

Table S1. Detailed information for new alkaloids from marine *Streptomyces* discovered in the past decade.

No.	Compound name	Type	Strain No.	Source	Bioactivity	Ref.
1	12- <i>N</i> -methyl-k252c	Staurosporine (Bisindole)	<i>Streptomyces</i> sp. A22	Marine sediments of Ningbo City (Zhejiang province, China, N 29°28' E 121°57')	Enzyme inhibition against three protein kinases PKC, BTK and ROCK2 with IC ₅₀ values of 1.84, 1.51 and 0.96 μ M, respectively.	[1]
2	9-hydroxy-K252c	Staurosporine (Bisindole)	<i>Streptomyces</i> sp. DT-A61	A sediment sample of Dongtou, Zhejiang Province, China (N 27°87'01.67" E 121°16'99.45")	Cytotoxic activity against PC-3 cell line with an IC ₅₀ value of 8.0 μ M. Enzyme inhibition against three protein kinases PKC, ROCK2 and ASK1 with IC ₅₀ values of 0.98, 0.34 and 0.74 μ M, respectively.	[2]
3	3-hydroxy-K252c				Cytotoxic activity against PC-3 cell line with an IC ₅₀ value of 21 μ M. Enzyme inhibition against three protein kinases PKC, ROCK2 and ASK1 with IC ₅₀ values of 3.2, 0.0057 and 3.0 μ M, respectively.	
4	3-hydroxy-7-methoxy-K252c				Cytotoxic activity against PC-3 cell line with an IC ₅₀ value of 18 μ M. Enzyme inhibition against three protein kinases PKC and ROCK2 with IC ₅₀ values of 1.4 and 0.91 μ M, respectively.	
5	3'- <i>epi-N</i> -acetyl-holyrine A	Staurosporine (Bisindole)	<i>Streptomyces</i> sp. A68	Sediments of Dongtou County (N27°49'04.44"E121°07'55.33" , Zhejiang province, China)	Cytotoxic activity against human prostate cancer PC3 cell lines with an IC ₅₀ value of 0.8 μ M Enzyme inhibition against three protein kinases PKC, ROCK2 and BTK with IC ₅₀ values of 0.17, 0.21 and 1.45 μ M, respectively.	[3]
6	3'- <i>N</i> -acetyl-holyrine A				Cytotoxic activity against human prostate cancer PC3 cell lines with an IC ₅₀ value of 16.2 μ M. Enzyme inhibition against three protein kinases PKC, ROCK2 and BTK with IC ₅₀ values of 0.91, 2.70 and 0.35 μ M, respectively.	

7	3'-N-formyl-holyrine A				Cytotoxic activity against human prostate cancer PC3 cell lines with an IC ₅₀ value of 1.5 µM. Enzyme inhibition against three protein kinases PKC, ROCK2 and BTK with IC ₅₀ values of 1.04, 2.15 and 1.24 µM, respectively.	
8	7-oxo-holyrin A	Staurosporine (Bisindole)	<i>Streptomyces</i> sp. NB-A13	Marine sediments of Ningbo City (Zhejiang province, China, N 29°28.4239'E121°57.6236')	Cytotoxic activity against PC-3 and SW-620 cell lines with IC ₅₀ values of 4.03 ± 0.29 and 2.14 ± 0.08 µM, respectively. Enzyme inhibition against PKC-θ protein kinases with an IC ₅₀ value of 1.35 µM.	[4]
9	4'-N-formyl-7-oxo-holyrin A				Cytotoxic activity against PC-3 and SW-620 cell lines with IC ₅₀ values of 2.05 ± 0.06 and 0.74 ± 0.01 µM, respectively. Enzyme inhibition against PKC-θ protein kinases with an IC ₅₀ value of 4.48 µM.	
10	3'-(hydroxyl(oxiran-2-yl)methoxy)-holyrine A				Cytotoxic activity against PC-3 and SW-620 cell lines with IC ₅₀ values of 2.45 ± 0.08 and 2.00 ± 0.19 µM, respectively. Enzyme inhibition against PKC-θ protein kinases with an IC ₅₀ value of 5.75 µM.	
11	3'-epi-5'-methoxy-K252d				Cytotoxic activity against PC-3 and SW-620 cell lines with IC ₅₀ values of 16.60 ± 0.43 and 9.54 ± 0.65 µM, respectively. Enzyme inhibition against PKC-θ protein kinases with an IC ₅₀ value of 9.435 µM.	
12	3'-epi-K252d	Staurosporine (Bisindole)	<i>Streptomyces</i> sp. DT-A65	Marine sediments of Dongtou Island (Zhejiang province, China, N 27°500' E 121°100')	Cytotoxic activity against PC-3 cell line with an IC ₅₀ value of 9.67 ± 0.37 µM. Enzyme inhibition against protein kinases PKC and BTK with IC ₅₀ values of 0.25 ± 0.03 and 1.91 ± 0.07 µM, respectively.	[5]
13	2',4'-epi-K252d				Cytotoxic activity against PC-3 cell line with an IC ₅₀ value of 9.67 ± 0.37 µM. Enzyme inhibition against protein kinases PKC and BTK with IC ₅₀ values of 0.35 ± 0.02 and 0.39 ± 0.03	

					μM , respectively.	
14	9-hydroxy-3'-N-acetylholyrine A	Staurosporine (Bisindole)	<i>Streptomyces</i> sp. DT-A61	A sediment sample of Dongtou, Zhejiang Province, China (N 27°87'01.67" E 121°16'99.45")	Enzyme inhibition against three protein kinases PKC and ROCK2 with IC_{50} values of 0.097 and 1.4 μM , respectively.	[2]
15	3-hydroxy-3'-N-acetylholyrine A				Cytotoxic activity against PC-3 cell line with an IC_{50} value of 3.6 μM . Enzyme inhibition against three protein kinases PKC, ROCK2 and ASK1 with IC_{50} values of 0.46, 0.04 and 6.4 μM , respectively.	
16	3-hydroxyholyrine A				Cytotoxic activity against PC-3 cell line with an IC_{50} value of 3.1 μM . Enzyme inhibition against three protein kinases PKC, ROCK2 and ASK1 with IC_{50} values of 0.079, 0.15 and 1.1 μM , respectively.	
17	3-hydroxy-K252d	Staurosporine (Bisindole)	<i>Streptomyces</i> sp. OUCMDZ-3118	A piece of deep-sea sediment (2061 m) collected in the South China Sea	Cytotoxic activity against A549 and MCF-7 cell lines with IC_{50} values of $1.2 \pm 0.05 \mu\text{M}$ and $1.6 \pm 0.09 \mu\text{M}$, respectively.	[6]
18	Streptocarbazoles C	Staurosporine (Bisindole)	<i>Streptomyces</i> sp. DT-A65	Marine sediments of Dongtou Island (Zhejiang province, China, N 27°500' E 121°100')	Cytotoxic activity against PC-3 cell line with an IC_{50} value of $41.3 \pm 2.38 \mu\text{M}$. Enzyme inhibition against protein kinases BTK with an IC_{50} value of $1.43 \pm 0.13 \mu\text{M}$.	[5]
19	Streptocarbazole D	Staurosporine (Bisindole)	<i>Streptomyces</i> sp. DT-A61	A sediment sample of Dongtou, Zhejiang Province, China (N 27°87'01.67" E 121°16'99.45")	Enzyme inhibition against three protein kinases PKC, ROCK2 and ASK1 with IC_{50} values of 2.1, 0.97 and 4.1 μM , respectively.	[2]
20	Streptocarbazole E				Cytotoxic activity against PC-3 cell line with an IC_{50} value of 5.6 μM . Enzyme inhibition against three protein kinases PKC and ROCK2 with IC_{50} values of 1.4 and 0.34 μM , respectively.	
21	Streptocarbazole F	Staurosporine (Bisindole)	<i>Streptomyces</i> sp. OUCMDZ-5380	A driftwood sample collected at the Beibu Gulf nearby Guangxi,	Cytotoxic activity against MV4-11 cancer cell with an IC_{50} value of $0.81 \pm 0.007 \mu\text{M}$.	[7]

22	Streptocarbazole G			China (N 21°44'39" E 108°35'22")	Cytotoxic activity against MV4-11 cancer cell with an IC ₅₀ value of 0.55 ± 0.04 μM.	
23	Streptocarbazole H				Cytotoxic activity against MV4-11 cancer cell with an IC ₅₀ value of 1.88 ± 0.11 μM.	
24	3'-O-demethyl-4'-N-demethyl-4'-N-acetyl-4'-epi-staurosporine	Staurosporine (Bisindole)	<i>Streptomyces</i> sp. DT-A61	A sediment sample of Dongtou, Zhejiang Province, China (N 27°87'01.67" E 121°16'99.45")	Cytotoxic activity against PC-3 cell line with an IC ₅₀ value of 0.16 μM. Enzyme inhibition against three protein kinases PKC, ROCK2 and ASK1 with IC ₅₀ values of 0.092, 0.26 and 0.77 μM, respectively.	[2]
25	Indimicin A	Halogenated bisindole	<i>Streptomyces</i> sp. SCSIO 03032	deep-sea	-	[8]
26	Indimicin B				Cytotoxic activity against MCF-7 cell line with an IC ₅₀ value of 10.0 μM.	
27	Indimicin C				-	
28	Indimicin D				-	
29	Indimicin E				-	
30	Lynamicin F				-	
31	Lynamicin G				-	
32	Spiroindimicin G	Halogenated bisindole	<i>Streptomyces</i> sp. SCSIO 03032 <i>ΔspmH</i>	deep-sea	Cytotoxic activity against four cancer cell lines SF-268, MCF-7, HepG2 and A549 with IC ₅₀ values of 10.28 ± 0.14-19.11 ± 2.23 μM.	[9]
33	Spiroindimicin H				Cytotoxic activity against four cancer cell lines SF-268, MCF-7, HepG2 and A549 with IC ₅₀ values of 18.16 ±	

					0.59-33.02 ± 3.41 µM.	
34	Indimicin F				-	
35	Indimicin G				-	
36	Spiroindimicin E	Halogenated bisindole	<i>Streptomyces</i> sp. MP131-18	A deep-water marine sediment sample collected in the Trondheim fjord, Norway	Weak cytotoxic activity against T24 bladder carcinoma cells	[10]
37	Spiroindimicin F				-	
38	dionemycin	Halogenated bisindole	<i>Streptomyces</i> sp. SCSIO 11791	A sediment sample collected from the South China Sea	Cytotoxic activity against six cancer cell lines MDA-MB-435, MDA-MB-231, NCI-H460, HCT-116, HepG2 and MCF10A with IC ₅₀ values of 3.1–11.2 µM. Antimicrobial activity against <i>M. luteus</i> and <i>S. aureus</i> with MIC values of 0.5 and 1 µM, respectively.	[11]
39	6-OMe-7',7''-dichorochromopyrrolic acid				Cytotoxic activity against four cancer cell lines MDA-MB-435, HCT-116, HepG-2 and MCF-10A with IC ₅₀ values of 2.9–19.4 µM. Antimicrobial activity against <i>M. luteus</i> and <i>S. aureus</i> with MIC values of 16 and 3 µM, respectively.	
40	Xiamycin C	Indole sesquiterpenoid	<i>Streptomyces</i> sp. HK-18	A saltern sediment sample was collected on Shinui Island (445-9, Sangtaeseo-ri, Shinui-myeon, Shinan-gun, Jollanam-do) in the Republic of Korea.	Antiviral activity against porcine epidemic diarrhea virus (PEDV) with an EC ₅₀ value of 11.49 ± 1.36 µM.	[12]
41	Xiamycin D				Antiviral activity against porcine epidemic diarrhea virus (PEDV) with an EC ₅₀ value of 0.93 ± 0.07 µM.	
42	Xiamycin E				Antiviral activity against porcine epidemic diarrhea virus (PEDV) with an EC ₅₀ value of 2.89 ± 0.36 µM.	
43	Lipoxiamycin A	Indole sesquiterpenoid	<i>Streptomyces</i> sp. HK-18	A saltern sediment sample was collected on Shinui Island (445-9, Sangtaeseo-ri, Shinui-myeon,	Moderately inhibited the production of lipopolysaccharide-induced NO with an IC ₅₀ value of 9.89 ± 0.92 µM.	[13]

44	Lipoxiamycin B			Shinan-gun, Jollanam-do) in the Republic of Korea.	-	
45	Dixiamycin A				Significantly inhibited the production of lipopolysaccharide-induced NO with an IC ₅₀ value of 4.12 ± 0.22 µM.	
46	Dixiamycin C				-	
47	Pratensilin A	Indolinone-naphthofuran	<i>Streptomyces pratensis</i> KCB-132	A marine sediment collected off the Bohai Sea, China	Cytotoxic activity against six cancer cell lines NCI-H1975, NCI-H460, JHH-7, C6, HepG2 and THP-1 with IC ₅₀ values of 18.4-67.4µM.	[14]
48	Pratensilin B				-	
49	Pratensilin C				-	
50	Pratensilin D	Indolinone-naphthofuran	<i>Streptomyces pratensis</i> KCB-132	A marine sediment collected off the Bohai Sea, China	(-)- 51 exhibited antibacterial activity against <i>B. cereus</i> with an MIC value of 4 µg/mL and cytotoxic effect on NCI-H460 and HepG2 cell lines with IC ₅₀ values of 4.6 and 9.3 µg/mL, respectively.	[15]
51	Anthranoside A	Miscellaneous indole	<i>Streptomyces</i> sp. CMN-62	An unidentified sponge sample collected from NaoZhou Island of the Guangdong Province, China	-	[16]
52	Anthranoside B				-	
53	Anthranoside C				Antiviral activity against influenza A H ₁ N ₁ virus with an IC ₅₀ value of 171 µM.	
54	Streptoindole A	Miscellaneous indole	<i>Streptomyces</i> sp. ZZ1118	A gut sample of marine shrimp (<i>Penaeus</i> sp.) obtained from fishing vessel operating in East China Sea, close to Zhoushan archipelago, Zhejiang, China	Antimicrobial activity against MRSA, <i>E. coli</i> and <i>C. albicans</i> with MIC values of 13–25 µg/mL.	[17]
55	Streptoindole B				Antimicrobial activity against MRSA, <i>E. coli</i> and <i>C. albicans</i> with MIC values of 7–25 µg/mL.	

56	Streptoindole C				Antimicrobial activity against <i>E. coli</i> and <i>C. albicans</i> with both MIC values of 7 µg/mL.	
57	Streptoindole D				Antimicrobial activity against MRSA with a MIC value of 25 µg/mL.	
58	tirandamycin K	Pyrrolidone	<i>Streptomyces</i> sp. 307–9 <i>AtamI</i>	Marine-derived	-	[18]
59	Isotirandamycin B	Pyrrolidone	<i>Streptomyces</i> sp. SCSIO 41399	The <i>Porites</i> sp. coral collected from the Wenchang, Hainan province of China	Antimicrobial activity against <i>S. agalactiae</i> with a MIC value of 5.0 µg/mL.	[19]
60	Tirandamycin A				Antimicrobial activity against <i>S. agalactiae</i> with a MIC value of 2.5 µg/mL.	
61	Tirandamycin B				Antimicrobial activity against <i>S. agalactiae</i> with a MIC value of 2.5 µg/mL.	
62	Thiolopyrrolone A	Pyrrolone	<i>Streptomyces</i> sp. BTBU20218885	A mud sample collected from the intertidal zone, Xiamen, China	Antimicrobial activity against BCG, <i>M. tuberculosis</i> and <i>S. aureus</i> with MIC values of 10, 10 and 100 µg/mL, respectively.	[20]
63	2,2-dioxidothiolutin				Antimicrobial activity against <i>S. aureus</i> with a MIC value of 50 µg/mL.	
64	Bacillimide	pyrrolizidine	<i>Streptomyces bacillaris</i> MBTC38	Underwater sediment samples on Jeju Island	Enzyme inhibition against <i>C. albicans</i> isocitrate lyase with an IC ₅₀ value of 44.24 µM.	[21]
65	Salinazinone A	Pyrrolidinyl-oxazinone	<i>Streptomyces</i> sp. KMF-004	A solar saltern at Aphae Island in Korea	-	[22]
66	Salinazinone B				An inhibitory effect on LPS-induced NO production by BV-2 microglia cells with an IC ₅₀ value of 17.7 µM.	
68	Anandin A	Pyrrolidone	<i>Streptomyces anandii</i> H41-59	A sea sediment sample from the mangrove zone in the South China Sea	Cytotoxic activity against three cancer cell lines MCF-7, SF-268 and NCI-H460 with IC ₅₀ values of 7.5, 7.9 and 7.8 µg/mL, respectively.	[23]

69	Anandin B				-	
70	Ligiamycin A	pyrrolidone	Co-culture of <i>Streptomyces</i> sp.GET02.ST and <i>Achromobacter</i> sp.GET02.AC	A gut sample of the wharf roaches <i>Ligia exotica</i> from the intertidal zone of the west coast of Korea	Antimicrobial activity against <i>S. aureus</i> and <i>S. enterica</i> with both MIC values of 16 µg/mL. Cytotoxic activity against A549 cell line with an IC ₅₀ value of 42.0 µM.	[24]
71	Ligiamycin B				Antimicrobial activity against <i>S. aureus</i> with a MIC value of 64 µg/mL. Cytotoxic activity against five cancer cell lines SNU638, SK-HEP-1, A549, HCT-116 and MDA-MB-23 with IC ₅₀ values of 20.1-46.2 µM.	
72	Oxoprothracarcin	pyrrolbenzodiazepine	<i>Streptomyces</i> sp. M10946	Mangrove sediment collected from Hut Bay	Antiproliferative effects against MDA-MB-231 cells and A549 cells at a concentration of 10 µM with growth inhibition rates of 10.2% and 7.3%	[25]
73	7-methoxy-8-hydroxy cycloanthranilylproline	pyrrolbenzodiazepine	<i>Streptomyces cacaoi</i> 14CM034	The sediments that collected from Mersin-Turkey at a depth of 8 m Mediterranean Sea	Antimicrobial activity against <i>E. coli</i> , MRSA, <i>E. faecium</i> , <i>P.aeruginosa</i> and <i>C. albicans</i> with MIC values of 8.75-17.5 µg/mL.	[26]
74	Cycloanthranilylproline				Antimicrobial activity against <i>E. coli</i> , MRSA, <i>E. faecium</i> , <i>P.aeruginosa</i> and <i>C. albicans</i> with MIC values of 16-32 µg/mL.	
75	Hygrocin C	Ansamycin (Pyrrole)	<i>Streptomyces</i> sp. LZ35ΔGPKS	Intertidal soil collected at Jimei, Xiamen, China	Cytotoxic activity against MDA-MB-431 and PC3 cell lines with IC ₅₀ values of 0.5 and 1.9 µg/mL, respectively.	[27]
76	Hygrocin D				Cytotoxic activity against MDA-MB-431 and PC3 cell lines with IC ₅₀ values of 3.0 and 5.0 µg/mL, respectively.	
77	Hygrocin E				-	
78	Hygrocin F				Cytotoxic activity against MDA-MB-431 and PC3 cell lines with IC ₅₀ values of 3.3 and 4.5 µg/mL, respectively.	

79	Hygrocin H	Ansamycin (Pyrrole)	<i>Streptomyces</i> sp. LZ35 mutant strain SR101OEhgc1	Intertidal soil collected at Jimei, Xiamen, China	Cytotoxic activity against MDA-MB-231, PC3 and HeLa cell lines with IC ₅₀ values of 2.4, 1.7, and 0.8 μ M, respectively.	[28]
80	Hygrocin I				-	
81	Hygrocin G				-	
82	Hygrocin K	Ansamycin (Pyrrole)	<i>Streptomyces</i> sp. ZZ1956	A marine mud sample collected from the mangrove area (4.15° S, 119.61° E) of Pangkep District South Sulawesi Province, Indonesia	-	[29]
83	Hygrocin L				-	
84	Hygrocin M				-	
85	Hygrocin N				Cytotoxic activity against U87MG and U251 cell lines with IC ₅₀ values of 8.17 $\pm$ 0.17 and 7.04 $\pm$ 0.28 μ M, respectively. Antimicrobial activity against MRSA and <i>E. coli</i> with MIC values of 15 and 8 μ g/mL, respectively.	
86	Hygrocin O				Antimicrobial activity against MRSA and <i>E. coli</i> with MIC values of 24 and 20 μ g/mL, respectively.	
87	Hygrocin P				-	
88	Hygrocin Q				Cytotoxic activity against U87MG and U251 cell lines with IC ₅₀ values of 8.81 $\pm$ 0.80 and 10.46 $\pm$ 0.27 μ M, respectively.	
89	Hygrocin R				Cytotoxic activity against U87MG and U251 cell lines with IC ₅₀ values of 8.32 $\pm$ 0.38 and 7.86 $\pm$ 0.26 μ M, respectively. Antimicrobial activity against MRSA and <i>E. coli</i> with	

					MIC values of 9 and 16 µg/mL, respectively.	
90	Hygrocin S				-	
91	Ansalactam B	Ansamycin (Pyrrole)	<i>Streptomyces</i> sp. CNH189	Aangrove sediment sample, Danzhou, China	Weak antimicrobial activity against MRSA with a MIC value of 31.2 µg/mL.	[30]
92	Ansalactam C				Weak antimicrobial activity against MRSA with a MIC value of 31.2 µg/mL.	
93	Ansalactam D				Weak antimicrobial activity against MRSA with a MIC value of 62.5 µg/mL.	
94	Divergolide T	Ansamycin (Pyrrole)	<i>Streptomyces</i> sp. KFD18	Mangrove sediment, collected from Danzhou, Hainan province in China	Cytotoxic activity against human cancer cell lines SGC-7901, K562, Hela and A549 with IC ₅₀ values of 2.8-14.9 µM.	[31]
95	Divergolide U				Cytotoxic activity against human cancer cell lines SGC-7901, K562 and A549 with IC ₅₀ values of 9.0-24.7 µM.	
96	Divergolide V				Cytotoxic activity against human cancer cell lines SGC-7901, K562, Hela and A549 with IC ₅₀ values of 4.7-20.9 µM.	
97	Divergolide W				Cytotoxic activity against human cancer cell lines SGC-7901, K562, Hela and A549 with IC ₅₀ values of 16.3-33.2 µM.	
98	Chlorizidine A	Miscellaneous pyrrole	<i>Streptomyces</i> sp. CNH-287	Marine-derived	Cytotoxic activity against HCT-116 cell line with IC ₅₀ values of 3.2-4.9 µM.	[32]
99	Streptopyrrole B	Miscellaneous pyrrole	<i>Streptomyces zhaozhouensis</i> 208DD-064	Marine sediment samples collected offshore of Dokdo Island, Republic of Korea	Antimicrobial activity against <i>B. subtilis</i> , <i>M. luteus</i> and <i>S. aureus</i> with all MIC values of 0.8 µM. Cytotoxic activity against six cancer cell lines PC-3, NCI-H23, HCT-15, NUGC-3, ACHN and MDA-MB-231 with IC ₅₀ values of 4.9-6.6 µM.	[33]

100	Streptopyrrole C				Antimicrobial activity against <i>B. subtilis</i> , <i>M. luteus</i> and <i>S. aureus</i> with MIC values of 0.7-2.9 μ M.	
101	16-deethylindanomycin	Miscellaneous pyrrole	<i>Streptomyces antibioticus</i> PTZ0016	Marine sediments	Antimicrobial activity against <i>S. aureus</i> with a MIC value of 4.0 μ M.	[34]
102	iso-16-deethylindanomycin				Antimicrobial activity against <i>S. aureus</i> with a MIC value of 6.0 μ M.	
103	16-deethylindanomycin methyl ester				Antimicrobial activity against <i>S. aureus</i> with a MIC value of 6.0 μ M.	
104	iso-16-deethylindanomycin methyl ester				Antimicrobial activity against <i>S. aureus</i> with a MIC value of 8.0 μ M.	
105	Nitricquinomycin A	Miscellaneous pyrrole	<i>Streptomyces</i> sp. ZS-A45	Marine sediments of Zhou Shan Island (29°56' N, 122°16' E) Zhejiang province, China	-	[35]
106	Nitricquinomycin B				-	
107	Nitricquinomycin C				Cytotoxic activity against PC-3 and A2780 cell lines with IC ₅₀ values of 17.28 $\pm$ 0.60 and 4.77 $\pm$ 0.03 μ M, respectively. Antimicrobial activity against <i>E. coli</i> , <i>S. aureus</i> and <i>C. albicans</i> with MIC values of 20-40 μ M.	
108	Glaciapyrrole D	Miscellaneous pyrrole	<i>Streptomyces</i> sp. GGS53	A deep-sea sediment core collected in the East Sea of Korea (37°12.0486', 130°25.0889', ca. 2163 m in water depth)	-	[36]
109	Glaciapyrrole E				Significant antiviral activity and resulted in the reduction of the viral titer by 70%.	
110	Pulicatin J	oxazole and thiazole	<i>Streptomyces diastaticus</i> NBU2966	A marine sponge <i>Axinellida</i> sp. at 76 m depth in the Mesophotic Coral Ecosystems located near Apo Island, Negros Oriental, Philippines (9°04'33.0" N,	-	[37]
111	Thiazostatin C				-	

112	Thiazostatin B			123°15'59.1" E)	-	
113	Spoxazomicin E				-	
114	Streptochelin A				-	
115	Piericidin F	Piericidin (Pyridine)	<i>Streptomyces</i> sp. CHQ-64 $\Delta rdmF$	Reed rhizosphere soil collected from the mangrove conservation area of Guangdong Province, China.	Cytotoxic activity against four cancer cell lines HeLa, NB4, A549 and H1975 with IC ₅₀ values of 0.003-0.56 μ M.	[38]
116	11-demethyl-piericidin A	Piericidin (Pyridine)	<i>Streptomyces psammoticus</i> SCSIO NS126	A mangrove sediment sample collected from the Pearl River estuary (E 113°33'11.15", N 22°53'40.16") to South China Sea	Cytotoxic activity against two renal carcinoma cell lines ACHN and OS-RC-2 with IC ₅₀ values of 4.1 and 11 μ M, respectively.	[39]
117	(2 <i>E</i> ,5 <i>E</i> ,7 <i>E</i> ,11 <i>E</i> ,9 <i>R</i> ,10 <i>R</i> ,13 <i>S</i> ,19 <i>R</i>)-13,19-Dihydroxyl-IT-143-A				Cytotoxic activity against two renal carcinoma cell lines ACHN and OS-RC-2 with IC ₅₀ values of 2.4 and 5.3 μ M, respectively.	
118	(2 <i>E</i> ,5 <i>E</i> ,7 <i>E</i> ,11 <i>E</i> ,9 <i>R</i> ,10 <i>R</i> ,13 <i>R</i> ,19 <i>S</i>)-13,19-Dihydroxyl-IT-143-A				Cytotoxic activity against two renal carcinoma cell lines ACHN and OS-RC-2 with IC ₅₀ values of 3.8 and 4.1 μ M, respectively.	
119	10-Ketone piericidin A				Cytotoxic activity against renal carcinoma cell line OS-RC-2 with an IC ₅₀ value of 22 μ M.	
120	7-Demethylglucopiericidin A				Cytotoxic activity against three renal carcinoma cell lines ACHN, OS-RC-2 and 786-O with IC ₅₀ values of 0.31, 2.6 and 0.99 μ M, respectively.	
121	7-Demethyl-13-hydroxyglucopiericidin A				Cytotoxic activity against three renal carcinoma cell lines ACHN, OS-RC-2 and 786-O with IC ₅₀ values of 2.5, 79 and 28 μ M, respectively.	
122	13-Hydroxypiericidin A 10- <i>O</i> - α -D-galactose (1 $\rightarrow$ 6)- β -D-glucoside				-	

123	13-Hydroxypiericidin A 10- <i>O</i> - α -D--glucose (1→6)- β -D-glucoside				Cytotoxic activity against renal carcinoma cell line ACHN with an IC ₅₀ value of 23 μ M.	
124	4'- <i>O</i> - β -D-Glucose glucopiericidin A				Cytotoxic activity against renal carcinoma cell line ACHN with an IC ₅₀ value of 28 μ M.	
125	4'- <i>O</i> - β -D-Glucose 13-hydroxyglucopiericidin A				-	
126	4'- <i>O</i> - β -D-Glucose piericidin A 10- <i>O</i> - α -D-glucose (1→6)- β -D-glucoside				-	
127	5-Hydroxy-6-hydroxymethyl glucopiericidin A				Cytotoxic activity against renal carcinoma cell line ACHN with an IC ₅₀ value of 2.4 μ M.	
128	5-Hydroxy-6-hydroxymethyl-13-hydroxyglucopiericidin A				Cytotoxic activity against renal carcinoma cell line ACHN with an IC ₅₀ value of 60 μ M.	
129	2-Hydroxymethyl- Δ 3, 4-glucopiericidin A				Cytotoxic activity against three renal carcinoma cell lines ACHN, OS-RC-2 and 786-O with IC ₅₀ values of 1.7, 60 and 28 μ M, respectively.	
130	(11 <i>S</i> ,12 <i>R</i>)Piericidin C1 10- <i>O</i> - β -D-glucoside				Cytotoxic activity against three renal carcinoma cell lines ACHN, OS-RC-2 and 786-O with IC ₅₀ values of 2.8, 30 and 19 μ M, respectively.	
131	(11 <i>R</i> ,12 <i>S</i>)Piericidin C1 10- <i>O</i> - β -D-glucoside				-	
132	13-Dimethoxy glucopiericidin A				-	
133	Piericidin A5	Piericidin (Pyridine)	<i>Streptomyces</i> sp. SCSIO 40063	A sediment sample (E 111° 41', N 16°33') at the depth of 10 m collected from Yagong island of Sansha City, Hainan Province, China	-	[40]
134	Piericidin G1				Cytotoxic activity against four cancer cell lines SF-268, MCF-7, HepG2 and A549 with IC ₅₀ values of 10.0-12.7 μ M.	

135	Actinoquinoline A	Quinoline	<i>Streptomyces</i> sp. CNP975	A marine sediment sample collected in La Jolla, CA, USA by Alejandra Prieto Davó	Inhibition of COX-1 and COX-2 with IC ₅₀ values of 7.6 and 2.13 µM, respectively.	[41]
136	Actinoquinoline B				Inhibition of COX-1 and COX-2 with IC ₅₀ values of 4.9 and 1.42 µM, respectively.	
137	Unnamed	Quinoline	<i>Streptomyces cyaneofuscatus</i> M-157	A solitary coral belonging to the order Scleractinia collected at 2000 m depth in Cantabrian Sea, Biscay Bay, Northeast Atlantic	Weak cytotoxic activity against HepG2 cell line with an IC ₅₀ value of 51.5 µM.	[42]
138	Unnamed				-	
139	Unnamed				-	
140	Diazaquinomycin E	Diaza-anthracene	<i>Streptomyces</i> sp. F001	Marine-derived	Cytotoxic activity against the ovarian cancer cell line OVCAR5 with an IC ₅₀ value of 9.0 µM.	[43]
141	Diazaquinomycin F				-	
142	Diazaquinomycin G				-	
143	Ageloline A	Quinoline	<i>Streptomyces</i> sp. SBT345	Mediterranean sponge <i>Agelas oroides</i>	Inhibition of <i>Chlamydia trachomatis</i> growth with an IC ₅₀ value of 9.54 ± 0.36 µM by inhibiting reactive ROS production during the early stages of infection.	[44]
144	Mansouramycin E	Isoquinolinequinone	<i>Streptomyces</i> sp. B1848	The Actinomycetes culture collection of the Alfred-Wegner Institute for Polar- und Marine Research, Am Handelshafen, Bremen, Germany	Cytotoxic activity against 36 cancer cell lines with mean IC ₅₀ values of 23.10 µM.	[45]
145	Mansouramycin F				Cytotoxic activity against 36 cancer cell lines with mean IC ₅₀ values of 7.92 µM.	

146	Mansouramycin G				-	
147	Strepchazolin A	Miscellaneous pyridine	<i>Streptomyces chartreusis</i> NA02069	A sediment from the coast of Hainan Island, China.	Antimicrobial activity against <i>B. subtilis</i> with a MIC value of 64.0 µM. Enzyme inhibition against AChE with an IC ₅₀ value of 50.6 µM.	[46]
148	Strepchazolin B				-	
149	Streptoglutarimide A	Miscellaneous pyridine	<i>Streptomyces</i> sp. ZZ741	A sample (HQ-2) of marine mud collected from the coastal area of Jintang Island (30°06'39" N and 121°48'07" E) in Zhoushan, China	Antimicrobial activity against MRSA, <i>E. coli</i> and <i>C. albicans</i> with MIC values of 9, 9 and 16 µM, respectively.	[47]
150	Streptoglutarimide B				Antimicrobial activity against MRSA, <i>E. coli</i> and <i>C. albicans</i> with MIC values of 11, 9 and 20 µM, respectively.	
151	Streptoglutarimide C				Antimicrobial activity against MRSA, <i>E. coli</i> and <i>C. albicans</i> with MIC values of 10, 8 and 15 µM, respectively.	
152	Streptoglutarimide D				Antimicrobial activity against MRSA, <i>E. coli</i> and <i>C. albicans</i> with MIC values of 10, 8 and 8 µM, respectively.	
153	Streptoglutarimide E				Antimicrobial activity against MRSA, <i>E. coli</i> and <i>C. albicans</i> with MIC values of 9, 10 and 20 µM, respectively.	
154	Streptoglutarimide F				Antimicrobial activity against MRSA, <i>E. coli</i> and <i>C. albicans</i> with MIC values of 10, 12 and 18 µM, respectively.	
155	Streptoglutarimide G				Antimicrobial activity against MRSA, <i>E. coli</i> and <i>C. albicans</i> with MIC values of 10, 12 and 18 µM, respectively.	
156	Streptoglutarimide H				Antimicrobial activity against MRSA, <i>E. coli</i> and <i>C. albicans</i> with MIC values of 9, 10 and 15 µM, respectively.	

					Cytotoxic activity against human glioma U87MG and U251 cell lines with IC ₅₀ values of 3.8 ± 0.6 and 1.5 ± 0.1 µM, respectively.	
157	Streptoglutaramide I				Antimicrobial activity against MRSA, <i>E. coli</i> and <i>C. albicans</i> with MIC values of 11, 9 and 12 µM, respectively.	
158	Streptoglutaramide J				Antimicrobial activity against MRSA, <i>E. coli</i> and <i>C. albicans</i> with MIC values of 10, 10 and 18 µM, respectively.	
159	Griseusrazin A	Pyrazine	<i>Streptomyces griseus</i> subsp. <i>griseus</i> 09-0144	Tidal flat sediments on Hwangdo in the Yellow Sea, South Korea	Dose-dependently inhibition the production of NO and PGE ₂ and the iNOS and COX-2 protein expression.	[48]
160	(<i>S</i>)-6-(<i>sec</i> -butyl)-3-isopropylpyrazin-2(1 <i>H</i>)-one	Pyrazinone	<i>Streptomyces</i> sp. Did-27	The marine tunicate <i>Didemnum</i> sp. in Obhur, Saudi Arabia	Cytotoxic activity against HCT-116 and MCF-7 cell lines with IC ₅₀ values of 30 and 25 µM, respectively.	[49]
161	(<i>S</i>)-6-(<i>sec</i> -butyl)-6-isopropylpyrazin-2(1 <i>H</i>)-one				-	
162	(<i>S</i>)-6-(<i>sec</i> -butyl)-3-isobutylpyrazin-2(1 <i>H</i>)-one				Cytotoxic activity against HCT-116 and MCF-7 cell lines with IC ₅₀ values of 30 and 35 µM, respectively.	
163	Streptopyrazinone A	Pyrazinone	<i>Streptomyces</i> sp. ZZ446	A sample of coastal soil, which was collected from Zhoushan Islands, Zhejiang, China	Antimicrobial activity against MRSA and <i>C. albicans</i> with MIC values of 58.0 and 35.0 µM, respectively.	[50]
164	Streptopyrazinone B				Antimicrobial activity against MRSA and <i>C. albicans</i> with MIC values of 60.0 and 38.0 µM, respectively.	
165	Streptopyrazinone C				Antimicrobial activity against MRSA and <i>C. albicans</i> with MIC values of 62.0 and 45.0 µM, respectively.	
166	Streptopyrazinone D				Antimicrobial activity against MRSA and <i>C. albicans</i> with MIC values of 65.0 and 38.0 µM, respectively.	
167	3-(3-hydroxy-4-methoxybenzyl)-6isobutyl-2,5-diketopiperazine	2,5-diketopiperazine	<i>Streptomyces</i> sp. MNU FJ-36	The intestinal fabric of <i>Katsuwonus</i> sp.	Cytotoxic activity against A-549 cell line with an IC ₅₀ value of 89.4 ± 5 µg/mL.	[51]

168	3-(1,3-benzodioxol-5-ylmethyl)-6-isobutyl-2,5-diketopiperazine				Cytotoxic activity against HCT-116 and A-549 cell lines with IC ₅₀ values of 75.4 ± 4 and 35.4 ± 7 µg/mL, respectively.	
169	3-(1,3-benzodioxol-5-ylmethyl)6-isopropyl-2,5-diketopiperazine				Cytotoxic activity against HCT-116 and A-549 cell lines with IC ₅₀ values of 45.4 ± 6 and 28.4 ± 5 µg/mL, respectively.	
170	Streptodiketopiperazine A	2,5-diketopiperazine	<i>Streptomyces</i> sp. SY1965	Hadal sediments MTD11000, which was collected from the Mariana Trench (11°20' N and 142°11.5' E) at depth 11,000 m	Antimicrobial activity against <i>C. albicans</i> with a MIC value of 42 µg/mL.	[52]
171	Streptodiketopiperazine B				Antimicrobial activity against <i>C. albicans</i> with a MIC value of 42 µg/mL.	
172	Naseaezine C	2,5-diketopiperazine	<i>Streptomyces</i> sp. USC-636	Marine sediment obtained on the Sunshine Coast, QLD, Australia	Inhibition of chloroquine-sensitive <i>Plasmodium falciparum</i> with an IC ₅₀ value of 3.52 ± 1.2 µM.	[53]
173	Actinozine A	2,5-diketopiperazine	<i>Streptomyces</i> sp. Call-36	The Red Sea sponge <i>Callyspongia</i> species	Antimicrobial activity against <i>S. aureus</i> and <i>C. albicans</i> with inhibition zones of 23.0 and 19.0 mm, respectively.	[54]
174	Cyclo(2-OH-D-Pro-L-Leu)				Antimicrobial activity against <i>S. aureus</i> and <i>C. albicans</i> with inhibition zones of 20.0 and 16.0 mm, respectively.	
175	Maculosin- <i>O</i> - α -L-rhamnopyranoside	2,5-diketopiperazine	<i>Streptomyces</i> sp. ZZ446	Coastal soil	Antimicrobial activity against MRSA, <i>E. coli</i> and <i>C. albican</i> with MIC values of 26.0-37.0 µg/mL.	[55]
176	Maculosin				Antimicrobial activity against MRSA, <i>E. coli</i> and <i>C. albicans</i> with MIC values of 27.0-37.0 µg/mL.	
177	Venezueline A	Phenoxazine	<i>Streptomyces venezuelae</i> KHG20-22	The ocean sediment near Guam Island (Pacific Ocean)	-	[56]
178	Venezueline B				Cytotoxic activity against five cancer cell lines HCT-8, BGC-823, A549, A2780 and NIH-H460 with IC ₅₀ values of 5.74-9.67 µM.	
179	Venezueline C				-	

180	Venezueline D				-	
181	Venezueline E				-	
182	Maroxazinone	Phenoxazine	<i>Streptomyces</i> sp. Eg25	A sea sand sample collected from Marsa Matruh city (Egypt)	Cytotoxic activity against three cancer cell lines MCF-7, HEPG-2 and HCT-116 with IC ₅₀ values of 4.32, 2.90 and 8.51 µg/mL, respectively.	[57]
183	Streptophenazine I	phenazine	<i>Streptomyces</i> sp. HB202	The marine breadcrumb sponge <i>Halichondria panicea</i> (class Demospongia) collected from the Baltic Sea, Germany	Enzyme inhibition against enzyme phosphodiesterase with an IC ₅₀ value of 11.6 ± 1.1 µM.	[58]
184	Streptophenazine J				Enzyme inhibition against enzyme phosphodiesterase with an IC ₅₀ value of 2.0 ± 0.9 µM.	
185	Streptophenazine K				Enzyme inhibition against enzyme phosphodiesterase with an IC ₅₀ value of 12.2 ± 2.0 µM. Antimicrobial activity against <i>B. subtilis</i> and <i>S. epidermidis</i> with MIC values of 21.6 ± 6.8 µM and 14.5 ± 2.0 µM, respectively.	
186	Strepoxazine A	phenoxazine	<i>Streptomyces</i> sp. SBT345	The Mediterranean sponge <i>Agelas oroides</i>	Cytotoxic activity against human promyelocytic leukemia cells HL-60 with an IC ₅₀ value of 16 µg/mL.	[59]
187	Neo-actinomycin A	phenoxazine	<i>Streptomyces</i> sp. IMB094	A marine sediment sample collected at a depth of ca. 40 m from Heishijiao Bay, Dalian, China	Antimicrobial activity against MRSA and VRE with MIC values of 16-64 µg/mL. Cytotoxic activity against HCT-116 and A549 cancer cell lines with IC ₅₀ values of 38.7 nM and 65.8 nM, respectively.	[60]
188	Neo-actinomycin B				-	
190	Actinomycin S	phenoxazine	<i>Streptomyces</i> sp. S22	A sediment sample collected from a saline-alkali land in the Huanghe River delta, China	Antimicrobial activity against five pathogenic bacteria <i>E. faecium</i> , <i>S. aureus</i> , <i>K. pneumoniae</i> , <i>A. baumannii</i> and <i>E. coli</i> with all MIC values of 5 µg/mL. Cytotoxic activity against HepG2 liver carcinoma cell line with an IC ₅₀ value of 0.10 µM.	[61]

191	Neo-actinomycin C				Antimicrobial activity against five pathogenic bacteria <i>E. faecium</i> , <i>S. aureus</i> , <i>K. pneumoniae</i> , <i>A. baumannii</i> and <i>E. coli</i> with MIC values of 10-80 µg/mL. Cytotoxic activity against HepG2 liver carcinoma cell line with an IC ₅₀ value of 0.32 µM.	
192	Neo-actinomycin D				Antimicrobial activity against five pathogenic bacteria <i>E. faecium</i> , <i>S. aureus</i> , <i>K. pneumoniae</i> , <i>A. baumannii</i> and <i>E. coli</i> with MIC values of 2.5-5 µg/mL. Cytotoxic activity against HepG2 liver carcinoma cell line with an IC ₅₀ value of 0.024 µM.	
193	Cyclizidine B	Cyclizidine (Indolizidine)	<i>Streptomyces</i> sp. HNA39	Marine sediments of Hainan Island (Hainan province, China, N 19° 95' E 110° 58')	-	[62]
194	Cyclizidine C				Cytotoxic activity against PC-3 and HCT-116 cancer cell lines with IC ₅₀ values of 0.52 ± 0.03 µM and 8.3 ± 0.1 µM, respectively. Enzyme inhibition against protein kinase ROCK2 with an IC ₅₀ value of 7.0 ± 0.8 µM.	
195	Cyclizidine D				Cytotoxic activity against PC-3 and HCT-116 cancer cell lines with IC ₅₀ values of 33 ± 1 µM and 40 ± 1 µM, respectively.	
196	Cyclizidine E				-	
197	Cyclizidine F				Enzyme inhibition against protein kinase ROCK2 with an IC ₅₀ value of 27 ± 1 µM.	
198	Cyclizidine G				-	
199	Cyclizidine H				Cytotoxic activity against PC-3 cancer cell line with an IC ₅₀ value of 17 ± 1 µM. Enzyme inhibition against protein kinase ROCK2 with an IC ₅₀ value of 42 ± 3 µM.	

200	Cyclizidine I				Enzyme inhibition against protein kinase ROCK2 with an IC ₅₀ value of 39 ± 1 μM.	
201	Cyclizidine J	Cyclizidine (Indolizidine)	<i>Streptomyces</i> sp. HNA39	Marine sediments of Hainan Island (Hainan province, China, N 19° 95' E 110° 58')	-	[63]
202	Unnamed	Cyclizidine (piperidine)	<i>Streptomyces</i> sp. WU20	Hydrothermal vent sediment, collected from Kueishantao, Taiwan.	Antimicrobial activity against <i>B. subtilis</i> with a MIC value of around 32 μg/mL.	[64]
203	Spithioneine A	pyrrolizidine	<i>Streptomyces spinoverrucosus</i> SNB-048	A sand sample collected from a Bahamian tidal flat	-	[65]
204	Spithioneine B				-	
205	Bohemamine D	pyrrolizidine	<i>Streptomyces spinoverrucosus</i> SNB-048	A sand sample collected from a Bahamian tidal flat	-	[66]
206	Bohemamine E				-	
207	Bohemamine F				-	
208	Bohemamine G				-	
209	Bohemamine H				-	
210	Bohemamine I				-	
211	5-Br-bohemamine C	pyrrolizidine	<i>Streptomyces spinoverrucosus</i>	A sediment sample collected from amudflat on a small	-	[67]

212	Dibohemamine A		SNB-032	Bahamas island	-	
213	Dibohemamine B				Cytotoxic activity against NSCLC cell lines A549 and HCC1171 with IC ₅₀ values of 0.140 and 3.9 µM, respectively.	
214	Dibohemamine C				Cytotoxic activity against NSCLC cell lines A549, HCC44, HCC1171 and HCC366 with IC ₅₀ values of 0.145-12.0 µM.	
215	Carpatamide A	Linear amide	<i>Streptomyces</i> sp. SNE-011	A marine sediment sample collected from South Carolina (32°35'10" N, 80°07'31" W)	Cytotoxic activity against three cancer cell lines HCC366, A549 and HCC44 with IC ₅₀ values of 2.8-8.4 µM.	[68]
216	Carpatamide B				-	
217	Carpatamide C				Cytotoxic activity against three cancer cell lines HCC366 and A549 with IC ₅₀ values of 2.2 and 3.7 µM, respectively.	
218	Antimycin E	Linear amide	<i>Streptomyces</i> sp. THS-55	The sediment of mangrove, Sanya, China	Significant cytotoxic activity against HeLa cell line with IC ₅₀ < 0.1 µM.	[69]
219	Antimycin F					
220	Antimycin G					
221	Antimycin H					
222	Neoantimycin A	Linear amide	<i>Streptomyces antibioticus</i> H12-15	A marine sediment sample collected at the Taishan mangrove site, Guangdong province, China	Cytotoxic activity against SF-268 cell line with an IC ₅₀ value of 33.6 µM.	[70]
223	Neoantimycin B				Cytotoxic activity against SF-268 cell line with an IC ₅₀ value of 41.6 µM.	

224	Bagremycin C	Linear amide	<i>Streptomyces</i> sp. Q22	A sample of mangrove soils obtained from the Qiao Mangrove Forest in Zhuhai City, Guangdong, China	Cytotoxic activity against four cancer cell lines U87MG, U251, SHG44, and C6 with IC ₅₀ values of 2.2 ± 0.1-6.4 ± 0.5 μM. (inhibited the G ₀ /G ₁ cell cycle)	[71]
225	Bagremycin D				-	
226	Bagremycin F	Linear amide	<i>Streptomyces</i> sp. ZZ745	A sample of marine mud collected from a coastal area located at the Jintang Island of Zhoushan, Zhejiang, China	Antimicrobial activity against <i>E. coli</i> with a MIC value of 41.8 μg/mL.	[72]
227	Bagremycin G				Antimicrobial activity against <i>E. coli</i> with a MIC value of 67.1 μg/mL.	
228	N-acetylborrelidin B	Linear amide	<i>Streptomyces mutabilis</i> sp. MII	A sediment sample collected from Hurghada Coast at the Red Sea, Egypt	Antimicrobial activity against <i>E. coli</i> , <i>B. subtilis</i> , <i>P. agarici</i> , <i>M. luteus</i> and <i>S. warneri</i> with inhibition zones of 7-18 mm.	[73]
229	Isoikarugamycin	Polycyclic tetramate macrolactams	<i>Streptomyces zhaozhouensis</i> CA-185989	A marine sediment collected off-shore at 2 m depth nearby Utonde, Equatorial Guinea	Antimicrobial activity against MRSA, <i>C. albicans</i> and <i>A. fumigatus</i> with MIC values of 2-8 μg/mL.	[74]
230	28- <i>N</i> -methylikaguramycin				Antimicrobial activity against MRSA, <i>C. albicans</i> and <i>A. fumigatu</i> with MIC values of 1-8 μg/mL.	
231	30-oxo-28- <i>N</i> -methylikarugamycin as				Antimicrobial activity against MRSA with MIC values of 32-64 μg/mL.	
232	Pactamide A	Polycyclic tetramate macrolactams	<i>Streptomyces pactum</i> SCSIO 02999	Deep-sea derived	Cytotoxic activity against four cancer cell lines SF-268, MCF-7, NCI-H460 and HepG2 with IC ₅₀ values of 0.24 ± 0.02-0.51 ± 0.01 μM.	[75]
233	Pactamide B				Cytotoxic activity against four cancer cell lines SF-268, MCF-7, NCI-H460 and HepG2 with IC ₅₀ values of 21.93 ± 0.58-26.15 ± 1.37 μM.	
234	Pactamide C				Cytotoxic activity against four cancer cell lines SF-268, MCF-7, NCI-H460 and HepG2 with IC ₅₀ values of 0.71 ± 0.02-2.42 ± 0.15 μM.	
235	Pactamide D				Cytotoxic activity against four cancer cell lines SF-268, MCF-7, NCI-H460 and HepG2 with IC ₅₀ values of 14.50 ± 0.02-2.42 ± 0.15 μM.	

236	Pactamide E				Cytotoxic activity against four cancer cell lines SF-268, MCF-7, NCI-H460 and HepG2 with IC ₅₀ values of 5.10 ± 1.43-8.70 ± 0.25 µM.	
237	Pactamide F				Cytotoxic activity against four cancer cell lines SF-268, MCF-7, NCI-H460 and HepG2 with IC ₅₀ values of 2.65 ± 0.29-2.85 ± 0.22 µM.	
238	Chlokamycin	Polycyclic tetramate macrolactams	<i>Streptomyces</i> sp. MA2-12	The Marine Biosciences Kamaishi Research laboratory	Cytotoxic activity against Jurkat and HCT116 cell lines with IC ₅₀ values of 24.7 µM and 33.5 µM, respectively.	[76]
239	10- <i>epi</i> -HSAF	Polycyclic tetramate macrolactams	<i>Streptomyces</i> sp. SCSIO 40010	The Mangrove sediment obtained from Penang, Malaysia	Cytotoxic activity against four cancer cell lines SF-268, MCF-7, A549 and HepG2 with IC ₅₀ values of 2.47 ± 0.05-5.99 ± 0.15 µM.	[77]
240	10- <i>epi</i> -deOH-HSAF				Cytotoxic activity against four cancer cell lines SF-268, MCF-7, A549 and HepG2 with IC ₅₀ values of 3.84 ± 0.07-11.01 ± 1.09 µM.	
241	10- <i>epi</i> -maltophilin				Cytotoxic activity against four cancer cell lines SF-268, MCF-7, A549 and HepG2 with IC ₅₀ values of 3.18 ± 0.13-6.30 ± 0.34 µM.	
242	10- <i>epi</i> -xanthobaccin C				Cytotoxic activity against four cancer cell lines SF-268, MCF-7, A549 and HepG2 with IC ₅₀ values of 3.54 ± 0.24-17.86 ± 0.62 µM.	
243	10- <i>epi</i> -hydroxymaltophilin				Cytotoxic activity against four cancer cell lines SF-268, MCF-7, A549 and HepG2 with IC ₅₀ values of 3.12 ± 0.11-6.83 ± 0.36 µM.	
244	10- <i>epi</i> -FI-2				-	
245	JBIR-150	Macrolactam	<i>Streptomyces</i> sp. OPMA00071	Marine sediments collected in Okinawa prefecture, Japan	Cytotoxic activity against Jurkat and MESO-1 cell lines with IC ₅₀ values of 0.9 µM and 2.3 µM, respectively.	[78]
246	Muanlactam	Macrolactam	<i>Streptomyces</i> sp. MA159	Intertidal mudflats	Cytotoxic activity against HCT-116 cell line with an IC ₅₀ value of 1.58 µM.	[79]
247	Cyclamenol E	Macrolactam	<i>Streptomyces</i> sp. OUCMDZ-4348	Antarctica	Cytotoxic activity against the gastric carcinoma cell line N87 with an IC ₅₀ value of 9.8 µM.	[80]

248	Cyclamenol F				-	
249	Somalactam A	Macrolactam	<i>Streptomyces somaliensis</i> 1107	An Arctic Haliclona sponge	Inhibition of IL-6 and TNF- α release in the serum of LPS-stimulated RAW264.7 macrophage cells with IC ₅₀ values of 5.76 μ M and 0.18 μ M, respectively.	[81]
250	Somalactam B				-	
251	Somalactam C				-	
252	Somalactam D				-	
253	Niphimycin C	Guanidylpolyol macrolide	<i>Streptomyces</i> sp. IMB7-145	A marine sediment sample collected at a depth of ca. 40 m from Heishijiao Bay, Dalian, China	Antimicrobial activity against Gram-positive bacteria <i>S. epidermidis</i> , <i>S. aureus</i> , <i>E. faecalis</i> , <i>E. faecium</i> and fungi <i>C. albicans</i> with MIC values of 8-64 μ g/mL. Antimicrobial activity against <i>Mycobacterium tuberculosis</i> Strains with MIC values of 4-32 μ g/mL. Cytotoxic activity against four cancer cell lines K562, HepG2, MCF-7 and HeLa with IC ₅₀ values of 8.5-24 μ M.	[82]
254	Niphimycin D				Antimicrobial activity against Gram-positive bacteria <i>S. aureu</i> and fungi <i>C. albicans</i> with both MIC values of 64 μ g/mL. Cytotoxic activity against HeLa cancer cell line with an IC ₅₀ value of 22.4 μ M.	
255	Niphimycin E				Antimicrobial activity against Gram-positive bacteria <i>S. epidermidis</i> , <i>S. aureu</i> and fungi <i>C. albicans</i> with MIC values of 16-32 μ g/mL. Cytotoxic activity against four cancer cell lines K562, HepG2, MCF-7 and HeLa with IC ₅₀ values of 9-20.8 μ M.	

256	17-O-methyl-niphimycin				Antimicrobial activity against Gram-positive bacteria <i>S. epidermidis</i> , <i>S. aureus</i> , <i>E. faecalis</i> , <i>E. faecium</i> and fungi <i>C. albicans</i> with MIC values of 8-64 µg/mL. Cytotoxic activity against four cancer cell lines K562, HepG2, MCF-7 and HeLa with IC ₅₀ values of 3-16.2 µM.	
257	Antartin	Sesquiterpene	<i>Streptomyces</i> sp. SCO736	Marine sediments collected off the coast of Antarctica	Cytotoxic activity against twelve human cancer cells with GI ₅₀ of 4-8 µg/mL and inhibited the production of solid lung tumor cells.	[83]
258	Penzonemycin A	phenylhydrazones	<i>Streptomyces</i> sp. SCSIO 40020	A marine sediment sample (E 114.0432°, N 22.0194°, Pearl River Estuary in China at the depth of 28 m	Cytotoxic activity against four cancer cell lines SF-268, MCF-7, A549 and HepG-2 with IC ₅₀ values of 30.44-61.92 µM.	[84]
259	Penzonemycin B				-	

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