	911.32	0.58924	1691.27	1230	0	2.23	2489.64	6.3	2492.48	6.31	2.84	0.11
127	396	269	142	6336	0.87142	911.64	0.58965	1691.27	1244.37	-0.5	2.22	2490.43	6.29	2494.01	6.3	3.57	0.14
127	397	270	143	6352	0.87026	911.96	0.59005	1691.27	1258.79	0	2.2	2492.18	6.28	2495.17	6.29	2.98	0.12
127	398	271	144	6368	0.86909	912.27	0.59045	1691.28	1273.26	-0.5	2.19	2492.88	6.26	2496.58	6.27	3.71	0.15
127	399	272	145	6384	0.86793	912.58	0.59085	1691.3	1287.77	0	2.17	2494.52	6.25	2497.64	6.26	3.11	0.12
127	400	273	146	6400	0.86678	912.88	0.59125	1691.32	1302.34	-0.5	2.16	2495.12	6.24	2498.95	6.25	3.83	0.15
127	401	274	147	6416	0.86562	913.18	0.59165	1691.34	1316.96	0	2.14	2496.66	6.23	2499.89	6.23	3.23	0.13
127	402	275	148	6432	0.86446	913.48	0.59204	1691.38	1331.62	-0.5	2.13	2497.16	6.21	2501.1	6.22	3.95	0.16
127	403	276	149	6448	0.86330	913.76	0.59243	1691.41	1346.34	0	2.12	2498.6	6.2	2501.94	6.21	3.35	0.13
127	404	277	150	6464	0.86215	914.05	0.59282	1691.46	1361.1	-0.5	2.1	2498.99	6.19	2503.05	6.2	4.06	0.16
127	405	278	151	6480	0.86099	914.33	0.59321	1691.51	1375.91	0	2.09	2500.34	6.17	2503.79	6.18	3.45	0.14
127	406	279	152	6496	0.85984	914.61	0.59360	1691.56	1390.77	-0.5	2.08	2500.64	6.16	2504.79	6.17	4.15	0.17
127	407	280	153	6512	0.85868	914.88	0.59398	1691.62	1405.68	0	2.06	2501.88	6.15	2505.43	6.16	3.55	0.14
127	408	281	154	6528	0.85753	915.15	0.59436	1691.69	1420.63	-0.5	2.05	2502.09	6.13	2506.33	6.14	4.24	0.17
127	409	282	155	6544	0.85638	915.41	0.59474	1691.76	1435.63	0	2.04	2503.24	6.12	2506.87	6.13	3.63	0.14
127	410	283	156	6560	0.85523	915.67	0.59512	1691.83	1450.68	-0.49	2.02	2503.35	6.11	2507.67	6.12	4.33	0.17
127	411	284	157	6576	0.85408	915.93	0.59550	1691.91	1465.77	0	2.01	2504.4	6.09	2508.11	6.1	3.71	0.15
127	412	285	158	6592	0.85293	916.18	0.59587	1692	1480.91	-0.49	2	2504.42	6.08	2508.82	6.09	4.4	0.18
127	413	286	159	6608	0.85178	916.43	0.59625	1692.09	1496.09	0	1.99	2505.38	6.07	2509.16	6.08	3.78	0.15
127	414	287	160	6624	0.85064	916.67	0.59662	1692.18	1511.32	-0.49	1.97	2505.31	6.05	2509.77	6.06	4.46	0.18
127	415	288	161	6640	0.84949	916.91	0.59699	1692.29	1526.59	0	1.96	2506.18	6.04	2510.01	6.05	3.83	0.15
127	416	289	162	6656	0.84835	917.15	0.59736	1692.39	1541.9	-0.49	1.95	2506.01	6.02	2510.52	6.03	4.51	0.18
127	417	290	163	6672	0.84721	917.38	0.59772	1692.5	1557.26	0	1.94	2506.79	6.01	2510.67	6.02	3.88	0.15
127	418	291	164	6688	0.84607	917.61	0.59809	1692.62	1572.67	-0.49	1.92	2506.54	6	2511.09	6.01	4.55	0.18
127	419	292	165	6704	0.84493	917.83	0.59845	1692.74	1588.12	0	1.91	2507.23	5.98	2511.15	5.99	3.92	0.16
127	420	293	166	6720	0.84379	918.05	0.59881	1692.86	1603.61	-0.49	1.9	2506.89	5.97	2511.47	5.98	4.58	0.18
127	421	294	167	6736	0.84265	918.27	0.59917	1692.99	1619.14	0	1.89	2507.49	5.96	2511.44	5.97	3.95	0.16
127	422	295	168	6752	0.84151	918.48	0.59953	1693.13	1634.71	-0.49	1.88	2507.07	5.94	2511.67	5.95	4.6	0.18
127	423	296	169	6768	0.84038	918.69	0.59988	1693.27	1650.33	0	1.87	2507.58	5.93	2511.54	5.94	3.96	0.16
127	424	297	170	6784	0.83924	918.9	0.60024	1693.41	1665.99	-0.49	1.86	2507.07	5.91	2511.69	5.92	4.62	0.18
127	425	298	171	6800	0.83811	919.1	0.60059	1693.56	1681.69	0	1.85	2507.5	5.9	2511.47	5.91	3.97	0.16
127	426	299	172	6816	0.83698	919.3	0.60094	1693.71	1697.43	-0.48	1.83	2506.91	5.88	2511.52	5.9	4.62	0.18
127	427	300	173	6832	0.83585	919.5	0.60129	1693.87	1713.22	0	1.82	2507.25	5.87	2511.21	5.88	3.97	0.16
127	428	301	174	6848	0.83472	919.69	0.60164	1694.03	1729.04	-0.48	1.81	2506.57	5.86	2511.18	5.87	4.61	0.18
127	429	302	175	6864	0.83360	919.88	0.60198	1694.19	1744.9	0	1.8	2506.83	5.84	2510.78	5.85	3.95	0.16
127	430	303	176	6880	0.83247	920.06	0.60233	1694.36	1760.81	-0.48	1.79	2506.08	5.83	2510.66	5.84	4.59	0.18
127	431	304	177	6896	0.83135	920.24	0.60267	1694.54	1776.75	0	1.78	2506.25	5.81	2510.18	5.82	3.93	0.16
127	432	305	178	6912	0.83023	920.42	0.60301	1694.72	1792.73	-0.48	1.77	2505.42	5.8	2509.97	5.81	4.55	0.18

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
127	433	306	179	6928	0.82911	920.6	0.60335	1694.9	1808.76	0	1.76	2505.51	5.79	2509.4	5.8	3.89	0.16
127	434	307	180	6944	0.82799	920.77	0.60369	1695.08	1824.82	-0.48	1.75	2504.6	5.77	2509.11	5.78	4.51	0.18
127	435	308	181	6960	0.82687	920.94	0.60402	1695.27	1840.92	0	1.74	2504.61	5.76	2508.45	5.77	3.84	0.15
127	436	309	182	6976	0.82575	921.1	0.60436	1695.47	1857.06	-0.48	1.73	2503.62	5.74	2508.08	5.75	4.46	0.18
127	437	310	183	6992	0.82464	921.27	0.60469	1695.67	1873.23	0	1.72	2503.56	5.73	2507.34	5.74	3.78	0.15
127	438	311	184	7008	0.82352	921.43	0.60502	1695.87	1889.45	-0.48	1.71	2502.49	5.71	2506.88	5.72	4.39	0.18
127	439	312	185	7024	0.82241	921.58	0.60535	1696.08	1905.7	0	1.7	2502.35	5.7	2506.06	5.71	3.72	0.15
127	440	313	186	7040	0.82130	921.74	0.60568	1696.29	1921.99	-0.48	1.69	2501.21	5.68	2505.52	5.69	4.32	0.17
127	441	314	187	7056	0.82019	921.89	0.60601	1696.5	1938.32	0	1.68	2500.98	5.67	2504.62	5.68	3.63	0.15
127	442	315	188	7072	0.81909	922.03	0.60634	1696.72	1954.68	-0.48	1.68	2499.77	5.66	2504	5.67	4.23	0.17
127	443	316	189	7088	0.81798	922.18	0.60666	1696.94	1971.08	0	1.67	2499.47	5.64	2503.01	5.65	3.54	0.14
127	444	317	190	7104	0.81688	922.32	0.60698	1697.16	1987.52	-0.47	1.66	2498.18	5.63	2502.31	5.64	4.13	0.16
Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
128	255	127	-1	4080	0.99999	780.11	0.49902	1834.43	0.1	0	9.84	1475.2	5.79	1484.42	5.82	9.22	0.62
128	256	128	0	4096	1.00000	782.16	0.50000	1832.03	0	0.62	10	1492.44	5.83	1500.97	5.86	8.53	0.57
128	257	129	1	4112	0.99999	784.18	0.50097	1829.66	0.09	0	9.84	1507.9	5.87	1515.47	5.9	7.57	0.5
128	258	130	2	4128	0.99994	786.18	0.50194	1827.33	0.38	0.62	9.68	1524.41	5.91	1531.66	5.94	7.25	0.47
128	259	131	3	4144	0.99987	788.15	0.50290	1825.05	0.85	0	9.53	1539.48	5.94	1545.82	5.97	6.34	0.41
128	260	132	4	4160	0.99976	790.1	0.50385	1822.8	1.5	0.62	9.37	1555.59	5.98	1561.65	6.01	6.06	0.39
128	261	133	5	4176	0.99963	792.02	0.50479	1820.59	2.34	0	9.23	1570.28	6.02	1575.47	6.04	5.19	0.33
128	262	134	6	4192	0.99948	793.92	0.50573	1818.42	3.35	0.62	9.08	1586.02	6.05	1590.96	6.07	4.95	0.31
128	263	135	7	4208	0.99929	795.79	0.50665	1816.28	4.55	0	8.94	1600.33	6.08	1604.46	6.1	4.13	0.26
128	264	136	8	4224	0.99908	797.64	0.50758	1814.18	5.92	0.62	8.8	1615.69	6.12	1619.61	6.13	3.92	0.24
128	265	137	9	4240	0.99885	799.46	0.50849	1812.11	7.46	0	8.67	1629.64	6.15	1632.78	6.16	3.14	0.19
128	266	138	10	4256	0.99859	801.26	0.50940	1810.08	9.18	0.61	8.54	1644.64	6.18	1647.6	6.19	2.97	0.18
128	267	139	11	4272	0.99830	803.04	0.51030	1808.08	11.06	0	8.41	1658.23	6.21	1660.45	6.22	2.23	0.13
128	268	140	12	4288	0.99800	804.8	0.51119	1806.12	13.12	0.61	8.29	1672.87	6.24	1674.96	6.25	2.09	0.12
128	269	141	13	4304	0.99766	806.53	0.51208	1804.18	15.33	0	8.16	1686.11	6.27	1687.5	6.27	1.38	0.08
128	270	142	14	4320	0.99731	808.24	0.51296	1802.28	17.72	0.61	8.04	1700.4	6.3	1701.68	6.3	1.28	0.08
128	271	143	15	4336	0.99694	809.93	0.51384	1800.42	20.27	0	7.93	1713.31	6.32	1713.92	6.32	0.61	0.04
128	272	144	16	4352	0.99654	811.6	0.51471	1798.58	22.97	0.61	7.81	1727.26	6.35	1727.79	6.35	0.53	0.03
128	273	145	17	4368	0.99612	813.25	0.51557	1796.78	25.84	0	7.7	1739.83	6.37	1739.73	6.37	-0.11	-0.01
128	274	146	18	4384	0.99568	814.87	0.51642	1795	28.87	0.6	7.59	1753.45	6.4	1753.3	6.4	-0.15	-0.01
128	275	147	19	4400	0.99523	816.48	0.51727	1793.26	32.04	0	7.48	1765.7	6.42	1764.94	6.42	-0.76	-0.04
128	276	148	20	4416	0.99475	818.07	0.51812	1791.54	35.38	0.6	7.38	1778.99	6.45	1778.21	6.44	-0.78	-0.04
128	277	149	21	4432	0.99425	819.63	0.51895	1789.85	38.86	0	7.27	1790.92	6.47	1789.57	6.46	-1.36	-0.08
128	278	150	22	4448	0.99374	821.18	0.51978	1788.19	42.5	0.6	7.17	1803.9	6.49	1802.55	6.48	-1.35	-0.07
128	279	151	23	4464	0.99320	822.7	0.52061	1786.56	46.29	0	7.07	1815.52	6.51	1813.62	6.5	-1.9	-0.1
128	280	152	24	4480	0.99265	824.21	0.52143	1784.96	50.22	0.6	6.98	1828.18	6.53	1826.32	6.52	-1.87	-0.1
128	281	153	25	4496	0.99209	825.7	0.52224	1783.39	54.3	0	6.88	1839.5	6.55	1837.11	6.54	-2.39	-0.13
128	282	154	26	4512	0.99150	827.17	0.52305	1781.84	58.52	0.6	6.79	1851.86	6.57	1849.53	6.56	-2.33	-0.13
128	283	155	27	4528	0.99090	828.62	0.52385	1780.31	62.89	0	6.7	1862.88	6.58	1860.05	6.57	-2.83	-0.15
128	284	156	28	4544	0.99028	830.05	0.52465	1778.82	67.4	0.59	6.61	1874.94	6.6	1872.19	6.59	-2.75	-0.15
128	285	157	29	4560	0.98965	831.47	0.52544	1777.34	72.04	0	6.52	1885.67	6.62	1882.45	6.61	-3.22	-0.17
128	286	158	30	4576	0.98900	832.86	0.52622	1775.9	76.83	0.59	6.44	1897.44	6.63	1894.32	6.62	-3.12	-0.16
128	287	159	31	4592	0.98833	834.24	0.52700	1774.48	81.75	0	6.35	1907.88	6.65	1904.31	6.64	-3.57	-0.19

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
128	288	160	32	4608	0.98765	835.61	0.52778	1773.08	86.81	0.59	6.27	1919.37	6.66	1915.91	6.65	-3.45	-0.18
128	289	161	33	4624	0.98696	836.95	0.52855	1771.71	92	0	6.19	1929.53	6.68	1925.66	6.66	-3.87	-0.2
128	290	162	34	4640	0.98625	838.28	0.52931	1770.36	97.33	0.59	6.11	1940.74	6.69	1937	6.68	-3.74	-0.19
128	291	163	35	4656	0.98553	839.59	0.53007	1769.03	102.78	0	6.03	1950.63	6.7	1946.49	6.69	-4.14	-0.21
128	292	164	36	4672	0.98480	840.89	0.53082	1767.73	108.37	0.59	5.96	1961.56	6.72	1957.57	6.7	-3.99	-0.2
128	293	165	37	4688	0.98405	842.17	0.53157	1766.45	114.08	0	5.88	1971.19	6.73	1966.82	6.71	-4.37	-0.22
128	294	166	38	4704	0.98329	843.43	0.53231	1765.19	119.92	0.58	5.81	1981.85	6.74	1977.65	6.73	-4.2	-0.21
128	295	167	39	4720	0.98252	844.68	0.53305	1763.95	125.89	0	5.74	1991.22	6.75	1986.65	6.73	-4.56	-0.23
128	296	168	40	4736	0.98174	845.91	0.53378	1762.73	131.99	0.58	5.67	2001.62	6.76	1997.24	6.75	-4.38	-0.22
128	297	169	41	4752	0.98094	847.13	0.53451	1761.54	138.2	0	5.6	2010.73	6.77	2006	6.75	-4.72	-0.24
128	298	170	42	4768	0.98014	848.33	0.53524	1760.37	144.54	0.58	5.53	2020.87	6.78	2016.35	6.77	-4.52	-0.22
128	299	171	43	4784	0.97932	849.52	0.53595	1759.22	151	0	5.47	2029.73	6.79	2024.88	6.77	-4.85	-0.24
128	300	172	44	4800	0.97849	850.69	0.53667	1758.08	157.58	0.58	5.4	2039.62	6.8	2034.98	6.78	-4.64	-0.23
128	301	173	45	4816	0.97765	851.85	0.53738	1756.97	164.28	0	5.34	2048.24	6.8	2043.29	6.79	-4.95	-0.24
128	302	174	46	4832	0.97680	852.99	0.53808	1755.88	171.09	0.58	5.27	2057.88	6.81	2053.16	6.8	-4.72	-0.23
128	303	175	47	4848	0.97594	854.12	0.53878	1754.81	178.03	0	5.21	2066.26	6.82	2061.24	6.8	-5.02	-0.24
128	304	176	48	4864	0.97507	855.24	0.53947	1753.75	185.07	0.57	5.15	2075.66	6.83	2070.88	6.81	-4.78	-0.23
128	305	177	49	4880	0.97419	856.34	0.54016	1752.72	192.23	0	5.09	2083.8	6.83	2078.74	6.82	-5.06	-0.24
128	306	178	50	4896	0.97330	857.43	0.54085	1751.71	199.51	0.57	5.03	2092.97	6.84	2088.15	6.82	-4.81	-0.23
128	307	179	51	4912	0.97240	858.5	0.54153	1750.71	206.9	0	4.98	2100.87	6.84	2095.79	6.83	-5.08	-0.24
128	308	180	52	4928	0.97150	859.56	0.54221	1749.73	214.39	0.57	4.92	2109.81	6.85	2104.99	6.83	-4.82	-0.23
128	309	181	53	4944	0.97058	860.61	0.54288	1748.77	222	0	4.87	2117.49	6.85	2112.41	6.84	-5.08	-0.24
128	310	182	54	4960	0.96966	861.64	0.54355	1747.83	229.71	0.57	4.81	2126.2	6.86	2121.39	6.84	-4.81	-0.23
128	311	183	55	4976	0.96872	862.67	0.54421	1746.9	237.54	0	4.76	2133.65	6.86	2128.61	6.84	-5.05	-0.24
128	312	184	56	4992	0.96778	863.67	0.54487	1745.99	245.47	0.57	4.71	2142.14	6.87	2137.37	6.85	-4.77	-0.22
128	313	185	57	5008	0.96684	864.67	0.54553	1745.1	253.5	0	4.65	2149.38	6.87	2144.38	6.85	-5	-0.23
128	314	186	58	5024	0.96588	865.66	0.54618	1744.23	261.64	0.56	4.6	2157.64	6.87	2152.93	6.86	-4.71	-0.22
128	315	187	59	5040	0.96492	866.63	0.54683	1743.37	269.88	0	4.55	2164.67	6.87	2159.74	6.86	-4.93	-0.23
128	316	188	60	5056	0.96395	867.59	0.54747	1742.53	278.23	0.56	4.5	2172.72	6.88	2168.09	6.86	-4.64	-0.21
128	317	189	61	5072	0.96297	868.54	0.54811	1741.7	286.68	0	4.46	2179.54	6.88	2174.69	6.86	-4.85	-0.22
128	318	190	62	5088	0.96199	869.47	0.54874	1740.89	295.23	0.56	4.41	2187.38	6.88	2182.84	6.86	-4.54	-0.21
128	319	191	63	5104	0.96100	870.4	0.54937	1740.1	303.87	0	4.36	2193.99	6.88	2189.25	6.86	-4.75	-0.22
128	320	192	64	5120	0.96000	871.31	0.55000	1739.32	312.62	0.56	4.32	2201.63	6.88	2197.19	6.87	-4.43	-0.2
128	321	193	65	5136	0.95900	872.21	0.55062	1738.56	321.46	0	4.27	2208.04	6.88	2203.41	6.86	-4.63	-0.21
128	322	194	66	5152	0.95799	873.1	0.55124	1737.81	330.41	0.56	4.23	2215.47	6.88	2211.16	6.87	-4.31	-0.19
128	323	195	67	5168	0.95697	873.98	0.55186	1737.07	339.44	0	4.18	2221.69	6.88	2217.19	6.86	-4.49	-0.2
128	324	196	68	5184	0.95595	874.85	0.55247	1736.35	348.58	0.56	4.14	2228.92	6.88	2224.74	6.87	-4.17	-0.19
128	325	197	69	5200	0.95493	875.71	0.55308	1735.65	357.8	0	4.1	2234.94	6.88	2230.59	6.86	-4.35	-0.19
128	326	198	70	5216	0.95389	876.56	0.55368	1734.96	367.12	0.55	4.06	2241.97	6.88	2237.95	6.86	-4.02	-0.18
128	327	199	71	5232	0.95286	877.39	0.55428	1734.28	376.53	0	4.02	2247.8	6.87	2243.61	6.86	-4.19	-0.19
128	328	200	72	5248	0.95181	878.22	0.55488	1733.62	386.04	0.55	3.98	2254.65	6.87	2250.79	6.86	-3.86	-0.17
128	329	201	73	5264	0.95077	879.04	0.55547	1732.97	395.63	0	3.94	2260.29	6.87	2256.27	6.86	-4.02	-0.18
128	330	202	74	5280	0.94972	879.84	0.55606	1732.34	405.32	0.55	3.9	2266.95	6.87	2263.27	6.86	-3.68	-0.16
128	331	203	75	5296	0.94866	880.64	0.55665	1731.72	415.09	0	3.86	2272.41	6.87	2268.57	6.85	-3.84	-0.17
128	332	204	76	5312	0.94760	881.42	0.55723	1731.11	424.96	0.55	3.82	2278.88	6.86	2275.38	6.85	-3.5	-0.15
128	333	205	77	5328	0.94653	882.2	0.55781	1730.52	434.91	0	3.79	2284.16	6.86	2280.51	6.85	-3.65	-0.16
128	334	206	78	5344	0.94546	882.97	0.55838	1729.93	444.95	0.55	3.75	2290.45	6.86	2287.15	6.85	-3.31	-0.14

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
128	335	207	79	5360	0.94439	883.72	0.55896	1729.36	455.07	0	3.71	2295.56	6.85	2292.11	6.84	-3.45	-0.15
128	336	208	80	5376	0.94331	884.47	0.55952	1728.81	465.28	0.55	3.68	2301.67	6.85	2298.57	6.84	-3.11	-0.14
128	337	209	81	5392	0.94223	885.21	0.56009	1728.26	475.57	0	3.64	2306.6	6.84	2303.36	6.83	-3.25	-0.14
128	338	210	82	5408	0.94114	885.94	0.56065	1727.73	485.95	0.54	3.61	2312.54	6.84	2309.64	6.83	-2.9	-0.13
128	339	211	83	5424	0.94005	886.65	0.56121	1727.21	496.41	0	3.58	2317.3	6.84	2314.27	6.83	-3.04	-0.13
128	340	212	84	5440	0.93896	887.37	0.56177	1726.7	506.95	0.54	3.54	2323.07	6.83	2320.38	6.82	-2.68	-0.12
128	341	213	85	5456	0.93787	888.07	0.56232	1726.21	517.58	0	3.51	2327.66	6.83	2324.84	6.82	-2.82	-0.12
128	342	214	86	5472	0.93677	888.76	0.56287	1725.72	528.28	0.54	3.48	2333.26	6.82	2330.79	6.82	-2.46	-0.11
128	343	215	87	5488	0.93567	889.44	0.56341	1725.25	539.07	0	3.45	2337.69	6.82	2335.09	6.81	-2.59	-0.11
128	344	216	88	5504	0.93456	890.12	0.56395	1724.79	549.93	0.54	3.41	2343.12	6.81	2340.88	6.8	-2.24	-0.1
128	345	217	89	5520	0.93345	890.78	0.56449	1724.34	560.88	0	3.38	2347.39	6.8	2345.02	6.8	-2.37	-0.1
128	346	218	90	5536	0.93234	891.44	0.56503	1723.9	571.9	0.54	3.35	2352.66	6.8	2350.65	6.79	-2.01	-0.09
128	347	219	91	5552	0.93123	892.09	0.56556	1723.47	583	0	3.32	2356.77	6.79	2354.63	6.79	-2.13	-0.09
128	348	220	92	5568	0.93011	892.73	0.56609	1723.05	594.17	0.54	3.29	2361.87	6.79	2360.1	6.78	-1.78	-0.08
128	349	221	93	5584	0.92899	893.37	0.56662	1722.64	605.43	0	3.27	2365.83	6.78	2363.93	6.77	-1.9	-0.08
128	350	222	94	5600	0.92787	893.99	0.56714	1722.25	616.75	0.53	3.24	2370.78	6.77	2369.24	6.77	-1.54	-0.07
128	351	223	95	5616	0.92675	894.61	0.56766	1721.86	628.16	0	3.21	2374.58	6.77	2372.92	6.76	-1.66	-0.07
128	352	224	96	5632	0.92562	895.22	0.56818	1721.48	639.63	0.53	3.18	2379.38	6.76	2378.07	6.76	-1.3	-0.05
128	353	225	97	5648	0.92449	895.82	0.56870	1721.12	651.18	0	3.15	2383.03	6.75	2381.61	6.75	-1.42	-0.06
128	354	226	98	5664	0.92336	896.41	0.56921	1720.76	662.81	0.53	3.13	2387.67	6.74	2386.61	6.74	-1.07	-0.04
128	355	227	99	5680	0.92223	897	0.56972	1720.42	674.5	0	3.1	2391.18	6.74	2389.99	6.73	-1.18	-0.05
128	356	228	100	5696	0.92110	897.58	0.57023	1720.08	686.27	0.53	3.07	2395.67	6.73	2394.85	6.73	-0.83	-0.03
128	357	229	101	5712	0.91996	898.15	0.57073	1719.76	698.11	0	3.05	2399.03	6.72	2398.09	6.72	-0.94	-0.04
128	358	230	102	5728	0.91882	898.72	0.57123	1719.44	710.02	0.53	3.02	2403.38	6.71	2402.79	6.71	-0.59	-0.02
128	359	231	103	5744	0.91768	899.27	0.57173	1719.13	722	0	3	2406.6	6.7	2405.89	6.7	-0.7	-0.03
128	360	232	104	5760	0.91654	899.82	0.57222	1718.84	734.04	0.53	2.97	2410.8	6.7	2410.45	6.7	-0.35	-0.01
128	361	233	105	5776	0.91540	900.36	0.57272	1718.55	746.16	0	2.95	2413.87	6.69	2413.41	6.69	-0.46	-0.02
128	362	234	106	5792	0.91426	900.9	0.57320	1718.27	758.35	0.53	2.92	2417.93	6.68	2417.83	6.68	-0.11	0
128	363	235	107	5808	0.91311	901.43	0.57369	1718	770.6	0	2.9	2420.87	6.67	2420.65	6.67	-0.22	-0.01
128	364	236	108	5824	0.91197	901.95	0.57418	1717.74	782.92	0.52	2.88	2424.79	6.66	2424.92	6.66	0.13	0.01
128	365	237	109	5840	0.91082	902.46	0.57466	1717.49	795.31	0	2.85	2427.6	6.65	2427.61	6.65	0.01	0
128	366	238	110	5856	0.90967	902.97	0.57514	1717.24	807.76	0.52	2.83	2431.38	6.64	2431.75	6.64	0.37	0.02
128	367	239	111	5872	0.90852	903.47	0.57561	1717.01	820.28	0	2.81	2434.05	6.63	2434.3	6.63	0.25	0.01
128	368	240	112	5888	0.90737	903.97	0.57609	1716.78	832.86	0.52	2.79	2437.7	6.62	2438.3	6.63	0.6	0.02
128	369	241	113	5904	0.90622	904.45	0.57656	1716.56	845.51	0	2.76	2440.24	6.61	2440.72	6.61	0.48	0.02
128	370	242	114	5920	0.90507	904.94	0.57703	1716.35	858.22	0.52	2.74	2443.75	6.6	2444.58	6.61	0.83	0.03
128	371	243	115	5936	0.90392	905.41	0.57749	1716.15	871	0	2.72	2446.16	6.59	2446.87	6.6	0.71	0.03
128	372	244	116	5952	0.90276	905.88	0.57796	1715.96	883.83	0.52	2.7	2449.54	6.58	2450.6	6.59	1.06	0.04
128	373	245	117	5968	0.90161	906.34	0.57842	1715.77	896.73	0	2.68	2451.83	6.57	2452.77	6.58	0.94	0.04
128	374	246	118	5984	0.90046	906.8	0.57888	1715.6	909.69	0.52	2.66	2455.08	6.56	2456.36	6.57	1.28	0.05
128	375	247	119	6000	0.89930	907.25	0.57933	1715.43	922.72	0	2.64	2457.24	6.55	2458.4	6.56	1.16	0.05
128	376	248	120	6016	0.89814	907.69	0.57979	1715.27	935.8	0.52	2.62	2460.37	6.54	2461.87	6.55	1.5	0.06
128	377	249	121	6032	0.89699	908.13	0.58024	1715.11	948.95	0	2.6	2462.4	6.53	2463.78	6.54	1.38	0.06
128	378	250	122	6048	0.89583	908.56	0.58069	1714.97	962.15	0.51	2.58	2465.41	6.52	2467.13	6.53	1.72	0.07
128	379	251	123	6064	0.89468	908.99	0.58114	1714.83	975.42	0	2.56	2467.32	6.51	2468.92	6.51	1.59	0.06
128	380	252	124	6080	0.89352	909.41	0.58158	1714.7	988.74	0.51	2.54	2470.2	6.5	2472.13	6.51	1.93	0.08
128	381	253	125	6096	0.89236	909.83	0.58202	1714.57	1002.12	0	2.52	2472	6.49	2473.8	6.49	1.8	0.07

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Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
128	382	254	126	6112	0.89120	910.24	0.58246	1714.46	1015.56	0.51	2.5	2474.76	6.48	2476.89	6.48	2.13	0.09
128	383	255	127	6128	0.89005	910.64	0.58290	1714.35	1029.06	0	2.48	2476.44	6.47	2478.44	6.47	2.01	0.08
128	384	256	128	6144	0.88889	911.04	0.58333	1714.25	1042.61	0.51	2.47	2479.08	6.46	2481.41	6.46	2.34	0.09
128	385	257	129	6160	0.88773	911.43	0.58377	1714.15	1056.22	0	2.45	2480.64	6.44	2482.85	6.45	2.2	0.09
128	386	258	130	6176	0.88657	911.82	0.58420	1714.06	1069.89	0.51	2.43	2483.17	6.43	2485.7	6.44	2.53	0.1
128	387	259	131	6192	0.88542	912.2	0.58463	1713.98	1083.61	0	2.41	2484.62	6.42	2487.01	6.43	2.4	0.1
128	388	260	132	6208	0.88426	912.58	0.58505	1713.91	1097.39	0.51	2.4	2487.03	6.41	2489.74	6.42	2.72	0.11
128	389	261	133	6224	0.88310	912.95	0.58548	1713.84	1111.22	0	2.38	2488.36	6.4	2490.95	6.4	2.58	0.1
128	390	262	134	6240	0.88195	913.31	0.58590	1713.78	1125.11	0.51	2.36	2490.66	6.39	2493.56	6.39	2.9	0.12
128	391	263	135	6256	0.88079	913.68	0.58632	1713.73	1139.06	0	2.35	2491.89	6.37	2494.65	6.38	2.76	0.11
128	392	264	136	6272	0.87963	914.03	0.58674	1713.68	1153.05	0.51	2.33	2494.07	6.36	2497.15	6.37	3.08	0.12
128	393	265	137	6288	0.87848	914.38	0.58715	1713.64	1167.1	0	2.31	2495.19	6.35	2498.13	6.36	2.93	0.12
128	394	266	138	6304	0.87732	914.73	0.58756	1713.6	1181.2	0.5	2.3	2497.27	6.34	2500.51	6.35	3.24	0.13
128	395	267	139	6320	0.87617	915.07	0.58798	1713.58	1195.36	0	2.28	2498.28	6.32	2501.38	6.33	3.1	0.12
128	396	268	140	6336	0.87501	915.4	0.58838	1713.55	1209.56	0.5	2.27	2500.25	6.31	2503.65	6.32	3.41	0.14
128	397	269	141	6352	0.87386	915.74	0.58879	1713.54	1223.82	0	2.25	2501.15	6.3	2504.41	6.31	3.26	0.13
128	398	270	142	6368	0.87271	916.06	0.58920	1713.53	1238.13	0.5	2.23	2503.01	6.29	2506.57	6.3	3.56	0.14
128	399	271	143	6384	0.87155	916.38	0.58960	1713.52	1252.49	0	2.22	2503.82	6.28	2507.23	6.28	3.41	0.14
128	400	272	144	6400	0.87040	916.7	0.59000	1713.53	1266.9	0.5	2.2	2505.57	6.26	2509.28	6.27	3.7	0.15
128	401	273	145	6416	0.86925	917.01	0.59040	1713.53	1281.37	0	2.19	2506.28	6.25	2509.83	6.26	3.55	0.14
128	402	274	146	6432	0.86810	917.32	0.59080	1713.55	1295.88	0.5	2.18	2507.93	6.24	2511.77	6.25	3.84	0.15
128	403	275	147	6448	0.86695	917.62	0.59119	1713.57	1310.44	0	2.16	2508.53	6.22	2512.22	6.23	3.69	0.15
128	404	276	148	6464	0.86580	917.92	0.59158	1713.59	1325.05	0.5	2.15	2510.08	6.21	2514.05	6.22	3.97	0.16
128	405	277	149	6480	0.86465	918.22	0.59198	1713.63	1339.71	0	2.13	2510.58	6.2	2514.4	6.21	3.81	0.15
128	406	278	150	6496	0.86350	918.51	0.59237	1713.66	1354.41	0.5	2.12	2512.03	6.19	2516.13	6.2	4.09	0.16
128	407	279	151	6512	0.86235	918.79	0.59275	1713.71	1369.17	0	2.11	2512.44	6.17	2516.37	6.18	3.93	0.16
128	408	280	152	6528	0.86121	919.07	0.59314	1713.75	1383.97	0.5	2.09	2513.79	6.16	2518	6.17	4.21	0.17
128	409	281	153	6544	0.86006	919.35	0.59352	1713.81	1398.82	0	2.08	2514.1	6.15	2518.14	6.16	4.04	0.16
128	410	282	154	6560	0.85892	919.62	0.59390	1713.87	1413.72	0.49	2.06	2515.35	6.14	2519.66	6.15	4.31	0.17
128	411	283	155	6576	0.85777	919.89	0.59428	1713.93	1428.66	0	2.05	2515.57	6.12	2519.71	6.13	4.14	0.16
128	412	284	156	6592	0.85663	920.15	0.59466	1714	1443.65	0.49	2.04	2516.73	6.11	2521.13	6.12	4.4	0.17
128	413	285	157	6608	0.85549	920.41	0.59504	1714.07	1458.69	0	2.03	2516.85	6.09	2521.08	6.1	4.23	0.17
128	414	286	158	6624	0.85435	920.67	0.59541	1714.15	1473.77	0.49	2.01	2517.91	6.08	2522.4	6.09	4.49	0.18
128	415	287	159	6640	0.85321	920.92	0.59578	1714.24	1488.9	0	2	2517.94	6.07	2522.25	6.08	4.31	0.17
128	416	288	160	6656	0.85207	921.17	0.59615	1714.33	1504.07	0.49	1.99	2518.91	6.06	2523.48	6.07	4.57	0.18
128	417	289	161	6672	0.85093	921.41	0.59652	1714.42	1519.28	0	1.98	2518.85	6.04	2523.23	6.05	4.38	0.17
128	418	290	162	6688	0.84980	921.65	0.59689	1714.52	1534.54	0.49	1.96	2519.73	6.03	2524.36	6.04	4.63	0.18
128	419	291	163	6704	0.84866	921.89	0.59726	1714.63	1549.85	0	1.95	2519.58	6.01	2524.02	6.02	4.44	0.18
128	420	292	164	6720	0.84753	922.12	0.59762	1714.74	1565.2	0.49	1.94	2520.37	6	2525.06	6.01	4.69	0.19
128	421	293	165	6736	0.84640	922.35	0.59798	1714.85	1580.59	0	1.93	2520.13	5.99	2524.63	6	4.49	0.18
128	422	294	166	6752	0.84526	922.58	0.59834	1714.97	1596.02	0.49	1.92	2520.83	5.97	2525.56	5.98	4.73	0.19
128	423	295	167	6768	0.84413	922.8	0.59870	1715.1	1611.5	0	1.9	2520.51	5.96	2525.04	5.97	4.54	0.18
128	424	296	168	6784	0.84301	923.02	0.59906	1715.23	1627.02	0.49	1.89	2521.11	5.95	2525.89	5.96	4.77	0.19
128	425	297	169	6800	0.84188	923.23	0.59941	1715.36	1642.58	0	1.88	2520.71	5.93	2525.28	5.94	4.57	0.18
128	426	298	170	6816	0.84075	923.44	0.59977	1715.5	1658.19	0.48	1.87	2521.23	5.92	2526.03	5.93	4.8	0.19
128	427	299	171	6832	0.83963	923.65	0.60012	1715.64	1673.83	0	1.86	2520.74	5.9	2525.33	5.91	4.59	0.18
128	428	300	172	6848	0.83850	923.85	0.60047	1715.79	1689.52	0.48	1.85	2521.17	5.89	2525.99	5.9	4.81	0.19

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
128	429	301	173	6864	0.83738	924.05	0.60082	1715.94	1705.25	0	1.84	2520.6	5.88	2525.2	5.89	4.6	0.18
128	430	302	174	6880	0.83626	924.25	0.60116	1716.1	1721.02	0.48	1.83	2520.95	5.86	2525.77	5.87	4.82	0.19
128	431	303	175	6896	0.83514	924.44	0.60151	1716.26	1736.83	0	1.82	2520.3	5.85	2524.9	5.86	4.6	0.18
128	432	304	176	6912	0.83402	924.63	0.60185	1716.42	1752.67	0.48	1.81	2520.56	5.83	2525.38	5.85	4.81	0.19
128	433	305	177	6928	0.83290	924.81	0.60219	1716.59	1768.56	0	1.8	2519.83	5.82	2524.42	5.83	4.59	0.18
128	434	306	178	6944	0.83179	925	0.60254	1716.76	1784.49	0.48	1.79	2520.01	5.81	2524.81	5.82	4.8	0.19
128	435	307	179	6960	0.83067	925.18	0.60287	1716.94	1800.46	0	1.78	2519.2	5.79	2523.77	5.8	4.57	0.18
128	436	308	180	6976	0.82956	925.35	0.60321	1717.12	1816.47	0.48	1.77	2519.3	5.78	2524.07	5.79	4.77	0.19
128	437	309	181	6992	0.82845	925.53	0.60355	1717.31	1832.51	0	1.76	2518.41	5.76	2522.95	5.77	4.54	0.18
128	438	310	182	7008	0.82734	925.69	0.60388	1717.5	1848.6	0.48	1.75	2518.43	5.75	2523.17	5.76	4.73	0.19
128	439	311	183	7024	0.82623	925.86	0.60421	1717.69	1864.72	0	1.74	2517.46	5.73	2521.96	5.74	4.49	0.18
128	440	312	184	7040	0.82512	926.03	0.60455	1717.89	1880.88	0.48	1.73	2517.41	5.72	2522.09	5.73	4.68	0.19
128	441	313	185	7056	0.82402	926.19	0.60488	1718.09	1897.08	0	1.72	2516.36	5.71	2520.8	5.72	4.44	0.18
128	442	314	186	7072	0.82292	926.34	0.60520	1718.3	1913.31	0.48	1.71	2516.23	5.69	2520.85	5.7	4.62	0.18
128	443	315	187	7088	0.82181	926.5	0.60553	1718.51	1929.59	0	1.7	2515.11	5.68	2519.48	5.69	4.37	0.17
128	444	316	188	7104	0.82071	926.65	0.60586	1718.72	1945.9	0.47	1.69	2514.9	5.66	2519.45	5.67	4.55	0.18
128	445	317	189	7120	0.81961	926.8	0.60618	1718.94	1962.24	0	1.68	2513.7	5.65	2518	5.66	4.3	0.17
128	446	318	190	7136	0.81852	926.94	0.60650	1719.16	1978.63	0.47	1.67	2513.42	5.64	2517.89	5.65	4.47	0.18
128	447	319	191	7152	0.81742	927.08	0.60682	1719.38	1995.04	0	1.66	2512.15	5.62	2516.36	5.63	4.21	0.17
128	448	320	192	7168	0.81633	927.22	0.60714	1719.61	2011.5	0.47	1.65	2511.79	5.61	2516.16	5.62	4.37	0.17
Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
129	257	128	-1	4112	0.99999	784.18	0.49903	1858.36	0.09	0	9.84	1479.2	5.76	1488.41	5.79	9.21	0.62
129	258	129	0	4128	1.00000	786.23	0.50000	1855.94	0	-0.62	10	1495.21	5.8	1504.13	5.83	8.92	0.59
129	259	130	1	4144	0.99999	788.25	0.50097	1853.56	0.09	0	9.84	1511.93	5.84	1519.49	5.87	7.55	0.5
129	260	131	2	4160	0.99994	790.24	0.50192	1851.23	0.38	-0.62	9.68	1527.22	5.87	1534.86	5.9	7.64	0.5
129	261	132	3	4176	0.99987	792.21	0.50287	1848.93	0.84	0	9.53	1543.55	5.91	1549.87	5.94	6.32	0.41
129	262	133	4	4192	0.99977	794.15	0.50382	1846.67	1.49	-0.62	9.38	1558.46	5.95	1564.9	5.97	6.44	0.41
129	263	134	5	4208	0.99964	796.07	0.50475	1844.44	2.32	0	9.23	1574.41	5.99	1579.57	6.01	5.16	0.33
129	264	135	6	4224	0.99948	797.96	0.50568	1842.26	3.33	-0.62	9.09	1588.93	6.02	1594.26	6.04	5.33	0.33
129	265	136	7	4240	0.99930	799.83	0.50660	1840.11	4.51	0	8.95	1604.5	6.05	1608.6	6.07	4.09	0.25
129	266	137	8	4256	0.99910	801.67	0.50752	1837.99	5.87	-0.61	8.81	1618.67	6.09	1622.96	6.1	4.3	0.26
129	267	138	9	4272	0.99886	803.49	0.50843	1835.91	7.4	0	8.68	1633.87	6.12	1636.97	6.13	3.1	0.19
129	268	139	10	4288	0.99861	805.29	0.50933	1833.87	9.11	-0.61	8.55	1647.67	6.15	1651.01	6.16	3.34	0.2
129	269	140	11	4304	0.99833	807.07	0.51022	1831.86	10.98	0	8.42	1662.52	6.18	1664.7	6.19	2.18	0.13
129	270	141	12	4320	0.99803	808.82	0.51111	1829.88	13.02	-0.61	8.3	1675.97	6.21	1678.43	6.22	2.46	0.15
129	271	142	13	4336	0.99770	810.55	0.51199	1827.93	15.22	0	8.18	1690.47	6.24	1691.8	6.24	1.33	0.08
129	272	143	14	4352	0.99735	812.26	0.51287	1826.02	17.59	-0.61	8.06	1703.58	6.26	1705.22	6.27	1.64	0.1
129	273	144	15	4368	0.99698	813.95	0.51374	1824.14	20.12	0	7.94	1717.73	6.29	1718.28	6.29	0.54	0.03
129	274	145	16	4384	0.99659	815.62	0.51460	1822.29	22.81	-0.6	7.83	1730.51	6.32	1731.4	6.32	0.89	0.05
129	275	146	17	4400	0.99618	817.26	0.51546	1820.47	25.65	0	7.71	1744.33	6.34	1744.15	6.34	-0.17	-0.01
129	276	147	18	4416	0.99575	818.89	0.51630	1818.68	28.66	-0.6	7.6	1756.78	6.37	1756.97	6.37	0.2	0.01
129	277	148	19	4432	0.99530	820.49	0.51715	1816.93	31.81	0	7.5	1770.27	6.39	1769.43	6.39	-0.83	-0.05
129	278	149	20	4448	0.99482	822.07	0.51799	1815.2	35.12	-0.6	7.39	1782.4	6.41	1781.96	6.41	-0.43	-0.02
129	279	150	21	4464	0.99434	823.64	0.51882	1813.5	38.59	0	7.29	1795.57	6.44	1794.13	6.43	-1.44	-0.08
129	280	151	22	4480	0.99383	825.18	0.51964	1811.82	42.2	-0.6	7.19	1807.38	6.45	1806.38	6.45	-1.01	-0.06
129	281	152	23	4496	0.99330	826.71	0.52046	1810.18	45.96	0	7.09	1820.24	6.48	1818.26	6.47	-1.98	-0.11

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
129	282	153	24	4512	0.99276	828.22	0.52128	1808.56	49.87	-0.6	6.99	1831.75	6.5	1830.23	6.49	-1.53	-0.08
129	283	154	25	4528	0.99220	829.7	0.52209	1806.97	53.92	0	6.9	1844.3	6.52	1841.83	6.51	-2.48	-0.13
129	284	155	26	4544	0.99162	831.17	0.52289	1805.41	58.11	-0.59	6.81	1855.52	6.53	1853.52	6.53	-2	-0.11
129	285	156	27	4560	0.99103	832.63	0.52368	1803.88	62.45	0	6.72	1867.77	6.55	1864.85	6.54	-2.92	-0.16
129	286	157	28	4576	0.99042	834.06	0.52448	1802.37	66.93	-0.59	6.63	1878.69	6.57	1876.27	6.56	-2.42	-0.13
129	287	158	29	4592	0.98979	835.47	0.52526	1800.88	71.54	0	6.54	1890.65	6.59	1887.32	6.58	-3.32	-0.18
129	288	159	30	4608	0.98915	836.87	0.52604	1799.42	76.3	-0.59	6.46	1901.28	6.6	1898.48	6.59	-2.8	-0.15
129	289	160	31	4624	0.98849	838.25	0.52682	1797.99	81.19	0	6.37	1912.95	6.62	1909.27	6.61	-3.68	-0.19
129	290	161	32	4640	0.98782	839.61	0.52759	1796.58	86.21	-0.59	6.29	1923.3	6.63	1920.17	6.62	-3.13	-0.16
129	291	162	33	4656	0.98714	840.96	0.52835	1795.19	91.37	0	6.21	1934.69	6.65	1930.7	6.63	-3.99	-0.21
129	292	163	34	4672	0.98644	842.29	0.52911	1793.83	96.66	-0.59	6.13	1944.77	6.66	1941.35	6.65	-3.42	-0.18
129	293	164	35	4688	0.98573	843.6	0.52986	1792.49	102.08	0	6.05	1955.88	6.68	1951.62	6.66	-4.26	-0.22
129	294	165	36	4704	0.98501	844.9	0.53061	1791.17	107.63	-0.58	5.98	1965.69	6.69	1962.02	6.67	-3.68	-0.19
129	295	166	37	4720	0.98427	846.18	0.53136	1789.88	113.31	0	5.91	1976.54	6.7	1972.04	6.68	-4.49	-0.23
129	296	167	38	4736	0.98352	847.45	0.53210	1788.6	119.12	-0.58	5.83	1986.08	6.71	1982.19	6.7	-3.89	-0.2
129	297	168	39	4752	0.98276	848.7	0.53283	1787.35	125.05	0	5.76	1996.66	6.72	1991.97	6.71	-4.69	-0.24
129	298	169	40	4768	0.98198	849.93	0.53356	1786.13	131.1	-0.58	5.69	2005.95	6.73	2001.88	6.72	-4.08	-0.2
129	299	170	41	4784	0.98120	851.15	0.53428	1784.92	137.28	0	5.62	2016.27	6.74	2011.42	6.73	-4.86	-0.24
129	300	171	42	4800	0.98040	852.35	0.53500	1783.73	143.58	-0.58	5.55	2025.31	6.75	2021.09	6.74	-4.22	-0.21
129	301	172	43	4816	0.97959	853.54	0.53571	1782.57	150	0	5.49	2035.38	6.76	2030.39	6.75	-4.99	-0.25
129	302	173	44	4832	0.97877	854.72	0.53642	1781.42	156.54	-0.58	5.42	2044.17	6.77	2039.83	6.75	-4.34	-0.21
129	303	174	45	4848	0.97794	855.88	0.53713	1780.3	163.2	0	5.36	2053.99	6.78	2048.9	6.76	-5.09	-0.25
129	304	175	46	4864	0.97710	857.02	0.53783	1779.19	169.97	-0.57	5.3	2062.54	6.78	2058.11	6.77	-4.43	-0.22
129	305	176	47	4880	0.97625	858.15	0.53853	1778.11	176.86	0	5.24	2072.11	6.79	2066.95	6.78	-5.16	-0.25
129	306	177	48	4896	0.97539	859.27	0.53922	1777.04	183.87	-0.57	5.17	2080.42	6.8	2075.93	6.78	-4.49	-0.22
129	307	178	49	4912	0.97453	860.37	0.53990	1776	190.99	0	5.12	2089.76	6.81	2084.55	6.79	-5.21	-0.25
129	308	179	50	4928	0.97365	861.46	0.54058	1774.97	198.22	-0.57	5.06	2097.84	6.81	2093.31	6.8	-4.53	-0.22
129	309	180	51	4944	0.97276	862.54	0.54126	1773.96	205.56	0	5	2106.94	6.82	2101.71	6.8	-5.23	-0.25
129	310	181	52	4960	0.97186	863.6	0.54194	1772.97	213.01	-0.57	4.94	2114.79	6.82	2110.25	6.81	-4.54	-0.21
129	311	182	53	4976	0.97096	864.65	0.54261	1772	220.58	0	4.89	2123.66	6.83	2118.43	6.81	-5.23	-0.25
129	312	183	54	4992	0.97004	865.69	0.54327	1771.04	228.25	-0.57	4.83	2131.29	6.83	2126.77	6.82	-4.52	-0.21
129	313	184	55	5008	0.96912	866.72	0.54393	1770.1	236.02	0	4.78	2139.94	6.84	2134.73	6.82	-5.2	-0.24
129	314	185	56	5024	0.96819	867.73	0.54459	1769.18	243.91	-0.56	4.73	2147.34	6.84	2142.86	6.82	-4.49	-0.21
129	315	186	57	5040	0.96726	868.73	0.54524	1768.28	251.9	0	4.68	2155.77	6.84	2150.61	6.83	-5.16	-0.24
129	316	187	58	5056	0.96631	869.71	0.54589	1767.39	259.99	-0.56	4.63	2162.96	6.84	2158.53	6.83	-4.43	-0.21
129	317	188	59	5072	0.96536	870.69	0.54653	1766.52	268.19	0	4.58	2171.18	6.85	2166.08	6.83	-5.09	-0.24
129	318	189	60	5088	0.96440	871.65	0.54717	1765.67	276.49	-0.56	4.53	2178.16	6.85	2173.8	6.84	-4.36	-0.2
129	319	190	61	5104	0.96343	872.6	0.54781	1764.83	284.89	0	4.48	2186.16	6.85	2181.15	6.84	-5.01	-0.23
129	320	191	62	5120	0.96246	873.54	0.54844	1764.01	293.39	-0.56	4.43	2192.93	6.85	2188.67	6.84	-4.27	-0.19
129	321	192	63	5136	0.96148	874.47	0.54907	1763.2	301.99	0	4.39	2200.72	6.86	2195.82	6.84	-4.91	-0.22
129	322	193	64	5152	0.96050	875.39	0.54969	1762.41	310.68	-0.56	4.34	2207.3	6.85	2203.14	6.84	-4.16	-0.19
129	323	194	65	5168	0.95950	876.29	0.55031	1761.64	319.48	0	4.29	2214.88	6.86	2210.09	6.84	-4.79	-0.22
129	324	195	66	5184	0.95851	877.19	0.55093	1760.88	328.37	-0.56	4.25	2221.26	6.86	2217.22	6.84	-4.03	-0.18
129	325	196	67	5200	0.95750	878.07	0.55154	1760.13	337.36	0	4.21	2228.64	6.86	2223.98	6.84	-4.66	-0.21
129	326	197	68	5216	0.95649	878.94	0.55215	1759.4	346.44	-0.55	4.16	2234.82	6.86	2230.92	6.84	-3.9	-0.17
129	327	198	69	5232	0.95548	879.8	0.55275	1758.69	355.62	0	4.12	2242.01	6.86	2237.5	6.84	-4.51	-0.2
129	328	199	70	5248	0.95445	880.66	0.55335	1757.99	364.89	-0.55	4.08	2248	6.85	2244.25	6.84	-3.75	-0.17

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
129	329	200	71	5264	0.95343	881.5	0.55395	1757.3	374.25	0	4.04	2254.99	6.85	2250.64	6.84	-4.36	-0.19
129	330	201	72	5280	0.95240	882.33	0.55455	1756.63	383.71	-0.55	4	2260.79	6.85	2257.21	6.84	-3.58	-0.16
129	331	202	73	5296	0.95136	883.15	0.55514	1755.97	393.25	0	3.96	2267.6	6.85	2263.41	6.84	-4.19	-0.18
129	332	203	74	5312	0.95032	883.95	0.55572	1755.32	402.89	-0.55	3.92	2273.21	6.85	2269.8	6.84	-3.41	-0.15
129	333	204	75	5328	0.94927	884.75	0.55631	1754.69	412.61	0	3.88	2279.83	6.85	2275.83	6.83	-4.01	-0.18
129	334	205	76	5344	0.94822	885.54	0.55689	1754.07	422.42	-0.55	3.85	2285.26	6.84	2282.04	6.83	-3.22	-0.14
129	335	206	77	5360	0.94717	886.32	0.55746	1753.46	432.32	0	3.81	2291.7	6.84	2287.89	6.83	-3.82	-0.17
129	336	207	78	5376	0.94611	887.09	0.55804	1752.87	442.3	-0.55	3.77	2296.96	6.84	2293.92	6.83	-3.03	-0.13
129	337	208	79	5392	0.94505	887.85	0.55861	1752.29	452.38	0	3.74	2303.21	6.83	2299.6	6.82	-3.62	-0.16
129	338	209	80	5408	0.94398	888.61	0.55917	1751.72	462.53	-0.54	3.7	2308.29	6.83	2305.46	6.82	-2.83	-0.12
129	339	210	81	5424	0.94291	889.35	0.55974	1751.17	472.77	0	3.67	2314.38	6.83	2310.97	6.82	-3.41	-0.15
129	340	211	82	5440	0.94183	890.08	0.56029	1750.63	483.1	-0.54	3.63	2319.28	6.82	2316.66	6.81	-2.62	-0.11
129	341	212	83	5456	0.94076	890.8	0.56085	1750.1	493.51	0	3.6	2325.19	6.82	2322	6.81	-3.2	-0.14
129	342	213	84	5472	0.93967	891.52	0.56140	1749.58	504	-0.54	3.56	2329.93	6.81	2327.53	6.81	-2.4	-0.1
129	343	214	85	5488	0.93859	892.22	0.56195	1749.07	514.57	0	3.53	2335.67	6.81	2332.69	6.8	-2.98	-0.13
129	344	215	86	5504	0.93750	892.92	0.56250	1748.58	525.22	-0.54	3.5	2340.25	6.8	2338.06	6.8	-2.18	-0.09
129	345	216	87	5520	0.93641	893.61	0.56304	1748.09	535.95	0	3.47	2345.82	6.8	2343.07	6.79	-2.75	-0.12
129	346	217	88	5536	0.93531	894.29	0.56358	1747.62	546.76	-0.54	3.44	2350.23	6.79	2348.27	6.79	-1.96	-0.08
129	347	218	89	5552	0.93422	894.96	0.56412	1747.16	557.65	0	3.41	2355.64	6.79	2353.11	6.78	-2.52	-0.11
129	348	219	90	5568	0.93312	895.62	0.56466	1746.71	568.62	-0.54	3.37	2359.89	6.78	2358.16	6.78	-1.72	-0.07
129	349	220	91	5584	0.93201	896.27	0.56519	1746.27	579.67	0	3.34	2365.14	6.78	2362.85	6.77	-2.29	-0.1
129	350	221	92	5600	0.93091	896.92	0.56571	1745.84	590.79	-0.53	3.32	2369.23	6.77	2367.74	6.76	-1.49	-0.06
129	351	222	93	5616	0.92980	897.56	0.56624	1745.43	601.99	0	3.29	2374.32	6.76	2372.27	6.76	-2.05	-0.09
129	352	223	94	5632	0.92869	898.19	0.56676	1745.02	613.26	-0.53	3.26	2378.26	6.76	2377.01	6.75	-1.25	-0.05
129	353	224	95	5648	0.92757	898.81	0.56728	1744.63	624.61	0	3.23	2383.19	6.75	2381.38	6.75	-1.81	-0.08
129	354	225	96	5664	0.92646	899.42	0.56780	1744.24	636.03	-0.53	3.2	2386.98	6.74	2385.97	6.74	-1.01	-0.04
129	355	226	97	5680	0.92534	900.03	0.56831	1743.87	647.52	0	3.17	2391.76	6.74	2390.19	6.73	-1.57	-0.07
129	356	227	98	5696	0.92422	900.62	0.56882	1743.5	659.09	-0.53	3.15	2395.4	6.73	2394.63	6.73	-0.77	-0.03
129	357	228	99	5712	0.92310	901.22	0.56933	1743.15	670.73	0	3.12	2400.03	6.72	2398.7	6.72	-1.33	-0.06
129	358	229	100	5728	0.92198	901.8	0.56983	1742.8	682.45	-0.53	3.09	2403.52	6.71	2402.99	6.71	-0.53	-0.02
129	359	230	101	5744	0.92085	902.37	0.57033	1742.47	694.23	0	3.07	2408	6.71	2406.92	6.7	-1.08	-0.04
129	360	231	102	5760	0.91972	902.94	0.57083	1742.14	706.08	-0.53	3.04	2411.35	6.7	2411.07	6.7	-0.28	-0.01
129	361	232	103	5776	0.91859	903.5	0.57133	1741.82	718.01	0	3.02	2415.68	6.69	2414.85	6.69	-0.84	-0.03
129	362	233	104	5792	0.91746	904.06	0.57182	1741.52	730	-0.53	2.99	2418.89	6.68	2418.85	6.68	-0.04	0
129	363	234	105	5808	0.91633	904.6	0.57231	1741.22	742.06	0	2.97	2423.08	6.68	2422.49	6.67	-0.59	-0.02
129	364	235	106	5824	0.91520	905.14	0.57280	1740.93	754.19	-0.52	2.94	2426.15	6.67	2426.36	6.67	0.2	0.01
129	365	236	107	5840	0.91406	905.68	0.57329	1740.65	766.39	0	2.92	2430.2	6.66	2429.85	6.66	-0.35	-0.01
129	366	237	108	5856	0.91293	906.2	0.57377	1740.38	778.65	-0.52	2.9	2433.13	6.65	2433.58	6.65	0.45	0.02
129	367	238	109	5872	0.91179	906.72	0.57425	1740.12	790.98	0	2.87	2437.05	6.64	2436.94	6.64	-0.11	0
129	368	239	110	5888	0.91065	907.23	0.57473	1739.87	803.38	-0.52	2.85	2439.84	6.63	2440.53	6.63	0.69	0.03
129	369	240	111	5904	0.90951	907.74	0.57520	1739.63	815.84	0	2.83	2443.62	6.62	2443.75	6.62	0.13	0.01
129	370	241	112	5920	0.90837	908.24	0.57568	1739.39	828.37	-0.52	2.8	2446.28	6.61	2447.21	6.61	0.92	0.04
129	371	242	113	5936	0.90723	908.73	0.57615	1739.17	840.96	0	2.78	2449.92	6.6	2450.3	6.6	0.37	0.02
129	372	243	114	5952	0.90609	909.22	0.57661	1738.95	853.62	-0.52	2.76	2452.46	6.59	2453.62	6.6	1.16	0.05
129	373	244	115	5968	0.90494	909.7	0.57708	1738.74	866.34	0	2.74	2455.97	6.58	2456.58	6.59	0.61	0.02
129	374	245	116	5984	0.90380	910.17	0.57754	1738.54	879.12	-0.52	2.72	2458.38	6.57	2459.77	6.58	1.39	0.06
129	375	246	117	6000	0.90266	910.64	0.57800	1738.34	891.96	0	2.7	2461.75	6.56	2462.6	6.57	0.84	0.03

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
129	376	247	118	6016	0.90151	911.1	0.57846	1738.16	904.87	-0.52	2.68	2464.04	6.55	2465.66	6.56	1.62	0.07
129	377	248	119	6032	0.90037	911.55	0.57891	1737.98	917.84	0	2.66	2467.29	6.54	2468.36	6.55	1.07	0.04
129	378	249	120	6048	0.89922	912	0.57937	1737.81	930.86	-0.51	2.64	2469.45	6.53	2471.29	6.54	1.85	0.07
129	379	250	121	6064	0.89807	912.44	0.57982	1737.65	943.95	0	2.62	2472.57	6.52	2473.86	6.53	1.29	0.05
129	380	251	122	6080	0.89693	912.88	0.58026	1737.5	957.1	-0.51	2.6	2474.61	6.51	2476.68	6.52	2.07	0.08
129	381	252	123	6096	0.89578	913.31	0.58071	1737.35	970.31	0	2.58	2477.61	6.5	2479.12	6.51	1.51	0.06
129	382	253	124	6112	0.89463	913.74	0.58115	1737.21	983.58	-0.51	2.56	2479.52	6.49	2481.81	6.5	2.29	0.09
129	383	254	125	6128	0.89348	914.16	0.58159	1737.08	996.9	0	2.54	2482.4	6.48	2484.13	6.49	1.73	0.07
129	384	255	126	6144	0.89233	914.57	0.58203	1736.96	1010.28	-0.51	2.52	2484.2	6.47	2486.7	6.48	2.5	0.1
129	385	256	127	6160	0.89119	914.98	0.58247	1736.84	1023.72	0	2.5	2486.96	6.46	2488.9	6.46	1.94	0.08
129	386	257	128	6176	0.89004	915.38	0.58290	1736.73	1037.22	-0.51	2.48	2488.64	6.45	2491.35	6.45	2.71	0.11
129	387	258	129	6192	0.88889	915.78	0.58333	1736.63	1050.78	0	2.47	2491.28	6.44	2493.43	6.44	2.15	0.09
129	388	259	130	6208	0.88774	916.17	0.58376	1736.53	1064.39	-0.51	2.45	2492.85	6.42	2495.76	6.43	2.91	0.12
129	389	260	131	6224	0.88659	916.56	0.58419	1736.44	1078.06	0	2.43	2495.38	6.41	2497.72	6.42	2.35	0.09
129	390	261	132	6240	0.88544	916.94	0.58462	1736.36	1091.78	-0.51	2.41	2496.83	6.4	2499.94	6.41	3.1	0.12
129	391	262	133	6256	0.88430	917.31	0.58504	1736.29	1105.56	0	2.4	2499.24	6.39	2501.78	6.4	2.54	0.1
129	392	263	134	6272	0.88315	917.68	0.58546	1736.22	1119.39	-0.51	2.38	2500.59	6.38	2503.88	6.39	3.29	0.13
129	393	264	135	6288	0.88200	918.05	0.58588	1736.16	1133.27	0	2.36	2502.88	6.37	2505.61	6.38	2.73	0.11
129	394	265	136	6304	0.88085	918.41	0.58629	1736.1	1147.21	-0.5	2.35	2504.12	6.36	2507.6	6.36	3.48	0.14
129	395	266	137	6320	0.87971	918.76	0.58671	1736.05	1161.21	0	2.33	2506.31	6.35	2509.21	6.35	2.91	0.12
129	396	267	138	6336	0.87856	919.11	0.58712	1736.01	1175.25	-0.5	2.31	2507.43	6.33	2511.09	6.34	3.65	0.15
129	397	268	139	6352	0.87741	919.46	0.58753	1735.98	1189.35	0	2.3	2509.51	6.32	2512.59	6.33	3.08	0.12
129	398	269	140	6368	0.87627	919.8	0.58794	1735.95	1203.5	-0.5	2.28	2510.53	6.31	2514.36	6.32	3.82	0.15
129	399	270	141	6384	0.87512	920.13	0.58835	1735.93	1217.7	0	2.27	2512.5	6.3	2515.75	6.31	3.25	0.13
129	400	271	142	6400	0.87398	920.47	0.58875	1735.91	1231.96	-0.5	2.25	2513.42	6.28	2517.4	6.29	3.98	0.16
129	401	272	143	6416	0.87283	920.79	0.58915	1735.9	1246.26	0	2.24	2515.28	6.27	2518.69	6.28	3.41	0.14
129	402	273	144	6432	0.87169	921.11	0.58955	1735.89	1260.62	-0.5	2.22	2516.1	6.26	2520.24	6.27	4.14	0.16
129	403	274	145	6448	0.87054	921.43	0.58995	1735.9	1275.02	0	2.21	2517.86	6.25	2521.42	6.26	3.56	0.14
129	404	275	146	6464	0.86940	921.74	0.59035	1735.9	1289.48	-0.5	2.19	2518.57	6.23	2522.86	6.24	4.29	0.17
129	405	276	147	6480	0.86826	922.05	0.59074	1735.92	1303.98	0	2.18	2520.23	6.22	2523.93	6.23	3.7	0.15
129	406	277	148	6496	0.86712	922.35	0.59113	1735.94	1318.54	-0.5	2.16	2520.84	6.21	2525.27	6.22	4.42	0.18
129	407	278	149	6512	0.86598	922.65	0.59152	1735.96	1333.14	0	2.15	2522.4	6.2	2526.24	6.21	3.84	0.15
129	408	279	150	6528	0.86484	922.94	0.59191	1735.99	1347.79	-0.5	2.14	2522.91	6.18	2527.47	6.19	4.55	0.18
129	409	280	151	6544	0.86370	923.23	0.59230	1736.03	1362.49	0	2.12	2524.37	6.17	2528.33	6.18	3.96	0.16
129	410	281	152	6560	0.86256	923.52	0.59268	1736.07	1377.24	-0.49	2.11	2524.79	6.16	2529.46	6.17	4.68	0.18
129	411	282	153	6576	0.86142	923.8	0.59307	1736.12	1392.03	0	2.09	2526.15	6.15	2530.23	6.16	4.08	0.16
129	412	283	154	6592	0.86028	924.08	0.59345	1736.17	1406.87	-0.49	2.08	2526.47	6.13	2531.26	6.14	4.79	0.19
129	413	284	155	6608	0.85915	924.35	0.59383	1736.23	1421.76	0	2.07	2527.73	6.12	2531.92	6.13	4.19	0.17
129	414	285	156	6624	0.85801	924.62	0.59420	1736.29	1436.7	-0.49	2.05	2527.96	6.11	2532.85	6.12	4.89	0.19
129	415	286	157	6640	0.85688	924.88	0.59458	1736.36	1451.68	0	2.04	2529.12	6.09	2533.42	6.1	4.29	0.17
129	416	287	158	6656	0.85575	925.14	0.59495	1736.43	1466.7	-0.49	2.03	2529.26	6.08	2534.25	6.09	4.99	0.2
129	417	288	159	6672	0.85461	925.4	0.59532	1736.51	1481.77	0	2.02	2530.33	6.07	2534.72	6.08	4.38	0.17
129	418	289	160	6688	0.85348	925.65	0.59569	1736.6	1496.89	-0.49	2	2530.38	6.05	2535.45	6.07	5.07	0.2
129	419	290	161	6704	0.85235	925.9	0.59606	1736.69	1512.05	0	1.99	2531.36	6.04	2535.82	6.05	4.47	0.18
129	420	291	162	6720	0.85122	926.14	0.59643	1736.78	1527.25	-0.49	1.98	2531.31	6.03	2536.46	6.04	5.15	0.2
129	421	292	163	6736	0.85010	926.38	0.59679	1736.88	1542.5	0	1.97	2532.2	6.01	2536.74	6.03	4.54	0.18
129	422	293	164	6752	0.84897	926.62	0.59716	1736.98	1557.8	-0.49	1.95	2532.06	6	2537.28	6.01	5.22	0.21

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
129	423	294	165	6768	0.84785	926.85	0.59752	1737.09	1573.13	0	1.94	2532.86	5.99	2537.46	6	4.6	0.18
129	424	295	166	6784	0.84672	927.08	0.59788	1737.21	1588.51	-0.49	1.93	2532.64	5.97	2537.91	5.99	5.27	0.21
129	425	296	167	6800	0.84560	927.31	0.59824	1737.33	1603.94	0	1.92	2533.35	5.96	2538	5.97	4.65	0.18
129	426	297	168	6816	0.84448	927.53	0.59859	1737.45	1619.4	-0.48	1.91	2533.04	5.95	2538.36	5.96	5.32	0.21
129	427	298	169	6832	0.84336	927.75	0.59895	1737.58	1634.91	0	1.9	2533.66	5.93	2538.36	5.94	4.7	0.19
129	428	299	170	6848	0.84224	927.96	0.59930	1737.71	1650.46	-0.48	1.89	2533.27	5.92	2538.63	5.93	5.36	0.21
129	429	300	171	6864	0.84112	928.17	0.59965	1737.85	1666.05	0	1.87	2533.8	5.91	2538.53	5.92	4.73	0.19
129	430	301	172	6880	0.84000	928.38	0.60000	1737.99	1681.68	-0.48	1.86	2533.33	5.89	2538.71	5.9	5.38	0.21
129	431	302	173	6896	0.83888	928.59	0.60035	1738.14	1697.35	0	1.85	2533.78	5.88	2538.53	5.89	4.75	0.19
129	432	303	174	6912	0.83777	928.79	0.60069	1738.29	1713.07	-0.48	1.84	2533.22	5.86	2538.62	5.88	5.4	0.21
129	433	304	175	6928	0.83666	928.98	0.60104	1738.44	1728.82	0	1.83	2533.58	5.85	2538.35	5.86	4.76	0.19
129	434	305	176	6944	0.83555	929.18	0.60138	1738.6	1744.62	-0.48	1.82	2532.95	5.84	2538.35	5.85	5.41	0.21
129	435	306	177	6960	0.83444	929.37	0.60172	1738.77	1760.45	0	1.81	2533.23	5.82	2537.99	5.83	4.77	0.19
129	436	307	178	6976	0.83333	929.55	0.60206	1738.93	1776.32	-0.48	1.8	2532.51	5.81	2537.91	5.82	5.4	0.21
129	437	308	179	6992	0.83222	929.74	0.60240	1739.11	1792.24	0	1.79	2532.71	5.8	2537.46	5.81	4.76	0.19
129	438	309	180	7008	0.83111	929.92	0.60274	1739.28	1808.19	-0.48	1.78	2531.91	5.78	2537.3	5.79	5.39	0.21
129	439	310	181	7024	0.83001	930.09	0.60308	1739.46	1824.18	0	1.77	2532.03	5.77	2536.77	5.78	4.74	0.19
129	440	311	182	7040	0.82891	930.27	0.60341	1739.65	1840.21	-0.48	1.76	2531.15	5.75	2536.51	5.76	5.36	0.21
129	441	312	183	7056	0.82780	930.44	0.60374	1739.84	1856.28	0	1.75	2531.19	5.74	2535.9	5.75	4.71	0.19
129	442	313	184	7072	0.82670	930.61	0.60407	1740.03	1872.39	-0.48	1.74	2530.24	5.72	2535.56	5.74	5.32	0.21
129	443	314	185	7088	0.82560	930.77	0.60440	1740.23	1888.53	0	1.73	2530.2	5.71	2534.86	5.72	4.66	0.18
129	444	315	186	7104	0.82451	930.93	0.60473	1740.43	1904.71	-0.47	1.72	2529.17	5.7	2534.45	5.71	5.28	0.21
129	445	316	187	7120	0.82341	931.09	0.60506	1740.63	1920.93	0	1.71	2529.05	5.68	2533.67	5.69	4.61	0.18
129	446	317	188	7136	0.82232	931.25	0.60538	1740.84	1937.19	-0.47	1.7	2527.95	5.67	2533.17	5.68	5.22	0.21
129	447	318	189	7152	0.82122	931.4	0.60571	1741.06	1953.48	0	1.69	2527.76	5.65	2532.3	5.67	4.55	0.18
129	448	319	190	7168	0.82013	931.55	0.60603	1741.27	1969.81	-0.47	1.68	2526.58	5.64	2531.73	5.65	5.15	0.2
129	449	320	191	7184	0.81904	931.69	0.60635	1741.49	1986.18	0	1.68	2526.31	5.63	2530.78	5.64	4.47	0.18
129	450	321	192	7200	0.81796	931.84	0.60667	1741.72	2002.58	-0.47	1.67	2525.06	5.61	2530.13	5.62	5.06	0.2
129	451	322	193	7216	0.81687	931.98	0.60698	1741.94	2019.02	0	1.66	2524.72	5.6	2529.1	5.61	4.39	0.17
129	452	323	194	7232	0.81578	932.11	0.60730	1742.18	2035.49	-0.47	1.65	2523.4	5.58	2528.37	5.59	4.97	0.2
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
130	259	129	-1	4144	0.99999	788.25	0.49904	1882.41	0.09	0	9.84	1483.09	5.73	1492.29	5.76	9.2	0.62
130	260	130	0	4160	1.00000	790.29	0.50000	1879.98	0	0.62	10	1500.35	5.77	1508.86	5.8	8.51	0.56
130	261	131	1	4176	0.99999	792.3	0.50096	1877.59	0.09	0	9.84	1515.86	5.81	1523.41	5.84	7.55	0.5
130	262	132	2	4192	0.99994	794.29	0.50191	1875.24	0.37	0.62	9.68	1532.4	5.85	1539.63	5.88	7.23	0.47
130	263	133	3	4208	0.99987	796.25	0.50285	1872.93	0.84	0	9.53	1547.52	5.88	1553.84	5.91	6.32	0.41
130	264	134	4	4224	0.99977	798.19	0.50379	1870.66	1.48	0.62	9.38	1563.68	5.92	1569.71	5.95	6.04	0.38
130	265	135	5	4240	0.99964	800.1	0.50472	1868.42	2.3	0	9.24	1578.42	5.96	1583.58	5.98	5.17	0.33
130	266	136	6	4256	0.99949	801.99	0.50564	1866.22	3.3	0.61	9.1	1594.2	5.99	1599.12	6.01	4.92	0.31
130	267	137	7	4272	0.99931	803.85	0.50655	1864.06	4.48	0	8.96	1608.57	6.02	1612.67	6.04	4.1	0.25
130	268	138	8	4288	0.99911	805.7	0.50746	1861.93	5.83	0.61	8.82	1623.98	6.06	1627.87	6.07	3.89	0.24
130	269	139	9	4304	0.99888	807.51	0.50836	1859.84	7.35	0	8.69	1637.99	6.09	1641.1	6.1	3.11	0.19
130	270	140	10	4320	0.99863	809.31	0.50926	1857.78	9.04	0.61	8.56	1653.04	6.12	1655.98	6.13	2.94	0.18
130	271	141	11	4336	0.99835	811.08	0.51015	1855.75	10.9	0	8.43	1666.7	6.15	1668.89	6.16	2.19	0.13
130	272	142	12	4352	0.99805	812.83	0.51103	1853.76	12.92	0.61	8.31	1681.39	6.18	1683.45	6.19	2.05	0.12
130	273	143	13	4368	0.99773	814.56	0.51191	1851.81	15.11	0	8.19	1694.71	6.21	1696.05	6.21	1.34	0.08

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
130	274	144	14	4384	0.99739	816.27	0.51277	1849.88	17.46	0.6	8.07	1709.06	6.24	1710.3	6.24	1.24	0.07
130	275	145	15	4400	0.99703	817.96	0.51364	1847.99	19.97	0	7.95	1722.04	6.26	1722.6	6.26	0.56	0.03
130	276	146	16	4416	0.99664	819.62	0.51449	1846.12	22.64	0.6	7.84	1736.05	6.29	1736.54	6.29	0.49	0.03
130	277	147	17	4432	0.99623	821.26	0.51534	1844.29	25.47	0	7.73	1748.7	6.31	1748.55	6.31	-0.15	-0.01
130	278	148	18	4448	0.99581	822.89	0.51619	1842.49	28.45	0.6	7.62	1762.39	6.34	1762.19	6.34	-0.2	-0.01
130	279	149	19	4464	0.99536	824.49	0.51703	1840.72	31.59	0	7.51	1774.72	6.36	1773.9	6.36	-0.81	-0.05
130	280	150	20	4480	0.99490	826.07	0.51786	1838.98	34.88	0.6	7.41	1788.08	6.39	1787.25	6.38	-0.83	-0.05
130	281	151	21	4496	0.99442	827.64	0.51868	1837.26	38.31	0	7.31	1800.09	6.41	1798.68	6.4	-1.41	-0.08
130	282	152	22	4512	0.99391	829.18	0.51950	1835.58	41.9	0.6	7.21	1813.14	6.43	1811.73	6.42	-1.41	-0.08
130	283	153	23	4528	0.99340	830.71	0.52032	1833.92	45.63	0	7.11	1824.85	6.45	1822.89	6.44	-1.96	-0.11
130	284	154	24	4544	0.99286	832.21	0.52113	1832.29	49.52	0.59	7.01	1837.59	6.47	1835.66	6.46	-1.93	-0.1
130	285	155	25	4560	0.99231	833.7	0.52193	1830.69	53.54	0	6.92	1848.99	6.49	1846.54	6.48	-2.45	-0.13
130	286	156	26	4576	0.99174	835.17	0.52273	1829.11	57.71	0.59	6.83	1861.43	6.51	1859.03	6.5	-2.4	-0.13
130	287	157	27	4592	0.99115	836.62	0.52352	1827.56	62.01	0	6.74	1872.54	6.52	1869.64	6.51	-2.89	-0.15
130	288	158	28	4608	0.99055	838.05	0.52431	1826.04	66.46	0.59	6.65	1884.68	6.54	1881.86	6.53	-2.82	-0.15
130	289	159	29	4624	0.98993	839.47	0.52509	1824.54	71.05	0	6.56	1895.5	6.56	1892.21	6.55	-3.29	-0.17
130	290	160	30	4640	0.98930	840.87	0.52586	1823.07	75.77	0.59	6.48	1907.35	6.58	1904.16	6.57	-3.19	-0.17
130	291	161	31	4656	0.98865	842.25	0.52663	1821.62	80.63	0	6.39	1917.89	6.59	1914.25	6.58	-3.64	-0.19
130	292	162	32	4672	0.98799	843.61	0.52740	1820.2	85.62	0.59	6.31	1929.46	6.61	1925.94	6.6	-3.53	-0.18
130	293	163	33	4688	0.98732	844.96	0.52816	1818.8	90.75	0	6.23	1939.73	6.62	1935.77	6.61	-3.95	-0.2
130	294	164	34	4704	0.98663	846.29	0.52891	1817.42	96.01	0.58	6.15	1951.02	6.64	1947.2	6.62	-3.82	-0.2
130	295	165	35	4720	0.98592	847.6	0.52966	1816.07	101.39	0	6.08	1961.01	6.65	1956.79	6.63	-4.22	-0.22
130	296	166	36	4736	0.98521	848.9	0.53041	1814.74	106.91	0.58	6	1972.03	6.66	1967.96	6.65	-4.07	-0.21
130	297	167	37	4752	0.98448	850.18	0.53115	1813.43	112.55	0	5.93	1981.76	6.67	1977.31	6.66	-4.45	-0.23
130	298	168	38	4768	0.98374	851.45	0.53188	1812.15	118.32	0.58	5.85	1992.52	6.69	1988.23	6.67	-4.29	-0.22
130	299	169	39	4784	0.98299	852.7	0.53261	1810.88	124.21	0	5.78	2001.98	6.7	1997.33	6.68	-4.65	-0.23
130	300	170	40	4800	0.98222	853.94	0.53333	1809.64	130.23	0.58	5.71	2012.48	6.71	2008.01	6.69	-4.47	-0.22
130	301	171	41	4816	0.98145	855.16	0.53405	1808.42	136.37	0	5.64	2021.69	6.72	2016.88	6.7	-4.81	-0.24
130	302	172	42	4832	0.98066	856.36	0.53477	1807.22	142.63	0.58	5.58	2031.93	6.73	2027.32	6.71	-4.61	-0.23
130	303	173	43	4848	0.97986	857.55	0.53548	1806.05	149.01	0	5.51	2040.9	6.74	2035.96	6.72	-4.94	-0.24
130	304	174	44	4864	0.97905	858.73	0.53618	1804.89	155.51	0.57	5.44	2050.89	6.75	2046.16	6.73	-4.73	-0.23
130	305	175	45	4880	0.97823	859.89	0.53689	1803.75	162.13	0	5.38	2059.61	6.75	2054.57	6.74	-5.04	-0.25
130	306	176	46	4896	0.97740	861.04	0.53758	1802.63	168.86	0.57	5.32	2069.35	6.76	2064.54	6.75	-4.81	-0.23
130	307	177	47	4912	0.97656	862.17	0.53827	1801.54	175.71	0	5.26	2077.83	6.77	2072.72	6.75	-5.11	-0.25
130	308	178	48	4928	0.97571	863.29	0.53896	1800.46	182.68	0.57	5.2	2087.34	6.78	2082.47	6.76	-4.87	-0.23
130	309	179	49	4944	0.97485	864.4	0.53964	1799.4	189.75	0	5.14	2095.59	6.78	2090.43	6.77	-5.16	-0.25
130	310	180	50	4960	0.97399	865.49	0.54032	1798.36	196.94	0.57	5.08	2104.85	6.79	2099.95	6.77	-4.9	-0.23
130	311	181	51	4976	0.97311	866.57	0.54100	1797.34	204.24	0	5.02	2112.87	6.79	2107.7	6.78	-5.17	-0.25
130	312	182	52	4992	0.97222	867.63	0.54167	1796.33	211.65	0.57	4.97	2121.91	6.8	2117	6.79	-4.91	-0.23
130	313	183	53	5008	0.97133	868.69	0.54233	1795.35	219.17	0	4.91	2129.7	6.8	2124.53	6.79	-5.17	-0.24
130	314	184	54	5024	0.97043	869.73	0.54299	1794.38	226.8	0.56	4.86	2138.51	6.81	2133.62	6.79	-4.9	-0.23
130	315	185	55	5040	0.96951	870.76	0.54365	1793.43	234.53	0	4.8	2146.09	6.81	2140.95	6.8	-5.14	-0.24
130	316	186	56	5056	0.96860	871.77	0.54430	1792.5	242.37	0.56	4.75	2154.67	6.82	2149.82	6.8	-4.86	-0.23
130	317	187	57	5072	0.96767	872.77	0.54495	1791.58	250.31	0	4.7	2162.03	6.82	2156.94	6.8	-5.09	-0.24
130	318	188	58	5088	0.96673	873.76	0.54560	1790.68	258.36	0.56	4.65	2170.4	6.83	2165.6	6.81	-4.8	-0.22
130	319	189	59	5104	0.96579	874.74	0.54624	1789.8	266.51	0	4.6	2177.54	6.83	2172.52	6.81	-5.02	-0.23
130	320	190	60	5120	0.96484	875.71	0.54688	1788.94	274.76	0.56	4.55	2185.7	6.83	2180.98	6.82	-4.72	-0.22

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
130	321	191	61	5136	0.96389	876.66	0.54751	1788.09	283.12	0	4.5	2192.64	6.83	2187.7	6.82	-4.93	-0.23
130	322	192	62	5152	0.96293	877.6	0.54814	1787.25	291.57	0.56	4.45	2200.58	6.83	2195.96	6.82	-4.63	-0.21
130	323	193	63	5168	0.96196	878.53	0.54876	1786.44	300.12	0	4.41	2207.31	6.83	2202.49	6.82	-4.83	-0.22
130	324	194	64	5184	0.96098	879.45	0.54938	1785.64	308.77	0.56	4.36	2215.06	6.84	2210.54	6.82	-4.51	-0.2
130	325	195	65	5200	0.96000	880.36	0.55000	1784.85	317.52	0	4.32	2221.59	6.84	2216.88	6.82	-4.71	-0.21
130	326	196	66	5216	0.95901	881.26	0.55061	1784.08	326.36	0.55	4.27	2229.12	6.84	2224.74	6.82	-4.39	-0.2
130	327	197	67	5232	0.95802	882.15	0.55122	1783.32	335.3	0	4.23	2235.46	6.84	2230.89	6.82	-4.57	-0.2
130	328	198	68	5248	0.95702	883.02	0.55183	1782.58	344.34	0.55	4.19	2242.8	6.84	2238.56	6.82	-4.24	-0.19
130	329	199	69	5264	0.95602	883.89	0.55243	1781.85	353.46	0	4.14	2248.94	6.84	2244.52	6.82	-4.42	-0.2
130	330	200	70	5280	0.95501	884.74	0.55303	1781.14	362.69	0.55	4.1	2256.09	6.84	2252	6.82	-4.09	-0.18
130	331	201	71	5296	0.95399	885.59	0.55363	1780.44	372	0	4.06	2262.04	6.83	2257.78	6.82	-4.26	-0.19
130	332	202	72	5312	0.95297	886.42	0.55422	1779.76	381.4	0.55	4.02	2268.99	6.83	2265.07	6.82	-3.92	-0.17
130	333	203	73	5328	0.95194	887.24	0.55481	1779.09	390.9	0	3.98	2274.76	6.83	2270.68	6.82	-4.08	-0.18
130	334	204	74	5344	0.95091	888.06	0.55539	1778.43	400.48	0.55	3.94	2281.53	6.83	2277.79	6.82	-3.74	-0.16
130	335	205	75	5360	0.94988	888.86	0.55597	1777.79	410.15	0	3.91	2287.11	6.83	2283.21	6.82	-3.9	-0.17
130	336	206	76	5376	0.94884	889.65	0.55655	1777.16	419.91	0.55	3.87	2293.69	6.83	2290.14	6.82	-3.55	-0.16
130	337	207	77	5392	0.94779	890.43	0.55712	1776.54	429.76	0	3.83	2299.09	6.82	2295.39	6.81	-3.7	-0.16
130	338	208	78	5408	0.94675	891.21	0.55769	1775.94	439.7	0.54	3.79	2305.5	6.82	2302.15	6.81	-3.35	-0.15
130	339	209	79	5424	0.94569	891.97	0.55826	1775.35	449.72	0	3.76	2310.72	6.82	2307.23	6.81	-3.5	-0.15
130	340	210	80	5440	0.94464	892.73	0.55882	1774.77	459.82	0.54	3.72	2316.95	6.81	2313.81	6.81	-3.14	-0.14
130	341	211	81	5456	0.94358	893.47	0.55938	1774.2	470.01	0	3.69	2322	6.81	2318.72	6.8	-3.28	-0.14
130	342	212	82	5472	0.94251	894.21	0.55994	1773.65	480.28	0.54	3.65	2328.05	6.81	2325.13	6.8	-2.93	-0.13
130	343	213	83	5488	0.94144	894.94	0.56050	1773.11	490.64	0	3.62	2332.94	6.8	2329.87	6.79	-3.06	-0.13
130	344	214	84	5504	0.94037	895.66	0.56105	1772.58	501.07	0.54	3.59	2338.82	6.8	2336.11	6.79	-2.71	-0.12
130	345	215	85	5520	0.93930	896.36	0.56159	1772.06	511.59	0	3.55	2343.53	6.79	2340.7	6.78	-2.84	-0.12
130	346	216	86	5536	0.93822	897.07	0.56214	1771.56	522.19	0.54	3.52	2349.25	6.79	2346.77	6.78	-2.48	-0.11
130	347	217	87	5552	0.93714	897.76	0.56268	1771.06	532.87	0	3.49	2353.8	6.78	2351.19	6.78	-2.61	-0.11
130	348	218	88	5568	0.93606	898.44	0.56322	1770.58	543.63	0.54	3.46	2359.34	6.78	2357.1	6.77	-2.24	-0.1
130	349	219	89	5584	0.93497	899.12	0.56375	1770.11	554.47	0	3.43	2363.74	6.77	2361.37	6.77	-2.37	-0.1
130	350	220	90	5600	0.93388	899.78	0.56429	1769.65	565.38	0.53	3.4	2369.12	6.77	2367.11	6.76	-2.01	-0.08
130	351	221	91	5616	0.93279	900.44	0.56482	1769.2	576.37	0	3.37	2373.35	6.76	2371.23	6.76	-2.13	-0.09
130	352	222	92	5632	0.93169	901.09	0.56534	1768.76	587.44	0.53	3.34	2378.58	6.76	2376.81	6.75	-1.76	-0.07
130	353	223	93	5648	0.93059	901.73	0.56586	1768.34	598.58	0	3.31	2382.65	6.75	2380.77	6.74	-1.88	-0.08
130	354	224	94	5664	0.92949	902.36	0.56638	1767.92	609.8	0.53	3.28	2387.72	6.74	2386.2	6.74	-1.52	-0.06
130	355	225	95	5680	0.92839	902.99	0.56690	1767.52	621.1	0	3.25	2391.65	6.74	2390.01	6.73	-1.64	-0.07
130	356	226	96	5696	0.92728	903.61	0.56742	1767.12	632.47	0.53	3.22	2396.56	6.73	2395.29	6.73	-1.27	-0.05
130	357	227	97	5712	0.92617	904.22	0.56793	1766.74	643.91	0	3.19	2400.33	6.72	2398.95	6.72	-1.39	-0.06
130	358	228	98	5728	0.92507	904.82	0.56844	1766.36	655.42	0.53	3.17	2405.09	6.72	2404.07	6.72	-1.02	-0.04
130	359	229	99	5744	0.92395	905.42	0.56894	1766	667.01	0	3.14	2408.72	6.71	2407.59	6.71	-1.13	-0.05
130	360	230	100	5760	0.92284	906	0.56944	1765.64	678.67	0.53	3.11	2413.33	6.7	2412.56	6.7	-0.77	-0.03
130	361	231	101	5776	0.92172	906.58	0.56995	1765.3	690.39	0	3.09	2416.81	6.69	2415.93	6.69	-0.88	-0.04
130	362	232	102	5792	0.92061	907.16	0.57044	1764.96	702.19	0.53	3.06	2421.28	6.69	2420.76	6.69	-0.52	-0.02
130	363	233	103	5808	0.91949	907.72	0.57094	1764.64	714.06	0	3.04	2424.62	6.68	2423.99	6.68	-0.63	-0.03
130	364	234	104	5824	0.91837	908.28	0.57143	1764.32	726	0.52	3.01	2428.93	6.67	2428.67	6.67	-0.26	-0.01
130	365	235	105	5840	0.91725	908.83	0.57192	1764.02	738.01	0	2.99	2432.13	6.66	2431.76	6.66	-0.38	-0.02
130	366	236	106	5856	0.91612	909.37	0.57240	1763.72	750.08	0.52	2.96	2436.31	6.66	2436.3	6.66	-0.01	0
130	367	237	107	5872	0.91500	909.91	0.57289	1763.43	762.22	0	2.94	2439.37	6.65	2439.25	6.65	-0.12	-0.01

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
130	368	238	108	5888	0.91387	910.44	0.57337	1763.15	774.43	0.52	2.92	2443.41	6.64	2443.65	6.64	0.24	0.01
130	369	239	109	5904	0.91274	910.96	0.57385	1762.88	786.71	0	2.89	2446.34	6.63	2446.46	6.63	0.13	0.01
130	370	240	110	5920	0.91161	911.48	0.57432	1762.62	799.05	0.52	2.87	2450.24	6.62	2450.72	6.62	0.49	0.02
130	371	241	111	5936	0.91049	911.99	0.57480	1762.37	811.46	0	2.85	2453.03	6.61	2453.41	6.61	0.38	0.02
130	372	242	112	5952	0.90935	912.49	0.57527	1762.13	823.93	0.52	2.82	2456.79	6.6	2457.53	6.61	0.74	0.03
130	373	243	113	5968	0.90822	912.99	0.57574	1761.89	836.47	0	2.8	2459.45	6.59	2460.08	6.6	0.63	0.03
130	374	244	114	5984	0.90709	913.48	0.57620	1761.67	849.07	0.52	2.78	2463.08	6.59	2464.07	6.59	0.98	0.04
130	375	245	115	6000	0.90596	913.96	0.57667	1761.45	861.73	0	2.76	2465.62	6.57	2466.49	6.58	0.87	0.04
130	376	246	116	6016	0.90482	914.44	0.57713	1761.24	874.46	0.52	2.74	2469.12	6.57	2470.34	6.57	1.22	0.05
130	377	247	117	6032	0.90369	914.91	0.57759	1761.04	887.24	0	2.72	2471.52	6.56	2472.63	6.56	1.11	0.04
130	378	248	118	6048	0.90255	915.38	0.57804	1760.84	900.09	0.51	2.7	2474.89	6.55	2476.36	6.55	1.46	0.06
130	379	249	119	6064	0.90141	915.84	0.57850	1760.66	913.01	0	2.67	2477.17	6.54	2478.53	6.54	1.35	0.05
130	380	250	120	6080	0.90028	916.29	0.57895	1760.48	925.98	0.51	2.65	2480.42	6.53	2482.12	6.53	1.7	0.07
130	381	251	121	6096	0.89914	916.74	0.57940	1760.31	939.01	0	2.63	2482.58	6.52	2484.16	6.52	1.59	0.06
130	382	252	122	6112	0.89800	917.18	0.57984	1760.15	952.1	0.51	2.61	2485.7	6.51	2487.63	6.51	1.93	0.08
130	383	253	123	6128	0.89686	917.62	0.58029	1759.99	965.26	0	2.6	2487.73	6.5	2489.55	6.5	1.82	0.07
130	384	254	124	6144	0.89573	918.04	0.58073	1759.85	978.47	0.51	2.58	2490.73	6.49	2492.89	6.49	2.16	0.09
130	385	255	125	6160	0.89459	918.47	0.58117	1759.71	991.74	0	2.56	2492.65	6.47	2494.69	6.48	2.04	0.08
130	386	256	126	6176	0.89345	918.89	0.58161	1759.58	1005.06	0.51	2.54	2495.52	6.47	2497.91	6.47	2.38	0.1
130	387	257	127	6192	0.89231	919.3	0.58204	1759.45	1018.45	0	2.52	2497.32	6.45	2499.59	6.46	2.27	0.09
130	388	258	128	6208	0.89117	919.71	0.58247	1759.33	1031.89	0.51	2.5	2500.08	6.44	2502.68	6.45	2.6	0.1
130	389	259	129	6224	0.89003	920.11	0.58291	1759.22	1045.39	0	2.48	2501.76	6.43	2504.24	6.44	2.48	0.1
130	390	260	130	6240	0.88889	920.5	0.58333	1759.12	1058.94	0.51	2.47	2504.4	6.42	2507.22	6.43	2.82	0.11
130	391	261	131	6256	0.88775	920.89	0.58376	1759.03	1072.56	0	2.45	2505.97	6.41	2508.67	6.42	2.69	0.11
130	392	262	132	6272	0.88661	921.28	0.58418	1758.94	1086.22	0.51	2.43	2508.5	6.4	2511.52	6.41	3.02	0.12
130	393	263	133	6288	0.88547	921.66	0.58461	1758.85	1099.94	0	2.41	2509.96	6.39	2512.85	6.39	2.9	0.12
130	394	264	134	6304	0.88433	922.03	0.58503	1758.78	1113.72	0.5	2.4	2512.37	6.38	2515.59	6.38	3.23	0.13
130	395	265	135	6320	0.88319	922.4	0.58544	1758.71	1127.55	0	2.38	2513.72	6.36	2516.81	6.37	3.1	0.12
130	396	266	136	6336	0.88205	922.77	0.58586	1758.65	1141.43	0.5	2.36	2516.01	6.35	2519.43	6.36	3.42	0.14
130	397	267	137	6352	0.88091	923.13	0.58627	1758.59	1155.37	0	2.35	2517.25	6.34	2520.54	6.35	3.29	0.13
130	398	268	138	6368	0.87978	923.48	0.58668	1758.54	1169.36	0.5	2.33	2519.44	6.33	2523.05	6.34	3.61	0.14
130	399	269	139	6384	0.87864	923.83	0.58709	1758.5	1183.4	0	2.32	2520.58	6.32	2524.05	6.33	3.47	0.14
130	400	270	140	6400	0.87750	924.18	0.58750	1758.47	1197.5	0.5	2.3	2522.66	6.31	2526.45	6.32	3.79	0.15
130	401	271	141	6416	0.87636	924.52	0.58791	1758.44	1211.65	0	2.28	2523.68	6.29	2527.34	6.3	3.65	0.14
130	402	272	142	6432	0.87523	924.85	0.58831	1758.41	1225.84	0.5	2.27	2525.66	6.28	2529.62	6.29	3.96	0.16
130	403	273	143	6448	0.87409	925.18	0.58871	1758.4	1240.09	0	2.25	2526.58	6.27	2530.41	6.28	3.82	0.15
130	404	274	144	6464	0.87295	925.51	0.58911	1758.38	1254.39	0.5	2.24	2528.45	6.26	2532.58	6.27	4.13	0.16
130	405	275	145	6480	0.87182	925.83	0.58951	1758.38	1268.74	0	2.22	2529.27	6.25	2533.26	6.25	3.99	0.16
130	406	276	146	6496	0.87068	926.15	0.58990	1758.38	1283.14	0.5	2.21	2531.04	6.23	2535.33	6.24	4.29	0.17
130	407	277	147	6512	0.86955	926.46	0.59030	1758.39	1297.59	0	2.19	2531.76	6.22	2535.9	6.23	4.14	0.16
130	408	278	148	6528	0.86842	926.77	0.59069	1758.4	1312.09	0.5	2.18	2533.42	6.21	2537.86	6.22	4.44	0.18
130	409	279	149	6544	0.86728	927.07	0.59108	1758.42	1326.64	0	2.17	2534.04	6.2	2538.33	6.21	4.29	0.17
130	410	280	150	6560	0.86615	927.37	0.59146	1758.44	1341.23	0.49	2.15	2535.6	6.18	2540.19	6.2	4.59	0.18
130	411	281	151	6576	0.86502	927.66	0.59185	1758.47	1355.88	0	2.14	2536.13	6.17	2540.56	6.18	4.43	0.17
130	412	282	152	6592	0.86389	927.95	0.59223	1758.51	1370.57	0.49	2.12	2537.59	6.16	2542.31	6.17	4.72	0.19
130	413	283	153	6608	0.86276	928.24	0.59262	1758.55	1385.31	0	2.11	2538.02	6.15	2542.58	6.16	4.56	0.18
130	414	284	154	6624	0.86163	928.52	0.59300	1758.6	1400.09	0.49	2.1	2539.38	6.13	2544.23	6.15	4.85	0.19

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
130	415	285	155	6640	0.86050	928.79	0.59337	1758.65	1414.93	0	2.08	2539.72	6.12	2544.4	6.13	4.69	0.18
130	416	286	156	6656	0.85938	929.07	0.59375	1758.7	1429.8	0.49	2.07	2540.98	6.11	2545.95	6.12	4.97	0.2
130	417	287	157	6672	0.85825	929.33	0.59413	1758.77	1444.73	0	2.06	2541.22	6.09	2546.02	6.11	4.8	0.19
130	418	288	158	6688	0.85712	929.6	0.59450	1758.84	1459.7	0.49	2.04	2542.4	6.08	2547.47	6.09	5.07	0.2
130	419	289	159	6704	0.85600	929.86	0.59487	1758.91	1474.72	0	2.03	2542.55	6.07	2547.45	6.08	4.9	0.19
130	420	290	160	6720	0.85488	930.12	0.59524	1758.99	1489.78	0.49	2.02	2543.63	6.06	2548.8	6.07	5.17	0.2
130	421	291	161	6736	0.85375	930.37	0.59561	1759.07	1504.88	0	2.01	2543.68	6.04	2548.68	6.05	5	0.2
130	422	292	162	6752	0.85263	930.62	0.59597	1759.16	1520.03	0.49	1.99	2544.67	6.03	2549.93	6.04	5.26	0.21
130	423	293	163	6768	0.85151	930.86	0.59634	1759.25	1535.23	0	1.98	2544.64	6.02	2549.72	6.03	5.09	0.2
130	424	294	164	6784	0.85039	931.1	0.59670	1759.35	1550.47	0.49	1.97	2545.53	6	2550.88	6.02	5.35	0.21
130	425	295	165	6800	0.84927	931.34	0.59706	1759.46	1565.75	0	1.96	2545.41	5.99	2550.58	6	5.16	0.2
130	426	296	166	6816	0.84816	931.57	0.59742	1759.56	1581.07	0.48	1.95	2546.22	5.98	2551.64	5.99	5.42	0.21
130	427	297	167	6832	0.84704	931.8	0.59778	1759.68	1596.44	0	1.93	2546.01	5.96	2551.24	5.97	5.23	0.2
130	428	298	168	6848	0.84593	932.03	0.59813	1759.79	1611.85	0.48	1.92	2546.73	5.95	2552.21	5.96	5.48	0.21
130	429	299	169	6864	0.84481	932.25	0.59849	1759.92	1627.3	0	1.91	2546.44	5.94	2551.73	5.95	5.29	0.21
130	430	300	170	6880	0.84370	932.47	0.59884	1760.05	1642.8	0.48	1.9	2547.07	5.92	2552.6	5.94	5.53	0.22
130	431	301	171	6896	0.84259	932.69	0.59919	1760.18	1658.33	0	1.89	2546.69	5.91	2552.03	5.92	5.33	0.21
130	432	302	172	6912	0.84148	932.9	0.59954	1760.31	1673.91	0.48	1.88	2547.24	5.9	2552.81	5.91	5.57	0.22
130	433	303	173	6928	0.84037	933.1	0.59989	1760.45	1689.53	0	1.87	2546.78	5.88	2552.15	5.89	5.37	0.21
130	434	304	174	6944	0.83926	933.31	0.60023	1760.6	1705.19	0.48	1.86	2547.24	5.87	2552.84	5.88	5.6	0.22
130	435	305	175	6960	0.83816	933.51	0.60058	1760.75	1720.89	0	1.85	2546.69	5.85	2552.09	5.87	5.4	0.21
130	436	306	176	6976	0.83705	933.71	0.60092	1760.91	1736.63	0.48	1.84	2547.07	5.84	2552.69	5.85	5.63	0.22
130	437	307	177	6992	0.83595	933.9	0.60126	1761.06	1752.41	0	1.82	2546.45	5.83	2551.86	5.84	5.41	0.21
130	438	308	178	7008	0.83485	934.09	0.60160	1761.23	1768.23	0.48	1.81	2546.74	5.81	2552.37	5.83	5.64	0.22
130	439	309	179	7024	0.83374	934.28	0.60194	1761.4	1784.09	0	1.8	2546.04	5.8	2551.46	5.81	5.42	0.21
130	440	310	180	7040	0.83265	934.47	0.60227	1761.57	1799.99	0.48	1.79	2546.25	5.79	2551.88	5.8	5.64	0.22
130	441	311	181	7056	0.83155	934.65	0.60261	1761.74	1815.93	0	1.78	2545.47	5.77	2550.88	5.78	5.42	0.21
130	442	312	182	7072	0.83045	934.82	0.60294	1761.92	1831.9	0.48	1.77	2545.6	5.76	2551.22	5.77	5.63	0.22
130	443	313	183	7088	0.82936	935	0.60327	1762.11	1847.92	0	1.76	2544.74	5.74	2550.14	5.76	5.4	0.21
130	444	314	184	7104	0.82826	935.17	0.60360	1762.3	1863.97	0.47	1.75	2544.79	5.73	2550.39	5.74	5.6	0.22
130	445	315	185	7120	0.82717	935.34	0.60393	1762.49	1880.06	0	1.74	2543.85	5.72	2549.23	5.73	5.37	0.21
130	446	316	186	7136	0.82608	935.5	0.60426	1762.68	1896.19	0.47	1.74	2543.83	5.7	2549.4	5.72	5.57	0.22
130	447	317	187	7152	0.82499	935.67	0.60459	1762.88	1912.36	0	1.73	2542.82	5.69	2548.15	5.7	5.34	0.21
130	448	318	188	7168	0.82390	935.83	0.60491	1763.09	1928.56	0.47	1.72	2542.71	5.68	2548.24	5.69	5.53	0.22
130	449	319	189	7184	0.82281	935.98	0.60523	1763.3	1944.8	0	1.71	2541.63	5.66	2546.92	5.67	5.29	0.21
130	450	320	190	7200	0.82173	936.13	0.60556	1763.51	1961.08	0.47	1.7	2541.45	5.65	2546.92	5.66	5.47	0.21
130	451	321	191	7216	0.82065	936.28	0.60588	1763.72	1977.39	0	1.69	2540.29	5.63	2545.52	5.64	5.23	0.21
130	452	322	192	7232	0.81956	936.43	0.60620	1763.94	1993.74	0.47	1.68	2540.03	5.62	2545.44	5.63	5.41	0.21
130	453	323	193	7248	0.81848	936.58	0.60651	1764.17	2010.12	0	1.67	2538.8	5.6	2543.96	5.62	5.16	0.2
130	454	324	194	7264	0.81740	936.72	0.60683	1764.39	2026.54	0.47	1.66	2538.47	5.59	2543.81	5.6	5.33	0.21
130	455	325	195	7280	0.81633	936.86	0.60714	1764.63	2043	0	1.65	2537.17	5.58	2542.25	5.59	5.08	0.2
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
131	261	130	-1	4176	0.99999	792.3	0.49904	1906.59	0.09	0	9.84	1486.86	5.7	1496.04	5.73	9.19	0.61
131	262	131	0	4192	1.00000	794.33	0.50000	1904.15	0	-0.62	10	1502.9	5.74	1511.8	5.77	8.9	0.59
131	263	132	1	4208	0.99999	796.34	0.50095	1901.74	0.09	0	9.84	1519.66	5.78	1527.2	5.81	7.54	0.49
131	264	133	2	4224	0.99994	798.32	0.50189	1899.38	0.37	-0.62	9.69	1535	5.81	1542.61	5.84	7.61	0.49

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
131	265	134	3	4240	0.99987	800.28	0.50283	1897.06	0.83	0	9.54	1551.37	5.85	1557.66	5.88	6.29	0.4
131	266	135	4	4256	0.99977	802.22	0.50376	1894.77	1.47	-0.61	9.39	1566.32	5.89	1572.74	5.91	6.41	0.41
131	267	136	5	4272	0.99965	804.13	0.50468	1892.52	2.29	0	9.24	1582.31	5.93	1587.45	5.95	5.14	0.32
131	268	137	6	4288	0.99950	806.01	0.50560	1890.31	3.28	-0.61	9.1	1596.89	5.96	1602.19	5.98	5.3	0.33
131	269	138	7	4304	0.99932	807.87	0.50651	1888.13	4.45	0	8.96	1612.51	5.99	1616.58	6.01	4.06	0.25
131	270	139	8	4320	0.99912	809.71	0.50741	1885.99	5.79	-0.61	8.83	1626.73	6.02	1631	6.04	4.26	0.26
131	271	140	9	4336	0.99890	811.53	0.50830	1883.89	7.3	0	8.7	1641.99	6.06	1645.06	6.07	3.07	0.19
131	272	141	10	4352	0.99865	813.32	0.50919	1881.82	8.97	-0.61	8.57	1655.86	6.09	1659.16	6.1	3.3	0.2
131	273	142	11	4368	0.99838	815.09	0.51007	1879.78	10.82	0	8.44	1670.76	6.12	1672.9	6.13	2.14	0.13
131	274	143	12	4384	0.99808	816.84	0.51095	1877.77	12.83	-0.6	8.32	1684.28	6.15	1686.69	6.16	2.41	0.14
131	275	144	13	4400	0.99777	818.56	0.51182	1875.8	15	0	8.2	1698.83	6.18	1700.12	6.18	1.29	0.08
131	276	145	14	4416	0.99743	820.27	0.51268	1873.86	17.34	-0.6	8.08	1712.01	6.2	1713.6	6.21	1.59	0.09
131	277	146	15	4432	0.99707	821.95	0.51354	1871.96	19.83	0	7.97	1726.23	6.23	1726.73	6.23	0.5	0.03
131	278	147	16	4448	0.99669	823.61	0.51439	1870.08	22.48	-0.6	7.85	1739.08	6.26	1739.91	6.26	0.84	0.05
131	279	148	17	4464	0.99629	825.26	0.51523	1868.24	25.29	0	7.74	1752.96	6.28	1752.74	6.28	-0.22	-0.01
131	280	149	18	4480	0.99587	826.88	0.51607	1866.42	28.25	-0.6	7.63	1765.49	6.31	1765.63	6.31	0.14	0.01
131	281	150	19	4496	0.99543	828.48	0.51690	1864.64	31.36	0	7.53	1779.05	6.33	1778.16	6.33	-0.88	-0.05
131	282	151	20	4512	0.99497	830.06	0.51773	1862.88	34.63	-0.6	7.42	1791.26	6.35	1790.77	6.35	-0.49	-0.03
131	283	152	21	4528	0.99449	831.63	0.51855	1861.15	38.04	0	7.32	1804.5	6.38	1803.01	6.37	-1.49	-0.08
131	284	153	22	4544	0.99400	833.17	0.51937	1859.46	41.61	-0.59	7.22	1816.4	6.4	1815.33	6.39	-1.07	-0.06
131	285	154	23	4560	0.99349	834.69	0.52018	1857.78	45.32	0	7.13	1829.33	6.42	1827.29	6.41	-2.04	-0.11
131	286	155	24	4576	0.99296	836.2	0.52098	1856.14	49.17	-0.59	7.03	1840.93	6.44	1839.33	6.43	-1.59	-0.09
131	287	156	25	4592	0.99241	837.69	0.52178	1854.53	53.17	0	6.94	1853.56	6.46	1851.01	6.45	-2.54	-0.14
131	288	157	26	4608	0.99185	839.16	0.52257	1852.94	57.31	-0.59	6.84	1864.85	6.48	1862.79	6.47	-2.07	-0.11
131	289	158	27	4624	0.99127	840.61	0.52336	1851.37	61.59	0	6.75	1877.19	6.5	1874.2	6.49	-2.99	-0.16
131	290	159	28	4640	0.99068	842.04	0.52414	1849.84	66.01	-0.59	6.67	1888.2	6.51	1885.7	6.5	-2.49	-0.13
131	291	160	29	4656	0.99007	843.46	0.52491	1848.33	70.56	0	6.58	1900.24	6.53	1896.84	6.52	-3.39	-0.18
131	292	161	30	4672	0.98945	844.85	0.52569	1846.84	75.26	-0.59	6.5	1910.96	6.54	1908.09	6.53	-2.87	-0.15
131	293	162	31	4688	0.98881	846.24	0.52645	1845.38	80.08	0	6.41	1922.72	6.56	1918.97	6.55	-3.75	-0.2
131	294	163	32	4704	0.98815	847.6	0.52721	1843.94	85.04	-0.58	6.33	1933.16	6.58	1929.95	6.56	-3.21	-0.17
131	295	164	33	4720	0.98749	848.95	0.52797	1842.53	90.14	0	6.25	1944.64	6.59	1940.57	6.58	-4.06	-0.21
131	296	165	34	4736	0.98681	850.28	0.52872	1841.14	95.36	-0.58	6.17	1954.81	6.6	1951.31	6.59	-3.51	-0.18
131	297	166	35	4752	0.98611	851.59	0.52946	1839.77	100.71	0	6.1	1966.02	6.62	1961.68	6.6	-4.34	-0.22
131	298	167	36	4768	0.98541	852.89	0.53020	1838.43	106.19	-0.58	6.02	1975.92	6.63	1972.16	6.62	-3.76	-0.19
131	299	168	37	4784	0.98469	854.18	0.53094	1837.11	111.8	0	5.95	1986.86	6.65	1982.28	6.63	-4.58	-0.23
131	300	169	38	4800	0.98396	855.44	0.53167	1835.81	117.53	-0.58	5.87	1996.51	6.66	1992.52	6.64	-3.98	-0.2
131	301	170	39	4816	0.98321	856.7	0.53239	1834.54	123.39	0	5.8	2007.18	6.67	2002.4	6.65	-4.78	-0.24
131	302	171	40	4832	0.98246	857.93	0.53311	1833.28	129.37	-0.58	5.73	2016.57	6.68	2012.4	6.66	-4.17	-0.21
131	303	172	41	4848	0.98169	859.15	0.53383	1832.05	135.47	0	5.66	2026.99	6.69	2022.04	6.67	-4.94	-0.24
131	304	173	42	4864	0.98091	860.36	0.53454	1830.84	141.7	-0.57	5.6	2036.13	6.7	2031.81	6.68	-4.32	-0.21
131	305	174	43	4880	0.98012	861.55	0.53525	1829.65	148.04	0	5.53	2046.29	6.71	2041.21	6.69	-5.08	-0.25
131	306	175	44	4896	0.97932	862.73	0.53595	1828.48	154.5	-0.57	5.47	2055.18	6.72	2050.75	6.7	-4.44	-0.22
131	307	176	45	4912	0.97851	863.9	0.53665	1827.33	161.08	0	5.4	2065.1	6.73	2059.92	6.71	-5.18	-0.25
131	308	177	46	4928	0.97769	865.04	0.53734	1826.2	167.77	-0.57	5.34	2073.75	6.73	2069.23	6.72	-4.52	-0.22
131	309	178	47	4944	0.97687	866.18	0.53803	1825.09	174.58	0	5.28	2083.43	6.74	2078.17	6.73	-5.25	-0.25
131	310	179	48	4960	0.97603	867.3	0.53871	1824	181.5	-0.57	5.22	2091.85	6.75	2087.26	6.73	-4.59	-0.22
131	311	180	49	4976	0.97518	868.41	0.53939	1822.93	188.54	0	5.16	2101.28	6.76	2095.98	6.74	-5.3	-0.25

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
131	312	181	50	4992	0.97432	869.51	0.54006	1821.87	195.68	-0.57	5.1	2109.47	6.76	2104.85	6.75	-4.62	-0.22
131	313	182	51	5008	0.97345	870.59	0.54074	1820.84	202.94	0	5.04	2118.68	6.77	2113.35	6.75	-5.32	-0.25
131	314	183	52	5024	0.97258	871.65	0.54140	1819.82	210.31	-0.56	4.99	2126.64	6.77	2122	6.76	-4.63	-0.22
131	315	184	53	5040	0.97169	872.71	0.54206	1818.83	217.78	0	4.93	2135.61	6.78	2130.29	6.76	-5.32	-0.25
131	316	185	54	5056	0.97080	873.75	0.54272	1817.85	225.37	-0.56	4.88	2143.35	6.78	2138.73	6.77	-4.62	-0.22
131	317	186	55	5072	0.96990	874.78	0.54338	1816.89	233.06	0	4.83	2152.1	6.79	2146.81	6.77	-5.29	-0.25
131	318	187	56	5088	0.96899	875.8	0.54403	1815.94	240.85	-0.56	4.77	2159.62	6.79	2155.04	6.78	-4.58	-0.21
131	319	188	57	5104	0.96807	876.81	0.54467	1815.01	248.75	0	4.72	2168.15	6.8	2162.91	6.78	-5.25	-0.24
131	320	189	58	5120	0.96715	877.8	0.54531	1814.1	256.75	-0.56	4.67	2175.46	6.8	2170.94	6.78	-4.52	-0.21
131	321	190	59	5136	0.96622	878.78	0.54595	1813.21	264.86	0	4.62	2183.78	6.8	2178.6	6.79	-5.18	-0.24
131	322	191	60	5152	0.96528	879.75	0.54658	1812.33	273.06	-0.56	4.57	2190.87	6.8	2186.43	6.79	-4.45	-0.2
131	323	192	61	5168	0.96433	880.71	0.54721	1811.47	281.37	0	4.52	2198.98	6.81	2193.89	6.79	-5.09	-0.23
131	324	193	62	5184	0.96338	881.65	0.54784	1810.62	289.78	-0.56	4.48	2205.87	6.81	2201.52	6.79	-4.35	-0.2
131	325	194	63	5200	0.96242	882.59	0.54846	1809.8	298.28	0	4.43	2213.77	6.81	2208.78	6.8	-4.99	-0.23
131	326	195	64	5216	0.96146	883.51	0.54908	1808.98	306.88	-0.55	4.38	2220.46	6.81	2216.21	6.8	-4.24	-0.19
131	327	196	65	5232	0.96049	884.42	0.54969	1808.18	315.58	0	4.34	2228.15	6.81	2223.28	6.8	-4.87	-0.22
131	328	197	66	5248	0.95951	885.32	0.55031	1807.4	324.38	-0.55	4.3	2234.64	6.81	2230.53	6.8	-4.12	-0.18
131	329	198	67	5264	0.95853	886.21	0.55091	1806.63	333.27	0	4.25	2242.14	6.82	2237.4	6.8	-4.73	-0.21
131	330	199	68	5280	0.95754	887.09	0.55152	1805.88	342.26	-0.55	4.21	2248.43	6.81	2244.46	6.8	-3.97	-0.18
131	331	200	69	5296	0.95655	887.96	0.55212	1805.14	351.34	0	4.17	2255.73	6.81	2251.15	6.8	-4.58	-0.2
131	332	201	70	5312	0.95555	888.82	0.55271	1804.42	360.51	-0.55	4.12	2261.84	6.81	2258.02	6.8	-3.82	-0.17
131	333	202	71	5328	0.95454	889.66	0.55330	1803.71	369.77	0	4.08	2268.94	6.81	2264.52	6.8	-4.42	-0.2
131	334	203	72	5344	0.95353	890.5	0.55389	1803.01	379.12	-0.55	4.04	2274.86	6.81	2271.21	6.8	-3.65	-0.16
131	335	204	73	5360	0.95252	891.33	0.55448	1802.33	388.57	0	4	2281.78	6.81	2277.53	6.8	-4.25	-0.19
131	336	205	74	5376	0.95150	892.14	0.55506	1801.66	398.1	-0.55	3.97	2287.51	6.81	2284.04	6.8	-3.47	-0.15
131	337	206	75	5392	0.95047	892.95	0.55564	1801.01	407.73	0	3.93	2294.24	6.81	2290.18	6.8	-4.06	-0.18
131	338	207	76	5408	0.94944	893.75	0.55621	1800.37	417.44	-0.54	3.89	2299.8	6.8	2296.51	6.79	-3.28	-0.14
131	339	208	77	5424	0.94841	894.53	0.55679	1799.74	427.23	0	3.85	2306.35	6.8	2302.48	6.79	-3.86	-0.17
131	340	209	78	5440	0.94737	895.31	0.55735	1799.13	437.12	-0.54	3.82	2311.72	6.8	2308.64	6.79	-3.08	-0.13
131	341	210	79	5456	0.94633	896.08	0.55792	1798.52	447.09	0	3.78	2318.09	6.8	2314.43	6.79	-3.66	-0.16
131	342	211	80	5472	0.94528	896.84	0.55848	1797.93	457.14	-0.54	3.74	2323.29	6.79	2320.42	6.78	-2.87	-0.12
131	343	212	81	5488	0.94423	897.59	0.55904	1797.36	467.28	0	3.71	2329.49	6.79	2326.04	6.78	-3.45	-0.15
131	344	213	82	5504	0.94318	898.33	0.55959	1796.79	477.5	-0.54	3.67	2334.52	6.79	2331.86	6.78	-2.66	-0.11
131	345	214	83	5520	0.94212	899.06	0.56015	1796.24	487.8	0	3.64	2340.54	6.78	2337.31	6.77	-3.22	-0.14
131	346	215	84	5536	0.94106	899.78	0.56069	1795.7	498.19	-0.54	3.61	2345.4	6.78	2342.97	6.77	-2.43	-0.1
131	347	216	85	5552	0.94000	900.49	0.56124	1795.18	508.65	0	3.57	2351.25	6.78	2348.25	6.77	-3	-0.13
131	348	217	86	5568	0.93893	901.2	0.56178	1794.66	519.2	-0.54	3.54	2355.95	6.77	2353.74	6.76	-2.2	-0.09
131	349	218	87	5584	0.93786	901.89	0.56232	1794.16	529.83	0	3.51	2361.63	6.77	2358.87	6.76	-2.76	-0.12
131	350	219	88	5600	0.93678	902.58	0.56286	1793.66	540.53	-0.53	3.48	2366.17	6.76	2364.2	6.75	-1.97	-0.08
131	351	220	89	5616	0.93571	903.26	0.56339	1793.18	551.32	0	3.45	2371.69	6.76	2369.16	6.75	-2.52	-0.11
131	352	221	90	5632	0.93463	903.93	0.56392	1792.71	562.18	-0.53	3.42	2376.06	6.75	2374.34	6.75	-1.73	-0.07
131	353	222	91	5648	0.93354	904.59	0.56445	1792.26	573.12	0	3.39	2381.42	6.75	2379.14	6.74	-2.28	-0.1
131	354	223	92	5664	0.93246	905.25	0.56497	1791.81	584.13	-0.53	3.36	2385.64	6.74	2384.16	6.73	-1.48	-0.06
131	355	224	93	5680	0.93137	905.89	0.56549	1791.37	595.22	0	3.33	2390.84	6.73	2388.81	6.73	-2.03	-0.09
131	356	225	94	5696	0.93028	906.53	0.56601	1790.95	606.39	-0.53	3.3	2394.91	6.73	2393.67	6.72	-1.23	-0.05
131	357	226	95	5712	0.92919	907.16	0.56653	1790.53	617.63	0	3.27	2399.95	6.72	2398.17	6.72	-1.78	-0.07
131	358	227	96	5728	0.92809	907.78	0.56704	1790.13	628.94	-0.53	3.24	2403.86	6.71	2402.88	6.71	-0.98	-0.04

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
131	359	228	97	5744	0.92700	908.4	0.56755	1789.73	640.33	0	3.21	2408.76	6.71	2407.23	6.71	-1.53	-0.06
131	360	229	98	5760	0.92590	909	0.56806	1789.35	651.79	-0.53	3.19	2412.52	6.7	2411.79	6.7	-0.73	-0.03
131	361	230	99	5776	0.92479	909.6	0.56856	1788.97	663.32	0	3.16	2417.26	6.7	2415.99	6.69	-1.28	-0.05
131	362	231	100	5792	0.92369	910.19	0.56906	1788.61	674.93	-0.53	3.13	2420.88	6.69	2420.4	6.69	-0.48	-0.02
131	363	232	101	5808	0.92258	910.78	0.56956	1788.26	686.6	0	3.11	2425.47	6.68	2424.45	6.68	-1.02	-0.04
131	364	233	102	5824	0.92148	911.35	0.57006	1787.91	698.35	-0.52	3.08	2428.95	6.67	2428.73	6.67	-0.22	-0.01
131	365	234	103	5840	0.92037	911.92	0.57055	1787.58	710.16	0	3.06	2433.4	6.67	2432.63	6.66	-0.76	-0.03
131	366	235	104	5856	0.91926	912.49	0.57104	1787.25	722.04	-0.52	3.03	2436.73	6.66	2436.76	6.66	0.04	0
131	367	236	105	5872	0.91815	913.04	0.57153	1786.94	734	0	3.01	2441.03	6.65	2440.53	6.65	-0.51	-0.02
131	368	237	106	5888	0.91703	913.59	0.57201	1786.63	746.02	-0.52	2.98	2444.22	6.64	2444.52	6.64	0.29	0.01
131	369	238	107	5904	0.91592	914.13	0.57249	1786.34	758.1	0	2.96	2448.39	6.64	2448.14	6.63	-0.25	-0.01
131	370	239	108	5920	0.91480	914.66	0.57297	1786.05	770.26	-0.52	2.93	2451.44	6.63	2451.99	6.63	0.55	0.02
131	371	240	109	5936	0.91368	915.19	0.57345	1785.77	782.48	0	2.91	2455.47	6.62	2455.48	6.62	0.01	0
131	372	241	110	5952	0.91256	915.71	0.57393	1785.5	794.77	-0.52	2.89	2458.39	6.61	2459.19	6.61	0.8	0.03
131	373	242	111	5968	0.91144	916.23	0.57440	1785.24	807.12	0	2.87	2462.28	6.6	2462.54	6.6	0.26	0.01
131	374	243	112	5984	0.91032	916.74	0.57487	1784.99	819.54	-0.52	2.84	2465.07	6.59	2466.12	6.59	1.06	0.04
131	375	244	113	6000	0.90920	917.24	0.57533	1784.74	832.02	0	2.82	2468.83	6.58	2469.34	6.58	0.51	0.02
131	376	245	114	6016	0.90808	917.73	0.57580	1784.51	844.56	-0.52	2.8	2471.48	6.57	2472.79	6.58	1.31	0.05
131	377	246	115	6032	0.90695	918.22	0.57626	1784.28	857.17	0	2.78	2475.11	6.57	2475.87	6.57	0.77	0.03
131	378	247	116	6048	0.90583	918.7	0.57672	1784.06	869.84	-0.51	2.76	2477.64	6.55	2479.19	6.56	1.55	0.06
131	379	248	117	6064	0.90470	919.18	0.57718	1783.85	882.57	0	2.73	2481.13	6.55	2482.14	6.55	1.01	0.04
131	380	249	118	6080	0.90357	919.65	0.57763	1783.65	895.37	-0.51	2.71	2483.53	6.54	2485.33	6.54	1.8	0.07
131	381	250	119	6096	0.90245	920.11	0.57808	1783.46	908.23	0	2.69	2486.9	6.53	2488.16	6.53	1.26	0.05
131	382	251	120	6112	0.90132	920.57	0.57853	1783.27	921.14	-0.51	2.67	2489.18	6.52	2491.22	6.52	2.04	0.08
131	383	252	121	6128	0.90019	921.02	0.57898	1783.09	934.12	0	2.65	2492.42	6.51	2493.92	6.51	1.5	0.06
131	384	253	122	6144	0.89906	921.46	0.57943	1782.92	947.16	-0.51	2.63	2494.58	6.5	2496.86	6.5	2.28	0.09
131	385	254	123	6160	0.89793	921.9	0.57987	1782.76	960.25	0	2.61	2497.69	6.49	2499.43	6.49	1.74	0.07
131	386	255	124	6176	0.89680	922.34	0.58031	1782.61	973.41	-0.51	2.59	2499.73	6.48	2502.24	6.48	2.51	0.1
131	387	256	125	6192	0.89567	922.77	0.58075	1782.46	986.62	0	2.58	2502.73	6.47	2504.69	6.47	1.97	0.08
131	388	257	126	6208	0.89454	923.19	0.58119	1782.32	999.9	-0.51	2.56	2504.64	6.46	2507.39	6.46	2.74	0.11
131	389	258	127	6224	0.89341	923.61	0.58162	1782.19	1013.23	0	2.54	2507.52	6.45	2509.72	6.45	2.2	0.09
131	390	259	128	6240	0.89228	924.02	0.58205	1782.06	1026.61	-0.51	2.52	2509.32	6.43	2512.29	6.44	2.97	0.12
131	391	260	129	6256	0.89115	924.42	0.58248	1781.95	1040.06	0	2.5	2512.08	6.42	2514.5	6.43	2.42	0.1
131	392	261	130	6272	0.89002	924.82	0.58291	1781.84	1053.56	-0.51	2.48	2513.76	6.41	2516.95	6.42	3.19	0.13
131	393	262	131	6288	0.88889	925.22	0.58333	1781.73	1067.11	0	2.47	2516.4	6.4	2519.04	6.41	2.64	0.1
131	394	263	132	6304	0.88776	925.61	0.58376	1781.64	1080.72	-0.5	2.45	2517.98	6.39	2521.38	6.4	3.4	0.13
131	395	264	133	6320	0.88663	925.99	0.58418	1781.55	1094.39	0	2.43	2520.5	6.38	2523.36	6.39	2.85	0.11
131	396	265	134	6336	0.88550	926.37	0.58460	1781.46	1108.11	-0.5	2.41	2521.97	6.37	2525.58	6.38	3.61	0.14
131	397	266	135	6352	0.88437	926.75	0.58501	1781.39	1121.88	0	2.4	2524.38	6.36	2527.44	6.37	3.06	0.12
131	398	267	136	6368	0.88324	927.11	0.58543	1781.32	1135.71	-0.5	2.38	2525.73	6.35	2529.55	6.36	3.81	0.15
131	399	268	137	6384	0.88211	927.48	0.58584	1781.26	1149.59	0	2.36	2528.04	6.34	2531.29	6.34	3.26	0.13
131	400	269	138	6400	0.88098	927.84	0.58625	1781.2	1163.53	-0.5	2.35	2529.28	6.32	2533.29	6.33	4.01	0.16
131	401	270	139	6416	0.87985	928.19	0.58666	1781.15	1177.52	0	2.33	2531.47	6.31	2534.93	6.32	3.45	0.14
131	402	271	140	6432	0.87872	928.54	0.58707	1781.11	1191.56	-0.5	2.32	2532.61	6.3	2536.81	6.31	4.2	0.17
131	403	272	141	6448	0.87759	928.88	0.58747	1781.07	1205.65	0	2.3	2534.7	6.29	2538.34	6.3	3.64	0.14
131	404	273	142	6464	0.87646	929.22	0.58787	1781.04	1219.79	-0.5	2.28	2535.73	6.28	2540.11	6.29	4.38	0.17
131	405	274	143	6480	0.87533	929.56	0.58827	1781.02	1233.98	0	2.27	2537.71	6.27	2541.53	6.28	3.82	0.15

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
131	406	275	144	6496	0.87420	929.89	0.58867	1781	1248.23	-0.5	2.25	2538.64	6.25	2543.2	6.26	4.56	0.18
131	407	276	145	6512	0.87308	930.21	0.58907	1780.99	1262.52	0	2.24	2540.52	6.24	2544.51	6.25	3.99	0.16
131	408	277	146	6528	0.87195	930.53	0.58946	1780.98	1276.87	-0.5	2.22	2541.35	6.23	2546.07	6.24	4.73	0.19
131	409	278	147	6544	0.87082	930.85	0.58985	1780.98	1291.26	0	2.21	2543.12	6.22	2547.27	6.23	4.16	0.16
131	410	279	148	6560	0.86970	931.16	0.59024	1780.99	1305.71	-0.49	2.2	2543.85	6.2	2548.73	6.22	4.89	0.19
131	411	280	149	6576	0.86857	931.47	0.59063	1781	1320.2	0	2.18	2545.52	6.19	2549.83	6.2	4.31	0.17
131	412	281	150	6592	0.86745	931.77	0.59102	1781.02	1334.74	-0.49	2.17	2546.15	6.18	2551.19	6.19	5.04	0.2
131	413	282	151	6608	0.86632	932.07	0.59140	1781.04	1349.33	0	2.15	2547.72	6.17	2552.18	6.18	4.46	0.17
131	414	283	152	6624	0.86520	932.36	0.59179	1781.07	1363.96	-0.49	2.14	2548.25	6.16	2553.43	6.17	5.18	0.2
131	415	284	153	6640	0.86408	932.65	0.59217	1781.1	1378.65	0	2.13	2549.72	6.14	2554.32	6.15	4.6	0.18
131	416	285	154	6656	0.86296	932.94	0.59255	1781.14	1393.38	-0.49	2.11	2550.16	6.13	2555.48	6.14	5.32	0.21
131	417	286	155	6672	0.86184	933.22	0.59293	1781.19	1408.16	0	2.1	2551.53	6.12	2556.27	6.13	4.74	0.19
131	418	287	156	6688	0.86072	933.5	0.59330	1781.24	1422.98	-0.49	2.09	2551.88	6.1	2557.32	6.12	5.45	0.21
131	419	288	157	6704	0.85960	933.77	0.59368	1781.3	1437.85	0	2.07	2553.15	6.09	2558.01	6.11	4.86	0.19
131	420	289	158	6720	0.85848	934.04	0.59405	1781.36	1452.77	-0.49	2.06	2553.41	6.08	2558.97	6.09	5.56	0.22
131	421	290	159	6736	0.85736	934.3	0.59442	1781.43	1467.73	0	2.05	2554.59	6.07	2559.56	6.08	4.97	0.19
131	422	291	160	6752	0.85625	934.56	0.59479	1781.5	1482.73	-0.49	2.03	2554.75	6.05	2560.42	6.07	5.67	0.22
131	423	292	161	6768	0.85513	934.82	0.59515	1781.58	1497.79	0	2.02	2555.84	6.04	2560.92	6.05	5.08	0.2
131	424	293	162	6784	0.85402	935.07	0.59552	1781.66	1512.88	-0.49	2.01	2555.91	6.03	2561.68	6.04	5.77	0.23
131	425	294	163	6800	0.85291	935.32	0.59588	1781.75	1528.02	0	2	2556.9	6.02	2562.08	6.03	5.18	0.2
131	426	295	164	6816	0.85179	935.57	0.59624	1781.84	1543.2	-0.48	1.99	2556.89	6	2562.75	6.02	5.87	0.23
131	427	296	165	6832	0.85068	935.81	0.59660	1781.94	1558.43	0	1.97	2557.79	5.99	2563.06	6	5.27	0.21
131	428	297	166	6848	0.84957	936.05	0.59696	1782.04	1573.7	-0.48	1.96	2557.69	5.98	2563.63	5.99	5.95	0.23
131	429	298	167	6864	0.84846	936.28	0.59732	1782.15	1589.02	0	1.95	2558.5	5.96	2563.85	5.98	5.34	0.21
131	430	299	168	6880	0.84736	936.51	0.59767	1782.26	1604.37	-0.48	1.94	2558.31	5.95	2564.33	5.96	6.02	0.23
131	431	300	169	6896	0.84625	936.74	0.59803	1782.38	1619.77	0	1.93	2559.04	5.94	2564.45	5.95	5.41	0.21
131	432	301	170	6912	0.84514	936.96	0.59838	1782.5	1635.21	-0.48	1.92	2558.76	5.92	2564.84	5.94	6.08	0.24
131	433	302	171	6928	0.84404	937.18	0.59873	1782.63	1650.69	0	1.9	2559.4	5.91	2564.87	5.92	5.47	0.21
131	434	303	172	6944	0.84294	937.4	0.59908	1782.76	1666.22	-0.48	1.89	2559.04	5.9	2565.18	5.91	6.13	0.24
131	435	304	173	6960	0.84183	937.61	0.59943	1782.89	1681.78	0	1.88	2559.6	5.88	2565.12	5.9	5.52	0.22
131	436	305	174	6976	0.84073	937.82	0.59977	1783.04	1697.39	-0.48	1.87	2559.15	5.87	2565.33	5.88	6.18	0.24
131	437	306	175	6992	0.83963	938.02	0.60011	1783.18	1713.03	0	1.86	2559.63	5.86	2565.18	5.87	5.56	0.22
131	438	307	176	7008	0.83854	938.22	0.60046	1783.33	1728.72	-0.48	1.85	2559.1	5.84	2565.31	5.86	6.21	0.24
131	439	308	177	7024	0.83744	938.42	0.60080	1783.48	1744.45	0	1.84	2559.49	5.83	2565.07	5.84	5.58	0.22
131	440	309	178	7040	0.83634	938.62	0.60114	1783.64	1760.21	-0.48	1.83	2558.88	5.82	2565.11	5.83	6.23	0.24
131	441	310	179	7056	0.83525	938.81	0.60147	1783.8	1776.02	0	1.82	2559.19	5.8	2564.79	5.82	5.6	0.22
131	442	311	180	7072	0.83416	939	0.60181	1783.97	1791.86	-0.48	1.81	2558.5	5.79	2564.74	5.8	6.24	0.24
131	443	312	181	7088	0.83306	939.18	0.60214	1784.14	1807.75	0	1.8	2558.73	5.78	2564.34	5.79	5.61	0.22
131	444	313	182	7104	0.83197	939.36	0.60248	1784.32	1823.67	-0.47	1.79	2557.96	5.76	2564.21	5.78	6.24	0.24
131	445	314	183	7120	0.83089	939.54	0.60281	1784.5	1839.63	0	1.78	2558.11	5.75	2563.71	5.76	5.61	0.22
131	446	315	184	7136	0.82980	939.72	0.60314	1784.68	1855.63	-0.47	1.77	2557.26	5.73	2563.5	5.75	6.23	0.24
131	447	316	185	7152	0.82871	939.89	0.60347	1784.87	1871.67	0	1.76	2557.33	5.72	2562.92	5.73	5.59	0.22
131	448	317	186	7168	0.82763	940.06	0.60380	1785.06	1887.75	-0.47	1.75	2556.41	5.71	2562.63	5.72	6.21	0.24
131	449	318	187	7184	0.82654	940.22	0.60412	1785.26	1903.86	0	1.74	2556.4	5.69	2561.97	5.71	5.57	0.22
131	450	319	188	7200	0.82546	940.39	0.60444	1785.45	1920.01	-0.47	1.73	2555.41	5.68	2561.59	5.69	6.18	0.24
131	451	320	189	7216	0.82438	940.55	0.60477	1785.66	1936.2	0	1.72	2555.32	5.67	2560.85	5.68	5.53	0.22
131	452	321	190	7232	0.82330	940.71	0.60509	1785.87	1952.42	-0.47	1.71	2554.25	5.65	2560.39	5.66	6.14	0.24

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
131	453	322	191	7248	0.82223	940.86	0.60541	1786.08	1968.68	0	1.7	2554.09	5.64	2559.57	5.65	5.48	0.21
131	454	323	192	7264	0.82115	941.01	0.60573	1786.29	1984.97	-0.47	1.69	2552.95	5.62	2559.03	5.64	6.09	0.24
131	455	324	193	7280	0.82008	941.16	0.60604	1786.51	2001.31	0	1.68	2552.71	5.61	2558.13	5.62	5.43	0.21
131	456	325	194	7296	0.81900	941.3	0.60636	1786.73	2017.68	-0.47	1.67	2551.49	5.6	2557.52	5.61	6.02	0.24
131	457	326	195	7312	0.81793	941.45	0.60667	1786.96	2034.08	0	1.67	2551.18	5.58	2556.54	5.59	5.36	0.21
131	458	327	196	7328	0.81686	941.59	0.60699	1787.19	2050.52	-0.47	1.66	2549.9	5.57	2555.84	5.58	5.95	0.23
Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
132	263	131	-1	4208	0.99999	796.34	0.49905	1930.89	0.09	0	9.84	1490.52	5.67	1499.7	5.7	9.18	0.61
132	264	132	0	4224	1.00000	798.37	0.50000	1928.43	0	0.62	10	1507.81	5.71	1516.3	5.74	8.49	0.56
132	265	133	1	4240	0.99999	800.37	0.50094	1926.02	0.09	0	9.84	1523.36	5.75	1530.89	5.78	7.53	0.49
132	266	134	2	4256	0.99994	802.35	0.50188	1923.64	0.37	0.61	9.69	1539.94	5.79	1547.15	5.82	7.21	0.47
132	267	135	3	4272	0.99987	804.31	0.50281	1921.31	0.82	0	9.54	1555.1	5.82	1561.4	5.85	6.3	0.4
132	268	136	4	4288	0.99978	806.23	0.50373	1919.01	1.46	0.61	9.39	1571.3	5.86	1577.31	5.89	6.01	0.38
132	269	137	5	4304	0.99966	808.14	0.50465	1916.75	2.27	0	9.25	1586.09	5.9	1591.24	5.92	5.14	0.32
132	270	138	6	4320	0.99951	810.02	0.50556	1914.52	3.25	0.61	9.11	1601.92	5.93	1606.82	5.95	4.9	0.3
132	271	139	7	4336	0.99933	811.88	0.50646	1912.33	4.41	0	8.97	1616.35	5.96	1620.42	5.98	4.07	0.25
132	272	140	8	4352	0.99914	813.71	0.50735	1910.18	5.74	0.61	8.84	1631.81	6	1635.67	6.01	3.86	0.24
132	273	141	9	4368	0.99891	815.53	0.50824	1908.06	7.24	0	8.71	1645.88	6.03	1648.95	6.04	3.08	0.19
132	274	142	10	4384	0.99867	817.32	0.50912	1905.98	8.91	0.6	8.58	1660.98	6.06	1663.88	6.07	2.9	0.17
132	275	143	11	4400	0.99840	819.08	0.51000	1903.93	10.74	0	8.45	1674.7	6.09	1676.86	6.1	2.16	0.13
132	276	144	12	4416	0.99811	820.83	0.51087	1901.91	12.74	0.6	8.33	1689.46	6.12	1691.47	6.13	2.01	0.12
132	277	145	13	4432	0.99780	822.55	0.51173	1899.92	14.89	0	8.21	1702.84	6.15	1704.14	6.15	1.3	0.08
132	278	146	14	4448	0.99746	824.26	0.51259	1897.97	17.21	0.6	8.09	1717.25	6.18	1718.45	6.18	1.19	0.07
132	279	147	15	4464	0.99711	825.94	0.51344	1896.05	19.69	0	7.98	1730.3	6.2	1730.82	6.2	0.52	0.03
132	280	148	16	4480	0.99674	827.6	0.51429	1894.16	22.32	0.6	7.87	1744.38	6.23	1744.82	6.23	0.44	0.03
132	281	149	17	4496	0.99634	829.24	0.51513	1892.3	25.11	0	7.76	1757.1	6.25	1756.9	6.25	-0.2	-0.01
132	282	150	18	4512	0.99593	830.86	0.51596	1890.48	28.05	0.6	7.65	1770.86	6.28	1770.6	6.28	-0.25	-0.01
132	283	151	19	4528	0.99549	832.46	0.51678	1888.68	31.14	0	7.54	1783.26	6.3	1782.4	6.3	-0.86	-0.05
132	284	152	20	4544	0.99504	834.04	0.51761	1886.91	34.39	0.59	7.44	1796.7	6.33	1795.81	6.32	-0.89	-0.05
132	285	153	21	4560	0.99457	835.6	0.51842	1885.17	37.78	0	7.34	1808.79	6.35	1807.32	6.34	-1.47	-0.08
132	286	154	22	4576	0.99408	837.15	0.51923	1883.46	41.32	0.59	7.24	1821.91	6.37	1820.44	6.37	-1.47	-0.08
132	287	155	23	4592	0.99358	838.67	0.52004	1881.77	45	0	7.14	1833.7	6.39	1831.68	6.38	-2.02	-0.11
132	288	156	24	4608	0.99306	840.18	0.52083	1880.12	48.83	0.59	7.05	1846.51	6.41	1844.52	6.4	-1.99	-0.11
132	289	157	25	4624	0.99252	841.66	0.52163	1878.49	52.8	0	6.95	1858	6.43	1855.49	6.42	-2.51	-0.14
132	290	158	26	4640	0.99196	843.13	0.52241	1876.89	56.91	0.59	6.86	1870.52	6.45	1868.05	6.44	-2.46	-0.13
132	291	159	27	4656	0.99139	844.58	0.52320	1875.31	61.17	0	6.77	1881.71	6.47	1878.75	6.46	-2.96	-0.16
132	292	160	28	4672	0.99081	846.02	0.52397	1873.76	65.56	0.59	6.68	1893.94	6.49	1891.05	6.48	-2.89	-0.15
132	293	161	29	4688	0.99020	847.43	0.52474	1872.24	70.08	0	6.6	1904.85	6.5	1901.49	6.49	-3.36	-0.18
132	294	162	30	4704	0.98959	848.83	0.52551	1870.74	74.74	0.58	6.51	1916.79	6.52	1913.52	6.51	-3.27	-0.17
132	295	163	31	4720	0.98896	850.21	0.52627	1869.26	79.54	0	6.43	1927.42	6.53	1923.7	6.52	-3.72	-0.19
132	296	164	32	4736	0.98831	851.58	0.52703	1867.81	84.47	0.58	6.35	1939.07	6.55	1935.47	6.54	-3.6	-0.19
132	297	165	33	4752	0.98765	852.93	0.52778	1866.39	89.53	0	6.27	1949.43	6.56	1945.4	6.55	-4.03	-0.21
132	298	166	34	4768	0.98698	854.26	0.52852	1864.98	94.72	0.58	6.19	1960.81	6.58	1956.91	6.57	-3.9	-0.2
132	299	167	35	4784	0.98630	855.57	0.52926	1863.6	100.04	0	6.12	1970.9	6.59	1966.59	6.58	-4.3	-0.22
132	300	168	36	4800	0.98560	856.87	0.53000	1862.25	105.49	0.58	6.04	1982.01	6.61	1977.86	6.59	-4.15	-0.21
132	301	169	37	4816	0.98489	858.16	0.53073	1860.92	111.06	0	5.97	1991.83	6.62	1987.29	6.6	-4.54	-0.23

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
132	302	170	38	4832	0.98417	859.43	0.53146	1859.61	116.76	0.58	5.9	2002.68	6.63	1998.31	6.62	-4.37	-0.22
132	303	171	39	4848	0.98343	860.68	0.53218	1858.32	122.58	0	5.82	2012.25	6.64	2007.51	6.63	-4.74	-0.24
132	304	172	40	4864	0.98269	861.92	0.53290	1857.05	128.52	0.57	5.75	2022.84	6.65	2018.28	6.64	-4.55	-0.23
132	305	173	41	4880	0.98193	863.14	0.53361	1855.8	134.59	0	5.69	2032.15	6.66	2027.25	6.65	-4.9	-0.24
132	306	174	42	4896	0.98116	864.35	0.53431	1854.58	140.77	0.57	5.62	2042.49	6.67	2037.78	6.66	-4.7	-0.23
132	307	175	43	4912	0.98038	865.54	0.53502	1853.38	147.08	0	5.55	2051.55	6.68	2046.52	6.67	-5.03	-0.25
132	308	176	44	4928	0.97959	866.72	0.53571	1852.19	153.5	0.57	5.49	2061.64	6.69	2056.82	6.68	-4.82	-0.23
132	309	177	45	4944	0.97879	867.89	0.53641	1851.03	160.04	0	5.42	2070.46	6.7	2065.33	6.68	-5.13	-0.25
132	310	178	46	4960	0.97798	869.04	0.53710	1849.89	166.69	0.57	5.36	2080.31	6.71	2075.4	6.69	-4.91	-0.24
132	311	179	47	4976	0.97716	870.18	0.53778	1848.77	173.46	0	5.3	2088.89	6.72	2083.69	6.7	-5.2	-0.25
132	312	180	48	4992	0.97633	871.3	0.53846	1847.66	180.34	0.57	5.24	2098.5	6.73	2093.53	6.71	-4.97	-0.24
132	313	181	49	5008	0.97549	872.41	0.53914	1846.58	187.34	0	5.18	2106.85	6.73	2101.6	6.71	-5.25	-0.25
132	314	182	50	5024	0.97464	873.51	0.53981	1845.51	194.44	0.56	5.12	2116.22	6.74	2111.22	6.72	-5	-0.24
132	315	183	51	5040	0.97379	874.59	0.54048	1844.47	201.66	0	5.07	2124.35	6.74	2119.08	6.73	-5.27	-0.25
132	316	184	52	5056	0.97292	875.66	0.54114	1843.44	208.98	0.56	5.01	2133.49	6.75	2128.48	6.74	-5	-0.24
132	317	185	53	5072	0.97205	876.72	0.54180	1842.43	216.41	0	4.95	2141.39	6.76	2136.13	6.74	-5.26	-0.25
132	318	186	54	5088	0.97116	877.77	0.54245	1841.44	223.95	0.56	4.9	2150.3	6.76	2145.32	6.75	-4.99	-0.23
132	319	187	55	5104	0.97027	878.8	0.54310	1840.46	231.6	0	4.85	2157.99	6.76	2152.75	6.75	-5.23	-0.24
132	320	188	56	5120	0.96938	879.82	0.54375	1839.51	239.35	0.56	4.8	2166.68	6.77	2161.73	6.76	-4.95	-0.23
132	321	189	57	5136	0.96847	880.83	0.54439	1838.57	247.2	0	4.74	2174.15	6.77	2168.97	6.76	-5.18	-0.24
132	322	190	58	5152	0.96756	881.82	0.54503	1837.64	255.16	0.56	4.69	2182.62	6.78	2177.73	6.76	-4.89	-0.22
132	323	191	59	5168	0.96663	882.81	0.54567	1836.74	263.22	0	4.64	2189.88	6.78	2184.77	6.76	-5.11	-0.23
132	324	192	60	5184	0.96571	883.78	0.54630	1835.85	271.38	0.56	4.59	2198.14	6.78	2193.33	6.77	-4.81	-0.22
132	325	193	61	5200	0.96477	884.74	0.54692	1834.98	279.64	0	4.55	2205.19	6.79	2200.17	6.77	-5.02	-0.23
132	326	194	62	5216	0.96383	885.69	0.54755	1834.12	288	0.55	4.5	2213.24	6.79	2208.53	6.77	-4.71	-0.21
132	327	195	63	5232	0.96288	886.62	0.54817	1833.28	296.46	0	4.45	2220.09	6.79	2215.18	6.77	-4.91	-0.22
132	328	196	64	5248	0.96193	887.55	0.54878	1832.45	305.02	0.55	4.41	2227.94	6.79	2223.34	6.78	-4.6	-0.21
132	329	197	65	5264	0.96097	888.47	0.54939	1831.64	313.67	0	4.36	2234.58	6.79	2229.79	6.78	-4.79	-0.21
132	330	198	66	5280	0.96000	889.37	0.55000	1830.85	322.42	0.55	4.32	2242.23	6.79	2237.77	6.78	-4.46	-0.2
132	331	199	67	5296	0.95903	890.26	0.55060	1830.07	331.26	0	4.27	2248.68	6.79	2244.03	6.78	-4.65	-0.21
132	332	200	68	5312	0.95805	891.14	0.55121	1829.3	340.2	0.55	4.23	2256.13	6.8	2251.81	6.78	-4.32	-0.19
132	333	201	69	5328	0.95707	892.02	0.55180	1828.55	349.23	0	4.19	2262.39	6.79	2257.89	6.78	-4.49	-0.2
132	334	202	70	5344	0.95608	892.88	0.55240	1827.82	358.35	0.55	4.15	2269.64	6.8	2265.48	6.78	-4.16	-0.18
132	335	203	71	5360	0.95508	893.73	0.55299	1827.1	367.57	0	4.11	2275.71	6.79	2271.38	6.78	-4.33	-0.19
132	336	204	72	5376	0.95408	894.57	0.55357	1826.39	376.88	0.55	4.07	2282.78	6.79	2278.79	6.78	-3.99	-0.17
132	337	205	73	5392	0.95308	895.4	0.55415	1825.7	386.27	0	4.03	2288.66	6.79	2284.51	6.78	-4.15	-0.18
132	338	206	74	5408	0.95207	896.22	0.55473	1825.02	395.75	0.54	3.99	2295.54	6.79	2291.74	6.78	-3.8	-0.17
132	339	207	75	5424	0.95105	897.03	0.55531	1824.36	405.33	0	3.95	2301.24	6.79	2297.28	6.78	-3.95	-0.17
132	340	208	76	5440	0.95004	897.83	0.55588	1823.7	414.99	0.54	3.91	2307.93	6.79	2304.33	6.78	-3.61	-0.16
132	341	209	77	5456	0.94901	898.62	0.55645	1823.06	424.73	0	3.87	2313.45	6.78	2309.7	6.77	-3.75	-0.16
132	342	210	78	5472	0.94798	899.4	0.55702	1822.44	434.57	0.54	3.84	2319.97	6.78	2316.57	6.77	-3.4	-0.15
132	343	211	79	5488	0.94695	900.17	0.55758	1821.83	444.49	0	3.8	2325.31	6.78	2321.77	6.77	-3.54	-0.15
132	344	212	80	5504	0.94592	900.94	0.55814	1821.23	454.49	0.54	3.77	2331.65	6.78	2328.47	6.77	-3.19	-0.14
132	345	213	81	5520	0.94488	901.69	0.55870	1820.64	464.58	0	3.73	2336.83	6.77	2333.5	6.76	-3.32	-0.14
132	346	214	82	5536	0.94383	902.43	0.55925	1820.07	474.75	0.54	3.7	2342.99	6.77	2340.03	6.76	-2.96	-0.13
132	347	215	83	5552	0.94279	903.17	0.55980	1819.5	485	0	3.66	2347.99	6.77	2344.9	6.76	-3.1	-0.13
132	348	216	84	5568	0.94174	903.89	0.56035	1818.95	495.33	0.54	3.63	2353.99	6.76	2351.25	6.76	-2.73	-0.12

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Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
132	349	217	85	5584	0.94068	904.61	0.56089	1818.42	505.75	0	3.6	2358.82	6.76	2355.96	6.75	-2.86	-0.12
132	350	218	86	5600	0.93962	905.32	0.56143	1817.89	516.24	0.53	3.56	2364.65	6.76	2362.15	6.75	-2.5	-0.11
132	351	219	87	5616	0.93856	906.02	0.56197	1817.38	526.82	0	3.53	2369.32	6.75	2366.7	6.74	-2.62	-0.11
132	352	220	88	5632	0.93750	906.71	0.56250	1816.87	537.47	0.53	3.5	2374.98	6.75	2372.73	6.74	-2.25	-0.1
132	353	221	89	5648	0.93643	907.39	0.56303	1816.38	548.2	0	3.47	2379.49	6.74	2377.12	6.73	-2.38	-0.1
132	354	222	90	5664	0.93536	908.07	0.56356	1815.9	559.01	0.53	3.44	2384.99	6.74	2382.98	6.73	-2.01	-0.08
132	355	223	91	5680	0.93429	908.73	0.56409	1815.43	569.9	0	3.41	2389.34	6.73	2387.22	6.72	-2.13	-0.09
132	356	224	92	5696	0.93322	909.39	0.56461	1814.98	580.86	0.53	3.38	2394.68	6.73	2392.93	6.72	-1.76	-0.07
132	357	225	93	5712	0.93214	910.04	0.56513	1814.53	591.9	0	3.35	2398.88	6.72	2397.01	6.71	-1.87	-0.08
132	358	226	94	5728	0.93106	910.68	0.56564	1814.1	603.01	0.53	3.32	2404.06	6.72	2402.56	6.71	-1.5	-0.06
132	359	227	95	5744	0.92997	911.32	0.56616	1813.67	614.2	0	3.29	2408.11	6.71	2406.49	6.7	-1.61	-0.07
132	360	228	96	5760	0.92889	911.94	0.56667	1813.26	625.46	0.53	3.26	2413.13	6.7	2411.89	6.7	-1.24	-0.05
132	361	229	97	5776	0.92780	912.56	0.56718	1812.85	636.79	0	3.24	2417.03	6.7	2415.68	6.69	-1.35	-0.06
132	362	230	98	5792	0.92671	913.17	0.56768	1812.46	648.2	0.53	3.21	2421.9	6.69	2420.92	6.69	-0.98	-0.04
132	363	231	99	5808	0.92562	913.77	0.56818	1812.08	659.68	0	3.18	2425.65	6.68	2424.56	6.68	-1.09	-0.04
132	364	232	100	5824	0.92453	914.37	0.56868	1811.7	671.23	0.52	3.15	2430.38	6.68	2429.66	6.67	-0.72	-0.03
132	365	233	101	5840	0.92343	914.96	0.56918	1811.34	682.85	0	3.13	2433.98	6.67	2433.16	6.67	-0.83	-0.03
132	366	234	102	5856	0.92233	915.54	0.56967	1810.99	694.54	0.52	3.1	2438.56	6.66	2438.11	6.66	-0.45	-0.02
132	367	235	103	5872	0.92123	916.11	0.57016	1810.64	706.3	0	3.08	2442.02	6.65	2441.46	6.65	-0.56	-0.02
132	368	236	104	5888	0.92013	916.68	0.57065	1810.31	718.13	0.52	3.05	2446.46	6.65	2446.27	6.65	-0.19	-0.01
132	369	237	105	5904	0.91903	917.24	0.57114	1809.98	730.03	0	3.03	2449.78	6.64	2449.48	6.64	-0.29	-0.01
132	370	238	106	5920	0.91793	917.79	0.57162	1809.67	741.99	0.52	3	2454.07	6.63	2454.14	6.63	0.08	0
132	371	239	107	5936	0.91682	918.34	0.57210	1809.36	754.03	0	2.98	2457.25	6.62	2457.22	6.62	-0.03	0
132	372	240	108	5952	0.91571	918.87	0.57258	1809.07	766.13	0.52	2.95	2461.4	6.62	2461.74	6.62	0.34	0.01
132	373	241	109	5968	0.91460	919.41	0.57306	1808.78	778.3	0	2.93	2464.45	6.61	2464.69	6.61	0.24	0.01
132	374	242	110	5984	0.91350	919.93	0.57353	1808.5	790.53	0.52	2.91	2468.47	6.6	2469.07	6.6	0.6	0.02
132	375	243	111	6000	0.91238	920.45	0.57400	1808.23	802.83	0	2.88	2471.38	6.59	2471.88	6.59	0.5	0.02
132	376	244	112	6016	0.91127	920.96	0.57447	1807.97	815.19	0.52	2.86	2475.26	6.58	2476.12	6.59	0.87	0.03
132	377	245	113	6032	0.91016	921.47	0.57493	1807.72	827.61	0	2.84	2478.04	6.57	2478.8	6.58	0.76	0.03
132	378	246	114	6048	0.90905	921.97	0.57540	1807.47	840.1	0.51	2.82	2481.79	6.57	2482.91	6.57	1.13	0.05
132	379	247	115	6064	0.90793	922.46	0.57586	1807.24	852.66	0	2.8	2484.44	6.56	2485.46	6.56	1.02	0.04
132	380	248	116	6080	0.90681	922.95	0.57632	1807.01	865.27	0.51	2.77	2488.06	6.55	2489.44	6.55	1.38	0.06
132	381	249	117	6096	0.90570	923.43	0.57677	1806.79	877.95	0	2.75	2490.58	6.54	2491.86	6.54	1.28	0.05
132	382	250	118	6112	0.90458	923.9	0.57723	1806.58	890.69	0.51	2.73	2494.07	6.53	2495.71	6.53	1.64	0.07
132	383	251	119	6128	0.90346	924.37	0.57768	1806.38	903.5	0	2.71	2496.47	6.52	2498	6.52	1.53	0.06
132	384	252	120	6144	0.90234	924.83	0.57813	1806.19	916.36	0.51	2.69	2499.83	6.51	2501.72	6.51	1.89	0.08
132	385	253	121	6160	0.90122	925.28	0.57857	1806	929.28	0	2.67	2502.1	6.5	2503.89	6.5	1.78	0.07
132	386	254	122	6176	0.90011	925.73	0.57902	1805.82	942.26	0.51	2.65	2505.34	6.49	2507.48	6.5	2.14	0.09
132	387	255	123	6192	0.89898	926.18	0.57946	1805.65	955.3	0	2.63	2507.5	6.48	2509.53	6.48	2.03	0.08
132	388	256	124	6208	0.89786	926.62	0.57990	1805.49	968.4	0.51	2.61	2510.61	6.47	2512.99	6.48	2.38	0.09
132	389	257	125	6224	0.89674	927.05	0.58033	1805.34	981.56	0	2.59	2512.64	6.46	2514.92	6.47	2.27	0.09
132	390	258	126	6240	0.89562	927.48	0.58077	1805.19	994.78	0.51	2.57	2515.63	6.45	2518.26	6.46	2.63	0.1
132	391	259	127	6256	0.89450	927.9	0.58120	1805.05	1008.06	0	2.56	2517.55	6.44	2520.07	6.45	2.51	0.1
132	392	260	128	6272	0.89338	928.31	0.58163	1804.92	1021.39	0.51	2.54	2520.43	6.43	2523.29	6.44	2.86	0.11
132	393	261	129	6288	0.89226	928.72	0.58206	1804.79	1034.78	0	2.52	2522.23	6.42	2524.98	6.42	2.75	0.11
132	394	262	130	6304	0.89113	929.13	0.58249	1804.67	1048.22	0.5	2.5	2524.98	6.41	2528.08	6.42	3.09	0.12
132	395	263	131	6320	0.89001	929.53	0.58291	1804.56	1061.72	0	2.48	2526.67	6.4	2529.65	6.4	2.98	0.12

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
132	396	264	132	6336	0.88889	929.92	0.58333	1804.46	1075.28	0.5	2.47	2529.31	6.39	2532.63	6.4	3.32	0.13
132	397	265	133	6352	0.88777	930.31	0.58375	1804.36	1088.89	0	2.45	2530.89	6.38	2534.09	6.38	3.2	0.13
132	398	266	134	6368	0.88664	930.69	0.58417	1804.27	1102.55	0.5	2.43	2533.41	6.37	2536.95	6.37	3.54	0.14
132	399	267	135	6384	0.88552	931.07	0.58459	1804.19	1116.27	0	2.41	2534.88	6.35	2538.3	6.36	3.42	0.13
132	400	268	136	6400	0.88440	931.44	0.58500	1804.11	1130.05	0.5	2.4	2537.29	6.34	2541.05	6.35	3.75	0.15
132	401	269	137	6416	0.88328	931.81	0.58541	1804.04	1143.87	0	2.38	2538.65	6.33	2542.28	6.34	3.63	0.14
132	402	270	138	6432	0.88216	932.18	0.58582	1803.98	1157.75	0.5	2.37	2540.95	6.32	2544.91	6.33	3.96	0.16
132	403	271	139	6448	0.88104	932.53	0.58623	1803.92	1171.69	0	2.35	2542.21	6.31	2546.04	6.32	3.84	0.15
132	404	272	140	6464	0.87991	932.89	0.58663	1803.87	1185.67	0.5	2.33	2544.4	6.3	2548.56	6.31	4.16	0.16
132	405	273	141	6480	0.87879	933.24	0.58704	1803.83	1199.71	0	2.32	2545.54	6.29	2549.58	6.3	4.03	0.16
132	406	274	142	6496	0.87767	933.58	0.58744	1803.79	1213.8	0.5	2.3	2547.63	6.27	2551.99	6.29	4.36	0.17
132	407	275	143	6512	0.87655	933.92	0.58784	1803.76	1227.93	0	2.29	2548.67	6.26	2552.9	6.27	4.23	0.17
132	408	276	144	6528	0.87543	934.25	0.58824	1803.74	1242.12	0.5	2.27	2550.65	6.25	2555.2	6.26	4.54	0.18
132	409	277	145	6544	0.87431	934.58	0.58863	1803.72	1256.36	0	2.26	2551.59	6.24	2556	6.25	4.41	0.17
132	410	278	146	6560	0.87320	934.91	0.58902	1803.7	1270.65	0.49	2.24	2553.47	6.23	2558.19	6.24	4.73	0.18
132	411	279	147	6576	0.87208	935.23	0.58942	1803.7	1284.99	0	2.23	2554.31	6.21	2558.9	6.23	4.59	0.18
132	412	280	148	6592	0.87096	935.54	0.58981	1803.7	1299.38	0.49	2.21	2556.08	6.2	2560.98	6.22	4.9	0.19
132	413	281	149	6608	0.86984	935.86	0.59019	1803.7	1313.82	0	2.2	2556.82	6.19	2561.58	6.2	4.76	0.19
132	414	282	150	6624	0.86873	936.16	0.59058	1803.71	1328.31	0.49	2.18	2558.49	6.18	2563.56	6.19	5.06	0.2
132	415	283	151	6640	0.86761	936.46	0.59096	1803.73	1342.84	0	2.17	2559.13	6.17	2564.05	6.18	4.92	0.19
132	416	284	152	6656	0.86649	936.76	0.59135	1803.75	1357.42	0.49	2.16	2560.71	6.16	2565.93	6.17	5.22	0.2
132	417	285	153	6672	0.86538	937.06	0.59173	1803.78	1372.05	0	2.14	2561.25	6.14	2566.33	6.15	5.07	0.2
132	418	286	154	6688	0.86427	937.35	0.59211	1803.82	1386.73	0.49	2.13	2562.73	6.13	2568.1	6.14	5.37	0.21
132	419	287	155	6704	0.86315	937.63	0.59248	1803.86	1401.45	0	2.11	2563.18	6.12	2568.4	6.13	5.22	0.2
132	420	288	156	6720	0.86204	937.91	0.59286	1803.9	1416.22	0.49	2.1	2564.56	6.11	2570.07	6.12	5.51	0.21
132	421	289	157	6736	0.86093	938.19	0.59323	1803.95	1431.04	0	2.09	2564.91	6.09	2570.27	6.11	5.36	0.21
132	422	290	158	6752	0.85982	938.46	0.59360	1804.01	1445.9	0.49	2.08	2566.2	6.08	2571.84	6.09	5.64	0.22
132	423	291	159	6768	0.85871	938.73	0.59397	1804.07	1460.8	0	2.06	2566.46	6.07	2571.94	6.08	5.48	0.21
132	424	292	160	6784	0.85760	939	0.59434	1804.13	1475.76	0.49	2.05	2567.65	6.06	2573.41	6.07	5.77	0.22
132	425	293	161	6800	0.85649	939.26	0.59471	1804.21	1490.75	0	2.04	2567.82	6.04	2573.42	6.06	5.6	0.22
132	426	294	162	6816	0.85539	939.51	0.59507	1804.28	1505.79	0.48	2.02	2568.92	6.03	2574.8	6.04	5.88	0.23
132	427	295	163	6832	0.85428	939.77	0.59543	1804.37	1520.88	0	2.01	2569	6.02	2574.71	6.03	5.71	0.22
132	428	296	164	6848	0.85318	940.02	0.59579	1804.45	1536.01	0.48	2	2570	6	2575.99	6.02	5.99	0.23
132	429	297	165	6864	0.85207	940.26	0.59615	1804.54	1551.18	0	1.99	2570	5.99	2575.81	6	5.81	0.23
132	430	298	166	6880	0.85097	940.5	0.59651	1804.64	1566.4	0.48	1.98	2570.91	5.98	2577	5.99	6.08	0.24
132	431	299	167	6896	0.84987	940.74	0.59687	1804.74	1581.66	0	1.96	2570.82	5.96	2576.73	5.98	5.91	0.23
132	432	300	168	6912	0.84877	940.98	0.59722	1804.85	1596.96	0.48	1.95	2571.65	5.95	2577.81	5.97	6.17	0.24
132	433	301	169	6928	0.84767	941.21	0.59758	1804.96	1612.31	0	1.94	2571.47	5.94	2577.46	5.95	5.99	0.23
132	434	302	170	6944	0.84657	941.43	0.59793	1805.08	1627.69	0.48	1.93	2572.21	5.93	2578.45	5.94	6.25	0.24
132	435	303	171	6960	0.84547	941.66	0.59828	1805.2	1643.12	0	1.92	2571.94	5.91	2578	5.93	6.06	0.24
132	436	304	172	6976	0.84437	941.88	0.59862	1805.33	1658.59	0.48	1.91	2572.59	5.9	2578.91	5.91	6.31	0.24
132	437	305	173	6992	0.84328	942.09	0.59897	1805.46	1674.1	0	1.9	2572.25	5.89	2578.37	5.9	6.12	0.24
132	438	306	174	7008	0.84218	942.31	0.59932	1805.59	1689.65	0.48	1.89	2572.81	5.87	2579.18	5.89	6.37	0.25
132	439	307	175	7024	0.84109	942.51	0.59966	1805.73	1705.25	0	1.87	2572.38	5.86	2578.56	5.87	6.18	0.24
132	440	308	176	7040	0.84000	942.72	0.60000	1805.88	1720.88	0.48	1.86	2572.87	5.85	2579.28	5.86	6.42	0.25
132	441	309	177	7056	0.83891	942.92	0.60034	1806.02	1736.55	0	1.85	2572.35	5.83	2578.57	5.85	6.22	0.24
132	442	310	178	7072	0.83782	943.12	0.60068	1806.18	1752.27	0.48	1.84	2572.75	5.82	2579.21	5.84	6.45	0.25

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
132	443	311	179	7088	0.83673	943.32	0.60102	1806.33	1768.02	0	1.83	2572.16	5.81	2578.41	5.82	6.25	0.24
132	444	312	180	7104	0.83565	943.51	0.60135	1806.5	1783.81	0.47	1.82	2572.48	5.79	2578.96	5.81	6.48	0.25
132	445	313	181	7120	0.83456	943.7	0.60169	1806.66	1799.64	0	1.81	2571.81	5.78	2578.08	5.79	6.27	0.24
132	446	314	182	7136	0.83348	943.88	0.60202	1806.83	1815.51	0.47	1.8	2572.05	5.77	2578.54	5.78	6.5	0.25
132	447	315	183	7152	0.83240	944.07	0.60235	1807.01	1831.42	0	1.79	2571.3	5.75	2577.58	5.77	6.29	0.24
132	448	316	184	7168	0.83131	944.25	0.60268	1807.19	1847.37	0.47	1.78	2571.45	5.74	2577.96	5.75	6.5	0.25
132	449	317	185	7184	0.83023	944.42	0.60301	1807.37	1863.35	0	1.77	2570.63	5.73	2576.92	5.74	6.29	0.24
132	450	318	186	7200	0.82916	944.6	0.60333	1807.56	1879.37	0.47	1.76	2570.71	5.71	2577.21	5.73	6.5	0.25
132	451	319	187	7216	0.82808	944.77	0.60366	1807.75	1895.43	0	1.75	2569.81	5.7	2576.08	5.71	6.28	0.24
132	452	320	188	7232	0.82700	944.93	0.60398	1807.94	1911.53	0.47	1.74	2569.81	5.69	2576.29	5.7	6.48	0.25
132	453	321	189	7248	0.82593	945.1	0.60431	1808.14	1927.67	0	1.73	2568.83	5.67	2575.09	5.68	6.26	0.24
132	454	322	190	7264	0.82486	945.26	0.60463	1808.34	1943.84	0.47	1.72	2568.76	5.66	2575.21	5.67	6.46	0.25
132	455	323	191	7280	0.82379	945.42	0.60495	1808.55	1960.04	0	1.72	2567.7	5.64	2573.93	5.66	6.23	0.24
132	456	324	192	7296	0.82272	945.57	0.60526	1808.76	1976.29	0.47	1.71	2567.55	5.63	2573.98	5.64	6.42	0.25
132	457	325	193	7312	0.82165	945.72	0.60558	1808.98	1992.57	0	1.7	2566.43	5.62	2572.61	5.63	6.18	0.24
132	458	326	194	7328	0.82058	945.87	0.60590	1809.19	2008.88	0.47	1.69	2566.21	5.6	2572.58	5.62	6.37	0.25
132	459	327	195	7344	0.81951	946.02	0.60621	1809.42	2025.23	0	1.68	2565.01	5.59	2571.14	5.6	6.13	0.24
132	460	328	196	7360	0.81845	946.16	0.60652	1809.64	2041.62	0.47	1.67	2564.71	5.58	2571.03	5.59	6.31	0.25
132	461	329	197	7376	0.81739	946.3	0.60683	1809.87	2058.04	0	1.66	2563.44	5.56	2569.51	5.57	6.07	0.24
132	462	330	198	7392	0.81633	946.44	0.60714	1810.1	2074.5	0.47	1.65	2563.07	5.55	2569.32	5.56	6.24	0.24
Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
133	265	132	-1	4240	0.99999	800.37	0.49906	1955.31	0.09	0	9.84	1494.06	5.64	1503.23	5.67	9.16	0.61
133	266	133	0	4256	1.00000	802.4	0.50000	1952.84	0	-0.61	10	1510.14	5.68	1519.02	5.71	8.87	0.58
133	267	134	1	4272	0.99999	804.4	0.50094	1950.42	0.09	0	9.84	1526.94	5.72	1534.45	5.75	7.51	0.49
133	268	135	2	4288	0.99994	806.37	0.50187	1948.03	0.36	-0.61	9.69	1542.32	5.75	1549.9	5.78	7.58	0.49
133	269	136	3	4304	0.99988	808.32	0.50279	1945.68	0.82	0	9.54	1558.73	5.79	1565	5.82	6.27	0.4
133	270	137	4	4320	0.99978	810.24	0.50370	1943.37	1.45	-0.61	9.4	1573.73	5.83	1580.11	5.85	6.38	0.4
133	271	138	5	4336	0.99966	812.14	0.50461	1941.09	2.25	0	9.25	1589.76	5.87	1594.88	5.89	5.11	0.32
133	272	139	6	4352	0.99951	814.02	0.50552	1938.86	3.23	-0.61	9.12	1604.4	5.9	1609.67	5.92	5.27	0.33
133	273	140	7	4368	0.99934	815.88	0.50641	1936.65	4.38	0	8.98	1620.07	5.93	1624.1	5.95	4.03	0.25
133	274	141	8	4384	0.99915	817.71	0.50730	1934.49	5.7	-0.6	8.85	1634.34	5.96	1638.57	5.98	4.23	0.26
133	275	142	9	4400	0.99893	819.52	0.50818	1932.36	7.19	0	8.72	1649.65	6	1652.69	6.01	3.03	0.18
133	276	143	10	4416	0.99869	821.3	0.50906	1930.26	8.84	-0.6	8.59	1663.58	6.03	1666.84	6.04	3.26	0.2
133	277	144	11	4432	0.99842	823.07	0.50993	1928.2	10.66	0	8.46	1678.54	6.06	1680.64	6.07	2.11	0.13
133	278	145	12	4448	0.99814	824.81	0.51079	1926.17	12.64	-0.6	8.34	1692.12	6.09	1694.49	6.1	2.37	0.14
133	279	146	13	4464	0.99783	826.53	0.51165	1924.17	14.79	0	8.22	1706.73	6.12	1707.98	6.12	1.25	0.07
133	280	147	14	4480	0.99750	828.23	0.51250	1922.2	17.09	-0.6	8.11	1719.98	6.14	1721.53	6.15	1.54	0.09
133	281	148	15	4496	0.99715	829.91	0.51335	1920.27	19.55	0	7.99	1734.26	6.17	1734.72	6.17	0.46	0.03
133	282	149	16	4512	0.99678	831.57	0.51418	1918.37	22.16	-0.6	7.88	1747.18	6.2	1747.97	6.2	0.79	0.04
133	283	150	17	4528	0.99639	833.21	0.51502	1916.5	24.93	0	7.77	1761.13	6.22	1760.86	6.22	-0.27	-0.02
133	284	151	18	4544	0.99598	834.83	0.51585	1914.66	27.85	-0.59	7.66	1773.73	6.25	1773.82	6.25	0.09	0
133	285	152	19	4560	0.99556	836.43	0.51667	1912.84	30.92	0	7.56	1787.36	6.27	1786.42	6.27	-0.94	-0.05
133	286	153	20	4576	0.99511	838.01	0.51748	1911.06	34.15	-0.59	7.45	1799.64	6.29	1799.09	6.29	-0.55	-0.03
133	287	154	21	4592	0.99465	839.57	0.51829	1909.31	37.52	0	7.35	1812.96	6.32	1811.41	6.31	-1.55	-0.09
133	288	155	22	4608	0.99417	841.11	0.51910	1907.58	41.03	-0.59	7.26	1824.94	6.34	1823.8	6.33	-1.13	-0.06
133	289	156	23	4624	0.99367	842.64	0.51990	1905.89	44.69	0	7.16	1837.94	6.36	1835.84	6.35	-2.1	-0.11

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Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
133	290	157	24	4640	0.99315	844.14	0.52069	1904.22	48.49	-0.59	7.06	1849.62	6.38	1847.96	6.37	-1.66	-0.09
133	291	158	25	4656	0.99262	845.63	0.52148	1902.57	52.44	0	6.97	1862.33	6.4	1859.72	6.39	-2.61	-0.14
133	292	159	26	4672	0.99207	847.1	0.52226	1900.96	56.52	-0.59	6.88	1873.71	6.42	1871.57	6.41	-2.14	-0.11
133	293	160	27	4688	0.99151	848.55	0.52304	1899.37	60.75	0	6.79	1886.12	6.44	1883.06	6.43	-3.06	-0.16
133	294	161	28	4704	0.99093	849.98	0.52381	1897.81	65.11	-0.58	6.7	1897.22	6.45	1894.65	6.44	-2.57	-0.14
133	295	162	29	4720	0.99034	851.4	0.52458	1896.27	69.61	0	6.62	1909.34	6.47	1905.88	6.46	-3.46	-0.18
133	296	163	30	4736	0.98973	852.8	0.52534	1894.76	74.24	-0.58	6.53	1920.16	6.49	1917.2	6.48	-2.95	-0.15
133	297	164	31	4752	0.98911	854.18	0.52609	1893.27	79.01	0	6.45	1932	6.51	1928.17	6.49	-3.83	-0.2
133	298	165	32	4768	0.98847	855.54	0.52685	1891.81	83.91	-0.58	6.37	1942.54	6.52	1939.24	6.51	-3.29	-0.17
133	299	166	33	4784	0.98782	856.89	0.52759	1890.37	88.93	0	6.29	1954.1	6.54	1949.95	6.52	-4.14	-0.21
133	300	167	34	4800	0.98716	858.23	0.52833	1888.95	94.09	-0.58	6.21	1964.37	6.55	1960.77	6.54	-3.59	-0.18
133	301	168	35	4816	0.98648	859.54	0.52907	1887.56	99.38	0	6.14	1975.66	6.56	1971.23	6.55	-4.42	-0.22
133	302	169	36	4832	0.98579	860.84	0.52980	1886.19	104.79	-0.58	6.06	1985.66	6.58	1981.81	6.56	-3.85	-0.19
133	303	170	37	4848	0.98509	862.13	0.53053	1884.84	110.33	0	5.99	1996.68	6.59	1992.02	6.57	-4.66	-0.23
133	304	171	38	4864	0.98438	863.4	0.53125	1883.52	115.99	-0.57	5.92	2006.43	6.6	2002.36	6.59	-4.07	-0.2
133	305	172	39	4880	0.98365	864.65	0.53197	1882.22	121.78	0	5.84	2017.19	6.61	2012.33	6.6	-4.86	-0.24
133	306	173	40	4896	0.98291	865.89	0.53268	1880.94	127.69	-0.57	5.78	2026.68	6.62	2022.43	6.61	-4.26	-0.21
133	307	174	41	4912	0.98216	867.12	0.53339	1879.68	133.71	0	5.71	2037.19	6.64	2032.16	6.62	-5.03	-0.25
133	308	175	42	4928	0.98141	868.33	0.53409	1878.45	139.86	-0.57	5.64	2046.43	6.64	2042.02	6.63	-4.41	-0.22
133	309	176	43	4944	0.98064	869.52	0.53479	1877.23	146.13	0	5.57	2056.69	6.66	2051.53	6.64	-5.17	-0.25
133	310	177	44	4960	0.97985	870.7	0.53548	1876.03	152.51	-0.57	5.51	2065.69	6.66	2061.16	6.65	-4.53	-0.22
133	311	178	45	4976	0.97906	871.87	0.53617	1874.86	159.01	0	5.45	2075.7	6.67	2070.43	6.66	-5.27	-0.25
133	312	179	46	4992	0.97826	873.03	0.53686	1873.7	165.63	-0.57	5.38	2084.46	6.68	2079.84	6.67	-4.62	-0.22
133	313	180	47	5008	0.97745	874.17	0.53754	1872.57	172.36	0	5.32	2094.23	6.69	2088.89	6.67	-5.35	-0.26
133	314	181	48	5024	0.97663	875.29	0.53822	1871.45	179.2	-0.56	5.26	2102.76	6.7	2098.07	6.68	-4.68	-0.22
133	315	182	49	5040	0.97580	876.4	0.53889	1870.36	186.15	0	5.2	2112.29	6.71	2106.9	6.69	-5.39	-0.26
133	316	183	50	5056	0.97496	877.5	0.53956	1869.28	193.22	-0.56	5.15	2120.59	6.71	2115.87	6.7	-4.72	-0.22
133	317	184	51	5072	0.97412	878.59	0.54022	1868.22	200.39	0	5.09	2129.89	6.72	2124.48	6.7	-5.41	-0.25
133	318	185	52	5088	0.97326	879.66	0.54088	1867.18	207.67	-0.56	5.03	2137.96	6.72	2133.23	6.71	-4.73	-0.22
133	319	186	53	5104	0.97240	880.72	0.54154	1866.16	215.06	0	4.98	2147.04	6.73	2141.63	6.71	-5.41	-0.25
133	320	187	54	5120	0.97152	881.77	0.54219	1865.15	222.56	-0.56	4.92	2154.88	6.73	2150.17	6.72	-4.71	-0.22
133	321	188	55	5136	0.97064	882.8	0.54284	1864.17	230.16	0	4.87	2163.74	6.74	2158.35	6.72	-5.38	-0.25
133	322	189	56	5152	0.96975	883.83	0.54348	1863.2	237.87	-0.56	4.82	2171.37	6.74	2166.69	6.73	-4.68	-0.22
133	323	190	57	5168	0.96886	884.84	0.54412	1862.25	245.68	0	4.77	2180	6.75	2174.67	6.73	-5.34	-0.25
133	324	191	58	5184	0.96796	885.84	0.54475	1861.31	253.59	-0.56	4.71	2187.42	6.75	2182.8	6.74	-4.62	-0.21
133	325	192	59	5200	0.96704	886.82	0.54539	1860.39	261.61	0	4.67	2195.84	6.76	2190.58	6.74	-5.27	-0.24
133	326	193	60	5216	0.96613	887.8	0.54601	1859.49	269.72	-0.55	4.62	2203.05	6.76	2198.51	6.74	-4.54	-0.21
133	327	194	61	5232	0.96520	888.76	0.54664	1858.61	277.94	0	4.57	2211.26	6.76	2206.09	6.75	-5.18	-0.23
133	328	195	62	5248	0.96427	889.71	0.54726	1857.74	286.25	-0.55	4.52	2218.27	6.76	2213.82	6.75	-4.44	-0.2
133	329	196	63	5264	0.96333	890.65	0.54787	1856.89	294.67	0	4.47	2226.27	6.77	2221.2	6.75	-5.07	-0.23
133	330	197	64	5280	0.96239	891.58	0.54849	1856.05	303.18	-0.55	4.43	2233.07	6.77	2228.74	6.75	-4.33	-0.19
133	331	198	65	5296	0.96144	892.5	0.54909	1855.23	311.78	0	4.38	2240.88	6.77	2235.93	6.76	-4.95	-0.22
133	332	199	66	5312	0.96048	893.41	0.54970	1854.42	320.48	-0.55	4.34	2247.48	6.77	2243.28	6.76	-4.2	-0.19
133	333	200	67	5328	0.95952	894.3	0.55030	1853.63	329.28	0	4.3	2255.08	6.77	2250.27	6.76	-4.81	-0.21
133	334	201	68	5344	0.95855	895.19	0.55090	1852.85	338.17	-0.55	4.25	2261.49	6.77	2257.44	6.76	-4.05	-0.18
133	335	202	69	5360	0.95758	896.06	0.55149	1852.09	347.15	0	4.21	2268.9	6.77	2264.25	6.76	-4.66	-0.21
133	336	203	70	5376	0.95660	896.93	0.55208	1851.35	356.23	-0.55	4.17	2275.12	6.77	2271.23	6.76	-3.89	-0.17

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
133	337	204	71	5392	0.95561	897.78	0.55267	1850.61	365.39	0	4.13	2282.34	6.77	2277.85	6.76	-4.49	-0.2
133	338	205	72	5408	0.95462	898.62	0.55325	1849.9	374.65	-0.54	4.09	2288.37	6.77	2284.65	6.76	-3.72	-0.16
133	339	206	73	5424	0.95363	899.46	0.55384	1849.19	384	0	4.05	2295.4	6.77	2291.09	6.76	-4.31	-0.19
133	340	207	74	5440	0.95263	900.28	0.55441	1848.5	393.43	-0.54	4.01	2301.25	6.77	2297.71	6.76	-3.54	-0.15
133	341	208	75	5456	0.95163	901.1	0.55499	1847.83	402.96	0	3.97	2308.09	6.77	2303.97	6.76	-4.12	-0.18
133	342	209	76	5472	0.95062	901.9	0.55556	1847.16	412.57	-0.54	3.93	2313.76	6.77	2310.42	6.76	-3.34	-0.14
133	343	210	77	5488	0.94960	902.69	0.55612	1846.51	422.27	0	3.9	2320.42	6.77	2316.51	6.75	-3.92	-0.17
133	344	211	78	5504	0.94859	903.48	0.55669	1845.88	432.05	-0.54	3.86	2325.91	6.76	2322.78	6.75	-3.13	-0.13
133	345	212	79	5520	0.94757	904.25	0.55725	1845.25	441.92	0	3.82	2332.4	6.76	2328.69	6.75	-3.7	-0.16
133	346	213	80	5536	0.94654	905.02	0.55780	1844.64	451.87	-0.54	3.79	2337.72	6.76	2334.8	6.75	-2.92	-0.13
133	347	214	81	5552	0.94551	905.78	0.55836	1844.05	461.91	0	3.75	2344.02	6.76	2340.54	6.75	-3.48	-0.15
133	348	215	82	5568	0.94448	906.52	0.55891	1843.46	472.02	-0.54	3.72	2349.17	6.75	2346.47	6.74	-2.7	-0.11
133	349	216	83	5584	0.94344	907.26	0.55946	1842.89	482.23	0	3.68	2355.3	6.75	2352.05	6.74	-3.26	-0.14
133	350	217	84	5600	0.94240	907.99	0.56000	1842.33	492.51	-0.53	3.65	2360.28	6.74	2357.82	6.74	-2.46	-0.1
133	351	218	85	5616	0.94136	908.71	0.56054	1841.78	502.87	0	3.62	2366.25	6.74	2363.23	6.73	-3.02	-0.13
133	352	219	86	5632	0.94031	909.43	0.56108	1841.24	513.32	-0.53	3.58	2371.06	6.74	2368.84	6.73	-2.23	-0.09
133	353	220	87	5648	0.93926	910.13	0.56162	1840.72	523.84	0	3.55	2376.86	6.73	2374.08	6.73	-2.78	-0.12
133	354	221	88	5664	0.93820	910.82	0.56215	1840.21	534.44	-0.53	3.52	2381.52	6.73	2379.53	6.72	-1.98	-0.08
133	355	222	89	5680	0.93715	911.51	0.56268	1839.71	545.12	0	3.49	2387.15	6.72	2384.62	6.72	-2.53	-0.11
133	356	223	90	5696	0.93609	912.19	0.56320	1839.22	555.88	-0.53	3.46	2391.64	6.72	2389.91	6.71	-1.73	-0.07
133	357	224	91	5712	0.93503	912.86	0.56373	1838.74	566.71	0	3.43	2397.12	6.71	2394.84	6.71	-2.28	-0.1
133	358	225	92	5728	0.93396	913.52	0.56425	1838.27	577.62	-0.53	3.4	2401.46	6.71	2399.98	6.7	-1.48	-0.06
133	359	226	93	5744	0.93289	914.17	0.56476	1837.81	588.61	0	3.37	2406.77	6.7	2404.75	6.7	-2.02	-0.08
133	360	227	94	5760	0.93182	914.82	0.56528	1837.37	599.67	-0.53	3.34	2410.95	6.7	2409.73	6.69	-1.22	-0.05
133	361	228	95	5776	0.93075	915.46	0.56579	1836.93	610.8	0	3.31	2416.11	6.69	2414.35	6.69	-1.76	-0.07
133	362	229	96	5792	0.92967	916.09	0.56630	1836.51	622.01	-0.53	3.28	2420.15	6.69	2419.19	6.68	-0.96	-0.04
133	363	230	97	5808	0.92860	916.71	0.56680	1836.1	633.29	0	3.26	2425.15	6.68	2423.66	6.68	-1.5	-0.06
133	364	231	98	5824	0.92752	917.33	0.56731	1835.69	644.65	-0.52	3.23	2429.04	6.67	2428.34	6.67	-0.7	-0.03
133	365	232	99	5840	0.92643	917.93	0.56781	1835.3	656.07	0	3.2	2433.89	6.67	2432.66	6.66	-1.23	-0.05
133	366	233	100	5856	0.92535	918.53	0.56831	1834.92	667.57	-0.52	3.17	2437.63	6.66	2437.2	6.66	-0.43	-0.02
133	367	234	101	5872	0.92426	919.12	0.56880	1834.55	679.14	0	3.15	2442.34	6.65	2441.38	6.65	-0.96	-0.04
133	368	235	102	5888	0.92318	919.71	0.56929	1834.18	690.78	-0.52	3.12	2445.93	6.65	2445.77	6.65	-0.16	-0.01
133	369	236	103	5904	0.92209	920.29	0.56978	1833.83	702.48	0	3.1	2450.5	6.64	2449.8	6.64	-0.69	-0.03
133	370	237	104	5920	0.92099	920.86	0.57027	1833.49	714.26	-0.52	3.07	2453.95	6.63	2454.05	6.63	0.11	0
133	371	238	105	5936	0.91990	921.42	0.57076	1833.15	726.1	0	3.05	2458.37	6.63	2457.94	6.63	-0.42	-0.02
133	372	239	106	5952	0.91881	921.98	0.57124	1832.83	738.02	-0.52	3.02	2461.68	6.62	2462.05	6.62	0.38	0.02
133	373	240	107	5968	0.91771	922.53	0.57172	1832.51	750	0	3	2465.96	6.61	2465.8	6.61	-0.16	-0.01
133	374	241	108	5984	0.91661	923.07	0.57219	1832.21	762.04	-0.52	2.97	2469.13	6.6	2469.78	6.6	0.64	0.03
133	375	242	109	6000	0.91551	923.61	0.57267	1831.91	774.16	0	2.95	2473.28	6.6	2473.39	6.6	0.11	0
133	376	243	110	6016	0.91441	924.14	0.57314	1831.63	786.33	-0.52	2.93	2476.32	6.59	2477.23	6.59	0.91	0.04
133	377	244	111	6032	0.91331	924.66	0.57361	1831.35	798.58	0	2.9	2480.32	6.58	2480.7	6.58	0.38	0.02
133	378	245	112	6048	0.91221	925.17	0.57407	1831.08	810.89	-0.51	2.88	2483.23	6.57	2484.41	6.57	1.18	0.05
133	379	246	113	6064	0.91111	925.68	0.57454	1830.82	823.26	0	2.86	2487.1	6.56	2487.75	6.56	0.65	0.03
133	380	247	114	6080	0.91000	926.19	0.57500	1830.56	835.69	-0.51	2.84	2489.88	6.55	2491.32	6.56	1.44	0.06
133	381	248	115	6096	0.90889	926.68	0.57546	1830.32	848.19	0	2.81	2493.62	6.54	2494.53	6.55	0.91	0.04
133	382	249	116	6112	0.90779	927.17	0.57592	1830.09	860.76	-0.51	2.79	2496.26	6.53	2497.97	6.54	1.71	0.07
133	383	250	117	6128	0.90668	927.66	0.57637	1829.86	873.38	0	2.77	2499.87	6.53	2501.05	6.53	1.18	0.05

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
133	384	251	118	6144	0.90557	928.14	0.57682	1829.64	886.07	-0.51	2.75	2502.4	6.52	2504.36	6.52	1.97	0.08
133	385	252	119	6160	0.90446	928.61	0.57727	1829.43	898.81	0	2.73	2505.88	6.51	2507.31	6.51	1.44	0.06
133	386	253	120	6176	0.90335	929.08	0.57772	1829.23	911.62	-0.51	2.71	2508.28	6.5	2510.5	6.5	2.23	0.09
133	387	254	121	6192	0.90224	929.54	0.57817	1829.03	924.49	0	2.69	2511.63	6.49	2513.33	6.49	1.7	0.07
133	388	255	122	6208	0.90113	929.99	0.57861	1828.85	937.42	-0.51	2.67	2513.91	6.48	2516.39	6.49	2.48	0.1
133	389	256	123	6224	0.90002	930.44	0.57905	1828.67	950.41	0	2.65	2517.14	6.47	2519.09	6.48	1.95	0.08
133	390	257	124	6240	0.89891	930.88	0.57949	1828.5	963.45	-0.51	2.63	2519.29	6.46	2522.03	6.47	2.73	0.11
133	391	258	125	6256	0.89780	931.32	0.57992	1828.34	976.56	0	2.61	2522.4	6.45	2524.6	6.46	2.2	0.09
133	392	259	126	6272	0.89668	931.75	0.58036	1828.18	989.72	-0.51	2.59	2524.44	6.44	2527.42	6.45	2.98	0.12
133	393	260	127	6288	0.89557	932.17	0.58079	1828.03	1002.94	0	2.57	2527.43	6.43	2529.87	6.44	2.44	0.1
133	394	261	128	6304	0.89446	932.59	0.58122	1827.89	1016.22	-0.5	2.56	2529.35	6.42	2532.57	6.43	3.22	0.13
133	395	262	129	6320	0.89334	933.01	0.58165	1827.76	1029.55	0	2.54	2532.22	6.41	2534.9	6.42	2.69	0.11
133	396	263	130	6336	0.89223	933.42	0.58207	1827.63	1042.94	-0.5	2.52	2534.03	6.4	2537.48	6.41	3.46	0.14
133	397	264	131	6352	0.89112	933.82	0.58249	1827.51	1056.39	0	2.5	2536.78	6.39	2539.7	6.4	2.92	0.12
133	398	265	132	6368	0.89000	934.22	0.58292	1827.4	1069.89	-0.5	2.48	2538.47	6.38	2542.16	6.39	3.69	0.15
133	399	266	133	6384	0.88889	934.61	0.58333	1827.3	1083.44	0	2.47	2541.11	6.37	2544.26	6.38	3.15	0.12
133	400	267	134	6400	0.88778	935	0.58375	1827.2	1097.06	-0.5	2.45	2542.69	6.36	2546.61	6.37	3.92	0.15
133	401	268	135	6416	0.88666	935.38	0.58417	1827.11	1110.72	0	2.43	2545.22	6.35	2548.6	6.36	3.38	0.13
133	402	269	136	6432	0.88555	935.76	0.58458	1827.03	1124.44	-0.5	2.41	2546.69	6.34	2550.83	6.35	4.14	0.16
133	403	270	137	6448	0.88443	936.13	0.58499	1826.95	1138.21	0	2.4	2549.1	6.33	2552.7	6.33	3.6	0.14
133	404	271	138	6464	0.88332	936.5	0.58540	1826.88	1152.04	-0.5	2.38	2550.47	6.31	2554.82	6.32	4.36	0.17
133	405	272	139	6480	0.88221	936.86	0.58580	1826.82	1165.92	0	2.37	2552.77	6.3	2556.58	6.31	3.81	0.15
133	406	273	140	6496	0.88109	937.22	0.58621	1826.76	1179.85	-0.5	2.35	2554.03	6.29	2558.59	6.3	4.56	0.18
133	407	274	141	6512	0.87998	937.57	0.58661	1826.71	1193.83	0	2.33	2556.23	6.28	2560.24	6.29	4.02	0.16
133	408	275	142	6528	0.87887	937.92	0.58701	1826.66	1207.86	-0.5	2.32	2557.38	6.27	2562.15	6.28	4.77	0.19
133	409	276	143	6544	0.87776	938.26	0.58741	1826.63	1221.95	0	2.3	2559.47	6.26	2563.69	6.27	4.22	0.16
133	410	277	144	6560	0.87665	938.6	0.58781	1826.59	1236.08	-0.49	2.29	2560.52	6.25	2565.48	6.26	4.96	0.19
133	411	278	145	6576	0.87553	938.94	0.58820	1826.57	1250.27	0	2.27	2562.5	6.23	2566.91	6.25	4.41	0.17
133	412	279	146	6592	0.87442	939.26	0.58859	1826.55	1264.5	-0.49	2.26	2563.45	6.22	2568.6	6.23	5.15	0.2
133	413	280	147	6608	0.87331	939.59	0.58898	1826.54	1278.79	0	2.24	2565.33	6.21	2569.93	6.22	4.6	0.18
133	414	281	148	6624	0.87220	939.91	0.58937	1826.53	1293.12	-0.49	2.23	2566.18	6.2	2571.51	6.21	5.33	0.21
133	415	282	149	6640	0.87109	940.22	0.58976	1826.53	1307.5	0	2.21	2567.96	6.19	2572.73	6.2	4.78	0.19
133	416	283	150	6656	0.86998	940.54	0.59014	1826.53	1321.93	-0.49	2.2	2568.71	6.17	2574.21	6.19	5.51	0.21
133	417	284	151	6672	0.86888	940.84	0.59053	1826.54	1336.41	0	2.19	2570.38	6.16	2575.33	6.18	4.95	0.19
133	418	285	152	6688	0.86777	941.14	0.59091	1826.56	1350.94	-0.49	2.17	2571.04	6.15	2576.71	6.16	5.67	0.22
133	419	286	153	6704	0.86666	941.44	0.59129	1826.58	1365.52	0	2.16	2572.62	6.14	2577.72	6.15	5.11	0.2
133	420	287	154	6720	0.86556	941.74	0.59167	1826.61	1380.14	-0.49	2.14	2573.17	6.13	2579	6.14	5.83	0.23
133	421	288	155	6736	0.86445	942.03	0.59204	1826.64	1394.81	0	2.13	2574.65	6.12	2579.92	6.13	5.26	0.2
133	422	289	156	6752	0.86335	942.31	0.59242	1826.68	1409.52	-0.49	2.12	2575.11	6.1	2581.09	6.12	5.98	0.23
133	423	290	157	6768	0.86224	942.59	0.59279	1826.73	1424.29	0	2.1	2576.5	6.09	2581.91	6.1	5.41	0.21
133	424	291	158	6784	0.86114	942.87	0.59316	1826.78	1439.09	-0.49	2.09	2576.87	6.08	2582.99	6.09	6.12	0.24
133	425	292	159	6800	0.86004	943.14	0.59353	1826.83	1453.95	0	2.08	2578.16	6.07	2583.71	6.08	5.55	0.21
133	426	293	160	6816	0.85894	943.41	0.59390	1826.89	1468.84	-0.48	2.06	2578.43	6.05	2584.69	6.07	6.26	0.24
133	427	294	161	6832	0.85783	943.68	0.59426	1826.96	1483.79	0	2.05	2579.63	6.04	2585.31	6.05	5.68	0.22
133	428	295	162	6848	0.85673	943.94	0.59463	1827.03	1498.78	-0.48	2.04	2579.82	6.03	2586.2	6.04	6.38	0.25
133	429	296	163	6864	0.85564	944.2	0.59499	1827.1	1513.81	0	2.03	2580.92	6.02	2586.72	6.03	5.8	0.22
133	430	297	164	6880	0.85454	944.45	0.59535	1827.19	1528.88	-0.48	2.02	2581.02	6	2587.51	6.02	6.5	0.25

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
133	431	298	165	6896	0.85344	944.7	0.59571	1827.27	1544	0	2	2582.03	5.99	2587.94	6	5.91	0.23
133	432	299	166	6912	0.85235	944.94	0.59607	1827.36	1559.16	-0.48	1.99	2582.04	5.98	2588.64	5.99	6.6	0.26
133	433	300	167	6928	0.85125	945.19	0.59642	1827.46	1574.37	0	1.98	2582.96	5.97	2588.98	5.98	6.01	0.23
133	434	301	168	6944	0.85016	945.42	0.59677	1827.56	1589.62	-0.48	1.97	2582.88	5.95	2589.58	5.97	6.7	0.26
133	435	302	169	6960	0.84906	945.66	0.59713	1827.67	1604.91	0	1.96	2583.72	5.94	2589.83	5.95	6.11	0.24
133	436	303	170	6976	0.84797	945.89	0.59748	1827.78	1620.24	-0.48	1.94	2583.55	5.93	2590.34	5.94	6.79	0.26
133	437	304	171	6992	0.84688	946.12	0.59783	1827.89	1635.62	0	1.93	2584.3	5.91	2590.49	5.93	6.19	0.24
133	438	305	172	7008	0.84579	946.34	0.59817	1828.01	1651.03	-0.48	1.92	2584.05	5.9	2590.92	5.92	6.86	0.26
133	439	306	173	7024	0.84470	946.56	0.59852	1828.14	1666.49	0	1.91	2584.72	5.89	2590.98	5.9	6.26	0.24
133	440	307	174	7040	0.84362	946.78	0.59886	1828.27	1681.99	-0.48	1.9	2584.38	5.87	2591.32	5.89	6.93	0.27
133	441	308	175	7056	0.84253	946.99	0.59921	1828.4	1697.53	0	1.89	2584.96	5.86	2591.29	5.88	6.33	0.24
133	442	309	176	7072	0.84145	947.2	0.59955	1828.54	1713.11	-0.48	1.88	2584.55	5.85	2591.54	5.86	6.99	0.27
133	443	310	177	7088	0.84036	947.41	0.59989	1828.69	1728.73	0	1.87	2585.04	5.84	2591.43	5.85	6.38	0.25
133	444	311	178	7104	0.83928	947.61	0.60023	1828.83	1744.39	-0.47	1.86	2584.55	5.82	2591.59	5.84	7.04	0.27
133	445	312	179	7120	0.83820	947.81	0.60056	1828.99	1760.09	0	1.85	2584.96	5.81	2591.39	5.82	6.43	0.25
133	446	313	180	7136	0.83712	948.01	0.60090	1829.14	1775.83	-0.47	1.84	2584.38	5.79	2591.46	5.81	7.08	0.27
133	447	314	181	7152	0.83604	948.2	0.60123	1829.3	1791.61	0	1.83	2584.71	5.78	2591.18	5.8	6.46	0.25
133	448	315	182	7168	0.83496	948.39	0.60156	1829.47	1807.43	-0.47	1.82	2584.06	5.77	2591.17	5.78	7.11	0.27
133	449	316	183	7184	0.83389	948.58	0.60189	1829.64	1823.28	0	1.81	2584.31	5.76	2590.79	5.77	6.48	0.25
133	450	317	184	7200	0.83281	948.76	0.60222	1829.81	1839.17	-0.47	1.8	2583.58	5.74	2590.7	5.76	7.12	0.27
133	451	318	185	7216	0.83174	948.94	0.60255	1829.99	1855.11	0	1.79	2583.75	5.73	2590.25	5.74	6.5	0.25
133	452	319	186	7232	0.83066	949.12	0.60288	1830.17	1871.08	-0.47	1.78	2582.94	5.71	2590.07	5.73	7.13	0.28
133	453	320	187	7248	0.82959	949.29	0.60320	1830.36	1887.08	0	1.77	2583.03	5.7	2589.53	5.72	6.5	0.25
133	454	321	188	7264	0.82852	949.46	0.60352	1830.55	1903.13	-0.47	1.76	2582.15	5.69	2589.27	5.7	7.13	0.28
133	455	322	189	7280	0.82746	949.63	0.60385	1830.74	1919.21	0	1.75	2582.16	5.68	2588.66	5.69	6.49	0.25
133	456	323	190	7296	0.82639	949.79	0.60417	1830.94	1935.33	-0.47	1.74	2581.2	5.66	2588.32	5.68	7.11	0.27
133	457	324	191	7312	0.82532	949.96	0.60449	1831.14	1951.49	0	1.73	2581.14	5.65	2587.62	5.66	6.47	0.25
133	458	325	192	7328	0.82426	950.11	0.60480	1831.35	1967.68	-0.47	1.72	2580.11	5.63	2587.2	5.65	7.09	0.27
133	459	326	193	7344	0.82320	950.27	0.60512	1831.56	1983.9	0	1.71	2579.98	5.62	2586.42	5.63	6.44	0.25
133	460	327	194	7360	0.82214	950.42	0.60544	1831.77	2000.17	-0.47	1.7	2578.87	5.61	2585.92	5.62	7.05	0.27
133	461	328	195	7376	0.82108	950.57	0.60575	1831.99	2016.47	0	1.69	2578.66	5.59	2585.06	5.61	6.4	0.25
133	462	329	196	7392	0.82002	950.72	0.60606	1832.21	2032.8	-0.47	1.68	2577.48	5.58	2584.49	5.59	7	0.27
133	463	330	197	7408	0.81896	950.87	0.60637	1832.44	2049.17	0	1.67	2577.2	5.57	2583.55	5.58	6.35	0.25
133	464	331	198	7424	0.81791	951.01	0.60668	1832.67	2065.58	-0.46	1.67	2575.95	5.55	2582.9	5.57	6.95	0.27
133	465	332	199	7440	0.81685	951.15	0.60699	1832.9	2082.02	0	1.66	2575.59	5.54	2581.88	5.55	6.29	0.24
133	466	333	200	7456	0.81580	951.28	0.60730	1833.13	2098.49	-0.46	1.65	2574.28	5.52	2581.15	5.54	6.88	0.27
Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
134	267	133	-1	4272	0.99999	804.4	0.49906	1979.86	0.09	0	9.84	1497.5	5.61	1506.65	5.64	9.15	0.61
134	268	134	0	4288	1.00000	806.41	0.50000	1977.38	0	0.61	10	1514.82	5.65	1523.29	5.68	8.47	0.56
134	269	135	1	4304	0.99999	808.41	0.50093	1974.94	0.09	0	9.85	1530.41	5.69	1537.92	5.72	7.51	0.49
134	270	136	2	4320	0.99995	810.38	0.50185	1972.54	0.36	0.61	9.69	1547.03	5.73	1554.21	5.76	7.18	0.46
134	271	137	3	4336	0.99988	812.32	0.50277	1970.18	0.81	0	9.55	1562.24	5.76	1568.51	5.79	6.27	0.4
134	272	138	4	4352	0.99978	814.24	0.50368	1967.85	1.44	0.61	9.4	1578.48	5.8	1584.46	5.83	5.98	0.38
134	273	139	5	4368	0.99967	816.14	0.50458	1965.56	2.24	0	9.26	1593.32	5.84	1598.44	5.86	5.11	0.32
134	274	140	6	4384	0.99952	818.01	0.50547	1963.31	3.21	0.6	9.12	1609.19	5.87	1614.06	5.89	4.87	0.3
134	275	141	7	4400	0.99935	819.86	0.50636	1961.1	4.35	0	8.99	1623.67	5.9	1627.71	5.92	4.04	0.25

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
134	276	142	8	4416	0.99916	821.69	0.50725	1958.92	5.66	0.6	8.85	1639.18	5.94	1643.01	5.95	3.83	0.23
134	277	143	9	4432	0.99894	823.5	0.50812	1956.78	7.14	0	8.72	1653.31	5.97	1656.35	5.98	3.04	0.18
134	278	144	10	4448	0.99871	825.28	0.50899	1954.67	8.78	0.6	8.6	1668.47	6	1671.33	6.01	2.87	0.17
134	279	145	11	4464	0.99845	827.04	0.50986	1952.59	10.59	0	8.47	1682.25	6.03	1684.37	6.04	2.12	0.13
134	280	146	12	4480	0.99816	828.79	0.51071	1950.55	12.55	0.6	8.35	1697.06	6.06	1699.04	6.07	1.97	0.12
134	281	147	13	4496	0.99786	830.5	0.51157	1948.54	14.68	0	8.23	1710.51	6.09	1711.77	6.09	1.26	0.07
134	282	148	14	4512	0.99754	832.2	0.51241	1946.56	16.97	0.6	8.12	1724.98	6.12	1726.13	6.12	1.15	0.07
134	283	149	15	4528	0.99719	833.88	0.51325	1944.61	19.41	0	8	1738.1	6.14	1738.57	6.14	0.47	0.03
134	284	150	16	4544	0.99683	835.54	0.51409	1942.7	22.01	0.59	7.89	1752.24	6.17	1752.63	6.17	0.39	0.02
134	285	151	17	4560	0.99644	837.18	0.51491	1940.81	24.76	0	7.78	1765.04	6.19	1764.78	6.19	-0.25	-0.01
134	286	152	18	4576	0.99604	838.79	0.51573	1938.96	27.66	0.59	7.68	1778.86	6.22	1778.55	6.22	-0.31	-0.02
134	287	153	19	4592	0.99562	840.39	0.51655	1937.13	30.71	0	7.57	1791.34	6.24	1790.42	6.24	-0.92	-0.05
134	288	154	20	4608	0.99518	841.97	0.51736	1935.34	33.91	0.59	7.47	1804.84	6.27	1803.9	6.26	-0.95	-0.05
134	289	155	21	4624	0.99472	843.53	0.51817	1933.57	37.26	0	7.37	1817.01	6.29	1815.48	6.28	-1.53	-0.08
134	290	156	22	4640	0.99425	845.07	0.51897	1931.83	40.75	0.59	7.27	1830.21	6.31	1828.68	6.31	-1.53	-0.08
134	291	157	23	4656	0.99375	846.59	0.51976	1930.12	44.38	0	7.18	1842.07	6.33	1839.99	6.32	-2.08	-0.11
134	292	158	24	4672	0.99325	848.1	0.52055	1928.44	48.16	0.59	7.08	1854.96	6.35	1852.91	6.35	-2.06	-0.11
134	293	159	25	4688	0.99272	849.58	0.52133	1926.78	52.08	0	6.99	1866.54	6.37	1863.95	6.36	-2.58	-0.14
134	294	160	26	4704	0.99218	851.05	0.52211	1925.16	56.14	0.58	6.9	1879.13	6.39	1876.6	6.38	-2.53	-0.13
134	295	161	27	4720	0.99162	852.5	0.52288	1923.55	60.34	0	6.81	1890.41	6.41	1887.38	6.4	-3.03	-0.16
134	296	162	28	4736	0.99105	853.94	0.52365	1921.98	64.67	0.58	6.72	1902.72	6.43	1899.75	6.42	-2.96	-0.16
134	297	163	29	4752	0.99047	855.35	0.52441	1920.43	69.14	0	6.64	1913.71	6.44	1910.28	6.43	-3.44	-0.18
134	298	164	30	4768	0.98987	856.75	0.52517	1918.9	73.74	0.58	6.55	1925.73	6.46	1922.39	6.45	-3.34	-0.17
134	299	165	31	4784	0.98925	858.13	0.52592	1917.4	78.48	0	6.47	1936.45	6.48	1932.66	6.46	-3.8	-0.2
134	300	166	32	4800	0.98862	859.5	0.52667	1915.92	83.35	0.58	6.39	1948.19	6.49	1944.51	6.48	-3.68	-0.19
134	301	167	33	4816	0.98798	860.85	0.52741	1914.47	88.35	0	6.31	1958.64	6.51	1954.53	6.49	-4.11	-0.21
134	302	168	34	4832	0.98733	862.18	0.52815	1913.04	93.47	0.58	6.23	1970.11	6.52	1966.13	6.51	-3.98	-0.2
134	303	169	35	4848	0.98666	863.5	0.52888	1911.64	98.72	0	6.16	1980.29	6.54	1975.9	6.52	-4.39	-0.22
134	304	170	36	4864	0.98598	864.8	0.52961	1910.26	104.1	0.57	6.08	1991.49	6.55	1987.25	6.54	-4.24	-0.21
134	305	171	37	4880	0.98528	866.09	0.53033	1908.9	109.61	0	6.01	2001.41	6.56	1996.79	6.55	-4.63	-0.23
134	306	172	38	4896	0.98458	867.36	0.53105	1907.56	115.24	0.57	5.94	2012.35	6.58	2007.89	6.56	-4.46	-0.22
134	307	173	39	4912	0.98386	868.62	0.53176	1906.25	120.99	0	5.87	2022.01	6.59	2017.19	6.57	-4.83	-0.24
134	308	174	40	4928	0.98313	869.86	0.53247	1904.95	126.86	0.57	5.8	2032.69	6.6	2028.05	6.58	-4.64	-0.23
134	309	175	41	4944	0.98239	871.08	0.53317	1903.68	132.85	0	5.73	2042.11	6.61	2037.12	6.59	-4.99	-0.25
134	310	176	42	4960	0.98164	872.3	0.53387	1902.43	138.96	0.57	5.66	2052.54	6.62	2047.74	6.61	-4.79	-0.23
134	311	177	43	4976	0.98088	873.49	0.53457	1901.2	145.19	0	5.6	2061.71	6.63	2056.58	6.61	-5.12	-0.25
134	312	178	44	4992	0.98011	874.68	0.53526	1900	151.54	0.57	5.53	2071.89	6.64	2066.97	6.62	-4.91	-0.24
134	313	179	45	5008	0.97933	875.84	0.53594	1898.81	158	0	5.47	2080.81	6.65	2075.59	6.63	-5.23	-0.25
134	314	180	46	5024	0.97854	877	0.53662	1897.64	164.58	0.56	5.4	2090.75	6.66	2085.75	6.64	-5	-0.24
134	315	181	47	5040	0.97774	878.14	0.53730	1896.49	171.27	0	5.34	2099.44	6.66	2094.14	6.65	-5.3	-0.25
134	316	182	48	5056	0.97693	879.27	0.53798	1895.37	178.07	0.56	5.28	2109.14	6.67	2104.09	6.66	-5.06	-0.24
134	317	183	49	5072	0.97611	880.38	0.53864	1894.26	184.98	0	5.22	2117.6	6.68	2112.26	6.66	-5.34	-0.25
134	318	184	50	5088	0.97528	881.48	0.53931	1893.17	192	0.56	5.17	2127.07	6.69	2121.98	6.67	-5.09	-0.24
134	319	185	51	5104	0.97444	882.57	0.53997	1892.09	199.14	0	5.11	2135.3	6.69	2129.94	6.68	-5.36	-0.25
134	320	186	52	5120	0.97359	883.65	0.54063	1891.04	206.38	0.56	5.05	2144.54	6.7	2139.45	6.69	-5.1	-0.24
134	321	187	53	5136	0.97274	884.71	0.54128	1890.01	213.73	0	5	2152.55	6.71	2147.2	6.69	-5.35	-0.25
134	322	188	54	5152	0.97188	885.76	0.54193	1888.99	221.18	0.56	4.94	2161.57	6.71	2156.49	6.7	-5.08	-0.24

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
134	323	189	55	5168	0.97101	886.8	0.54257	1887.99	228.74	0	4.89	2169.36	6.72	2164.04	6.7	-5.32	-0.25
134	324	190	56	5184	0.97013	887.82	0.54321	1887.01	236.4	0.56	4.84	2178.16	6.72	2173.11	6.71	-5.04	-0.23
134	325	191	57	5200	0.96924	888.84	0.54385	1886.05	244.17	0	4.79	2185.73	6.73	2180.46	6.71	-5.27	-0.24
134	326	192	58	5216	0.96835	889.84	0.54448	1885.1	252.04	0.55	4.74	2194.31	6.73	2189.33	6.72	-4.98	-0.23
134	327	193	59	5232	0.96745	890.83	0.54511	1884.17	260.01	0	4.69	2201.68	6.73	2196.48	6.72	-5.2	-0.24
134	328	194	60	5248	0.96654	891.8	0.54573	1883.26	268.08	0.55	4.64	2210.04	6.74	2205.15	6.72	-4.9	-0.22
134	329	195	61	5264	0.96562	892.77	0.54635	1882.36	276.25	0	4.59	2217.2	6.74	2212.1	6.72	-5.11	-0.23
134	330	196	62	5280	0.96470	893.73	0.54697	1881.48	284.52	0.55	4.54	2225.36	6.74	2220.57	6.73	-4.8	-0.22
134	331	197	63	5296	0.96377	894.67	0.54758	1880.62	292.89	0	4.5	2232.32	6.74	2227.32	6.73	-5	-0.22
134	332	198	64	5312	0.96284	895.6	0.54819	1879.77	301.35	0.55	4.45	2240.28	6.75	2235.6	6.73	-4.68	-0.21
134	333	199	65	5328	0.96190	896.52	0.54880	1878.94	309.91	0	4.41	2247.03	6.75	2242.16	6.73	-4.87	-0.22
134	334	200	66	5344	0.96095	897.43	0.54940	1878.12	318.57	0.55	4.36	2254.79	6.75	2250.24	6.74	-4.55	-0.2
134	335	201	67	5360	0.96000	898.33	0.55000	1877.32	327.32	0	4.32	2261.35	6.75	2256.62	6.74	-4.73	-0.21
134	336	202	68	5376	0.95904	899.22	0.55060	1876.53	336.16	0.55	4.27	2268.91	6.75	2264.51	6.74	-4.4	-0.19
134	337	203	69	5392	0.95808	900.1	0.55119	1875.76	345.1	0	4.23	2275.28	6.75	2270.71	6.74	-4.57	-0.2
134	338	204	70	5408	0.95711	900.96	0.55178	1875	354.13	0.54	4.19	2282.65	6.75	2278.41	6.74	-4.23	-0.19
134	339	205	71	5424	0.95614	901.82	0.55236	1874.25	363.25	0	4.15	2288.83	6.75	2284.43	6.74	-4.4	-0.19
134	340	206	72	5440	0.95516	902.67	0.55294	1873.52	372.45	0.54	4.11	2296	6.75	2291.95	6.74	-4.05	-0.18
134	341	207	73	5456	0.95417	903.51	0.55352	1872.81	381.75	0	4.07	2302	6.75	2297.79	6.74	-4.21	-0.18
134	342	208	74	5472	0.95318	904.33	0.55409	1872.11	391.14	0.54	4.03	2308.99	6.75	2305.13	6.74	-3.86	-0.17
134	343	209	75	5488	0.95219	905.15	0.55467	1871.42	400.61	0	3.99	2314.81	6.75	2310.79	6.74	-4.02	-0.17
134	344	210	76	5504	0.95119	905.96	0.55523	1870.75	410.18	0.54	3.95	2321.61	6.75	2317.95	6.74	-3.66	-0.16
134	345	211	77	5520	0.95019	906.76	0.55580	1870.09	419.82	0	3.92	2327.25	6.75	2323.44	6.73	-3.81	-0.16
134	346	212	78	5536	0.94918	907.54	0.55636	1869.44	429.56	0.54	3.88	2333.87	6.75	2330.42	6.74	-3.45	-0.15
134	347	213	79	5552	0.94817	908.32	0.55692	1868.81	439.38	0	3.84	2339.34	6.74	2335.75	6.73	-3.59	-0.15
134	348	214	80	5568	0.94715	909.09	0.55747	1868.19	449.28	0.54	3.81	2345.79	6.74	2342.55	6.73	-3.23	-0.14
134	349	215	81	5584	0.94613	909.85	0.55802	1867.58	459.27	0	3.77	2351.08	6.74	2347.71	6.73	-3.37	-0.14
134	350	216	82	5600	0.94511	910.6	0.55857	1866.98	469.34	0.53	3.74	2357.35	6.74	2354.35	6.73	-3	-0.13
134	351	217	83	5616	0.94408	911.35	0.55912	1866.4	479.49	0	3.7	2362.47	6.73	2359.34	6.72	-3.13	-0.13
134	352	218	84	5632	0.94305	912.08	0.55966	1865.83	489.72	0.53	3.67	2368.58	6.73	2365.81	6.72	-2.76	-0.12
134	353	219	85	5648	0.94202	912.8	0.56020	1865.27	500.03	0	3.64	2373.53	6.72	2370.64	6.72	-2.89	-0.12
134	354	220	86	5664	0.94098	913.52	0.56073	1864.72	510.42	0.53	3.6	2379.47	6.72	2376.95	6.71	-2.52	-0.11
134	355	221	87	5680	0.93994	914.23	0.56127	1864.19	520.9	0	3.57	2384.26	6.72	2381.62	6.71	-2.64	-0.11
134	356	222	88	5696	0.93890	914.93	0.56180	1863.67	531.45	0.53	3.54	2390.03	6.71	2387.76	6.71	-2.27	-0.1
134	357	223	89	5712	0.93785	915.62	0.56233	1863.15	542.08	0	3.51	2394.66	6.71	2392.28	6.7	-2.39	-0.1
134	358	224	90	5728	0.93680	916.3	0.56285	1862.65	552.78	0.53	3.48	2400.27	6.7	2398.26	6.7	-2.01	-0.08
134	359	225	91	5744	0.93575	916.97	0.56337	1862.17	563.56	0	3.45	2404.75	6.7	2402.62	6.69	-2.13	-0.09
134	360	226	92	5760	0.93469	917.64	0.56389	1861.69	574.42	0.53	3.42	2410.2	6.69	2408.44	6.69	-1.75	-0.07
134	361	227	93	5776	0.93363	918.3	0.56440	1861.22	585.36	0	3.39	2414.51	6.69	2412.65	6.68	-1.86	-0.08
134	362	228	94	5792	0.93257	918.95	0.56492	1860.77	596.36	0.53	3.36	2419.81	6.68	2418.32	6.68	-1.49	-0.06
134	363	229	95	5808	0.93151	919.59	0.56543	1860.32	607.45	0	3.33	2423.97	6.68	2422.38	6.67	-1.6	-0.07
134	364	230	96	5824	0.93044	920.22	0.56593	1859.89	618.6	0.52	3.3	2429.11	6.67	2427.89	6.67	-1.22	-0.05
134	365	231	97	5840	0.92938	920.85	0.56644	1859.47	629.83	0	3.28	2433.13	6.67	2431.8	6.66	-1.32	-0.05
134	366	232	98	5856	0.92831	921.47	0.56694	1859.05	641.13	0.52	3.25	2438.12	6.66	2437.17	6.66	-0.95	-0.04
134	367	233	99	5872	0.92723	922.08	0.56744	1858.65	652.51	0	3.22	2441.98	6.65	2440.93	6.65	-1.05	-0.04
134	368	234	100	5888	0.92616	922.68	0.56794	1858.26	663.95	0.52	3.19	2446.82	6.65	2446.15	6.65	-0.67	-0.03
134	369	235	101	5904	0.92508	923.28	0.56843	1857.88	675.47	0	3.17	2450.55	6.64	2449.77	6.64	-0.78	-0.03

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
134	370	236	102	5920	0.92400	923.87	0.56892	1857.5	687.05	0.52	3.14	2455.24	6.64	2454.84	6.63	-0.4	-0.02
134	371	237	103	5936	0.92292	924.45	0.56941	1857.14	698.71	0	3.12	2458.82	6.63	2458.32	6.63	-0.5	-0.02
134	372	238	104	5952	0.92184	925.02	0.56989	1856.79	710.43	0.52	3.09	2463.37	6.62	2463.25	6.62	-0.12	0
134	373	239	105	5968	0.92076	925.59	0.57038	1856.45	722.22	0	3.07	2466.81	6.61	2466.59	6.61	-0.22	-0.01
134	374	240	106	5984	0.91967	926.15	0.57086	1856.11	734.08	0.52	3.04	2471.21	6.61	2471.37	6.61	0.16	0.01
134	375	241	107	6000	0.91859	926.71	0.57133	1855.79	746.01	0	3.02	2474.51	6.6	2474.57	6.6	0.06	0
134	376	242	108	6016	0.91750	927.25	0.57181	1855.47	758	0.52	2.99	2478.78	6.59	2479.22	6.59	0.43	0.02
134	377	243	109	6032	0.91641	927.79	0.57228	1855.17	770.06	0	2.97	2481.95	6.58	2482.28	6.58	0.34	0.01
134	378	244	110	6048	0.91532	928.33	0.57275	1854.87	782.18	0.51	2.95	2486.08	6.58	2486.79	6.58	0.71	0.03
134	379	245	111	6064	0.91422	928.85	0.57322	1854.59	794.37	0	2.92	2489.11	6.57	2489.72	6.57	0.61	0.02
134	380	246	112	6080	0.91313	929.37	0.57368	1854.31	806.63	0.51	2.9	2493.1	6.56	2494.09	6.56	0.99	0.04
134	381	247	113	6096	0.91204	929.89	0.57415	1854.04	818.95	0	2.88	2496	6.55	2496.89	6.55	0.89	0.04
134	382	248	114	6112	0.91094	930.39	0.57461	1853.78	831.33	0.51	2.86	2499.86	6.54	2501.13	6.55	1.26	0.05
134	383	249	115	6128	0.90984	930.9	0.57507	1853.53	843.78	0	2.83	2502.64	6.53	2503.8	6.54	1.16	0.05
134	384	250	116	6144	0.90875	931.39	0.57552	1853.28	856.29	0.51	2.81	2506.37	6.53	2507.9	6.53	1.53	0.06
134	385	251	117	6160	0.90765	931.88	0.57597	1853.05	868.86	0	2.79	2509.01	6.52	2510.45	6.52	1.44	0.06
134	386	252	118	6176	0.90655	932.36	0.57643	1852.82	881.49	0.51	2.77	2512.61	6.51	2514.42	6.51	1.8	0.07
134	387	253	119	6192	0.90545	932.84	0.57687	1852.6	894.18	0	2.75	2515.13	6.5	2516.84	6.5	1.71	0.07
134	388	254	120	6208	0.90435	933.31	0.57732	1852.39	906.93	0.51	2.73	2518.6	6.49	2520.68	6.5	2.07	0.08
134	389	255	121	6224	0.90325	933.77	0.57776	1852.19	919.75	0	2.71	2521	6.48	2522.97	6.49	1.97	0.08
134	390	256	122	6240	0.90214	934.23	0.57821	1851.99	932.62	0.51	2.69	2524.35	6.47	2526.68	6.48	2.34	0.09
134	391	257	123	6256	0.90104	934.68	0.57865	1851.81	945.56	0	2.67	2526.62	6.46	2528.86	6.47	2.24	0.09
134	392	258	124	6272	0.89994	935.13	0.57908	1851.63	958.55	0.51	2.65	2529.85	6.45	2532.45	6.46	2.6	0.1
134	393	259	125	6288	0.89883	935.57	0.57952	1851.46	971.6	0	2.63	2532	6.44	2534.5	6.45	2.5	0.1
134	394	260	126	6304	0.89773	936.01	0.57995	1851.3	984.71	0.5	2.61	2535.11	6.43	2537.96	6.44	2.86	0.11
134	395	261	127	6320	0.89663	936.43	0.58038	1851.14	997.87	0	2.59	2537.14	6.42	2539.9	6.43	2.75	0.11
134	396	262	128	6336	0.89552	936.86	0.58081	1850.99	1011.1	0.5	2.57	2540.13	6.41	2543.24	6.42	3.11	0.12
134	397	263	129	6352	0.89442	937.28	0.58123	1850.85	1024.38	0	2.55	2542.05	6.4	2545.05	6.41	3	0.12
134	398	264	130	6368	0.89331	937.69	0.58166	1850.72	1037.71	0.5	2.54	2544.92	6.39	2548.28	6.4	3.36	0.13
134	399	265	131	6384	0.89221	938.1	0.58208	1850.59	1051.1	0	2.52	2546.72	6.38	2549.98	6.39	3.25	0.13
134	400	266	132	6400	0.89110	938.5	0.58250	1850.47	1064.55	0.5	2.5	2549.48	6.37	2553.08	6.38	3.6	0.14
134	401	267	133	6416	0.88999	938.9	0.58292	1850.36	1078.05	0	2.48	2551.17	6.36	2554.66	6.37	3.49	0.14
134	402	268	134	6432	0.88889	939.29	0.58333	1850.25	1091.61	0.5	2.47	2553.81	6.35	2557.65	6.36	3.84	0.15
134	403	269	135	6448	0.88778	939.68	0.58375	1850.16	1105.22	0	2.45	2555.39	6.34	2559.12	6.35	3.73	0.15
134	404	270	136	6464	0.88668	940.06	0.58416	1850.07	1118.89	0.5	2.43	2557.92	6.33	2561.99	6.34	4.07	0.16
134	405	271	137	6480	0.88557	940.44	0.58457	1849.98	1132.61	0	2.42	2559.39	6.32	2563.35	6.33	3.96	0.15
134	406	272	138	6496	0.88447	940.81	0.58498	1849.9	1146.38	0.5	2.4	2561.81	6.31	2566.11	6.32	4.3	0.17
134	407	273	139	6512	0.88336	941.17	0.58538	1849.83	1160.2	0	2.38	2563.18	6.3	2567.36	6.31	4.18	0.16
134	408	274	140	6528	0.88226	941.54	0.58578	1849.77	1174.08	0.5	2.37	2565.48	6.29	2570	6.3	4.52	0.18
134	409	275	141	6544	0.88115	941.89	0.58619	1849.71	1188	0	2.35	2566.74	6.28	2571.15	6.29	4.4	0.17
134	410	276	142	6560	0.88005	942.24	0.58659	1849.66	1201.98	0.49	2.33	2568.94	6.27	2573.68	6.28	4.74	0.18
134	411	277	143	6576	0.87894	942.59	0.58698	1849.61	1216.01	0	2.32	2570.1	6.25	2574.71	6.26	4.62	0.18
134	412	278	144	6592	0.87784	942.93	0.58738	1849.58	1230.09	0.49	2.3	2572.19	6.24	2577.14	6.26	4.94	0.19
134	413	279	145	6608	0.87674	943.27	0.58777	1849.54	1244.23	0	2.29	2573.25	6.23	2578.07	6.24	4.82	0.19
134	414	280	146	6624	0.87563	943.61	0.58816	1849.52	1258.41	0.49	2.27	2575.23	6.22	2580.38	6.23	5.15	0.2
134	415	281	147	6640	0.87453	943.93	0.58855	1849.5	1272.64	0	2.26	2576.19	6.21	2581.21	6.22	5.02	0.19
134	416	282	148	6656	0.87343	944.26	0.58894	1849.48	1286.92	0.49	2.24	2578.07	6.2	2583.41	6.21	5.34	0.21

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Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
134	417	283	149	6672	0.87233	944.58	0.58933	1849.48	1301.25	0	2.23	2578.93	6.18	2584.14	6.2	5.21	0.2
134	418	284	150	6688	0.87123	944.89	0.58971	1849.47	1315.62	0.49	2.22	2580.71	6.17	2586.24	6.19	5.53	0.21
134	419	285	151	6704	0.87013	945.21	0.59010	1849.48	1330.05	0	2.2	2581.47	6.16	2586.86	6.17	5.39	0.21
134	420	286	152	6720	0.86903	945.51	0.59048	1849.49	1344.52	0.49	2.19	2583.15	6.15	2588.86	6.16	5.71	0.22
134	421	287	153	6736	0.86793	945.81	0.59086	1849.5	1359.05	0	2.17	2583.81	6.14	2589.38	6.15	5.57	0.22
134	422	288	154	6752	0.86683	946.11	0.59123	1849.52	1373.61	0.49	2.16	2585.4	6.13	2591.27	6.14	5.88	0.23
134	423	289	155	6768	0.86573	946.41	0.59161	1849.55	1388.23	0	2.15	2585.96	6.11	2591.7	6.13	5.74	0.22
134	424	290	156	6784	0.86463	946.69	0.59198	1849.58	1402.89	0.49	2.13	2587.45	6.1	2593.49	6.12	6.04	0.23
134	425	291	157	6800	0.86354	946.98	0.59235	1849.62	1417.6	0	2.12	2587.92	6.09	2593.81	6.1	5.9	0.23
134	426	292	158	6816	0.86244	947.26	0.59272	1849.67	1432.35	0.48	2.11	2589.31	6.08	2595.51	6.09	6.2	0.24
134	427	293	159	6832	0.86134	947.54	0.59309	1849.71	1447.15	0	2.09	2589.69	6.06	2595.73	6.08	6.05	0.23
134	428	294	160	6848	0.86025	947.81	0.59346	1849.77	1462	0.48	2.08	2590.99	6.05	2597.33	6.07	6.34	0.24
134	429	295	161	6864	0.85916	948.08	0.59383	1849.83	1476.89	0	2.07	2591.27	6.04	2597.46	6.05	6.19	0.24
134	430	296	162	6880	0.85806	948.35	0.59419	1849.89	1491.82	0.48	2.05	2592.48	6.03	2598.96	6.04	6.48	0.25
134	431	297	163	6896	0.85697	948.61	0.59455	1849.96	1506.8	0	2.04	2592.67	6.02	2599	6.03	6.32	0.24
134	432	298	164	6912	0.85588	948.87	0.59491	1850.04	1521.82	0.48	2.03	2593.79	6	2600.39	6.02	6.61	0.25
134	433	299	165	6928	0.85479	949.12	0.59527	1850.12	1536.89	0	2.02	2593.89	5.99	2600.34	6.01	6.45	0.25
134	434	300	166	6944	0.85370	949.37	0.59562	1850.21	1552	0.48	2.01	2594.92	5.98	2601.64	5.99	6.73	0.26
134	435	301	167	6960	0.85262	949.61	0.59598	1850.3	1567.15	0	1.99	2594.93	5.97	2601.5	5.98	6.57	0.25
134	436	302	168	6976	0.85153	949.86	0.59633	1850.39	1582.34	0.48	1.98	2595.87	5.95	2602.71	5.97	6.84	0.26
134	437	303	169	6992	0.85044	950.1	0.59668	1850.49	1597.58	0	1.97	2595.8	5.94	2602.47	5.96	6.67	0.26
134	438	304	170	7008	0.84936	950.33	0.59703	1850.6	1612.86	0.48	1.96	2596.65	5.93	2603.59	5.94	6.94	0.27
134	439	305	171	7024	0.84827	950.56	0.59738	1850.71	1628.18	0	1.95	2596.49	5.91	2603.26	5.93	6.77	0.26
134	440	306	172	7040	0.84719	950.79	0.59773	1850.82	1643.55	0.48	1.94	2597.25	5.9	2604.29	5.92	7.03	0.27
134	441	307	173	7056	0.84611	951.01	0.59807	1850.94	1658.95	0	1.93	2597.02	5.89	2603.87	5.9	6.86	0.26
134	442	308	174	7072	0.84503	951.23	0.59842	1851.07	1674.4	0.48	1.91	2597.69	5.88	2604.81	5.89	7.12	0.27
134	443	309	175	7088	0.84395	951.45	0.59876	1851.2	1689.88	0	1.9	2597.37	5.86	2604.31	5.88	6.94	0.27
134	444	310	176	7104	0.84287	951.67	0.59910	1851.33	1705.41	0.47	1.89	2597.96	5.85	2605.15	5.87	7.19	0.28
134	445	311	177	7120	0.84179	951.88	0.59944	1851.47	1720.98	0	1.88	2597.56	5.84	2604.56	5.85	7	0.27
134	446	312	178	7136	0.84072	952.08	0.59978	1851.61	1736.59	0.47	1.87	2598.06	5.83	2605.32	5.84	7.25	0.28
134	447	313	179	7152	0.83964	952.29	0.60011	1851.76	1752.23	0	1.86	2597.58	5.81	2604.65	5.83	7.06	0.27
134	448	314	180	7168	0.83857	952.49	0.60045	1851.91	1767.92	0.47	1.85	2598.01	5.8	2605.31	5.82	7.31	0.28
134	449	315	181	7184	0.83750	952.68	0.60078	1852.07	1783.65	0	1.84	2597.45	5.78	2604.56	5.8	7.11	0.27
134	450	316	182	7200	0.83643	952.88	0.60111	1852.23	1799.41	0.47	1.83	2597.79	5.77	2605.14	5.79	7.35	0.28
134	451	317	183	7216	0.83536	953.07	0.60144	1852.39	1815.21	0	1.82	2597.15	5.76	2604.3	5.77	7.15	0.27
134	452	318	184	7232	0.83429	953.25	0.60177	1852.56	1831.06	0.47	1.81	2597.41	5.75	2604.79	5.76	7.38	0.28
134	453	319	185	7248	0.83322	953.44	0.60210	1852.73	1846.93	0	1.8	2596.69	5.73	2603.87	5.75	7.18	0.28
134	454	320	186	7264	0.83215	953.62	0.60242	1852.91	1862.85	0.47	1.79	2596.88	5.72	2604.28	5.74	7.41	0.28
134	455	321	187	7280	0.83109	953.8	0.60275	1853.09	1878.81	0	1.78	2596.08	5.71	2603.28	5.72	7.2	0.28
134	456	322	188	7296	0.83003	953.97	0.60307	1853.28	1894.8	0.47	1.77	2596.19	5.69	2603.61	5.71	7.42	0.28
134	457	323	189	7312	0.82896	954.14	0.60339	1853.47	1910.83	0	1.76	2595.32	5.68	2602.52	5.69	7.2	0.28
134	458	324	190	7328	0.82790	954.31	0.60371	1853.66	1926.9	0.47	1.75	2595.35	5.67	2602.77	5.68	7.42	0.29
134	459	325	191	7344	0.82684	954.48	0.60403	1853.86	1943	0	1.74	2594.41	5.65	2601.61	5.67	7.2	0.28
134	460	326	192	7360	0.82578	954.64	0.60435	1854.06	1959.14	0.47	1.73	2594.36	5.64	2601.77	5.66	7.41	0.28
134	461	327	193	7376	0.82473	954.8	0.60466	1854.26	1975.32	0	1.72	2593.34	5.63	2600.53	5.64	7.19	0.28
134	462	328	194	7392	0.82367	954.96	0.60498	1854.47	1991.53	0.47	1.71	2593.22	5.61	2600.61	5.63	7.39	0.28
134	463	329	195	7408	0.82262	955.11	0.60529	1854.69	2007.78	0	1.71	2592.13	5.6	2599.29	5.61	7.16	0.28

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
134	464	330	196	7424	0.82157	955.26	0.60560	1854.9	2024.06	0.46	1.7	2591.93	5.59	2599.29	5.6	7.36	0.28
134	465	331	197	7440	0.82052	955.41	0.60591	1855.12	2040.38	0	1.69	2590.77	5.57	2597.9	5.59	7.13	0.27
134	466	332	198	7456	0.81947	955.56	0.60622	1855.35	2056.73	0.46	1.68	2590.5	5.56	2597.82	5.57	7.32	0.28
134	467	333	199	7472	0.81842	955.7	0.60653	1855.58	2073.12	0	1.67	2589.27	5.54	2596.35	5.56	7.08	0.27
134	468	334	200	7488	0.81737	955.84	0.60684	1855.81	2089.54	0.46	1.66	2588.93	5.53	2596.2	5.55	7.27	0.28
134	469	335	201	7504	0.81633	955.98	0.60714	1856.04	2106	0	1.65	2587.63	5.52	2594.65	5.53	7.02	0.27
Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
135	269	134	-1	4304	0.99999	808.41	0.49907	2004.52	0.09	0	9.85	1500.82	5.58	1509.96	5.61	9.13	0.6
135	270	135	0	4320	1.00000	810.42	0.50000	2002.03	0	-0.61	10	1516.94	5.62	1525.78	5.65	8.84	0.58
135	271	136	1	4336	0.99999	812.41	0.50092	1999.58	0.09	0	9.85	1533.76	5.66	1541.25	5.69	7.49	0.49
135	272	137	2	4352	0.99995	814.37	0.50184	1997.17	0.36	-0.61	9.7	1549.19	5.7	1556.74	5.72	7.55	0.49
135	273	138	3	4368	0.99988	816.31	0.50275	1994.79	0.8	0	9.55	1565.64	5.73	1571.88	5.76	6.24	0.4
135	274	139	4	4384	0.99979	818.23	0.50365	1992.46	1.43	-0.6	9.41	1580.69	5.77	1587.04	5.79	6.35	0.4
135	275	140	5	4400	0.99967	820.12	0.50455	1990.16	2.22	0	9.26	1596.76	5.81	1601.85	5.82	5.08	0.32
135	276	141	6	4416	0.99953	821.99	0.50544	1987.89	3.18	-0.6	9.13	1611.45	5.84	1616.68	5.86	5.23	0.32
135	277	142	7	4432	0.99936	823.84	0.50632	1985.67	4.32	0	8.99	1627.17	5.87	1631.17	5.89	4	0.25
135	278	143	8	4448	0.99917	825.67	0.50719	1983.48	5.62	-0.6	8.86	1641.5	5.9	1645.69	5.92	4.19	0.25
135	279	144	9	4464	0.99896	827.47	0.50807	1981.32	7.09	0	8.73	1656.86	5.94	1659.85	5.95	3	0.18
135	280	145	10	4480	0.99872	829.25	0.50893	1979.2	8.72	-0.6	8.61	1670.84	5.97	1674.06	5.98	3.22	0.19
135	281	146	11	4496	0.99847	831.01	0.50979	1977.11	10.51	0	8.48	1685.85	6	1687.92	6.01	2.07	0.12
135	282	147	12	4512	0.99819	832.75	0.51064	1975.05	12.47	-0.6	8.36	1699.5	6.03	1701.83	6.03	2.32	0.14
135	283	148	13	4528	0.99789	834.47	0.51148	1973.03	14.58	0	8.25	1714.17	6.06	1715.38	6.06	1.2	0.07
135	284	149	14	4544	0.99757	836.16	0.51232	1971.04	16.85	-0.59	8.13	1727.49	6.08	1728.98	6.09	1.49	0.09
135	285	150	15	4560	0.99723	837.84	0.51316	1969.08	19.27	0	8.02	1741.83	6.11	1742.24	6.11	0.41	0.02
135	286	151	16	4576	0.99687	839.49	0.51399	1967.15	21.85	-0.59	7.91	1754.82	6.14	1755.55	6.14	0.73	0.04
135	287	152	17	4592	0.99649	841.13	0.51481	1965.25	24.58	0	7.8	1768.83	6.16	1768.51	6.16	-0.32	-0.02
135	288	153	18	4608	0.99609	842.75	0.51563	1963.38	27.47	-0.59	7.69	1781.51	6.19	1781.54	6.19	0.03	0
135	289	154	19	4624	0.99568	844.34	0.51644	1961.54	30.5	0	7.59	1795.2	6.21	1794.21	6.21	-0.99	-0.06
135	290	155	20	4640	0.99524	845.92	0.51724	1959.74	33.68	-0.59	7.49	1807.56	6.23	1806.95	6.23	-0.61	-0.03
135	291	156	21	4656	0.99479	847.48	0.51804	1957.96	37	0	7.39	1820.95	6.26	1819.34	6.25	-1.61	-0.09
135	292	157	22	4672	0.99432	849.02	0.51884	1956.2	40.47	-0.59	7.29	1833.01	6.28	1831.81	6.27	-1.2	-0.07
135	293	158	23	4688	0.99384	850.54	0.51963	1954.48	44.08	0	7.19	1846.09	6.3	1843.92	6.29	-2.17	-0.12
135	294	159	24	4704	0.99334	852.05	0.52041	1952.79	47.84	-0.58	7.1	1857.85	6.32	1856.11	6.31	-1.73	-0.09
135	295	160	25	4720	0.99282	853.53	0.52119	1951.12	51.73	0	7.01	1870.63	6.34	1867.95	6.33	-2.67	-0.14
135	296	161	26	4736	0.99229	855	0.52196	1949.48	55.76	-0.58	6.91	1882.1	6.36	1879.88	6.35	-2.21	-0.12
135	297	162	27	4752	0.99174	856.45	0.52273	1947.86	59.93	0	6.83	1894.58	6.38	1891.45	6.37	-3.13	-0.17
135	298	163	28	4768	0.99117	857.88	0.52349	1946.27	64.24	-0.58	6.74	1905.77	6.4	1903.12	6.39	-2.65	-0.14
135	299	164	29	4784	0.99059	859.3	0.52425	1944.71	68.68	0	6.65	1917.97	6.41	1914.43	6.4	-3.54	-0.18
135	300	165	30	4800	0.99000	860.7	0.52500	1943.17	73.25	-0.58	6.57	1928.87	6.43	1925.84	6.42	-3.03	-0.16
135	301	166	31	4816	0.98939	862.08	0.52575	1941.65	77.96	0	6.49	1940.79	6.45	1936.89	6.43	-3.9	-0.2
135	302	167	32	4832	0.98877	863.45	0.52649	1940.16	82.8	-0.58	6.41	1951.42	6.46	1948.04	6.45	-3.38	-0.17
135	303	168	33	4848	0.98814	864.8	0.52723	1938.7	87.76	0	6.33	1963.07	6.48	1958.84	6.46	-4.22	-0.22
135	304	169	34	4864	0.98749	866.13	0.52796	1937.26	92.86	-0.57	6.25	1973.43	6.49	1969.75	6.48	-3.68	-0.19
135	305	170	35	4880	0.98683	867.45	0.52869	1935.84	98.08	0	6.18	1984.81	6.51	1980.3	6.49	-4.5	-0.23
135	306	171	36	4896	0.98616	868.75	0.52941	1934.45	103.43	-0.57	6.1	1994.9	6.52	1990.96	6.51	-3.94	-0.2
135	307	172	37	4912	0.98548	870.04	0.53013	1933.07	108.9	0	6.03	2006.02	6.53	2001.27	6.52	-4.75	-0.24

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
135	308	173	38	4928	0.98478	871.31	0.53084	1931.72	114.49	-0.57	5.96	2015.86	6.54	2011.69	6.53	-4.16	-0.21
135	309	174	39	4944	0.98407	872.57	0.53155	1930.4	120.21	0	5.89	2026.71	6.56	2021.76	6.54	-4.95	-0.24
135	310	175	40	4960	0.98335	873.81	0.53226	1929.09	126.04	-0.57	5.82	2036.3	6.57	2031.95	6.55	-4.35	-0.21
135	311	176	41	4976	0.98262	875.04	0.53296	1927.81	132	0	5.75	2046.9	6.58	2041.78	6.57	-5.12	-0.25
135	312	177	42	4992	0.98188	876.25	0.53365	1926.55	138.08	-0.57	5.68	2056.24	6.59	2051.74	6.58	-4.51	-0.22
135	313	178	43	5008	0.98113	877.45	0.53435	1925.3	144.27	0	5.62	2066.59	6.6	2061.33	6.59	-5.26	-0.26
135	314	179	44	5024	0.98036	878.64	0.53503	1924.08	150.58	-0.56	5.55	2075.69	6.61	2071.06	6.6	-4.63	-0.22
135	315	180	45	5040	0.97959	879.81	0.53571	1922.88	157	0	5.49	2085.8	6.62	2080.43	6.6	-5.36	-0.26
135	316	181	46	5056	0.97881	880.96	0.53639	1921.7	163.54	-0.56	5.43	2094.66	6.63	2089.94	6.61	-4.72	-0.23
135	317	182	47	5072	0.97802	882.11	0.53707	1920.54	170.19	0	5.36	2104.53	6.64	2099.09	6.62	-5.44	-0.26
135	318	183	48	5088	0.97722	883.24	0.53774	1919.4	176.95	-0.56	5.3	2113.15	6.65	2108.37	6.63	-4.78	-0.23
135	319	184	49	5104	0.97641	884.35	0.53840	1918.28	183.82	0	5.25	2122.79	6.65	2117.3	6.64	-5.49	-0.26
135	320	185	50	5120	0.97559	885.46	0.53906	1917.18	190.81	-0.56	5.19	2131.19	6.66	2126.37	6.64	-4.82	-0.23
135	321	186	51	5136	0.97476	886.55	0.53972	1916.09	197.9	0	5.13	2140.59	6.67	2135.08	6.65	-5.51	-0.26
135	322	187	52	5152	0.97392	887.62	0.54037	1915.03	205.1	-0.56	5.07	2148.76	6.67	2143.94	6.66	-4.83	-0.23
135	323	188	53	5168	0.97308	888.69	0.54102	1913.98	212.41	0	5.02	2157.94	6.68	2152.44	6.66	-5.5	-0.26
135	324	189	54	5184	0.97222	889.74	0.54167	1912.95	219.82	-0.56	4.97	2165.9	6.68	2161.09	6.67	-4.81	-0.22
135	325	190	55	5200	0.97136	890.78	0.54231	1911.94	227.34	0	4.91	2174.85	6.69	2169.37	6.67	-5.48	-0.25
135	326	191	56	5216	0.97049	891.81	0.54295	1910.95	234.96	-0.55	4.86	2182.59	6.7	2177.82	6.68	-4.77	-0.22
135	327	192	57	5232	0.96962	892.83	0.54358	1909.97	242.68	0	4.81	2191.33	6.7	2185.9	6.68	-5.43	-0.25
135	328	193	58	5248	0.96873	893.83	0.54421	1909.02	250.51	-0.55	4.76	2198.85	6.7	2194.14	6.69	-4.71	-0.21
135	329	194	59	5264	0.96784	894.82	0.54483	1908.07	258.44	0	4.71	2207.38	6.71	2202.02	6.69	-5.36	-0.24
135	330	195	60	5280	0.96694	895.8	0.54546	1907.15	266.46	-0.55	4.66	2214.7	6.71	2210.06	6.7	-4.63	-0.21
135	331	196	61	5296	0.96604	896.77	0.54607	1906.24	274.59	0	4.61	2223.01	6.72	2217.75	6.7	-5.27	-0.24
135	332	197	62	5312	0.96513	897.73	0.54669	1905.35	282.81	-0.55	4.56	2230.13	6.72	2225.59	6.7	-4.53	-0.2
135	333	198	63	5328	0.96421	898.67	0.54730	1904.47	291.14	0	4.52	2238.24	6.72	2233.08	6.71	-5.16	-0.23
135	334	199	64	5344	0.96328	899.61	0.54790	1903.61	299.56	-0.55	4.47	2245.15	6.72	2240.73	6.71	-4.42	-0.2
135	335	200	65	5360	0.96235	900.53	0.54851	1902.77	308.07	0	4.43	2253.06	6.73	2248.03	6.71	-5.03	-0.22
135	336	201	66	5376	0.96142	901.44	0.54911	1901.94	316.68	-0.55	4.38	2259.77	6.73	2255.49	6.71	-4.28	-0.19
135	337	202	67	5392	0.96047	902.35	0.54970	1901.12	325.38	0	4.34	2267.48	6.73	2262.6	6.71	-4.89	-0.22
135	338	203	68	5408	0.95953	903.24	0.55030	1900.33	334.18	-0.54	4.3	2274.01	6.73	2269.87	6.72	-4.13	-0.18
135	339	204	69	5424	0.95857	904.12	0.55089	1899.54	343.07	0	4.25	2281.52	6.73	2276.79	6.72	-4.73	-0.21
135	340	205	70	5440	0.95761	904.99	0.55147	1898.77	352.05	-0.54	4.21	2287.86	6.73	2283.89	6.72	-3.97	-0.17
135	341	206	71	5456	0.95665	905.85	0.55205	1898.02	361.12	0	4.17	2295.18	6.73	2290.62	6.72	-4.56	-0.2
135	342	207	72	5472	0.95568	906.7	0.55263	1897.28	370.28	-0.54	4.13	2301.33	6.73	2297.54	6.72	-3.79	-0.17
135	343	208	73	5488	0.95470	907.54	0.55321	1896.55	379.53	0	4.09	2308.46	6.73	2304.09	6.72	-4.38	-0.19
135	344	209	74	5504	0.95373	908.37	0.55378	1895.84	388.87	-0.54	4.05	2314.43	6.73	2310.83	6.72	-3.6	-0.16
135	345	210	75	5520	0.95274	909.19	0.55435	1895.14	398.3	0	4.01	2321.38	6.73	2317.2	6.72	-4.18	-0.18
135	346	211	76	5536	0.95175	910	0.55491	1894.46	407.81	-0.54	3.98	2327.17	6.73	2323.76	6.72	-3.4	-0.15
135	347	212	77	5552	0.95076	910.8	0.55548	1893.78	417.41	0	3.94	2333.94	6.73	2329.96	6.71	-3.97	-0.17
135	348	213	78	5568	0.94976	911.6	0.55603	1893.13	427.1	-0.54	3.9	2339.54	6.72	2336.35	6.71	-3.19	-0.14
135	349	214	79	5584	0.94876	912.38	0.55659	1892.48	436.87	0	3.86	2346.14	6.72	2342.38	6.71	-3.75	-0.16
135	350	215	80	5600	0.94776	913.15	0.55714	1891.85	446.72	-0.53	3.83	2351.57	6.72	2348.6	6.71	-2.97	-0.13
135	351	216	81	5616	0.94675	913.92	0.55769	1891.23	456.66	0	3.79	2357.99	6.72	2354.46	6.71	-3.53	-0.15
135	352	217	82	5632	0.94573	914.67	0.55824	1890.63	466.68	-0.53	3.76	2363.25	6.71	2360.52	6.71	-2.74	-0.12
135	353	218	83	5648	0.94472	915.42	0.55878	1890.03	476.78	0	3.72	2369.5	6.71	2366.21	6.7	-3.29	-0.14
135	354	219	84	5664	0.94369	916.15	0.55932	1889.45	486.96	-0.53	3.69	2374.6	6.71	2372.1	6.7	-2.5	-0.11

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
135	355	220	85	5680	0.94267	916.88	0.55986	1888.88	497.22	0	3.66	2380.67	6.71	2377.62	6.7	-3.05	-0.13
135	356	221	86	5696	0.94164	917.6	0.56039	1888.32	507.56	-0.53	3.63	2385.6	6.7	2383.35	6.69	-2.25	-0.09
135	357	222	87	5712	0.94061	918.31	0.56092	1887.78	517.99	0	3.59	2391.51	6.7	2388.72	6.69	-2.8	-0.12
135	358	223	88	5728	0.93958	919.02	0.56145	1887.25	528.49	-0.53	3.56	2396.28	6.69	2394.28	6.69	-2	-0.08
135	359	224	89	5744	0.93854	919.71	0.56198	1886.72	539.06	0	3.53	2402.03	6.69	2399.49	6.68	-2.54	-0.11
135	360	225	90	5760	0.93750	920.4	0.56250	1886.22	549.72	-0.53	3.5	2406.64	6.69	2404.9	6.68	-1.74	-0.07
135	361	226	91	5776	0.93646	921.07	0.56302	1885.72	560.45	0	3.47	2412.23	6.68	2409.95	6.68	-2.28	-0.09
135	362	227	92	5792	0.93541	921.74	0.56354	1885.23	571.26	-0.53	3.44	2416.68	6.68	2415.2	6.67	-1.48	-0.06
135	363	228	93	5808	0.93436	922.4	0.56405	1884.75	582.14	0	3.41	2422.11	6.67	2420.1	6.67	-2.01	-0.08
135	364	229	94	5824	0.93331	923.06	0.56456	1884.29	593.1	-0.52	3.38	2426.41	6.67	2425.2	6.66	-1.21	-0.05
135	365	230	95	5840	0.93226	923.7	0.56507	1883.83	604.13	0	3.35	2431.69	6.66	2429.94	6.66	-1.74	-0.07
135	366	231	96	5856	0.93120	924.34	0.56557	1883.39	615.23	-0.52	3.32	2435.84	6.66	2434.89	6.65	-0.94	-0.04
135	367	232	97	5872	0.93014	924.97	0.56608	1882.96	626.41	0	3.3	2440.96	6.65	2439.49	6.65	-1.47	-0.06
135	368	233	98	5888	0.92908	925.59	0.56658	1882.54	637.66	-0.52	3.27	2444.96	6.64	2444.29	6.64	-0.67	-0.03
135	369	234	99	5904	0.92802	926.21	0.56707	1882.12	648.98	0	3.24	2449.93	6.64	2448.73	6.64	-1.19	-0.05
135	370	235	100	5920	0.92695	926.82	0.56757	1881.72	660.37	-0.52	3.21	2453.78	6.63	2453.39	6.63	-0.39	-0.02
135	371	236	101	5936	0.92589	927.42	0.56806	1881.33	671.84	0	3.19	2458.6	6.63	2457.69	6.62	-0.91	-0.04
135	372	237	102	5952	0.92482	928.01	0.56855	1880.95	683.37	-0.52	3.16	2462.32	6.62	2462.21	6.62	-0.11	0
135	373	238	103	5968	0.92375	928.6	0.56904	1880.58	694.97	0	3.14	2466.99	6.61	2466.36	6.61	-0.63	-0.03
135	374	239	104	5984	0.92267	929.18	0.56952	1880.22	706.64	-0.52	3.11	2470.56	6.61	2470.73	6.61	0.17	0.01
135	375	240	105	6000	0.92160	929.75	0.57000	1879.86	718.38	0	3.09	2475.1	6.6	2474.74	6.6	-0.35	-0.01
135	376	241	106	6016	0.92052	930.31	0.57048	1879.52	730.19	-0.52	3.06	2478.53	6.59	2478.98	6.59	0.45	0.02
135	377	242	107	6032	0.91945	930.87	0.57096	1879.19	742.06	0	3.04	2482.92	6.59	2482.85	6.59	-0.07	0
135	378	243	108	6048	0.91837	931.42	0.57143	1878.86	754	-0.51	3.01	2486.21	6.58	2486.95	6.58	0.73	0.03
135	379	244	109	6064	0.91729	931.97	0.57190	1878.55	766.01	0	2.99	2490.47	6.57	2490.68	6.57	0.21	0.01
135	380	245	110	6080	0.91621	932.5	0.57237	1878.24	778.08	-0.51	2.96	2493.63	6.56	2494.64	6.56	1.01	0.04
135	381	246	111	6096	0.91512	933.03	0.57284	1877.95	790.22	0	2.94	2497.74	6.56	2498.24	6.56	0.5	0.02
135	382	247	112	6112	0.91404	933.56	0.57330	1877.66	802.42	-0.51	2.92	2500.77	6.55	2502.06	6.55	1.29	0.05
135	383	248	113	6128	0.91295	934.08	0.57376	1877.38	814.68	0	2.9	2504.75	6.54	2505.53	6.54	0.78	0.03
135	384	249	114	6144	0.91187	934.59	0.57422	1877.11	827.01	-0.51	2.87	2507.65	6.53	2509.22	6.53	1.57	0.06
135	385	250	115	6160	0.91078	935.09	0.57468	1876.85	839.4	0	2.85	2511.5	6.52	2512.56	6.53	1.06	0.04
135	386	251	116	6176	0.90969	935.59	0.57513	1876.6	851.86	-0.51	2.83	2514.27	6.51	2516.12	6.52	1.85	0.07
135	387	252	117	6192	0.90860	936.08	0.57558	1876.36	864.38	0	2.81	2517.99	6.51	2519.32	6.51	1.33	0.05
135	388	253	118	6208	0.90751	936.57	0.57603	1876.12	876.96	-0.51	2.79	2520.63	6.5	2522.76	6.5	2.13	0.08
135	389	254	119	6224	0.90642	937.05	0.57648	1875.9	889.6	0	2.77	2524.23	6.49	2525.83	6.49	1.61	0.06
135	390	255	120	6240	0.90533	937.53	0.57692	1875.68	902.3	-0.51	2.75	2526.74	6.48	2529.14	6.48	2.4	0.09
135	391	256	121	6256	0.90423	937.99	0.57737	1875.47	915.06	0	2.73	2530.21	6.47	2532.09	6.48	1.88	0.07
135	392	257	122	6272	0.90314	938.46	0.57781	1875.26	927.88	-0.51	2.71	2532.6	6.46	2535.28	6.47	2.67	0.11
135	393	258	123	6288	0.90205	938.91	0.57824	1875.07	940.76	0	2.69	2535.95	6.45	2538.1	6.46	2.15	0.08
135	394	259	124	6304	0.90095	939.36	0.57868	1874.88	953.7	-0.5	2.67	2538.22	6.44	2541.16	6.45	2.94	0.12
135	395	260	125	6320	0.89986	939.81	0.57911	1874.7	966.69	0	2.65	2541.44	6.43	2543.86	6.44	2.42	0.1
135	396	261	126	6336	0.89876	940.25	0.57955	1874.53	979.75	-0.5	2.63	2543.6	6.42	2546.8	6.43	3.2	0.13
135	397	262	127	6352	0.89766	940.68	0.57998	1874.37	992.86	0	2.61	2546.7	6.41	2549.38	6.42	2.68	0.11
135	398	263	128	6368	0.89657	941.11	0.58040	1874.21	1006.03	-0.5	2.59	2548.74	6.4	2552.2	6.41	3.46	0.14
135	399	264	129	6384	0.89547	941.53	0.58083	1874.06	1019.25	0	2.57	2551.72	6.4	2554.66	6.4	2.94	0.12
135	400	265	130	6400	0.89438	941.95	0.58125	1873.92	1032.54	-0.5	2.55	2553.64	6.38	2557.36	6.39	3.72	0.15
135	401	266	131	6416	0.89328	942.36	0.58167	1873.79	1045.88	0	2.54	2556.51	6.38	2559.7	6.38	3.19	0.12

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
135	402	267	132	6432	0.89218	942.77	0.58209	1873.66	1059.27	-0.5	2.52	2558.32	6.36	2562.29	6.37	3.97	0.15
135	403	268	133	6448	0.89108	943.17	0.58251	1873.54	1072.72	0	2.5	2561.07	6.36	2564.51	6.36	3.44	0.13
135	404	269	134	6464	0.88999	943.57	0.58292	1873.43	1086.22	-0.5	2.48	2562.77	6.34	2566.98	6.35	4.21	0.16
135	405	270	135	6480	0.88889	943.96	0.58333	1873.33	1099.78	0	2.47	2565.41	6.33	2569.09	6.34	3.69	0.14
135	406	271	136	6496	0.88779	944.34	0.58374	1873.23	1113.39	-0.5	2.45	2566.99	6.32	2571.45	6.33	4.45	0.17
135	407	272	137	6512	0.88669	944.72	0.58415	1873.14	1127.05	0	2.43	2569.52	6.31	2573.44	6.32	3.92	0.15
135	408	273	138	6528	0.88560	945.1	0.58456	1873.05	1140.77	-0.5	2.42	2571	6.3	2575.69	6.31	4.69	0.18
135	409	274	139	6544	0.88450	945.47	0.58496	1872.97	1154.54	0	2.4	2573.42	6.29	2577.57	6.3	4.16	0.16
135	410	275	140	6560	0.88340	945.84	0.58537	1872.9	1168.36	-0.49	2.38	2574.79	6.28	2579.71	6.29	4.92	0.19
135	411	276	141	6576	0.88231	946.2	0.58577	1872.84	1182.24	0	2.37	2577.1	6.27	2581.48	6.28	4.38	0.17
135	412	277	142	6592	0.88121	946.55	0.58617	1872.78	1196.16	-0.49	2.35	2578.36	6.26	2583.5	6.27	5.14	0.2
135	413	278	143	6608	0.88011	946.91	0.58656	1872.73	1210.14	0	2.34	2580.57	6.25	2585.17	6.26	4.6	0.18
135	414	279	144	6624	0.87902	947.25	0.58696	1872.68	1224.17	-0.49	2.32	2581.73	6.24	2587.08	6.25	5.36	0.21
135	415	280	145	6640	0.87792	947.59	0.58735	1872.64	1238.24	0	2.31	2583.83	6.23	2588.64	6.24	4.82	0.19
135	416	281	146	6656	0.87683	947.93	0.58774	1872.61	1252.37	-0.49	2.29	2584.89	6.21	2590.45	6.23	5.56	0.21
135	417	282	147	6672	0.87573	948.27	0.58813	1872.58	1266.55	0	2.28	2586.88	6.2	2591.9	6.22	5.02	0.19
135	418	283	148	6688	0.87464	948.59	0.58852	1872.56	1280.78	-0.49	2.26	2587.84	6.19	2593.61	6.2	5.77	0.22
135	419	284	149	6704	0.87354	948.92	0.58890	1872.55	1295.05	0	2.25	2589.73	6.18	2594.95	6.19	5.22	0.2
135	420	285	150	6720	0.87245	949.24	0.58929	1872.54	1309.38	-0.49	2.23	2590.59	6.17	2596.56	6.18	5.96	0.23
135	421	286	151	6736	0.87136	949.55	0.58967	1872.53	1323.75	0	2.22	2592.38	6.16	2597.8	6.17	5.42	0.21
135	422	287	152	6752	0.87026	949.86	0.59005	1872.54	1338.17	-0.49	2.2	2593.15	6.14	2599.3	6.16	6.15	0.24
135	423	288	153	6768	0.86917	950.17	0.59043	1872.55	1352.64	0	2.19	2594.84	6.13	2600.44	6.15	5.6	0.22
135	424	289	154	6784	0.86808	950.47	0.59080	1872.56	1367.15	-0.49	2.18	2595.51	6.12	2601.84	6.14	6.33	0.24
135	425	290	155	6800	0.86699	950.77	0.59118	1872.58	1381.71	0	2.16	2597.1	6.11	2602.88	6.12	5.78	0.22
135	426	291	156	6816	0.86590	951.06	0.59155	1872.61	1396.32	-0.48	2.15	2597.67	6.1	2604.18	6.11	6.5	0.25
135	427	292	157	6832	0.86481	951.35	0.59192	1872.64	1410.97	0	2.13	2599.17	6.09	2605.11	6.1	5.95	0.23
135	428	293	158	6848	0.86372	951.64	0.59229	1872.68	1425.68	-0.48	2.12	2599.65	6.07	2606.31	6.09	6.67	0.26
135	429	294	159	6864	0.86263	951.92	0.59266	1872.72	1440.42	0	2.11	2601.05	6.06	2607.16	6.08	6.11	0.23
135	430	295	160	6880	0.86155	952.2	0.59302	1872.77	1455.21	-0.48	2.1	2601.44	6.05	2608.26	6.07	6.82	0.26
135	431	296	161	6896	0.86046	952.47	0.59339	1872.82	1470.05	0	2.08	2602.74	6.04	2609	6.05	6.26	0.24
135	432	297	162	6912	0.85938	952.74	0.59375	1872.88	1484.93	-0.48	2.07	2603.04	6.03	2610.01	6.04	6.97	0.27
135	433	298	163	6928	0.85829	953	0.59411	1872.95	1499.85	0	2.06	2604.25	6.01	2610.66	6.03	6.41	0.25
135	434	299	164	6944	0.85721	953.27	0.59447	1873.02	1514.82	-0.48	2.05	2604.46	6	2611.57	6.02	7.11	0.27
135	435	300	165	6960	0.85612	953.52	0.59483	1873.09	1529.84	0	2.03	2605.58	5.99	2612.12	6	6.54	0.25
135	436	301	166	6976	0.85504	953.78	0.59518	1873.17	1544.89	-0.48	2.02	2605.7	5.98	2612.94	5.99	7.24	0.28
135	437	302	167	6992	0.85396	954.03	0.59554	1873.25	1559.99	0	2.01	2606.73	5.97	2613.4	5.98	6.67	0.26
135	438	303	168	7008	0.85288	954.27	0.59589	1873.34	1575.14	-0.48	2	2606.77	5.95	2614.13	5.97	7.36	0.28
135	439	304	169	7024	0.85180	954.52	0.59624	1873.44	1590.32	0	1.99	2607.71	5.94	2614.5	5.96	6.78	0.26
135	440	305	170	7040	0.85072	954.75	0.59659	1873.54	1605.55	-0.48	1.97	2607.66	5.93	2615.13	5.94	7.47	0.29
135	441	306	171	7056	0.84965	954.99	0.59694	1873.64	1620.82	0	1.96	2608.51	5.91	2615.41	5.93	6.89	0.26
135	442	307	172	7072	0.84857	955.22	0.59729	1873.75	1636.13	-0.48	1.95	2608.37	5.9	2615.95	5.92	7.58	0.29
135	443	308	173	7088	0.84750	955.45	0.59763	1873.87	1651.48	0	1.94	2609.14	5.89	2616.14	5.91	6.99	0.27
135	444	309	174	7104	0.84642	955.67	0.59797	1873.99	1666.87	-0.47	1.93	2608.92	5.88	2616.59	5.89	7.67	0.29
135	445	310	175	7120	0.84535	955.9	0.59832	1874.11	1682.31	0	1.92	2609.61	5.86	2616.69	5.88	7.08	0.27
135	446	311	176	7136	0.84428	956.11	0.59866	1874.24	1697.78	-0.47	1.91	2609.3	5.85	2617.05	5.87	7.75	0.3
135	447	312	177	7152	0.84321	956.33	0.59899	1874.37	1713.3	0	1.9	2609.9	5.84	2617.06	5.85	7.16	0.27
135	448	313	178	7168	0.84214	956.54	0.59933	1874.51	1728.85	-0.47	1.88	2609.51	5.82	2617.34	5.84	7.83	0.3

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
135	449	314	179	7184	0.84107	956.75	0.59967	1874.65	1744.45	0	1.87	2610.03	5.81	2617.26	5.83	7.23	0.28
135	450	315	180	7200	0.84000	956.95	0.60000	1874.8	1760.08	-0.47	1.86	2609.57	5.8	2617.46	5.82	7.89	0.3
135	451	316	181	7216	0.83893	957.15	0.60033	1874.95	1775.75	0	1.85	2610	5.79	2617.29	5.8	7.29	0.28
135	452	317	182	7232	0.83787	957.35	0.60066	1875.1	1791.47	-0.47	1.84	2609.46	5.77	2617.4	5.79	7.95	0.3
135	453	318	183	7248	0.83681	957.54	0.60099	1875.26	1807.22	0	1.83	2609.81	5.76	2617.15	5.78	7.34	0.28
135	454	319	184	7264	0.83574	957.73	0.60132	1875.43	1823.01	-0.47	1.82	2609.19	5.75	2617.18	5.76	7.99	0.31
135	455	320	185	7280	0.83468	957.92	0.60165	1875.59	1838.83	0	1.81	2609.46	5.74	2616.84	5.75	7.38	0.28
135	456	321	186	7296	0.83362	958.11	0.60197	1875.77	1854.7	-0.47	1.8	2608.76	5.72	2616.79	5.74	8.02	0.31
135	457	322	187	7312	0.83256	958.29	0.60230	1875.94	1870.6	0	1.79	2608.96	5.71	2616.37	5.73	7.41	0.28
135	458	323	188	7328	0.83151	958.47	0.60262	1876.12	1886.54	-0.47	1.78	2608.18	5.69	2616.23	5.71	8.05	0.31
135	459	324	189	7344	0.83045	958.64	0.60294	1876.31	1902.52	0	1.77	2608.3	5.68	2615.73	5.7	7.43	0.28
135	460	325	190	7360	0.82940	958.82	0.60326	1876.5	1918.54	-0.47	1.76	2607.45	5.67	2615.51	5.69	8.06	0.31
135	461	326	191	7376	0.82834	958.99	0.60358	1876.69	1934.59	0	1.75	2607.49	5.66	2614.93	5.67	7.44	0.28
135	462	327	192	7392	0.82729	959.15	0.60390	1876.89	1950.68	-0.47	1.75	2606.56	5.64	2614.63	5.66	8.06	0.31
135	463	328	193	7408	0.82624	959.32	0.60421	1877.09	1966.8	0	1.74	2606.53	5.63	2613.97	5.65	7.44	0.28
135	464	329	194	7424	0.82519	959.48	0.60453	1877.29	1982.96	-0.46	1.73	2605.53	5.62	2613.59	5.63	8.06	0.31
135	465	330	195	7440	0.82414	959.63	0.60484	1877.5	1999.16	0	1.72	2605.42	5.6	2612.85	5.62	7.43	0.28
135	466	331	196	7456	0.82310	959.79	0.60515	1877.71	2015.39	-0.46	1.71	2604.35	5.59	2612.39	5.61	8.04	0.31
135	467	332	197	7472	0.82205	959.94	0.60546	1877.93	2031.66	0	1.7	2604.17	5.58	2611.57	5.59	7.4	0.28
135	468	333	198	7488	0.82101	960.09	0.60577	1878.15	2047.96	-0.46	1.69	2603.03	5.56	2611.04	5.58	8.01	0.31
135	469	334	199	7504	0.81996	960.24	0.60608	1878.37	2064.3	0	1.68	2602.77	5.55	2610.14	5.57	7.37	0.28
135	470	335	200	7520	0.81892	960.38	0.60638	1878.6	2080.67	-0.46	1.67	2601.56	5.54	2609.53	5.55	7.97	0.31
135	471	336	201	7536	0.81788	960.52	0.60669	1878.83	2097.08	0	1.67	2601.24	5.52	2608.56	5.54	7.33	0.28
135	472	337	202	7552	0.81685	960.66	0.60699	1879.07	2113.52	-0.46	1.66	2599.95	5.51	2607.87	5.53	7.92	0.3
Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
136	271	135	-1	4336	0.99999	812.41	0.49908	2029.31	0.09	0	9.85	1504.03	5.55	1513.16	5.58	9.12	0.6
136	272	136	0	4352	1.00000	814.42	0.50000	2026.81	0	0.61	10	1521.38	5.59	1529.82	5.62	8.44	0.55
136	273	137	1	4368	0.99999	816.4	0.50092	2024.35	0.09	0	9.85	1537.01	5.63	1544.49	5.66	7.48	0.48
136	274	138	2	4384	0.99995	818.36	0.50183	2021.92	0.36	0.6	9.7	1553.66	5.67	1560.82	5.7	7.16	0.46
136	275	139	3	4400	0.99988	820.3	0.50273	2019.53	0.8	0	9.55	1568.92	5.71	1575.16	5.73	6.24	0.4
136	276	140	4	4416	0.99979	822.21	0.50362	2017.19	1.42	0.6	9.41	1585.2	5.74	1591.15	5.77	5.95	0.37
136	277	141	5	4432	0.99967	824.1	0.50451	2014.87	2.2	0	9.27	1600.09	5.78	1605.18	5.79	5.08	0.32
136	278	142	6	4448	0.99953	825.97	0.50540	2012.6	3.16	0.6	9.13	1616.01	5.81	1620.84	5.83	4.83	0.3
136	279	143	7	4464	0.99937	827.81	0.50627	2010.36	4.29	0	9	1630.54	5.84	1634.55	5.86	4.01	0.25
136	280	144	8	4480	0.99918	829.63	0.50714	2008.15	5.58	0.6	8.87	1646.1	5.88	1649.89	5.89	3.79	0.23
136	281	145	9	4496	0.99897	831.43	0.50801	2005.98	7.04	0	8.74	1660.29	5.91	1663.29	5.92	3	0.18
136	282	146	10	4512	0.99874	833.21	0.50887	2003.85	8.66	0.6	8.62	1675.5	5.94	1678.32	5.95	2.83	0.17
136	283	147	11	4528	0.99849	834.97	0.50972	2001.74	10.44	0	8.49	1689.34	5.97	1691.42	5.98	2.07	0.12
136	284	148	12	4544	0.99822	836.7	0.51056	1999.68	12.38	0.59	8.37	1704.21	6	1706.14	6.01	1.93	0.11
136	285	149	13	4560	0.99792	838.42	0.51140	1997.64	14.48	0	8.26	1717.72	6.03	1718.94	6.03	1.21	0.07
136	286	150	14	4576	0.99760	840.11	0.51224	1995.64	16.73	0.59	8.14	1732.25	6.06	1733.36	6.06	1.1	0.06
136	287	151	15	4592	0.99727	841.79	0.51307	1993.66	19.14	0	8.03	1745.44	6.08	1745.86	6.08	0.42	0.02
136	288	152	16	4608	0.99691	843.44	0.51389	1991.72	21.7	0.59	7.92	1759.64	6.11	1759.98	6.11	0.34	0.02
136	289	153	17	4624	0.99654	845.07	0.51471	1989.81	24.42	0	7.81	1772.51	6.13	1772.2	6.13	-0.31	-0.02
136	290	154	18	4640	0.99615	846.69	0.51552	1987.93	27.28	0.59	7.71	1786.4	6.16	1786.03	6.16	-0.36	-0.02
136	291	155	19	4656	0.99574	848.28	0.51632	1986.08	30.29	0	7.6	1798.95	6.18	1797.97	6.18	-0.98	-0.05

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
136	292	156	20	4672	0.99531	849.86	0.51712	1984.26	33.45	0.59	7.5	1812.52	6.21	1811.52	6.2	-1	-0.06
136	293	157	21	4688	0.99486	851.42	0.51792	1982.46	36.75	0	7.4	1824.77	6.23	1823.18	6.22	-1.59	-0.09
136	294	158	22	4704	0.99440	852.96	0.51871	1980.7	40.2	0.58	7.3	1838.03	6.25	1836.44	6.25	-1.59	-0.09
136	295	159	23	4720	0.99392	854.48	0.51949	1978.96	43.78	0	7.21	1849.98	6.27	1847.83	6.26	-2.15	-0.12
136	296	160	24	4736	0.99343	855.98	0.52027	1977.25	47.51	0.58	7.11	1862.94	6.29	1860.82	6.29	-2.12	-0.11
136	297	161	25	4752	0.99292	857.47	0.52104	1975.57	51.38	0	7.02	1874.6	6.31	1871.95	6.3	-2.65	-0.14
136	298	162	26	4768	0.99239	858.94	0.52181	1973.92	55.39	0.58	6.93	1887.27	6.33	1884.66	6.32	-2.6	-0.14
136	299	163	27	4784	0.99185	860.39	0.52258	1972.29	59.53	0	6.84	1898.63	6.35	1895.53	6.34	-3.11	-0.16
136	300	164	28	4800	0.99129	861.82	0.52333	1970.69	63.81	0.58	6.76	1911.02	6.37	1907.98	6.36	-3.04	-0.16
136	301	165	29	4816	0.99072	863.24	0.52409	1969.11	68.23	0	6.67	1922.1	6.39	1918.59	6.37	-3.51	-0.18
136	302	166	30	4832	0.99013	864.63	0.52483	1967.56	72.77	0.58	6.59	1934.2	6.4	1930.78	6.39	-3.42	-0.18
136	303	167	31	4848	0.98953	866.02	0.52558	1966.03	77.45	0	6.51	1945.01	6.42	1941.13	6.41	-3.88	-0.2
136	304	168	32	4864	0.98892	867.38	0.52632	1964.53	82.25	0.57	6.43	1956.83	6.44	1953.07	6.42	-3.76	-0.19
136	305	169	33	4880	0.98829	868.74	0.52705	1963.05	87.19	0	6.35	1967.37	6.45	1963.18	6.44	-4.2	-0.21
136	306	170	34	4896	0.98765	870.07	0.52778	1961.6	92.25	0.57	6.27	1978.92	6.47	1974.86	6.45	-4.06	-0.21
136	307	171	35	4912	0.98700	871.39	0.52850	1960.17	97.44	0	6.2	1989.2	6.48	1984.72	6.46	-4.47	-0.23
136	308	172	36	4928	0.98634	872.69	0.52922	1958.76	102.76	0.57	6.12	2000.48	6.5	1996.16	6.48	-4.32	-0.22
136	309	173	37	4944	0.98566	873.98	0.52994	1957.37	108.19	0	6.05	2010.5	6.51	2005.79	6.49	-4.71	-0.23
136	310	174	38	4960	0.98497	875.25	0.53065	1956.01	113.75	0.57	5.98	2021.52	6.52	2016.98	6.51	-4.55	-0.23
136	311	175	39	4976	0.98427	876.51	0.53135	1954.67	119.44	0	5.91	2031.29	6.53	2026.37	6.52	-4.92	-0.24
136	312	176	40	4992	0.98356	877.76	0.53205	1953.35	125.24	0.57	5.84	2042.05	6.55	2037.32	6.53	-4.73	-0.23
136	313	177	41	5008	0.98284	878.98	0.53275	1952.06	131.16	0	5.77	2051.57	6.55	2046.48	6.54	-5.08	-0.25
136	314	178	42	5024	0.98211	880.2	0.53344	1950.78	137.2	0.56	5.7	2062.09	6.57	2057.2	6.55	-4.89	-0.24
136	315	179	43	5040	0.98137	881.4	0.53413	1949.53	143.35	0	5.64	2071.35	6.58	2066.14	6.56	-5.22	-0.25
136	316	180	44	5056	0.98061	882.59	0.53481	1948.29	149.63	0.56	5.57	2081.63	6.59	2076.62	6.57	-5.01	-0.24
136	317	181	45	5072	0.97985	883.76	0.53549	1947.08	156.01	0	5.51	2090.66	6.6	2085.34	6.58	-5.32	-0.26
136	318	182	46	5088	0.97908	884.92	0.53616	1945.89	162.51	0.56	5.45	2100.69	6.61	2095.6	6.59	-5.09	-0.24
136	319	183	47	5104	0.97829	886.06	0.53683	1944.72	169.12	0	5.39	2109.48	6.61	2104.09	6.6	-5.39	-0.26
136	320	184	48	5120	0.97750	887.19	0.53750	1943.56	175.85	0.56	5.33	2119.28	6.62	2114.13	6.61	-5.15	-0.24
136	321	185	49	5136	0.97670	888.31	0.53816	1942.43	182.68	0	5.27	2127.84	6.63	2122.4	6.61	-5.44	-0.26
136	322	186	50	5152	0.97589	889.42	0.53882	1941.31	189.63	0.56	5.21	2137.41	6.64	2132.22	6.62	-5.19	-0.24
136	323	187	51	5168	0.97507	890.51	0.53947	1940.22	196.68	0	5.15	2145.75	6.64	2140.29	6.63	-5.46	-0.25
136	324	188	52	5184	0.97424	891.59	0.54012	1939.14	203.84	0.56	5.1	2155.08	6.65	2149.89	6.64	-5.19	-0.24
136	325	189	53	5200	0.97341	892.66	0.54077	1938.08	211.1	0	5.04	2163.2	6.66	2157.75	6.64	-5.45	-0.25
136	326	190	54	5216	0.97256	893.71	0.54141	1937.04	218.48	0.55	4.99	2172.31	6.66	2167.14	6.65	-5.18	-0.24
136	327	191	55	5232	0.97171	894.75	0.54205	1936.02	225.95	0	4.93	2180.21	6.67	2174.79	6.65	-5.42	-0.25
136	328	192	56	5248	0.97085	895.78	0.54268	1935.01	233.53	0.55	4.88	2189.11	6.67	2183.97	6.66	-5.13	-0.24
136	329	193	57	5264	0.96998	896.8	0.54331	1934.02	241.21	0	4.83	2196.79	6.68	2191.43	6.66	-5.37	-0.24
136	330	194	58	5280	0.96911	897.81	0.54394	1933.05	248.99	0.55	4.78	2205.47	6.68	2200.4	6.67	-5.07	-0.23
136	331	195	59	5296	0.96823	898.8	0.54456	1932.1	256.88	0	4.73	2212.95	6.69	2207.66	6.67	-5.29	-0.24
136	332	196	60	5312	0.96734	899.79	0.54518	1931.16	264.86	0.55	4.68	2221.42	6.69	2216.43	6.68	-4.99	-0.23
136	333	197	61	5328	0.96644	900.76	0.54580	1930.24	272.95	0	4.63	2228.69	6.69	2223.49	6.68	-5.2	-0.23
136	334	198	62	5344	0.96554	901.72	0.54641	1929.34	281.13	0.55	4.59	2236.95	6.7	2232.06	6.68	-4.89	-0.22
136	335	199	63	5360	0.96463	902.67	0.54702	1928.45	289.4	0	4.54	2244.02	6.7	2238.93	6.68	-5.09	-0.23
136	336	200	64	5376	0.96372	903.6	0.54762	1927.58	297.78	0.55	4.49	2252.08	6.7	2247.31	6.69	-4.77	-0.21
136	337	201	65	5392	0.96280	904.53	0.54822	1926.72	306.25	0	4.45	2258.95	6.7	2253.99	6.69	-4.96	-0.22
136	338	202	66	5408	0.96187	905.45	0.54882	1925.88	314.81	0.54	4.4	2266.81	6.71	2262.18	6.69	-4.63	-0.2

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
136	339	203	67	5424	0.96094	906.35	0.54941	1925.06	323.47	0	4.36	2273.48	6.71	2268.67	6.69	-4.81	-0.21
136	340	204	68	5440	0.96000	907.25	0.55000	1924.25	332.22	0.54	4.32	2281.15	6.71	2276.67	6.7	-4.47	-0.2
136	341	205	69	5456	0.95906	908.13	0.55059	1923.45	341.06	0	4.27	2287.63	6.71	2282.98	6.69	-4.65	-0.2
136	342	206	70	5472	0.95811	909.01	0.55117	1922.67	350	0.54	4.23	2295.1	6.71	2290.79	6.7	-4.31	-0.19
136	343	207	71	5488	0.95715	909.87	0.55175	1921.9	359.02	0	4.19	2301.4	6.71	2296.93	6.7	-4.47	-0.19
136	344	208	72	5504	0.95619	910.72	0.55233	1921.15	368.14	0.54	4.15	2308.68	6.71	2304.55	6.7	-4.12	-0.18
136	345	209	73	5520	0.95523	911.57	0.55290	1920.42	377.34	0	4.11	2314.79	6.71	2310.51	6.7	-4.28	-0.19
136	346	210	74	5536	0.95426	912.4	0.55347	1919.69	386.63	0.54	4.07	2321.89	6.71	2317.96	6.7	-3.93	-0.17
136	347	211	75	5552	0.95328	913.22	0.55404	1918.98	396.01	0	4.03	2327.82	6.71	2323.74	6.7	-4.08	-0.18
136	348	212	76	5568	0.95231	914.04	0.55460	1918.29	405.48	0.54	4	2334.73	6.71	2331.01	6.7	-3.72	-0.16
136	349	213	77	5584	0.95132	914.84	0.55516	1917.61	415.03	0	3.96	2340.48	6.71	2336.62	6.7	-3.87	-0.17
136	350	214	78	5600	0.95034	915.64	0.55571	1916.94	424.66	0.53	3.92	2347.22	6.71	2343.71	6.7	-3.51	-0.15
136	351	215	79	5616	0.94934	916.42	0.55627	1916.28	434.38	0	3.89	2352.8	6.7	2349.15	6.69	-3.64	-0.16
136	352	216	80	5632	0.94835	917.2	0.55682	1915.64	444.19	0.53	3.85	2359.35	6.7	2356.07	6.69	-3.28	-0.14
136	353	217	81	5648	0.94735	917.97	0.55737	1915.01	454.08	0	3.81	2364.76	6.7	2361.35	6.69	-3.41	-0.14
136	354	218	82	5664	0.94634	918.73	0.55791	1914.39	464.05	0.53	3.78	2371.15	6.7	2368.1	6.69	-3.04	-0.13
136	355	219	83	5680	0.94534	919.48	0.55845	1913.79	474.1	0	3.75	2376.38	6.69	2373.21	6.69	-3.17	-0.13
136	356	220	84	5696	0.94433	920.22	0.55899	1913.2	484.23	0.53	3.71	2382.6	6.69	2379.8	6.68	-2.8	-0.12
136	357	221	85	5712	0.94331	920.95	0.55952	1912.62	494.44	0	3.68	2387.67	6.69	2384.75	6.68	-2.92	-0.12
136	358	222	86	5728	0.94229	921.67	0.56006	1912.05	504.74	0.53	3.65	2393.72	6.69	2391.17	6.68	-2.55	-0.11
136	359	223	87	5744	0.94127	922.39	0.56059	1911.49	515.11	0	3.61	2398.62	6.68	2395.96	6.67	-2.66	-0.11
136	360	224	88	5760	0.94025	923.09	0.56111	1910.95	525.56	0.53	3.58	2404.51	6.68	2402.22	6.67	-2.29	-0.1
136	361	225	89	5776	0.93922	923.79	0.56163	1910.42	536.09	0	3.55	2409.25	6.67	2406.85	6.67	-2.4	-0.1
136	362	226	90	5792	0.93819	924.48	0.56216	1909.9	546.69	0.53	3.52	2414.98	6.67	2412.95	6.67	-2.02	-0.08
136	363	227	91	5808	0.93716	925.16	0.56267	1909.39	557.37	0	3.49	2419.57	6.67	2417.43	6.66	-2.13	-0.09
136	364	228	92	5824	0.93612	925.84	0.56319	1908.89	568.13	0.52	3.46	2425.13	6.66	2423.37	6.66	-1.75	-0.07
136	365	229	93	5840	0.93508	926.5	0.56370	1908.41	578.96	0	3.43	2429.56	6.66	2427.7	6.65	-1.86	-0.08
136	366	230	94	5856	0.93404	927.16	0.56421	1907.93	589.86	0.52	3.4	2434.97	6.65	2433.49	6.65	-1.48	-0.06
136	367	231	95	5872	0.93299	927.81	0.56471	1907.47	600.84	0	3.37	2439.25	6.65	2437.67	6.64	-1.58	-0.06
136	368	232	96	5888	0.93195	928.45	0.56522	1907.02	611.9	0.52	3.34	2444.5	6.64	2443.3	6.64	-1.2	-0.05
136	369	233	97	5904	0.93090	929.08	0.56572	1906.57	623.02	0	3.32	2448.64	6.64	2447.33	6.63	-1.3	-0.05
136	370	234	98	5920	0.92985	929.71	0.56622	1906.14	634.22	0.52	3.29	2453.73	6.63	2452.82	6.63	-0.92	-0.04
136	371	235	99	5936	0.92879	930.33	0.56671	1905.72	645.49	0	3.26	2457.72	6.62	2456.7	6.62	-1.02	-0.04
136	372	236	100	5952	0.92774	930.94	0.56720	1905.31	656.83	0.52	3.23	2462.67	6.62	2462.04	6.62	-0.63	-0.03
136	373	237	101	5968	0.92668	931.55	0.56769	1904.91	668.24	0	3.21	2466.51	6.61	2465.78	6.61	-0.73	-0.03
136	374	238	102	5984	0.92562	932.14	0.56818	1904.52	679.72	0.52	3.18	2471.32	6.61	2470.97	6.61	-0.35	-0.01
136	375	239	103	6000	0.92456	932.73	0.56867	1904.14	691.27	0	3.15	2475.01	6.6	2474.57	6.6	-0.44	-0.02
136	376	240	104	6016	0.92350	933.31	0.56915	1903.76	702.89	0.52	3.13	2479.67	6.59	2479.62	6.59	-0.06	0
136	377	241	105	6032	0.92243	933.89	0.56963	1903.4	714.58	0	3.1	2483.23	6.59	2483.08	6.59	-0.15	-0.01
136	378	242	106	6048	0.92136	934.46	0.57011	1903.05	726.33	0.51	3.08	2487.75	6.58	2487.98	6.58	0.23	0.01
136	379	243	107	6064	0.92029	935.02	0.57058	1902.71	738.15	0	3.06	2491.17	6.57	2491.31	6.57	0.14	0.01
136	380	244	108	6080	0.91922	935.58	0.57105	1902.38	750.04	0.51	3.03	2495.55	6.57	2496.07	6.57	0.52	0.02
136	381	245	109	6096	0.91815	936.12	0.57152	1902.05	762	0	3.01	2498.83	6.56	2499.26	6.56	0.43	0.02
136	382	246	110	6112	0.91708	936.67	0.57199	1901.74	774.02	0.51	2.98	2503.07	6.55	2503.89	6.55	0.81	0.03
136	383	247	111	6128	0.91601	937.2	0.57245	1901.43	786.1	0	2.96	2506.23	6.54	2506.95	6.55	0.72	0.03
136	384	248	112	6144	0.91493	937.73	0.57292	1901.14	798.25	0.51	2.94	2510.33	6.54	2511.43	6.54	1.1	0.04
136	385	249	113	6160	0.91385	938.25	0.57338	1900.85	810.46	0	2.91	2513.35	6.53	2514.36	6.53	1.01	0.04

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
136	386	250	114	6176	0.91278	938.77	0.57383	1900.57	822.74	0.51	2.89	2517.32	6.52	2518.71	6.53	1.39	0.06
136	387	251	115	6192	0.91170	939.28	0.57429	1900.3	835.08	0	2.87	2520.21	6.51	2521.51	6.52	1.3	0.05
136	388	252	116	6208	0.91062	939.78	0.57474	1900.04	847.48	0.51	2.85	2524.05	6.51	2525.73	6.51	1.68	0.07
136	389	253	117	6224	0.90954	940.28	0.57519	1899.79	859.94	0	2.83	2526.82	6.5	2528.4	6.5	1.59	0.06
136	390	254	118	6240	0.90846	940.77	0.57564	1899.55	872.47	0.51	2.81	2530.53	6.49	2532.49	6.49	1.96	0.08
136	391	255	119	6256	0.90737	941.25	0.57609	1899.31	885.06	0	2.79	2533.17	6.48	2535.04	6.48	1.87	0.07
136	392	256	120	6272	0.90629	941.73	0.57653	1899.09	897.7	0.51	2.76	2536.75	6.47	2539	6.48	2.25	0.09
136	393	257	121	6288	0.90521	942.2	0.57697	1898.87	910.41	0	2.74	2539.26	6.46	2541.42	6.47	2.15	0.08
136	394	258	122	6304	0.90412	942.67	0.57741	1898.66	923.18	0.5	2.72	2542.73	6.45	2545.25	6.46	2.53	0.1
136	395	259	123	6320	0.90304	943.13	0.57785	1898.45	936.01	0	2.7	2545.12	6.44	2547.55	6.45	2.43	0.1
136	396	260	124	6336	0.90195	943.58	0.57828	1898.26	948.89	0.5	2.68	2548.45	6.44	2551.26	6.44	2.8	0.11
136	397	261	125	6352	0.90086	944.03	0.57872	1898.07	961.83	0	2.66	2550.73	6.43	2553.44	6.43	2.71	0.11
136	398	262	126	6368	0.89978	944.48	0.57915	1897.89	974.84	0.5	2.65	2553.94	6.42	2557.02	6.42	3.08	0.12
136	399	263	127	6384	0.89869	944.91	0.57957	1897.72	987.9	0	2.63	2556.1	6.41	2559.08	6.41	2.98	0.12
136	400	264	128	6400	0.89760	945.35	0.58000	1897.56	1001.01	0.5	2.61	2559.19	6.4	2562.54	6.41	3.35	0.13
136	401	265	129	6416	0.89651	945.77	0.58042	1897.4	1014.18	0	2.59	2561.23	6.39	2564.48	6.4	3.25	0.13
136	402	266	130	6432	0.89542	946.2	0.58085	1897.25	1027.41	0.5	2.57	2564.21	6.38	2567.82	6.39	3.61	0.14
136	403	267	131	6448	0.89434	946.61	0.58127	1897.11	1040.7	0	2.55	2566.13	6.37	2569.65	6.38	3.51	0.14
136	404	268	132	6464	0.89325	947.02	0.58168	1896.98	1054.04	0.5	2.54	2569	6.36	2572.87	6.37	3.88	0.15
136	405	269	133	6480	0.89216	947.43	0.58210	1896.85	1067.43	0	2.52	2570.81	6.35	2574.58	6.36	3.77	0.15
136	406	270	134	6496	0.89107	947.83	0.58251	1896.73	1080.88	0.5	2.5	2573.56	6.34	2577.69	6.35	4.13	0.16
136	407	271	135	6512	0.88998	948.22	0.58292	1896.62	1094.39	0	2.48	2575.26	6.33	2579.29	6.34	4.03	0.16
136	408	272	136	6528	0.88889	948.61	0.58333	1896.51	1107.94	0.5	2.47	2577.89	6.32	2582.28	6.33	4.38	0.17
136	409	273	137	6544	0.88780	949	0.58374	1896.41	1121.56	0	2.45	2579.48	6.31	2583.76	6.32	4.28	0.17
136	410	274	138	6560	0.88671	949.38	0.58415	1896.32	1135.22	0.49	2.43	2582.01	6.3	2586.64	6.31	4.63	0.18
136	411	275	139	6576	0.88562	949.75	0.58455	1896.23	1148.94	0	2.42	2583.49	6.29	2588.02	6.3	4.52	0.17
136	412	276	140	6592	0.88453	950.12	0.58495	1896.15	1162.71	0.49	2.4	2585.91	6.28	2590.78	6.29	4.87	0.19
136	413	277	141	6608	0.88344	950.49	0.58535	1896.08	1176.53	0	2.38	2587.29	6.26	2592.05	6.28	4.76	0.18
136	414	278	142	6624	0.88235	950.85	0.58575	1896.02	1190.4	0.49	2.37	2589.6	6.26	2594.7	6.27	5.1	0.2
136	415	279	143	6640	0.88127	951.2	0.58615	1895.96	1204.32	0	2.35	2590.87	6.24	2595.86	6.26	4.99	0.19
136	416	280	144	6656	0.88018	951.56	0.58654	1895.91	1218.3	0.49	2.34	2593.07	6.23	2598.4	6.25	5.33	0.21
136	417	281	145	6672	0.87909	951.9	0.58693	1895.86	1232.32	0	2.32	2594.24	6.22	2599.46	6.23	5.22	0.2
136	418	282	146	6688	0.87800	952.24	0.58732	1895.82	1246.39	0.49	2.31	2596.34	6.21	2601.89	6.22	5.55	0.21
136	419	283	147	6704	0.87692	952.58	0.58771	1895.79	1260.52	0	2.29	2597.41	6.2	2602.84	6.21	5.44	0.21
136	420	284	148	6720	0.87583	952.91	0.58810	1895.76	1274.69	0.49	2.28	2599.4	6.19	2605.17	6.2	5.77	0.22
136	421	285	149	6736	0.87474	953.24	0.58848	1895.74	1288.91	0	2.26	2600.37	6.18	2606.02	6.19	5.65	0.22
136	422	286	150	6752	0.87366	953.56	0.58886	1895.72	1303.18	0.49	2.25	2602.26	6.17	2608.24	6.18	5.98	0.23
136	423	287	151	6768	0.87257	953.88	0.58924	1895.71	1317.5	0	2.23	2603.13	6.15	2608.99	6.17	5.85	0.22
136	424	288	152	6784	0.87149	954.2	0.58962	1895.71	1331.87	0.49	2.22	2604.93	6.14	2611.1	6.16	6.18	0.24
136	425	289	153	6800	0.87040	954.51	0.59000	1895.71	1346.28	0	2.2	2605.7	6.13	2611.75	6.15	6.05	0.23
136	426	290	154	6816	0.86932	954.81	0.59038	1895.72	1360.75	0.48	2.19	2607.39	6.12	2613.76	6.14	6.37	0.24
136	427	291	155	6832	0.86823	955.12	0.59075	1895.73	1375.26	0	2.18	2608.07	6.11	2614.31	6.12	6.24	0.24
136	428	292	156	6848	0.86715	955.41	0.59112	1895.75	1389.81	0.48	2.16	2609.67	6.1	2616.22	6.11	6.56	0.25
136	429	293	157	6864	0.86607	955.71	0.59149	1895.78	1404.41	0	2.15	2610.25	6.08	2616.67	6.1	6.42	0.25
136	430	294	158	6880	0.86499	956	0.59186	1895.81	1419.06	0.48	2.14	2611.75	6.07	2618.48	6.09	6.73	0.26
136	431	295	159	6896	0.86391	956.28	0.59223	1895.85	1433.75	0	2.12	2612.24	6.06	2618.84	6.08	6.6	0.25
136	432	296	160	6912	0.86283	956.56	0.59259	1895.89	1448.49	0.48	2.11	2613.65	6.05	2620.55	6.07	6.9	0.26

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
136	433	297	161	6928	0.86175	956.84	0.59296	1895.94	1463.27	0	2.1	2614.04	6.04	2620.81	6.05	6.76	0.26
136	434	298	162	6944	0.86067	957.11	0.59332	1895.99	1478.1	0.48	2.09	2615.36	6.03	2622.42	6.04	7.06	0.27
136	435	299	163	6960	0.85959	957.38	0.59368	1896.05	1492.97	0	2.07	2615.67	6.01	2622.58	6.03	6.92	0.26
136	436	300	164	6976	0.85851	957.65	0.59404	1896.11	1507.89	0.48	2.06	2616.89	6	2624.1	6.02	7.22	0.27
136	437	301	165	6992	0.85744	957.91	0.59439	1896.18	1522.85	0	2.05	2617.1	5.99	2624.17	6	7.07	0.27
136	438	302	166	7008	0.85636	958.17	0.59475	1896.25	1537.86	0.48	2.04	2618.23	5.98	2625.59	5.99	7.36	0.28
136	439	303	167	7024	0.85529	958.42	0.59510	1896.33	1552.9	0	2.02	2618.37	5.96	2625.57	5.98	7.21	0.27
136	440	304	168	7040	0.85422	958.67	0.59546	1896.42	1567.99	0.48	2.01	2619.41	5.95	2626.9	5.97	7.5	0.29
136	441	305	169	7056	0.85314	958.92	0.59581	1896.51	1583.12	0	2	2619.45	5.94	2626.79	5.96	7.34	0.28
136	442	306	170	7072	0.85207	959.16	0.59615	1896.6	1598.3	0.48	1.99	2620.4	5.93	2628.02	5.95	7.62	0.29
136	443	307	171	7088	0.85100	959.4	0.59650	1896.7	1613.52	0	1.98	2620.36	5.92	2627.82	5.93	7.46	0.28
136	444	308	172	7104	0.84993	959.64	0.59685	1896.8	1628.77	0.47	1.97	2621.22	5.9	2628.96	5.92	7.74	0.29
136	445	309	173	7120	0.84886	959.87	0.59719	1896.91	1644.07	0	1.95	2621.1	5.89	2628.67	5.91	7.57	0.29
136	446	310	174	7136	0.84780	960.1	0.59753	1897.03	1659.41	0.47	1.94	2621.88	5.88	2629.72	5.9	7.85	0.3
136	447	311	175	7152	0.84673	960.32	0.59788	1897.14	1674.8	0	1.93	2621.67	5.87	2629.34	5.88	7.68	0.29
136	448	312	176	7168	0.84566	960.55	0.59821	1897.27	1690.22	0.47	1.92	2622.36	5.85	2630.31	5.87	7.94	0.3
136	449	313	177	7184	0.84460	960.76	0.59855	1897.39	1705.68	0	1.91	2622.07	5.84	2629.84	5.86	7.77	0.3
136	450	314	178	7200	0.84354	960.98	0.59889	1897.53	1721.18	0.47	1.9	2622.68	5.83	2630.71	5.85	8.03	0.31
136	451	315	179	7216	0.84247	961.19	0.59922	1897.66	1736.73	0	1.89	2622.31	5.81	2630.16	5.83	7.86	0.3
136	452	316	180	7232	0.84141	961.4	0.59956	1897.8	1752.31	0.47	1.88	2622.84	5.8	2630.95	5.82	8.11	0.31
136	453	317	181	7248	0.84035	961.6	0.59989	1897.95	1767.93	0	1.87	2622.38	5.79	2630.31	5.81	7.93	0.3
136	454	318	182	7264	0.83929	961.8	0.60022	1898.1	1783.59	0.47	1.86	2622.83	5.78	2631.01	5.8	8.18	0.31
136	455	319	183	7280	0.83824	962	0.60055	1898.25	1799.29	0	1.85	2622.3	5.76	2630.29	5.78	7.99	0.3
136	456	320	184	7296	0.83718	962.2	0.60088	1898.41	1815.03	0.47	1.84	2622.67	5.75	2630.91	5.77	8.24	0.31
136	457	321	185	7312	0.83613	962.39	0.60120	1898.58	1830.8	0	1.83	2622.06	5.74	2630.11	5.76	8.05	0.31
136	458	322	186	7328	0.83507	962.58	0.60153	1898.74	1846.62	0.47	1.82	2622.34	5.73	2630.63	5.74	8.29	0.32
136	459	323	187	7344	0.83402	962.76	0.60185	1898.92	1862.47	0	1.81	2621.66	5.71	2629.75	5.73	8.09	0.31
136	460	324	188	7360	0.83297	962.95	0.60217	1899.09	1878.36	0.47	1.8	2621.87	5.7	2630.2	5.72	8.33	0.32
136	461	325	189	7376	0.83192	963.13	0.60250	1899.27	1894.29	0	1.79	2621.1	5.69	2629.23	5.7	8.13	0.31
136	462	326	190	7392	0.83087	963.3	0.60281	1899.46	1910.25	0.47	1.78	2621.24	5.67	2629.59	5.69	8.36	0.32
136	463	327	191	7408	0.82982	963.47	0.60313	1899.64	1926.25	0	1.77	2620.4	5.66	2628.55	5.68	8.15	0.31
136	464	328	192	7424	0.82878	963.65	0.60345	1899.84	1942.29	0.46	1.76	2620.45	5.65	2628.83	5.67	8.38	0.32
136	465	329	193	7440	0.82773	963.81	0.60376	1900.03	1958.36	0	1.75	2619.54	5.63	2627.71	5.65	8.17	0.31
136	466	330	194	7456	0.82669	963.98	0.60408	1900.23	1974.47	0.46	1.74	2619.52	5.62	2627.91	5.64	8.38	0.32
136	467	331	195	7472	0.82565	964.14	0.60439	1900.44	1990.62	0	1.73	2618.54	5.61	2626.71	5.62	8.17	0.31
136	468	332	196	7488	0.82460	964.3	0.60470	1900.64	2006.8	0.46	1.72	2618.45	5.59	2626.83	5.61	8.38	0.32
136	469	333	197	7504	0.82356	964.45	0.60501	1900.86	2023.01	0	1.71	2617.39	5.58	2625.55	5.6	8.16	0.31
136	470	334	198	7520	0.82253	964.61	0.60532	1901.07	2039.26	0.46	1.7	2617.22	5.57	2625.59	5.59	8.37	0.32
136	471	335	199	7536	0.82149	964.76	0.60563	1901.29	2055.55	0	1.7	2616.1	5.55	2624.24	5.57	8.14	0.31
136	472	336	200	7552	0.82045	964.9	0.60593	1901.51	2071.87	0.46	1.69	2615.86	5.54	2624.2	5.56	8.34	0.32
136	473	337	201	7568	0.81942	965.05	0.60624	1901.74	2088.23	0	1.68	2614.66	5.53	2622.78	5.54	8.11	0.31
136	474	338	202	7584	0.81839	965.19	0.60654	1901.97	2104.62	0.46	1.67	2614.35	5.52	2622.66	5.53	8.31	0.32
136	475	339	203	7600	0.81736	965.33	0.60684	1902.21	2121.04	0	1.66	2613.08	5.5	2621.16	5.52	8.07	0.31
136	476	340	204	7616	0.81633	965.47	0.60714	1902.44	2137.5	0.46	1.65	2612.7	5.49	2620.97	5.51	8.26	0.32
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
137	273	136	-1	4368	0.99999	816.4	0.49908	2054.23	0.09	0	9.85	1507.13	5.52	1516.23	5.55	9.1	0.6

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
137	274	137	0	4384	1.00000	818.41	0.50000	2051.71	0	-0.6	10	1523.28	5.56	1532.09	5.59	8.81	0.58
137	275	138	1	4400	0.99999	820.39	0.50091	2049.23	0.09	0	9.85	1540.14	5.6	1547.6	5.63	7.46	0.48
137	276	139	2	4416	0.99995	822.34	0.50181	2046.8	0.35	-0.6	9.7	1555.61	5.64	1563.13	5.66	7.52	0.48
137	277	140	3	4432	0.99988	824.27	0.50271	2044.4	0.79	0	9.56	1572.09	5.68	1578.31	5.7	6.21	0.39
137	278	141	4	4448	0.99979	826.18	0.50360	2042.03	1.4	-0.6	9.41	1587.19	5.71	1593.51	5.73	6.31	0.4
137	279	142	5	4464	0.99968	828.07	0.50448	2039.71	2.19	0	9.27	1603.31	5.75	1608.36	5.76	5.05	0.31
137	280	143	6	4480	0.99954	829.93	0.50536	2037.42	3.14	-0.6	9.14	1618.05	5.78	1623.24	5.8	5.19	0.32
137	281	144	7	4496	0.99938	831.77	0.50623	2035.17	4.26	0	9.01	1633.81	5.81	1637.78	5.83	3.97	0.24
137	282	145	8	4512	0.99920	833.59	0.50709	2032.95	5.54	-0.6	8.88	1648.2	5.84	1652.35	5.86	4.15	0.25
137	283	146	9	4528	0.99899	835.38	0.50795	2030.77	6.99	0	8.75	1663.61	5.88	1666.57	5.89	2.96	0.18
137	284	147	10	4544	0.99876	837.16	0.50880	2028.62	8.6	-0.59	8.63	1677.65	5.91	1680.83	5.92	3.17	0.19
137	285	148	11	4560	0.99851	838.91	0.50965	2026.51	10.37	0	8.5	1692.72	5.94	1694.74	5.95	2.02	0.12
137	286	149	12	4576	0.99824	840.65	0.51049	2024.42	12.29	-0.59	8.38	1706.43	5.97	1708.7	5.97	2.27	0.13
137	287	150	13	4592	0.99795	842.36	0.51132	2022.37	14.38	0	8.27	1721.16	6	1722.31	6	1.16	0.07
137	288	151	14	4608	0.99764	844.05	0.51215	2020.36	16.62	-0.59	8.15	1734.54	6.02	1735.98	6.03	1.44	0.08
137	289	152	15	4624	0.99731	845.72	0.51298	2018.37	19.01	0	8.04	1748.94	6.05	1749.3	6.05	0.36	0.02
137	290	153	16	4640	0.99696	847.38	0.51379	2016.42	21.55	-0.59	7.93	1762	6.08	1762.67	6.08	0.67	0.04
137	291	154	17	4656	0.99659	849.01	0.51461	2014.49	24.25	0	7.82	1776.07	6.1	1775.7	6.1	-0.38	-0.02
137	292	155	18	4672	0.99620	850.62	0.51541	2012.6	27.09	-0.59	7.72	1788.82	6.13	1788.79	6.13	-0.03	0
137	293	156	19	4688	0.99580	852.22	0.51621	2010.74	30.08	0	7.62	1802.58	6.15	1801.53	6.15	-1.05	-0.06
137	294	157	20	4704	0.99537	853.79	0.51701	2008.9	33.22	-0.58	7.51	1815.02	6.17	1814.34	6.17	-0.68	-0.04
137	295	158	21	4720	0.99493	855.35	0.51780	2007.1	36.5	0	7.42	1828.47	6.2	1826.8	6.19	-1.67	-0.09
137	296	159	22	4736	0.99448	856.89	0.51858	2005.32	39.93	-0.58	7.32	1840.61	6.22	1839.34	6.21	-1.27	-0.07
137	297	160	23	4752	0.99400	858.41	0.51936	2003.57	43.49	0	7.22	1853.76	6.24	1851.52	6.23	-2.23	-0.12
137	298	161	24	4768	0.99351	859.91	0.52013	2001.85	47.2	-0.58	7.13	1865.6	6.26	1863.79	6.25	-1.8	-0.1
137	299	162	25	4784	0.99301	861.4	0.52090	2000.15	51.04	0	7.04	1878.45	6.28	1875.71	6.27	-2.74	-0.15
137	300	163	26	4800	0.99249	862.86	0.52167	1998.48	55.02	-0.58	6.95	1890	6.3	1887.71	6.29	-2.29	-0.12
137	301	164	27	4816	0.99195	864.31	0.52243	1996.84	59.14	0	6.86	1902.57	6.32	1899.36	6.31	-3.2	-0.17
137	302	165	28	4832	0.99140	865.75	0.52318	1995.23	63.39	-0.58	6.77	1913.84	6.34	1911.11	6.33	-2.73	-0.14
137	303	166	29	4848	0.99084	867.16	0.52393	1993.64	67.78	0	6.69	1926.11	6.36	1922.5	6.34	-3.61	-0.19
137	304	167	30	4864	0.99026	868.56	0.52467	1992.07	72.29	-0.57	6.61	1937.11	6.37	1933.99	6.36	-3.12	-0.16
137	305	168	31	4880	0.98967	869.94	0.52541	1990.53	76.94	0	6.53	1949.11	6.39	1945.12	6.38	-3.98	-0.2
137	306	169	32	4896	0.98906	871.31	0.52614	1989.02	81.72	-0.57	6.45	1959.83	6.4	1956.36	6.39	-3.46	-0.18
137	307	170	33	4912	0.98845	872.66	0.52687	1987.53	86.62	0	6.37	1971.55	6.42	1967.25	6.41	-4.31	-0.22
137	308	171	34	4928	0.98781	874	0.52760	1986.06	91.66	-0.57	6.29	1982.01	6.44	1978.24	6.42	-3.77	-0.19
137	309	172	35	4944	0.98717	875.32	0.52832	1984.61	96.81	0	6.21	1993.47	6.45	1988.88	6.44	-4.59	-0.23
137	310	173	36	4960	0.98651	876.62	0.52903	1983.19	102.1	-0.57	6.14	2003.66	6.46	1999.63	6.45	-4.03	-0.2
137	311	174	37	4976	0.98585	877.91	0.52974	1981.8	107.5	0	6.07	2014.86	6.48	2010.03	6.46	-4.83	-0.24
137	312	175	38	4992	0.98517	879.19	0.53045	1980.42	113.03	-0.57	6	2024.79	6.49	2020.54	6.48	-4.26	-0.21
137	313	176	39	5008	0.98448	880.45	0.53115	1979.07	118.68	0	5.93	2035.74	6.5	2030.7	6.49	-5.04	-0.25
137	314	177	40	5024	0.98377	881.69	0.53185	1977.74	124.44	-0.56	5.86	2045.42	6.51	2040.97	6.5	-4.45	-0.22
137	315	178	41	5040	0.98306	882.92	0.53254	1976.43	130.33	0	5.79	2056.11	6.53	2050.9	6.51	-5.21	-0.25
137	316	179	42	5056	0.98234	884.14	0.53323	1975.14	136.33	-0.56	5.72	2065.55	6.54	2060.95	6.52	-4.6	-0.22
137	317	180	43	5072	0.98160	885.34	0.53391	1973.87	142.45	0	5.66	2075.99	6.55	2070.64	6.53	-5.35	-0.26
137	318	181	44	5088	0.98086	886.53	0.53459	1972.63	148.69	-0.56	5.59	2085.19	6.56	2080.47	6.54	-4.73	-0.23
137	319	182	45	5104	0.98010	887.7	0.53527	1971.4	155.04	0	5.53	2095.39	6.57	2089.93	6.55	-5.46	-0.26
137	320	183	46	5120	0.97934	888.86	0.53594	1970.2	161.5	-0.56	5.47	2104.35	6.58	2099.53	6.56	-4.82	-0.23

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
137	321	184	47	5136	0.97856	890.01	0.53660	1969.01	168.07	0	5.41	2114.31	6.59	2108.78	6.57	-5.53	-0.26
137	322	185	48	5152	0.97778	891.14	0.53727	1967.85	174.76	-0.56	5.35	2123.04	6.59	2118.16	6.58	-4.88	-0.23
137	323	186	49	5168	0.97699	892.26	0.53793	1966.7	181.56	0	5.29	2132.77	6.6	2127.19	6.59	-5.58	-0.26
137	324	187	50	5184	0.97619	893.37	0.53858	1965.57	188.46	-0.56	5.23	2141.27	6.61	2136.36	6.59	-4.92	-0.23
137	325	188	51	5200	0.97538	894.46	0.53923	1964.46	195.47	0	5.17	2150.77	6.62	2145.17	6.6	-5.6	-0.26
137	326	189	52	5216	0.97456	895.54	0.53988	1963.37	202.59	-0.55	5.12	2159.05	6.62	2154.13	6.61	-4.92	-0.23
137	327	190	53	5232	0.97373	896.61	0.54052	1962.3	209.82	0	5.06	2168.33	6.63	2162.73	6.61	-5.6	-0.26
137	328	191	54	5248	0.97290	897.67	0.54116	1961.25	217.15	-0.55	5.01	2176.39	6.64	2171.48	6.62	-4.91	-0.23
137	329	192	55	5264	0.97205	898.72	0.54179	1960.21	224.58	0	4.96	2185.44	6.64	2179.87	6.63	-5.57	-0.26
137	330	193	56	5280	0.97120	899.75	0.54242	1959.2	232.12	-0.55	4.9	2193.29	6.65	2188.42	6.63	-4.87	-0.22
137	331	194	57	5296	0.97035	900.77	0.54305	1958.2	239.76	0	4.85	2202.13	6.65	2196.61	6.64	-5.52	-0.25
137	332	195	58	5312	0.96948	901.78	0.54368	1957.21	247.5	-0.55	4.8	2209.76	6.66	2204.95	6.64	-4.81	-0.22
137	333	196	59	5328	0.96861	902.77	0.54429	1956.25	255.34	0	4.75	2218.39	6.66	2212.94	6.65	-5.45	-0.25
137	334	197	60	5344	0.96773	903.76	0.54491	1955.3	263.28	-0.55	4.7	2225.81	6.66	2221.09	6.65	-4.73	-0.21
137	335	198	61	5360	0.96684	904.73	0.54552	1954.37	271.32	0	4.65	2234.23	6.67	2228.88	6.65	-5.36	-0.24
137	336	199	62	5376	0.96595	905.7	0.54613	1953.45	279.46	-0.55	4.61	2241.45	6.67	2236.83	6.66	-4.63	-0.21
137	337	200	63	5392	0.96505	906.65	0.54674	1952.55	287.69	0	4.56	2249.67	6.68	2244.42	6.66	-5.24	-0.23
137	338	201	64	5408	0.96415	907.59	0.54734	1951.67	296.02	-0.54	4.51	2256.69	6.68	2252.18	6.66	-4.51	-0.2
137	339	202	65	5424	0.96324	908.52	0.54794	1950.8	304.45	0	4.47	2264.7	6.68	2259.59	6.67	-5.12	-0.23
137	340	203	66	5440	0.96232	909.44	0.54853	1949.95	312.97	-0.54	4.43	2271.53	6.68	2267.16	6.67	-4.37	-0.19
137	341	204	67	5456	0.96140	910.35	0.54912	1949.11	321.58	0	4.38	2279.35	6.68	2274.38	6.67	-4.97	-0.22
137	342	205	68	5472	0.96047	911.24	0.54971	1948.29	330.28	-0.54	4.34	2285.98	6.68	2281.76	6.67	-4.22	-0.18
137	343	206	69	5488	0.95953	912.13	0.55029	1947.48	339.08	0	4.3	2293.6	6.69	2288.79	6.67	-4.81	-0.21
137	344	207	70	5504	0.95859	913.01	0.55087	1946.69	347.97	-0.54	4.25	2300.05	6.69	2296	6.67	-4.05	-0.18
137	345	208	71	5520	0.95765	913.88	0.55145	1945.92	356.95	0	4.21	2307.48	6.69	2302.84	6.67	-4.63	-0.2
137	346	209	72	5536	0.95670	914.73	0.55202	1945.15	366.01	-0.54	4.17	2313.74	6.69	2309.87	6.68	-3.87	-0.17
137	347	210	73	5552	0.95574	915.58	0.55259	1944.4	375.17	0	4.13	2320.98	6.69	2316.54	6.68	-4.44	-0.19
137	348	211	74	5568	0.95478	916.42	0.55316	1943.67	384.42	-0.54	4.09	2327.06	6.69	2323.38	6.68	-3.67	-0.16
137	349	212	75	5584	0.95382	917.24	0.55373	1942.95	393.75	0	4.06	2334.12	6.69	2329.87	6.68	-4.24	-0.18
137	350	213	76	5600	0.95285	918.06	0.55429	1942.24	403.16	-0.53	4.02	2340.02	6.69	2336.55	6.68	-3.47	-0.15
137	351	214	77	5616	0.95188	918.87	0.55484	1941.55	412.67	0	3.98	2346.89	6.69	2342.86	6.67	-4.03	-0.17
137	352	215	78	5632	0.95090	919.67	0.55540	1940.87	422.26	-0.53	3.94	2352.62	6.68	2349.37	6.67	-3.25	-0.14
137	353	216	79	5648	0.94992	920.46	0.55595	1940.2	431.93	0	3.91	2359.32	6.68	2355.51	6.67	-3.81	-0.16
137	354	217	80	5664	0.94893	921.24	0.55650	1939.55	441.69	-0.53	3.87	2364.87	6.68	2361.84	6.67	-3.02	-0.13
137	355	218	81	5680	0.94794	922.01	0.55704	1938.91	451.53	0	3.84	2371.39	6.68	2367.82	6.67	-3.57	-0.15
137	356	219	82	5696	0.94695	922.77	0.55758	1938.28	461.45	-0.53	3.8	2376.77	6.68	2373.99	6.67	-2.78	-0.12
137	357	220	83	5712	0.94595	923.52	0.55812	1937.67	471.45	0	3.77	2383.13	6.68	2379.8	6.67	-3.33	-0.14
137	358	221	84	5728	0.94495	924.27	0.55866	1937.07	481.53	-0.53	3.73	2388.34	6.67	2385.8	6.66	-2.54	-0.11
137	359	222	85	5744	0.94394	925	0.55919	1936.48	491.7	0	3.7	2394.52	6.67	2391.44	6.66	-3.08	-0.13
137	360	223	86	5760	0.94293	925.73	0.55972	1935.9	501.94	-0.53	3.67	2399.57	6.67	2397.29	6.66	-2.29	-0.1
137	361	224	87	5776	0.94192	926.45	0.56025	1935.33	512.26	0	3.63	2405.59	6.66	2402.77	6.66	-2.82	-0.12
137	362	225	88	5792	0.94091	927.16	0.56077	1934.78	522.66	-0.53	3.6	2410.48	6.66	2408.45	6.65	-2.02	-0.08
137	363	226	89	5808	0.93989	927.86	0.56130	1934.24	533.14	0	3.57	2416.33	6.66	2413.78	6.65	-2.56	-0.11
137	364	227	90	5824	0.93887	928.55	0.56181	1933.71	543.69	-0.52	3.54	2421.06	6.65	2419.3	6.65	-1.76	-0.07
137	365	228	91	5840	0.93784	929.24	0.56233	1933.19	554.33	0	3.51	2426.76	6.65	2424.47	6.64	-2.29	-0.09
137	366	229	92	5856	0.93682	929.91	0.56284	1932.68	565.03	-0.52	3.48	2431.33	6.64	2429.84	6.64	-1.49	-0.06
137	367	230	93	5872	0.93579	930.58	0.56335	1932.18	575.81	0	3.45	2436.87	6.64	2434.86	6.63	-2.01	-0.08

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
137	368	231	94	5888	0.93475	931.24	0.56386	1931.7	586.67	-0.52	3.42	2441.29	6.63	2440.08	6.63	-1.21	-0.05
137	369	232	95	5904	0.93372	931.9	0.56436	1931.23	597.6	0	3.39	2446.67	6.63	2444.94	6.63	-1.73	-0.07
137	370	233	96	5920	0.93268	932.54	0.56487	1930.76	608.6	-0.52	3.36	2450.94	6.62	2450.01	6.62	-0.93	-0.04
137	371	234	97	5936	0.93164	933.18	0.56536	1930.31	619.67	0	3.33	2456.17	6.62	2454.72	6.62	-1.45	-0.06
137	372	235	98	5952	0.93060	933.81	0.56586	1929.87	630.82	-0.52	3.31	2460.29	6.61	2459.64	6.61	-0.64	-0.03
137	373	236	99	5968	0.92956	934.44	0.56635	1929.44	642.04	0	3.28	2465.37	6.61	2464.21	6.61	-1.16	-0.05
137	374	237	100	5984	0.92851	935.05	0.56685	1929.02	653.33	-0.52	3.25	2469.34	6.6	2468.99	6.6	-0.35	-0.01
137	375	238	101	6000	0.92746	935.66	0.56733	1928.61	664.69	0	3.23	2474.27	6.6	2473.4	6.6	-0.87	-0.04
137	376	239	102	6016	0.92641	936.26	0.56782	1928.21	676.12	-0.52	3.2	2478.1	6.59	2478.04	6.59	-0.06	0
137	377	240	103	6032	0.92536	936.85	0.56830	1927.82	687.62	0	3.17	2482.89	6.59	2482.31	6.58	-0.58	-0.02
137	378	241	104	6048	0.92430	937.44	0.56878	1927.44	699.18	-0.51	3.15	2486.58	6.58	2486.8	6.58	0.23	0.01
137	379	242	105	6064	0.92325	938.02	0.56926	1927.07	710.82	0	3.12	2491.22	6.57	2490.94	6.57	-0.28	-0.01
137	380	243	106	6080	0.92219	938.59	0.56974	1926.7	722.52	-0.51	3.1	2494.77	6.57	2495.29	6.57	0.52	0.02
137	381	244	107	6096	0.92113	939.16	0.57021	1926.35	734.29	0	3.07	2499.27	6.56	2499.28	6.56	0.01	0
137	382	245	108	6112	0.92007	939.72	0.57068	1926.01	746.13	-0.51	3.05	2502.68	6.55	2503.5	6.55	0.82	0.03
137	383	246	109	6128	0.91901	940.27	0.57115	1925.68	758.03	0	3.03	2507.05	6.55	2507.36	6.55	0.31	0.01
137	384	247	110	6144	0.91794	940.82	0.57162	1925.36	769.99	-0.51	3	2510.33	6.54	2511.44	6.54	1.11	0.04
137	385	248	111	6160	0.91688	941.35	0.57208	1925.04	782.03	0	2.98	2514.56	6.53	2515.16	6.53	0.6	0.02
137	386	249	112	6176	0.91581	941.89	0.57254	1924.74	794.12	-0.51	2.96	2517.7	6.52	2519.1	6.53	1.4	0.06
137	387	250	113	6192	0.91474	942.41	0.57300	1924.44	806.28	0	2.93	2521.79	6.52	2522.69	6.52	0.9	0.04
137	388	251	114	6208	0.91367	942.93	0.57345	1924.16	818.51	-0.51	2.91	2524.81	6.51	2526.5	6.51	1.7	0.07
137	389	252	115	6224	0.91260	943.45	0.57391	1923.88	830.8	0	2.89	2528.77	6.5	2529.96	6.5	1.19	0.05
137	390	253	116	6240	0.91153	943.95	0.57436	1923.61	843.15	-0.51	2.87	2531.65	6.49	2533.64	6.5	1.99	0.08
137	391	254	117	6256	0.91046	944.45	0.57481	1923.35	855.56	0	2.85	2535.49	6.48	2536.97	6.49	1.48	0.06
137	392	255	118	6272	0.90939	944.95	0.57526	1923.1	868.03	-0.51	2.82	2538.25	6.48	2540.53	6.48	2.28	0.09
137	393	256	119	6288	0.90831	945.44	0.57570	1922.85	880.56	0	2.8	2541.95	6.47	2543.72	6.47	1.77	0.07
137	394	257	120	6304	0.90724	945.92	0.57614	1922.62	893.16	-0.5	2.78	2544.58	6.46	2547.15	6.46	2.57	0.1
137	395	258	121	6320	0.90616	946.4	0.57658	1922.39	905.81	0	2.76	2548.16	6.45	2550.22	6.46	2.06	0.08
137	396	259	122	6336	0.90509	946.87	0.57702	1922.17	918.53	-0.5	2.74	2550.68	6.44	2553.53	6.45	2.85	0.11
137	397	260	123	6352	0.90401	947.33	0.57746	1921.96	931.3	0	2.72	2554.13	6.43	2556.48	6.44	2.35	0.09
137	398	261	124	6368	0.90293	947.79	0.57789	1921.76	944.13	-0.5	2.7	2556.52	6.42	2559.66	6.43	3.14	0.12
137	399	262	125	6384	0.90185	948.24	0.57832	1921.56	957.03	0	2.68	2559.85	6.42	2562.48	6.42	2.63	0.1
137	400	263	126	6400	0.90078	948.69	0.57875	1921.37	969.97	-0.5	2.66	2562.12	6.41	2565.54	6.41	3.42	0.13
137	401	264	127	6416	0.89970	949.13	0.57918	1921.19	982.98	0	2.64	2565.34	6.4	2568.24	6.4	2.91	0.11
137	402	265	128	6432	0.89862	949.57	0.57960	1921.02	996.04	-0.5	2.63	2567.49	6.39	2571.18	6.4	3.69	0.14
137	403	266	129	6448	0.89754	950	0.58003	1920.86	1009.16	0	2.61	2570.58	6.38	2573.77	6.39	3.18	0.12
137	404	267	130	6464	0.89646	950.43	0.58045	1920.7	1022.34	-0.5	2.59	2572.62	6.37	2576.59	6.38	3.97	0.15
137	405	268	131	6480	0.89538	950.85	0.58086	1920.55	1035.57	0	2.57	2575.6	6.36	2579.05	6.37	3.45	0.13
137	406	269	132	6496	0.89430	951.26	0.58128	1920.41	1048.86	-0.5	2.55	2577.53	6.35	2581.76	6.36	4.23	0.16
137	407	270	133	6512	0.89321	951.67	0.58170	1920.28	1062.2	0	2.53	2580.39	6.34	2584.11	6.35	3.72	0.14
137	408	271	134	6528	0.89213	952.08	0.58211	1920.15	1075.6	-0.5	2.52	2582.2	6.33	2586.7	6.34	4.5	0.17
137	409	272	135	6544	0.89105	952.47	0.58252	1920.03	1089.05	0	2.5	2584.95	6.32	2588.93	6.33	3.98	0.15
137	410	273	136	6560	0.88997	952.87	0.58293	1919.91	1102.55	-0.49	2.48	2586.65	6.31	2591.41	6.32	4.76	0.18
137	411	274	137	6576	0.88889	953.26	0.58333	1919.81	1116.11	0	2.47	2589.29	6.3	2593.53	6.31	4.24	0.16
137	412	275	138	6592	0.88781	953.64	0.58374	1919.71	1129.72	-0.49	2.45	2590.88	6.29	2595.89	6.3	5.01	0.19
137	413	276	139	6608	0.88673	954.02	0.58414	1919.62	1143.39	0	2.43	2593.41	6.28	2597.9	6.29	4.49	0.17
137	414	277	140	6624	0.88565	954.4	0.58454	1919.53	1157.1	-0.49	2.42	2594.9	6.27	2600.16	6.28	5.26	0.2

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
137	415	278	141	6640	0.88456	954.76	0.58494	1919.45	1170.87	0	2.4	2597.32	6.26	2602.05	6.27	4.74	0.18
137	416	279	142	6656	0.88348	955.13	0.58534	1919.38	1184.69	-0.49	2.38	2598.7	6.25	2604.2	6.26	5.5	0.21
137	417	280	143	6672	0.88240	955.49	0.58573	1919.31	1198.56	0	2.37	2601.01	6.24	2605.99	6.25	4.98	0.19
137	418	281	144	6688	0.88132	955.84	0.58612	1919.25	1212.48	-0.49	2.35	2602.29	6.23	2608.02	6.24	5.74	0.22
137	419	282	145	6704	0.88024	956.19	0.58652	1919.2	1226.45	0	2.34	2604.49	6.22	2609.7	6.23	5.21	0.2
137	420	283	146	6720	0.87916	956.54	0.58691	1919.15	1240.47	-0.49	2.32	2605.67	6.2	2611.63	6.22	5.96	0.23
137	421	284	147	6736	0.87808	956.88	0.58729	1919.11	1254.54	0	2.31	2607.77	6.19	2613.21	6.21	5.44	0.21
137	422	285	148	6752	0.87700	957.22	0.58768	1919.08	1268.66	-0.49	2.29	2608.85	6.18	2615.03	6.2	6.19	0.24
137	423	286	149	6768	0.87592	957.55	0.58806	1919.05	1282.83	0	2.28	2610.84	6.17	2616.5	6.19	5.66	0.22
137	424	287	150	6784	0.87484	957.88	0.58844	1919.03	1297.05	-0.49	2.26	2611.82	6.16	2618.22	6.18	6.4	0.24
137	425	288	151	6800	0.87377	958.2	0.58882	1919.01	1311.32	0	2.25	2613.72	6.15	2619.59	6.16	5.87	0.22
137	426	289	152	6816	0.87269	958.52	0.58920	1919	1325.63	-0.48	2.23	2614.6	6.14	2621.21	6.15	6.61	0.25
137	427	290	153	6832	0.87161	958.83	0.58958	1919	1339.99	0	2.22	2616.39	6.13	2622.47	6.14	6.08	0.23
137	428	291	154	6848	0.87054	959.14	0.58995	1919	1354.4	-0.48	2.21	2617.18	6.11	2623.99	6.13	6.81	0.26
137	429	292	155	6864	0.86946	959.45	0.59033	1919.01	1368.86	0	2.19	2618.88	6.1	2625.15	6.12	6.28	0.24
137	430	293	156	6880	0.86838	959.75	0.59070	1919.02	1383.36	-0.48	2.18	2619.56	6.09	2626.57	6.11	7.01	0.27
137	431	294	157	6896	0.86731	960.05	0.59107	1919.04	1397.91	0	2.17	2621.17	6.08	2627.63	6.1	6.47	0.25
137	432	295	158	6912	0.86623	960.34	0.59144	1919.07	1412.51	-0.48	2.15	2621.76	6.07	2628.95	6.09	7.2	0.27
137	433	296	159	6928	0.86516	960.63	0.59180	1919.1	1427.15	0	2.14	2623.27	6.06	2629.92	6.07	6.65	0.25
137	434	297	160	6944	0.86409	960.92	0.59217	1919.13	1441.83	-0.48	2.13	2623.77	6.05	2631.14	6.06	7.37	0.28
137	435	298	161	6960	0.86302	961.2	0.59253	1919.17	1456.56	0	2.11	2625.18	6.03	2632.01	6.05	6.83	0.26
137	436	299	162	6976	0.86194	961.48	0.59289	1919.22	1471.34	-0.48	2.1	2625.59	6.02	2633.13	6.04	7.54	0.29
137	437	300	163	6992	0.86087	961.75	0.59325	1919.27	1486.16	0	2.09	2626.91	6.01	2633.9	6.03	6.99	0.27
137	438	301	164	7008	0.85980	962.02	0.59361	1919.33	1501.02	-0.48	2.08	2627.23	6	2634.94	6.02	7.71	0.29
137	439	302	165	7024	0.85873	962.28	0.59396	1919.39	1515.93	0	2.06	2628.46	5.99	2635.61	6	7.15	0.27
137	440	303	166	7040	0.85767	962.55	0.59432	1919.46	1530.88	-0.48	2.05	2628.69	5.97	2636.55	5.99	7.86	0.3
137	441	304	167	7056	0.85660	962.8	0.59467	1919.53	1545.88	0	2.04	2629.83	5.96	2637.13	5.98	7.3	0.28
137	442	305	168	7072	0.85553	963.06	0.59502	1919.61	1560.91	-0.48	2.03	2629.97	5.95	2637.97	5.97	8.01	0.3
137	443	306	169	7088	0.85447	963.31	0.59537	1919.69	1575.99	0	2.01	2631.02	5.94	2638.46	5.96	7.44	0.28
137	444	307	170	7104	0.85340	963.56	0.59572	1919.78	1591.12	-0.47	2	2631.07	5.93	2639.22	5.94	8.14	0.31
137	445	308	171	7120	0.85234	963.8	0.59607	1919.88	1606.28	0	1.99	2632.04	5.91	2639.61	5.93	7.58	0.29
137	446	309	172	7136	0.85127	964.04	0.59641	1919.97	1621.49	-0.47	1.98	2632.01	5.9	2640.28	5.92	8.27	0.31
137	447	310	173	7152	0.85021	964.27	0.59676	1920.08	1636.73	0	1.97	2632.88	5.89	2640.58	5.91	7.7	0.29
137	448	311	174	7168	0.84915	964.51	0.59710	1920.19	1652.02	-0.47	1.96	2632.77	5.88	2641.16	5.9	8.39	0.32
137	449	312	175	7184	0.84809	964.74	0.59744	1920.3	1667.35	0	1.95	2633.56	5.87	2641.37	5.88	7.82	0.3
137	450	313	176	7200	0.84703	964.96	0.59778	1920.42	1682.72	-0.47	1.93	2633.36	5.85	2641.86	5.87	8.5	0.32
137	451	314	177	7216	0.84597	965.18	0.59812	1920.54	1698.13	0	1.92	2634.07	5.84	2641.99	5.86	7.92	0.3
137	452	315	178	7232	0.84492	965.4	0.59845	1920.66	1713.59	-0.47	1.91	2633.79	5.83	2642.39	5.85	8.6	0.33
137	453	316	179	7248	0.84386	965.62	0.59879	1920.8	1729.08	0	1.9	2634.41	5.82	2642.43	5.83	8.02	0.3
137	454	317	180	7264	0.84281	965.83	0.59912	1920.93	1744.61	-0.47	1.89	2634.05	5.8	2642.74	5.82	8.69	0.33
137	455	318	181	7280	0.84175	966.04	0.59945	1921.07	1760.18	0	1.88	2634.59	5.79	2642.7	5.81	8.1	0.31
137	456	319	182	7296	0.84070	966.24	0.59978	1921.22	1775.79	-0.47	1.87	2634.16	5.78	2642.92	5.8	8.77	0.33
137	457	320	183	7312	0.83965	966.45	0.60011	1921.37	1791.43	0	1.86	2634.62	5.77	2642.79	5.78	8.18	0.31
137	458	321	184	7328	0.83860	966.64	0.60044	1921.52	1807.12	-0.47	1.85	2634.1	5.75	2642.94	5.77	8.84	0.33
137	459	322	185	7344	0.83755	966.84	0.60076	1921.68	1822.84	0	1.84	2634.48	5.74	2642.72	5.76	8.25	0.31
137	460	323	186	7360	0.83650	967.03	0.60109	1921.84	1838.61	-0.47	1.83	2633.88	5.73	2642.78	5.75	8.9	0.34
137	461	324	187	7376	0.83546	967.22	0.60141	1922.01	1854.41	0	1.82	2634.18	5.71	2642.49	5.73	8.3	0.31

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
137	462	325	188	7392	0.83441	967.41	0.60173	1922.18	1870.25	-0.47	1.81	2633.51	5.7	2642.46	5.72	8.95	0.34
137	463	326	189	7408	0.83337	967.59	0.60205	1922.35	1886.12	0	1.8	2633.73	5.69	2642.08	5.71	8.35	0.32
137	464	327	190	7424	0.83232	967.77	0.60237	1922.53	1902.03	-0.46	1.79	2632.99	5.67	2641.98	5.69	8.99	0.34
137	465	328	191	7440	0.83128	967.95	0.60269	1922.72	1917.98	0	1.78	2633.13	5.66	2641.52	5.68	8.38	0.32
137	466	329	192	7456	0.83024	968.12	0.60300	1922.9	1933.97	-0.46	1.77	2632.31	5.65	2641.33	5.67	9.02	0.34
137	467	330	193	7472	0.82920	968.29	0.60332	1923.09	1949.99	0	1.76	2632.38	5.64	2640.79	5.65	8.41	0.32
137	468	331	194	7488	0.82817	968.46	0.60363	1923.29	1966.05	-0.46	1.75	2631.49	5.62	2640.53	5.64	9.04	0.34
137	469	332	195	7504	0.82713	968.63	0.60395	1923.49	1982.15	0	1.74	2631.48	5.61	2639.91	5.63	8.43	0.32
137	470	333	196	7520	0.82609	968.79	0.60426	1923.69	1998.28	-0.46	1.74	2630.52	5.6	2639.57	5.62	9.05	0.34
137	471	334	197	7536	0.82506	968.95	0.60457	1923.9	2014.44	0	1.73	2630.44	5.58	2638.87	5.6	8.43	0.32
137	472	335	198	7552	0.82403	969.11	0.60487	1924.11	2030.64	-0.46	1.72	2629.4	5.57	2638.45	5.59	9.05	0.34
137	473	336	199	7568	0.82300	969.26	0.60518	1924.33	2046.88	0	1.71	2629.24	5.56	2637.67	5.58	8.43	0.32
137	474	337	200	7584	0.82197	969.41	0.60549	1924.55	2063.15	-0.46	1.7	2628.14	5.54	2637.17	5.56	9.04	0.34
137	475	338	201	7600	0.82094	969.56	0.60579	1924.77	2079.45	0	1.69	2627.91	5.53	2636.32	5.55	8.41	0.32
137	476	339	202	7616	0.81991	969.7	0.60609	1924.99	2095.79	-0.46	1.68	2626.73	5.52	2635.75	5.54	9.01	0.34
137	477	340	203	7632	0.81889	969.85	0.60639	1925.22	2112.17	0	1.67	2626.44	5.51	2634.82	5.52	8.38	0.32
137	478	341	204	7648	0.81786	969.99	0.60670	1925.46	2128.58	-0.46	1.67	2625.19	5.49	2634.17	5.51	8.98	0.34
137	479	342	205	7664	0.81684	970.13	0.60699	1925.69	2145.02	0	1.66	2624.82	5.48	2633.17	5.5	8.34	0.32
137	480	343	206	7680	0.81582	970.26	0.60729	1925.94	2161.49	-0.46	1.65	2623.51	5.47	2632.44	5.48	8.94	0.34
Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
138	275	137	-1	4400	0.99999	820.39	0.49909	2079.26	0.09	0	9.85	1510.12	5.49	1519.21	5.52	9.09	0.6
138	276	138	0	4416	1.00000	822.38	0.50000	2076.73	0	0.6	10	1527.49	5.53	1535.9	5.56	8.42	0.55
138	277	139	1	4432	0.99999	824.36	0.50090	2074.24	0.09	0	9.85	1543.16	5.57	1550.62	5.6	7.46	0.48
138	278	140	2	4448	0.99995	826.31	0.50180	2071.79	0.35	0.6	9.7	1559.85	5.61	1566.98	5.64	7.13	0.45
138	279	141	3	4464	0.99988	828.24	0.50269	2069.38	0.79	0	9.56	1575.15	5.65	1581.36	5.67	6.21	0.39
138	280	142	4	4480	0.99980	830.14	0.50357	2067.01	1.4	0.6	9.42	1591.47	5.68	1597.39	5.7	5.92	0.37
138	281	143	5	4496	0.99968	832.02	0.50445	2064.67	2.17	0	9.28	1606.42	5.72	1611.47	5.73	5.05	0.31
138	282	144	6	4512	0.99955	833.88	0.50532	2062.37	3.12	0.6	9.15	1622.37	5.75	1627.17	5.77	4.8	0.29
138	283	145	7	4528	0.99939	835.72	0.50618	2060.1	4.23	0	9.01	1636.96	5.78	1640.93	5.8	3.97	0.24
138	284	146	8	4544	0.99921	837.53	0.50704	2057.87	5.5	0.59	8.88	1652.57	5.82	1656.32	5.83	3.75	0.23
138	285	147	9	4560	0.99900	839.33	0.50790	2055.68	6.94	0	8.76	1666.81	5.85	1669.78	5.86	2.96	0.18
138	286	148	10	4576	0.99878	841.1	0.50874	2053.52	8.54	0.59	8.63	1682.07	5.88	1684.86	5.89	2.78	0.17
138	287	149	11	4592	0.99853	842.85	0.50958	2051.39	10.29	0	8.51	1695.98	5.91	1698.01	5.92	2.03	0.12
138	288	150	12	4608	0.99826	844.58	0.51042	2049.29	12.21	0.59	8.39	1710.9	5.94	1712.78	5.95	1.88	0.11
138	289	151	13	4624	0.99798	846.29	0.51125	2047.23	14.28	0	8.28	1724.48	5.97	1725.64	5.97	1.17	0.07
138	290	152	14	4640	0.99767	847.98	0.51207	2045.2	16.5	0.59	8.16	1739.07	6	1740.12	6	1.05	0.06
138	291	153	15	4656	0.99734	849.65	0.51289	2043.2	18.88	0	8.05	1752.32	6.02	1752.69	6.02	0.37	0.02
138	292	154	16	4672	0.99700	851.3	0.51370	2041.24	21.41	0.59	7.94	1766.58	6.05	1766.87	6.05	0.29	0.02
138	293	155	17	4688	0.99663	852.93	0.51451	2039.3	24.08	0	7.84	1779.52	6.07	1779.16	6.07	-0.36	-0.02
138	294	156	18	4704	0.99625	854.55	0.51531	2037.39	26.91	0.58	7.73	1793.47	6.1	1793.05	6.1	-0.42	-0.02
138	295	157	19	4720	0.99585	856.14	0.51610	2035.51	29.88	0	7.63	1806.1	6.12	1805.06	6.12	-1.04	-0.06
138	296	158	20	4736	0.99544	857.71	0.51689	2033.67	33	0.58	7.53	1819.73	6.15	1818.67	6.14	-1.07	-0.06
138	297	159	21	4752	0.99500	859.27	0.51768	2031.85	36.26	0	7.43	1832.06	6.17	1830.4	6.16	-1.65	-0.09
138	298	160	22	4768	0.99455	860.81	0.51846	2030.06	39.66	0.58	7.33	1845.39	6.19	1843.74	6.19	-1.66	-0.09
138	299	161	23	4784	0.99408	862.33	0.51923	2028.29	43.2	0	7.24	1857.42	6.21	1855.2	6.2	-2.21	-0.12
138	300	162	24	4800	0.99360	863.83	0.52000	2026.56	46.88	0.58	7.15	1870.45	6.23	1868.26	6.23	-2.19	-0.12

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
138	301	163	25	4816	0.99310	865.31	0.52076	2024.85	50.7	0	7.06	1882.19	6.25	1879.46	6.24	-2.72	-0.14
138	302	164	26	4832	0.99259	866.78	0.52152	2023.17	54.66	0.58	6.97	1894.93	6.27	1892.26	6.27	-2.68	-0.14
138	303	165	27	4848	0.99206	868.23	0.52228	2021.52	58.75	0	6.88	1906.38	6.29	1903.2	6.28	-3.18	-0.17
138	304	166	28	4864	0.99152	869.66	0.52303	2019.89	62.98	0.57	6.79	1918.84	6.31	1915.73	6.3	-3.11	-0.16
138	305	167	29	4880	0.99096	871.08	0.52377	2018.28	67.33	0	6.71	1930.01	6.33	1926.42	6.32	-3.59	-0.19
138	306	168	30	4896	0.99039	872.48	0.52451	2016.71	71.82	0.57	6.62	1942.19	6.35	1938.69	6.34	-3.5	-0.18
138	307	169	31	4912	0.98980	873.86	0.52524	2015.15	76.44	0	6.54	1953.08	6.36	1949.13	6.35	-3.96	-0.2
138	308	170	32	4928	0.98921	875.23	0.52597	2013.63	81.19	0.57	6.46	1964.99	6.38	1961.14	6.37	-3.85	-0.2
138	309	171	33	4944	0.98860	876.58	0.52670	2012.12	86.07	0	6.39	1975.62	6.39	1971.34	6.38	-4.28	-0.22
138	310	172	34	4960	0.98797	877.92	0.52742	2010.64	91.07	0.57	6.31	1987.25	6.41	1983.1	6.4	-4.15	-0.21
138	311	173	35	4976	0.98734	879.24	0.52814	2009.19	96.19	0	6.23	1997.62	6.42	1993.06	6.41	-4.56	-0.23
138	312	174	36	4992	0.98669	880.54	0.52885	2007.75	101.44	0.57	6.16	2008.99	6.44	2004.58	6.42	-4.41	-0.22
138	313	175	37	5008	0.98603	881.83	0.52955	2006.34	106.82	0	6.09	2019.1	6.45	2014.29	6.44	-4.8	-0.24
138	314	176	38	5024	0.98535	883.11	0.53026	2004.95	112.31	0.56	6.02	2030.21	6.47	2025.57	6.45	-4.64	-0.23
138	315	177	39	5040	0.98467	884.37	0.53095	2003.59	117.92	0	5.95	2040.06	6.48	2035.06	6.46	-5.01	-0.25
138	316	178	40	5056	0.98398	885.61	0.53165	2002.24	123.66	0.56	5.88	2050.92	6.49	2046.1	6.47	-4.83	-0.24
138	317	179	41	5072	0.98327	886.85	0.53233	2000.92	129.51	0	5.81	2060.53	6.5	2055.35	6.48	-5.18	-0.25
138	318	180	42	5088	0.98256	888.06	0.53302	1999.62	135.48	0.56	5.74	2071.14	6.51	2066.16	6.5	-4.98	-0.24
138	319	181	43	5104	0.98183	889.27	0.53370	1998.34	141.56	0	5.68	2080.51	6.52	2075.19	6.51	-5.31	-0.26
138	320	182	44	5120	0.98109	890.46	0.53438	1997.08	147.76	0.56	5.61	2090.87	6.53	2085.77	6.52	-5.1	-0.24
138	321	183	45	5136	0.98035	891.63	0.53505	1995.85	154.07	0	5.55	2100	6.54	2094.58	6.53	-5.42	-0.26
138	322	184	46	5152	0.97959	892.79	0.53571	1994.63	160.5	0.56	5.49	2110.12	6.55	2104.93	6.54	-5.19	-0.25
138	323	185	47	5168	0.97883	893.94	0.53638	1993.43	167.04	0	5.43	2119.02	6.56	2113.53	6.54	-5.49	-0.26
138	324	186	48	5184	0.97805	895.08	0.53704	1992.25	173.68	0.56	5.37	2128.91	6.57	2123.66	6.55	-5.25	-0.25
138	325	187	49	5200	0.97727	896.2	0.53769	1991.09	180.44	0	5.31	2137.58	6.58	2132.04	6.56	-5.54	-0.26
138	326	188	50	5216	0.97648	897.31	0.53834	1989.95	187.31	0.55	5.25	2147.24	6.59	2141.95	6.57	-5.28	-0.25
138	327	189	51	5232	0.97568	898.41	0.53899	1988.83	194.28	0	5.19	2155.68	6.59	2150.12	6.58	-5.56	-0.26
138	328	190	52	5248	0.97487	899.49	0.53963	1987.73	201.36	0.55	5.14	2165.11	6.6	2159.82	6.58	-5.29	-0.24
138	329	191	53	5264	0.97405	900.56	0.54027	1986.65	208.55	0	5.08	2173.33	6.61	2167.78	6.59	-5.55	-0.26
138	330	192	54	5280	0.97322	901.62	0.54091	1985.58	215.83	0.55	5.03	2182.54	6.61	2177.27	6.6	-5.27	-0.24
138	331	193	55	5296	0.97239	902.67	0.54154	1984.54	223.23	0	4.98	2190.55	6.62	2185.03	6.6	-5.52	-0.25
138	332	194	56	5312	0.97155	903.7	0.54217	1983.51	230.72	0.55	4.92	2199.54	6.63	2194.31	6.61	-5.23	-0.24
138	333	195	57	5328	0.97070	904.72	0.54279	1982.49	238.32	0	4.87	2207.33	6.63	2201.87	6.61	-5.46	-0.25
138	334	196	58	5344	0.96985	905.74	0.54341	1981.5	246.02	0.55	4.82	2216.11	6.64	2210.95	6.62	-5.17	-0.23
138	335	197	59	5360	0.96898	906.74	0.54403	1980.52	253.82	0	4.77	2223.69	6.64	2218.31	6.62	-5.39	-0.24
138	336	198	60	5376	0.96811	907.72	0.54464	1979.56	261.72	0.55	4.72	2232.27	6.64	2227.18	6.63	-5.08	-0.23
138	337	199	61	5392	0.96724	908.7	0.54525	1978.62	269.72	0	4.68	2239.64	6.65	2234.35	6.63	-5.29	-0.24
138	338	200	62	5408	0.96635	909.67	0.54586	1977.69	277.81	0.54	4.63	2248.01	6.65	2243.03	6.64	-4.98	-0.22
138	339	201	63	5424	0.96546	910.62	0.54646	1976.78	286	0	4.58	2255.18	6.65	2250.01	6.64	-5.18	-0.23
138	340	202	64	5440	0.96457	911.56	0.54706	1975.88	294.28	0.54	4.54	2263.35	6.66	2258.49	6.64	-4.85	-0.21
138	341	203	65	5456	0.96367	912.5	0.54765	1975	302.67	0	4.49	2270.33	6.66	2265.28	6.64	-5.04	-0.22
138	342	204	66	5472	0.96276	913.42	0.54825	1974.14	311.14	0.54	4.45	2278.29	6.66	2273.58	6.65	-4.71	-0.21
138	343	205	67	5488	0.96184	914.33	0.54883	1973.29	319.71	0	4.4	2285.07	6.66	2280.18	6.65	-4.89	-0.21
138	344	206	68	5504	0.96093	915.23	0.54942	1972.46	328.37	0.54	4.36	2292.84	6.67	2288.29	6.65	-4.56	-0.2
138	345	207	69	5520	0.96000	916.12	0.55000	1971.64	337.12	0	4.32	2299.44	6.67	2294.71	6.65	-4.73	-0.21
138	346	208	70	5536	0.95907	917	0.55058	1970.84	345.96	0.54	4.28	2307.01	6.67	2302.63	6.65	-4.38	-0.19
138	347	209	71	5552	0.95813	917.87	0.55115	1970.05	354.9	0	4.23	2313.42	6.67	2308.87	6.65	-4.55	-0.2

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Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
138	348	210	72	5568	0.95719	918.73	0.55172	1969.27	363.92	0.54	4.19	2320.81	6.67	2316.61	6.66	-4.2	-0.18
138	349	211	73	5584	0.95625	919.58	0.55229	1968.51	373.03	0	4.15	2327.03	6.67	2322.68	6.66	-4.35	-0.19
138	350	212	74	5600	0.95530	920.42	0.55286	1967.77	382.22	0.53	4.11	2334.24	6.67	2330.24	6.66	-4	-0.17
138	351	213	75	5616	0.95434	921.25	0.55342	1967.04	391.51	0	4.08	2340.28	6.67	2336.13	6.66	-4.15	-0.18
138	352	214	76	5632	0.95338	922.07	0.55398	1966.32	400.88	0.53	4.04	2347.3	6.67	2343.51	6.66	-3.79	-0.16
138	353	215	77	5648	0.95242	922.88	0.55453	1965.62	410.34	0	4	2353.16	6.67	2349.24	6.66	-3.93	-0.17
138	354	216	78	5664	0.95145	923.68	0.55509	1964.93	419.88	0.53	3.96	2360.01	6.67	2356.44	6.66	-3.56	-0.15
138	355	217	79	5680	0.95048	924.48	0.55563	1964.25	429.5	0	3.93	2365.7	6.66	2362	6.65	-3.7	-0.16
138	356	218	80	5696	0.94950	925.26	0.55618	1963.58	439.21	0.53	3.89	2372.36	6.66	2369.03	6.65	-3.33	-0.14
138	357	219	81	5712	0.94852	926.03	0.55672	1962.93	449	0	3.86	2377.88	6.66	2374.42	6.65	-3.46	-0.15
138	358	220	82	5728	0.94754	926.8	0.55726	1962.3	458.88	0.53	3.82	2384.38	6.66	2381.29	6.65	-3.09	-0.13
138	359	221	83	5744	0.94655	927.56	0.55780	1961.67	468.83	0	3.79	2389.73	6.66	2386.52	6.65	-3.21	-0.13
138	360	222	84	5760	0.94556	928.3	0.55833	1961.06	478.87	0.53	3.75	2396.05	6.66	2393.21	6.65	-2.84	-0.12
138	361	223	85	5776	0.94456	929.04	0.55886	1960.46	488.98	0	3.72	2401.24	6.65	2398.28	6.64	-2.96	-0.12
138	362	224	86	5792	0.94356	929.77	0.55939	1959.87	499.18	0.53	3.69	2407.39	6.65	2404.82	6.64	-2.58	-0.11
138	363	225	87	5808	0.94256	930.5	0.55992	1959.29	509.45	0	3.65	2412.42	6.65	2409.73	6.64	-2.69	-0.11
138	364	226	88	5824	0.94155	931.21	0.56044	1958.73	519.8	0.52	3.62	2418.41	6.64	2416.1	6.64	-2.31	-0.1
138	365	227	89	5840	0.94054	931.91	0.56096	1958.18	530.23	0	3.59	2423.27	6.64	2420.85	6.63	-2.42	-0.1
138	366	228	90	5856	0.93953	932.61	0.56148	1957.64	540.73	0.52	3.56	2429.1	6.64	2427.06	6.63	-2.04	-0.08
138	367	229	91	5872	0.93852	933.3	0.56199	1957.11	551.31	0	3.53	2433.81	6.63	2431.66	6.63	-2.14	-0.09
138	368	230	92	5888	0.93750	933.98	0.56250	1956.59	561.97	0.52	3.5	2439.48	6.63	2437.72	6.62	-1.76	-0.07
138	369	231	93	5904	0.93648	934.65	0.56301	1956.09	572.7	0	3.47	2444.03	6.62	2442.17	6.62	-1.86	-0.08
138	370	232	94	5920	0.93546	935.32	0.56351	1955.59	583.51	0.52	3.44	2449.55	6.62	2448.07	6.62	-1.47	-0.06
138	371	233	95	5936	0.93443	935.98	0.56402	1955.11	594.38	0	3.41	2453.94	6.61	2452.37	6.61	-1.57	-0.06
138	372	234	96	5952	0.93340	936.63	0.56452	1954.63	605.34	0.52	3.38	2459.31	6.61	2458.12	6.61	-1.19	-0.05
138	373	235	97	5968	0.93237	937.27	0.56501	1954.17	616.36	0	3.35	2463.55	6.6	2462.27	6.6	-1.28	-0.05
138	374	236	98	5984	0.93134	937.9	0.56551	1953.72	627.46	0.52	3.33	2468.77	6.6	2467.87	6.6	-0.89	-0.04
138	375	237	99	6000	0.93030	938.53	0.56600	1953.28	638.62	0	3.3	2472.87	6.59	2471.88	6.59	-0.99	-0.04
138	376	238	100	6016	0.92927	939.15	0.56649	1952.85	649.86	0.52	3.27	2477.93	6.59	2477.33	6.59	-0.6	-0.02
138	377	239	101	6032	0.92823	939.76	0.56698	1952.43	661.17	0	3.25	2481.89	6.58	2481.19	6.58	-0.69	-0.03
138	378	240	102	6048	0.92719	940.36	0.56746	1952.02	672.55	0.51	3.22	2486.8	6.58	2486.5	6.58	-0.3	-0.01
138	379	241	103	6064	0.92614	940.96	0.56794	1951.62	684	0	3.19	2490.61	6.57	2490.22	6.57	-0.39	-0.02
138	380	242	104	6080	0.92510	941.55	0.56842	1951.23	695.51	0.51	3.17	2495.39	6.57	2495.39	6.57	0	0
138	381	243	105	6096	0.92405	942.14	0.56890	1950.85	707.1	0	3.14	2499.06	6.56	2498.97	6.56	-0.09	0
138	382	244	106	6112	0.92300	942.71	0.56937	1950.48	718.75	0.51	3.12	2503.69	6.55	2503.99	6.55	0.3	0.01
138	383	245	107	6128	0.92195	943.28	0.56984	1950.12	730.47	0	3.09	2507.23	6.55	2507.44	6.55	0.21	0.01
138	384	246	108	6144	0.92090	943.85	0.57031	1949.77	742.25	0.51	3.07	2511.71	6.54	2512.32	6.54	0.6	0.02
138	385	247	109	6160	0.91985	944.4	0.57078	1949.43	754.1	0	3.04	2515.12	6.53	2515.63	6.53	0.52	0.02
138	386	248	110	6176	0.91879	944.95	0.57124	1949.1	766.02	0.51	3.02	2519.47	6.53	2520.37	6.53	0.91	0.04
138	387	249	111	6192	0.91773	945.49	0.57171	1948.77	778	0	3	2522.73	6.52	2523.55	6.52	0.82	0.03
138	388	250	112	6208	0.91668	946.03	0.57217	1948.46	790.04	0.51	2.97	2526.95	6.51	2528.16	6.52	1.21	0.05
138	389	251	113	6224	0.91562	946.56	0.57262	1948.16	802.15	0	2.95	2530.09	6.5	2531.21	6.51	1.12	0.04
138	390	252	114	6240	0.91456	947.08	0.57308	1947.86	814.32	0.51	2.93	2534.17	6.5	2535.68	6.5	1.51	0.06
138	391	253	115	6256	0.91350	947.6	0.57353	1947.57	826.56	0	2.91	2537.18	6.49	2538.6	6.49	1.43	0.06
138	392	254	116	6272	0.91243	948.11	0.57398	1947.3	838.85	0.51	2.89	2541.13	6.48	2542.94	6.49	1.81	0.07
138	393	255	117	6288	0.91137	948.62	0.57443	1947.03	851.21	0	2.86	2544.01	6.47	2545.73	6.48	1.73	0.07
138	394	256	118	6304	0.91030	949.12	0.57487	1946.77	863.63	0.5	2.84	2547.83	6.47	2549.94	6.47	2.11	0.08

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
138	395	257	119	6320	0.90924	949.61	0.57532	1946.51	876.12	0	2.82	2550.58	6.46	2552.61	6.46	2.03	0.08
138	396	258	120	6336	0.90817	950.09	0.57576	1946.27	888.66	0.5	2.8	2554.28	6.45	2556.69	6.46	2.41	0.09
138	397	259	121	6352	0.90711	950.58	0.57620	1946.03	901.26	0	2.78	2556.91	6.44	2559.23	6.45	2.32	0.09
138	398	260	122	6368	0.90604	951.05	0.57663	1945.81	913.92	0.5	2.76	2560.48	6.43	2563.19	6.44	2.71	0.11
138	399	261	123	6384	0.90497	951.52	0.57707	1945.59	926.65	0	2.74	2562.99	6.42	2565.61	6.43	2.62	0.1
138	400	262	124	6400	0.90390	951.98	0.57750	1945.38	939.43	0.5	2.72	2566.44	6.42	2569.44	6.42	3	0.12
138	401	263	125	6416	0.90283	952.44	0.57793	1945.17	952.26	0	2.7	2568.82	6.41	2571.74	6.41	2.91	0.11
138	402	264	126	6432	0.90176	952.89	0.57836	1944.98	965.16	0.5	2.68	2572.15	6.4	2575.44	6.41	3.29	0.13
138	403	265	127	6448	0.90069	953.34	0.57878	1944.79	978.11	0	2.66	2574.42	6.39	2577.62	6.4	3.2	0.12
138	404	266	128	6464	0.89962	953.78	0.57921	1944.61	991.12	0.5	2.64	2577.63	6.38	2581.2	6.39	3.58	0.14
138	405	267	129	6480	0.89855	954.21	0.57963	1944.44	1004.19	0	2.62	2579.78	6.37	2583.27	6.38	3.49	0.13
138	406	268	130	6496	0.89747	954.64	0.58005	1944.27	1017.32	0.5	2.61	2582.87	6.36	2586.73	6.37	3.86	0.15
138	407	269	131	6512	0.89640	955.07	0.58047	1944.12	1030.5	0	2.59	2584.91	6.35	2588.68	6.36	3.77	0.15
138	408	270	132	6528	0.89533	955.49	0.58088	1943.97	1043.73	0.5	2.57	2587.88	6.34	2592.02	6.35	4.14	0.16
138	409	271	133	6544	0.89426	955.9	0.58130	1943.83	1057.02	0	2.55	2589.81	6.33	2593.85	6.34	4.05	0.16
138	410	272	134	6560	0.89318	956.31	0.58171	1943.69	1070.36	0.49	2.53	2592.67	6.32	2597.08	6.33	4.41	0.17
138	411	273	135	6576	0.89211	956.71	0.58212	1943.56	1083.76	0	2.52	2594.48	6.31	2598.8	6.32	4.32	0.17
138	412	274	136	6592	0.89104	957.11	0.58252	1943.44	1097.21	0.49	2.5	2597.23	6.3	2601.91	6.32	4.68	0.18
138	413	275	137	6608	0.88996	957.5	0.58293	1943.33	1110.72	0	2.48	2598.93	6.29	2603.52	6.3	4.59	0.18
138	414	276	138	6624	0.88889	957.89	0.58333	1943.22	1124.28	0.49	2.47	2601.57	6.28	2606.52	6.3	4.95	0.19
138	415	277	139	6640	0.88782	958.27	0.58374	1943.12	1137.89	0	2.45	2603.17	6.27	2608.01	6.28	4.85	0.19
138	416	278	140	6656	0.88674	958.65	0.58414	1943.03	1151.55	0.49	2.43	2605.69	6.26	2610.9	6.28	5.21	0.2
138	417	279	141	6672	0.88567	959.03	0.58453	1942.94	1165.27	0	2.42	2607.18	6.25	2612.29	6.26	5.11	0.2
138	418	280	142	6688	0.88460	959.39	0.58493	1942.86	1179.03	0.49	2.4	2609.6	6.24	2615.06	6.26	5.46	0.21
138	419	281	143	6704	0.88352	959.76	0.58532	1942.79	1192.85	0	2.38	2610.99	6.23	2616.34	6.24	5.36	0.2
138	420	282	144	6720	0.88245	960.12	0.58571	1942.72	1206.72	0.49	2.37	2613.3	6.22	2619.01	6.24	5.71	0.22
138	421	283	145	6736	0.88138	960.47	0.58611	1942.66	1220.64	0	2.35	2614.58	6.21	2620.18	6.22	5.6	0.21
138	422	284	146	6752	0.88030	960.82	0.58649	1942.61	1234.61	0.49	2.34	2616.79	6.2	2622.74	6.22	5.95	0.23
138	423	285	147	6768	0.87923	961.17	0.58688	1942.56	1248.63	0	2.32	2617.97	6.19	2623.81	6.2	5.84	0.22
138	424	286	148	6784	0.87816	961.51	0.58726	1942.52	1262.69	0.49	2.31	2620.07	6.18	2626.26	6.19	6.18	0.24
138	425	287	149	6800	0.87709	961.84	0.58765	1942.48	1276.81	0	2.29	2621.16	6.17	2627.23	6.18	6.07	0.23
138	426	288	150	6816	0.87602	962.17	0.58803	1942.46	1290.98	0.48	2.28	2623.16	6.16	2629.57	6.17	6.41	0.24
138	427	289	151	6832	0.87495	962.5	0.58841	1942.43	1305.19	0	2.26	2624.14	6.15	2630.44	6.16	6.3	0.24
138	428	290	152	6848	0.87388	962.82	0.58879	1942.42	1319.45	0.48	2.25	2626.04	6.14	2632.68	6.15	6.63	0.25
138	429	291	153	6864	0.87281	963.14	0.58916	1942.41	1333.76	0	2.24	2626.93	6.12	2633.44	6.14	6.52	0.25
138	430	292	154	6880	0.87174	963.46	0.58954	1942.4	1348.12	0.48	2.22	2628.73	6.11	2635.58	6.13	6.85	0.26
138	431	293	155	6896	0.87067	963.77	0.58991	1942.4	1362.52	0	2.21	2629.52	6.1	2636.25	6.12	6.73	0.26
138	432	294	156	6912	0.86960	964.07	0.59028	1942.41	1376.97	0.48	2.19	2631.22	6.09	2638.28	6.11	7.06	0.27
138	433	295	157	6928	0.86853	964.37	0.59065	1942.42	1391.47	0	2.18	2631.92	6.08	2638.85	6.09	6.93	0.26
138	434	296	158	6944	0.86746	964.67	0.59101	1942.44	1406.01	0.48	2.17	2633.52	6.07	2640.78	6.08	7.25	0.27
138	435	297	159	6960	0.86640	964.97	0.59138	1942.46	1420.6	0	2.15	2634.13	6.06	2641.25	6.07	7.13	0.27
138	436	298	160	6976	0.86533	965.25	0.59174	1942.49	1435.23	0.48	2.14	2635.64	6.05	2643.09	6.06	7.45	0.28
138	437	299	161	6992	0.86427	965.54	0.59211	1942.53	1449.91	0	2.13	2636.15	6.03	2643.46	6.05	7.32	0.28
138	438	300	162	7008	0.86320	965.82	0.59247	1942.57	1464.63	0.48	2.12	2637.57	6.02	2645.2	6.04	7.63	0.29
138	439	301	163	7024	0.86214	966.1	0.59283	1942.62	1479.4	0	2.1	2637.99	6.01	2645.48	6.03	7.5	0.28
138	440	302	164	7040	0.86107	966.37	0.59318	1942.67	1494.21	0.48	2.09	2639.31	6	2647.12	6.02	7.81	0.29
138	441	303	165	7056	0.86001	966.64	0.59354	1942.72	1509.07	0	2.08	2639.64	5.99	2647.31	6	7.67	0.29

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
138	442	304	166	7072	0.85895	966.91	0.59389	1942.79	1523.97	0.48	2.07	2640.88	5.97	2648.85	5.99	7.97	0.3
138	443	305	167	7088	0.85789	967.17	0.59424	1942.85	1538.91	0	2.05	2641.12	5.96	2648.95	5.98	7.83	0.3
138	444	306	168	7104	0.85683	967.43	0.59460	1942.93	1553.9	0.47	2.04	2642.27	5.95	2650.4	5.97	8.13	0.31
138	445	307	169	7120	0.85577	967.68	0.59494	1943	1568.93	0	2.03	2642.42	5.94	2650.41	5.96	7.99	0.3
138	446	308	170	7136	0.85471	967.93	0.59529	1943.09	1584	0.47	2.02	2643.48	5.93	2651.76	5.95	8.28	0.31
138	447	309	171	7152	0.85366	968.18	0.59564	1943.17	1599.11	0	2.01	2643.54	5.91	2651.68	5.93	8.13	0.31
138	448	310	172	7168	0.85260	968.42	0.59598	1943.27	1614.26	0.47	1.99	2644.51	5.9	2652.94	5.92	8.42	0.32
138	449	311	173	7184	0.85154	968.66	0.59633	1943.36	1629.46	0	1.98	2644.5	5.89	2652.77	5.91	8.27	0.31
138	450	312	174	7200	0.85049	968.9	0.59667	1943.47	1644.7	0.47	1.97	2645.38	5.88	2653.94	5.9	8.56	0.32
138	451	313	175	7216	0.84944	969.13	0.59701	1943.57	1659.98	0	1.96	2645.28	5.87	2653.68	5.88	8.4	0.32
138	452	314	176	7232	0.84838	969.36	0.59735	1943.68	1675.29	0.47	1.95	2646.08	5.85	2654.76	5.87	8.68	0.33
138	453	315	177	7248	0.84733	969.59	0.59768	1943.8	1690.65	0	1.94	2645.9	5.84	2654.41	5.86	8.52	0.32
138	454	316	178	7264	0.84628	969.81	0.59802	1943.92	1706.05	0.47	1.93	2646.61	5.83	2655.4	5.85	8.79	0.33
138	455	317	179	7280	0.84523	970.03	0.59835	1944.05	1721.49	0	1.92	2646.35	5.82	2654.97	5.84	8.63	0.32
138	456	318	180	7296	0.84418	970.25	0.59868	1944.18	1736.97	0.47	1.91	2646.98	5.8	2655.88	5.82	8.9	0.34
138	457	319	181	7312	0.84314	970.46	0.59902	1944.31	1752.49	0	1.89	2646.63	5.79	2655.36	5.81	8.73	0.33
138	458	320	182	7328	0.84209	970.67	0.59935	1944.45	1768.05	0.47	1.88	2647.18	5.78	2656.18	5.8	8.99	0.34
138	459	321	183	7344	0.84104	970.87	0.59967	1944.6	1783.64	0	1.87	2646.76	5.77	2655.58	5.79	8.82	0.33
138	460	322	184	7360	0.84000	971.08	0.60000	1944.75	1799.28	0.47	1.86	2647.23	5.75	2656.31	5.77	9.08	0.34
138	461	323	185	7376	0.83896	971.27	0.60033	1944.9	1814.95	0	1.85	2646.73	5.74	2655.63	5.76	8.9	0.34
138	462	324	186	7392	0.83792	971.47	0.60065	1945.06	1830.67	0.47	1.84	2647.12	5.73	2656.27	5.75	9.15	0.34
138	463	325	187	7408	0.83688	971.66	0.60097	1945.22	1846.41	0	1.83	2646.54	5.72	2655.51	5.74	8.97	0.34
138	464	326	188	7424	0.83584	971.85	0.60129	1945.38	1862.2	0.46	1.82	2646.85	5.7	2656.07	5.72	9.22	0.35
138	465	327	189	7440	0.83480	972.04	0.60161	1945.55	1878.03	0	1.81	2646.19	5.69	2655.22	5.71	9.03	0.34
138	466	328	190	7456	0.83376	972.22	0.60193	1945.73	1893.89	0.46	1.8	2646.42	5.68	2655.7	5.7	9.28	0.35
138	467	329	191	7472	0.83272	972.41	0.60225	1945.91	1909.79	0	1.79	2645.69	5.67	2654.78	5.68	9.08	0.34
138	468	330	192	7488	0.83169	972.58	0.60256	1946.09	1925.72	0.46	1.79	2645.85	5.65	2655.17	5.67	9.32	0.35
138	469	331	193	7504	0.83066	972.76	0.60288	1946.28	1941.69	0	1.78	2645.05	5.64	2654.17	5.66	9.12	0.34
138	470	332	194	7520	0.82962	972.93	0.60319	1946.47	1957.7	0.46	1.77	2645.13	5.63	2654.48	5.65	9.36	0.35
138	471	333	195	7536	0.82859	973.1	0.60350	1946.66	1973.75	0	1.76	2644.25	5.61	2653.4	5.63	9.15	0.35
138	472	334	196	7552	0.82756	973.27	0.60381	1946.86	1989.83	0.46	1.75	2644.26	5.6	2653.64	5.62	9.38	0.35
138	473	335	197	7568	0.82654	973.43	0.60412	1947.06	2005.94	0	1.74	2643.3	5.59	2652.48	5.61	9.17	0.35
138	474	336	198	7584	0.82551	973.59	0.60443	1947.27	2022.09	0.46	1.73	2643.24	5.58	2652.63	5.6	9.4	0.35
138	475	337	199	7600	0.82448	973.75	0.60474	1947.48	2038.28	0	1.72	2642.22	5.56	2651.4	5.58	9.18	0.35
138	476	338	200	7616	0.82346	973.9	0.60504	1947.7	2054.5	0.46	1.71	2642.08	5.55	2651.48	5.57	9.4	0.35
138	477	339	201	7632	0.82244	974.05	0.60535	1947.91	2070.75	0	1.7	2640.98	5.54	2650.17	5.56	9.18	0.35
138	478	340	202	7648	0.82141	974.2	0.60565	1948.14	2087.04	0.46	1.7	2640.77	5.52	2650.17	5.54	9.39	0.35
138	479	341	203	7664	0.82039	974.35	0.60595	1948.36	2103.37	0	1.69	2639.61	5.51	2648.78	5.53	9.17	0.35
138	480	342	204	7680	0.81938	974.49	0.60625	1948.59	2119.72	0.46	1.68	2639.33	5.5	2648.7	5.52	9.38	0.35
138	481	343	205	7696	0.81836	974.63	0.60655	1948.82	2136.12	0	1.67	2638.1	5.48	2647.25	5.5	9.15	0.35
138	482	344	206	7712	0.81734	974.77	0.60685	1949.06	2152.54	0.46	1.66	2637.74	5.47	2647.09	5.49	9.35	0.35
138	483	345	207	7728	0.81633	974.91	0.60714	1949.3	2169	0	1.65	2636.44	5.46	2645.56	5.48	9.12	0.34
Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
139	277	138	-1	4432	0.99999	824.36	0.49910	2104.41	0.09	0	9.85	1512.99	5.46	1522.06	5.49	9.07	0.6
139	278	139	0	4448	1.00000	826.35	0.50000	2101.87	0	-0.6	10	1529.18	5.5	1537.95	5.53	8.78	0.57
139	279	140	1	4464	0.99999	828.32	0.50090	2099.37	0.09	0	9.85	1546.07	5.54	1553.5	5.57	7.43	0.48

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
139	280	141	2	4480	0.99995	830.27	0.50179	2096.91	0.35	-0.6	9.7	1561.58	5.58	1569.07	5.6	7.48	0.48
139	281	142	3	4496	0.99989	832.19	0.50267	2094.49	0.78	0	9.56	1578.1	5.62	1584.28	5.64	6.18	0.39
139	282	143	4	4512	0.99980	834.09	0.50355	2092.1	1.39	-0.6	9.42	1593.25	5.65	1599.53	5.67	6.28	0.39
139	283	144	5	4528	0.99969	835.97	0.50442	2089.75	2.16	0	9.28	1609.41	5.69	1614.42	5.7	5.01	0.31
139	284	145	6	4544	0.99955	837.83	0.50528	2087.44	3.09	-0.59	9.15	1624.2	5.72	1629.35	5.74	5.15	0.32
139	285	146	7	4560	0.99940	839.66	0.50614	2085.16	4.2	0	9.02	1640.01	5.75	1643.93	5.77	3.93	0.24
139	286	147	8	4576	0.99922	841.47	0.50699	2082.92	5.46	-0.59	8.89	1654.45	5.78	1658.55	5.8	4.1	0.25
139	287	148	9	4592	0.99902	843.26	0.50784	2080.71	6.89	0	8.77	1669.91	5.82	1672.82	5.83	2.92	0.17
139	288	149	10	4608	0.99879	845.03	0.50868	2078.53	8.48	-0.59	8.64	1684.01	5.85	1687.14	5.86	3.13	0.19
139	289	150	11	4624	0.99855	846.78	0.50952	2076.39	10.22	0	8.52	1699.13	5.88	1701.11	5.89	1.98	0.12
139	290	151	12	4640	0.99829	848.51	0.51035	2074.29	12.12	-0.59	8.4	1712.9	5.91	1715.12	5.91	2.22	0.13
139	291	152	13	4656	0.99800	850.22	0.51117	2072.21	14.18	0	8.29	1727.68	5.94	1728.79	5.94	1.11	0.06
139	292	153	14	4672	0.99770	851.9	0.51199	2070.17	16.39	-0.59	8.18	1741.13	5.96	1742.52	5.97	1.39	0.08
139	293	154	15	4688	0.99738	853.57	0.51280	2068.16	18.75	0	8.07	1755.59	5.99	1755.89	5.99	0.31	0.02
139	294	155	16	4704	0.99704	855.22	0.51361	2066.18	21.26	-0.58	7.96	1768.72	6.02	1769.33	6.02	0.62	0.03
139	295	156	17	4720	0.99668	856.85	0.51441	2064.23	23.92	0	7.85	1782.85	6.04	1782.42	6.04	-0.43	-0.02
139	296	157	18	4736	0.99630	858.46	0.51520	2062.31	26.73	-0.58	7.75	1795.67	6.07	1795.58	6.07	-0.09	-0.01
139	297	158	19	4752	0.99591	860.05	0.51599	2060.42	29.68	0	7.64	1809.5	6.09	1808.38	6.09	-1.11	-0.06
139	298	159	20	4768	0.99550	861.63	0.51678	2058.55	32.78	-0.58	7.54	1822.01	6.11	1821.26	6.11	-0.74	-0.04
139	299	160	21	4784	0.99507	863.18	0.51756	2056.72	36.01	0	7.45	1835.53	6.14	1833.79	6.13	-1.73	-0.09
139	300	161	22	4800	0.99462	864.72	0.51833	2054.92	39.39	-0.58	7.35	1847.74	6.16	1846.4	6.15	-1.34	-0.07
139	301	162	23	4816	0.99416	866.24	0.51910	2053.14	42.92	0	7.25	1860.96	6.18	1858.66	6.17	-2.3	-0.12
139	302	163	24	4832	0.99368	867.74	0.51987	2051.4	46.57	-0.58	7.16	1872.88	6.2	1871	6.2	-1.88	-0.1
139	303	164	25	4848	0.99319	869.22	0.52063	2049.67	50.37	0	7.07	1885.81	6.22	1882.99	6.21	-2.81	-0.15
139	304	165	26	4864	0.99269	870.69	0.52138	2047.98	54.3	-0.57	6.98	1897.44	6.24	1895.07	6.23	-2.37	-0.12
139	305	166	27	4880	0.99216	872.14	0.52213	2046.31	58.37	0	6.89	1910.08	6.26	1906.8	6.25	-3.28	-0.17
139	306	167	28	4896	0.99163	873.57	0.52288	2044.67	62.57	-0.57	6.81	1921.43	6.28	1918.62	6.27	-2.81	-0.15
139	307	168	29	4912	0.99108	874.99	0.52362	2043.06	66.9	0	6.73	1933.79	6.3	1930.09	6.29	-3.69	-0.19
139	308	169	30	4928	0.99051	876.39	0.52435	2041.46	71.36	-0.57	6.64	1944.86	6.31	1941.66	6.3	-3.2	-0.16
139	309	170	31	4944	0.98994	877.77	0.52508	2039.9	75.95	0	6.56	1956.94	6.33	1952.88	6.32	-4.06	-0.21
139	310	171	32	4960	0.98934	879.14	0.52581	2038.36	80.67	-0.57	6.48	1967.75	6.35	1964.2	6.34	-3.55	-0.18
139	311	172	33	4976	0.98874	880.49	0.52653	2036.84	85.51	0	6.4	1979.56	6.37	1975.17	6.35	-4.39	-0.22
139	312	173	34	4992	0.98813	881.83	0.52724	2035.35	90.48	-0.57	6.33	1990.1	6.38	1986.25	6.37	-3.86	-0.19
139	313	174	35	5008	0.98750	883.15	0.52796	2033.88	95.58	0	6.25	2001.65	6.4	1996.97	6.38	-4.68	-0.23
139	314	175	36	5024	0.98686	884.45	0.52866	2032.43	100.8	-0.56	6.18	2011.93	6.41	2007.81	6.39	-4.12	-0.21
139	315	176	37	5040	0.98620	885.74	0.52937	2031.01	106.14	0	6.11	2023.21	6.42	2018.29	6.41	-4.92	-0.24
139	316	177	38	5056	0.98554	887.02	0.53006	2029.61	111.6	-0.56	6.03	2033.24	6.43	2028.89	6.42	-4.35	-0.21
139	317	178	39	5072	0.98486	888.28	0.53076	2028.23	117.18	0	5.96	2044.27	6.45	2039.14	6.43	-5.13	-0.25
139	318	179	40	5088	0.98418	889.53	0.53145	2026.87	122.88	-0.56	5.9	2054.05	6.46	2049.51	6.44	-4.54	-0.22
139	319	180	41	5104	0.98348	890.76	0.53213	2025.54	128.7	0	5.83	2064.83	6.47	2059.52	6.46	-5.31	-0.26
139	320	181	42	5120	0.98277	891.98	0.53281	2024.23	134.63	-0.56	5.76	2074.36	6.48	2069.66	6.47	-4.7	-0.23
139	321	182	43	5136	0.98206	893.18	0.53349	2022.93	140.68	0	5.7	2084.9	6.5	2079.45	6.48	-5.45	-0.26
139	322	183	44	5152	0.98133	894.38	0.53416	2021.66	146.85	-0.56	5.63	2094.19	6.5	2089.37	6.49	-4.83	-0.23
139	323	184	45	5168	0.98059	895.55	0.53483	2020.41	153.12	0	5.57	2104.48	6.52	2098.93	6.5	-5.55	-0.26
139	324	185	46	5184	0.97984	896.72	0.53549	2019.18	159.51	-0.56	5.51	2113.54	6.52	2108.63	6.51	-4.92	-0.23
139	325	186	47	5200	0.97909	897.87	0.53615	2017.97	166.01	0	5.45	2123.6	6.53	2117.97	6.52	-5.63	-0.27
139	326	187	48	5216	0.97832	899	0.53681	2016.78	172.62	-0.55	5.39	2132.43	6.54	2127.45	6.53	-4.98	-0.23

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
139	327	188	49	5232	0.97755	900.13	0.53746	2015.61	179.34	0	5.33	2142.25	6.55	2136.57	6.53	-5.68	-0.27
139	328	189	50	5248	0.97676	901.24	0.53811	2014.46	186.17	-0.55	5.27	2150.86	6.56	2145.84	6.54	-5.02	-0.23
139	329	190	51	5264	0.97597	902.34	0.53875	2013.32	193.1	0	5.21	2160.45	6.57	2154.75	6.55	-5.7	-0.26
139	330	191	52	5280	0.97517	903.42	0.53939	2012.21	200.14	-0.55	5.16	2168.83	6.57	2163.81	6.56	-5.03	-0.23
139	331	192	53	5296	0.97436	904.5	0.54003	2011.11	207.29	0	5.1	2178.2	6.58	2172.51	6.56	-5.7	-0.26
139	332	193	54	5312	0.97355	905.56	0.54066	2010.04	214.54	-0.55	5.05	2186.37	6.59	2181.36	6.57	-5.01	-0.23
139	333	194	55	5328	0.97272	906.61	0.54129	2008.98	221.89	0	5	2195.52	6.59	2189.85	6.58	-5.67	-0.26
139	334	195	56	5344	0.97189	907.64	0.54192	2007.94	229.35	-0.55	4.95	2203.47	6.6	2198.5	6.58	-4.97	-0.23
139	335	196	57	5360	0.97105	908.67	0.54254	2006.91	236.9	0	4.89	2212.41	6.6	2206.79	6.59	-5.62	-0.25
139	336	197	58	5376	0.97020	909.68	0.54316	2005.91	244.56	-0.55	4.84	2220.15	6.61	2215.24	6.59	-4.91	-0.22
139	337	198	59	5392	0.96935	910.69	0.54377	2004.92	252.32	0	4.79	2228.87	6.61	2223.33	6.6	-5.54	-0.25
139	338	199	60	5408	0.96849	911.68	0.54438	2003.94	260.17	-0.54	4.74	2236.41	6.62	2231.58	6.6	-4.82	-0.22
139	339	200	61	5424	0.96762	912.66	0.54499	2002.99	268.13	0	4.7	2244.92	6.62	2239.48	6.61	-5.45	-0.24
139	340	201	62	5440	0.96675	913.62	0.54559	2002.05	276.18	-0.54	4.65	2252.25	6.62	2247.53	6.61	-4.72	-0.21
139	341	202	63	5456	0.96587	914.58	0.54619	2001.13	284.33	0	4.6	2260.57	6.63	2255.24	6.61	-5.33	-0.24
139	342	203	64	5472	0.96498	915.53	0.54678	2000.22	292.57	-0.54	4.56	2267.7	6.63	2263.1	6.62	-4.6	-0.2
139	343	204	65	5488	0.96409	916.46	0.54738	1999.33	300.91	0	4.51	2275.82	6.64	2270.61	6.62	-5.2	-0.23
139	344	205	66	5504	0.96319	917.39	0.54797	1998.45	309.34	-0.54	4.47	2282.75	6.64	2278.29	6.62	-4.46	-0.2
139	345	206	67	5520	0.96229	918.3	0.54855	1997.59	317.86	0	4.42	2290.67	6.64	2285.62	6.62	-5.05	-0.22
139	346	207	68	5536	0.96138	919.2	0.54913	1996.75	326.48	-0.54	4.38	2297.41	6.64	2293.11	6.63	-4.3	-0.19
139	347	208	69	5552	0.96046	920.1	0.54971	1995.92	335.18	0	4.34	2305.14	6.64	2300.25	6.63	-4.89	-0.21
139	348	209	70	5568	0.95954	920.98	0.55029	1995.1	343.98	-0.54	4.3	2311.7	6.64	2307.56	6.63	-4.13	-0.18
139	349	210	71	5584	0.95861	921.85	0.55086	1994.3	352.87	0	4.26	2319.23	6.65	2314.52	6.63	-4.71	-0.2
139	350	211	72	5600	0.95768	922.72	0.55143	1993.52	361.84	-0.53	4.21	2325.6	6.64	2321.66	6.63	-3.95	-0.17
139	351	212	73	5616	0.95675	923.57	0.55199	1992.75	370.91	0	4.17	2332.95	6.65	2328.43	6.63	-4.51	-0.19
139	352	213	74	5632	0.95580	924.41	0.55256	1991.99	380.06	-0.53	4.14	2339.14	6.65	2335.39	6.63	-3.75	-0.16
139	353	214	75	5648	0.95486	925.25	0.55312	1991.25	389.3	0	4.1	2346.3	6.65	2341.99	6.63	-4.31	-0.18
139	354	215	76	5664	0.95391	926.07	0.55367	1990.52	398.62	-0.53	4.06	2352.31	6.64	2348.78	6.63	-3.53	-0.15
139	355	216	77	5680	0.95295	926.88	0.55423	1989.81	408.03	0	4.02	2359.3	6.65	2355.21	6.63	-4.09	-0.17
139	356	217	78	5696	0.95200	927.69	0.55478	1989.1	417.53	-0.53	3.98	2365.13	6.64	2361.82	6.63	-3.31	-0.14
139	357	218	79	5712	0.95103	928.49	0.55532	1988.42	427.1	0	3.95	2371.94	6.64	2368.08	6.63	-3.86	-0.16
139	358	219	80	5728	0.95006	929.27	0.55587	1987.74	436.77	-0.53	3.91	2377.6	6.64	2374.53	6.63	-3.08	-0.13
139	359	220	81	5744	0.94909	930.05	0.55641	1987.08	446.51	0	3.88	2384.24	6.64	2380.62	6.63	-3.62	-0.15
139	360	221	82	5760	0.94812	930.82	0.55694	1986.43	456.33	-0.53	3.84	2389.73	6.64	2386.9	6.63	-2.83	-0.12
139	361	222	83	5776	0.94714	931.58	0.55748	1985.8	466.24	0	3.81	2396.19	6.64	2392.82	6.63	-3.37	-0.14
139	362	223	84	5792	0.94616	932.33	0.55801	1985.17	476.23	-0.53	3.77	2401.52	6.63	2398.94	6.63	-2.58	-0.11
139	363	224	85	5808	0.94517	933.07	0.55854	1984.56	486.29	0	3.74	2407.81	6.63	2404.7	6.62	-3.11	-0.13
139	364	225	86	5824	0.94418	933.81	0.55907	1983.96	496.44	-0.52	3.71	2412.97	6.63	2410.65	6.62	-2.32	-0.1
139	365	226	87	5840	0.94319	934.53	0.55959	1983.38	506.66	0	3.67	2419.1	6.63	2416.25	6.62	-2.85	-0.12
139	366	227	88	5856	0.94219	935.25	0.56011	1982.8	516.97	-0.52	3.64	2424.1	6.62	2422.05	6.62	-2.05	-0.08
139	367	228	89	5872	0.94119	935.96	0.56063	1982.24	527.35	0	3.61	2430.07	6.62	2427.49	6.61	-2.58	-0.11
139	368	229	90	5888	0.94019	936.66	0.56114	1981.69	537.8	-0.52	3.58	2434.91	6.62	2433.13	6.61	-1.78	-0.07
139	369	230	91	5904	0.93918	937.35	0.56165	1981.15	548.33	0	3.55	2440.71	6.61	2438.42	6.61	-2.3	-0.09
139	370	231	92	5920	0.93817	938.04	0.56216	1980.62	558.94	-0.52	3.52	2445.4	6.61	2443.9	6.61	-1.5	-0.06
139	371	232	93	5936	0.93716	938.71	0.56267	1980.11	569.62	0	3.49	2451.05	6.61	2449.04	6.6	-2.01	-0.08
139	372	233	94	5952	0.93615	939.38	0.56317	1979.6	580.38	-0.52	3.46	2455.58	6.6	2454.37	6.6	-1.21	-0.05
139	373	234	95	5968	0.93513	940.04	0.56367	1979.11	591.21	0	3.43	2461.07	6.6	2459.35	6.59	-1.72	-0.07

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Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
139	374	235	96	5984	0.93411	940.7	0.56417	1978.63	602.11	-0.52	3.4	2465.46	6.59	2464.54	6.59	-0.92	-0.04
139	375	236	97	6000	0.93309	941.34	0.56467	1978.15	613.08	0	3.37	2470.8	6.59	2469.37	6.58	-1.43	-0.06
139	376	237	98	6016	0.93207	941.98	0.56516	1977.69	624.13	-0.52	3.35	2475.03	6.58	2474.41	6.58	-0.62	-0.03
139	377	238	99	6032	0.93104	942.61	0.56565	1977.24	635.25	0	3.32	2480.22	6.58	2479.09	6.58	-1.13	-0.05
139	378	239	100	6048	0.93001	943.23	0.56614	1976.8	646.43	-0.51	3.29	2484.31	6.57	2483.98	6.57	-0.32	-0.01
139	379	240	101	6064	0.92898	943.85	0.56662	1976.37	657.69	0	3.27	2489.35	6.57	2488.52	6.57	-0.83	-0.03
139	380	241	102	6080	0.92795	944.46	0.56711	1975.95	669.02	-0.51	3.24	2493.3	6.56	2493.27	6.56	-0.02	0
139	381	242	103	6096	0.92692	945.06	0.56759	1975.55	680.42	0	3.21	2498.19	6.56	2497.67	6.56	-0.53	-0.02
139	382	243	104	6112	0.92588	945.65	0.56806	1975.15	691.88	-0.51	3.19	2502	6.55	2502.28	6.55	0.28	0.01
139	383	244	105	6128	0.92484	946.24	0.56854	1974.76	703.41	0	3.16	2506.75	6.55	2506.53	6.54	-0.22	-0.01
139	384	245	106	6144	0.92380	946.82	0.56901	1974.38	715.01	-0.51	3.14	2510.41	6.54	2511	6.54	0.59	0.02
139	385	246	107	6160	0.92276	947.39	0.56948	1974.01	726.68	0	3.11	2515.03	6.53	2515.11	6.53	0.09	0
139	386	247	108	6176	0.92172	947.96	0.56995	1973.65	738.41	-0.51	3.09	2518.56	6.52	2519.45	6.53	0.89	0.04
139	387	248	109	6192	0.92067	948.52	0.57041	1973.3	750.21	0	3.06	2523.03	6.52	2523.42	6.52	0.39	0.02
139	388	249	110	6208	0.91963	949.07	0.57088	1972.96	762.08	-0.51	3.04	2526.42	6.51	2527.62	6.51	1.2	0.05
139	389	250	111	6224	0.91858	949.62	0.57134	1972.63	774.01	0	3.02	2530.76	6.51	2531.46	6.51	0.7	0.03
139	390	251	112	6240	0.91753	950.16	0.57180	1972.3	786	-0.51	2.99	2534.02	6.5	2535.53	6.5	1.51	0.06
139	391	252	113	6256	0.91648	950.7	0.57225	1971.99	798.06	0	2.97	2538.23	6.49	2539.24	6.49	1.01	0.04
139	392	253	114	6272	0.91543	951.22	0.57270	1971.69	810.18	-0.51	2.95	2541.36	6.48	2543.17	6.49	1.81	0.07
139	393	254	115	6288	0.91437	951.74	0.57316	1971.39	822.36	0	2.93	2545.43	6.48	2546.75	6.48	1.32	0.05
139	394	255	116	6304	0.91332	952.26	0.57360	1971.1	834.61	-0.5	2.9	2548.43	6.47	2550.55	6.47	2.12	0.08
139	395	256	117	6320	0.91226	952.77	0.57405	1970.83	846.92	0	2.88	2552.37	6.46	2554	6.47	1.62	0.06
139	396	257	118	6336	0.91121	953.27	0.57450	1970.56	859.28	-0.5	2.86	2555.25	6.45	2557.67	6.46	2.42	0.09
139	397	258	119	6352	0.91015	953.77	0.57494	1970.3	871.71	0	2.84	2559.06	6.45	2560.99	6.45	1.93	0.08
139	398	259	120	6368	0.90909	954.26	0.57538	1970.04	884.2	-0.5	2.82	2561.81	6.44	2564.54	6.44	2.73	0.11
139	399	260	121	6384	0.90803	954.74	0.57582	1969.8	896.76	0	2.8	2565.5	6.43	2567.73	6.44	2.23	0.09
139	400	261	122	6400	0.90698	955.22	0.57625	1969.56	909.37	-0.5	2.78	2568.13	6.42	2571.15	6.43	3.03	0.12
139	401	262	123	6416	0.90592	955.69	0.57668	1969.34	922.04	0	2.76	2571.69	6.41	2574.22	6.42	2.53	0.1
139	402	263	124	6432	0.90485	956.16	0.57711	1969.12	934.76	-0.5	2.74	2574.2	6.4	2577.52	6.41	3.33	0.13
139	403	264	125	6448	0.90379	956.62	0.57754	1968.91	947.55	0	2.72	2577.64	6.4	2580.47	6.4	2.83	0.11
139	404	265	126	6464	0.90273	957.08	0.57797	1968.7	960.39	-0.5	2.7	2580.03	6.39	2583.65	6.4	3.62	0.14
139	405	266	127	6480	0.90167	957.53	0.57840	1968.51	973.3	0	2.68	2583.35	6.38	2586.47	6.39	3.13	0.12
139	406	267	128	6496	0.90060	957.97	0.57882	1968.32	986.25	-0.5	2.66	2585.62	6.37	2589.53	6.38	3.92	0.15
139	407	268	129	6512	0.89954	958.41	0.57924	1968.14	999.27	0	2.64	2588.82	6.36	2592.24	6.37	3.42	0.13
139	408	269	130	6528	0.89848	958.85	0.57966	1967.97	1012.34	-0.5	2.62	2590.97	6.35	2595.18	6.36	4.21	0.16
139	409	270	131	6544	0.89741	959.27	0.58007	1967.8	1025.47	0	2.6	2594.06	6.34	2597.77	6.35	3.71	0.14
139	410	271	132	6560	0.89635	959.7	0.58049	1967.65	1038.65	-0.49	2.59	2596.1	6.33	2600.59	6.34	4.49	0.17
139	411	272	133	6576	0.89528	960.11	0.58090	1967.5	1051.89	0	2.57	2599.07	6.32	2603.06	6.33	3.99	0.15
139	412	273	134	6592	0.89422	960.53	0.58131	1967.35	1065.18	-0.49	2.55	2601	6.31	2605.77	6.32	4.77	0.18
139	413	274	135	6608	0.89315	960.93	0.58172	1967.22	1078.53	0	2.53	2603.86	6.3	2608.13	6.32	4.27	0.16
139	414	275	136	6624	0.89209	961.34	0.58213	1967.09	1091.93	-0.49	2.52	2605.67	6.29	2610.72	6.31	5.05	0.19
139	415	276	137	6640	0.89102	961.73	0.58253	1966.97	1105.38	0	2.5	2608.42	6.29	2612.96	6.3	4.54	0.17
139	416	277	138	6656	0.88996	962.13	0.58293	1966.85	1118.89	-0.49	2.48	2610.13	6.27	2615.45	6.29	5.32	0.2
139	417	278	139	6672	0.88889	962.51	0.58333	1966.75	1132.44	0	2.47	2612.76	6.27	2617.58	6.28	4.81	0.18
139	418	279	140	6688	0.88782	962.9	0.58373	1966.65	1146.06	-0.49	2.45	2614.36	6.25	2619.95	6.27	5.59	0.21
139	419	280	141	6704	0.88676	963.27	0.58413	1966.55	1159.72	0	2.43	2616.89	6.25	2621.97	6.26	5.08	0.19
139	420	281	142	6720	0.88569	963.65	0.58452	1966.46	1173.43	-0.49	2.42	2618.39	6.23	2624.23	6.25	5.85	0.22

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-2Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
139	421	282	143	6736	0.88463	964.01	0.58492	1966.38	1187.2	0	2.4	2620.81	6.23	2626.14	6.24	5.34	0.2
139	422	283	144	6752	0.88356	964.38	0.58531	1966.31	1201.01	-0.49	2.39	2622.2	6.21	2628.3	6.23	6.1	0.23
139	423	284	145	6768	0.88250	964.73	0.58570	1966.24	1214.88	0	2.37	2624.51	6.2	2630.1	6.22	5.59	0.21
139	424	285	146	6784	0.88143	965.09	0.58609	1966.18	1228.8	-0.49	2.35	2625.8	6.19	2632.15	6.21	6.35	0.24
139	425	286	147	6800	0.88037	965.44	0.58647	1966.13	1242.76	0	2.34	2628.01	6.18	2633.85	6.2	5.84	0.22
139	426	287	148	6816	0.87930	965.78	0.58685	1966.08	1256.78	-0.48	2.32	2629.2	6.17	2635.79	6.19	6.6	0.25
139	427	288	149	6832	0.87824	966.12	0.58724	1966.04	1270.84	0	2.31	2631.3	6.16	2637.38	6.18	6.08	0.23
139	428	289	150	6848	0.87717	966.46	0.58762	1966	1284.96	-0.48	2.29	2632.39	6.15	2639.23	6.17	6.83	0.26
139	429	290	151	6864	0.87611	966.79	0.58800	1965.97	1299.12	0	2.28	2634.4	6.14	2640.71	6.16	6.31	0.24
139	430	291	152	6880	0.87505	967.12	0.58837	1965.95	1313.33	-0.48	2.27	2635.39	6.13	2642.45	6.15	7.06	0.27
139	431	292	153	6896	0.87398	967.44	0.58875	1965.93	1327.59	0	2.25	2637.29	6.12	2643.83	6.13	6.54	0.25
139	432	293	154	6912	0.87292	967.76	0.58912	1965.92	1341.89	-0.48	2.24	2638.19	6.11	2645.47	6.12	7.29	0.28
139	433	294	155	6928	0.87186	968.07	0.58949	1965.92	1356.24	0	2.22	2639.99	6.1	2646.76	6.11	6.76	0.26
139	434	295	156	6944	0.87080	968.38	0.58986	1965.92	1370.64	-0.48	2.21	2640.79	6.08	2648.29	6.1	7.5	0.28
139	435	296	157	6960	0.86974	968.68	0.59023	1965.92	1385.09	0	2.2	2642.5	6.07	2649.48	6.09	6.97	0.26
139	436	297	158	6976	0.86868	968.99	0.59060	1965.94	1399.58	-0.48	2.18	2643.21	6.06	2650.92	6.08	7.71	0.29
139	437	298	159	6992	0.86762	969.28	0.59096	1965.95	1414.11	0	2.17	2644.82	6.05	2652	6.07	7.18	0.27
139	438	299	160	7008	0.86656	969.58	0.59132	1965.98	1428.69	-0.48	2.16	2645.43	6.04	2653.34	6.06	7.91	0.3
139	439	300	161	7024	0.86550	969.87	0.59169	1966.01	1443.32	0	2.14	2646.95	6.03	2654.33	6.05	7.38	0.28
139	440	301	162	7040	0.86444	970.15	0.59205	1966.04	1457.99	-0.48	2.13	2647.47	6.02	2655.57	6.04	8.1	0.31
139	441	302	163	7056	0.86339	970.43	0.59240	1966.08	1472.71	0	2.12	2648.9	6.01	2656.46	6.02	7.57	0.28
139	442	303	164	7072	0.86233	970.71	0.59276	1966.12	1487.47	-0.48	2.1	2649.33	5.99	2657.61	6.01	8.29	0.31
139	443	304	165	7088	0.86127	970.98	0.59312	1966.18	1502.27	0	2.09	2650.66	5.98	2658.41	6	7.75	0.29
139	444	305	166	7104	0.86022	971.25	0.59347	1966.23	1517.12	-0.47	2.08	2651	5.97	2659.47	5.99	8.47	0.32
139	445	306	167	7120	0.85916	971.52	0.59382	1966.29	1532.01	0	2.07	2652.24	5.96	2660.17	5.98	7.92	0.3
139	446	307	168	7136	0.85811	971.78	0.59417	1966.36	1546.95	-0.47	2.06	2652.5	5.95	2661.13	5.97	8.63	0.32
139	447	308	169	7152	0.85706	972.04	0.59452	1966.43	1561.92	0	2.04	2653.65	5.94	2661.74	5.95	8.09	0.3
139	448	309	170	7168	0.85601	972.29	0.59487	1966.51	1576.94	-0.47	2.03	2653.82	5.92	2662.61	5.94	8.79	0.33
139	449	310	171	7184	0.85496	972.55	0.59521	1966.59	1592	0	2.02	2654.88	5.91	2663.13	5.93	8.24	0.31
139	450	311	172	7200	0.85391	972.79	0.59556	1966.68	1607.11	-0.47	2.01	2654.96	5.9	2663.91	5.92	8.95	0.34
139	451	312	173	7216	0.85286	973.04	0.59590	1966.77	1622.25	0	2	2655.94	5.89	2664.34	5.91	8.39	0.32
139	452	313	174	7232	0.85181	973.28	0.59624	1966.86	1637.44	-0.47	1.99	2655.94	5.88	2665.03	5.9	9.09	0.34
139	453	314	175	7248	0.85076	973.51	0.59658	1966.97	1652.66	0	1.97	2656.83	5.86	2665.36	5.88	8.53	0.32
139	454	315	176	7264	0.84972	973.75	0.59692	1967.07	1667.93	-0.47	1.96	2656.74	5.85	2665.97	5.87	9.22	0.35
139	455	316	177	7280	0.84867	973.98	0.59725	1967.18	1683.24	0	1.95	2657.55	5.84	2666.21	5.86	8.66	0.32
139	456	317	178	7296	0.84763	974.2	0.59759	1967.3	1698.59	-0.47	1.94	2657.38	5.83	2666.73	5.85	9.35	0.35
139	457	318	179	7312	0.84658	974.43	0.59792	1967.42	1713.98	0	1.93	2658.11	5.82	2666.89	5.84	8.78	0.33
139	458	319	180	7328	0.84554	974.65	0.59825	1967.55	1729.4	-0.47	1.92	2657.86	5.8	2667.32	5.82	9.46	0.35
139	459	320	181	7344	0.84450	974.86	0.59858	1967.68	1744.87	0	1.91	2658.5	5.79	2667.39	5.81	8.89	0.33
139	460	321	182	7360	0.84346	975.07	0.59891	1967.81	1760.38	-0.47	1.9	2658.17	5.78	2667.74	5.8	9.57	0.36
139	461	322	183	7376	0.84242	975.28	0.59924	1967.95	1775.92	0	1.89	2658.73	5.77	2667.73	5.79	9	0.34
139	462	323	184	7392	0.84138	975.49	0.59957	1968.09	1791.51	-0.47	1.88	2658.32	5.75	2667.99	5.77	9.66	0.36
139	463	324	185	7408	0.84035	975.69	0.59989	1968.24	1807.13	0	1.87	2658.8	5.74	2667.89	5.76	9.09	0.34
139	464	325	186	7424	0.83931	975.89	0.60022	1968.39	1822.79	-0.46	1.86	2658.31	5.73	2668.07	5.75	9.75	0.37
139	465	326	187	7440	0.83828	976.09	0.60054	1968.55	1838.49	0	1.85	2658.72	5.72	2667.89	5.74	9.17	0.34
139	466	327	188	7456	0.83724	976.28	0.60086	1968.71	1854.23	-0.46	1.84	2658.15	5.7	2667.98	5.73	9.83	0.37
139	467	328	189	7472	0.83621	976.48	0.60118	1968.88	1870	0	1.83	2658.48	5.69	2667.72	5.71	9.24	0.35

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
139	468	329	190	7488	0.83518	976.66	0.60150	1969.04	1885.81	-0.46	1.82	2657.84	5.68	2667.73	5.7	9.9	0.37
139	469	330	191	7504	0.83415	976.85	0.60181	1969.22	1901.66	0	1.81	2658.08	5.67	2667.39	5.69	9.31	0.35
139	470	331	192	7520	0.83312	977.03	0.60213	1969.4	1917.55	-0.46	1.8	2657.37	5.65	2667.32	5.68	9.95	0.37
139	471	332	193	7536	0.83209	977.21	0.60244	1969.58	1933.47	0	1.79	2657.54	5.64	2666.9	5.66	9.36	0.35
139	472	333	194	7552	0.83107	977.38	0.60275	1969.76	1949.42	-0.46	1.78	2656.75	5.63	2666.75	5.65	10	0.38
139	473	334	195	7568	0.83004	977.56	0.60307	1969.95	1965.42	0	1.77	2656.84	5.62	2666.25	5.64	9.4	0.35
139	474	335	196	7584	0.82902	977.73	0.60338	1970.15	1981.45	-0.46	1.76	2655.98	5.6	2666.02	5.62	10.04	0.38
139	475	336	197	7600	0.82799	977.89	0.60368	1970.35	1997.51	0	1.75	2656	5.59	2665.44	5.61	9.44	0.35
139	476	337	198	7616	0.82697	978.06	0.60399	1970.55	2013.61	-0.46	1.74	2655.07	5.58	2665.13	5.6	10.06	0.38
139	477	338	199	7632	0.82595	978.22	0.60430	1970.75	2029.75	0	1.73	2655.01	5.57	2664.47	5.59	9.46	0.35
139	478	339	200	7648	0.82493	978.38	0.60460	1970.96	2045.92	-0.46	1.73	2654.01	5.55	2664.09	5.57	10.08	0.38
139	479	340	201	7664	0.82392	978.53	0.60491	1971.18	2062.13	0	1.72	2653.88	5.54	2663.35	5.56	9.47	0.36
139	480	341	202	7680	0.82290	978.68	0.60521	1971.4	2078.37	-0.46	1.71	2652.81	5.53	2662.89	5.55	10.09	0.38
139	481	342	203	7696	0.82188	978.83	0.60551	1971.62	2094.64	0	1.7	2652.61	5.51	2662.08	5.53	9.47	0.36
139	482	343	204	7712	0.82087	978.98	0.60581	1971.84	2110.95	-0.46	1.69	2651.46	5.5	2661.55	5.52	10.08	0.38
139	483	344	205	7728	0.81986	979.13	0.60611	1972.07	2127.29	0	1.68	2651.2	5.49	2660.66	5.51	9.46	0.36
139	484	345	206	7744	0.81885	979.27	0.60641	1972.3	2143.67	-0.45	1.67	2649.98	5.48	2660.05	5.5	10.07	0.38
139	485	346	207	7760	0.81784	979.41	0.60670	1972.54	2160.07	0	1.67	2649.64	5.46	2659.09	5.48	9.44	0.36
139	486	347	208	7776	0.81683	979.54	0.60700	1972.78	2176.52	-0.45	1.66	2648.36	5.45	2658.4	5.47	10.04	0.38
Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
140	279	139	-1	4464	0.99999	828.32	0.49910	2129.69	0.09	0	9.85	1515.75	5.43	1524.81	5.47	9.06	0.59
140	280	140	0	4480	1.00000	830.31	0.50000	2127.14	0	0.6	10	1533.15	5.48	1541.54	5.51	8.39	0.54
140	281	141	1	4496	0.99999	832.28	0.50089	2124.62	0.09	0	9.85	1548.87	5.51	1556.29	5.54	7.42	0.48
140	282	142	2	4512	0.99995	834.22	0.50177	2122.15	0.35	0.6	9.71	1565.59	5.55	1572.68	5.58	7.09	0.45
140	283	143	3	4528	0.99989	836.14	0.50265	2119.71	0.78	0	9.56	1580.94	5.59	1587.12	5.61	6.18	0.39
140	284	144	4	4544	0.99980	838.03	0.50352	2117.31	1.38	0.59	9.43	1597.3	5.62	1603.18	5.65	5.89	0.37
140	285	145	5	4560	0.99969	839.91	0.50439	2114.95	2.14	0	9.29	1612.29	5.66	1617.3	5.67	5.01	0.31
140	286	146	6	4576	0.99956	841.76	0.50525	2112.62	3.07	0.59	9.16	1628.29	5.69	1633.05	5.71	4.76	0.29
140	287	147	7	4592	0.99941	843.59	0.50610	2110.33	4.17	0	9.03	1642.93	5.72	1646.86	5.74	3.93	0.24
140	288	148	8	4608	0.99923	845.4	0.50694	2108.08	5.43	0.59	8.9	1658.59	5.76	1662.3	5.77	3.71	0.22
140	289	149	9	4624	0.99903	847.19	0.50779	2105.86	6.84	0	8.77	1672.89	5.79	1675.81	5.8	2.92	0.17
140	290	150	10	4640	0.99881	848.95	0.50862	2103.67	8.42	0.59	8.65	1688.2	5.82	1690.93	5.83	2.74	0.16
140	291	151	11	4656	0.99857	850.7	0.50945	2101.52	10.15	0	8.53	1702.16	5.85	1704.15	5.86	1.98	0.12
140	292	152	12	4672	0.99831	852.43	0.51027	2099.4	12.04	0.59	8.41	1717.14	5.88	1718.97	5.89	1.84	0.11
140	293	153	13	4688	0.99803	854.13	0.51109	2097.31	14.08	0	8.3	1730.78	5.91	1731.89	5.91	1.12	0.06
140	294	154	14	4704	0.99773	855.82	0.51191	2095.25	16.28	0.58	8.19	1745.42	5.94	1746.42	5.94	1	0.06
140	295	155	15	4720	0.99742	857.48	0.51271	2093.23	18.62	0	8.08	1758.74	5.96	1759.06	5.96	0.32	0.02
140	296	156	16	4736	0.99708	859.13	0.51351	2091.24	21.12	0.58	7.97	1773.07	5.99	1773.3	5.99	0.23	0.01
140	297	157	17	4752	0.99672	860.76	0.51431	2089.27	23.76	0	7.86	1786.07	6.01	1785.65	6.01	-0.42	-0.02
140	298	158	18	4768	0.99635	862.37	0.51510	2087.34	26.55	0.58	7.76	1800.08	6.04	1799.6	6.04	-0.48	-0.03
140	299	159	19	4784	0.99596	863.96	0.51589	2085.44	29.48	0	7.66	1812.78	6.06	1811.68	6.06	-1.1	-0.06
140	300	160	20	4800	0.99556	865.53	0.51667	2083.56	32.56	0.58	7.56	1826.48	6.09	1825.36	6.08	-1.13	-0.06
140	301	161	21	4816	0.99513	867.08	0.51744	2081.72	35.78	0	7.46	1838.88	6.11	1837.16	6.1	-1.72	-0.09
140	302	162	22	4832	0.99469	868.62	0.51821	2079.9	39.13	0.58	7.36	1852.28	6.13	1850.56	6.13	-1.72	-0.09
140	303	163	23	4848	0.99424	870.14	0.51898	2078.11	42.63	0	7.27	1864.39	6.15	1862.1	6.15	-2.28	-0.12
140	304	164	24	4864	0.99377	871.64	0.51974	2076.35	46.27	0.57	7.18	1877.49	6.18	1875.23	6.17	-2.26	-0.12

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
140	305	165	25	4880	0.99328	873.12	0.52049	2074.62	50.04	0	7.09	1889.31	6.19	1886.51	6.19	-2.8	-0.15
140	306	166	26	4896	0.99278	874.59	0.52124	2072.91	53.95	0.57	7	1902.13	6.22	1899.37	6.21	-2.75	-0.14
140	307	167	27	4912	0.99227	876.04	0.52199	2071.23	57.99	0	6.91	1913.66	6.23	1910.4	6.22	-3.26	-0.17
140	308	168	28	4928	0.99174	877.47	0.52273	2069.58	62.16	0.57	6.83	1926.19	6.25	1923	6.24	-3.19	-0.17
140	309	169	29	4944	0.99119	878.88	0.52346	2067.95	66.47	0	6.74	1937.44	6.27	1933.77	6.26	-3.67	-0.19
140	310	170	30	4960	0.99064	880.28	0.52419	2066.34	70.9	0.57	6.66	1949.7	6.29	1946.12	6.28	-3.58	-0.18
140	311	171	31	4976	0.99006	881.67	0.52492	2064.77	75.46	0	6.58	1960.68	6.3	1956.64	6.29	-4.04	-0.21
140	312	172	32	4992	0.98948	883.04	0.52564	2063.21	80.15	0.57	6.5	1972.67	6.32	1968.74	6.31	-3.93	-0.2
140	313	173	33	5008	0.98888	884.39	0.52636	2061.68	84.97	0	6.42	1983.38	6.34	1979.02	6.32	-4.37	-0.22
140	314	174	34	5024	0.98828	885.73	0.52707	2060.18	89.91	0.56	6.35	1995.1	6.35	1990.86	6.34	-4.24	-0.21
140	315	175	35	5040	0.98765	887.05	0.52778	2058.69	94.98	0	6.27	2005.55	6.37	2000.91	6.35	-4.65	-0.23
140	316	176	36	5056	0.98702	888.35	0.52848	2057.23	100.16	0.56	6.2	2017.01	6.38	2012.51	6.37	-4.5	-0.22
140	317	177	37	5072	0.98638	889.65	0.52918	2055.8	105.47	0	6.12	2027.21	6.39	2022.31	6.38	-4.89	-0.24
140	318	178	38	5088	0.98572	890.92	0.52987	2054.38	110.9	0.56	6.05	2038.41	6.41	2033.68	6.4	-4.73	-0.23
140	319	179	39	5104	0.98505	892.19	0.53056	2052.99	116.45	0	5.98	2048.35	6.42	2043.25	6.41	-5.1	-0.25
140	320	180	40	5120	0.98438	893.43	0.53125	2051.62	122.12	0.56	5.92	2059.3	6.44	2054.38	6.42	-4.92	-0.24
140	321	181	41	5136	0.98369	894.67	0.53193	2050.28	127.9	0	5.85	2069	6.45	2063.73	6.43	-5.27	-0.26
140	322	182	42	5152	0.98299	895.89	0.53261	2048.95	133.8	0.56	5.78	2079.7	6.46	2074.63	6.44	-5.07	-0.24
140	323	183	43	5168	0.98228	897.09	0.53328	2047.65	139.82	0	5.72	2089.16	6.47	2083.75	6.45	-5.41	-0.26
140	324	184	44	5184	0.98156	898.29	0.53395	2046.36	145.94	0.56	5.65	2099.62	6.48	2094.42	6.46	-5.2	-0.25
140	325	185	45	5200	0.98083	899.46	0.53462	2045.1	152.18	0	5.59	2108.84	6.49	2103.33	6.47	-5.52	-0.26
140	326	186	46	5216	0.98009	900.63	0.53528	2043.86	158.54	0.55	5.53	2119.06	6.5	2113.77	6.48	-5.29	-0.25
140	327	187	47	5232	0.97934	901.78	0.53593	2042.63	165	0	5.47	2128.05	6.51	2122.46	6.49	-5.59	-0.26
140	328	188	48	5248	0.97858	902.92	0.53659	2041.43	171.57	0.55	5.41	2138.04	6.52	2132.69	6.5	-5.35	-0.25
140	329	189	49	5264	0.97782	904.05	0.53723	2040.25	178.25	0	5.35	2146.8	6.53	2141.17	6.51	-5.64	-0.26
140	330	190	50	5280	0.97704	905.16	0.53788	2039.08	185.04	0.55	5.29	2156.56	6.54	2151.17	6.52	-5.38	-0.25
140	331	191	51	5296	0.97626	906.26	0.53852	2037.94	191.94	0	5.24	2165.1	6.54	2159.44	6.52	-5.65	-0.26
140	332	192	52	5312	0.97547	907.35	0.53916	2036.81	198.94	0.55	5.18	2174.63	6.55	2169.24	6.53	-5.39	-0.25
140	333	193	53	5328	0.97467	908.42	0.53979	2035.7	206.05	0	5.12	2182.95	6.56	2177.3	6.54	-5.65	-0.26
140	334	194	54	5344	0.97386	909.49	0.54042	2034.61	213.26	0.55	5.07	2192.26	6.56	2186.89	6.55	-5.37	-0.25
140	335	195	55	5360	0.97305	910.54	0.54105	2033.54	220.57	0	5.02	2200.37	6.57	2194.75	6.55	-5.62	-0.26
140	336	196	56	5376	0.97222	911.58	0.54167	2032.49	227.99	0.55	4.97	2209.46	6.58	2204.13	6.56	-5.33	-0.24
140	337	197	57	5392	0.97139	912.6	0.54229	2031.45	235.5	0	4.91	2217.35	6.58	2211.79	6.56	-5.56	-0.25
140	338	198	58	5408	0.97055	913.62	0.54290	2030.44	243.12	0.54	4.86	2226.23	6.59	2220.97	6.57	-5.26	-0.24
140	339	199	59	5424	0.96971	914.63	0.54351	2029.43	250.83	0	4.81	2233.92	6.59	2228.44	6.57	-5.48	-0.25
140	340	200	60	5440	0.96886	915.62	0.54412	2028.45	258.65	0.54	4.77	2242.59	6.6	2237.41	6.58	-5.18	-0.23
140	341	201	61	5456	0.96800	916.6	0.54472	2027.48	266.56	0	4.72	2250.07	6.6	2244.69	6.58	-5.38	-0.24
140	342	202	62	5472	0.96714	917.57	0.54532	2026.53	274.57	0.54	4.67	2258.54	6.6	2253.47	6.59	-5.07	-0.22
140	343	203	63	5488	0.96626	918.53	0.54592	2025.6	282.67	0	4.62	2265.82	6.61	2260.56	6.59	-5.27	-0.23
140	344	204	64	5504	0.96539	919.48	0.54651	2024.68	290.87	0.54	4.58	2274.09	6.61	2269.14	6.6	-4.94	-0.22
140	345	205	65	5520	0.96450	920.42	0.54710	2023.77	299.17	0	4.53	2281.17	6.61	2276.04	6.6	-5.13	-0.23
140	346	206	66	5536	0.96361	921.34	0.54769	2022.89	307.55	0.54	4.49	2289.24	6.62	2284.44	6.6	-4.8	-0.21
140	347	207	67	5552	0.96272	922.26	0.54827	2022.02	316.03	0	4.44	2296.13	6.62	2291.15	6.6	-4.98	-0.22
140	348	208	68	5568	0.96182	923.17	0.54885	2021.16	324.6	0.54	4.4	2304	6.62	2299.36	6.61	-4.64	-0.2
140	349	209	69	5584	0.96091	924.06	0.54943	2020.32	333.27	0	4.36	2310.71	6.62	2305.9	6.61	-4.81	-0.21
140	350	210	70	5600	0.96000	924.95	0.55000	2019.49	342.02	0.53	4.32	2318.39	6.62	2313.92	6.61	-4.46	-0.19
140	351	211	71	5616	0.95908	925.83	0.55057	2018.68	350.86	0	4.28	2324.9	6.62	2320.28	6.61	-4.63	-0.2

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
140	352	212	72	5632	0.95816	926.69	0.55114	2017.89	359.79	0.53	4.24	2332.4	6.63	2328.12	6.61	-4.27	-0.18
140	353	213	73	5648	0.95723	927.55	0.55170	2017.1	368.81	0	4.2	2338.73	6.63	2334.3	6.61	-4.43	-0.19
140	354	214	74	5664	0.95630	928.39	0.55226	2016.34	377.92	0.53	4.16	2346.04	6.63	2341.97	6.62	-4.07	-0.17
140	355	215	75	5680	0.95537	929.23	0.55282	2015.58	387.11	0	4.12	2352.19	6.63	2347.98	6.61	-4.22	-0.18
140	356	216	76	5696	0.95443	930.06	0.55337	2014.84	396.39	0.53	4.08	2359.32	6.63	2355.46	6.62	-3.85	-0.16
140	357	217	77	5712	0.95348	930.88	0.55392	2014.12	405.75	0	4.04	2365.3	6.63	2361.3	6.61	-3.99	-0.17
140	358	218	78	5728	0.95253	931.68	0.55447	2013.41	415.2	0.53	4	2372.24	6.63	2368.62	6.62	-3.63	-0.15
140	359	219	79	5744	0.95158	932.48	0.55501	2012.71	424.73	0	3.97	2378.05	6.62	2374.29	6.61	-3.76	-0.16
140	360	220	80	5760	0.95062	933.27	0.55556	2012.02	434.35	0.53	3.93	2384.82	6.62	2381.43	6.62	-3.39	-0.14
140	361	221	81	5776	0.94966	934.05	0.55609	2011.35	444.04	0	3.9	2390.45	6.62	2386.94	6.61	-3.51	-0.15
140	362	222	82	5792	0.94869	934.83	0.55663	2010.69	453.82	0.53	3.86	2397.05	6.62	2393.91	6.61	-3.14	-0.13
140	363	223	83	5808	0.94772	935.59	0.55716	2010.04	463.68	0	3.83	2402.51	6.62	2399.26	6.61	-3.26	-0.14
140	364	224	84	5824	0.94675	936.35	0.55769	2009.41	473.62	0.52	3.79	2408.94	6.62	2406.07	6.61	-2.88	-0.12
140	365	225	85	5840	0.94577	937.09	0.55822	2008.79	483.64	0	3.76	2414.24	6.61	2411.25	6.61	-2.99	-0.12
140	366	226	86	5856	0.94479	937.83	0.55874	2008.18	493.73	0.52	3.73	2420.51	6.61	2417.9	6.61	-2.61	-0.11
140	367	227	87	5872	0.94380	938.56	0.55926	2007.58	503.91	0	3.69	2425.64	6.61	2422.92	6.6	-2.72	-0.11
140	368	228	88	5888	0.94282	939.28	0.55978	2007	514.16	0.52	3.66	2431.74	6.61	2429.41	6.6	-2.34	-0.1
140	369	229	89	5904	0.94183	939.99	0.56030	2006.43	524.49	0	3.63	2436.72	6.6	2434.28	6.6	-2.44	-0.1
140	370	230	90	5920	0.94083	940.69	0.56081	2005.87	534.9	0.52	3.6	2442.66	6.6	2440.6	6.6	-2.06	-0.08
140	371	231	91	5936	0.93984	941.39	0.56132	2005.32	545.38	0	3.57	2447.48	6.6	2445.32	6.59	-2.16	-0.09
140	372	232	92	5952	0.93884	942.08	0.56183	2004.78	555.94	0.52	3.54	2453.26	6.59	2451.49	6.59	-1.77	-0.07
140	373	233	93	5968	0.93784	942.76	0.56233	2004.25	566.57	0	3.51	2457.92	6.59	2456.06	6.58	-1.87	-0.08
140	374	234	94	5984	0.93683	943.43	0.56283	2003.74	577.28	0.52	3.48	2463.55	6.59	2462.07	6.58	-1.48	-0.06
140	375	235	95	6000	0.93582	944.1	0.56333	2003.23	588.06	0	3.45	2468.06	6.58	2466.49	6.58	-1.57	-0.06
140	376	236	96	6016	0.93481	944.75	0.56383	2002.74	598.91	0.52	3.42	2473.53	6.58	2472.35	6.58	-1.18	-0.05
140	377	237	97	6032	0.93380	945.4	0.56432	2002.26	609.84	0	3.39	2477.89	6.57	2476.62	6.57	-1.27	-0.05
140	378	238	98	6048	0.93279	946.04	0.56482	2001.79	620.83	0.51	3.37	2483.21	6.57	2482.34	6.57	-0.88	-0.04
140	379	239	99	6064	0.93177	946.68	0.56530	2001.33	631.9	0	3.34	2487.43	6.56	2486.46	6.56	-0.96	-0.04
140	380	240	100	6080	0.93075	947.3	0.56579	2000.88	643.04	0.51	3.31	2492.6	6.56	2492.03	6.56	-0.57	-0.02
140	381	241	101	6096	0.92973	947.92	0.56627	2000.44	654.25	0	3.28	2496.67	6.55	2496.01	6.55	-0.66	-0.03
140	382	242	102	6112	0.92870	948.54	0.56675	2000.01	665.53	0.51	3.26	2501.7	6.55	2501.44	6.55	-0.26	-0.01
140	383	243	103	6128	0.92768	949.14	0.56723	1999.59	676.87	0	3.23	2505.62	6.54	2505.28	6.54	-0.35	-0.01
140	384	244	104	6144	0.92665	949.74	0.56771	1999.19	688.29	0.51	3.21	2510.51	6.54	2510.56	6.54	0.05	0
140	385	245	105	6160	0.92562	950.33	0.56818	1998.79	699.77	0	3.18	2514.29	6.53	2514.26	6.53	-0.03	0
140	386	246	106	6176	0.92459	950.92	0.56865	1998.4	711.32	0.51	3.16	2519.03	6.53	2519.4	6.53	0.36	0.01
140	387	247	107	6192	0.92356	951.49	0.56912	1998.02	722.93	0	3.13	2522.68	6.52	2522.97	6.52	0.28	0.01
140	388	248	108	6208	0.92252	952.06	0.56959	1997.65	734.62	0.51	3.11	2527.28	6.51	2527.96	6.52	0.68	0.03
140	389	249	109	6224	0.92149	952.63	0.57005	1997.29	746.37	0	3.08	2530.8	6.51	2531.4	6.51	0.6	0.02
140	390	250	110	6240	0.92045	953.18	0.57051	1996.94	758.18	0.51	3.06	2535.26	6.5	2536.25	6.5	0.99	0.04
140	391	251	111	6256	0.91941	953.74	0.57097	1996.6	770.06	0	3.04	2538.64	6.49	2539.56	6.5	0.91	0.04
140	392	252	112	6272	0.91837	954.28	0.57143	1996.27	782	0.51	3.01	2542.97	6.49	2544.28	6.49	1.31	0.05
140	393	253	113	6288	0.91733	954.82	0.57188	1995.95	794.01	0	2.99	2546.22	6.48	2547.45	6.48	1.23	0.05
140	394	254	114	6304	0.91628	955.35	0.57234	1995.63	806.08	0.5	2.97	2550.41	6.47	2552.04	6.48	1.63	0.06
140	395	255	115	6320	0.91524	955.87	0.57279	1995.33	818.21	0	2.94	2553.53	6.46	2555.08	6.47	1.55	0.06
140	396	256	116	6336	0.91419	956.39	0.57323	1995.04	830.4	0.5	2.92	2557.59	6.46	2559.54	6.46	1.94	0.08
140	397	257	117	6352	0.91315	956.91	0.57368	1994.75	842.66	0	2.9	2560.59	6.45	2562.45	6.45	1.86	0.07
140	398	258	118	6368	0.91210	957.41	0.57412	1994.47	854.98	0.5	2.88	2564.52	6.44	2566.78	6.45	2.25	0.09

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Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
140	399	259	119	6384	0.91105	957.91	0.57456	1994.2	867.36	0	2.86	2567.39	6.43	2569.56	6.44	2.18	0.08
140	400	260	120	6400	0.91000	958.41	0.57500	1993.94	879.8	0.5	2.84	2571.19	6.43	2573.76	6.43	2.57	0.1
140	401	261	121	6416	0.90895	958.9	0.57544	1993.69	892.29	0	2.82	2573.94	6.42	2576.43	6.43	2.49	0.1
140	402	262	122	6432	0.90790	959.38	0.57587	1993.44	904.85	0.5	2.8	2577.62	6.41	2580.5	6.42	2.88	0.11
140	403	263	123	6448	0.90685	959.85	0.57630	1993.21	917.47	0	2.78	2580.24	6.4	2583.04	6.41	2.8	0.11
140	404	264	124	6464	0.90579	960.33	0.57673	1992.98	930.15	0.5	2.76	2583.8	6.4	2586.99	6.4	3.19	0.12
140	405	265	125	6480	0.90474	960.79	0.57716	1992.76	942.88	0	2.74	2586.3	6.39	2589.41	6.39	3.11	0.12
140	406	266	126	6496	0.90369	961.25	0.57759	1992.55	955.67	0.5	2.72	2589.74	6.38	2593.23	6.39	3.49	0.13
140	407	267	127	6512	0.90263	961.7	0.57801	1992.35	968.52	0	2.7	2592.12	6.37	2595.53	6.38	3.41	0.13
140	408	268	128	6528	0.90158	962.15	0.57843	1992.15	981.43	0.5	2.68	2595.44	6.36	2599.23	6.37	3.8	0.15
140	409	269	129	6544	0.90052	962.6	0.57885	1991.96	994.4	0	2.66	2597.7	6.35	2601.42	6.36	3.71	0.14
140	410	270	130	6560	0.89947	963.03	0.57927	1991.78	1007.41	0.49	2.64	2600.9	6.34	2605	6.35	4.1	0.16
140	411	271	131	6576	0.89841	963.47	0.57968	1991.61	1020.49	0	2.62	2603.05	6.33	2607.07	6.34	4.01	0.15
140	412	272	132	6592	0.89735	963.89	0.58010	1991.45	1033.62	0.49	2.6	2606.14	6.33	2610.53	6.34	4.39	0.17
140	413	273	133	6608	0.89629	964.32	0.58051	1991.29	1046.81	0	2.59	2608.18	6.32	2612.48	6.33	4.31	0.16
140	414	274	134	6624	0.89524	964.73	0.58092	1991.14	1060.05	0.49	2.57	2611.14	6.31	2615.83	6.32	4.68	0.18
140	415	275	135	6640	0.89418	965.14	0.58133	1990.99	1073.34	0	2.55	2613.07	6.3	2617.67	6.31	4.6	0.18
140	416	276	136	6656	0.89312	965.55	0.58173	1990.86	1086.69	0.49	2.53	2615.93	6.29	2620.9	6.3	4.97	0.19
140	417	277	137	6672	0.89206	965.95	0.58213	1990.73	1100.09	0	2.52	2617.75	6.28	2622.63	6.29	4.88	0.19
140	418	278	138	6688	0.89101	966.35	0.58254	1990.61	1113.54	0.49	2.5	2620.49	6.27	2625.74	6.28	5.25	0.2
140	419	279	139	6704	0.88995	966.74	0.58294	1990.49	1127.05	0	2.48	2622.2	6.26	2627.36	6.27	5.16	0.2
140	420	280	140	6720	0.88889	967.12	0.58333	1990.38	1140.61	0.49	2.47	2624.83	6.25	2630.37	6.26	5.53	0.21
140	421	281	141	6736	0.88783	967.51	0.58373	1990.28	1154.22	0	2.45	2626.44	6.24	2631.88	6.25	5.44	0.21
140	422	282	142	6752	0.88677	967.88	0.58412	1990.19	1167.88	0.49	2.43	2628.96	6.23	2634.77	6.24	5.8	0.22
140	423	283	143	6768	0.88571	968.25	0.58452	1990.1	1181.6	0	2.42	2630.46	6.22	2636.17	6.23	5.71	0.22
140	424	284	144	6784	0.88466	968.62	0.58491	1990.02	1195.36	0.49	2.4	2632.88	6.21	2638.95	6.22	6.07	0.23
140	425	285	145	6800	0.88360	968.98	0.58529	1989.95	1209.18	0	2.39	2634.28	6.2	2640.25	6.21	5.97	0.23
140	426	286	146	6816	0.88254	969.34	0.58568	1989.88	1223.04	0.48	2.37	2636.59	6.19	2642.92	6.2	6.33	0.24
140	427	287	147	6832	0.88148	969.69	0.58607	1989.82	1236.96	0	2.36	2637.89	6.18	2644.12	6.19	6.23	0.24
140	428	288	148	6848	0.88043	970.04	0.58645	1989.76	1250.92	0.48	2.34	2640.1	6.17	2646.68	6.18	6.59	0.25
140	429	289	149	6864	0.87937	970.39	0.58683	1989.71	1264.93	0	2.33	2641.29	6.16	2647.78	6.17	6.48	0.24
140	430	290	150	6880	0.87831	970.73	0.58721	1989.67	1279	0.48	2.31	2643.4	6.15	2650.24	6.16	6.84	0.26
140	431	291	151	6896	0.87726	971.06	0.58759	1989.64	1293.11	0	2.3	2644.49	6.14	2651.23	6.15	6.73	0.25
140	432	292	152	6912	0.87620	971.39	0.58796	1989.61	1307.26	0.48	2.28	2646.5	6.13	2653.58	6.14	7.08	0.27
140	433	293	153	6928	0.87515	971.72	0.58834	1989.58	1321.47	0	2.27	2647.5	6.11	2654.47	6.13	6.97	0.26
140	434	294	154	6944	0.87409	972.04	0.58871	1989.56	1335.72	0.48	2.25	2649.41	6.1	2656.72	6.12	7.31	0.28
140	435	295	155	6960	0.87304	972.36	0.58908	1989.55	1350.02	0	2.24	2650.31	6.09	2657.51	6.11	7.2	0.27
140	436	296	156	6976	0.87198	972.67	0.58945	1989.55	1364.37	0.48	2.23	2652.12	6.08	2659.66	6.1	7.54	0.28
140	437	297	157	6992	0.87093	972.98	0.58982	1989.55	1378.76	0	2.21	2652.92	6.07	2660.35	6.09	7.43	0.28
140	438	298	158	7008	0.86987	973.29	0.59018	1989.55	1393.2	0.48	2.2	2654.64	6.06	2662.4	6.08	7.76	0.29
140	439	299	159	7024	0.86882	973.59	0.59055	1989.56	1407.68	0	2.18	2655.35	6.05	2663	6.07	7.65	0.29
140	440	300	160	7040	0.86777	973.88	0.59091	1989.58	1422.21	0.48	2.17	2656.97	6.04	2664.95	6.06	7.98	0.3
140	441	301	161	7056	0.86672	974.18	0.59127	1989.6	1436.79	0	2.16	2657.59	6.03	2665.45	6.04	7.86	0.29
140	442	302	162	7072	0.86567	974.47	0.59163	1989.63	1451.41	0.48	2.15	2659.11	6.02	2667.3	6.03	8.18	0.31
140	443	303	163	7088	0.86462	974.75	0.59199	1989.66	1466.07	0	2.13	2659.64	6	2667.7	6.02	8.06	0.3
140	444	304	164	7104	0.86357	975.03	0.59234	1989.7	1480.78	0.47	2.12	2661.07	5.99	2669.46	6.01	8.38	0.31
140	445	305	165	7120	0.86252	975.31	0.59270	1989.75	1495.54	0	2.11	2661.51	5.98	2669.77	6	8.25	0.31

Nuclear Binding Energy Estimated With 6 Term Unified Semi Empirical Mass Formula having Single Set of Energy Coefficients (Supplementary Table 1)

Z	A	N	A-Z	T1 MeV	Beta	T2 MeV	x value	T3 MeV	T4 MeV	T5 MeV	T6 MeV	Estimated BE (MeV)	Estimated BE/A (MeV)	Reference BE (MeV)	Reference BE/A (MeV)	Dif. BE (MeV)	%Error in BE (MeV)
140	446	306	166	7136	0.86147	975.58	0.59305	1989.8	1510.33	0.47	2.09	2662.85	5.97	2671.43	5.99	8.57	0.32
140	447	307	167	7152	0.86042	975.85	0.59340	1989.85	1525.17	0	2.08	2663.2	5.96	2671.64	5.98	8.44	0.32
140	448	308	168	7168	0.85938	976.12	0.59375	1989.91	1540.05	0.47	2.07	2664.46	5.95	2673.21	5.97	8.75	0.33
140	449	309	169	7184	0.85833	976.38	0.59410	1989.98	1554.98	0	2.06	2664.72	5.93	2673.34	5.95	8.62	0.32
140	450	310	170	7200	0.85728	976.64	0.59444	1990.05	1569.95	0.47	2.05	2665.88	5.92	2674.81	5.94	8.93	0.33
140	451	311	171	7216	0.85624	976.9	0.59479	1990.13	1584.96	0	2.03	2666.06	5.91	2674.84	5.93	8.79	0.33
140	452	312	172	7232	0.85520	977.15	0.59513	1990.21	1600.01	0.47	2.02	2667.13	5.9	2676.22	5.92	9.09	0.34
140	453	313	173	7248	0.85415	977.39	0.59548	1990.29	1615.1	0	2.01	2667.22	5.89	2676.17	5.91	8.95	0.33
140	454	314	174	7264	0.85311	977.64	0.59582	1990.38	1630.24	0.47	2	2668.21	5.88	2677.46	5.9	9.25	0.35
140	455	315	175	7280	0.85207	977.88	0.59615	1990.48	1645.41	0	1.99	2668.22	5.86	2677.32	5.88	9.1	0.34
140	456	316	176	7296	0.85103	978.12	0.59649	1990.58	1660.63	0.47	1.98	2669.12	5.85	2678.51	5.87	9.4	0.35
140	457	317	177	7312	0.84999	978.35	0.59683	1990.69	1675.89	0	1.97	2669.04	5.84	2678.29	5.86	9.25	0.35
140	458	318	178	7328	0.84895	978.58	0.59716	1990.8	1691.19	0.47	1.95	2669.86	5.83	2679.4	5.85	9.54	0.36
140	459	319	179	7344	0.84792	978.81	0.59750	1990.91	1706.52	0	1.94	2669.7	5.82	2679.08	5.84	9.38	0.35
140	460	320	180	7360	0.84688	979.03	0.59783	1991.03	1721.9	0.47	1.93	2670.44	5.81	2680.1	5.83	9.67	0.36
140	461	321	181	7376	0.84585	979.25	0.59816	1991.16	1737.32	0	1.92	2670.2	5.79	2679.71	5.81	9.51	0.35
140	462	322	182	7392	0.84481	979.47	0.59849	1991.29	1752.77	0.47	1.91	2670.85	5.78	2680.64	5.8	9.79	0.37
140	463	323	183	7408	0.84378	979.68	0.59881	1991.42	1768.27	0	1.9	2670.53	5.77	2680.16	5.79	9.62	0.36
140	464	324	184	7424	0.84275	979.89	0.59914	1991.56	1783.8	0.46	1.89	2671.11	5.76	2681	5.78	9.9	0.37
140	465	325	185	7440	0.84172	980.1	0.59946	1991.7	1799.37	0	1.88	2670.71	5.74	2680.44	5.76	9.73	0.36
140	466	326	186	7456	0.84069	980.3	0.59979	1991.85	1814.99	0.46	1.87	2671.2	5.73	2681.2	5.75	10	0.37
140	467	327	187	7472	0.83966	980.5	0.60011	1992	1830.63	0	1.86	2670.73	5.72	2680.55	5.74	9.83	0.37
140	468	328	188	7488	0.83863	980.7	0.60043	1992.15	1846.32	0.46	1.85	2671.14	5.71	2681.23	5.73	10.09	0.38
140	469	329	189	7504	0.83760	980.89	0.60075	1992.31	1862.04	0	1.84	2670.59	5.69	2680.5	5.72	9.91	0.37
140	470	330	190	7520	0.83658	981.08	0.60106	1992.48	1877.8	0.46	1.83	2670.92	5.68	2681.1	5.7	10.17	0.38
140	471	331	191	7536	0.83555	981.27	0.60138	1992.65	1893.6	0	1.82	2670.3	5.67	2680.29	5.69	9.99	0.37
140	472	332	192	7552	0.83453	981.46	0.60170	1992.82	1909.44	0.46	1.81	2670.55	5.66	2680.8	5.68	10.24	0.38
140	473	333	193	7568	0.83351	981.64	0.60201	1993	1925.31	0	1.8	2669.85	5.64	2679.91	5.67	10.06	0.38
140	474	334	194	7584	0.83249	981.82	0.60232	1993.18	1941.22	0.46	1.79	2670.04	5.63	2680.34	5.65	10.31	0.38
140	475	335	195	7600	0.83147	982	0.60263	1993.36	1957.16	0	1.78	2669.26	5.62	2679.38	5.64	10.12	0.38
140	476	336	196	7616	0.83045	982.17	0.60294	1993.55	1973.14	0.46	1.77	2669.37	5.61	2679.73	5.63	10.36	0.39
140	477	337	197	7632	0.82943	982.34	0.60325	1993.75	1989.16	0	1.76	2668.52	5.59	2678.69	5.62	10.17	0.38
140	478	338	198	7648	0.82842	982.51	0.60356	1993.94	2005.21	0.46	1.76	2668.55	5.58	2678.96	5.6	10.4	0.39
140	479	339	199	7664	0.82740	982.67	0.60386	1994.15	2021.29	0	1.75	2667.64	5.57	2677.84	5.59	10.2	0.38
140	480	340	200	7680	0.82639	982.83	0.60417	1994.35	2037.41	0.46	1.74	2667.59	5.56	2678.03	5.58	10.43	0.39
140	481	341	201	7696	0.82538	982.99	0.60447	1994.56	2053.57	0	1.73	2666.61	5.54	2676.84	5.57	10.23	0.38
140	482	342	202	7712	0.82437	983.15	0.60477	1994.77	2069.76	0.46	1.72	2666.49	5.53	2676.95	5.55	10.46	0.39
140	483	343	203	7728	0.82336	983.3	0.60507	1994.99	2085.98	0	1.71	2665.43	5.52	2675.68	5.54	10.25	0.38
140	484	344	204	7744	0.82235	983.45	0.60537	1995.21	2102.24	0.45	1.7	2665.25	5.51	2675.72	5.53	10.47	0.39
140	485	345	205	7760	0.82134	983.6	0.60567	1995.44	2118.54	0	1.69	2664.12	5.49	2674.37	5.51	10.25	0.38
140	486	346	206	7776	0.82034	983.75	0.60597	1995.66	2134.86	0.45	1.69	2663.87	5.48	2674.33	5.5	10.47	0.39
140	487	347	207	7792	0.81933	983.89	0.60626	1995.89	2151.22	0	1.68	2662.67	5.47	2672.92	5.49	10.25	0.38
140	488	348	208	7808	0.81833	984.03	0.60656	1996.13	2167.61	0.45	1.67	2662.35	5.46	2672.8	5.48	10.46	0.39
140	489	349	209	7824	0.81733	984.17	0.60685	1996.37	2184.04	0	1.66	2661.08	5.44	2671.32	5.46	10.23	0.38
140	490	350	210	7840	0.81633	984.31	0.60714	1996.61	2200.5	0.45	1.65	2660.69	5.43	2671.12	5.45	10.44	0.39

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