Marine natural products (2022) D3NP00061C

Supplementary Information

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1 Introduction

In the main Review document, only the structures of a selection of highlighted compounds are shown. However, *all* structures are available for viewing, along with names, taxonomic origins, locations, biological activities and other information in this Supplementary Information (SI) document. Each page of the SI document contains at least one array of numbered structures. The numbers are those assigned in the Review document. For structures that have their absolute configurations fully described, the compound number in the diagrams is preceded with the † symbol. Below each structural array, the relevant information for each reference and associated compounds is listed. The first line contains the **Main article reference** #, followed by **Taxonomy**, **Location** and **Article title**. Each section is separated by the // symbol. The following indented line(s) provide information about each compound referred to in the Review for that publication. This information is provided in the following order, again separated by the // symbol (***** is inserted where there are no data): **Compound number**, **Status** (**N** for a new compound; **M** for new to marine; **R** for a revision (structure, stereochemistry, stereochemical assignment etc); **A** for artefact), **Compound name**, **Biological activity** and **Other information**. To assist viewing, these headings are noted in the footer at the bottom of each page. To conserve space, the **Title** and **Location** data may have been abbreviated, and are not as complete as in the source, MarinLit. Most **Main article reference** numbers are hyperlinked to the relevant DOI or URL.

1.1 Abbreviations

In the **Biological activity and other information** section, the following abbreviations have been used:

abs. config.	absolute configuration
AChE	acetylcholine esterase
activ.	activity
ABH2	alpha-ketoglutarate dependent dioxygenase alkB homologue 2
ALR2	aldose reductase 2
anti-inflam.	antiinflammatory
antioxid.	antioxidant
bact.	bacteria
Cbl-b	casitas B-lineage lymphoma proto-oncogene-b
C. elegans	*Caenorhabditis elegans*
CL	cell line
COX-2	cyclooxygenase-2
cytotox.	cytotoxicity/cytotoxic
degrad.	degradation
DPPH	2,2-diphenyl-1-picrylhydrazyl
DPP4	dipeptidyl peptidase-4
EGFR	epidermal growth factor receptor
enant.	Enantiomer
HIF	Hypoxia Inducible Factor
HTCL	human tumour cell line
hum.	human
IL6	interleukin 6
IA	inactive
inhib.	inhibitor/inhibition/inhibitory
insep.	inseparable
immunomod.	immunomodulatory
isol.	Isolated
IL-1β	interleukin 1 beta
LDH	lactate dehydrogenase
MIC	minimum inhibitory concentration
MDR	multidrug resistant
M. tuberculosis	*Mycobacterium tuberculosis*
Mptp	*M. tuberculosis* protein tyrosine phosphatase
mod.	moderate
microb.	microbial, microbe
mixt.	Mixture
MTCL	murine tumour cell line
NF-κB	Nuclear factor kappa B
NO	nitrous oxide
norm.	normal
nHCL	normal human cell line
nMCL	normal mammalian cell line
Nrf2	nuclear factor-erythroid factor 2-related factor 2
NT	not tested
PGE_2	prostaglandin E2
P. falciparum	*Plasmodium falciparum*
PPAR-γ	Peroxisome Proliferator-Activated Receptor-gamma
PL	pancreatic lipase
prod.	production
PKS	polyketide synthase
pot.	potent
prod.	production
purif.	purify/purified
PR1	pathogenesis-related protein 1
PTP1B	protein-tyrosine phosphatase 1B
PTP	protein-tyrosine phosphatase
rac.	racemic mixture
ref.	reference
S. aureus	*Staphlococcus aureus*
SPN	single-nucleotide polymorphism
stereochem.	stereochemistry
struct.	structure
synth.	synthesis/synthetic
TCL	tumour cell line
TDP1	tyrosyl-DNA phosphodiesterase 1
TGF-β1	transforming growth factor beta-1
TGF	tissue growth factor
TNF-α	tumour necrosis factor alpha
TRPM	transient receptor potential melastatin
XRD	X-ray diffraction analysis

1.2 Biological activity definitions

Cytotoxic, antiparasitic, antioxidant, antiinflammatory, enzyme and antiviral activity (IC_{50} <10 μM); any activity reported at a higher dose is deemed inactive (IA)

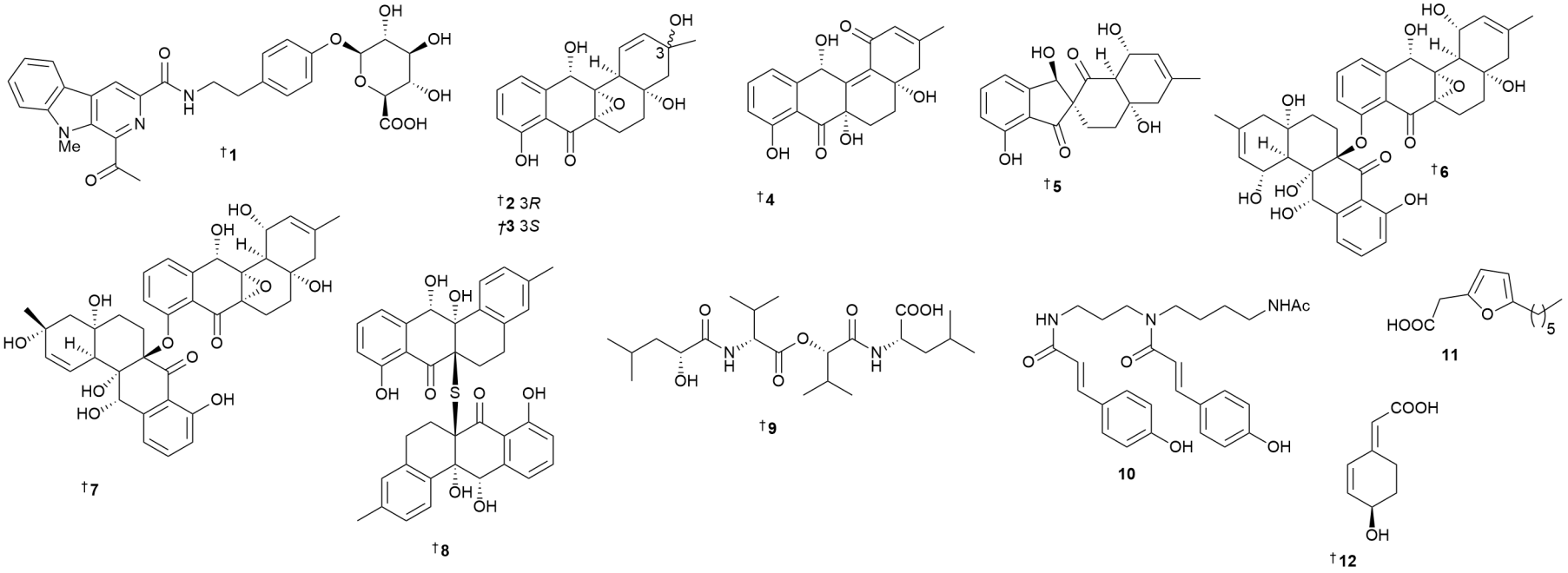
Potent (pot.) activity:	IC_{50} <100 nM
Moderate (mod.) activity:	IC_{50} <1 μM
Weak activity:	IC_{50} <10 μM

Antibacterial and antifungal activity (MIC <32 μg/mL, <64 μM based on MW 500 Da); any activity reported at a higher dose is deemed inactive (IA)

Potent (pot.) activity:	MIC <1 μg/mL
Moderate (mod.) activity:	MIC <8 μg/mL
Weak activity:	MIC <32 μg/mL

2 Marine microorganisms and phytoplankton:

2.1 Marine-sourced bacteria



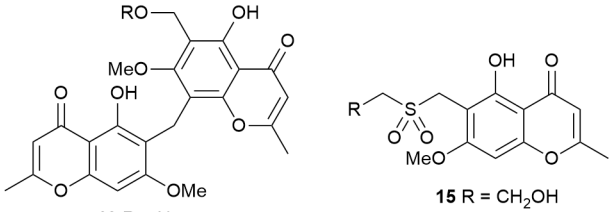
4 Actinobacteria *Actinoalloteichus cyanogriseus* // (sponge, *Phakellia fusca*) Xisha Islands, China // Marinacarboline glucuronide, a new member of β-carboline alkaloids from sponge-derived actinomycete *Actinoalloteichus cyanogriseus* LHW52806
1 // N // marinacarboline glucuronide // IA *vs* 8 bact. strains; IA *vs* murine CL; IA *vs* anti-inflam.; XRD.

5 Actinobacteria *Actinomadura* sp. // (sea water) Okinawa, Japan // Kumemicinones A–G, cytotoxic angucyclinones from a deep sea-derived actinomycete of the genus *Actinomadura*
2 // N // kumemicinone A // weak activ. *vs* MTCL; XRD.
3 // N // kumemicinone B // weak activ. *vs* MTCL.
4 // N // kumemicinone C // IA *vs* MTCL.
5 // N // kumemicinone D // IA *vs* MTCL.
6 // N // kumemicinone E // weak activ. *vs* MTCL; XRD.
7 // N // kumemicinone F // IA *vs* MTCL.
8 // N // kumemicinone G // weak activ. *vs* MTCL.

6 Actinobacteria *Agrococcus* sp. // (sediment) South China Sea // Metabolites from the deep-sea sediment-derived bacterium *Agrococcus* sp. SCSIO 52902 and their biosynthesis
9 // N // agrotetratide A // IA *vs* 3 HTCLs; IA *vs* 4 bact. strains.
10 // N // *N*1,*N*5-di-*p*-coumaroyl-*N*10-acetylspermidine // IA *vs* 3 HTCLs; IA *vs* 4 bact. strains.
11 // M // 2-(5-hexylfuran-2-yl)acetic acid // IA *vs* 3 HTCLs; IA *vs* 4 bact. strains.
12 // N // agrocusin A // IA *vs* 3 HTCLs; IA *vs* 4 bact. strains; XRD.

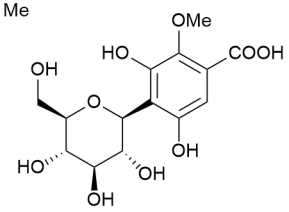
2 Marine microorganisms and phytoplankton:

2.1 Marine-sourced bacteria



13 R = H
14 R = Me

15 R = CH_2OH
16 R = H



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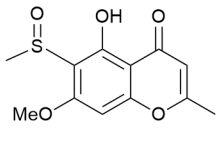

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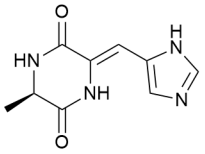

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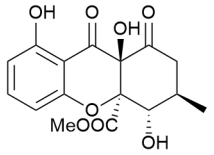

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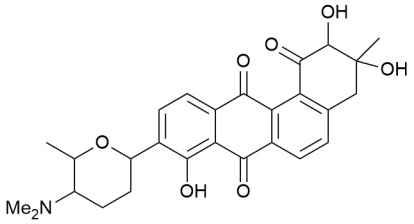

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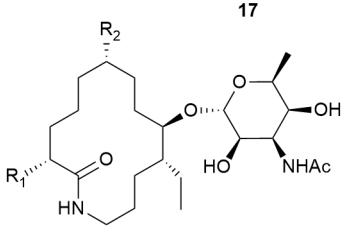
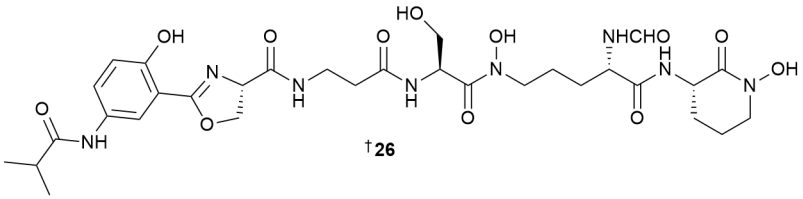


22 R_1 = H, R_2 = Me
23 R_1 = R_2 = Me
24 R_1 = Et, R_2 = H
25 R_1 = R_2 = Et



†**26**

7 Actinobacteria *Amycolatopsis* sp. // (sediment) SW Indian Ocean // Amycolachromones A–F, from a streptomycin-resistant strain of the deep-sea actinomycete *Amycolatopsis* sp. WP1
13 // N // amycolachromone A // IA *vs* ABH2 enzyme.
14 // N // amycolachromone B // IA *vs* ABH2 enzyme.
15 // N // amycolachromone C // IA *vs* ABH2 enzyme.
16 // N // amycolachromone D // IA *vs* ABH2 enzyme.
17 // N // amycolachromone E // IA *vs* ABH2 enzyme.
18 // N // amycolachromone F // IA *vs* ABH2 enzyme; XRD.

8 Actinobacteria *Georgenia* sp. // (sediment) Pacific Ocean // Anti-tyrosinase compounds from the deep-sea-derived actinomycete *Georgenia* sp. 40DY18
19 // N // georgenione A // IA inhib. of tyrosinase.

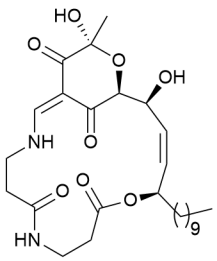
9 Actinobacteria *Gephyromycinifex aptenodytis* // (penguin, *Aptenodytes forsteri*) Antarctic peninsula // Characterization of bioactivities and biosynthesis of angucycline/angucyclinone derivatives derived from *Gephyromycinifex aptenodytis* gen. nov., sp. nov.
20 // N // 2-hydroxy-frigocyclinone // weak to pot. activ. *vs* 3 bact. strains; weak activ. *vs* 3 HTCL.

10 Actinobacteria *Nocardiopsis synnemataformans* // (sediment) Vung Ang, Ha Tinh, Vietnam // Antimicrobial secondary metabolites from the marine-derived actinomycete *Nocardiopsis synnemataformans* HT06
21 // N // 4*βC*-glucopyranosyl-3,5-dihydroxy-2-methoxybenzoic acid // IA to weak activ. *vs* 3 bact. strains; weak activ. *vs* 1 fungus.

11 Actinobacteria *Nonomuraea* sp. // (sponge) Xisha Island, Hainan, China // Fluvirucins B7 –B10, new antifungal macrolactams from a marine-derived *Nonomuraea* sp. MYH522
22 // N // fluvirucin B7 // IA *vs* 2 bact strains; IA *vs* 3 fungal strains.
23 // N // fluvirucin B8 // IA *vs* 2 bact strains; IA *vs* 3 fungal strains.
24 // N // fluvirucin B9 // IA *vs* 2 bact strains; IA *vs* 3 fungal strains.
25 // N // fluvirucin B10 // IA *vs* 2 bact strains; IA *vs* 3 fungal strains.

12 Actinobacteria *Pseudonocardia* sp. // (sponge, *Lissodendoryx stigmata*) Stan Blum State Park boat launch, Florida, USA // Genome mining and metabolomics unveil pseudonochelin: a siderophore containing 5-aminosalicylate from a marine-derived *Pseudonocardia* sp. bacterium
26 // N // pseudonochelin // IA to mod. activ. *vs* 4 bact. strains; IA *vs* 1 fungal strain.

2 Marine microorganisms and phytoplankton: 2.1 Marine-sourced bacteria



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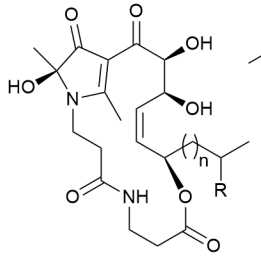
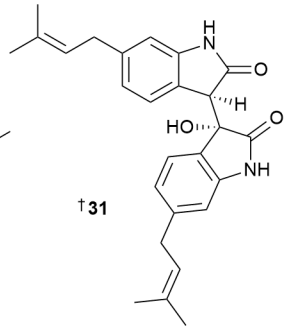


†**28** n= 8, R = H
†**29** n= 7, R = Me
†**30** n= 9, R = H



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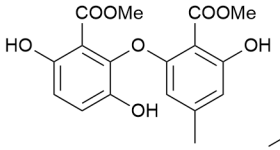

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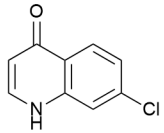

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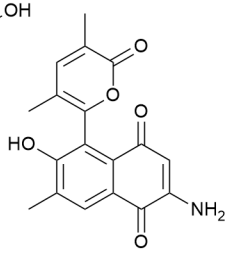

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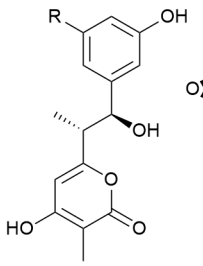
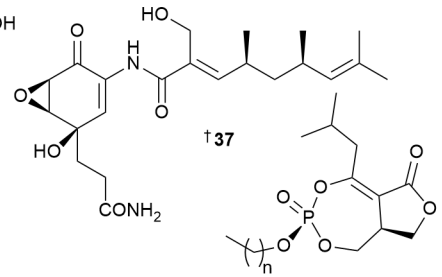


35 R = OH
36 R = NHAc



†**37**

†**38** n = 14
†**39** n = 13
†**40** n = 12

13 Actinobacteria *Pseudonocardia kongjuensis* // (coral, *Galaxea fascicularis*) Luhuitou fringing reef, Sanya, China // Antifungal macrolides kongjuemycins from coral-associated rare actinomycete *Pseudonocardia kongjuensis* SCSIO 11457
27 // N // kongjuemycin A // IA *vs* 1 bact. strain; IA to weak activ. *vs* 3 fungal strains.
28 // N // kongjuemycin B1 // IA *vs* 1 bact. strain; IA *vs* 3 fungal strains; XRD.
29 // N // kongjuemycin B2 // IA *vs* 1 bact. strain; IA *vs* 3 fungal strains.
30 // N // kongjuemycin B3 // IA *vs* 1 bact. strain; IA *vs* 3 fungal strains.

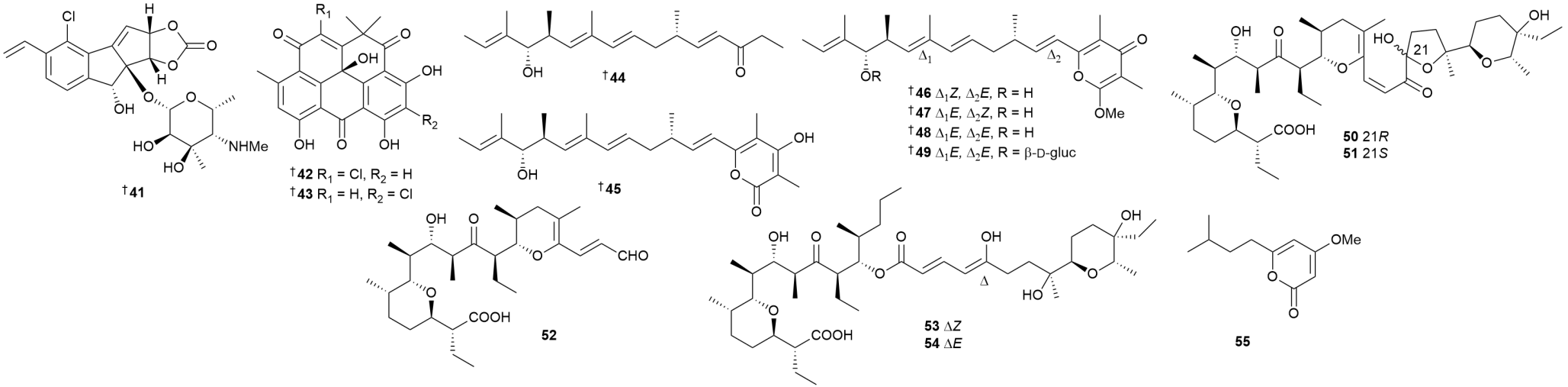
14 Actinobacteria *Saccharomonospora* sp // (sediment) La Jolla, California, USA // Saccharobisindole, neoasterric methyl ester, and 7-chloro-4(1H)-quinolone: three new compounds isolated from the marine bacterium *Saccharomonospora* sp.
31 // N // saccharobisindole // IA *vs* 6 bact. strains.
32 // N // neoasterric methyl ester // IA *vs* 6 bact. strains.
33 // N // 7-chloro-4(1*H*)-quinolone // IA *vs* 6 bact. strains.

15 Actinobacteria *Salinispora arenicola* // (sediment) British Columbia, Canada // Natural products produced in culture by biosynthetically talented *Salinispora arenicola* strains isolated from Northeastern and South Pacific marine sediments
34 // N // salinisporamine // IA *vs* 4 bact strains, IA *vs* 1 fungal strain; XRD.

15 Actinobacteria *Salinispora arenicola* // (sediment) Papua New Guinea // Natural products produced in culture by biosynthetically talented *Salinispora arenicola* strains isolated from Northeastern and South Pacific marine sediments
35 // M // salinorcinol // IA *vs* 4 bact. strains, IA *vs* 1 fungal strain.
36 // M // salinacetamide // NT.

16 Actinobacteria *Salinispora pacifica* // // Structure and candidate biosynthetic gene cluster of a nanumycin-type metabolite from *Salinispora pacifica*
37 // N // pacificamide // IA *vs* 2 bact. strains and 1 HTCL.

17 Actinobacteria *Salinispora tropica* // // Mass spectrometry–guided discovery of new analogs of bicyclic phosphotriester salinipostin and evaluation of their monoacylglycerol lipase inhibitory activity
38 // N // salinipostin L // Pot. inhib. *vs* human monoacylglycerol cyclase.
39 // N // salinipostin M // Pot. inhib. *vs* human monoacylglycerol cyclase.
40 // N // salinipostin N // Pot. inhib. *vs* human monoacylglycerol cyclase.



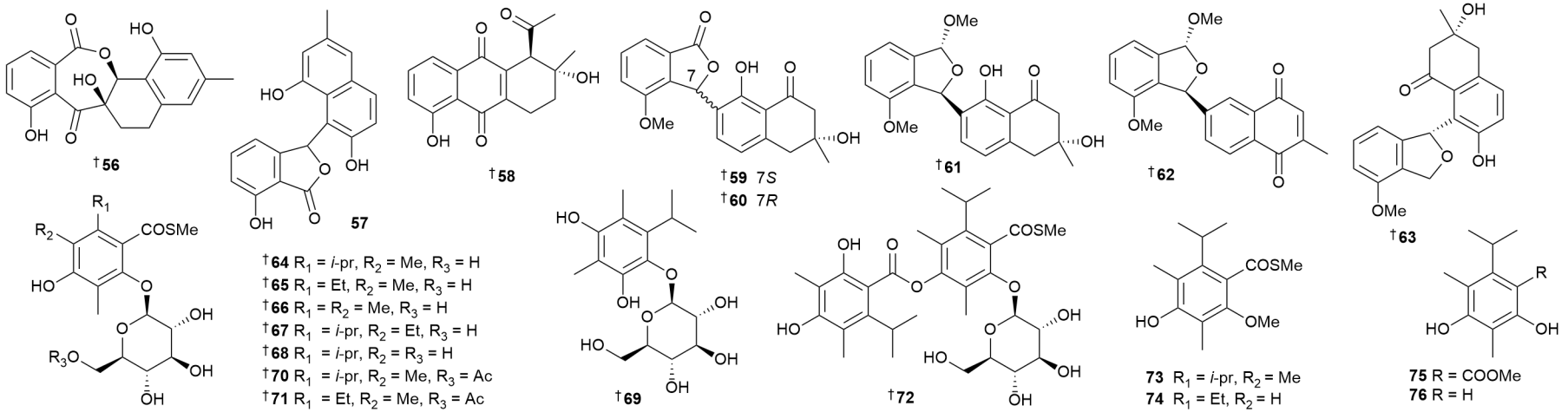
18 Actinobacteria *Streptomyces* sp. // (sediment) Hyeopjae Beach, Jeju Island, Republic of Korea // Targeted discovery of an enediyne-derived cycloaromatized compound, jejucarboside A, from a marine actinomycete
41 // N // jejucarboside A // IA vs 1 HTCL; IA *vs* anti-inflam.; IA *vs* antioxid.

19 Actinobacteria *Streptomyces* sp. // (sediment) Mersa Matruth City, Egypt // Chlororesistoflavins A and B, chlorinated benzopyrene antibiotics produced by the marine-derived actinomycete *Streptomyces* sp. strain EG32
42 // N // chlororesistoflavin A // weak to pot. activ. *vs* 2 bact. strains.
43 // N // chlororesistoflavin B // IA to mod. activ. *vs* 2 bact. strains.

20 Actinobacteria *Streptomyces* sp // (sediment) Okinawa Trough // Discovery, structure correction, and biosynthesis of actinopyrones, cytotoxic polyketides from the deep-sea hydrothermal-vent-derived *Streptomyces* sp. SCSIO ZS0520
44 // N // actinoketone // IA *vs* 6 HTCLs.
45 // N // actinopyrone E // IA *vs* 6 HTCLs.
46 // N // actinopyrone F // NT.
47 // M // actinopyrone D // NT.
48 // R // PM050463 // IA *vs* 6 HTCLs.
49 // R // PM050511 // Weak to mod. activ. *vs* 6 HTCLs.

21 Actinobacteria *Streptomyces sp* // (sediment) Okinawa Trough // Secondary metabolites and biosynthetic gene clusters analysis of deep-sea hydrothermal vent-derived *Streptomyces* sp. SCSIO ZS0520
50 // N // *seco*-salinomycin A // NT.
51 // N // *seco*-salinomycin B // NT.
52 // N // *seco*-salinomycin C // NT.
53 // N // *seco*-salinomycin D // NT.
54 // N // *seco*-salinomycin E // NT.
55 // N // minipyrone // NT.

2 Marine microorganisms and phytoplankton: 2.1 Marine-sourced bacteria



22 Actinobacteria *Streptomyces pratensis* // (sediment) Kiaochow Bay, China // Atypical angucyclinones with ring expansion and cleavage from a marine *Streptomyces* sp.
56 // N // oxemycin A // IA *vs* 6 bact. strains.
57 // N // 3-(2,8-dihydroxy-6-methylnaphthalen-1-yl)-7-hydroxyisobenzofuran-1(3H)-one // NT.
58 // N // (1*R*,2*R*)-1-acetyl-2,5-dihydroxy-2-methyl-1,2,3,4-tetrahydroanthracene-9,10-dione // IA to mod. activ. *vs* 6 bact. strains.
59 // N // (*S*)-3-((*R*)-1,6-dihydroxy-6-methyl-8-oxo-5,6,7,8-tetrahydronaphthalen-2-yl)-4-methoxyisobenzofuran-1(3*H*)-one // IA *vs* 6 bact. strains.
60 // N // (*R*)-3-((*R*)-1,6-dihydroxy-6-methyl-8-oxo-5,6,7,8-tetrahydronaphthalen-2-yl)-4-methoxyisobenzofuran-1(3*H*)-one // IA *vs* 6 bact. strains; XRD.
61 // N // (*R*)-7-((1*S*,3*R*)-3,7-dimethoxy-1,3-dihydroisobenzofuran-1-yl)-3,8-dihydroxy-3-methyl-3,4-dihydronaphthalen-1(2*H*)-one // IA *vs* 6 bact. strains.
62 // N // 6-((1*S*,3*R*)-3,7-dimethoxy-1,3-dihydroisobenzofuran-1-yl)-2-methylnaphthalene-1,4-dione // NT.
63 // N // (*R*)-3,7-dihydroxy-8-((*R*)-4-methoxy-1,3-dihydroisobenzofuran-1-yl)-3-methyl-3,4-dihydronaphthalen-1(2*H*)-one // IA *vs* 6 bact. strains.

23 Actinobacteria *Streptomyces* sp. // (sediment) Zhoushan Island, Zhejiang Province, China // Suncheonosides E–M and benzothioate derivatives from the marine-derived *Streptomyces* sp. ZSN77
64 // N // suncheonoside E // IA *vs* 3 HTCLs; weak activ. *vs* NO prod.
65 // N // suncheonoside F // IA *vs* 3 HTCLs; weak activ. *vs* NO prod.
66 // N // suncheonoside G // IA *vs* 3 HTCLs; IA *vs* NO prod.
67 // N // suncheonoside H // IA *vs* 3 HTCLs; IA *vs* NO prod.
68 // N // suncheonoside I // IA *vs* 3 HTCLs; IA *vs* NO prod.
69 // N // suncheonoside J // IA to weak activ. *vs* 3 HTCLs; weak activ. *vs* NO prod.
70 // N // suncheonoside K // IA *vs* 3 HTCLs; IA *vs* NO prod.
71 // N // suncheonoside L // IA *vs* 3 HTCLs; IA *vs* NO prod.
72 // N // suncheonoside M // IA *vs* 3 HTCLs; IA *vs* NO prod.
73 // N // S-methyl 4-hydroxy-6-isopropyl-2-methoxy-3,5-dimethylbenzothioate // IA *vs* 3 HTCLs; weak activ. *vs* NO prod.
74 // N // S-methyl 6-ethyl-2,4-dihydroxy-3,5-dimethylbenzothioate // IA *vs* 3 HTCLs; IA *vs* NO prod.
75 // N // 2,4-dihydroxy-6-isopropyl-3,5-dimethylbenzoate // IA to weak activ. *vs* 3 HTCLs; IA *vs* NO prod.
76 // N // 1,3-dihydroxy-5-isopropyl-2,4-dimethylbenzene // IA *vs* 3 HTCLs; IA *vs* NO prod.

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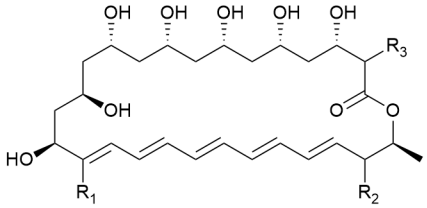
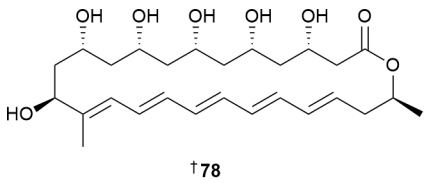
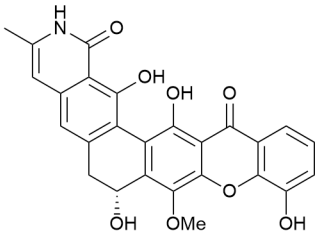


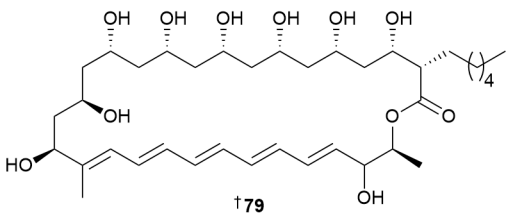
†**77** $R_1 = R_2 = R_3 = H$
†**80** $R_1 = Me, R_2 = R_3 = H$
†**81** $R_1 = Me, R_2 = OH, R_3 = H$
†**82** $R_1 = Me, R_2 = OH, R_3 = n\text{-pent}$
†**83** $R_1 = H, R_2 = OH, R_3 = i\text{-pent}$
†**84** $R_1 = Me, R_2 = OH, R_3 = i\text{-pent}$
†**85** $R_1 = Me, R_2 = OH, R_3 = (CH_2)_3 i\text{-pr}$



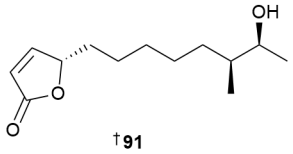
†**78**



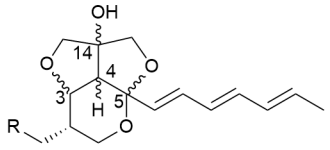
†**90**



†**79**



†**91**



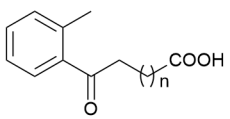
†**86** R = H, 3*S*, 4*R*, 5*S*,14*S*
†**87** R = H, 3*R*, 4*S*, 5*R*,14*R*
†**88** R = Me, 3*S*, 4*R*, 5*S*,14*S*
†**89** R = Me, 3*R*, 4*S*, 5*R*, 14*R*

24 Actinobacteria *Streptomyces antibioticus* // (sediment) Indian Ocean // Genome-guided discovery of antifungal filipins from a deep-sea-derived *Streptomyces antibioticus*
77 // N // filipin VI // IA *vs* 1 fungal strain.
78 // N // filipin XIII // IA *vs* 1 fungal strain.
79 // N // filipin XIV // IA *vs* 1 fungal strain.
80 // N // filipin VII // mod. activ. *vs* 1 fungal strain.
81 // N // filipin VIII // IA vs 1 fungal strain.
82 // N // filipin IX // mod. activ. *vs* 1 fungal strain.
83 // N // filipin X // mod. activ. *vs* 1 fungal strain.
84 // N // filipin XI // IA *vs* 1 fungal strain.
85 // N // filipin XII // IA *vs* 1 fungal strain.

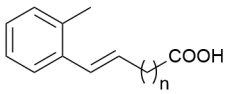
25 Actinobacteria *Streptomyces specialis* // (sediment) Dokdo, South Korea // Streptoglycerides E–H, unsaturated polyketides from the marine-derived bacterium *Streptomyces specialis* and their anti-inflammatory activity
86 // N // streptoglyceride E // IA *vs* NO prod.
87 // N // streptoglyceride F // weak activ. *vs* NO prod.
88 // N // streptoglyceride G // weak activ. *vs* NO prod.
89 // N // streptoglyceride H // weak activ. *vs* NO prod.

26 Actinobacteria *Streptomyces* sp // (sediment) Sattahip, Chonburi, Thailand // Sattahipmycin, a hexacyclic xanthone produced by a marine-derived *Streptomyces*
90 // N // sattahipmycin // Pot. activ. *vs* 5 bact strains; mod. activ. *vs P. falciparum*; IA to weak activ. *vs* 5 HTCL.

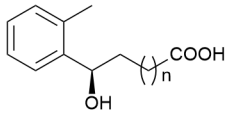
27 Actinobacteria *Streptomyces* sp // (sediment) Jeju island, South Korea // Anti-inflammatory butenolides from a marine-derived *Streptomyces* sp. 13G036
91 // N // (4*S*,10*S*,11*S*)-4,11-dihydroxy-10-methyl-dodec-2-en-1,4-olide // NT.



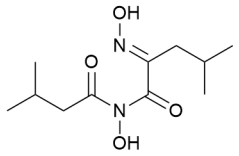
92 n = 8
93 n = 10



94 n= 8
95 n= 10



†**96** n= 8
†**97** n= 10



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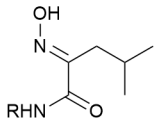
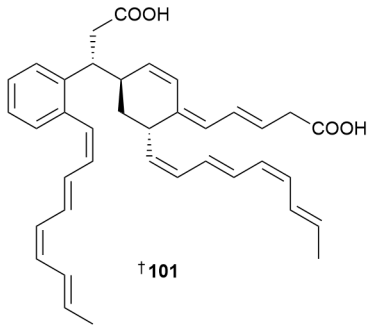
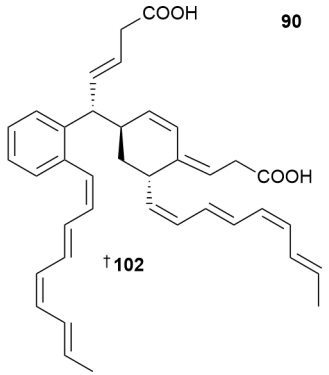


99 R = OH
100 R = H



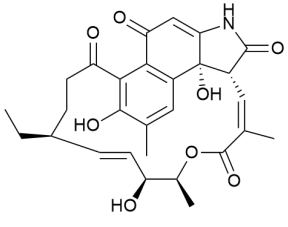
†**101**

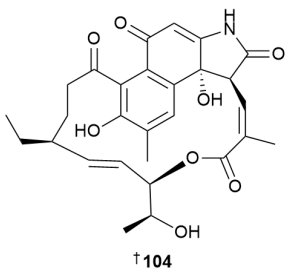


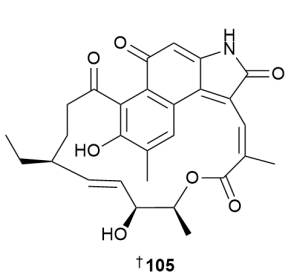
†**102**

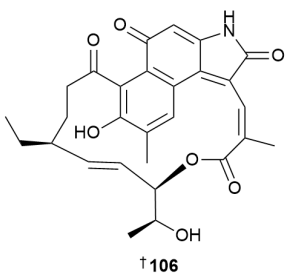
28 Actinobacteria *Streptomyces chumphonensis* // (sediment) Indian Ocean // Aromatic acids and leucine derivatives produced from the deep-sea actinomycetes *Streptomyces chumphonensis* SCSIO15079 with antihyperlipidemic activities
92 // N // 11-*oxo*-11-(*o*-tolyl) undecanoic acid // IA *vs* 7 bact. strains; IA *vs* 3 HTCLs; IA *vs* 1 nMCL.
93 // N // 13-*oxo*-13-(*o*-tolyl) tridecanoic acid // IA *vs* 7 bact. strains; IA *vs* 3 HTCLs; IA *vs* 1 nMCL.
94 // N // (*E*)-11-(*o*-tolyl) undec-10-enoic acid // IA *vs* 7 bact. strains; IA *vs* 3 HTCLs; IA *vs* 1 nMCL.
95 // N // (*E*)-13-(*o*-tolyl) tridec-12-enoic acid // IA *vs* 7 bact. strains; IA *vs* 3 HTCLs; IA *vs* 1 nMCL.
96 // N // (*R*)-11-hydroxy-11-(*o*-tolyl) undecanoic acid // IA *vs* 7 bact. strains; IA *vs* 3 HTCLs; IA *vs* 1 nMCL.
97 // N // (*R*)-13-hydroxy-13-(*o*-tolyl) tridecanoic acid // IA *vs* 7 bact. strains; IA *vs* 3 HTCLs; IA *vs* 1 nMCL.
98 // N // *N*-hydroxy-2-(hydroxyimino)-4-methyl-*N*-(3-methylbutanoyl) pentanamide // IA *vs* 7 bact. strains; IA *vs* 3 HTCLs; IA *vs* 1 nMCL.
99 // N // *N*-hydroxy-2-(hydroxyimino)-4-methylpentanamide // IA *vs* 7 bact. strains; IA *vs* 3 HTCLs; IA *vs* 1 nMCL.
100 // M // 2-(hydroxyimino)-4-methylpentanamide // IA *vs* 7 bact. strains; IA *vs* 3 HTCLs; IA *vs* 1 nMCL.

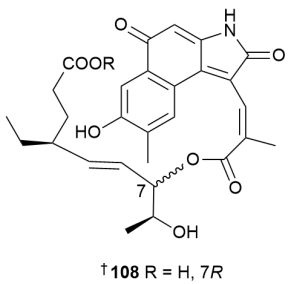
29 Actinobacteria *Streptomyces youssoufiensis* // * // Youssoufenes A2 and A3, antibiotic dimeric cinnamoyl lipids from the δdtlA mutant of a marine-derived *Streptomyces* strain
101 // N // youssoufene A2 // IA *vs* 3 bact. strains.
102 // N // youssoufene A3 // IA *vs* 3 bact. strains.

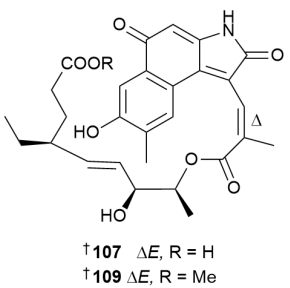


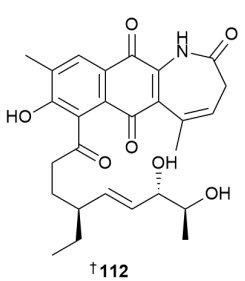


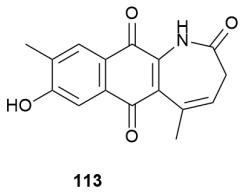


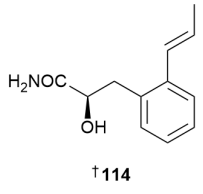


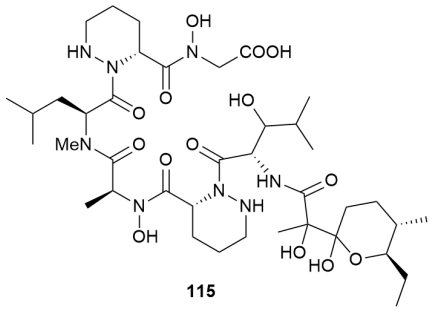


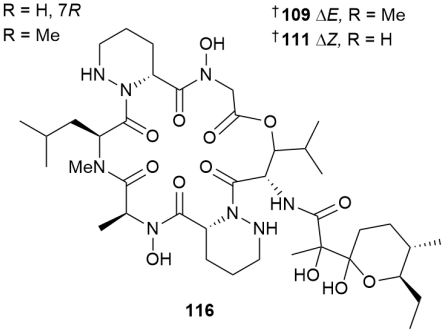






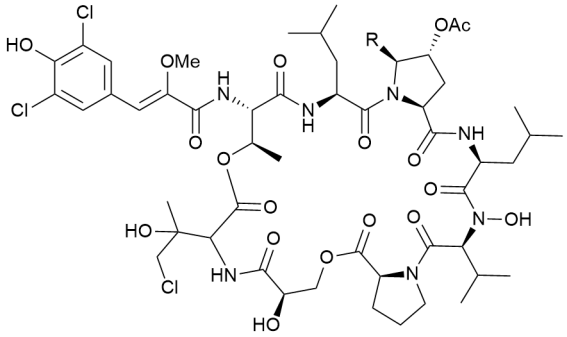




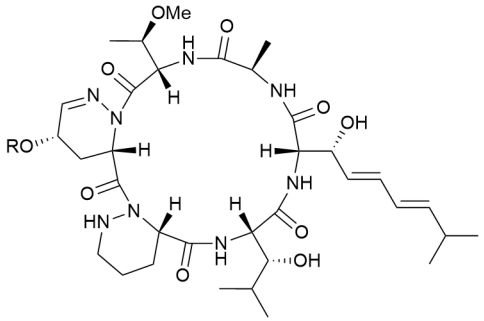


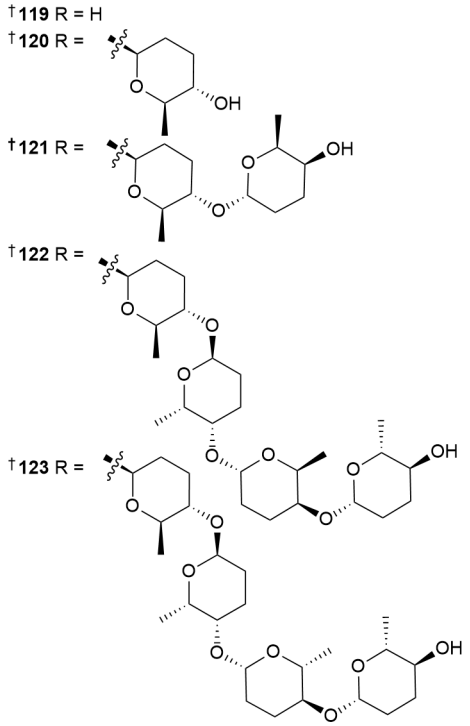
30 Actinobacteria *Streptomyces* sp. // (sediment) Pangkep District South Sulawesi Province, Indonesia // New hygrocins K–U and streptophenylpropanamide A and bioactive compounds from the marine-associated *Streptomyces* sp. ZZ1956
103 // N // hygrocin K // NT.
104 // N // hygrocin L // NT.
105 // N // hygrocin M // NT.
106 // N // hygrocin N // weak activ. *vs* 2 HTCLs; weak activ. *vs* 2 bact. strains.
107 // N // hygrocin O // IA *vs* 2 HTCLs; weak activ. *vs* 2 bact. strains.
108 // N // hygrocin P // NT.
109 // N // hygrocin Q // IA to weak activ. *vs* 2 HTCLs; IA *vs* 2 bact. strains.
110 // N // hygrocin R // weak activ. *vs* 2 HTCLs; weak activ. *vs* 2 bact. strains.
111 // N // hygrocin S // NT.
112 // N // hygrocin T // IA *vs* 2 HTCLs; IA to weak activ. *vs* 2 bact. strains.
113 // N // hygrocin U // IA *vs* 2 HTCLs; mod. activ. *vs* 2 bact. strains.
114 // N // streptobenzenepropanamide A // NT.

31 Actinobacteria *Streptomyces* sp. // (sediment) Manglares, Peru // Genome-mining-guided discovery and characterization of the PKS-NRPS-hybrid polyoxyperuin produced by a marine-derived Streptomycete
115 // N // polyoxyperuin A *seco* acid // IA *vs* 6 bact. strains.
116 // N // polyoxyperuin A // IA to pot. activ. *vs* 6 bact. strains.



†**117** R = Me
†**118** R = H

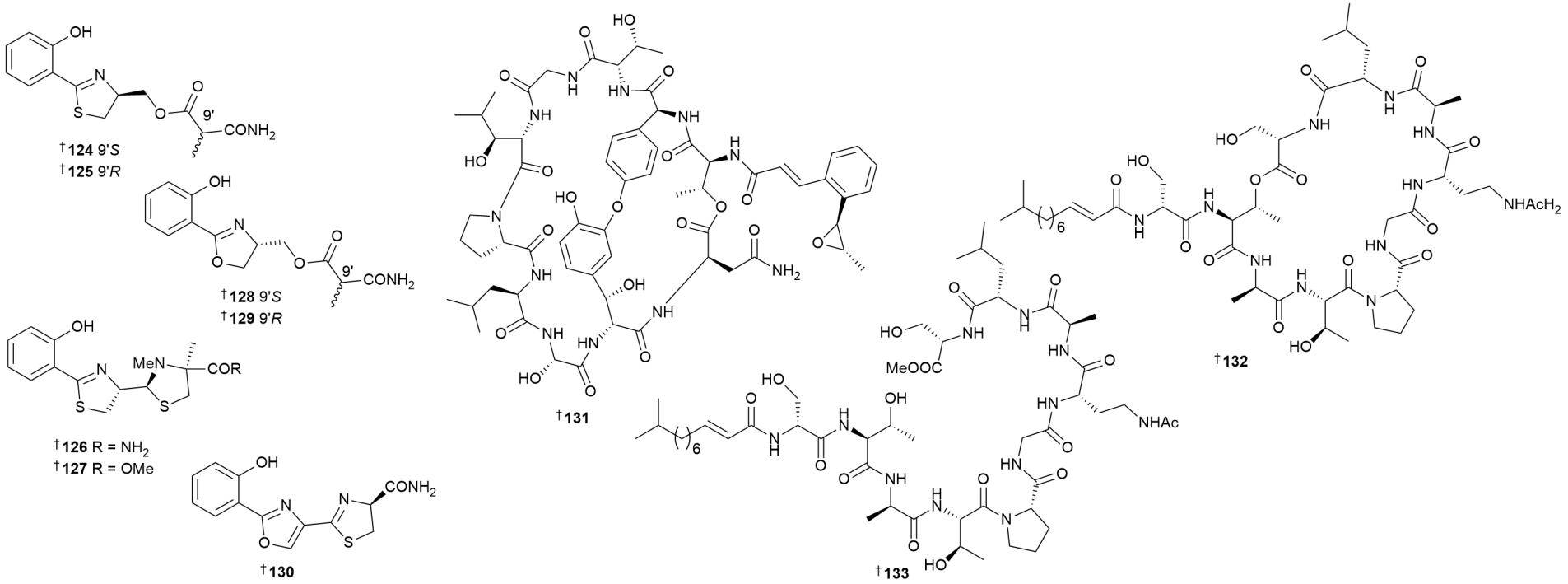




†**119** R = H
†**120** R =
†**121** R =
†**122** R =
†**123** R =

32 Actinobacteria *Streptomyces* sp. // (sediment) Dzhigit Bay, Russia // Streptocinnamides A and B, depsipeptides from *Streptomyces* sp. KMM 9044
117 // N // streptocinnamide A // potent activ. *vs* 3 bact. strains.
118 // N // streptocinnamide B // NT.

33 Actinobacteria *Streptomyces* sp. // (sponge, *Dysidea avara*) Xisha Islands, China // A cyclohexapeptide and its rare glycosides from marine sponge-derived *Streptomyces* sp. OUCMDZ-4539
119 // N // pyridapeptide A // IA *vs* 5 HTCL, IA *vs* 1 nMCL.
120 // N // pyridapeptide B // IA *vs* 5 HTCL, IA *vs* 1 nMCL.
121 // N // pyridapeptide C // IA to weak activ. *vs* 5 HTCL, IA *vs* 1 nMCL.
122 // N // pyridapeptide D // weak to mod. activ. *vs* 5 HTCL, mod. activ. *vs* nMCL.
123 // N // pyridapeptide E // weak to mod. activ. *vs* 5 HTCL, mod. activ. *vs* nMCL.

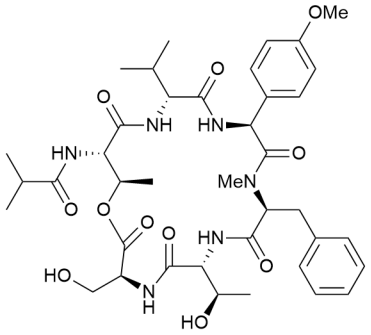


34 Actinobacteria *Streptomyces diastaticus* // (sponge, *Axinellida* sp.) Apo Island, Negros Oriental, Philippines // Feature-based molecular networking-guided discovery of siderophores from a marine mesophotic zone Axinellida sponge-associated actinomycete *Streptomyces diastaticus* NBU2966
124 // N // (4'*S*, 9'*S*)-pulicatin J // IA *vs* 4 bact. strains.; IA *vs* antioxid.
125 // N // (4'*S*, 9'*R*)-pulicatin J // IA *vs* 4 bact. strains.; IA *vs* antioxid.
126 // N // thiazostatin C // IA *vs* 4 bact. strains.; IA *vs* antioxid.
127 // N // methyl thiazostatin B // IA *vs* 4 bact. strains.; IA *vs* antioxid.
128 // N // (4'*S*, 9'*S*)-spoxazomicin E // IA *vs* 4 bact. strains.; IA *vs* antioxid.
129 // N // (4'*S*, 9'*R*)-spoxazomicin E // IA *vs* 4 bact. strains.; IA *vs* antioxid.
130 // N // spoxazomicin F // IA *vs* 4 bact. strains.; IA *vs* antioxid.

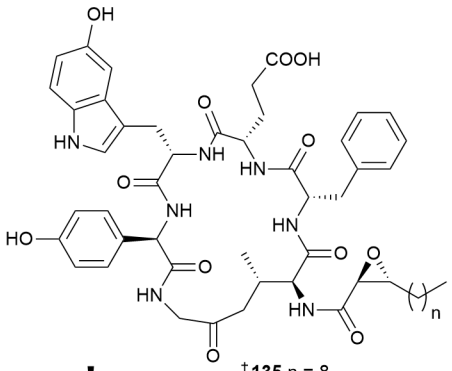
35 Actinobacteria *Streptomyces* sp. // (sediment) Oido, Siheung, Gyeonggi-do, the Republic of Korea // Epoxinnamide: an epoxy cinnamoyl-containing nonribosomal peptide from an intertidal mudflat-derived *Streptomyces* sp.
131 // N // epoxinnamide // IA vs murine TCL; weak activ. *vs* quinone reductase; IA *vs* angiogenisis.

36 Actinobacteria *Streptomyces* sp. // (sediment) Anmyeondo, Republic of Korea // Taeanamides A and B, nonribosomal lipo-decapeptides isolated from an intertidal-mudflat-derived *Streptomyces* sp.
132 // N // taeanamide A // IA *vs* 6 HTCL; IA *vs* 6 bact. strains; IA *vs* 4 fungal strains; weak activ. *vs M. tuberculosis*.
133 // N // taeanamide B // mod. activ. *vs* 6 HTCL; IA *vs* 6 bact. strains; IA *vs* 4 fungal strains; IA *vs M. tuberculosis.*

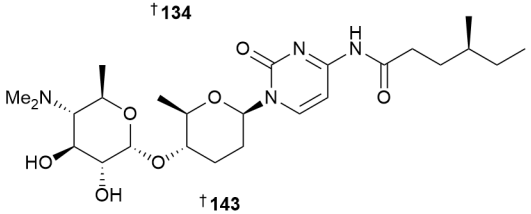
2 Marine microorganisms and phytoplankton: 2.1 Marine-sourced bacteria



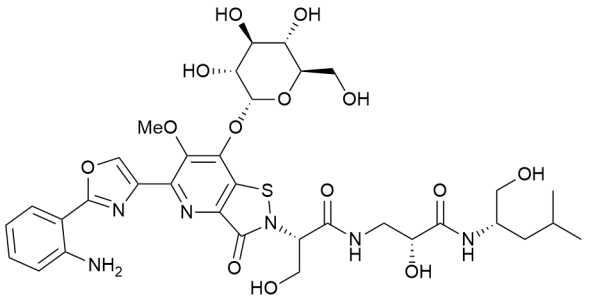
†**134**



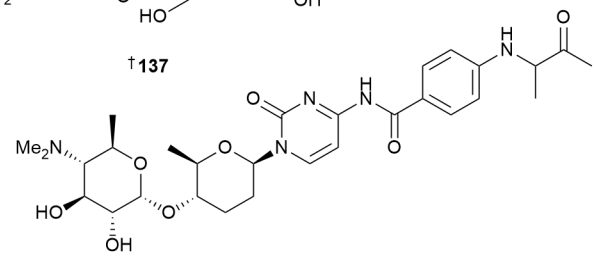
†**135** n = 8
†**136** n = 4



†**143**



†**137**



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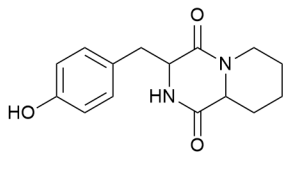

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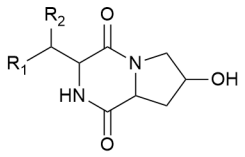
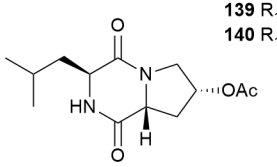
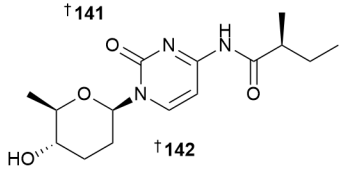


139 R_1 = H, R_2 = *i*-pr
140 R_1 = R_2 = Me



†**141**



†**142**

37 Actinobacteria *Streptomyces* sp. // (sponge, *Haliclona* sp.) Daya Bay, Shenzhen, China // A new xanthostatin from the sponge-associated actinomycete *Streptomyces* sp. SCSIO 40064
134 // N // xanthostatin B // IA inhib. glucosidase, porcine pancreatic elastase, tyrosinase, and acetylcholinesterase; IA vs 6 bact. strains.

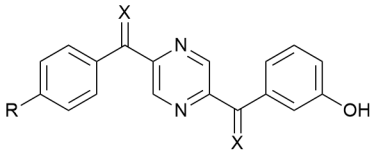
38 Actinobacteria *Streptomyces* sp. // (sediment) Beolgyo, South Korea // Cystargamides C and D, new cyclic lipopeptides from a tidal mudflat-derived Streptomyces sp. JMS132.
135 // N // cystargamide C // IA *vs* antioxid.
136 // N // cystargamide D // IA *vs* antioxid.

39 Actinobacteria *Streptomyces* sp // (sediment) Prince Edward Island, Canada // Discovery of levesquamide B through global natural product social molecular networking
137 // N // levesquamide B // NT.

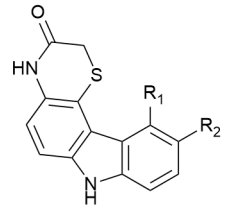
40 Actinobacteria *Streptomyces* sp. // (sediment) Kenting coast, Taiwan // Probing anti-leukemic metabolites from marine-derived *Streptomyces* sp. LY1209
138 // N // 3-(4-hydroxybenzyl)-hexahydro-pyrido[1,2-a]pyrazine-1,4)-dione // IA *vs* 1 HTCL.
139 // N // cyclo(Leu-hydroxy-Pro) // IA *vs* 1 HTCL.
140 // N // (3*S*,7*R*,8a*S*)-7-hydroxy-3-isopropylhexahydropyrrolo[1,2-a]pyrazine-1,4-dione // IA *vs* 1 HTCL.

41 Actinobacteria *Streptomyces* sp. // (sediment), Haikou, China // Diketopiperazine and enterotoxin analogues from the mangrove derived-soil *Streptomyces* sp. SCSIO 41400
141 // N // cyclo-(D-8-acetoxyl-Pro-L-Leu) // IA inhib. of AChE and pancreatic lipase.

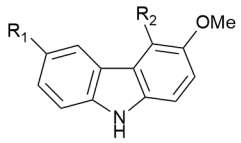
42 Actinobacteria *Streptomyces* sp. // (sediment) Enggano Island, Indonesia // High plasticity of the amicetin biosynthetic pathway in *Streptomyces* sp. SHP 22-7 led to the discovery of streptcytosine P and cytosaminomycins F and G and facilitated the production of 12F-plicacetin
142 // N // streptcytosine P // IA *vs* 2 fungal strains; IA *vs* 10 bact strains; IA *vs* 1 HTCL.
143 // N // cytosaminomycin F // IA *vs* 2 fungal strains; IA to weak activ. *vs* 10 bact. strains; IA *vs* 1 HTCL.
144 // N // cytosaminomycin G // IA *vs* 2 fungal strains; IA to mod. activ. *vs* 10 bact. strains; IA *vs*. *M. tuberculosis*; weak activ. *vs* 1 HTCL.



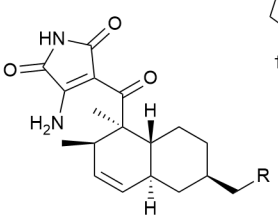
145 X = H, H, R = H
146 X = O, R = OH



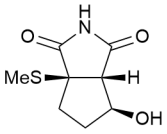
147 R_1 = H, R_2 = H
148 R_1 = Cl, R_2 = OMe



149 R_1 = OMe, R_2 = Cl
150 R_1 = H, R_2 = Br



†**151** R = H
†**152** R = OH



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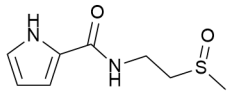

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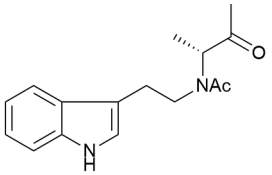
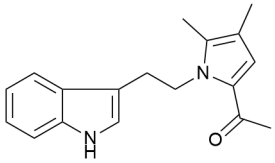


†**157**



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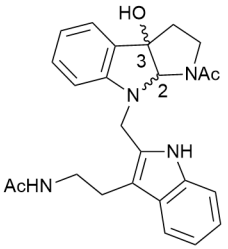


†**155** 2*S*, 3*R*
†**156** 2*R*, 3*S*

43 Actinobacteria *Streptomyces* sp. // (sediment) Jolla Submarine Canyon, La Jolla, California // Actinopolymorphols E and F, pyrazine alkaloids from a marine sediment-derived bacterium *Streptomyces* sp
145 // N // actinopolymorphol E // IA *vs* 6 bact. strains.
146 // N // actinopolymorphol F // IA to weak activ. *vs* 6 bact. strains.

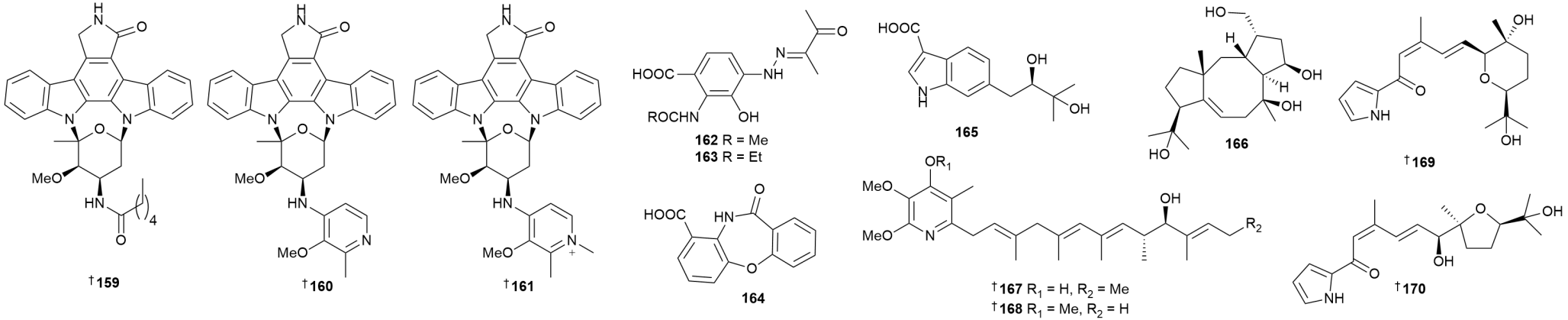
44 Actinobacteria *Streptomyces diacarni* // (coral, *Acropora austera*) Zhongsha Islands, China // Halo- and thiocarbazomycins from coral- and coral reef sands-derived Actinomycetes
147 // N // thiocarbazomycin A // IA *vs* 14 bact. strains.
148 // N // thiocarbazomycin B // IA *vs* 14 bact. strains.
149 // N // chlocarbazomycin E // IA *vs* 14 bact. strains.
150 // N // brocarbazomycin A // IA *vs* 14 bact. strains.

45 Actinobacteria *Streptomyces* sp // (isopod, *Ligia exotica*) Seocheon, Chungcheongnam-do, Korea // Ligiamycins A and B, decalin-amino-maleimides from the co-culture of *Streptomyces* sp. and *Achromobacter* sp. isolated from the marine wharf roach, *Ligia exotica*
151 // N // ligiamycin A // IA to weak activ *vs*. 6 bact. strains; IA *vs*. 4 fungal strains; IA *vs.* 5 HTCL.
152 // N // ligiamycin B // IA *vs*. 6 bact. strains; IA *vs*. 4 fungal strains; IA *vs*. 5 HTCL.

46 Actinobacteria *Streptomyces bacillaris* // (sediment) Jeju Island, Korea // Inhibitory effects of nitrogenous metabolites from a marine-derived *Streptomyces bacillaris* on isocitrate lyase of *Candida albicans*
153 // N // bacillimide // IA *vs* 1 fungus; IA inhib. fungal isocitrate lyase.
154 // M // bacillapyrrole // IA *vs* 1 fungus; IA inhib. fungal isocitrate lyase.

47 Actinobacteria *Streptomyces* sp // (shrimp, *Penaeus* sp.) Zhoushan archipelago, Zhejiang, East China Sea // Streptoindoles A–D, novel antimicrobial indole alkaloids from the marine-associated actinomycete *Streptomyces* sp. ZZ1118
155 // N // streptoindole A // weak activ. *vs* 2 bact. strains; weak activ. *vs* 1 fungal strain.
156 // N // streptoindole B // weak to mod. activ. *vs* 2 bact. strains; mod. activ. *vs* 1 fungal strain.
157 // N // streptoindole C // IA to mod. activ. *vs* 2 bact. strains; mod. activ. *vs* 1 fungal strain.
158 // N // streptoindole D // IA to weak activ. *vs* 2 bact. strains; IA *vs* 1 fungal strain; XRD.

2 Marine microorganisms and phytoplankton: 2.1 Marine-sourced bacteria



48 Actinobacteria *Streptomyces* sp. // (driftwood) Beibu Gulf, Guangxi, China // Cytotoxic indolocarbazoles from a marine-derived *Streptomyces* sp. OUCMDZ-5380
159 // N // streptocarbazole F // IA to mod. activ. *vs* 12 HTCLs.
160 // N // streptocarbazole G // IA to mod. activ. *vs* 12 HTCLs.
161 // N // streptocarbazole H // IA to weak activ. *vs* 12 HTCLs.

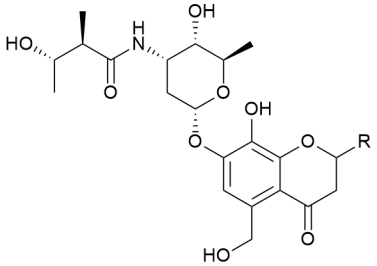
49 Actinobacteria *Streptomyces* sp. // (sediment) Pearl River Estuary, China // Two new phenylhydrazone derivatives from the Pearl river estuary sediment-derived *Streptomyces* sp. SCSIO 40020
162 // N // penzonemycin A // IA *vs* 4 HTCLs; IA *vs* 4 bact. strains; IA *vs* 3 fungal strains; IA inhib. glucosidase; XRD.
163 // N // penzonemycin B // NT.
164 // N // demethylmycemycin A // NT.

50 Actinobacteria *Streptomyces malaysiensis* // (sponge) Wenchang, Hainan province, China // New diterpene and indole alkaloid analogs from the *Streptomyces malaysiensis* SCSIO 41397
165 // N // streptoprenylindole D // IA *vs* 1 bact. strain.
166 // N // 15-hydroxycyclooctatin // IA *vs* 1 bact. strain.

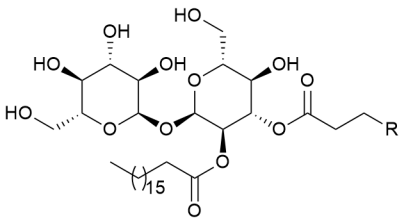
51 Actinobacteria *Streptomyces* sp. // (sediment) Yagong island, Sansha City, Hainan Province, China // New piericidin derivatives from the marine-derived *Streptomyces* sp. SCSIO 40063 with cytotoxic activity
167 // N // piericidin A5 // IA *vs* 4 HTCLs.
168 // N // piericidin G1 // IA *vs* 4 HTCLs.

52 Actinobacteria *Streptomyces* sp // (sediment) East Sea of Korea // Discovery and photoisomerization of new pyrrolosesquiterpenoids glaciapyrroles D and E, from deep-sea sediment *Streptomyces* sp.
169 // N // glaciapyrrole D // weak activ. *vs* influenza A virus.
170 // N // glaciapyrrole E // IA *vs* influenza A virus; XRD.

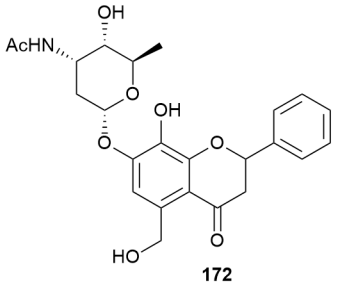
2 Marine microorganisms and phytoplankton: 2.1 Marine-sourced bacteria



171 R = Ph
173 R = $CH_2CH(CH_3)_2$



†**174** R = SMe
†**175** R = H



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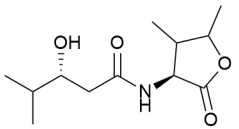

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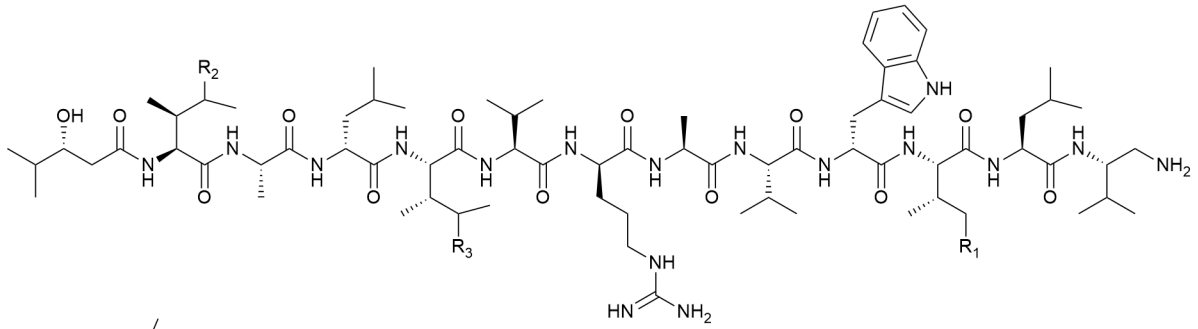
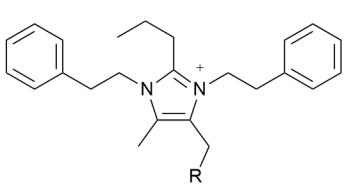


176 R_1 = H, R_2 = R_3 =Cl
177 R_1 = Me, R_2 = R_3 = Cl
†**178** R_1 = R_2 = R_3 = H
†**179** R_1 = Me, R_2 = R_3 = H

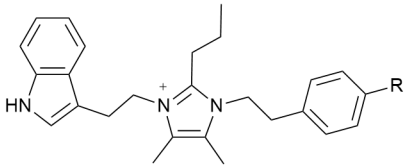
53 Actinobacteria *Streptomyces* sp. // (sediment) Muan, Republic of Korea // Actinoflavosides B–D, flavonoid type glycosides from tidal mudflat-derived *Actinomyces*
171 // N // actinoflavoside B // IA *vs* 4 bact. strains; IA to weak *vs* immunomod. activ.
172 // N // actinoflavoside C // IA *vs* 4 bact. strains; IA to weak *vs* immunomod. activ.
173 // N // actinoflavoside D // IA *vs* 4 bact. strains; IA to weak *vs* immunomod. activ.

54 Actinobacteria *Tsukamurella pseudospumae* // (sediment) Indian Ocean // New glycosylated secondary metabolites from marine-derived bacteria
174 // N // tsukalipid A // IA *vs* 6 HTCLs.
175 // N // tsukalipid B // IA *vs* 6 HTCLs.

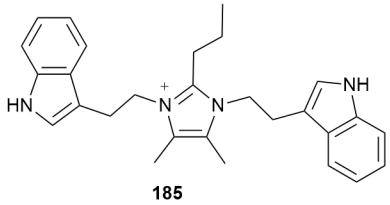
55 Bacteroidetes *Aquimarina* sp. // // Aquimarins, peptide antibiotics with amino-modified C-termini from a sponge-derived *Aquimarina* sp. bacterium
176 // N // aquimarin A // IA to pot. activ. *vs* 8 bact. strains, IA *vs* 1 HTCL, IA *vs* 3 nMCLs.
177 // N // aquimarin B // IA to pot. activ. *vs* 8 bact. strains, IA *vs* 1 HTCL, IA *vs* 3 nMCLs.
178 // N // aquimarin C // IA to pot. activ. *vs* 8 bact. strains, IA *vs* 1 HTCL, IA to weak activ. *vs* 3 nMCLs; total synth. achieved.
179 // N // aquimarin D // IA to pot. activ. *vs* 8 bact. strains, IA *vs* 1 HTCL, IA to weak activ. *vs* 3 nMCLs; total synth. achieved.
180 // N // aquimarin E // NT.



181 R = H
182 R = Me



183 R = H
184 R = OH



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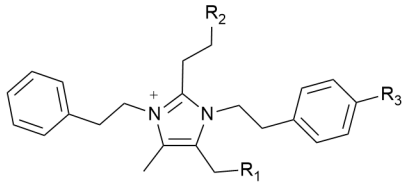
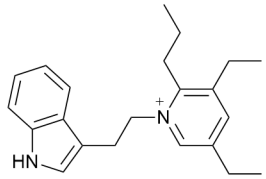


186 R_1 = H, R_2 = Me, R_3 = OH
187 R_1 = Me, R_2 = Me, R_3 = OH
188 R_1 = R_2 = R_3 = H



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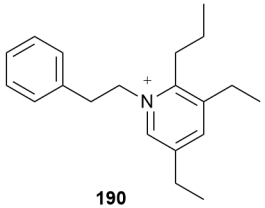

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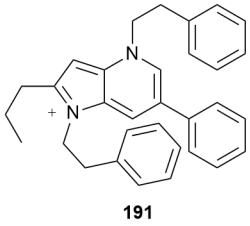

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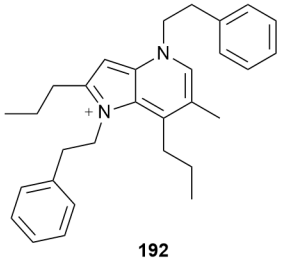

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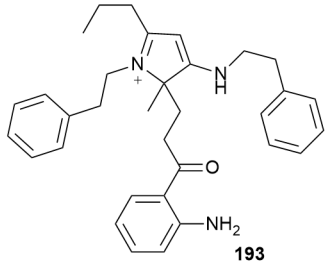
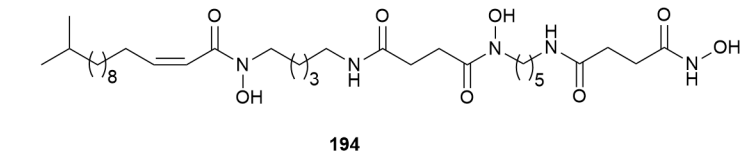


193

56 Bacteroidetes *Tenacibaculum discolor* // (red alga, *Chandracanthus chamisoii*) Paracas Bay, Peru // Discovery and biosynthesis of antimicrobial phenethylamine alkaloids from the marine flavobacterium *Tenacibaculum discolor* sv11
181 // N // discolin A // IA to mod. activ. *vs* 6 bact. strains; IA *vs*2 fungal strains; IA *vs C. elegans*.
182 // N // discolin B // IA to weak activ. *vs* 6 bact. strains; IA *vs*2 fungal strains; IA *vs C. elegans*.

57 Bacteroidetes *Tenacibaculum discolor* // (red alga, *Chandracanthus chamisoii*) Paracas Bay, Peru // Seven alkaloids isolated from marine flavobacterium *Tenacibaculum discolor* sv11
183 // N // discolin C // IA to mod. activ. *vs* 5 bact. strains; IA *vs* 1 fungal strain.
184 // N // discolin D // IA *vs* 5 bact. strains; IA *vs* 1 fungal strain.
185 // N // discolin E // IA to mod. activ. *vs* 5 bact. strains; weak activ. *vs* 1 fungal strain.
186 // N // discolin F // IA *vs* 5 bact. strains; IA *vs* 1 fungal strain.
187 // N // discolin G // IA *vs* 5 bact. strains; IA *vs* 1 fungal strain.
188 // N // discolin H // IA *vs* 5 bact. strains; IA *vs* 1 fungal strain.
189 // N // dispyridine A // IA *vs* 5 bact. strains; IA *vs* 1 fungal strain.

56 Bacteroidetes *Tenacibaculum discolor* // (red alga, *Chandracanthus chamisoii*) Paracas Bay, Peru // Discovery and biosynthesis of antimicrobial phenethylamine alkaloids from the marine flavobacterium *Tenacibaculum discolor* sv11
190 // N // dispyridine // IA *vs* 6 bact. strains; IA *vs* 2 fungal strains; IA *vs C. elegans*.
191 // N // dispyrrolopyridine A // IA to pot. activ. *vs* 6 bact. strains; mod. activ. *vs* 2 fungal strains; weak activ. *vs C. elegans*.
192 // N // dispyrrolopyridine B // IA to mod. activ. *vs* 6 bact. strains; IA to weak activ. *vs*2 fungal strains; IA *vs C. elegans*.
193 // N // dispyrrole // IA to mod. activ. *vs* 6 bact. strains; IA *vs*2 fungal strains; IA *vs C. elegans*.



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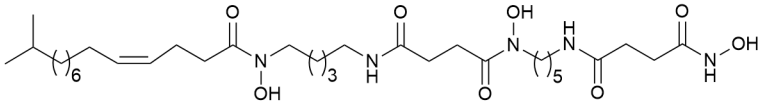

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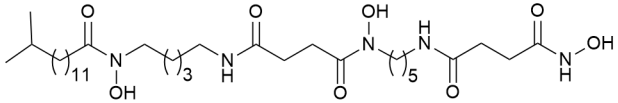

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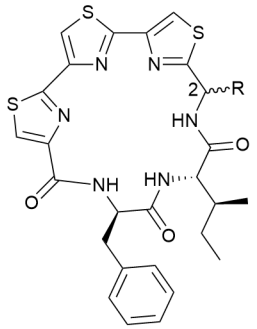
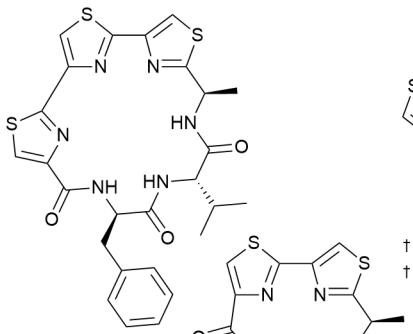
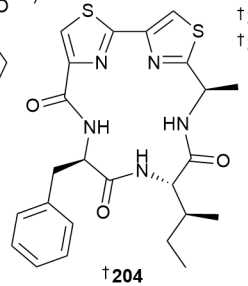
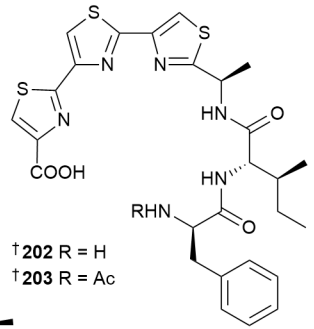


†197 2*R*, R = Me
†198 2*S*, R = Me
†199 R = H
†201 2*R*, R = CH_2OH



†200





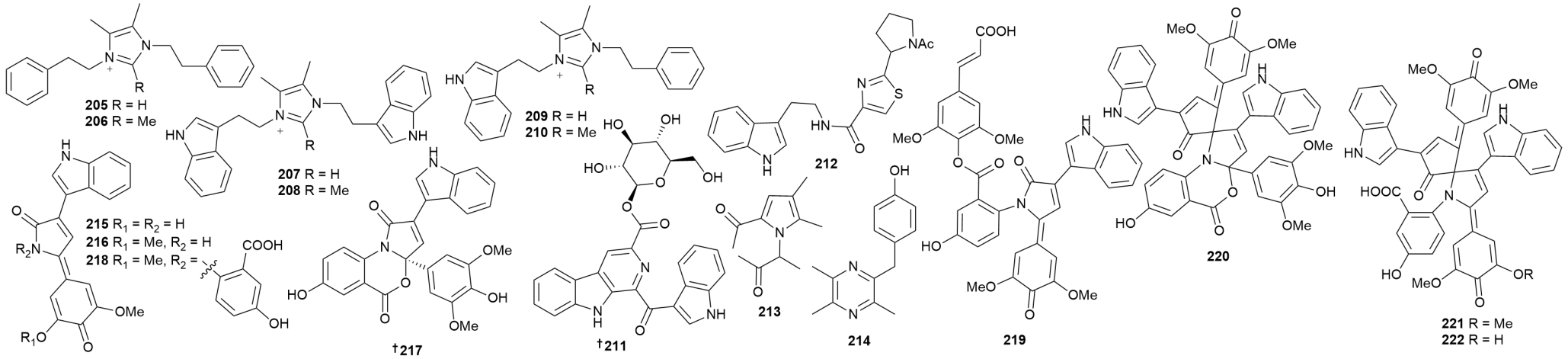
†202 R = H
†203 R = Ac

†204

58 Bacteroidetes *Tenacibaculum* sp // (coral *Favia* sp.) // Tenacibactins K–M, cytotoxic siderophores from a coral-associated gliding bacterium of the genus *Tenacibaculum*
194 // N // tenacibactin K // weak activ. *vs* 2 nMCL.
195 // N // tenacibactin L // IA to weak activ. *vs* 2 nMCL.
196 // N // tenacibactin M // mod. activ. *vs* 2 nMCL.

59 Firmicutes *Bacillus* sp. // (biofilm) Port Shelter, Hong Kong // Bathiapeptides: polythiazole-containing peptides from a marine biofilm-derived *Bacillus* sp.
197 // N // bathiapeptide A1 // weak to mod. cytotox. *vs* 4 HTCLs; XRD.
198 // N // bathiapeptide A2 // IA to weak cytotox. *vs* 4 HTCLs.
199 // N // bathiapeptide B // weak cytotox. *vs* 4 HTCLs.
200 // N // bathiapeptide C // weak cytotox. *vs* 4 HTCLs; XRD.
201 // N // bathiapeptide D // IA *vs* 4 HTCLs.
202 // N // bathiapeptide E // IA *vs* 4 HTCLs.
203 // N // bathiapeptide F // IA *vs* 4 HTCLs.
204 // N // bathiapeptide G // IA *vs* 4 HTCLs.

2 Marine microorganisms and phytoplankton: 2.1 Marine-sourced bacteria



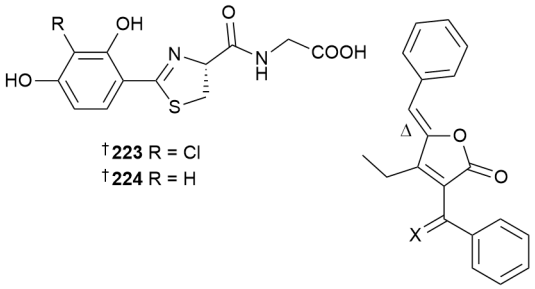
60 Firmicutes *Bacillus* sp // (sponge, *Cinachyrella apion*) Ramrod Key, Florida, USA // Bacillimidazoles A–F, imidazolium-containing compounds isolated from a marine *Bacillus*
205 // N // bacillimidazole A // IA *vs* 3 bact. strains.
206 // N // bacillimidazole B // IA *vs* 3 bact. strains.
207 // N // bacillimidazole C // IA *vs* 3 bact. strains.
208 // N // bacillimidazole D // IA *vs* 3 bact. strains.
209 // N // bacillimidazole E // IA *vs* 3 bact. strains.
210 // N // bacillimidazole F // IA *vs* 3 bact. strains.

54 Firmicutes *Bacillus siamensis* // (green alga, Caulerpa sp.) Cu Lao Cham peninsula, Vietnam; (marine sediment) Indian Ocean // New glycosylated secondary metabolites from marine-derived bacteria
211 // N // pityriacitrin D // IA to weak cytotox. *vs* 6 HTCLs.

61 Firmicutes *Bacillus atrophaeus* // (sponge, *Dysidea avara*) South China Sea // Bacillamide F, from marine *Bacillus atrophaeus* C89, preliminary effects on leukemia cell lines
212 // N // bacillamide F // IA *vs* 6 HTCL.

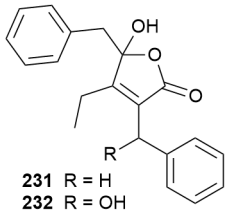
62 Firmicutes *Bacillus subtilis* // (sediment) Mariana Trench // (±)-bacillipyrrole A and bacillipyrazine A from the Mariana Trench-associated bacterium *Bacillus subtilis* SY2101
213 // N // (±)-bacillipyrrole A // IA *vs* 1 HTCL; IA *vs* 2 bact. strains; IA *vs* 1 fungal strain.
214 // N // bacillipyrazine A // IA *vs* 1 HTCL; IA *vs* 2 bact. strains; IA *vs* 1 fungal strain.

63 Proteobacteria *Phaeobacter inhibens* // // Structural elucidation of cryptic algaecides in marine algal-bacterial symbioses by NMR spectroscopy and microED
215 // N // sinacidin A // IA to weak activ. *vs* 24 bact strains; IA *vs* 3 fungal strains; weak algacidal activ.
216 // N // sinacidin B // IA to weak activ. *vs* 24 bact strains; IA *vs* 3 fungal strains; weak algacidal active; microED.
217 // N // sinatryptin A // IA to mod. activ. *vs* 24 bact strains; IA *vs* 3 fungal strains; weak algacidal activ.
218 // N // sinatryptin B // IA as algacide
219 // N // sinatryptin C // IA as algacide
220 // N // sinamicin A // weak algacidal activ.
221 // N // sinamicin B // NT; microED.
222 // N // sinamicin C // NT; microED.

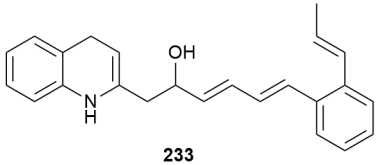


†**223** R = Cl
†**224** R = H

225 Δ*Z*, X = H, H
226 Δ*E*, X = H, H
227 Δ*Z*, X = O
228 Δ*E*, X = O
229 Δ*Z*, X = H, OH
230 Δ*E*, X = H, OH



231 R = H
232 R = OH



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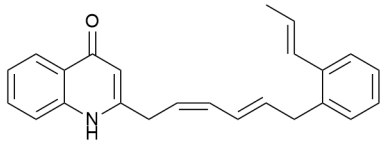

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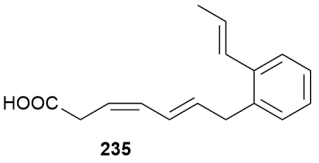


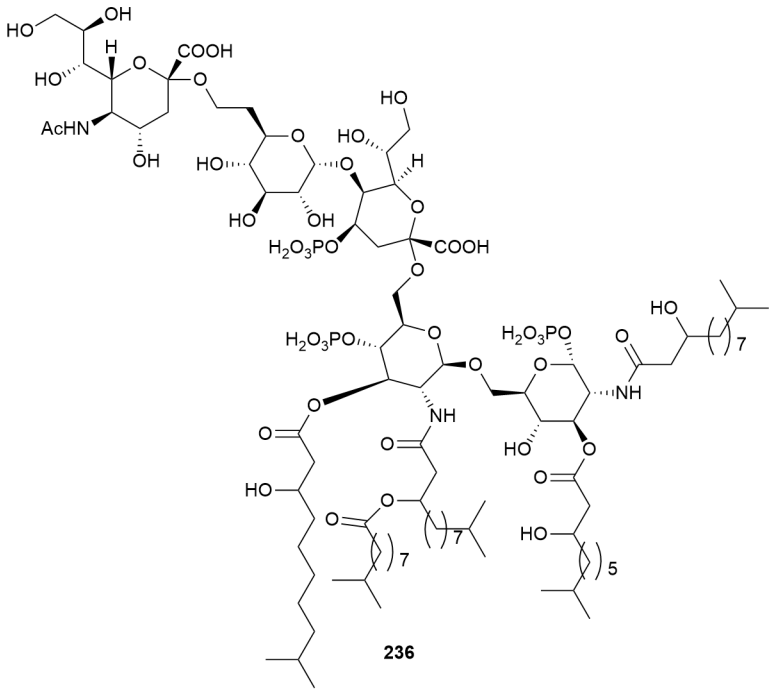
235

64 Proteobacteria *Teredinibacter turnerae* // (shipworm, *Bankia gouldi*) // Halogenated metal-binding compounds from shipworm symbionts
223 // N // teredinibactin A // NT.
224 // N // dechloroteredinibactin A // NT.

65 Proteobacteria *Plesiocystis pacifica* // // New deoxyenhygrolides from *Plesiocystis pacifica* provide insights into butenolide core biosynthesis
225 // N // deoxyenhygrolide C // NT.
226 // N // deoxyenhygrolide D // NT.
227 // N // deoxyenhygrolide E // NT.
228 // N // deoxyenhygrolide F // NT.
229 // N // deoxyenhygrolide G // IA *vs* 6 bact. strains.
230 // N // deoxyenhygrolide H // NT.
231 // N // deoxyenhygrolide I // NT.
232 // N // deoxyenhygrolide J // IA *vs* 6 bact. strains.

66 Proteobacteria *Marinobacterium* sp. // (coral, *Euphyllia* sp.) // Marinoquinolones and marinobactoic acid: antimicrobial and cytotoxic *ortho*-dialkylbenzene-class metabolites produced by a marine obligate gammaproteobacterium of the genus *Marinobacterium*
233 // N // marinoquinolone A // weak activ. *vs* nMCL; IA to weak activ. *vs* 4 bact. strains; IA to weak activ. *vs* 3 fungal strains; XRD.
234 // N // marinoquinolone B // weak activ. *vs* nMCL; IA *vs* 4 bact. strains; IA *vs* 3 fungal strains.
235 // N // marinobactoic acid // weak activ. *vs* nMCL; IA *vs* 4 bact. strains; IA *vs* 3 fungal strains.

2 Marine microorganisms and phytoplankton: 2.1 Marine-sourced bacteria



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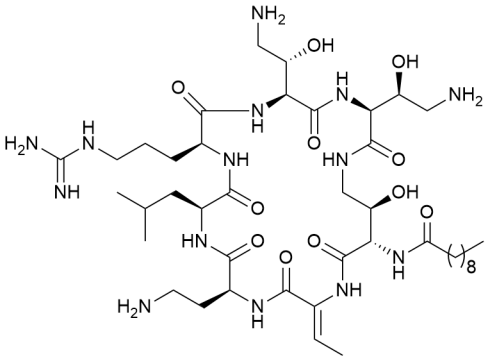
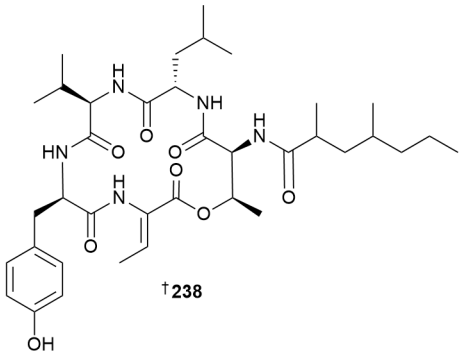


†**237**

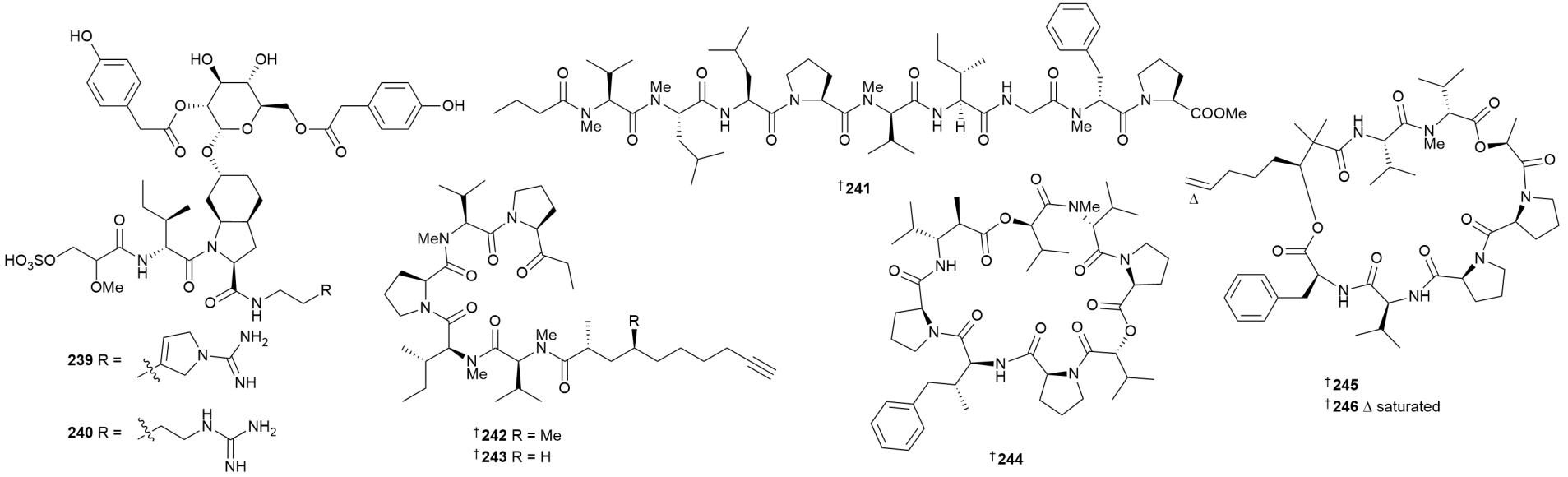


†**238**

67 Proteobacteria *Idiomarina zobellii* // (seawater) North-western Pacific Ocean // Structure of the lipooligosaccharide from the deep-sea marine bacterium *Idiomarina zobellii* KMM 231T, isolated at a depth of 4000 meters
236 // N // lipid A from *Idiomarina zobellii* KMM 231T // NT.

72 Actinobacteria *Pseudoalteromonas* sp. // // Total synthesis and structural elucidation of ogipeptins
237 // R // ogipeptin A // NT; total synth. achieved.

73 Actinobacteria *Streptomyces* sp. // // Total synthesis and stereochemistry establishment of tumescenamide A
238 // R // tumescenamide A // NT; total synth. achieved.

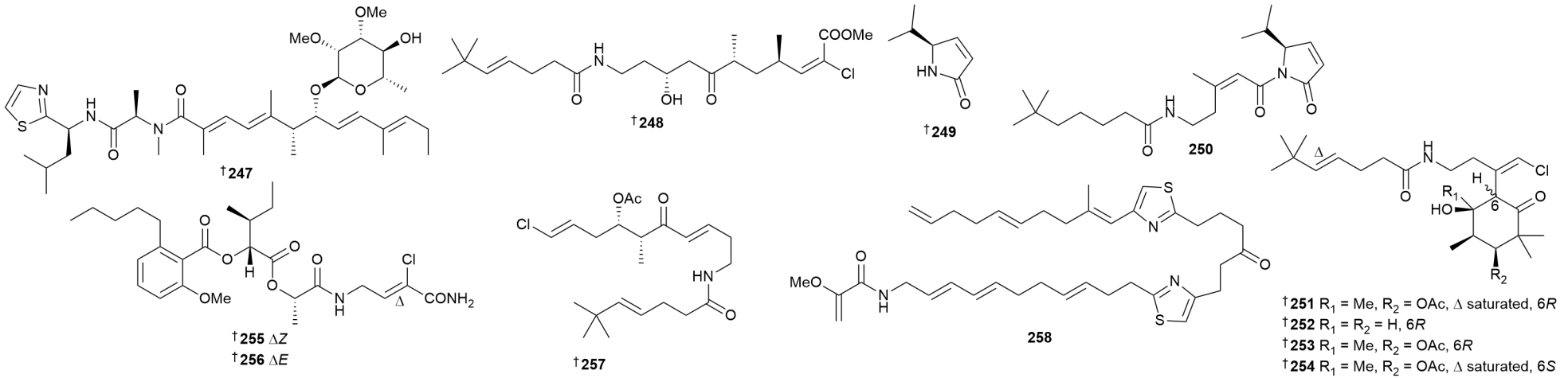


96 Cyanobacteria *Nostoc* sp. // Varlaxudden, Porvoo, Finland // Discovery of varlaxins, new aeruginosin-type inhibitors of human trypsins
239 // N // varlaxin 1046A // pot. activ. *vs* 1 porcine and 3 hum. trypsins.
240 // N // varlaxin 1022A // pot. activ. *vs* 1 porcine and 3 hum. trypsins.

97 Cyanobacteria *Oscillatoria* sp. // Paracel Islands, China Sea // Targeted discovery of amantamide B, an ion channel modulating nonapeptide from a South China Sea *Oscillatoria* cyanobacterium
241 // N // amantamide B // IA *vs* 4 bact strains; IA to weak activ. *vs* 3 HTCL; weak activ. *vs* neocortical neuron SCO.

98 Cyanobacteria *Okeania* sp. // Odo, Okinawa Prefecture, Japan // Odookeanynes A and B, acetylene-containing lipopeptides from an *Okeania* sp. marine cyanobacterium
242 // N // odookeanyne A // IA *vs* adipose tissue-derived stem cells.
243 // N // odookeanyne B // IA adipose tissue-derived stem cells.

99 Cyanobacteria *Symploca hydnoides* // Trikora beach, Bintan Island, Indonesia // Triproamide and pemukainalides, cyclic depsipeptides from the marine cyanobacterium *Symploca hydnoides*
244 // N // triproamide // IA *vs* 1 HTCL.
245 // N // pemukainalide A // weak activ. *vs* 1 HTCL.
246 // N // pemukainalide B // IA *vs* 1 HTCL.



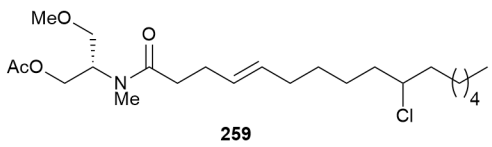
100 Cyanobacteria *Leptochromothrix valpauliae* // Ie island, Okinawa, Japan // Structural determination, total synthesis, and biological activity of iezoside, a highly potent Ca^{2+}-ATPase inhibitor from the marine cyanobacterium *Leptochromothrix valpauliae*
247 // N // iezoside // pot. activ. *vs* 1 HTCL; pot. inhib. SERCA protein; total synth. achieved.

101 Cyanobacteria *Oscillatoria* sp. // Luquillo Beach, Puerto Rico // Luquilloamides, cytotoxic lipopeptides from a Puerto Rican collection of the filamentous marine cyanobacterium *Oscillatoria* sp.
248 // N // luquilloamide A // weak activ. *vs* 1 HTCL.
249 // N // luquilloamide B // IA *vs* 1 HTCL.
250 // N // luquilloamide C // IA *vs* 1 HTCL.
251 // N // luquilloamide D // IA *vs* 1 HTCL.
252 // N // luquilloamide E // weak activ. *vs* 1 HTCL.
253 // N // luquilloamide F // IA *vs* 1 HTCL.
254 // N // luquilloamide G // IA *vs* 1 HTCL.

102 Cyanobacteria *Hormoscilla* sp. // Anae Island, Guam // Discovery, synthesis, and biological evaluation of anaenamides C and D from a new marine cyanobacterium, *Hormoscilla* sp.
255 // N // anaenamide C // IA *vs* 1 HTCL; IA *vs* Nrf2 activation; total synth. achieved
256 // N // anaenamide D // IA *vs* 1 HTCL; IA *vs* Nrf2 activation; total synth. achieved

103 Cyanobacteria *Okeania* sp // Beru, Kasari-cho,Amami-shi, Kagoshima, Japan // Isolation and total synthesis of beru'amide, an antitrypanosomal polyketide from a marine cyanobacterium *Okeania* sp.
257 // N // beru'amide // weak activ. *vs* 1 HTCL; mod. activ. *vs T. b. rhodesiense*; total synth. achieved.

104 Cyanobacteria *Caldora* sp // Ishigaki, Okinawa, Japan // Isolation of caldorazole, a thiazole-containing polyketide with selective cytotoxicity under glucose-restricted conditions
258 // N // caldorazole // pot. cytotox. *vs* 3 HTCLs.



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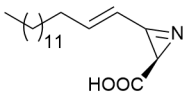
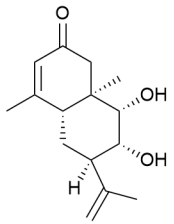
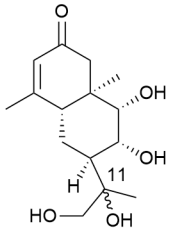


†**260**



†**261**

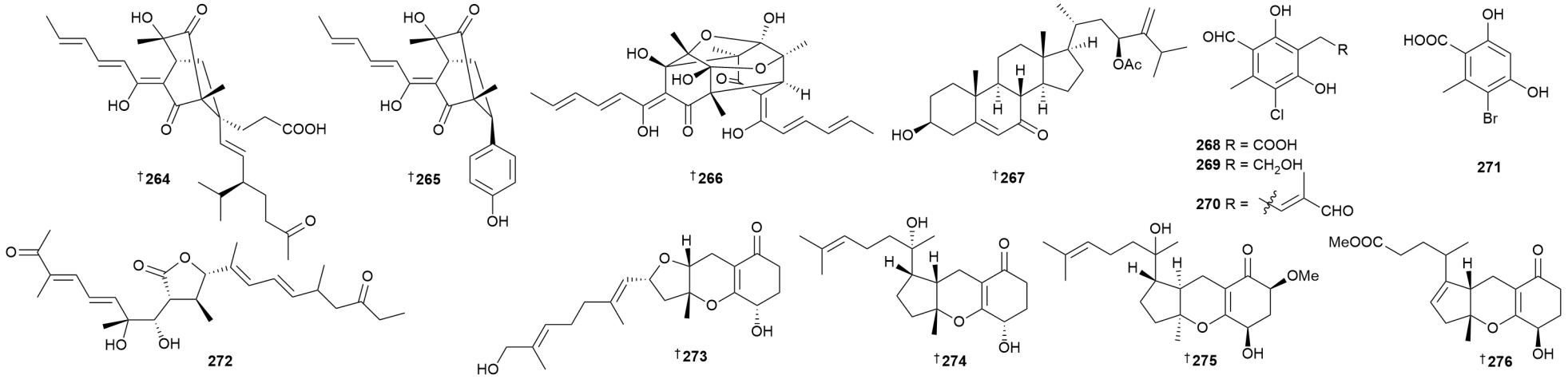


†**262** 11*R*
†**263** 11*S*

105 Cyanobacteria *Moorena bouillonii* // // Heterologous expression in *Anabaena* of the columbamide Pathway from the cyanobacterium *Moorena bouillonii* and production of new analogs
259 // N // columbamide K // IA *vs* neocortical neuron SCO.

106 Cyanobacteria *Caldora* sp. // Fort Lauderdale, Florida, USA // Anti-inflammatory dysidazirine carboxylic acid from the marine cyanobacterium *Caldora* sp. collected from the reefs of Fort Lauderdale, Florida
260 // N // dysidazirine carboxylic acid // IA *vs* 1 HTCL; IA *vs* NO prod.

107 Cyanobacteria *Scytonema* sp. // Majuro Atoll, Marshall Islands // Spirovetivane- and eudesmane-type sesquiterpenoids isolated from the culture media of two cyanobacterial strains
261 // N // stigolone // IA inhibition of TRPM ion channels.
262 // N // 11*R*,12-dihydroxystigolone // IA inhib. TRPM ion channels.
263 // N // 11*S*,12-dihydroxystigolone // IA inhib. TRPM ion channels.



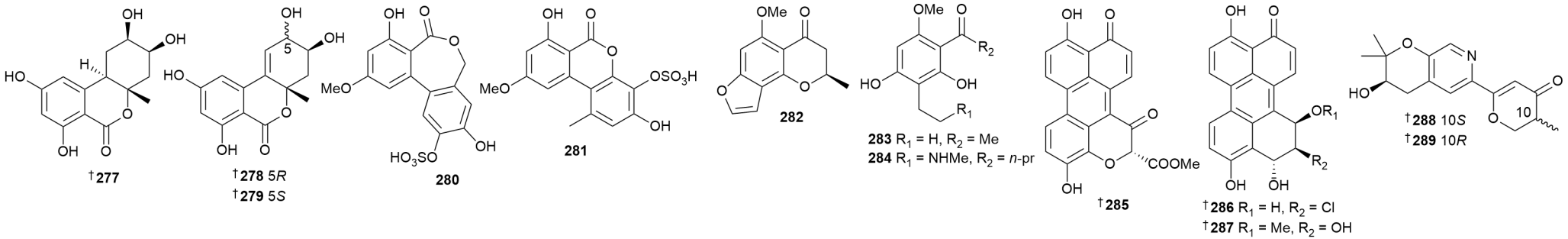
119 Ascomycota *Acremonium chrysogenum* C10 // ATCC // Sorbicillinoid derivatives with the radical scavenging activities from the marine-derived fungus *Acremonium chrysogenum* C10
264 // N // acresorbicillinol A // IA *vs* 2 bact. strains; IA *vs* 2 fungal strains; IA *vs* antioxid. (DPPH).
265 // N // acresorbicillinol B // IA *vs* 2 bact. strains; IA *vs* 2 fungal strains; IA *vs* antioxid. (DPPH).
266 // N // acresorbicillinol C // IA *vs* 2 bact. strains; IA *vs* 2 fungal strains; IA *vs* antioxid. (DPPH).

120 Ascomycota *Acremonium* sp. // (sponge, *Ciocalypta* sp.) Paracel Islands, Hainan. China // Acremocholone, an anti-*Vibrio* steroid from the marine mesophotic zone *Ciocalypta* sponge-associated fungus *Acremonium* sp. NBUF150
267 // N // acremocholone // mod. activ. *vs* 3 bact. strains.

121 Ascomycota *Acremonium sclerotigenum* // (coral, *Pocillopora damicornis*) Beibu Gulf, China // Osteoclastogenesis inhibitory phenolic derivatives produced by the Beibu Gulf coral-associated fungus *Acremonium sclerotigenum* GXIMD 02501
268 // N // orsaldechlorin A // IA *vs* NF-κB
269 // N // orsaldechlorin B // IA *vs* NF-κB
270 // N // orsaldechlorin C // IA *vs* NF-κB
271 // N // 5-bromo-2,4-dihydroxy-6-methylbenzoic acid // IA *vs* NF-κB

122 Ascomycota *Albifimbria verrucaria* // (sediment) Jangheungri, Incheon, Korea // Curvicollide D, a new modified γ-lactone from the culture broth of *Albifimbria verrucaria* and its antifungal activity against plant pathogenic fungi
272 // N // curvicollide D // IA *vs* 7 fungal strains.

123 Ascomycota *Alternaria alternata* // (unspecified sponge) Qionghai, Hainan, China // Overexpression of transcriptional regulator and tailoring enzyme leads to the discovery of anti-inflammatory meroterpenoids from marine-derived fungus *Alternaria alternata* JJY-32
273 // N // tricycloalternarene O // IA *vs* 2 HTCLs; IA *vs* NO prod.; IA *vs* PGE_2.
274 // N // tricycloalternarene P // IA *vs* 2 HTCLs; IA *vs* NO prod.; IA *vs* PGE_2.
275 // N // tricycloalternarene Q // IA *vs* 2 HTCLs; IA *vs* NO prod.; IA *vs* PGE_2.
276 // N // tricycloalternarene R // IA *vs* 2 HTCLs; IA *vs* NO prod.; IA *vs* PGE_2.



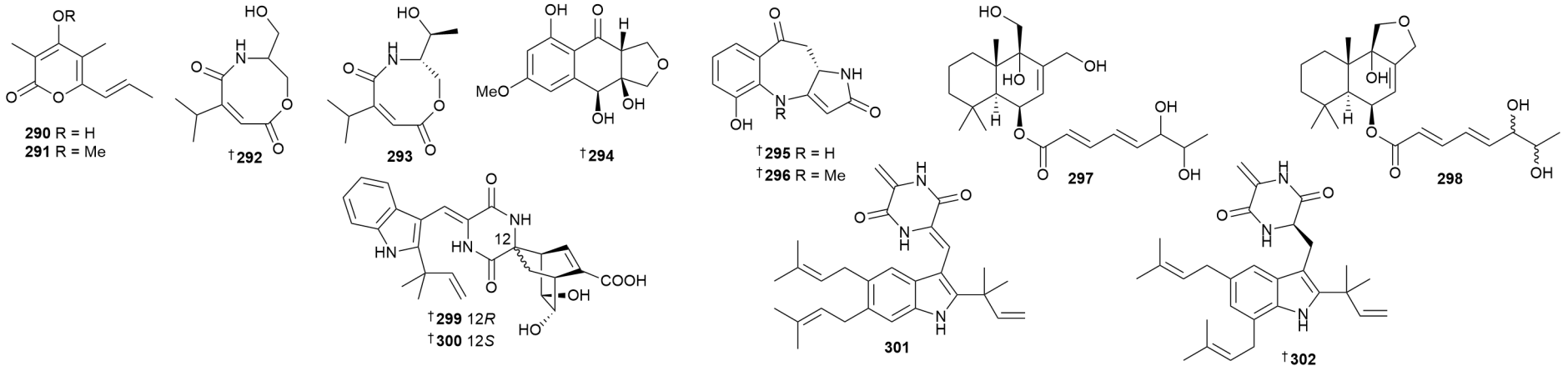
124 Ascomycota *Alternaria alternata* // (sediment) Southwest Indian Ridge // New dibenzo-α-pyrone derivatives with α-glucosidase inhibitory activities from the marine-derived fungus *Alternaria alternata*
277 // N // alternolide A // IA *vs* 3 HTCLs; IA *vs* antioxid. (DPPH); IA inhib. α-glucosidase.
278 // N // alternolide B // IA *vs* 3 HTCLs; IA *vs* antioxid. (DPPH); IA inhib. α-glucosidase.
279 // N // alternolide C // IA *vs* 3 HTCLs; IA *vs* antioxid. (DPPH); IA inhib. α-glucosidase.

125 Ascomycota *Alternaria* sp. // (sponge, *Callyspongia* sp.) Xuwen County, Guangdong Province, China // Two new sulfate-modified dibenzopyrones with anti-foodborne bacteria activity from sponge-derived fungus *Alternaria* sp. SCSIOS02F49
280 // N // alterlactone 5'-*O*-sulfate // IA to weak activ. *vs* 8 bact. strains.
281 // N // 3'-hydroxyalternariol 5-*O*-methyl ether-3'-*O*-sulfate // IA to weak activ. *vs* 8 bact. strains.

126 Ascomycota Alternaria sp. // (sediment) Kiribati // Three new phomalone derivatives from a deep-sea-derived fungus *Alternaria* sp. MCCC 3A00467
282 // N // phomalichenone E // IA *vs* 3 HTCLs.
283 // N // phomalichenone F // IA *vs* 3 HTCLs.
284 // N // phomalichenone G // IA *vs* 3 HTCLs.

127 Ascomycota *Alternaria* sp. // (unspecified sponge) Weddell Sea, Antarctica // Xanalterate A, altertoxin VIII and IX, perylenequinone derivatives from antarctica-sponge-derived fungus *Alternaria* sp. HDN19-690
285 // N // xanalterate A // IA *vs* 5 HTCLs; weak to mod. activ. *vs* 6 bact. strains.
286 // N // altertoxin VIII // IA *vs* 5 HTCLs; IA to weak activ. *vs* 6 bact. strains.
287 // N // altertoxin IX // IA *vs* 5 HTCLs; IA to weak activ. *vs* 6 bact. strains.

128 Ascomycota A*mphichorda felina* // (unspecified ascidian) unspecified location // Two new picoline-derived meroterpenoids with anti-acetylcholinesterase activity from ascidian-derived fungus *Amphichorda felina*
288 // N // amphichoterpenoid D // IA *vs* AChE.
289 // N // amphichoterpenoid E // IA *vs* AChE.



129 Ascomycota *Amphichorda felina*, Ascomycota *Beauveria felina* // (ascidian, *Styelaplicata* sp.) North atoll, Xisha Islands, South China Sea // Genome mining of α-pyrone natural products from ascidian-derived fungus *Amphichordafelina* SYSU-MS7908
290 // N // amphichopyrone A // IA *vs* NO prod.
291 // N // amphichopyrone B // weak inhib. NO prod.

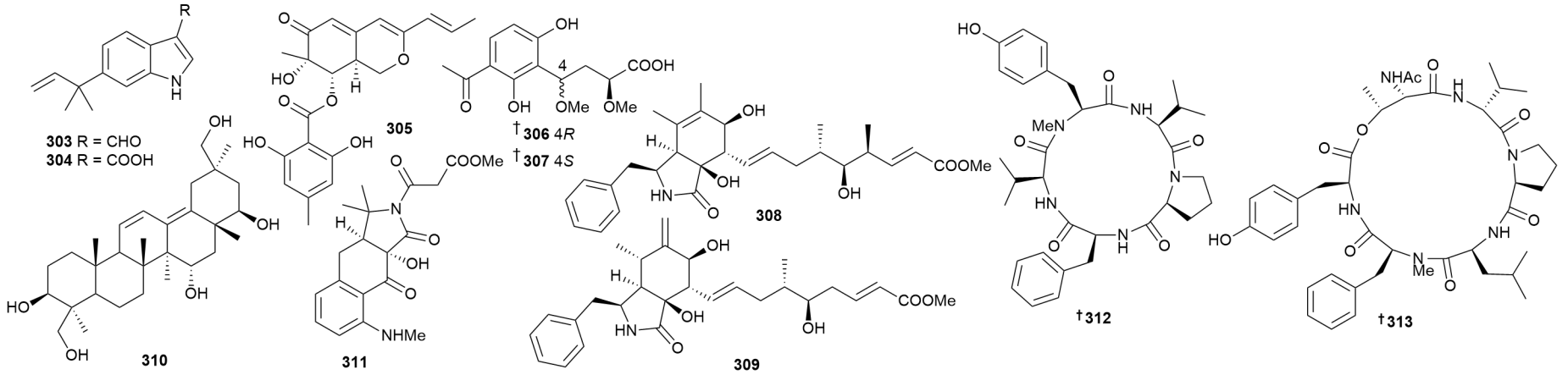
130 Ascomycota *Arthrinium* sp // (unspecified sponge) Weizhou Island, Guangxi, China // New carboxamides and a new polyketide from the sponge-derived fungus *Arthrinium* sp. SCSIO 41421
292 // N // (±)-vochysiamide C // IA *vs* 5 bact. strains; IA inhib. AChE.
293 // N // (+)-vochysiamide B // IA *vs* 5 bact. strains; IA inhib. AChE.
294 // N // 4*S*,3a*S*,9a*R*-3a,9a-deoxy-3a hydroxy-1-dehydroxyarthrinone // IA *vs* 5 bact. strains; IA *vs* inhib. AChE.

131 Ascomycota *Aspergillus candidus* // (gorgonian, *Juncella fragilis*) Nansha Islands, South China Sea // Discovery, total syntheses and potent anti-inflammatory activity of pyrrolinone-fused benzoazepine alkaloids asperazepanones A and B from *Aspergillus candidus*
295 // N // (+)-asperazepanone A // IA *vs* NO prod.; NT inhib. TNF-α; NT inhib. IL6.
296 // N // (+)-asperazepanone B // mod. inhib. NO prod.; pot. inhib. TNF- momoacylglycerol cyclase; pot. inhib. IL6.

132 Ascomycota *Beauveria felina*, Ascomycota *Aspergillus* sp // (brown alga, *Laminaria sachalinensis*) Kunashir Island, (sediment) Van Phong Bay, South China Sea, Vietnam) // Cytotoxic drimane-type sesquiterpenes from co-culture of the marine-derived fungi *Aspergillus carneus* KMM 4638 and *Beauveria felina* (=*Isaria felina*) KMM 4639
297 // N // asperflavinoid A/B // IA *vs* 3 HTCLs; IA *vs* 1 MTCL; IA *vs* 1 nMCL.
298 // N // asperflavinoid D/E // IA *vs* 3 HTCLs; IA *vs* 1 MTCL; IA *vs* 1 nMCL.

133 Ascomycota *Aspergillus chevalieri* // (sediment) South China Sea // Chevalinulins A and B, proangiogenic alkaloids with a spiro[bicyclo[2.2.2]octane-diketopiperazine] skeleton from deep-sea cold-seep-derived fungus *Aspergillus chevalieri* CS-122
299 // N // chevalinulin A // No proangiogenic activ. (zebrafish).
300 // N // chevalinulin B // No proangiogenic activ. (zebrafish).

134 Ascomycota *Aspergillus chevalieri* // (unspecified "deep-sea" source) unspecified location // Indole diketopiperazine alkaloids isolated from the marine-derived fungus *Aspergillus chevalieri* MCCC M23426
301 // N // 5-prenylcryptoechinulin A // IA *vs* 1 HTCL; IA *vs* 4 bact. strains.
302 // N // 9-*epi*-didehydroechinulin // IA *vs* 1 HTCL; IA *vs* 4 bact. strains.



135 Ascomycota *Aspergillus flavipes* // (seawater) Mariana Trench, Western Pacific // Cytotoxic indole alkaloids and polyketides produced by a marine-derived fungus *Aspergillus flavipes* DS720
303 // N // flavonoid A // IA to weak cyctotox. *vs* 20 HTCLs.
304 // N // flavonoid B // NT.
305 // N // flaviazaphilone A // NT.

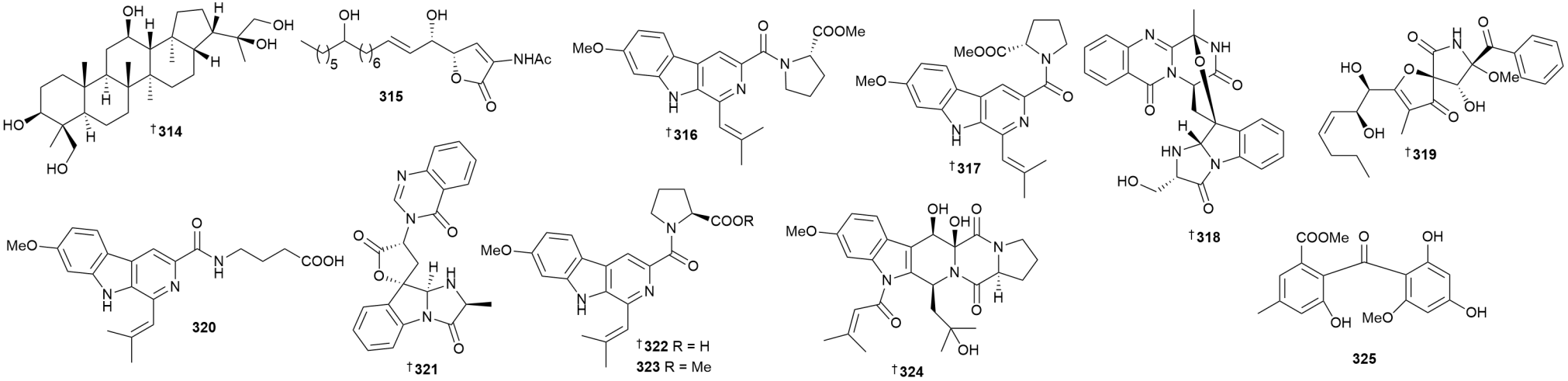
136 Ascomycota *Aspergillus fischeri* // (sediment) Indian Ocean // Cytotoxic polyketides from the deep-sea-derived fungus *Aspergillus fischeri* FS452
306 // N // fischerin A // weak cytotox. *vs* 4 HTCLs.
307 // N // fischerin B // IA *vs* 4 HTCLs.

137 Ascomycota *Aspergillus flavipes* // (sediment) Bohai Bay, Dongying, Shandong Province, China // Cytochalasins from coastal saline soil-derived fungus *Aspergillus flavipes* RD-13 and their cytotoxicities
308 // N // methyl (2*E*,4*S*,5*S*,6*S*,8*E*)-9-((1*S*,3a*S*,4*S*,5*S*,7a*R*)-1-benzyl-3a,5-dihydroxy-6,7-dimethyl-3-oxo-2,3,3a,4,5,7a-hexahydro-1*H*-isoindol-4-yl)-5-hydroxy-4,6-dimethylnona-2,8-dienoate // IA *vs* 3 HTCLs.
309 // N // methyl (2*E*,4*S*,5*S*,6*S*,8*E*)-9-((1*S*,3a*S*,4*S*,5*S*,7*S*,7a*R*)-1-benzyl-3a,5-dihydroxy-7-methyl-6-methylene-3-oxooctahydro-1*H*-isoindol-4-yl)-5-hydroxy-4,6-dimethylnona-2,8-dienoate // IA *vs* 3 HTCLs.

138 Ascomycota *Aspergillus flavus* // (jellyfish, *Aurelia aurita*) unspecified location // A new fungal triterpene from the fungus *Aspergillus flavus* stimulates glucose uptake without fat accumulation
310 // N // asperflagin // IA *vs* 1 nMCL; weak partial agonist of Peroxisome Proliferator-Activated Receptor-gamma (PPAR-γ)

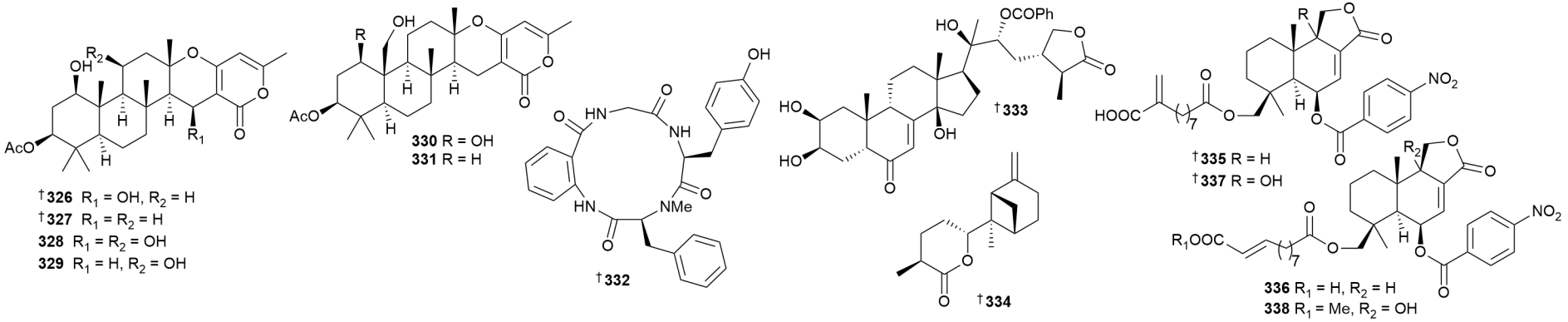
139 Ascomycota *Aspergillus flavus* // (coral, *Porites lutea*) Weizhou Island, Guangxi Zhuang, China // A new α-cyclopiazonic acid alkaloid identified from the Weizhou Island coral-derived fungus *Aspergillus flavus* GXIMD 02503
311 // N // asperorydine Q // IA *vs* NF-κB

140 Ascomycota *Aspergillus flocculosus* // (sponge, *Phakellia fusca*) Yongxing Island, China // Asperflomide and asperflosamide, new *N*-methylated cyclopeptides from the marine sponge-derived fungus *Aspergillus flocculosus* 16D-1
312 // N // asperflomide // IA *vs* 6 HTCLs; IA *vs* 2 nHCLs; IA *vs* 3 bact. strains; IA *vs* 1 fungus; IA *vs* inhib. tankyrase 1/2.
313 // N // asperflosamide // IA *vs* 6 HTCLs; IA *vs* 2 nHCLs; IA *vs* 3 bact. strains; IA *vs* 1 fungus; IA *vs* inhib. tankyrase 1/2.



141 Ascomycota *Aspergillus fumigatus* // (sediment) East China Sea // Six new antimicrobial metabolites from the deep-sea sediment-derived fungus *Aspergillus fumigatus* SD-406
314 // N // 1,4,23-trihydroxy-hopane-22,30-diol // IA to weak activ. *vs* 3 bact. strains; IA to weak activ. *vs* 2 fungi.
315 // N // sphingofungin I // mod. activ. *vs* 3 bact. strains; IA vs 2 fungi.
316 // N // secofumitremorgin A // IA to weak activ. *vs* 3 bact. strains; IA to mod. activ. *vs* 2 fungi. (As a mixture with **317**)
317 // N // secofumitremorgin B // IA to weak activ. *vs* 3 bact. strains; IA to mod. activ. *vs* 2 fungi. (As a mixture with **316**)
318 // N // 29-hydroxyfumiquinazoline C // IA *vs* 3 bact. strains; IA *vs* 2 fungi.
319 // N // 10*R*-15-methylpseurotin A // IA *vs* 3 bact. strains; IA to mod. activ. *vs* 2 fungi.

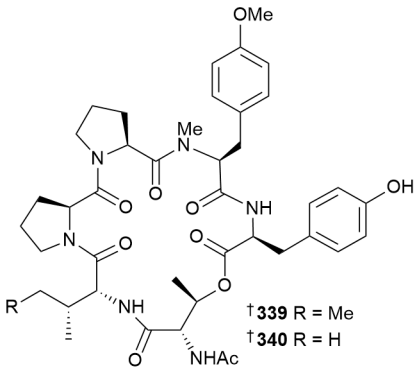
142 Ascomycota *Aspergillus fumigatus* // (seawater) Western Pacific // Discovery of anti-MRSA secondary metabolites from a marine-derived fungus *Aspergillus fumigatus*
320 // N // fumindoline A // IA *vs* 4 bact. strains; IA *vs* 1 fungus.
321 // N // 2-epi-tryptoquivaline F // IA *vs* 4 bact. strains; IA *vs* 1 fungus.
322 // N // fumindoline B // IA *vs* 4 bact. strains; IA *vs* 1 fungus.
323 // N // fumindoline C // IA *vs* 4 bact. strains; IA *vs* 1 fungus.
324 // N // 12β,13β-hydroxy-asperfumigatin // IA *vs* 4 bact. strains; IA *vs* 1 fungus.
325 // N // penibenzophenone E // IA *vs* 4 bact. strains; IA *vs* 1 fungus.



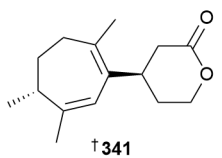
143 Ascomycota *Aspergillus hiratsukae* // (unspecified gorgonian) Mischief Reef, South China Sea // Chevalones H–M: six new α-pyrone meroterpenoids from the gorgonian coral-derived fungus *Aspergillus hiratsukae* SCSIO 7S2001
326 // N // chevalone H // IA *vs* 4 HTCLs; IA to weak activ. *vs* 4 bact. strains.
327 // N // chevalone I // IA *vs* 4 HTCLs; IA to weak activ. *vs* 4 bact. strains.
328 // N // chevalone J // IA *vs* 4 HTCLs; IA to weak activ. *vs* 4 bact. strains.
329 // N // chevalone K // IA *vs* 4 HTCLs; IA to weak activ. *vs* 4 bact. strains.
330 // N // chevalone L // IA *vs* 4 HTCLs; IA to weak activ. *vs* 4 bact. strains.
331 // N // chevalone M // IA *vs* 4 HTCLs; IA *vs* 4 bact. strains.

144 Ascomycota *Aspergillus hiratsukae* // (unspecified soft coral) South China Sea // Diverse secondary metabolites from the coral-derived fungus *Aspergillus hiratsukae* SCSIO 5Bn1003
332 // N // asperhiratide // IA *vs* 4 HTCLs; IA *vs* 2 bact. strains, IA *vs* antioxid. (DPPH), IA *vs* α-glucosidase; weak antiangiogenic activ. (zebrafish).
333 // N // asperhiratine // IA *vs* 4 HTCLs; IA *vs* 2 bact. strains, IA *vs* antioxid. (DPPH), IA *vs* α-glucosidase.
334 // N // asperhiratone // IA *vs* 4 HTCLs; IA *vs* 2 bact. strains, IA *vs* antioxid. (DPPH), IA *vs* α-glucosidase.

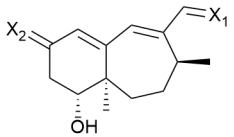
145 Ascomycota *Aspergillus insulicola* // (unidentified sponge) Prydz Bay, Antarctica // Cytotoxic nitrobenzoyl sesquiterpenoids from an Antarctica sponge-derived *Aspergillus insulicola*
335 // N // insulicolide D // IA *vs* 3 HTCLs.
336 // N // insulicolide E // IA *vs* 3 HTCLs.
337 // N // insulicolide F // IA to weak cytotox. *vs* 9 HTCLs.
338 // N // insulicolide G // IA to weak cytotox. *vs* 3 HTCLs.



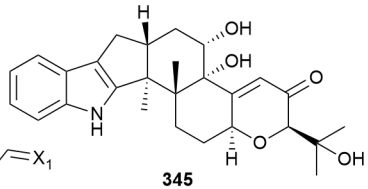
†**339** R = Me
†**340** R = H



†**341**



342 X_1 = H, OH, X_2 = O
343 X_1 = O, X_2 = H, ····OH
344 X_1 = O, X_2 = H, ▬OH



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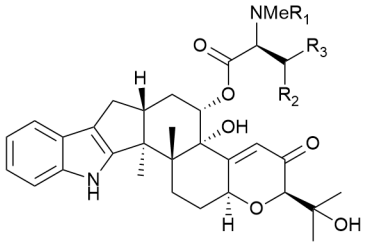
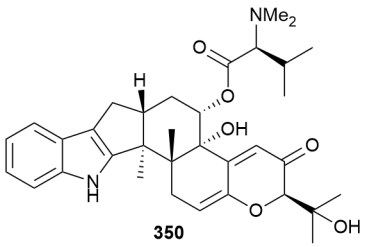


346 R_1 = H, R_2 = R_3 = Me
†**347** R_1 = R_2 = R_3 = Me
348 R_1 = Me, R_2 = H, R_3 = *i*-pr
349 R_1 = Me, R_2 = H, R_3 = Et



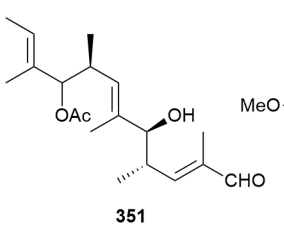
350

146 Ascomycota *Aspergillus japonicus* // (unspecified sponge) Arctic 6700-4 sea area // Japonamides A and B, two new cyclohexadepsipeptides from the marine-sponge-derived fungus *Aspergillus japonicus* and their synergistic antifungal activities
339 // N // japonamide A // IA *vs* 2 HTCLs; IA *vs* 2 MTCLs; IA *vs* 1 fungal strain; pot. synergistic effect with antifungal agents rapamycin, fluconazole, ketoconazole.
340 // N // japonamide B // IA *vs* 2 HTCLs; IA *vs* 2 MTCLs; IA *vs* 1 fungal strain; pot. synergistic effect with antifungal agents rapamycin, fluconazole, ketoconazole.

147 Ascomycota *Aspergillus niger* // (sponge, *Dysidea* sp.) Xisha Islands, South China Sea // Nigerin and ochracenes J–L, new sesquiterpenoids from the marine sponge symbiotic fungus *Aspergillus niger*
341 // N // nigerin // IA *vs* 3 HTCLs; weak inhib. NO prod.
342 // N // ochracene J // IA *vs* 3 HTCLs; weak inhib. NO prod.
343 // N // ochracene K // IA *vs* 3 HTCLs; IA *vs* NO prod.
344 // N // ochracene L // IA *vs* 3 HTCLs; IA *vs* NO prod.

148 Ascomycota *Aspergillus noonimiae* // (sediment) Perth, Western Australia // Noonindoles A–F: rare indole diterpene amino acid conjugates from a marine-derived fungus, *Aspergillus noonimiae* CMB-M0339
345 // N // noonindole F // IA *vs* 2 HTCLs; IA *vs* 3 bact. strains; IA *vs* 1 fungus.
346 // N // noonindole B // IA *vs* 2 HTCLs; IA *vs* 3 bact. strains; IA *vs* 1 fungus.
347 // N // noonindole A // IA *vs* 2 HTCLs; IA *vs* 3 bact. strains; weak activ. *vs* 1 fungus.
348 // N // noonindole C // IA *vs* 2 HTCLs; IA *vs* 3 bact. strains; IA *vs* 1 fungus.
349 // N // noonindole D // IA *vs* 2 HTCLs; IA *vs* 3 bact. strains; IA *vs* 1 fungus.
350 // N // noonindole E // IA *vs* 2 HTCLs; IA *vs* 3 bact. strains; IA *vs* 1 fungus.

149 Ascomycota *Aspergillus ochraceopetaliformis* // (red alga, *Hypnea pannosa*) Luhuitou, Sanya city, Hainan province, China // Anti-inflammatory polyketides from an alga-derived fungus *Aspergillus ochraceopetaliformis* SCSIO 41020
351 // N // aspormisin A // IA *vs* NO prod.



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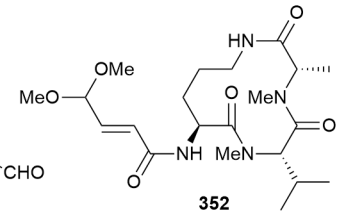

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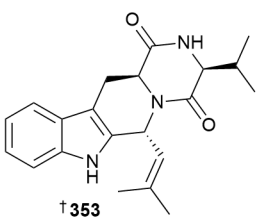
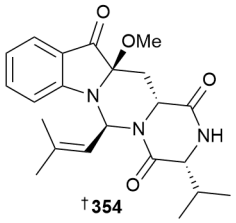
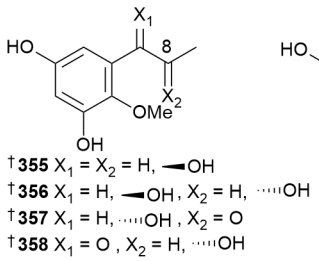


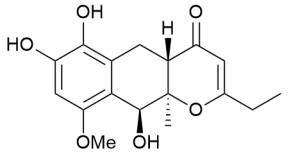
†353



†354



†355 $X_1 = X_2 = H$, –OH
†356 $X_1 = H$, –OH, $X_2 = H$, ····OH
†357 $X_1 = H$, ····OH, $X_2 = O$
†358 $X_1 = O$, $X_2 = H$, ····OH



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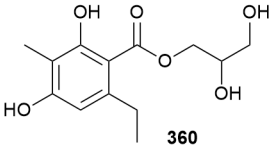

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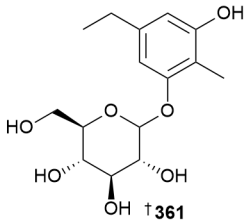
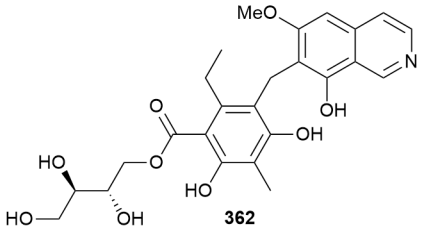


†361



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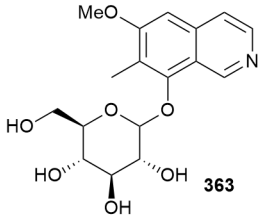


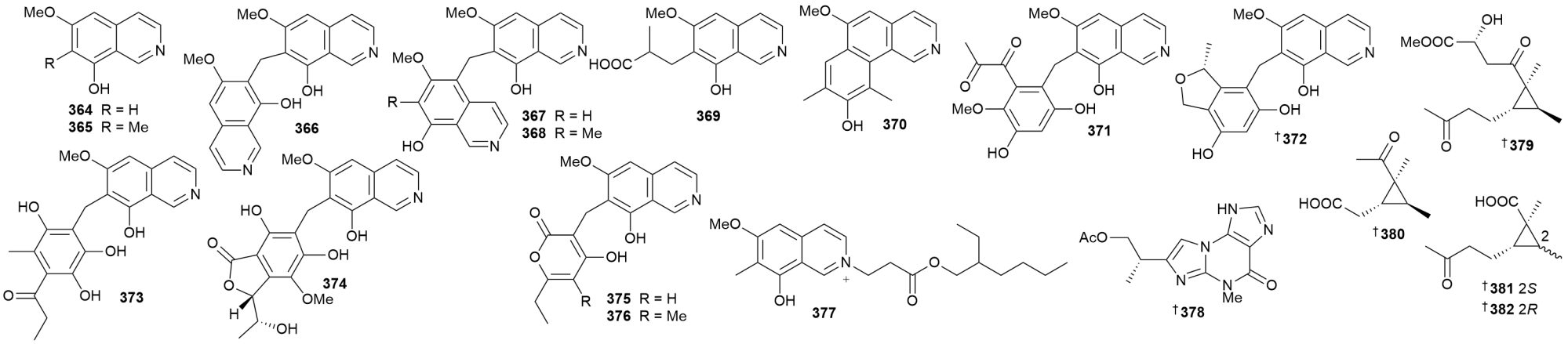
363

150 Ascomycota *Aspergillus ochraceopetaliformis* // (seawater) Dongshan Island, Fujian Province, China // Structure elucidation of a novel cyclic tripeptide from the marine-derived fungus *Aspergillus ochraceopetaliformis* DSW-2
352 // N // sclerotiotide M // IA *vs* 2 HTCLs.

151 Ascomycota *Aspergillus ochraceus*(co-cultured with terrestrial *Penicillium* sp.) // (seawater) Pacific Ocean // Novel prenylated indole alkaloids with neuroprotection on SH-SY5Y cells against oxidative stress targeting Keap1–Nrf2
353 // N // asperpenazine // IA *vs* 1 HTCL; No cytoprotection against H_2O2 induced damage.
354 // N // asperpendoline // IA *vs* 1 HTCL; weak cytoprotective effect against H_2O_2 induced damage.

152 Ascomycota *Aspergillus puniceus* // (sediment) Pacific Ocean // Phenolic metabolites from a deep-sea-derived fungus *Aspergillus puniceus* A2 and their Nrf2-dependent anti-inflammatory effects
355 // N // asperpropanol A // IA *vs* NO prod.
356 // N // asperpropanol B // IA *vs* NO prod.
357 // N // asperpropanol C // IA *vs* NO prod.
358 // N // asperpropanol D // IA *vs* NO prod.

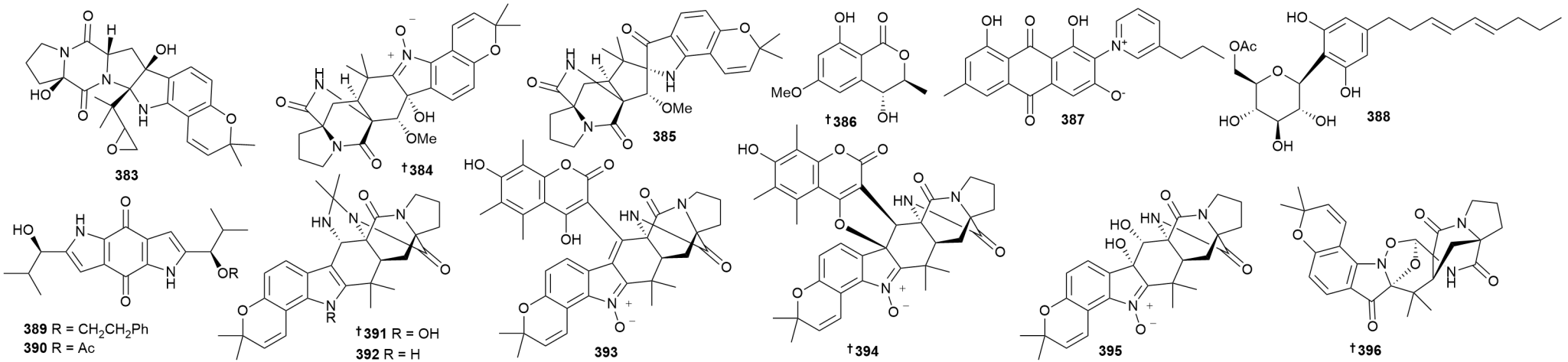
153 Ascomycota *Aspergillus puniceus* // (sediment) Okinawa Trough // Five new aromatic polyketides and isoquinoline alkaloids from the deep-sea-derived fungus *Aspergillus puniceus* SCSIO z021
359 // N // (±)-puniceusone A // IA *vs* 4 bact. strains.
360 // N // (±)-2,3-dihydroxypropyl 6-ethyl-2,4-dihydroxy-3-methylbenzoate // IA *vs* 4 bact. strains.
361 // N // (5-ethyl-3-hydroxy-2-methyl) phenyl-β-D-glucoside // IA *vs* 4 bact. strains.
362 // N // (±)-puniceusine P // IA *vs* 4 bact. strains.
363 // N // puniceusine O // IA *vs* 4 bact. strains.



154 Ascomycota *Aspergillus puniceus* // (sediment) Okinawa Trough // Isoquinoline alkaloids as protein tyrosine phosphatase inhibitors from a deep-sea-derived fungus *Aspergillus puniceus*
364 // N // puniceusine A // IA *vs* 1 HTCL; IA *vs* 3 bact. strains; IA *vs* 5 PTPs.
365 // N // puniceusine B // IA *vs* 1 HTCL; IA *vs* 3 bact. strains; IA *vs* 5 PTPs.
366 // N // puniceusine C // IA *vs* 1 HTCL; IA *vs* 3 bact. strains; IA to weak inhib. *vs* 5 PTPs.
367 // N // puniceusine D // IA *vs* 1 HTCL; IA *vs* 3 bact. strains; IA to weak inhib. *vs* 5 PTPs.
368 // N // puniceusine E // IA *vs* 1 HTCL; IA *vs* 3 bact. strains; IA *vs* 5 PTPs.
369 // N // puniceusine F // IA *vs* 1 HTCL; IA *vs* 3 bact. strains; IA *vs* 5 PTPs.
370 // N // puniceusine G // IA *vs* 1 HTCL; IA *vs* 3 bact. strains; IA *vs* 5 PTPs.
371 // N // puniceusine H // IA *vs* 1 HTCL; IA *vs* 3 bact. strains; IA *vs* 5 PTPs.
372 // N // puniceusine I // IA *vs* 1 HTCL; IA *vs* 3 bact. strains; IA *vs* 5 PTPs.
373 // N // puniceusine J // IA *vs* 1 HTCL; IA *vs* 3 bact. strains; IA *vs* 5 PTPs.
374 // N // puniceusine K // IA *vs* 1 HTCL; IA *vs* 3 bact. strains; IA *vs* 5 PTPs.
375 // N // puniceusine L // IA *vs* 1 HTCL; IA *vs* 3 bact. strains; IA *vs* 5 PTPs.
376 // N // puniceusine M // IA *vs* 1 HTCL; IA *vs* 3 bact. strains; IA *vs* 5 PTPs.
377 // N // puniceusine N // IA *vs* 1 HTCL; IA *vs* 3 bact. strains; IA *vs* 5 PTPs.

155 Ascomycota *Aspergillus sydowii* // (sediment) South Atlantic Ocean // Acremolin D, a new acremolin alkaloid from the deep-sea sediment derived *Aspergillus sydowii* fungus
378 // N // acremolin D // IA *vs* 6 HTCLs.

156 Ascomycota *Aspergillus sydowii* // (sediment) South Atlantic Ocean // Antiviral cyclopropane acids from deep-sea-derived fungus *Aspergillus sydowii*
379 // N // sydocyclopropane A // IA *vs* 1 fungus.
380 // N // sydocyclopropane B // IA *vs* 1 fungus.
381 // N // sydocyclopropane C // IA *vs* 1 fungus.
382 // N // sydocyclopropane D // IA *vs* 1 fungus.

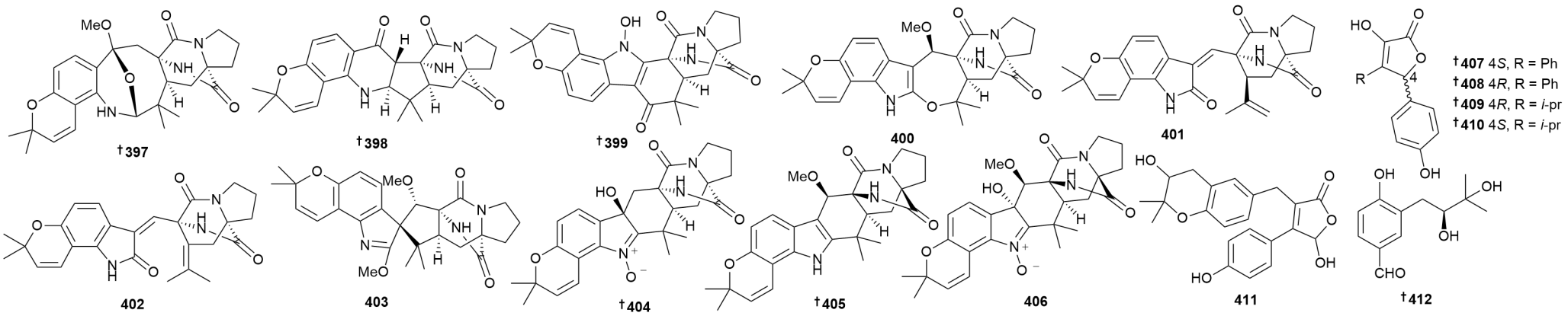


157 Ascomycota *Aspergillus sclerotiorum* // (unidentified sponge) South China Sea // 2,5-Diketopiperazines from a sponge-derived fungus *Aspergillus sclerotiorum*
383 // N // speramide C // IA *vs* 3 HTCLs; IA *vs* 1 nHCL; IA *vs* 3 bact. strains; IA *vs* inhib. AChE; IA *vs* inhib. Topo I.
384 // N // 3,21-*epi*-taichunamide F // IA *vs* 3 HTCLs; IA *vs* 1 nHCL; IA *vs* 3 bact. strains; IA *vs* inhib. AChE; IA *vs* inhib. Topo I.
385 // N // 2-*epi*-amoenamide C // IA *vs* 3 HTCLs; IA *vs* 1 nHCL; IA *vs* 3 bact. strains; IA *vs* inhib. AChE; IA *vs* inhib. Topo I.

158 Ascomycota *Aspergillus stellatus* // (sponge, *Mycale* sp.) Samaesan Island, Gulf of Thailand, Chonburi province, Thailand // New alkylpyridinium anthraquinone, isocoumarin, glucosyl resorcinol derivative and prenylated pyranoxanthones from the culture of a marine sponge-associated fungus, *Aspergillus stellatus* KUFA 2017
386 // N // (3*S*,4*R*)-4-hydroxy-6-methoxymellein // IA *vs* 7 bact. strains.
387 // N // stellatanthraquinone // IA *vs* 7 bact. strains.
388 // N // acetyl carnemycin E // IA *vs* 7 bact. strains.

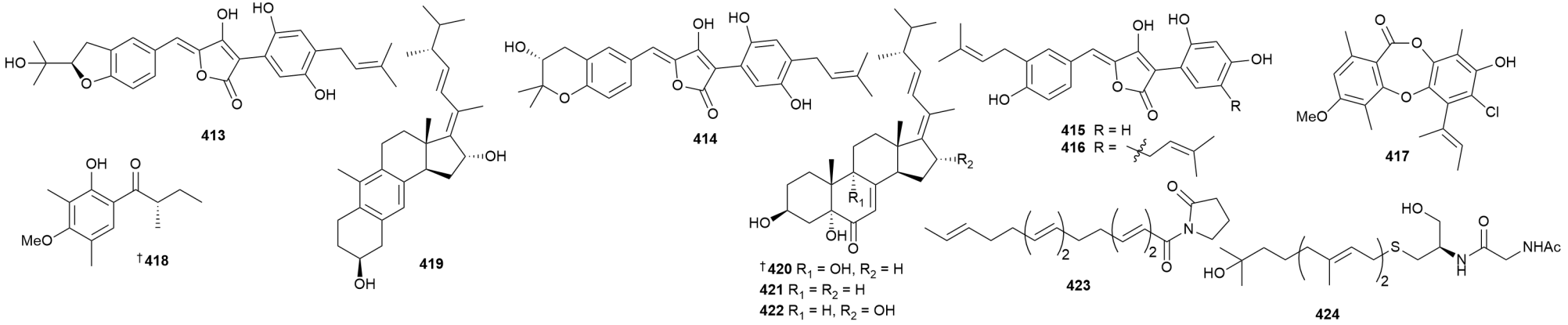
159 Ascomycota *Aspergillus tamarii* // (sponge) Vizhinjam, India // Targeted isolation of two new anti-inflammatory and UV-A protective dipyrroloquinones from the sponge-associated fungus *Aspergillus tamarii* MCCF102
389 // N // terreusinone B // mod. inhib. NO prod.
390 // N // terreusinone C // mod. inhib. NO prod.

160 Ascomycota *Aspergillus sclerotiorum* // (unspecified gorgonian) South China Sea // Sclerotiamides C–H, notoamides from a marine gorgonian-derived fungus with cytotoxic activities
391 // N // sclerotiamide C // weak cytotox. *vs* 4 HTCLs.
392 // N // sclerotiamide D // IA *vs* 4 HTCLs.
393 // N // sclerotiamide E // IA *vs* 4 HTCLs.
394 // N // sclerotiamide F // weak cytotox. *vs* 4 HTCLs.
395 // N // sclerotiamide G // IA *vs* 4 HTCLs.
396 // N // sclerotiamide H // IA *vs* 4 HTCLs.



161 Ascomycota *Aspergillus sclerotiorum* // (unspecified gorgonian) South China Sea // Prenylated notoamide-type alkaloids isolated from the fungus *Aspergillus sclerotiorum* and their inhibition of NLRP3 inflammasome activation and antibacterial activities
397 // N // sclerotiamide I // mod. activ. *vs* 1 bact. strain; IA *vs* inhib. LDH; IA *vs* inhib. IL-1β.
398 // N // sclerotiamide J // mod. activ. *vs* 3 bact. strains; weak inhib. *vs* LDH; weak inhib. *vs* IL-1β.
399 // N // sclerotiamide K // weak activ. *vs* 1 bact. strain; IA *vs* inhib. LDH; IA *vs* inhib. IL-1β.
400 // N // sclerotiamide L // mod. activ. *vs* 1 bact. strain; IA *vs* inhib. LDH; IA *vs* inhib. IL-1β.
401 // N // sclerotiamide M // weak activ. *vs* 1 bact. strain; IA *vs* inhib. LDH; IA *vs* inhib. IL-1β.
402 // N // sclerotiamide N // weak activ. *vs* 1 bact. strain; IA *vs* inhib. LDH; IA *vs* inhib. IL-1β.
403 // N // sclerotiamide O // weak activ. *vs* 1 bact. strain; weak inhib.*vs* LDH; weak inhib. *vs* IL-1β.
404 // N // sclerotiamide P // weak acitv. *vs* 1 bact. strain; weak inhib.*vs* LDH; weak inhib. *vs* IL-1β.
405 // N // sclerotiamide Q // weak activ. *vs* 1 bact. strain; weak inhib.*vs* LDH; weak inhib. *vs* IL-1β.
406 // N // sclerotiamide R // weak activ. *vs* 1 bact. strain; IA *vs* inhib. LDH; IA *vs* IL-1β..

162 Ascomycota *Aspergillus* sp // (soft coral, *Sinularia* sp.) Sanya Bay, Hainan, China // Butenolides from the coral-derived fungus *Aspergillius terreus* SCSIO41404
407 // N // (+)-asperteretal G // IA *vs* 2 HTCLs; IA *vs* 2 bact. strains,; IA *vs* PL; IA *vs* AChE.
408 // N // (–)-asperteretal G // IA *vs* 2 HTCLs; IA *vs* 2 bact. strains,; IA *vs* PL; IA *vs* AChE.
409 // N // (+)-asperteretal H // IA *vs* 2 HTCLs; IA *vs* 2 bact. strains,; IA *vs* PL; IA *vs* AChE.
410 // N // (–)-asperteretal H // IA *vs* 2 HTCLs; IA *vs* 2 bact. strains,; IA *vs* PL; IA *vs* AChE.
411 // N // asperteretal I // IA *vs* 2 HTCLs; IA *vs* 2 bact. strains,; IA *vs* PL; IA *vs* AChE.
412 // N // (*S*)-3-(2,3-dihydroxy-3-methylbutyl)-4-hydroxybenzaldehyde // IA *vs* 2 HTCLs; NT *vs* PL, AChE or 2 bact. strains.

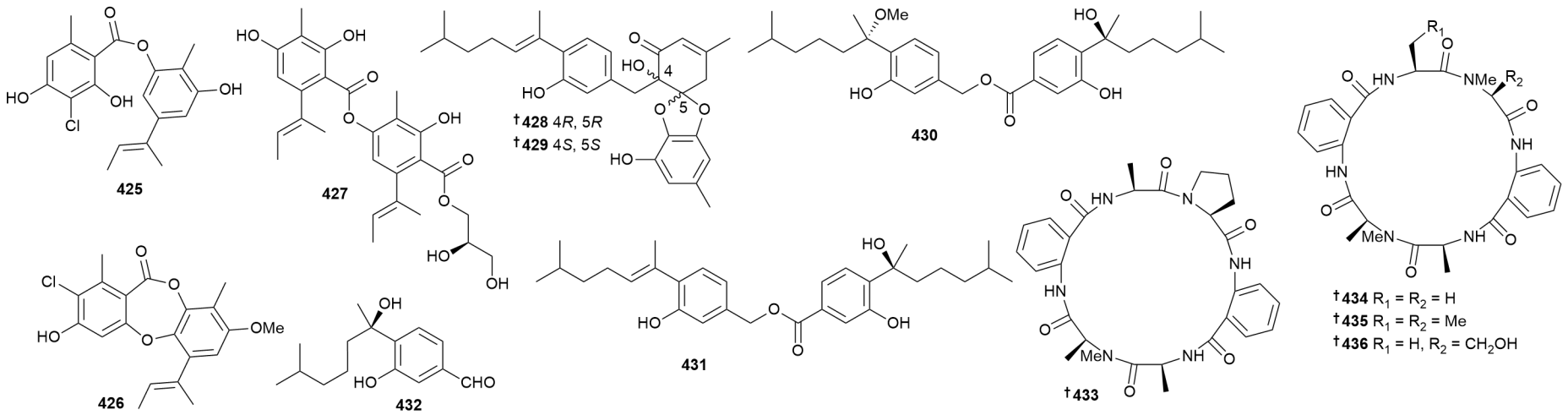


163 Ascomycota *Aspergillus terreus* // (green alga, *Ulva lactuca*) Northeast coast of Taiwan // Bioactive pulvinones from a marine algicolous fungus *Aspergillus terreus* NTU243
413 // N // aspulvinone S // IA *vs* NO prod.; IA *vs* matrix metalloproteinase 9.
414 // N // aspulvinone T // IA *vs* NO prod.; IA *vs* matrix metalloproteinase 9.
415 // N // aspulvinone U // IA *vs* NO prod.; IA *vs* matrix metalloproteinase 9.
416 // N // aspulvinone V // weak inhib. NO prod.; weak inhib. matrix metalloproteinase 9.

164 Ascomycota *Aspergillus unguis* // (coral, *Pocillopora damicornis*) Pacific Ocean, Weizhou Island, Guangxi Zhuang, China // Anti-osteoclastogenic and antibacterial effects of chlorinated polyketides from the Beibu Gulf coral-derived fungus *Aspergillus unguis* GXIMD 02505
417 // N // aspergillusidone H // IA *vs* 10 bact. strains.
418 // M // // IA to weak activ. *vs* 10 bact. strains.

165 Ascomycota *Aspergillus unguis* // (shrimp, *Rimicaris* sp.) Indian Ocean // Aspersterols A–D, ergostane-type sterols with an unusual unsaturated side chain from the deep-sea-derived fungus *Aspergillus unguis*
419 // N // aspersterol A // weak cytotox. *vs* 6 HTCLs; IA *vs* NO prod.
420 // N // aspersterol B // IA *vs* 6 HTCLs; IA *vs* NO prod.
421 // N // aspersterol C // IA *vs* 6 HTCLs; IA *vs* NO prod.
422 // N // aspersterol D // IA *vs* 6 HTCLs; IA *vs* NO prod.

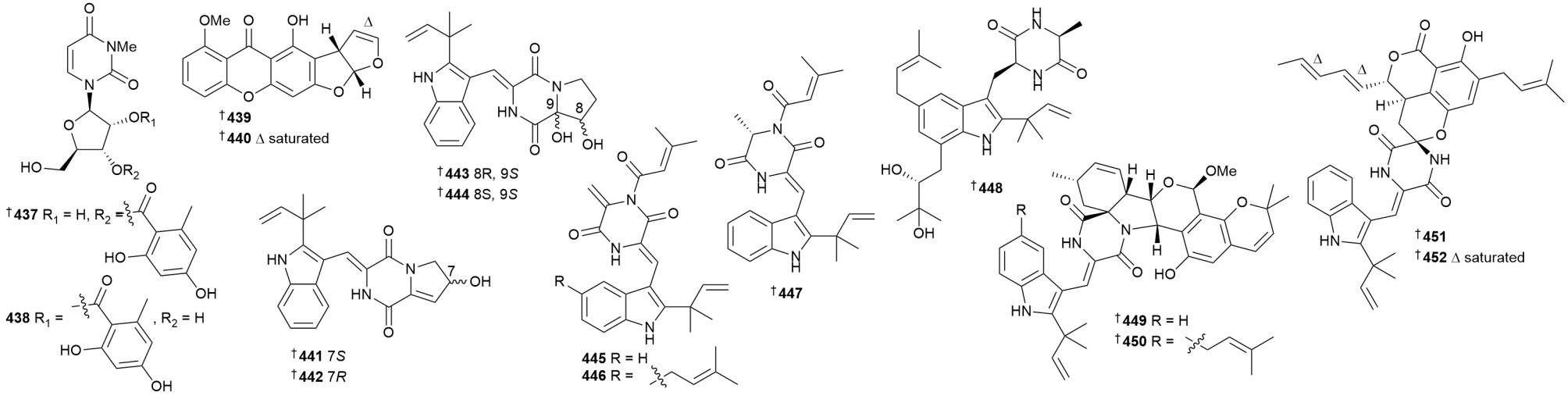
166 Ascomycota *Aspergillus unguis* // (shrimp, *Rimicaris* sp.) Indian Ocean // Nitrogen-containing secondary metabolites from a deep-sea fungus *Aspergillus unguis* and their anti-inflammatory activity
423 // N // variotin B // IA *vs* NO prod.
424 // N // coniosulfide E // IA *vs* NO prod.



167 Ascomycota *Aspergillus unguis* // (seawater), (shrimp, *Rimicaris* sp.) Indian Ocean // Antibacterial and cytotoxic phenolic polyketides from two marine-derived fungal strains of *Aspergillus unguis*
425 // N // unguidepside C // IA *vs* 6 HTCLs; IA to weak activ. *vs* 6 bact. strains.
426 // N // aspersidone B // NT *vs* 6 HTCLs; IA to mod. activ. *vs* 6 bact. strains.
427 // N // agonodepside C // IA *vs* 6 HTCLs; IA to mod. activ. *vs* 6 bact. strains.

168 Ascomycota *Aspergillus versicolor* // (seawater) South China Sea // Homo/hetero-dimers of aromatic bisabolane sesquiterpenoids with neuroprotective activity from the fungus *Aspergillus versicolor* A18 from South China Sea
428 // N // (+)-asperbisabol A // weak neuroprotective activ. (SNP in PC12 cells).
429 // N // (–)-asperbisabol A // No neuroprotective activ. (SNP in PC12 cells).
430 // N // asperbisabol B // No neuroprotective activ. (SNP in PC12 cells).
431 // N // asperbisabol C // No neuroprotective activ. (SNP in PC12 cells).
432 // M // (*R*)-3-hydroxy-4-(2-hydroxy-6-methylheptan-2-yl)benzaldehyde // No neuroprotective activ. (SNP in PC12 cells).

169 Ascomycota *Aspergillus versicolor* // (seawater) Pacific ocean // Versicotide G suppresses osteoclastogenesis and prevents osteolysis
433 // N // versicotide G // weak inhib. osteoclastogenesis; IA *vs* 1 nHCL.
434 // N // versicotide H // weak inhib. osteoclastogenesis; IA *vs* 1 nHCL.
435 // N // versicotide I // weak inhib. osteoclastogenesis; IA *vs* 1 nHCL.
436 // N // versicotide J // IA *vs* inhib. osteoclastogenesis; IA *vs* 1 nHCL.



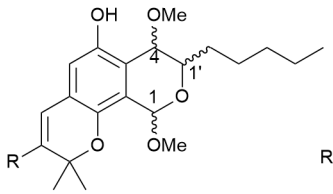
170 Ascomycota *Aspergillus versicolor* // (sediment) South China Sea // Two new nucleoside derivatives isolated from the marine-derived *Aspergillus versicolor* and their intramolecular transesterification
437 // N // kipukasin M // IA *vs* 6 HTCLs; IA *vs* 6 bact. strains; IA *vs* 1 fungus.
438 // N // kipukasin N // IA *vs* 6 HTCLs; IA *vs* 6 bact. strains; IA *vs* 1 fungus.

171 Ascomycota *Aspergillus* sp // (sediment) Philippine Sea // Two new austocystin analogs from the marine-derived fungus *Aspergillus* sp. WHUF05236
439 // N // austocystin P // IA *vs* 3 HTCLs, IA *vs* 16 bact. strains.
440 // N // austocystin Q // IA *vs* 3 HTCLs, IA *vs* 16 bact. strains.

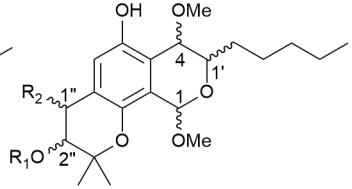
172 Ascomycota *Aspergillus versicolor* // (sediment) Bohai, China // (±)-Brevianamides Z and Z1, new diketopiperazine alkaloids from the marine-derived fungus *Aspergillus versicolor*
441 // N // (+)-brevianamide Z // IA *vs* 1 HTCL; IA *vs* 11 bact. strains; IA *vs* 5 fungal strains.
442 // N // (–)-brevianamide Z // IA *vs* 1 HTCL; IA *vs* 11 bact. strains; IA *vs* 5 fungal strains.
443 // N // (+)-brevianamide Z1 // IA *vs* 1 HTCL; IA *vs* 11 bact. strains; IA *vs* 5 fungal strains.
444 // N // (–)-brevianamide Z1 // IA *vs* 1 HTCL; IA *vs* 11 bact. strains; IA *vs* 5 fungal strains.

173 Ascomycota *Aspergillus* sp // (sediment) Indian Ocean // Indole diketopiperazine alkaloids from the deep-sea-derived fungus *Aspergillus* sp. FS445
445 // N // aspechinulin A // IA *vs* NO prod.
446 // N // aspechinulin B // IA *vs* NO prod.
447 // N // aspechinulin C // IA *vs* NO prod.
448 // N // aspechinulin D // IA *vs* NO prod.

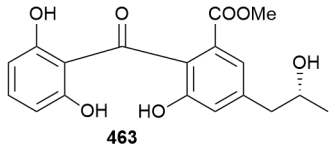
174 Ascomycota *Aspergillus* sp // (soft coral) South China Sea // Probing indole diketopiperazine-based hybrids as environmental-induced products from *Aspergillus* sp. EGF 15-0-3
449 // N // aspergilline A // IA *vs* 6 HTCLs.
450 // N // aspergilline B // IA *vs* 6 HTCLs.
451 // N // aspergilline C // IA to mod. cytotox. *vs* 6 HTCLs.
452 // N // aspergilline D // IA to mod.cytotox. *vs* 6 HTCLs.



†**453** 1*S*, 4*R*, 1'*R*, R = H
†**454** 1*R*, 4*S*, 1'*S*, R = H
†**455** 1*S*, 4*R*, 1'*R*, R = OMe
†**456** 1*R*, 4*S*, 1'*S*, R = OMe



†**457** 1*S*, 4*R*, 1'*R*, 2"*S*, R_1 = Me, R_2 = H
†**458** 1*R*, 4*S*, 1'*S*, 2"*R*, R_1 = Me, R_2 = H
†**459** 1*S*,4*R*, 1'*R*, 2"*S*, R_1 = R_2 = H
†**460** 1*R*, 4*S*, 1'*S*, 2"*R*, R_1 = R_2 = H
†**461** 1*S*, 4*R*, 1'*R*, 1"*S*, 2"*S*, R_1 = H, R_2 = OH
†**462** 1*R*, 4*S*, 1'*S*, 1"*R*, 2"*R*, R_1 = H, R_2 = OH



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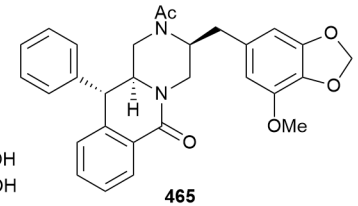

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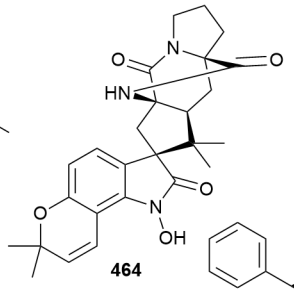

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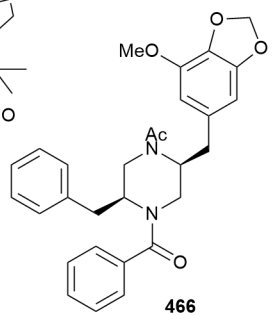

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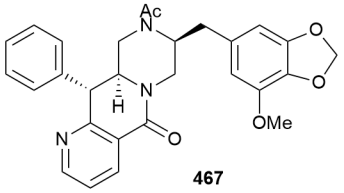

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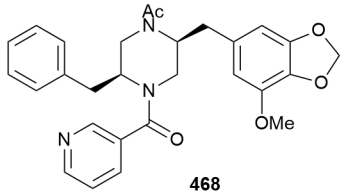
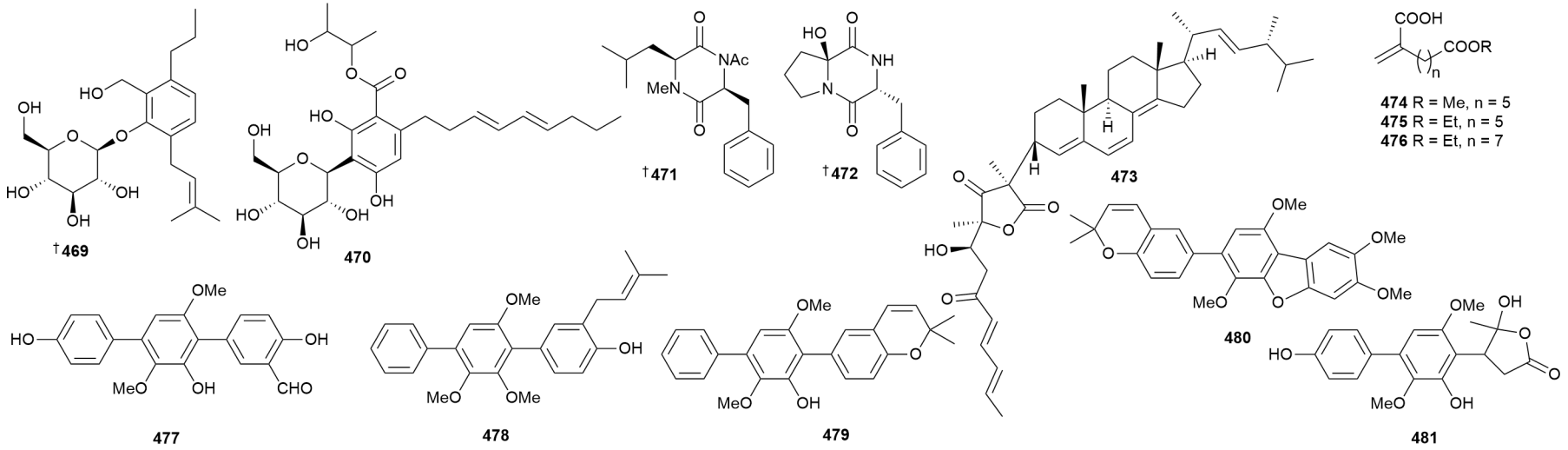


468

175 Ascomycota *Aspergillus* sp // (unspecified soft coral) South China Sea // Pyranodipyran derivatives with tyrosyl DNA phosphodiesterase 1 inhibitory activities and fluorescent properties from *Aspergillus* sp. EGF 15-0-3
453 // R // (+)-eurotiumide G // No inhib. TDP1
454 // R // (–)-eurotiumide G // No inhib. TDP1
455 // N // (+)-aspergiletal A // No inhib. TDP1
456 // N // (–)-aspergiletal A // No inhib. TDP1
457 // N // (+)-aspergiletal B // No inhib. TDP1
458 // N // (–)-aspergiletal B // No inhib. TDP1
459 // N // (+)-aspergiletal C // No inhib. TDP1
460 // N // (–)-aspergiletal C // No inhib. TDP1
461 // N // (+)-aspergiletal D // No inhib. TDP1; weak inhib. TDP1 as rac.
462 // N // (–)-aspergiletal D // No inhib. TDP1; weak inhib. TDP1 as rac.

176 Ascomycota *Aspergillus* sp // (unspecified soft coral) Beihai, Guangxi Province, China // Asperbenzophenone A and versicolamide C, new fungal metabolites from the soft coral derived *Aspergillus* sp. SCSIO 41036
463 // N // asperbenzophenone A // IA *vs* AChE; IA *vs* NO prod.
464 // N // versicolamide C // IA *vs* AChE; IA *vs* NO prod.

177 Ascomycota *Aspergillus* sp // (fish, *Mugil* sp.) fish market, Brisbane, Australia. // Chrysosporazines revisited: regioisomeric phenylpropanoid piperazine P-glycoprotein inhibitors from Australian marine fish-derived fungi
465 // N // chrysosporazine T // mod. inhib. P-glycoprotein; IA *vs* 2 HTCLs; IA *vs* 2 bact. strains; IA *vs* 1 fungus.
466 // N // chrysosporazine U // IA *vs* inhib. P-glycoprotein; IA *vs* 2 HTCLs; IA *vs* 2 bact. strains; IA *vs* 1 fungus.
467 // N // azachrysosporazine T1 // mod. inhib. P-glycoprotein; IA *vs* 2 HTCLs; IA *vs* 2 bact. strains; IA *vs* 1 fungus.
468 // N // azachrysosporazine U1 // IA *vs* inhib. P-glycoprotein; IA *vs* 2 HTCLs; IA *vs* 2 bact. strains; IA *vs* 1 fungus.



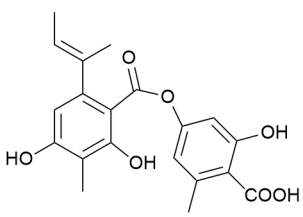
178 Ascomycota *Aspergillus* sp // (brown alga, *Saccharina cichoriodes f. sachalinensis*) South China Sea // Two new phenolic glucosides from marine-derived fungus *Aspergillus* sp.
469 // N // 2-hydroxymethyl-6-(3-methylbut-2-en-1-yl)-3-propylphenyl-*O*-β-D-glucoside // IA *vs* NO prod.
470 // N // carnemycin H // IA *vs* NO prod.

179 Ascomycota *Aspergillus* sp // (ascidian, *Didemnum* sp.) Jizan, Saudi Red Sea // Asperopiperazines A and B: antimicrobial and cytotoxic dipeptides from a tunicate-derived fungus *Aspergillus* sp. DY001
471 // N // asperopiperazine A // IA vs 3 HTCLs; mod. activ. *vs* 2 bact. strains; mod. activ. *vs* 1 fungus.
472 // N // asperopiperazine B // IA *vs* 3 HTCLs; mod. activ. *vs* 2 bact. strains; mod. activ. *vs* 1 fungus.

180 Ascomycota *Aspergillus* sp // (red alga, *Grateloupia turuturu*) Qingdao, China // Tennessenoid A, an unprecedented steroid–sorbicillinoid adduct from the marine-derived endophyte of *Aspergillus* sp. strain 1022LEF
473 // N // tennessenoid A // weak activ. *vs* 8 fungal strains.

181 Ascomycota *Aspergillus* sp // (coral, *Acropora digitifera*) Subi Reef, Spratly Islands, China // Three new unsaturated fatty acids from marine-derived fungus *Aspergillus* sp. SCAU150
474 // N // pantheric acid D // IA *vs* 3 fungal strains.
475 // N // pantheric acid E // IA to weak activ. *vs* 3 fungal strains.
476 // N // pantheric acid F // IA *vs* 3 fungal strains.

182 Ascomycota *Aspergillus* sp // (unspecified coral) South China Sea, Sansha, Hainan, China // Discovery of p-terphenyl metabolites as potential phosphodiesterase PDE4D inhibitors from the coral-associated fungus *Aspergillus* sp. ITBBc1
477 // N // sanshamycin A // IA *vs* phophodiesterase PDE4D.
478 // N // sanshamycin B // IA *vs* phophodiesterase PDE4D.
479 // N // sanshamycin C // weak inhib. phophodiesterase PDE4D.
480 // N // sanshamycin D // IA *vs* phophodiesterase PDE4D.
481 // N // sanshamycin E // IA *vs* phophodiesterase PDE4D.



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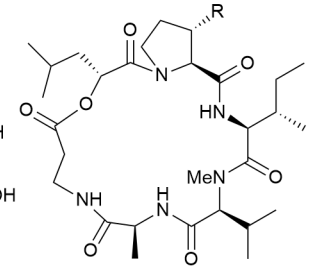
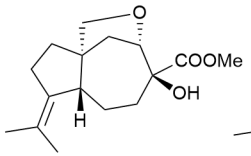
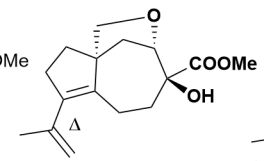


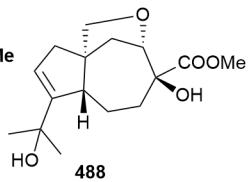
†**483** R = Me
†**484** R = H



†**485**



†**486** Δ saturated
487



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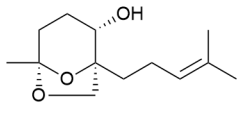

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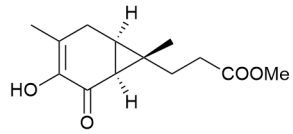

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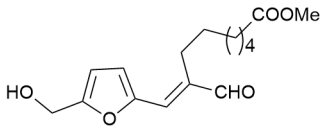

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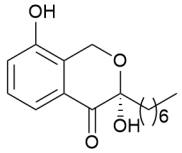

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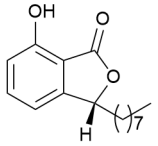
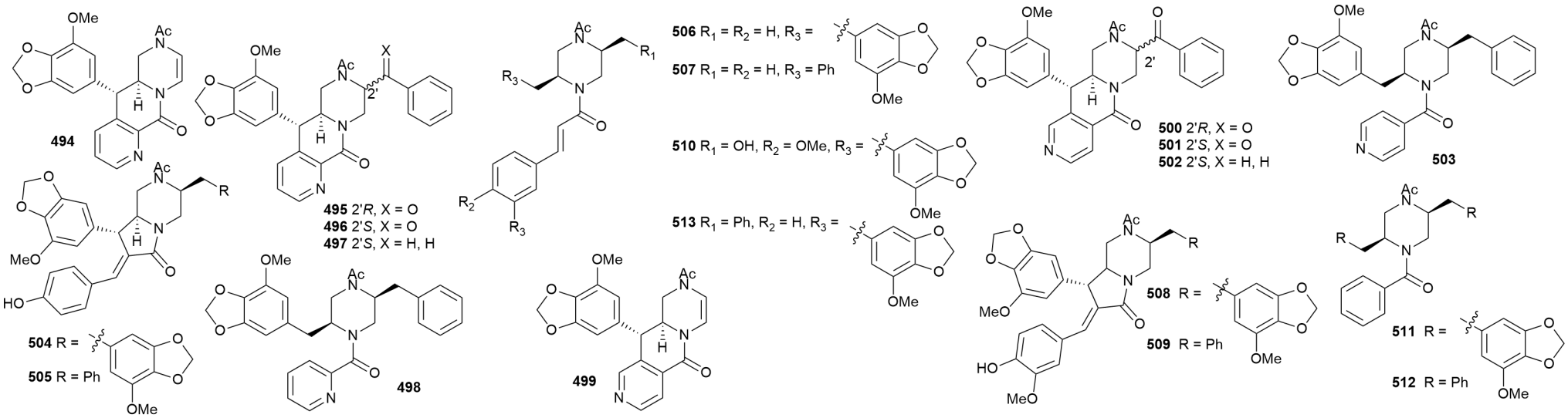


493

183 Ascomycota *Aspergillus* sp // (coral, *Acropora* sp.) Mischief Island, China // Anti-pathogenic depsidones and its derivatives from a coral-derived fungus *Aspergillus* sp. SCSIO SX7S7
482 // N // asperdepsidone A // IA *vs* 35 bact. strains.

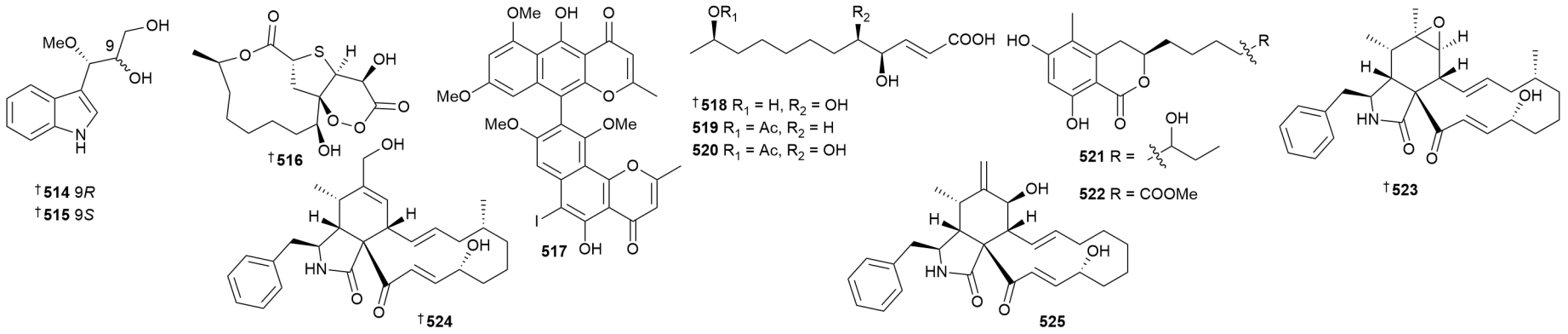
184 Ascomycota *Beauveria felina* // (unidentified bryozoan) unspecified location // Experimental and computational analysis of the solution and solid-state conformations of hexadepsipeptides from *Beauveria felina*
483 // N // $C_{30}H_{51}N_5O_7$ // IA *vs* nematodes; IA *vs* brine shrimp.
484 // N // $C_{29}H_{49}N_5O_7$ // IA *vs* nematodes; IA *vs* brine shrimp.

185 Ascomycota *Byssochlamys spectabilis* // (red alga, *Rhodomela confervoides*) Dalian, China // Antimicrobial terpenoids and polyketides from the algicolous fungus *Byssochlamys spectabilis* RR-dl-2-13
485 // N // byssocarotin A // IA *vs* 3 bact. strains; IA *vs* 3 fungi.
486 // N // byssocarotin B // IA *vs* 3 bact. strains; IA *vs* 3 fungi.
487 // N // byssocarotin C // IA *vs* 3 bact. strains; IA *vs* 3 fungi.
488 // N // byssocarotin D // IA *vs* 3 bact. strains; IA *vs* 3 fungi.
489 // N // byssofarnesin // IA *vs* 3 bact. strains; IA *vs* 3 fungi.
490 // N // byssosesquicarin // IA *vs* 3 bact. strains; IA *vs* 3 fungi.
491 // N // Byssoketide A // IA to weak activ. *vs* 3 bact. strains; IA *vs* 3 fungi.
492 // N // Byssoketide B // IA to weak activ. *vs* 3 bact. strains; IA *vs* 3 fungi.
493 // N // (8*R*)-paecilocin A // IA *vs* 3 bact. strains; IA *vs* 3 fungi.



186 Ascomycota *Chrysosporium* sp // (fish, *Mugil* sp.) fish market, Brisbane, Australia // Neochrysosporazines: precursor-directed biosynthesis defines a marine-derived fungal natural product p-glycoprotein inhibitory pharmacophore

494 // N // neochrysosporazine A // IA *vs* 1 HTCL; mod. inhib.P-glycoprotein.
495 // N // neochrysosporazine B // IA *vs* 1 HTCL; mod. inhib. P-glycoprotein.
496 // N // neochrysosporazine C // IA *vs* 1 HTCL; mod. inhib. P-glycoprotein.
497 // N // neochrysosporazine D // IA *vs* 1 HTCL; mod. inhib. P-glycoprotein.
498 // N // neochrysosporazine E // IA *vs* 1 HTCL; weak inhib. P-glycoprotein.
499 // N // neochrysosporazine F // IA *vs* 1 HTCL; weak inhib. P-glycoprotein.
500 // N // neochrysosporazine G // IA *vs* 1 HTCL; mod. inhib. P-glycoprotein
501 // N // neochrysosporazine H // IA *vs* 1 HTCL; mod. inhib. P-glycoprotein
502 // N // neochrysosporazine I // IA *vs* 1 HTCL; weak inhib. P-glycoprotein
503 // N // neochrysosporazine J // IA *vs* 1 HTCL; weak inhib. P-glycoprotein
504 // N // neochrysosporazine K // IA *vs* 1 HTCL; weak inhib. P-glycoprotein
505 // N // neochrysosporazine L // IA *vs* 1 HTCL; weak inhib. P-glycoprotein
506 // N // chrysosporazine R // IA *vs* 1 HTCL; weak inhib. P-glycoprotein
507 // N // chrysosporazine S // IA *vs* 1 HTCL; weak inhib. P-glycoprotein
508 // N // neochrysosporazine M // IA *vs* 1 HTCL; weak inhib. P-glycoprotein
509 // N // neochrysosporazine N // IA *vs* 1 HTCL; weak inhib. P-glycoprotein
510 // N // neochrysosporazine O // IA *vs* 1 HTCL; weak inhib. P-glycoprotein
511 // N // neochrysosporazine P // IA *vs* 1 HTCL; weak inhib. P-glycoprotein
512 // N // neochrysosporazine Q // IA *vs* 1 HTCL; weak inhib. P-glycoprotein
513 // M // hancocockiamide C // IA *vs* 1 HTCL; weak inhib. P-glycoprotein



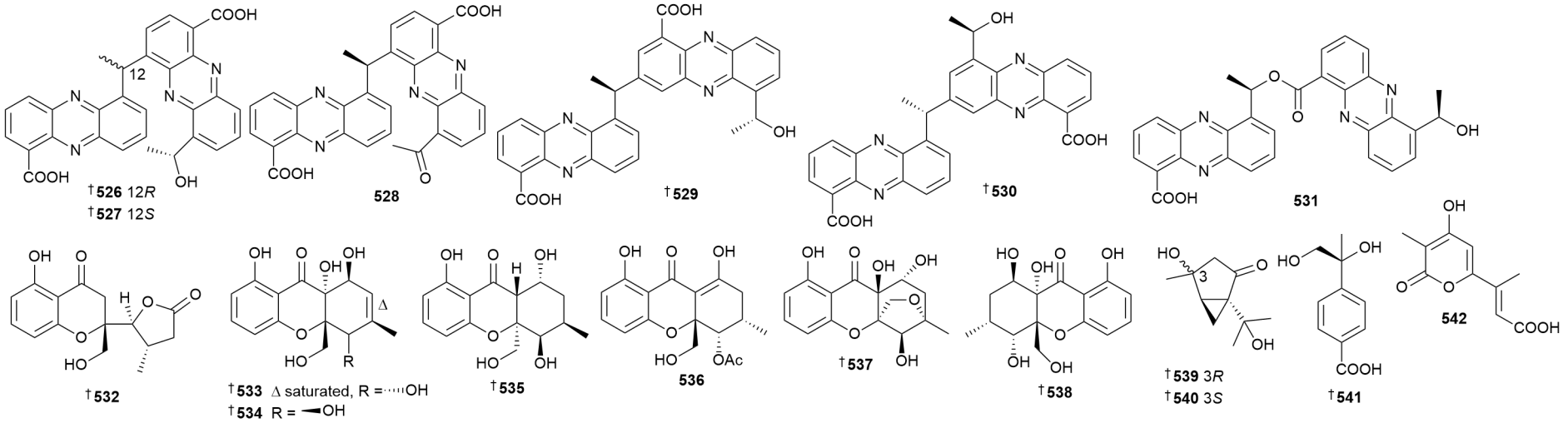
187 Ascomycota *Cladosporium cladosporioides* // (sediment) Southwest Indian Ocean // Cladosporioles A and B, two new indole derivatives from the deep-sea-derived fungus *Cladosporium cladosporioides* 170056
514 // N // cladosporiole A // IA *vs* 1 bact strain.
515 // N // cladosporiole B // IA *vs* 1 bact strain.

188 Ascomycota *Cladosporium cladosporioides* // (sediment) Hainan Island, China // Sulfurated and iodinated metabolites from the cold-seep fungus *Cladosporium cladosporioides* 8-1
516 // N // cladosporioidin A // IA to mod. activ. *vs* 9 bact. strains.
517 // N // (a*S*)-6-iodofonsecinone A // IA to pot. activ. *vs* 9 bact. strains.

189 Ascomycota *Cladosporium oxysporum* // (sediment) Southwest Indian Ocean // Chemical constituents of the deep-sea-derived fungus *Cladosporium oxysporum* 170103 and their antibacterial effects
518 // N // (5*R*)-hydroxysecopatulolide C // IA *vs* 1 bact. strain.
519 // N // 11-*O*-acetylsecopatulolide C // IA *vs* 1 bact. strain.
520 // N // 11-*O*-acetyl-5*R*-hydroxysecopatulolide C // IA *vs* 1 bact. strain.

190 Ascomycota *Cosmospora* sp. (co-culture with terrestrial *Magnaporthe oryzae*) // (unspecified source) Baltic Sea // Induction of isochromanones by co-cultivation of the marine fungus *Cosmospora* sp. and the phytopathogen *Magnaporthe oryzae*
521 // N // soudanone H // NT.
522 // N // soudanone I // NT.

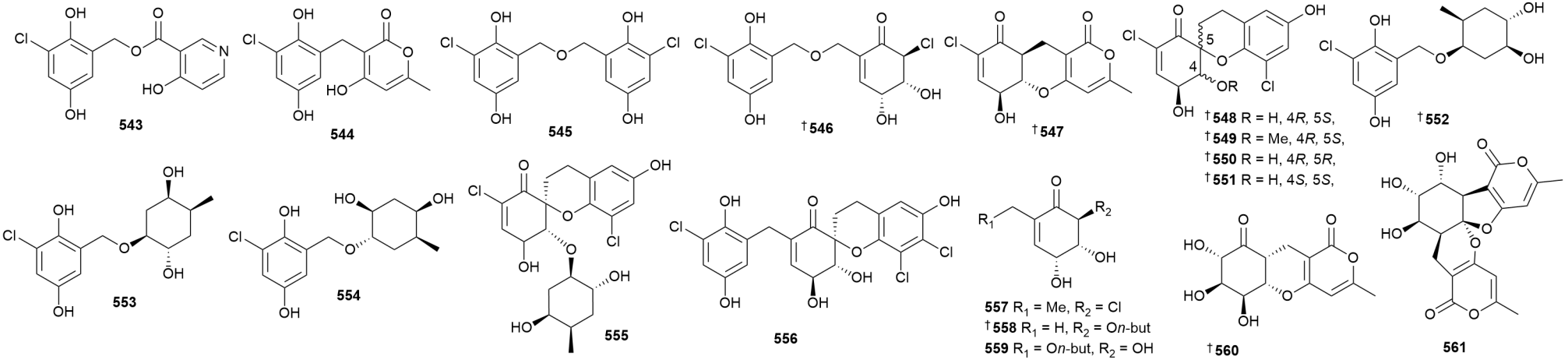
191 Ascomycota *Curvularia verruculosa* // (squat lobster, *Shinkaia crosnieri*) South China Sea, China // New cytochalasin derivatives from deep-sea cold seep-derived endozoic fungus *Curvularia verruculosa* CS-129
523 // N // 6β,7β-epoxydeoxaphomin C // IA to weak activ. *vs* 10 bact. strains.
524 // N // 12-hydroxydeoxaphomin C // IA *vs* 10 bact. strains.
525 // N // 24-*nor*-cytochalasin B // IA *vs* 10 bact. strains.



192 Basidiomycota *Cystobasidium laryngis* // (sediment) Indian Ocean // Isolation, structure determination, and semisynthesis of diphenazine compounds from a deep-sea-derived strain of the fungus *Cystobasidium laryngis* and their biological activities
526 // N // phenazostatin E // IA *vs* 6 HTCLs; IA *vs* NO prod.
527 // N // phenazostatin F // IA *vs* 6 HTCLs; IA *vs* NO prod.
528 // N // phenazostatin G // IA *vs* 6 HTCLs; IA *vs* NO prod.
529 // N // phenazostatin H // IA *vs* 6 HTCLs; IA *vs* NO prod.
530 // N // phenazostatinI // IA *vs* 6 HTCLs; IA *vs* NO prod.
531 // N // phenazostatin J // pot. cytotox. *vs* 6 HTCLs; pot. inhib. NO prod.

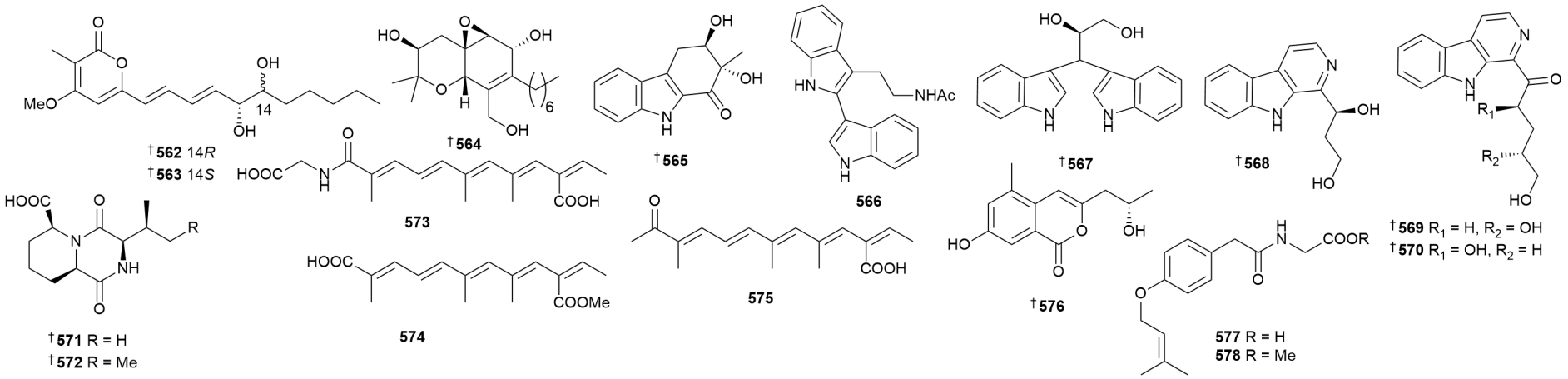
193 Ascomycota *Diaporthe* sp // (ascidian, *Styela plicata*) Bay of Da'ao, Shenzhen City, Guangdong, Province, China // Mono- and dimeric xanthones with anti-glioma and anti-inflammatory activities from the ascidian-derived fungus *Diaporthe* sp. SYSU-MS4722
532 // N // diaporthone A // IA *vs* 3 HTCLs; IA *vs* NO prod.
533 // N // diaporthone B // IA *vs* 3 HTCLs; IA *vs* NO prod.
534 // N // diaporthone C // IA *vs* 3 HTCLs; IA *vs* NO prod.
535 // N // diaporthone D // IA *vs* 3 HTCLs; IA *vs* NO prod.
536 // N // diaporthone E // IA *vs* 3 HTCLs; IA *vs* NO prod.
537 // N // diaporthone F // IA *vs* 3 HTCLs; IA *vs* NO prod.
538 // N // diaporthone G // IA *vs* 3 HTCLs; IA *vs* NO prod.

194 Ascomycota *Diaporthe* sp // (ascidian, *Styela plicata*) Bay of Da'ao, Shenzhen City, Guangdong Province, China // Bioactive monoterpenes and polyketides from the ascidian-derived fungus *Diaporthe* sp. SYSU-MS4722
539 // N // diaporterpene A // IA *vs* 1 HTCL; IA *vs* antioxid.; IA *vs* NO prod.
540 // N // diaporterpene B // IA *vs* 1 HTCL; IA *vs* antioxid.; IA *vs* NO prod.
541 // N // diaporterpene C // IA *vs* 1 HTCL; IA *vs* antioxid.; IA *vs* NO prod.
542 // N // diaporpyrone A // IA *vs* 1 HTCL; IA *vs* antioxid.; IA *vs* NO prod.



195 Ascomycota *Epicoccum* sp // (sediment) Kueishantao, Taiwan // Exploring gabosine and chlorogentisyl alcohol derivatives from a marine-derived fungus as EcGUS inhibitors with informatic assisted approaches

543 // N // 3-chloro-2,5-dihydroxybenzyl 4-hydroxynicotinate // weak inhib. β-glucuronidase.
544 // N // 3-(3-chloro-2,5-dihydroxybenzyl)-4-hydroxy-6-methyl-2*H*-pyran-2-one // NT.
545 // N // 6,6'-(*oxybis*(methylene))*bis*(2-chlorobenzene-1,4-diol) // mod. inhib. β-glucuronidase.
546 // N // (4*R*,5*R*,6*S*)-6-chloro-2-(((3-chloro-2,5-dihydroxybenzyl)oxy)methyl)-4,5-dihydroxycyclohex-2-en-1-one // weak inhib. β-glucuronidase.
547 // N // (5a*S*,6*S*,9a*S*)-8-chloro-6-hydroxy-3-methyl-5a,6,9a,10-tetrahydro-1*H*,9*H*-pyrano[4,3-b]chromene-1,9-dione // NT.
548 // N // (2*S*,5'*S*,6'*R*)-3',8-dichloro-5',6,6'-trihydroxyspiro[chromane-2,1'-cyclohexan]-3'-en-2'-one // weak inhib. β-glucuronidase.
549 // N // (2*S*,5'*S*,6'*R*)-3',8-dichloro-5',6-dihydroxy-6'-methoxyspiro[chromane-2,1'-cyclohexan]-3'-en-2'-one // weak inhib. β-glucuronidase.
550 // N // (2*R*,5'*S*,6'*R*)-3',8-dichloro-5',6,6'-trihydroxyspiro[chromane-2,1'-cyclohexan]-3'-en-2'-one // NT.
551 // N // (2*S*,5'*S*,6'*S*)-3',8-dichloro-5',6,6'-trihydroxyspiro[chromane-2,1'-cyclohexan]-3'-en-2'-one // weak inhib. β-glucuronidase.
552 // N // 2-chloro-6-((((1*R*,2*S*,4*S*,5*S*)-4,5-dihydroxy-2-methylcyclohexyl)oxy)methyl)benzene-1,4-diol // mod. inhib. β-glucuronidase.
553 // N // 2-chloro-6-((((1*S*,2*S*,4*S*,5*R*)-2,5-dihydroxy-4-methylcyclohexyl)oxy)methyl)benzene-1,4-diol // mod. inhib. β-glucuronidase.
554 // N // 2-chloro-6-((((1*S*,2*S*,4*R*,5*S*)-2,4-dihydroxy-5-methylcyclohexyl)oxy)methyl)benzene-1,4-diol // mod. inhib. β-glucuronidase.
555 // N // (2*S*,6'*R*)-3',8-dichloro-6'-(((1*R*,2*R*,4*R*,5*S*)-2,5-dihydroxy-4-methylcyclohexyl)oxy)-5',6-dihydroxyspiro[chromane-2,1'-cyclohexan]-3'-en-2'-one // NT.
556 // N // (2*S*,5'*S*,6'*R*)-7,8-dichloro-3'-(3-chloro-2,5-dihydroxybenzyl)-5',6,6'-trihydroxyspiro[chromane-2,1'-cyclohexan]-3'-en-2'-one // mod. inhib. β-glucuronidase.
557 // N // (4*R*,5*R*,6*S*)-6-chloro-2-ethyl-4,5-dihydroxycyclohex-2-en-1-one // weak inhib. β-glucuronidase.
558 // N // (4*R*,5*R*,6*S*)-6-butoxy-4,5-dihydroxy-2-methylcyclohex-2-en-1-one // weak inhib. β-glucuronidase.
559 // N // (4*R*,5*R*,6*S*)-2-(butoxymethyl)-4,5,6-trihydroxycyclohex-2-en-1-one // NT.
560 // N // (5a*S*,6*S*,7*R*,8*S*,9a*R*)-6,7,8-trihydroxy-3-methyl-5a,6,7,8,9a,10-hexahydro-1*H*,9*H*-pyrano[4,3-b]chromene-1,9-dione // NT.
561 // N // (4b*R*,5*R*,6*S*,7*R*,7a*S*,13a*S*)-5,6,7-trihydroxy-2,11-dimethyl-4b,5,6,7,7a,8-hexahydro-4*H*,9*H*-pyrano[4,3-b]pyrano[3',4':4,5]furo[3,2-i]chromene-4,9-dione // NT.



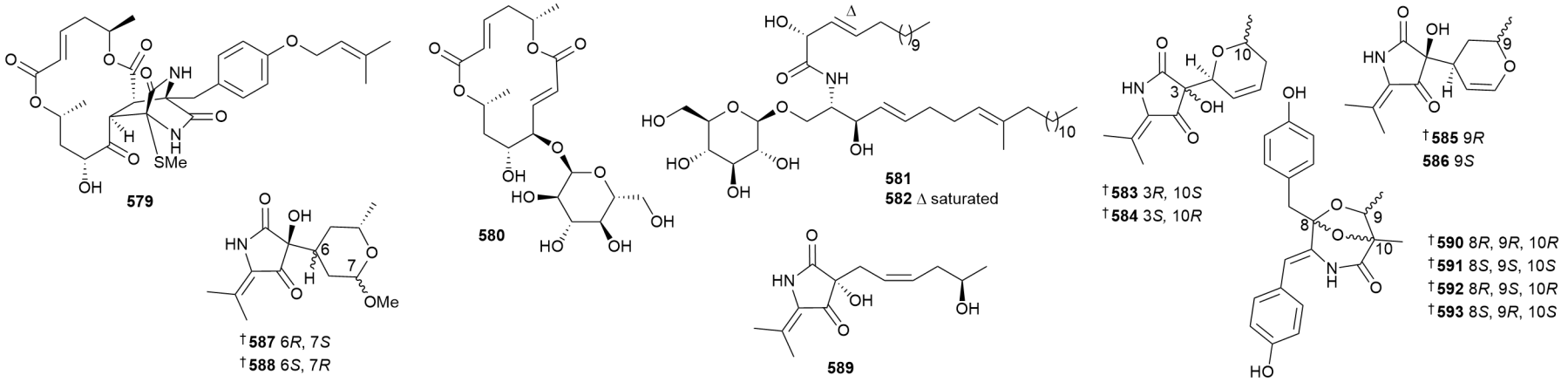
196 Ascomycota *Eutypella scoparia* // (seawater) Bohai Sea, Huanghua, China // Anti-inflammatory polyketides from the marine-derived fungus *Eutypella scoparia*
562 // N // eutyketide A // IA *vs* 1 murine nCL; weak inhib. NO prod.
563 // N // eutyketide B // IA *vs* 1 murine nCL; IA *vs* NO prod.
564 // N // cytosporin X // IA *vs* 1 murine nCL; IA *vs* NO prod.

197 Ascomycota *Exophiala oligosperma* // (seawater) South China Sea // Exophilone, a tetrahydrocarbazol-1-one analogue with anti-pulmonary fibrosis activity from the deep-sea fungus *Exophiala oligosperma* MCCC 3A01264
565 // N // exophilone // IA *vs* 1 nHCL; weak inhib. *vs* TGF- β1

198 Ascomycota *Fusarium solani* // (soft coral, *Sargassum tortuosum*) South China Sea // Indole alkaloids fusarindoles A–E from marine-derived fungus *Fusarium equiseti* LJ-1
566 // N // fusarindole A // IA *vs* 5 HTCLs.
567 // N // fusarindole B // IA *vs* 5 HTCLs.
568 // N // fusarindole C // IA *vs* 5 HTCLs.
569 // N // fusarindole D // IA *vs* 5 HTCLs.
570 // N // fusarindole E // IA *vs* 5 HTCLs.

199 Ascomycota *Fusarium graminearum* // (underwater rock) Richardson's Beach, Big Island, Hawaii // Polyketides, diketopiperazines and an isochromanone from the marine-derived fungal strain *Fusarium graminearum* FM1010 from Hawaii
571 // N // gramipiperazine A // IA *vs* 1 HTCL; IA *vs* 1 nHCL; IA *vs* 2 bact. strains; IA *vs* NF-κB
572 // N // gramipiperazine B // IA *vs* 1 HTCL; IA *vs* 1 nHCL; IA *vs* 2 bact. strains; IA *vs* NF-κB
573 // N // kaneoheoic acid G // IA *vs* 1 HTCL; IA *vs* 1 nHCL; IA *vs* 2 bact. strains; IA *vs* NF-κB
574 // N // kaneoheoic acid H // IA *vs* 1 HTCL; IA *vs* 1 nHCL; IA *vs* 2 bact. strains; IA *vs* NF-κB
575 // N // kaneoheoic acid I // IA *vs* 1 HTCL; IA *vs* 1 nHCL; IA *vs* 2 bact. strains; IA *vs* NF-κB
576 // N // 7-hydroxy-3-(2-hydroxy-propyl)-5-methyl-*epi*-isochromen-1-one // IA *vs* 1 HTCL; IA *vs* 1 nHCL; IA *vs* 2 bact. strains; IA *vs* NF-κB

200 Ascomycota *Fusarium* sp // (sediment) Kueishantao, Taiwan // Two new prenylated glycine derivatives from the marine-derived fungus *Fusarium* sp. TW56-10
577 // N // N-({4-[(3-methylbut-2-en-1-yl)oxy]phenyl}acetyl)glycine // IA *vs* 1 HTCL.
578 // N // methyl N-({4-[(3-methylbut-2-en-1-yl)oxy]phenyl}acetyl)glycinate // NT.

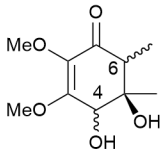


201 Ascomycota // (brown alga, *Sargassum thunbergii*) Osaka Bay, Japan // Isolation and structure elucidation of new cytotoxic macrolides halosmysins B and C from the fungus *Halosphaeriaceae* sp. associated with a marine alga
579 // N // halosmysin B // IA to weak cytotox. *vs* 2 HTCLs; IA *vs* 1 murine TCL.
580 // N // halosmysin C // IA *vs* 2 HTCLs; IA *vs* 1 murine TCL.

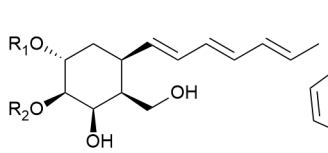
202 Ascomycota *Hortaea werneckii* // ("moss sponge") Danzhou, Hainan, China // Two new cerebroside metabolites from the marine fungus *Hortaea werneckii*
581 // N // hortacerebroside A // weak inhib. NO prod.
582 // N // hortacerebroside B // weak inhib. NO prod.

203 Ascomycota *Lecanicillium fusisporum* // (sediment) Mariana Trench // New 3-acyl tetramic acid derivatives from the deep-sea-derived fungus *Lecanicillium fusisporum*
583 // N // lecanicilliumin A // IA *vs* 2 HTCLs; IA *vs* 1 nHCL; IA *vs* NF-κB
584 // N // lecanicilliumin B // IA *vs* 2 HTCLs; IA *vs* 1 nHCL; IA *vs* NF-κB
585 // N // lecanicilliumin C // IA *vs* 2 HTCLs; IA *vs* 1 nHCL; IA *vs* NF-κB
586 // N // lecanicilliumin D // IA *vs* 2 HTCLs; IA *vs* 1 nHCL; IA *vs* NF-κB
587 // N // lecanicilliumin E // IA *vs* 2 HTCLs; IA *vs* 1 nHCL; IA *vs* NF-κB
588 // N // lecanicilliumin F // IA *vs* 2 HTCLs; IA *vs* 1 nHCL; IA *vs* NF-κB
589 // N // lecanicilliumin G // IA *vs* 2 HTCLs; IA *vs* 1 nHCL; IA *vs* NF-κB

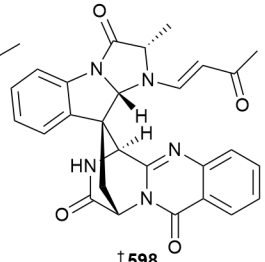
204 Ascomycota *Leptosphaerulina chartarum* // (sediment) Western Pacific Basin // Total synthesis of leptochartamides A and B: two enantiomeric pairs of hydroxybenzyl dimers from a deep-sea fungus *Leptosphaerulina chartarum*
590 // N // (-)-leptochartamide A // IA *vs* 9 HTCLs; IA *vs* 1 nHCL.
591 // N // (+)-leptochartamide A // IA *vs* 9 HTCLs; IA *vs* 1 nHCL.
592 // N // (-)-leptochartamide B // IA to weak cytotox. *vs* 9 HTCLs; IA *vs* 1 nHCL.
593 // N // (+)-leptochartamide B // IA to weak cytotox. *vs* 9 HTCLs; IA *vs* 1 nHCL.



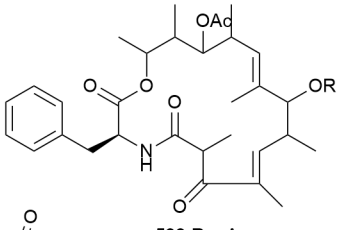
594 4*S*, 6*R*,
595 4*R*, 6*S*,



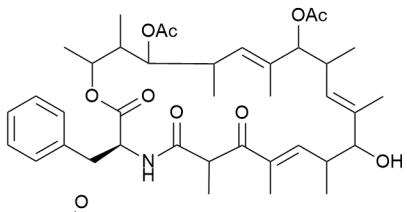
596 R_1 = Ac, R_2 = H
597 R_1 = H, R_2 = Ac



†**598**



599 R = Ac
600 R = H



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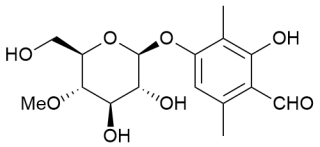

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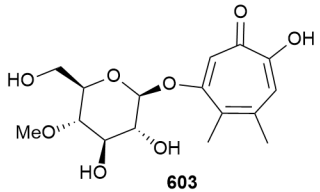

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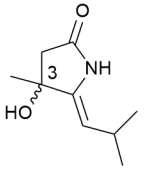
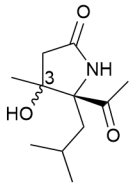


604 3*R*
†**605** 3*S*



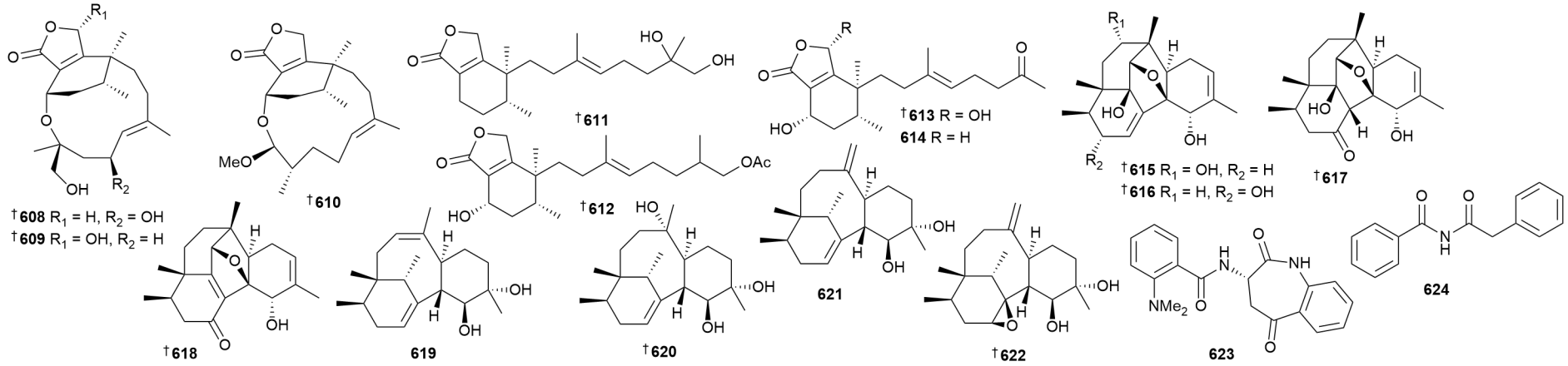
†**606** 3*S*
†**607** 3*R*

205 Ascomycota *Lopadostoma pouzarii* // (unidentified sponge) Cu Lao Cham Island, Quang Nam, Vietnam // Cytoprotective polyketides from sponge-derived fungus *Lopadostoma pouzarii*
594 // N // lopouzanone A // IA *vs* 1 HTCL; IA *vs* 1 nMCL; IA *vs* antioxid. (DPPH), IA *vs* cardioprotective effect (rotenone, cobalt chloride).
595 // N // lopouzanone B // IA *vs* 1 HTCL; IA *vs* 1 nMCL; IA *vs* antioxid. (DPPH), IA *vs* cardioprotective effect (rotenone, cobalt chloride).
596 // N // 1-*O*-acetyl dendrodochol B // IA *vs* 1 HTCL; IA *vs* 1 nMCL; IA *vs* antioxid. (DPPH), IA *vs* cardioprotective effect (rotenone, cobalt chloride).
597 // N // 2-*O*-acetyl dendrodochol B // NT.

206 Ascomycota *Metarhizium* sp // (seawater) Qingdao Huiquan Bay, Yellow Sea // Bioactive alkaloids from the marine-derived fungus *Metarhizium* sp. P2100
598 // N // *N*-butenonelapatin A // IA to weak cytotox. *vs* 20 HTCLs; IA *vs* 3 bact. strains; IA *vs* 3 fungal strains; IA *vs* NO inhib. prod.; IA *vs* antioxid. (DPPH, Fe^{3+} reduction).

207 Ascomycota *Metarhizium* sp // (fsh, *Mugil* sp.) fish market, Brisbane, Australia. // Metarhizides A–C and metarhizosides A–B: PKS-NRPS macrolides and aromatic glycosides from an Australian fish gut-derived fungus, *Metarhizium* sp. CMB-F624
599 // N // metarhizide A // IA *vs* 2 HTCLs; IA *vs* 3 bact. strains; IA *vs* 1 fungus.
600 // N // metarhizide B // IA *vs* 2 HTCLs; IA *vs* 3 bact. strains; IA *vs* 1 fungus.
601 // N // metarhizide C // IA *vs* 2 HTCLs; IA *vs* 3 bact. strains; IA *vs* 1 fungus.
602 // N // metarhizoside A // IA *vs* 2 HTCLs; IA *vs* 3 bact. strains; IA *vs* 1 fungus.
603 // N // metarhizoside B // IA *vs* 2 HTCLs; IA *vs* 3 bact. strains; IA *vs* 1 fungus.

208 Ascomycota *Monascus* sp // (bivalve mollusc, *Meretrix lusoria*) Hailing Island, Yangjiang, People's Republic of China // Monascuslactams A–D, cytotoxic γ-lactams from marine fungus *Monascus albidus* BB3
604 // N // monascuslactam A // IA *vs* 8 HTCLs; IA *vs* 2 nHCLs.
605 // N // monascuslactam B // IA *vs* 8 HTCLs; IA *vs* 2 nHCLs.
606 // N // monascuslactam C // IA *vs* 8 HTCLs; IA *vs* 2 nHCLs.
607 // N // monascuslactam D // IA *vs* 8 HTCLs; IA to weak cytotox. *vs* 2 nHCLs.

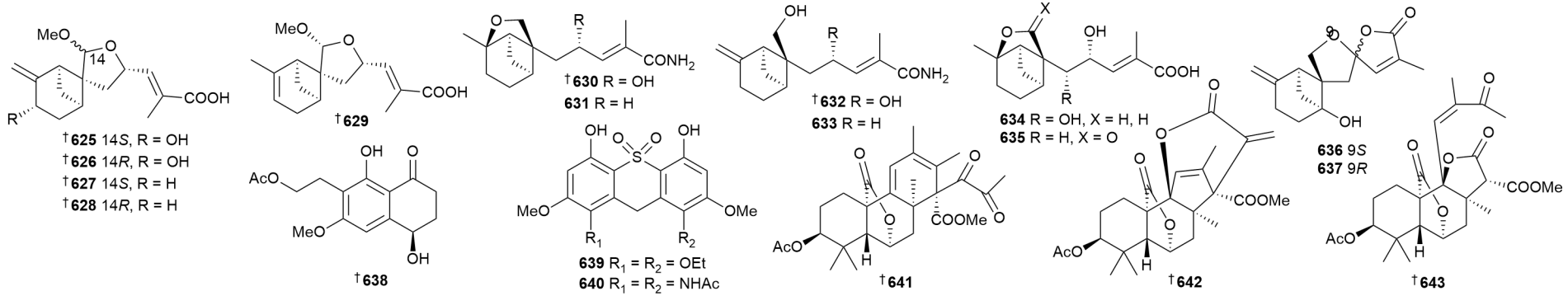


209 Ascomycota *Neocucurbitaria unguis-hominis* // (sediment) South China Sea // Neocucurbins A–G, novel macrocyclic diterpenes and their derivatives from *Neocucurbitaria unguis-hominis* FS685
608 // N // neocucurbin A // IA *vs* 3 HTCLs; IA *vs* 2 bact. strains.
609 // N // neocucurbin B // IA *vs* 3 HTCLs; IA *vs* 2 bact. strains.
610 // N // neocucurbin C // IA *vs* 3 HTCLs; IA *vs* 2 bact. strains.
611 // N // neocucurbin D // IA *vs* 3 HTCLs; IA *vs* 2 bact. strains.
612 // N // neocucurbin E // IA *vs* 3 HTCLs; IA *vs* 2 bact. strains.
613 // N // neocucurbin F // IA *vs* 3 HTCLs; IA *vs* 2 bact. strains.
614 // N // neocucurbin G // IA *vs* 3 HTCLs; IA *vs* 2 bact. strains.

210 Ascomycota *Neocucurbitaria unguis-hominis* // (sediment) South China Sea // Neocucurbols A–H, phomactin diterpene derivatives from the marine-derived fungus *Neocucurbitaria unguis-hominis* FS685
615 // N // neocucurbol A // IA *vs* 4 HTCLs; IA *vs* 2 bact. strains.
616 // N // neocucurbol B // IA *vs* 4 HTCLs; IA *vs* 2 bact. strains.
617 // N // neocucurbol C // IA *vs* 4 HTCLs; IA *vs* 2 bact. strains.
618 // N // neocucurbol D // IA *vs* 4 HTCLs; IA *vs* 2 bact. strains.
619 // N // neocucurbol E // IA *vs* 4 HTCLs; IA *vs* 2 bact. strains.
620 // N // neocucurbol F // IA *vs* 4 HTCLs; IA *vs* 2 bact. strains.
621 // N // neocucurbol G // IA *vs* 4 HTCLs; IA *vs* 2 bact. strains.
622 // N // neocucurbol H // IA *vs* 4 HTCLs; IA *vs* 2 bact. strains.

211 Ascomycota *Neosartorya pseudofischeri* // unspecified source // Genome mining discovery of a new benzazepine alkaloid pseudofisnin A from the marine fungus *Neosartorya pseudofischeri* F27-1
623 // N // pseudofisnin A // NT.

212 Ascomycota *Ochroconis humicola* // Indian Ocean // Metabolites of the marine fungus *Ochroconis humicola* (Y9-1)
624 // N // *N*-(2-phenylacetyl)benzamide // NT.



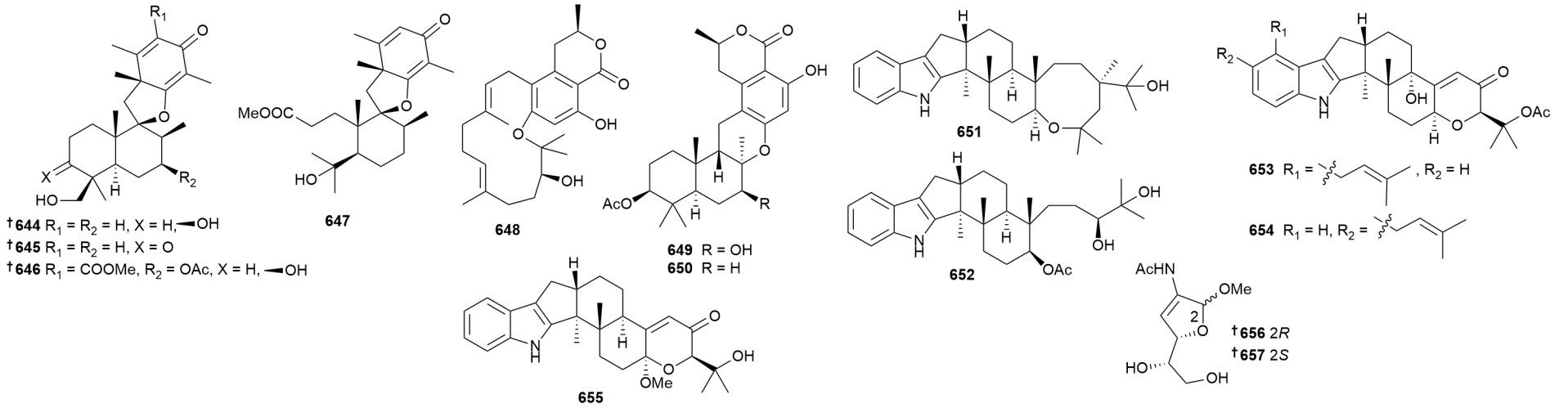
213 Ascomycota *Paraconiothyrium brasiliense* // (sediment) Indian Ocean // Brasilterpenes A–E, bergamotane sesquiterpenoid derivatives with hypoglycemic activity from the deep sea-derived fungus *Paraconiothyrium brasiliense* HDN15-135
625 // N // brasilterpene A // weak hypoglycemic activ. (zebrafish).
626 // N // brasilterpene B // IA *vs* hypoglycemic activ. (zebrafish).
627 // N // brasilterpene C // weak hypoglycemic activ. (zebrafish).
628 // N // brasilterpene D // IA *vs* hypoglycemic activ. (zebrafish).
629 // N // brasilterpene E // IA *vs* hypoglycemic activ. (zebrafish).

214 Ascomycota *Paraconiothyrium sporulosum* // (sediment) Bohai Bay, Liaoning Province, China // Polyhydroxylated bergamotane-type sesquiterpenoids from cultures of *Paraconiothyrium sporulosum* YK-03 and their absolute configurations
630 // N // sporulamide A // NT.
631 // N // sporulamide B // NT.
632 // N // sporulamide C // NT.
633 // N // sporulamide D // NT.
634 // N // sporulosoic acid A // NT.
635 // N // sporulosoic acid B // NT.
636 // N // sporuloketal A // NT.
637 // N // sporuloketal B // NT.

215 Ascomycota *Paraconiothyrium* sp // (crab, *Chiromantes haematocheir*) Zhoushan, Zhejiang, China // A new polyketide from marine-derived *Paraconiothyrium* sp
638 // N // paraconthone A // IA *vs* 4 HTCLs; IA *vs* 6 bact. strains; IA *vs* anti-inflam.

216 Ascomycota *Penicillium aculeatum*, Ascomycota *Talaromyces aculeatus* // (red alga, *Laurencia obtusa*) Abo El-Darag coast, Egypt // Bioactive sulfonyl metabolites from the Red Sea endophytic fungus *Penicillium aculeatum*
639 // N // pensulfonoxy // IA to weak cytotox. *vs* 3 HTCLs.
640 // N // pensulfonamide // IA to weak cytotox. *vs* 3 HTCLs.

217 Ascomycota P*enicillium antarcticum* // (brown alga, *Sargassum miyabei*) Sea of Japan // Meroantarctines A–C, meroterpenoids with rearranged skeletons from the alga-derived fungus *Penicillium antarcticum* KMM 4685 with potent P-glycoprotein inhibitory activity
641 // N // meroantarctine A // IA *vs* 5 HTCLs; mod. inhib. P-glycoprotein; mod. MDR reversal.
642 // N // meroantarctine B // IA *vs* 5 HTCLs; mod. inhib.P-glycoprotein; mod. MDR reversal.
643 // N // meroantarctine C // IA *vs* 5 HTCLs; mod. inhib. P-glycoprotein; mod. MDR reversal.

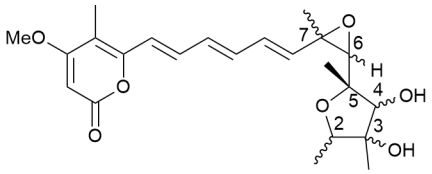


218 Ascomycota *Penicillium* sp // (red alga, *Pterocladiella tenuis*) Rongcheng, Shandong Province, China // Mining new meroterpenoids from the marine red alga-derived endophytic *Penicillium chermesinum* EN-480 by comparative transcriptome analysis
644 // N // chermesins E // weak to pot. activ. *vs* 5 bact. strains; weak to mod. activ. *vs* 2 fungal strains.
645 // N // chermesins F // weak to pot. activ. *vs* 5 bact. strains; IA *vs* 2 fungal strains.
646 // N // chermesins G // weak activ. *vs* 5 bact. strains; IA to weak activ. *vs* 2 fungal strains.
647 // N // chermesins H // IA to mod. activ. *vs* 5 bact. strains; IA *vs* 2 fungal strains.

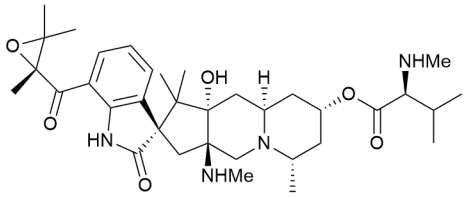
219 Ascomycota *Penicillium chrysogenum* // (sediment) Antarctic Ocean // Chrysomutanin and related meroterpenoids from a DES mutant of the marine-derived fungus *Penicillium chrysogenum* S-3-25
648 // N // chrysomutanin // IA to weak cytotox. *vs* 5 HTCLs.
649 // N // 3-acetyl chrodrimanin F // IA *vs* 5 HTCLs.
650 // N // 3-acetoxypentacecilide A // IA to weak cytotox. *vs* 5 HTCLs.

220 Ascomycota *Penicillium brefeldianum* // (sediment) Fujian province, China // Paspalines C–D and paxillines B–D: new indole diterpenoids from *Penicillium brefeldianum* WZW-F-69
651 // N // paspaline C // IA to mod. cytotox. *vs* 10 HTCLs; IA *vs* 2 bact. strains; IA *vs* 2 fungal strains.
652 // N // paspaline D // IA *vs* 10 HTCLs; IA *vs* 2 bact. strains; IA *vs* 2 fungal strains.
653 // N // paxilline B // IA *vs* 10 HTCLs; IA *vs* 2 bact. strains; IA *vs* 2 fungal strains.
654 // N // paxilline C // IA *vs* 10 HTCLs; IA *vs* 2 bact. strains; IA *vs* 2 fungal strains.
655 // N // paxilline D // IA *vs* 10 HTCLs; IA *vs* 2 bact. strains; IA *vs* 2 fungal strains.

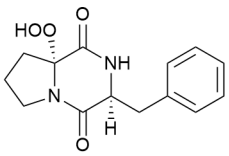
221 Ascomycota *Penicillium chrysogenum* // (red alga, *Grateloupia turuturu*) Qingdao, China // Two new *N*-acetyl-D-glucosamine derivatives from the medical algae-derived endophytic fungus *Penicillium chrysogenum*
656 // N // penichryfuran A // IA to weak cytotox. *vs* 3 HTCLs.
657 // N // penichryfuran B // IA *vs* 3 HTCLs.



†**658** 2*S*, 3*S*, 4*R*, 5*S*, 6*S*, 7*S*
†**659** 2*R*, 3*R*, 4*S*, 5*S*, 6*S*, 7*S*
†**660** 2*S*, 3*S*, 4*R*, 5*S*, 6*R*, 7*R*
†**661** 2*S*, 3*R*, 4*S*, 5*R*, 6*R*, 7*R*
†**662** 2*R*, 3*S*, 4*R*, 5*R*, 6*S*, 7*S*
†**663** 2*R*, 3*R*, 4*S*, 5*S*, 6*R*, 7*R*



664

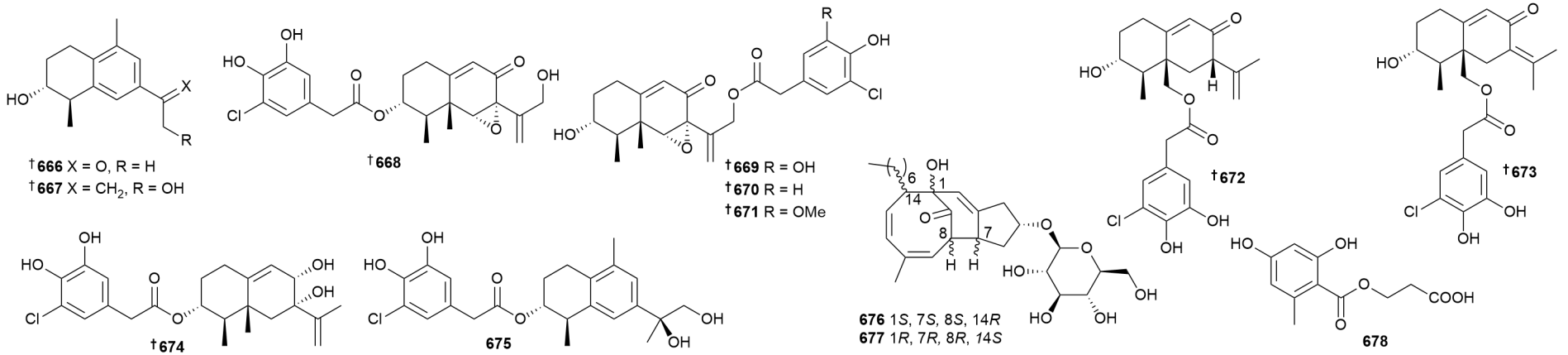


665

222 Ascomycota *Penicillium citreonigrum* // (sediment) Northeastern Pacific // Chemical constituents of the deep-sea-derived *Penicillium citreonigrum* MCCC 3A00169 and their antiproliferative effects
658 // N // citreoviridin J // IA *vs* 1 HTCL.
659 // N // citreoviridin K // IA *vs* 1 HTCL.
660 // N // citreoviridin L // IA *vs* 1 HTCL.
661 // N // citreoviridin M // IA *vs* 1 HTCL.
662 // N // citreoviridin N // IA *vs* 1 HTCL.
663 // N // citreoviridin O // IA *vs* 1 HTCL.

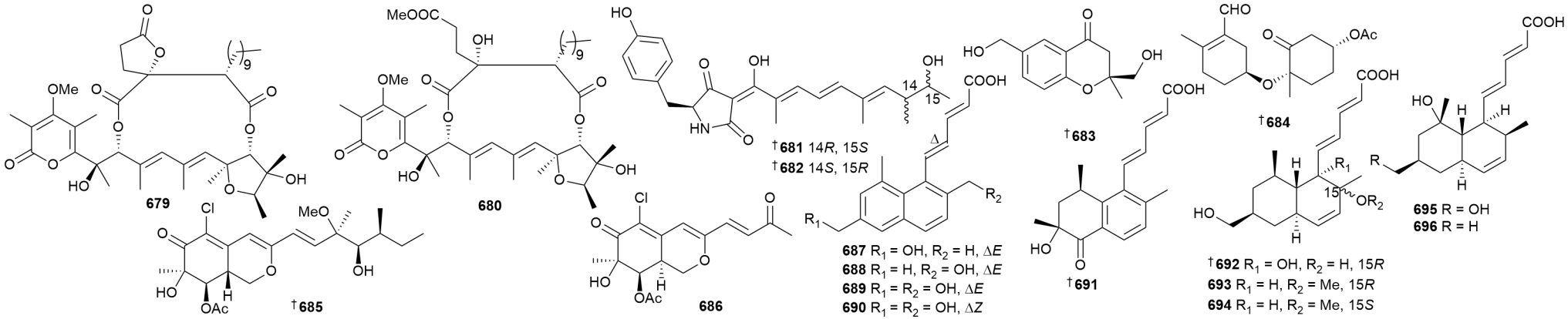
223 Ascomycota *Penicillium citrinum* // (sediment) Indian Ocean // Citrinadin C, a new cytotoxic pentacyclic alkaloid from marine-derived fungus *Penicillium citrinum*
664 // N // citrinadin C // IA *vs* 1 HTCL; IA *vs* 3 bact. strains.

224 Ascomycota *Penicillium commune* // (ascidian, *Didemnum* sp.) Jizan, Saudi Red Sea // Characterization of bioactive compounds from the Red Sea tunicate-derived fungus *Penicillium commune* DY004
665 // N // penicillizine A // IA *vs* 3 HTCLs



225 Ascomycota *Penicillium copticola* // (sponge, *Xestospongia testudinaria*) Weizhou island, China // Eremophilane-type sesquiterpenes from a marine-derived fungus *Penicillium copticola* with antitumor and neuroprotective activities
666 // N // copteremophilane A // IA *vs* 3 HTCLs.
667 // N // copteremophilane B // IA *vs* 3 HTCLs.
668 // N // copteremophilane C // IA *vs* 3 HTCLs.
669 // N // copteremophilane D // IA to weak cytotox. *vs* 3 HTCLs.
670 // N // copteremophilane E // IA to weak cytotox. *vs* 3 HTCLs.
671 // N // copteremophilane F // IA *vs* 3 HTCLs.
672 // N // copteremophilane G // IA *vs* 3 HTCLs; weak inhib. *vs* LDH; weak inhib. *vs* malondialdehyde.
673 // N // copteremophilane H // IA to weak cytotox. *vs* 3 HTCLs.
674 // N // copteremophilane I // IA *vs* 3 HTCLs.
675 // N // copteremophilane J // IA *vs* 3 HTCLs.
676 // N // 5-glycopenostatin F // NT *vs* 3 HTCLs.
677 // N // 5-glycopenostatin I // NT *vs* 3 HTCLs.

226 Ascomycota *Penicillium crustosum* // (sediment) Prydz Bay, Antractica via heterologous expression in *Aspergillus nidulans* // Formation of 3-orsellinoxypropanoic acid in *Penicillum crustosum* is catalyzed by a bifunctional nonreducing polyketide synthase
678 // N // 3-orsellinoxypropanoic acid // NT.



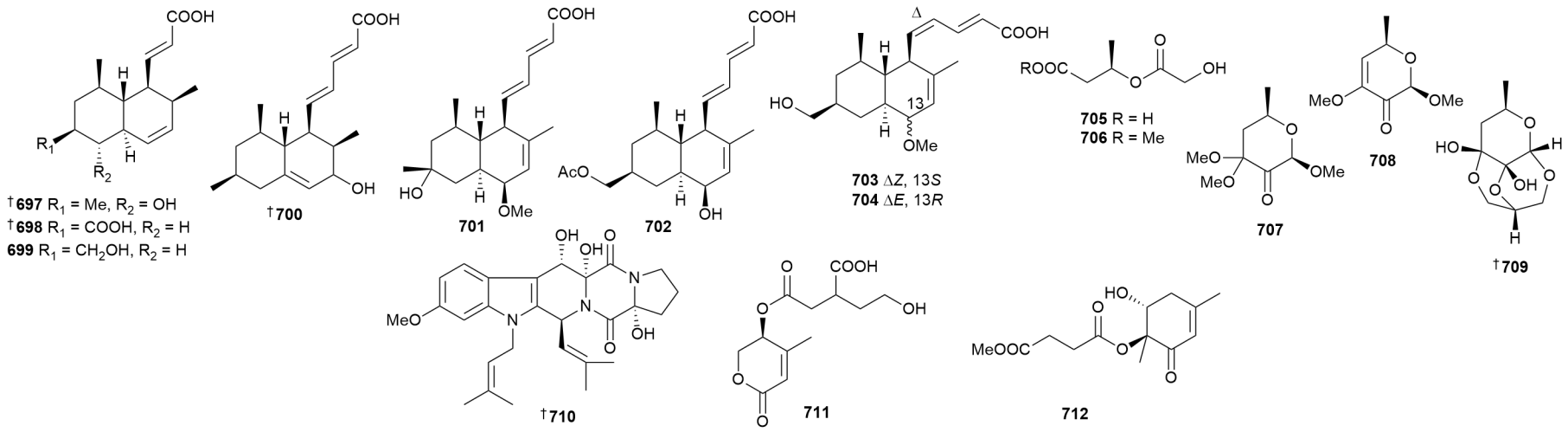
227 Ascomycota *Penicillium cyclopium* // (sediment) East China Sea // Cyclopiumolides A and B, unusual 13-membered macrolides from the deep sea-sourced fungus *Penicillium cyclopium* SD-413 with antiproliferative activities
679 // N // cyclopiumolide A // IA *vs* 3 HTCLs.
680 // N // cyclopiumolide B // weak cytotox. *vs* 3 HTCLs.

228 Ascomycota *Penicillium oxalicum* // (sediment) Sanggou Bay, Yellow Sea, China // Identification of PKS-NRPS hybrid metabolites in marine-derived *Penicillium oxalicum*
681 // N // oxopyrrolidine A // IA *vs* 1 bact. strain.
682 // N // oxopyrrolidine B // IA *vs* 1 bact. strain.

229 Ascomycota *Penicillium oxalicum* // (red alga, *Rhodomela confervoides*) Lianyungang, Jiangsu province, China // Polyketides isolated from an endophyte *Penicillium oxalicum* 2021CDF-3 inhibit pancreatic tumor growth
683 // N // oxalichroman A // IA *vs* 1 HTCL.
684 // N // oxalihexane A // weak cytotox. *vs* 1 HTCL.

230 Ascomycota *Penicillium sclerotiorum* // (sponge) Quanfu Island, Hainan, China // Two new azaphilones from the marine-derived fungus *Penicillium sclerotiorum* E23Y-1A
685 // N // penicilazaphilone F // IA *vs* NO prod.
686 // N // penicilazaphilone G // IA *vs* NO prod..

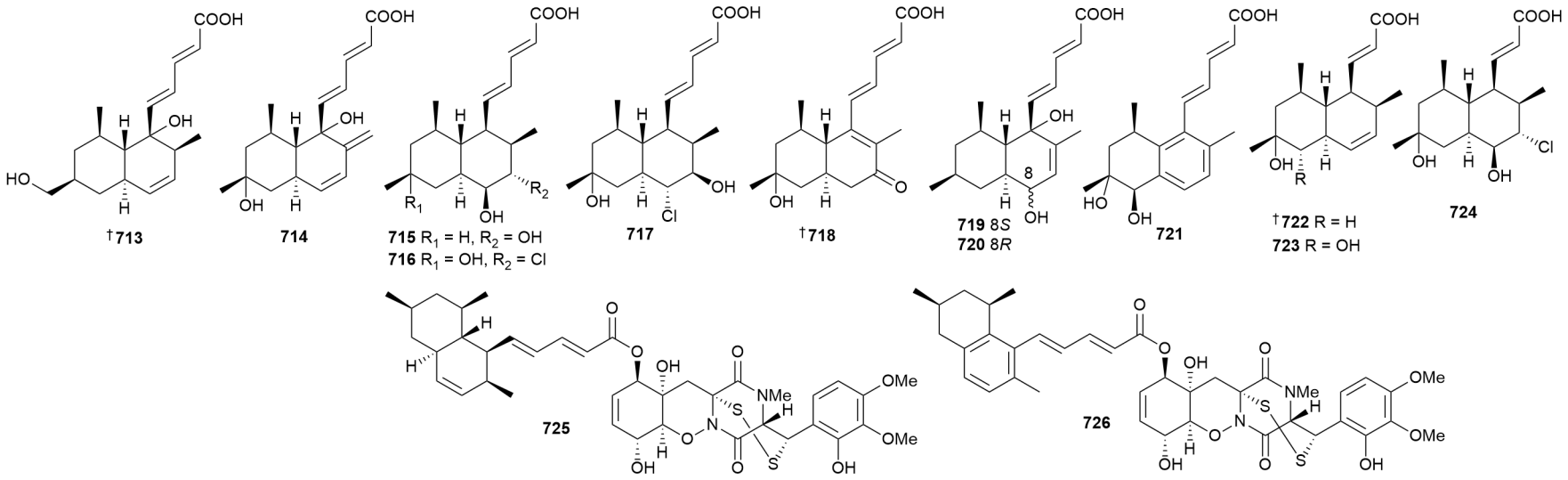
231 Ascomycota *Penicillium steckii* // (coral, *Acanthogorgiidae* sp.) Magellan seamounts // Tanzawaic acid derivatives: fungal polyketides from the deep-sea coral-derived endozoic *Penicillium steckii* AS-324
687 // N // steckwaic acid A // IA to mod. activ. *vs* 8 bact. strains; IA *vs* 1 fungus.
688 // N // steckwaic acid B // IA to weak activ. *vs* 8 bact. strains; IA *vs* 1 fungus.
689 // N // steckwaic acid C // IA *vs* 8 bact. strains; IA *vs* 1 fungus.
690 // N // steckwaic acid D // IA *vs* 8 bact. strains; IA *vs* 1 fungus.
691 // N // 11-ketotanzawaic acid D // IA to mod. activ. *vs* 8 bact. strains; IA *vs* 1 fungus.
692 // N // 6,15-dihydroxytanzawaic acid M // IA to mod. activ. *vs* 8 bact. strains; IA *vs* 1 fungus.
693 // N // 15R-methoxytanzawaic acid M // IA to mod. activ. *vs* 8 bact. strains; IA *vs* 1 fungus.
694 // N // 15S-methoxytanzawaic acid M // IA to mod. activ. *vs* 8 bact. strains; IA *vs* 1 fungus.
695 // N // 8-hydroxytanzawaic acid M // IA to mod. activ. *vs* 8 bact. strains; IA *vs* 1 fungus.
696 // N // 8-hydroxytanzawaic acid B // IA to weak activ. *vs* 8 bact. strains; IA *vs* 1 fungus.



232 Ascomycota *Penicillium steckii* // (soft coral, *Acanthogorgiidae* sp.) Magellan Seamounts, Western Pacific Ocean // Uncommon polyketides from *Penicillium steckii* AS-324, a marine endozoic fungus isolated from deep-sea coral in the Magellan Seamount
697 // N // steckwaic acid E // IA *vs* 10 bact. strains; IA *vs* 7 fungal strains.
698 // N // steckwaic acid F // IA *vs* 10 bact. strains; IA *vs* 7 fungal strains.
699 // N // steckwaic acid G // IA *vs* 10 bact. strains; IA *vs* 7 fungal strains.
700 // N // steckwaic acid H // IA *vs* 10 bact. strains; IA *vs* 7 fungal strains.
701 // N // 10-hydroxytanzawaic acid U // IA to weak activ.*vs* 10 bact. strains; IA *vs* 7 fungal strains.
702 // N // 18-*O*-acetyltanzawaic acid R // IA *vs* 10 bact. strains; IA *vs* 7 fungal strains.
703 // N // steckwaic acid I // IA *vs* 10 bact. strains; IA *vs* 7 fungal strains.
704 // N // 13R-tanzawaic acid S // IA to mod. activ.*vs* 10 bact. strains; IA *vs* 7 fungal strains.

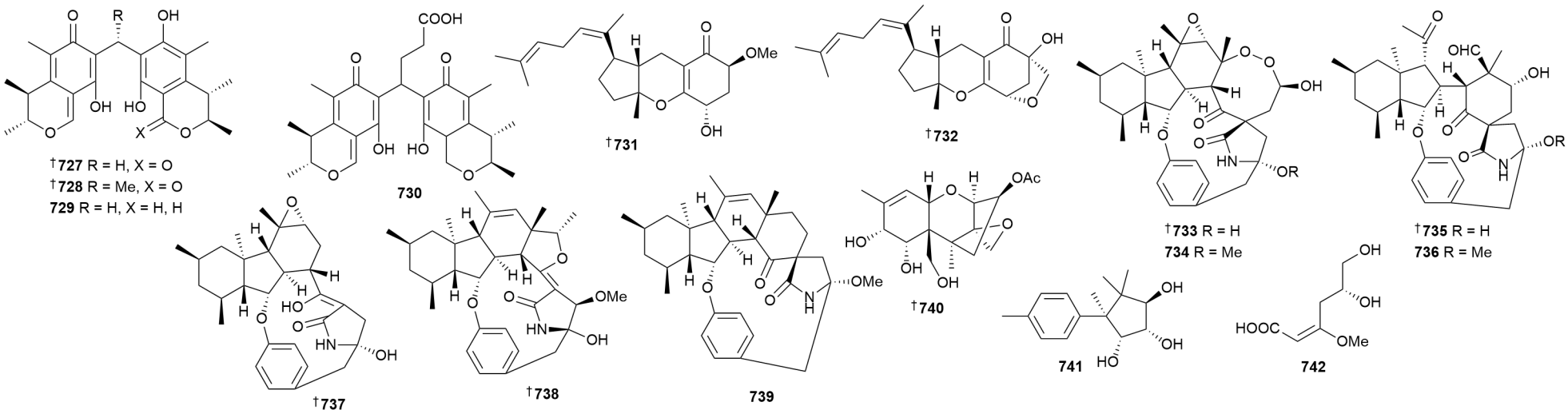
233 Ascomycota *Penicillium sumatraense* // (brown alga, *Sargassum cristaefolium*) Badouzi, Keelung, Taiwan // Chemical constituents and anti-angiogenic principles from a marine algicolous *Penicillium sumatraense* SC29
705 // N // penisterine A // IA *vs* anti-angiogenesis.
706 // N // penisterine B // IA *vs* anti-angiogenesis.
707 // N // penisterine C // IA *vs* anti-angiogenesis.
708 // N // penisterine D // weak *vs* anti-angiogenesis
709 // N // penisterine E // IA *vs* anti-angiogenesis.

234 Ascomycota *Penicillium* sp // (sediment) Hydrothermal vent, Kueishantao, Taiwan // New diketopiperazine alkaloid and polyketides from marine-derived fungus *Penicillium* sp. TW58-16 with antibacterial activity against *Helicobacter pylori*
710 // N // (8*S*,9*R*,12*R*,18*S*)-12-hydroxyl-fumitremorgin B // IA *vs* 6 bact. strains.
711 // N // walterolactone E // IA *vs* 6 bact. strains.
712 // N // leptosphaerone D // IA *vs* 6 bact. strains.



235 Ascomycota *Penicillium* sp // (bivalve mollusc, *Bathymodiolus* sp.) South China Sea // Tanzawaic acids from a deep-sea derived *Penicillium* species

713 // N // penitanzacid A // IA *vs* 1 HTCL; IA *vs* 4 bact. strains; IA *vs* 1 fungus.
714 // N // penitanzacid B // IA *vs* 1 HTCL; IA *vs* 4 bact. strains; IA *vs* 1 fungus.
715 // N // penitanzacid C // IA *vs* 1 HTCL; IA *vs* 4 bact. strains; IA *vs* 1 fungus.
716 // N // penitanzacid D // IA *vs* 1 HTCL; IA *vs* 4 bact. strains; IA *vs* 1 fungus.
717 // N // penitanzacid E // IA *vs* 1 HTCL; IA *vs* 4 bact. strains; IA *vs* 1 fungus.
718 // N // penitanzacid F // IA *vs* 1 HTCL; IA *vs* 4 bact. strains; IA *vs* 1 fungus.
719 // M // tanzawaic acid I // IA *vs* 1 HTCL; IA *vs* 4 bact. strains; IA *vs* 1 fungus.
720 // M // tanzawaic acid J // IA *vs* 1 HTCL; IA *vs* 4 bact. strains; IA *vs* 1 fungus.
721 // N // penitanzacid G // IA *vs* 1 HTCL; IA *vs* 4 bact. strains; IA *vs* 1 fungus.
722 // N // penitanzacid H // IA *vs* 1 HTCL; IA *vs* 4 bact. strains; IA *vs* 1 fungus.
723 // N // penitanzacid I // IA *vs* 1 HTCL; IA *vs* 4 bact. strains; IA *vs* 1 fungus.
724 // N // penitanzacid J // IA *vs* 1 HTCL; IA *vs* 4 bact. strains; IA *vs* 1 fungus.
725 // N // hatsusamide C // IA *vs* 1 HTCL; IA *vs* 4 bact. strains; IA *vs* 1 fungus.
726 // N // hatsusamide D // IA *vs* 1 HTCL; IA *vs* 4 bact. strains; IA *vs* 1 fungus.

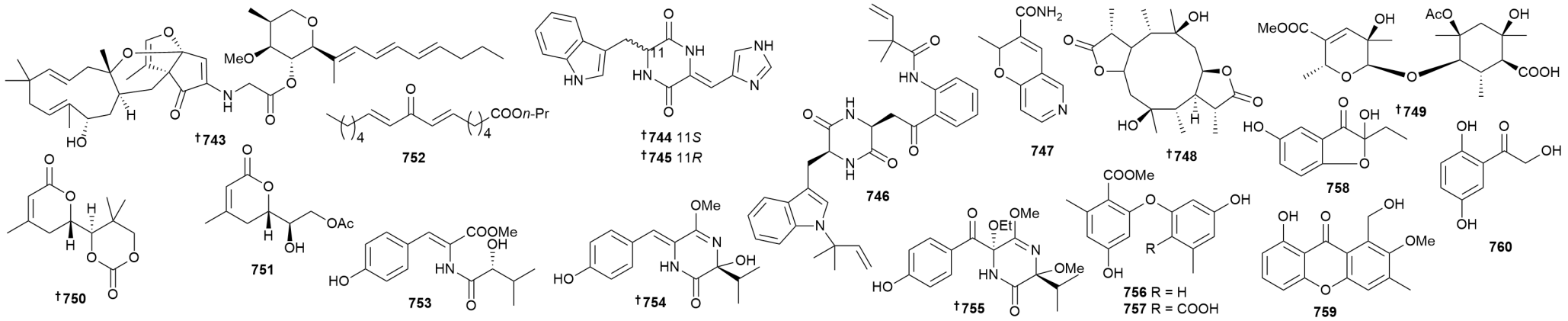


236 Ascomycota *Penicillium* sp // (unspecified starfish) South China Sea // Rare carbon-bridged citrinin dimers from the starfish-derived symbiotic fungus *Penicillium* sp. GGF16-1-2
727 // N // dicitrinone G // IA *vs* 2 HTCLs; weak activ. *vs* 1 fungus.
728 // N // dicitrinone H // IA *vs* 2 HTCLs; weak activ. *vs* 1 fungus.
729 // N // dicitrinone I // IA *vs* 2 HTCLs; weak activ. *vs* 1 fungus.
730 // N // dicitrinone J // IA *vs* 2 HTCLs; weak activ. *vs* 1 fungus.

237 Ascomycota *Penicillium* sp // (sponge, *Crella* sp.) Paracel Islands, Hainan, China // Guignardones Y–Z, antiviral meroterpenes from *Penicillium* sp. NBUF154 associated with a *Crella* sponge from the marine mesophotic zone
731 // N // guignardone Y // weak activ. *vs* 1 virus; IA *vs* 10 bact. strains.
732 // N // guignardone Z // IA *vs* 1 virus; IA *vs* 10 bact. strains.

238 Ascomycota *Penicillium* sp // (unidentified soft coral) South China Sea // Pyrrospirones K–Q, decahydrofluorene-class alkaloids from the marine-derived fungus *Penicillium* sp. SCSIO 41512
733 // N // pyrrospirone K // IA *vs* 1 HTCL; IA *vs* 6 bact. strains; IA *vs* 5 PTPs.
734 // N // pyrrospirone L // IA *vs* 1 HTCL; IA *vs* 6 bact. strains; IA *vs* 5 PTPs.
735 // N // pyrrospirone M // IA *vs* 1 HTCL; IA *vs* 6 bact. strains; IA *vs* 5 PTPs.
736 // N // pyrrospirone N // NT *vs* 1 HTCL; IA *vs* 6 bact. strains; IA *vs* 5 PTPs.
737 // N // pyrrospirone O // IA *vs* 1 HTCL; IA to weak activ. *vs* 6 bact. strains; NT *vs* 5 PTPs.
738 // N // pyrrospirone P // IA *vs* 1 HTCL; NT *vs* 6 bact. strains; IA *vs* 5 PTPs.
739 // N // pyrrospirone Q // NT *vs* 1 HTCL; IA *vs* 6 bact. strains; NT *vs* 5 PTPs.

239 Ascomycota *Penicillium* sp // (sediment) South Atlantic // New cytotoxic secondary metabolites from two deep-sea-derived fungi and the co-culture impact on the secondary metabolic patterns
740 // N // (2*S*,3*S*,5*S*,6*S*,7*S*,8*R*,11*S*,12*R*)-15-deacetyl-7,8-dihydroxycalonectrin // IA *vs* 3 HTCLs.
741 // N // 1-methyl-4-[3,4,5-trihydroxy-1,2,2-trimethylcyclopently]benzene // IA *vs* 3 HTCLs.
742 // N // 5,6-dihydroxy-3-methoxyhex-2-enoic acid // IA *vs* 3 HTCLs.



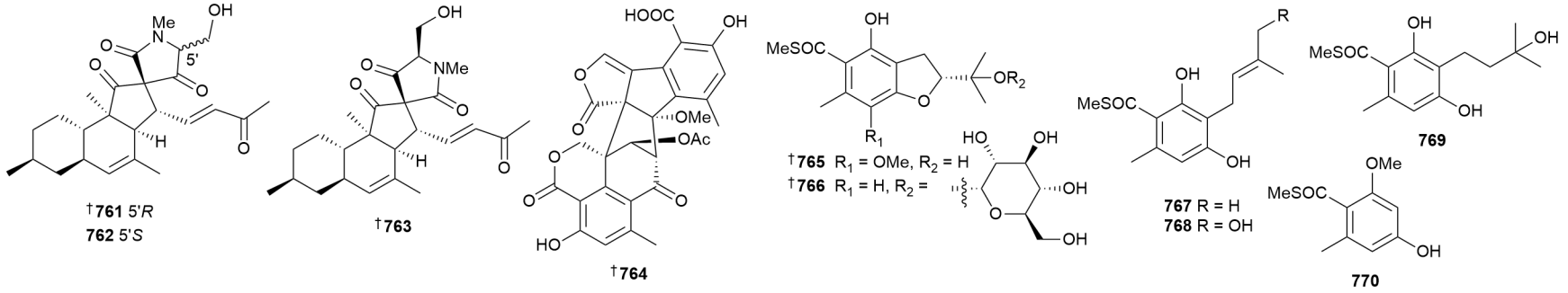
240 Ascomycota *Penicillium* sp // (sediment) Karachi, Sindh, Pakistan // Antiglioma natural products from the marine-associated fungus *Penicillium* sp. ZZ1750
743 // N // penipyridinone B // IA to weak cytotox. *vs* 2 HTCLs.
744 // N // 11*S*-(–)-penilloid A // IA *vs* 2 HTCLs.
745 // N // 11*R*,14*E*-(+)-penilloid A // IA *vs* 2 HTCLs.

241 Ascomycota *Penicillium* sp // (sediment) Kueishantao hydrothermal vents, Taiwan // Two new alkaloids from the marine-derived fungus *Penicillium* sp. LSH-3-1
746 // N // peniokaramine // IA *vs* 1 HTCL; IA *vs* NO prod.
747 // N // penipyranopyridine // IA *vs* 1 HTCL; IA *vs* NO prod.

242 Ascomycota *Pestalotiopsis* sp // (unspecified sponge) Weizhou Island, Guangxi province, China // Anti-inflammatory polyketide derivatives from the sponge-derived fungus *Pestalotiopsis* sp. SWMU-WZ04-2
748 // N // pestaloketide A // IA *vs* 4 HTCLs; IA *vs* NO prod.
749 // N // pestaloketide B // IA *vs* 4 HTCLs; IA *vs* NO prod.
750 // N // pestaloketide C // IA *vs* 4 HTCLs; IA *vs* NO prod.
751 // N // pestaloketide D // IA *vs* 4 HTCLs; IA *vs* NO prod.
752 // N // pestaloketide E // IA *vs* 4 HTCLs; IA *vs* NO prod.

243 Ascomycota *Phoma herbarum* // (unidentified sponge) Shenzhen, Guangdong Province, China // Tyrosine and terezine derivatives from the marine-sponge-derived fungus *Phoma herbarum* YG5839
753 // N // phomarosine D // IA *vs* 3 fungal strains.
754 // N // terezine N // IA *vs* 3 fungal strains.
755 // N // terezine O // IA *vs* 3 fungal strains.

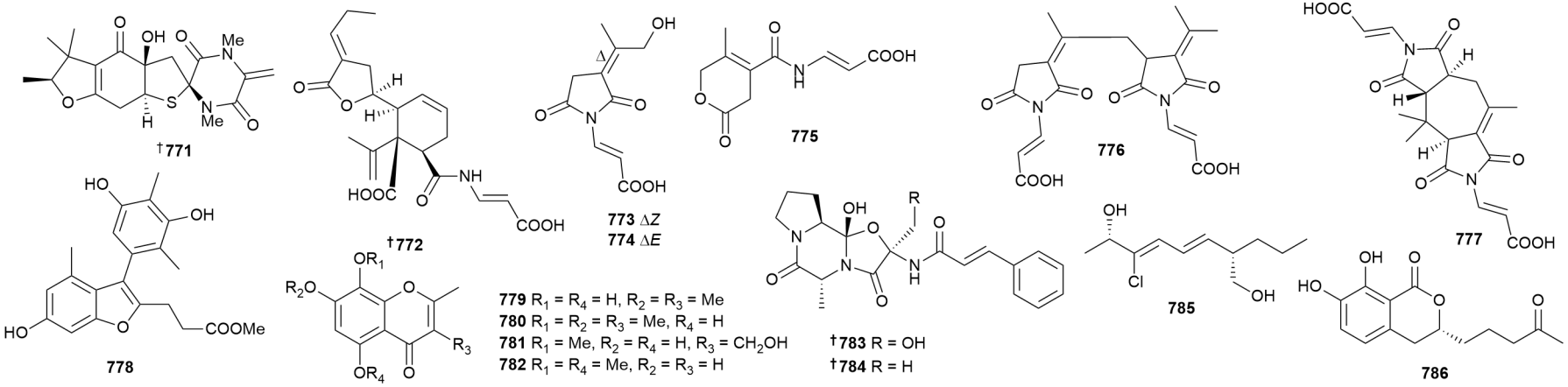
244 Ascomycota *Pseudopithomyces maydicus* // (bryozoan, *Schizoporella* sp.) Phuket Province, Thailand // New aromatic polyketides from the marine-derived fungus *Pseudopithomyces maydicus* PSU-AMF350 and their antimicrobial activity
756 // N // pseudopithoether A // IA *vs* 6 bact. strains; IA *vs* 6 fungal strains.
757 // N // pseudopithoether B // IA *vs* 6 bact. strains; IA *vs* 6 fungal strains.
758 // N // pseudopithonone // IA *vs* 6 bact. strains; IA *vs* 6 fungal strains.
759 // N // pseudopithoxanthone // IA *vs* 6 bact. strains; IA *vs* 6 fungal strains.
760 // N // α,2,5-trihydroxyacetophenone // IA *vs* 6 bact. strains; IA *vs* 6 fungal strains.



245 Ascomycota *Pyrenochaetopsis* sp // (brown alga, *Fucus vesiculosus*) Falckenstein Beach, Kiel Fjord, Baltic Sea, Germany // Application of feature-based molecular networking for comparative metabolomics and targeted isolation of stereoisomers from algicolous fungi
761 // R // pyrenosetin C // NT.
762 // N // pyrenosetin E // IA *vs* 5 HTCLs and 1 nHCL.
763 // N // pyrenosetin F // IA *vs* 5 HTCLs and 1 nHCL.

246 Ascomycota *Talaromyces* sp // (unspecified sponge) Prydz Bay, Antarctica // Talaverrucin A, heterodimeric oxaphenalenone from Antarctica sponge-derived fungus *Talaromyces* sp. HDN151403, inhibits Wnt/β-Catenin signaling pathway
764 // N // talaverrucin A // weak inhib. Wnt/β-catenin pathway (zebrafish); IA *vs* 13 HTCLs.

247 Ascomycota *Talaromyces indigoticus*, Ascomycota *Penicillium indigoticum* // (sediment) South China Sea // Thioester-containing benzoate derivatives with α-glucosidase inhibitory activity from the deep-sea-derived fungus *Talaromyces indigoticus* FS688
765 // N // eurothiocin C // weak inhib. α-glucosidase.
766 // N // eurothiocin D // IA *vs* α-glucosidase.
767 // N // eurothiocin E // IA *vs* α-glucosidase.
768 // N // eurothiocin F // IA *vs* α-glucosidase.
769 // N // eurothiocin G // IA *vs* α-glucosidase.
770 // N // eurothiocin H // IA *vs* α-glucosidase.

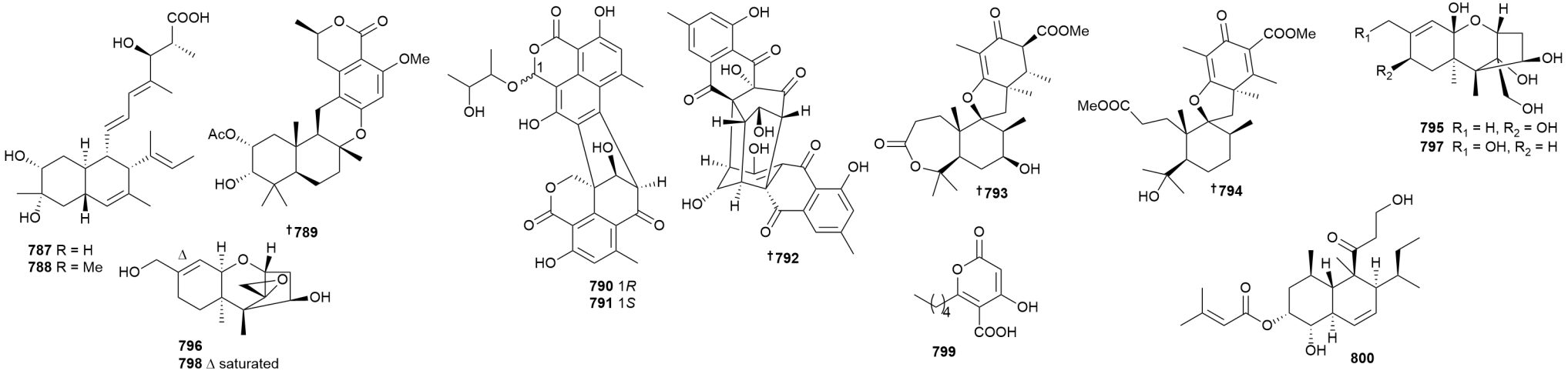


248 Ascomycota *Talaromyces mangshanicus* // (sediment) South China Sea // New secondary metabolites from the marine-derived fungus *Talaromyces mangshanicus* BTBU20211089
771 // N // talaromanloid A // IA *vs* 2 bact. strains; IA *vs* 1 fungus.
772 // N // talaromydene // IA *vs* 2 bact. strains; IA *vs* 1 fungus.
773 // N // 10-hydroxydemethyltalaromydine // IA *vs* 2 bact. strains; IA *vs* 1 fungus.
774 // N // 11-hydroxydemethyltalaromydine // IA *vs* 2 bact. strains; IA *vs* 1 fungus.
775 // N // talaromylectone // IA *vs* 2 bact. strains; IA *vs* 1 fungus.
776 // N // ditalaromylectone A // IA *vs* 2 bact. strains; IA *vs* 1 fungus.
777 // N // ditalaromylectone B // IA *vs* 2 bact. strains; IA *vs* 1 fungus.

249 Ascomycota *Talaromyces minioluteus* // (mussel, *Gigantidas platifrons*) South China Sea // Aromatic polyketides from the deep-sea cold-seep mussel associated endozoic fungus *Talaromyces minioluteus* CS-138
778 // N // talarominine A // IA to weak activ. vs 12 bact. strains; IA vs antioxid. (DPPH).
779 // N // talamin A // IA to weak activ. *vs* 12 bact. strains; weak inhib. *vs* antioxid. (DPPH).
780 // N // talamin B // IA *vs* 12 bact. strains; IA *vs* antioxid. (DPPH).
781 // N // talamin C // IA *vs* 12 bact. strains; IA *vs* antioxid. (DPPH).
782 // N // talamin D // IA *vs* 12 bact. strains; weak inhib. antioxid. (DPPH).

250 Ascomycota *Talaromyces purpureogenus* // (red alga, *Grateloupia filicina*) Zhoushan, Zhejiang province, China // Talaropeptins A and B, tripeptides with an *N-trans*-cinnamoyl moiety from the marine-derived fungus *Talaromyces purpureogenus* CX11
783 // N // talaropeptin A // IA *vs* 12 HTCLs; IA to weak activ. *vs* 3 fungal strains.
784 // N // talaropeptin B // IA *vs* 12 HTCLs; IA to weak activ. *vs* 3 fungal strains.

251 Ascomycota *Talaromyces* sp // (fish, *Hippoglossus* sp.) Zhoushan Archipelago, China // Talaromydien A and talaroisocoumarin A, new metabolites from the marine-sourced fungus *Talaromyces* sp. ZZ1616
785 // N // talaromydien A // IA *vs* 2 bact. strains; IA *vs* 1 fungus.
786 // N // talaroisocoumarin A // IA to weak activ. *vs* 2 bact. strains; weak activ. *vs* 1 fungus.



252 Ascomycota *Talaromyces* sp // (sediment) Zhoushan, Zhejiang, P. R. China // Two new cytotoxic decalin derivatives from marine-derived fungus *Talaromyces* sp.
787 // N // fusarielin O // IA *vs* 3 HTCLs; IA *vs* antioxid. (DPPH).
788 // N // fusarielin P // IA *vs* 3 HTCLs; IA *vs* antioxid. (DPPH).

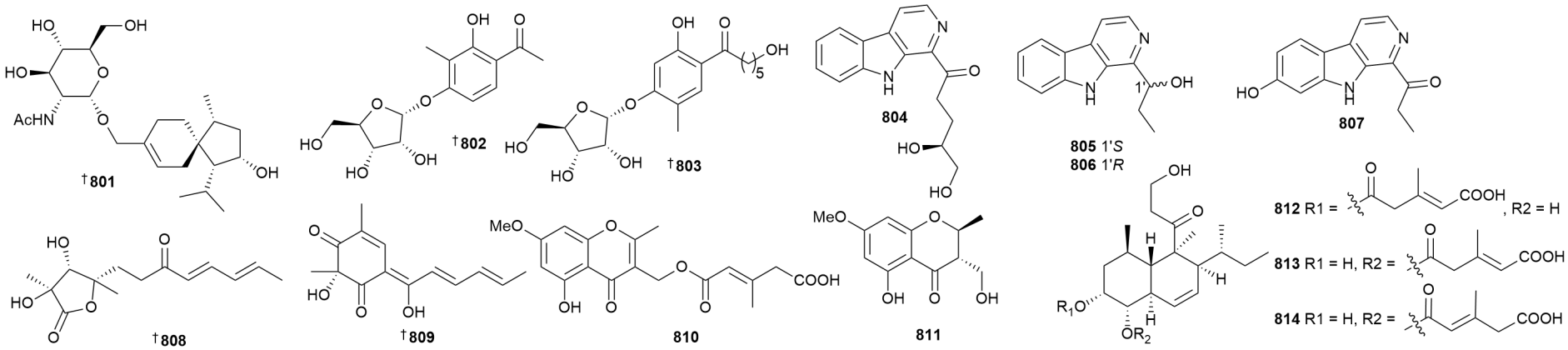
253 Ascomycota *Talaromyces* sp // (seawater) Dongshan Island, Fujian Province, China // Characterization of a bioactive meroterpenoid isolated from the marine-derived fungus *Talaromyces* sp.
789 // N // taladrimanin A // IA *vs* 2 HTCLs; IA to weak activ. *vs* 4 bact. strains.

254 Ascomycota *Talaromyces* sp // (sediment) Yellow Sea in Qingdao, China // New antibacterial secondary metabolites from a marine-derived *Talaromyces* sp. strain BTBU20213036
790 // N // bacillisporin K // IA to weak activ. *vs* 2 bact. strains; IA *vs* 1 fungus.
791 // N // bacillisporin M // IA to weak activ. *vs* 2 bact. strains; IA *vs* 1 fungus.
792 // N // rugulosin D // IA *vs* 2 bact. strains; IA *vs* 1 fungus.

255 Basidiomycota *Trametes* sp // (unidentified sea snail) Silver Island, Xisha, South Sea, China // Meroterpenoids and steroids from the marine-derived fungus *Trametes* sp. ZYX-Z-16
793 // N // asnovolin H // IA *vs* 4 bact. strains; IA *vs* 5 fungal strains; IA *vs* α-glucosidase.
794 // N // asnovolin I // IA *vs* 4 bact. strains; IA *vs* 5 fungal strains; IA *vs* α-glucosidase.

256 Ascomycota *Trichoderma brevicompactum* // (red alga, *Mastophora rosea*) Yilan coast, Taiwan // New trichothecenes isolated from the marine algicolous fungus *Trichoderma brevicompactum*
795 // N // trichoderminol B // IA *vs* 3 HTCLs; weak inhib. NO prod.
796 // N // trichoderminol C // IA *vs* 3 HTCLs; weak inhib. NO prod.
797 // N // trichoderminol D // IA *vs* 3 HTCLs; IA *vs* NO prod.
798 // N // trichoderminol E // IA *vs* 3 HTCLs; weak inhib. NO prod.

257 Ascomycota *Trichoderma harzianum* // (unidentified tunicate) Phuket Province, Thailand // α-Pyrone and decalin derivatives from the marine-derived fungus *Trichoderma harzianum* PSU-MF79
799 // N // trichoharzianone // IA *vs* 6 bact. strains; IA *vs* 4 fungal strains.
800 // N // trichoharzianin // IA *vs* 6 bact. strains; IA *vs* 4 fungal strains.

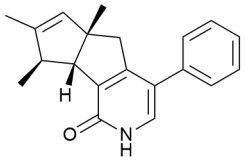


258 Ascomycota *Trichoderma longibrachiatum* // (red alga, *Laurencia obtusa*) Qingdao, China // Sesquiterpene and sorbicillinoid glycosides from the endophytic fungus *Trichoderma longibrachiatum* EN-586 derived from the marine red alga *Laurencia obtusa*
801 // N // trichoacorside A // IA to mod. activ. *vs* 6 bact. strains; IA to weak activ. *vs* 11 fungi.
802 // N // sorbicilliside A // IA to mod. activ. *vs* 6 bact. strains; IA to weak activ. *vs* 11 fungi.
803 // N // sorbicilliside B // IA to mod. activ. *vs* 6 bact. strains; IA to mod. activ. *vs* 11 fungi.

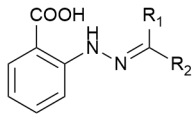
259 Ascomycota *Trichoderma* sp // (seawater) South China Sea // β-Carboline alkaloids from the deep-sea fungus *Trichoderma* sp. MCCC 3A01244 as a new type of anti-pulmonary fibrosis agent that inhibits TGF-β/Smad signaling pathway
804 // N // trichocarboline A // weak inhib. TGF-β1.
805 // N // (–)-trichocarboline B // IA *vs* TGF-β1.
806 // N // (+)-trichocarboline B // IA *vs* TGF-β1.
807 // N // trichocarboline C // NT *vs* TGF-β1.

260 Ascomycota *Trichoderma* sp // (sediment) Hanauma bay, Hawaii // New and bioactive polyketides from Hawaiian marine-derived fungus *Trichoderma* sp. FM652
808 // N // 2,3-dihydro 2-hydroxy vertinolide // IA *vs* 1 HTCL; IA *vs* 1 nHCL; IA *vs* NF-κB; IA *vs* 3 bact. strains.
809 // N // (–)-trichodermatone // IA *vs* 1 HTCL; IA *vs* 1 nHCL; NT *vs* NF-κB; IA *vs* 3 bact. strains.

261 Ascomycota *Trichoderma* sp // (sediment) Kueishantao, Taiwan, China // New polyketides from a hydrothermal vent sediment fungus *Trichoderma* sp. JWM29-10-1 and their antimicrobial effects
810 // N // (2*E*)-1-[(5-hydroxy-7-methoxy-2-methyl-4-oxo-4*H*-1-benzopyran-3-yl)methyl]3-methyl-2-pentenedioate // IA to mod. activ. *vs* 15 bact. strains; IA to weak activ. *vs* 3 fungal strains.
811 // N // (2*S*,3*S*)-5-hydroxy-3-hydroxymethyl-7-methoxy-2-methyl-4-chromanone // IA to mod. activ. *vs* 15 bact. strains; IA *vs* 3 fungal strains.
812 // N // tandyukisin G // IA *vs* 15 bact. strains; IA *vs* 3 fungal strains.
813 // N // tandyukisin H // IA *vs* 15 bact. strains; IA *vs* 3 fungal strains.
814 // N // tandyukisin I // IA *vs* 15 bact. strains; IA *vs* 3 fungal strains.



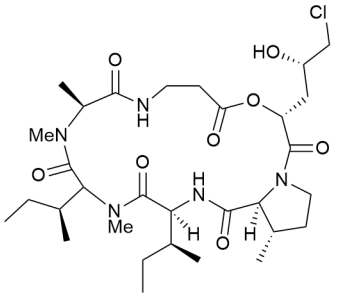
†**815**



816 R_1 = Me, R_2 =

817 R_1 = Me, R_2 =

818 R_1 = Me, R_2 = COOH
819 R_1 = Me, R_2 = COOMe
820 R_1 = H, R_2 =

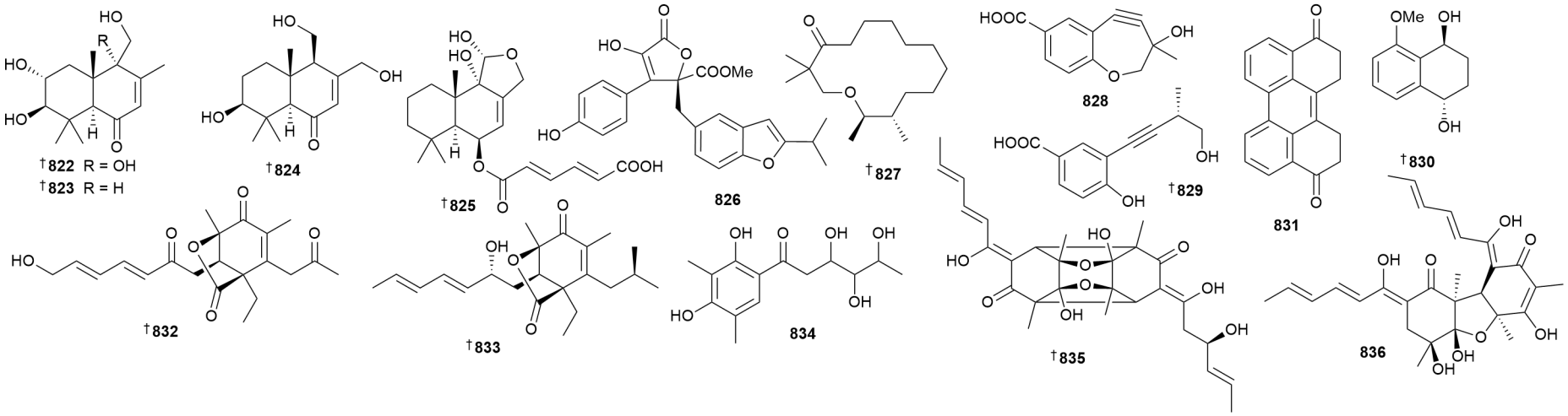


†**821**

3 Ascomycota *Penicillium* // // DU8ML: machine learning-augmented density functional theory nuclear magnetic resonance computations for high-throughput *in silico* solution structure validation and revision of complex alkaloids
815 // R // tersone E/citridone A // NT.

262 Asomycota *Penicillium panenum* // // Structure revision of penipacids A–E reveals a putative new cryptic natural product, *N*-aminoanthranilic acid, with potential as a transcriptional regulator of silent secondary metabolism
816 // R // penipacid A // NT.
817 // R // penipacid B // NT.
818 // R // penipacid C // NT.
819 // R // penipacid D // NT.
820 // R // penipacid E // NT.

263 Ascomycota *Trichothecium roseum* // // Structure revision of trichomide D by total synthesis
821 // R // trichomide D // NT.

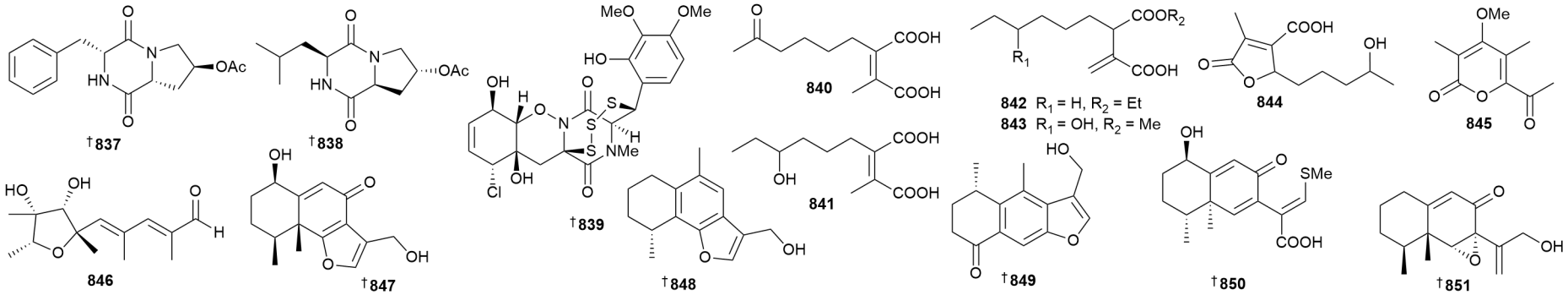


296 Ascomycota *Aspergillus* sp // (sediment, *Bruguiera gymnorrhiza*) Wenchang, China // Sesquiterpenoids from the mangrove-derived *Aspergillus ustus* 094102
822 // N // ustusol F // IA *vs* 29 HTCLs; IA *vs* 1 nMCL; IA *vs* 12 bact. strains.
823 // N // 9-deoxyustusol F // IA *vs* 29 HTCLs; IA *vs* 1 nMCL; IA *vs* 12 bact. strains.
824 // N // ustusol G // IA *vs* 29 HTCLs; IA *vs* 1 nMCL; IA *vs* 12 bact. strains.
825 // N // ustusolate H // IA *vs* 29 HTCLs; IA *vs* 1 nMCL; IA *vs* 12 bact. strains.

297 Ascomycota *Aspergillus terreus* // (pneumatophores, *Acanthus illicifolius*) Mandapam, Tamil Nadu, India // Investigation of secondary metabolites from marine-derived fungi *Aspergillus*
826 // N // aspernolide Q // NT.

298 Ascomycota *Daldinia eschscholtzii* // (sediment, *Pluchea indica*) Zhanjiang Mangrove National Nature Reserve, Guangdong Province, China // Diversified polyketides with anti-inflammatory activities from mangrove endophytic fungus *Daldinia eschscholtzii* KBJYZ-1
827 // N // eschscholin B // IA *vs* anti-inflam.
828 // N // dalditone A // IA *vs* anti-inflam.
829 // N // dalditone B // IA *vs* anti-inflam.
830 // N // (1*R*, 4*R*)-5-methoxy-1,4-dihydroxy-1,2,3,4-tetrahydronaphthalene // IA *vs* anti-inflam.
831 // N // daldilene A // IA *vs* anti-inflam.

299 Ascomycota *Hypocrea jecorina* // (sediment, unidentified mangrove) Zhangjiangkou Mangrove National Nature Reserve, Fujian province, China // New sorbicillinoids with tea pathogenic fungus inhibitory effect from marine-derived fungus *Hypocrea jecorina* H8
832 // N // trichodermolide C // IA *vs* 1 fungal strain.
833 // N // trichodermolide D // IA *vs* 1 fungal strain.
834 // N // 1-(2,4-dihydroxy-3,5-dimethylphenyl)-3,4,5-trihydroxyhexan-1-one // IA *vs* 1 fungal strain.
835 // N // 7,7',9'-hydroxy-trichodimerol // IA *vs* 1 fungal strain.
836 // N // isobisvertinol A // Weak activ. *vs* 1 fungal strain.

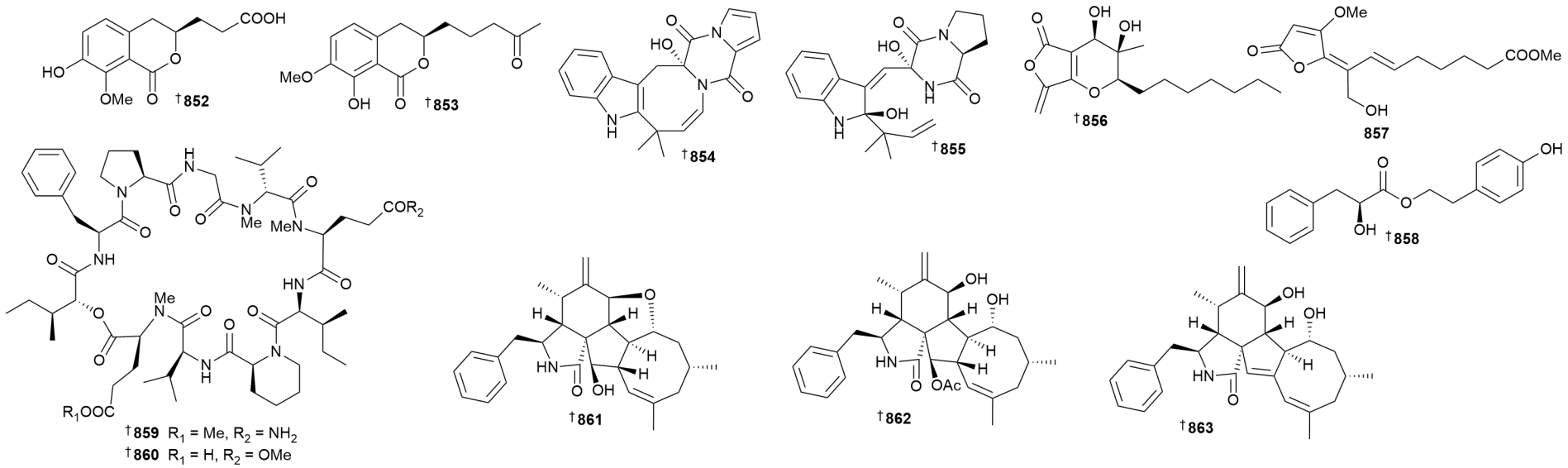


300 Ascomycota *Nigrospora camelliae-sinensis* // (sediment, *Lumnitzera littorea*) Tielu harbour mangrove natural reserve area, Hainan Island, China // Two new 2,5-diketopiperazine derivatives from mangrove-derived endophytic fungus *Nigrospora camelliae-sinensis* S30
837 // N // nigrosporaamide A // IA *vs* 5 bact. strains; IA *vs* 4 fungal strain; IA *vs* neuroprotection.
838 // N // nigrosporaamide B // IA *vs* 5 bact. strains; IA *vs* 4 fungal strain; IA *vs* neuroprotection.

301 Ascomycota *Penicillium ludwigii* // (sediment, unidentified mangrove) Hongsha River estuary, Sanya, Hainan Island, China // Thiodiketopiperazines and alkane derivatives produced by the mangrove sediment–derived fungus *Penicillium ludwigii* SCSIO 41408
839 // N // adametizine C // IA *vs* 2 HTCLs; IA *vs* 2 bact. strains; IA *vs* 2 fungal strains; weak activ. *vs* anti-inflam.
840 // N // 2-methyl-3-(5-*oxo*-hexyl) maleic acid // IA *vs* 2 HTCLs; IA *vs* 2 bact. strains; IA *vs* 2 fungal strains; IA *vs* anti-inflam.
841 // N // 2-(4-hydroxyhexyl)-3-methylmaleic acid // IA *vs* 2 HTCLs; IA *vs* 2 bact. strains; IA *vs* 2 fungal strains; IA *vs* anti-inflam.
842 // N // 3-(ethoxycarbonyl)-2-methylenenonanoic acid // IA *vs* 2 HTCLs; IA *vs* 2 bact. strains; IA *vs* 2 fungal strains; IA *vs* anti-inflam.
843 // N // 7-hydroxy-3-(methoxycarbonyl)-2-methylenenonanoic acid // IA *vs* 2 HTCLs; IA *vs* 2 bact. strains; IA *vs* 2 fungal strains; IA *vs* anti-inflam.
844 // N // 2-(4-hydroxypentyl)-4-methyl-5-*oxo*-2,5-dihydrofuran-3-carboxylic acid // IA *vs* 2 HTCLs; IA *vs* 2 bact. strains; IA *vs* 2 fungal strains; IA *vs* anti-inflam.

302 Ascomycota *Penicillium polonicum* // (sediment, unidentified mangrove) Zhangjiangkou, Fujian, China // Two new compounds from a mangrove sediment-derived fungus *Penicillium polonicum* H175
845 // N // 6-acetyl-4-methoxy-3,5-dimethyl-2*H*-pyran-2-one // IA *vs* hypoglycaemic effect.
846 // N // (2*E*,4*E*)-5-((2*S*,3*S*,4*R*,5*R*)-3,4-dihydroxy-2,4,5-trimethyltetrahydrofuran-2-yl)-2,4-dimethylpenta-2,4-dienal // IA *vs* hypoglycaemic effect.

303 Ascomycota *Penicillium* sp // (sediment unidentified mangrove) Wenchang, China // Citreobenzofuran D–F and phomenone A–B: five novel sesquiterpenoids from the mangrove-derived fungus *Penicillium* sp. HDN13-494
847 // N // citreobenzofuran D // IA *vs* 5 HTCLs; IA *vs* 5 bact. strains; IA *vs* 1 fungal strain.
848 // N // citreobenzofuran E // IA *vs* 5 HTCLs; IA *vs* 5 bact. strains; IA *vs* 1 fungal strain.
849 // N // citreobenzofuran F // IA *vs* 5 HTCLs; IA *vs* 5 bact. strains; IA *vs* 1 fungal strain.
850 // N // phomenone A // IA *vs* 5 HTCLs; IA *vs* 5 bact. strains; IA *vs* 1 fungal strain.
851 // N // phomenone B // IA *vs* 5 HTCLs; IA to mod activ. *vs* 5 bact. strains; IA *vs* 1 fungal strain.

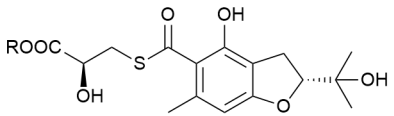


304 Ascomycota *Penicillium* sp // (root, *Xylocarpus granatum*) Sanya Tielugang Mangrove Nature Reserve, Hainan Province, China // Bioactive isocoumarins isolated from a mangrove-derived fungus *Penicillium* sp. MGP11
852 // N // penicimarin L // IA *vs* antioxid.
853 // N // penicimarin M // IA *vs* antioxid.

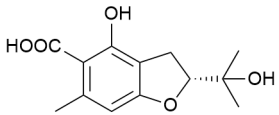
305 Ascomycota *Penicillium* sp // (sediment, unidentified mangrove) Beilun Estuary, Fangchenggang, Guangxi, China // New prenylated indole diketopiperazine alkaloids and polyketides from the mangrove-derived fungus *Penicillium* sp
854 // N // penicilamide A // IA *vs* 2 HTCL; IA *vs* 1 MTCL.
855 // N // penicilamide B // IA *vs* 2 HTCL; IA *vs* 1 MTCL.
856 // N // penicinone A // IA to weak activ. *vs* 2 HTCL; IA *vs* 1 MTCL.
857 // N // penicinone B // IA *vs* 2 HTCL; IA *vs* 1 MTCL.
858 // N // penicinone C // NT.

306 Ascomycota *Phaeosphaeriopsis* sp // (sediment, *Bruguiera gymnorrhiza*) Techeng Isle, Zhanjiang, Guangdong Province, China // Phaeosphamides A and B, cytotoxic cyclodecadepsipeptides from the mangrove-derived fungus *Phaeosphaeriopsis* sp. S296
859 // N // phaeosphamide A // IA to weak activ. *vs* 5 HTCLs.
860 // N // phaeosphamide B // IA *vs* 5 HTCLs.

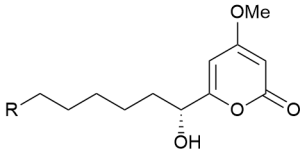
307 Ascomycota *Phomopsis asparagi* // (roots, *Rhizophora mangle*) Dong Zhai Gang-Mangrove Garden, Hainan Province, China // Immunosuppressive cytochalasins from the mangrove endophytic fungus *Phomopsis asparagi* DHS-48
861 // N // phomoparagin A // IA *vs* immunomod; IA *vs* 1 MTCL.
862 // N // phomoparagin B // IA *vs* immunomod; IA *vs* 1 MTCL.
863 // N // phomoparagin C // IA *vs* immunomod; IA *vs* 1 MTCL.



†**864** R = Me
†**865** R = H

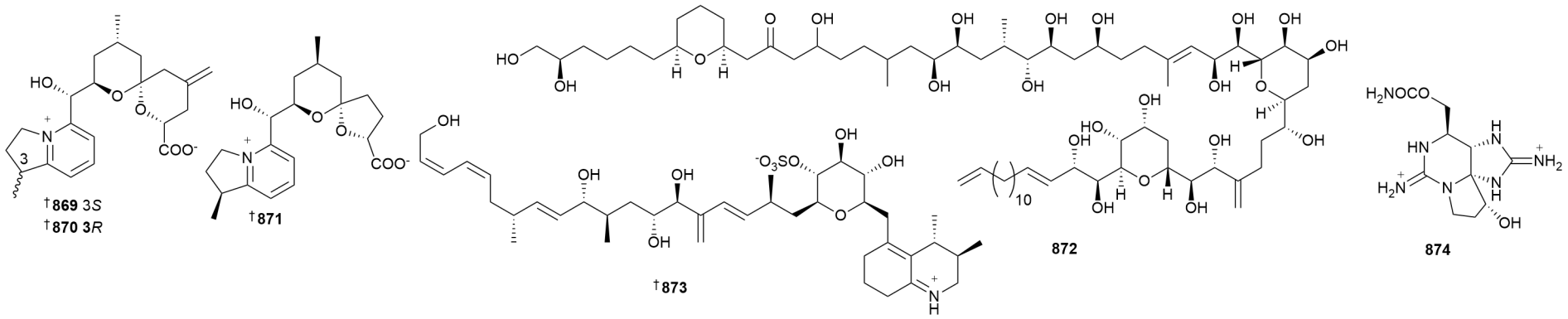


†**866**



†**867** R = CH_2OH
†**868** R = COOH

308 Ascomycota *Talaromyces* sp // (sediment, unidentified mangrove) Yalong Bay, Hainan Province, China. // Sulfur-containing benzofurans and α-pyrones from the mangrove-derived fungus *Talaromyces* sp. WHUF0341
864 // N // talarobenzofuran A // IA *vs* 4 bact. strains; IA *vs* α-glucosidase.
865 // N // talarobenzofuran B // IA *vs* 4 bact. strains; IA *vs* α-glucosidase.
866 // N // talarobenzofuran C // IA *vs* 4 bact. strains; IA *vs* α-glucosidase.
867 // N // talaropyrone A // IA *vs* 4 bact. strains; IA *vs* α-glucosidase.
868 // N // talaropyrone B // IA *vs* 4 bact. strains; IA *vs* α-glucosidase.

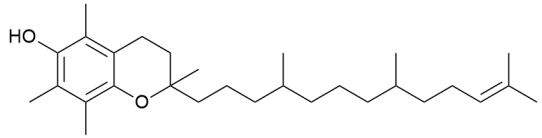


309 Miozoa *Effrenium voratum* // Jeju Island, South Korea // Voratins A–C: pyridinium alkaloids from the marine dinoflagellate *Effrenium voratum* with inhibitory effects on biomarkers for benign prostatic hyperplasia
869 // N // voratin A // IA to weak cytotox. *vs* 2 HTCLs; weak inhib. *vs* type II 5α-reductase and prostrate specific antigen.
870 // N // voratin B // IA *vs* 2 HTCLs; type II 5α-reductase and prostrate specific antigen.
871 // N // voratin C // IA to weak cytotox. *vs* 2 HTCLs; weak inhib. *vs* type II 5α-reductase and prostrate specific antigen.

310 Miozoa *Amphidinium carterae* // Northwest of Ireland // Amphidinol C, a major polyketide from an Irish strain of the dinoflagellate *Amphidinium carterae*
872 // N // amphidinol C // weak to mod. activ. *vs* 2 fungal strains; IA *vs* 8 bact. strains.

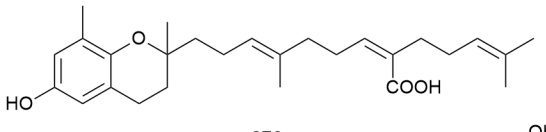
311 Miozoa *Ostreopsis ovata* // Kimyong, Jeju Island, South Korea // Ovataline: a polyketide isolated from the benthic dinoflagellate *Ostreopsis* cf. *ovata* with 5α-reductase inhibitory activity in RWPE-1 prostatic cells
873 // N // ovataline // mod. inhib.*vs* type II 5α-reductase; IA *vs* 1 HTCL.

312 Miozoa *Alexandrium pacificum* // Kure, Hiroshima, Japan // First identification of 12β-deoxygonyautoxin 5 (12α-gonyautoxinol 5) in the cyanobacterium *Dolichospermum circinale* (TA04) and 12β-deoxysaxitoxin (12α-saxitoxinol) in *D. circinale* (TA04) and the dinoflagellate *Alexandrium pacificum* (Group IV) (120518KureAC)
874 // M // 12β-deoxysaxitoxin // NT; synth. from co-isol. metabolite.



875

327 Chlorophyta *Tetraselmis* sp, Ochrophyta *Nannochloropsis oceanica*, Cyanobacteria *Arthrospira platensis* // Cocos Island, Puntarenas, Costa Rica // 11'-α-Tocomonoenol is the major α-tocomonoenol isomer in cyanobacteria and microalgae from Costa Rica
875 // M // 11'-α-tocomonoenol // Presence confirmed by LCMS/GCMS comparison to standards.



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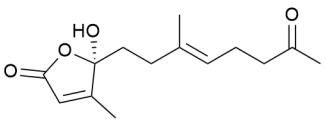

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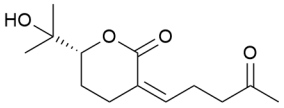

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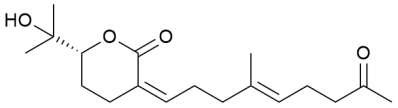

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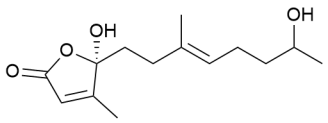

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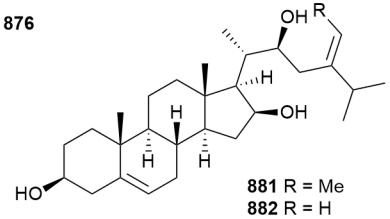
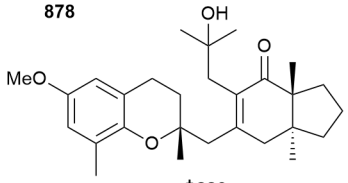


881 R = Me
882 R = H



†**883**

333 Ochrophyta *Sargassum macrocarpum* // Tsukumo-wan, Ishikawa Prefecture, Japan // Macrocarquinoid D, new meroterpenoid from brown alga, *Sargassum macrocarpum*
876 // N // macrocarquinoid D // IA *vs* antioxid., IA *vs* AGE; Isol. as rac.

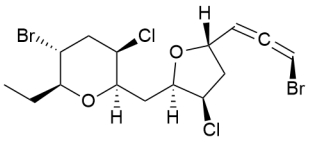
334 Ochrophyta *Sargassum micracanthum* // Udo-myeon, Jeju Island, South Korea // A new butenolide derivative from the brown alga *Sargassum micracanthum*
877 // N // sargassumin A // IA *vs* antioxid.

335 Ochrophyta *Sargassum macrocarpum* // Jeju Island, South Korea // New monocyclic terpenoid lactones from a brown alga *Sargassum macrocarpum* as monoamine oxidase inhibitors
878 // N // sargassumin A // IA *vs* monoamine oxidase-A and -B.
879 // N // sargassumin B // IA *vs* monoamine oxidase-A and -B.

336 Ochrophyta *Sargassum micracanthum* // Udo-myeon, Jeju Island, South Korea // Sargassumin C, a novel butenolide from *Sargassum micracanthum*
880 // N // sargassumin C // IA *vs* antioxid.

337 Ochrophyta *Cystophora xiphocarpa* // Spikey Beach, Tasmania, Australia // Steroids of chemophenetic significance from the Australasian brown alga *Cystophora xiphocarpa*
881 // N // (3*S*,16*S*,22*S*,24*E*)-stigmasta-5,24(28)-dien-3,16,22-triol // weak cytotox. *vs* 1 HTCL.
882 // N // (3*S*,16*S*,22*S*)-ergosta-5,24(28)-dien-3,16,22-triol // IA *vs* 1 HTCL.

349 Ochrophyta *Sargassum muticcum* // Galicia, Albacabre, Spain // Connection of isolated stereoclusters by combining ^{13}C-RCSA, RDC, and J-based configurational analyses and structural revision of a tetraprenyltoluquinol chromane meroterpenoid from *Sargassum muticum*
883 // R // $C_{28}H_{40}O_4$ // NT.



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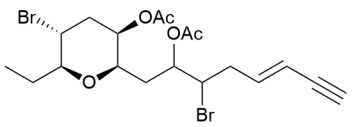

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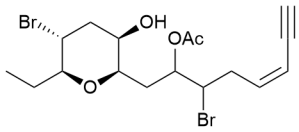

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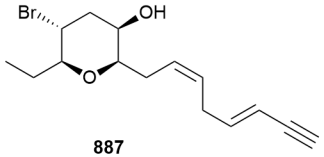

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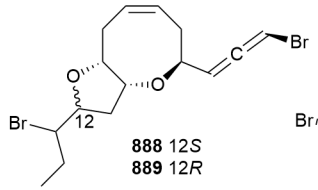
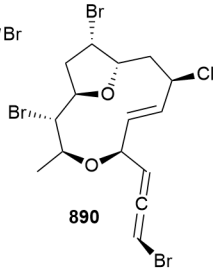


888 12*S*
889 12*R*



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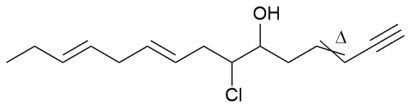
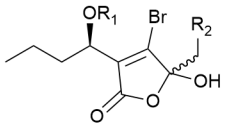


891 Δ *E*
892 Δ *Z*

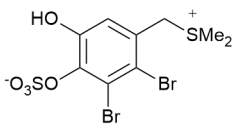


†**893** R_1 = H, R_2 = Cl
†**894** R_1 = H, R_2 = Br
†**895** R_1 = H, R_2 = I
†**896** R_1 = Ac, R_2 = Cl
†**897** R_1 = Ac, R_2 = Br
†**898** R_1 = Ac, R_2 = I

351 Rhodophyta *Laurencia saitoi* // Yoshio, Katsuura, Boso Peninsula, Chiba Prefecture, Japan // New acetogenin katsuurallene from *Laurencia saitoi* collected from Katsuura, Japan
884 // N // katsuurallene // IA *vs* antioxid.; IA *vs* brine shrimp, IA *vs* anti-insecticidal, IA *vs* microb. strains.

352 Rhodophyta L*aurencia microcladia*, Rhodophyta *Laurencia obtusa* // Agia Kyriaki, Tinos Island, Greece // New C15 acetogenins from two species of *Laurencia* from the Aegean Sea
885 // N // 10-acetyl-sagonenyne // IA *vs* 2 bact. strains.
886 // N // *cis*-sagonenyne // IA *vs* 2 bact. strains.
887 // N // trans-thuwalenyne C // NT.
888 // N // tinosallene A // IA *vs* 2 bact. strains.
889 // N // tinosallene B // NT.
890 // N // obtusallene XI // IA *vs* 2 bact. strains.
891 // M // $C_{15}H_{21}ClO$ // IA *vs* 2 bact. strains.
892 // M // $C_{15}H_{21}ClO$ // IA *vs* 2 bact. strains.

353 Rhodophyta *Delisea* sp // Bonaparte Point, Palmer Station, Antartica // Tongalides, halogenated butenolides from an Antarctic *Delisea* sp. rhodophyte
893 // N // tongalide A // IA *vs* 6 bact. strains.
894 // N // tongalide B // IA *vs* 6 bact. strains.
895 // N // tongalide C // IA *vs* 6 bact. strains.
896 // N // acetoxytongalide A // IA *vs* 6 bact. strains.
897 // N // acetoxytongalide B // IA *vs* 6 bact. strains.
898 // N // acetoxytongalide C // IA *vs* 6 bact. strains.



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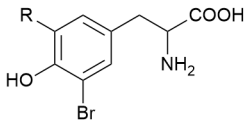
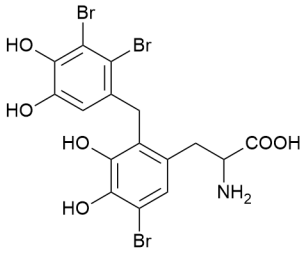


900 R = Br
901 R = OSO_3H



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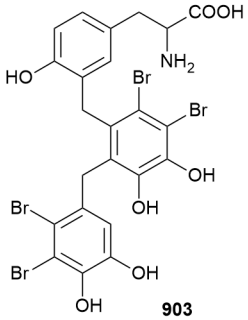

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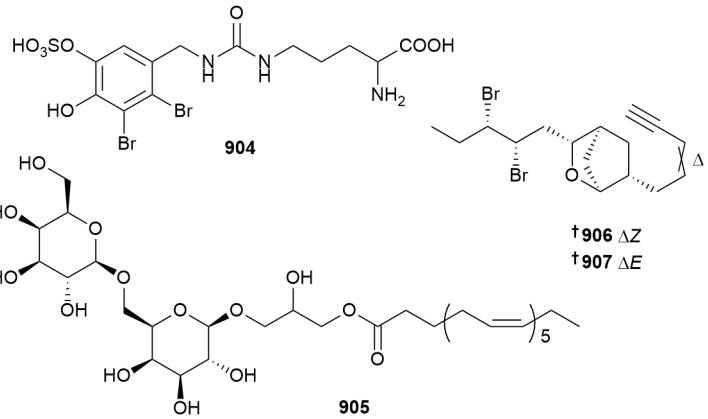
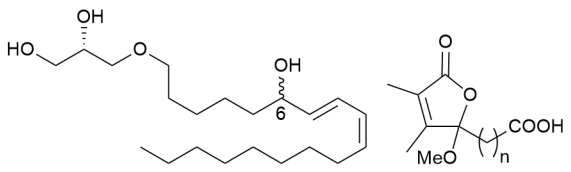


904

†**906** Δ*Z*
†**907** Δ*E*

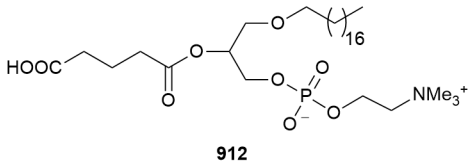
905

354 Rhodophyta *Vertebrata lanosa* // Dungloe Bay, West Donegal, Ireland // Amino acid-coupled bromophenols and a sulfated dimethylsulfonium lanosol from the red alga *Vertebrata lanosa*
899 // N // 4-sulfo-7-dimethylsulfonium lanosol // NT.
900 // N // 3,5-dibromotyrosine // NT.
901 // N // 3-bromo-5-sulfodihydroxyphenylalanine // NT.
902 // N // 3-bromo-6-lanosyl dihydroxyphenylalanine // NT.
903 // N // 3-(6'-lanosyl lanosyl) tyrosine // NT.
904 // N // 5-sulfovertebratol // NT.
905 // N // ((5*Z*,8*Z*,11*Z*,14*Z*,17*Z*)-eicosapentaenoic acid 3'-[(6''-*O*-α-galactopyranosyl-β-D-galactopyranosyl)]-1-glycerol ester // NT.
357 Rhodophyta *Laurencia* // // Total synthesis and structure confirmation of (*E*) and (*Z*)-ocellenyne
906 // R // (*Z*)-ocellenyne // abs. config. by tot. synth.
907 // R // (*E*)-ocellenyne // abs. config. by tot. synth.



†**908** 6*R*
†**909** 6*S*

910 n = 10
911 n = 16



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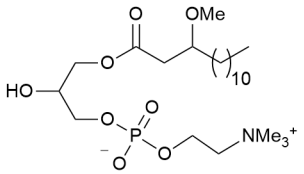

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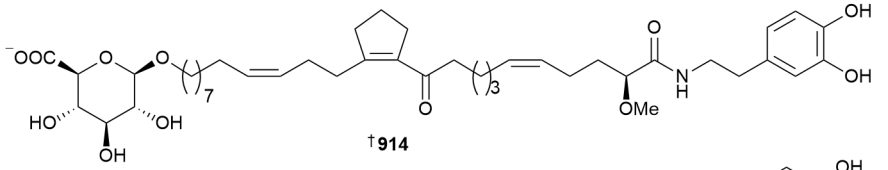
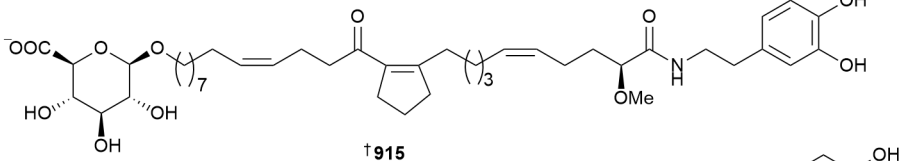
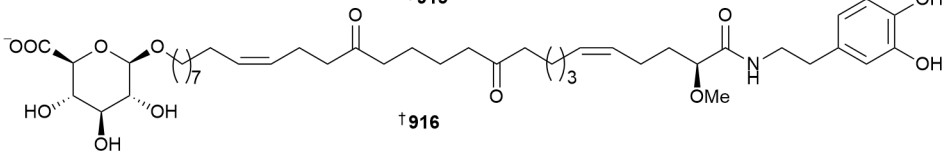


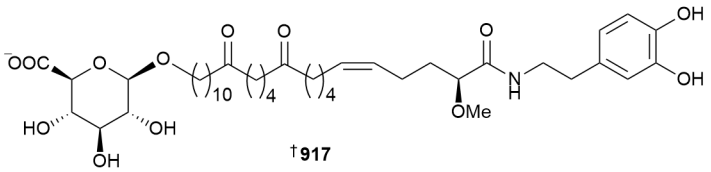
†**914**



†**915**



†**916**

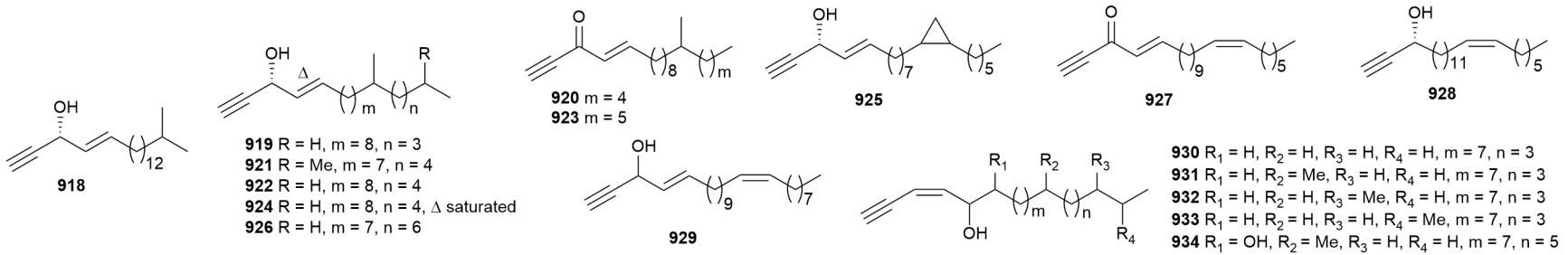


†**917**

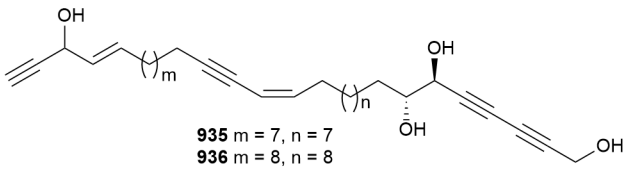
366 Porifera *Pericharax heteroraphis* // Wallis Island lagoon, Wallis and Futuna Islands // Isolation, synthesis and absolute configuration of the pericharaxins A and B, epimeric hydroxy-polyene glycerol ethers from the calcarean sponge *Pericharax heteroraphis*
908 // N // pericharaxin A // Stimulates collagen X transcription; total synth. also achieved.
909 // N // pericharaxin B // Stimulates collagen X transcription; total synth. also achieved.

367 Porifera *Scopalina hapalia* // Mayotte Island // New metabolites from the marine sponge *Scopalina hapalia* collected in Mayotte lagoon
910 // N // sinularone J // NT.
911 // N // sinularone K // NT.
912 // N // 1-*O*-octadecyl-2-pentanoyl-*sn*-glycero-3-phosphocholine // NT.
913 // N // 1-*O*-(3-methoxy-tetradecanoyl)-*sn*-glycero-3-phosphocholine // NT.

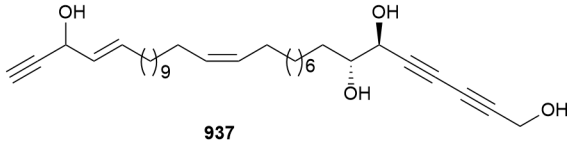
368 Porifera *Stelodoryx toporoki* // Dredge (476 - 519 m) Raikoke Island, Sea of Okhotsk // Toporosides A and B, cyclopentenyl-containing ω-glycosylated fatty acid amides, and toporosides C and D from the northwestern Pacific marine sponge *Stelodoryx toporoki*
914 // N // toporoside A // Prevented TNF-α induced cardiac damage at non-toxic (2.5 μM) conc.
915 // N // toporoside B // NT.
916 // N // toporoside C // Prevented TNF-α induced cardiac damage at non-toxic (2.5 μM) conc.
917 // N // toporoside D // Prevented TNF-α induced cardiac damage at non-toxic (2.5 μM) conc.



369 Porifera *Cribrochalina vasculum* // Conch Reef Wall, Florida Keys // Cytotoxic alkylynols of the sponge *Cribrochalina vasculum*: structure, synthetic analogs and SAR studies
918 // N // (3*R*)-18-methylnonadec-(4*E*)-en-1-yn-3-ol // weak cytotox. *vs* 1 of 2 HTCLs.
919 // N // (3*R*)-14-methylnonadec-(4*E*)-en-1-yn-3-ol // NT.
920 // N // 14-methylnonadec-(4*E*)-en-1-yn-3-one // NT.
921 // N // (3*R*)-13,18-dimethylnonadec-(4*E*)-en-1-yn-3-ol // NT.
922 // N // (3*R*)-14-methylicos-(4*E*)-en-1-yn-3-ol // NT.
923 // N // 14-methylicos-(4*E*)-en-1-yn-3-one // IA *vs* 2 HTCLs.
924 // N // (3*R*)-14-methylicos-1-yn-3-ol // Weak cytotox. *vs* 1 of 2 HTCLs.
925 // N // (3*R*,*E*)-12-*cis*-(2-hexylcyclopropyl)dodec-4-en-1-yn-3-ol // Weak cytotox. *vs* 1 of 2 HTCLs.
926 // N // (3*R*)-13-methylhenicos-(4*E*)-en-1-yn-3-ol // NT.
927 // N // docos-(4*E*,15*Z*)-dien-1-yn-3-one // IA *vs* 2 HTCLs.
928 // N // (3*R*)-docos-(15*Z*)-en-1-yn-3-ol // NT.
929 // N // *rac*-tetracos-(4*E*,15*Z*)-dien-1-yn-3-ol // NT, isol. as rac.
930 // N // *rac*-icos-(3*Z*)-en-1-yn-5-ol // NT, isol. as rac.
931 // N // *rac*-14-methylicos-(3*Z*)-en-1-yn-5-ol // NT, isol. as rac.
932 // N // *rac*-18-methylicos-(3*Z*)-en-1-yn-5-ol // NT, isol. as rac.
933 // N // *rac*-19-methylicos-(3*Z*)-en-1-yn-5-ol // NT, isol. as rac.
934 // N // 14-methyldocos-(3*Z*)-en-1-yn-5,6-diol // NT.



935 m = 7, n = 7
936 m = 8, n = 8



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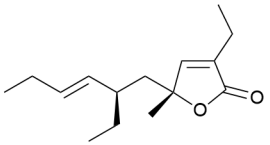
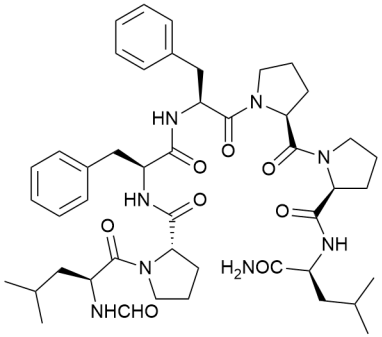


†**938**

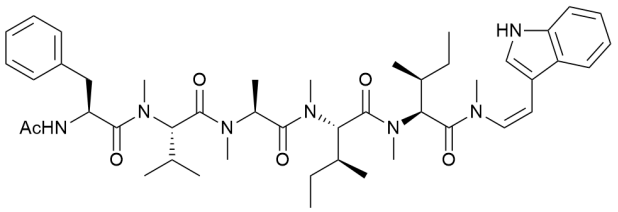


†**939**

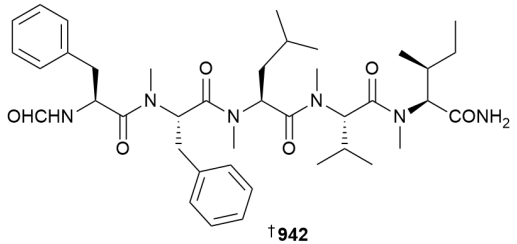
370 Porifera *Petrosia* sp // Yongxing Islands, China // New bioactive polyacetylenes from the marine sponge *Petrosia* sp.
935 // N // pellynol P // weak activ. *vs* 3 HTCLs.
936 // N // pellynol Q // weak activ. *vs* 3 HTCLs.
937 // N // pellynol R // weak activ. *vs* 3 HTCLs.

371 Porifera *Plakortis angulospiculatus* // Pedras Secas, Fernando de Noronha Archipelago, Brazil // Plakilactone J: structure and absolute configuration
938 // N // plakilactone J // NT.

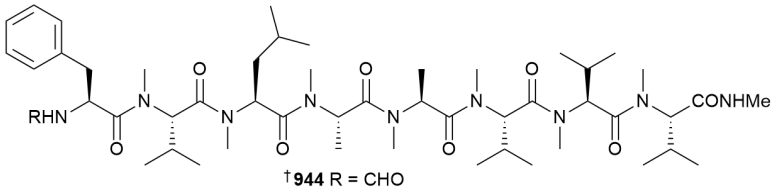
372 Porifera *Callyspongia subarmigera* // South Sulawesi Island, Indonesia // Computational metabolomics tools reveal subarmigerides, unprecedented linear peptides from the marine sponge holobiont *Callyspongia subarmigera*
939 // N // subarmigeride A // NT.



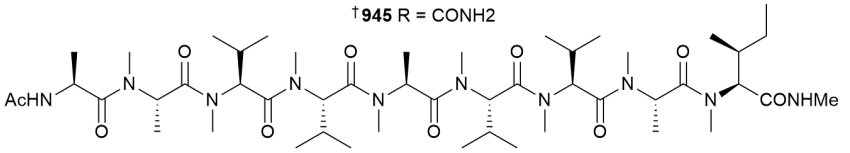
†940



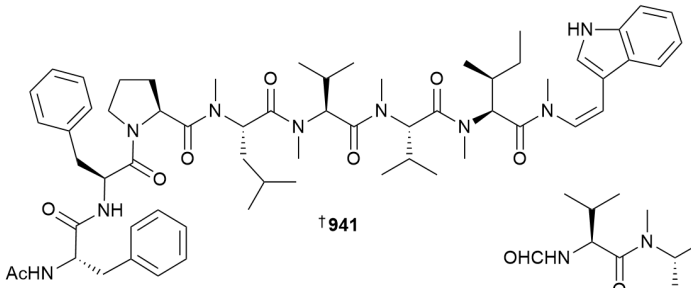
†942



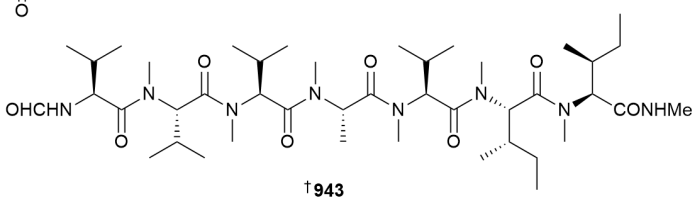
†944 R = CHO
†945 R = CONH2



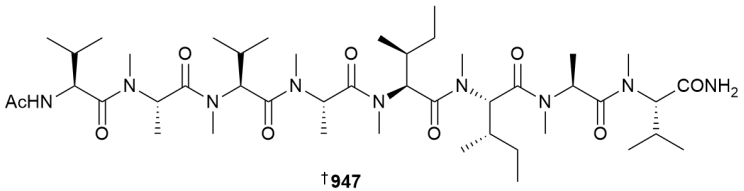
†946



†941



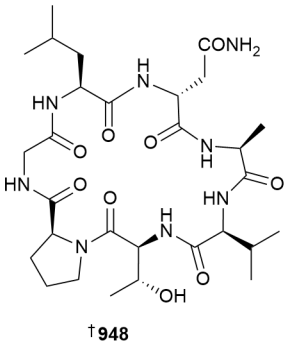
†943



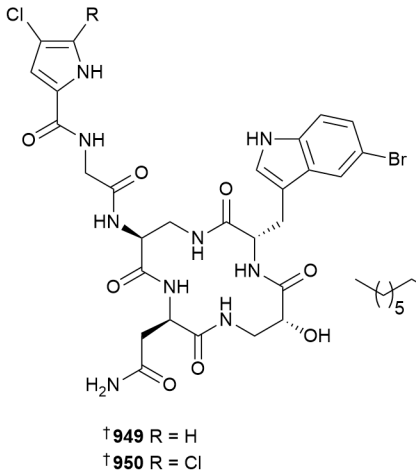
†947

373 Porifera *Inflatella coelosphaeroides* // Scotia Arc, Antartica // Highly *N*-methylated peptides from the Antarctic sponge *Inflatella coelosphaeroides* are active against *Plasmodium falciparum*

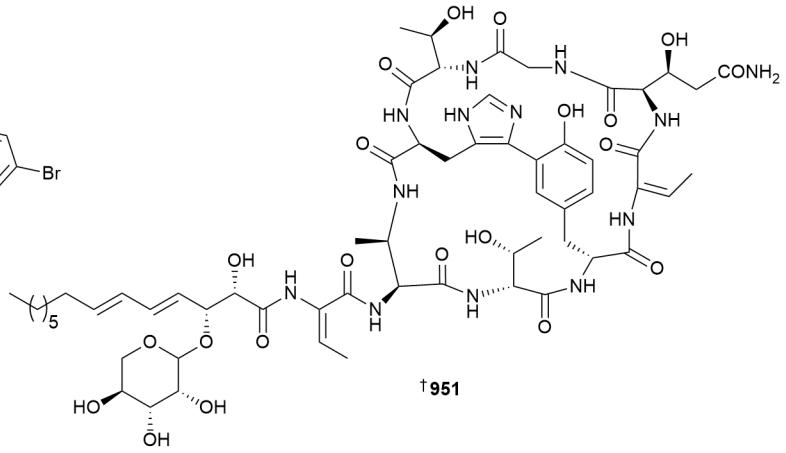
940 // R // friomaramide A // NT.
941 // N // friomaramide B // weak activ. *vs* 3 *P. falciparum* strains.
942 // N // shagamide A // weak activ. *vs* 3 *P. falciparum* strains.
943 // N // shagamide B // weak activ. *vs* 1 of 3 *P. falciparum* strains.
944 // N // shagamide C // weak activ. *vs* 3 *P. falciparum* strains.
945 // N // shagamide D // weak activ. *vs* 2 of 3 *P. falciparum* strains.
946 // N // shagamide E // IA *vs* 3 *P. falciparum* strains.
947 // N // shagamide F // IA *vs* 3 *P. falciparum* strains.



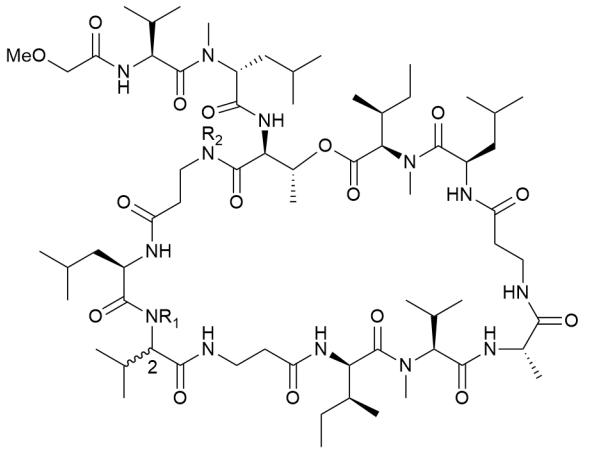
†**948**



†**949** R = H
†**950** R = Cl



†**951**



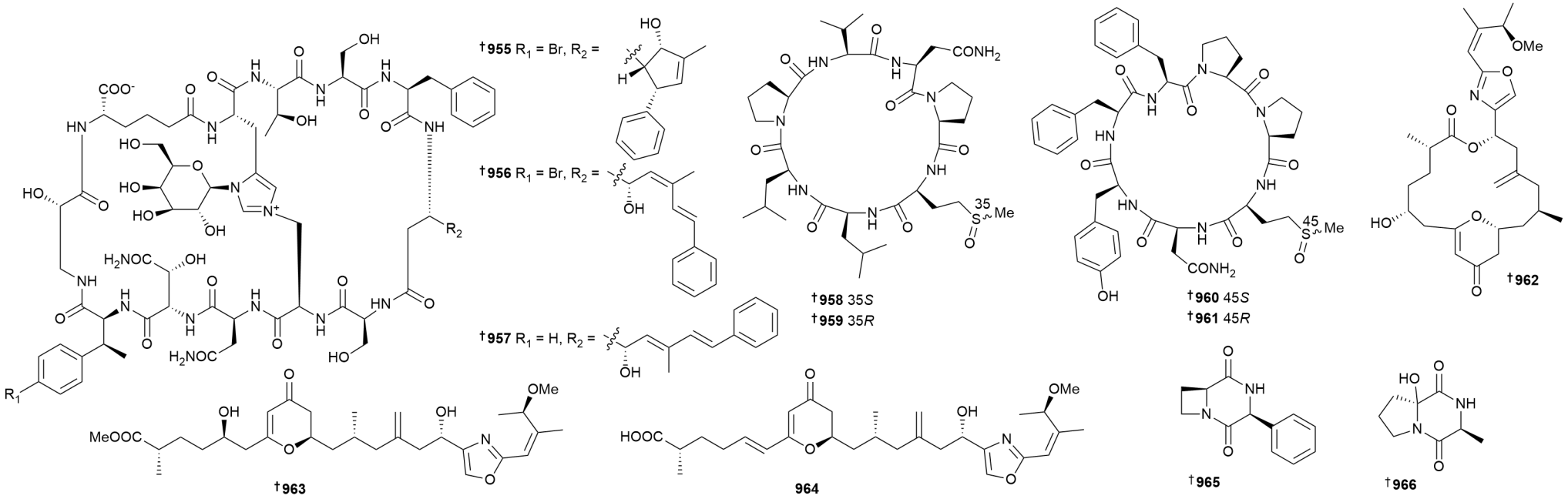
†**952** R_1 = Me, R_2 = H, 2*R*
†**953** R_1 = R_2 = H, 2*R*
†**954** R_1 = R_2 = Me, 2*S*

374 Porifera *Ectyoplasia ferox* // Tuxpan reef, Tuxpan, Veracruz, Mexico // Ectyoplasin, a novel cytotoxic cyclic peptide from *Ectyoplasia ferox* sponge
948 // N // ectyoplasin // IA to weak cytotox. *vs* 1 of 5 HTCLs.

375 Porifera *Psammocinia* sp // North Sulawesi, Indonesia // Cyclopsammocinamides A and B, enantiomeric cyclic peptides of cyclocinamide A, from the marine sponge *Psammocinia* sp.
949 // N // cyclopsammocinamide A // IA *vs* 1 HTCL; enantiomeric series to known cyclocinamide A.
950 // N // cyclopsammocinamide B // IA *vs* 1 HTCL; enantiomeric series to known cyclocinamide A.

376 Porifera *Poecillastra* sp // Dredge (245 m), Gonsone Seamount, Japan // Aciculitin D, a cytotoxic heterodetic cyclic peptide from a *Poecillastra* sp. marine sponge
951 // N // aciculitin D // weak cytotox. *vs* 2 HTCLs.

377 Porifera *Theonella swinhoei* // Kodingareng Keke Island, Makassar, Indonesia // New theonellapeptolides from Indonesian marine sponge *Theonella swinhoei* as anti-austerity agents
952 // N // theonellapeptolide IIb // IA *vs* 1 HTCL; IA *vs* 2 bact. strains.
953 // N // theonellapeptolide IIa // IA *vs* 1 HTCL; IA *vs* 2 bact. strains.
954 // N // theonellapeptolide IIc // IA *vs* 1 HTCL; IA *vs* 2 bact. strains.

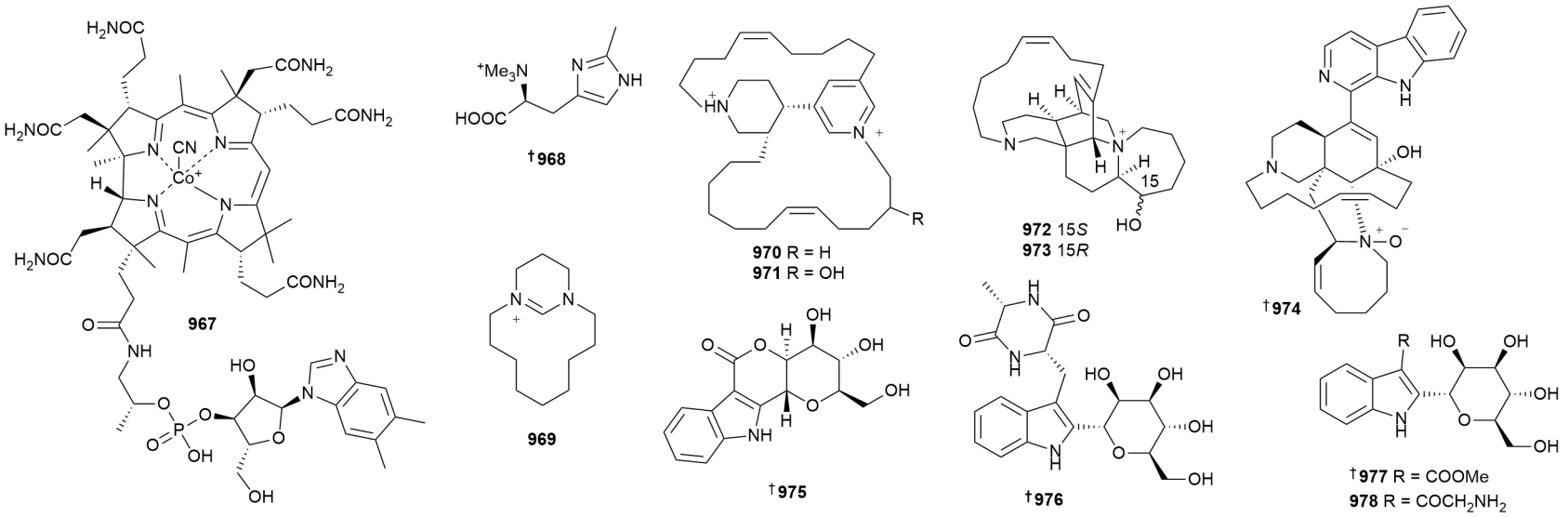


378 Porifera *Theonella swinhoei* // Gulf of Aqaba, Red Sea, Egypt // Theonellamides J and K and 5-cis-Apoa-theopalauamide, bicyclic glycopeptides of the Red Sea sponge *Theonella swinhoei*
955 // N // theonellamide J // IA *vs* 1 HTCL.
956 // N // 5-*cis*-Apoa-theopalauamide // IA *vs* 1 HTCL.
957 // N // theonellamide K // weak cytotox. *vs* 1 HTCL

379 Porifera *Axinella* sp // Yongxing Island, South China Sea // Axinellasins A–D, immunosuppressive cycloheptapeptide diastereomers, discovered via a precursor ion scanning–supercritical fluid chromatography strategy from the marine sponge *Axinella* species
958 // N // axinellasin A // IA *vs* 5 HTCL; immunomod. @ 10 μM.
959 // N // axinellasin B // IA *vs* 5 HTCLs; immunomod. @ 10 μM.
960 // N // axinellasin C // IA *vs* 5 HTCLs; immunomod. @ 10 μM.
961 // N // axinellasin D // IA *vs* 5 HTCLs; immunomod. @ 10 μM; tot. synth. achieved.

380 Porifera *Homophymia* sp // Gorontalo, Indonesia // Enigmazole C: a cytotoxic macrocyclic lactone and its ring-opened derivatives from a new species of *Homophymia* sponge
962 // N // enigmazole C // IA *vs* 4 HTCLs.
963 // A // enigmazole E // NT; artefact of isol.
964 // N // enigmazole D // weak to mod. cytotox. *vs* 4 HTCLs.

381 Porifera *Haliclona baeri* // Xuwen County, Zhanjiang City, Guangdong Province, China // Two new 2,5-dioxopiperazines from the marine sponge *Haliclona baeri*
965 // N // halicline A // IA *vs* 5 bact. strains.
966 // N // halicline B // IA *vs* 5 bact. strains.



382 Porifera *Characella pachastrelloides* // Eastern Atlantic Ocean // Unveiling the chemical diversity of the deep-sea sponge *Characella pachastrelloides*
967 // M // cyanocobalamin // NT; known vitamin.
968 // N // 6-methylhercynine // weak cytotox. *vs* 1 HTCL.

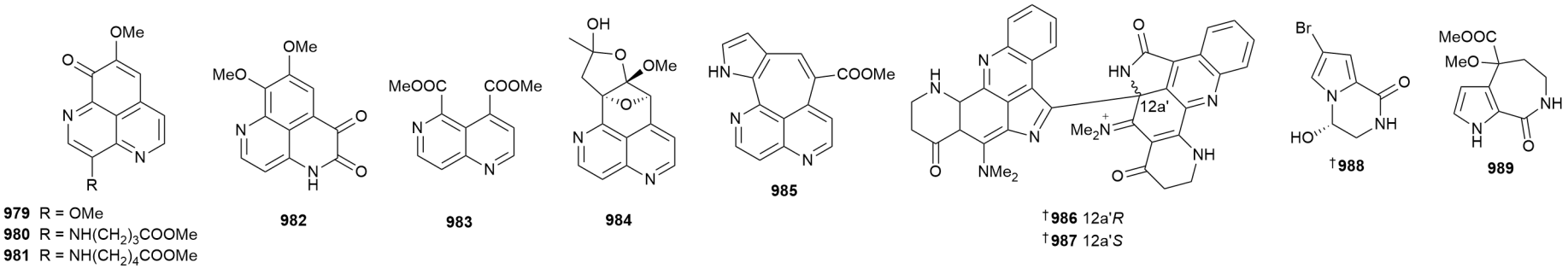
383 Porifera *Neopetrosia chaliniformis* // Xisha Islands, South China Sea // Neopetrosins A–D and haliclorensin D, indole-C-mannopyranosides and a diamine alkaloid isolated from the South China Sea marine sponge *Neopetrosia chaliniformis*
969 // N // haliclorensin D // NT.

384 Porifera *Callyspongia samarensis* // Buka Is., Bouganville, Papua New Guinea // Screening of diverse marine invertebrate extracts identified lissoclinotoxin F, discodermin B, and other anti-Mycobacterium tuberculosis active compounds
970 // N // hexahydrohaliclonacyclamine A // IA *vs M. tuberculosis;* IA *vs* 1 nMCL.
971 // N // 22-hydroxy-hexahydrohaliclonacyclamine A // IA *vs M. tuberculosis*; IA *vs* 1 nMCL.

385 Porifera *Amphimedon* sp // Zamami, Okinawa // Zamamiphidins B and C, manzamine-related alkaloids from an *Amphimedon* sp. marine sponge collected in Okinawa
972 // N // zamamiphidin B // IA *vs* 2 HTCLs; IA *vs* AChE.
973 // N // zamamiphidin C // IA *vs* 2 HTCLs; IA *vs* AChE.

386 Porifera *Neopetrosia proxima* // Kenting National Park, Pingtung county, Taiwan // Discovering manzamine-related alkaloids from sponge *Neopetrosia proxima*
974 // N // manzamine A 27-*N*-oxide // weak cytotox. *vs* 4 HTCLs; less active than non- *N*-oxide.

383 Porifera *Neopetrosia chaliniformis* // Xisha Islands, South China Sea // Neopetrosins A–D and haliclorensin D, indole-C-mannopyranosides and a diamine alkaloid isolated from the South China Sea marine sponge *Neopetrosia chaliniformis*
975 // N // neopetrosin A // weak hepatoprotecive agent.
976 // N // neopetrosin B // weak hepatoprotecive agent.
977 // N // neopetrosin C // NT.
978 // N // neopetrosin D // weak hepatoprotecive agent.



979 R = OMe
980 R = $NH(CH_2)_3COOMe$
981 R = $NH(CH_2)_4COOMe$

982 **983** **984** **985** †**986** 12a'*R* †**987** 12a'*S* †**988** **989**

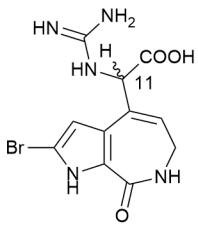
387 Porifera *Aaptos suberitoides* // Xisha Islands, China // Aaptamine derivatives with CDK2 inhibitory activities from the South China Sea sponge *Aaptos suberitoides*
979 // N // 3-methoxy-demethyl(oxy)aaptamine // IA *vs* 5 HTCLs.
980 // N // 3-(*N*-4-methylbutanoate) aminodemethyl(*oxy*)aaptamine // IA *vs* 5 HTCLs; not isol. artefact.
981 // N // 3-(*N*-4-methylpentanoate) aminodemethyl(*oxy*)aaptamine // IA *vs* 5 HTCLs; not isol. artefact.

388 Porifera *Aaptos aaptos* // Vanphong Bay, Nha Trang, Vietnam // Four new aaptamine alkaloids from marine sponge *Aaptos aaptos*
982 // N // 9-methoxy-*N*-demethylaaptanone // IA *vs* 4 HTCLs.
983 // N // 3,5-dicarbomethoxy-1,6-naphthyridine // IA *vs* 4 HTCLs.
984 // N // aaptosvanphong A // IA *vs* 4 HTCLs.
985 // N // aaptosvanphong B // IA *vs* 4 HTCLs.

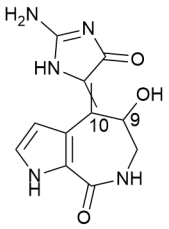
389 Porifera *Plakortis* sp // Kingdom of Tonga // Photochemical dimerization of plakinidine B leads to potent inhibition of the E3 ubiquitin-protein ligase Cbl-b
986 // N // plakoramine A (−) // weak inhib. of E3 CBL ubiquitin protein ligase; IA *vs* NCI-60 cell panel; isol. as rac.
987 // N // plakoramine A (+) // weak inhib. of E3 CBL ubiquitin protein ligase; IA *vs* NCI-60 cell panel; Isol. as rac.

390 Porifera *Agelas nakamurai* // Orchid Island, Taiwan // Computationally assisted structure elucidation of new 2-guanidinoethanesulfonyl sesquiterpenoid alkaloids: agelasidines G–I from the marine sponge *Agelas nakamurai*
988 // R // (–)-mukanadin C // NT

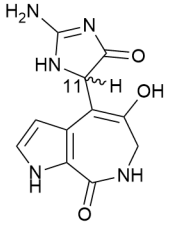
391 Porifera *Axinella* sp // Jiaotou coast, Xisha area, China // Axinellamine E, one new pyrrololactam alkaloid from the South China Sea sponge *Axinella* sp.
989 // N // axinellamine E // IA *vs* 1 HTCL and 1 nMCL.



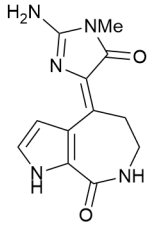
†**990** 11*S*
†**991** 11*R*



†**992** 9*S*, 10*E*
†**993** 9*R*, 10*E*
†**994** 9*S*, 10*Z*
†**995** 9*R*, 10*Z*



†**996** 11*R*
†**997** 11*S*



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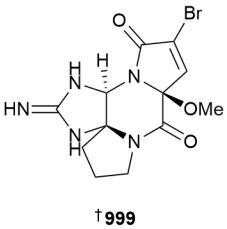
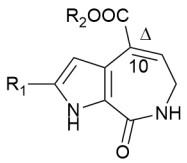
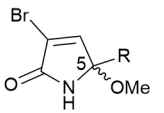


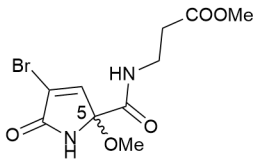
†**999**



†**1000** 10*S*, R_1 = R_2 = H, Δ saturated
†**1001** 10*R*, R_1 = R_2 = H, Δ saturated
†**1002** 10*S*, R_1 = Br, R_2 = Me, Δ saturated
†**1003** 10*R*, R_1 = Br, R_2 = Me, Δ saturated
†**1004** R_1 = Br, R_2 = Me

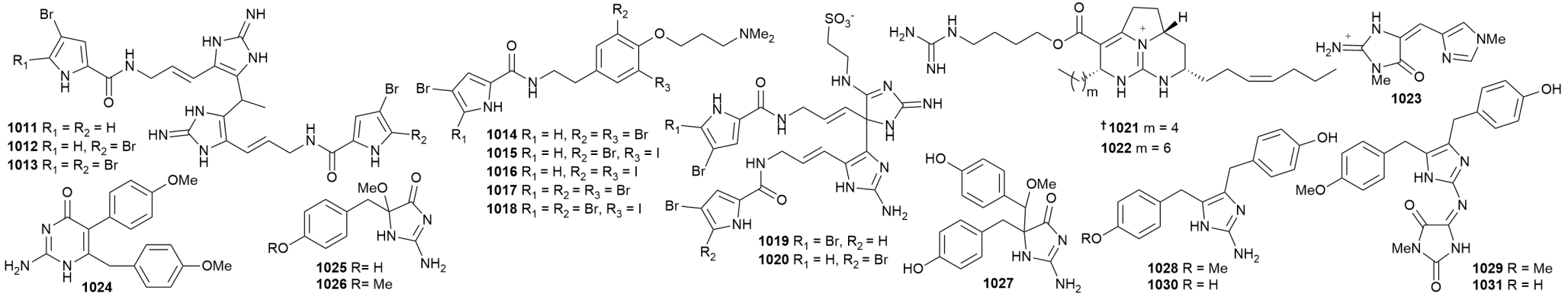


†**1005** R =$CONH_2$ 5*R*
†**1006** R =$CONH_2$ 5*S*
†**1007** R =CH_2OMe 5*R*
†**1008** R =CH_2OMe 5*S*



†**1009** 5*R*
†**1010** 5*S*

392 Porifera *Stylissa massa* // Xisha Islands, China // A series of new pyrrole alkaloids with ALR2 inhibitory activities from the sponge *Stylissa massa*
990 // N // $C_{11}H_{14}BrN_5O_3$ // IA *vs* ALR2; isol. as rac.
991 // N // $C_{11}H_{14}BrN_5O_3$ // IA *vs* ALR2; isol. as rac.
992 // N // $C_{11}H_{11}N_5O_3$ // weak inhib. *vs* ALR2; isol. as rac.
993 // N // $C_{11}H_{11}N_5O_3$ // weak inhib. *vs* ALR2; isol. as rac.
994 // N // $C_{11}H_{11}N_5O_3$ // weak inhib. *vs* ALR2; isol. as rac.
995 // N // $C_{11}H_{11}N_5O_3$ // weak inhib. *vs* ALR2; isol. as rac.
996 // N // $C_{11}H_{11}N_5O_3$ // weak inhib. *vs* ALR2; isol. as rac.
997 // N // $C_{11}H_{11}N_5O_3$ // weak inhib. *vs* ALR2; isol. as rac.
998 // N // $C_{12}H_{13}N_5O_2$ // weak inhib. *vs* ALR2.
999 // N // $C_{12}H_{14}BrN_5O_3$ // IA *vs* ALR2.
1000 // N // $C_9H_{10}N_2O_3$ // IA *vs* ALR2; isol. as rac.
1001 // N // $C_9H_{10}N_2O_3$ // IA *vs* ALR2; isol. as rac.
1002 // N // $C_{10}H_{11}BrN_2O_3$ // IA *vs* ALR2; isol. as rac.
1003 // N // $C_{10}H_{11}BrN_2O_3$ // IA *vs* ALR2; isol. as rac.
1004 // N // $C_{10}H_9BrN_2O_3$ // IA *vs* ALR2.
1005 // N // $C_6H_7BrN_2O_3$ // IA *vs* ALR2; isol. as rac.
1006 // N // $C_6H_7BrN_2O_3$ // IA *vs* ALR2; isol. as rac.
1007 // N // $C_7H_{10}BrNO_3$ // IA *vs* ALR2; isol. as rac.
1008 // N // $C_7H_{10}BrNO_3$ // IA *vs* ALR2; isol. as rac.
1009 // N // $C_{10}H_{13}BrN_2O_5$ // IA *vs* ALR2; isol. as rac.
1010 // N // $C_{10}H_{13}BrN_2O_5$ // IA *vs* ALR2; isol. as rac.

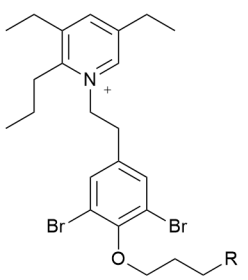


393 Porifera *Agelas dispar* // Fernando de Noronha-PE, Brazil // Feature-based molecular networking discovery of bromopyrrole alkaloids from the marine sponge *Agelas dispar*
1011 // N // disparamide A // IA *vs* 1 HTCL.
1012 // N // disparamide B // IA *vs* 1 HTCL.
1013 // N // disparamide C // NT.
1014 // N // dispyrin B // IA *vs* 1 HTCL.
1015 // N // dispyrin C // IA *vs* 1 HTCL.
1016 // N // dispyrin D // IA *vs* 1 HTCL.
1017 // N // dispyrin E // NT.
1018 // N // dispyrin F // NT.
1019 // N // nagelamide H2 // IA *vs* 1 HTCL.
1020 // N // nagelamide H3 // IA *vs* 1 HTCL.

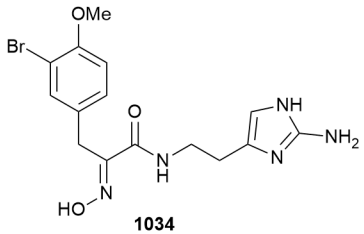
394 Porifera *Monanchora pulchra* // Dredge (94 m), Okhotsk sea, near Iturup Island // New guanidine alkaloids batzelladines O and P from the marine sponge *Monanchora pulchra* induce apoptosis and autophagy in prostate cancer cells
1021 // N // batzelladine O // weak cytotox. *vs* 3 HTCLs; induces autophagy.
1022 // N // batzelladine P // weak cytotox. *vs* 3 HTCLs; induces autophagy.

395 Porifera *Clathria* sp // Woolgoolga rock pools, New South Wales, Australia // Hesperine, a new imidazole alkaloid and α-synuclein binding activity of 1-methyl-1,2,7,8-tetrahydro-2,8-dioxoadenosine from the marine sponge *Clathria* (*Thalysias*) cf. *hesperia*
1023 // N // hesperine // IA *vs* 3 bact. strains; IA *vs* α-synuclein aggregation.

396 Porifera *Ernsta naturalis* // Passe Balidirou, (Mauritius) // An aminopyrimidone and aminoimidazoles alkaloids from the Rodrigues calcareous marine sponge *Ernsta naturalis*
1024 // N // ernstine A // NT; first aminopyrimidone from a calcerous sponge.
1025 // N // phorbatopsin D // NT.
1026 // N // phorbatopsin E // NT.
1027 // N // calcaridine C // NT.
1028 // N // naamine H // NT.
1029 // N // naamidine J // NT.
1030 // N // naamine I // NT.
1031 // N // naamidine K // NT.



1032 R = NHMe
1033 R = NMe_3^+



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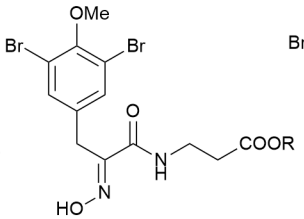
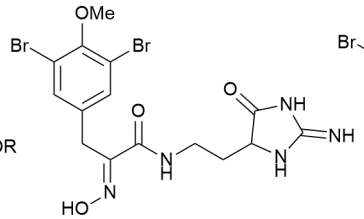


1035 R = H
1036 R = Me



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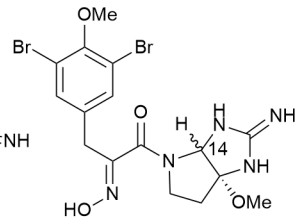
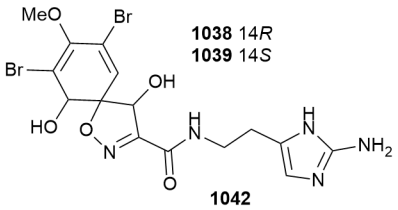
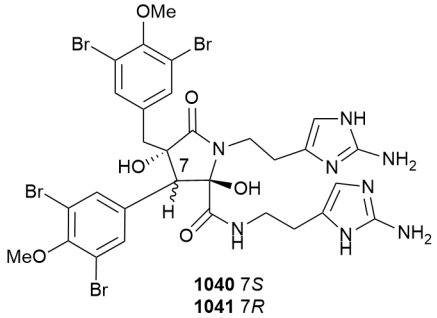


1038 14*R*
1039 14*S*



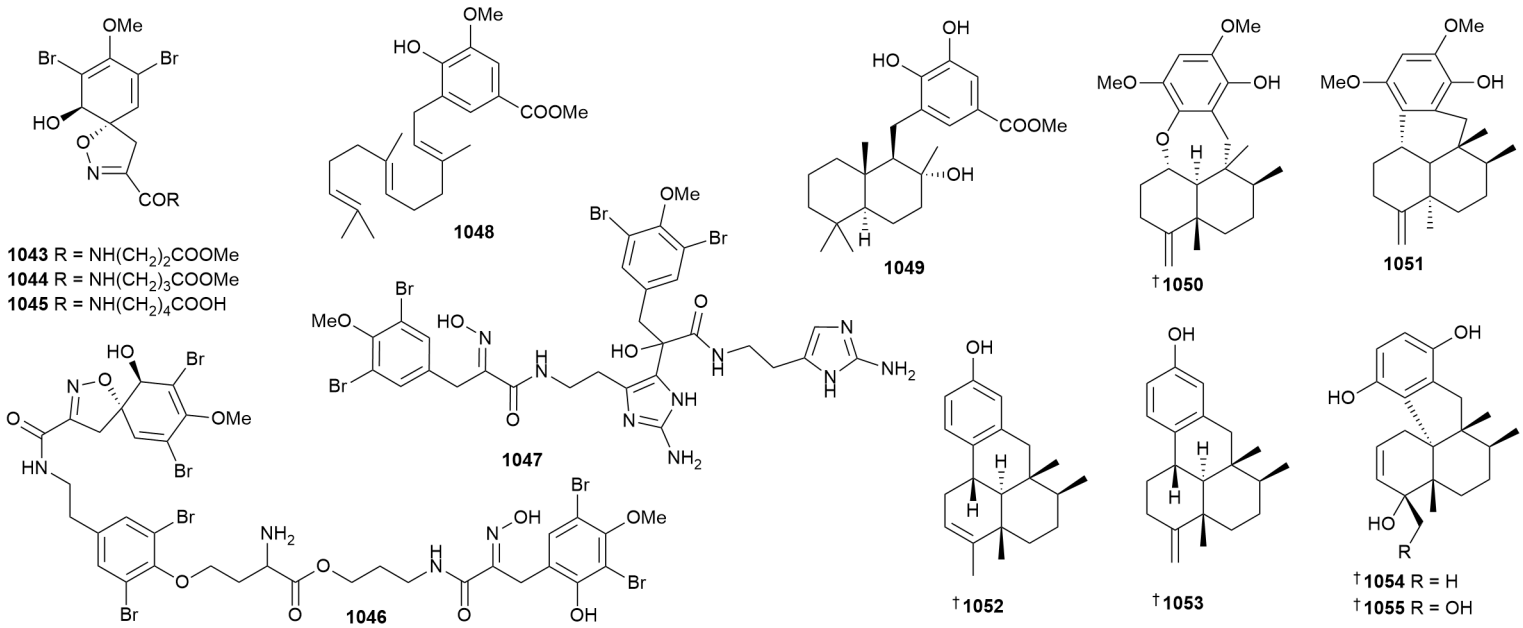
1042



1040 7*S*
1041 7*R*

397 Porifera *Suberea* sp // Cape Maeda, Okinawa, Japan // Ma'edamines E and F, rare bromotyrosine alkaloids possessing a 1,2,3,5-tetrasubstituted pyridinium moiety from an Okinawan marine sponge *Suberea* sp.
1032 // N // ma'edamine E // weak cytotox. *vs* 1 HTCL.
1033 // N // ma'edamine F // weak cytotox. *vs* 1 HTCL.

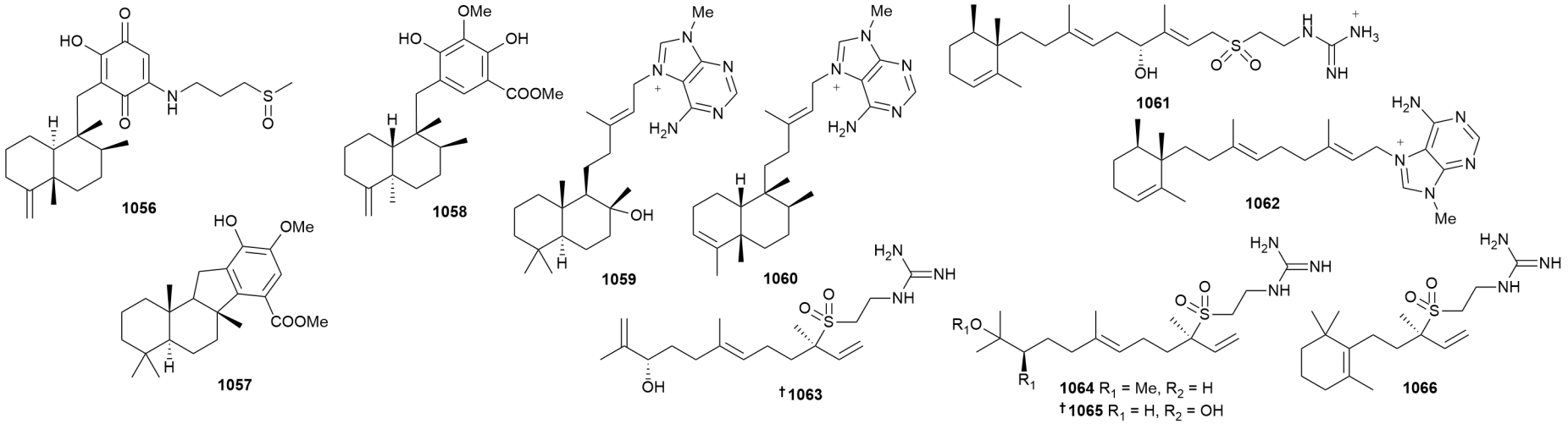
398 Porifera *Aiolochroia crassa* // Sweetings Cay, Bahamas, Caribbean // Bioactive bromotyrosine alkaloids from the Bahamian marine sponge *Aiolochroia crassa*. dimerization and oxidative motifs
1034 // N // debromoianthelline // NT.
1035 // N // pseudoceratinic acid // NT.
1036 // N // methyl pseudoceratinate // NT.
1037 // N // 13-*oxo*-ianthelline // NT; insep. 2:1 mix of enantiomers.
1038 // N // aiolochroiamide A // NT; isol. as insep. mix.
1039 // N // aiolochroiamide B // NT; isol. as insep. mix.
1040 // N // aiolochroiamide C // IA *vs* 6 fungal strains.
1041 // N // aiolochroiamide D // IA *vs* 6 fungal strains.
1042 // N // 7-hydroxypurealidin J // NT.



399 Porifera *Pseudoceratina verrucosa* // Exmouth Gulf, Ningaloo Reef, Australia // Spiroisoxazoline inhibitors of acetylcholinesterase from *Pseudoceratina verrucosa*. Quantitative chiroptical analysis of configurational heterogeneity, and total synthesis of (±)-methyl purpuroceratate C
1043 // A // methyl purpurocerate A // NT; possible artefact, isol. as mix of enantiomers.
1044 // A // methyl purpurocerate B // NT; possible artefact, isol. as mix of enantiomers.
1045 // N // purpuroceratic acid C // NT; isol. as mix of enantiomers.
1046 // N // ningalamide A // NT; isol. as mix of diasteromers.
1047 // N // ningalamide B // NT.

400 Porifera *Dactylospongia elegans* // Xisha Island, Hainan Province, China // Xishaeleganins A–D, sesquiterpenoid hydroquinones from Xisha marine sponge *Dactylospongia elegans*
1048 // N // xishaeleganin A // NT.
1049 // N // xishaeleganin B // mod. activ. *vs* 3 bact. strains.
1050 // N // xishaeleganin C // mod. activ. *vs* 3 bact. strains.
1051 // N // xishaeleganin D // weak activ. *vs* 1 of 3 bact. strains.

401 Porifera *Dysidea avara* // Xisha Islands, China // Dysideanones F–G and dysiherbols D–E, unusual sesquiterpene quinones with rearranged skeletons from the marine sponge *Dysidea avara*
1052 // N // dysideanone F // IA *vs* NF-κB
1053 // N // dysideanone G // IA *vs* NF-κB
1054 // N // dysiherbol D // weak inhibit. of NF-κB activation.
1055 // N // dysiherbol E // weak inhibit. of NF-κB activation.

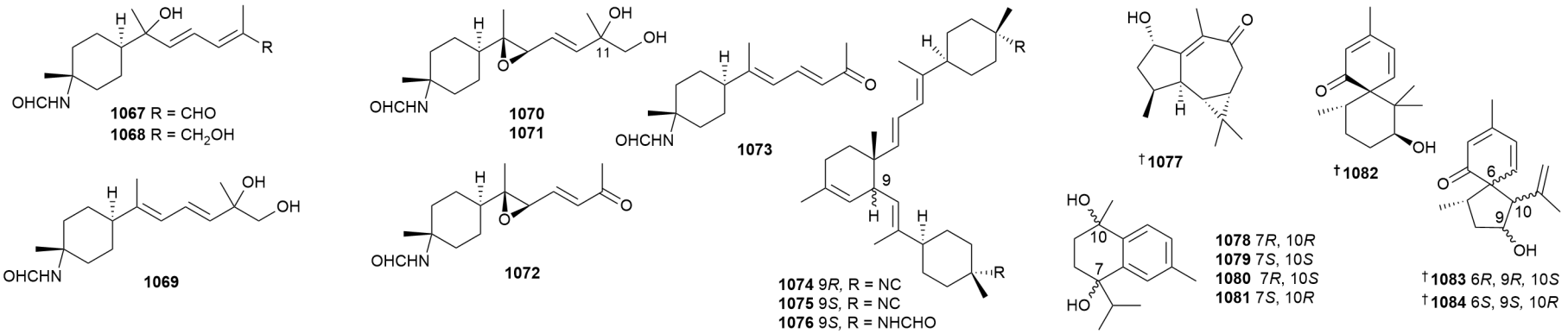


402 Porifera *Spongia pertusa* // Yongxing Island, China // Merosesquiterpenes from the marine sponge *Spongia pertusa* Esper and their antifungal activities
1056 // N // 24-methylsulfinyllancoquinone B // weak activ. *vs* 3 bact. strains.
1057 // N // pelorol A // IA *vs* 3 bact. strians; should be pelorol B.
1058 // N // epi-langconol A // IA *vs* 3 bact. strains.

403 Porifera *Agelas citrina* // Cozumel Island, Quintana Roo, Mexico // Antimicrobial diterpene alkaloids from an *Agelas citrina* sponge collected in the Yucatán Peninsula
1059 // N // (+)-8-epiagelasine T // weak activ. *vs* 6 of 7 bact. strains.
1060 // N // (+)-10-epiagelasine B // mod. activ. *vs* 7 bact. strains.
1061 // N // (+)-12-hydroxyagelasidine C // weak to mod. activ. *vs* 7 bact. strains.
1062 // M // (+)-ent-agelasine F // mod. activ. *vs* 6 of 7 bact. strains.

390 Porifera *Agelas nakamurai* // Orchid Island, Taiwan // Computationally assisted structure elucidation of new 2-guanidinoethanesulfonyl sesquiterpenoid alkaloids: agelasidines G–I from the marine sponge *Agelas nakamurai*
1063 // N // agelasidine G // IA in antibacterial disk diffusion assay.
1064 // N // agelasidine H // NT.
1065 // N // agelasidine I // NT.

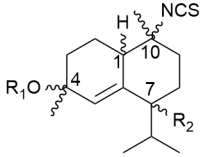
404 Porifera *Agelas nakamurai* // Orchid Island, Taiwan // 2-Guanidinoethanesulfonyl sesquiterpenes from the marine sponge *Agelas nakamurai*
1066 // N // cyclohexylagelasidine A // IA *vs* anti-inflam.



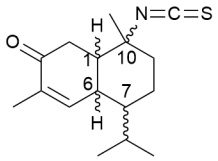
405 Porifera order Bubarida // Futuna Islands // Antifungal mono- and dimeric nitrogenous bisabolene derivatives from a sponge in the order Bubarida from Futuna Islands
1067 // N // (±)-bubaridin A // IA *vs* 5 fungal strains; isol. as rac.
1068 // N // (±)-bubaridin B // IA *vs* 5 fungal strains; isol. as rac.
1069 // N // (±)-bubaridin C // NT; isol. as rac.
1070 // N // (±)-bubaridin D // IA *vs* 5 fungal strains; isol. as rac.
1071 // N // (±)-bubaridin D // IA *vs* 5 fungal strains; isol. as rac.
1072 // N // (±)-bubaridin E // IA *vs* 5 fungal strains; isol. as rac.
1073 // N // (±)-bubaridin F // IA *vs* 5 fungal strains; isol. as rac.
1074 // N // (±)-*trans*-dimer theonellin isocyanide // weak to mod. activ. *vs* 2 of 5 fungi; isol. as rac.
1075 // N // (±)-*cis*-dimer theonellin isocyanide // IA *vs* 5 fungal strains; isol. as rac.
1076 // N // (±)-*cis*-dimer theonellin formamide // IA *vs* 5 fungal strains; isol. as rac.

406 Porifera *Acanthella cavernosa* // Ximao Island, Hainan Prov., China // Anti-inflammatory aromadendrane- and cadinane-type sesquiterpenoids from the South China Sea sponge *Acanthella cavernosa*
1077 // N // (+)-ximaocavernosin P // IA *vs* anti-inflam.
1078 // N // (+)-maninsigin D // IA *vs* anti-inflam.
1079 // N // (−)-maninsigin D // IA *vs* anti-inflam.
1080 // N // (+)-ximaocavernosin Q // IA *vs* anti-inflam.
1081 // N // (−)-ximaocavernosin Q // IA *vs* anti-inflam.

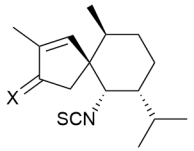
407 Porifera *Myrmekioderma* sp // Xisha Islands, Hainan, China // New spiro-sesquiterpenoids from the marine sponge *Myrmekioderma* sp.
1082 // N // myrmekione A // IA *vs* 5 HTCLs.
1083 // N // myrmekione B // IA *vs* 5 HTCLs.
1084 // N // myrmekione C // IA *vs* 5 HTCLs.



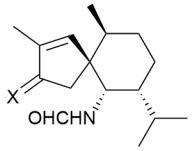
†**1085** 1*S*, 4*R*, 7*R*, 10*R*, $R_1 = R_2 = H$
†**1086** 1*R*, 4*S*, 7*S*, 10*S*, $R_1 = R_2 = H$
†**1087** 1*R*, 4*S*, 7*S*, 10*R*, $R_1 = R_2 = H$
†**1088** 1*S*, 4*R*, 7*R*, 10*S*, $R_1 = R_2 = H$
†**1089** 1*R*, 4*R*, 7*S*, 10*R*, $R_1 = R_2 = H$
†**1090** 1*S*, 4*S*, 7*R*, 10*S*, $R_1 = R_2 = H$
†**1091** 1*R*, 4*S*, 7*S*, 10*S*, $R_1 = Me$, $R_2 = H$
†**1092** 1*S*, 4*S*, 7*S*, 10*R*, $R_1 = H$, $R_2 = OH$
†**1093** 1*R*, 4*R*, 7*R*, 10*S*, $R_1 = H$, $R_2 = OH$
†**1094** 1*R*, 4*S*, 7*R*, 10*S*, $R_1 = Me$, $R_2 = OH$
†**1105** 1*R*, 4*R*, 7*S*, 10*S*, $R_1 = R_2 = H$
†**1106** 1*S*, 4*S*, 7*R*, 10*R*, $R_1 = R_2 = H$
†**1107** 1*R*, 4*R*, 7*S*, 10*S*, $R_1 = R_2 = OH$
†**1108** 1*S*, 4*S*, 7*R*, 10*R*, $R_1 = R_2 = OH$



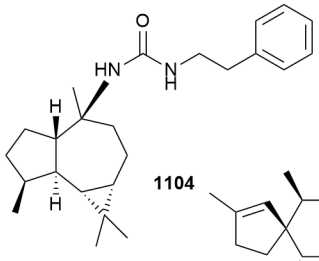
†**1095** 1*S*, 6*R*, 7*R*, 10*R*
†**1096** 1*R*, 6*S*, 7*S*, 10*S*



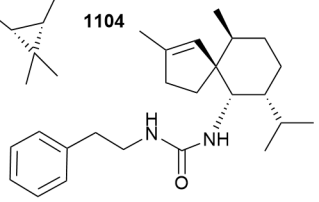
†**1097** X = O
†**1098** X = H, ····OH
†**1099** X = H, ◄OH



†**1100** X = O
†**1101** X = H, ····OH
1102 X = H, ◄OH



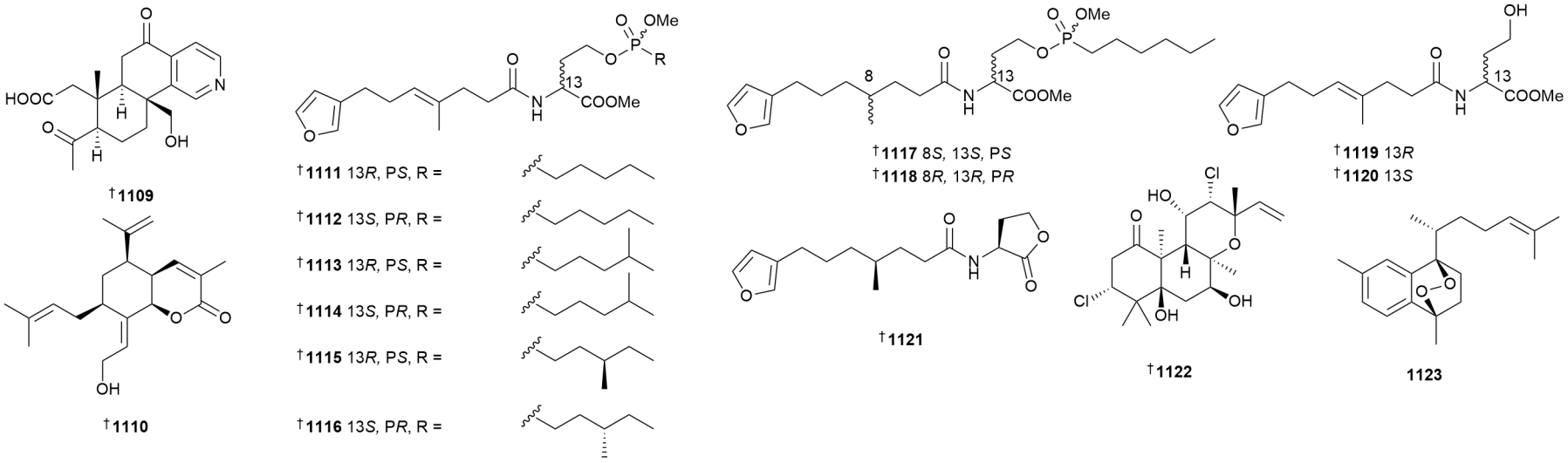
1104



†**1103**

408 Porifera Acanthella cavernosa // Ximao Island, Hainan Province, China // Nitrogenous sesquiterpenoids from the South China Sea nudibranch *Hexabranchus sanguineus* and its possible sponge-prey *Acanthella cavernosa*: chiral separation, stereochemistry and chemical ecology

1085 // N // (+)-ximaocavernosin A // NT; isol. as rac.
1086 // N // (–)-ximaocavernosin A // NT; isol. as rac.
1087 // N // (+)-ximaocavernosin B // NT; isol. as rac.
1088 // N // (–)-ximaocavernosin B // NT; isol. as rac.
1089 // N // (+)-ximaocavernosin C // NT; isol. as rac.
1090 // N // (–)-ximaocavernosin C // NT; isol. as rac.
1091 // N // ximaocavernosin D // NT.
1092 // N // (+)-ximaocavernosin E // NT; isol. as rac.
1093 // N // (–)-ximaocavernosin E // NT; isol. as rac.
1094 // N // ximaocavernosin F // NT.
1095 // N // (+)-ximaocavernosin G // NT; isol. as rac.
1096 // N // (–)-ximaocavernosin G // NT; isol. as rac.
1097 // N // ximaocavernosin H // NT.
1098 // N // ximaocavernosin I // NT.
1099 // N // ximaocavernosin J // NT.
1100 // N // ximaocavernosin K // NT.
1101 // N // ximaocavernosin L // NT.
1102 // N // ximaocavernosin M // NT.
1103 // N // ximaocavernosin N // NT.
1104 // N // ximaocavernosin O // NT.
1105 // R // (+)-axinisothiocynate J // NT; isol. as rac.
1106 // R // (−)-axinisothiocynate J // NT; isol. as rac.
1107 // R // (+)-axinisothiocynate D // NT; isol. as rac.
1108 // R // (−)-axinisothiocynate D // NT; isol. as rac.

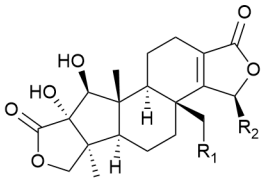


409 Porifera *Spongia* sp // Zhanjiang, Guangdong Province, China // A new dinorspongian diterpene with pyridyl D-ring from the marine sponge *Spongia* sp .
1109 // N // dinorspongiapyridine // IA *vs* 6 HTCLs.

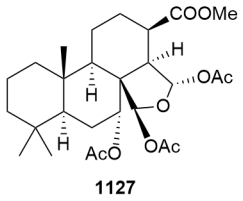
410 Porifera *Spongia officinalis* // Shui Niupo Village, Danzhou City, Hainan Province, China // Jellynolide A, pokepola esters, and sponalisolides from the aquaculture sponge *Spongia officinalis* L
1110 // N // jellynolide A // IA *vs* 4 HTCLs; IA *vs* HIF inhib.; IA *vs* NF-κB
1111 // N // (−)-pokepola ester B // IA *vs* 4 HTCLs.
1112 // N // (+)-pokepola ester B // IA *vs* 4 HTCLs.
1113 // N // (−)-pokepola ester C // IA *vs* 4 HTCLs.
1114 // N // (+)-pokepola ester C // IA *vs* 4 HTCLs; IA *vs* HIF inhib.; IA *vs* NF-κB
1115 // N // (−)-pokepola ester D // IA *vs* 4 HTCLs.
1116 // N // (+)-pokepola ester D // IA *vs* 4 HTCLs.
1117 // N // (−)-pokepola ester E // IA *vs* 4 HTCLs.
1118 // N // (+)-pokepola ester E // IA *vs* 4 HTCLs.
1119 // N // (–)-sponalisolide C // IA *vs* 4 HTCLs.
1120 // N // (+)-sponalisolide C // IA *vs* 4 HTCLs.
1121 // N // (–)-sponalisolide D // IA *vs* 4 HTCLs.

411 Porifera *Spongia* sp // Coast of Jeddah, Saudi Arabia // The chemically highly diversified metabolites from the Red Sea marine sponge *Spongia* sp.
1122 // N // spongianol // IA *vs* AI; IA *vs* elastase inhib.

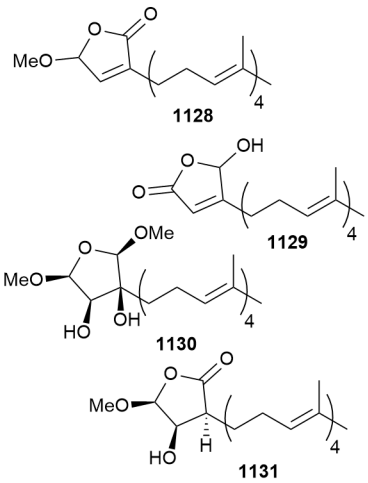
412 Porifera *Halichondria* sp // Amitoi Bay, Iriomote Island, Japan // Amitorin, a cytotoxic diterpenoid from a sponge *Halichondria* sp.
1123 // N // amitorin // weak cytotox. *vs* 1 nMCL.



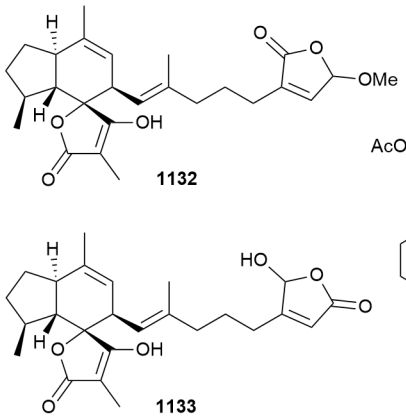
†**1124** $R_1 = R_2 = H$
†**1125** $R_1 = OH, R_2 = H$
†**1126** $R_1 = H, R_2 = OH$



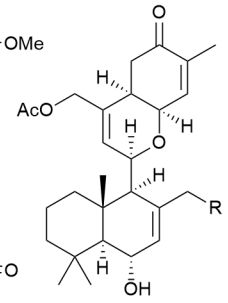
1127



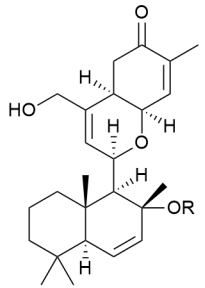
1128, **1129**, **1130**, **1131**



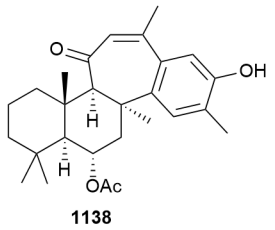
1132, **1133**



1134 R = H
1135 R = OH



1136 R = H
1137 R = Me



1138

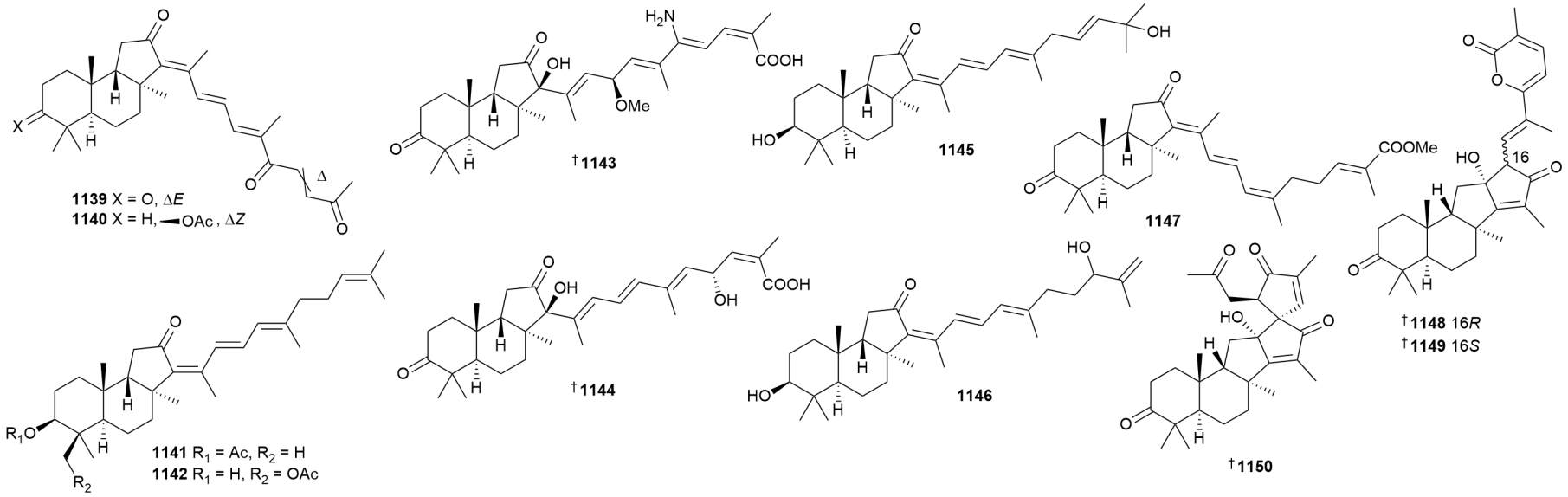
413 Porifera *Spongia* sp // Jeddah, Saudi Arabia // Spongenolactones A–C, bioactive 5,5,6,6,5-pentacyclic spongian diterpenes from the red sea sponge *Spongia* sp.
1124 // N // spongenolactone A // IA *vs* 1 HTCL; IA *vs* 1 bact. strain; IA *vs* anti-inflam.
1125 // N // spongenolactone B // IA *vs* 1 HTCL; IA *vs* 1 bact. strain; IA *vs* anti-inflam.
1126 // N // spongenolactone C // IA *vs* 1 HTCL; IA *vs* anti-inflam.

414 Porifera *Spongionella* sp // Dredge (82 m), Gulf of Sakhalin, Sea of Okhotsk, Pacific Ocean // New diterpenes from the marine sponge *Spongionella* sp. overcome drug resistance in prostate cancer by inhibition of P-glycoprotein
1127 // N // spongionellol A // weak to mod. cytotox. *vs* 7 HTCLs; IA to mod. cytotox. 3 of 4 nMCLs; induces caspase-dependent apoptosis.

415 Porifera *Hippospongia fistulosa* // Vanphong Bay, Nha Trang, Vietnam // Hippotulosas A-D: four new sesterterpenes from marine sponge *Hippospongia fistulosa* Lendenfeld, 1889
1128 // N // hippotulosa A // IA *vs* 5 HTCLs.
1129 // N // hippotulosa B // IA *vs* 5 HTCLs.
1130 // N // hippotulosa C // IA *vs* 5 HTCLs.
1131 // N // hippotulosa D // IA *vs* 5 HTCLs.

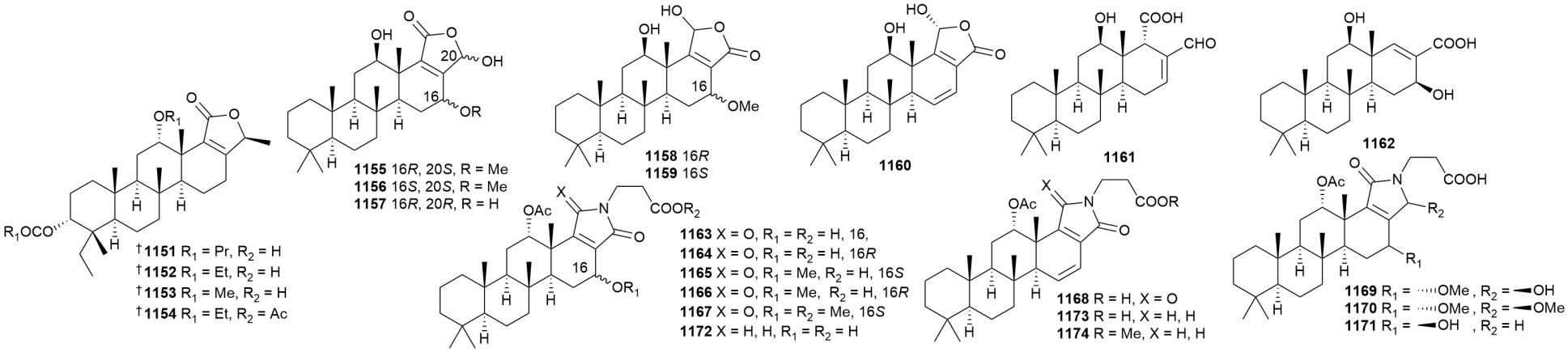
416 Porifera *Ircinia wistarii* // Wistari Reef, Great Barrier Reef, Australia // Discovery of ircinianin lactones B and C–two new cyclic sesterterpenes from the marine sponge *Ircinia wistarii*
1132 // N // ircinianin lactone B // NT; unstable.
1133 // N // ircinianin lactone C // NT; unstable.

417 Porifera *Phorbas* sp // Ansell Point, Howe Sound, British Columbia, Canada // Ansellone J, a potent *in vitro* and *ex vivo* HIV-1 latency reversal agent isolated from a *Phorbas* sp. marine sponge
1134 // N // ansellone H // NT.
1135 // N // ansellone I // NT.
1136 // M // ansellone J // mod. to pot. HIV-1 latency reversal act.
1137 // N // ansellone K // NT.
1138 // N // phorone C // mod. to pot. HIV-1 latency reversal act.



418 Porifera *Rhabdastrella globostellata* // Ximao Island, Hainan Province, China // Cytotoxic and antibacterial isomalabaricane terpenoids from the sponge *Rhabdastrella globostellata*
1139 // N // 13-(*E*)-geoditin A // weak cytotox. *vs* 1 of 6 HTCLs; mod. activ. *vs* 1 of 2 bact. strains.
1140 // N // 13-(*E*)-isogeoditin B // weak to mod. cytotox. *vs* 6 HTCLs; mod. activ. *vs* 1 of 2 bact. strains.
1141 // N // 3-acetylstelliferin D // IA *vs* 6 HTCLs; IA *vs* 2 bact. strains.
1142 // N // 29-acetylstelliferin D // IA *vs* 6 HTCLs; IA *vs* 2 bact. strains.
1143 // N // hainanstelletin A // IA *vs* 6 HTCLs; IA *vs* 2 bact. strains.
1144 // N // hainanstelletin B // IA *vs* 6 HTCLs; IA *vs* 2 bact. strains.
1145 // N // 23,24-ene-25-hydroxystelliferin D // weak cytotox. *vs* 1 of 6 HTCLs; IA *vs* 2 bact. strains.
1146 // N // 25,26-ene-24-hydroxystelliferin D // IA *vs* 6 HTCLs; IA *vs* 2 bact. strains.
1147 // N // hainanstelletin C // weak cytotox. *vs* 1 of 6 HTCLs; IA *vs* 2 bact. strains.

419 Porifera *Rhabdastrella globostellata* // Vanphong Bay, Khanh Hoa, Vietnam // New tetracyclic and pentacyclic isomalabaricanes from the marine sponge *Rhabdastrella globostellata* (Carter, 1883)
1148 // N // rhabdaglostelone A // IA *vs* 4 HTCLs.
1149 // N // rhabdaglostelone B // IA *vs* 4 HTCLs.
1150 // N // rhabdaglostelone C // IA *vs* 4 HTCLs.

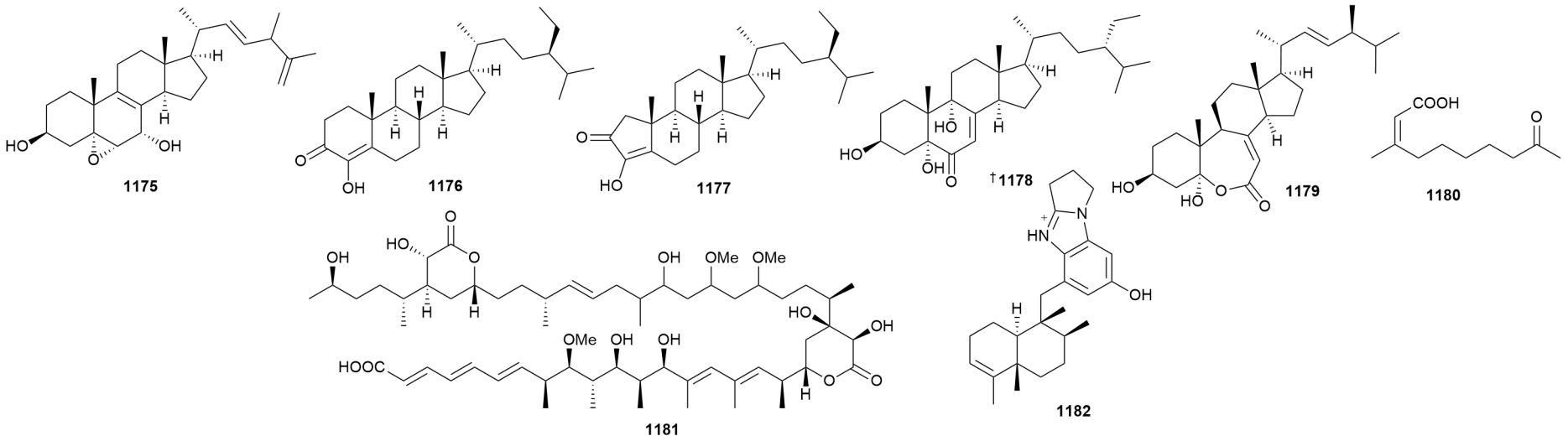


420 Porifera *Phyllospongia bergquistae* // Palfrey Island, Queensland, Australia // Identification of anthelmintic bishomoscalarane sesterterpenes from the Australian marine sponge *Phyllospongia bergquistae* and structure revision of phyllolactones A–D
1151 // R // phyllolactone A // IA *vs* nematode *Hemonchus contortus*.
1152 // R // phyllolactone B // weak cytotox. *vs* nematode *Hemonchus contortus*.
1153 // R // phyllolactone C // weak cytotox. *vs* nematode *Hemonchus contortus*.
1154 // R // phyllolactone D // weak cytotox. *vs* nematode *Hemonchus contortus*.

421 Porifera *Hyrtios erectus* // Bohol island, Philippines // Scalarane sesterterpenoids isolated from the marine sponge *Hyrtios erectus* and their cytotoxicity
1155 // N // 12β,20β-dihydroxy-16α-methoxy-17-scalaren-19,20-olide // IA *vs* 2 HTCLs.
1156 // N // 12β,20α-dihydroxy-16β-methoxy-17-scalaren-19,20-olide // IA *vs* 2 HTCLs.
1157 // N // 12β,16β,20β-trihydroxy-17-scalaren-19,20-olide // IA *vs* 2 HTCLs.
1158 // N // 12β,19α(β)-dihydroxy-16α-methoxy-17-scalaren-19,20-olide // IA *vs* 2 HTCLs.
1159 // N // 12β,19α(β)-dihydroxy-16β-methoxy-17-scalaren-19,20-olide // IA *vs* 2 HTCLs.
1160 // N // 12β,19α-dihydroxy-14,15-dehydrate-17-scalaren-19,20-olide // IA *vs* 2 HTCLs.
1161 // N // 12-deacetyl-18-epi-carboxylic-12-*epi*-scalaral // IA *vs* 2 HTCLs.
1162 // N // 2-*O*-deacetyl-12,16-di-*epi*-norscalaral // IA *vs* 2 HTCLs.

422 Porifera *Spongia* sp // Bohol Province, Philippines // Isolation of scalimides A–L: β-alanine-bearing scalarane analogs from the marine sponge *Spongia* sp.
1163 // N // scalimide A // IA *vs* 1 HTCL; IA to weak activ. *vs* 2 of 6 bact. strains.
1164 // N // scalimide B // IA *vs* 1 HTCL; IA *vs* 6 bact. strians.
1165 // N // scalimide C // IA *vs* 1 HTCL; IA to mod. activ. *vs* 2 of 6 bact. strains.
1166 // N // scalimide D // IA *vs* 1 HTCL, IA to mod. activ. *vs* 2 of 6 bact. strains
1167 // N // scalimide E // IA *vs* 1 HTCL; IA *vs* 6 bact. strains.
1168 // N // scalimide F // IA *vs* 1 HTCL; IA to weak activ. *vs* 2 of 6 bact. strains.
1169 // N // scalimide G // IA *vs* 1 HTCL; IA to weak activ. *vs* 2 of 6 bact. strains.
1170 // N // scalimide H // IA *vs* 1 HTCL; IA to mod. activ. *vs* 2 of 6 bact. strains.
1171 // N // scalimide I // IA *vs* 1 HTCL; IA *vs* 6 bact. strains.

1172 // N // scalimide J // IA *vs* 1 HTCL; IA to mod. activ. *vs* 3 of 6 bact. strains.
1173 // N // scalimide K // IA *vs* 1 HTCL; IA to mod. activ. *vs* 3 of 6 bact. strains.
1174 // N // scalimide L // IA *vs* 1 HTCL; IA *vs* 6 bact. strains.



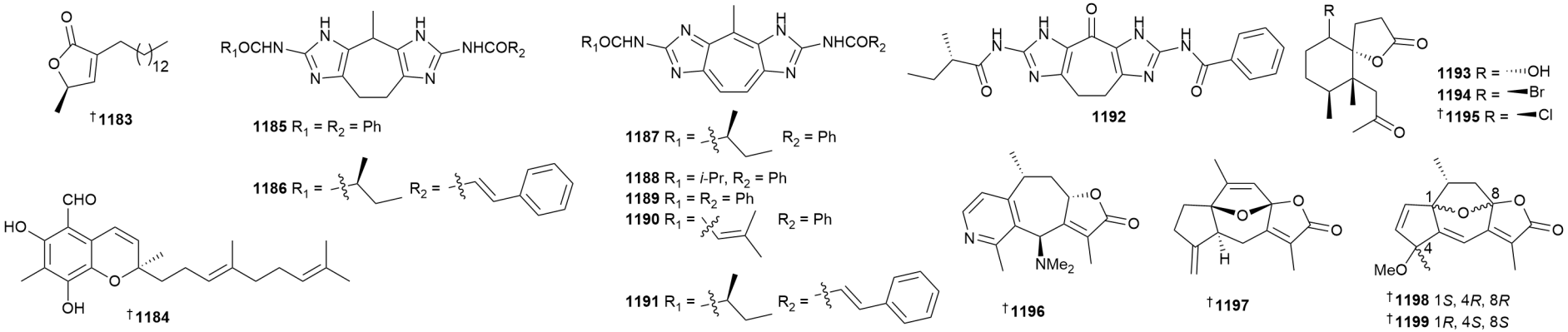
423 Porifera *Halichondria panicea* // Vanphong, Nhatrang, Vietnam // Halipanasterol, a new sterol isolated from the marine sponge *Halichondria panicea*
1175 // N // halipanasterol // IA to weak cytotox. *vs* 4 HTCLs .

424 Porifera *Neopetrosia chaliniformis* // Xidao Is., Hainan Province, China // Xidaosterols A and B, two new steroids with unusual α-keto-enol functionality from the South China Sea sponge *Neopetrosia chaliniformis*
1176 // N // xidaosterol A // IA *vs* PTP1b; IA *vs* bact. strain.
1177 // N // xidaosterol B // IA *vs* PTP1b; IA *vs* bact. strain.

411 Porifera *Spongia* sp // Coast of Jeddah, Saudi Arabia // The chemically highly diversified metabolites from the Red Sea marine sponge *Spongia* sp.
1178 // N // 3β,5α,9α-trihydroxy-24S-ethylcholest-7-en-6-one // IA *vs* anti-inflam.; IA *vs* elastase inhib.
1179 // M // (22*E*,24*S*)-ergosta-7,22-dien-3β,5α-diol-6,5-olide // IA *vs* anti-inflam.; IA *vs* elastase inhib.
1180 // N // (*Z*)-3-methyl-9-oxodec-2-enoic acid // IA *vs* anti-inflam.; IA *vs* elastase inhib.

435 Porifera *Hemimycale* sp // // A synthesis-enabled relative configurational assignment of the C31–C46 region of hemicalide
1181 // R // hemimycalide // configuration of some stereocentres have been assigned by synthesis

3 Porifera *Dysidea cinerea* // // DU8ML: machine learning-augmented density functional theory nuclear magnetic resonance computations for high-throughput in silico solution structure validation and revision of complex alkaloids
1182 // R // cinerol A // Revised by comput. approaches.



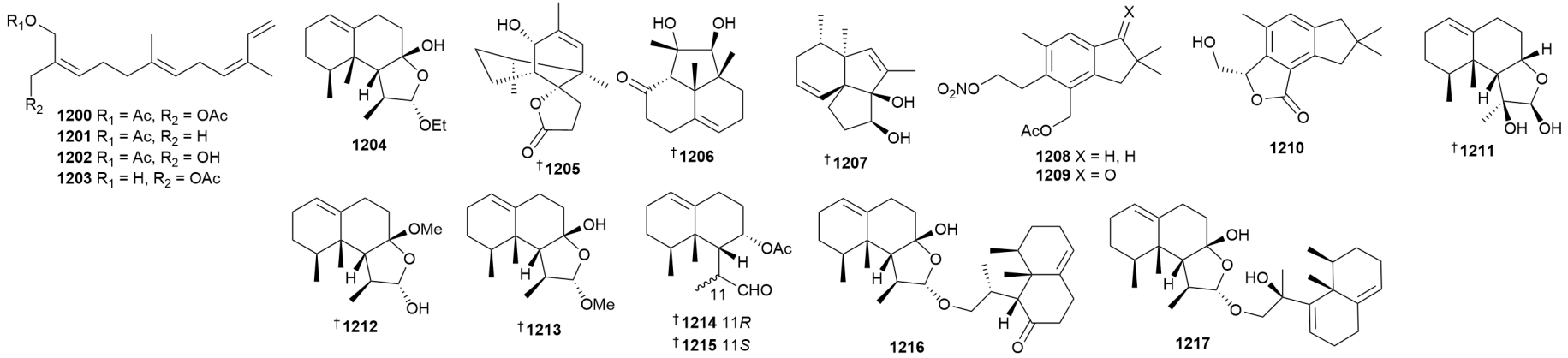
482 Cnidaria *Cladiella conifera* // Penghu Archipelago, Taiwan // A new natural butenolide, (5*R*)-3-tetradecyl-5-methyl-2(5*H*)-furanone, from octocoral *Cladiella conifera*
1183 // M // (5*R*)-3-tetradecyl-5-methyl-2(5*H*)-furanone // weak inhib. COX-2 release.

483 Cnidaria *Duva florida* // Irish Sea // Tuaimenal A, a meroterpene from the Irish deep-sea soft coral Duva florida, displays inhibition of the SARS-CoV-2 3CLpro enzyme
1184 // N // tuaimenal A // IA inhib. SARS-CoV-2 3CLpro.

484 Cnidaria *Dentitheca habereri*, Cnidaria *Plumularia habereri* // Palau // Dentithecamides A–H, diacylated zoanthoxanthin derivatives with PAX3-FOXO1 inhibitory activity from the hydroid *Dentitheca habereri*
1185 // N // dentithecamide A // IA *vs* PAX3-FOXO1-driven transcription.
1186 // N // dentithecamide B // IA *vs* PAX3-FOXO1-driven transcription.
1187 // N // dentithecamide C // IA *vs* PAX3-FOXO1-driven transcription.
1188 // N // dentithecamide D // IA *vs* PAX3-FOXO1-driven transcription.
1189 // N // dentithecamide E // IA *vs* PAX3-FOXO1-driven transcription.
1190 // N // dentithecamide F // NT.
1191 // N // dentithecamide G // NT.
1192 // N // dentithecamide H // NT.

486 Cnidaria *Paralemnalia thyrsoides* // // Norsesquiterpenoids from the octocoral *Paralemnalia thyrsoides* (Ehrenberg 1834)
1193 // N // pathyspirolactone A // IA *vs* anti-inflam.; IA *vs* 1 nMCL.
1194 // N // pathyspirolactone B // IA *vs* anti-inflam; IA *vs* 1 nMCL.
1195 // R // napalilactone //

487 Cnidaria *Echinogorgia flora* // Weizhou Island, South China Sea // Guaiane sesquiterpenes from the gorgonian *Echinogorgia flora* collected in the South China Sea
1196 // N // echinoflorine // IA *vs* anti-inflam.
1197 // N // echinofloranolide A // IA *vs* anti-inflam.
1198 // N // echinofloranolide B // IA *vs* anti-inflam.
1199 // N // echinofloranolide C // IA *vs* anti-inflam.



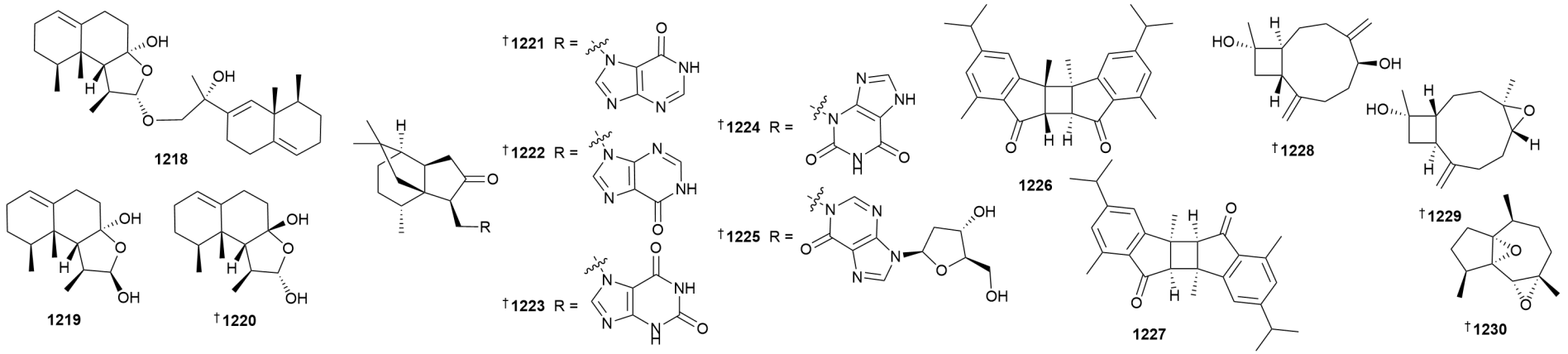
488 Cnidaria *Acanella arbuscula* // Whittard Canyon, Porcupine Bank, Ireland // Crannenols A–D, sesquiterpenoids from the Irish deep-sea soft coral *Acanella arbuscula*
1200 // N // crannenol A // IA *vs* multiple bact. strains; IA *vs* fungal strains; IA *vs* 1 virus.
1201 // N // crannenol B // NT.
1202 // N // crannenol C // NT.
1203 // N // crannenol D // NT.

489 Cnidaria *Lemnalia* sp // Ghuan Bay, North Borneo // New bioactive sesquiterpenoid from Malaysian soft coral genus *Lemnalia*
1204 // N // parathyrsoidin K // NT.

490 Cnidaria *Paralemnalia thyrsoides*, Cnidaria *Lemnalia* sp // Xisha Islands, South China Sea // Lemnalemnanes A–C, three rare rearranged sesquiterpenoids from the soft corals *Paralemnalia thyrsoides* and *Lemnalia* sp.
1205 // N // lemnalemnane A // Reduce no. macrophages in zebrafish; XRD.
1206 // N // lemnalemnane B // Reduce no. macrophages in zebrafish.
1207 // N // lemnalemnane C // Promote angiogenesis in zebrafish; XRD.

491 Cnidaria *Alcyonium* sp // Antarctica // Chemistry and bioactivity of the deep-water Antarctic octocoral *Alcyonium* sp.
1208 // N // alcyopterosin T // NT.
1209 // N // alcyopterosin U // NT.
1210 // N // alcyopterosin V // weak activ. *vs* 1 bact. strain; weak activ. *vs L. donovani*; IA *vs* 3 MCLs.

492 Cnidaria *Lemnalia* sp // Xisha Island, China // Nardosinane-related antimicrobial terpenoids from *Lemnalia* sp. soft coral
1211 // N // parathyrsoidin H // IA *vs* 1 virus; IA *vs* 5 bact. strains; IA *vs* 4 HTCLs.
1212 // N // parathyrsoidin I // weak activ. *vs* 1 virus; IA *vs* 5 bact. strains; IA *vs* 4 HTCLs.
1213 // N // parathyrsoidin J // IA *vs* 1 virus; IA *vs* 5 bact. strains; IA *vs* 4 HTCLs.
1214 // N // linardosinene D // IA *vs* 1 virus; IA *vs* 5 bact. strains; IA *vs* 4 HTCLs.
1215 // N // linardosinene E // weak activ. *vs* 1 virus; IA *vs* 5 bact. strains; IA *vs* 4 HTCLs.
1216 // N // nardosinoid A // weak activ. *vs* 2 bact. strains; IA *vs* 1 virus; IA *vs* 5 HTCLs.
1217 // N // nardosinoid B // weak activ. *vs* 2 bact. strains; IA *vs* 1 virus; IA *vs* 5 HTCLs.



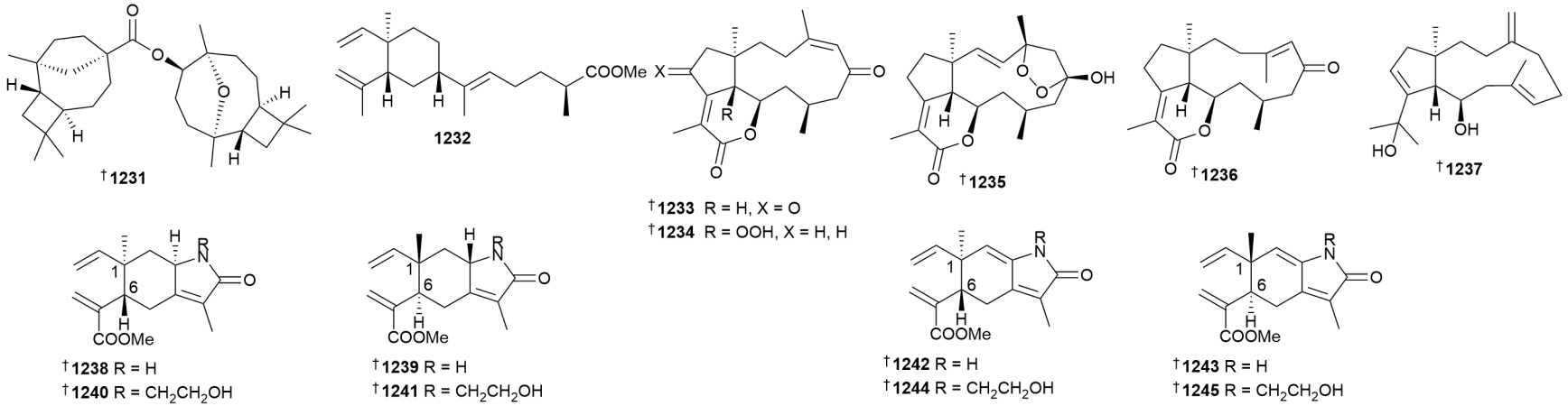
493 Cnidaria *Litophyton nigrum* // South China Sea // One uncommon *bis*-sesquiterpenoid from Xisha soft coral *Litophyton nigrum*
1218 // N // linardosinene H // IA *vs* 1 enzyme; IA *vs* 4 HTCLs.
1219 // N // linardosinene I // weak inhib. *vs* 1 enzyme; IA *vs* 4 HTCLs.
1220 // R // lemnal-1(10)-ene-7,12-diol // IA *vs* 1 enzyme; IA *vs* 4 HTCLs.

496 Cnidaria *Subergorgia suberosa* // Meishan coast, South China Sea, Hainan Province // Subergorgines A–E, five new suberosanone-purine hybrids from the South China Sea gorgonian *Subergorgia suberosa*
1221 // N // subergorgine A // IA *vs* 3 HTCLs.
1222 // N // subergorgine B // IA *vs* 3 HTCLs.
1223 // N // subergorgine C // IA *vs* 3 HTCLs.
1224 // N // subergorgine D // IA *vs* 3 HTCLs.
1225 // N // subergorgine E // NT.

495 Cnidaria *Anthogorgia ochracea* // Weizhou Island, Guangxi Province, China // Weizhouochrones: gorgonian-derived symmetric dimers and their structure elucidation using anisotropic NMR combined with DP4+ probability and CASE-3D
1226 // N // weizhouochrone A // NT.
1227 // N // weizhouochrone B // NT.

494 Cnidaria *Sinularia hirta* // Yalong bay, Sanya, China // Sinuhirtone A, an uncommon 17,19-dinorxeniaphyllanoid, and related terpenoids from the Hainan soft coral *Sinularia hirta*
1228 // N // sinuhirtin F // NT.
1229 // N // sinuhirtin G // NT.

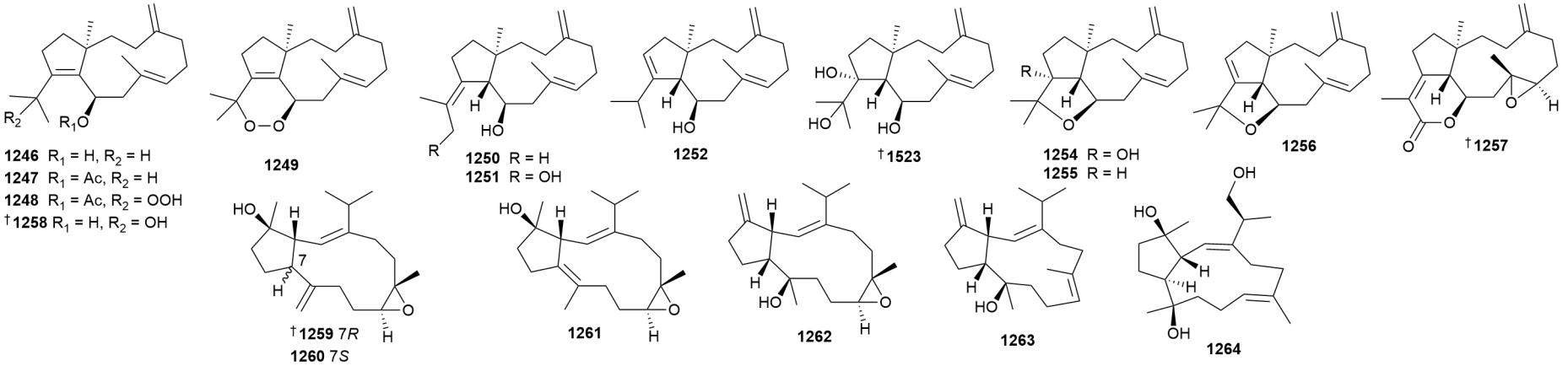
497 * // * // First synthesis, confirmation of stereochemistry, and cytotoxic activity of oxyfungiformin
1230 // R // oxyfungiformin // IA *vs* 4 HTCLs; abs. config. by synth; XRD.



498 * // * // Convergent biomimetic semisynthesis of disesquiterpenoid rumphellolide J
1231 // R // rumphellolide J // Abs. config. by synth; XRD.

499 Cnidaria *Sinularia nanolobata* // Ximao Island, Sanya, South China Sea // Chemical constituents of *Sinularia nanolobata* from the South China Sea
1232 // N // lobatate // IA *vs* PTP1B.

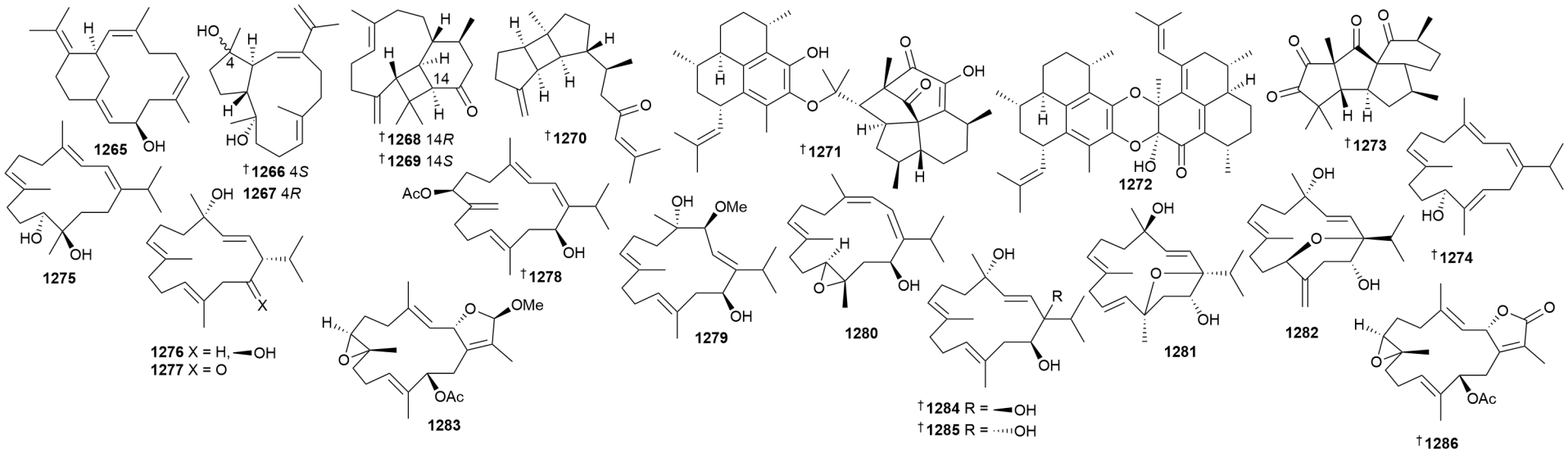
500 Cnidaria *Clavularia inflata* // Xisha Islands, South China Sea // Dolabellane diterpenes and elemane alkaloids from the soft coral *Clavularia inflata* collected in the South China Sea
1233 // N // clavularinlide A // IA *vs* anti-inflam. zebrafish model.
1234 // N // clavularinlide B // IA *vs* anti-inflam. zebrafish model.
1235 // N // clavularinlide C // IA *vs* anti-inflam. zebrafish model.
1236 // N // clavularinlide D // IA *vs* anti-inflam. zebrafish model.
1237 // N // clavularinlide E // IA *vs* anti-inflam. zebrafish model.
1238 // N // (–)-clavulacylide A // IA *vs* anti-inflam. zebrafish model.
1239 // N // (+)-clavulacylide A // IA *vs* anti-inflam. zebrafish model.
1242 // R // (–)-clavulacylide B; corrected in ref **3**. // NT.
1243 // R // (+)-clavulacylide B; corrected in ref **3**// NT.
1240 // N // (–)-clavulacylide C // NT.
1241 // N // (+)-clavulacylide C // NT.
1244 // R // (–)-clavulacylide D; corrected in ref **3**. // NT.
1245 // R // (+)-clavulacylide D; corrected in ref **3**. // NT.



501 Cnidaria *Clavularia viridis* // Xisha Islands, Hainan Province, China // Dolabellane diterpenoids from the Xisha soft coral *Clavularia viridis*
1246 // N // clavurol A // IA *vs* 2 TCLs; IA inhib. PTP1B.
1247 // N // clavurol B // IA *vs* 2 TCLs; IA inhib. PTP1B.
1248 // N // clavuperoxylide A // IA *vs* 2 TCLs; IA inhib. PTP1B.
1249 // N // clavuperoxylide B // IA *vs* 2 TCLs; IA inhib. PTP1B.
1250 // N // clavurol C // IA *vs* 2 TCLs; IA inhib. PTP1B.
1251 // N // clavurol D // IA *vs* 2 TCLs; IA inhib. PTP1B.
1252 // N // clavurol E // IA *vs* 2 TCLs; IA inhib. PTP1B.
1253 // N // clavurol F // IA vs 2 TCLs; IA inhib. PTP1B; XRD.
1254 // N // clavufuranolide A // IA *vs* 2 TCLs; IA inhib. PTP1B.
1255 // N // clavufuranolide B // IA *vs* 2 TCLs; IA inhib. PTP1B.
1256 // N // clavufuranolide C // IA *vs* 2 TCLs; IA inhib. PTP1B.
1257 // N // clavirolide I // IA *vs* 2 TCLs; IA inhib. PTP1B; XRD.
1258 // R // clavudiol A // IA *vs* 2 TCLs; IA inhib. PTP1B; XRD.

502 Cnidaria *Sarcophyton boettgeri* // Weizhou Island, Hainan Province, China // Uncommon capnosane diterpenes with neuroprotective potential from South China Sea soft coral *Sarcophyton boettgeri*
1259 // N // sarboettgerin A // IA *vs* anti-inflam.; XRD.
1260 // N // sarboettgerin B // IA *vs* anti-inflam.
1261 // N // sarboettgerin C // IA *vs* anti-inflam.
1262 // N // sarboettgerin D // IA *vs* anti-inflam.
1263 // N // sarboettgerin E // IA *vs* anti-inflam.

503 Cnidaria *Sinularia humilis* // Ximao Island, China // Chemical constituents from the South China sea soft coral *Sinularia humilis*
1264 // N // sinuhumilol A // IA *vs* 4 HTCLs.



504 Cnidaria *Sarcophyton mililatensis* // Xigu Island, Hainan Province, China // Mililatensols A–C, new records of sarsolenane and capnosane diterpenes from soft coral *Sarcophyton mililatensis*
1265 // N // mililatensol A // IA *vs* anti-inflam.
1266 // N // mililatensol B // IA *vs* anti-inflam.
1267 // N // mililatensol C // IA *vs* anti-inflam.

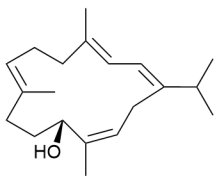
505 Cnidaria *Sinularia australiensis* // Ximao Island, Hainan province, China // Discovery and photosynthesis of sinuaustones A and B, diterpenoids with a novel carbon scaffold isolated from soft coral *Sinularia australiensis* from Hainan
1268 // N // sinuaustone A // IA *vs* NO prod.
1269 // N // sinuaustone B // IA *vs* NO prod.
1270 // N // isolobophytumin E // weak inhib. NO prod.

506 Cnidaria *Pseudopterogorgia elisabethae* // San Andrés Island, Colombia // Isolation, structural analysis and biological activity assays of biselisabethoxanes A and B: two dissymmetric bis-diterpenes from the southwestern Caribbean Sea gorgonian coral *Pseudopterogorgia elisabethae*
1271 // N // biselisabethoxane A // IA *vs* large panel of assays.
1272 // N // biselisabethoxane B // IA *vs* large panel of assays.

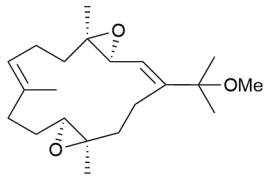
509 * // * // Enantioselective total synthesis of (+)-aberrarone
1273 // R // (+)-aberrarone // Abs. config. by synth; XRD.

510 Cnidaria *Sarcophyton glaucum* // Xisha Island, Hainan Province, China // Xishaglaucumins A–J, new cembranoids with anti-inflammatory activities from the South China Sea soft coral *Sarcophyton glaucum*
1274 // N // xishaglaucumin A // NT.
1275 // N // xishaglaucumin B // NT.
1276 // N // xishaglaucumin C // NT.

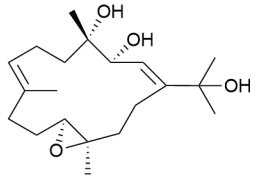
1277 // N // xishaglaucumin D // IA *vs* anti-inflam.
1278 // N // xishaglaucumin E // NT.
1279 // N // xishaglaucumin F // NT.
1280 // N // xishaglaucumin G // NT.
1281 // N // xishaglaucumin H // NT.
1282 // N // xishaglaucumin I // NT.
1283 // N // xishaglaucumin J // NT.
1284 // R // sarcophytol Q // NT; XRD.
1285 // R // iso-sarcophytol Q // NT; XRD.
1286 // R // 13-acetoxy-7,8-epoxycembra-1(15),3,11-trien-2,16-olide // NT; XRD.



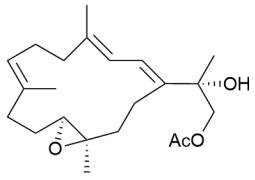
†**1287**



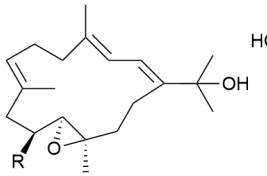
†**1288**



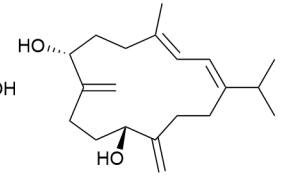
1289



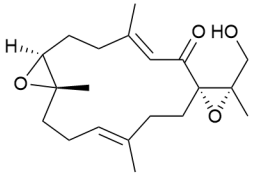
†**1290**



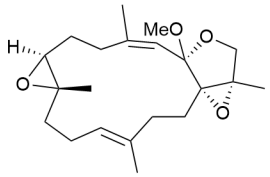
†**1291** R = OAc
†**1292** R = H



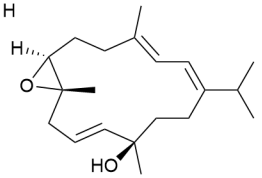
†**1293**



†**1294**



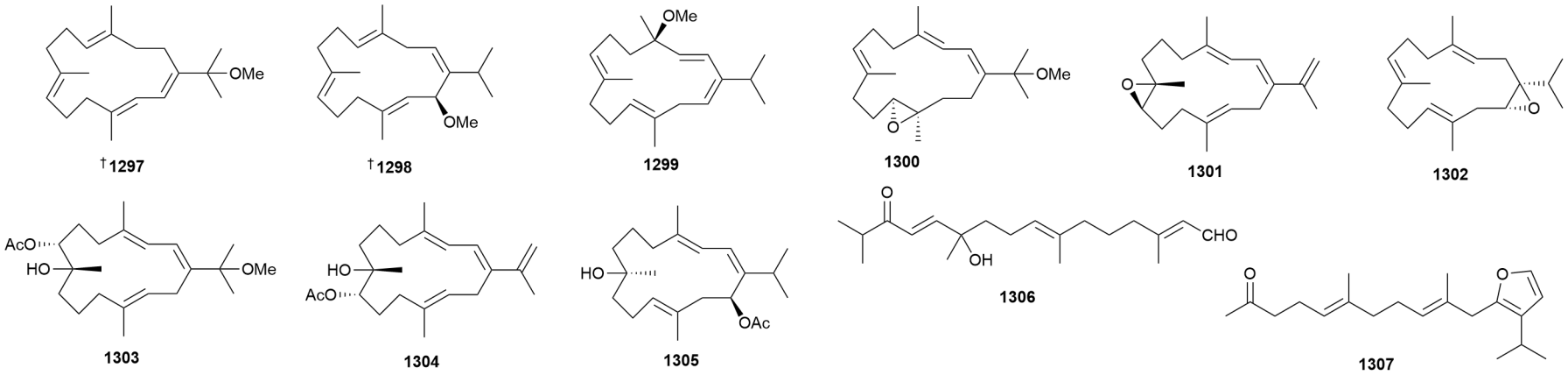
1295



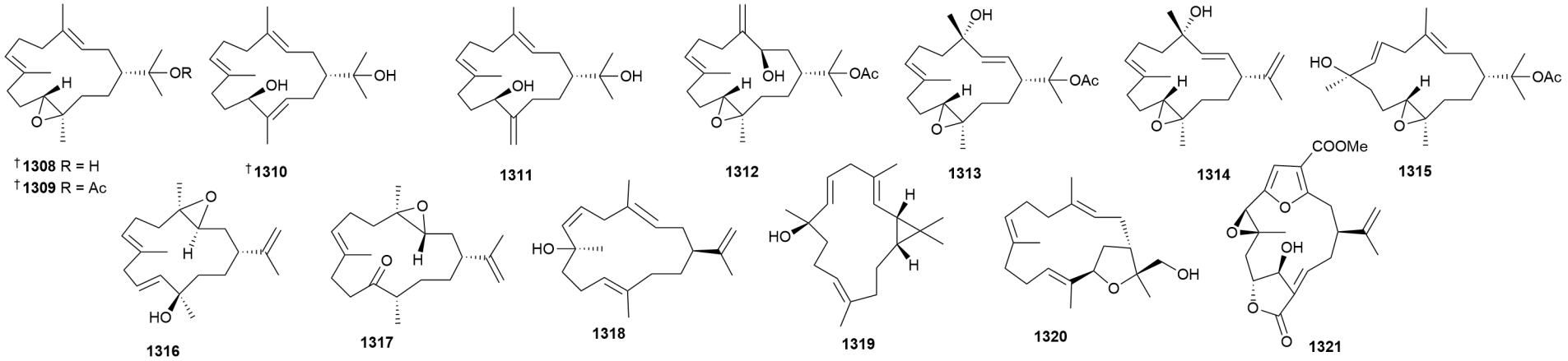
†**1296**

511 Cnidaria *Sarcophyton mililatensis* // Xigu Island, Hainan province, China // New flexible cembrane-type macrocyclic diterpenes as TNF-α inhibitors from the South China Sea soft coral *Sarcophyton mililatensis*
1287 // N // sarcomililatol C // NT.
1288 // N // sarcomililatol D // weak inhib. TNF-α.; XRD
1289 // N // sarcomililatol E // NT.
1290 // N // sarcomililatol F // NT.
1291 // N // sarcomililatol G // NT.
1292 // R // 11,12-epoxy-1*E*,3*E*,7*E*-cembratrien-15-ol // NT; XRD.

512 Cnidaria *Sarcophyton boettgeri* // Ximao Island, Hainan province, China // Polyoxygenated cembranoids from the South China Sea soft coral *Sarcophyton boettgeri* and their stereochemistry
1293 // N // sarcoboettgerol A // IA *vs* PTP1B; XRD
1294 // N // sarcoboettgerol B // IA *vs* PTP1B.
1295 // N // sarcoboettgerol C // IA *vs* PTP1B.
1296 // N // 12-*epi*-humilisin D // IA *vs* PTP1B.



513 Cnidaria *Sarcophyton trocheliophorum* // Ximao Island, Hainan Province, China // Bioactive cembranoids from the coral *Sarcophyton trocheliophorum* of Ximao Island
1297 // N // sarcophytembranoid A // NT; XRD.
1298 // N // sarcophytembranoid B // NT.
1299 // N // sarcophytembranoid C // IA *vs* NO prod.
1300 // N // sarcophytembranoid D // NT.
1301 // N // sarcophytembranoid E // NT.
1302 // N // sarcophytembranoid F // IA *vs* NO prod.
1303 // N // sarcophytembranoid G // IA *vs* NO prod.
1304 // N // sarcophytembranoid H // IA *vs* NO prod.
1305 // M // (1*R*,2*Z*,4*E*,7*Z*,9*R*,12*E*)-9-hydroxy-2-isopropyl-5,9,13-trimethylcyclotetradeca-2,4,7,12-tetraen-1-yl acetate // IA *vs* NO prod.
1306 // M // (2*E*,7*E*,12*E*)-11-hydroxy-2,7,11,15-tetramethyl-14-oxohexadeca-2,7,12-trienal // IA *vs* NO prod.
1307 // M // (5*E*,9*E*)-11-(3-isopropylfuran-2-yl)-6,10-dimethylundeca-5,9-dien-2-one // NT.

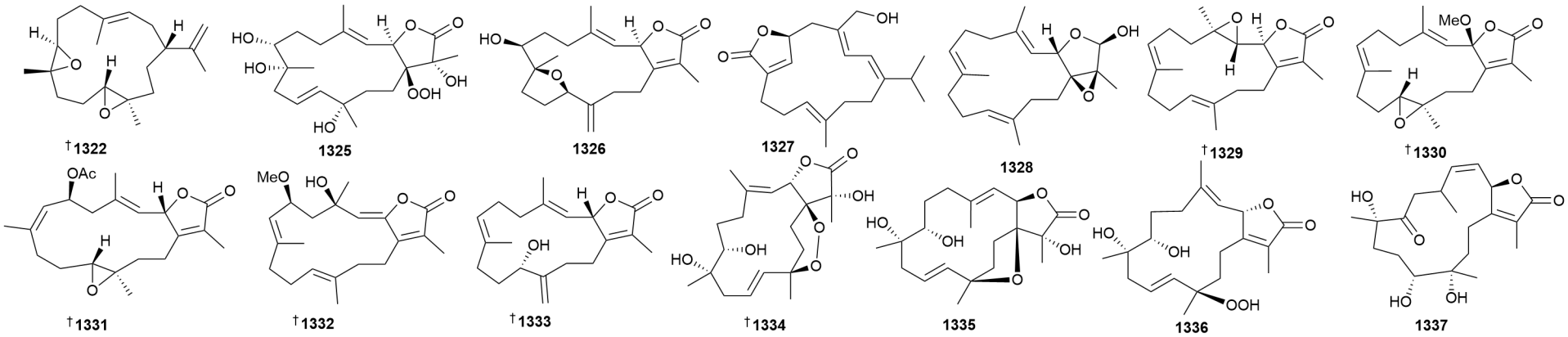


514 Cnidaria *Sinularia nanolobata* // Ximao Island, Hainan Province, China // New cembrane-type diterpenoids from the South China Sea soft coral *Sinularia nanolobata*
1308 // N // ximaonanolobatin A // IA *vs* TNF-α; IA *vs* 1 HTCL; XRD.
1309 // N // ximaonanolobatin B // IA *vs* TNF-α; IA *vs* 1 HTCL.
1310 // N // ximaonanolobatin C // IA *vs* TNF-α; IA *vs* 1 HTCL.
1311 // N // ximaonanolobatin D // IA *vs* TNF-α; IA *vs* 1 HTCL.
1312 // N // ximaonanolobatin E // IA *vs* TNF-α; IA *vs* 1 HTCL.
1313 // N // ximaonanolobatin F // IA *vs* TNF-α; IA *vs* 1 HTCL.
1314 // N // ximaonanolobatin G // IA *vs* TNF-α; IA *vs* 1 HTCL.
1315 // N // ximaonanolobatin H // IA *vs* TNF-α; IA *vs* 1 HTCL.
1316 // N // ximaonanolobatin I // IA *vs* TNF-α; IA *vs* 1 HTCL.

515 Cnidaria *Sinularia pedunculata* // Ximao Island, Hainan Province, China // New diterpenoids from the South China Sea soft coral *Sinularia pedunculata*
1317 // N // (1*R*,3*R*,6*S*,14*R*,*E*)-6,10,14-trimethyl-3-(prop-1-en-2-yl)-15-oxabicyclo[12.1.0]pentadec-10-en-7-one // IA *vs* TNF-α release; IA *vs* PTP1B.
1318 // N // (1*R*,2*Z*,5*E*,8*S*,11*E*)-1,5,11-trimethyl-8-(prop-1-en-2-yl)cyclotetradeca-2,5,11-trien-1-ol // IA *vs* TNF-α release; IA *vs* PTP1B.
1319 // N // (1*S*,2*E*,5*E*,7*R*,10*E*,14*R*)-3,7,11,15,15-pentamethylbicyclo[12.1.0]pentadeca-2,5,10-trien-7-ol // IA *vs* TNF-α release; IA *vs* PTP1B.

516 Cnidaria *Sinularia* sp // Odo Coast, Itoman City, Okinawa // Unusual cembrane diterpenoid isolated from the Japanese soft coral genus *Sinularia*
1320 // N // odosinularol // IA *vs* 1 TCL.

517 Cnidaria *Sinularia* sp // Minato-Machi, Japan // Furanocembranoid from the Okinawan soft coral *Sinularia* sp.
1321 // N // 11-hydroxy-*Δ*12(13)-pukalide // IA *vs* 1 bact. strain; IA *vs* brine shrimp.



518 Cnidaria *Sinularia* sp // Turtle Island, Yilan County, Taiwan // (1*R*,7*R*,8*R*,11*R*,12*R*)-7,8:11,12-bisepoxycembrene A: a novel cembranoid from octocoral *Sinularia* sp.
1322 // N // (1*R*,7*R*,8*R*,11*R*,12*R*)-7,8:11,12-bisepoxycembrene A // IA *vs* 2 HTCLs; XRD.

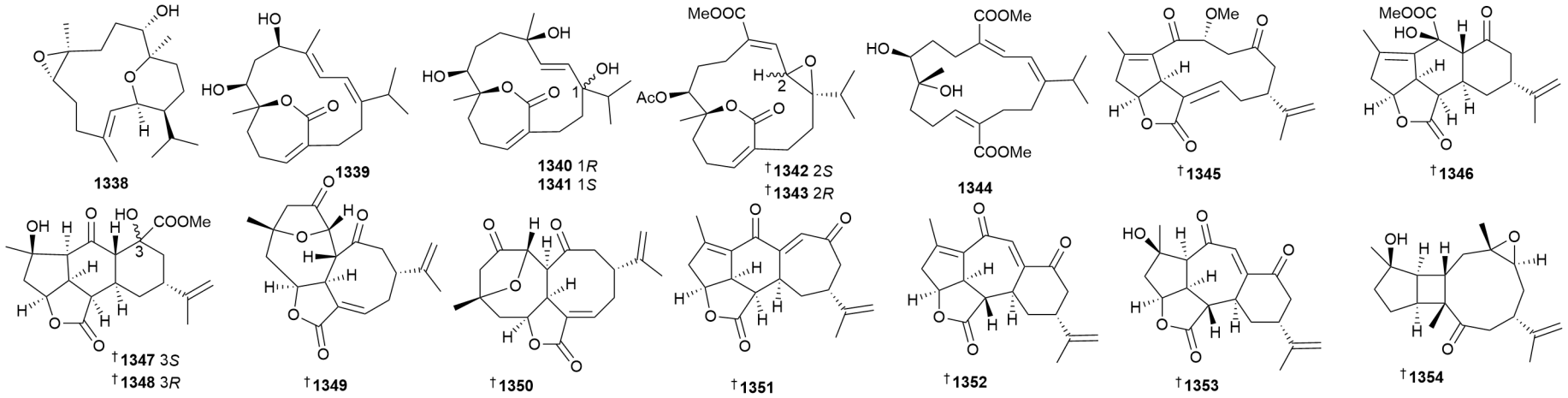
519 Cnidaria *Sinularia* sp // Turtle Island, Yilan County, Taiwan // Chlorofurancembranoids A and B: novel cembranoids from octocoral *Sinularia* sp.
1323 // N // chlorofurancembranoid A // IA *vs* 2 HTCLs; XRD.
1324 // N // chlorofurancembranoid B // IA to weak cytotox. *vs* 2 HTCLs.

520 Cnidaria *Sarcophyton convolutum* // Red Sea coast, Hurghada, Egypt. // Sarcoconvolutums F and G: polyoxygenated cembrane-type diterpenoids from *Sarcophyton convolutum*, a Red Sea soft coral
1325 // N // sarcoconvolutum F // IA *vs* 3 HTCLs.
1326 // N // sarcoconvolutum G // IA *vs* 3 HTCLs.

521 Cnidaria *Sarcophyton ehrenbergi* // Van Phong Bay, Khanh Hoa province, Vietnam // Cembranoids from the Vietnamese soft coral *Sarcophyton ehrenbergi*
1327 // N // ehrenbergol F // IA *vs* NO prod.
1328 // N // ehrenbergol G // IA *vs* NO prod.

522 Cnidaria *Sarcophyton elegans* // Xisha Island (YaGong Island) // Sarcoeleganolides C–G, five new cembranes from the South China Sea soft coral *Sarcophyton elegans*
1329 // N // sarcoeleganolide C // IA *vs* anti-inflam.
1330 // N // sarcoeleganolide D // IA *vs* anti-inflam.
1331 // N // sarcoeleganolide E // IA *vs* anti-inflam.
1332 // N // sarcoeleganolide F // IA *vs* anti-inflam.
1333 // N // sarcoeleganolide G // IA *vs* anti-inflam.

523 Cnidaria *Sarcophyton roseum* // Dahab, Egypt // Sarcoroseolides A-D, four undescribed cembranoids from the Red Sea soft coral *Sarcophyton roseum*
1334 // N // sarcoroseolide A // NT.
1335 // N // sarcoroseolide B // IA *vs* anti-inflam.
1336 // N // sarcoroseolide C // NT.
1337 // N // sarcoroseolide D // NT.



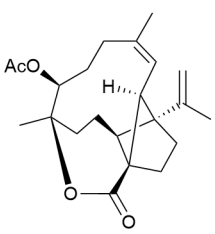
524 Cnidaria *Sarcophyton trocheliophorum* // Hurghada province, Egypt // Diterpenes and sterols from the Red Sea soft coral *Sarcophyton trocheliophorum* and their cytotoxicity and anti-leishmanial activities
1338 // N // sarcopyranoid A // IA *vs* 3 HTCLs; IA *vs Leishmania major*.

525 Cnidaria *Sarcophyton cinereum* // Xiaoliuqiu island, Taiwan // Cembranolides and related constituents from the soft coral *Sarcophyton cinereum*
1339 // N // cinerenolide A // NT.
1340 // N // cinerenolide B // IA *vs* 3 TCLs; IA *vs* 1 nMCL.
1341 // N // cinerenolide C // IA *vs* 3 TCLs; IA *vs* 1 nMCL.

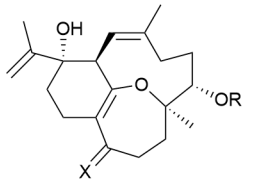
526 Cnidaria *Sarcophyton tortuosum* // Lanyu Island, Taiwan // Computationally assisted structural elucidation of cembranoids from the soft coral *Sarcophyton tortuosum*
1342 // N // tortuolide A // IA *vs* 5 TCLs; IA *vs* anti-inflam.
1343 // N // tortuolide B // IA *vs* 5 TCLs; IA *vs* anti-inflam.
1344 // N // *epi*-sarcophytonolide Q // IA *vs* 5 TCLs; IA *vs* anti-inflam.

527 Cnidaria *Sinularia densa* // Xisha island // Sinudenoids A–E, C19-norcembranoid diterpenes with unusual scaffolds from the soft coral *Sinularia densa*
1345 // N // sinudenoid A // IA *vs* anti-inflam.; XRD.
1346 // N // sinudenoid B // IA *vs* anti-inflam.; XRD.
1347 // N // sinudenoid C // IA *vs* anti-inflam.; XRD.
1348 // N // sinudenoid D // IA *vs* anti-inflam.
1349 // N // sinudenoid E // IA *vs* anti-inflam.; XRD.

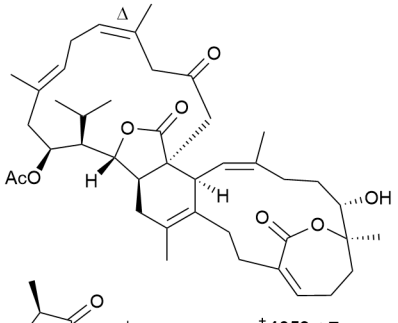
528 Cnidaria *Sinularia scabra* // Xisha Islands, Hainan, China // Sinuscalide A: an antiviral norcembranoid with an 8/8-fused carbon scaffold from the South China Sea soft coral *Sinularia scabra*
1350 // N // sinuscalide A // weak activ. *vs* 1 virus strain; weak inhib. osteoclastogenesis; IA *vs* 2 TCLs; XRD
1351 // N // sinuscalide B // weak inhib. osteoclastogenesis; IA *vs* 2 TCLs; XRD.
1352 // N // sinuscalide C // weak inhib. osteoclastogenesis; IA *vs* 2 TCLs; XRD.
1353 // N // sinuscalide D // weak inhib. osteoclastogenesis; IA *vs* 2 TCLs; XRD.
1354 // N // sinuscatone A // weak inhib. osteoclastogenesis; IA *vs* 2 TCLs; XRD.



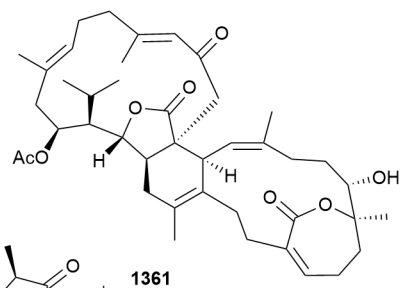
†1355



1356 R = Ac, X = H, ···OH
1357 R = Ac, X = O
1358 R = H, X = O



†1359 Δ*Z*
1360 Δ*E*



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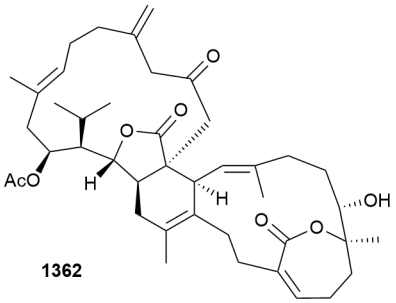

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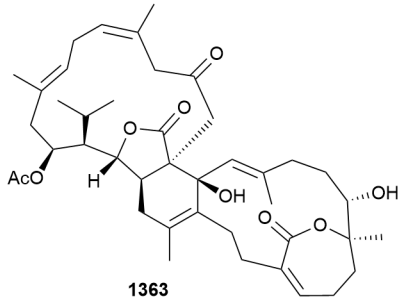

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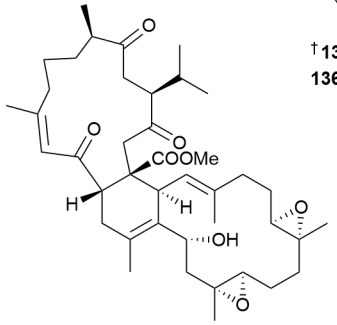

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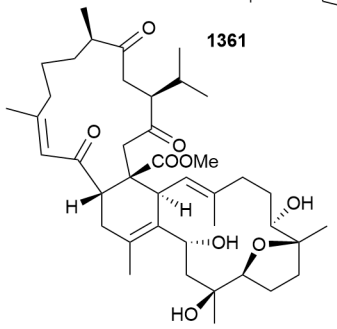

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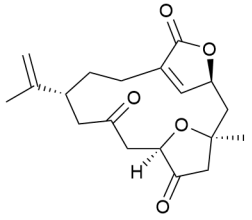


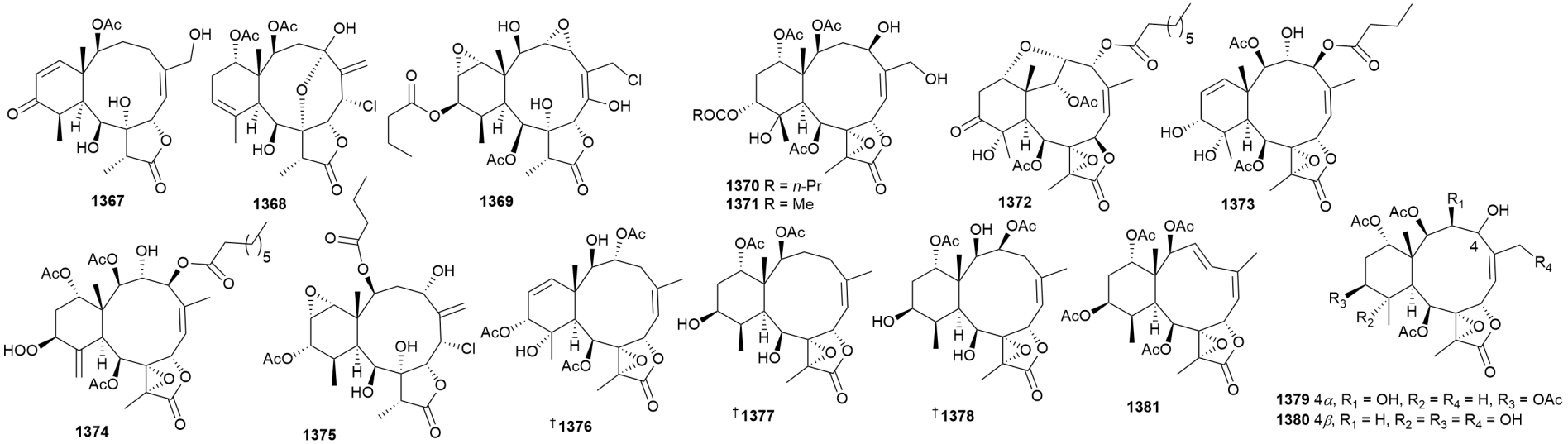
†1366

529 Cnidaria *Sarcophyton cinereum* // Xiaoliuqiu island, Taiwan // An unprecedented cembranoid with a novel tricyclo[9.3.0.02,12]tetradecane skeleton and related diterpenes from the soft coral *Sarcophyton cinereum*
1355 // N // cinerelolide // IA *vs* anti-inflam.
1356 // N // 11-deoxo-11α-hydroxysarsolenone // IA to weak cytotox. *vs* 2 TCLs; IA *vs* anti-inflam.
1357 // R // sarsolenone // IA *vs* anti-inflam.; IA *vs* 2 TCLs.
1358 // R // 7-deacetylsarsolenone // IA *vs* anti-inflam.; IA *vs* 2 TCLs.

530 Cnidaria *Sarcophyton serenei* // Xisha Island, China // Bistrochelides H–L: biscembranoids from the South China Sea soft coral *Sarcophyton serenei*
1359 // N // bistrochelide H // mod. inhib. osteoclastogenesis at 10 μM; XRD.
1360 // N // bistrochelide I // IA *vs* osteoclastogenesis.
1361 // N // bistrochelide J // mod. inhib. osteoclastogenesis at 10 μM.
1362 // N // bistrochelide K // IA *vs* osteoclastogenesis.
1363 // N // bistrochelide L // IA *vs* osteoclastogenesis.

531 Cnidaria *Sarcophyton trocheliophorum* // Pingtung, Taiwan // MS/MS molecular networking unveils the chemical diversity of biscembranoid derivatives, neutrophilic inflammatory mediators from the cultured soft coral *Sarcophyton trocheliophorum*
1364 // N // sarcotrochelide A // IA *vs* anti-inflam.
1365 // N // sarcotrochelide B // IA *vs* anti-inflam.

534 * // * // Total synthesis of scabrolide F
1366 // R // scabrolide F // Abs. config. by synth.

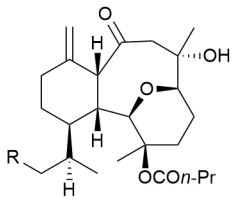


540 Cnidaria *Briareum stechei* // // Briarane-type diterpenoids from the cultured octocoral *Briareum stechei* (Kükenthal, 1908)
1367 // N // briastecholide D // IA *vs* anti-inflam.
1368 // N // briastecholide E // IA *vs* anti-inflam.
1369 // N // briastecholide F // IA *vs* anti-inflam.
1377 // R // excavatolide E // IA *vs* anti-inflam.; XRD.

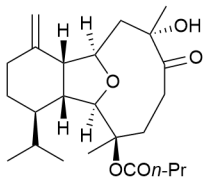
541 Cnidaria *Briareum stechei* // Haikou, Pingtung County, Taiwan // New 8,17-epoxybriaranes from octocoral *Briareum stechei* (Kükenthal, 1908)
1370 // N // briastecholide K // IA *vs* 2 HTCLs.
1371 // N // briastecholide L // IA *vs* 2 HTCLs.
1378 // R // excavatolide M // IA *vs* 2 HTCLs; XRD

542 Cnidaria *Briareum stechei* // Ie Island, Okinawa, Japan // Briastecholides G–J, new polyoxygenated briaranes from the octocoral *Briareum stechei*
1372 // N // briastecholide G // NT.
1373 // N // briastecholide H // weak anti-inflam. activ.
1374 // N // briastecholide I // NT.
1375 // N // briastecholide J // NT.
1376 // R // brianodin A // weak anti-inflam. activ.; XRD.

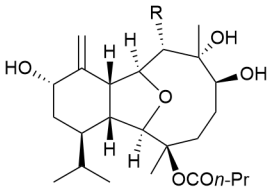
543 Cnidaria *Briareum violaceum* // // Briavioids A–C, discovery of new polyacetoxybriaranes from octocoral *Briareum violaceum* (Quoy & Gaimard, 1833)
1379 // N // briavioid A // IA *vs* anti-inflam.; XRD.
1380 // N // briavioid B // IA *vs* anti-inflam.
1381 // N // briavioid C // IA *vs* anti-inflam.



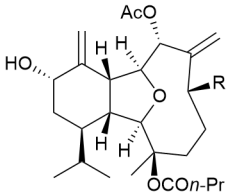
1382 R = H
1386 R = OCO*n*-pr



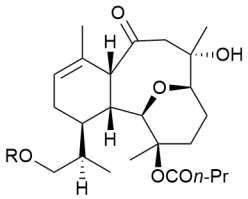
1383



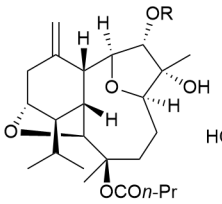
1384 R = OAc
1385 R = H



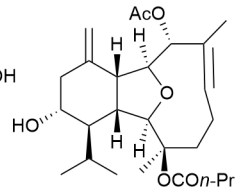
1387 R = OH
1388 R = OOH



†**1389** R = H
†**1390** R = CO*n*-Pr



†**1391** R = Ac
1392 R = CO*n*-Pr
1393 R = H



†**1394**

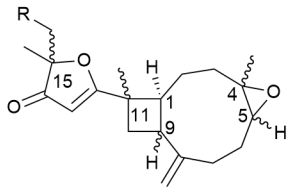
545 Cnidaria *Cladiella conifera* // Penghu Archipelago, Taiwan // Coniferains A and B, new eunicellin-based diterpenoids from the octocoral *Cladiella conifera* (Tixier-Durivault, 1943)
1382 // N // coniferain A // IA *vs* 2 HTCLs.
1383 // N // coniferain B // IA *vs* 2 HTCLs.
1386 // R // australin F // NT.

546 Cnidaria *Cladiella conifera* // Penghu Archipelago, Taiwan // Coniferains C and D, new eunicellin-based diterpenoids from *Cladiella conifera*
1384 // N // coniferain C // IA *vs* HT-29; promoted cell growth of DLD-1 cells *in vitro*.
1385 // N // coniferain D // IA *vs* HT-29; promoted cell growth of DLD-1 cells *in vitro*.

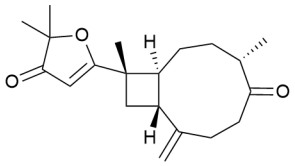
547 Cnidaria *Cladiella krempfi* // Ximao Island, Hainan Province, China // New cladiellin-type diterpenoids from the South China Sea soft coral *Cladiella krempfi*: structures and molecular docking analysis in EGFRs
1387 // N // litophynol C // IA *vs* A549; IA inhib. EGFR; XRD.
1388 // N // litophynol D // IA *vs* A549; IA inhib. EGFR; chemical conversion to litophynol C.

548 Cnidaria *Cladiella krempfi* // Ximao Island, Sanya Bay, Hainan province, China // Uncommon eunicellin-based diterpenoid and 9, 11-secosteroid from the Sanya soft coral *Cladiella krempfi*: Structure and stereochemistry
1389 // N // clakrefielin A // IA *vs* range of undisclosed bioassays.
1390 // R // australin E // XRD.
1404 // N // cladiellasterol A // IA *vs* range of undisclosed bioassays.

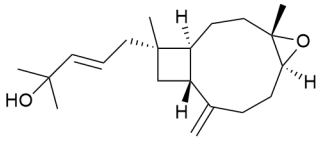
549 Cnidaria *Sinularia ornata* // Ximao Island, Hainan Province, China // Ximaoornatins A–C, polyoxygenated diterpenoids from the Hainan soft coral *Sinularia ornata*
1391 // N // ximaoornatin A // IA *vs* anti-inflam.; IA inhib. PTP1B; XRD.
1392 // N // ximaoornatin B // IA *vs* anti-inflam.; IA inhib. PTP1B; XRD.
1393 // N // ximaoornatin C // IA *vs* anti-inflam.; IA inhib. PTP1B; XRD.
1394 // N // litophynin K // IA *vs* anti-inflam.; IA inhib. PTP1B; XRD.



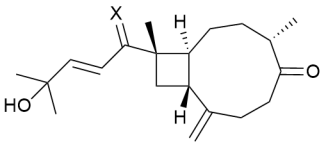
†**1395** R = H, 1*S*, 4*S*, 5*S*, 9*R*, 11*S*
†**1397** R = OH, 1*R*, 4*R*, 5*R*, 9*S*, 11*R*, *15R*



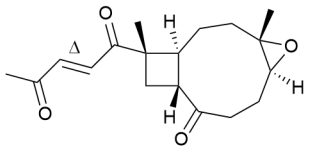
†**1396**



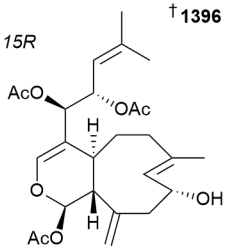
†**1398**



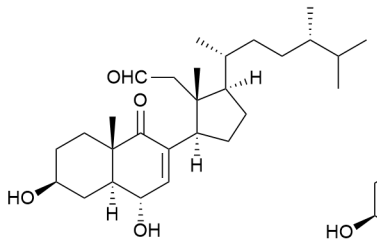
†**1399** X = H, H
†**1400** X = O



†**1401** Δ saturated
†**1402**



†**1403**



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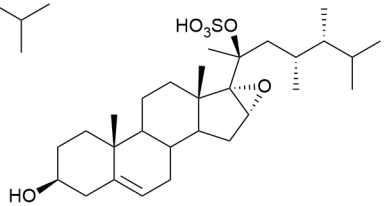

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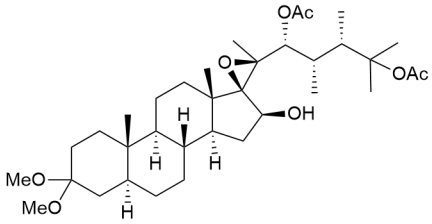
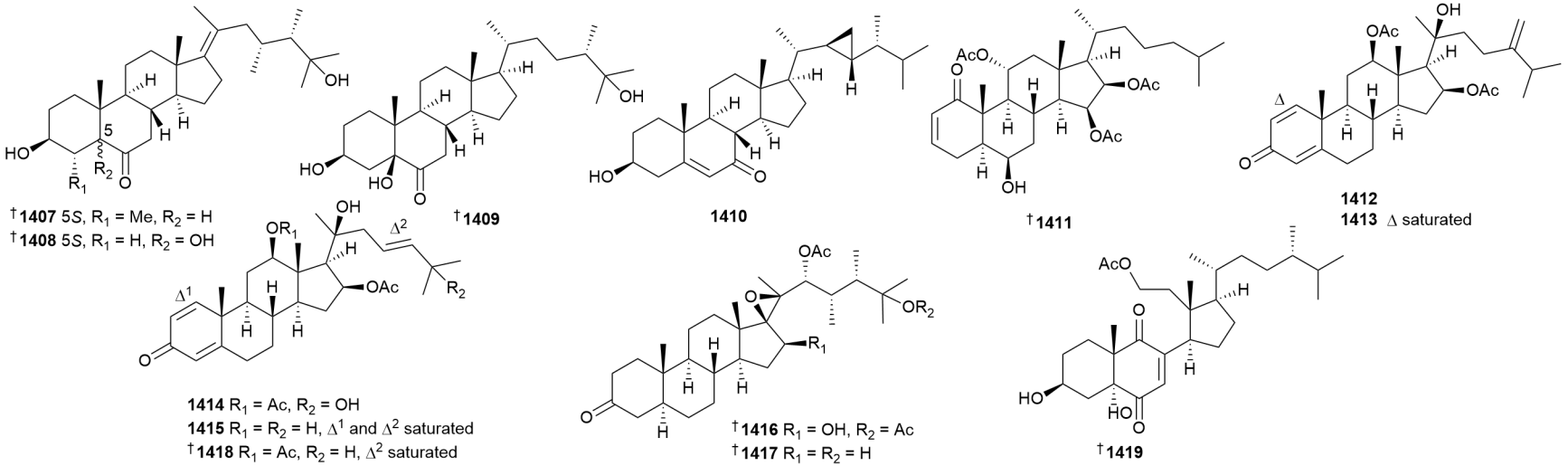


†**1406**

494 Cnidaria *Sinularia hirta* // Yalong bay, Sanya, China // Sinuhirtone A, an uncommon 17,19-dinorxeniaphyllanoid, and nine related new terpenoids from the Hainan soft coral *Sinularia hirta*
1395 // N // sinuhirfuranone A // NT.
1396 // N // sinuhirfuranone B // IA *vs* 4 HTCLs.
1397 // N // sinuhirfuranone C // IA *vs* 4 HTCLs.
1398 // N // sinuhirtin C // IA *vs* 4 HTCLs.
1399 // N // sinuhirtin D // NT.
1400 // N // sinuhirtin E // NT.
1401 // N // sinuhirtone A // IA *vs* 4 HTCLs.
1402 // N // sinuhirtone B // IA *vs* 4 HTCLs.

550 * // * // 13-Epi-9-deacetylxenicin derivatives from a Taiwanese soft coral *Asterospicularia laurae* and their cytotoxic activity
1403 // R // 13-*epi*-9-deacetylxenicin // IA to weak cytotox. *vs* 4 HTCLs.

553 Cnidaria *Sinularia variabilis* // Larak, the Persian Gulf, Iran // Novel 16,17-epoxy-23-methylergostane derivative from *Sinularia variabilis*, a soft coral from the Persian Gulf, with apoptotic activities against breast cancer cell lines
1405 // N // 16α,17α-epoxy-sinusta-5-en-3β–ol-20β-yl sulfate // IA *vs* 2 HTCLs.



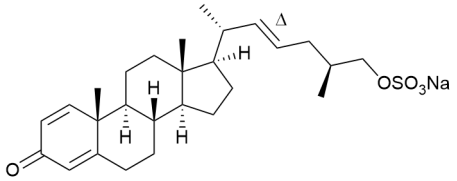
554 Cnidaria *Isis hippuris* // Orchid Island (Lanyu) // 17,20-Epoxysteroids from octocoral *Isis hippuris* (Linnaeus, 1758)
1406 // N // hippuristeroketal B // IA *vs* 2 HTCLs; XRD
1416 // R // hippuristerone A // XRD.
1417 // R // hippuristerone I // XRD.

555 Cnidaria *Lobophytum pauciflorum* // Yongle Islands, Xisha Islands, Hainan, China // Four bioactive new steroids from the soft coral *Lobophytum pauciflorum* collected in South China Sea
1407 // N // lobophysterol E // IA *vs* 3 HTCLs; IA *vs* anti-inflam.; XRD.
1408 // N // lobophysterol F // IA *vs* 3 HTCLs; IA *vs* anti-inflam.; XRD.
1409 // N // lobophysterol G // IA *vs* 3 HTCLs; IA *vs* anti-inflam.; XRD.
1410 // N // lobophysterol H // IA *vs* 3 HTCLs; IA *vs* anti-inflam.

491 Cnidaria *Alcyonium* sp // Antarctica // Chemistry and bioactivity of the deep-water Antarctic octocoral *Alcyonium* sp.
1411 // N // alcyosterone // weak activ. *vs L. donovani; XRD.*

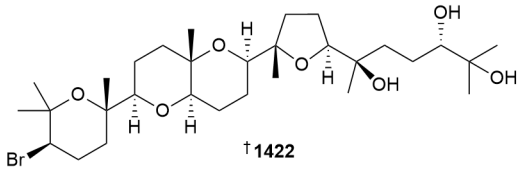
556 Cnidaria *Dendronephthya* sp // Yushan Islands, Zhejiang province, Eastern China // Dendronecholones A-D, new anti-*Vibrio* steroids isolated from East China Sea *Dendronephthya* soft coral
1412 // N // dendronecholone A // IA *vs* 3 *Vibrio* sp.
1413 // N // dendronecholone B // IA to weak *vs* 3 *Vibrio* sp.
1414 // N // dendronecholone C // IA to weak *vs* 3 *Vibrio* sp.
1415 // N // dendronecholone D // IA *vs* 3 *Vibrio* sp.
1418 // R // nanjiol A // Weak *vs* 3 *Vibrio* sp; XRD.

455 * // * // Synthesis of 9,11-secosteroids pinnisterol E, glaciasterol B, and 6-keto-aplidiasterol B
1419 // R // pinnisterol E // Abs. config. by synth.; XRD.

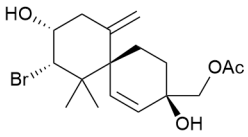


1420 Δ saturated
1421

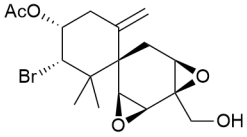
560 Bryozoa *Calyptotheca* sp // Seragaki, Okinawa, Japan // Two new steroid sulfates from a cheilostome bryozoan, *Calyptotheca* sp.
1420 // N // $C_{27}H_{41}NaO_5S$ // IA *vs* 1 HTCL.
1421 // N // $C_{27}H_{39}NaO_5S$ // IA *vs* 1 HTCL.



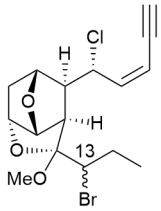
†**1422**



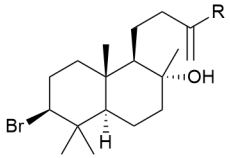
†**1423**



†**1424**



1425 13*R*
1426 13*S*



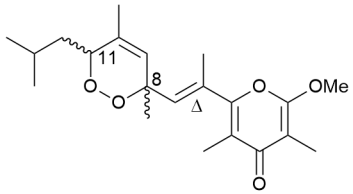
†**1427** R = CHO
†**1428** R = $COCH_2OH$

359 * // * // Asymmetric total syntheses, stereostructures, and cytotoxicities of marine bromotriterpenoids aplysiol B (laurenmariannol) and saiyacenol A
1422 // R // aplysiol B, laurenmariannol // pot. cytotox. *vs* 1 murine CL; IA *vs* 2 HTCL; revised by total synth.; AC assigned;

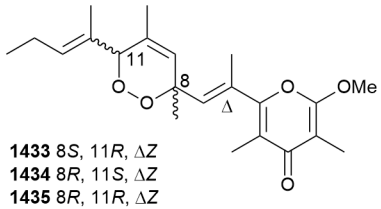
564 Mollusca *Aplysia dactylomela* // Nhat Le, Quang Binh province, Vietnam // Structure elucidation of new brominated sesquiterpenes from the sea hare *Aplysia dactylomela* by experimental and DFT computational methods
1423 // N // dactylomelanin A // IA *vs* 3 HTCLs.
1424 // N // dactylomelanin B // IA *vs* 3 HTCLs.

565 Mollusca Aplysia dactylomela // Awase, Okinawa, Japan // New halogenated C_{15} acetogenins from Okinawan sea hare *Aplysia dactylomela*
1425 // N // (*Z*)-5-(1-bromopropyl)-7-(1-chloropent-2-en-4-yn-1-yl)-5-methoxyhexahydro-2,6- methanofuro [3,2-b]furan // IA *vs* 1 HTCL.
1426 // N // (*Z*)-5-(1-bromopropyl)-7-(1-chloropent-2-en-4-yn-1-yl)-5-methoxyhexahydro-2,6- methanofuro [3,2-b]furan // IA *vs* 1 HTCL.

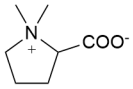
566 Mollusca *Aplysia kurodai* // Shima peninsula, Mie Prefecture, Japan // Isolation and synthesis of azuriaplysins A and B, bromoditerpenes with an α-methylene carbonyl from the sea hare *Aplysia kurodai*
1427 // N // azuriaplysin A // weak cytotox. *vs* 1 HTCL; abs. config. by synth.
1428 // N // azuriaplysin B // IA *vs* 1 HTCL; abs. config. by synth.



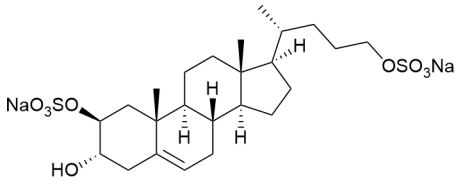
1429 8*R*, 11*R*, Δ*E*
1430 8*S*, 11*S*, Δ*E*
1431 8*R*, 11*R*, Δ*Z*
1432 8*S*, 11*S*, Δ*Z*



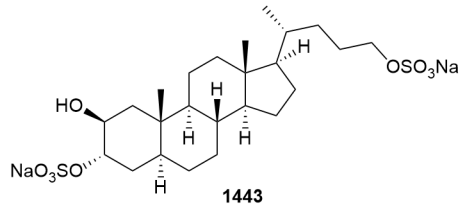
1433 8*S*, 11*R*, Δ*Z*
1434 8*R*, 11*S*, Δ*Z*
1435 8*R*, 11*R*, Δ*Z*
1436 8*S*, 11*S*, Δ*Z*
1437 8*S*, 11*R*, Δ*E*
1438 8*R*, 11*S*, Δ*E*
1439 8*R*, 11*R*, Δ*E*
1440 8*S*, 11*S*, Δ*E*



1441



1442

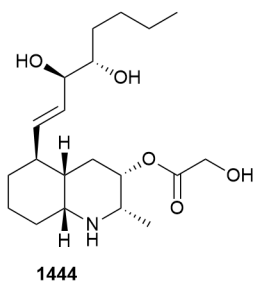


1443

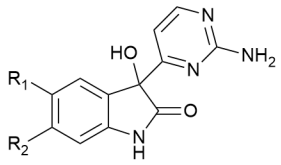
567 Mollusca *Placobranchus ocellatus* // Ximao Island, Hainan Province, China // Ocellatuperoxides A–F, uncommon anti-tumoral γ-pyrone peroxides from a photosynthetic mollusk *Placobranchus ocellatus*
1429 // N // (+)-ocellatuperoxide A // NT; XRD of rac.
1430 // N // (–)-ocellatuperoxide A // NT; XRD of rac.
1431 // N // (+)-ocellatuperoxide B // NT.
1432 // N // (–)-ocellatuperoxide B // NT.
1433 // N // (+)-ocellatuperoxide C // weak cytotox. *vs* 1 HTCL.
1434 // N // (–)-ocellatuperoxide C // IA *vs* 1 HTCL.
1435 // N // (+)-ocellatuperoxide D // IA *vs* 3 HTCLs; rac.
1436 // N // (–)-ocellatuperoxide D // IA *vs* 3 HTCLs; rac.
1437 // N // (+)-ocellatuperoxide E // IA *vs* 3 HTCLs; rac.
1438 // N // (–)-ocellatuperoxide E // IA *vs* 3 HTCLs; rac.
1439 // N // (+)-ocellatuperoxide F // IA *vs* 3 HTCLs; rac.
1440 // N // (–)-ocellatuperoxide F // IA *vs* 3 HTCLs; rac.

568 Mollusca *Elysia crispata* // Morrocoy National Park, Falcon State, Venezuela // Reassignment of crispatene, isolation and chemical characterization of stachydrine, isolated from the marine mollusk *Elysia crispata*
1441 // M // stachydrine // NT.

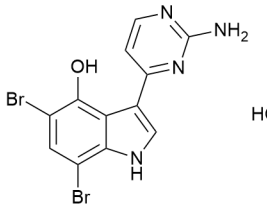
569 Mollusca *Lambis lambis* // Truong Sa archipelago, Vietnam // Two new sterol sulfates from marine spider conch *Lambis lambis* Linnaeus, 1758
1442 // N // 25,26,27-tri-nor-cholest-5-ene-2β,3α,24-triol-2,24-disulfate // NT.
1443 // N // 25,26,27-tri-nor-cholesta-2β,3α,24-triol-3,24-disulfate // NT.



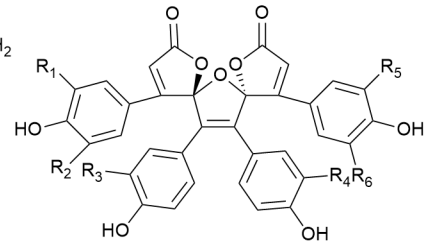
1444



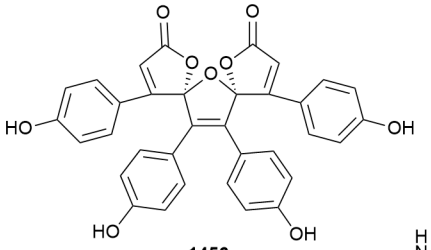
1445 $R_1 = R_2 = H$
1446 $R_1 = Br, R_2 = H$
1447 $R_1 = H, R_2 = Br$
1448 $R_1 = R_2 = Br$



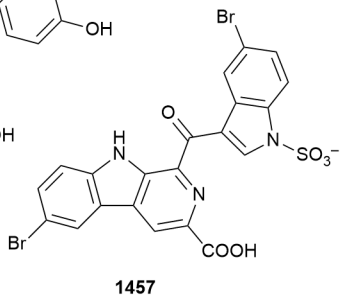
1449



1450 $R_1 = Br, R_2 = R_3 = R_4 = R_5 = R_6 = H$
1451 $R_1 = R_2 = R_4 = R_5 = R_6 = H, R_3 = Br$
1452 $R_1 = R_2 = R_4 = Br, R_3 = R_5 = R_6 = H$
1453 $R_1 = R_2 = R_3 = R_5 = R_6 = Br, R_4 = H$
1454 $R_1 = R_3 = R_4 = R_5 = Br, R_2 = R_6 = H$
1455 $R_1 = R_5 = Br, R_2 = R_3 = R_4 = R_6 = H$



1456

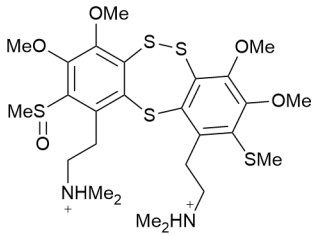


1457

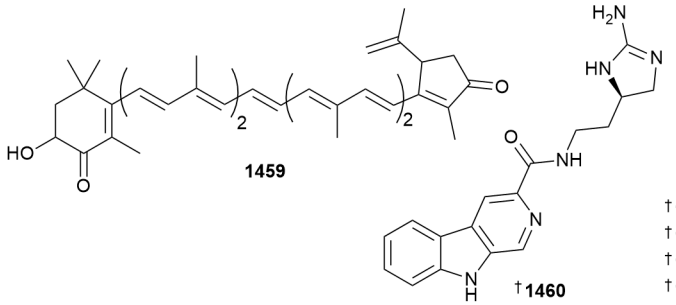
585 Chordata *Clavelina lepadiformis* // Pozzuoli, Napoli, Italy // Insights into cytotoxic behavior of lepadins and structure elucidation of the new alkaloid lepadin L from the Mediterranean ascidian *Clavelina lepadiformis*
1444 // N // lepadin L // IA *vs* 5 TCLs.

586 Chordata *Synoicum* sp // Shag Rocks and South Georgia, Antartica // Australindolones, new aminopyrimidine substituted indolone alkaloids from an Antarctic tunicate *Synoicum* sp.
1445 // N // australindolone A // weak activ. in zebrafish embryo development assay.
1446 // N // australindolone B // weak activ. in zebrafish embryo development assay; XRD.
1447 // N // australindolone C // weak activ. in zebrafish embryo development assay.
1448 // N // australindolone D // weak activ. in zebrafish embryo development assay.
1449 // N // meridianin H // Active in zebrafish embryo development assay.

587 Chordata *Synoicum prunum* // Boat Rock, North Stradbroke Island, Queensland, Australia // α-Synuclein aggregation inhibitory prunolides and a dibrominated β-carboline sulfamate from the ascidian *Synoicum prunum*
1450 // N // prunolide D // α-synuclein aggregating properties; IA *vs* MRSA and MSSA; rac.
1451 // N // prunolide E // α-synuclein aggregating properties; IA *vs* MRSA and MSSA; rac.
1452 // N // prunolide F // IA *vs* MRSA and MSSA; rac.;
1453 // N // prunolide G // IA *vs* MRSA and MSSA; rac.;
1454 // N // prunolide H // NT; rac.;
1455 // N // prunolide I // NT; unstable; rac..
1456 // N // *cis*-prunolide C // α-synuclein aggregating properties; IA vs MRSA and MSSA; rac.;
1457 // N // pityriacitrin C // IA *vs P. falciparum*; IA *vs* HEK293 cells.

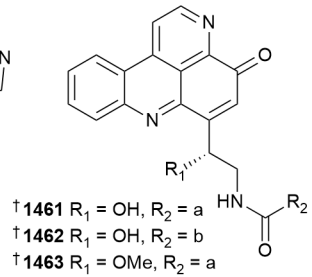


1458

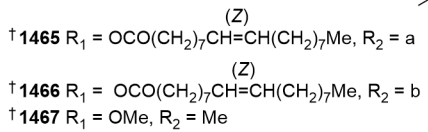


1459

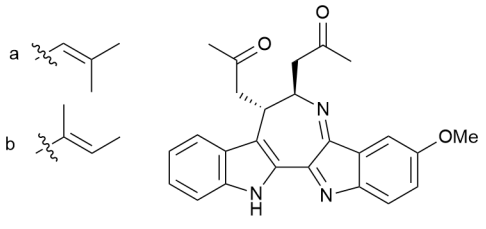
†1460



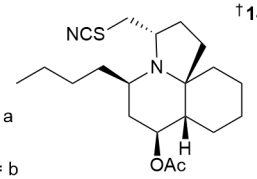
†1461 R_1 = OH, R_2 = a
†1462 R_1 = OH, R_2 = b
†1463 R_1 = OMe, R_2 = a
†1464 R_1 = OMe, R_2 = b



†1465 R_1 = $OCO(CH_2)_7CH{=}CH(CH_2)_7Me$ (Z), R_2 = a
†1466 R_1 = $OCO(CH_2)_7CH{=}CH(CH_2)_7Me$ (Z), R_2 = b
†1467 R_1 = OMe, R_2 = Me



†1469



†1468

384 Chordata *Lissoclinum* sp, Porifera *Callyspongia samarensis* // Siquijor, south western Phillipines // Screening of diverse marine invertebrate extracts identified lissoclinotoxin F, discodermin B, and other anti-*Mycobacterium tuberculosis* active compounds
1458 // N // lissoclinotoxin F sulfoxide // weak activ. *vs* 2 bact. strains; weak cytotox. *vs* 1 nMCL.

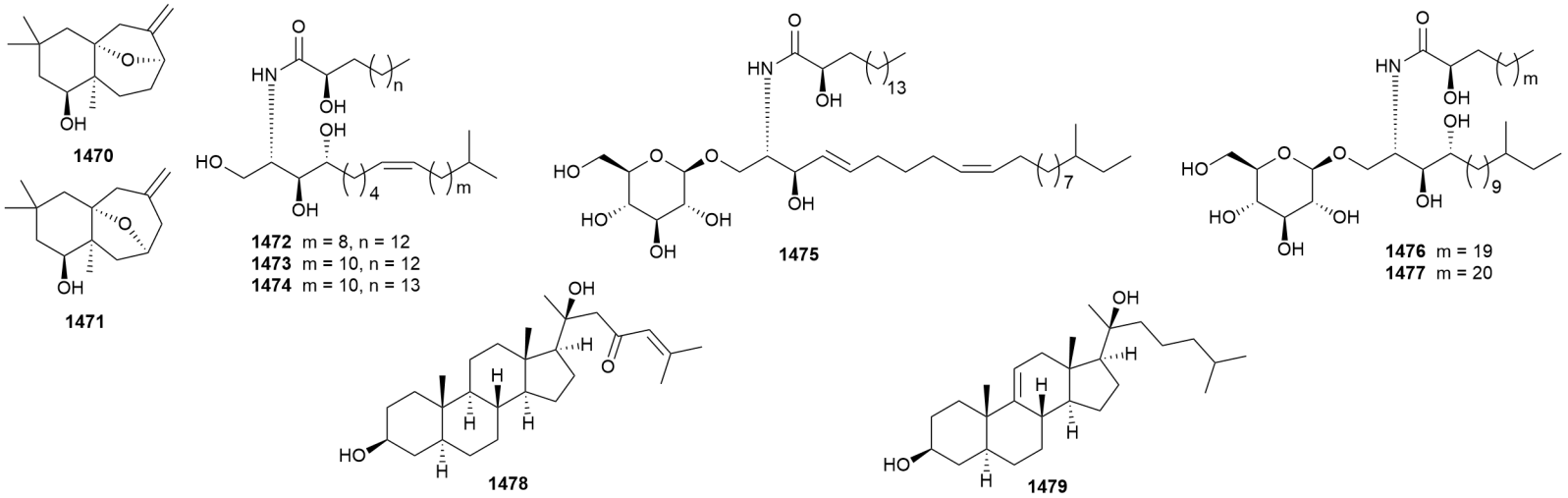
588 Chordata *Halocynthia roretzi* // // A novel carotenoid with a unique 2,6-cyclo-ψ-end group, roretziaxanthin, from the sea squirt *Halocynthia roretzi*
1459 // N // roretziaxanthin // NT.

589 Chordata *Synoicum macroglossum* // // Synthesis of (+)-(R)-tiruchanduramine
1460 // R // (+)-(*R*)-tiruchanduramine // Abs. config. by synth.

590 * // * // Total synthesis of marine alkaloids cystodytins A-K
1461 // R // cystodytin D // Abs. config. by synth.
1462 // R // cystodytin E // Abs. config. by synth.
1463 // R // cystodytin F // Abs. config. by synth.
1464 // R // cystodytin G // Abs. config. by synth.
1465 // R // cystodytin H // Abs. config. by synth.
1466 // R // cystodytin I // Abs. config. by synth.
1467 // R // cystodytin K // Abs. config. by synth.

591 * // * // Total synthesis of (-)-cylindricine H
1468 // R // (–)-cylindricine H // Abs. config. by synth.

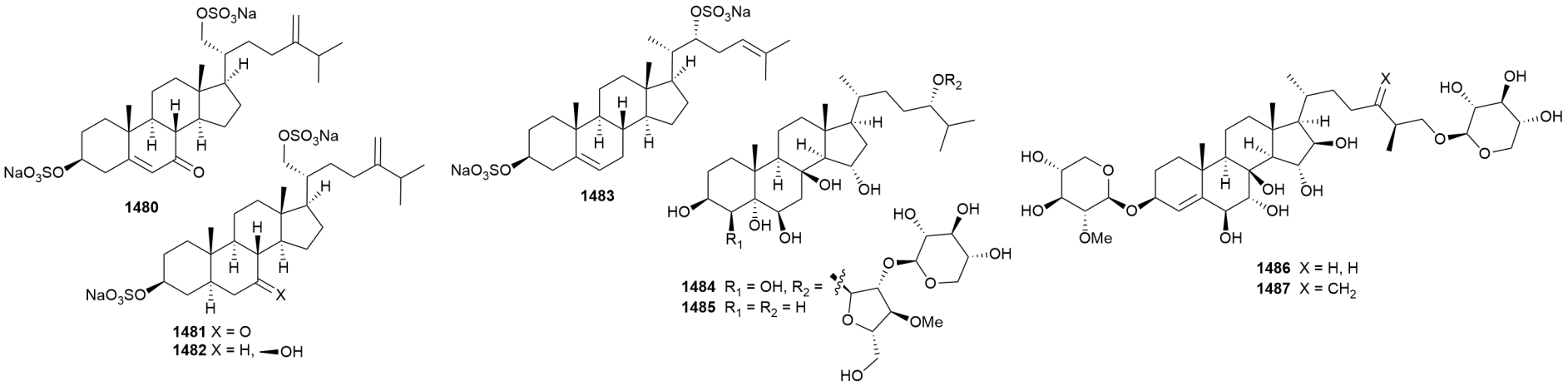
592 * // * // Asymmetric total synthesis of iheyamine B
1469 // R // iheyamine B // Abs. config. by synth.



599 Echinodermata *Ophiocoma dentata* // Hurghada, Egypt // Cytotoxic and antimicrobial activities of two new sesquiterpenoids from red sea brittle star *Ophiocoma dentata*
1470 // N // *O*8-ophiocomane // IA *vs* 1 HTCL; IA *vs* 6 bact. strains; IA *vs* 1 fungal strain.
1471 // N // *O*7-ophiocomane // IA *vs* 1 HTCL; IA *vs* 6 bact. strains; IA *vs* 1 fungal strain.

600 Echinodermata *Ceramaster patagonicus* // Iturup Island, Kuril Islands // New ceramides and cerebrosides from the deep-sea Far Eastern starfish *Ceramaster patagonicus*
1472 // N // (2*S*,3*S*,4*R*,9*Z*)-2-[(2*R*)-2-hydroxyhexadecanoylamino]-19-methyl-9-icosen-1,3,4-triol // IA *vs* 4 HTCLs; IA *vs* 1 HTCL colony formn.
1473 // N // (2*S*,3*S*,4*R*,9*Z*)-2-[(2*R*)-2-hydroxyhexadecanoylamino]-21-methyl-9-docosen-1,3,4-triol // IA *vs* 4 HTCLs; IA *vs* 1 HTCL colony formn.
1474 // N // (2*S*,3*S*,4*R*,9*Z*)-2-[(2*R*)-2-hydroxyheptadecanoylamino]-21-methyl-9-docosen-1,3,4-triol // IA *vs* 4 HTCLs; IA *vs* 1 HTCL colony formn.
1475 // N // (2*S*,3*R*,4*E*,9*Z*)-1-*O*-(β-D-glucopyranosyl)-2-[(2*R*)-2-hydroxyheptadecanoylamino]-19-methyl-4,9-henicosadien-3-ol // NT.
1476 // N // (2*S*,3*S*,4*R*)-1-*O*-(β-D-glucopyranosyl)-2-[(2*R*)-2-hydroxytricosanoylamino]-14-methylhexadecan-3,4-diol // NT.
1477 // N // (2*S*,3*S*,4*R*)-1-*O*-(β-D-glucopyranosyl)-2-[(2*R*)-2-hydroxytetracosanoylamino]-14-methylhexadecan-3,4-diol // IA *vs* 4 HTCLs; IA *vs* 1 HTCL colony formn.

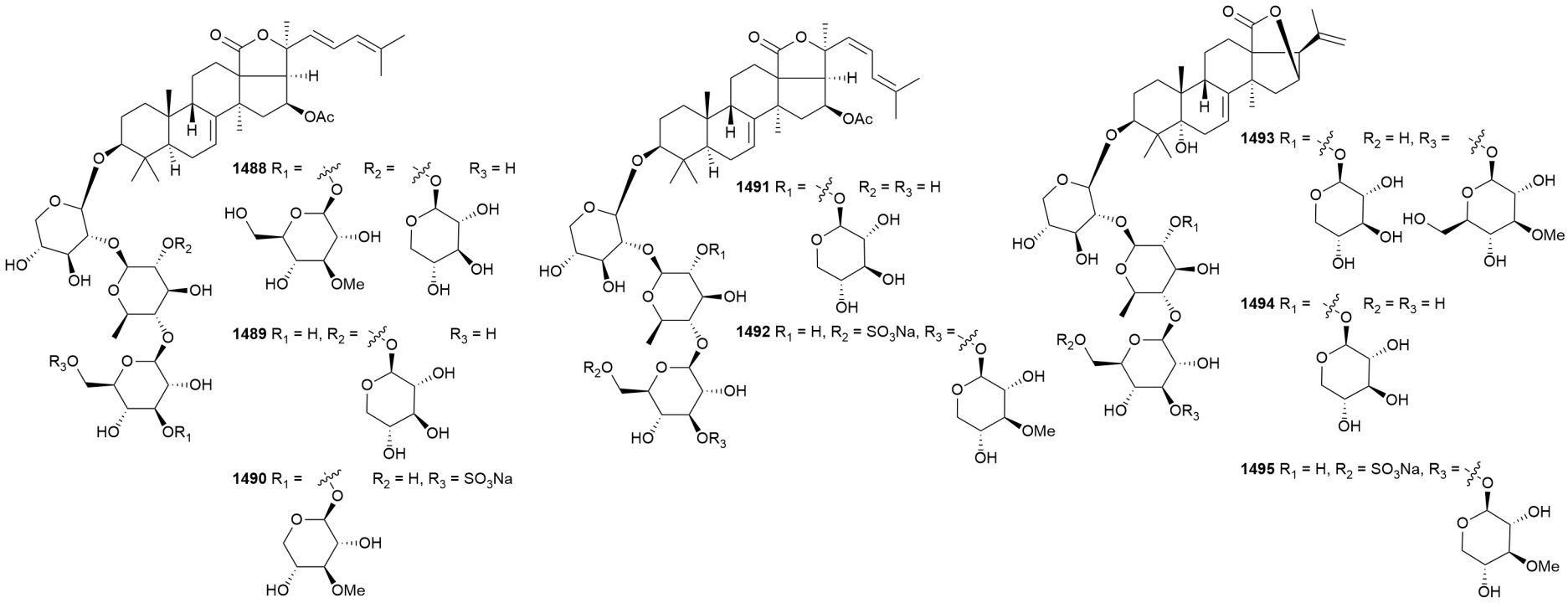
601 Echinodermata *Acanthaster planci* // Hurghada, Egypt // First report of steroid derivatives isolated from starfish *Acanthaster planci* with anti-bacterial, anti-cancer and anti-diabetic activities
1478 // N // 5α-cholesta-24-en-3β,20β-diol-23-one // Active *vs P. aeruginosa* at unspec. loading; IA *vs* 4 bact. strains; IA *vs* 1 fungal strain; IA *vs* 1 HTCL; IA *vs* α-glucosidase.
1479 // N // 5α-cholesta-9(11)-en-3β,20β-diol // IA *vs* 5 bact. strains; IA *vs* 1 fungal strain; IA *vs* 1 HTCL; IA *vs* α-glucosidase.



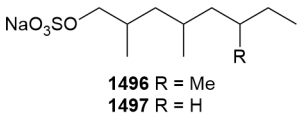
602 Echinodermata *Pteraster marsippus* // Urup Island, Sea of Okhotsk // Disulfated ophiuroid type steroids from the far eastern starfish *Pteraster marsippus* and their cytotoxic activity on the models of 2D and 3D cultures
1480 // N // (20*R*)-7-*oxo*-24-methylcholesta-5,24(28)-diene-3β,21-diyl disulfate disodium salt // IA *vs* 4 HTCLs; mixture with co-metabolite.
1481 // N // (20*R*)-7-*oxo*-24-methyl-5α-cholest-24(28)-ene-3β,21-diyl disulfate disodium salt // IA *vs* 4 HTCLs; mixture with co-metabolite.
1482 // N // (20*R*)-24-methyl-7β-hydroxy-5α-cholest-24(28)-ene-3β,21-diyl disulfate disodium salt // IA *vs* 4 HTCLs.
1483 // N // (20*S*)-cholesta-5,24-diene-3β,22-diyl disulfate disodium salt // IA *vs* 4 HTCLs.

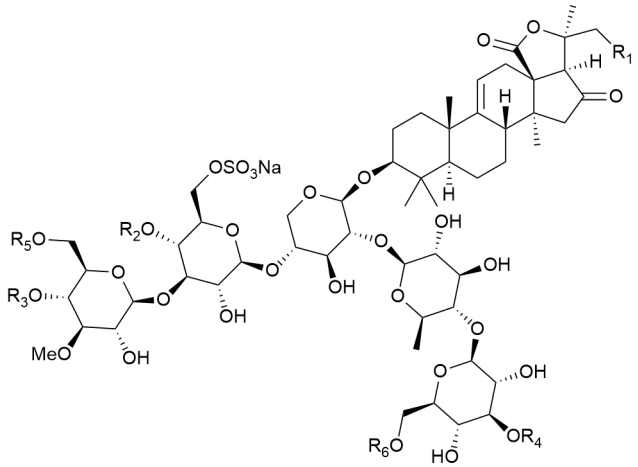
603 Echinodermata *Pentaceraster regulus* // Con Co Islands, Quang Tri, Vietnam // Polyhydroxylated steroid derivatives from the starfish *Pentaceraster regulus*
1484 // N // regulusoside D // weak inhib. NO prod.
1485 // N // (24*S*)-cholestane-3β,5,6β,8,15α,24-hexol // weak inhib. NO prod.

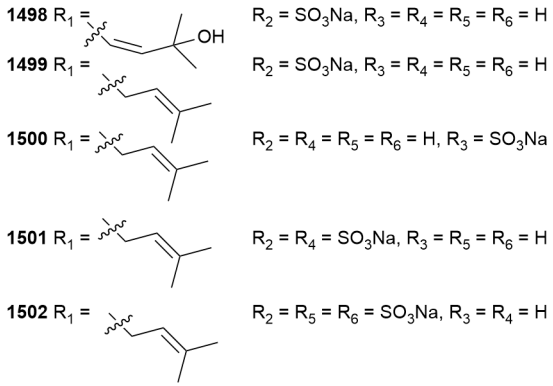
604 Echinodermata *Culcita novaeguineae* // Xisha Islands, Sansha, Hainan Province, China // Two new polyhydroxylated steroidal glycosides from the starfish *Culcita novaeguineae*
1486 // N // (25S)-3-*O*-(2-*O*-methyl-β-D-xylopyranosyl)-26-*O*-(β-D-xylopyranosyl)-cholest-4-ene-3β,6β,7α,8,15α,16β,26-heptaol // IA *vs* 3 HTCLs.
1487 // N // (25*S*)-3-*O*-(2-*O*-methyl-β-D-xylopyranosyl)-26-*O*-(β-D-xylopyranosyl)-cholest-4,24(28)-diene-3β,6β,7α,8,15α,16β,26-heptaol // IA *vs* 3 HTCLs.



605 Echinodermata *Solaster pacificus* // Iturup Island, Japan // In vitro anticancer and cancer-preventive activity of new triterpene glycosides from the Far Eastern starfish *Solaster pacificus*
1488 // N // pacificusoside D // IA to mod. cytotox. *vs* 1 nMCL and 3 HTCL; weak hemolytic; pot. inhib. neoplastic transformation.
1489 // N // pacificusoside E // IA *vs* 1 nMCL and 3 HTCLs; weak hemolytic; IA inhib. neoplastic transformation.
1490 // N // pacificusoside F // IA to mod. cytotox. *vs* 1 nMCL and 3 HTCL; mod. hemolytic; IA inhib. neoplastic transformation.
1491 // N // pacificusoside G // IA to weak cytotox. *vs* 1 nMCL and 3 HTCL; weak hemolytic; IA inhib. neoplastic transformation.
1492 // N // pacificusoside H // IA to mod. cytotox. *vs* 1 nMCL and 3 HTCL; weak hemolytic; IA to weak inhib. neoplastic transformation.
1493 // N // pacificusoside I // IA to weak cytotox. *vs* 1 nMCL and 3 HTCL; weak hemolytic; IA inhib. neoplastic transformation.
1494 // N // pacificusoside J // IA *vs* 1 nMCL and 3 HTCLs; weak hemolytic; IA inhib. neoplastic transformation.
1495 // N // pacificusoside K // IA to weak cytotox. *vs* 1 nMCL and 3 HTCL; weak hemolytic; IA inhib. neoplastic transformation.

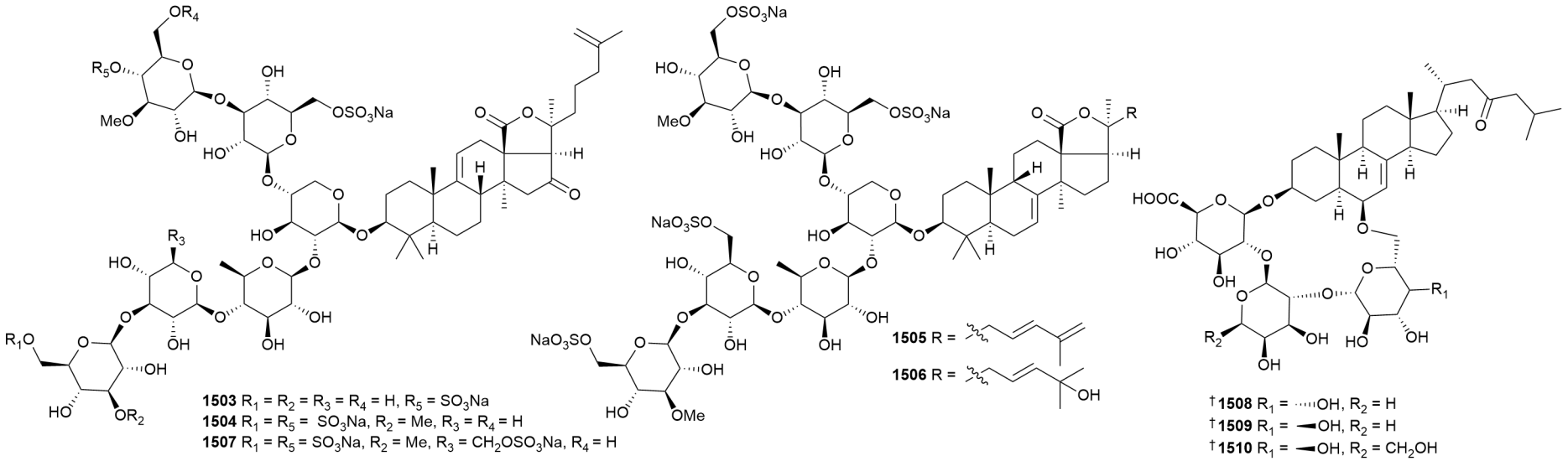






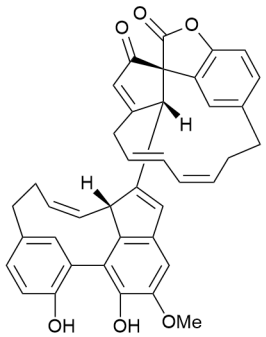
606 Echinodermata *Stichopus herrmanni* // Bai Giau island // Herrmananes A and B, two new sulfated hydrocarbons from the sea cumber *Stichopus herrmanni*
1496 // N // herrmanane A // IA *vs* 5 HTCLs.
1497 // N // herrmanane B // IA *vs* 5 HTCLs.

607 Echinodermata *Paracaudina chilensis* // Troitsa bay, Japan // The isolation, structure elucidation and bioactivity study of chilensosides A, A_1, B, C, and D, holostane triterpene di-, tri- and tetrasulfated pentaosides from the sea cucumber *Paracaudina chilensis* (Caudinidae, Molpadida)
1498 // N // chilensoside A // IA *vs* 5 HTCLs; weak hemolytic.
1499 // N // chilensoside A_1 // IA *vs* 5 HTCLs; weak hemolytic.
1500 // N // chilensoside B // IA to weak cytotox. *vs* 5 HTCL; mod. hemolytic.
1501 // N // chilensoside C // IA *vs* 5 HTCLs; weak hemolytic.
1502 // N // chilensoside D // IA *vs* 5 HTCLs; IA hemolytic.

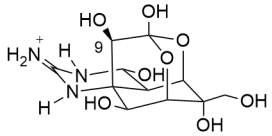


608 Echinodermata *Psolus chitonoides* // Bering Island, Russia // Structures and biologic activity of chitonoidosides I, J, K, K_1 and L-triterpene di-, tri- and tetrasulfated hexaosides from the sea cucumber *Psolus chitonoides*
1503 // N // chitonoidoside I // IA *vs* 3 HTCLs; weak hemolytic.
1504 // N // chitonoidoside J // IA *vs* 3 HTCLs; weak hemolytic.
1505 // N // chitonoidoside K // IA to weak cytotox. *vs* 3 HTCLs, mod. hemolytic.
1506 // N // chitonoidoside K_1 // IA *vs* 3 HTCLs; IA hemolytic.
1507 // N // chitonoidoside L // IA to weak cytotox. *vs* 3 HTCLs, mod. hemolytic.

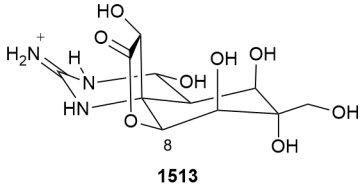
610 * // * // Total synthesis of starfish cyclic steroid glycosides
1508 // R // luzonicoside A // Abs. config. by synth.
1509 // R // luzonicoside D // Abs. config. by synth.
1510 // R // sepositoside A // Abs. config. by synth.



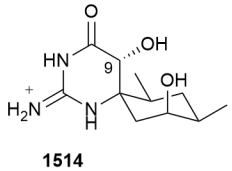
†**1511**



1512



1513



1514

625 Tracheophyta *Zostera marina* // Olympiazentrum Schilksee, Kiel, Schleswig-Holstein, Germany // A cytotoxic heterodimeric cyclic diarylheptanoid with a rearranged benzene ring from the seagrass *Zostera marina*
1511 // N // zosterabisphenone C // weak cytotox. *vs* 1 HTCL.

626 Chordata *Takifugu flavipterus*, Chordata *Dichotomyctere ocellatus* // Shimonoseki, Japan // Isolation and biological activity of 9-epitetrodotoxin and isolation of Tb-242B, possible biosynthetic shunt products of tetrodotoxin from pufferfish
1512 // N // 9-*epi*-tetrodotoxin-hemilactal // IA by mouse i.p. injection.
1513 // N // 9-*epi*-tetrodotoxin-10,8-lactone // IA by mouse i.p. injection.
1514 // N // Tb-242B // NT.

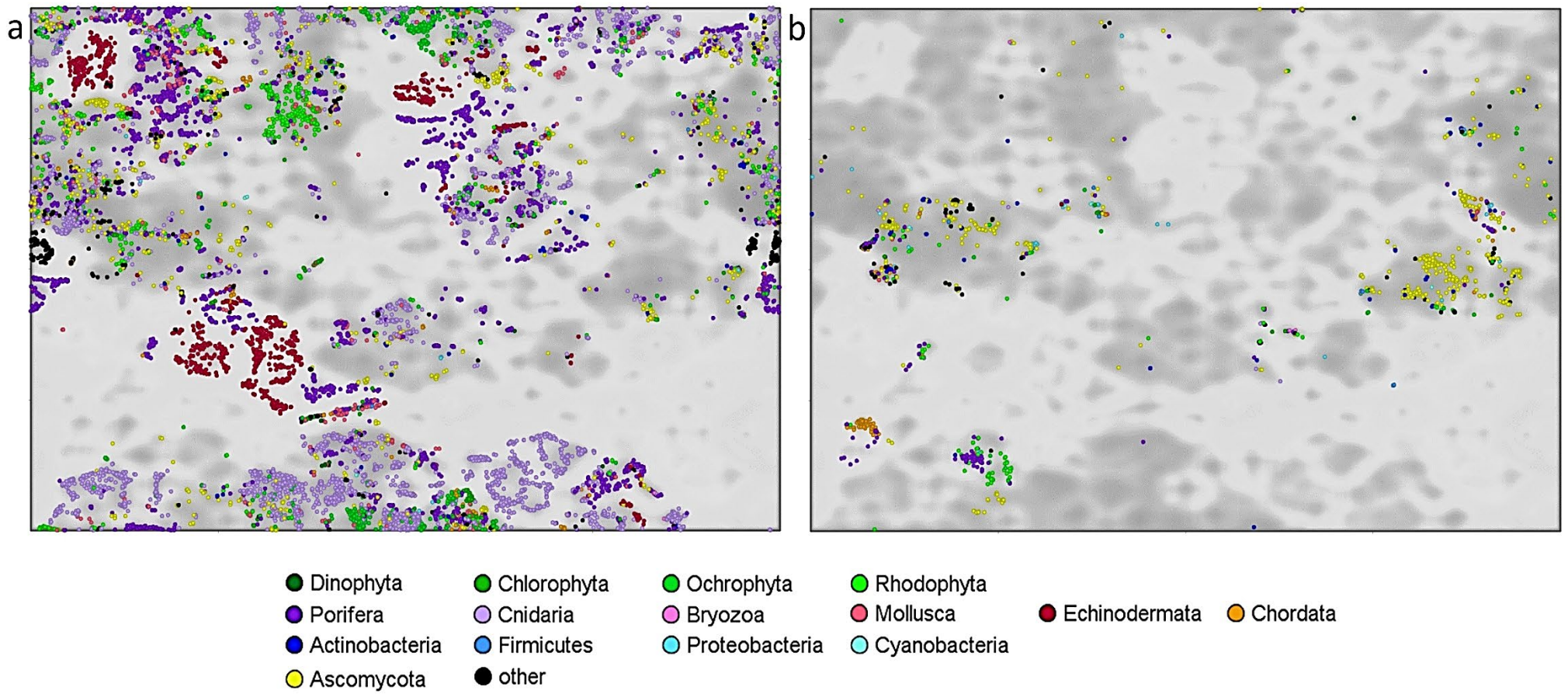


Figure S1: Chemical diversity comparison of MNPs isolated from major marine phyla categorised by structure class (**a**) terpenes, (**b**) shikimates using a 200 x 200 SOM

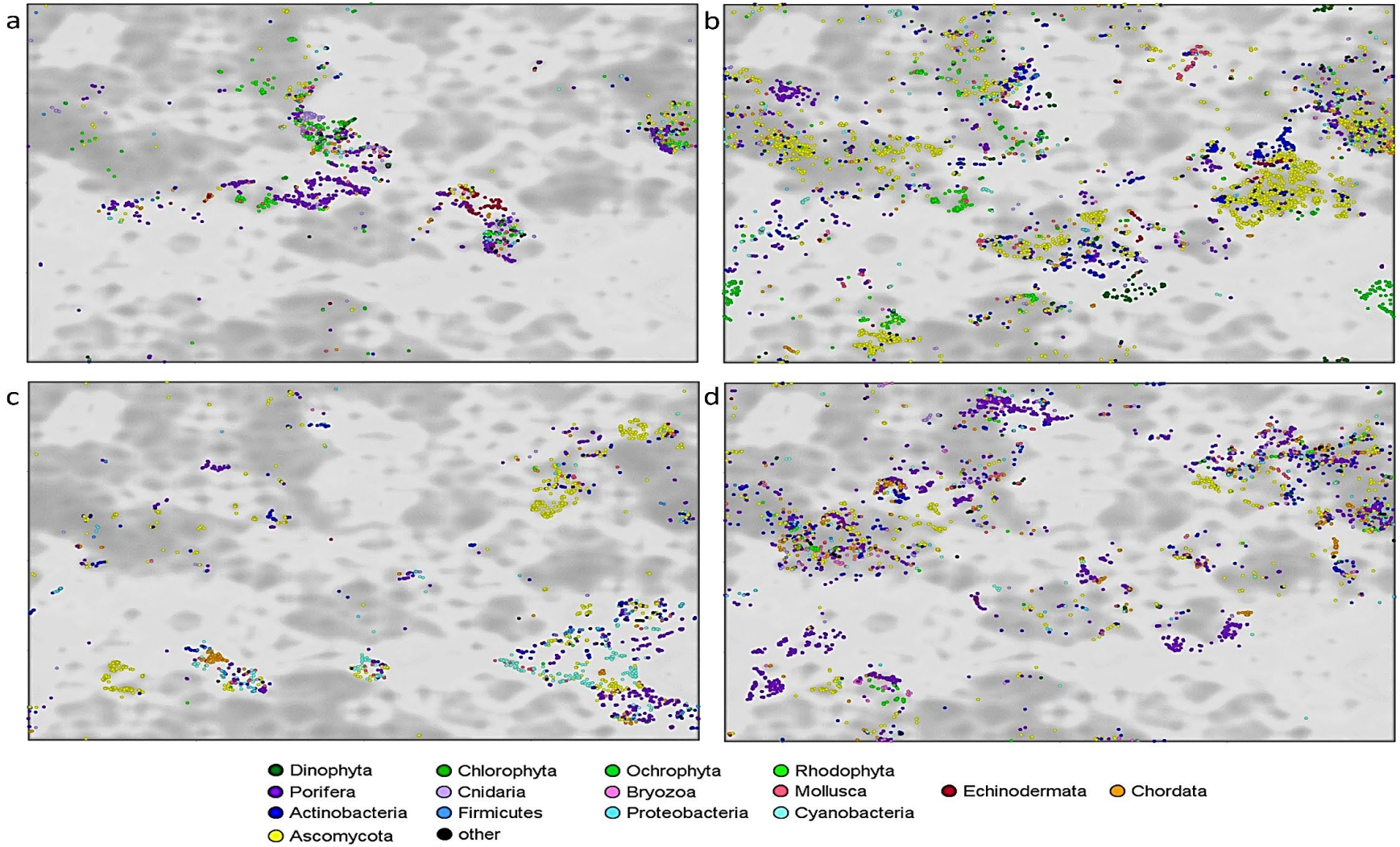


Figure S2: Chemical diversity comparison of MNPs isolated from major marine phyla categorised by structure class (**a**) fatty acids, (**b**) polyketides, (**c**) peptides, (**d**) alkaloids using a 200 x 200 SOM

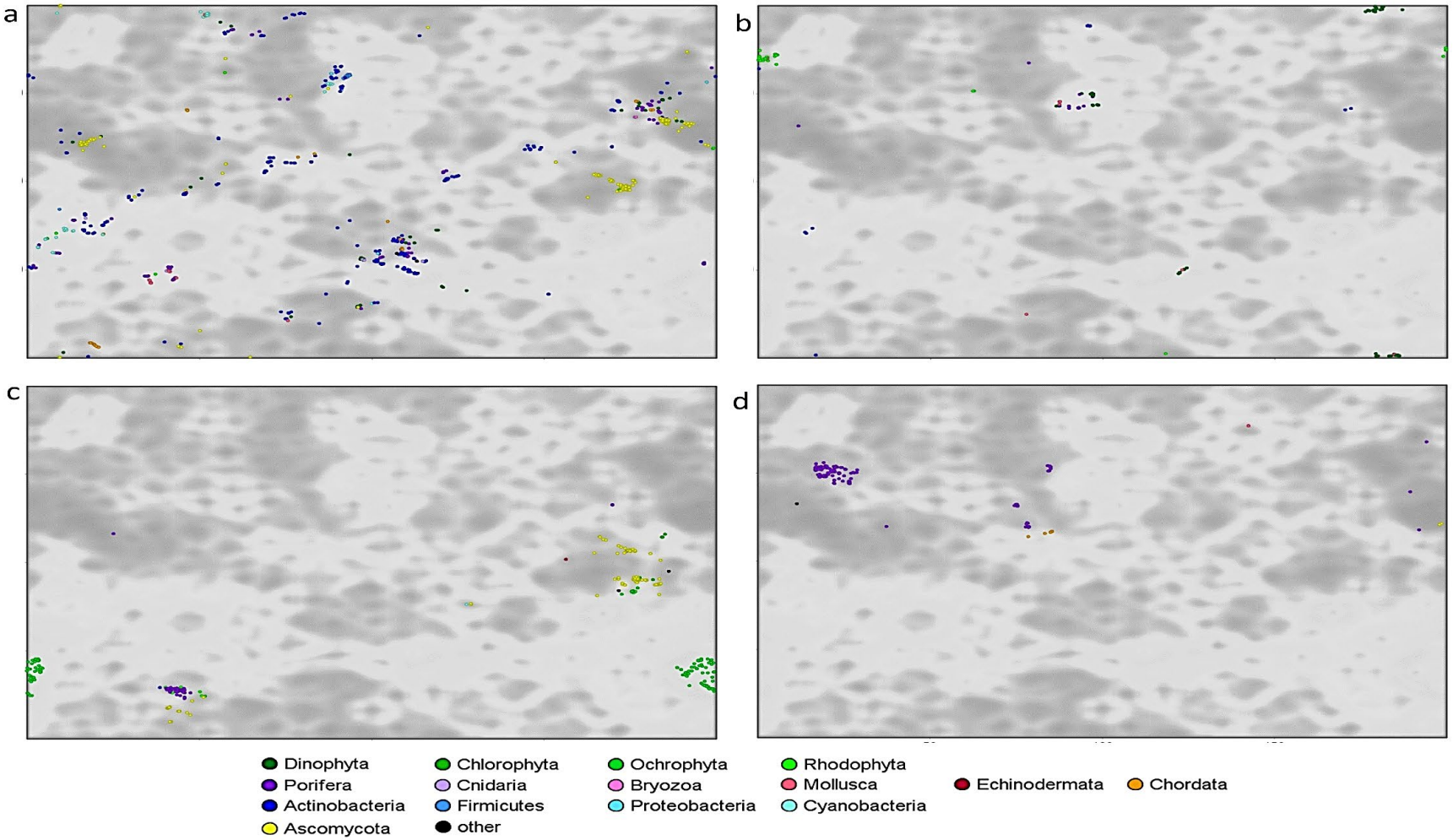


Figure S3: Chemical diversity comparison of MNPs of polyketide classes (**a**) macrolides, (**b**) polyethers, (**c**) diphenyl ethers, (**d**) endoperoxides coloured coded by phylum using a 200 x 200 SOM

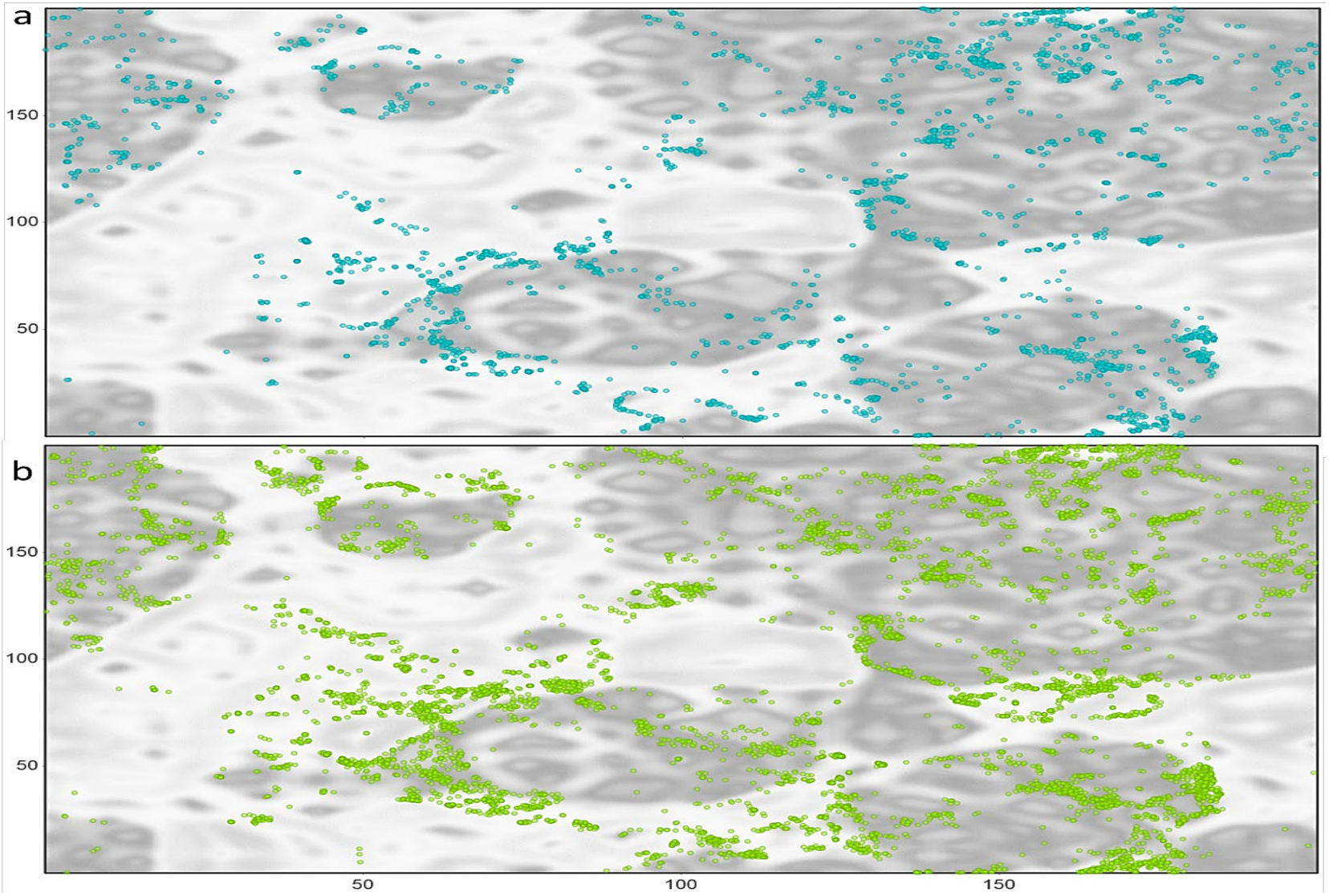


Figure S4: Chemical diversity comparison of MNPs of (**a**) marine and (**b**) terrestrial bacterial NPs using a 200 x 200 SOM

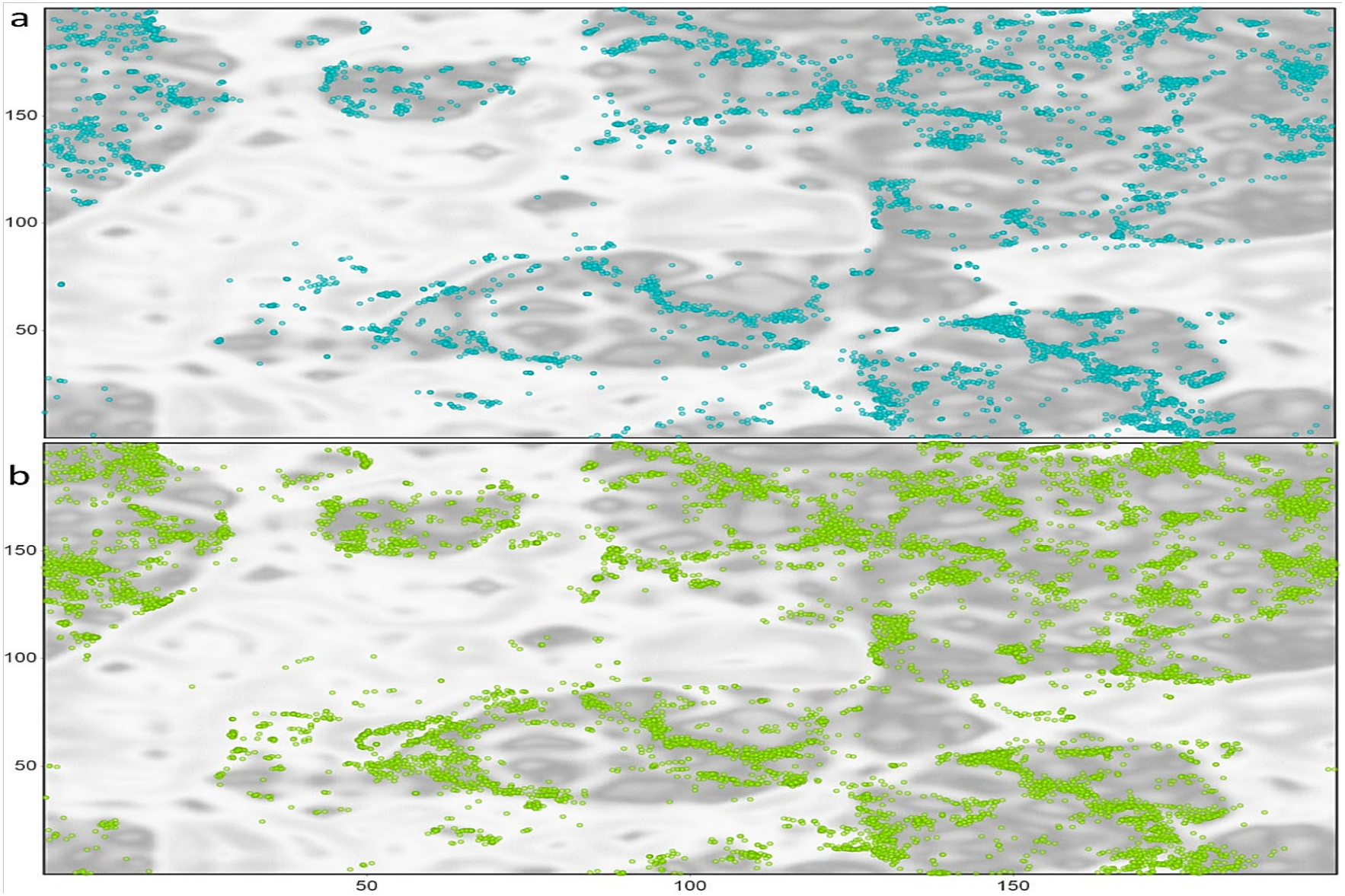


Figure S5: Chemical diversity comparison of MNPs of (**a**) marine and (**b**) terrestrial fungal NPs using a 200 x 200 SOM

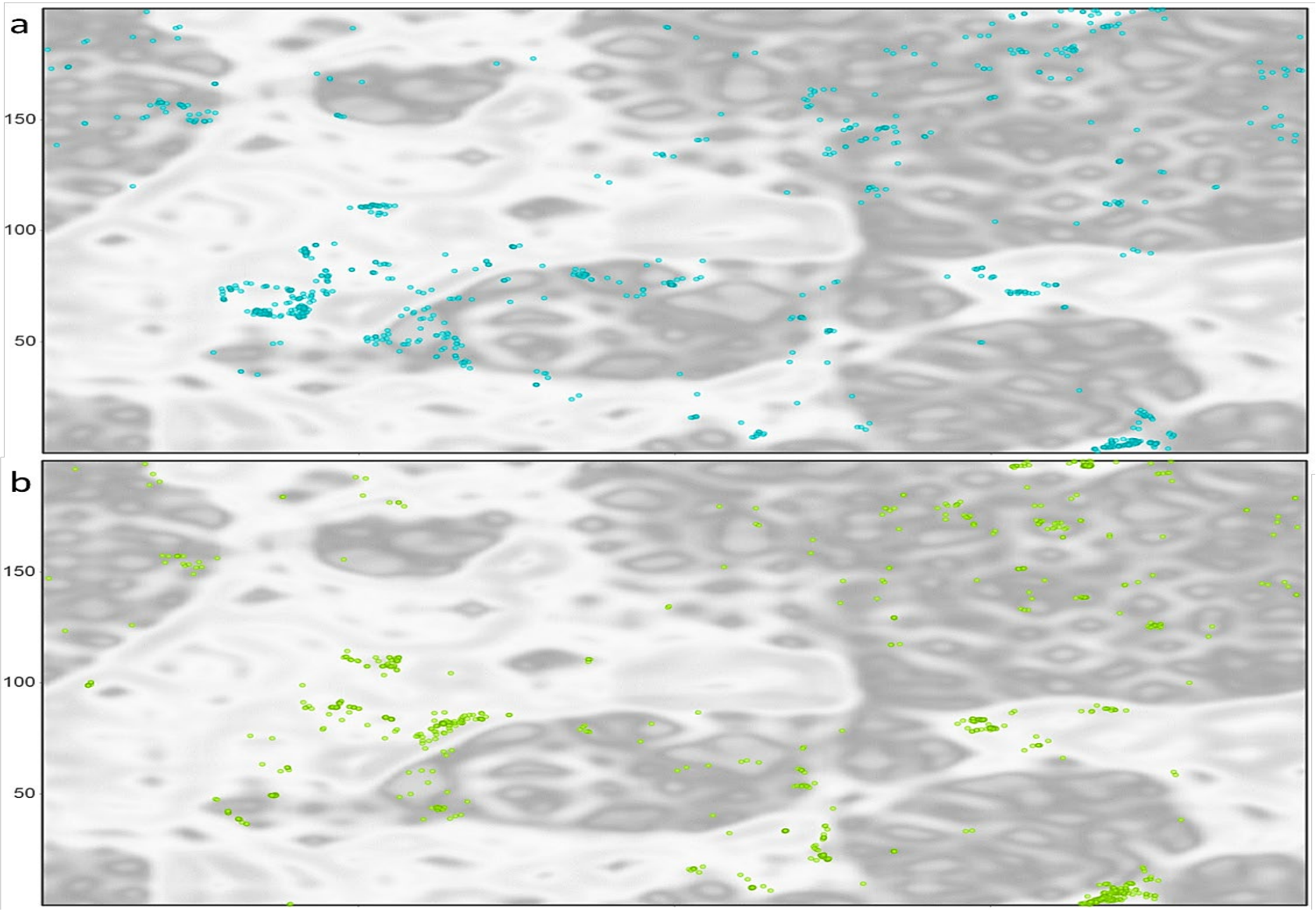


Figure S6: Chemical diversity comparison of MNPs of (**a**) marine and (**b**) terrestrial cyanobacteria NPs using a 200 x 200 SOM

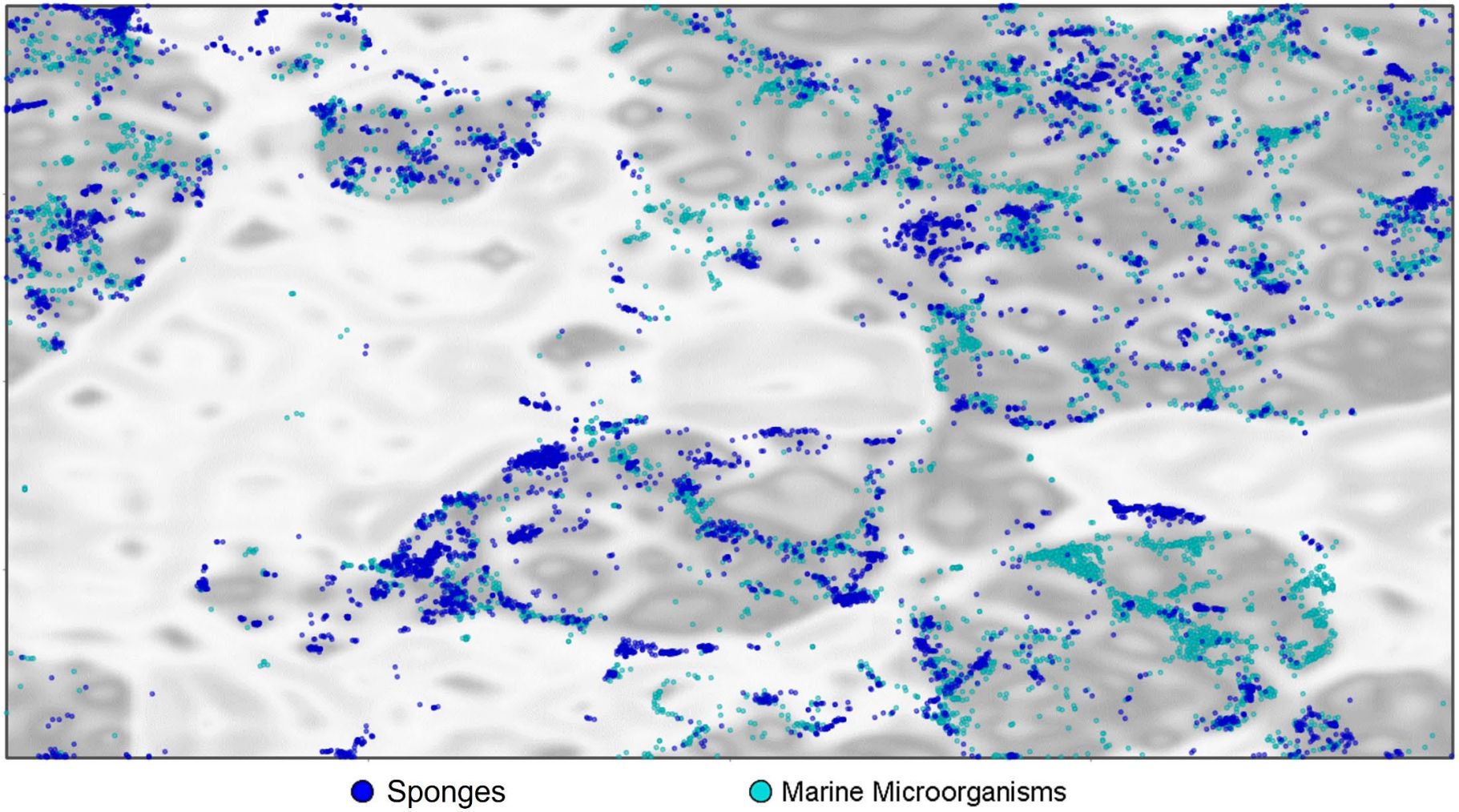


Figure S7: Chemical diversity comparison of terpene, polyketide and alkaloid MNPs from sponge and marine microbes using a 200 x 200 SOM