

Supporting information:

Determination of tire wear particle-type polymers by quantitative nuclear magnetic resonance spectroscopy
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Table S1: Concentrations of calibration and control samples for EPR, PIR, BR and PS in THF.

Sample	C _{EPR(PP)} [mg/ml]	C _{PIR} [mg/ml]	C _{BR} [mg/ml]	C _{PS} [mg/ml]
K _{G1}	2.50	2.50	2.49	1.51
K _{G2}	2.00	2.00	1.99	1.21
K _{G3}	1.50	1.50	1.49	0.91
K _{G4}	1.00	1.00	1.00	0.60
K _{G5}	0.50	0.50	0.50	0.30
T _{G1}	2.18	2.20	2.42	1.34
T _{G2}	1.47	1.68	1.46	1.02
T _{G3}	0.70	0.65	0.85	0.46

Table S2: Absolute intensities of calibration and control samples of EPR, PIR, BR and PS as well as the corresponding internal standard (INST).

Sample	I _{INST}	I _{EPR(PP)}	I _{PIR}	I _{BR}	I _{PS}
K _{G1}	0.5989	3.3425	1.6055	3.9274	3.1818
	0.3005	1.6788	0.8103	1.9714	1.5926
	0.2996	1.6635	0.8025	1.9689	1.5894
K _{G2}	1.7581	8.0091	3.7632	9.2562	7.5269
	0.2838	1.3088	0.6161	1.4864	1.2181
	0.2837	1.2944	0.6178	1.4907	1.2116
K _{G3}	0.6019	2.1596	0.9964	2.4115	1.9824
	0.3017	1.0948	0.4977	1.2071	0.9959
	0.3012	1.1020	0.4997	1.2055	0.9958
K _{G4}	1.8020	4.4734	1.9689	4.8589	4.0861
	0.2889	0.7586	0.3231	0.7810	0.6503
	0.2886	0.7553	0.3335	0.7852	0.6597
K _{G5}	1.7753	2.7254	1.0338	2.4935	2.2036
	0.2852	0.4348	0.1658	0.4019	0.3559
	0.2849	0.4211	0.1609	0.4006	0.3532
T _{G1}	1.7209	8.3126	3.9928	10.6832	8.0256
	0.2764	1.3331	0.6372	1.7177	1.2925
	0.2766	1.3373	0.6462	1.7235	1.2948
T _{G2}	1.7321	5.9590	3.0877	6.5249	6.2334
	0.2800	0.9519	0.4890	1.0525	1.0028
	0.2801	0.9469	0.4949	1.0511	1.0100
T _{G3}	1.8160	3.2638	1.3042	4.0893	3.3608
	0.2913	0.5295	0.2106	0.6569	0.5387
	0.2912	0.5280	0.2138	0.6574	0.5400

Table S3: Concentrations and absolute intensities of calibration and control samples of NR as well as the corresponding internal standard (INST).

Sample	C _{NR} [mg/ml]	I _{INST}	I _{NR}
K _{N1}	2.50	1.7439	4.2931
		0.2808	0.6901
		0.2792	0.6879
K _{N2}	2.00	1.7460	3.5179
		0.2822	0.5671
		0.2794	0.5650
K _{N3}	1.50	1.8271	2.8000
		0.2935	0.4517
		0.2945	0.4520
K _{N4}	1.00	1.7792	1.9069
		0.2861	0.3064
		0.2865	0.3067
K _{N5}	0.50	1.8349	0.9485
		0.2949	0.1518
		0.2949	0.1478
T _{N1}	2.34	0.5947	1.3562
		0.2981	0.6785
		0.2988	0.6743
T _{N2}	1.74	0.5502	0.9559
		0.2772	0.4835
		0.2762	0.4822
T _{N3}	0.81	1.7750	1.4984
		0.2865	0.2393
		0.2863	0.2403

Table S4: Concentrations and absolute intensities of calibration and control samples of SBR as well as the corresponding internal standard (INST) integral.

Sample	CSBR [mg/ml]	I _{INST}	I _{SBR(BR)}	I _{SBR(PS)}
Ks1	2.50	0.5710	2.2997	0.9616
		0.6287	2.4057	1.0656
		0.6440	2.5516	1.0852
Ks2	2.00	0.5725	1.8408	0.8010
		0.6562	2.0993	0.9015
		0.6377	2.0500	0.8817
Ks3	1.50	0.6166	1.4845	0.6506
		0.7027	1.6943	0.7347
		0.6910	1.6720	0.7234
Ks4	1.00	0.6009	0.9979	0.4199
		0.6737	1.1306	0.4796
		0.6552	1.0874	0.4677
Ks5	0.50	0.6027	0.5220	0.2288
		0.6701	0.5799	0.2490
		2.0363	1.7785	0.7609
Ts1	1.61	0.6361	1.5895	0.6996
		0.6810	1.7496	0.7549
		0.6821	1.7135	0.7446
Ts2	2.50	1.0711	4.1242	1.7940
		1.0828	4.2255	1.8089
		1.0674	4.1342	1.7937
Ts3	2.41	1.1520	4.2450	1.8575
		1.1298	4.1787	1.8174
		1.1118	4.0903	1.7914

Table S5: Weighed-in concentrations and absolute intensities of extraction samples of EPR, BR, PIR, NR and SBR as well as the corresponding internal standard (INST) intensity and blank sample data.

Sample	c [mg/ml]	I _{INST}	I _{Polymer}
E _{Blank} (EPR)	–	0.6412	0.7738
		0.6898	1.2020
		0.6459	0.9157
E _{BR}	2.46	0.6269	3.7498
		0.6198	3.6528
		0.6195	3.6900
E _{EPR(PP)}	0.96	0.6271	3.9418
		0.6191	4.3127
		0.6125	3.8701
E _{PIR}	2.47	0.5990	1.2519
		0.6085	1.2739
		0.5988	1.2622
E _{NR}	2.47	0.6060	1.1527
		0.6086	1.1525
		0.5886	1.1417
E _{SBR(BR)}	1.86	1.8975	6.4444
		1.8817	6.4053
		0.6029	2.0456
E _{SBR(PS)}	0.57	1.8975	2.8823
		1.8817	2.8635
		0.6029	0.8913