Electronic Supplementary Material (ESI) for Natural Product Reports.

Marine natural products (2019) D0NP00089B

Supplementary Information

Anthony R. Carroll, Brent R. Copp, Rohan A. Davis, Robert A. Keyzers and Michèle R. Prinsep

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)), **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. Where those are not available, the full reference is given in a brief Bibliography at the end of this SI document. **Compound numbers** are hyperlinked to a Chemspider entry where available. The conclusions section contains three additional figures of comparative self organising map (SOMs) anlyses for compounds isolated from brown algae, red algae and echinoderm derived fungi *vs* compounds isolated from brown algae, red algae and echinoderms respectively. The final figure in the conclusion section is a histogram of the frequency of studies of marine fungal genera between 2015 and 2019. All four figures (S1-S4) are referred to in the main text of the review

1.1 Abbreviations

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

abs. config.	absolute configuration
AChE	acetylcholine esterease
activ.	activity
AB	antibacterial
AF	antifungal
AI	anti-inflammatory
AO	antioxidant
AV	antiviral
bact.	bacteria
BuChE	butylcholine esterease
cytotox.	cytotoxicity/cytotoxic
degrad.	degradation
DPPH	2,2-diphenyl-1-picrylhydrazyl
ECD	electronic circular dichroism
enant.	enantiomer
hum.	human
HTCL	human tumour cell line
IL-1b	interleukin 1b
IA	inactive
inhib.	inhibitor/inhibition/inhibitory
IDO	indoleamine 2,3-dioxygenase
insep.	inseparable
immunomod.	immunomodulatory
isol.	isolated
ICL	isocitrate lyase
MIC	minimum inhibitory concentration
M. tuberculosis	*Mycobacterium tuberculosis*
MptpB	*M. tuberculosis* protein tyrosine phosphatase
mod.	moderate
microb.	microbial, microbe
mixt.	mixture
MRSA	methicillin resistant *Staphlococcus aureus*
MDR	multidrug resistance
NRPS	nonribosomal peptide synthase
NO	nitrous oxide
norm.	normal
nHCL	normal humal cell line
NT	not tested
P. falciparum	*Plasmodium falciparum*
prod.	production
PKS	polyketide synthase
pot.	potent
prop.	proposed
purif.	purify/purified
PTP1B	protein-tyrosine phosphatase 1B
P. aeruginosa	*Pseudomonas aeruginosa*
QS	quorum sensing
ROS	reactive oxygen species
recept.	receptor
SrtA	sortase A lyase
SAR	structure activity relationship(s)
spec. rot.	specific rotation
S. aureus	*Staphlococcus aureus*
stereochem.	stereochemistry
struct.	structure
synth.	synthesis/synthetic
TCL	tumour cell line

1.2 Biological activity definitions

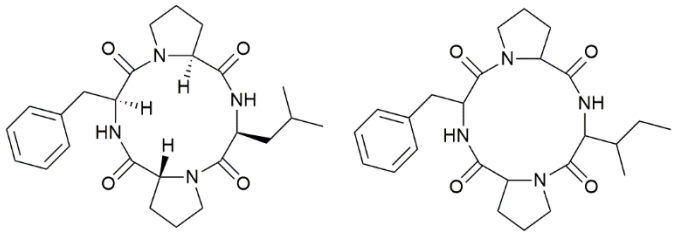
Cytotoxic, antiparasitic, antioxidant, antiinflammatory enzyme and antiviral activity (IC_{50} <10 µM); any activity reported at a higher dose is deemed inactive (IA)

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 <4 µg/ml
Weak activity:	MIC <32 µg/ml

2 Marine microorganisms and phytoplankton: 2.1 Marine-sourced bacteria



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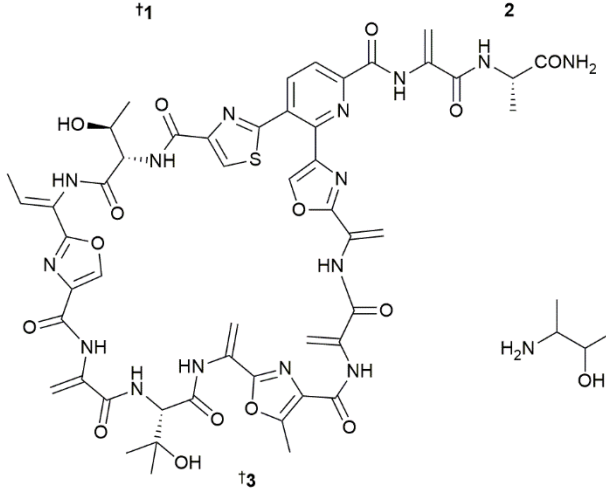

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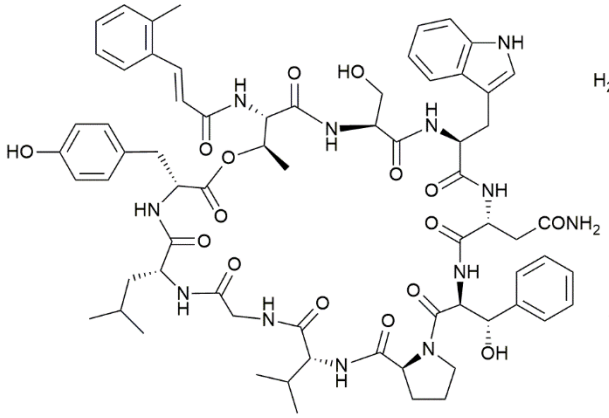

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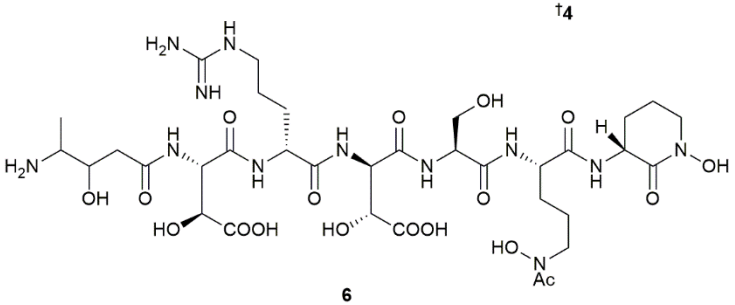

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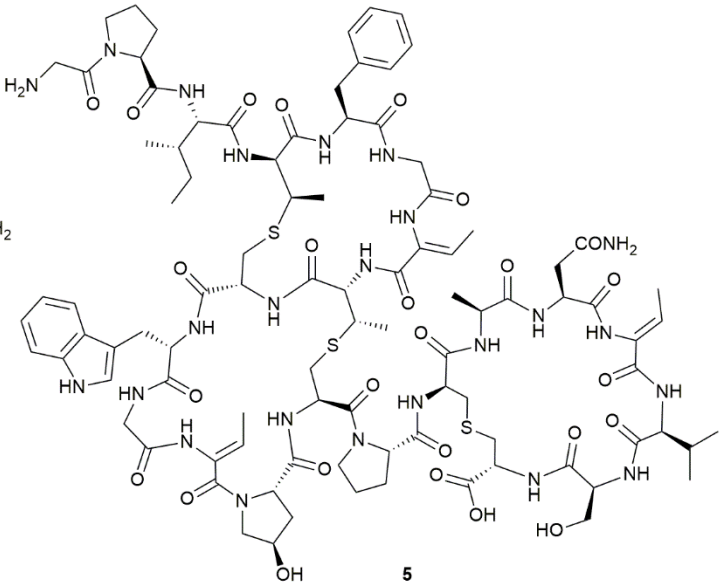

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7 Actinobacteria *Streptomyces* sp.// * // Cyclic tetrapeptides from the marine strain *Streptomyces* sp. PNM-161a with activity against rice and yam phytopathogens
1 // N // provipeptide A // IA *vs* 2 microb. strains.
2 // N // provipeptide B // IA *vs* 2 microb. strains.

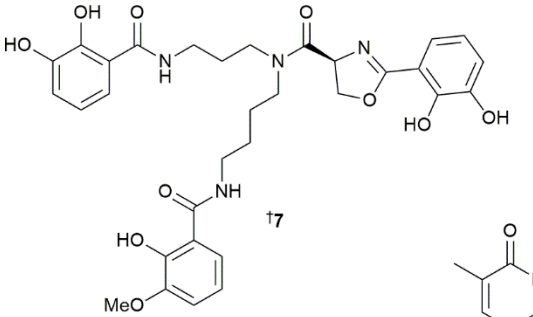
8 Actinobacteria *Streptomyces* sp.// Chinnamuttam coast, Kanyakumari, India // Ala-geninthiocin, a thiopeptide antibiotic, produced by a *Streptomyces* sp. ICN
3 // N // ala-geninthiocin // pot. cytotox. *vs* 6 HTCLs; IA to mod. Activ. *vs* 11 microb. Strains.

9 Actinobacteria *Streptomyces atratus* // South China Sea // Genome mining of *Streptomyces atratus* SCSIO ZH16: discovery of atratumycin and ident. of its BGC
4 // N // atratumycin // mod. anti-TB activ. *vs* 2 strains.

11 Actinobacteria *Saccharopolyspora cebuensis* // * // Cebulantin, a cryptic lanthipeptide antibiotic uncovered using bioactivity-coupled HiTES
5 // N // cebulantin // IA to mod. AB activ. *vs* 9 strains.; selectivity for Gram-negative bact.

12 Proteobacteria *Alcanivorax pacificus* // * // Ambiguity of NRPS structure predictions: four bidentate chelating groups in the siderophore pacifibactin
6 // N // pacifibactin // Siderophoric activ.

2 Marine microorganisms and phytoplankton:



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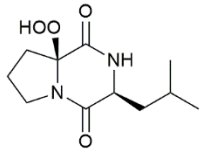

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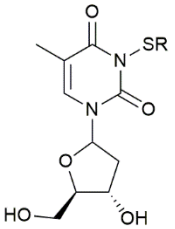
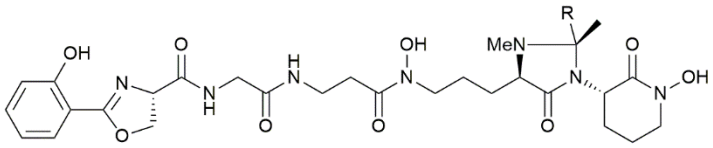
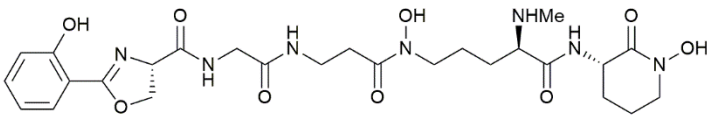


†16 R = NHCOOH
†17 R = NH_2

2.1 Marine-sourced bacteria



†8 R = H
†9 R = Me



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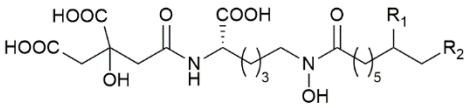
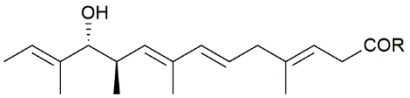
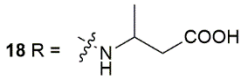


11 R_1 = H, R_2 = H
12 R_1 = Me, R_2 = H
13 R_1 = H, R_2 = Me
14 R_1 = H, R_2 = Et





18 R =
19 R = OH

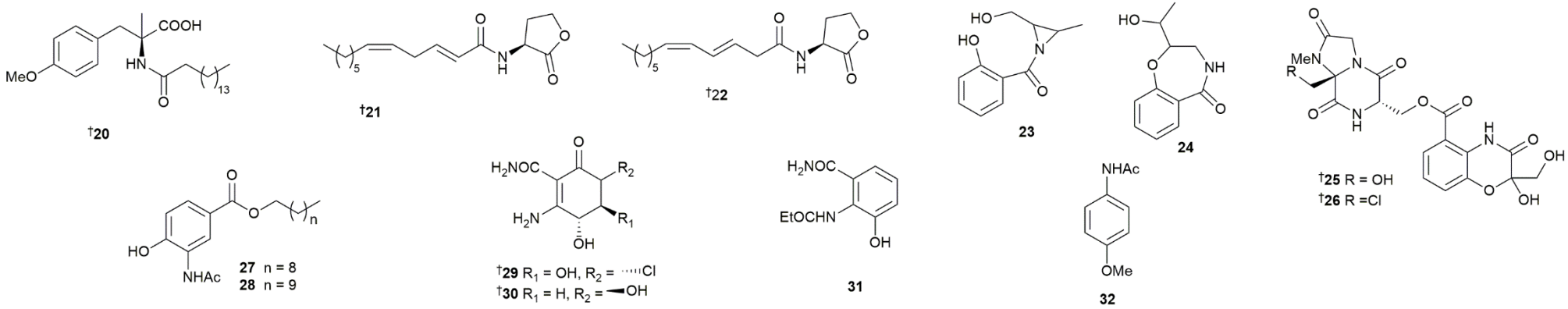
13 Proteobacteria *Labrenzia* sp.// * // Labrenzbactin from a coral-associated bacterium *Labrenzia* sp.
7 // N // labrenzbactin // IA to weak AB *vs* 6 strains.; weak cytotox. *vs* 1 HTCL.

14 Actinobacteria *Actinomadura* sp.// Stan Blum State Park, Florida // Madurastatin D1 and D2, oxazoline containing siderophores from an *Actinomadura sp.*
8 // N // madurastatin D1 // Siderophoric activ.; weak AB *vs* 1 strain.
9 // N // madurastatin D2 // Siderophoric activ.; weak AB *vs* 1 strain.
10 // N // (−)-madurastatin C1 // Siderophoric activ.; IA *vs* 1 bact. strain.

15 Proteobacteria *Shewanella woodyi* // * // A suite of asymmetric citrate siderophores isolated from a marine *Shewanella* species
11 // N // woodybactin A // Siderophoric activ.
12 // N // woodybactin B // Siderophoric activ.
13 // N // woodybactin C // Siderophoric activ.
14 // N // woodybactin D // Siderophoric activ.

16 Actinobacteria *Streptomyces* sp.// * // Bioactive diketopiperazines and nucleoside derivatives from a sponge-derived *Streptomyces* species
15 // N // actinozine A // weak AB activ. *vs* 2 strains.; IA *vs* 2 HTCLs.
16 // N // thymidine-3-mercaptocarbamic acid // IA *vs* 2 HTCLs.
17 // N // thymidine-3-thioamine // IA *vs* 2 HTCLs.

17 Actinobacteria *Streptomyces youssoufiensis* // Guangdong province, China // A fatty acid amide from the *ndgR*$_{yo}$ gene mutant of *Streptomyces youssoufiensis*
18 // N // 3-((3*E*,6*E*,8*E*,10*R*,11*R*,12*E*)-11-hydroxy-4,8,10,12-tetramethyltetradeca-3,6,8,12-tetraenamido) butanoic acid // IA *vs* 5 strains.; IA *vs* 2 HTCLs.
19 // N // (3*E*,6*E*,8*E*,10*R*,11*R*,12*E*)-11-hydroxy-4,8,10,12-tetramethyltetradeca-3,6,8,12-tetraenoic acid // IA *vs* 5 microb. strains.; IA *vs* 2 HTCLs.



18 Proteobacteria *Alteromonas* sp.// San Salvador, The Bahamas // An ichip-domesticated sponge bacterium produces an *N*-acyltyrosine
20 // N // N-palmitoyl-α,*O*-dimethyl-l-tyrosine // IA to mod. AB activ. *vs* 11 strains.; IA *vs* 3 HTCLs.

19 Proteobacteria *Roseobacter* sp.// German Wadden Sea // An unprecedented diunsaturated *N*-acylhomoserine lactone from *Roseobacter* group bacteria
21 // N // *N*-((2*E*,5*Z*)-2,5-dodecadienoyl)homoserine lactone // QS activ.
22 // N // *N*-((3*E*,5*Z*)-3,5-dodecadienoyl)homoserine lactone // QS activ.

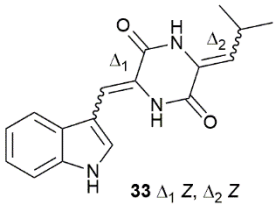
20 Actinobacteria *Verrucosispora* sp.// East China Sea, China // Isolation, purification and identification of two new alkaloids from *Verrucosispora* sp. FIM0602
23 // N // (2-(hydroxymethyl)-3-(2-(hydroxymethyl)-3-methylaziridin-1-yl) (2-hydroxyphenyl) methanone // IA to mod. AB activ. *vs* 8 strains.; question struct.
24 // N // 2-(1-hydroxyethyl)-3,4-dihydrobenzo[f][1,4]oxazepin-5(2*H*)-one // IA *vs* 8 microb. strains.; questionable struct.

21 Actinobacteria *Streptomyces* sp.// Hainan province, China // Genome mining and heterologous expr. of an orphan NRPS GC direct the prod. of ashimides
25 // N // ashimide A // IA *vs* 1 HTCL.
26 // N // ashimide B // IA *vs* 1 HTCL.

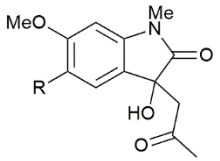
22 Proteobacteria *Microbulbifer* sp.// Florida Keys // Bulbiferates A and B: acetamidohydroxybenzoates from a marine proteobacterium, *Microbulbifer* sp.
27 // N // bulbiferate A // weak AB activ. *vs* 2 strains.
28 // N // bulbiferate B // weak AB activ. *vs* 2 strains.

23 Actinobacteria *Streptomyces* sp.// Zhoushan Archipelago, East China Sea // Novel cyclohexene and benzamide derivatives from *Streptomyces* sp. ZZ502
29 // N // 3-amino-2-carboxamine-6(*R*)-chloro-4(*R*),5(*S*)-dihydroxy-cyclohex-2-en-1-one // IA *vs* 1 HTCL and 3 microb. strains.
30 // N // 3-amino-2-carboxamine-4(*S*),6(*S*)-dihydroxy-cyclohex-2-en-1-one // IA *vs* 1 HTCL and 3 microb. strains.
31 // N // 3-hydroxy-2-propionamidobenzamide // IA *vs* 1 HTCL and 3 microb. strains.

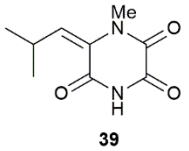
24 Actinobacteria *Streptomyces* sp.// Havelock Island, India // A 4-methoxyacetanilide from *Streptomyces* sp. SCA29
32 // N // 4-methoxyacetanilide // IA to weak cytotox. *vs* 3 HTCLs; IA to weak AB cytotox. *vs* 6 strains.; weak inhib. α-glucosidase and α-amylase.



33 Δ_1 *Z*, Δ_2 *Z*
34 Δ_1 *Z*, Δ_2 *E*
35 Δ_1 *E*, Δ_2 *Z*
36 Δ_1 *E*, Δ_2 *E*



37 R = H
38 R = Cl



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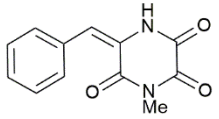

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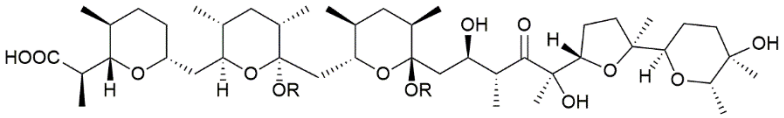
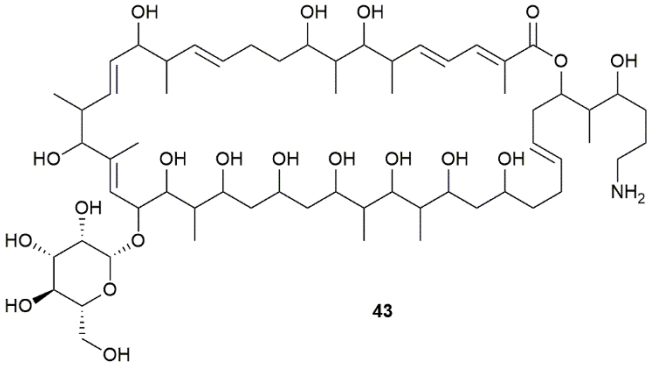


†**42** R = H
†**41** R = OMe



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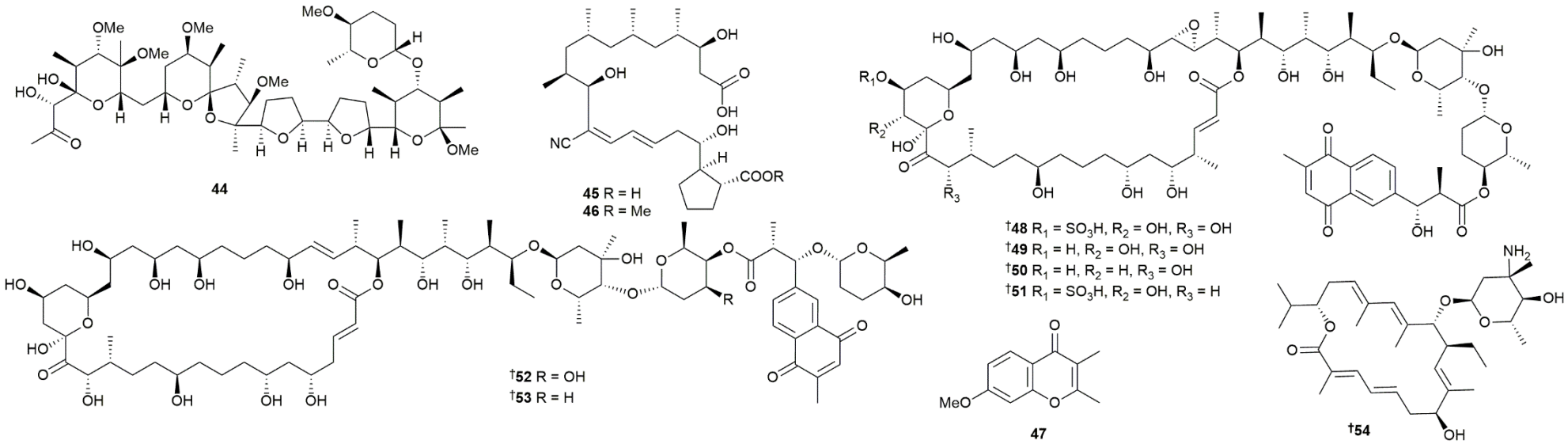
25 Actinobacteria Streptomycetaceae // La Jolla, California, USA // Photopiperazines A–D, photosensitive interconverting diketopiperazines with significant and selective activity against U87 glioblastoma cells, from a rare, marine-derived actinomycete of the family Streptomycetaceae
33 // N // photopiperazine A // pot. cytotox. *vs* 2 HTCLs; tested as mixt. of NPs A-D
34 // N // photopiperazine B // pot. cytotox. *vs* 2 HTCLs; tested as mixt. of NPs A-D
35 // N // photopiperazine C // pot. cytotox. *vs* 2 HTCLs; tested as mixt. of NPs A-D
36 // N // photopiperazine D // pot. cytotox. *vs* 2 HTCLs; tested as mixt. of NPs A-D

26 Actinobacteria *Salinispora arenicola* // SPSPA, Pernambuco state Brazil // 4-Hydroxy-pyran-2-one and 3-hydroxy-*N*-methyl-2-oxindole derivatives of *Salinispora arenicola* from Brazilian marine sediments
37 // N // 3-hydroxy-6-methoxy-3-(2-oxopropyl)-*N*-methyl-2-oxindole // IA *vs* 6 bact. strains.
38 // N // 5-chloro-3-hydroxy-6-methoxy-3-(2-oxopropyl)-*N*-methyl-2-oxindole // IA *vs* 6 bact. strains.

27 Actinobacteria *Streptomyces* sp.// South China Sea // Two new piperazine-triones from a marine-derived *Streptomycetes* sp. strain SMS636
39 // N // lansai E // IA *vs* 6 microb. strains.
40 // N // lansai F // IA *vs* 6 microb. strains.

28 Actinobacteria *Streptomyces* sp.// Burnt River, Prince Edward Island // Terrosamycins A and B, bioactive polyether ionophores from *Streptomyces* sp. RKND004 from Prince Edward Island sediment
41 // N // terrosamycin B // weak cytotox. *vs* 2 HTCLs, IA *vs* 2 nHCLs; pot. AB *vs* 3 strains.
42 // M // terrosamycin A // weak cytotox. *vs* 2 HTCLs, IA *vs* 2 nHCLs; pot. AB *vs* 3 strains.

29 Actinobacteria *Streptomyces althioticus* // Pedreña, Cantabria, Spain // Desertomycin G, a new antibiotic with activity against *Mycobacterium tuberculosis* and human breast tumor cell lines produced by *Streptomyces althioticus* MSM3, isolated from the Cantabrian Sea intertidal macroalgae *Ulva* sp.
43 // N // desertomycin G // IA to pot. AB activ. *vs* 19 strains.; IA to weak cytotox. *vs* 3 HTCLs.



30 Actinobacteria *Streptomyces cacaoi* // Mersin Coastline // Polyethers isolated from the marine actinobacterium *Streptomyces cacaoi* inhibit autophagy and induce apoptosis in cancer cells

44 // M // $C_{50}H_{86}O_{17}$ // IA *vs* 3 HTCLs and 2 nHCLs.

31 Actinobacteria *Streptomyces rochei*, Ascomycota *Rhinocladiella similis* // Yongxin Island, South China Sea // New metabolites from the co-culture of marine-derived actinomycete *Streptomyces rochei* MB037 and fungus *Rhinocladiella similis* 35

45 // N // borrelidin J // IA to pot. AB activ. *vs* 5 strains.

46 // N // borrelidin K // IA to mod. AB activ. *vs* 5 strains.

47 // N // 7-methoxy-2,3-dimethylchromone-4-one // IA to weak AB activ. *vs* 5 strains.

32 Actinobacteria *Streptomyces caniferus* // Bahía Ana Chaves, São Tomé (São Tomé and Principe) // Structure elucidation and biosynthetic gene cluster analysis of caniferolides A–D, new bioactive 36-membered macrolides from the marine-derived *Streptomyces caniferus* CA-271066

48 // N // caniferolide A // mod. to pot. AF activ. *vs* 2 strains.; mod. activ. *vs* 5 HTCLs.

49 // N // caniferolide B // mod. to pot. AF activ. *vs* 2 strains.; mod. activ. *vs* 5 HTCLs.

50 // N // caniferolide C // mod. to pot. AF activ. *vs* 2 strains.; weak activ. *vs* 5 HTCLs.

51 // N // caniferolide D // mod. to pot. AF *vs* 2 strains.; mod. activ. *vs* 1 HTCL.

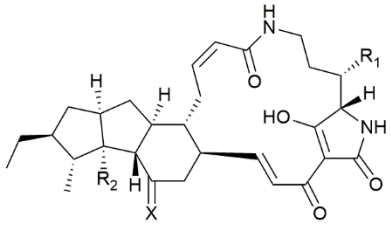
52 // R // PM100117 // NT

53 // R // PM100118 // NT

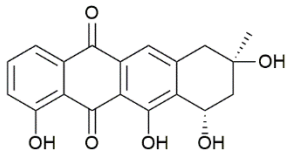
34 Actinobacteria *Actinoalloteichus spitensis* // Sweetings Cay Bahamas // Isolation, structure, and total synthesis of the marine macrolide mangrolide D

54 // N // mangrolide D // IA to weak AB activ. *vs* 2 strains.

2 Marine microorganisms and phytoplankton: 2.1 Marine-sourced bacteria



†**55** R_1 = OH, R_2 = H, X = H, ⁻OH
†**56** R_1 = H, R_2 = H, X = H, ⁻OH
†**57** R_1 = OH, R_2 = H, X = O
†**58** R_1 = H, R_2 = H, X = O
†**59** R_1 = OH, R_2 = OH, X = O
†**60** R1 = H, R_2 = OH, X = O



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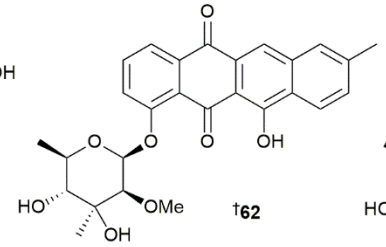

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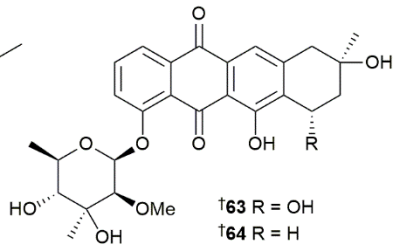
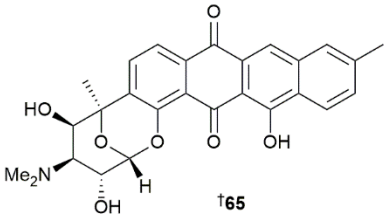
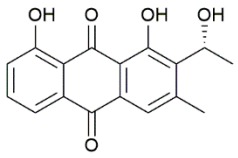


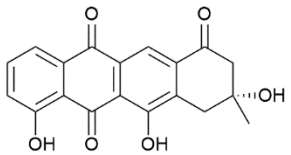
†**63** R = OH
†**64** R = H



†**65**



†**66**



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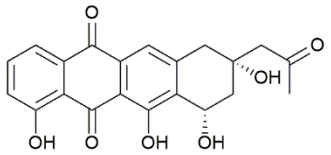
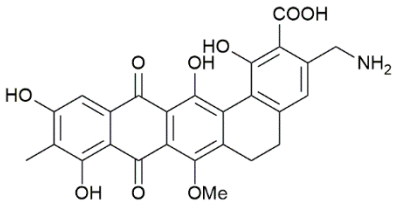


†**68**



69

35 Actinobacteria *Streptomyces* sp.// Penang, Malaysia // Genome mining of marine-derived *Streptomyces* sp. SCSIO 40010 leads to cytotoxic new polycyclic tetramate macrolactams
55 // N // 10-*epi*-HSAF // weak cytotox. *vs* 4 HTCLs.
56 // N // 10-*epi*-deOH-HSAF // weak cytotox. *vs* 4 HTCLs.
57 // N // 10-*epi*-maltophilin // weak cytotox. *vs* 4 HTCLs.
58 // N // 10-*epi*-xanthobaccin C // weak cytotox. *vs* 4 HTCLs.
59 // N // 10-*epi*-hydroxymaltophilin // weak cytotox. *vs* 4 HTCLs.
60 // N // 10-*epi*-FI-2 // NT

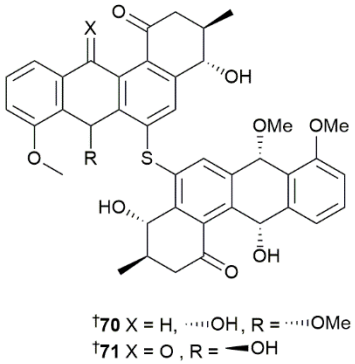
36 Actinobacteria *Streptomyces* sp.// Ningbo coastal area, Zhejiang province, China // Bioactive constituents from marine-derived *Streptomyces* sp. NB-A13
61 // N // andicoquinone A // IA *vs* 1 HTCL.
62 // N // andicoquinone B // weak cytotox. *vs* 1 HTCL.
63 // N // andicoquinone C // mod. cytotox. *vs* 1 HTCL.
64 // N // andicoquinone D // IA *vs* 1 HTCL.
65 // N // decilorene B // weak cytotox. *vs* 1 HTCL.
66 // N // (1'R)-1,8-dihydroxy-2-(1-hydroxyethyl)-3-methylanthraquinone // weak cytotox. *vs* 1 HTCL.

37 Actinobacteria *Streptomyces* sp.// Arabian Sea, Karachi Coast, Pakistan // A new polyketide antibiotic from the marine bacterium *Streptomyces* sp. PGC 32
67 // N // arabomycin // Some AB activ. *vs* 4 bact. strains.

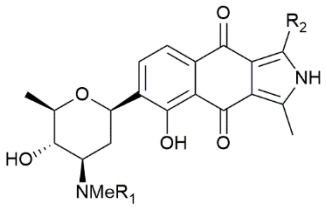
38 Actinobacteria *Streptomyces* sp.// Wenchang, China // Cytotoxic anthracycline and antibacterial tirandamycin analogues from a marine-derived *Streptomyces* sp. SCSIO 41399
68 // N // aranciamycin K // IA *vs* 7 microb. strains.

39 Actinobacteria *Nonomuraea* sp.// Sagami Bay, Japan // Akazamicin, a cytotoxic aromatic polyketide from marine-derived *Nonomuraea* sp
69 // N // akazamicin // IA to weak cytotox. *vs* 3 HTCLs

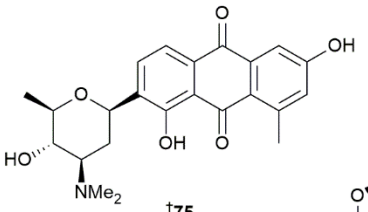
2 Marine microorganisms and phytoplankton: 2.1 Marine-sourced bacteria



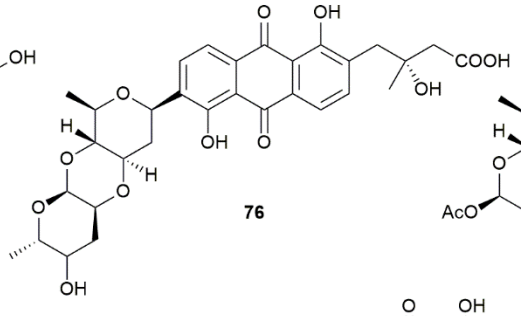
†70 X = H, ····OH, R = ····OMe
†71 X = O , R = ◄OH



†72 R_1 = Me, R_2 = H
†73 R_1 = H, R_2 = COMe
†74 R_1 = Me, R_2 = COMe



†75



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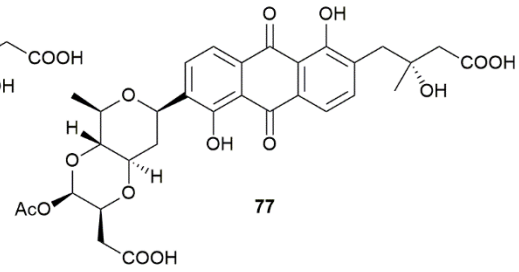

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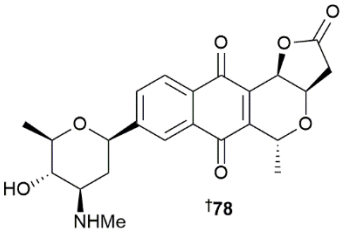
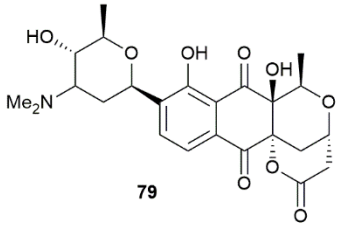


†78



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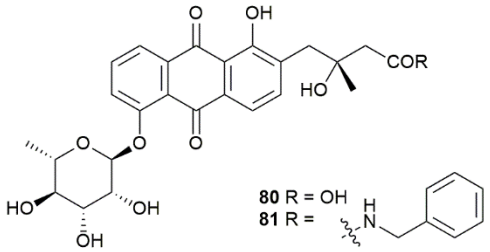


80 R = OH
81 R =

40 Actinobacteria *Streptomyces* sp.// Ulleung Island, Republic of Korea // Donghaesulfins A and B, dimeric benz[*a*]anthracene thioethers from volcanic island derived *Streptomyces* sp.
70 // N // donghaesulfin A // IA *vs* 12 bact. strains.; IA *vs* 6 HTCLs; some quinone reductase activ.
71 // N // donghaesulfin B // IA *vs* 12 bact. strains.; IA *vs* 6 HTCLs; some antiangiogenesis activ.

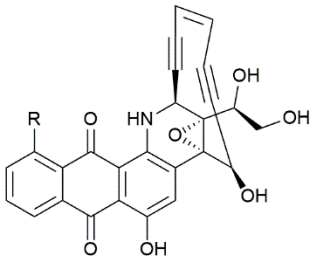
41 Actinobacteria *Streptomyces* sp.// Zhou Shan Island, Zhejing province, China // Nitricquinomycins A-C, uncommon naphthopyrrolediones from the *Streptomyces* sp. ZS-A45
72 // N // nitricquinomycin A // IA *vs* 2 HTCLs; weak AB *vs* 3 strains.
73 // N // nitricquinomycin B // IA *vs* 2 HTCLs; weak AB *vs* 3 strains.
74 // N // nitricquinomycin C // IA to weak cytotox. *vs* 2 HTCLs; weak AB *vs* 3 strains.
75 // N // lactoquinomycin E // IA to weak cytotox. *vs* 2 HTCLs; weak AB *vs* 3 strains.

42 Actinobacteria *Streptomyces* sp.// * // Cytotoxic, anti-migration, and anti-invasion activities on breast cancer cells of angucycline glycosides isolated from a marine-derived *Streptomyces* sp.
76 // N // vineomycin E // weak cytotox. *vs* 3 HTCLs.
77 // N // vineomycin F // IA *vs* 3 HTCLs.

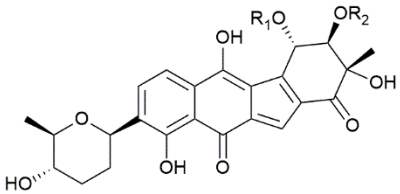
43 Actinobacteria *Streptomyces* sp.// Zhoushan, Zhejiang province, China // A new medermycin analog from the marine-derived actinomycetes *Streptomyces* sp. ZS-A45
78 // N // 3′-N-methyl-medermycin // mod. cytotox. *vs* 1 HTCL.

44 Actinobacteria *Streptomyces albolongus* // Bata, Equatorial Guinea // MDN-0171, a new medermycin analogue from *Streptomyces albolongus* CA-186053
79 // N // MDN-0171 // NT

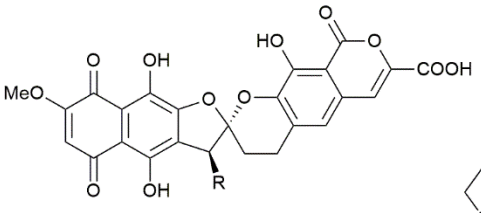
45 Actinobacteria *Actinokineospora* sp.// Ras Mohamed, Egypt // New bioactive metabolites from the elicited marine sponge-derived bacterium *Actinokineospora spheciospongiae* sp.
80 // N // fridamycin H // weak antitryps. activ. *vs* 1 strain; IA *vs* 1 HTCL.
81 // N // fridamycin I // No antitryps. activ. *vs* 1 strain; IA *vs* 1 HTCL.



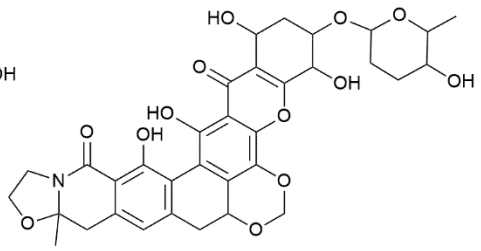
†**82** R = OH
†**83** R = H



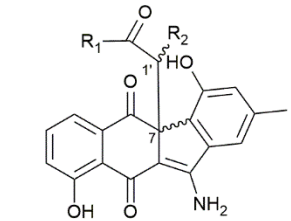
†**84** R_1 = Ac, R_2 = $COCH_2CH_2COOH$
†**85** R_1 = R_2 = H



†**86** R = H
†**87** R = OH



88



†**89** R_1 = Me, R_2 = H, 7*R*
†**90** R_1 = Me, R_2 = H, 7*S*
†**91** R_1 = Et, R_2 = H, 7*R*
†**92** R_1 = Et, R_2 = H, 7*S*
†**93** R_1 = Me, R_2 = Me, 7*R*,1'S**
†**94** R_1 = Me, R_2 = Me, 7*S*,1'R**
†**95** R_1 = Me, R_2 = Me, 7*R*,1'R**
†**96** R_1 = Me, R_2 = Me, 7*S*,1'S**

46 Actinobacteria *Micromonospora yangpuensis* // * // Yangpumicins F and G, enediyne congeners from *Micromonospora yangpuensis* DSM 45577
82 // N // yangpumicin F // weak to mod. cytotox. *vs* 4 HTCLs; pot. AB *vs* 2 strains.
83 // N // yangpumicin G // IA to weak cytotox. *vs* 4 HTCLs; pot. AB *vs* 2 strains.

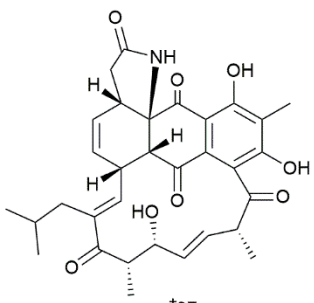
47 Actinobacteria *Streptomyces hyaluromycini* // Tokyo Bay, Japan // Konamycins A and B and rubromycins CA1 and CA2, aromatic polyketides from the tunicate-derived *Streptomyces hyaluromycini* MB-PO13^T
84 // N // konamycin A // weak AO activ.
85 // N // konamycin B // NT
86 // N // rubromycin CA1 // IA to pot. AB activ. *vs* 8 strains.
87 // N // rubromycin CA2 // IA to pot. AB activ. *vs* 8 strains.

48 Actinobacteria *Streptomyces bingchenggensis* // Lagos Lagoon, Nigeria// Anticancer potential of metabolic compounds from marine actinomycetes isolated from Lagos Lagoon sediment
88 // N // ULDF4 // pot. activ. *vs* 1 HTCL.

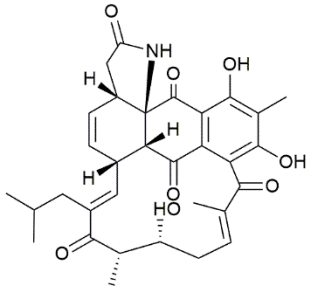
49 Actinobacteria *Micromonospora rosaria* // // Discovery of stealthin derivatives and implication of the amidotransferase FlsN3 in the biosynthesis of nitrogen-containing fluostatin
89 // N // stealthin D // NT; enant. not purif., racemate characterised.
90 // N // stealthin D // NT; enant. not purif., racemate characterised.
91 // N // stealthin E // NT; enant. not purif., racemate characterised.
92 // N // stealthin E // NT; enant. not purif., racemate characterised.
93 // N // stealthin F // NT; enant. not purif., racemate characterised.
94 // N // stealthin F // NT; enant. not purif., racemate characterised.
95 // N // stealthin G // NT; enant. not purif., racemate characterised.
96 // N // stealthin G // NT; enant. not purif., racemate characterised.

2 Marine microorganisms and phytoplankton:

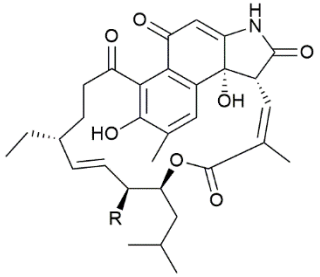
2.1 Marine-sourced bacteria



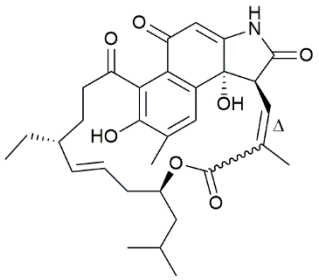
†97



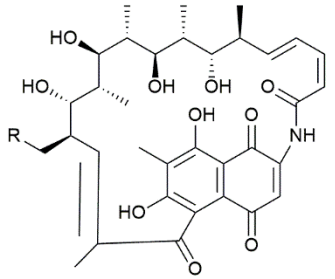
†98



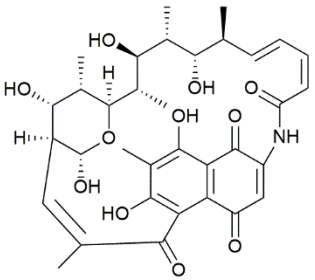
†99 R = H
†100 R = OH



†101 Δ *Z*
†102 Δ *E*



103 R = OH
104 R = H



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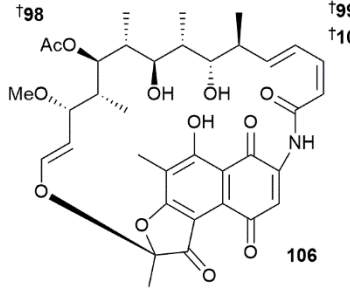

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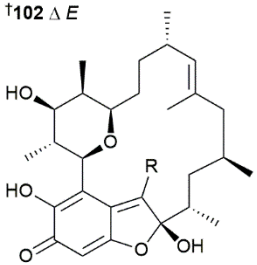
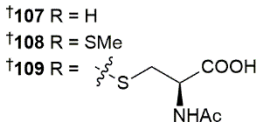




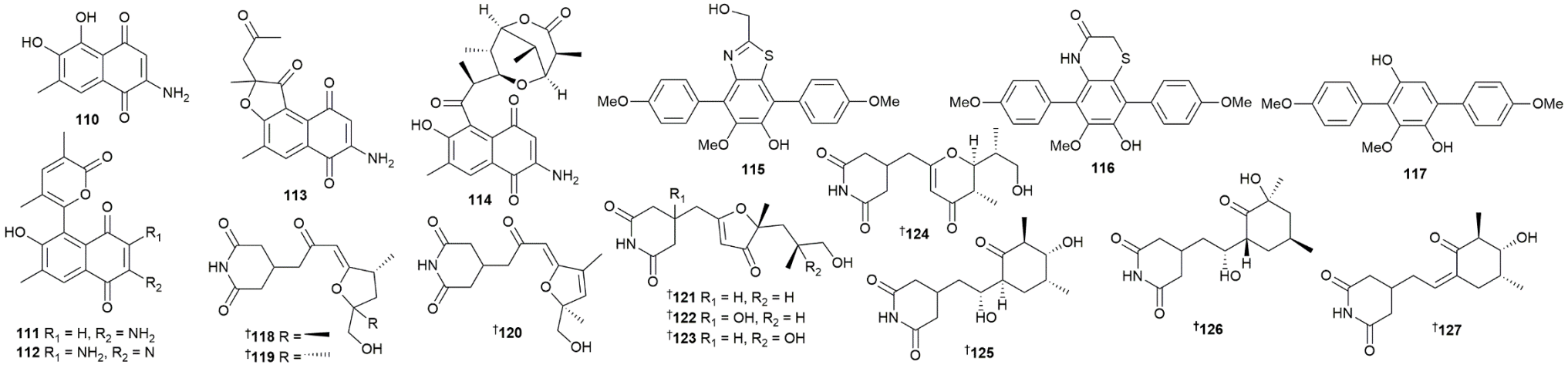
†107 R = H
†108 R = SMe
†109 R =

50 Actinobacteria *Streptomyces seoulensis* // * // Heterologous expression of a cryptic giant type I PKS gene cluster leads to the production of ansaseomycin
97 // N // ansaseomycin A // IA *vs* 5 bact. strains.; IA *vs* 2 HTCLs.
98 // N // ansaseomycin B // IA *vs* 5 bact. strains.; IA *vs* 2 HTCLs.

51 Actinobacteria *Streptomyces* sp.// Danzhou, Hainan, China// Divergolides T–W with apoptosis-inducing activity from the mangrove-derived actinomycete *Streptomyces* sp. KFD18
99 // N // divergolide T // IA to weak cytotox. *vs* 4 HTCLs.
100 // N // divergolide U // IA to weak cytotox. *vs* 4 HTCLs.
101 // N // divergolide V // IA to weak cytotox. *vs* 4 HTCLs.
102 // N // divergolide W // IA *vs* 4 HTCLs.

52 Actinobacteria *Micromonospora* sp.// * // Discovery of 16-demethylrifamycins by removing the predominant polyketide biosynthesis pathway in *Micromonospora* sp. strain TP-A0468
103 // N // 16-demethylrifamycin W // IA *vs* 6 microb. strains.
104 // N // 16-demethyl-34a-dehydroxy rifamycin W // IA *vs* 6 microb. strains.
105 // N // 16-demethylrifamycin W hemiacetal // IA *vs* 6 microb. strains.
106 // N // 16-demethylrifamycin S // weak to pot. AB activ. *vs* 6 strains.

53 Actinobacteria *Verrucosispora* sp.// Northern South China Sea // Cytotoxic kendomycins containing the carbacylic *ansa* scaffold from the marine-derived *Verrucosispora* sp. SCSIO 07399
107 // N // kendomycin B // mod. AB activ. *vs* 6 strains.; weak cytotox. *vs* 6 HTCLs.
108 // N // kendomycin C // mod. AB activ. *vs* 6 strains.; weak cytotox. *vs* 6 HTCLs.
109 // N // kendomycin D // mod. AB activ. *vs* 6 strains.; weak cytotox. *vs* 6 HTCLs.



54 Actinobacteria *Salinispora arenicola* // St. Peter and St. Paul Archipelago, Pernambuco, Brazil // Antibacterial salinaphthoquinones from a strain of the bacterium *Salinispora arenicola* recovered from the marine sediments of St. Peter and St. Paul Archipelago, Brazil

110 // N // salinaphthoquinone A // IA to mod. AB activ. *vs* 5 strains.

111 // N // salinaphthoquinone B // IA to mod. AB activ. *vs* 5 strains.

112 // N // salinaphthoquinone C // IA to weak AB activ. *vs* 4 strains.

113 // N // salinaphthoquinone D // weak AB activ. *vs* 4 strains.

114 // N // salinaphthoquinone E // IA *vs* 4 bact. strains.

55 Actinobacteria *Nocardiopsis* sp.// Dongzhaigang Mangrove Reserve, China // Cytotoxic *p*-terphenyls from a marine-derived *Nocardiopsis* sp

115 // N // nocarterphenyl A // IA to pot. cytotox. *vs* 26 HTCLs

116 // N // nocarterphenyl B // IA *vs* 26 HTCLs

117 // N // nocarterphenyl C // IA *vs* 5 HTCLs

56 Actinobacteria *Streptomyces* sp.// Jintang Island, Zhoushan, China // Bioactive streptoglutarimides A–J from the marine-derived *Streptomyces* sp. ZZ741

118 // N // streptoglutarimide A // weak to mod. AB activ. *vs* 3 strains.; IA *vs* 2 HTCLs.

119 // N // streptoglutarimide B // weak to mod. AB activ. *vs* 3 strains.; IA *vs* 2 HTCLs.

120 // N // streptoglutarimide C // mod. AB activ. *vs* 3 strains.; IA *vs* 2 HTCLs.

121 // N // streptoglutarimide D // mod. AB activ. *vs* 3 strains.; IA *vs* 2 HTCLs.

122 // N // streptoglutarimide E // weak to mod. AB activ. *vs* 3 strains.; IA *vs* 2 HTCLs.

123 // N // streptoglutarimide F // weak to mod. AB activ. *vs* 3 strains.; IA *vs* 2 HTCLs.

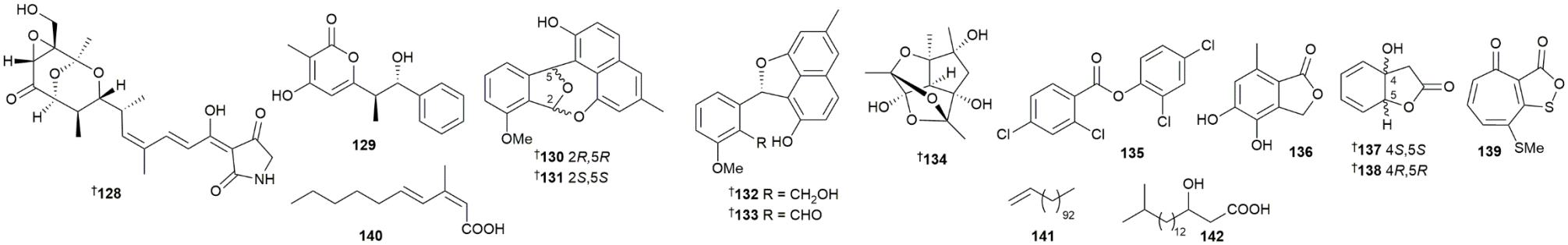
124 // N // streptoglutarimide G // weak to mod. AB activ. *vs* 3 strains.; IA *vs* 2 HTCLs.

125 // N // streptoglutarimide H // mod. AB activ. *vs* 3 strains.; IA *vs* 2 HTCLs.

126 // N // streptoglutarimide I // mod. AB activ. *vs* 3 strains.; IA *vs* 2 HTCLs.

127 // N // streptoglutarimide J // weak to mod. AB activ. *vs* 3 strains.; IA *vs* 2 HTCLs.

2 Marine microorganisms and phytoplankton: 2.1 Marine-sourced bacteria



38 Actinobacteria *Streptomyces* sp.// Wenchang, China // Cytotoxic anthracycline and antibacterial tirandamycin analogues from a marine-derived *Streptomyces* sp. SCSIO 41399
128 // N // isotirandamycin B // IA to mod. AB activ. *vs* 7 strains.; IA *vs* 2 HTCLs.

26 Actinobacteria *Salinospora arenicola* // SPSPA, Pernambuco state Brazil // 4-Hydroxy-pyran-2-one and 3-hydroxy-*N*-methyl-2-oxindole derivatives of *Salinispora arenicola* from Brazilian marine sediments
129 // N // 4-hydroxy-6-(2-hydroxy-2-phenyl-1-methylethyl)-3-methyl-2*H*-pyran-2-one // IA *vs* 6 bact. strains.

57 Actinobacteria *Streptomyces* sp.// Kiaochow Bay, China // (+)- and (−)-actinoxocine, and actinaphthorans A–B, C-ring expansion and cleavage angucyclinones from a marine-derived *Streptomyces* sp.
130 // N // (+)-actinoxocine // IA to mod. AB activ. *vs* 10 strains.; IA *vs* 7 HTCLs.
131 // N // (–)-actinoxocine // IA to mod. AB activ. *vs* 10 strains.; IA *vs* 7 HTCLs.
132 // N // actinaphthoran A // IA to weak AB activ. *vs* 10 strains.; IA *vs* 7 HTCLs.
133 // N // actinaphthoran B // IA to mod. AB activ. *vs* 10 strains.; IA to weak cytotox. *vs* 7 HTCLs.

58 Actinobacteria *Nesterenkonia halobia* // Qiongdong, Hainan, China // Nesteretal A, a novel class of cage-like polyketide from marine-derived actinomycete *Nesterenkonia halobia*
134 // N // nesteretal A // weak RXRα activator; IA *vs* 5 HTCLs.

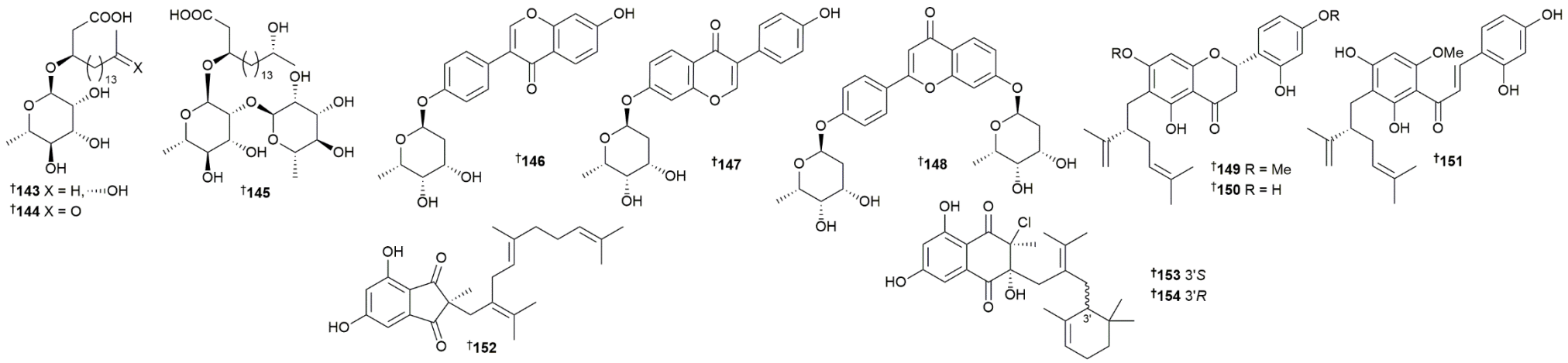
59 Actinobacteria *Streptomyces* sp.// Quang Binh, Vietnam // Synthesis, structure and antimicrobial activity of novel metabolites from a marine actinomycete in Vietnam's East Sea
135 // N // 2,4-dichlorophenyl 2,4-dichloro benzoate // IA to weak AB activ. *vs* 7 strains.; total synth.
136 // N // 4,5-dihydroxy-7-methylphthalide // IA to weak AB activ. *vs* 7 strains.; total synth.

60 Actinobacteria *Nocardiopsis dassonvillei* // Xisha Islands, China // Bioactive natural products from the marine sponge-derived *Nocardiopsis dassonvillei* OUCMDZ-4534
137 // N // (3a*S*,7a*S*)-3a-hydroxy-3a,7a-dihydrobenzofuran-2(3*H*)-one // IA to mod. cytotox. *vs* 4 HTCLs. IA *vs* 17 strains.and 1 virus; tested as racemate.
138 // N // (3a*R*,7a*R*)-3a-hydroxy-3a,7a-dihydrobenzofuran-2(3*H*)-one // IA to mod. cytotox. *vs* 4 HTCLs. IA *vs* 17 strains.and 1 virus; tested as racemate.

61 Proteobacteria *Phaeobacter inhibens* // * // Isolation of methyl troposulfenin from *Phaeobacter inhibens*
139 // N // methyl troposulfenin // weak AB activ. *vs* 1 strain.

62 Proteobacteria *Microbulbifer* sp.// * // Isolation and biosynthesis of an unsaturated fatty acid with unusual methylation pattern from a coral-associated bacterium *Microbulbifer* sp.
140 // N // (2*Z*,4*E*)-3-methyl-2,4-decadienoic acid // IA to weak AB activ. *vs* 7 strains.

63 Firmicutes *Bacillus* sp.// Chorao Island, Goa, India // A novel fatty alkene from marine bacteria: a thermo stable biosurfactant and its applications
141 // N // 1-pentanonacontene // Thermo stable biosurfactant.
142 // N // 3-hydroxy-16-methylheptadecanoic acid // Thermo stable biosurfactant.



64 Actinobacteria *Actinoalloteichus hymeniacidonis* // Dokdo island, Republic of Korea // Dokdolipids A−C, hydroxylated rhamnolipids from the marine-derived actinomycete *Actinoalloteichus hymeniacidonis*

143 // N // dokdolipid A // IA *vs* 6 HTCLs.

144 // N // dokdolipid B // IA *vs* 6 HTCLs.

145 // N // dokdolipid C // IA *vs* 6 HTCLs.

65 Actinobacteria *Micromonospora aurantiaca* // Zhangzhou, Fujian province, China // Three new isoflavonoid glycosides from the mangrove-derived actinomycete *Micromonospora aurantiaca* 110B

146 // N // daidzein-4′-(2-deoxy-α-L-fucopyranoside) // IA *vs* 3 HTCLs; IA *vs* 3 bact. strains.

147 // N // daidzein-7-(2-deoxy-α-L-fucopyranoside) // IA *vs* 3 HTCLs; IA *vs* 3 bact. strains.

148 // N // daidzein-4′,7-di-(2-deoxy-α-l-fucopyranoside) // IA *vs* 3 HTCLs; IA *vs* 3 bact. strains.

66 Actinobacteria *Streptomyces* sp.// Son-Tra island, Da Nang, Vietnam // Antimicrobial lavandulylated flavonoids from a sponge-derived *Streptomyces* sp. G248 in East Vietnam Sea

149 // N // (2*S*,2"*S*)-6-lavandulyl-7,4′-dimethoxy-5,2′-dihydroxylflavanone // *

150 // N // (2*S*,2"*S*)-6-lavandulyl-5,7,2′,4′-tetrahydroxylflavanone // *

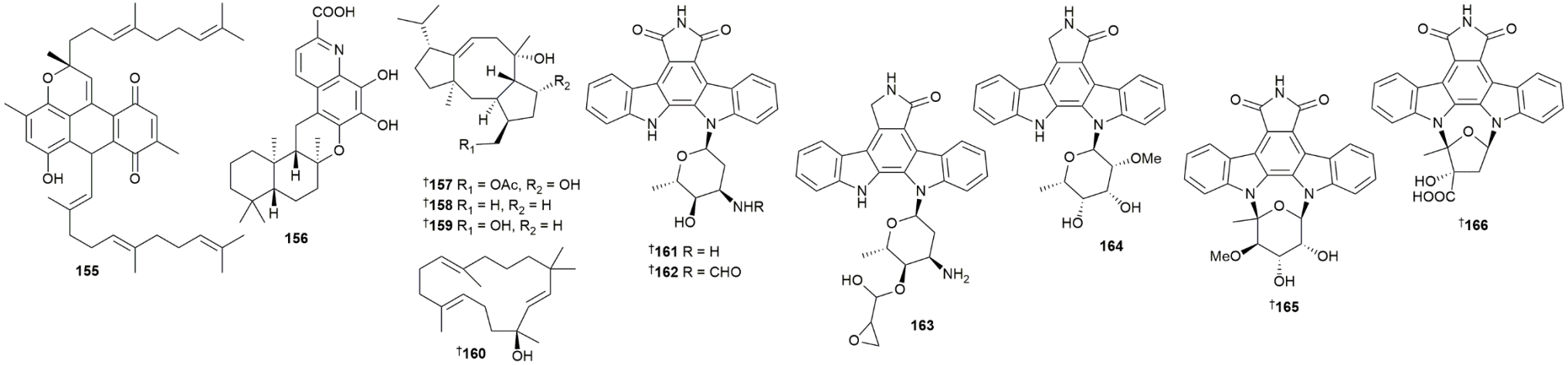
151 // N // (2"*S*)-5′-lavandulyl-2′-methoxy-2,4,4′,6′-tetrahydroxylchalcone // *

67 Actinobacteria *Streptomyces* sp.// Oceanside, California, USA // Meroindenon and merochlorins E and F, antibacterial meroterpenoids from a marine-derived sediment bacterium of the genus *Streptomyces*

152 // N // meroindenon // IA to weak AB activ. *vs* 6 strains.

153 // N // merochlorin E // weak to pot. AB activ. *vs* 6 strains.

154 // N // merochlorin F // weak to pot. AB activ. *vs* 6 strains.



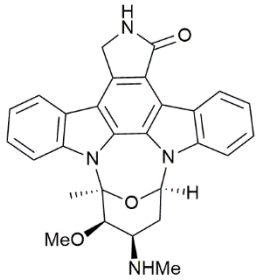
68 Actinobacteria *Streptomyces nitrosporeus* // * // Reducing effect of farnesylquinone on lipid mass in *C. elegans* by modulating lipid metabolism
155 // N // nitrosporeunol H // weak lipid modulator in *C. elegans*.

69 Actinobacteria *Saccharomonospora* sp.// 2 km west of the Scripps pier, La Jolla, California, U.S.A.// Saccharoquinoline, a cytotoxic alkaloidal meroterpenoid from marine-derived bacterium *Saccharomonospora* sp.
156 // N // saccharoquinoline // IA to weak cytotox. *vs* 5 HTCLs.

70 Actinobacteria *Streptomyces* sp.// Zhoushan Archipelago, Zhejiang, China // Isolation, structure elucidation, and antibacterial evaluation of the metabolites produced by the marine-sourced *Streptomyces* sp. ZZ820
157 // N // 18-acetyl-cyclooctatin // weak to mod. AB activ. *vs* 2 strains.
158 // N // 5,18-dedihydroxy-cyclooctatin // weak to mod. AB activ. *vs* 2 strains.
159 // N // 5-dehydroxy-cyclooctatin // weak to mod. AB activ. *vs* 2 strains.

71 Actinobacteria *Micromonospora marina* // * // Characterization of micromonocyclol synthase from the marine actinomycete *Micromonospora marina*
160 // N // micromonocyclol // NT

72 Actinobacteria *Streptomyces* sp.// Ningbo City, Zhejiang province, China // Bioactive staurosporine derivatives from the *Streptomyces* sp. NB-A13
161 // N // 7-*oxo*-holyrin A // weak cytotox. *vs* 2 HTCLs; weak PKC inhib.
162 // N // 4′-N-formyl-7-*oxo*-holyrin A // weak to mod. cytotox. *vs* 2 HTCLs; weak PKC inhib.
163 // N // 3′-(hydroxyl(oxiran-2-yl)methoxy)-holyrine A // weak cytotox. *vs* 2 HTCLs; weak PKC inhib.
164 // N // 3′-*epi*-5′-methoxy-K252d // IA to weak cytotox. *vs* 2 HTCLs; weak PKC inhib.
165 // N // 7-*oxo*-MLR-52 // mod. cytotox. *vs* 2 HTCLs; weak PKC inhib.
166 // N // 7-*oxo*-K252b // IA *vs* 2 HTCLs; no PKC inhib.



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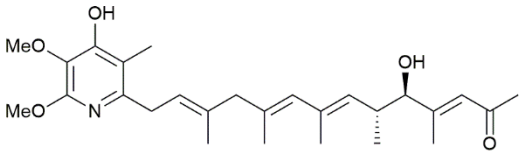
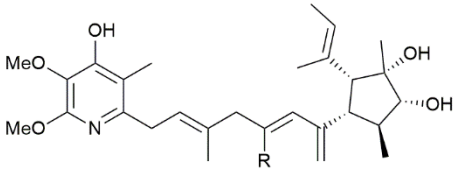
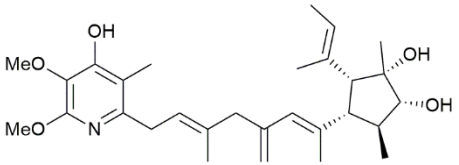


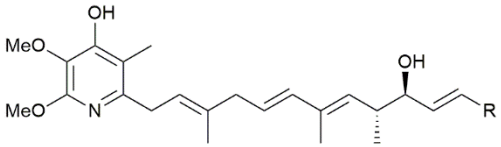
†168



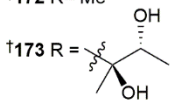
†169 R = Me
†170 R = H

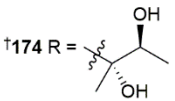


†171



†172 R= Me





48 Actinobacteria *Streptomyces bingchenggensis* // Lagos Lagoon, Nigeria // Anticancer potential of metabolic compounds from marine actinomycetes isolated from Lagos Lagoon sediment

167 // N // ULDF5 // pot. cytotox. *vs* 1 HTCL.

73 Actinobacteria *Streptomyces* sp.// Pearl River estuary, China // Iakyricidins A–D, antiproliferative piericidin analogues bearing a carbonyl group or cyclic skeleton from *Streptomyces iakyrus* SCSIO NS104

168 // N // iakyricidin A // IA to pot. cytotox. *vs* 3 HTCLs; mitochondrial complex 1 inhib.

169 // N // iakyricidin B // IA *vs* 3 HTCLs; no mitochondrial complex 1 inhib.

170 // N // iakyricidin C // IA *vs* 3 HTCLs; no mitochondrial complex 1 inhib.

171 // N // iakyricidin D // IA *vs* 3 HTCLs; no mitochondrial complex 1 inhib.

74 Actinobacteria *Streptomyces* sp.// Pearl River estuary, China // Exploring the natural piericidins as anti-renal cell carcinoma agents targeting peroxiredoxin 1

172 // N // 11-Demethyl-piericidin A // IA to weak cytotox. *vs* 3 HTCLs.

173 // N // (2*E*,5*E*,7*E*,11*E*,9*R*,10*R*,13*S*,19*R*)-13,19-dihydroxyl-IT-143-A // IA to weak cytotox. *vs* 3 HTCLs.

174 // N // (2*E*,5*E*,7*E*,11*E*,9*R*,10*R*,13*R*,19*S*)-13,19-dihydroxyl-IT-143-A // IA to weak cytotox. *vs* 3 HTCLs.

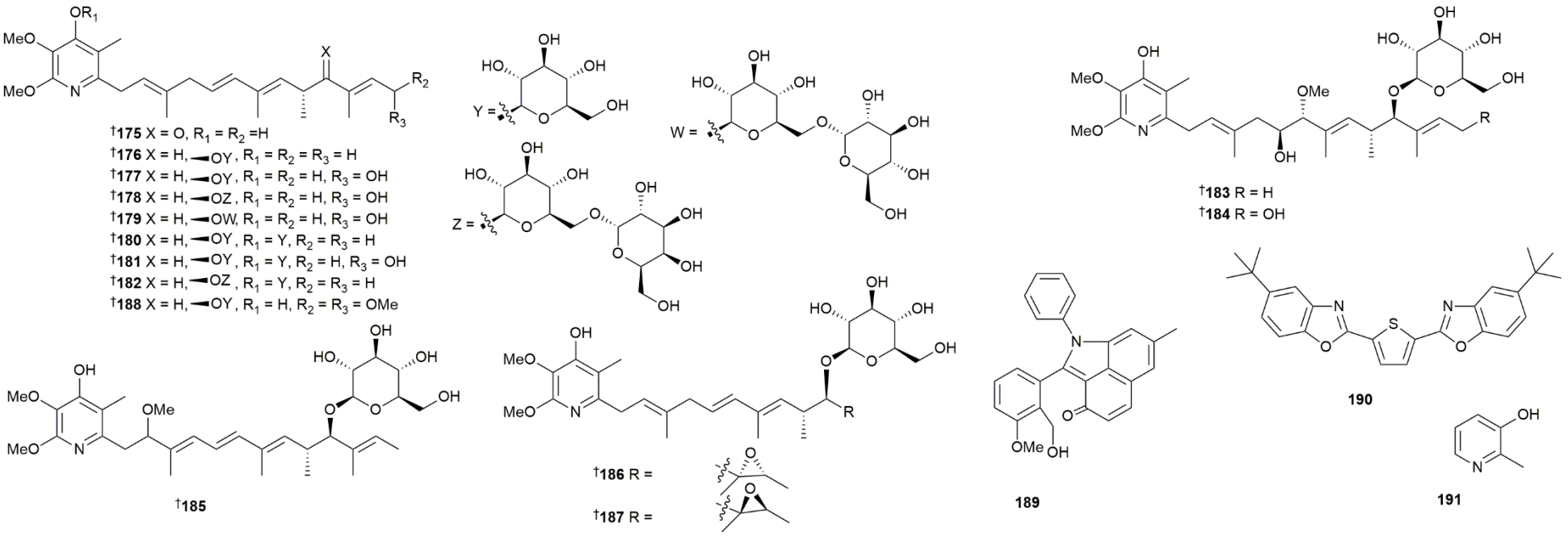
175 // M // 10-Ketone piericidin A // IA *vs* 3 HTCLs.

176 // N // 7-Demethylglucopiericidin A // weak to mod. cytotox. *vs* 3 HTCLs.

177 // N // 7-Demethyl-13-hydroxyglucopiericidin A // IA to weak cytotox. *vs* 3 HTCLs.

178 // N // 13-Hydroxypiericidin A 10-*O*-α-D-galactose (1→6)-β-D-glucoside // IA *vs* 3 HTCLs.

179 // N // 13-Hydroxypiericidin A 10-*O*-α-D-glucose (1→6)-β-D-glucoside // IA *vs* 3 HTCLs.

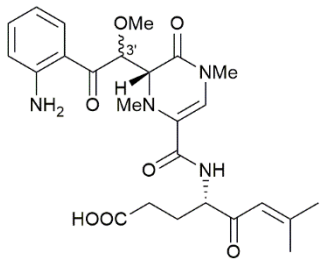


180 // N // 4′-*O*-β-D-Glucose glucopiericidin A // IA *vs* 3 HTCLs.
181 // N // 4′-*O*-β-D-Glucose 13-hydroxyglucopiericidin A // NT
182 // N // 4′-*O*-β-D-Glucose piericidin A 10-*O*-α-D-glucose (1→6)-β-D-glucoside // NT
183 // N // 5-Hydroxy-6-hydroxymethyl glucopiericidin A // IA to weak cytotox. *vs* 3 HTCLs.
184 // N // 5-Hydroxy-6-hydroxymethyl-13-hydroxyglucopiericidin A // IA *vs* 3 HTCLs.
185 // N // 2-Hydroxymethyl-Δ3, 4-glucopiericidin A // IA to weak cytotox. *vs* 3 HTCLs.
186 // N // (11*S*,12*R*) Piericidin C1 10-*O*-β-D-glucoside // IA to weak cytotox. *vs* 3 HTCLs.
187 // N // (11*R*,12*S*) Piericidin C1 10-*O*-β-D-glucoside // NT
188 // N // 13-Dimethoxy glucopiericidin A // NT

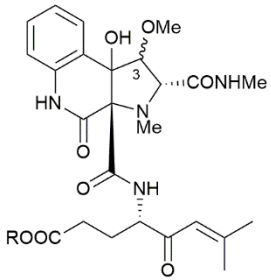
75 Actinobacteria *Streptomyces* sp.// * // Discovery of a phenylamine-incorporated angucyclinone from marine *Streptomyces* sp. PKU-MA00218 and generation of derivatives with phenylamine analogues
189 // N // angucyclinone // Activator of Nrf2 in HepG2 cells.

76 Actinobacteria *Streptomyces* sp.// Cu Lao Cham - Quang Nam, Vietnam // Antimicrobial metabolites from a marine-derived Actinomycete *Streptomyces* sp. G278
190 // N // 2,5-bis(5-tert-butyl-2-benzoxazolyl)thiophene // IA to weak AB activ. *vs* 7 strains.; potential contaminant.
191 // N // 3-hydroxyl-2-methylpyridine // IA to weak AB activ. *vs* 7 strains.; potential contaminant.

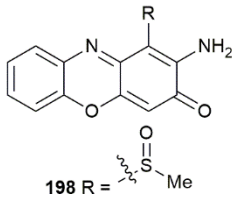
2 Marine microorganisms and phytoplankton: 2.1 Marine-sourced bacteria



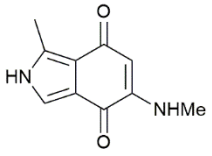
†**192** 3'*S*
†**193** 3'*R*



†**194** 3*S*, R = H
†**195** 3*R*, R = H
†**196** 3*S*, R = Me
†**197** 3*R*, R = Me



198 R =
199 R = SMe
200 R = Br



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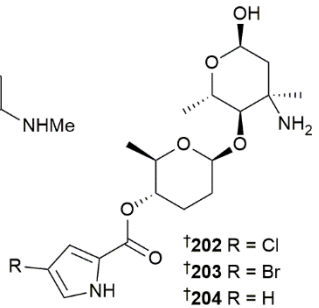
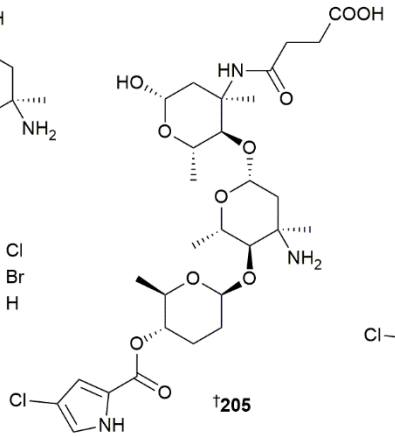
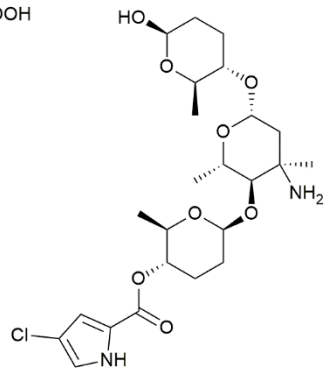


†**202** R = Cl
†**203** R = Br
†**204** R = H



†**205**



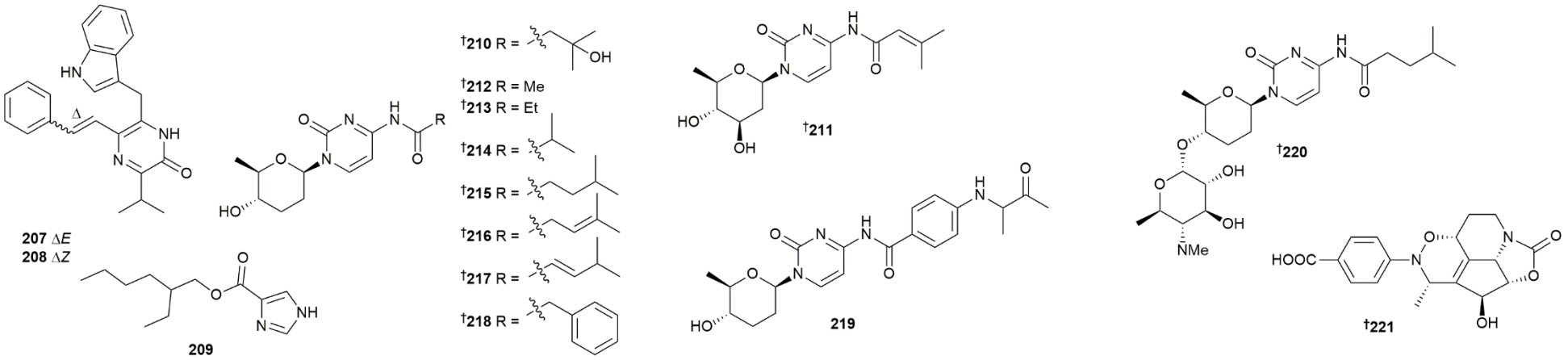
†**206**

79 Actinobacreria *Streptomyces albogriseolus* // * // Characterization and nonenzymatic transformation of three types of alkaloids from *Streptomyces albogriseolus* MGR072 and discovery of inhibitors of indoleamine 2,3-dioxygenase
192 // N // albogrisin B // No IDO1 inhib.
193 // N // albogrisin B' // No IDO1 inhib.
194 // N // albogrisin C // No IDO1 inhib.
195 // N // albogrisin C′ // No IDO1 inhib.
196 // N // albogrisin D // mod. IDO1 inhib.
197 // N // albogrisin D' // mod. IDO1 inhib.

80 Proteobacteria *Alteromonas* sp.// Hiroshima-bay, Hiroshima, Japan // Questiomycins, algicidal compounds from the marine bacterium *Alteromonas* sp. D and their production cue
198 // N // questiomycin C // mod. algicidal activ. *vs* 1 strain
199 // N // questiomycin D // weak algicidal activ. *vs* 1 strain
200 // N // questiomycin E // mod. algicidal activ. *vs* 1 strain

81 Actinobacteria *Streptomyces albus* // * // Albumycin, a new isoindolequinone from *Streptomyces albus* J1074 harboring the fluostatin biosynthetic gene cluste
201 // N // albumycin // weak AB activ. *vs* 5 strains.

82 Actinobacteria *Micromonospora* sp.// Florida Keys, Florida, U.S.A. // Phallusialides A–E, pyrrole-derived alkaloids discovered from a marine-derived *Micromonospora* sp. bacterium using MS-based metabolomics approaches
202 // N // phallusialide A // weak AB activ. *vs* 2 strains.
203 // N // phallusialide B // weak AB activ. *vs* 2 strains.
204 // N // phallusialide C // IA *vs* 2 bact. strains.
205 // N // phallusialide D // IA *vs* 2 bact. strains.
206 // N // phallusialide E // IA *vs* 2 bact. strains.

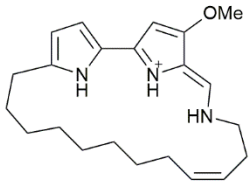


83 Proteobacteria *Enhygromyxa* sp.// Florida Keys, Floria, U.S.A. // Enhypyrazinones A and B, pyrazinone natural products from a marine-derived Myxobacterium *Enhygromyxa* sp.
207 // N // enhypyrazinone A // IA to weak AB activ. *vs* 3 strains.
208 // N // enhypyrazinone B // IA to weak AB activ. *vs* 3 strains.

84 Actinobacteria *Verrucosispora* sp.// East China Sea // Identification and antimicrobial properties of a new alkaloid produced by marine-derived *Verrucosispora* sp. FIM06-0036
209 // N // 2-ethylhexyl 1H-imidazole-4-carboxylate // IA to mod. AB activ. *vs* 4 strains.

85 Actinobacteria *Streptomyces* sp.// Shengsi Archipelago, Zhejiang Province, China // Pyrimidine nucleosides from *Streptomyces* sp. SSA28
210 // N // streptcytosine F // IA *vs* 1 HTCL.
211 // N // streptcytosine G // IA *vs* 1 HTCL.
212 // N // streptcytosine H // IA *vs* 1 HTCL.
213 // N // streptcytosine I // IA *vs* 1 HTCL.
214 // N // streptcytosine J // IA *vs* 1 HTCL.
215 // N // streptcytosine K // IA *vs* 1 HTCL.
216 // N // streptcytosine L // IA *vs* 1 HTCL.
217 // N // streptcytosine M // IA *vs* 1 HTCL.
218 // N // streptcytosine N // IA *vs* 1 HTCL.
219 // N // streptcytosine O // IA *vs* 1 HTCL.
220 // N // cytosaminomycin E // mod. cytotox. *vs* 1 HTCL.

86 Actinobacteria *Streptomyces chartreusis* // * // Chartrenoline, a novel alkaloid isolated from a marine *Streptomyces chartreusis* NA02069
221 // N // chartrenoline // IA *vs* 4 bact. strains.



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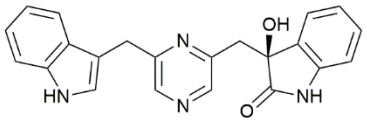
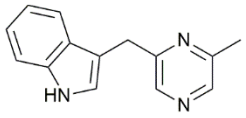


†223



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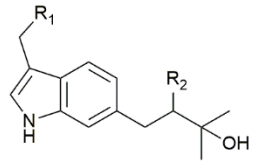
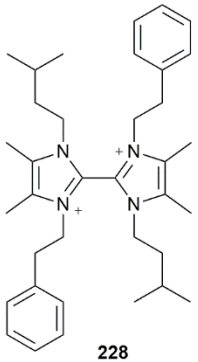


†225 R_1 = CN, R_2 = ◄OH
†226 R_1 = CN, R_2 = ····OH
†227 R_1 = CH_2OH, R_2 = ····OH



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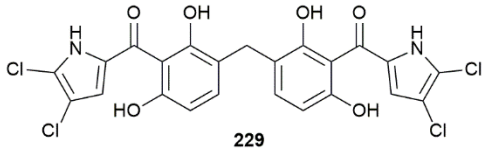

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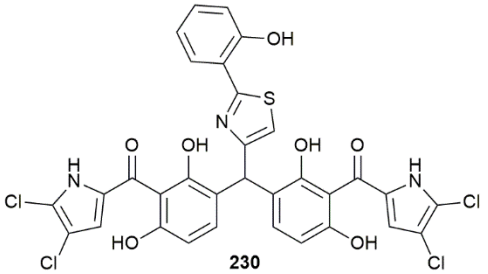

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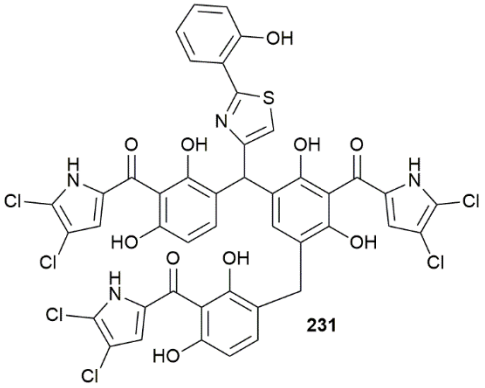


231

87 Proteobacteria *Pseudoalteromonas citrea* // * // Isolation and characterization of tambjamine MYP1, a macrocyclic tambjamine analogue from marine bacterium *Pseudoalteromonas citrea*
222 // N // tambjamine MYP1 // NT

88 Proteobacteria *Acinetobacter* sp.// Karachi, Sindh, Pakistan // Novel antimicrobial indolepyrazines A and B from the marine-associated *Acinetobacter* sp. ZZ1275
223 // N // indolepyrazine A // mod. AB activ. *vs* 3 strains.
224 // N // indolepyrazine B // mod. AB activ. *vs* 3 strains.

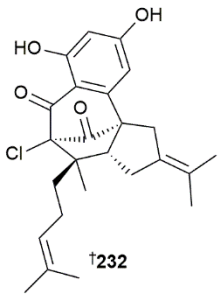
70 Actinobacteria *Streptomyces* sp.// Zhoushan Archipelago, Zhejiang, China // Isolation, structure elucidation, and antibacterial evaluation of the metabolites produced by the marine-sourced *Streptomyces* sp. ZZ820
225 // N // streptoprenylindole A // IA *vs* 2 bact. strains.
226 // N // streptoprenylindole B // IA *vs* 2 bact. strains.
227 // N // streptoprenylindole C // IA *vs* 2 bact. strains.

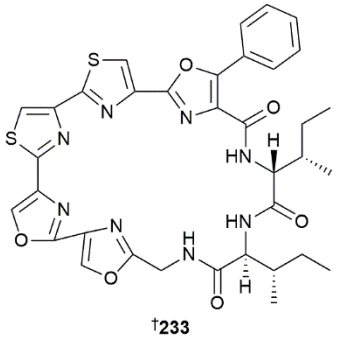
89 Firmicutes *Paenibacillus* sp.// Digya National Park, Brong Ahafo Region, Ghana // Paenidigyamycin A, potent antiparasitic imidazole alkaloid from the Ghanaian *Paenibacillus* sp. DE2SH
228 // N // paenidigyamycin A // weak to mod. antiparasit. activ. *vs* 4 strains.; IA *vs* 8 HTCLs; weak to mod. AB activ *vs* 6 strains.

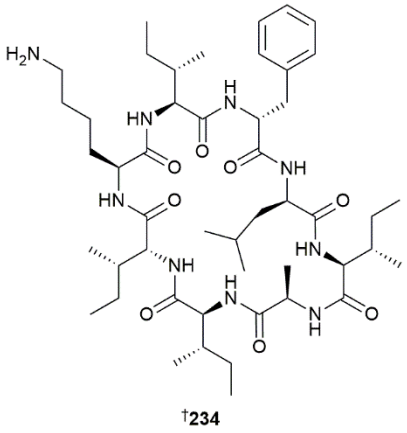
90 Proteobacteria *Pseudomonas aeruginosa* // Sultan Kudarat, Mindanao, Philippines // Mindapyrroles A–C, pyoluteorin analogues from a shipworm-associated bacterium
229 // N // mindapyrrole A // weak AB activ. *vs* 6 strains.; IA *vs* 1 nHCL.
230 // N // mindapyrrole B // mod. AB activ. *vs* 6 strains.; IA *vs* 1 nHCL.
231 // N // mindapyrrole C // weak to mod. AB activ. *vs* 6 strains.; IA *vs* 1 nHCL.

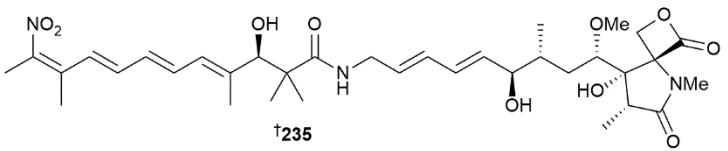
2 Marine microorganisms and phytoplankton:

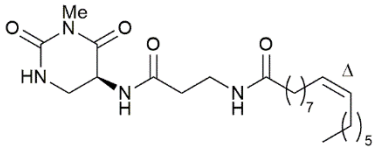
2.1 Marine-sourced bacteria

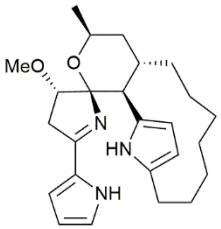




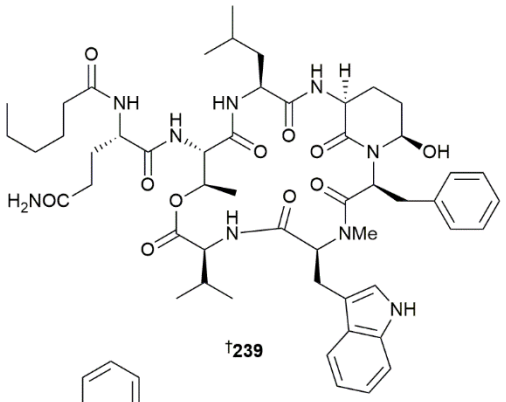


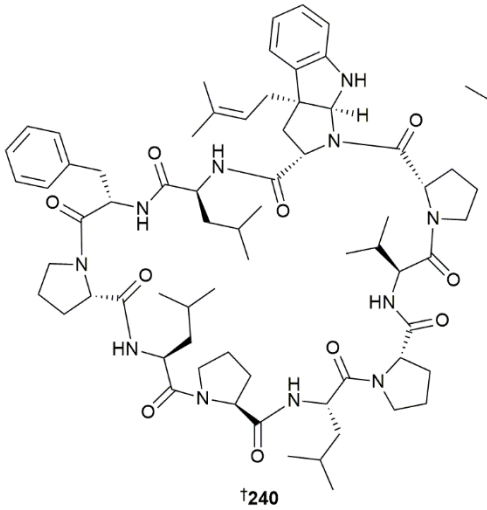


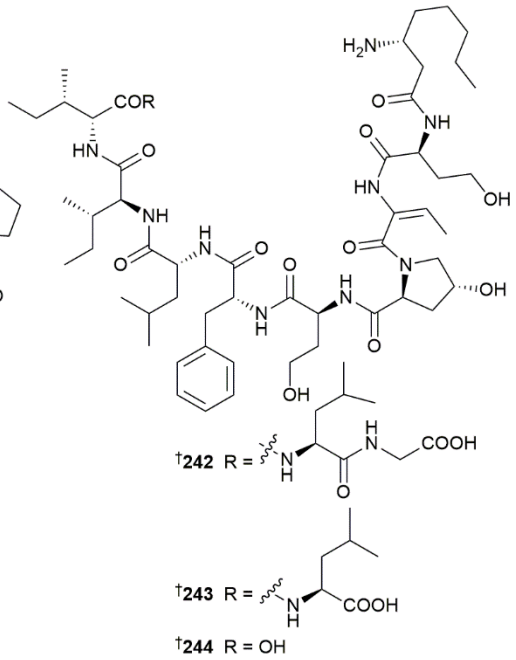


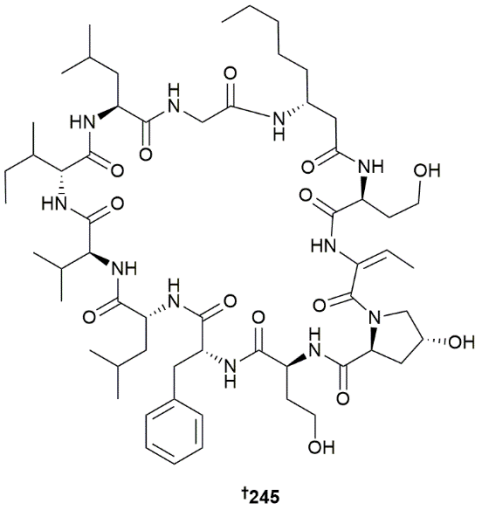


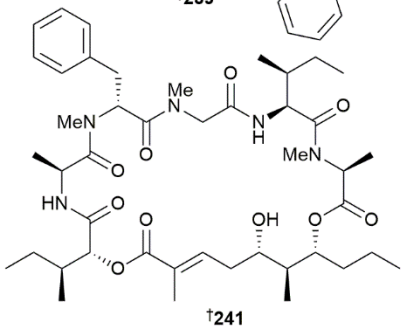
94 * // * // Total synthesis of (−)-merochlorin A
232 // R // (−)-merochlorin A // *
96 * // * // Solid-phase-based total synthesis and stereochemical assignment of the cryptic natural product aurantizolicin
233 // R // aurantizolicin // *
97 * // * // The revised struct. of the cyclic octapeptide surugamide A
234 // R // surugamide A // *
100 * // * // Total synthesis of lajollamycin B
235 // R // lajollamycin B // *
102 * // * // Total synthesis and stereochemical revision of biemamides B and D
236 // R // (–)-biemamide B // *
237 // R // (–)-biemamide D // *
110 * // * //Anomalous Chromophore Disruption Enables an Eight-Step Synthesis and Stereochemical Reassignment of (+)-Marineosin A
238 // R // (+)-marineosin A // *









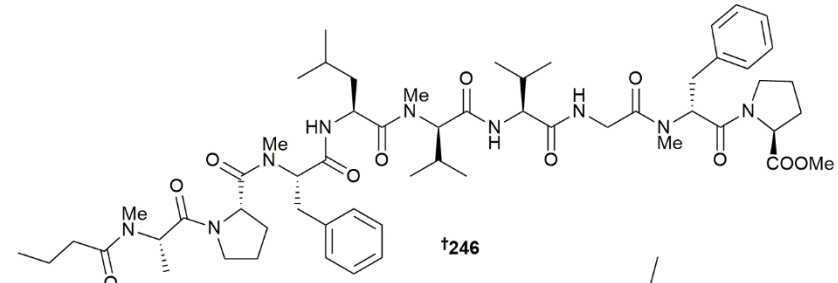


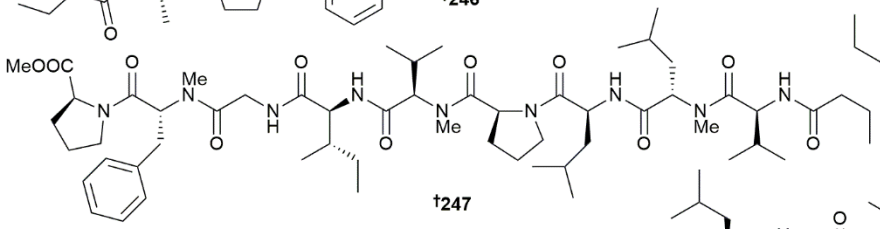
163 Cyanobacteria *Caldora penicillata* // Kyan, Okinawa Prefecture, Japan // Kyanamide, a new Ahp-containing depsipeptide from marine cyanobacterium *Caldora penicillata*
239 // N // kyanamide // pot. inhib. of elastase and chymotrypsin; weak cytotox. *vs* 1 HTCL.

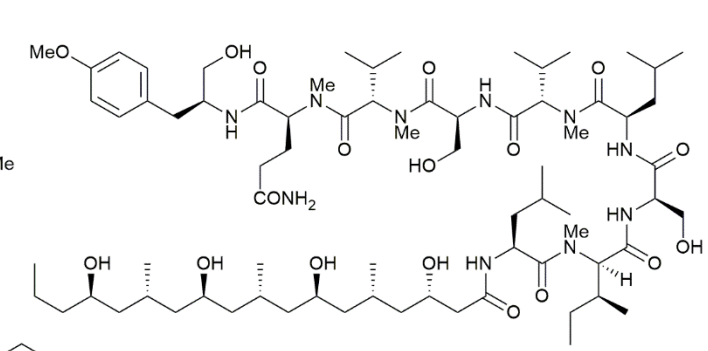
164 Cyanobacteria *Symploca hydnoides* // Trikora beach, Bintan Island, Indonesia // Trikoramide A, a prenylated cyanobactin from the marine cyanobacterium *Symploca hydnoides*
240 // N // trikoramide A // weak cytotox. *vs* 1 HTCL

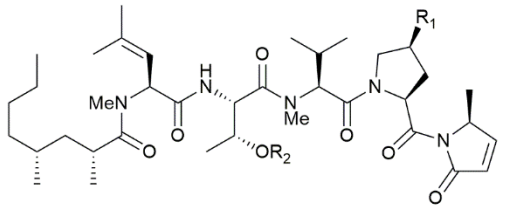
165 Cyanobacteria *Dichotrix* sp., *Cyanobacteria Lyngbya* sp., Cyanobacteria *Rivularia* sp.// Loggerhead Key, Dry Tortugas, Florida // Isolation, structure elucidation and biological evaluation of lagunamide D: a new cytotoxic macrocyclic depsipeptide from marine cyanobacteria
241 // N // lagunamide D // pot. cytotox. *vs* A549. Converted to lagunamide D' via ester exchange.

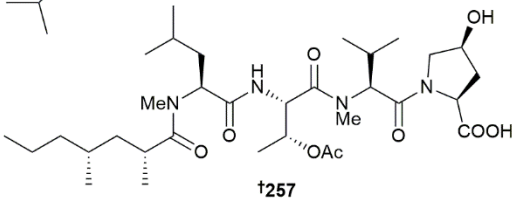
166 Cyanobacteria *Anabaena torulosa* // Moorea, French Polynesia, Pacific Ocean // Structure and biological evaluation of new cyclic and acyclic laxaphycin-A type peptides
242 // N // acyclolaxaphycin A // NT
243 // N // [*des*-Gly11]acyclolaxaphycin A // weak cytotox. *vs* 1 HTCL.
244 // N // [*des*-(Leu10-Gly11)]acyclolaxaphycin A // IA *vs* 1 HTCL.
245 // N // [D-Val9]laxaphycin A // weak cytotox. *vs* 1 HTCL.

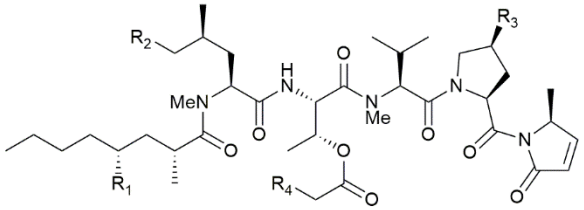










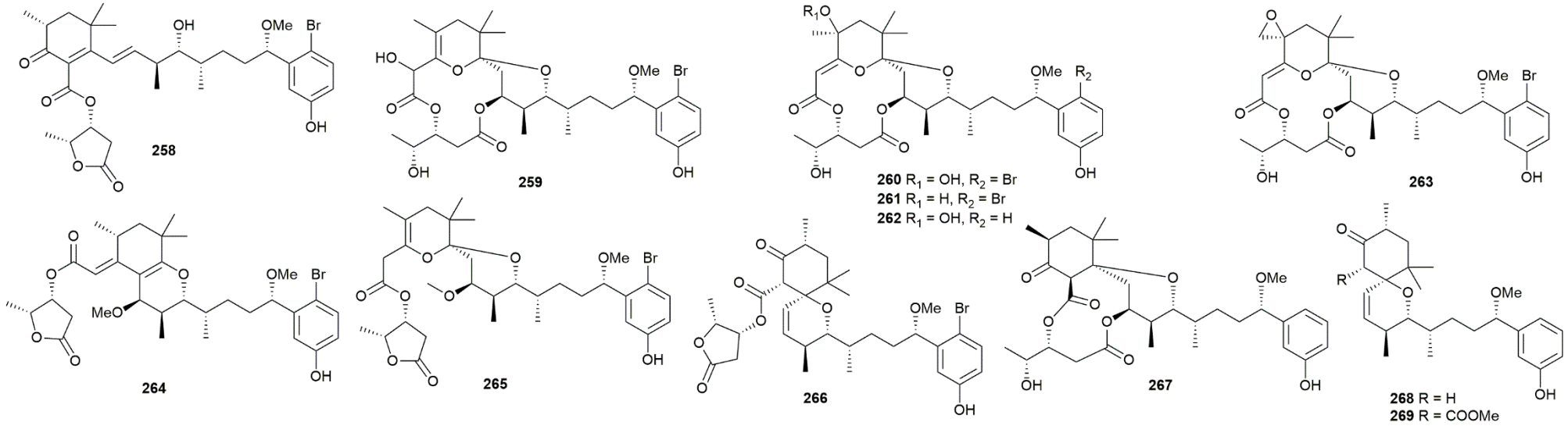


168 Cyanobacteria *Okeania* sp.// Odo, Okinawa, Japan // Isolation and total synthesis of mabuniamide, a lipopeptide from an *Okeania* sp. marine cyanobacterium
246 // N // mabuniamide // Stimulates glucose uptake in L6 myotubes; mod. antimal. activ.

169 Cyanobacteria // Two Lovers Point, Guam // Discovery of amantamide, a selective CXCR7 agonist from marine cyanobacteria
247 // N // amantamide // CXCR7 agonist

170 Cyanobacteria *Okeania hirsuta* // Minna Island, Okinawa, Japan // Minnamide A, a linear lipopeptide from the marine cyanobacterium *Okeania hirsuta*
248 // N // minnamide A // mod. cytotox. *vs* 1 HTCL; induces Cu accumulation of ROS.

171 Cyanobacteria *Moorea producens* // Playa Kalki, Curaçao // Cytotoxic microcolin lipopeptides from the marine cyanobacterium *Moorea producens*
249 // N // microcolin E // mod. cytotox. *vs* 1 HTCL.
250 // N // microcolin F // pot. cytotox. *vs* 1 HTCL.
251 // N // microcolin G // mod. cytotox. *vs* 1 HTCL.
252 // N // microcolin H // pot. cytotox. *vs* 1 HTCL.
253 // N // microcolin I // mod. cytotox. *vs* 1 HTCL.
254 // N // microcolin J // pot. cytotox. *vs* 1 HTCL.
255 // N // microcolin K // mod. cytotox. *vs* 1 HTCL.
256 // N // microcolin L // NT
257 // N // microcolin M // mod. cytotox. *vs* 1 HTCL.

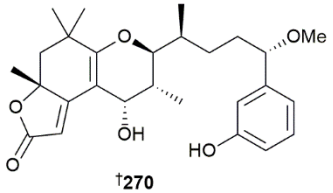


172 Cyanobacteria *Moorea producens* // Kuba Beach, Nakagusuku, Okinawa, Japan // Oscillatoxin I: a new aplysiatoxin derivative, from a marine cyanobacterium
258 // N // oscillatoxin I // mod. cytotox. *vs* 1 HTCL, mod. growth inhib. *vs* diatom strain.

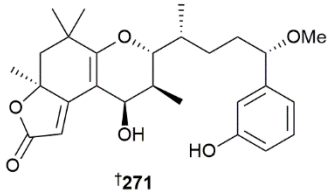
173 Cyanobacteria *Moorea producens* // Okinawa, Japan // New aplysiatoxin derivatives from the Okinawan cyanobacterium *Moorea producens*
259 // N // 2-hydroxyanhydroaplysiatoxin // weak cytotox. *vs* 1 HTCL; weak diatom growth inhib.
260 // N // 17-bromo-4-hydroperoscillatoxin B2 // weak cytotox. *vs* 1 HTCL; weak diatom growth inhib.
261 // N // 17-bromooscillatoxin // weak cytotox. *vs* 1 HTCL; weak diatom growth inhib.
262 // N // 4-hydroperoscillatoxin B2 // weak cytotox. *vs* 1 HTCL; no diatom growth inhib.
263 // N // 17-bromo-4,26-epoxyoscillatoxin B2 // weak cytotox. *vs* 1 HTCL; weak diatom growth inhib.
264 // N // oscillatoxin G // IA *vs* 1 HTCL; weak diatom growth inhib.; initially named oscillatoxin E.
265 // N // oscillatoxin H // IA *vs* 1 HTCL; weak diatom growth inhib.; initially named oscillatoxin F.
266 // N // 17-bromo-303-methyloscillatoxin D // IA *vs* 1 HTCL; weak diatom growth inhib.

174 Cyanobacteria *Lyngbya* sp.// South China Sea // Chemical and biological study of aplysiatoxin derivatives showing inhibition of potassium channel Kv1.5
267 // N // neo-debromoaplysiatoxin D // Induced expression of PKCdelta
268 // N // oscillatoxin F // IA.
269 // N // oscillatoxin E // pot. K-channel Kv1.5 inhib.

2 Marine microorganisms and phytoplankton: 2.2 Cyanobacteria



†270



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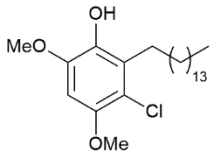

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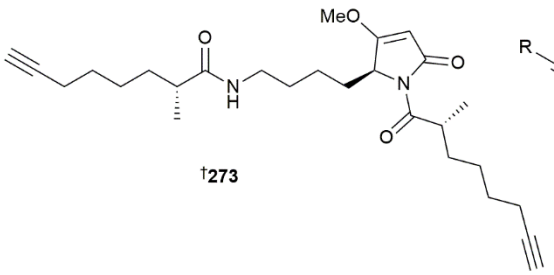

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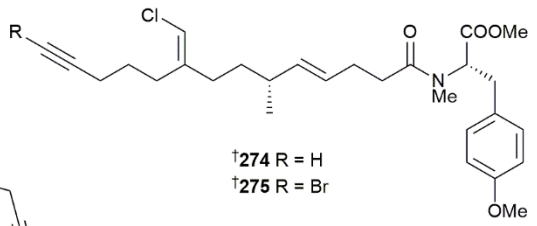
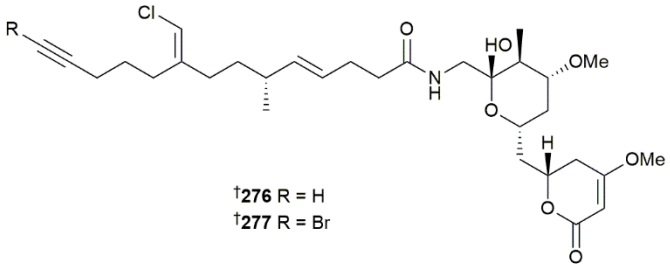
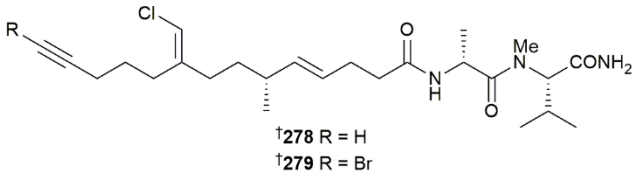


†274 R = H
†275 R = Br



†276 R = H
†277 R = Br



†278 R = H
†279 R = Br

175 Cyanobacteria *Lyngbya* sp.// Sanya, Hainan province, China // Two new neo-debromoaplysiatoxins—a pair of stereoisomers exhibiting potent Kv1.5 ion channel inhibition activities

270 // N // *neo*-debromoaplysiatoxin E // mod. K-channel Kv1.5 inhib.

271 // N // *neo*-debromoaplysiatoxin F // mod. K-channel Kv1.5 inhib.

176 Cyanobacteria *Cyanobium* sp.// Aguda beach, Portugal // Structure of hierridin C, synthesis of hierridins B and C, and evidence for prevalent alkylresorcinol biosynthesis in picocyanobacteria

272 // N // hierridin C // IA *vs* 7 HTCLs; weak antimal. activ.

177 Cyanobacteria *Moorea producens* // Fingers Reef, Apra Harbor, Guam // Discovery and total Synthesis of doscadenamide A: a quorum sensing signaling molecule from a marine cyanobacterium

273 // N // doscadenamide A // Quorom signalling molecule

178 Cyanobacteria *Moorea producens* // Vatia Bay, American Samoa // Nature's combinatorial biosynthesis produces vatiamides A-F

274 // N // vatiamide A // IA to weak cytotox. *vs* 1 HTCL and brine shrimp.

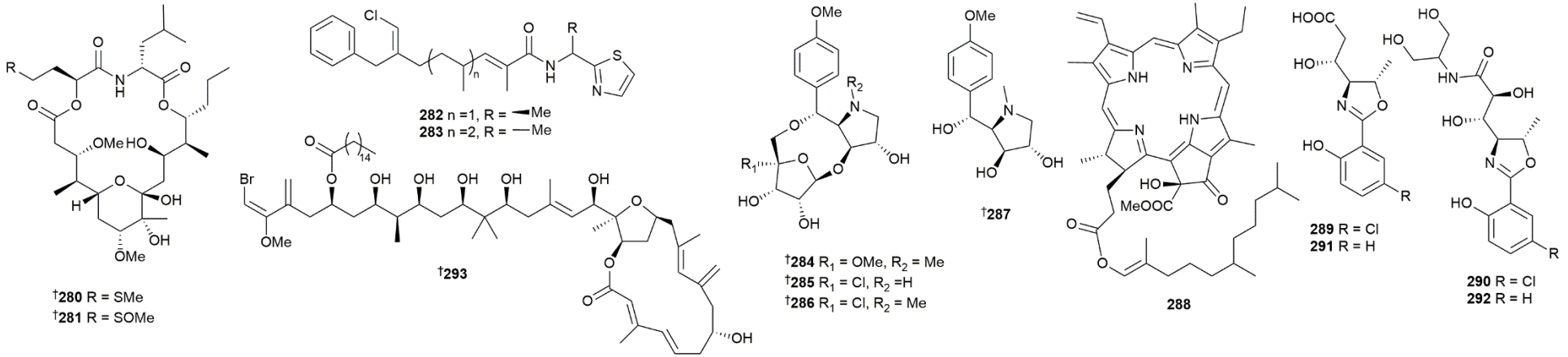
275 // N // vatiamide B // IA to weak cytotox. *vs* 1 HTCL and brine shrimp.

276 // N // vatiamide C // IA to weak cytotox. *vs* 1 HTCL and brine shrimp.

277 // N // vatiamide D // IA to weak cytotox. *vs* 1 HTCL and brine shrimp.

278 // N // vatiamide E // NT

279 // N // vatiamide F // IA to weak cytotox. *vs* 1 HTCL and brine shrimp.



179 Cyanobacteria *Roseofilum reptotaenium* // Looe Key Reef, Florida, U.S.A. // Chemical and metagenomic studies of the lethal black band disease of corals reveal two broadly distributed, redox-sensitive mixed polyketide/peptide macrocycles

280 // N // looekeyolide A // ROS effects

281 // N // looekeyolide B // Auto-oxidation prod. of looekeyolide A

180 Cyanobacteria *Trichodesmium* sp.// Mayaguana Island, Bahamas // A joint molecular networking study of a *Smenospongia* sponge and a cyanobacterial bloom revealed new antiproliferative chlorinated polyketides

282 // N // isoconulothiazole B // NT

283 // N // conulothiazole C // NT

181 Cyanobacteria *Symploca* sp.// Boca del Drago, Panama // Dragocins A−D, structurally intriguing cytotoxic metabolites from a Panamanian marine cyanobacterium

284 // N // dragocin A // weak cytotox. *vs* 1 HTCL.

285 // N // dragocin B // weak cytotox. *vs* 1 HTCL.

286 // N // dragocin C // weak cytotox. *vs* 1 HTCL.

287 // N // dragocin D // weak cytotox. *vs* 1 HTCL.

182 Cyanobacteria *Cyanobium* sp., Cyanobacteria *Nodosilinea* sp.// Portuguese coast // Chlorophyll derivatives from marine cyanobacteria with lipid-reducing activities

288 // N // 132-hydroxy-pheofarnesin a // mod. activ. in neutral lipid-reducing assay

183 Cyanobacteria *Leptolyngbya* sp.// Blaisdell Center, Honolulu, Hawaii, USA // Characterization of leptazolines A–D, polar oxazolines from the cyanobacterium *Leptolyngbya* sp., reveals a glitch with the "Willoughby–Hoye" scripts for calculating NMR chemical shifts

289 // N // leptazoline A // IA *vs* 1 HTCL.

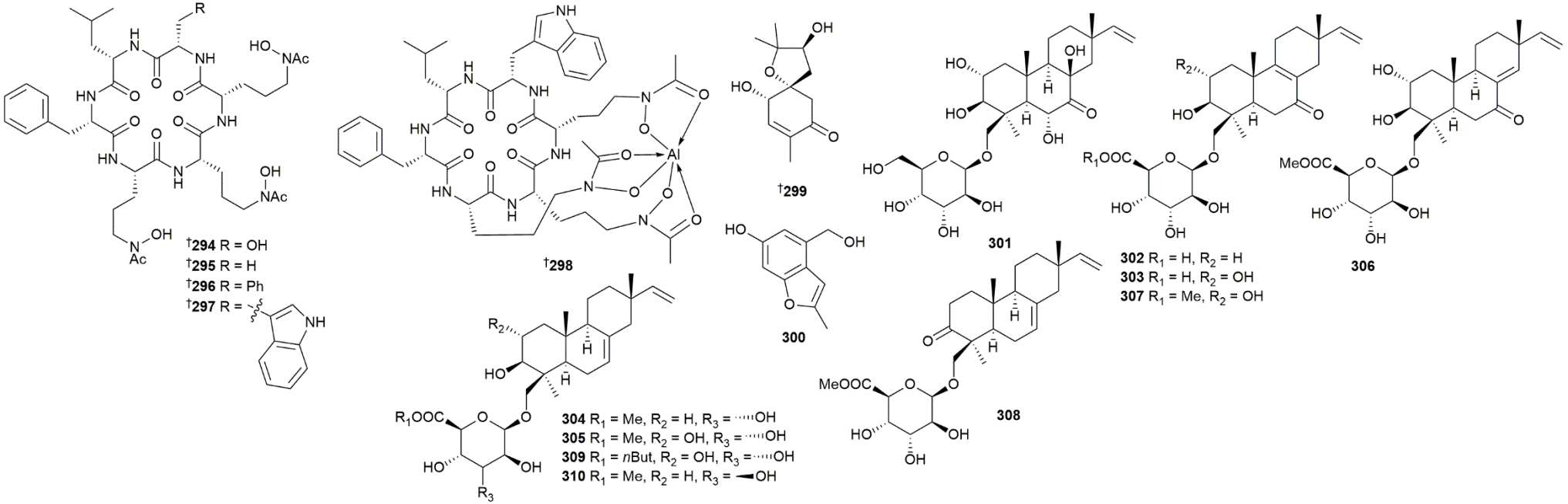
290 // N // leptazoline B // weak cytotox. *vs* 1 HTCL.

291 // N // leptazoline C // NT

292 // N // leptazoline D // NT

187 * // *// A counterintuitive stereochemical outcome from a chelation-controlled vinylmetal aldehyde addition leads to the configurational reassignment of phormidolide A

293 // R // phormidolide A // *



203 Ascomycota *Acremonium persicinum* // (sediment) South China Sea // Natural hydroxamate-containing siderophore acremonpeptides A–D and an aluminum complex of acremonpeptide D from the marine-derived *Acremonium persicinum* SCSIO 115

294 // N // acremonpeptide A // IA *vs* 9 bact., 4 fungi and 2 viruses.

295 // N // acremonpeptide B // weak inhib. 1 virus, IA *vs* 1 virus, 9 bact. and 4 fungi.

296 // N // acremonpeptide C // IA *vs* 9 bact., 4 fungi and 2 viruses.

297 // N // acremonpeptide D // IA *vs* 9 bact., 4 fungi and 2 viruses.

298 // N // Al(III)–acremonpeptide D // IA *vs* 9 bact., 4 fungi and 2 viruses.

204 Ascomycota *Acremonium persicinum* // (sponge, *Mycale* sp.) Samaesarn Is., Chonburi Province, Gulf of Thailand // A new meroterpene, a new benzofuran derivative and other constituents from cultures of the marine sponge-associated fungus *Acremonium persicinum* KUFA 1007 and their anticholinesterase activities

299 // N // acremine S // weak inhib. AChE, strong inhib. BuChE

300 // N // acremine T // weak inhib. AChE, mod. inhib. BuChE

205 Ascomycota *Acremonium striatisporum*, Ascomycota *Sagenomella striatispora* // (holothurian, *Eupentacta fraudatrix*), unspecifed location // Virescenosides from the holothurian-associated fungus *Acremonium striatisporum* Kmm 4401

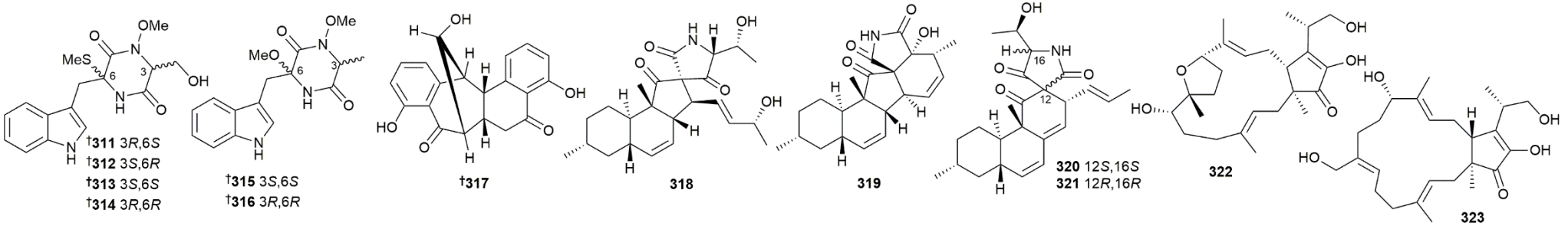
301 // N // virescenoside Z9 // No inhib. NO prod.

302 // N // virescenoside Z10 // mod. inhib. NO prod.

303 // N // virescenoside Z11 // No inhib. NO prod.

304 // N // virescenoside Z12 // No inhib. NO prod.

305 // N // virescenoside Z13 // mod. inhib. NO prod.
306 // N // virescenoside Z14 // No inhib. NO prod.
307 // N // virescenoside Z15 // No inhib. NO prod.
308 // N // virescenoside Z16 // No inhib. NO prod.
309 // N // virescenoside Z17 // No inhib. NO prod.
310 // N // virescenoside Z18 // No inhib. NO prod.

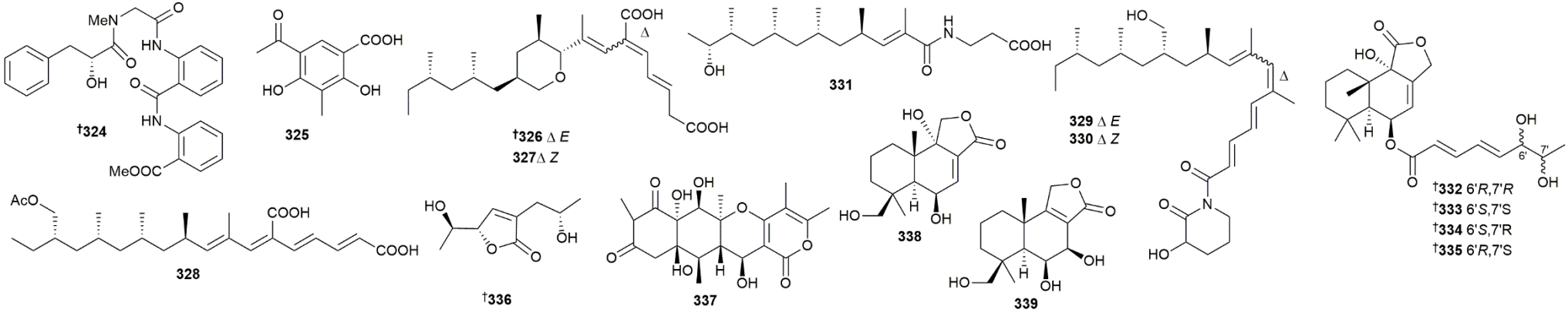


206 Ascomycota *Acrostalagmus luteoalbus* // (green alga, *Codium fragile*) Sinop, Turkey // Isolation and characterization of three pairs of indolediketopiperazine enantiomers containing infrequent *N*-methoxy substitution from the marine algal-derived endophytic fungus *Acrostalagmus luteoalbus* TK-43
311 // N // (+)-acrozine A // weak inhib. AChE. IA *vs* 10 bact. and 15 fungi.
312 // N // (–)-acrozine A // weak inhib. AChE. IA *vs* 10 bact. and 15 fungi.
313 // N // (+)-acrozine B // IA *vs* 10 bact. and 15 fungi. No inhib. AChE.
314 // N // (–)-acrozine B // weak inhib. 1 fungus. IA *vs* 10 bact. and 14 fungi. No inhib. AChE.
315 // N // (+)-acrozine C // IA *vs* 10 bact. and 15 fungi. No inhib. AChE.
316 // N // (–)-acrozine C // IA *vs* 10 bact. and 15 fungi. No inhib. AChE.

207 Ascomycota *Alternaria alternata* // (soft coral, *Sarcophyton* sp.) Weizhou Islands coral reef, S. China Sea // Alternatone A, an unusual perylenequinone-related compound from a soft-coral-derived strain of the fungus *Alternaria alternata*
317 // N // alternatone A // IA *vs* 3 HTCLs.

208 Ascomycota *Alternaira* sp.// (sea urchin, *Anthocidaris crassipina*) Osaka bay, Japan // Altercrasins A–E, decalin derivatives, from a sea-urchin-derived *Alternaria* sp.: isolation and structural analysis including stereochemistry
318 // N // altercrasin B // IA *vs* 1 murine and 2 HTCLs.
319 // N // altercrasin C // IA *vs* 1 murine and 2 HTCLs.
320 // N // altercrasin D // weak cytotox. *vs* 1 murine and 2 HTCLs.
321 // N // altercrasin E // weak cytotox. *vs* 1 HTCL. IA *vs* 1 murine and 1 HTCL.

209 Ascomycota *Arthrinium* sp.// (unidentified crab) Zhairuoshan Island, Zhejiang Province, China // Two new Sesterterpenes from marine-derived fungus *Arthrinium* sp.
322 // N // terpestacin B // IA AB and cytotox. assays (no details given).
323 // N // 21-hydroxyterpestacin // IA AB and cytotox. assays (no details given).



210 Ascomycota *Aspergillus clavatus* // (unidentified ascidian), Indonesia // Antibacterial metabolites from Ascidian-derived fungus *Aspergillus clavatus* AS-107

324 // N // *seco*-clavatustide B // weak AB *vs* 3 strains., IA *vs* 4 strains.

325 // N // 5-acetyl-2,4-dihydroxy-3-methylbenzoic acid // IA *vs* 7 bact.

211 Ascomycota *Aspergillus fischeri* // (sediment), Indian Ocean // Polypropionate derivatives with *Mycobacterium tuberculosis* protein tyrosine phosphatase B inhibitory activities from the deep-sea-derived fungus *Aspergillus fischeri* FS452

326 // N // fiscpropionate A // mod. inhib. MptpB. IA *vs* 1 fungus.

327 // N // fiscpropionate B // weak inhib. MptpB. IA *vs* 1 fungus.

328 // N // fiscpropionate C // mod. inhib. MptpB. IA *vs* 1 fungus.

329 // N // fiscpropionate D // weak inhib. MptpB. IA *vs* 1 fungus.

330 // N // fiscpropionate E // No inhib. MptpB. IA *vs* 1 fungus.

331 // N // fiscpropionate F // No inhib. MptpB. IA *vs* 1 fungus.

212 Ascomycota *Aspergillus flavus* // (sediment) Bohai Sea, China. // Asperienes A–D, bioactive sesquiterpenes from the marine-derived fungus *Aspergillus flavus*

332 // N // asperiene A // mod. cytotox. *vs* 4 HTCLs. IA *vs* 1 nHCL.

333 // N // asperiene B // mod. cytotox. *vs* 4 HTCLs. weak cytotox. *vs* 1 nHCL.

334 // N // asperiene C // mod. cytotox. *vs* 4 HTCLs. weak cytotox. *vs* 1 nHCL.

335 // N // asperiene D // mod. cytotox. *vs* 4 HTCLs. IA *vs* 1 nHCL.

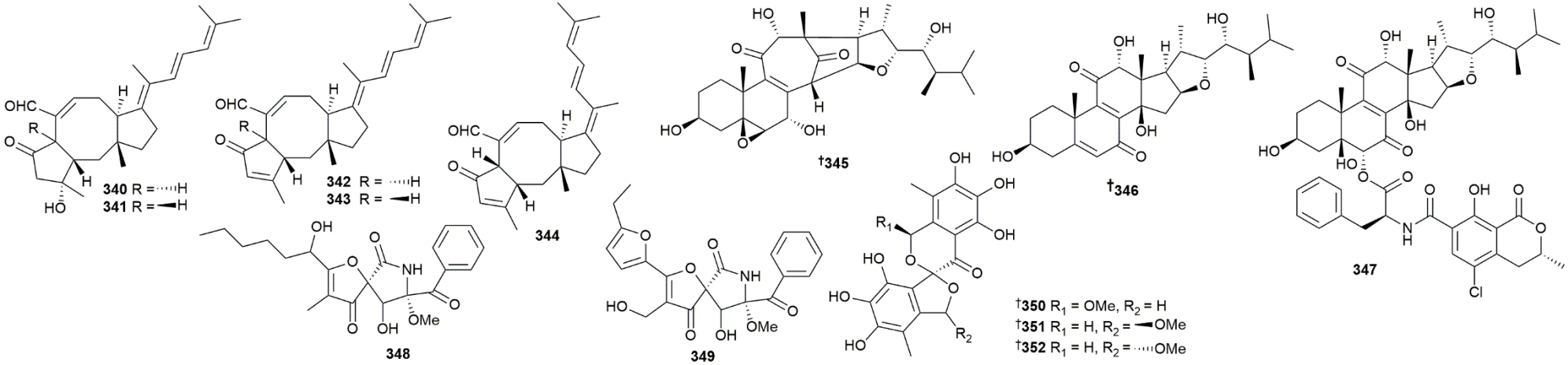
213 Ascomycota *Aspergillus flocculosus* // (sediment), Nha Trang Bay, S. China Sea, Vietnam // Biologically active metabolites from the marine sediment-derived fungus *Aspergillus flocculosus*

336 // N // aspilactonol G // IA *vs* 1 HTCl and I murine TCL.

337 // N // 12-*epi*-aspertetranone D // IA *vs* 1 HTCl and I murine TCL.

338 // N // 6β,9α,14-trihydroxycinnamolide // IA *vs* 1 HTCl and I murine TCL.

339 // N // 6β,7β,14-trihydroxyconfertifolin // IA *vs* 1 HTCl and I murine TCL.



214 Ascomycota *Aspergillus flocculosus* // (brown alga, *Padina* sp.), Son Tra peninsula, Da Nang, Vietnam // New ophiobolin derivatives from the marine fungus *Aspergillus flocculosus* and their cytotoxicities against cancer cells

340 // N // 14,15-dehydro-6-*epi*-ophiobolin K // mod. cytotox. *vs* 6 HTCLs.

341 // N // 14,15-dehydro-ophiobolin K // mod. cytotox. *vs* 6 HTCLs.

342 // N // 14,15-dehydro-6-*epi*-ophiobolin G // mod. cytotox. *vs* 3 HTCLs. weak cytotox. *vs* 3 HTCLs.

343 // N // 14,15-dehydro-ophiobolin G // weak cytotox. *vs* 6 HTCLs.

344 // N // 14,15-dehydro-(*Z*)-14-ophiobolin G // weak cytotox. *vs* 6 HTCLs.

215 Ascomycota *Aspergillus flocculosus* // (sponge, *Phakellia fusca*), Yongxing Is., China // Asperflotone, an 8(14→15)-*abeo*-ergostane from the sponge-derived fungus *Aspergillus flocculosus* 16D-1

345 // N // asperflotone // weak inhib. IL-6 prod. IA *vs* 3 HTCLs.

346 // N // asperfloroid // weak inhib. IL-6 prod. IA *vs* 3 HTCLs.

216 Ascomycota *Aspergillus flocculosus* // (sponge, *Phakellia fusca*), Yongxing Is., China // Ochrasperfloroid, an ochratoxin–ergosteroid heterodimer with inhibition of IL-6 and NO production from *Aspergillus flocculosus* 16D-1

347 // N // ochrasperfloroid // pot. inhib. NO prod. and IL-6 prod. weak cytotox. *vs* 1 HTCL. IA *vs* I HTCL.

217 Ascomycota *Aspergillus fumigatus* // (sediment), Bohai Sea, China // Two new spiro-heterocyclic γ-lactams from a marine-derived *Aspergillus fumigatus* Strain CUGBMF170049

348 // N // cephalimysin M // IA *vs* 5 bact. and 1 fungus.

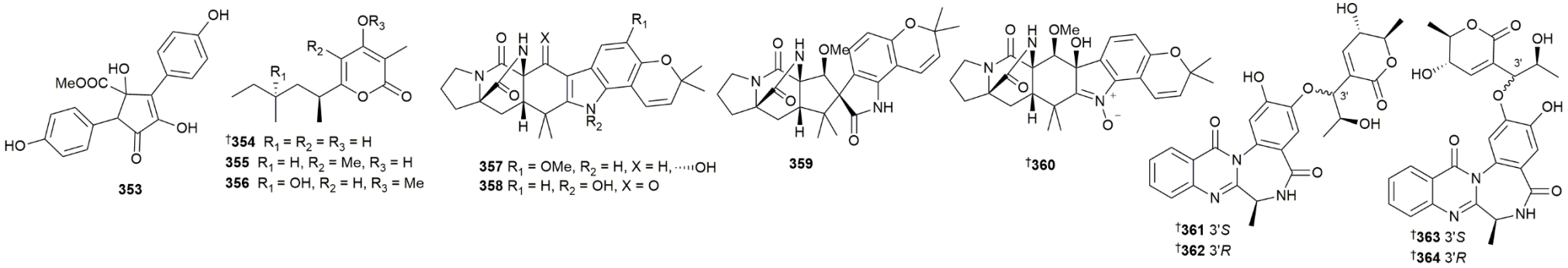
349 // N // cephalimysin N // IA *vs* 5 bact. and 1 fungus.

218 Ascomycota *Aspergillus micronesiensis* // (red alga, *Kappaphycus alvarezii*), Van Phong bay, Khanh Hoa, Vietnam // Aspermicrones A-C, novel dibenzospiroketals from the seaweed-derived endophytic fungus *Aspergillus micronesiensis*

350 // N // aspermicrone A // IA *vs* 2 HTCL, 1 nHCL, 4 bact. and 1 fungus.

351 // N // aspermicrone B // weak cytotox. *vs* 1 HTCL. IA *vs* 1 HTCL, 1 nHCL, 4 bact. and 1 fungus.

352 // N // aspermicrone C // IA *vs* 2 HTCL, 1 nHCL, 4 bact. and 1 fungus.



219 Ascomycota *Aspergillus niger* // (unidentified zoanthid), Xuwen, Zhanjiang City, Guangdong Province, China // A new diphenolic metabolite isolated from the marine-derived fungus *Aspergillus niger* 102

353 // N // asperdiphenol A // IA *vs* 4 bact. and 4 HTCLs. No inhib. NO prod.

220 Ascomycota *Aspergillus niger* // (sponge, *Haliclona* sp.), Lingshui, Hainan Province, China // Production of new antibacterial 4-hydroxy-*α*-pyrones by a marine fungus *Aspergillus niger* cultivated in solid medium

354 // N // nipyrone A // IA *vs* 5 bact.

355 // N // nipyrone B // IA *vs* 5 bact.

356 // N // nipyrone C // weak AB *vs* 2 strains., IA *vs* 3 strains.

221 Ascomycota *Aspergillus ochraceus* // (unidentified coral), S. China Sea // Notoamide-type alkaloid induced apoptosis and autophagy *via* a P38/JNK signaling pathway in hepatocellular carcinoma cells

357 // N // notoamide W // IA *vs* 4 HTCLs.

358 // N // notoamide X // IA *vs* 4 HTCLs.

359 // N // notoamide Y // IA *vs* 4 HTCLs.

360 // N // notoamide Z // IA *vs* 4 HTCLs.

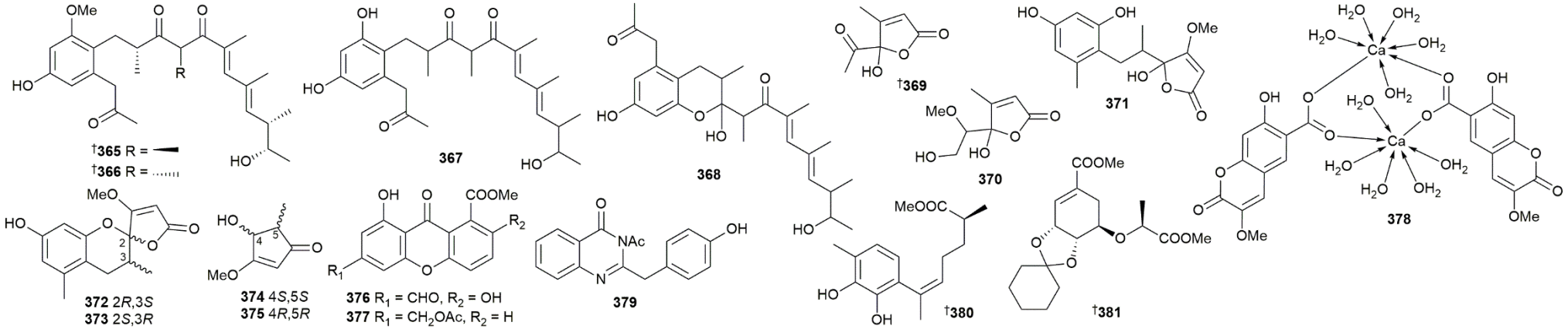
222 Ascomycota *Aspergillus ochraceus* // (coral, *Dichotella gemmacea*), Lingao, Hainan province, China // Circumdatin-aspyrone conjugates from the coral associated *Aspergillus ochraceus* LCJ11-102

361 // N // ochrazepine A // mod. cytotox. *vs* 6 HTCLs, weak cytotox. *vs* 4 HTCLs, weak cytotox. *vs* 2 nHCLs. IA *vs* 16 HTCLs.

362 // N // ochrazepine B // weak cytotox. *vs* 1 nHCL. IA *vs* 25 HTCLs and 1 nHCL.

363 // N // ochrazepine C // weak cytotox. *vs* 3 HTCLs. IA *vs* 23 HTCLs and 2 nHCLs.

364 // N // ochrazepine D // weak cytotox. *vs* 1 HTCL. IA *vs* 25 HTCLs and 2 nHCLs.



223 Ascomycota *Aspergillus porosus* // (unspecified alga), Bioviotica Naturstoffe GmbH. // Polyketides from marine-derived *Aspergillus porosus*: challenges and opportunities for determining absolute configuration

365 // N // porosuphenol A // IA *vs* 2 HTCLs and 2 bact.

366 // N // porosuphenol B // IA *vs* 2 HTCLs and 2 bact.

367 // N // porosuphenol C // IA *vs* 2 HTCLs and 2 bact.

368 // N // porosuphenol D // IA *vs* 2 HTCLs and 2 bact.

224 Ascomycota *Aspergillus sclerotiorum* // (sediment), Bohai bay, Zhanhua, China // New butenolides and cyclopentenones from saline soil-derived fungus *Aspergillus sclerotiorum*

369 // N // aspersclerolide A // mod. cytotox. *vs* 1 HTCL. weak cytotox. *vs* 1 HTCL and 1 nHCL. IA *vs* 2 bact. and 1 fungus.

370 // N // aspersclerolide B // IA *vs* 2 HTCL and 1 nHCL. IA *vs* 2 bact. and 1 fungus.

371 // N // aspersclerolide C // weak cytotox. *vs* 2HTCLs and 1 nHCL. IA *vs* 2 bact. and 1 fungus.

372 // N // (−)-aspersclerolide D // IA *vs* 2 HTCL and 1 nHCL. IA *vs* 2 bact. and 1 fungus. (Tested as racemate)

373 // N // (+)-aspersclerolide D // IA *vs* 2 HTCL and 1 nHCL. IA *vs* 2 bact. and 1 fungus. (Tested as racemate)

374 // N // (+)-(4*S*,5*S*)-4-hydroxy-3-methoxy-5-methyl-2-cyclopentenone // IA *vs* 2 HTCL and 1 nHCL. IA *vs* 2 bact. and 1 fungus. (Tested as racemate)

375 // N // (−)-(4*R*,5*R*)-4-hydroxy-3-methoxy-5-methyl-2-cyclopentenone // IA *vs* 2 HTCL and 1 nHCL. IA *vs* 2 bact. and 1 fungus. (Tested as racemate)

225 Ascomycota *Aspergillus sydowii* // (seawater), West Pacific Ocean // Secondary metabolites isolated from the deep sea-derived fungus *Aspergillus sydowii* C1-S01-A7

376 // N // 2-hydroxy-6-formyl-vertixanthone // weak inhib. *vs* 4 bact., IA *vs* 2. IA *vs* 3 HTCLs.

377 // N // 12-O-acetyl-sydowinin A // weak inhib. *vs* 4 bact., IA *vs* 2. IA *vs* 3 HTCLs.

226 Ascomycota *Aspergillus sydowii* // (seawater), Tiran Is., Red Sea, Egypt // Coumamarin: a first coumarinyl calcium complex isolated from nature

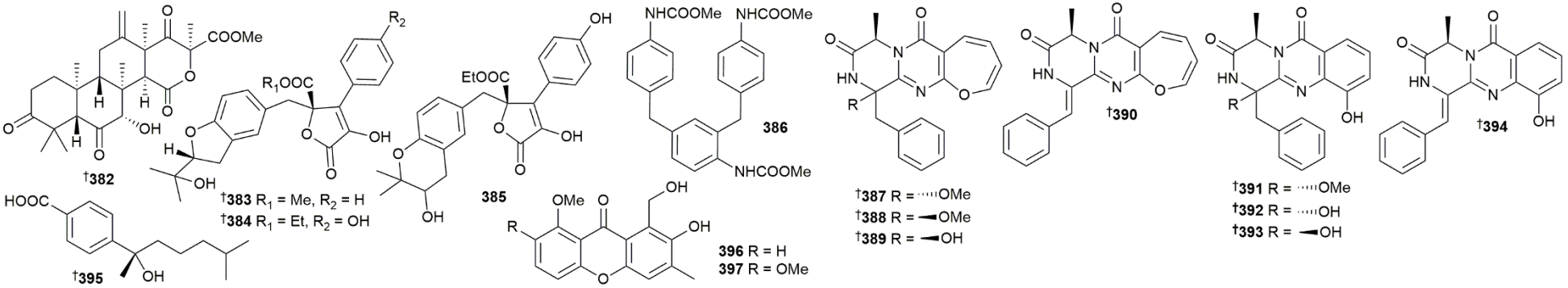
378 // N // coumamarin // pot. inhib. *vs* 1 bact., mod. inhib. *vs* 2 bact., IA *vs* 6 bact. mod. inhib. *vs* 2 fungi. IA *vs* 1 HTCL.

227 Ascomycota *Aspergillus sydowii* // (seawater), Yangma Island, Yantai, China // Antimicrobial secondary metabolites from the seawater-derived fungus *Aspergillus sydowii* SW9

379 // N // 2-(4-hydroxybenzyl)-4-(3-acetyl)quinazolin-one // mod. inhib. *vs* 1 bact., weak inhib *vs* 3 bact.

380 // N // methyl(*R*,*E*)-6-(2,3-dihydroxy-4-methylpenyl)-2-methylhept-5-enoate // mod. inhib. *vs* 2 bact., weak inhib *vs* 2 bact.

381 // N // sydowether // weak inhib. *vs* 2 bact., IA *vs* 2 bact.



228 Ascomycota *Aspergillus terreus* // (Pacific oyster), Yangma Is., Yantai, China // Terretonin D1, a new meroterpenoid from marine-derived *Aspergillus terreus* ML-44

382 // N // terretonin D1 // IA *vs* 1 HTCL. No inhib. NO prod.

229 Ascomycota *Aspergillus terreus* // (seawater), Yap Trench, West Pacific Ocean // Butenolide derivatives with α-glucosidase inhibitions from the deep-sea-derived fungus *Aspergillus terreus* YPGA10

383 // N // aspernolide N // No inhib. α-glucosidase.

384 // N // aspernolide O // No inhib. α-glucosidase.

385 // N // aspernolide P // No inhib. α-glucosidase.

230 Ascomycota *Aspergillus terreus* // (soft coral, *Sarcophyton subviride*), Xisha Is., South China Sea // Asperteramide A, an unusual *N*-phenyl-carbamic acid methyl ester trimer isolated from the coral-derived fungus *Aspergillus Terreus*

386 // N // asperteramide A // weak inhib. 4 bact., IA *vs* 2 bact., mod. inhib. 1 fungus.

231 Ascomycota *Aspergillus puniceus* // (sediment), Okinawa Trough, East China Sea. // Diketopiperazine-type alkaloids from a deep-sea-derived *Aspergillus puniceus* fungus and their effects on liver X receptor α

387 // N // oxepinamide H // weak transcriptional activation liver enzyme (LXRa). No inhib. 5 phosphatases, IDO1 or LDHA. IA *vs* 4 fungi.

388 // N // oxepinamide I // weak transcriptional activation liver enzyme (LXRa). No inhib. 5 phosphatases, IDO1 or LDHA. IA *vs* 4 fungi.

389 // N // oxepinamide J // weak transcriptional activation liver enzyme (LXRa). No inhib. 5 phosphatases, IDO1 or LDHA. IA *vs* 4 fungi.

390 // N // oxepinamide K // weak transcriptional activation liver enzyme (LXRa). No inhib. 5 phosphatases, IDO1 or LDHA. IA *vs* 4 fungi.

391 // N // puniceloid A // mod. transcriptional activation liver enzyme (LXRa). No inhib. 5 phosphatases, IDO1 or LDHA. IA *vs* 4 fungi.

392 // N // puniceloid B // mod. transcriptional activation liver enzyme (LXRa). No inhib. 5 phosphatases, IDO1 or LDHA. IA *vs* 4 fungi.

393 // N // puniceloid C // pot. transcriptional activation liver enzyme (LXRa). No inhib. 5 phosphatases, IDO1 or LDHA. IA *vs* 4 fungi.

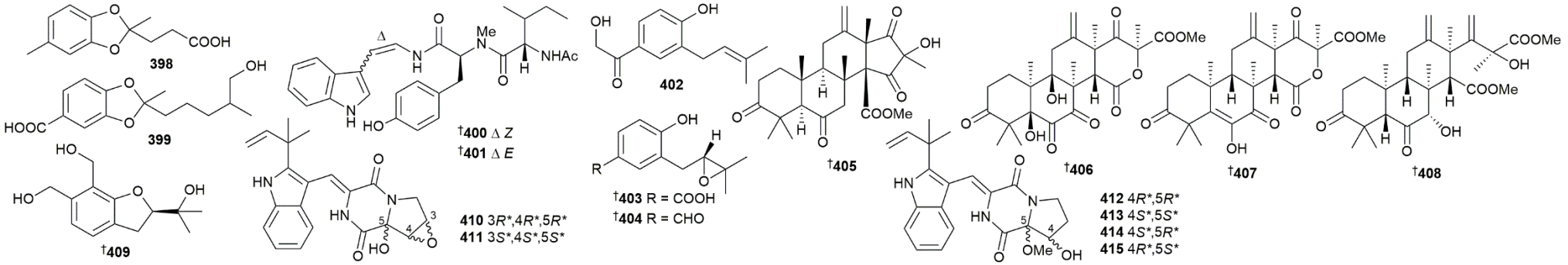
394 // N // puniceloid D // pot. transcriptional activation liver enzyme (LXRa). Sel. inhib. 5 phosphatases and IDO1. No inhib. LDHA. IA *vs* 4 fungi.

232 Ascomycota *Aspergillus sydowii* // (sponge, *Phakellia fusca*), Xisha Islands, China // Structurally diverse sesquiterpenoids and polyketides from a sponge-associated fungus *Aspergillus sydowii* SCSIO41301

395 // N // Aspergillusene D // IA *vs* 6 bact., 3 viruses and 5 HTCLs.

396 // N // 2-hydroxy-1-(hydroxymethyl)-8-methoxy-3-methyl-9*H*-xanthen-9-one // weak inhib. 2 viruses, IA *vs* 1. IA *vs* 6 bact. and 5 HTCLs.

397 // N // 2-hydroxy-1-(hydroxymethyl)-7,8-dimethoxy-3-methyl-9*H*-xanthen-9-one // weak inhib. 1 virus, IA *vs* 2. IA *vs* 6 bact. and 5 HTCLs.



398 // N // 3-(2,5-dimethylbenzo[d][1,3]dioxol-2-yl)propanoic acid // NT

399 // N // 2-(5-hydroxy-4-methylpentyl)-2-methylbenzo[d][1,3]dioxole-5-carboxylic acid // NT

233 Ascomycota *Aspergillus terreus* // (sponge, *Callyspongia* sp.), Xuwen County, Guangdong Province, China // Peptides and polyketides isolated from the marine sponge-derived fungus *Aspergillus terreus* SCSIO 41008

400 // N // aspergillamide C // IA *vs* 1 HTCL. No inhib. MptpB.

401 // N // aspergillamide D // IA *vs* 1 HTCL. No inhib. MptpB.

234 Ascomycota *Aspergillus terreus* // (red alga, *Laurenica okamurai*), Qingdao, China // Prenylated phenol and benzofuran derivatives from *Aspergillus terreus* EN-539, an endophytic fungus derived from marine red alga *Laurencia okamurai*

402 // N // terreprenphenol A // mod. inhib. 3 bact., weak inhib. 6 bact. IA AO (DPPH assay).

403 // N // terreprenphenol B // IA *vs* 9 bact. IA AO (DPPH assay).

404 // N // terreprenphenol C // IA *vs* 9 bact. IA AO (DPPH assay).

235 Ascomycota *Aspergillus terreus* // (red alga, *Laurencia okamurai*), Qingdao, China // Structure, absolute configuration and biological evaluation of polyoxygenated meroterpenoids from the marine algal-derived *Aspergillus terreus* EN-539

405 // N // aperterpene N // pot. inhib. influenza neuraminidase.

406 // N // aperterpene O // No inhib. influenza neuraminidase.

407 // R // terretonin A // No inhib. influenza neuraminidase.

408 // R // terretonin G // No inhib. influenza neuraminidase.

236 Ascomycota *Aspergillus ustus* // (sediment), Sea of Okhotsk // New dihydrobenzofuranoid from the marine-derived fungus *Aspergillus ustus* KMM 4664

409 // N // 2*R*-(2-hydroxypropan-2-yl)-6,7-dihydroxymethyl-2,3-dihydrobenzofuran // No inhib. fertilisation in sea urchin eggs.

237 Ascomycota *Aspergillus versicolor* // (sediment), Bohai Sea, China // New diketopiperazines from a marine-derived fungus strain *Aspergillus versicolor* MF180151

410 // N // (±)-7,8-epoxy-brevianamide Q // IA *vs* 5 bact. and 1 fungus.

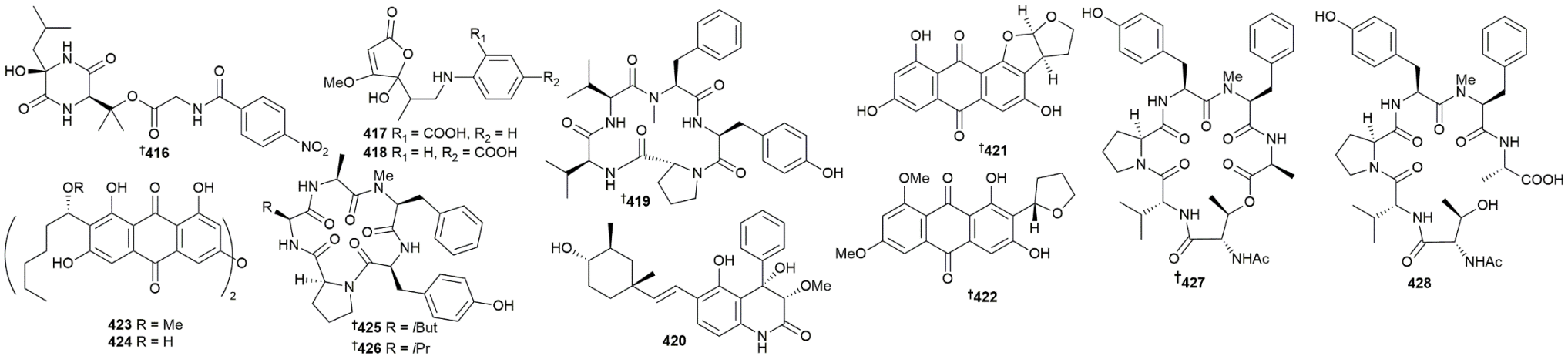
411 // N // (±)-7,8-epoxy-brevianamide Q // IA *vs* 5 bact. and 1 fungus.

412 // N // (±)-8-hydroxy-brevianamide R // IA *vs* 5 bact. and 1 fungus.

413 // N // (±)-8-hydroxy-brevianamide R // IA *vs* 5 bact. and 1 fungus.

414 // N // (±)-8-epihydroxy-brevianamide R // IA *vs* 5 bact. and 1 fungus.

415 // N // (±)-8-epihydroxy-brevianamide R // IA *vs* 5 bact. and 1 fungus.



238 Ascomycota *Aspergillus ochraceus,* Firmicutes *Bacillus subtilis* // (sponge, *Agelas oroides*), Sığaçık-İzmir, Turkey // Cryptic secondary metabolites from the sponge-associated fungus *Aspergillus ochraceus*

416 // N // waspergillamide B // IA *vs* 1 HTCL and 1 murine TCL.

417 // N // ochraspergillic acid A // *

418 // N // ochraspergillic acid B // *

239 Ascomycota *Aspergillus versicolor*, Firmicutes *Bacillus subtilis* // (sponge, *Agelas oroides*), Aliağa-İzmir, Turkey // Induction of secondary metabolites from the marine-derived fungus *Aspergillus versicolor* through co-cultivation with *Bacillus subtilis*

419 // N // cotteslosin C // IA *vs* 1 murine TCL and 5 bact.

420 // N // 22-*epi*-aflaquinolone B // IA *vs* 1 murine TCL and 5 bact.

421 // N // isoversicolorin B // IA *vs* 1 murine TCL and 5 bact.

422 // N // 6,8-*O*-dimethylbipolarin // IA *vs* 1 murine TCL and 5 bact.

240 Ascomycota *Aspergillus versicolor* // (unidentified clam), E. China Sea. // Antibacterial anthraquinone dimers from marine derived fungus *Aspergillus* sp

423 // N // 6,6'-oxybis(1,3,8-trihydroxy-2-((*S*)-1-methoxyhexyl)anthracene-9,10-dione // mod. inhib. 1 bact., IA *vs* 5 and 5 HTCLs.

424 // N // 6,6'-oxybis(1,3,8-trihydroxy-2-((*S*)-1-hydroxyhexyl)anthracene-9,10-dione // mod. inhib. 1 bact., IA *vs* 5 and 5 HTCLs.

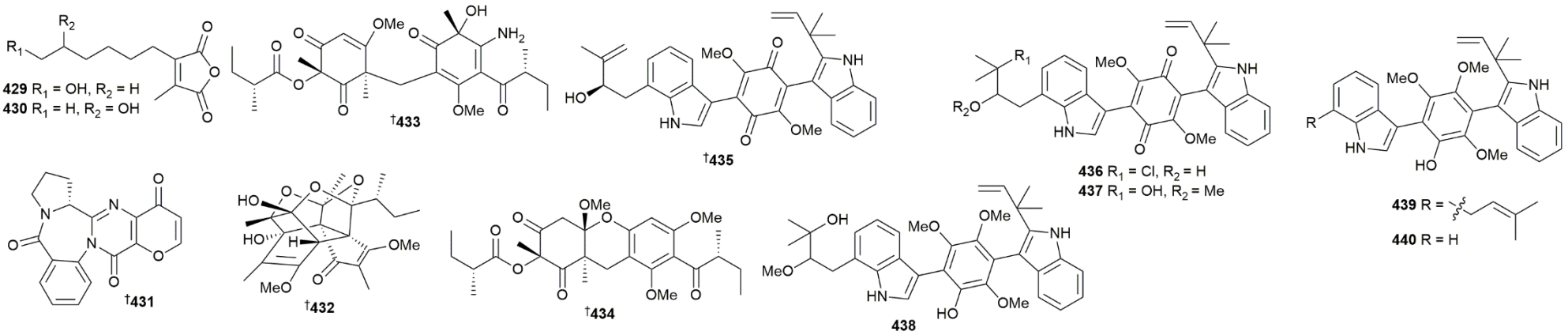
241 Ascomycota *Aspergillus allahabadii*, Ascomycota *Aspergillus ochraceopetaliformis* // (sediment), Jeju-do, Korea // New peptides from the marine-derived fungi *Aspergillus allahabadii* and *Aspergillus ochraceopetaliformis*

425 // N // JG002CPA // IA *vs* 6 bact. and 4 fungi. No inhib. SrtA. No inhib. ICL.

426 // N // JG002CPB // IA *vs* 6 bact. and 4 fungi. weak inhib. SrtA. No inhib. ICL.

427 // N // FJ120DPA // IA *vs* 6 bact. and 4 fungi. No inhib. SrtA. No inhib. ICL.

428 // N // FJ120DPB // IA *vs* 6 bact. and 4 fungi. No inhib. SrtA. No inhib. ICL.



242 Ascomycota *Aspergillus versicolor* // (sediment), Dongji Island, China // Asperfurandiones A and B, two antifungal furandione analogs from a marine-derived fungus *Aspergillus versicolor*

429 // N // asperfurandione A // IA *vs* 3 fungi.

430 // N // asperfurandione B // IA *vs* 3 fungi.

243 Ascomycota *Aspergillus* sp.// (sediment), Waikiki Beach, Oahu, Hawaii // Circumdatin M, a new benzodiazepine alkaloid with a unique pyrimidone-4-pyrone moiety from a Hawaiian marine fungus *Aspergillus* sp. FM242

431 // N // circumdatin M // IA *vs* 2 HTCLs.

244 Ascomycota *Aspergillus* sp.// (unspecified sponge), Xuwen, Guangdong Province, China // Phloroglucinol heterodimers and bis-indolyl alkaloids from the sponge-derived fungus *Aspergillus* sp. SCSIO 41018

432 // N // gilluone A // IA *vs* 5 HTCLs and 6 bact.

433 // N // gilluone B // IA *vs* 5 HTCLs and 6 bact.

434 // N // gilluone C // IA *vs* 6 bact. NT *vs* 5 HTCLs.

435 // N // asterriquinone I // IA *vs* 5 HTCLs. NT *vs* 6 bact.

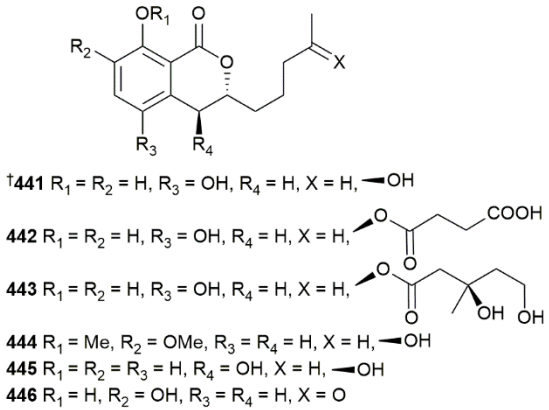
436 // N // asterriquinone J // IA *vs* 5 HTCLs. NT *vs* 6 bact.

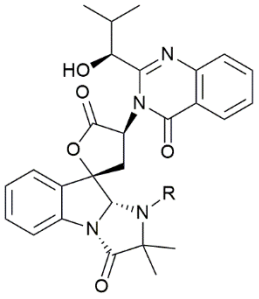
437 // N // asterriquinone K // IA *vs* 5 HTCLs. NT *vs* 6 bact.

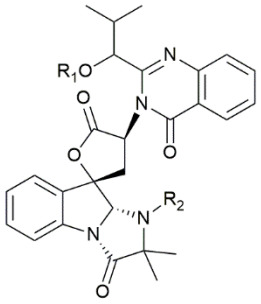
438 // N // asterriquinol G // NT

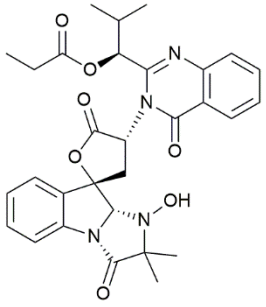
439 // N // asterriquinol H // NT

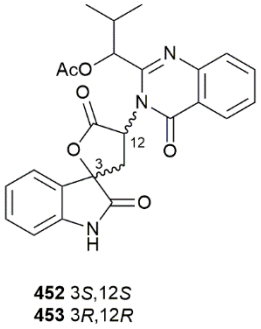
440 // N // asterriquinol I // NT

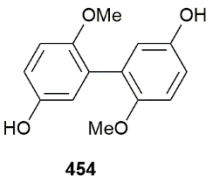












245 Ascomycota *Aspergillus* sp.// (sponge, *Hymeniacidon* sp.), Paracel Islands, South China Sea // New dihydroisocoumarin root growth inhibitors from the sponge-derived fungus *Aspergillus* sp. NBUF87

441 // N // aspergimarin A // weak inhib. lateral root growth. IA *vs* 4 HTCLs and 2 bact. No antiplasmodial activ. No inhib. AChE.

442 // N // aspergimarin B // IA *vs* 4 HTCLs and 2 bact. No antiplasmodial activ. No inhib. AChE. No inhib. Primary or lateral root growth.

443 // N // aspergimarin C // IA *vs* 4 HTCLs and 2 bact. No antiplasmodial activ. No inhib. AChE. No inhib. Primary or lateral root growth.

444 // N // aspergimarin D // IA *vs* 4 HTCLs and 2 bact. No antiplasmodial activ. No inhib. AChE. No inhib. Primary or lateral root growth.

445 // N // aspergimarin E // IA *vs* 4 HTCLs and 2 bact. No antiplasmodial activ. No inhib. AChE. No inhib. Primary or lateral root growth.

446 // N // aspergimarin F // mod. inhib. primary and lateral root growth. IA *vs* 4 HTCLs and 2 bact. No antiplasmodial activ. No inhib. AChE.

246 Ascomycota *Aspergillus* sp.// (bivalve mollusc, *Sanguinolaria chinensis*), Haikou Bay, China // Quinazoline-containing indole alkaloids from the marine-derived fungus *Aspergillus* sp. HNMF114

447 // N // aspertoryadin A // IA *vs* 4 HTCLs and 4 bact. No inhib. QS.

448 // N // aspertoryadin B // IA *vs* 4 HTCLs and 4 bact. No inhib. QS.

449 // N // aspertoryadin C // IA *vs* 4 HTCLs and 4 bact. No inhib. QS.

450 // N // aspertoryadin D // IA *vs* 4 HTCLs and 4 bact. No inhib. QS.

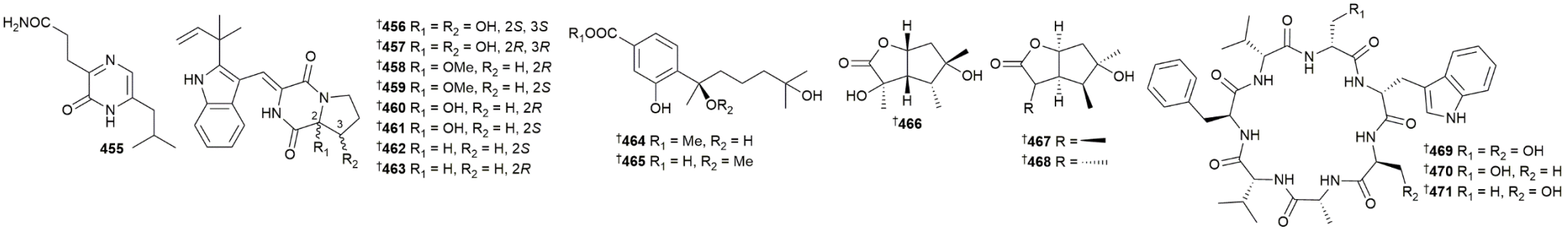
451 // N // aspertoryadin E // IA *vs* 4 HTCLs and 4 bact. No inhib. QS.

452 // N // aspertoryadin F // IA *vs* 4 HTCLs and 4 bact. weak inhib. QS.

453 // N // aspertoryadin G // IA *vs* 4 HTCLs and 4 bact. weak inhib. QS.

247 Ascomycota *Aspergillus versicolor* // (sediment), Pacific Ocean // Discovery of a new biphenyl derivative by epigenetic manipulation of marine-derived fungus *Aspergillus versicolor*

454 // N // versiperol A // weak inhib. 1 bact.



248 Ascomycota *Aspergillus versicolor* // (green alga, *Enteromorpha prolifera*), Shilaoren beach, Qingdao, China // Diketopiperazine and diphenylether derivatives from marine algae-derived *Aspergillus versicolor* OUCMDZ-2738 by epigenetic activation

455 // N // 3-[6-(2-methylpropyl)-2-oxo-1H-pyrazin-3-yl] propanamide // IA *vs* 6 bact. and 2 fungi. No inhib. α-glucosidase.

456 // N // (+)-brevianamide X // IA *vs* 6 bact. and 2 fungi. No inhib. α-glucosidase. (as racemate)

457 // N // (–)-brevianamide X // IA *vs* 6 bact. and 2 fungi. No inhib. α-glucosidase. (as racemate)

458 // R // (+)-brevianamide R // IA *vs* 6 bact. and 2 fungi. No inhib. α-glucosidase. (as racemate)

459 // R // (–)-brevianamide R // IA *vs* 6 bact. and 2 fungi. No inhib. α-glucosidase. (as racemate)

460 // R // (+)-brevianamide Q // IA *vs* 6 bact. and 2 fungi. No inhib. α-glucosidase. (as racemate)

461 // R // (–)-brevianamide Q // IA *vs* 6 bact. and 2 fungi. No inhib. α-glucosidase. (as racemate)

462 // R // brevianamide V // IA *vs* 6 bact. and 2 fungi. No inhib. α-glucosidase. (as racemate)

463 // R // brevianamide W // IA *vs* 6 bact. and 2 fungi. No inhib. α-glucosidase. (as racemate)

249 Ascomycota *Aspergillus versicolor* // (sediment), South China Sea // Antimicrobial sesquiterpenoid derivatives and monoterpenoids from the deep-sea sediment-derived fungus *Aspergillus versicolor* SD-330

464 // N // *ent*-aspergoterpenin C // mod. inhib. 1 bact., weak inhib. 4, IA *vs* 2.

465 // N // 7-*O*-methylhydroxysydonic acid // mod. inhib. 3 bact., weak inhib. 4.

466 // N // pestalotiolactone C // weak inhib. 3 bact., IA *vs* 4.

467 // N // pestalotiolactone D // weak inhib. 2 bact., IA *vs* 5.

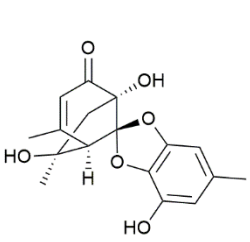
468 // R // pestalotiolactone A // weak inhib. 2 bact., IA *vs* 6.

250 Ascomycota *Aspergillus versicolor* // (unsepcified coral), Nansha Islands, South China Sea // Discovery, absolute assignments, and total synthesis of asperversiamides A–C and their potent activity against *Mycobacterium marinum*

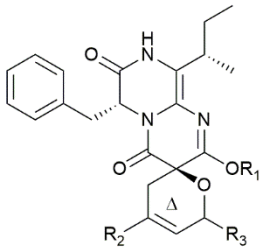
469 // N // asperversiamide A // weak inhib. 1 bact., IA *vs* 1 bact.

470 // N // asperversiamide B // IA *vs* 2 bact.

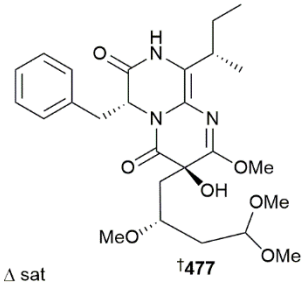
471 // N // asperversiamide C // IA *vs* 2 bact.



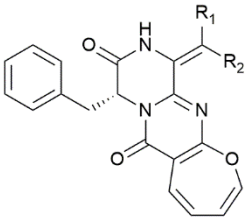
†472



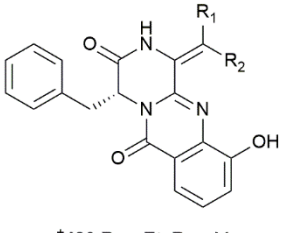
†473 R_1 = R_2 = H , R_3 = ·····OMe
†474 R_1 = H, R_2 = ·····OMe , R_3 = ▬OMe , Δ sat
†475 R_1 = Me, R_2 = ·····OMe , R_3 = ·····OMe , Δ sat
†476 R_1 = Me, R_2 = ▬OMe , R_3 = ·····OMe , Δ sat



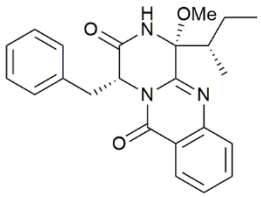
†477



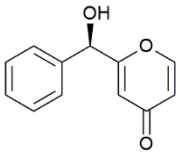
†478 R_1 = Et, R_2 = Me
†479 R_1 = Me, R_2 = Et



†480 R_1 = Et, R_2 = Me
†481 R_1 = Me, R_2 = Et



†482

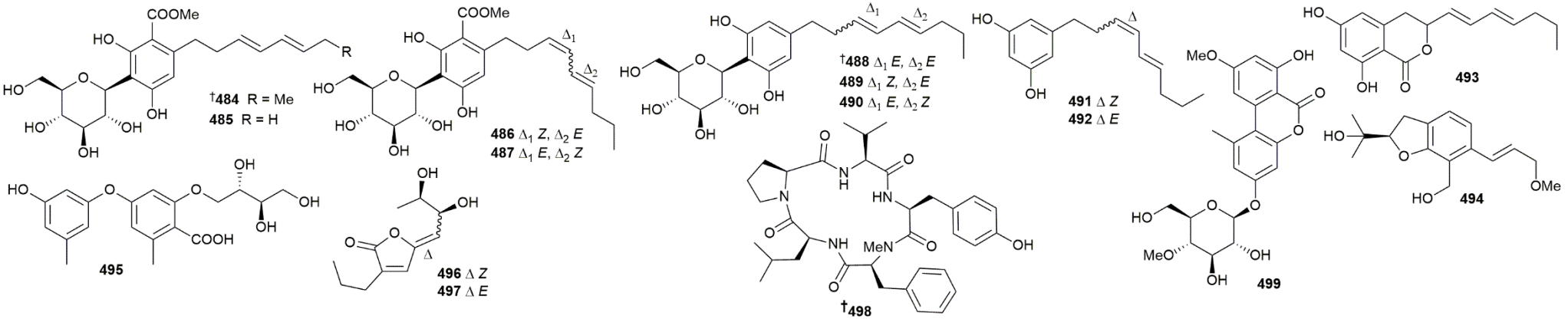


†483

251 Ascomycota *Aspergillus versicolor* // (sponge, *Callyspongia* sp.), Xuwen County, Guangdong Province, China // Versispiroketal A, an unusual tetracyclic bridged spiroketal from the sponge-associated fungus *Aspergillus versicolor* SCSIO 41013
472 // N // versispiroketal A // IA *vs* 4 HTCLs and 3 bact.

252 Ascomycota *Aspergillus versicolor* // (sponge, *Callyspongia* sp.), Xuwen County, Guangdong Province, China // Structurally diverse diketopiperazine alkaloids from the marine-derived fungus *Aspergillus versicolor* SCSIO 41016
473 // N // pyranamide A // IA *vs* 3 HTCLs.
474 // N // pyranamide B // NT
475 // N // pyranamide C // IA *vs* 3 HTCLs.
476 // N // pyranamide D // NT
477 // N // secopyranamide C // NT
478 // N // protuboxepin F // NT
479 // N // protuboxepin G // IA *vs* 3 HTCLs.
480 // N // protuboxepin H // NT
481 // N // protuboxepin I // NT
482 // N // protuboxepin J // IA *vs* 3 HTCLs.

253 Ascomycota *Aspergillus* sp.// (brown alga, *Leathesia nana*), Weihai, Shandong Province, China // Discovery of natural dimeric naphthopyrones as potential cytotoxic agents through ROS-mediated apoptotic pathway
483 // N // (7*R*)-(hydroxy(phenyl)methyl)-4*H*-pyran-4-one // IA *vs* 5 HTCLs and 1 nHCL.



254 Ascomycota *Aspergillus* sp.// (brown alga, *Saccharina cichorioides* f. *sachalinensis*), South China Sea // Phenolic *C*-glycosides and aglycones from marine-derived *Aspergillus* sp. and their anti-inflammatory activities

484 // N // carnemycin C // No inhib. NO prod. NT for NF-κB inhib.

485 // N // carnemycin D // No inhib. NO prod. NT for NF-κB inhib.

486 // N // (10*Z*,12*E*)-carnemycin B // No inhib. NO prod. NT for NF-κB inhib.

487 // N // (10*E*,12*Z*)-carnemycin B // No inhib. NO prod. NT for NF-κB inhib.

488 // N // carnemycin E // No inhib. NO prod. NT for NF-κB inhib.

489 // N // carnemycin F // No inhib. NO prod. NT for NF-κB inhib.

490 // N // carnemycin G // No inhib. NO prod. NT for NF-κB inhib.

491 // N // 5-[(3*Z*,5*E*)-3,5-nonadienyl]-1,3-benzenediol // No inhib. NO prod. NT for NF-κB inhib.

492 // N // 5-[(3*E*,5*E*)-3,5-nonadienyl]-1,3-benzenediol // weak inhib. NO prod. and NF-kB pathway.

493 // N // 3-[(1′*E*,3′*E*)-1′,3′-heptadienyl]-6,8-dihydroxy-1′,3′-dienylisocoumarin // No inhib. NO prod. NT for NF-κB inhib.

255 Ascomycota *Aspergillus* sp.// (sponge, *Haliclona* sp.), Lingshui, Hainan Province, China // Isolation and characterization of two new metabolites from the sponge-derived fungus *Aspergillus* sp. LS34 by OSMAC approach

494 // N // asperspin A // IA *vs* 7 HTCLs and 4 bact.

495 // N // asperther A // IA *vs* 7 HTCLs and 4 bact.

256 Ascomycota *Aspergillus* sp.// (sponge, *Haliclona* sp.), unspecified location // A new lateral root growth inhibitor from the sponge-derived fungus *Aspergillus* sp. LS45

496 // N // aspergilactone A // weak inhib. lateral root growth. IA *vs* 6 HTCLs. No inhib. AChE.

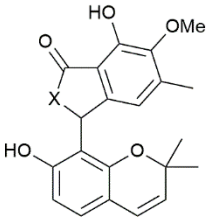
497 // N // aspergilactone B // No inhib. lateral root growth. IA *vs* 6 HTCLs. No inhib. AChE.

257 Ascomycota *Aspergillus* sp., Ascomycota Gymnoascus *hyalinosporus* // (sand), Caleta Bay, Mexico // Metabolites from the marine-facultative *Aspergillus* sp. MEXU 27854 and *Gymnoascus hyalinosporus* MEXU 29901 from Caleta Bay, Mexico

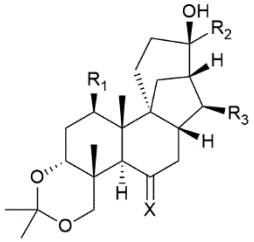
498 // N // caletasin // IA *vs* 3 HTCLs and 2 bact. No inhib. seed or radicle growth.

499 // N // 10-*O*-[β-*D*-(4-methoxyl-glucopyranosyl)]-4-*O*-methylalternariol // IA *vs* 3 HTCLs and 2 bact. No inhib. seed or radicle growth.

2 Marine microorganisms and phytoplankton:

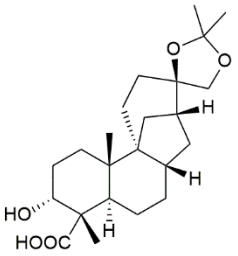


500 X = O
501 X = N-Ph

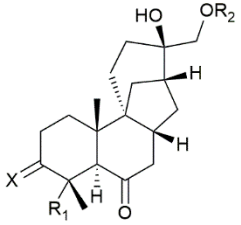


502 R_1 = OH, R_2 = CH_2OAc, R_3 = H, X = H_2
503 R_1 = H, R_2 = CH_2OAc, R_3 = H, X = H_2
504 R_1 = H, R_2 = CH_2OH, R_3 = H, X = O
505 R_1 = H, R_2 = CH_2OH, R_3 = H, X = H, ····OH
506 R_1 = H, R_2 = COOH, R_3 = H, X = H, ◄OH
507 R_1 = H, R_2 = CH_2OH, R_3 = OH, X = H_2

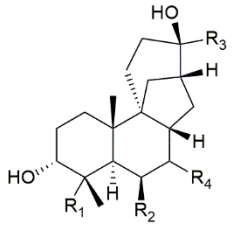
2.3 Marine-sourced fungi (excluding from mangroves)



508



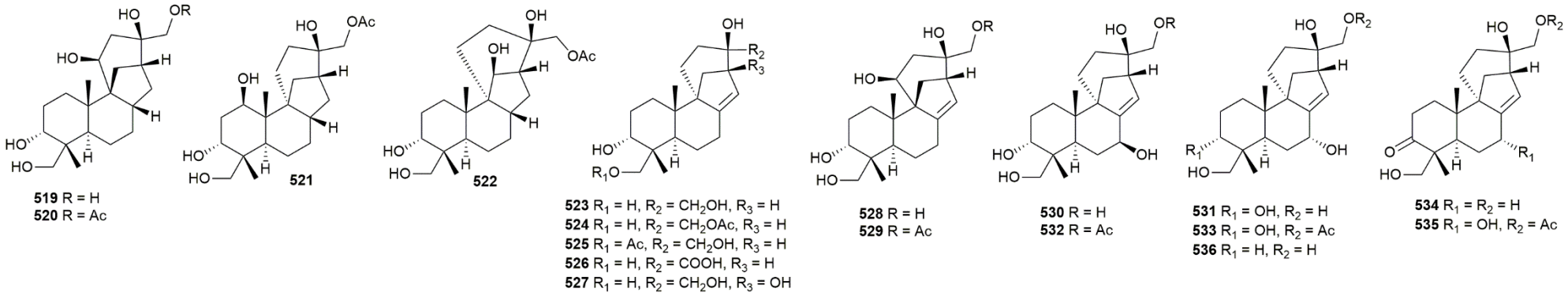
509 R_1 = CH_2OH, R_2 = H, X = H, ····OH
510 R_1 = CH_2OH, R_2 = H, X = O
511 R_1 = CH_2OH, R_2 = Ac, X = H, ····OH
512 R_1 = CHO, R_2 = H, X = H, ····OH



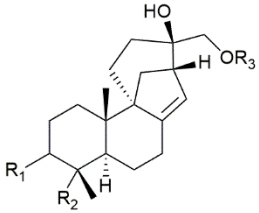
513 R_1 = CH_2OH, R_2 = OH, R_3 = CH_2OAc, R_4 = H
514 R_1 = CH_2OH, R_2 = H, R_3 = CH_2OAc, R_4 = H
515 R_1 = COOH, R_2 = H, R_3 = CH_2OAc, R_4 = H
516 R_1 = COOH, R_2 = H, R_3 = COOH, R_4 = H
517 R_1 = CH_2OH, R_2 = H, R_3 = CH_2OAc, R_4 = ····OH
518 R_1 = CH_2OH, R_2 = H, R_3 = COOH, R_4 = ◄OH

258 Ascomycota *Asteromyces cruciatus* // (sea foam), Point Prim, Prince Edward Island, Canada // Discovery of primarolides A and B from marine fungus *Asteromyces cruciatus* using osmotic stress and treatment with suberoylanilide hydroxamic acid
500 // N // primarolide A // IA *vs* 5 bact. and 1 fungus.
501 // N // primarolide B // IA *vs* 5 bact. and 1 fungus.

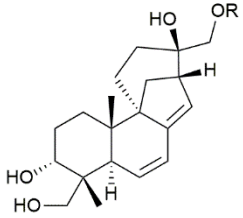
259 Ascomycota *Botryotinia fuckeliana* // (seawater), Western Pacific Ocean // Aphidicolin chemistry of the deep-sea-derived fungus *Botryotinia fuckeliana* MCCC 3A00494
502 // N // aphidicolin A1 // IA *vs* 6 HTCLs.
503 // N // aphidicolin A2 // IA *vs* 6 HTCLs.
504 // N // aphidicolin A3 // IA *vs* 6 HTCLs.
505 // N // aphidicolin A4 // IA *vs* 6 HTCLs.
506 // N // aphidicolin A5 // IA *vs* 6 HTCLs.
507 // N // aphidicolin A6 // IA *vs* 6 HTCLs.
508 // N // aphidicolin A7 // IA *vs* 6 HTCLs.
509 // N // aphidicolin A8 // weak cytotox. *vs* 2 HTCLs. IA *vs* 15 HTCLs.
510 // N // aphidicolin A9 // IA *vs* 6 HTCLs.
511 // N // aphidicolin A10 // IA *vs* 6 HTCLs.
512 // N // aphidicolin A11 // IA *vs* 6 HTCLs.
513 // N // aphidicolin A12 // IA *vs* 6 HTCLs.
514 // N // aphidicolin A13 // IA *vs* 6 HTCLs.
515 // N // aphidicolin A14 // IA *vs* 6 HTCLs.
516 // N // aphidicolin A15 // IA *vs* 6 HTCLs.
517 // N // aphidicolin A16 // IA *vs* 6 HTCLs.
518 // N // aphidicolin A17 // IA *vs* 6 HTCLs.



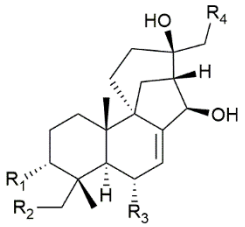
519 // N // aphidicolin A18 // IA *vs* 6 HTCLs.
520 // N // aphidicolin A19 // IA *vs* 6 HTCLs.
521 // N // aphidicolin A20 // IA *vs* 6 HTCLs.
522 // N // aphidicolin A21 // IA *vs* 6 HTCLs.
523 // N // aphidicolin A22 // IA *vs* 6 HTCLs.
524 // N // aphidicolin A23 // IA *vs* 6 HTCLs.
525 // N // aphidicolin A24 // IA *vs* 6 HTCLs.
526 // N // aphidicolin A25 // IA *vs* 6 HTCLs.
527 // N // aphidicolin A26 // IA *vs* 6 HTCLs.
528 // N // aphidicolin A27 // IA *vs* 6 HTCLs.
529 // N // aphidicolin A28 // IA *vs* 6 HTCLs.
530 // N // aphidicolin A29 // IA *vs* 6 HTCLs.
531 // N // aphidicolin A30 // IA *vs* 6 HTCLs.
532 // N // aphidicolin A31 // IA *vs* 6 HTCLs.
533 // N // aphidicolin A32 // IA *vs* 6 HTCLs.
534 // N // aphidicolin A33 // IA *vs* 6 HTCLs.
535 // N // aphidicolin A34 // IA *vs* 6 HTCLs.
536 // N // aphidicolin A35 // IA *vs* 6 HTCLs.



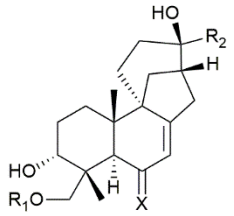
537 R_1 = ·····OH, R_2 = CHO, R_3 = Ac
538 R_1 = ·····OH, R_2 = CHO, R_3 = H
539 R_1 = ▬OH, R_2 = CHO, R_3 = H
540 R_1 = ·····OH, R_2 = COOH, R_3 = H
541 R_1 = ·····OH, R_2 = COOH, R_3 = Ac



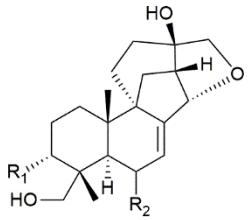
542 R = H
543 R = Ac



544 R_1 = R_2 = OH, R_3 = H, R_4 = OH
545 R_1 = R_2 = OH, R_3 = H, R_4 = OAc
546 R_1 = R_2 = OH, R_3 = R_4 = H
547 R_1 = H, R_2 = OH, R_3 = H, R_4 = OH
548 R_1 = H, R_2 = OH, R_3 = H, R_4 = OAc
549 R_1 = R_2 = H, R_3 = R_4 = OH

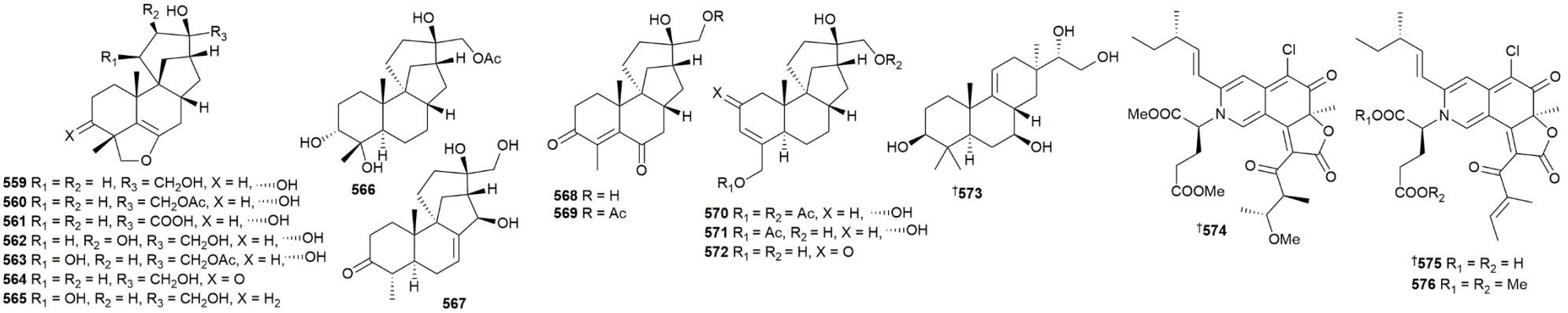


550 R_1 = H, R_2 = CH_2OH, X = H_2
551 R_1 = H, R_2 = CH_2OAc, X = H_2
552 R_1 = Ac, R_2 = CH_2OH, X = H_2
553 R_1 = H, R_2 = COOH, X = H_2
554 R_1 = H, R_2 = CH_2OH, X = O



555 R_1 = OH, R_2 = H
556 R_1 = OH, R_2 = ▬OH
557 R_1 = OH, R_2 = ·····OH
558 R_1 = R_2 = H

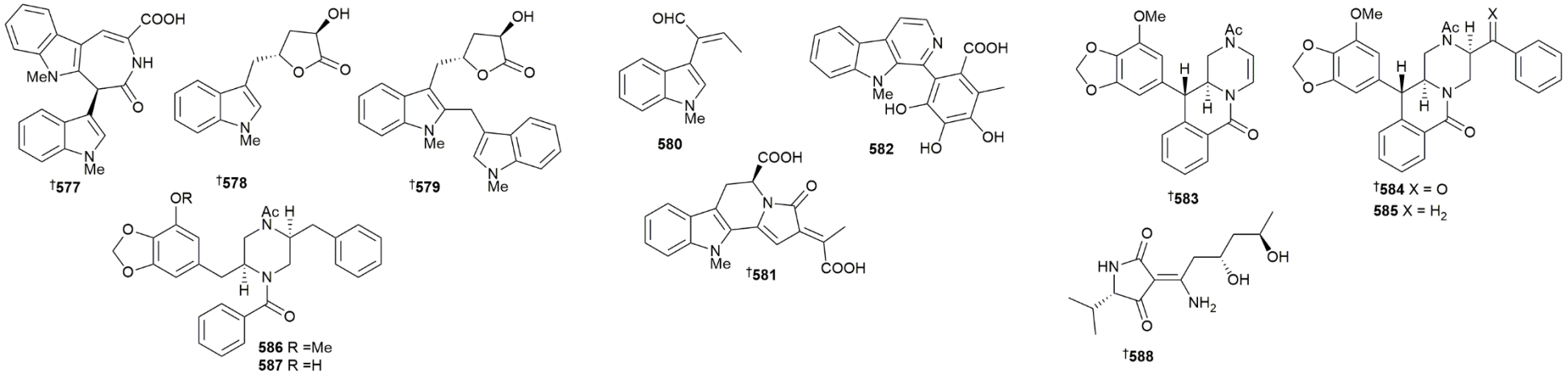
537 // N // aphidicolin A36 // IA *vs* 6 HTCLs.
538 // N // aphidicolin A37 // IA *vs* 6 HTCLs.
539 // N // aphidicolin A38 // IA *vs* 6 HTCLs.
540 // N // aphidicolin A39 // IA *vs* 6 HTCLs.
541 // N // aphidicolin A40 // IA *vs* 6 HTCLs.
542 // N // aphidicolin A41 // IA *vs* 6 HTCLs.
543 // N // aphidicolin A42 // IA *vs* 6 HTCLs.
544 // N // aphidicolin A43 // IA *vs* 6 HTCLs.
545 // N // aphidicolin A44 // IA *vs* 6 HTCLs.
546 // N // aphidicolin A45 // IA *vs* 6 HTCLs.
547 // N // aphidicolin A46 // IA *vs* 6 HTCLs.
548 // N // aphidicolin A47 // IA *vs* 6 HTCLs.
549 // N // aphidicolin A48 // IA *vs* 6 HTCLs.
550 // N // aphidicolin A49 // IA *vs* 6 HTCLs.
551 // N // aphidicolin A50 // IA *vs* 6 HTCLs.
552 // N // aphidicolin A51 // IA *vs* 6 HTCLs.
553 // N // aphidicolin A52 // IA *vs* 6 HTCLs.
554 // N // aphidicolin A53 // IA *vs* 6 HTCLs.
555 // N // aphidicolin A54 // IA *vs* 6 HTCLs.
556 // N // aphidicolin A55 // IA *vs* 6 HTCLs.
557 // N // aphidicolin A56 // IA *vs* 6 HTCLs.
558 // N // aphidicolin A57 // IA *vs* 6 HTCLs.



559 // N // aphidicolin A58 // IA *vs* 6 HTCLs.
560 // N // aphidicolin A59 // IA *vs* 6 HTCLs.
561 // N // aphidicolin A60 // IA *vs* 6 HTCLs.
562 // N // aphidicolin A61 // IA *vs* 6 HTCLs.
563 // N // aphidicolin A62 // IA *vs* 6 HTCLs.
564 // N // aphidicolin A63 // IA *vs* 6 HTCLs.
565 // N // aphidicolin A64 // IA *vs* 6 HTCLs.
566 // N // aphidicolin A65 // IA *vs* 6 HTCLs.
567 // N // aphidicolin A66 // IA *vs* 6 HTCLs.
568 // N // aphidicolin A67 // IA *vs* 6 HTCLs.
569 // N // aphidicolin A68 // IA *vs* 6 HTCLs.
570 // N // aphidicolin A69 // IA *vs* 6 HTCLs.
571 // N // aphidicolin A70 // IA *vs* 6 HTCLs.
572 // N // aphidicolin A71 // IA *vs* 6 HTCLs.

260 Ascomycota *Botryotinia fuckeliana* // (seawater), Western Pacific Ocean // A new pimarane diterpenoid from the *Botryotinia fuckeliana* fungus isolated from deep-sea water
573 // N // botryopimarene A // IA *vs* 6 HTCLs.

261 Ascomycota *Chaetomium globosum* // (sediment), S. China Sea // New glutamine-containing azaphilone alkaloids from deep-sea-derived fungus *Chaetomium globosum* HDN151398
574 // N // *N*-glutarylchaetoviridin A // IA *vs* 12 HTCLs.
575 // N // *N*-glutarylchaetoviridin B // IA *vs* 12 HTCLs.
576 // N // *N*-glutarylchaetoviridin C // weak inhib. *vs* 2 HTCLs. IA *vs* 10 HTCLs.



262 Ascomycota *Chaetomium globosum* // (fish, *Epinephelus drummondhayi*), Yellow Sea, Yancheng City, China // Generation of indoles with agrochemical significance through biotransformation by *Chaetomium globosum*

577 // N // chaetoindolone A // weak inhib. 1 bact., IA *vs* 3 others. IA *vs* 4 fungi.

578 // N // chaetoindolone B // IA *vs* 4 fungi. NT or IA *vs* 4 bact.

579 // N // chaetoindolone C // weak inhib. 1 bact., IA *vs* 3 others. IA *vs* 4 fungi.

580 // N // chaetoindolone D // IA *vs* 4 fungi. NT or IA *vs* 4 bact.

581 // N // 19-*O*-desmethylchaetogline A // weak inhib. 1 bact., IA *vs* 3 others. IA *vs* 4 fungi.

582 // N // 20-*O*-desmethylchaetogline F // IA *vs* 4 bact. and 4 fungi.

263 Ascomycota *Chrysosporium* sp.// (fish, *Mugil* mullet), fish market, Brisbane, Australia. // Chrysosporazines A–E: P-glycoprotein inhibitory piperazines from an Australian marine fish gastrointestinal tract-derived fungus, *Chrysosporium* sp. CMB-F214

583 // N // chrysosporazine A // mod. MDR reversal in 1 HTCL. IA *vs* 1 HTCL, 3 bact. and 1 fungus.

584 // N // chrysosporazine B // pot. MDR reversal in 1 HTCL. IA *vs* 1 HTCL, 3 bact. and 1 fungus.

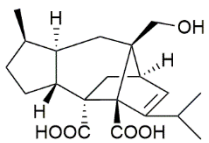
585 // N // chrysosporazine C // pot. MDR reversal in 1 HTCL. IA *vs* 1 HTCL, 3 bact. and 1 fungus.

586 // N // chrysosporazine D // weak MDR reversal in 1 HTCL. IA *vs* 1 HTCL, 3 bact. and 1 fungus.

587 // N // chrysosporazine E // weak MDR reversal in 1 HTCL. IA *vs* 1 HTCL, 3 bact. and 1 fungus.

264 Ascomycota *Cladosporium sphaerospermum* // (hydroid, *Hydractinia echinata*), Alfred Wegener Institute, Sylt, Germany // Hybrid polyketides from a hydractinia-associated *Cladosporium sphaerospermum* SW67 and their putative biosynthetic origin

588 // N // cladosin L // No cytoprotection from cisplatin.



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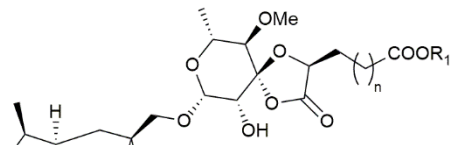
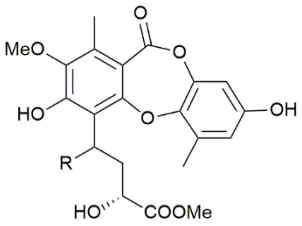
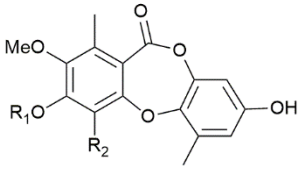


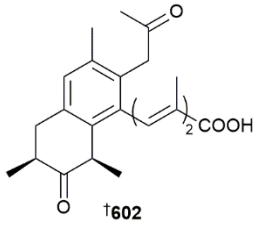
590 n = 4, R_1 = H, R_2 = CHO
591 n = 2, R_1 = H, R_2 = CHO
592 n = 2, R_1 = Me, R_2 = CHO
593 n = 6, R_1 = Me, R_2 = CHO
594 n = 6, R_1 = H, R_2 = COOH
595 n = 6, R_1 = Me, R_2 = COOH



†**596** R = OMe
†**597** R = OMe
598 R = OEt
599 R = OEt



600 R_1 = R_2 = H
601 R_1 = Me, R_2 = CH_2OH



†**602**

265 Ascomycota *Curvularia hawaiiensis* // (zoanthid, *Palythoa haddoni*), Weizhou coral reefs, South China Sea // Sordarin diterpene glycosides with an unusual 1,3-dioxolan-4-one ring from the zoanthid-derived fungus *Curvularia hawaiiensis* TA26-15

589 // N // sordaricin B // weak inhib. 1 fungus, IA *vs* 8. IA *vs* 9 bact. and 5 viruses.

590 // N // moriniafungin B // weak inhib. 1 fungus, IA *vs* 8. IA *vs* 9 bact. and 5 viruses.

591 // N // moriniafungin C // weak inhib. 1 fungus, IA *vs* 8. IA *vs* 9 bact. and 5 viruses.

592 // N // moriniafungin D // weak inhib. 1 fungus, IA *vs* 8. IA *vs* 9 bact. and 5 viruses.

593 // N // moriniafungin E // mod. inhib. 1 fungus, IA *vs* 8. IA *vs* 9 bact. and 5 viruses.

594 // N // moriniafungin F // weak inhib. 1 fungus, IA *vs* 8. IA *vs* 9 bact. and 5 viruses.

595 // N // moriniafungin G // weak inhib. 1 fungus, IA *vs* 8. IA *vs* 9 bact. and 5 viruses.

266 Ascomycota *Curvularia* sp.// (fish, *Argyrosomas argentatus*), Yellow Sea, China // Curdepsidones B–G, six depsidones with anti-inflammatory activities from the marine-derived fungus *Curvularia* sp. IFB-Z10

596 // N // curdepsidone B // No AI activ. (IL-1b inhib.)

597 // N // curdepsidone C // weak AI (IL-1b inhib.)

598 // N // curdepsidone D // NT

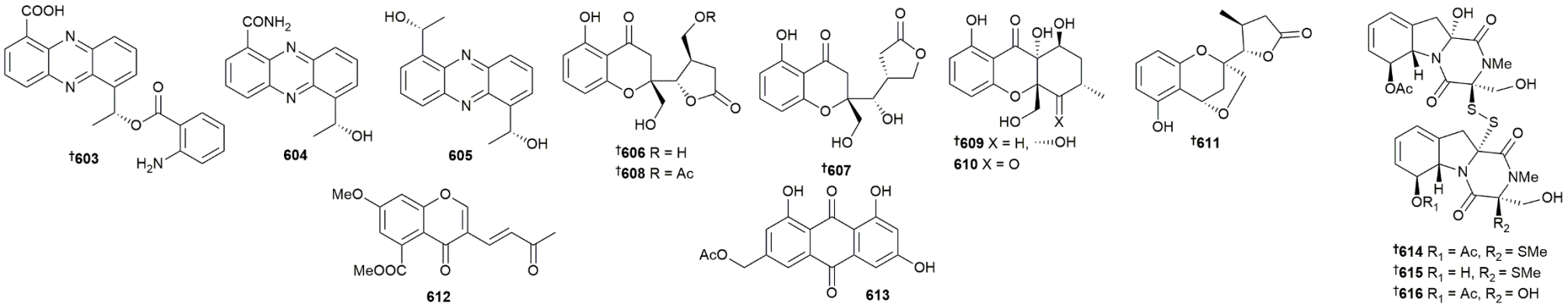
599 // N // curdepsidone E // NT

600 // N // curdepsidone F // No AI activ. (IL-1b inhib.)

601 // N // curdepsidone G // No AI activ. (IL-1b inhib.)

267 Ascomycota *Curvularia* sp.// (fish, *Argyrosomus argentatus*), Yellow Sea, China // Curvulaide A, a bicyclic polyketide with anti-anaerobic bacteria activity from marine-derived *Curvularia* sp.

602 // N // curvulaide A // weak inhib. 1 bact. IA *vs* 2 HTCLs.



268 Basidiomycota *Cystobasidium laryngis* // (sediment), Indian Ocean // Phenazine derivatives with anti-inflammatory activity from the deep-sea sediment-derived yeast-like fungus *Cystobasidium laryngis* IV17-028

603 // N // 6-[1-(2-aminobenzoyloxy)ethyl]-1-phenazinecarboxylic acid // No inhib. NO prod.

604 // N // saphenic amide // No inhib. NO prod.

605 // N // saphenol // No inhib. NO prod.

269 Ascomycota *Phomopsis phaseoli,* Ascomycota *Diaporthe phaseolorum* // (sediment), Indian Ocean // Chromone-derived polyketides from the deep-sea fungus *Diaporthe phaseolorum* FS431

606 // N // phaseolorin A // IA *vs* 3 HTCLs.

607 // N // phaseolorin B // IA *vs* 3 HTCLs.

608 // N // phaseolorin C // IA *vs* 3 HTCLs.

609 // N // phaseolorin D // IA *vs* 3 HTCLs.

610 // N // phaseolorin E // IA *vs* 3 HTCLs.

270 Ascomycota *Phomopsis phaseoli*, Ascomycota *Diaporthe phaseolorum* // (sediment), Indian Ocean // Cytotoxic polyketides from a deep-sea sediment derived fungus *Diaporthe phaseolorum* FS431

611 // N // phaseolorin G // IA *vs* 4 HTCLs.

612 // N // phaseolorin H // IA *vs* 4 HTCLs.

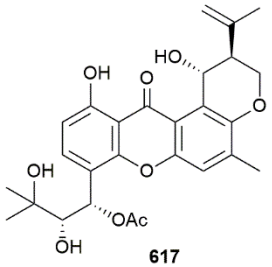
613 // N // phaseolorin I // IA *vs* 4 HTCLs.

271 Ascomycota *Dichotomomyces cejpii*, Ascomycota *Aspergillus cejpii* // (sediment), S. China Sea // Dechdigliotoxins A–C, three novel disulfide-bridged gliotoxin dimers from deep-sea sediment derived fungus *Dichotomomyces cejpii*

614 // N // dechdigliotoxin A // IA *vs* 4 HTCLs.

615 // N // dechdigliotoxin B // IA *vs* 4 HTCLs.

616 // N // dechdigliotoxin C // IA *vs* 4 HTCLs.



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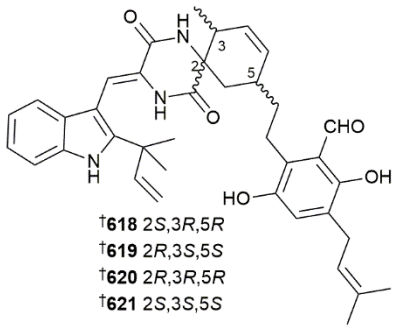
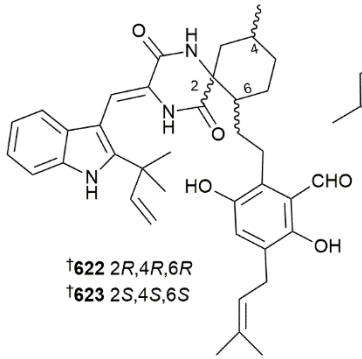
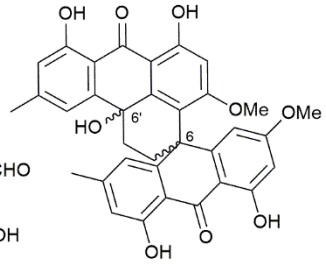


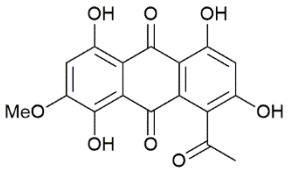
†**618** 2*S*,3*R*,5*R*
†**619** 2*R*,3*S*,5*S*
†**620** 2*R*,3*R*,5*R*
†**621** 2*S*,3*S*,5*S*



†**622** 2*R*,4*R*,6*R*
†**623** 2*S*,4*S*,6*S*



†**624** 6*S*,6'*S*
†**625** 6*R*,6'*R*



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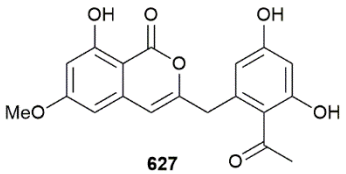


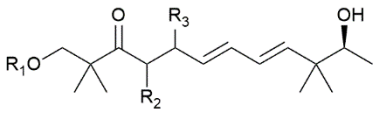
627

272 Ascomycota Emericella sp.// (sediment), South China Sea // Emerixanthone E, a new xanthone derivative from deep sea fungus *Emericella* sp.SCSIO 05240
617 // N // emerixanthone E // weak inhib. 1 bact., IA *vs* 6 others and 6 fungi. IA *vs* 10 HTCLs.

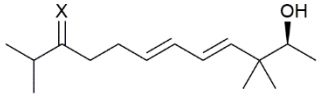
273 Ascomycota *Eurotium* sp.// (sediment), South China Sea // Three pairs of new spirocyclic alkaloid enantiomers from the marine-derived fungus *Eurotium* sp. SCSIO F452
618 // N // (+)-eurotinoid A // IA *vs* 2 HTCLs. No AO activ. (DPPH assay).
619 // N // (–)-eurotinoid A // IA *vs* 2 HTCLs. No AO activ. (DPPH assay).
620 // N // (+)-eurotinoid B // IA *vs* 2 HTCLs. No AO activ. (DPPH assay).
621 // N // (–)-eurotinoid B // IA *vs* 2 HTCLs. No AO activ. (DPPH assay).
622 // N // (+)-eurotinoid C // IA *vs* 2 HTCLs. No AO activ. (DPPH assay).
623 // N // (–)-eurotinoid C // IA *vs* 2 HTCLs. No AO activ. (DPPH assay).

274 Ascomycota *Eurotium* sp.// (sediment), South China Sea // (+) and (−)-Eurotone A: a pair of enantiomeric polyketide dimers from a marine-derived fungus *Eurotium* sp. SCSIO F45
624 // N // (+)-eurotone A // No AO activ. (DPPH assay).
625 // N // (–)-eurotone A // No AO activ. (DPPH assay).

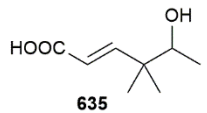
275 Ascomycota *Fusarium oxysporum* // (sponge, *Xestospongia* sp.), Karimunjawa National Park, Java, Indonesia // Two new aromatic polyketides from a sponge-derived *Fusarium*
626 // N // karimunone A // IA *vs* 1 MDR resistant bact.
627 // N // karimunone B // IA *vs* 1 MDR resistant bact.



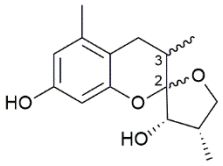
628 $R_1 = R_2 = H, R_3 = OH$
629 $R_1 = Ac, R_2 = H, R_3 = OH$
630 $R_1 = Ac, R_2 = OH, R_3 = H$
631 $R_1 = R_2 = R_3 = H$
632 $R_1 = Ac, R_2 = R_3 = H$



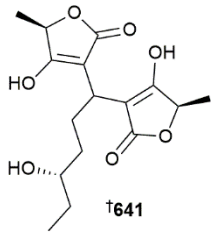
633 X = O
634 X = H, OH



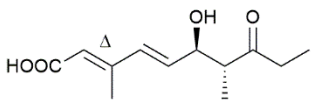
635



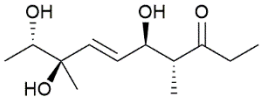
†**639** 2*S*,3*S*
640 2*R*,3*R*



†**641**



636
637 Δ sat



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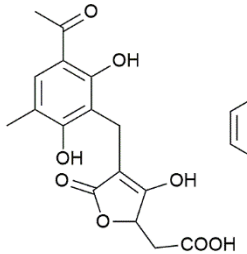

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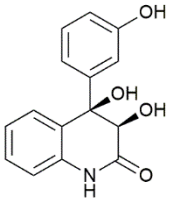
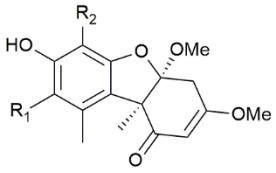


†**643**

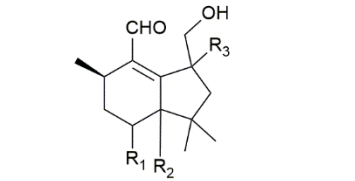
276 Ascomycota *Graphostroma* sp.// (sediment), Atlantic Ocean // Graphostromols A–K, eleven new chained polyketides from the deep-sea-derived *Graphostroma* sp
628 // N // graphostromol A // IA *vs* 5 HTCLs.
629 // N // graphostromol B // IA *vs* 5 HTCLs.
630 // N // graphostromol C // IA *vs* 5 HTCLs.
631 // N // graphostromol D // IA *vs* 5 HTCLs.
632 // N // graphostromol E // IA *vs* 5 HTCLs.
633 // N // graphostromol F // IA *vs* 5 HTCLs.
634 // N // graphostromol G // IA *vs* 5 HTCLs.
635 // N // graphostromol H // IA *vs* 5 HTCLs.
636 // N // graphostromol I // IA *vs* 5 HTCLs.
637 // N // graphostromol J // IA *vs* 5 HTCLs.
638 // N // graphostromol K // IA *vs* 5 HTCLs.

277 Ascomycota *Letendraea* sp.// (unidentified carb), Zhairuoshan Island, Zhoushan, Zhejiang Province, China // Letenketals A and B, two novel spirocyclic polyketides from a marine crab-derived *Letendraea* sp. fungus
639 // N // letenketal A // IA *vs* 1 HTCL and 4 bact.
640 // N // letenketal B // IA *vs* 1 HTCL and 4 bact.

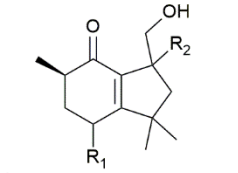
278 Ascomycota *Metarhizium marquandii* // (seawater), North Sea coast, St. Peter, Germany // Polyketides and a dihydroquinolone alkaloid from a marine-derived strain of the fungus *Metarhizium marquandii*
641 // N // marqualide // IA *vs* 1 murine TCL and 5 bact.
642 // N // (±)-peniphenone E // IA *vs* 1 murine TCL and 5 bact.
643 // N // aflaquinolone I // IA *vs* 1 murine TCL and 5 bact.



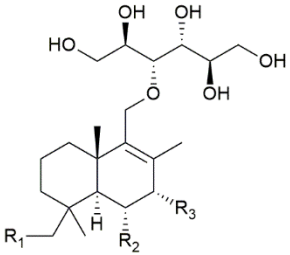
†**644** R_1 = Me, R_2 = Ac
645 R_1 = Ac, R_2 = Me



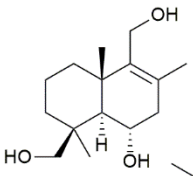
†**646** R_1 = R_2 = OH, R_3 = ·····
†**647** R_1 = ·····OH, R_2 = OH, R_3 = ·····
†**648** R_1 = OH, R_2 = ·····H , R_3 =



†**649** R_1 = ·····OH, R_2 =
†**650** R_1 = OH, R_2 = ·····



651 R_1 = R_2 = R_3 = H
652 R_1 = H, R_2 = OH, R_3 = H
653 R_1 OH, R_2 = R_3 = H
654 R_1 = OH, R_2 = H, R_3 = OH



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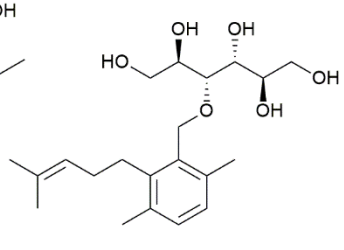

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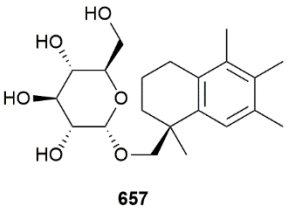


657

279 Ascomycota *Mycosphaerella* sp.// (sediment), Donghae-si, Gangwon-do, South Korea // Mycousfurans A and B, antibacterial usnic acid congeners from the fungus *Mycosphaerella* sp., isolated from a marine sediment

644 // N // mycousfuran A // weak inhib. 2 bact., IA *vs* 4.

645 // N // mycousfuran B // weak inhib. 2 bact., IA *vs* 4.

280 Ascomycota *Nemania bipapillata* // (red alga, *Asparagopsis taxiformis*), Fortaleza Beach, Ubatuba, São Paulo, Brazil // Botryane terpenoids produced by *Nemania bipapillata*, an endophytic fungus isolated from red alga *Asparagopsis taxiformis* - *Falkenbergia* stage

646 // N // (+)-(2*R*,4*S*,5*R*,8*S*)-4-deacetyl-5-hydroxy-botryenalol // weak inhib. AChE and BChE. IA *vs* 2 HTCLs.

647 // N // (+)-(2*R*,4*R*,5*R*,8*S*)-4-deacetyl-5-hydroxy-botryenalol // weak inhib. AChE. No inhib. BChE. NT *vs* 2 HTCLs.

648 // N // (+)-(2*R*,4*S*,5*R*,8*R*)-4-deacetyl-botryenalol // weak inhib. AChE. No inhib. BChE. IA *vs* 2 HTCLs.

649 // N // nemenonediol A // weak inhib. AChE. No inhib. BChE. NT *vs* 2 HTCLs.

650 // N // nemenonediol B // weak inhib. AChE. No inhib. BChE. IA *vs* 2 HTCLs.

281 Ascomycota *Paraphaeosphaeria sporulosa*, Ascomycota *Paraconiothyrium sporulosum* // (sediment), Bohai Bay, Liaoning Province, China // Seven new drimane-type sesquiterpenoids from a marine-derived fungus *Paraconiothyrium sporulosum* YK-03

651 // N // sporulositol A // IA *vs* 2 HTCLs.

652 // N // sporulositol B // IA *vs* 2 HTCLs.

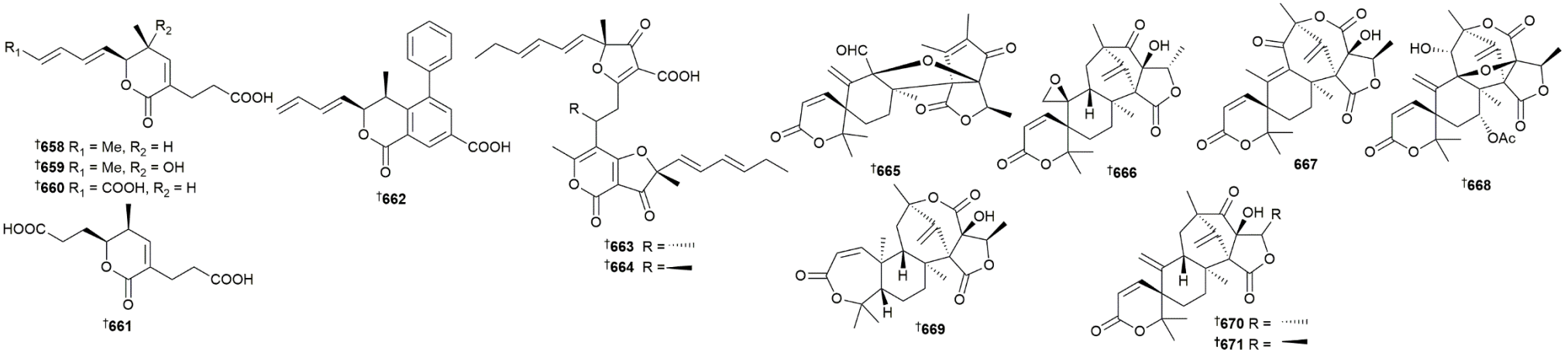
653 // N // sporulositol C // IA *vs* 2 HTCLs.

654 // N // sporulositol D // IA *vs* 2 HTCLs.

655 // N // 6-hydroxydiaporol // IA *vs* 2 HTCLs.

656 // N // *seco*-sporulositol // IA *vs* 2 HTCLs.

657 // N // sporuloside // IA *vs* 2 HTCLs.



282 Ascomycota *Paraconiothyrium* sp.// (red alga, *Chondrus ocellatus*), Bay of Shonai, Yamagata Prefecture, Japan // New polyketides, paralactonic acids A–E produced by *Paraconiothyrium* sp. SW-B-1, an endophytic fungus associated with a seaweed, *Chondrus ocellatus* Holmes

658 // N // paralactonic acid A // IA *vs* 2 bact., 2 fungi and 1 HTCL. No inhib. Ca^{2+} signal transduction.

659 // N // paralactonic acid B // IA *vs* 2 bact., 2 fungi and 1 HTCL. No inhib. Ca^{2+} signal transduction.

660 // N // paralactonic acid C // IA *vs* 2 bact., 2 fungi and 1 HTCL. No inhib. Ca^{2+} signal transduction.

661 // N // paralactonic acid D // IA *vs* 2 bact., 2 fungi and 1 HTCL. No inhib. Ca^{2+} signal transduction.

662 // N // paralactonic acid E // mod. inhib. 1 bact. IA *vs* 1 bact., 2 fungi and 1 HTCL. mod. inhib. Ca2+ signal transduction.

283 Ascomycota *Paraconiothyrium* sp.// (green alga, *Enteromorpha prolifera*), unspecified location // Pafuranones A and B, two dimeric polyketides from a rare marine algae-derived fungus *Paraconiothyrium* sp.

663 // N // pafuranone A // IA *vs* 2 bact. and 1 fungus.

664 // N // pafuranone B // IA *vs* 2 bact. and 1 fungus.

284 Ascomycota *Penicillium brasilianum* // (unspecified sponge), Weizhou Island, South China Sea // DMOA-based meroterpenoids with diverse scaffolds from the sponge-associated fungus *Penicillium brasilianum*

665 // N // brasilianoid G // NT

666 // N // brasilianoid H // NT

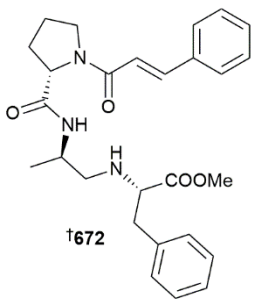
667 // N // brasilianoid I // NT

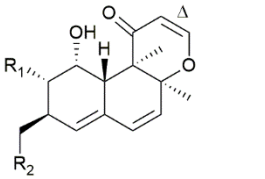
668 // N // brasilianoid J // NT

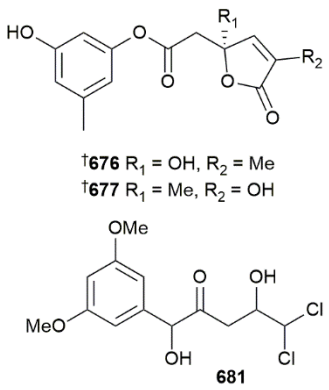
669 // N // brasilianoid K // NT

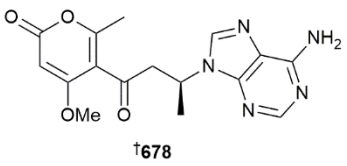
670 // N // brasilianoid L // weak cytotox. *vs* 1 HTCL, IA *vs* 2.

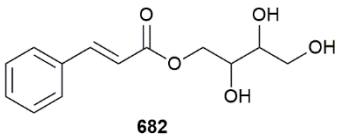
671 // R // neoaustin // NT

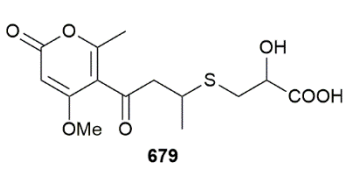


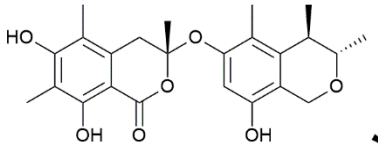


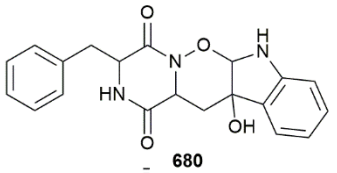


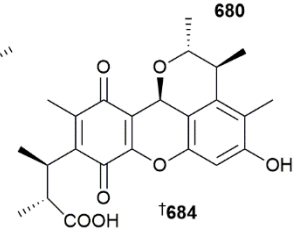












285 Ascomycota *Penicillium brevicompactum* // (sediment), Ryukyu Trench, Japan // Cipralphelin, a new anti-oxidative *N*-cinnamoyl tripeptide produced by the deep sea-derived fungal strain *Penicillium brevicompactum* FKJ-0123

672 // N // cipralphelin // pot. hydroxy radical scavenging activ. IA *vs* 4 bact. and 2 fungi.

286 Ascomycota *Penicllium chrysogenum* // (sediment), S. Atlantic Ocean // Cytotoxic polyketides isolated from the deep-sea-derived fungus *Penicillium chrysogenum* MCCC 3A00292

673 // N // peniciversiol A // IA *vs* 5 HTCLs.

674 // N // peniciversiol B // IA *vs* 5 HTCLs.

675 // N // peniciversiol C // IA *vs* 5 HTCLs.

676 // N // penicilactone A // IA *vs* 5 HTCLs.

677 // N // penicilactone B // IA *vs* 5 HTCLs.

287 Ascomycota *Penicillium citreonigrum* // (sediment), Southeast Indian Ocean // Two new cytotoxic compounds from a deep-sea *Penicillum citreonigrum* XT20-134

678 // N // adeninylpyrenocine // IA *vs* 4 HTCLs.

679 // N // 2-hydroxyl-3-pyrenocine-thio propanoic acid // weak cytotox. *vs* 1 HTCL, IA *vs* 3 HTCLs.

680 // N // ozazino-cyclo-(2,3-dihydroxyl-trp-tyr) // IA *vs* 4 HTCLs.

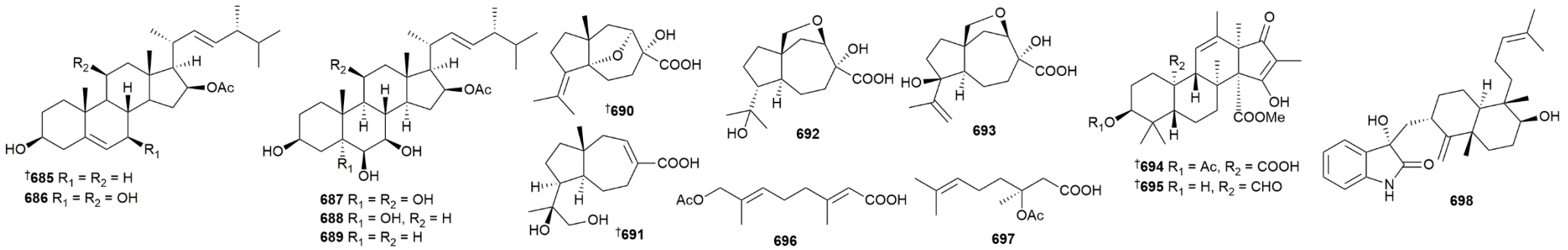
681 // N // 5,5-dichloro-1-(3,5-dimethoxyphenyl)-1,4-dihydroxypentan-2-one // IA *vs* 4 HTCLs.

682 // N // 2,3,4-trihydroxybutyl cinnamate // IA *vs* 4 HTCLs.

288 Ascomycota *Penicillium citrinum* // (seawater), West Pacific Ocean // Citrinin monomer and dimer derivatives with antibacterial and cytotoxic activities isolated from the deep sea-derived fungus *Penicillium citrinum* NLG-S01-P1

683 // N // penicitol D // IA *vs* 2 HTCLs, mod. inhib. *vs* 2 bact., weak inhib. *vs* 1 bact., IA *vs* 2.

684 // N // 1-*epi*-citrinin H1 // weak cytotox. *vs* 1 HTCL, IA *vs* 1 HTCL. mod. inhib. *vs* 2 bact., weak inhib. *vs* 1 bact., IA *vs* 2.



289 Ascomycota *Penicillium granulatum* // (sediment), Prydz Bay, Antarctica // Steroids from the deep-sea-derived fungus *Penicillium granulatum* MCCC 3A00475 induced apoptosis via retinoid X receptor (*RXR*)-α pathway

685 // N // penicisteroid D // IA *vs* 12 HTCLs.

686 // N // penicisteroid E // weak inhib. 2 HTCLS, IA *vs* 10 HTCLs.

687 // N // penicisteroid F // IA *vs* 12 HTCLs.

688 // N // penicisteroid G // weak inhib. 7 HTCLS, IA *vs* 5 HTCLs.

689 // N // penicisteroid H // weak inhib. 5 HTCLS, IA *vs* 7 HTCLs.

290 Ascomycota *Penicillium griseofulvum* // (sediment), Indian Ocean // Penigrisacids A–D, four new sesquiterpenes from the deep-sea-derived *Penicillium griseofulvum*

690 // N // penigrisacid A // IA *vs* 5 HTCLs. IA anti allergy assay (RBL-2H3 cells).

691 // N // penigrisacid B // IA *vs* 5 HTCLs. IA anti allergy assay (RBL-2H3 cells).

692 // N // penigrisacid C // IA *vs* 5 HTCLs. IA anti allergy assay (RBL-2H3 cells).

693 // N // penigrisacid D // IA *vs* 5 HTCLs. IA anti allergy assay (RBL-2H3 cells).

291 Ascomycota *Penicillium* sp.// No source or location specified. // Two new meroterpenoids and two new monoterpenoids from the deep sea-derived fungus *Penicillium* sp. YPGA11

694 // N // 15-deacetylated citreohybridone E // No inhib. NO prod.

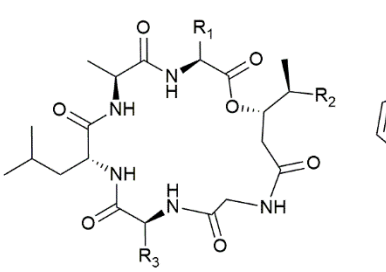
695 // N // 3-deacetylated andrastin A // No inhib. NO prod.

696 // N // penicipene A // NT

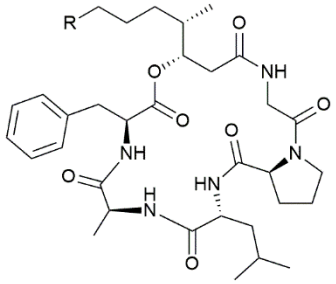
697 // N // penicipene B // No inhib. NO prod.

292 Ascomycota *Penicillium* sp.// (seawater), Yap Trench, West Pacific Ocean // Penicindopene A, a new indole diterpene from the deep-sea fungus *Penicillium* sp. YPCMAC1

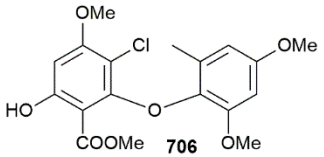
698 // N // penicindopene A // IA *vs* 2 HTCLs.



699 R_1 = *i*-Pr, R_2 = *n*-But, R_3 = *i*-Pr
700 R_1 = *i*-Pr, R_2 = *n*-Hex, R_3 = *i*-Pr
701 R_1 = CH_2Ph, R_2 = *n*-Hex, R_3 = *i*-But
702 R_1 =CH_2Ph, R_2 = *Et*, R_3 = *i*-But
703 R_1 =CH_2Ph, R_2 = *n*-But, R_3 = *i*-Pr



704 R = Me
705 R = *n*-Pr



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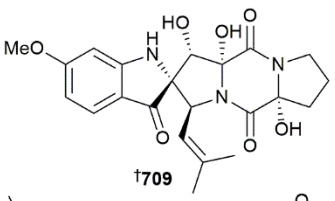
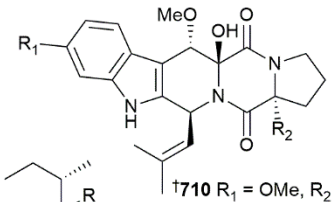
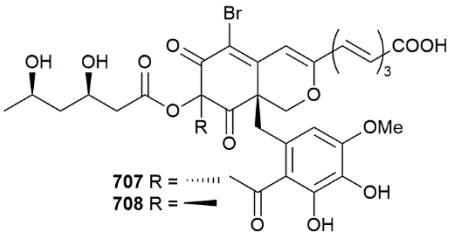


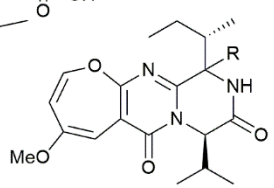
†**709**



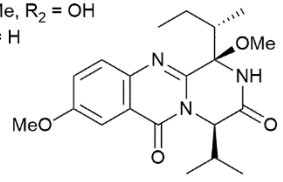
†**710** R_1 = OMe, R_2 = OH
711 R_1 = R_2 = H



707 R = ·····
708 R = ▬



†**712** R = ▬OMe
713 R = ·····OMe



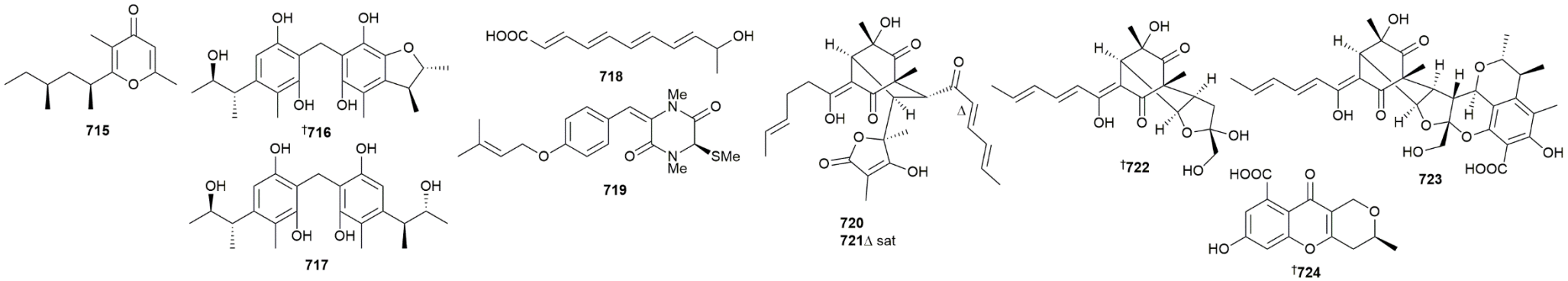
714

293 Ascomycota *Penicillium chrysogenum* // (gorgonian, *Carijoa* sp.), Weizhou coral reefs, South China Sea // Integrating molecular networking and ^{1}H NMR to target the isolation of chrysogeamides from a library of marine-derived *Penicillium* fungi
699 // N // chrysogeamide A // Promotes angiogenesis with no toxicity. IA *vs* 4 HTCLs, 13 bact., 3 viruses. No antiplas. activ. No inhib. Topo-1 or AChE.
700 // N // chrysogeamide B // Promotes angiogenesis with no toxicity. IA *vs* 4 HTCLs, 13 bact., 3 viruses. No antiplas. activ. No inhib. Topo-1 or AChE.
701 // N // chrysogeamide C // NT
702 // N // chrysogeamide D // NT
703 // N // chrysogeamide E // NT
704 // N // chrysogeamide F // NT
705 // N // chrysogeamide G // NT

294 Ascomycota *Penicillium canescens* // (sponge, *Agelas oroides*), Sığaçık-İzmir, Turkey // Brominated azaphilones from the sponge-associated fungus *Penicillium canescens* strain 4.14.6a
706 // N // methyl 3-chloro-2-(2,4-dimethoxy-6-methylphenoxy)-6-hydroxy-4-methoxybenzoate // IA *vs* 2 HTCLs.
707 // N // bromophilone A // IA *vs* 2 HTCLs.
708 // N // bromophilone B // mod. cytotox. *vs* 1 HTCL, weak cytotox. *vs* 2 HTCLs.

295 Ascomycota *Penicillium brasilianum* // (unspecified source), Bohai Sea, Huanghua, Hebei Province, China // Discovery of bioactive indole-diketopiperazines from the marine-derived fungus *Penicillium brasilianum* aided by genomic information
709 // N // spirotryprostatin G // weak cytotox. *vs* 1 HTCL, IA *vs* 2. IA *vs* 16 bact.
710 // N // cyclotryprostatin F // weak cytotox. *vs* 1 HTCL, IA *vs* 2. IA *vs* 16 bact.
711 // N // cyclotryprostatin G // IA *vs* 3 HTCLs and 16 bact.

296 Ascomycota *Penicillium chrysogenum* // (gorgonian, *Dichotella gemmacea*), South China Sea // Structures and absolute configurations of diketopiperazine alkaloids chrysopiperazines A–C from the gorgonian-derived *Penicillium chrysogenum f*ungus
712 // N // chrysopiperazine A // IA *vs* 2 bact. and 1 fungus.
713 // N // chrysopiperazine B // NT
714 // N // chrysopiperazine C // NT



297 Ascomycota *Penicillium dipodomyis,* Ascomycota *Penicillium chrysogenum* // (sponge, *Haliclona* sp.) Linshui, Hainan Province, China // Penichrypyrone A: a new γ-pyrone derivative from the sponge-derived fungus *Penicillium chrysogenum* LS18

715 // N // penichrypyrone A // No AO activ. (DPPH assay).

298 Ascomycota *Penicillium citrinum* // (unidentified ascidian), S. China Sea // Dicitrinones E and F, citrinin dimers from the marine derived fungus *Penicillium citrinum* HDN-152-088

716 // N // dicitrinone E // IA *vs* 7 HTCLs, 1 virus and 1 bact. No AO activ. (DPPH assay).

717 // N // dicitrinone F // IA *vs* 7 HTCLs, 1 virus and 1 bact. No AO activ. (DPPH assay).

299 Ascomycota *Penicillium crustosum*, Ascomycota *Penicillium solitum* // (sediment), Prydz Bay, Antarctica // Secondary metabolites from Antarctic marine-derived fungus *Penicillium crustosum* HDN153086

718 // N // (2*E*, 4*E*, 6*E*, 8*E*)-10-hydroxyundeca-2,4,6,8-tetraenoic acid // IA *vs* 1 HTCL.

719 // N // fusaperazine F // IA *vs* 1 HTCL.

300 Ascomycota *Penicillium dipodomyis* // (sediment), Jiaozhou Bay, Qingdao, China // Discovery of two new sorbicillinoids by overexpression of the global regulator LaeA in a marine-derived fungus *Penicillium dipodomyis* YJ-11

720 // N // 10,11-dihydrobislongiquinolide // IA *vs* 16 HTCLs. No AB activ. (no details). weak siderophore activ. (chrome azurol sulphonate, CAS).

721 // N // 10,11,16,17-tetrahydrobislongiquinolide // IA *vs* 16 HTCLs. No AB activ. (no details). weak siderophore activ. (CAS). No AO activ. (DPPH assay).

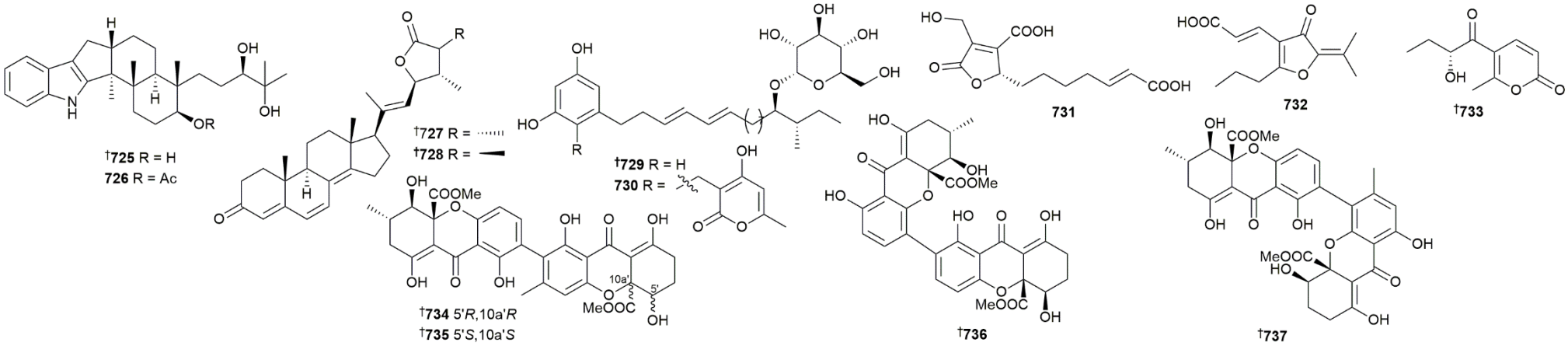
301 Ascomycota *Penicillium citrinum* // (red alga, *Coelarthrum* sp.), Yongxing Island, S. China Sea // Sorbicillfurans A and B, two novel sorbicillinoid adducts from the fungus *Penicillium citrinum* SCSIO41402

722 // N // sorbicillfuran A // IA *vs* 6 HTCLs.

723 // N // sorbicillfuran B // weak cytotox. vs1 HTCL. IA *vs* 5 HTCLs.

302 Ascomycota *Penicillium erubescens* // (sponge, *Neopetrosia* sp.), Samaesan Island, Chonburi province, Thailand // Erubescensoic acid, a new polyketide and a xanthonopyrone SPF-3059-26 from the culture of the marine sponge-associated fungus *Penicillium erubescens* KUFA 0220 and antibacterial activity evaluation of some of its constituents

724 // N // erubescensoic acid // IA *vs* 4 bact. and 3 MDR strains. weak inhib. biofilm formation *vs* 1 strain, IA *vs* 3.



303 Ascomycota *Penicillium janthinellum*, Ascomycota *Penicillium simplicissimum* // (sediment), Bohai Sea, China // Anti-*Vibrio* indole-diterpenoids and C-25 epimeric steroids from the marine-derived fungus *Penicillium janthinellum*

725 // N // penijanthine C // mod. inhib. 3 bact.

726 // N // penijanthine D // weak. inhib. 3 bact.

727 // N // penijanthoid A // weak. inhib. 3 bact.

728 // N // penijanthoid B // weak. inhib. 3 bact.

304 Ascomycota *Penicillium janthinellum*, Ascomycota *Penicillium simplicissimum* // (sediment), Cu Lao Cham Island, Quang Nam, Vietnam // Resorcinosides A and B, glycosylated alkylresorcinols from a marine-derived strain of the fungus *Penicillium janthinellum*

729 // N // resorcinoside A // weak cytostatic activ. *vs* 1 HTCL, IA *vs* 5 HTCLs.

730 // N // resorcinoside B // IA *vs* 6 HTCLs.

305 Ascomycota *Penicillium purpurogenum* // (sediment), Bohai Bay, Lüjühe, Tanggu district, Tianjin, China // A new polyketide purpurogenic acid: the activated production of polyketides by the diethyl sulphate mutagenesis of marine-derived *Penicillium purpurogenum* G59

731 // N // purpurogenic acid // IA *vs* 4 HTCLs.

306 Ascomycota *Penicillium purpurogenum* // (sediment), Bohai Bay, Tanggu district, Tianjin, China // Two new polyketides isolated from a diethyl sulphate mutant of marine-derived *Penicillium purpurogenum* G59

732 // N // purpurofuranone // IA *vs* 4 HTCLs.

733 // N // purpuropyranone // IA *vs* 4 HTCLs.

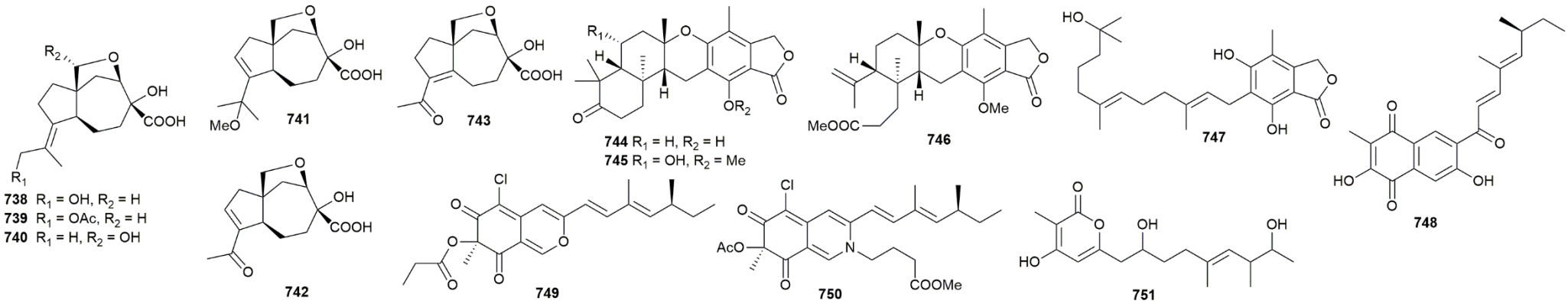
307 Ascomycota *Penicillium oxalicum* // (sediment), Langqi Island, Fujian, China // Secalonic acids J–M, four new secondary metabolites from the marine-derived fungus *Penicillium oxalicum*

734 // N // secalonic acid J // weak cytotox. *vs* 3 HTCLs, IA *vs* 2 HTCLs.

735 // N // secalonic acid K // weak cytotox. *vs* 4 HTCLs, IA *vs* 1 HTCL.

736 // N // secalonic acid L // weak cytotox. *vs* 1 HTCL, IA *vs* 4 HTCLs.

737 // N // secalonic acid M // weak cytotox. *vs* 4 HTCLs, IA *vs* 1 HTCL.



308 Ascomycota *Penicillium piltunense* // (sediment), Piltun Bay, Sakhalin Island, Russia // Piltunines A–F from the marine-derived fungus *Penicillium piltunense* KMM 4668

738 // M // piltunine A // IA *vs* 1 HTCL and 1 nHCL. No inhib. NO or ROS prod.

739 // N // piltunine B // IA *vs* 1 HTCL and 1 nHCL. No inhib. NO or ROS prod.

740 // N // piltunine C // NT *vs* 1 HTCL and 1 nHCL. No inhib. NO or ROS prod.

741 // N // piltunine D // NT

742 // N // piltunine E // NT *vs* 1 HTCL and 1 nHCL. No inhib. NO or ROS prod.

743 // N // piltunine F // NT *vs* 1 HTCL and 1 nHCL. No inhib. NO or ROS prod.

309 Ascomycota *Penicillium rudallense* // (sediment), Ga-geo Island, Korea // Austalides, osteoclast differentiation inhibitors from a marine-derived strain of the fungus *Penicillium rudallense*

744 // N // austalide V // mod. inhib. osteoclast differentiation.

745 // N // austalide W // mod. inhib. osteoclast differentiation.

746 // N // austalide X // No inhib. osteoclast differentiation.

747 // N // 6-[(2*E*,6*E*)-10,11-dihydro-11-hydroxyfarnesyl]-5,7-dihydroxy-4-methylphthalide // No inhib. osteoclast differentiation.

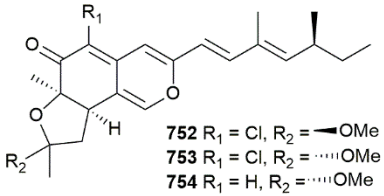
310 Ascomycota *Penicillium sclerotiorum* // (gorgonian, *Anthogorgia ocbracea*), Weizhou coral reef, South China Sea // Identification of anti-inflammatory polyketides from the coral-derived fungus *Penicillium sclerotiorin*: *In vitro* approaches and molecular-modeling

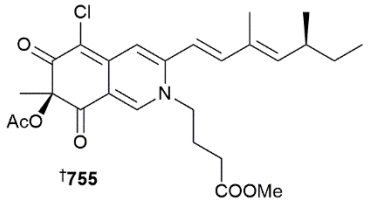
748 // N // sclerketide A // No inhib. NO prod.

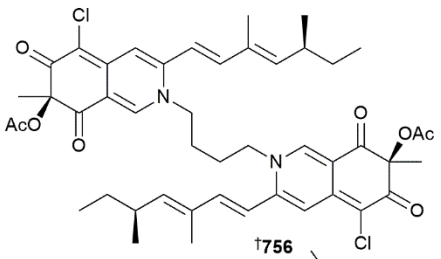
749 // N // sclerketide B // mod. inhib. NO prod. (no cytotox.)

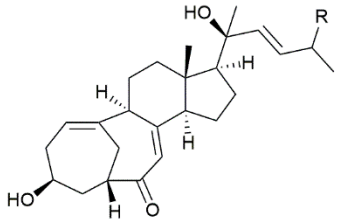
750 // N // sclerketide C // mod. inhib. NO prod.

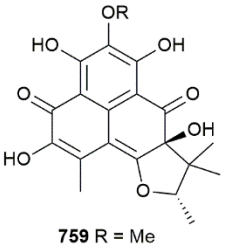
751 // N // sclerketide D // mod. inhib. NO prod. (no cytotox.)

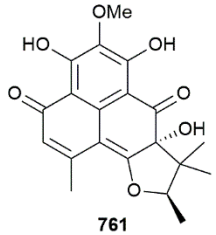


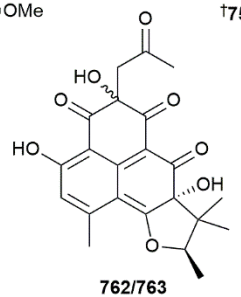


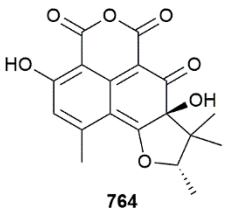


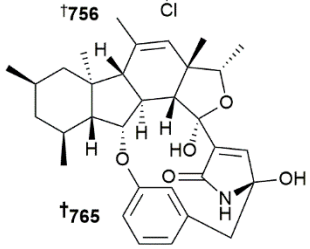


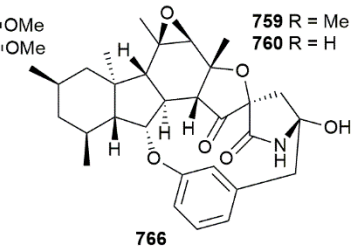












311 Ascomycota *Penicillium sclerotiorum* // (sponge, *Paratetilla* sp.), Xisha Island, South China Sea. // Azaphilones from the marine sponge-derived fungus *Penicillium sclerotiorum* OUCMDZ-3839

752 // N // sclerotiorin A // IA *vs* 1 virus. No inhib. α-glucosidase.

753 // N // sclerotiorin B // IA *vs* 1 virus. No inhib. α-glucosidase.

754 // N // sclerotiorin C // IA *vs* 1 virus. No inhib. α-glucosidase.

755 // N // sclerotiorin D // IA *vs* 1 virus. No inhib. α-glucosidase.

756 // R // sclerotiorin E // IA *vs* 1 virus. No inhib. α-glucosidase.

312 Ascomycota *Penicillium ubiquetum* // (blue mussel, *Mytilus edulis*), Loire estuary, France // C25 steroids from the marine mussel-derived fungus *Penicillium ubiquetum* MMS330

757 // N // 24-*O*-methyl-24-epi-cyclocitrinol // IA *vs* 2 HTCLs (as 1:1 mixt.).

758 // N // 24-*O*-methylcyclocitrinol // IA *vs* 2 HTCLs (as 1:1 mixt.).

313 Ascomycota *Penicillium* sp.// (sediment), Gagudo, Korea // Phenalenones from a marine-derived fungus *Penicillium* sp.

759 // N // ent-peniciherqueinone // weak-mod. induction adipogenesis. IA *vs* 2 HTCLs and "various bact./fungal strains.". No inhib. NO prod. or angiogenesis.

760 // N // 12-hydroxynorherqueinone // IA *vs* 2 HTCLs and "various bact. and fungal strains.". No inhib. NO prod. or angiogenesis. No adipogenesis induction.

761 // N // ent-isoherqueinone // IA *vs* 2 HTCLs and "various bact. and fungal strains.". No inhib. NO prod. or angiogenesis. No adipogenesis induction.

762 // N // oxopropylisoherqueinone A // IA *vs* 2 HTCLs and "various bact./fungal strains.". No inhib. NO prod. or angiogenesis. No adipogenesis induction.

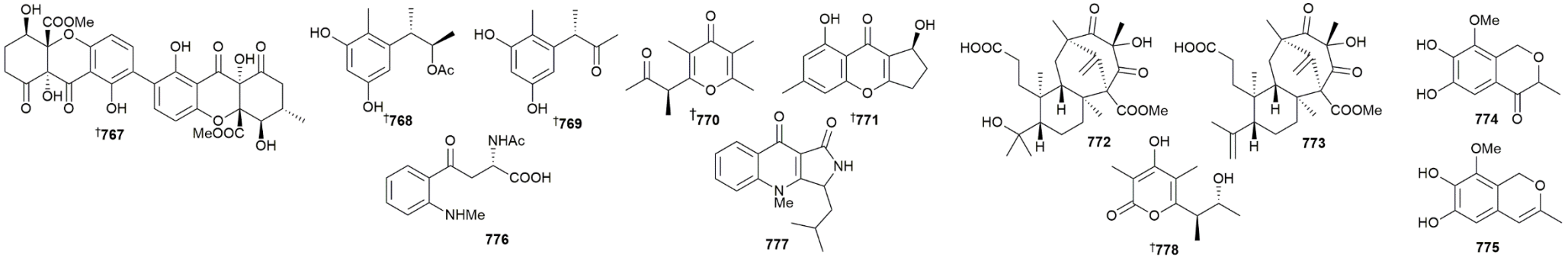
763 // N // oxopropylisoherqueinone B // IA *vs* 2 HTCLs and "various bact. and fungal strains.". No inhib. NO prod. or angiogenesis. No adipogenesis induction.

764 // N // 4-hydroxysclerodin // weak-mod. inhib. angioogenesis. IA *vs* 2 HTCLs, various bact./fungal strains. No inhib. NO prod. No induction adipogenesis.

314 Ascomycota *Penicillium* sp.// (crab, *Pachygrapsus crassipes*), Zhoushan, China. // Novel bioactive penicipyrroether A and pyrrospirone J from the marine-derived *Penicillium* sp. ZZ380

765 // N // penicipyrroether A // weak cytotox. *vs* 2 HTCLs. mod. inhib. 2 bact.

766 // N // pyrrospirone J // IA *vs* 2 HTCLs and 2 bact.



315 Ascomycota *Penicillium* sp.// (unidentified octopus), Zhoushan Island, Zhejiang, China. // Proangiogenic penibishexahydroxanthone A from the marine-derived fungus *Penicillium* sp. ZZ486A

767 // N // penibishexahydroxanthone A // weak inhib. 2 bact. and 1 fungus, weak to mod. angigiogenesis promotion (in vivo).

316 Ascomycota *Penicillium* sp.// (unidentified starfish), South China Sea // Enantiomeric polyketides from the starfish-derived symbiotic fungus *Penicillium* sp. GGF16-1-2

768 // N // penicilliode A // IA *vs* 8 bact. and 1 HTCL.

769 // N // (−)-penicilliode B // IA *vs* 8 bact. and 1 HTCL.

770 // N // (+)-penicilliode C // IA *vs* 8 bact. and 1 HTCL.

771 // N // (−)-coniochaetone B // IA *vs* 8 bact. and 1 HTCL.

317 Ascomycota *Penicillium* sp.// (sand), Gijang-gun, Busan, Korea // New preaustinoids from a marine-derived fungal strain *Penicillium* sp. SF-5497 and their inhibitory effects against PTP1B activity

772 // N // preaustinoid A6 // mod. inhib. PTP1B.

773 // N // preaustinoid A7 // No inhib. PTP1B.

318 Ascomycota *Penicillium* sp.// (ascidian, *Styela plicata*), Bay of Da'ao, Shenzhen City, Guangdong Province, China // Two new isochromane derivatives penisochromanes A and B from ascidian-derived fungus *Penicillium* sp. 4829

774 // N // penisochromane A // IA *vs* 5 bact. and 3 HTCLs.

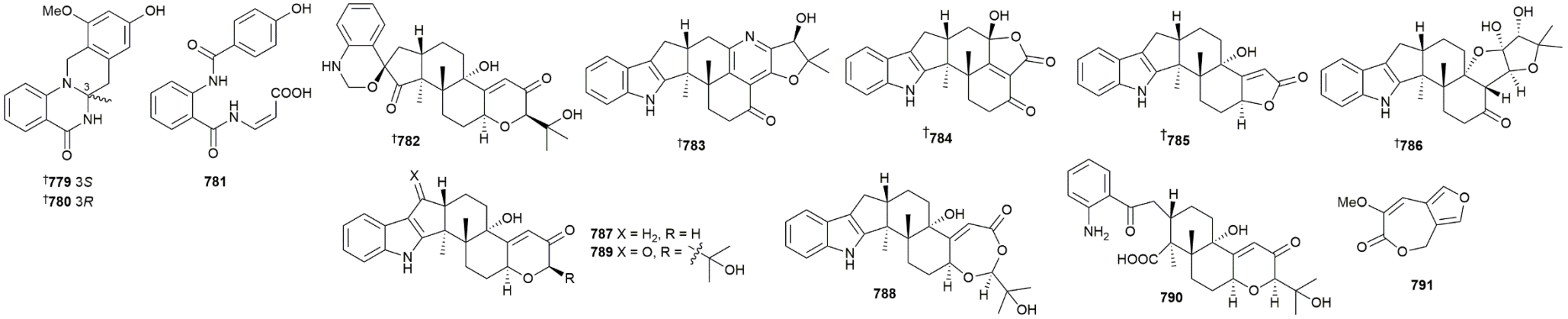
775 // N // penisochromane B // IA *vs* 5 bact. and 3 HTCLs.

319 Ascomycota *Penicillium* sp.// (sponge, *Callyspongia* sp.), Xuwen County, Guangdong, China // New alkaloids and polyketides from the marine sponge-derived fungus *Penicillium* sp. SCSIO41015

776 // N // (S)-methyl 2-acetamido-4-(2-(methylamino)phenyl)-4-oxobutanoate // IA *vs* 5 HTCLs and 5 bact.

777 // N // quinolactacin E // NT

778 // N // germicidin O // IA *vs* 5 HTCLs and 5 bact.



320 Ascomycota *Penicillium* sp.// (ascidian, *Styela plicata*), Bay of Da'ao, Shenzhen City, Guangdong Province, China // Penicamide A, a unique *N*,*N*′-ketal quinazolinone alkaloid from ascidian-derived fungus *Penicillium* sp. 4829

779 // N // (–)-penicamide A // mod. inhib. NO prod. IA *vs* 3 HTCLs.

780 // N // (+)-penicamide A // mod. inhib. NO prod. IA *vs* 3 HTCLs.

781 // N // penicamide B // mod. inhib. NO prod. IA *vs* 3 HTCLs.

321 Ascomycota *Penicillium* sp.// (bivalve mollusc, *Meretrix lusoria*), Haikou Bay, China // Penerpenes A–D, four indole terpenoids with potent protein tyrosine phosphatase inhibitory activity from the marine-derived fungus *Penicillium* sp. KFD28

782 // N // penerpene A // pot. inhib. protein tyrosine phosphatases (PTP1B1 and TCPTP). IA *vs* 4 HTCLs.

783 // N // penerpene B // pot. inhib. protein tyrosine phosphatases (PTP1B1 and TCPTP). IA *vs* 4 HTCLs.

784 // N // penerpene C // No inhib. protein tyrosine phosphatases (PTP1B1 and TCPTP). IA *vs* 4 HTCLs.

785 // N // penerpene D // No inhib. protein tyrosine phosphatases (PTP1B1 and TCPTP). IA *vs* 4 HTCLs.

322 Ascomycota *Penicillium* sp.// (bivalve mollusc, *Meretrix lusoria*), Haikou Bay, China // Indole-diterpenoids with protein tyrosine phosphatase inhibitory activities from the marine-derived fungus *Penicillium* sp. KFD28

786 // N // penerpene E // weak inhib. 2 protein tyrosine phosphatases (PTPs), IA *vs* 2. IA *vs* 4 HTCLs.

787 // N // penerpene F // weak inhib. 1 protein tyrosine phosphatases (PTPs), IA *vs* 3. IA *vs* 4 HTCLs.

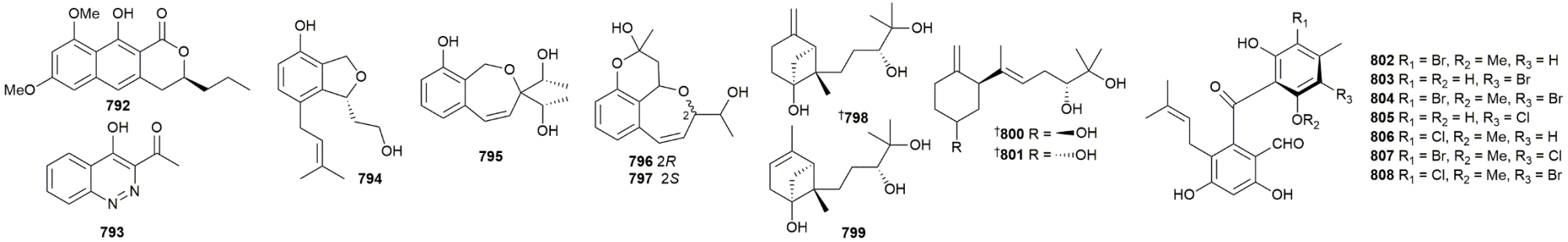
788 // N // penerpene G // No inhib. 4 protein tyrosine phosphatases (PTPs). IA *vs* 4 HTCLs.

789 // N // penerpene H // weak inhib. 2 protein tyrosine phosphatases (PTPs), IA *vs* 2. IA *vs* 4 HTCLs.

790 // N // penerpene I // No inhib. 4 protein tyrosine phosphatases (PTPs). IA *vs* 4 HTCLs.

323 Ascomycota *Penicillium* sp.// (sponge, *Haliclona* sp.), Linshui, Hainan Province, China // Penicillilactone A, a novel antibacterial 7-membered lactone derivative from the sponge-associated fungus *Penicillium* sp. LS54

791 // N // penicillilactone A // weak inhib. 1 bact.



324 Ascomycota *Penicillium* sp.// (sponge, *Callyspongia* sp.), Xuwen County, Guangdong Province, China // A new naphthopyranone from the sponge-associated fungus *Penicillium* sp. XWS02F62

792 // N // 7-O-methylpenicitor A // IA *vs* 5 HTCLs.

325 Ascomycota *Penicillium* sp.// Co To island, Vietnam // Chemical composition and biological activities of metabolites from the marine fungi *Penicillium* sp. isolated from sediments of Co To island, Vietnam

793 // N // 3-acetyl-4-hydroxycinnoline // IA *vs* 6 bact. and 1 fungus. No inhib. α-glucosidase or a-amylase.

326 Ascomycota *Pestalotia heterocornis*, Ascomycota *Pestalotiopsis heterocornis* // (sponge, *Phakellia fusca*), Xisha Islands, China // Cytotoxic polyketides from the marine sponge-derived fungus *Pestalotiopsis heterocornis* XWS03F09

794 // N // heterocornol M // IA *vs* 4 HTCLs.

795 // N // heterocornol N // IA *vs* 4 HTCLs.

796 // N // heterocornol O // IA *vs* 4 HTCLs.

797 // N // heterocornol P // IA *vs* 4 HTCLs.

327 Ascomycota *Pestalotiopsis maculans* // (sponge, *Phakellia fusca*), Yongxin Island, South China Sea // Bortezomib-induced new bergamotene derivatives xylariterpenoids H–K from sponge-derived fungus *Pestalotiopsis maculans* 16F-12

798 // N // xylariterpenoid H // IA *vs* 4 bact. No inhib. NO prod.

799 // N // xylariterpenoid I // IA *vs* 4 bact. No inhib. NO prod.

800 // N // xylariterpenoid J // IA *vs* 4 bact. No inhib. NO prod.

801 // N // xylariterpenoid K // IA *vs* 4 bact. No inhib. NO prod.

328 Ascomycota *Pestalotiopsis neglecta* // (sediment), Ga-geo, Republic of Korea // Benzophenone compounds, from a marine-derived strain of the fungus *Pestalotiopsis neglecta*, inhibit proliferation of pancreatic cancer cells by targeting the MEK/ERK pathway

802 // N // pestalone B // weak inhib. 3 bact., IA *vs* 1. NT or IA *vs* 6 HTCLs (not clear).

803 // N // pestalone C // weak inhib. 3 bact., IA *vs* 1. NT *vs* 6 HTCLs.

804 // N // pestalone D // weak inhib. 3 bact., IA *vs* 1. NT or IA *vs* 6 HTCLs (not clear).

805 // N // pestalone E // weak inhib. 3 bact., IA *vs* 1. weak cytotox. *vs* 3 HTCLs, IA *vs* 3.

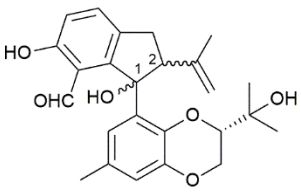
806 // N // pestalone F // weak inhib. 3 bact., IA *vs* 1. IA *vs* 6 HTCLs.

807 // N // pestalone G // weak inhib. 3 bact., IA *vs* 1. IA *vs* 6 HTCLs.

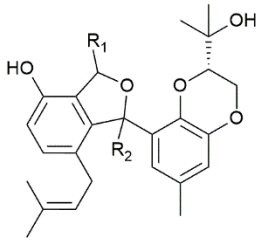
808 // N // pestalone H // weak inhib. 3 bact., IA *vs* 1. IA *vs* 6 HTCLs.

2 Marine microorganisms and phytoplankton:

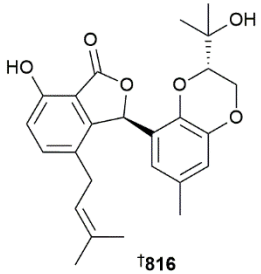
2.3 Marine-sourced fungi (excluding from mangroves)



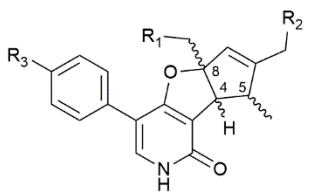
†**809** 1*S*,2*R*
†**810** 1*R*,2*S*



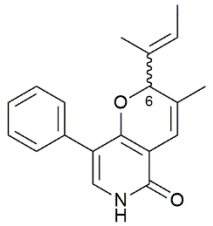
†**811** R_1 = ····OMe , R_2 = ◄OMe
†**812** R_1 = ◄OMe, R_2 = ····OMe
†**813** R_1 = R_2 = ◄OMe
†**814** R_1 = R_2 = ····OMe
†**815** R_1 = ····O*i*Pr, R_2 = ◄OMe



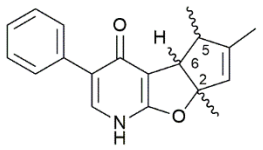
†**816**



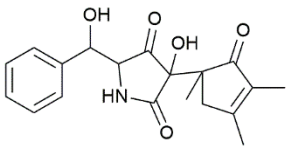
†**817** 4*S*,5*R*,8*S*, R_1 = R_2 = H, R_3 = OH
†**818** 4*R*,5*S*,8*R*, R_1 = R_2 = H, R_3 = OH
819 4*S*,5*R*,8*S*, R_1 = H, R_2 = R_3 = OH
820 4*R*,5*S*,8*R*, R_1 = H, R_2 = R_3 = OH
821 4*S*,5*R*,8*S*, R_1 = OH, R_2 = R_3 = H
822 4*R*,5*S*,8*R*, R_1 = OH, R_2 = R_3 = H



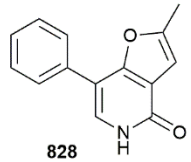
†**823** 6*R*
†**824** 6*S*



825 2*R*,5*S*,6*R*
826 2*S*,5*R*,6*S*



827



828

329 Ascomycota *Phomopsis lithocarpus* // (sediment), Indian Ocean // Lithocarpinols A and B, a pair of diastereomeric antineoplastic tenellone derivatives from the deep-sea derived fungus *Phomopsis lithocarpus* FS508

809 // N // lithocarpinol A // weak cytotox. *vs* 1 HTCL, IA *vs* 3.

810 // N // lithocarpinol B // IA *vs* 4 HTCLs.

330 Ascomycota *Phomopsis lithocarpus* // (sediment), Indian Ocean // Lithocarols A-F, six tenellone derivatives from the deep-sea derived fungus *Phomopsis lithocarpus* FS508

811 // N // lithocarol A // IA *vs* 4 HTCLs and 1 nHCL.

812 // N // lithocarol B // IA *vs* 4 HTCLs and 1 nHCL.

813 // N // lithocarol C // IA *vs* 4 HTCLs and 1 nHCL.

814 // N // lithocarol D // IA *vs* 4 HTCLs and 1 nHCL.

815 // N // lithocarol E // IA *vs* 4 HTCLs and 1 nHCL.

816 // N // lithocarol F // IA *vs* 4 HTCLs and 1 nHCL.

331 Ascomycota *Phomopsis tersa* // (sediment), Indian Ocean // Tersone A-G, new pyridone alkaloids from the deep-sea fungus *Phomopsis tersa*

817 // N // (−)-tersone A // IA *vs* 4 HTCLs and 2 bact.

818 // N // (+)-tersone A // IA *vs* 4 HTCLs and 2 bact.

819 // N // (−)-tersone B // IA *vs* 4 HTCLs and 2 bact.

820 // N // (+)-tersone B // IA *vs* 4 HTCLs and 2 bact.

821 // N // (−)-tersone C // IA *vs* 4 HTCLs and 2 bact.

822 // N // (+)-tersone C // IA *vs* 4 HTCLs and 2 bact.

823 // N // (+)-tersone D // IA *vs* 4 HTCLs and 2 bact.

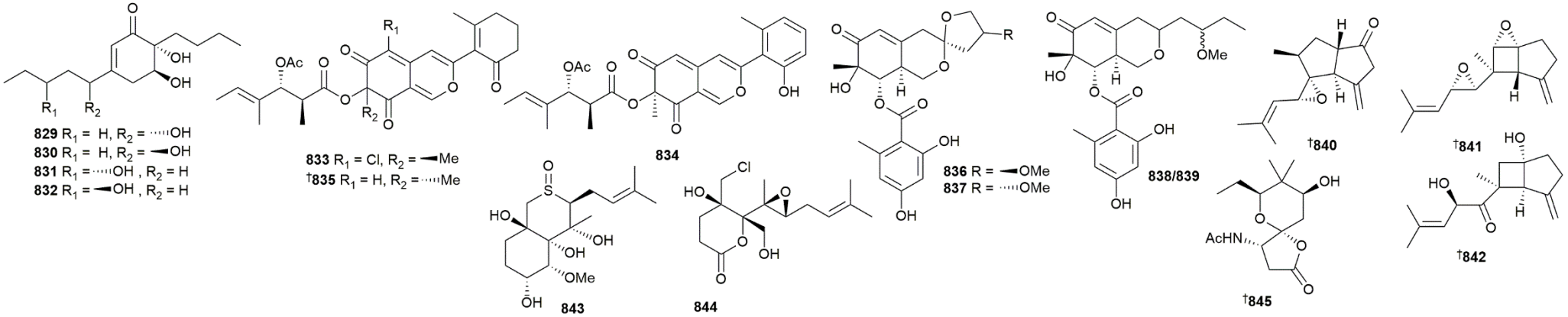
824 // N // (−)-tersone D // IA *vs* 4 HTCLs and 2 bact.

825 // N // (−)-tersone E // IA *vs* 4 HTCLs and 2 bact.

826 // N // (+)-tersone E // IA *vs* 4 HTCLs. weak inhib. 1 bact., IA *vs* 1.

827 // N // tersone F // IA *vs* 4 HTCLs and 2 bact.

828 // N // tersone G // IA *vs* 4 HTCLs and 2 bact.



332 Ascomycota *Pleospora* sp.// (isopod, *Ligia oceanica*), Dongsha, Dinghai, Zhoushan, Zhejiang Province, China // Novel stemphol derivatives from a marine fungus *Pleospora* sp

829 // N // pleosporol A // pot. inhib. 1 bact., IA *vs* 3. weak cytotox. *vs* 2 HTCLs.

830 // N // pleosporol B // mod. inhib. 1 bact., IA *vs* 3. weak cytotox. *vs* 2 HTCLs.

831 // N // pleosporol C or D // weak inhib. 1 bact., IA *vs* 3. weak cytotox. *vs* 2 HTCLs. (as mixt. with 4)

832 // N // pleosporol D or C // weak inhib. 1 bact., IA *vs* 3. weak cytotox. *vs* 2 HTCLs. (as mixt. with 3)

333 Ascomycota *Pleosporales* sp.// (sediment), Bohai Sea, Huanghua, China // Absolute configuration of bioactive azaphilones from the marine-derived fungus *Pleosporales* sp. CF09-1

833 // N // pleosporalone B // mod. inhib. 3 bact.

834 // N // pleosporalone C // mod. inhib. 3 bact.

835 // R // pleosporalone D // mod. inhib. 3 bact.

836 // N // pleosporalone E // IA *vs* 3 bact.

837 // N // pleosporalone F // IA *vs* 3 bact.

838 // N // pleosporalone G/H // IA *vs* 3 bact.

839 // N // pleosporalone G/H // IA *vs* 3 bact.

334 Ascomycota *Pseudallescheria apiosperma* // (soft coral, *Lobophytum crassum*), S. China Sea // Pseudapenes A–C, sesquiterpenoids from the marine-derived fungus *Pseudallescheria apiosperma* F52-1

840 // N // pseudapene A // IA *vs* 2 HTCLs.

841 // N // pseudapene B // IA *vs* 2 HTCLs.

842 // N // pseudapene C // IA *vs* 2 HTCLs.

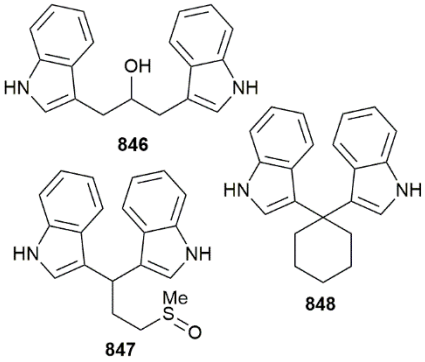
335 Ascomycota *Pseudallescheria boydii* // (soft coral, *Sinularia sandensis*), Dongsha Atoll, South China Sea // Osteoclastogenesis regulation metabolites from the coral-associated fungus *Pseudallescheria boydii* TW-1024-3

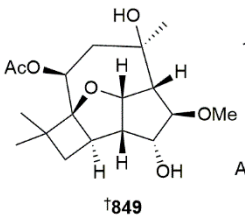
843 // N // $C_{16}H_{28}O_6S$ // No osteoclastogenesis inhib. or promotion.

844 // N // $C_{15}H_{23}ClO_5$ // No osteoclastogenesis inhib. or promotion.

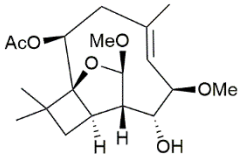
845 // N // $C_{14}H_{23}NO_5$ // No osteoclastogenesis inhib. or promotion.

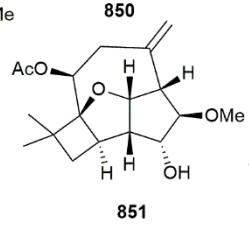
2 Marine microorganisms and phytoplankton:

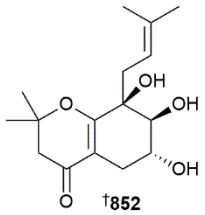


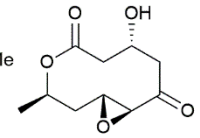


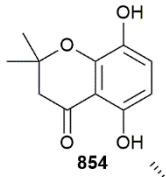
2.3 Marine-sourced fungi (excluding from mangroves)

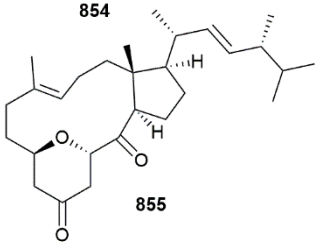


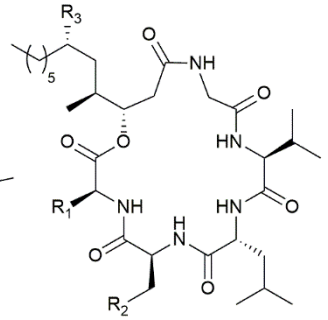












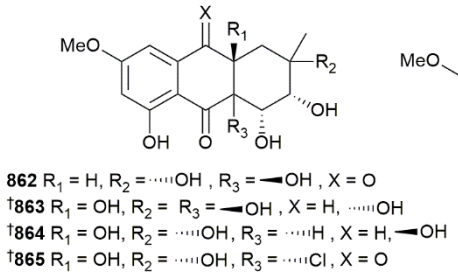
†**856** R_1 = CH_2Ph, R_2 = H, R_3 = Me
857 R_1 = *i*Pr, R_2 = H, R_3 = Me
858 R_1 = Me, R_2 = H, R_3 = Me
859 R_1 = CH_2Ph, R_2 = R_3 = Me
860 R_1 = *i*Pr, R_2 = R_3 = Me
†**861** R_1 = CH_2Ph, R_2 = R_3 = H

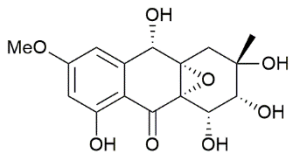
336 Ascomycota *Pseudallescheria boydii* // (soft coral, *Sarcophyton* sp.), Hainan Sanya National Coral Reef Reserve, China // Exploration of indole alkaloids from marine fungus *Pseudallescheria boydii* F44-1 using an amino acid-directed strategy
846 // N // pseudboindole A // IA *vs* 8 HTCLs.
847 // N // pseudboindole B // IA *vs* 8 HTCLs.
848 // N // 3,3′-cyclohexylidenebis(1H-indole) // IA *vs* 8 HTCLs.

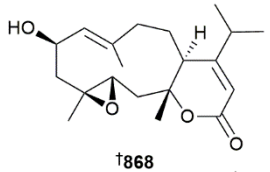
337 Ascomycota *Pseudopestalotiopsis* sp.// (unidentified ascidian), Phuket Province, Thailand // Caryophyllene sesquiterpenes, chromones and 10-membered macrolides from the marine-derived fungus *Pseudopestalotiopsis* sp. PSU-AMF45
849 // N // pestalotiopsin I // NT
850 // N // pestalotiopsin J // IA *vs* 4 bact. and 4 fungi.
851 // N // pestalotiopsin K // IA *vs* 4 bact. and 4 fungi.
852 // N // pseudopestalone // IA *vs* 4 bact. and 4 fungi.
853 // N // decarestrictine Q // NT
854 // N // 2,3-dihydro-5,8-dihydroxy-2,2-dimethylchromen-4-one // IA *vs* 4 bact. and 4 fungi.

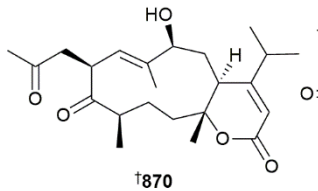
338 Ascomycota *Sarocladium kiliense* // (sediment), Northeast Pacific Ocean // Sarocladione, a unique 5,10:8,9-diseco-steroid from the deep-sea-derived fungus *Sarocladium kiliense*
855 // N // sarocladione // IA *vs* 5 HTCLs.

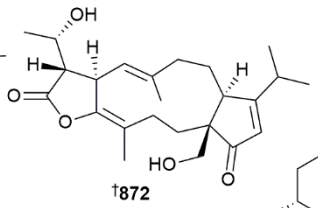
339 Ascomycota *Scopulariopsis* sp., Ascomycota *Beauveria* sp.// (fish, *Mugil* mullet), fish market, Brisbane, Australia. // Scopularides revisited: molecular networking guided exploration of lipodepsipeptides in Australian marine fish gastrointestinal tract-derived fungi
856 // N // scopularide C // IA *vs* 5 bact., 1 fungus and 3 HTCLs.
857 // N // scopularide D // IA *vs* 5 bact., 1 fungus and 3 HTCLs.
858 // N // scopularide E // IA *vs* 5 bact., 1 fungus and 3 HTCLs.
859 // N // scopularide F // IA *vs* 5 bact., 1 fungus and 3 HTCLs.
860 // N // scopularide G // IA *vs* 5 bact., 1 fungus and 3 HTCLs.
861 // N // scopularide H // IA *vs* 5 bact., 1 fungus and 3 HTCLs.

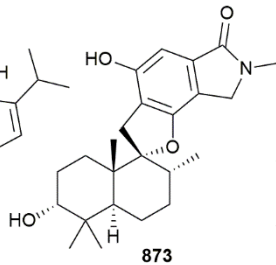


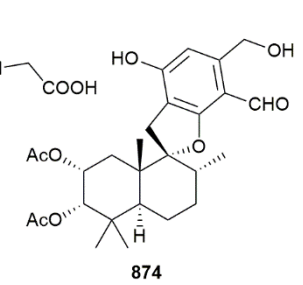


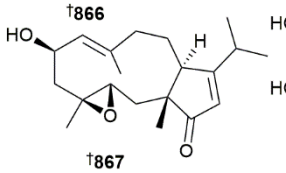


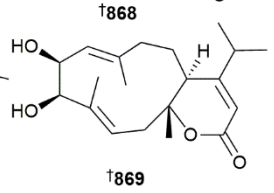


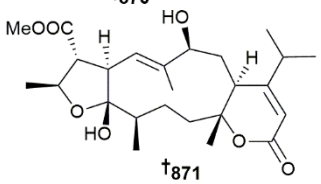












340 Ascomycota *Sporendonema casei* // (sediment), Zhangzi Island, Dalian, Liaoning Province, China // Anthraquinone derivatives from a marine-derived fungus *Sporendonema casei* HDN16-802

862 // N // auxarthrol D // weak cytotox. *vs* 1 HTCL, IA *vs* 10. weak inhib. 4 bact., IA *vs* 2 and 1 fungus.

863 // N // auxarthrol E // IA *vs* 11 HTCLs, 6 bact. and 1 fungus.

864 // N // auxarthrol F // weak cytotox. *vs* 2 HTCLs, IA *vs* 9. IA *vs* 6 bact. and 1 fungus.

865 // N // auxarthrol G // IA *vs* 11 HTCLs, weak inhib. 3 bact., IA *vs* 3 and 1 fungus.

866 // N // auxarthrol H // IA *vs* 11 HTCLs, 6 bact. and 1 fungus.

341 Ascomycota *Stachybotrys chartarum* // (soft coral, *Sarcophyton subviride*), Xisha Island, South China Sea // Antimicrobial dolabellanes and atranones from a marine-derived strain of the toxigenic fungus *Stachybotrys chartarum*

867 // N // stachatranone A // IA *vs* 6 bact. and 1 fungus.

868 // N // stachatranone B // weak inhib. 2 bact., IA *vs* 4 and 1 fungus.

869 // N // stachatranone C // IA *vs* 6 bact. and 1 fungus.

870 // N // atranone Q // weak inhib. 2 bact., IA *vs* 4. weak inhib.1 fungus.

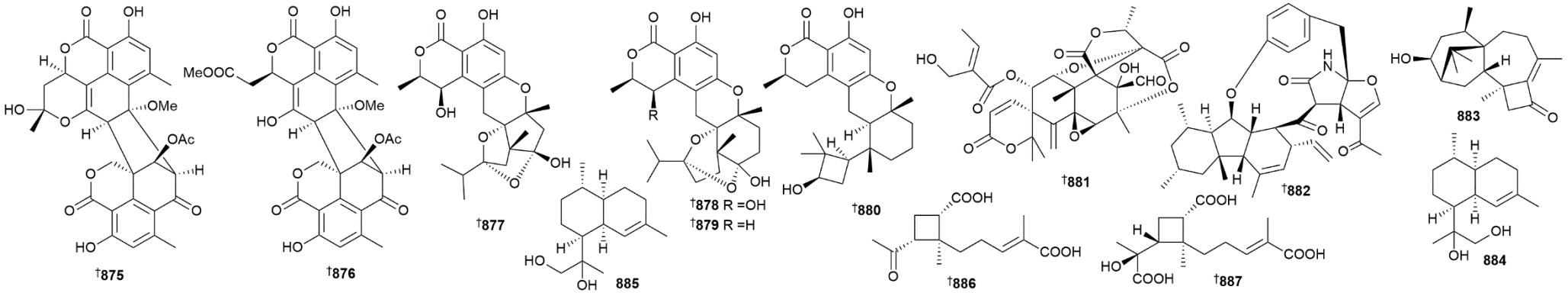
871 // N // atranone R // IA *vs* 6 bact. and 1 fungus.

872 // N // atranone S // IA *vs* 6 bact. and 1 fungus.

342 Ascomycota *Stachybotrys* sp.// (sediment), Site DY-26III-SMAR-S029-TVG11, Atlantic Ocean // Two new phenylspirodrimanes from the deep-sea derived fungus *Stachybotrys* sp. MCCC 3A00409

873 // N // stachybotrin H // IA *vs* 3 HTCLs.

874 // N // stachybotrysin H // IA *vs* 3 HTCLs.



343 Ascomycota *Talaromyces verruculosus* // (soft coral, *Goniopora* sp.), Sanya, Hainan island, South China Sea, China // Verruculosins A–B, new oligophenalenone dimers from the soft coral-derived fungus *Talaromyces verruculosus*

875 // N // verruculosin A // pot. inhib. tyrosine phosphatase CDC25B. weak inhib. epidermal growth factor regulator (EGFR).

876 // N // verruculosin B // NT

344 Ascomycota *Talaromyces* sp.// (red alga, *Grateloupia filicina*), Zhoushan, Zhejiang province, China // Talaromyolides A–D and talaromytin: polycyclic meroterpenoids from the fungus *Talaromyces* sp. CX11

877 // N // talaromyolide A // IA *vs* 1 virus and 12 HTCLs.

878 // N // talaromyolide B // IA *vs* 1 virus and 12 HTCLs.

879 // N // talaromyolide C // IA *vs* 1 virus and 12 HTCLs.

880 // N // talaromyolide D // weak inhib. 1 virus. IA *vs* 12 HTCLs.

881 // N // talaromytin // IA *vs* 1 virus and 12 HTCLs.

345 Ascomycota *Trichobotrys effuse* // (unspecified ascidian), South China Sea // Anti-glioma trichobamide A with an unprecedented tetrahydro-5*H*-furo[2,3- *b*]pyrrol-5-one functionality from ascidian-derived fungus *Trichobotrys effuse* 4729

882 // N // trichobamide A // weak cytotox. *vs* 2 HTCLs.

346 Ascomycota *Trichoderma asperellum* // (red alga, *Gracilaria verrucosa*), Yangma Island, Yantai, China // Harziane and cadinane terpenoids from the alga-endophytic fungus *Trichoderma asperellum* A-YMD-9-2

883 // N // 3S-hydroxyharzianone // mod. inhib. 1 phyotoplankton strain, weak inhib. *vs* 3. weak inhib. 5 bact. IA *vs* 1 zooplankton strain.

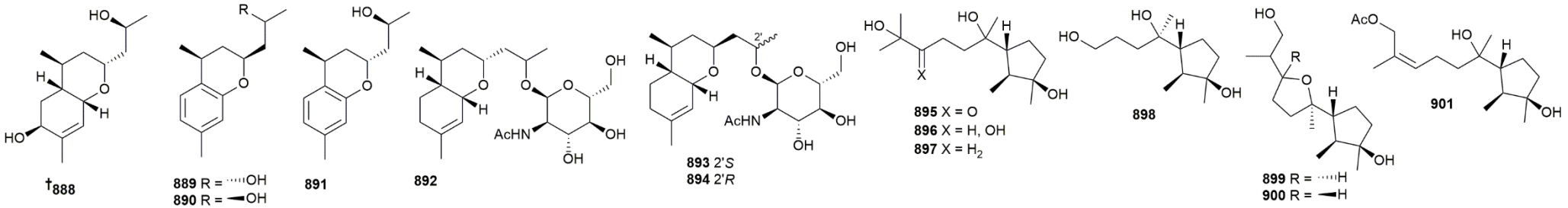
884 // N // 4-cadinen-11,12-diol // mod. inhib. 3 phyotoplankton strains., weak inhib. *vs* 1. weak inhib. 5 bact. IA *vs* 1 zooplankton strain.

885 // N // 4-cadinen-11,13-diol // mod. inhib. 2 phyotoplankton strains., weak inhib. *vs* 2. weak inhib. 5 bact. IA *vs* 1 zooplankton strain.

347 Ascomycota *Trichoderma harzianum* // (sponge, *Xestospongia testudinaria*), Leizhoudao Island, GuanDong Province, China // Harzianoic acids A and B, new natural scaffolds with inhibitory effects against hepatitis C virus

886 // N // harzianoic acid A // IA *vs* 1 virus.

887 // N // harzianoic acid B // IA *vs* 1 virus.



348 Ascomycota *Trichoderma asperellum* // (red alga, *Gracilaria verrucosa*), Yangma Island, Yantai, China // Seven chromanoid norbisabolane derivatives from the marine-alga-endophytic fungus *Trichoderma asperellum* A-YMD-9-2

888 // N // trichobisabolin I // weak inhib. 4 phytoplankton. weak inhib. *vs* 2 bact., IA *vs* 3.

889 // N // trichobisabolin J // mod. inhib. 2 phytoplankton, weak inhib. *vs* 2, weak inhib. *vs* 5 bact.

890 // N // trichobisabolin K // mod. inhib. 2 phytoplankton, weak inhib. *vs* 2, weak inhib. *vs* 5 bact.

891 // N // trichobisabolin L // pot. inhib. 1 phytoplankton, mod. inhib. *vs* 2, weak inhib. *vs* 1, weak inhib. *vs* 5 bact.

892 // N // trichaspside C // mod. inhib. 1 phytoplankton, weak inhib. *vs* 3, weak inhib. *vs* 4 bact., IA *vs* 1 bact.

893 // N // trichaspside D or E // weak inhib. 4 phytoplankton. weak inhib. *vs* 4 bact., IA *vs* 1 bact.

894 // N // trichaspside E or D // mod. inhib. 1 phytoplankton, weak inhib. *vs* 3, weak inhib. *vs* 4 bact., IA *vs* 1.

349 Ascomycota *Trichoderma asperellum* // (red alga, *Gracilaria verrucosa*), Yangma Island, Yantai, China // Cyclonerane derivatives from the algicolous endophytic fungus *Trichoderma asperellum* A-YMD-9-2

895 // N // 3,7,11-trihydroxycycloneran-10-one // weak inhib. 4 phytoplankton.

896 // N // cycloneran-3,7,10,11-tetraol // weak inhib. 3 phytoplankton, IA *vs* 1.

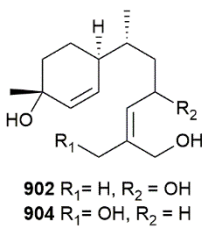
897 // N // cycloneran-3,7,11-triol // IA *vs* 4 phytoplankton.

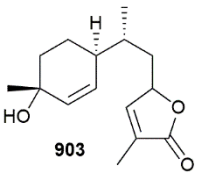
898 // N // 11,12,15-trinorcycloneran-3,7,10-triol // weak inhib. 2 phytoplankton, IA *vs* 2.

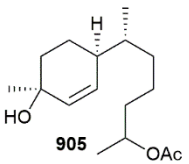
899 // N // 7,10*S*-epoxycycloneran-3,15-diol // mod. inhib. 2 phytoplankton, weak *vs* 2.

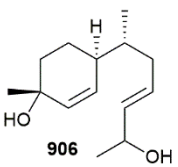
900 // N // 7,10*R*-epoxycycloneran-3,15-diol // weak inhib. 3 phytoplankton, IA *vs* 1.

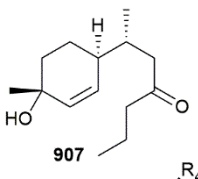
901 // N // (10*Z*)-15-acetoxy-10-cycloneren-3,7-diol // weak inhib. 2 phytoplankton, IA *vs* 2.

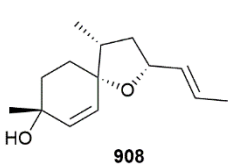


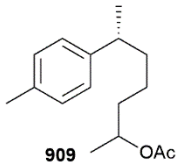


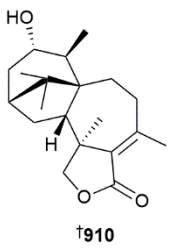


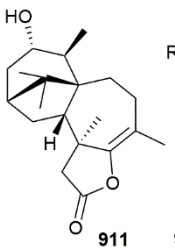


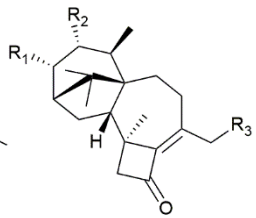


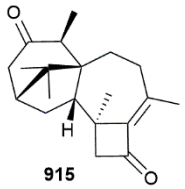


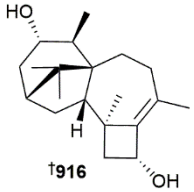


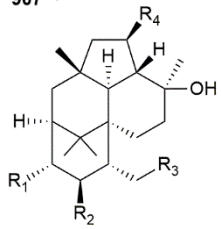












350 Ascomycota *Trichoderma asperellum* // (red alga, *Chondrus ocellatus*), Yangma Island, Yantai, China // Trichobisabolins A-H, eight new bisabolane derivatives from the marine-alga-epiphytic fungus *Trichoderma asperellum* Y6–2

902 // N // trichobisabolin A // IA *vs* 4 phytoplankton, 1 zooplankton and 5 bact.

903 // N // trichobisabolin B // mod. inhib. 1 phytoplankton, weak inhib. 2, IA *vs* 1. IA *vs* 1 zooplankton and 5 bact.

904 // N // trichobisabolin C // IA *vs* 4 phytoplankton, 1 zooplankton and 5 bact.

905 // N // trichobisabolin D // mod. inhib. 1 phytoplankton, weak inhib. 3. IA *vs* 1 zooplankton and 5 bact.

906 // N // trichobisabolin E // mod. inhib. 2 phytoplankton, weak inhib. 2. IA *vs* 1 zooplankton and 5 bact.

907 // N // trichobisabolin F // weak inhib. 2 phytoplankton, IA *vs* 2. IA *vs* 1 zooplankton and 5 bact.

908 // N // trichobisabolin G // weak inhib. 2 phytoplankton, IA *vs* 2. IA *vs* 1 zooplankton and 5 bact.

909 // N // trichobisabolin H // mod. inhib. 4 phytoplankton. IA *vs* 1 zooplankton and 5 bact.

351 Ascomycota *Trichoderma harzianum* // (unidentified coral), S. China Sea // Potent phytotoxic harziane diterpenes from a soft coral-derived strain of the fungus *Trichoderma harzianum* XS-20090075

910 // N // harzianelactone A // weak phytotox. 2 species, IA *vs* 1. IA *vs* 6 bact.

911 // N // harzianelactone B // weak phytotox. 2 species, IA *vs* 1. IA *vs* 6 bact.

912 // N // harzianone A // mod. phytotox. 2 species, IA *vs* 1. IA *vs* 6 bact.

913 // N // harzianone B // mod. phytotox. 2 species, IA *vs* 1. IA *vs* 6 bact.

914 // N // harzianone C // mod. phytotox. 2 species, IA *vs* 1. IA *vs* 6 bact.

915 // N // harzianone D // NT

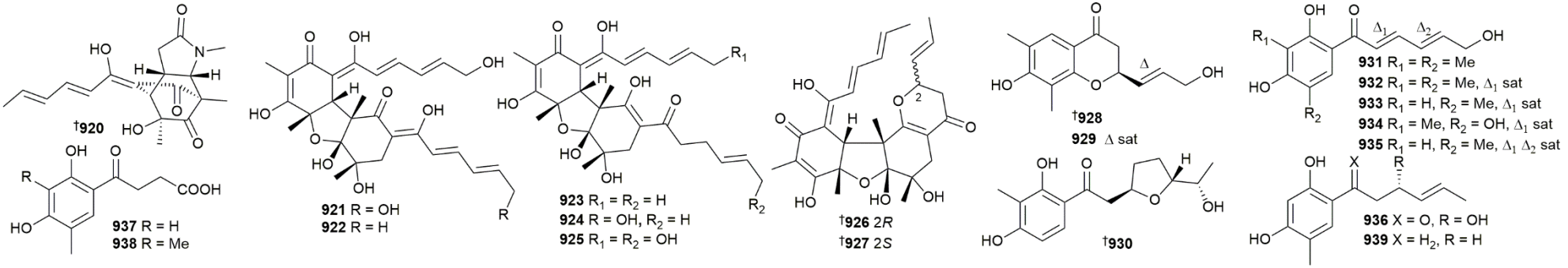
916 // N // harziane // No phytotox. IA *vs* 6 bact.

352 Ascomycota *Trichoderma harzianum* // (sponge, *Halichondria okadai*), Osaka Bay, Japan // New diterpenes with a fused 6-5-6-6 ring system isolated from the marine sponge-derived fungus *Trichoderma harzianum*

917 // N // trichodermanin F // IA *vs* 3 HTCLs.

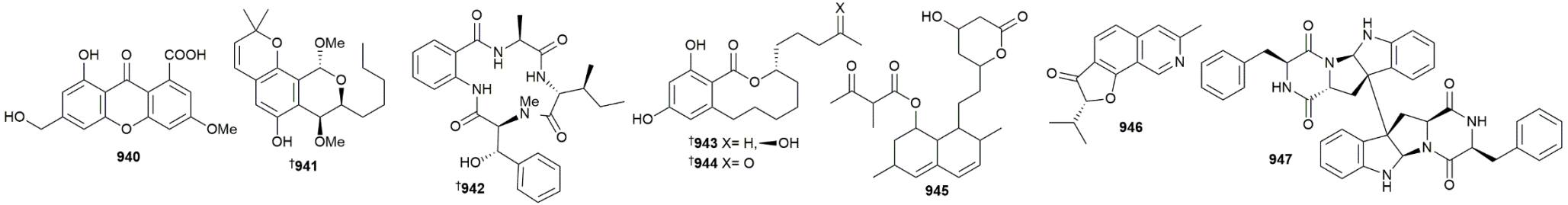
918 // N // trichodermanin G // IA *vs* 3 HTCLs.

919 // N // trichodermanin H // IA *vs* 3 HTCLs.



353 Ascomycota *Trichoderma reesei* // (unspecified sponge), Shantou, Guangdong Province, China // Anti-inflammatory mono- and dimeric sorbicillinoids from the marine-derived fungus *Trichoderma reesei* 4670

920 // N // trichosorbicillin A // IA *vs* 3 HTCLs.
921 // N // 15,24-dihydroxybisvertinol // IA *vs* 3 HTCLs.
922 // N // 24-hydroxybisvertinol // IA *vs* 3 HTCLs.
923 // N // trichobisvertinol A // IA *vs* 3 HTCLs.
924 // N // trichobisvertinol B // IA *vs* 3 HTCLs.
925 // N // trichobisvertinol C // IA *vs* 3 HTCLs.
926 // N // trichobisvertinol D // IA *vs* 3 HTCLs.
927 // N // 12-epi-trichobisvertinol D // IA *vs* 3 HTCLs.
928 // N // trichosorbicillin B // IA *vs* 3 HTCLs.
929 // N // trichosorbicillin C // IA *vs* 3 HTCLs.
930 // N // trichosorbicillin D // IA *vs* 3 HTCLs.
931 // N // 12-hydroxysorbicillin // IA *vs* 3 HTCLs.
932 // N // 8,9-dihydro-12-hydroxysorbicillin // IA *vs* 3 HTCLs.
933 // N // trichosorbicillin E // IA *vs* 3 HTCLs.
934 // N // trichosorbicillin F // IA *vs* 3 HTCLs.
935 // N // trichosorbicillin G // IA *vs* 3 HTCLs.
936 // N // isotrichosorbicillin E // IA *vs* 3 HTCLs.
937 // N // trichosorbicillin H // IA *vs* 3 HTCLs.
938 // N // 3-methyltrichosorbicillin H // IA *vs* 3 HTCLs.
939 // N // trichosorbicillin I // IA *vs* 3 HTCLs.



354 * // * // Structural revision of wentiquinone C and related congeners from anthraquinones to xanthones using chemical derivatization and NMR analysis
940 // R // wentiquinone C // *

355 * // * // Asymmetric total syntheses and structure elucidations of (+)-eurotiumide F and (+)-eurotiumide G
941 // R // (+)-eurotiumide G // *

356 * // * // Total synthesis and structural revision of cyclotetrapeptide asperterrestide A
942 // R // asperterrestide A // *

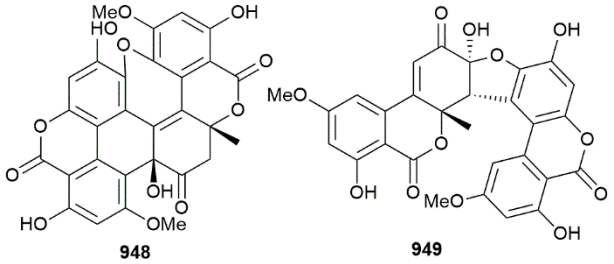
357 * // * // Total synthesis and stereochemical revision of relgro and 10′-oxorelgro
943 // R // (6′*S*,10′*S*)-relgro // *
944 // R // (6′*S*)-10′-oxorelgro // *

358 Ascomycota *Monascus* sp.// Gulf of Mannar // A novel apoptosis-inducing metabolite isolated from marine sponge symbiont *Monascus* sp. NMK7 attenuates cell proliferation, migration and ROS stress-mediated apoptosis in breast cancer cells
945 // M // monacolin X // Induces apoptosis in breast cancer cells. weak inhib. 2 bact., IA *vs* 2. IA vs, 4 HTCLs and 1 normal HCL.

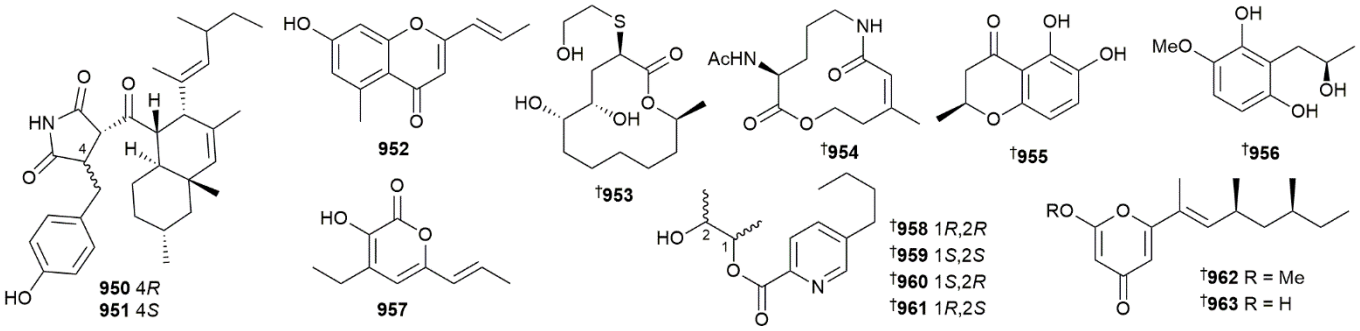
359 Ascomycota *Aspergillus insuetus* // North Sea // Zebrafish-based discovery of antiseizure compounds from the North Sea: isoquinoline alkaloids TMC-120A and TMC-120B
946 // M // TMC-120A // *

360 Ascomycota *Aspergillus versicolor* // (sponge, *Phakellia fusca*), Yongxing Island, South China Sea, China // A new asymmetric diketopiperazine dimer from the sponge-associated fungus *Aspergillus versicolor* 16F-11
947 // M // asperflocin // NT

2 Marine microorganisms and phytoplankton:



2.4 Fungi from mangroves



369 Ascomycota *Alternaria alternata* // (Tracheophyta, *Salicornia* sp., roots) Santa Pola, Spain // (±)-Alternarlactones A and B, two antiparasitic alternariol-like dimers from the fungus *Alternaria alternata* P1210 isolated from the halophyte *Salicornia* sp.

948 // N // (±)-alternarlactone A // weak antiprotozoal activ *L. donovani* 4.7 µM, *P. falciparum* 5.9 µM

949 // N // (±)-alternarlactone B // weak antiprotozoal activ *L. donovani* 8.9 µM, *P. falciparum* 9.7 µM

370 Ascomycota *Cladosporium* sp.// (Tacheophyta, *Ceriops tagal*, roots) Dong Zhai Gang Mangrove Reserve, Hainan province, China // Two new succinimide derivatives cladosporitins A and B from the mangrove-derived fungus *Cladosporium* sp. HNWSW-1

950 // N // cladosporitin A // IA *vs* HTCLs.

951 // N // cladosporitin B // IA *vs* HTCLs.

952 // N // clapone // IA *vs* HTCLs.

371 Ascomycota *Cladosporium* sp.// (unidentified mangrove) Zhuhai Mangrove Natural Reserve, Guangdong Province, China // Thiocladospolide E and cladospamide A, novel 12-membered macrolide and macrolide lactam from mangrove endophytic fungus *Cladosporium* sp. SCNU-F0001

953 // N // thiocladospolide E // IA *vs* bact., IA *vs* HTCL.

954 // N // cladospamide A // IA *vs* bact., IA *vs* HTCL.

372 Ascomycota *Colletotrichum gloeosporioides* // (Tracheophyta, *Ceriops tagal*) Dong Zhai Port, Hainan Province, China // Three new polyketides from a mangrove-derived fungus *Colletotrichum gloeosporioides*

955 // N // (2*S*)-2,3-dihydro-5,6-dihydroxy-2-methyl-4*H*-1-benzopyran-4-one // weak AB.

956 // N // (2′*R*)-4-methoxyl-2-(2′-hydroxypropyl)-1,3-benzenediol // weak AB.

957 // N // 4-ethyl-3-hydroxy-6-propenyl-2*H*-pyran-2-one // weak AB.

373 Ascomycota *Fusarium solani* // (Tracheophya, *Rhizophora apiculata*, roots) Sanya Bailu Park, Hainan Province, China // Fusaricates H-K and fusolanones A-B from a mangrove endophytic fungus *Fusarium solani* HDN15-410

958 // N // fusaricate H // IA *vs* bact.

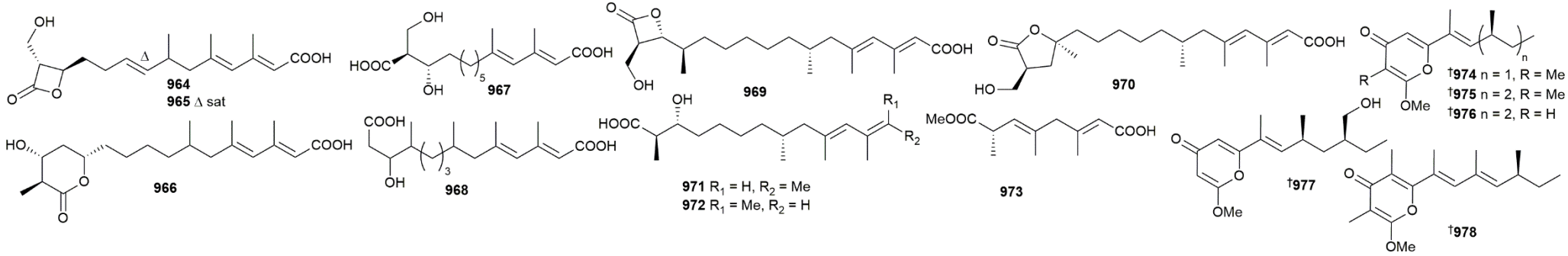
959 // N // fusaricate I // IA *vs* bact.

960 // N // fusaricate J // NT

961 // N // fusaricate K // NT

962 // N // fusolanone A // weak AB.

963 // N // fusolanone B // weak AB.



374 Ascomycota *Fusarium solani* // (unspecified Mangrove, rhizosphere soil) Zhangjiangkou Mangrove National Nature Reserve, Fujian province, China // New β-lactone with tea pathogenic fungus inhibitory effect from marine-derived fungus MCCC3A00957

964 // N // fusarilactone A // weak AF, HMG-CoA synthase down reg @ 10 µg/mL.

965 // N // fusarilactone B // weak AF, HMG-CoA synthase down reg @ 10 µg/mL.

966 // N // fusarilactone C // IA *vs* fungi.

967 // N // fusaridioic acid B // IA *vs* fungi.

968 // N // fusaridioic acid C // IA *vs* fungi.

375 Ascomycota *Fusarium* solanii// (unspecified Mangrove, rhizosphere soil) Zhangjiangkou Mangrove National Nature Reserve, Fujian province, China // Fusarisolins A–E, polyketides from the marine-derived fungus *Fusarium solani* H918

969 // N // fusarisolin A // IA *vs* fungi, HMG-CoA synthase down reg @ 10 µg/mL.

970 // N // fusarisolin B // IA *vs* fungi, HMG-CoA synthase down reg @ 10 µg/mL.

971 // N // fusarisolin C // IA *vs* fungi.

972 // N // fusarisolin D // IA *vs* fungi, HMG-CoA synthase down reg @ 10 µg/mL.

973 // N // fusarisolin E // IA *vs* fungi.

376 Ascomycota *Fusarium* sp.// (unspecified Mangrove, rhizosphere soil) Futian Mangrove Reserve, Shenzhen, Guangdong Province, China // Fusaresters A–E, new γ-pyrone-containing polyketides from fungus *Fusarium* sp. Hungcl and structure revision of fusariumin D

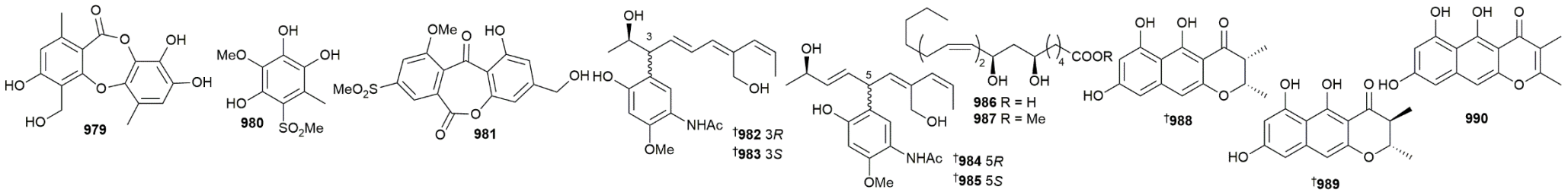
974 // N // fusarester A // IA *vs* HTCL.

975 // N // fusarester B // IA *vs* HTCL.

976 // N // fusarester C // IA *vs* HTCL.

977 // N // fusarester D // IA *vs* HTCL.

978 // N // fusarester E // IA *vs* HTCL.



377 Ascomycota *Lasiodiplodia theobromae* // (unspecified Mangrove, rhizosphere soil) Dongzhai Harbor, Hainan, China // A new depsidone derivative from mangrove sediment derived fungus *Lasiodiplodia theobromae*

979 // N // botryorhodine I // IA *vs* HTCL.

378 Ascomycota *Neosartorya udagawae* // (Tracheophyta, *Avicennia marina*, roots) Mangrove conservation area, Hainan, China // Methylsulfonylated polyketides produced by *Neosartorya udagawae* HDN13-313 via exogenous addition of small molecules

980 // N // 3-methoxy-6-methyl-5-(methylsulfonyl)benzene-1,2,4-triol // IA *vs* HTCL.

981 // N // neosartoryone A // lipid lowering @10 μM in HEPG2 cells

379 Ascomycota *Penicillium herquei* // (Tracheophyta, *Ceriops tagal*) South China Sea // Bioactive acetaminophen derivatives from *Penicillum herquei* JX4

982 // N // penicilquei A // *

983 // N // penicilquei B // weak AF.

984 // N // penicilquei C // weak AF.

985 // N // penicilquei D // weak AF.

380 Ascomycota *Penicillium javanicum* // (unspecified Mangrove, rhizosphere soil) Dongzhaigang mangrove natural reserve, Hainan Island, China // Two new unsaturated fatty acids from the mangrove rhizosphere soil-derived fungus *Penicillium javanicum* HK1-22

986 // N // 6*R*,8*R*-dihydroxy-9Z,12Z-octadecadienoic acid // IA *vs* bact.

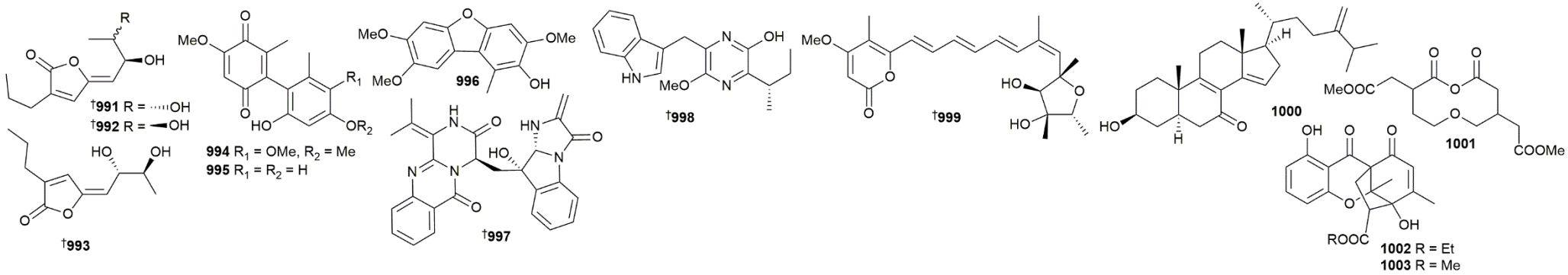
987 // N // methyl-6*R*,8*R*-dihydroxy-9Z,12Z-octadecadienoate // IA *vs* bact.

381 Ascomycota *Penicillium* sp.// (unspecified Mangrove, rhizosphere soil) Dongzhaigang mangrove natural reserve, Hainan Island // New naphtho-γ-pyrones isolated from marine-derived fungus *Penicillium* sp. HK1-22 and their antimicrobial activities

988 // N // peninaphone A // weak AB.

989 // N // peninaphone B // weak AB.

990 // N // peninaphone C // weak AB.



382 Ascomycota *Penicillium* sp.// (Tracheophyta, *Bruguiera sexangula* var *rhynchopetala*, roots) South China Sea // Bioactive lactones from the mangrove-derived fungus *Penicillium* sp. TGM112

991 // N // penicilactone A // weak AB *S. aureus.*

992 // N // penicilactone B // IA *vs* bact.

993 // N // penicilactone C // IA *vs* bact.

383 Ascomycota *Penicillium* sp.// (Tracheophya, *Limonium sinense*, rhizosphere soil) Yangkou Beach, Qingdao, China // Dimeric 1,4-benzoquinone derivatives with cytotoxic activities from the marine-derived fungus *Penicillium* sp. L129

994 // N // peniquinone A // weak HTCL.

995 // N // peniquinone B // IA *vs* HTCL.

996 // N // penizofuran A // IA *vs* HTCL.

997 // N // quinadoline D // IA *vs* HTCL.

384 Ascomycota *Penicillium* sp.// (unspecified Mangrove, rhizosphere soil) Sanya, Hainan province, China // Broad-spectrum antiviral natural products from the marine-derived *Penicillium* sp. IMB17-046

998 // N // trypilepyrazinol // weak AV, mod. AB *H. pylori.*

999 // N // (+)-neocitreoviridin // weak AV, mod. AB *H. pylori.*

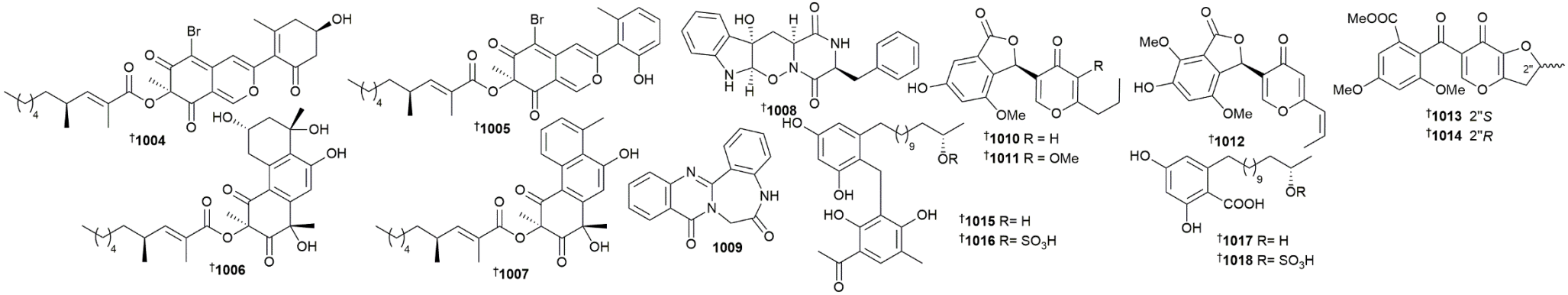
1000 // N // 3β-hydroxyergosta-8,14,24(28)-trien-7-one // mod. AV.

385 Ascomycota *Penicillium* sp.// (unspecified Mangrove, rhizosphere soil) Sanya, Hainan province, China // A new macrodiolide and two new polycyclic chromones from the fungus *Penicillium* sp. SCSIO041218

1001 // N // mangrovlide A // IA *vs* HTCL, struct. is likely to be wrong.

1002 // N // penixanthone C // IA *vs* HTCL.

1003 // N // penixanthone D // IA *vs* HTCL.



387 Ascomycota *Penicillium janthinellum*, Ascomycota *Penicillium simplicissimum* // (unspecified Mangrove, rhizosphere soil) Dongzhaigang mangrove natural reserve, Hainan Island, China // NaBr-induced production of brominated azaphilones and related tricyclic polyketides by the marine-derived fungus *Penicillium janthinellum* HK1-6

1004 // N // penicilone G // weak MRSA, VRSA

1005 // N // penicilone H // mod. MRSA, VRSA

1006 // N // penijanthinone A // mod. MRSA, weak VRSA

1007 // N // penijanthinone B // IA *vs* bact.

388 Ascomycota *Penicillium raistrickii* // (unspecified Mangrove, rhizosphere soil) Sanya, Hainan Province, China // Raistrickindole A, an anti-HCV oxazinoindole alkaloid from *Penicillium raistrickii* IMB17-034

1008 // N // raistrickindole A // weak HCV 5.7 µM (hep C virus)

1009 // N // raistrickin // weak HCV 7.0 µM

389 Ascomycota *Penicillium pinophilum* // (Tracheophyta, *Rhizophora stylosa*, roots) Techeng Isle, China // Secondary metabolites from the mangrove sediment-derived fungus *Penicillium pinophilum* SCAU037

1010 // N // pinophilone C // IA

1011 // N // pinophilone D // IA

1012 // N // pinophilone E // IA

1013 // N // pinophilone A // IA, racemate with pinophilone B

1014 // N // pinophilone B // IA, racemate with pinophilone A

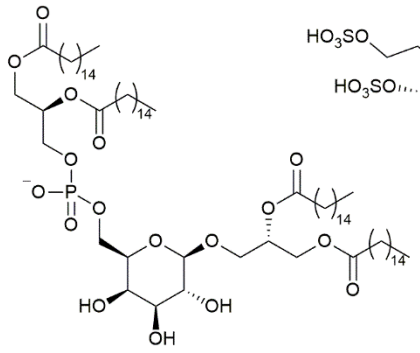
390 Ascomycota *Xylaria* sp., Ascomycota *Penicillium crustosum* // (Tracheophyta, *Sonneratia caseolaris*, roots) Hainan, China and Prydz Bay, Antarctica// Secondary metabolites produced by combined culture of *Penicillium crustosum* and a *Xylaria* sp.

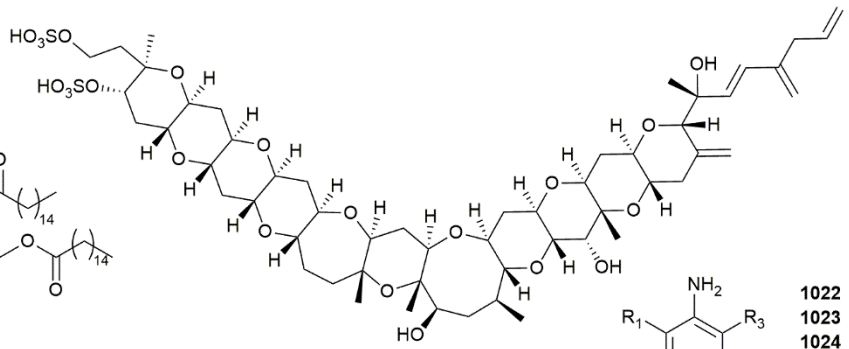
1015 // N // penixylarin A // IA *vs* bact.

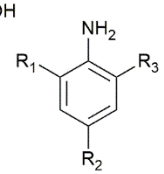
1016 // N // penixylarin B // IA *vs* bact.

1017 // N // penixylarin C // weak *Mycobacterium phlei* 6.25 µg/mL, *Vibrio parahemolyticus* 12.5 µg/mL

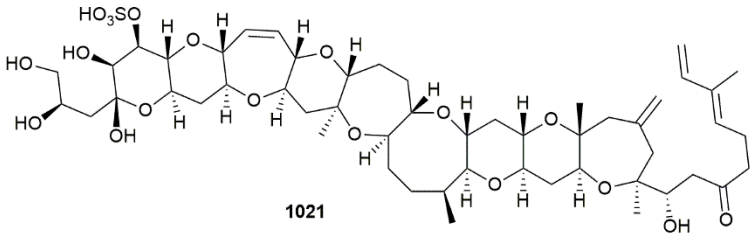
1018 // N // penixylarin D // NT

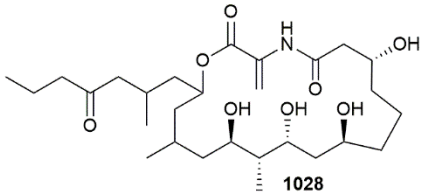






1022 $R_1 = R_2 = R_3 = Br$
1023 $R_1 = R_2 = R_3 = Cl$
1024 $R_1 = R_2 = Cl, R_3 = Br$
1025 $R_1 = R_3 = Cl, R_2 = Br$
1026 $R_1 = R_3 = Br, R_2 = Clr$
1027 $R_1 = R_2 = Br, R_3 = Cl$





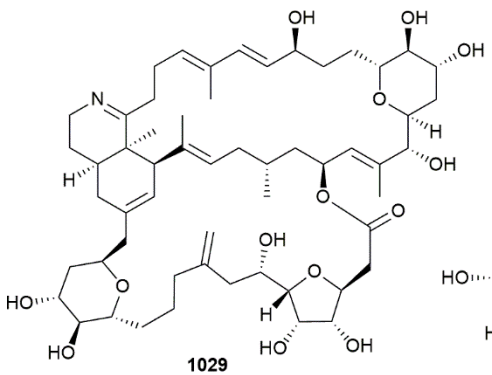
391 Ochrophyta *Thalassiosira weissflogii* // culture collection, ME, U.S.A. // Immunostimulatory phosphatidylmonogalactosyldiacylglycerols (PGDG) from the marine diatom *Thalassiosira weissflogii*: inspiration for a novel synthetic Toll-like receptor 4 agonist
1019 // N // phosphtidylmonogalactosyldiacylglycerol // Mixture of immunostimulatory lipids, synth. also achieved

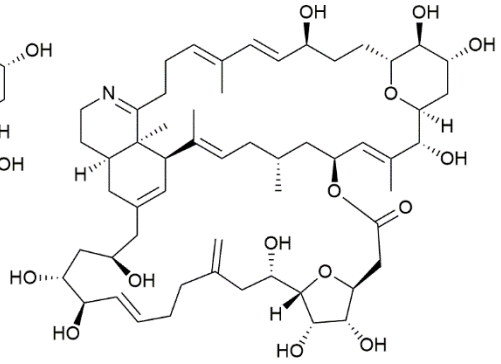
392 Miozoa *Gonyaulax spinifera* // Walvis Bay, Namibia // Structure elucidation and relative toxicity of (24*R*)-24-hydroxyyessotoxin from a Namibian isolate of *Gonyaulax spinifera*
1020 // N // (24*R*)-24-hydroxyyessotoxin // pot. toxin causing bradycardia in zebrafish

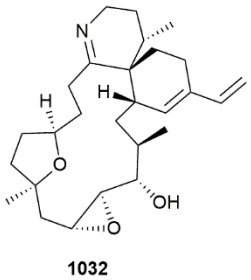
395 Miozoa *Gambierdiscus australes* // Raoul Island (Rangitahua/Kermadec Islands), New Zealand // 44-Methylgambierone, a new gambierone analogue isolated from *Gambierdiscus australes*
1021 // N // 44-methylgambierone // NT

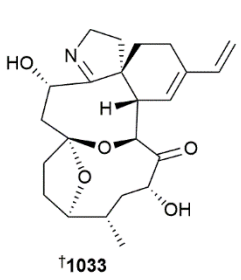
397 Bacillariophyta *Nitzschia pellucida* // culture collection, Belgian// Halogenated anilines as novel natural products from a marine biofilm forming microalga
1022 // M // 2,4,6-tribromoaniline // NT, ID by MS only, confirmed by enzymatic synth.
1023 // M // 2,4,6-trichloroaniline // NT, ID by MS only, confirmed by enzymatic synth.
1024 // M // 2-bromo-4,6-dichloroaniline // NT, ID by MS only, confirmed by enzymatic synth.
1025 // M // 4-bromo-2,6-dichloroaniline // NT, ID by MS only, confirmed by enzymatic synth.
1026 // M // 2,6-dibromo-4-chloroaniline // NT, ID by MS only, confirmed by enzymatic synth.
1027 // M // 2,4-dibromo-6-chloroaniline // NT, ID by MS only, confirmed by enzymatic synth.

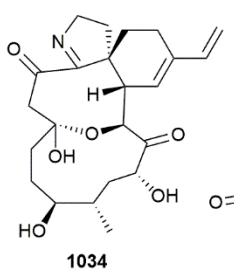
398 Miozoa *Alexandrium catenella* // Ofunato Bay, Iwate, Japan // Alexandrolide, a diatom growth inhibitor isolated from the dinoflagellate *Alexandrium catenella*
1028 // N // alexandrolide // mod. cytotox. *vs* 1 HTCL, weak inhib. of diatom growth

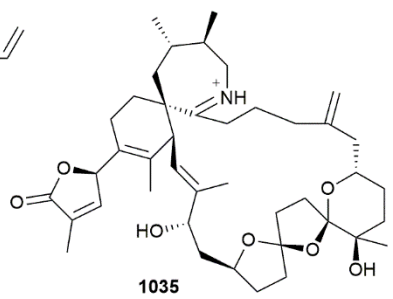


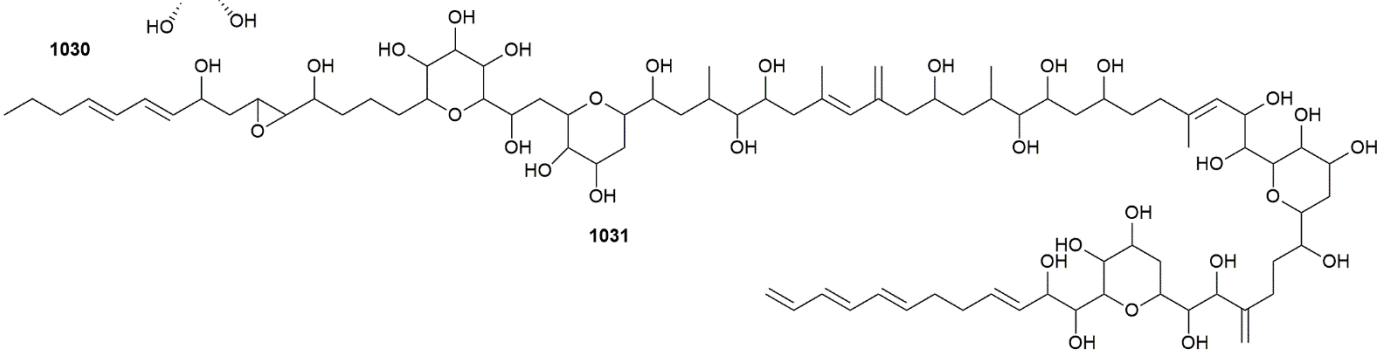












399 Miozoa *Prorocentrum lima* // Geomundo Island, Korea // Relative configurational assignment of 4-hydroxyprorocentrolide and prorocentrolide C isolated from a benthic dinoflagellate (*Prorocentrum lima*)

1029 // N // 4-hydroxyprorocentrolide // IA

1030 // N // prorocentrolide C // weak cytotox. *vs* 2 HTCLs, IA *vs* 1 HTCL.

400 Miozoa *Amphidinium carterae* // * // Amphidinol 22, a new cytotoxic and antifungal amphidinol from the dinoflagellate *Amphidinium carterae*

1031 // N // amphidinol 22 // weak cytotox. *vs* 3 HTCLs, IA *vs* 2 HTCL.

401 Miozoa *Vulcanodinium rugosum* // Kabira Bay, Ishigaki, Okinawa, Japan // Kabirimine, a new cyclic imine from an Okinawan dinoflagellate

1032 // N // kabirimine // weak AV.

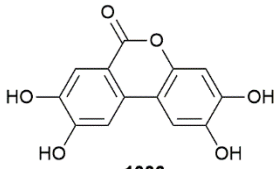
1033 // R // portimine // pot. cytotox. *vs* 1 HTCL.

402 Miozoa *Vulcanodinium rugosum* // Port Tampa Bay, Florida, U.S.A. // Identification of portimine B, a new cell permeable spiroimine that induces apoptosis in oral squamous cell carcinoma

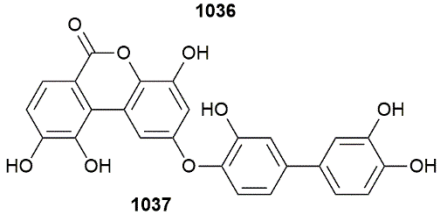
1034 // N // portimine B // pot. cytotox. *vs* 2 HTCLs, induces apoptosis

404 Miozoa *Prorocentrum lima* // * // Synthesis of 7,6-Spirocyclic Imine with Butenolide Ring Provides Evidence for the Relative Configuration of Marine Toxin 13-desMe Spirolide C

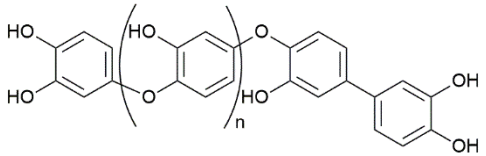
1035 // R // 13-desMe spirolide C // *



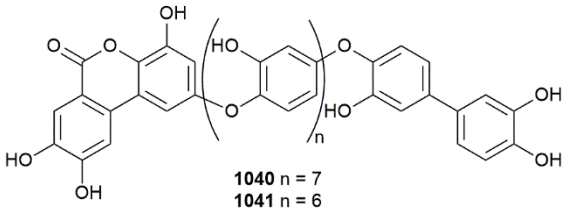
1036



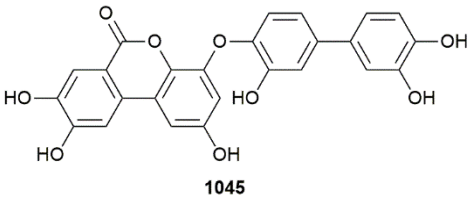
1037



1038 n = 6
1039 n = 7



1040 n = 7
1041 n = 6
1042 n = 8
1043 n = 9
1044 n = 10



1045

417 Chlorophyta *Cladophora socialis* // Titi Island, Viti Levu, Fiji // Antibacterial oligomeric polyphenols from the green alga *Cladophora socialis*

1036 // M // cladophorol A // IA

1037 // N // cladophorol B // weak AB *vs* 1 strain, IA *vs* 4 strains.

1038 // N // cladophorol C // mod. AB *vs* 1 strain, IA *vs* 4 strains.

1039 // N // cladophorol D // weak AB *vs* 1 strain, IA *vs* 4 strains.

1040 // N // cladophorol E // weak AB *vs* 1 strain, IA *vs* 4 strains.

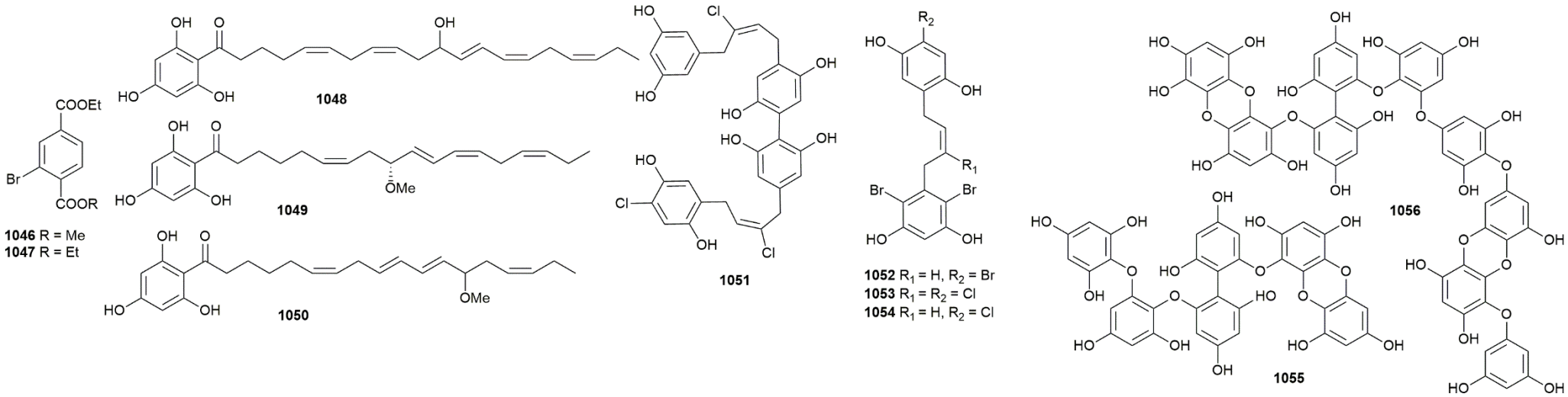
1041 // N // cladophorol F // weak AB *vs* 1 strain, IA *vs* 4 strains.

1042 // N // cladophorol G // weak AB *vs* 1 strain, IA *vs* 4 strains.

1043 // N // cladophorol H // IA

1044 // N // cladophorol I // IA

1045 // R // $C_{25}H_{16}O_9$ // NT



424 Ochrophyta *Dictyopteris hoytii* // Raysut, Dhofar, Oman // α-Glucosidase inhibition and molecular docking studies of natural brominated metabolites from marine macro brown alga *Dictyopteris hoytii*

1046 // N // ethyl methyl 2-bromobenzene 1,4-dioate // IA

1047 // N // diethyl 2-bromobenzene 1,4-dioate // IA

425 Ochrophyta *Sargassum nigrifoloides* // Nanji Island, Zhejiang Province, China // Acylphloroglucinols as kinase inhibitors from *Sargassum nigrifoloides*

1048 // N // (5*Z*,8*Z*,12*E*,14*Z*,17*Z*)-1-(2′,4′,6′-trihydroxyphenyl)-11-hydroxyicosa- 5,8,12,14,17-pentaen-1-one // mod. inhib. of 1 of 2 kinases

1049 // N // (6*Z*,9*S*,10*E*,12*Z*,15*Z*)-1-(2′,4′,6′-trihydroxyphenyl)-9-methoxyoctadeca- 6,10,12,15-tetraen-1-one // mod. inhib. of 1 of 2 kinases

1050 // N // (±)-(6*Z*,9*E*,11*E*,15*Z*)-1-(2′,4′,6′-trihydroxyphenyl)-13-methoxyoctadeca- 6,9,11,15-tetraen-1-one // mod. inhib. of 1 of 2 kinases

426 Ochrophyta *Chrysophaeum taylorii* // Iriomote Island, Okinawa, Japan // Antimicrobial chrysophaentin analogs identified from laboratory cultures of the marine microalga *Chrysophaeum taylorii*

1051 // N // chrysophaentin I // weak AB *vs S. aureus*

1052 // N // hemichrysophaentin B // weak AB *vs S. aureus*

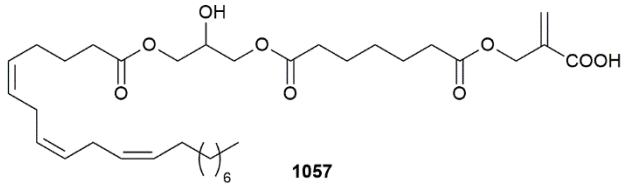
1053 // N // hemichrysophaentin C // weak AB *vs S. aureus*

1054 // N // hemichrysophaentin D // weak AB *vs S. aureus*

427 Ochrophyta *Ecklonia cava* // Cheongsando Island, Republic of Korea // Dereplication by high-performance liquid chromatography (HPLC) with quadrupole-time-of-flight mass spectroscopy (qTOF-MS) and antiviral activities of phlorotannins from *Ecklonia cava*

1055 // N // dibenzodioxin-fucodiphloroethol // NT

1056 // N // dibenzodioxin-fucodiphloroeckol // NT



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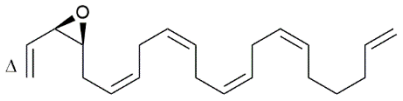
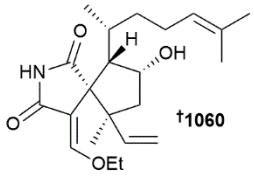
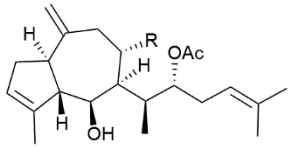


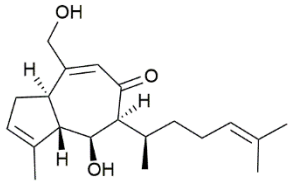
1058
1059 Δ sat



†**1060**



1061 R = H
1062 R = OAc



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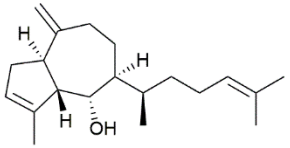

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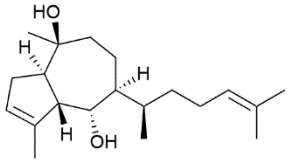

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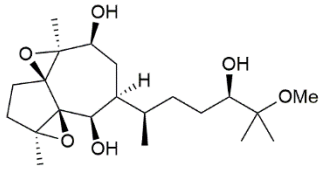

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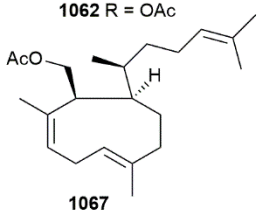


1067

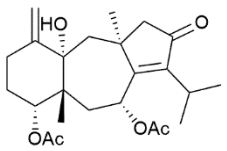
428 Ochrophyta *Hizikia fusiformis* // Wando, Republic of Korea // Experimental and computational study to reveal the potential of non-polar constituents from *Hizikia fusiformis* as dual protein tyrosine phosphatase 1B and α-glucosidase Inhibitors
1057 // N // 2-(7′- (2″-hydroxy-3″-((5Z,8Z,11Z)-icosatrienoyloxy)propoxy)-7′-oxoheptanoyl)oxymethylpropenoic acid // weak inhib. ff PTP1B

429 Ochrophyta *Lobophora variegata* // Pedra Rachada Beach, Ceará State, Brazil // New antiproliferative polyunsaturated epoxy-heneicosane derivatives isolated from the brown alga *Lobophora variegata*
1058 // N // 3,4-epoxy-lobophorene A // IA
1059 // N // 3,4-epoxy-lobophorene B // IA

430 Ochrophyta *Dictyota coriacea* // Nanji Island, Wenzhou, Zhejiang Province, China // Characterization by empirical and computational methods of dictyospiromide, an intriguing antioxidant alkaloid from the marine alga *Dictyota coriacea*
1060 // N // dictyospiromide // pot. cytoprotective via activation of Nrf2/ARE signalling

431 Ochrophyta *Dictyota menstrualis* // Pedra Rachada beach, Paracuru municipality, Ceará state, Brazil // Anti-inflammatory diterpenoids from the Brazilian alga *Dictyota menstrualis*
1061 // N // dictyol K // weak cytotox. *vs* RAW 264.7 CL, mod. to pot. inhib. NO prod.
1062 // N // dictyol L // weak cytotox. *vs* RAW 264.7 CL, mod. to pot. inhib. NO prod.
1063 // N // dictyol M // NT

432 Ochrophyta *Dictyota pinnatifida* // Old Providence Island, Colombian Caribbean // Bacterial biofilm inhibitor diterpenes from *Dictyota pinnatifida* collected from the Colombian Caribbean
1064 // N // 6-epipachydictyol A // NT
1065 // N // 6-epidictyol C // NT
1066 // N // dictyol L // NT
1067 // N // 18-acetoxy-xenianol // weak inhib. of *P. aeruginosa* biofilm



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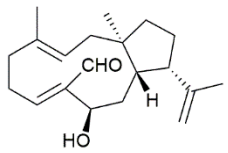

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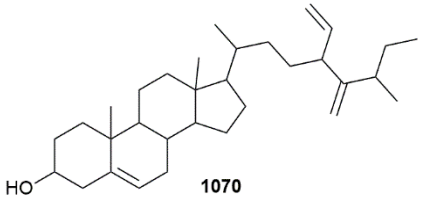


1070

433 Ochrophyta *Canistrocarpus cervicornis* // Bessa Beach, João Pessoa, Paraíba, Brazil // Dolastane diterpenes from *Canistrocarpus cervicornis* and their effects in modulation of drug resistance in *Staphylococcus aureus*

1068 // N // (4*R*,7*R*,14*S*)-4α,7α-diacetoxy-10-one-14α-hydroxydolasta-1(15),8-diene // NT

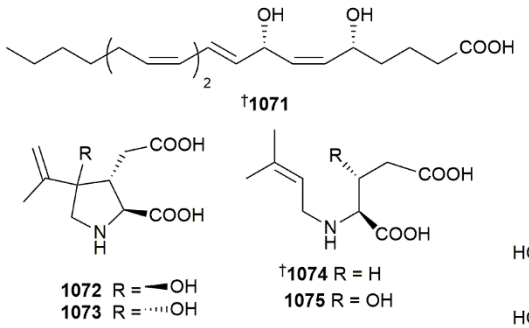
434 Ochrophyta *Dictyota spiralis* // Tabarka, Tunisia // Spiralyde A, an antikinetoplastid dolabellane from the brown alga *Dictyota spiralis*

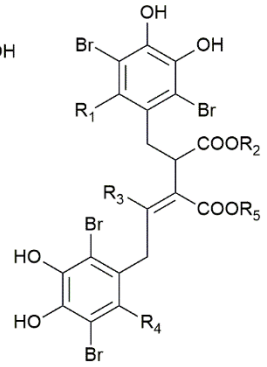
1069 // N // spiralyde A // weak trypanosomiasis inhib.

435 Ochrophyta *Turbinaria conoides* // Mandapam, India // Cell cycle arrest and apoptosis in human liver cancer cell line and A549 cell lines by turbiconol – a novel sterol isolated from *Turbinaria conoides*

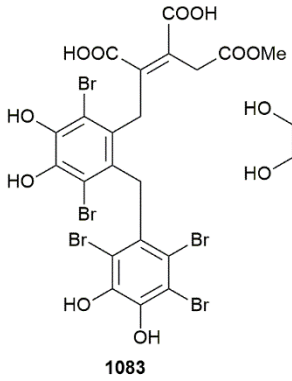
1070 // N // turbiconol // IA

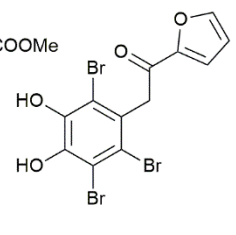
5 Red algae

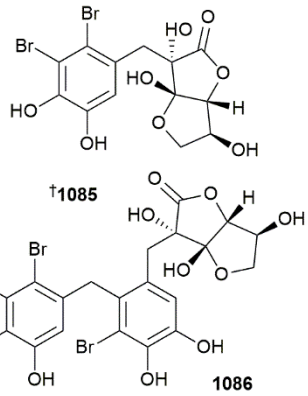




1076 R_1 = Br, R_2 = H, R_3 = COOH, R_4 = Br, R_5 = H
1077 R_1 = Br, R_2 = Me, R_3 = COOH, R_4 = Br, R_5 = H
1078 R_1 = Br, R_2 = Me, R_3 = COOH, R_4 = Br, R_5 = Et
1079 R_1 = H, R_2 = Me, R_3 = COOH, R_4 = Br, R_5 = H
1080 R_1 = Br, R_2 = Me, R_3 = COOH, R_4 = H, R_5 = H
1081 R_1 = H, R_2 = H, R_3 = COOH, R_4 = Br, R_5 = H
1082 R_1 = Br, R_2 = H, R_3 = H, R_4 = Br, R_5 = H





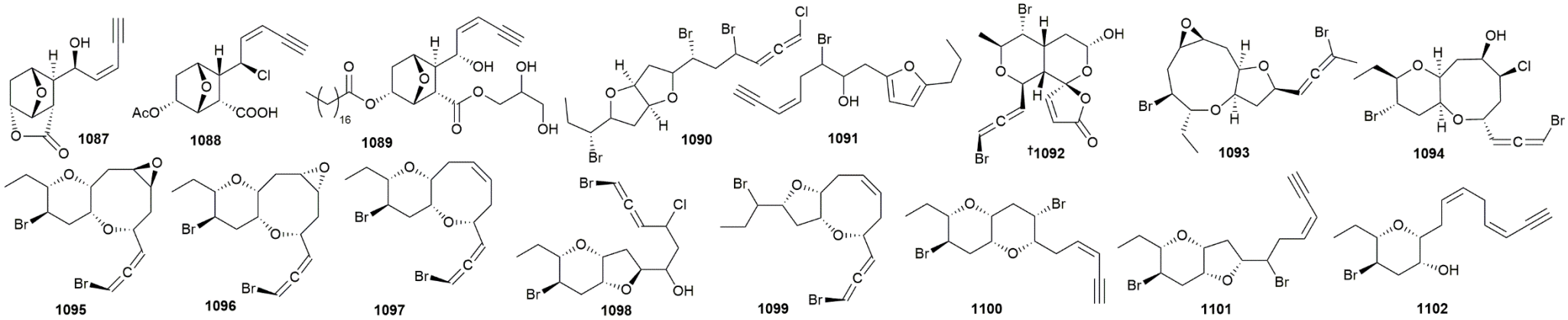


443 Rhodophyta *Gracilaria vermiculophylla* // Baltic Sea near Kieler Förde, Germany // An alternative pathway to leukotriene B_4 enantiomers involving a 1,8-diol-forming reaction of an algal oxylipin
1071 // N // (5*R*,8*S*)-dihydroxy eicosatetraenoic acid // Rearranges to give toxic leukotriene

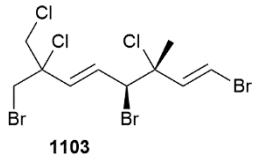
444 Rhodophyta *Digenea simplex* // Hanasezaki, Ibusuki, Kagoshima, Japan // Possible biosynthetic products and metabolites of kainic acid from the red alga *Digenea simplex* and their biological activity
1072 // N // 4-hydroxykainic acid // Not lethal to mice but same symptoms as kainic acid
1073 // N // *allo*-4-hydroxykainic acid // Not lethal to mice, no symptoms
1074 // N // *N*-dimethylallyl-l-glutamic acid // Not lethal to mice, no symptoms
1075 // N // *N*-dimethylallyl-*threo*-3-hydroxyglutamic acid // Not lethal to mice, no symptoms

446 Rhodophyta *Symphyocladia latiuscula* // Taipingjiao, Qingdao, Shandong Province, China // Bromocatechol conjugates from a Chinese marine red alga, *Symphyocladia latiuscula*
1076 // N // symphyocladin R // IA, racemate.
1077 // N // symphyocladin S // IA, racemate.
1078 // N // $C_{23}H_{18}Br_3O_{10}$ // IA, racemate, likely solvolysis artefact.
1079 // N // symphyocladin T // IA, racemate.
1080 // N // symphyocladin U // IA, racemate.
1081 // N // symphyocladin V // IA, racemate.
1082 // N // symphyocladin W // IA, racemate.
1083 // N // symphyocladin X // IA, racemate.
1084 // N // symphyocladin Y // IA, racemate.

447 Rhodophyta *Polysiphonia decipiens* // Queenscliffe, Port Phillip Bay, Victoria, Australia // Bromophenolics from the red alga *Polysiphonia decipiens*
1085 // N // polysiphonol // NT
1086 // R // rhodomelol // IA



448 Rhodophyta *Laurencia obtusa* // Salman Gulf, north of Jeddah, Saudi Arabia // Rare acetogenins with anti-inflammatory effect from the red alga *Laurencia obtusa*
1087 // N // maneolactenol // Bioactiv. claimed but no evidence
1088 // N // maneolactenoate // Bioactiv. claimed but no evidence
1089 // N // jeddahmaenoneoate // Bioactiv. claimed but no evidence
449 Rhodophyta *Laurencia obtusa* // Salman Gulf, north of Jeddah, Saudi Arabia // New bioactive C_{15} acetogenins from the red alga *Laurencia obtusa*
1090 // N // laurentusenin // Some cytotox.
1091 // N // laurenfuresenin // Some cytotox.
450 Rhodophyta *Laurencia obtusa* // Lefkada Island, Ionian Sea, Greece // Vagiallene, a rearranged C_{15} acetogenin from *Laurencia obtusa*
1092 // N // vagiallene // IA
451 Rhodophyta *Laurencia nangii* // Semporna, Borneo // Nangallenes A and B, halogenated nonterpenoid C_{15}-acetogenins from the Bornean red alga *Laurencia nangii*
1093 // N // nangallene A // IA
1094 // N // nangallene B // IA
452 Rhodophyta *Laurencia* sp.// Rose Reef, Thuwal, Saudi Arabia // Thuwalallenes A–E and thuwalenynes A–C: new C_{15} acetogenins with anti-inflammatory activity from a Saudi Arabian Red Sea *Laurencia* sp.
1095 // N // thuwalallene A // IA
1096 // N // thuwalallene B // V. weak NO inhib.
1097 // N // thuwalallene C // weak NO inhib.
1098 // N // thuwalallene D // V. weak NO inhib.
1099 // N // thuwalallene E // weak NO inhib.
1100 // N // thuwalenyne A // IA
1101 // N // thuwalenyne B // IA
1102 // N // thuwalenyne C // NT



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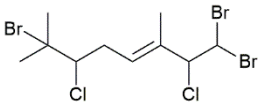

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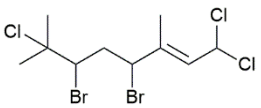

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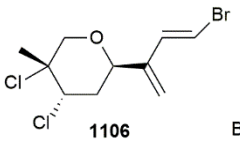

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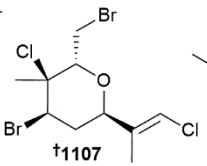
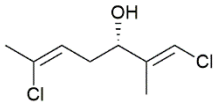
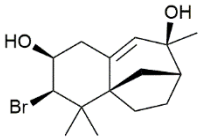


†**1107**



†**1108**



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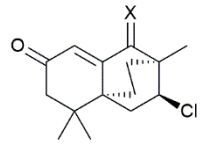


1110 X = H, ····OH
1111 X =O

453 Rhodophyta *Plocamium cartilagineum* // Gamage Point, Palmer Station, Antarctica // Anverenes B–E, new polyhalogenated monoterpenes from the Antarctic red alga *Plocamium cartilagineum*

1103 // N // anverene B // weak cytotox. *vs* 1 HTCL.

1104 // N // anverene C // mod. cytotox. *vs* 1 HTCL.

1105 // N // anverene D // weak cytotox. *vs* 1 HTCL.

1106 // N // anverene E // weak cytotox. *vs* 1 HTCL.

454 Rhodophyta *Plocamium angustum* // Moa Point, Wellington, New Zealand // Costatone C—a new halogenated monoterpene from the New Zealand red alga *Plocamium angustum*

1107 // N // costatone C // IA

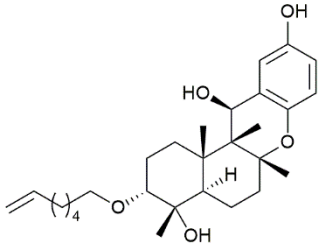
1108 // R // (1*E*,5*Z*)-1,6-dichloro-2-methylhepta-1,5-dien-3-ol // IA

455 Rhodophyta *Laurencia majuscula* // Selalong Island, Kinabalu, Sabah, Borneo // New anti-bacterial halogenated tricyclic sesquiterpenes from Bornean *Laurencia majuscula* (Harvey) Lucas

1109 // N // omphalaurediol // IA

1110 // N // rhodolaurenone B // IA

1111 // N // rhodolaurenone C // IA



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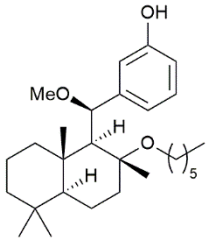
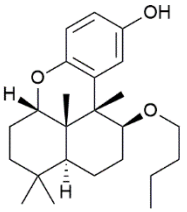


1113



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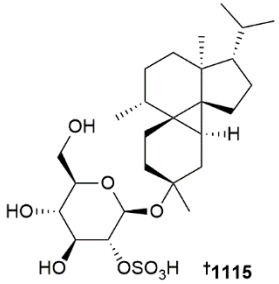
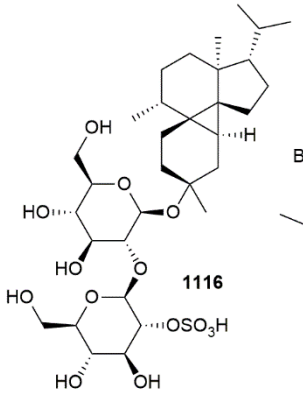


†**1115**



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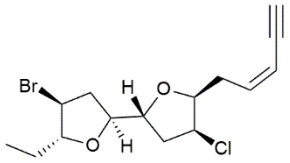

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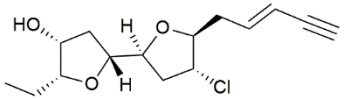


1118

456 Rhodophyta *Gracilaria salicornia* // Mandapam region, Gulf of Mannar, India // Prospective natural anti-inflammatory drimanes attenuating pro-inflammatory 5-lipoxygenase from marine macroalga *Gracilaria salicornia*

1112 // N // 3-(hept-36-enyloxy)-decahydro-4,6a,12a,12b-tetramethyl-1H-benzo[a]xanthene-4,10,12-triol // IA

1113 // N // 13-[[2-(hexyloxy)-2,5,5,8a-tetramethyldecahydro-1-naphthalenyl](methoxy)methyl]benzenol // IA

1114 // N // 1-butoxy-4,4,11b,11c-tetramethyl-decahydrobenzo[kl]xanthen-10-ol // IA

457 Rhodophyta *Peyssonnelia* sp.// Singi Locale, Tetepare Island, Solomon Islands // Peyssonnosides A–B, unusual diterpene glycosides with a sterically encumbered cyclopropane motif: structure elucidation using an integrated spectroscopic and computational workflow

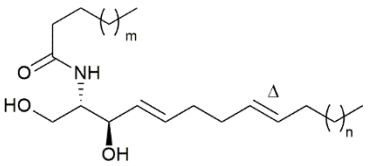
1115 // N // peyssonnoside A // weak AB, pot. AF, IA *vs* HTCL

1116 // N // peyssonnoside B // weak AB, NT as AF, IA *vs* HTCL

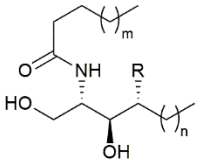
460 Rhodophyta *Laurencia majuscula* // * // Structure determination of a chloroenyne from *Laurencia majuscula* using computational methods and total synthesis

1117 // R // (Z)-notoryne // *

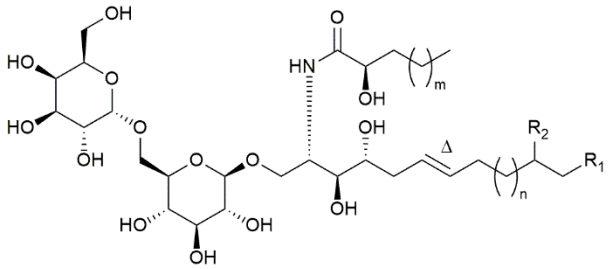
1118 // R // (2*R*,2′*S*,4*R*,4′*R*,5*R*,5′*S*)-4′-Chloro-5-ethyl-5′-((*E*)-pent-2-en-4-yn-1-yl)octahydro-[2,2′-bifuran]-4-ol // *



1119 m = 11, n = 15
1120 m = 14, n = 10, Δ sat
1121 m = 12, n = 6, Δ sat



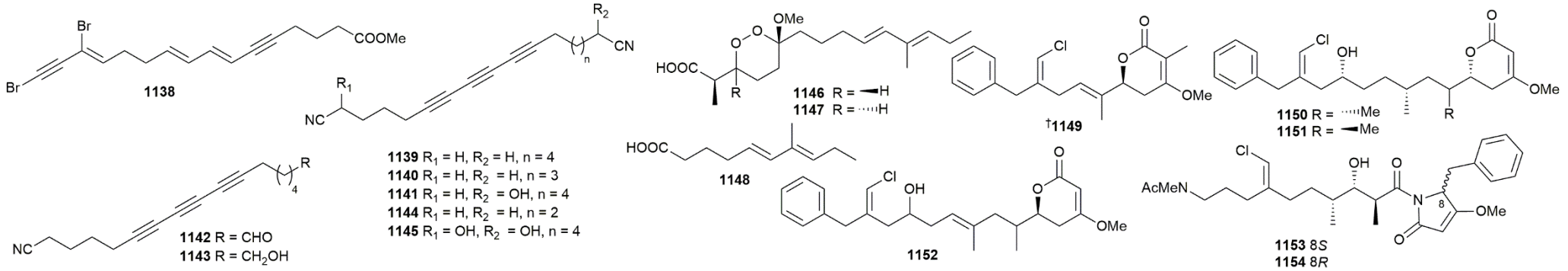
1122 m = 10, n = 7, R = H
1123 m = 12, n = 10, R = OH



1124 m = 18, n = 7, R_1 = R_2 = H, Δ sat
1125 m = 18, n = 6, R_1 = H, R_2 = Me, Δ sat
1126 m = 17, n = 8, R_1 = R_2 = H, Δ sat
1127 m = 18, n = 8, R_1 = R_2 = H, Δ sat
1128 m = 19, n = 8, R_1 = R_2 = H, Δ sat
1129 m = 17, n = 7, R_1 = H, R_2 = Me, Δ sat
1130 m = 18, n = 7, R_1 = H, R_2 = Me, Δ sat
1131 m = 19, n = 7, R_1 = H, R_2 = Me, Δ sat
1132 m = 18, n = 8, R_1 = H, R_2 = Me, Δ sat
1133 m = 17, n = 8, R_1 = H, R_2 = Me, Δ
1134 m = 18, n = 8, R_1 = H, R_2 = Me, Δ
1135 m = 18, n = 7, R_1 = R_2 = Me, Δ sat
1136 m = 17, n = 7, R_1 = R_2 = Me, Δ
1137 m = 18, n = 7, R_1 = R_2 = Me, Δ

467 Porifera *Negombata* sp.// Safaga, Red Sea, Egypt // Anxiolytic and anticonvulsant activity followed by molecular docking study of ceramides from the Red Sea sponge *Negombata sp*
1119 // N // N-((2*S*,3*R*,4*E*,8*E*)-1,3-dihydroxyhexacosa-4,8-dien-2-yl)pentadecanamide // Similar anti-anxiety effect as diazepam *in vivo*
1120 // N // N-((2*S*,3*R*,4*E*)-1,3-dihydroxynonadec-4-en-2-yl)stearamide // Similar anti-anxiety effect as diazepam *in vivo*
1121 // N // N-[(2*S*,3*R*,4*E*)-1,3 dihydroxyhexacos-4-en-2-yl]palmitamide // Similar anti-anxiety effect as diazepam *in vivo*
1122 // N // *N*-((2*S*,3*R*)-1,3-dihydroxydodecan-2-yl)tetradecanamide // *
1123 // N // *N*-[(2*S*,3*S*,4*R*)-1,3,4- trihydroxypentadecan-2-yl] palmitamide // Similar anti-anxiety effect as diazepam *in vivo*

468 Porifera *Desmapsamma anchorata* // Van Don Island, Quang Ninh, North Vietnam // Occurrence of melibiose-containing glycosphingolipids in a sample of a sponge-coral association (*Desmapsamma anchorata*/*Carijoa riisei*)
1124 // N // $C_{51}H_{99}NO_{15}$ // IA
1125 // N // $C_{51}H_{99}NO_{15}$ // IA
1126 // N // $C_{51}H_{99}NO_{15}$ // IA
1127 // N // dihydroamphimelibioside C // IA
1128 // N // $C_{53}H_{103}NO_{15}$ // IA
1129 // N // $C_{51}H_{99}NO_{15}$ // IA
1130 // N // $C_{52}H_{101}NO_{15}$ // IA
1131 // N // $C_{53}H_{103}NO_{15}$ // IA
1132 // N // $C_{53}H_{103}NO_{15}$ // IA
1133 // N // $C_{52}H_{99}NO_{15}$ // IA
1134 // N // $C_{53}H_{101}NO_{15}$ // IA
1135 // N // $C_{53}H_{103}NO_{15}$ // IA
1136 // N // $C_{52}H_{99}NO_{15}$ // IA
1137 // N // $C_{53}H_{101}NO_{15}$ // IA



469 Porifera *Xestospongia testudinaria* // Xi Island, Hainan, China // A new brominated polyacetylene from Chinese marine sponge *Xestospongia testudinaria*

1138 // N // xestonariene J // IA

470 Porifera *Mycale* sp.// Dregde near Albany, Western Australia, Australia // Albanitriles A–G: antiprotozoal polyacetylene nitriles from a *Mycale* marine sponge

1139 // N // albanitrile A // weak AB *vs* 1 strain, IA *vs* 4 strains.

1140 // N // albanitrile B // weak AB *vs* 1 strain, IA *vs* 4 strains.

1141 // N // albanitrile C // IA

1142 // N // albanitrile D // IA

1143 // N // albanitrile E // NT

1144 // N // albanitrile F // NT

1145 // N // albanitrile G // NT

471 Porifera *Plakortis* sp.// Irabu Island, Okinawa, Japan // Cyclic Peroxide Acids and a new fatty acid from Okinawan Sponge *Plakortis* sp.

1146 // N // $C_{18}H_{30}O_5$ // IA

1147 // N // $C_{18}H_{30}O_5$ // IA

1148 // N // $C_{11}H_{18}O_2$ // IA, possible degrad. product of coisolated compounds

180 Porifera *Smenospongia aurea* // Mayaguana Island, Bahamas // A joint molecular networking study of a *Smenospongia* sponge and a cyanobacterial bloom revealed new antiproliferative chlorinated polyketides

1149 // N // smenolactone A // mod. to pot. cytotox. *vs* 3 HTCLs

1150 // N // smenolactone B // mod. to pot. cytotox. *vs* 3 HTCLs

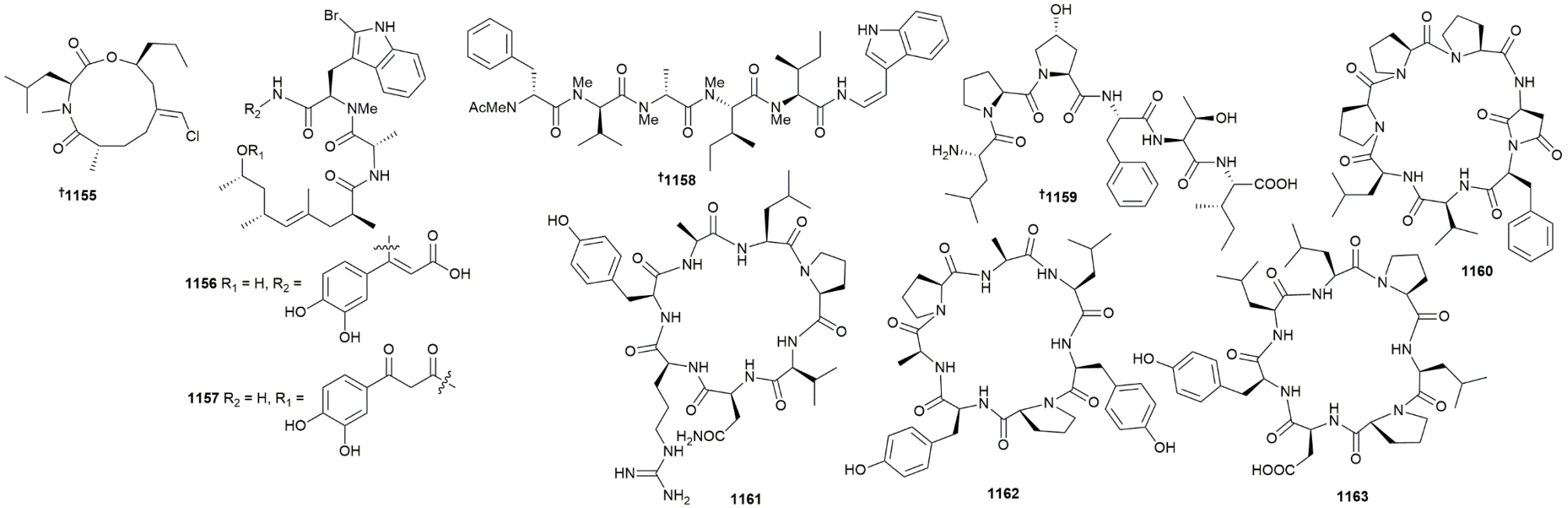
1151 // N // smenolactone C // mod. to pot. cytotox. *vs* 3 HTCLs

1152 // N // smenolactone D // mod. to pot. cytotox. *vs* 3 HTCLs

472 Porifera *Smenospongia aurea* // Little Inagua, Bahamas Islands // Fast detection of two smenamide family members using molecular networking

1153 // N // smenamide F // Some antiproliferative effects on 2/3 HTCLs, only ~230 µg isol.

1154 // N // smenamide G // Some antiproliferative effects on 2/3 HTCLs, only ~90 µg isol.



473 Porifera *Dactylospongia elegans* // Sheraton Caverns, Kauai, Hawaii // Cytotoxic sesquiterpenoid quinones and quinols, and an 11-membered heterocycle, kauamide, from the Hawaiian marine sponge *Dactylospongia elegans*

1155 // N // kauamide // IA, mixed NRPS/PKS likely of cyanobacterial origin.

474 Porifera *Jaspis splendens* // Samama Island, East Kalimantan, Indonesia // New acyclic cytotoxic jasplakinolide derivative from the marine sponge *Jaspis splendens*

1156 // N // (+)-jasplakinolide Z_6 // mod. cytotox. *vs* 1 murine CL.

1157 // R // (+)-jasplakinolide Z_5 // pot. cytotox. *vs* 1 murine CL.

475 Porifera *Inflatella coelosphaeroides* // Dredge (100-400 m), Scotia Arc, Southern Ocean, Antarctica // Friomaramide, a highly modified linear hexapeptide from an Antarctic sponge, inhibits *Plasmodium falciparum* liver-stage development

1158 // N // friomaramide // mod. antimal.

476 Porifera *Clathria nicoleae* // Bottom trawl, Amazon River mouth, Pará State, Brazil // Clathriamide, an hexapeptide isolated from the marine sponge *Clathria* (*Clathria*) *nicoleae*

1159 // N // clathriamide // NT

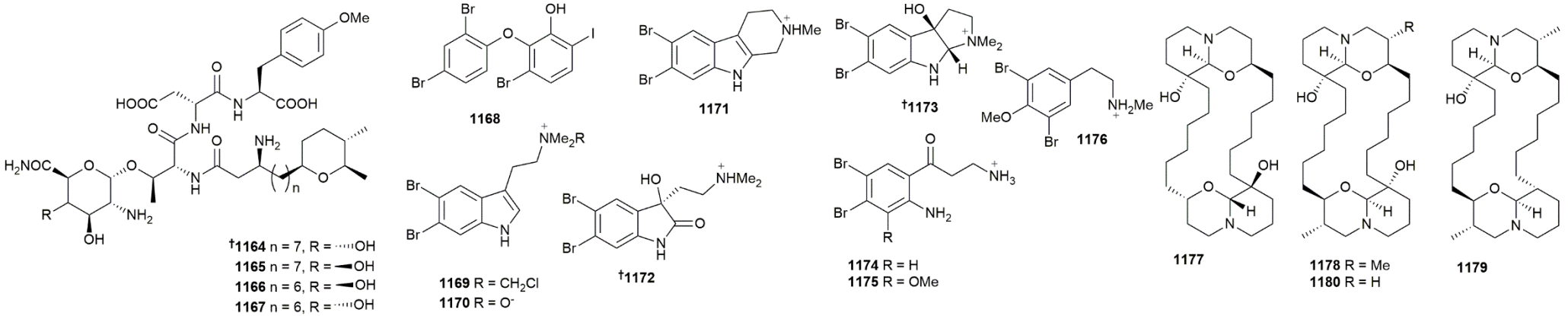
477 Porifera *Phakellia fusca* // Yongxing Island, South China Sea // Fuscasins A–D, cycloheptapeptides from the marine sponge *Phakellia fusca*

1160 // N // fuscasin A // mod. cytotox. *vs* 1 of 6 HTCLs.

1161 // N // fuscasin B // IA

1162 // N // fuscasin C // IA

1163 // N // fuscasin D // IA



478 Porifera *Characella pachastrelloides* // Dredge (810 m), southwest coast of Ireland // Treasures from the deep: characellides as anti-inflammatory lipoglycotripeptides from the sponge *Characella pachastrelloides*

1164 // N // characellide A // mod. AF, contains unprecedented sugar unit

1165 // N // characellide B // mod. to pot. AF, contains unprecedented sugar unit

1166 // N // characellide D // NT, contains unprecedented sugar unit

1167 // N // characellide C // NT, contains unprecedented sugar unit

479 Porifera *Arenosclera* sp.// Hon Thom, Phu Quoc, Vietnam // Brominated diphenyl ethers including a new tribromoiododiphenyl ether from the Vietnamese marine sponge *Arenosclera* sp. and their antibacterial activities

1168 // N // 3-bromo-2-(2′,4′-dibromophenoxy)-6-iodophenol // mod. AB *vs* 1 of 3 strains.

480 Porifera *Narrabeena nigra* // Alofi Island coast, Futuna Islands // Bromotryptamine and bromotyramine derivatives from the Tropical Southwestern Pacific sponge *Narrabeena nigra*

1169 // N // 5,6-dibromo-*N*-chloromethyl-*N*,*N*-dimethyltryptammonium // IA

1170 // N // 5,6-dibromo-*N*,*N*–dimethyltryptamine-*N*-oxide // IA

1171 // N // 6,7-dibromo-2-methyltetrahydro-β-carboline // IA

1172 // N // narrabeenamine A // IA

1173 // N // narrabeenamine B // Not cytotox., mod. cytoprotective *vs* oxidative damage

1174 // N // 5,6-dibromokynuramine // IA

1175 // N // 5,6-dibromo-7-methoxykynuramine // Not cytotox., mod. cytoprotective *vs* oxidative damage

1176 // N // 3,5-dibromo-4-methoxy-*N*-methyltyramine // IA

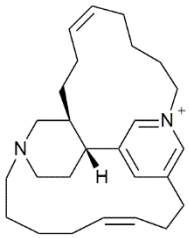
481 Porifera *Xestospongia muta* // Vinh Moc, Quang Tri, Vietnam // Macrocyclic *bis*-quinolizidine alkaloids from *Xestospongia muta*

1177 // N // meso-araguspongine C // pot. cytotox. *vs* 5 HTCLs.

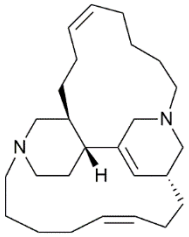
1178 // R // araguspongine N // mod. cytotox. *vs* 5 HTCLs.

1179 // R // araguspongine O // mod. cytotox. *vs* 5 HTCLs.

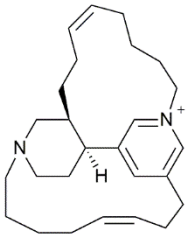
1180 // R // araguspongine P // mod. cytotox. *vs* 5 HTCLs.



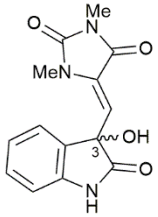
1181



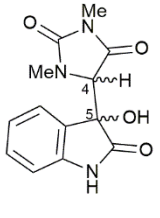
†**1182**



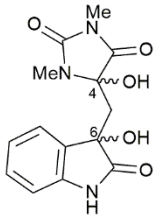
1183



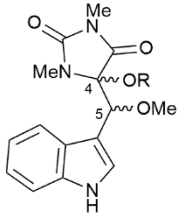
†**1184** 3*S*
†**1185** 3*R*



†**1186** 4*R*,5*R*
†**1187** 4*S*,5*S*



†**1188** 4*S*,6*S*
†**1189** 4*R*,6*R*



1190 R = H, 4*R*,5*R*
1191 R = H, 4*S*,5*S*
†**1192** R = Me, 4*R*,5*R*
†**1193** R = Me, 4*S*,5*S*
1194 R = H, 4*R*,5*S*
1195 R = H, 4*S*,5*R*
†**1196** R = H, 4*R*,5*S*
†**1197** R = H, 4*S*,5*R*

482 Porifera *Acanthostrongylophora ingens* // Bajotalawaan, North Sulawesi, Indonesia // Tetradehydrohalicyclamine B, a new proteasome inhibitor from the marine sponge *Acanthostrongylophora ingens*

1181 // N // tetradehydrohalicyclamine B // mod. proteosome inhib, no cytotox.

1182 // R // halicyclamine B // mod. to pot. proteosome inhib, no cytotox.

483 Porifera *Acanthostrongylophora ingens* // North-West Lankai Island, Spermonde Archipelago, Ujong Pandang, Makassar, South Sulawesi, Indonesia // A collection of bioactive nitrogen-containing molecules from the marine sponge *Acanthostrongylophora ingens*

1183 // N // epi-tetradehydrohalicyclamine B // IA, insep. mix with stereoisomer

484 Porifera *Fascaplysinopsis reticulata* // Xisha Islands, South China Sea // Aplysinopsin-type and bromotyrosine-derived alkaloids from the South China Sea sponge *Fascaplysinopsis reticulata*

1184 // N // (+)-oxoaplysinopsin A // IA

1185 // N // (–)-oxoaplysinopsin A // IA

1186 // N // (+)-oxoaplysinopsin B // weak active. *vs* PTP1B, more activ. than enant.

1187 // N // (–)-oxoaplysinopsin B // weak active. *vs* PTP1B, less activ. than enant.

1188 // N // (+)-oxoaplysinopsin C // weak cytotox. *vs* 1 HTCL, more activ. than enant.

1189 // N // (–)-oxoaplysinopsin C // weak cytotox. *vs* 1 HTCL, less activ. than enant.

1190 // N // (+)-oxoaplysinopsin D // IA

1191 // N // (–)-oxoaplysinopsin D // IA

1192 // N // (+)-oxoaplysinopsin E // IA

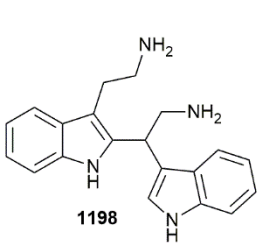
1193 // N // (–)-oxoaplysinopsin E // IA

1194 // N // (+)-oxoaplysinopsin F // IA

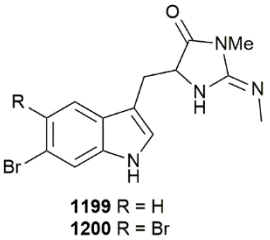
1195 // N // (–)-oxoaplysinopsin F // IA

1196 // N // (+)-oxoaplysinopsin G // IA

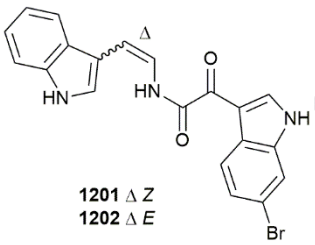
1197 // N // (–)-oxoaplysinopsin G // IA



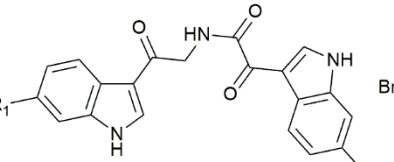
1198



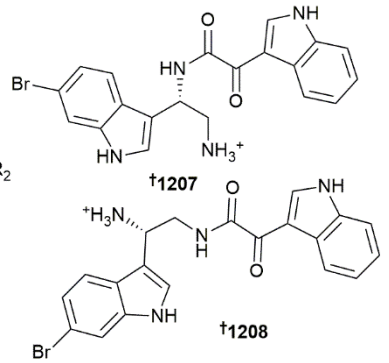
1199 R = H
1200 R = Br



1201 Δ *Z*
1202 Δ *E*

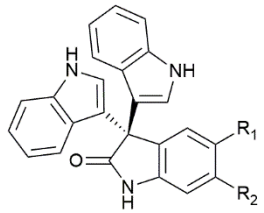


1203 R_1 = H, R_2 = H
1204 R_1 = Br R_2 = H
1205 R_1 = H, R_2 = Br
1206 R_1 = Br, R_2 = Br



†**1207**

†**1208**



1209 R_1 = Br, R_2 = H
1210 R_1 = H, R_2 = Br

485 Porifera *Fascaplysinopsis reticulata* // Passe Bateau, Mayotte (Indian Ocean) // New antimalarial and antimicrobial tryptamine derivatives from the marine sponge *Fascaplysinopsis reticulata*

1198 // N // 6,6'-bis-(debromo)-gelliusine F // IA

1199 // N // 6-bromo-8,1'-dihydro-isoplysin A // pot. AB *vs* 1 of 5 strains.

1200 // N // 5,6-dibromo-8,1'-dihydro-isoplysin A // pot. AB *vs* 1 of 5 strains.

486 Porifera *Lamellomorpha strongylata* // Dredge at Western Continental Slope (Station J954), Northland, New Zealand // Bisindole alkaloids from a New Zealand deep-sea marine sponge *Lamellomorpha strongylata*

1201 // N // (*Z*)-coscinamide D // IA

1202 // N // (*E*)-coscinamide D // weak inhib. of *S. aureus*

1203 // M // Lamellomorpholide A // weak inhib. of *S. aureus*

1204 // M // Lamellomorpholide B // IA

1205 // M // Lamellomorpholide C // IA

1206 // M // Lamellomorpholide D // weak inhib. of *S. aureus*

487 Porifera *Spongosorites calcicola* // Rathlin Island, County Antrim, Northern Ireland // Brominated bisindole alkaloids from the Celtic sea sponge *Spongosorites calcicola*

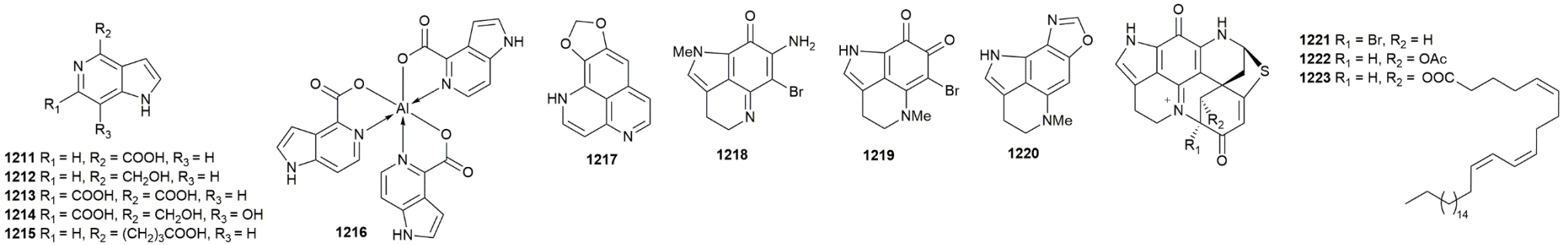
1207 // N // calcicamide A // IA, plausible intermediate in biosynth. to other bisindole MNPs

1208 // N // calcicamide B // IA, plausible intermediate in biosynth. to other bisindole MNPs

488 Porifera *Callyspongia siphonella* // Hurghada, Red Sea Coast, Egypt // Bioactive brominated oxindole alkaloids from the Red Sea sponge *Callyspongia siphonella*

1209 // N // 5-bromo trisindoline // weak cytotox. *vs* 3 HTCLs, weak AB *vs* 2 strains, IA *vs* 2 strains.

1210 // N // 6-bromo trisindoline // weak cytotox. *vs* 3 HTCLs, weak AB *vs* 2 strains, IA *vs* 2 strains.



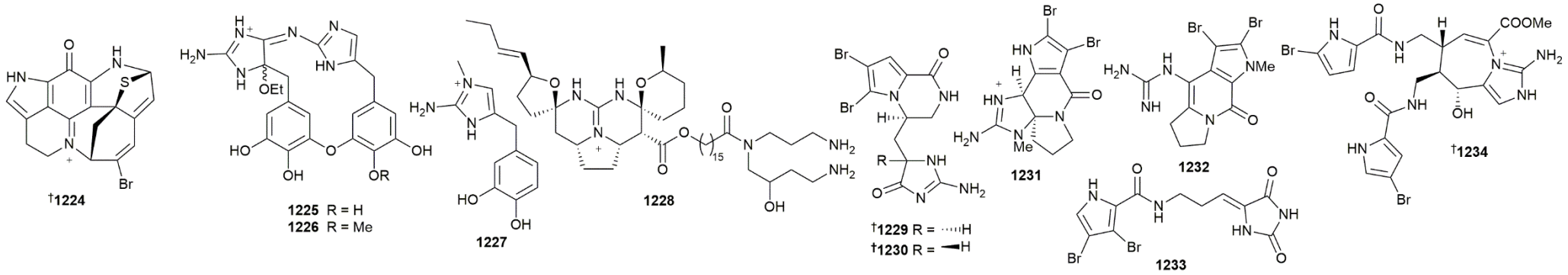
489 Porifera *Guitarra fimbriata* // Chirpoy Island, Pacific Ocean // Guitarrins A–E and aluminumguitarrin A: 5-azaindoles from the Northwestern Pacific marine sponge *Guitarra fimbriata*
1211 // M // guitarrin A // IA, first natural 5-aza-indoles.
1212 // M // guitarrin B // IA, first natural 5-aza-indoles.
1213 // N // guitarrin C // weak inhib. of alkaline phosphatase, first 5-aza-indoles.
1214 // N // guitarrin D // IA, first natural 5-aza-indoles.
1215 // N // guitarrin E // IA, first natural 5-aza-indoles.
1216 // N // aluminumguitarrin A // NT

490 Porifera *Aaptos aaptos* // Sepanggar Island, Sabah, Malaysia // Aaptamine-related alkaloid from the marine sponge *Aaptos aaptos*
1217 // N // methylenedioxyaaptamine // mod. cytotox. *vs* 1 HTCL.

491 Porifera *Tsitsikamma favus* // Evans Peak reef, Algoa Bay, South Africa // Molecular networking reveals two distinct chemotypes in pyrroloiminoquinone-producing *Tsitsikamma favus* sponges
1218 // N // makaluvamine Q // weak cytotox. *vs* 1 HTCL.

492 Porifera *Strongylodesma tongaensis* // Fakafotula, Vava'u island group, Tonga // Pyrroloquinoline derivatives from a Tongan specimen of the marine sponge *Strongylodesma tongaensis*
1219 // N // 6-bromodamirone B // IA
1220 // N // makaluvamine W // IA

493 Porifera *Latrunculia biformis* // Dredge, Southern Weddell Sea (290 m), Antarctica // New discorhabdin alkaloids from the Antarctic deep-sea sponge *Latrunculia biformis*
1221 // N // (−)-2-bromo-discorhabdin D // NT
1222 // N // (−)-1-acetyl-discorhabdin L // weak cytotox. *vs* 1 HTCL.
1223 // N // (+)-1-octacosatrienoyl-discorhabdin L // IA



494 Porifera *Latrunculia austini* // Aleutian Islands, Alaska, U.S.A. // Computationally assisted discovery and assignment of a highly strained and PANC-1 selective alkaloid from Alaska's deep ocean

1224 // N // aleutianamine // pot. cytotox., selective for solid tumours.

495 Porifera *Leucetta* sp.// Flinders, Victoria, Australia // Solvolysis artifacts: leucettazoles as cryptic macrocyclic alkaloid dimers from a southern Australian marine sponge, *Leucetta* sp.

1225 // N // leucettazole A1 // IA, racemic artefact of isolation.

1226 // N // leucettazole B1 // IA, racemic artefact of isolation.

1227 // N // leucettazine A // NT, potential precursor to other isolates.

496 Porifera *Monanchora pulchra* // Dredge (135 m), Chirpoi Island, Kuril Islands // Monanchoxymycalin C with anticancer properties, new analogue of crambescidin 800 from the marine sponge *Monanchora pulchra*

1228 // N // monanchoxymycalin C // weak cytotox. *vs* 1 HTCL.

497 Porifera *Agelas* sp.// Likpan, Indonesia // Agesamines A and B, new dibromopyrrole alkaloids from the sponge *Agelas* sp.

1229 // N // agesamine A // NT, insep. epimeric mix.

1230 // N // agesamine B // NT, insep. epimeric mix.

498 Porifera *Agelas nemoechinata* // Xisha Islands, South China Sea // Three new dibromopyrrole alkaloids from the South China Sea sponge *Agelas nemoechina*

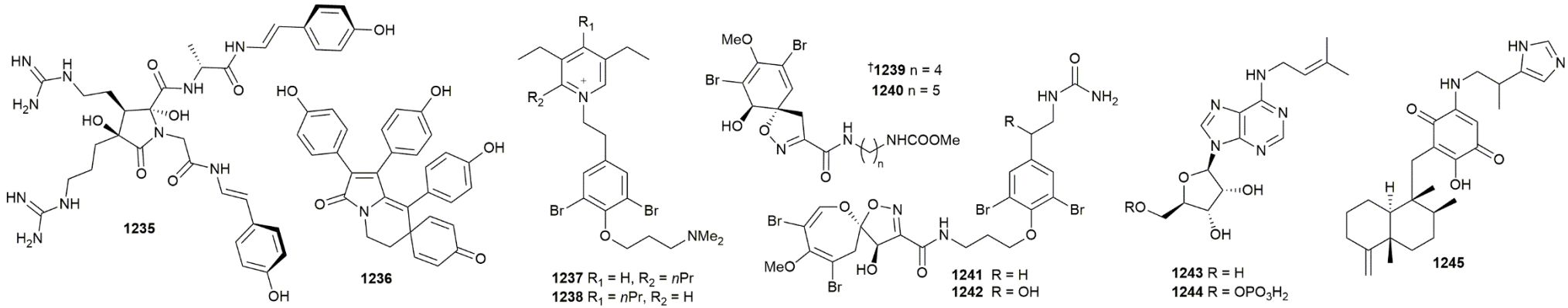
1231 // N // 9-N-methylcylindradine A // IA

1232 // N // 1-N-methylugibohlin // IA

1233 // N // nemoechine H // weak cytotox. *vs* 2 HTCLs.

499 Porifera *Agelas nemoechinata* // Xisha Island, South China Sea // Agelanemoechine, a dimeric bromopyrrole alkaloid with a pro-angiogenic effect from the South China Sea sponge *Agelas nemoechinata*

1234 // N // agelanemoechine // mod. angiogenesis promoter, unprecedented [1,5-a0 azepin nucleus



500 Porifera *Phorbas tenacior* // Villefranche-sur-Mer, France // Chemical insights into the anchinopeptolide series

1235 // N // anchinopeptolide E // NT, formed by photochemical [2+2] cycloaddition.

501 Porifera *Dactylia* sp.// Republic of the Maldives // Elucidation of spirodactylone, a polycyclic alkaloid from the sponge *Dactylia* sp., and nonenzymatic generation from the co-metabolite denigrin B

1236 // N // spirodactylone // IA, produced by mild oxidation of denigrin B

502 Porifera *Suberea* sp.// Maeda Cape, Okinawa, Japan // Ma'edamines C and D, new bromotyrosine alkaloids possessing a unique tetrasubstituted pyridinium moiety from an Okinawan marine sponge *Suberea* sp.

1237 // N // ma'edamine C // mod. cytotox. *vs* 1 HTCL.

1238 // N // ma'edamine D // mod. cytotox. *vs* 1 HTCL.

483 Porifera *Fascaplysinopsis reticulata* // Xisha Islands, South China Sea // Aplysinopsin-type and bromotyrosine-derived alkaloids from the South China Sea sponge *Fascaplysinopsis reticulata*

1239 // N // subereamolline C // IA

1240 // N // subereamolline D // mod. to pot. cytotox. *vs* 1 HTCL.

503 Porifera *Aplysinella* sp.// Jizan, Saudi Arabia // Cytotoxic psammaplysin analogues from the Verongid Red Sea sponge *Aplysinella* species

1241 // N // psammaplysin Z // weak cytotox. *vs* 1 HTCL, IA *vs* 2 HTCLs.

1242 // N // 19-hydroxypsammaplysin Z // weak cytotox. *vs* 1 HTCL, IA *vs* 2 HTCLs.

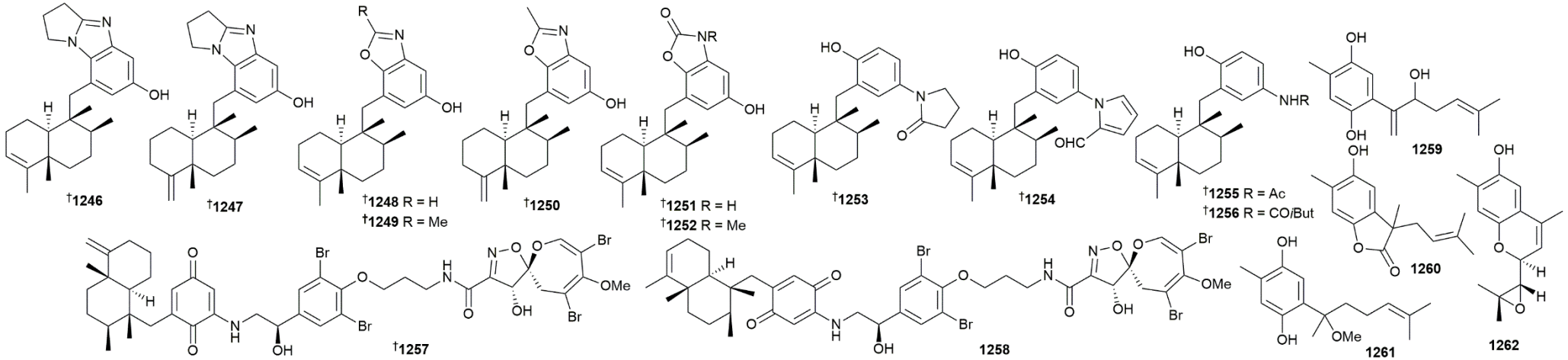
504 Porifera *Oceanapia* sp.// Oshimashinsone (150 m depth), Japan // Isolation and identification of N^6-isopentenyladenosine as the cytotoxic constituent of a marine sponge *Oceanapia* sp.

1243 // M // N 6-isopentenyladenosine // mod. cytotox. *vs* 1 HTCL.

1244 // M // N 6-isopentenyladenosine 5′-monophosphate // IA

505 Porifera *Dactylospongia elegans* // Towo'e Beach, Tahuna Bay, Sangihe Islands, North Sulawesi Province, Indonesia // A new sesquiterpenoid aminoquinone from an Indonesian marine sponge

1245 // N // nakijiquinone V // IA



506 Porifera *Dysidea cinerea* // Xisha Islands, South China Sea // Cinerols, nitrogenous meroterpenoids from the marine sponge *Dysidea cinerea*

1246 // N // cinerol A // mod. activ. *vs* 2 of 6 kinases.

1247 // N // cinerol B // mod. activ. *vs* 2 of 6 kinases.

1248 // N // cinerol C // mod. activ. *vs* 1 of 6 kinases.

1249 // N // cinerol D // IA

1250 // N // cinerol E // IA, zero spec. rot. but strong ECD.

1251 // N // cinerol F // weak to mod. activ. *vs* 3 of 6 kinases.

1252 // N // cinerol G // IA

1253 // N // cinerol H // IA

1254 // N // cinerol I // IA

1255 // N // cinerol J // IA

1256 // N // cinerol K // IA

507 Porifera *Dysidea frondosa* // Xisha Islands, South China Sea // Frondoplysins A and B, unprecedented terpene-alkaloid bioconjugates from *Dysidea frondosa*

1257 // N // frondoplysin A // mod. PTP1B inhib., three distinct biosynth. origins.

1258 // N // frondoplysin B // mod. PTP1B inhib., three distinct biosynth. origins

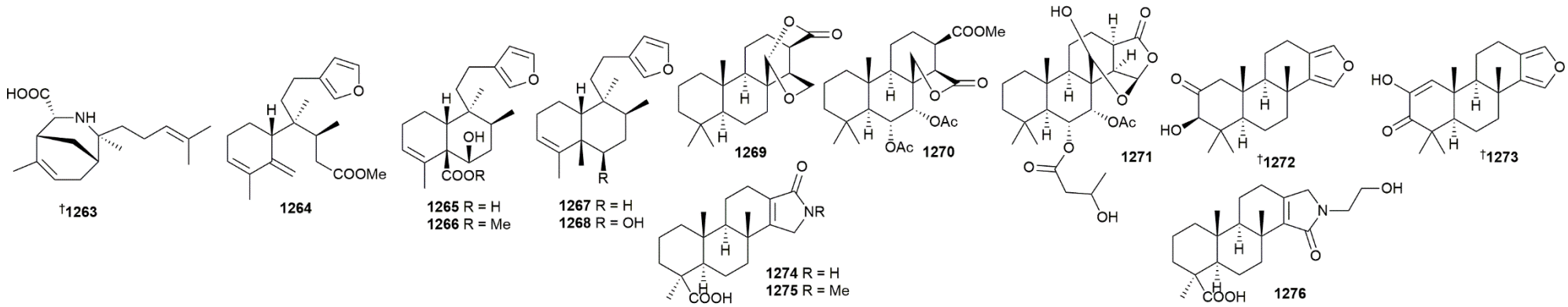
508 Porifera *Myrmekioderma* sp.// Boano, Indonesia // New aromatic bisabolane derivatives with lipid-reducing activity from the marine sponge *Myrmekioderma*

1259 // N // 6-(3-hydroxy-6-methyl-1,5-heptadien-2-yl)-3-methylbenzene-1,4-diol // Not cytotox, weak lipid-reducing activ.

1260 // N // 4-hydroxy-3,7-dimethyl-7-(3-methylbut-2-en-1-yl)benzofuran-15-one // Not cytotox, weak lipid-reducing activ.

1261 // N // 6-(2-methoxy-5-methylhept-4-en-2-yl)-3-methylbenzene-1,4-diol // IA

1262 // N // 9-(3,3-dimethyloxiran-2-yl)-1,7-dimethyl-7-chromen-4-ol // Not cytotox, weak lipid-reducing activ.



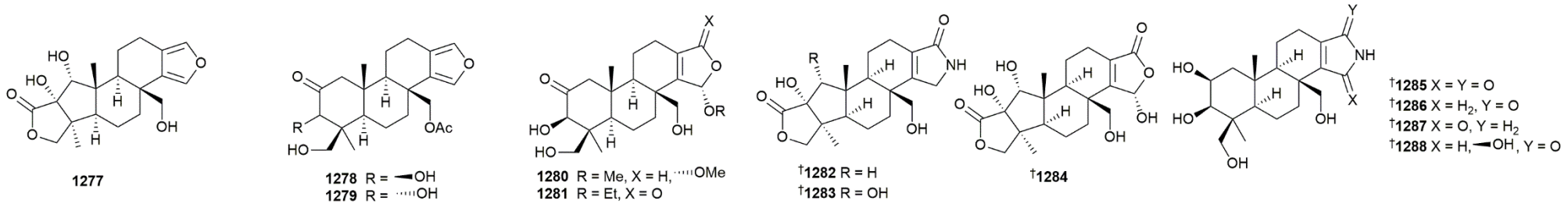
509 Porifera *Halichondria* sp.// North Sulawesi, Indonesia // Halichonic acid, a new rearranged bisabolene-type sesquiterpene from a marine sponge *Halichondria* sp
1263 // N // halichonic acid // IA

510 Porifera *Raspailia bouryesnaultae* // Coral Island, Garopaba, Santa Catarina State, South Brazil // Clerodane diterpenes from the marine sponge *Raspailia bouryesnaultae* collected in South Brazil
1264 // N // raspadiene // No cytotox., weak AV.
1265 // M // $C_{20}H_{28}O_4$ // No cytotox., weak AV, known plant metabolite.
1266 // M // $C_{21}H_{30}O_4$ // No cytotox., weak AV, known plant metabolite, probably artefact.
1267 // M // $C_{20}H_{30}O$ // No cytotox., weak AV, known plant metabolite.
1268 // M // $C_{20}H_{30}O_2$ // No cytotox., weak AV, known plant metabolite.

511 Porifera *Dendrilla rosea* // Solitary Islands Marine Park, Coffs Harbor, New South Wales, Australia // Three new spongian diterpenes from the marine sponge *Dendrilla rosea*
1269 // N // aplyroseol 20 // IA *vs S. aureus.*
1270 // N // aplyroseol 21 // IA *vs S. aureus.*
1271 // N // aplyroseol 22 // IA *vs S. aureus.*

512 Porifera *Spongia tubulifera* // Mexican Caribbean, Mexico // Cytotoxic furanoditerpenes from the sponge *Spongia tubulifera* collected in the Mexican caribbe
1272 // N // 3β-hydroxyspongia-13(16),14-dien-2-one // IA
1273 // N // 19-dehydroxy-spongian diterpene 17 // IA

513 Porifera *Spongia* sp.// Biak, Indonesia // Cytotoxicity of new diterpene alkaloids, ceylonamides G-I, isolated from Indonesian marine sponge of *Spongia* sp.
1274 // N // ceylonamide G // weak cytotox. *vs* 1 HTCL.
1275 // N // ceylonamide H // IA
1276 // N // ceylonamide I // IA



514 Porifera *Spongia officinalis* // Inner coral reef of Ximao Island, Hainan Province, China // Spongian diterpenes including one with a rearranged skeleton from the marine sponge *Spongia officinalis*

1277 // N // sponalactone // V. weak inhib. of LPS-induced NO prod., unprecedented 5,5,6,6,5 pentacyclic skeleton

1278 // N // 17-*O*-acetylepispongiatriol // V. weak inhib. of LPS-induced NO prod.

1279 // N // 17-*O*-acetylspongiatriol // V. weak inhib. of LPS-induced NO prod.

1280 // N // 15α,16α-dimethoxy-15,16-dihydroepispongiatriol // V. weak inhib. of LPS-induced NO prod., likely artefact.

1281 // N // 15α-ethoxyepispongiatriol-16(15*H*)-one // V. weak inhib. of LPS-induced NO prod., likely artefact.

515 Porifera *Spongia* sp.// Zhanjiang, Guangdong Province, China // Spongiains A-C: Three new spongian diterpenes with ring A rearrangement from the marine sponge *Spongia* sp.

1282 // N // spongiain A // IA, first examples of 5,5,6,6,5-pentacyclic spongian diterpenes.

1283 // N // spongiain B // Promotes cell proliferation in dose dependent manner, first examples of 5,5,6,6,5-pentacyclic spongian diterpenes.

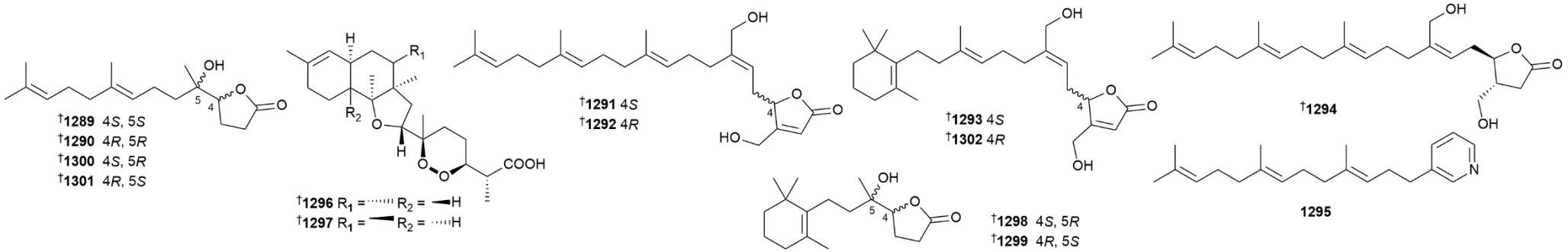
1284 // N // spongiain C // Promotes cell proliferation in dose dependent manner, first examples of 5,5,6,6,5-pentacyclic spongian diterpenes.

1285 // N // spongiain D // IA

1286 // N // spongiain E // IA

1287 // N // spongiain F // IA

1288 // N // spongiain G // IA



516 Porifera *Cacospongia* sp.// Yong Xing Island, South China Sea // Isolation and absolute configurations of diversiform C_{17}, C_{21} and C_{25} terpenoids from the marine sponge *Cacospongia* sp.

1289 // N // (+)-8,13-secoepicavernosine // IA

1290 // N // (–)-8,13-secoepicavernosine // IA

1291 // N // (+)-hippolide E // IA

1292 // R // (−)-hippolide E // IA

1293 // N // (+)-(6*E*)-neomanoalide // IA

1294 // N // (3*R*,4*R*)-14,18-secoluffariolide C // IA

1295 // N // cacospongine A // IA

517 Porifera *Sigmosceptrella* sp.// Cape Hedo, Okinawa, Japan // Trunculins X and Y from an Okinawan sponge *Sigmosceptrella* sp.

1296 // N // trunculin X // mod. cytotox. *vs* 3 HTCLs.

1297 // N // trunculin Y // mod. cytotox. *vs* 3 HTCLs.

516 Porifera *Cacospongia* sp.// Yong Xing Island, South China Sea // Isolation and absolute configurations of diversiform C_{17}, C_{21} and C_{25} terpenoids from the marine sponge *Cacospongia* sp.

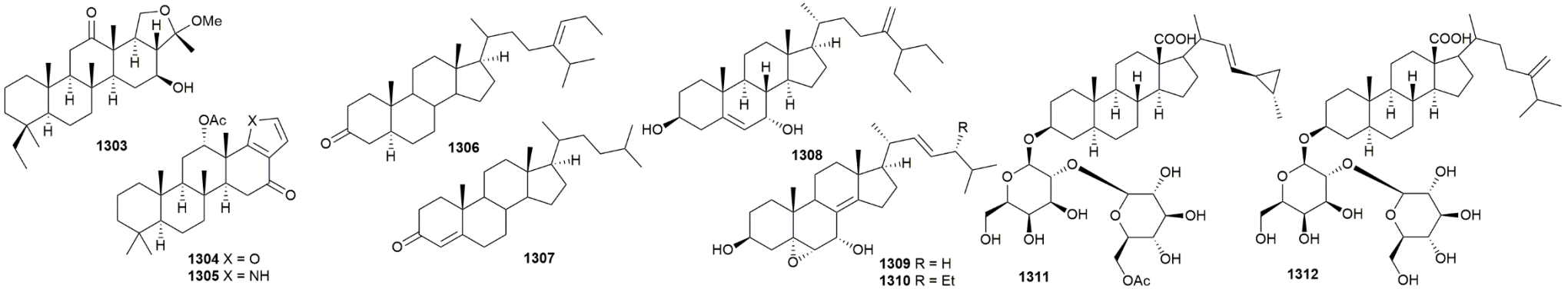
1298 // R // (+)-cavernosine // IA

1299 // R // (−)-cavernosine // IA

1300 // R // (+)-8,13-secocavernosine // IA

1301 // R // (−)-8,13-secocavernosine // IA

1302 // R // (−)-(6*E*)-neomanoalide // IA



518 Porifera *Phyllospongia* sp.// Cebu, The Philippines // Deacetylphylloketal, a new phylloketal derivative from a marine sponge, genus *Phyllospongia*, with potent anti-inflammatory activity in in vitro co-culture model of intestine

1303 // N // deacetylphylloketal // AI via inhib. of NF-κB.

519 Porifera *Scalarispongia* sp.// Dokdo Island, Republic of Korea // Cytotoxic furan- and pyrrole-containing scalarane sesterterpenoids isolated from the sponge *Scalarispongia* sp.

1304 // N // $C_{27}H_{38}O_4$ // weak cytotox. *vs* 6 HTCLs.

1305 // N // $C_{27}H_{39}NO_3$ // IA

520 Porifera *Aulosaccus* sp.// Dredge (500 m), Iturup Island, Kuril Islands, Sea of Okhotsk // Steroids from a Far-Eastern glass sponge *Aulosaccus* sp.

1306 // N // 24-propyl-5α-cholest-24(28)*Z*-en-3-one // NT

1307 // N // 24-nor-cholest-4-en-3-one // NT

521 Porifera *Xestospongia testudinaria* // Son Cha, Lang Co, Thua Thien-Hue city, Vietnam // A new sterol from the Vietnamese marine sponge *Xestospongia testudinaria* and its biological activities

1308 // N // langcosterol A // IA

522 Porifera *Leucetta chagosensis* // Yongxing Islands, South China Sea // Two new 5,6-epoxysterols from calcareous marine sponge *Leucetta chagosensis*

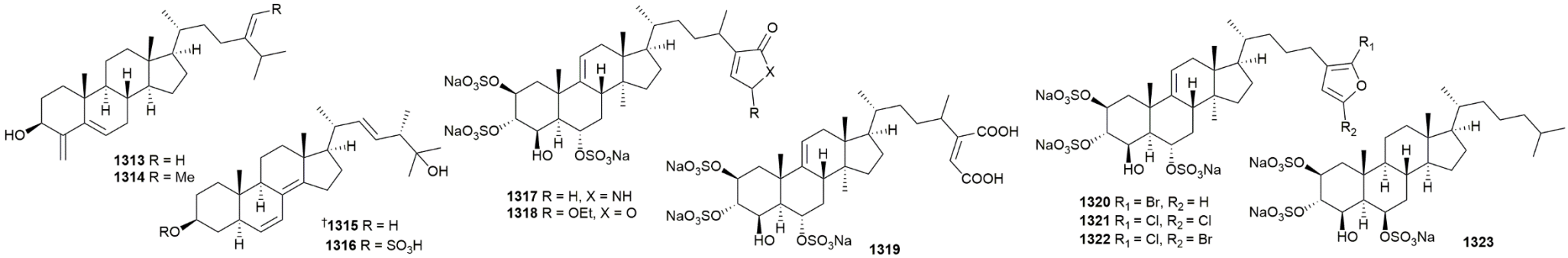
1309 // N // 5α,6α-epoxycholesta-8(14),22(*E*)-diene-3β,7α-diol // IA

1310 // N // (24*R*)-24-ethyl-5α,6α-epoxycholesta-8(14),22(*E*)-diene-3β,7α-diol // IA

523 Porifera *Pachastrella scrobiculosa* // Jogashima (200 m depth), Sagami Bay, Miura Peninsula, Japan // Scrobiculosides A and B from the deep-sea sponge *Pachastrella scrobiculosa*

1311 // N // scrobiculoside A // IA, second side-chain cyclopropyl sterol known.

1312 // N // scrobiculoside B // IA



524 Porifera *Stelletta crater*, Porifera *Desmacella dendyi* // Northeast Island, Three Kings Islands, New Zealand // Two new 4-methylidene containing steroids, craterol A and B, from the New Zealand two sponge association between *Stelletta crater* and *Desmacella dendyi*

1313 // N // craterol A // IA

1314 // N // craterol B // IA

525 Porifera *Dactylospongia elegans* // Xisha islands, South China Sea // Two new steroids with cytotoxicity from the marine sponge *Dactylospongia elegans* collected from the South China Sea

1315 // N // (3*S*,5*R*,9*R*,10*S*,13*R*,17*R*,20*R*,24*S*,22*E*)-ergosta-6,8,22-triene-3,25-diol // weak cytotox. *vs* 1 of 3 HTCLs.

1316 // N // (3*S*,5*R*,9*R*,10*S*,13*R*,17*R*,20*R*,24*S*,22*E*)-ergosta-6,8,22-triene-25-ol-3-sulfonate // weak cytotox. *vs* 1 of 3 HTCLs.

526 Porifera *Halichondria vansoesti* // South China Sea, Vietnam // New trisulfated steroids from the Vietnamese marine sponge *Halichondria vansoesti* and their PSA expression and glucose uptake inhibitory activities

1317 // N // topsentiasterol sulfate G // NT

1318 // N // topsentiasterol sulfate I // NT

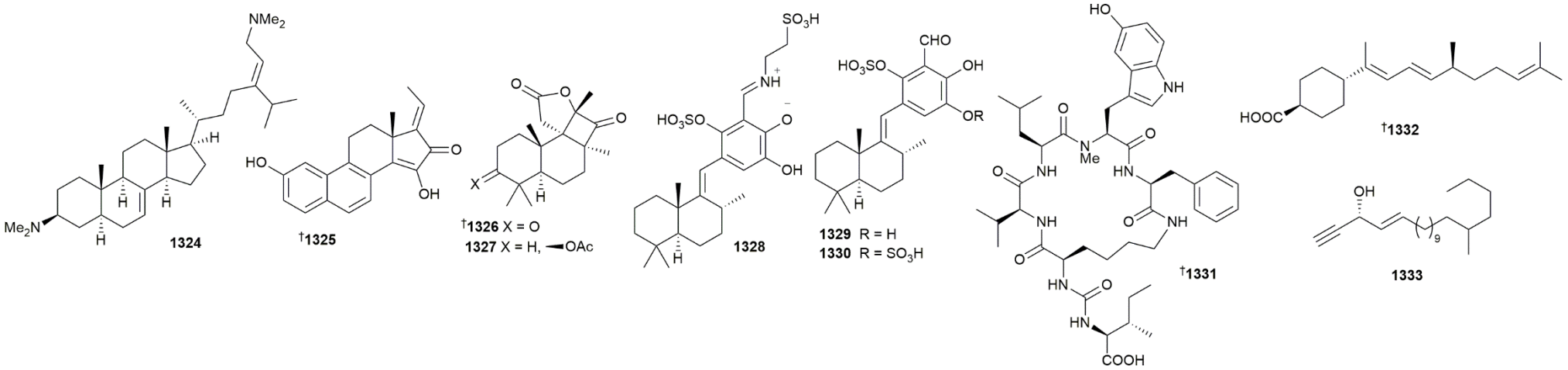
1319 // N // topsentiasterol sulfate H // Suppressed PSA at 10 µM.

1320 // N // bromotopsentiasterol sulfate D // Suppressed PSA at 10 µM.

1321 // N // dichlorotopsentiasterol sulfate D // Suppressed glucose uptake, insep. mix. with **1317.**

1322 // N // bromochlorotopsentiasterol sulfate D // Suppressed glucose uptake, insep. mix. with **1316.**

1323 // N // 4β-hydroxyhalistanol sulfate C // NT



527 Porifera *Plakina* sp.// Collected with manned submersible, Crooked Island near Pittstown, Bahamas // Plakinamine P, a steroidal alkaloid with bactericidal activity against *Mycobacterium* tuberculosis

1324 // N // plakinamine P // mod. MIC *vs M. tuberculosis*

528 Porifera *Myrmekioderma* sp.// Lāna'i, Hawaii, U.S.A. // Myrmenaphthol A, isolated from a Hawaiian sponge of the genus *Myrmekioderma*

1325 // N // myrmenaphthol A // IN, unusual oxidised naphthol containing C-2 sterol.

529 Porifera *Stelletta* sp.// Cham Island, Vietnam, South China Sea // Cyclobutastellettolides A and B, C_{19} norterpenoids from a *Stelletta* sp. marine sponge.

1326 // N // cyclobutastellettolide A // Proinflam. at 1 µM, likely formed from degrad. of co-isol. isomalabaricane triterpenoids.

1327 // N // cyclobutastellettolide B // Proinflam. at 1 µM, likely formed from degrad. of co-isol. isomalabaricane triterpenoids.

531 Porifera, *Aka coralliphaga* // * // Biomimetic synthetic studies on meroterpenoids from the marine sponge *Aka coralliphaga*: Divergent total syntheses of siphonodictyal B, liphagal and corallidictyals A–D

1328 // R // siphonodictyal B1 // *

1329 // R // siphonodictyal B2 // *

1330 // R // siphonodictyal B3 // *

532 Porifera *Theonella* sp // Mozambique // Total Synthesis and Configurational Revision of Mozamide A, a Hydroxy-Brunsvicamide

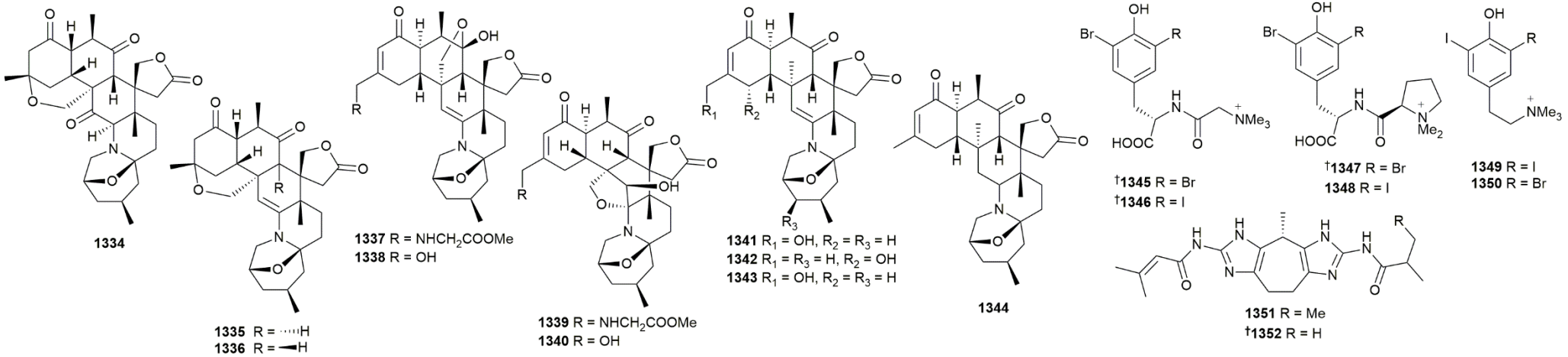
1331 // R // mozamide A // *

533 Porifera *Phorbas gukulensis* // * // First synthesis and absolute configuration of phorbasin H, a diterpene carboxylic acid isolated from the sponge *Phorbas gukulensis*

1332 // R // (S)-(+)-phorbasin H // *

534 Porifera *Cribrochalina vasculum* // * // Asymmetric Total Synth. of 16-Methyleicos-(4E)-en-1-yn-3-ol from the Sponge *Cribrochalina vasculum*: Establishment of Absolute Configuration of Chiral Centers

1333 // R // 16-methyleicos-(4*E*)-en-1-yn-3-ol // *



565 Cnidaria *Zoanthus vietnamensis* // Northern coastal area of Taiwan // Anti-lymphangiogenic alkaloids from the zoanthid *Zoanthus vietnamensis* collected in Taiwan

1334 // N // kuroshine H // X-ray. weak anti-lymphangiogenic effects.

1335 // N // kuroshine I // X-ray. weak anti-lymphangiogenic effects.

1336 // N // kuroshine J // weak anti-lymphangiogenic effects.

1337 // N // 27-methyl glycinate zoanthenamine // weak anti-lymphangiogenic effects.

1338 // N // 27-hydroxyzoanthenamine // weak anti-lymphangiogenic effects.

1339 // N // 27-methyl glycinate kuroshine A // weak anti-lymphangiogenic effects.

1340 // N // 27-hydroxykuroshine A // weak anti-lymphangiogenic effects.

1341 // N // 3β-hydroxy-28-deoxyzoanthenamine // weak anti-lymphangiogenic effects.

1342 // N // 14α-hydroxy-28-deoxyzoanthenamine // weak anti-lymphangiogenic effects.

1343 // N // 27-hydroxy-28-deoxyzoanthenamine // weak anti-lymphangiogenic effects.

1344 // N // kuroshine K // NT

566 Cnidaria *Antipathozoanthus hickmani*, Cnidaria *Parazoanthus darwini*, Cnidaria *Terrazoanthus* cf. *patagonichus* // Marine Protected Area El Pelado, Santa Elena, Ecuador // Halogenated tyrosine derivatives from the Tropical Eastern Pacific zoantharians *Antipathozoanthus hickmani* and *Parazoanthus darwini*

1345 // N // valdiviamide A // IA *vs* HTCL., IA *vs* bact.

1346 // N // valdiviamide B // weak cytotox. HepG2, IA *vs* bact.

1347 // N // valdiviamide C // IA *vs* HTCL., IA *vs* bact.

1348 // N // valdiviamide D // NT

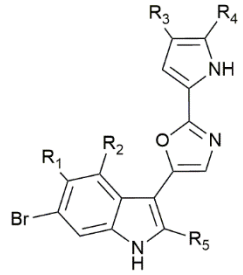
1349 // N // 2-(4-hydroxy-3,5-diiodophenyl)-*N,N,N*-trimethylethan-1-aminium // IA *vs* HTCL., IA *vs* bact.

1350 // N // 2-(4-hydroxy-3-bromo-5-iodophenyl)-*N,N,N*-trimethylethan-1-aminium // IA *vs* HTCL., IA *vs* bact.

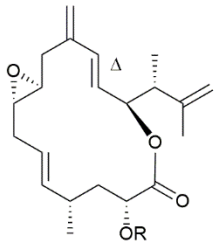
1351 // N // zoamide E // IA *vs* HTCL., IA *vs* bact.

1352 // N // zoamide F // IA *vs* HTCL., IA *vs* bact.

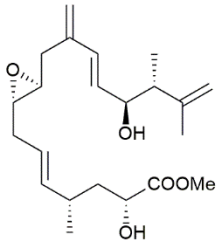
7 Cnidarian



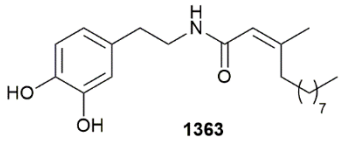
1353 R_1 = OMe, R_2 = R_3 = R_4 = R_5 = H
1354 R_1 = R_3 = R_4 = R_5 = H, R_2 =OMe
1355 R_1 = R_4 = R_5 = H, R_2 = OMe, R_3 = Br
1356 R_1 = R_3 = R_4 = H, R_2 = OMe, R_5 = I
1357 R_1 = OMe, R_2 = R_3 = R_5 = H, R_4 = Br
1358 R_1 = OMe, R_2 = R_4 = R_5 = H, R_3 = Br



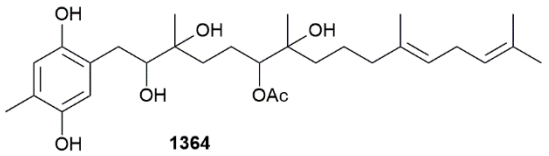
1359 R = H, Δ = *E*
1360 R = Ac, Δ = *E*
1361 R = Ac, Δ = *Z*



1362



1363



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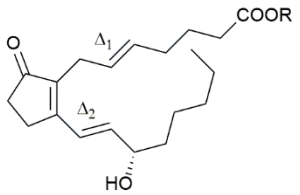


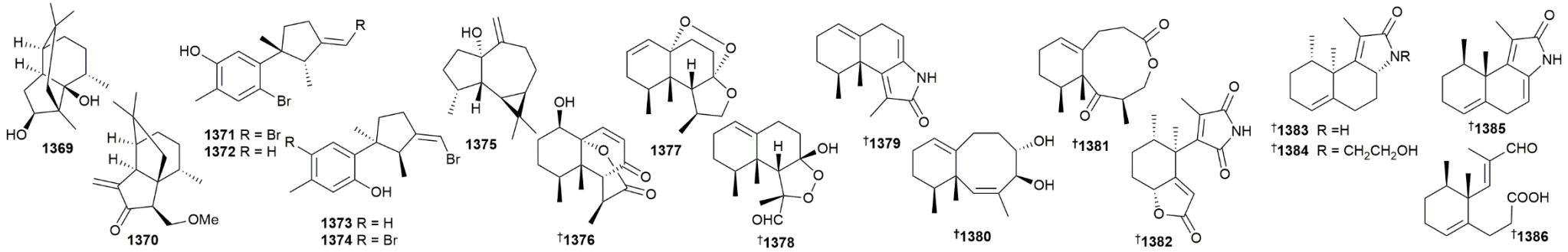
†**1365** R = H, Δ_1 *E*
1366 R = H, Δ_1 *E*, Δ_2 sat
1367 R = H, Δ_1 *Z*, Δ_2 sat
1368 R = Me, Δ_1 *E*, Δ_2 sat

567 Cnidaria *Thuiaria breitfussi* // Bjørnøya, Svalbard // Kinase chemodiversity from the Arctic: the breitfussins
1353 // N // breitfussin C // weak cytotox. *vs* 5 HTCLs, weak to mod. kinase inhib.
1354 // N // breitfussin D // weak cytotox. *vs* 1 HTCL, weak to mod. kinase inhib.
1355 // N // breitfussin E // IA *vs* HTCL., weak kinase inhib.
1356 // N // breitfussin F // IA *vs* HTCL., no kinase inhib.
1357 // N // breitfussin G // NT
1358 // N // breitfussin H // NT

568 Cnidaria *Strangulum bicolor* // Caponga beach, Brazil // Potent cytotoxic analogs of amphidinolides from the Atlantic octocoral *Stragulum bicolor*
1359 // N // amphidinolide PX1 // weak cytotox. *vs* A2780
1360 // N // amphidinolide PX2 // IA *vs* HTCL.
1361 // N // amphidinolide PX3 // IA *vs* HTCL.
1362 // N // stragulin A // mod. cytotox. *vs* A2058.

569 Cnidaria *Sinularia flexibilis* // Daya Bay, Guangdong Province, China // Two new lipid analogues from the soft coral *Sinularia flexibilis*
1363 // N // (*Z*)-*N*-(3,4-dihydroxyphenethyl)-3-methyldodec-2-enamide // NT
1364 // N // (*E*)-1-(2,5-dihydroxy-4-methylphenyl)-6-acetoxy-2,3,7-trihydroxy-3,7,11,15-tetramethylhexadeca-11,14-dien // NT

570 Cnidaria *Lobophytum sarcophytoides* // Xisha Islands, South China Sea // Anti-inflammatory cembrane-type diterpenoids and prostaglandins from soft coral *Lobophytum sarcophytoides*
1365 // N // (5*E*)-PGB2 // No AI activ.
1366 // N // (5*E*)-13,14-dihydro-PGB2 // No AI activ.
1367 // N // 13,14-dihydro-PGB2 // No AI activ.
1368 // N // 13,14-dihydro-PGB2-Me // No AI activ.



571 Cnidaria *Subergorgia suberosa* // Sanya Bay, Hainan province, China // Two novel sesquiterpenes and a new pregnane derivative from the South China Sea gorgonian *Subergorgia suberosa*

1369 // N // isosuberosenol A // NT

1370 // N // suberosain A // NT

572 Cnidaria *Clavularia viridis*, Cnidaria *Lemnalia flava* // Xisha Island, Hainan Province, China // New sesquiterpenoids from the South China Sea soft corals *Clavularia viridis* and *Lemnalia flava*

1371 // N // isobromolaurenisol // No PTP1B, NF-kB inhib.

1372 // N // clalaurenol A // No PTP1B, weak NF-kB inhib.

1373 // N // ent-laurenisol // No PTP1B, NF-kB inhib.

1374 // N // clalaurenol B // No PTP1B, weak NF-kB inhib.

1375 // N // claaromadendrene // No PTP1B, NF-kB inhib.

573 Cnidaria *Lemnalia flava* // Xisha Island, South China Sea // Uncommon polyoxygenated sesquiterpenoids from South China Sea soft coral *Lemnalia flava*

1376 // N // xishaflavalin A // IA *vs* HTCL, No AI activ.

1377 // N // xishaflavalin B // IA *vs* HTCL, No AI activ.

1378 // N // xishaflavalin C // IA *vs* HTCL, No AI activ.

1379 // N // xishaflavalin D // IA *vs* HTCL, No AI activ.

1380 // N // xishaflavalin E // IA *vs* HTCL, No AI activ.

1381 // N // xishaflavalin F // X-ray. IA *vs* HTCL, No AI activ.

574 Cnidaria *Clavularia koellikeri* // Xisha Island, South China Sea // Clavukoellians A–F, highly rearranged nardosinane sesquiterpenoids with antiangiogenic activity from *Clavularia koellikeri*

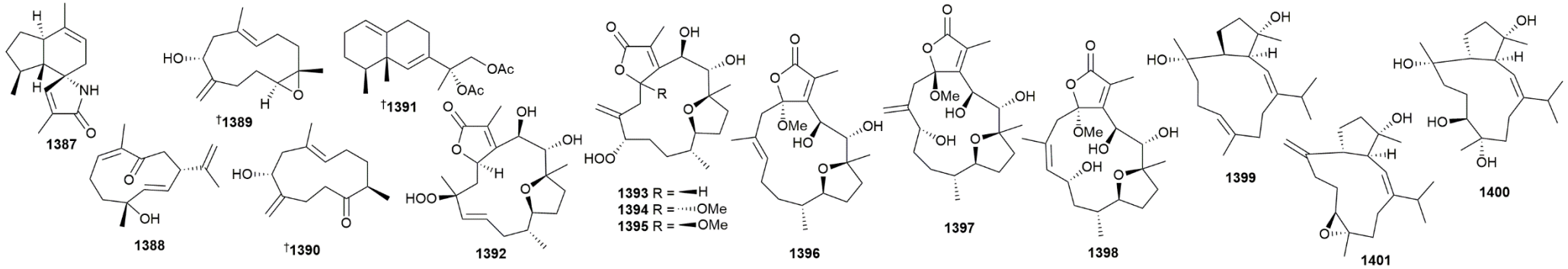
1382 // N // clavukoellian A // weak inhib. HUVEC migration.

1383 // N // clavukoellian B // IA *vs* HTCL., no migration inhib.

1384 // N // clavukoellian C // IA *vs* HTCL., no migration inhib.

1385 // N // clavukoellian D // IA *vs* HTCL., no migration inhib.

1386 // N // clavukoellian F // IA *vs* HTCL., no migration inhib.



575 Cnidaria *Sinularia* sp.// Zhanjiang, Guangdong Province, China // Sinulaspirolactam A, a novel aza-spirocyclic valerenane sesquiterpenoid from soft coral *Sinularia* sp.
1387 // N // sinulaspirolactam A // IA *vs* 5 HTCLs.

576 Cnidaria *Capnella imbricata* // Mantanani Island, Sabah, Malaysia // Cytotoxic sesquiterpenoids from soft soral *Capnella imbricata*
1388 // N // capgermacrene H // IA *vs* S1T cells.

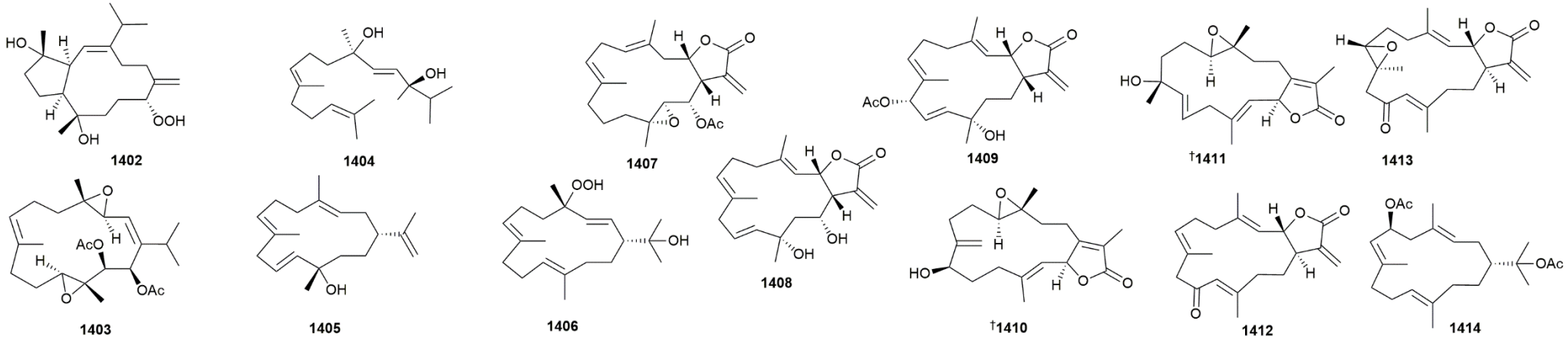
577 Cnidaria *Sinularia hirta* // Yalong Bay, Hainan, South China Sea // Sinuhirtins A and B, two uncommon norhumulene-type terpenoids from the South China Sea soft coral *Sinularia hirta*
1389 // N // sinuhirtin A // IA *vs* 4 HTCL.
1390 // N // sinuhirtin B // IA *vs* 4 HTCL.

578 * // * //Total synthesis and determination of the absolute configuration of paralemnolin C and biological studies of eremophilane derivatives
1391 // R // paralemnolin C // Synthesis. IA *vs* 3 HTCLs

579 Cnidaria *Briareum violaceum* // Cultivated. // Briaviodiols B–E, new anti-inflammatory hydroperoxyfurancembranoids from *Briareum violaceum*
1392 // N // briaviodiol B // IA *vs* HTCL, inhib. iNOS expression.
1393 // N // briaviodiol C // IA *vs* HTCL.
1394 // N // briaviodiol D // IA *vs* HTCL, inhib. iNOS expression.
1395 // N // briaviodiol E // IA *vs* HTCL., inhib. iNOS expression.

580 Cnidaria *Briareum violaceum* // Cultivated. // New furanocembranoids from *Briareum violaceum*
1396 // N // briaviodiol F // IA *vs* HTCL.
1397 // N // briaviotriol A // IA *vs* HTCL., inhib. iNOS expression.
1398 // N // briaviotriol B // IA *vs* HTCL.

581 Cnidaria *Lobophytum* sp.// Weizhou Island, Guangxi, China // Three new capnosane-type diterpenoids from the South China Sea soft coral *Lobophytum* sp.
1399 // N // lobophytrol A // Struct. identical to 7-epi-pavidolide D. No AI activ.
1400 // N // lobophytrol B // No AI activ.
1401 // N // lobophytrol C // No AI activ.



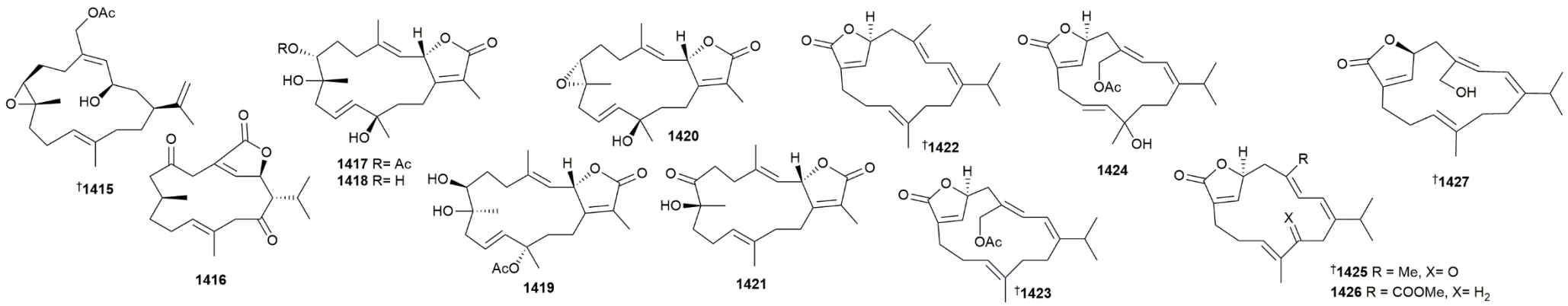
582 Cnidaria *Klyxum flaccidum* // Pratas Island, Taiwan // Bioactive capnosanes and cembranes from the soft coral *Klyxum flaccidum*
1402 // N // flaccidenol A // weak cytotox. *vs* 3 TCLs.
1403 // N // flaccidodioxide // IA *vs* 3 TCLs.
1404 // N // flaccidodiol // IA *vs* 3 TCLs.

583 Cnidaria *Lemnalia flava* // Xisha Islands, South China Sea // Two new cembrane-type diterpenoids from the xisha soft coral *Lemnalia flava*
1405 // N // xishaflavalin G // IA immunosupp.
1406 // N // xishaflavalin H // IA immunosupp.

584 Cnidaria *Lobophytum* sp.// Irabu Island, Okinawa, Japan // New cytotoxic cembranolides from an Okinawan soft coral, *Lobophytum* sp.
1407 // N // $C_{22}H_{30}O_5$ // weak cytotox., weak AI.
1408 // N // $C_{20}H_{28}O_4$ // IA *vs* HTCL., AI *vs* AI.
1409 // N // $C_{22}H_{30}O_5$ // IA *vs* HTCL., AI *vs* AI.

570 Cnidaria *Lobophytum sarcophytoides* // Xisha Islands, South China Sea // Anti-inflammatory cembrane-type diterpenoids and prostaglandins from soft coral *Lobophytum sarcophytoides*
1410 // N // lobophytin A // AI *vs* AI.
1411 // N // lobophytin B // AI *vs* AI.

585 Cnidaria *Nephthea* sp.// Sepanggar Bay, Sabah, North Borneo // New cembrane-type diterpenoids from Bornean soft coral *Nephthea* sp. with antifungal activity against *Lagenidium thermophilum*
1412 // N // nephthecrassocolide A // IA *vs* fungi.
1413 // N // nephthecrassocolide B // IA *vs* fungi.
1414 // N // 6-acetoxy nephthenol acetate // IA *vs* fungi.



586 Cnidaria *Pseudoplexaura flagellosa* // Santa Marta Bay, Colombia // New diterpenes isolated from the Colombian Caribbean soft coral *Pseudoplexaura flagellosa* and their cytotoxic properties

1415 // N // $C_{23}H_{36}O_4$ // IA *vs* 5 HTCL.

587 Cnidaria *Sarcophyton* sp.// Sepanggar Bay, North Borneo // A new bioactive cembranolide sarcophytonolide V from Bornean soft coral genus *Sarcophyton*

1416 // N // sarcophytonolide V // weak AF.

588 Cnidaria *Sarcophyton* sp.// Hurghada, Egyptian Red Sea // New antiproliferative cembrane diterpenes from the Red Sea *Sarcophyton* species

1417 // N // 7-acetyl-8-*epi*-sinumaximol G // IA *vs* MCF-7.

1418 // N // 8-*epi*-sinumaximol G // IA *vs* MCF-8.

1419 // N // 12-acetyl-7, 12-*epi*-sinumaximol G // IA *vs* MCF-9.

1420 // N // 12-hydroxysarcoph-10-ene // IA *vs* MCF-10.

1421 // N // 8-hydroxy-*epi*-sarcophinone // IA *vs* MCF-11.

589 Cnidaria *Sarcophyton ehrenbergi* // Weizhou Island, Guangxi Province, China // Rare cembranoids from Chinese soft coral *Sarcophyton ehrenbergi*: structural and stereochemical studies

1422 // N // sarcoehrenolide A // X-ray. IA *vs* 4 HTCLs, no TNF-α inhib.

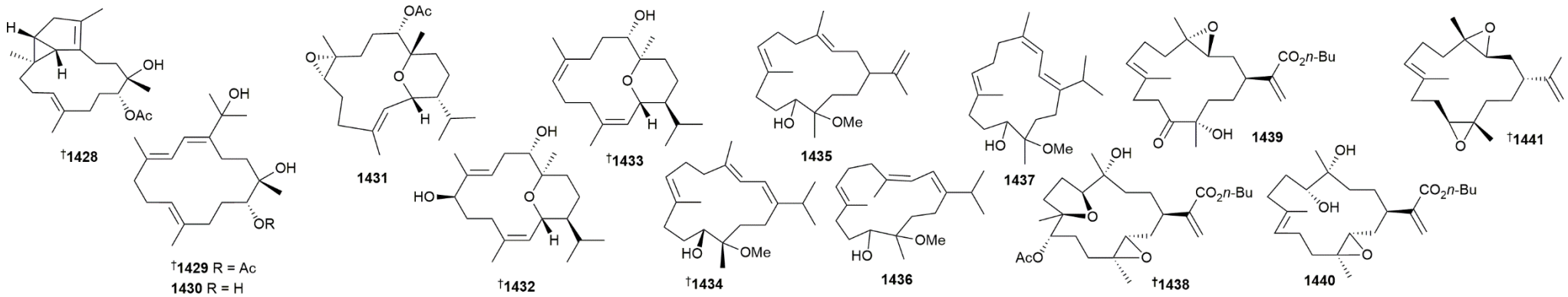
1423 // N // sarcoehrenolide B // weak TNF-a inhib., IA *vs* 4 HTCLs.

1424 // N // sarcoehrenolide C // NT

1425 // N // sarcoehrenolide D // IA *vs* 4 HTCLs, no TNF-α inhib.

1426 // N // sarcoehrenolide E // IA *vs* 4 HTCLs, no TNF-α inhib.

1427 // R // ehrenbergol D // 6*S* config. IA *vs* 4 HTCLs, no TNF-α inhib.



590 Cnidaria *Sarcophyton mililatensis* // Xigu Island, Hainan Province, China // Sarcomililate A, an unusual diterpenoid with tricyclo[11.3.0.0^{2,16}]hexadecane carbon skeleton, and its potential biogenetic precursors from the Hainan soft coral *Sarcophyton mililatensis*

1428 // N // sarcomililate A // No cytotox., no immunosupp.

1429 // N // sarcomililatol A // X-ray. No cytotox., no immunosupp.

1430 // N // sarcomililatol B // No cytotox., no immunosupp.

591 Cnidaria *Sarcophyton trocheliophorum* // Mahmieat, Red Sea // New pyranosyl cembranoid diterpenes from *Sarcophyton trocheliophorum*

1431 // N // 8,9-epoxy-sarcotrocheliol acetate // AI *vs* bact.

592 Cnidaria *Sarcophyton trocheliophorum* // Hurghada, Egypt // Crystal structure and configuration revision of 9-hydroxy-7,8-dehydro-sarcotrocheliol and sarcotrocheliol

1432 // R // 9-hydroxy-7,8-dehydro-sarcotrocheliol // X-ray.

1433 // R // sarcotrocheliol // X-ray.

593 Cnidaria *Sinularia* sp.// Xisha Island, South China Sea, China // Four new cembranoids from the Chinese soft coral *Sinularia* sp. and their anti-Aβ aggregation activities

1434 // N // 11-hydroxy-12-methoxy-1-isopropyl-4,8,12-trimethyl-icyclotetradeca-1,3,7-triene // X-ray. weak inhib. Ab1-42 aggregation. IA *vs* 5 HTCLs.

1435 // N // 3*E*,7*E*-11-hydroxy-12-methoxy-1-isopropenyl-4,8,12-trimethyl-icyclotetradeca-3,7-diene // IA

1436 // N // 1*E*,3*Z*,7*E*,-11-hydroxy-12-methoxy-1-isopropyl-4,8,12-trimethyl-icyclotetradeca-1,3,7-triene // weak inhib. Ab1-42 aggregation. IA *vs* 5 HTCLs.

1437 // N // 1*Z*,3*Z*,7*E*,-11-hydroxy-12-methoxy-1-isopropyl-4,8,12-trimethyl-icyclotetradeca-1,3,7-triene // IA

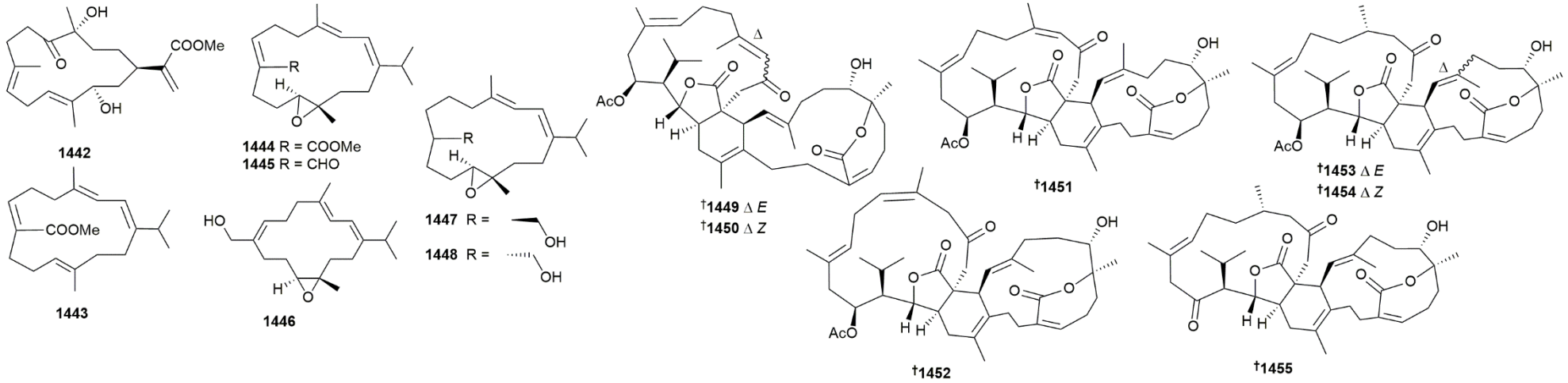
594 Cnidaria *Sinularia flexibilis* // Xidao Island, Hainan, China // Bioactive polyoxygenated cembranoids from a novel Hainan chemotype of the soft coral *Sinularia flexibilis*

1438 // N // xidaosinularide A // Butyl ester of dendronpholide F. *vs* HTCL, no TNF-α inhib.

1439 // N // xidaosinularide B // Butyl ester related to sinuladiterpene I. IA *vs* HTCL, no TNF-α inhib.

1440 // N // xidaosinularide C // Butyl ester related to flexibilisin B. *vs* HTCL, no TNF-α inhib.

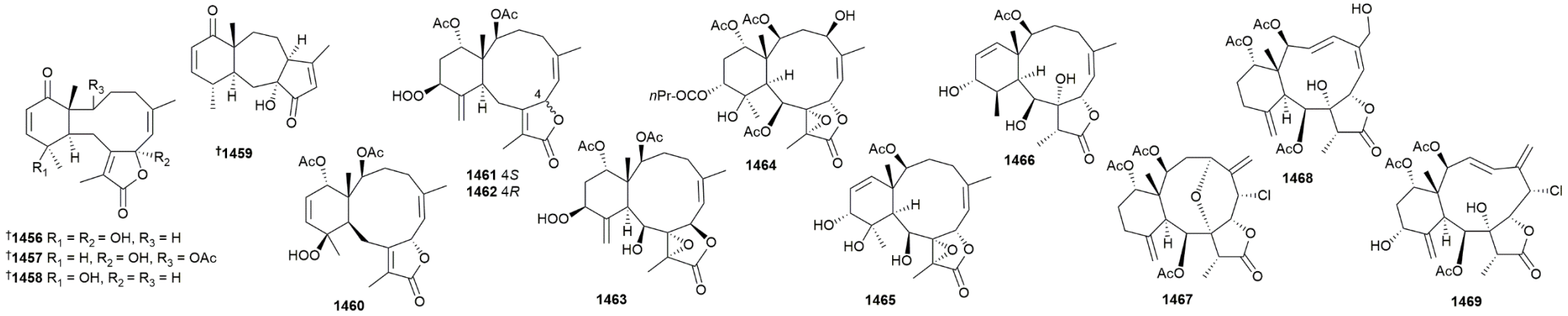
1441 // R // diepoxycembrene A // X-ray. *vs* HTCL, no TNF-α inhib.



595 Cnidaria *Sinularia flexibilis* // Mantanani Island, Sabah, Malaysia // Sinulaflexiolide P, a cembrane-type diterpenoid from Bornean soft coral *Sinularia flexibilis*
1442 // N // sinulaflexiolide P // IA *vs* fungi

596 Cnidaria *Sinularia scabra* // Xigu Island, Hainan Province, China // Highly diverse cembranoids from the South China Sea soft coral *Sinularia scabra* as a new class of potential immunosuppressive agents
1443 // N // xiguscabrate A // IA *vs* HTCL., no immunosupp.
1444 // N // xiguscabrate B // weak cytotox. *vs* HTCL, weak immunosupp.
1445 // N // xiguscabral A // weak cytotox. *vs* HTCL, no immunosupp.
1446 // N // xiguscabrol A // weak cytotox. *vs* HTCL, weak immunosupp.
1447 // N // xiguscabrol B // weak cytotox. *vs* HTCL, weak immunosupp.
1448 // N // 8-epi-xiguscabrol B // weak cytotox. *vs* HTCL, weak immunosupp.

597 Cnidaria *Sarcophyton trocheliophorum* // Xisha Island, South China Sea // Immunomodulatory biscembranoids and assignment of their relative and absolute configurations: data set modulation in the density functional theory/nuclear magnetic resonance approach
1449 // R // glaucumolide A // X-ray. Revised abs. config. weak effect on T cell prolif.
1450 // R // glaucumolide B // Revised abs. config. IA.
1451 // N // bistrochelide A // IA
1452 // N // bistrochelide B // IA
1453 // N // bistrochelide C // weak effect on CD4+/CD8+ ratio.
1454 // N // bistrochelide D // IA
1455 // N // bistrochelide E // IA



598 Cnidaria *Anthoptilum grandiflorum* // North of Burdwood Bank, Scotia Arc, Southern Ocean, Antarctica // Bathyptilones: terpenoids from an Antarctic sea pen, *Anthoptilum grandiflorum* (Verrill, 1879)

1456 // N // bathyptilone A // X-ray. pot. cytotox. *vs* Ntera-2.

1457 // N // bathyptilone B // X-ray. IA *vs* Ntera-2.

1458 // N // bathyptilone C // X-ray. IA *vs* Ntera-2.

1459 // N // enbepeanone A // X-ray. IA *vs* Ntera-2.

599 Cnidaria *Briareum violaceum* // Cultivated. // New hydroperoxybriarane diterpenoids from the octocoral Briareum violaceum

1460 // N // briaviolide R // IA

1461 // N // briaviolide S // weak inhib. superoxide prodn.

1462 // N // briaviolide T // NT

1463 // N // briaviolide U // IA

600 Cnidaria *Briareum violaceum* // Cultivated. // 2-Acetoxybriaranes from *Briareum violaceum*

1464 // N // briaviolide V // No inhib. elastase release.

1465 // N // briaviolide W // No inhib. elastase release.

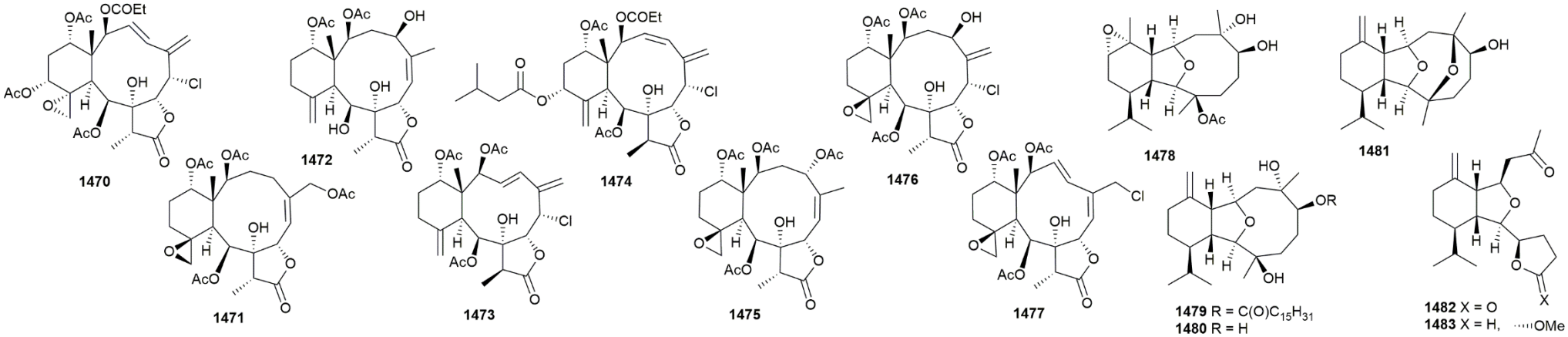
1466 // N // briaviolide X // No inhib. elastase release.

601 Cnidaria *Junceella fragilis* // Lanyu Island (Orchid Island), Taiwan // Fragilides M–O, new triacetoxybriaranes from the gorgonian coral *Junceella fragilis* (Ellisellidae)

1467 // N // fragilide M // No inhib. iNOS express.

1468 // N // fragilide N // No inhib. iNOS express.

1469 // N // fragilide O // No inhib. iNOS express.



602 Cnidaria *Junceella fragilis* // South Bay, Kenting, Taiwan // New 11,20-epoxybriaranes from the Gorgonian coral *Junceella fragilis* (Ellisellidae)
1470 // N // fragilide P // no AI activ.
1471 // N // fragilide Q // no AI activ.

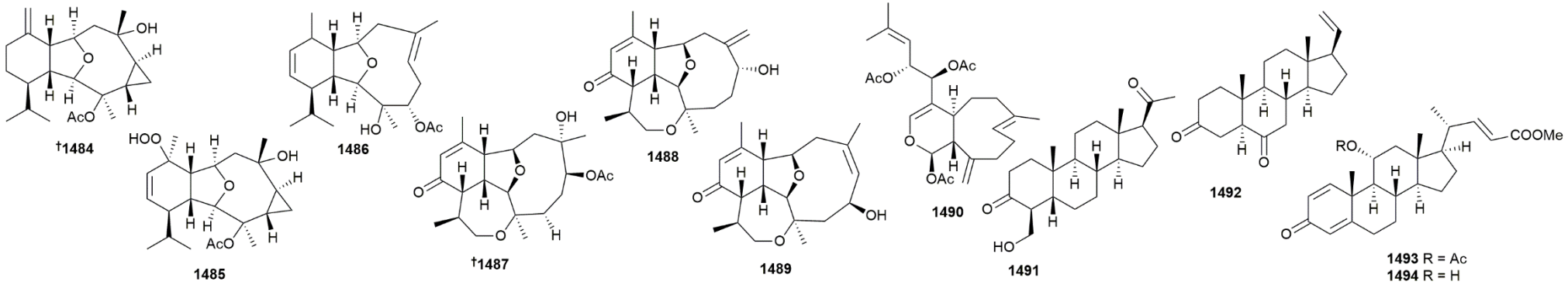
603 Cnidaria *Junceella fragilis* // Orchid Island, Taiwan // New 8-hydroxybriaranes from the gorgonian coral *Junceella fragilis* (Ellisellidae)
1472 // N // fragilide R // no AI activ.
1473 // N // fragilide S // no AI activ.
1474 // N // fragilide T // no AI activ.

604 Cnidaria *Junceella fragilis* // South Bay, Kenting, Taiwan // Fragilides U–W: new 11,20-epoxybriaranes from the sea whip gorgonian coral *Junceella fragilis*
1475 // N // fragilide U // IA
1476 // N // fragilide V // IA
1477 // N // fragilide W // weak inhib. iNOS expression.

605 Cnidaria *Cladiella* sp.// Penghu Archipelago, Taiwan // Cladieunicellin T, a new eunicellin-based diterpenoid produced by the octocoral *Cladiella* sp
1478 // N // cladieunicellin T // IA *vs* 4 HTCLs.

606 Cnidaria *Cladiella* sp.// Penghu Archipelago, Taiwan // New bioactive $\Delta^{11(17)}$-furanoeunicellins from an octocoral *Cladiella* sp.
1479 // N // cladieunicellin U // IA *vs* 2 HTCLs.
1480 // N // cladieunicellin V // Strutcure previous prop. for sclerophytin A. IA *vs* 2 HTCLs.
1481 // R // sclerophytin A // Revised struct. IA *vs* 2 HTCLs.

607 Cnidaria *Cladiella* sp.// Penghu Archipelago, Taiwan // Novel secoeunicellins produced by an octocoral *Cladiella* sp
1482 // N // cladieunicellin W // IA
1483 // N // cladieunicellin X // weak inhib. superoxide generation and elastase release.



608 Cnidaria *Klyxum flaccidum* // Ximao Island, Hainan Province, China // Klyflaccilides A and B, diterpenoids with 6/5/8/3 fused tetracyclic carbon skeleton from the Hainan soft coral *Klyxum flaccidum*

1484 // N // klyflaccilide A // X-ray. IA *vs* HTCL, no AI activ.

1485 // N // klyflaccilide B // NT

1486 // N // klyflaccilin A // X-ray. IA *vs* HTCL, no AI activ.

609 Cnidaria *Briareum violaceum* // Jihui Fish Port, Taitung, Taiwan // Briarenones A–C, new briarellin diterpenoids from the gorgonian *Briareum violaceum*

1487 // N // briarenone A // X-ray. IA *vs* HTCL, no AI activ.

1488 // N // briarenone B // IA *vs* HTCL, no AI activ.

1489 // N // briarenone C // IA *vs* HTCL, no AI activ.

610 Cnidaria *Xenia* sp.// Mengalum Island, Sabah, Malaysia // 12-*Epi*-9-deacetoxyxenicin, new cytotoxic diterpenoid from a Bornean soft coral, *Xenia* sp.

1490 // N // 12-epi-9-deacetoxyxenicin // weak cytotox. *vs* S1T, IA *vs* fungi.

571 Cnidaria *Subergorgia suberosa* // Sanya Bay, Hainan province, China // Two novel sesquiterpenes and a new pregnane derivative from the South China Sea gorgonian *Subergorgia suberosa*

1491 // N // 4- hydroxymethyl-5β-pregnan-3, 20-dione // NT

611 Cnidaria *Dendronephthya mucronata* // Phu Quoc Island, Kien Giang, Vietnam // Steroids from *Dendronephthya mucronata* and their inhibitory effects on lipopolysaccharide-induced NO formation in RAW264.7 cells

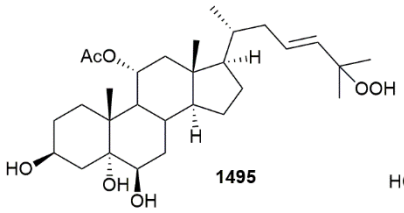
1492 // N // 5-α-pregn-20-en-3,6-dione // No NO prodn. inhib.

612 Cnidaria *Dendronephthya* sp.// Northeast coast of Taiwan // New 1,4-dienonesteroids from the octocoral *Dendronephthya* sp.

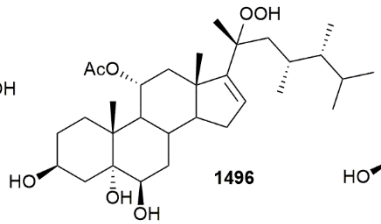
1493 // N // dendronesterone D // weak inhib. iNOS expression.

1494 // N // dendronesterone E // IA

7 Cnidarian



1495



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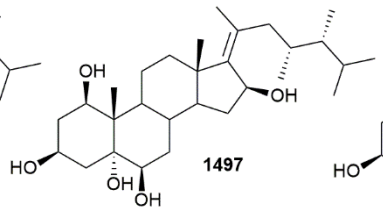

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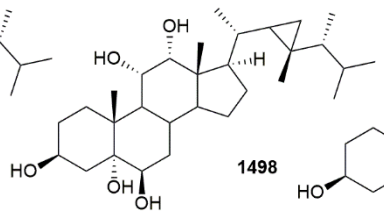

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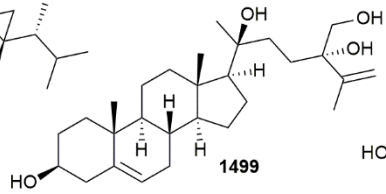

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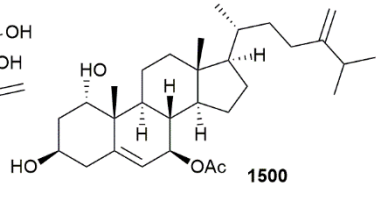


1500

613 Cnidaria *Lobophytum* sp.// Weizhou Island, Guangxi Autonomous Region, China // Cytotoxic polyhydroxylated steroids from the South China Sea soft coral *Lobophytum* sp.

1495 // N // lobophysterol A // IA *vs* 4 HTCLs.

1496 // N // lobophysterol B // IA *vs* 4 HTCLs.

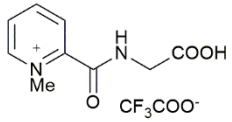
1497 // N // lobophysterol C // IA *vs* 4 HTCLs.

1498 // N // lobophysterol D // IA *vs* 4 HTCLs.

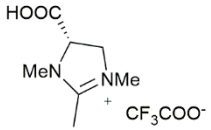
614 Cnidaria *Sinularia* sp.// Xisha Island, South China Sea // New cytotoxic ergostane-type sterols from the Chinese soft coral *Sinularia* sp.

1499 // N // (24*S*)-ergosta-5,25-diene-3β,20,24,28-tetrol // IA *vs* 5 HTCLs.

1500 // N // 1α,3β-dihydroxyergosta-5,24(28)-dien-7β-yl acetate // IA *vs* 5 HTCLs.

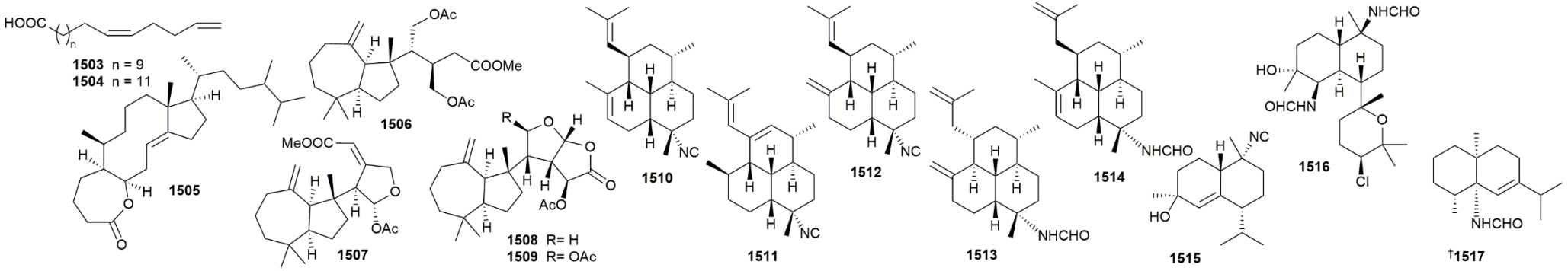


1501



†1502

633 Bryozoa *Amathia lamourouxi* // Korora Beach, N.S.W., Australia // Two new betaines from the Australian bryozoan *Amathia lamourouxi*
1501 // N // lamouroic acid trifluoroacetate // *
1502 // N // lamourimidazolinium trifluoroacetate // *



635 Mollusca *Cellana toreuma* // Otsuchi Bay, Iwate, Northeastern Japan. // Identification and total synthesis of two previously unreported odd-chain bis-methylene-interrupted fatty acids with a terminal olefin that activate protein phosphatase, Mg^{2+}/Mn^{2+}-dependent 1A (PPM1A) in ovaries of the limpet *Cellana toreuma*

1503 // N // (12*Z*)-12,16-heptadecadienoic acid // weak PPM1A activation, IA *vs* HL60.

1504 // N // (14*Z*)-14,18-nonadecadienoic acid // weak PPM1A activation, IA *vs* HL60.

641 Mollusca *Babylonia spirata* // Neendakara, Kollam, Kerala State, India // First report of a lactonic disecosteroid from the buccinid gastropod *Babylonia spirat*

1505 // N // 1,10:8,9-disecoergosta-8-en-A-homo-6a-oxa-1-one // No anti-inflam.

644 Mollusca *Goniobranchus geometricus* // Mooloolaba, Queensland, Australia // Elucidation of relative and absolute configurations of highly rearranged diterpenoids and evidence for a putative biosynthetic intermediate from the Australian nudibranch *Goniobranchus geometricus*

1506 // R // (+)-secoshahamin // Rel. stereochem corrected. NT

1507 // N // (−)-shahamin L // NT

1508 // N // (−)-15-desacetoxy-12-acetoxydendrillolide A // NT

1509 // R // 12-acetoxydendrillolide A // C-15 corrected. NT

646 Mollusca *Phyllidia coelestis* // Hainan Island, China // Amphilectene diterpene isonitriles and formamido derivatives from the Hainan nudibranch *Phyllidia coelestis*

1510 // N // (1*R**,3*S**,4*R**,7*S**,8*R**,12*R**, 13*S**)-7-isocyanoamphilecta-10,14-diene // NT

1511 // N // (3*R**,4*R**,7*S**,8*R**,11*R**,12*S**,13*S**)-7-isocyanoamphilecta-1,14-diene // NT

1512 // N // (1*R**,3*S**, 4*R**,7*S**,8*R**,12*R**,13*S**)-7-isocyanoamphilecta-11(20),14-diene // NT

1513 // N // (1*S**,3*S**,4*R**,7*S**,8*R**,12*S**,13*S**)-7-formamidoamphilecta-11(20),15-diene // NT

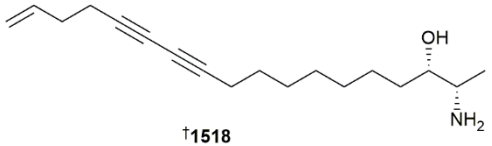
1514 // N // (1*R**,3*S**,4*R**,7*S**,8*R**,12*R**,13*S**)-7-formamido amphilecta-10,14-diene // NT

647 Mollusca *Phyllidiella pustulosa*, Porifera *Acanthella cavernosa* // Xidao Island, Hainan Province, China // Cytotoxic nitrogenous terpenoids from two South China Sea nudibranchs *Phyllidiella pustulosa*, *Phyllidia coelestis*, and their sponge-prey *Acanthella cavernos*a

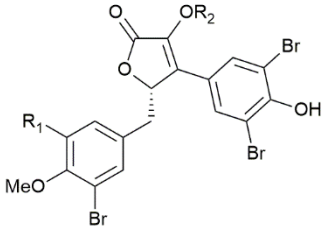
1515 // N // xidaoisocyanate A // NT

1516 // N // bisformamidokalihinol A // From dietary sponge.

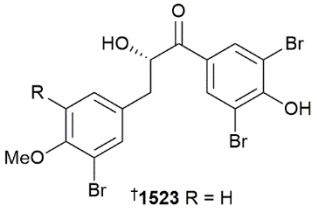
1517 // R // axiriabiline A // Abs config. from X-ray. Revised previous TDDFT-ECD.



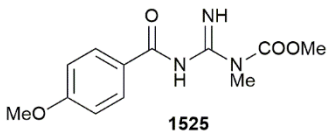
†**1518**



†**1519** $R_1 = R_2 = H$
†**1520** $R_1 = Br, R_2 = H$
†**1521** $R_1 = H, R_2 = Me$
†**1522** $R_1 = Br, R_2 = Me$



†**1523** R = H
†**1524** R = Br



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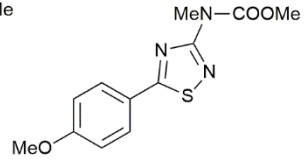
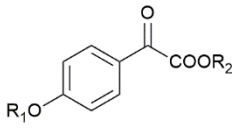


1526

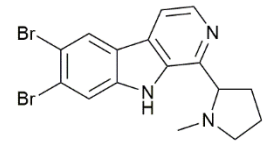


1527 $R_1 = Me, R_2 = Et$
1528 $R_1 = H, R_2 = Me$

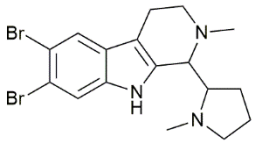
660 Chordata *Pseudodistoma cereum* // Princes Island, Three Kings islands, Northland, New Zealand // An acetylenic lipid from the New Zealand ascidian *Pseudodistoma cereum*: exemplification of an improved workflow for determination of absolute configuration of long-chain 2-amino-3-alkanols
1518 // N // distaminolyne B // New method det. AC of 2-amino-3-alcohols

661 Chordata *Polycarpa procera* // Coffs Harbour, New South Wales, Australia // Anti-prion butenolides and diphenylpropanones from the Australian ascidian *Polycarpa procera*
1519 // N // procerolide A // Anti-prion activ. 23-67 µM.
1520 // N // procerolide B // Anti-prion activ. 23-67 µM.
1521 // N // procerolide C // Anti-prion activ. 23-67 µM.
1522 // N // procerolide D // Anti-prion activ. 23-67 µM.
1523 // N // procerone A // Anti-prion activ. 23-67 µM.
1524 // N // procerone B // Anti-prion activ. 23-67 µM.

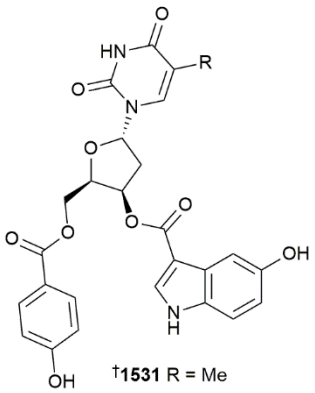
662 Chordata *Polycarpa aurata* // Siladen, Indonesia // Chemical investigation of the Indonesian tunicate *Polycarpa aurata* and evaluation of the effects against *Schistosoma mansoni* of the Novel Alkaloids Polyaurines A and B
1525 // N // polyaurine A // Inhib. protozoal egg prodn.
1526 // N // polyaurine B // NT
1527 // N // $C_{11}H_{12}O_4$ // NT
1528 // N // $C_9H_8O_4$ // NT



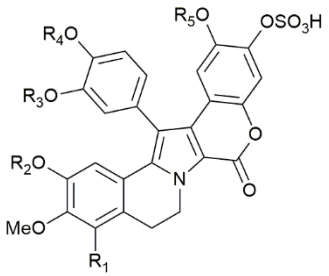
1529



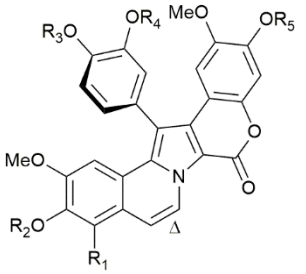
1530



†**1531** R = Me
1532 R = H



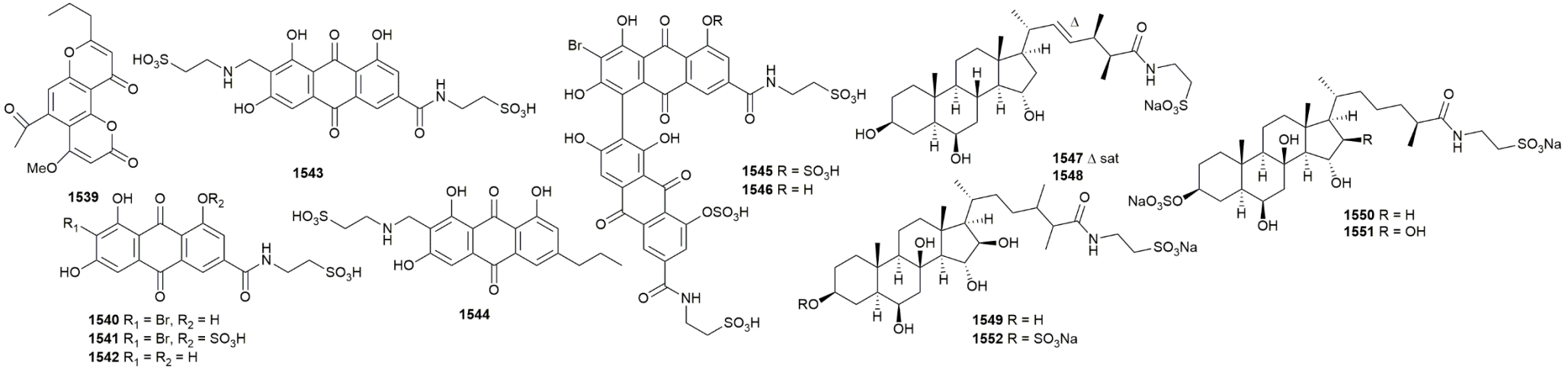
1533 R_1= OH, R_2 = R_3 = R_5 = Me, R_4 = H
1538 R_1= R_2 = R_3 = R_5 = H, R_4 = Me



†**1534** R_1= OH, R_2 = R_3 = Me, R_4 = H, R_5 = SO_3H, Δ sat
†**1535** R_1= R_3 = H, R_2 = R_4 = Me, R_5 = SO_3H, Δ sat
†**1536** R_1= R_3 = H, R_2 = R_4 = Me, R_5 = SO_3H
†**1537** R_1= R_3 = R_5 = H, R_2 = SO_3H, R_4 = Me

663 Chordata *Eudistoma* sp., Chordata *Pseudodistoma* sp.// Tavarua, Fiji Islands // LC-HRMS-database screening metrics for rapid prioritization of samples to accelerate the discovery of structurally new natural products
1529 // N // eudistomin Z1 // NT
1530 // N // eudistomin Z2 // NT
1531 // N // Tavarua deoxyriboside A // NT
1532 // N // Tavarua deoxyriboside B // NT

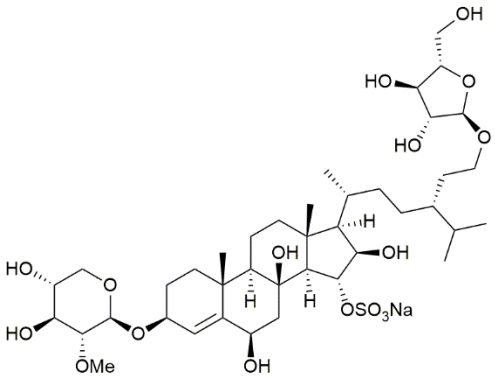
664 Chordata *Didemnum ternerratum* // Eua, Kingdom of Tonga // Lamellarin sulfates from the Pacific tunicate *Didemnum ternerratum*
1533 // N // lamellarin K-20-sulfate // IA *vs* HTCL.
1534 // N // lamellarin E-20-sulfate // IA *vs* HTCL.
1535 // N // lamellarin A3-20-sulfate // IA *vs* HTCL.
1536 // N // lamellarin B1-20-sulfate // IA *vs* HTCL.
1537 // N // lamellarin D-8-sulfate // weak cytotox. HCT116
1538 // N // lamellarin B2-20-sulfate // IA *vs* HTCL.



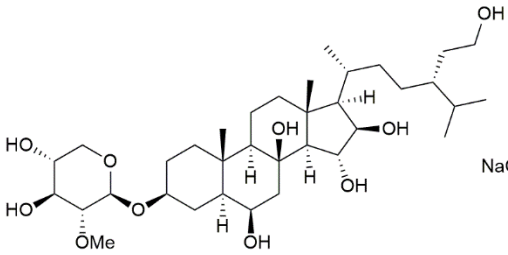
674 Echinodermata *Capillaster multiradiatus* // Torres Strait, Queensland, Australia // Capillasterin A, a novel pyrano[2,3-f]chromene from the Australian crinoid *Capillaster multiradiatus*
1539 // N // capillasterin A // HIV-1 IA

675 Echinodermata *Hypalocrinus naresianus* // Shima Spur, Kumano-nada Sea, Japan // Hypalocrinins, taurine-conjugated anthraquinone and biaryl pigments from the deep sea crinoid *Hypalocrinus naresianus*
1540 // N // hypalocrinin A // IA *vs* 4 HTCLs.
1541 // N // hypalocrinin B // NT
1542 // N // hypalocrinin C // NT
1543 // N // hypalocrinin D // NT
1544 // N // hypalocrinin E // NT
1545 // N // hypalocrinin F // NT
1546 // N // hypalocrinin G // NT

676 Echinodermata *Asterias microdiscus* // Eastern part of the Chukchi Sea (Arctic Ocean) // Six new polyhydroxylated steroids conjugated with taurine, microdiscusols A-F, from the Arctic starfish *Asterias microdiscus*
1547 // N // microdiscusol A // NT
1548 // N // microdiscusol B // NT
1549 // N // microdiscusol C // NT
1550 // N // microdiscusol D // NT
1551 // N // microdiscusol E // NT
1552 // N // microdiscusol F // NT



1553



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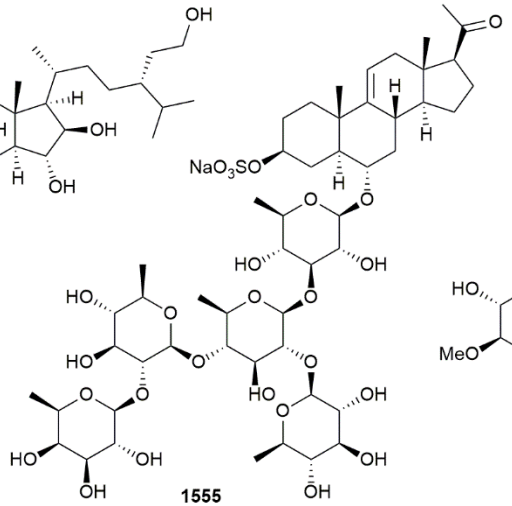

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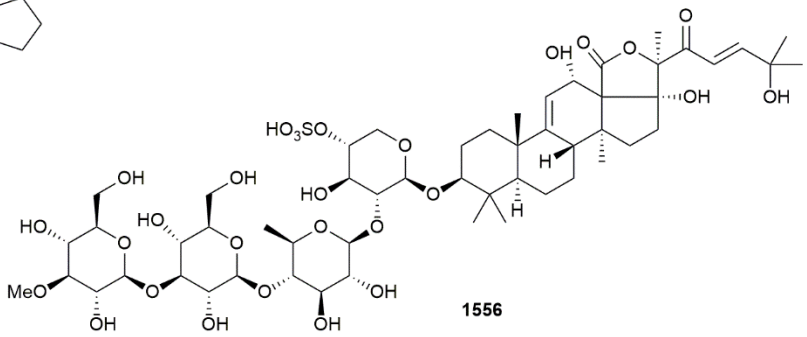


1556

677 Echinodermata *Choriaster granulatus* // Van Phong Bay, South China Sea (East Sea) // Granulatosides D, E and other polar steroid compounds from the starfish *Choriaster granulatus*. Their immunomodulatory activity and cytotoxicity

1553 // N // granulatoside D // weak cytotox., immunomod.

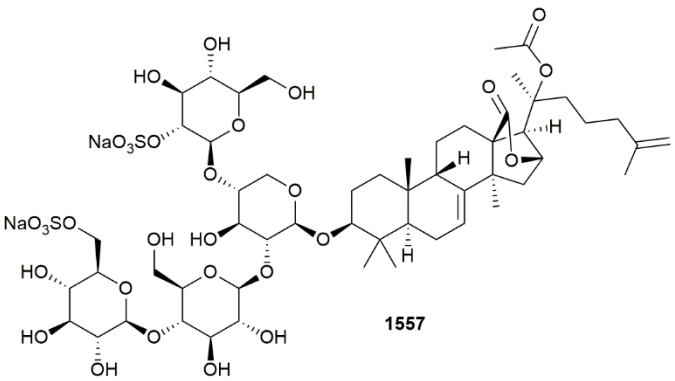
1554 // N // granulatoside E // NT

678 Echinodermata *Acanthaster planci* // Van Phong Bay near Nha Trang, Khanh Hoa province, Vietnam // Asterosaponins from the tropical starfish *Acanthaster planci* and their cytotoxic and anticancer activities *in vitro*

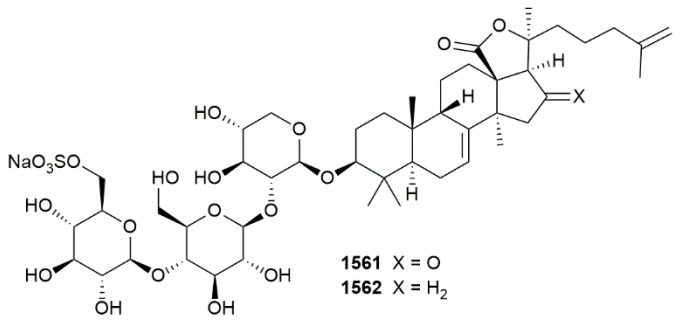
1555 // N // acanthaglycoside G // IA *vs* 3 HTCLs.

679 Echinodermata *Holothuria atra* // Persian Gulf, Iran // Molecular networking-based analysis of cytotoxic saponins from sea cucumber *Holothuria atra*

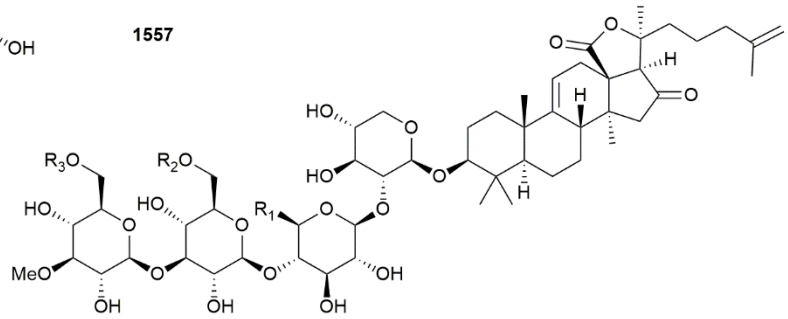
1556 // N // holothurin A5 // weak cytotox. *vs* HeLa.



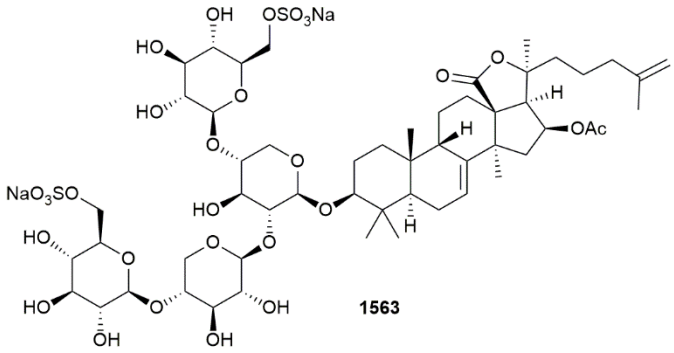
1557



1561 X = O
1562 X = H_2



1558 R_1 = Me, R_2 = SO_3Na, R_3 = H
1559 R_1 = Me, R_2 = H, R_3 = SO_3Na
1560 R_1 = CH_2OH, R_2 = H, R_3 = SO_3Na



1563

680 Echinodermata *Psolus fabricii* // Near Onekotan Island, Kurile Islands, Sea of Okhotsk // Structures and bioactivities of six new triterpene glycosides, psolusosides E, F, G, H, H_1, and I and the corrected structure of psolusoside B from the sea cucumber *Psolus fabricii*

1557 // N // psolusoside E // Haemolytic and variable cytotox.

1558 // N // psolusoside F // Haemolytic and variable cytotox.

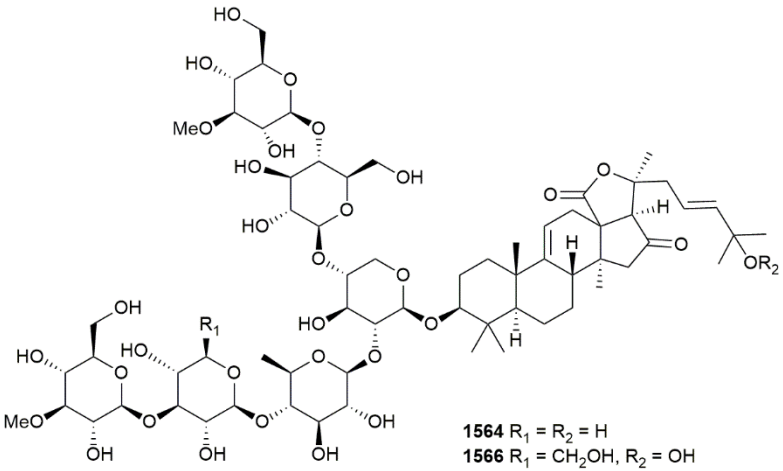
1559 // N // psolusoside G // Haemolytic and variable cytotox.

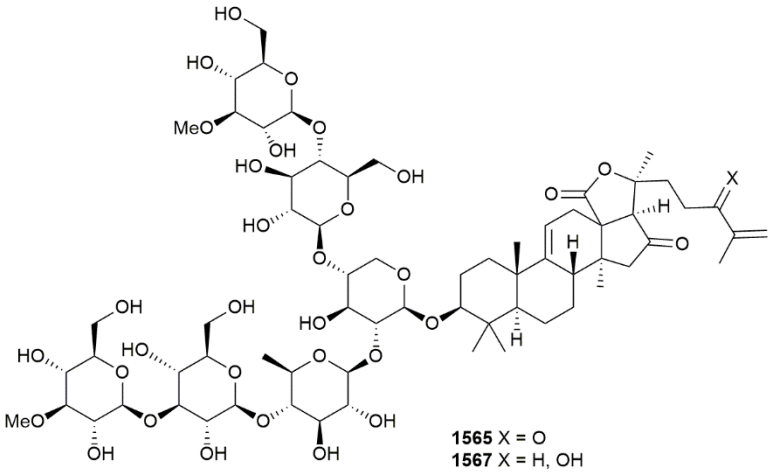
1560 // N // psolusoside H // Haemolytic and variable cytotox.

1561 // N // psolusoside H1 // Haemolytic and variable cytotox.

1562 // N // psolusoside I // Haemolytic and variable cytotox.

1563 // R // psolusoside B // additional sulfate present.





681 Echinodermata *Psolus fabricii* // Near Onekotan Island (Kurile Islands), Sea of Okhotsk // Psolusosides C_3 and D_2-D_5, five novel triterpene hexaosides from the sea cucumber *Psolus fabricii* (Psolidae, Dendrochirotida): chemical structures and bioactivities

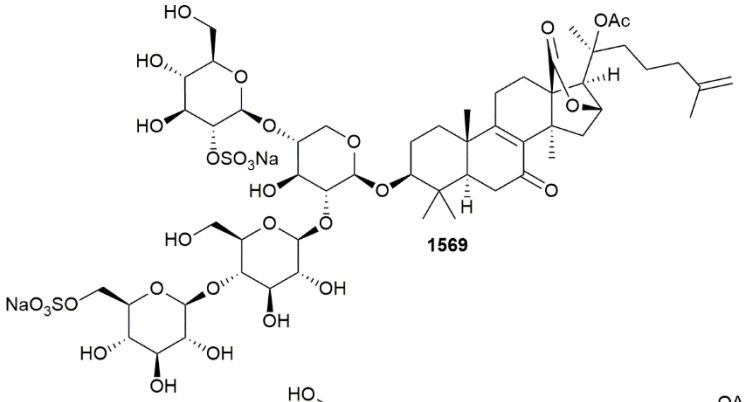
1564 // N // psolusoside C3 // Variable haemolysis and cytotox.

1565 // N // psolusoside D2 // Variable haemolysis and cytotox.

1566 // N // psolusoside D3 // Variable haemolysis and cytotox.

1567 // N // psolusoside D4 // Variable haemolysis and cytotox.

1568 // N // psolusoside D5 // Variable haemolysis and cytotox.



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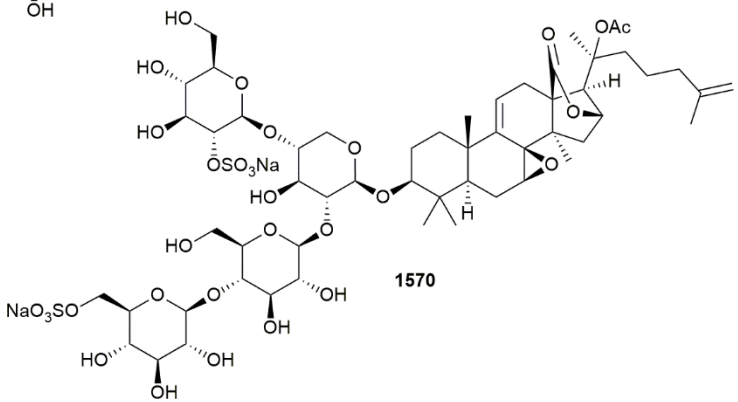

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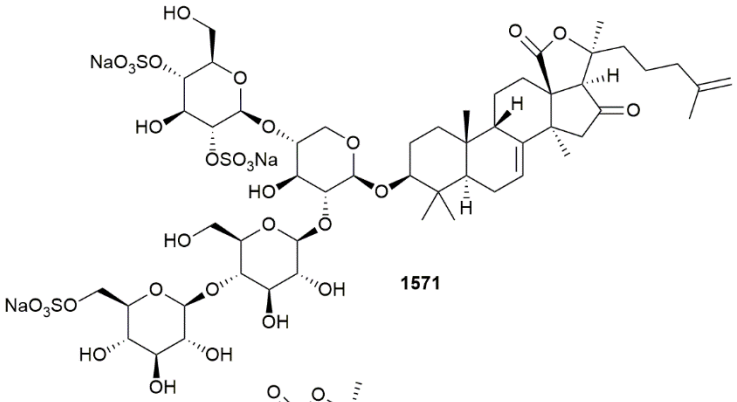

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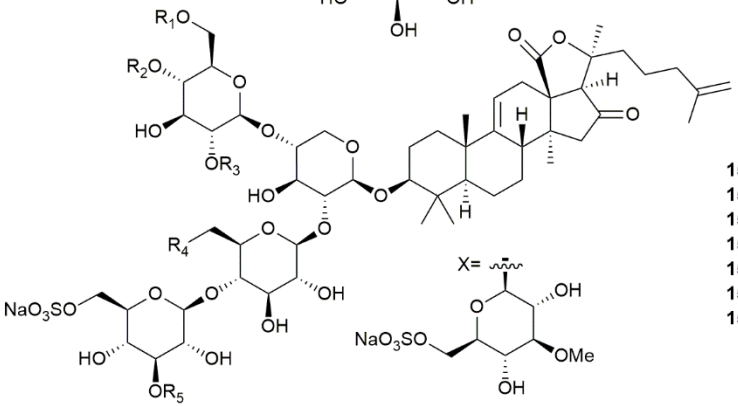
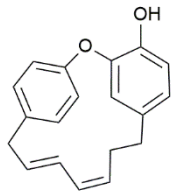


1572 $R_1 = R_3 = SO_3Na$, $R_2 = R_5 = H$, $R_4 = OH$
1573 $R_1 = SO_3Na$, $R_2 = R_3 = R_4 = H$, $R_5 = X$
1574 $R_1 = R_2 = R_4 = H$, $R_3 = SO_3Na$, $R_5 = X$
1575 $R_1 = SO_3Na$, $R_2 = R_3 = H$, $R_4 = OH$, $R_5 = X$
1576 $R_1 = R_2 = H$, $R_3 = SO_3Na$, $R_4 = OH$, $R_5 = X$
1577 $R_1 = R_2 = SO_3Na$, $R_3 = R_4 = H$, $R_5 = X$
1578 $R_1 = R_3 = SO_3Na$, $R_2 = H$, $R_4 = OH$, $R_5 = X$

682 Echinodermata *Psolus fabricii* // Near Onekotan Island (Kurile Islands), Sea of Okhotsk // Structures and bioactivities of psolusosides B_1, B_2, J, K, L, M, N, O, P, and Q from the sea cucumber *Psolus fabricii*. The first finding of tetrasulfated marine low molecular weight metabolites

1569 // N // psolusoside B1 // IA
1570 // N // psolusoside B2 // IA
1571 // N // psolusoside J // IA
1572 // N // psolusoside K // IA
1573 // N // psolusoside L // weak haemolysis and cytotox.
1574 // N // psolusoside M // IA
1575 // N // psolusoside N // IA
1576 // N // psolusoside O // IA
1577 // N // psolusoside P // IA
1578 // N // psolusoside Q // IA



1579

698 Tracheophyta *Zostera marina* // Olympiazentrum, Kiel, Germany // Cyclic diarylheptanoids deoxycymodienol and isotedarene A from *Zostera marina* (Zosteraceae)
1579 // N // isotedarene A // NT

14 Conclusion –additional figures associated with marine fungal NP analysis

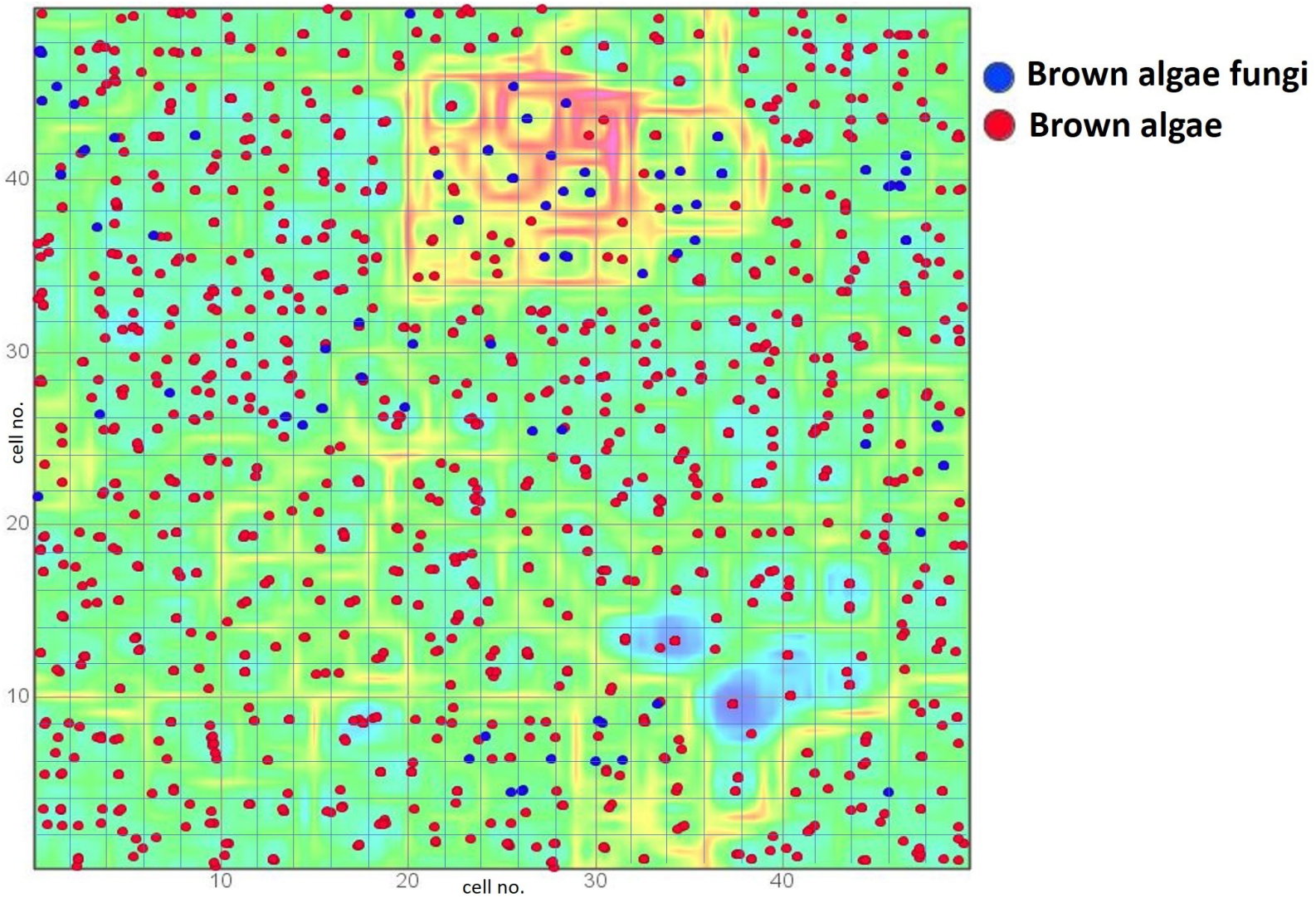


Figure S1: Chemical diversity comparison of MNPs isolated from brown algae *vs* brown algae-associated fungi using a 50 x 50 SOM

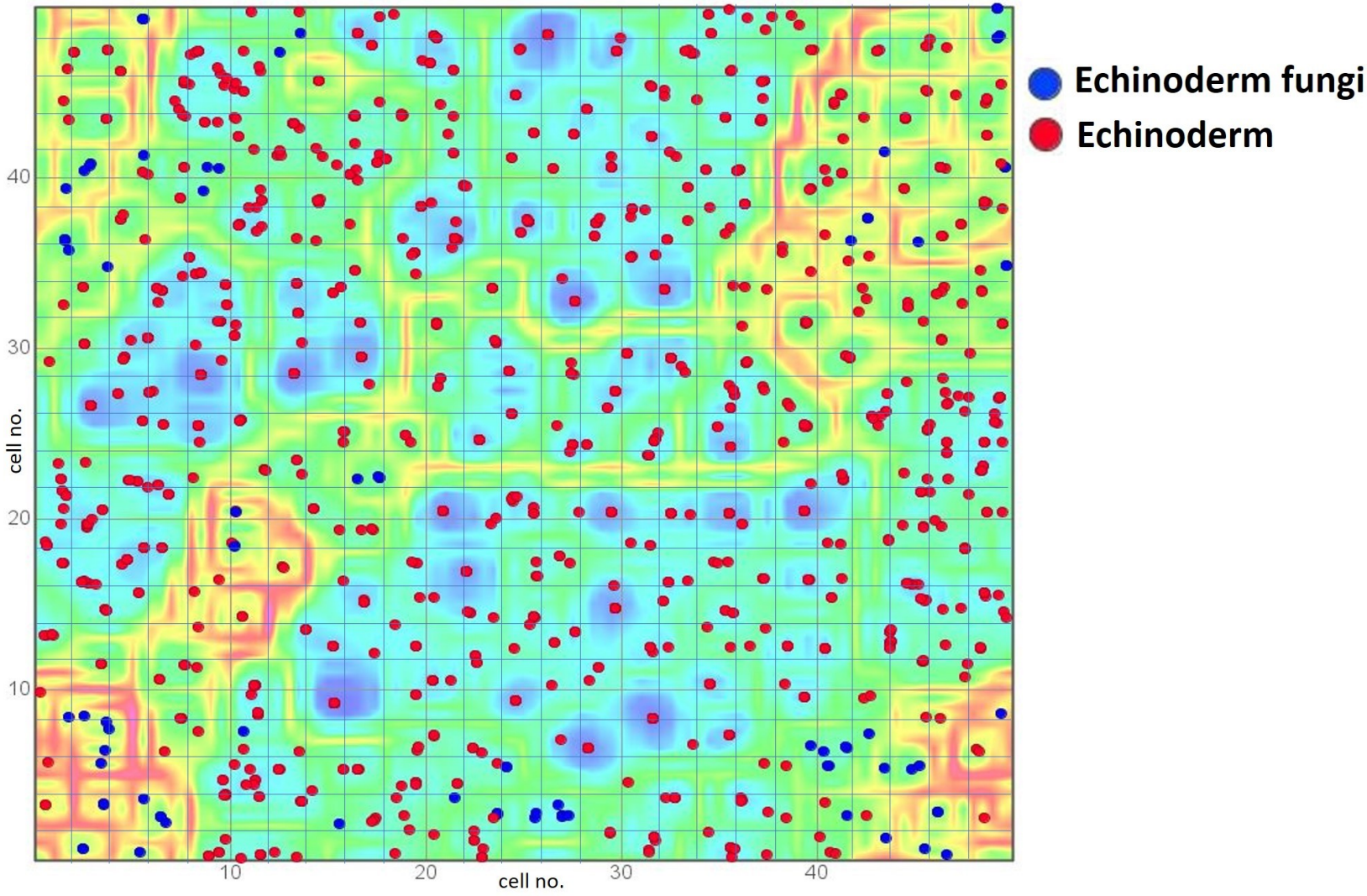


Figure S2: Chemical diversity comparison of MNPs isolated from echinoderms and echinoderm-associated fungi using a 50 x 50 SOM

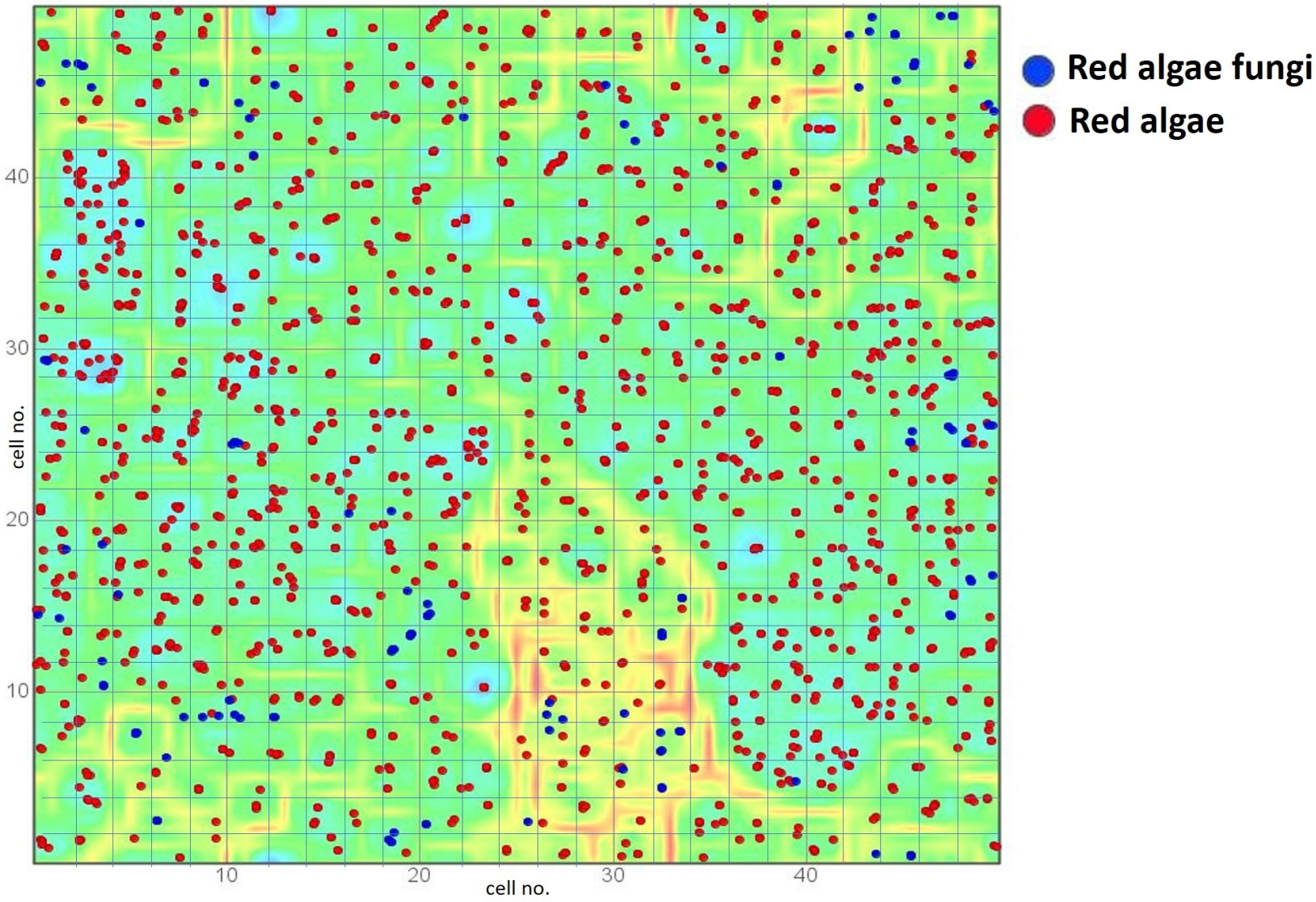


Figure S3: Chemical diversity comparison of MNPs isolated from red algae *vs* red algae-associated fungi using a 50 x 50 SOM

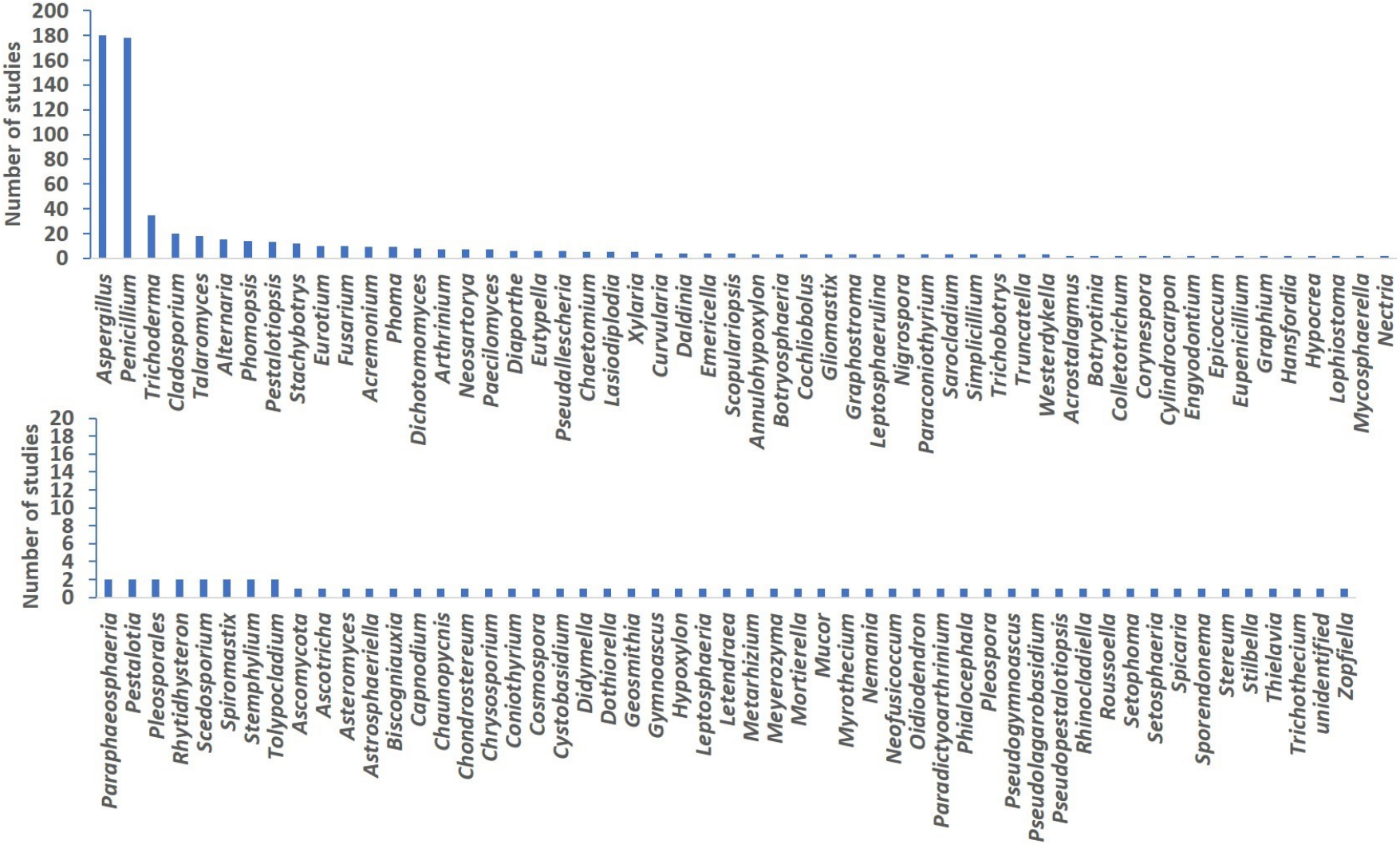


Figure S4: Number of studies undertaken on different fungal genera yielding new MNPs between 2015-2019