

[Marine natural products \(2020\) NPR code link](#)

Supplementary Information

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1 Introduction

In the main Review document, only the structures of a selection of highlighted compounds are shown. However, *all* structures are available for viewing, along with names, taxonomic origins, locations, biological activities and other information in this Supplementary Information (SI) document. Each page of the SI document contains at least one array of numbered structures. The numbers are those assigned in the Review document. For structures that have their absolute configurations fully described, the compound number in the diagrams is preceded with the † symbol. Below each structural array, the relevant information for each reference and associated compounds is listed. The first line contains the **Main article reference** #, followed by **Taxonomy**, **Location** and **Article title**. Each section is separated by the // symbol. The following indented line(s) provide information about each compound referred to in the Review for that publication. This information is

provided in the following order, again separated by the // symbol (* is inserted where there are no data): **Compound number**, **Status** (**N** for a new compound; **M** for new to marine; **R** for a revision (structure, stereochemistry, stereochemical assignment etc)), **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 ChempSpider entry where available.

1.1 Abbreviations

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

abs. config.	absolute configuration	MIC	minimum inhibitory concentration
AChE	acetylcholine esterase	Mtb	<i>Mycobacterium tuberculosis</i>
activ.	activity	MptpB	<i>M. tuberculosis</i> protein tyrosine phosphatase
AB	antibacterial	mod.	moderate
ABCG2	ATP-binding cassette transporter G2	microb.	microbial, microbe
ABTS	2,2'-azino-bis(3-ethylbenzothiazoline-6-sulfonic acid	mixt.	mixture
AF	antifungal	MRSA	methicillin resistant <i>Staphylococcus aureus</i>
AI	antiinflammatory	MDR	multidrug resistance
AO	antioxidant	MTCL	mammalian tumour cell line
AV	antiviral	NRPS	nonribosomal peptide synthase
BACE 1	β -site amyloid precursor protein cleaving enzyme 1	NO	nitrous oxide
bact.	bacteria	norm.	normal
CL	cell line	nHCL	normal human cell line
COX-2	cyclooxygenase-2	nMCL	normal mammalian cell line
cytotox.	cytotoxicity/cytotoxic	NT	not tested
degrad.	degradation	ORAC	oxygen radical absorbance capacity
DPPH	2,2-diphenyl-1-picrylhydrazyl	<i>P. falciparum</i>	<i>Plasmodium falciparum</i>
ECD	electronic circular dichroism	prod.	production
enant.	enantiomer	PKC	protein kinase C
FRAP	fluorescence recovery after photobleaching	PKS	polyketide synthase
GLP	glucagon-like peptide	pot.	potent
HepB	hepatitis B	prop.	proposed
HO-01	heme oxygenase 1	purif.	purify/purified
HSP90	heat shock protein 90	PPAR	peroxisome proliferator-activated receptor
HSV-1	herpes simplex virus 1	PTP1B	protein-tyrosine phosphatase 1B
HTCL	human tumour cell line	<i>P. aeruginosa</i>	<i>Pseudomonas aeruginosa</i>
hTRPA1	human transient receptor potential subtype A1	QS	quorum sensing
hum.	human	Ras/Raf	rat sarcoma virus/rapidly accelerated fibrosarcoma
IL-1b	interleukin 1b	ROS	reactive oxygen species
IA	inactive	recept.	receptor
inhib.	inhibitor/inhibition/inhibitory	ref.	reference
insep.	inseparable	SrtA	sortase A lyase
immunomod.	immunomodulatory	SAR	structure activity relationship(s)
isol.	isolated	SOP-2	suppressor of pal-1 protein 2
ICL	isocitrate lyase	spec. rot.	specific rotation
LPS	lipopolysaccharide	<i>S. aureus</i>	<i>Staphylococcus aureus</i>
MAO	monoamine oxidase	stereochem.	stereochemistry

struct.	structure	TDP1	tyrosyl-DNA phosphodiesterase 1
synth.	synthesis/synthetic	Topo-1	topoisomerase 1
TCL	tumour cell line	5HT2B	5-hydroxytryptamine receptor 2B
TDDFT	time dependent density functional theory		

1.2 Biological activity definitions

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

Potent (pot.) activity: $IC_{50} < 100 \text{ nM}$

Moderate (mod.) activity: $IC_{50} < 1 \mu M$

Weak activity: $IC_{50} < 10 \mu M$

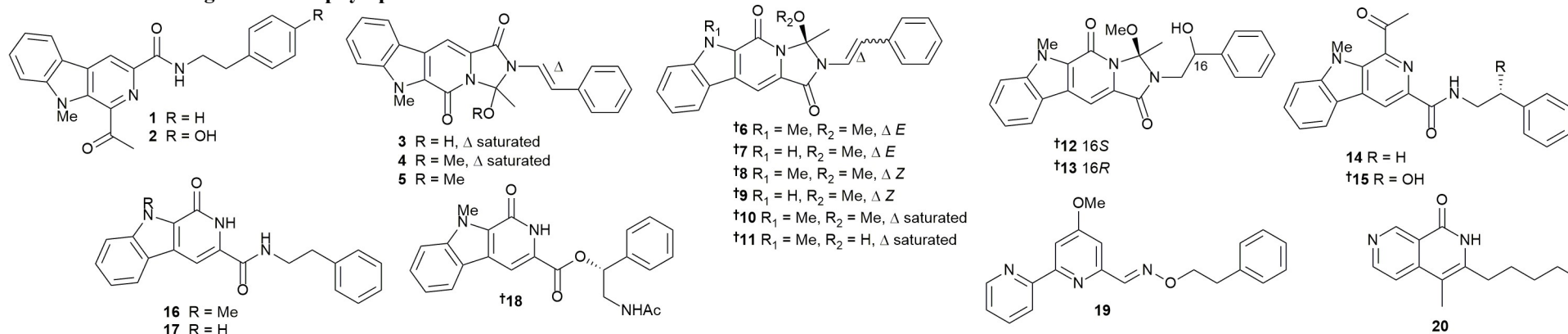
Antibacterial and antifungal activity ($MIC < 32 \mu g/ml$, $< 64 \mu M$ based on Mw 500 Da); any activity reported at a higher dose is deemed inactive (IA)

Potent (pot.) activity: $MIC < 1 \mu g/ml$

Moderate (mod.) activity: $MIC < 8 \mu g/ml$

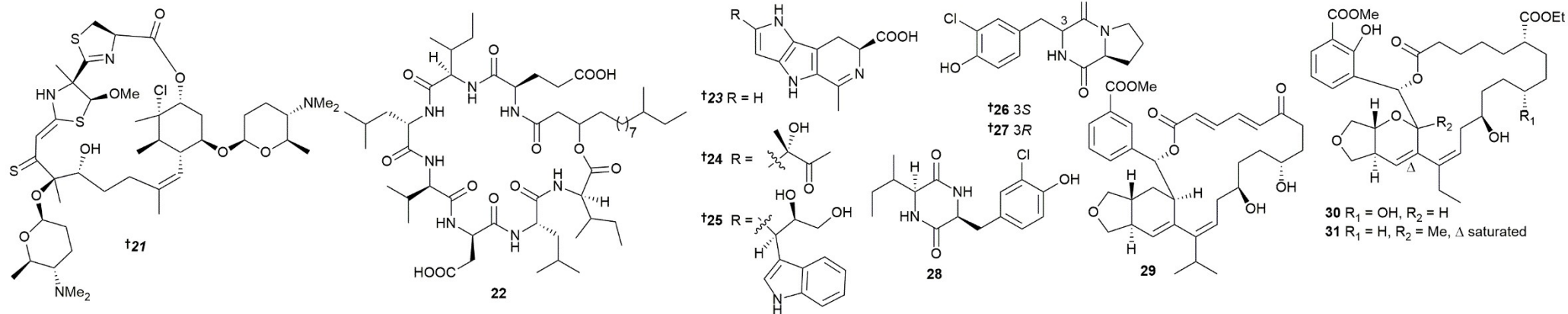
Weak activity: $MIC < 32 \mu g/ml$

2 Marine microorganisms and phytoplankton: 2.1 Marine-sourced bacteria

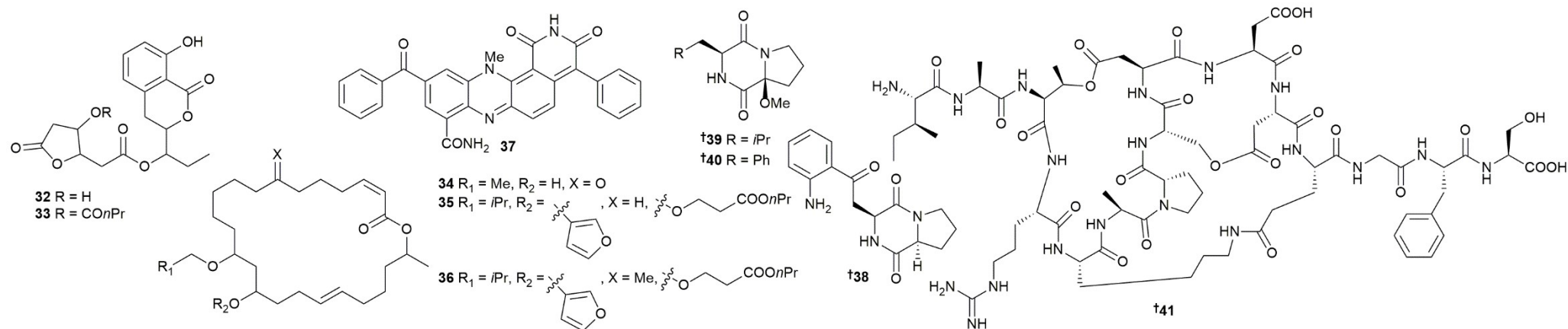


- 3 Actinobacteria *Actinoalloteichus cyaneogriseus* // * // Refactoring the concise biosynthetic pathway of cyanogramide unveils spirooxindole formation catalyzed by a P450 enzyme
 1 // N // marinacarboline E // NT; same structure as marinacarboline M in ref. 4.
 2 // N // cyanogramide B // NT; same structure as marinacarboline J in ref. 4.
 3 // N // cyanogramide C // NT; same structure as marinacarboline I in ref. 4.
 4 // N // cyanogramide D // NT; same structure as marinacarboline G in ref. 4.
 5 // N // marinacarboline F // NT; different structure assigned to marinacarboline F in ref. 4.
- 4 Actinobacteria *Actinoalloteichus* sp. // Putuo, Zhoushan, Zhejiang, China // Bioactive alkaloids from the actinomycete *Actinoalloteichus* sp. ZZ1866
 6 // N // marinacarboline E // weak cytotox. to IA vs 2 HTCLs; IA vs 3 microb. strains; different structure assigned to marinacarboline E in ref. 3.
 7 // N // marinacarboline F // IA. vs 2 HTCLs; IA vs 3 microb. strains; different structure assigned to marinacarboline F in ref. 3.
 8 // N // marinacarboline G // weak cytotox. to IA vs 2 HTCLs; IA vs 3 microb. strains; same structure assigned as cyanogramide D in ref. 3.
 9 // N // marinacarboline H // IA. vs 2 HTCLs; IA vs 3 microb. strains.
 10 // N // marinacarboline I // weak cytotox. to IA vs 2 HTCLs; IA vs 3 microb. strains; same structure assigned as cyanogramide C in ref. 3.
 11 // N // marinacarboline J // IA vs 2 HTCLs; IA vs 3 microb. strains; same structure assigned as cyanogramide B in ref. 3.
 12 // N // marinacarboline K // IA vs 2 HTCLs; IA vs 3 microb. strains.
 13 // N // marinacarboline L // IA vs 2 HTCLs; IA vs 3 microb. strains.
 14 // N // marinacarboline M // weak cytotox. to IA vs 2 HTCLs; IA vs 3 microb. strains.
 15 // N // marinacarboline N // IA vs 2 HTCLs; IA vs 3 microb. strains.
 16 // N // marinacarboline O // IA vs 2 HTCLs; IA vs 3 microb. strains.
 17 // N // marinacarboline P // IA vs 2 HTCLs; IA vs 3 microb. strains.
 18 // N // marinacarboline Q // IA vs 2 HTCLs; IA vs 3 microb. strains.
 19 // N // caerulomycin N // weak cytotox. vs 2 HTCLs; IA vs 3 microb. strains.
 20 // N // actinoallonaphthyridine A // IA vs 2 HTCLs; IA vs 3 microb. strains.

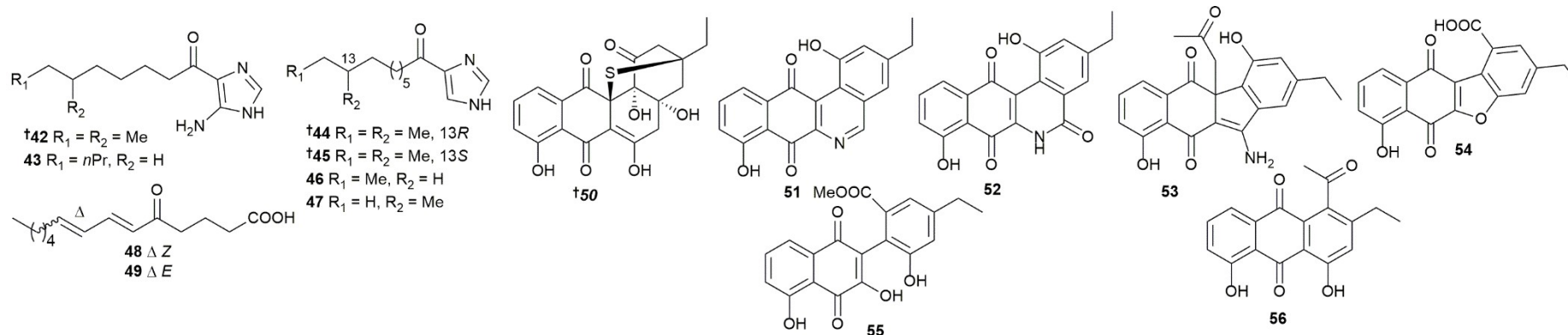
2 Marine microorganisms and phytoplankton: 2.1 Marine-sourced bacteria



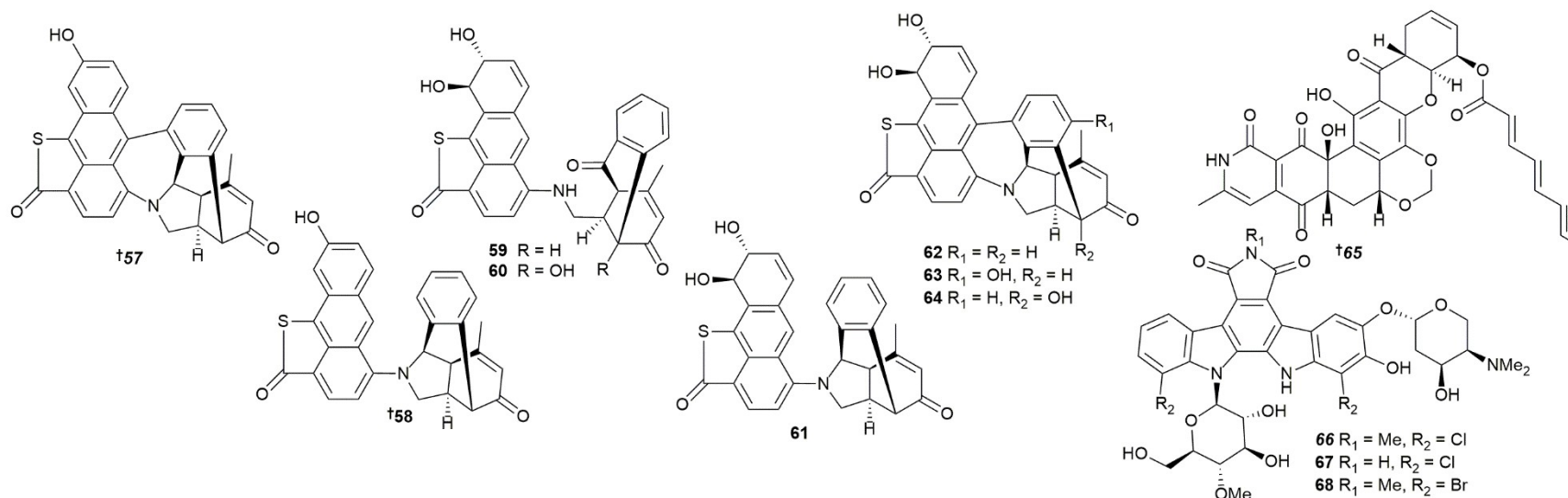
- 5 Actinobacteria *Actinomadura* sp. // * // MS-derived isotopic fine structure reveals forazoline A as a thioketone-containing marine-derived natural product
21 // R // forazoline A // NT
- 6 Firmicutes *Bacillus velezensis*, *B. amyloliquefaciens* // * // Isolation and characterization of a new cyclic lipopeptide surfactin from a marine-derived *Bacillus velezensis* SH-B74
22 // N // C₅₃H₉₃N₇O₁₃ // weak to IA vs 8 microb. strains.
- 7 Firmicutes *Bacillus subtilis* // Mariana Trench // Subtipyrrolines A–C, novel bioactive alkaloids from the Mariana Trench-associated bacterium *Bacillus subtilis* SY2101
23 // N // subtipyrroline A // IA vs 2 HTCLs; IA vs 3 microb. strains.
24 // N // subtipyrroline B // IA vs 2 HTCLs; IA vs 3 microb. strains.
25 // N // subtipyrroline C // IA vs 2 HTCLs; IA vs 3 microb. strains.
- 8 Firmicutes *Bacillus endophyticus*, *B. subtilis*, Actinobacteria *Streptomyces albidoflavus*, *Nocardiopsis aegyptia*, *S. smyrnaeus* // Is. of Milos // New chlorinated 2,5-diketopiperazines from marine-derived bacteria isolated from sediments of the eastern Mediterranean sea
26 // N // *cis*-cyclo(Pro-3-chloro-Tyr) // IA vs 2 fungal strains.
27 // N // *trans*-cyclo(Pro-3-chloro-Tyr) // IA vs 2 fungal strains.
28 // N // *cis*-cyclo(3-chloro-Tyr-Ile) // NT.
- 9 Firmicutes *Bacillus amyloliquefaciens* // Gulf of Mannar, India // Oxygenated elansolid-type of polyketide spanned macrolides from a marine heterotrophic *Bacillus* as prospective antimicrob. agents against multidrug-resistant pathogens
29 // N // methyl 1'-((2*E*,4*E*,14*E*)-9,12-dihydroxy-15-isopropyl-1,6-dioxohexadecahydro[1]oxacyclononadecino[3,4-*f*]isobenzofuranyl) benzoate // questionable structure
30 // N // (*E*)-ethyl 15-ethyl-9,12-dihydroxy-25-(2'-hydroxy-3'-(methoxycarbonyl)phenyl)-1-oxo-octadecahydro-1*H*-furopyrano[2,3-*c*]oxacyclononadecine-6-carboxylate // questionable structure
31 // N // (*E*)-ethyl 15-ethyl-12-hydroxy-25-(2'-hydroxy-3'-(methoxycarbonyl)phenyl)-24-methyl-1-oxo-icosahydro-1*H*-furopyrano[2,3-*c*]oxacyclononadecine-6-carboxylate // questionable structure



- 10** Firmicutes *Bacillus amyloliquefaciens* // Kerala, India // Aryl-enclosed polyketides from mangrove sediment associated bacterium *Bacillus amyloliquefaciens* attenuating pro-inflammatory 5-lipoxygenase
32 // N // 1-(8-hydroxy-1-oxoisochroman-3-yl)propyl 4'-(6'-hydroxy-8'-oxotetrahydrofuran-5'-yl)acetate // questionable structure
33 // N // 6'a-(3'-(1'-(8-hydroxy-1-oxoisochroman-3-yl)propoxy)-3'-oxoethyl)-8'-oxotetrahydrofuran-6'-yl butyrate // questionable structure
- 11** Firmicutes *Bacillus amyloliquefaciens* // Gulf of Mannar // Moving away from traditional antibiotic treatment: can macrocyclic lactones from marine macroalga-associated heterotrophs be the alternatives?
34 // N // C₂₆H₄₄O₅ // questionable structure.
35 // N // C₃₈H₆₂O₈ // questionable structure.
36 // N // C₃₉H₆₄O₈ // questionable structure.
- 12** Actinobacteria *Dermaococcus abyssi* // Challenger Deep, Mariana Trench // Whole genome sequence of *Dermaococcus abyssi* MT1.1 isolated from the Challenger Deep of the Mariana Trench reveals phenazine biosynthesis locus and environmental adaptation factors
37 // N // dermacozine M // NT.
- 13** Proteobacteria *Gallaecimonas mangrovi* // Haikou, Hannan, China // Three new diketopiperazines from the previously uncultivable marine bacterium *Gallaecimonas mangrovi* HK-28 cultivated by iChip
38 // N // gallaecimonamide A // IA vs 2 bact. strains; IA vs *P. falciparum* W2.
39 // N // gallaecimonamide B // IA vs 2 bact. strains; IA vs *P. falciparum* W2.
40 // N // gallaecimonamide C // IA vs 2 bact. strains; IA vs *P. falciparum* W2.
- 14** Proteobacteria *Grimontia* sp. // * // Heterologous expression of a cryptic gene cluster from *Grimontia marina* affords a novel tricyclic peptide grimoviridin
41 // N // grimoviridin // mod. to weak inhib. vs 4 proteases.

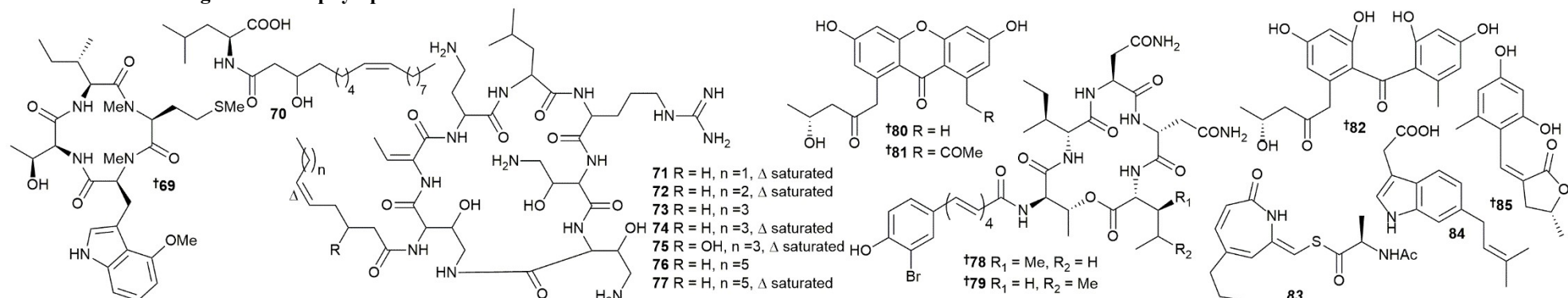


- 15 Actinobacteria *Kocuria* sp. // Jepara, Central Java, Indonesia // Nocarimidazoles C and D, antimicrob. alkanoylimidazoles from a coral-derived actinomycete *Kocuria* sp.: application of $^1J_{C,H}$ coupling constants for the unequivocal determination of substituted imidazoles and stereochemical diversity of anteisoalkyl chains in microb. metabolites
 42 // N // nocarimidazole C // mod to IA vs 7 microb. strains.
 43 // N // nocarimidazole D // mod to IA vs 7 microb. strains.
- 16 Proteobacteria *Microbulbifer* sp. // Minami-Ise, Mie, Japan // Bulbimidazoles A–C, antimicrob. and cytotoxic alkanoyl imidazoles from a marine gammaproteobacterium *Microbulbifer* species
 44 // N // (R)-bulbimidazole A // pot. activ. to IA vs 9 microb. strains; weak cytotox. vs 1 murine cell line.
 45 // N // (S)-bulbimidazole A // pot. activ. to IA vs 9 microb. strains; weak cytotox. vs 1 murine cell line.
 46 // N // bulbimidazole B // pot. activ. to IA vs 9 microb. strains; weak cytotox. vs 1 murine cell line.
 47 // N // bulbimidazole C // pot. activ. to IA vs 9 microb. strains; weak cytotox. vs 1 murine cell line.
- 17 Actinobacteria *Micrococcus* sp. // * // Two antibacterial and PPAR α / γ -agonistic unsaturated keto fatty acids from a coral-associated actinomycete of the genus *Micrococcus*
 48 // N // (6E,8Z)-5-oxo-6,8-tetradecadienoic acid // weak to IA vs 7 microb. strains; activator of PPAR α and PPAR γ transcription.
 49 // N // (6E,8E)-5-oxo-6,8-tetradecadienoic acid // weak to IA vs 7 microb. strains; activator of PPAR α and PPAR γ transcription.
- 18 Actinobacteria *Micromonospora echinospora* // S. China Sea // S-Bridged thioether and structure-diversified angucyclinone derivatives from the S. China Sea-derived *Micromonospora echinospora* SCSIO 04089
 50 // N // gephyrsulfuromycin // IA vs 3 HTCLs; IA vs 5 microb. strains.
 51 // N // homophenanthroviridone // weak cytotox. vs 3 HTCLs; mod. activ. vs 5 microb. strains.
 52 // N // homobenzo[b]phenanthridonamide // weak to IA vs 3 HTCLs; IA vs 5 microb. strains.
 53 // N // homostealthin D // IA vs 3 HTCLs; IA vs 5 microb. strains.
 54 // N // nenesfuran // IA vs 3 HTCLs; IA vs 5 microb. strains.
 55 // N // WS-5995-D // IA vs 3 HTCLs; IA vs 5 microb. strains.
 56 // N // nenesophanol // weak to IA vs 3 HTCLs; IA vs 5 microb. strains.



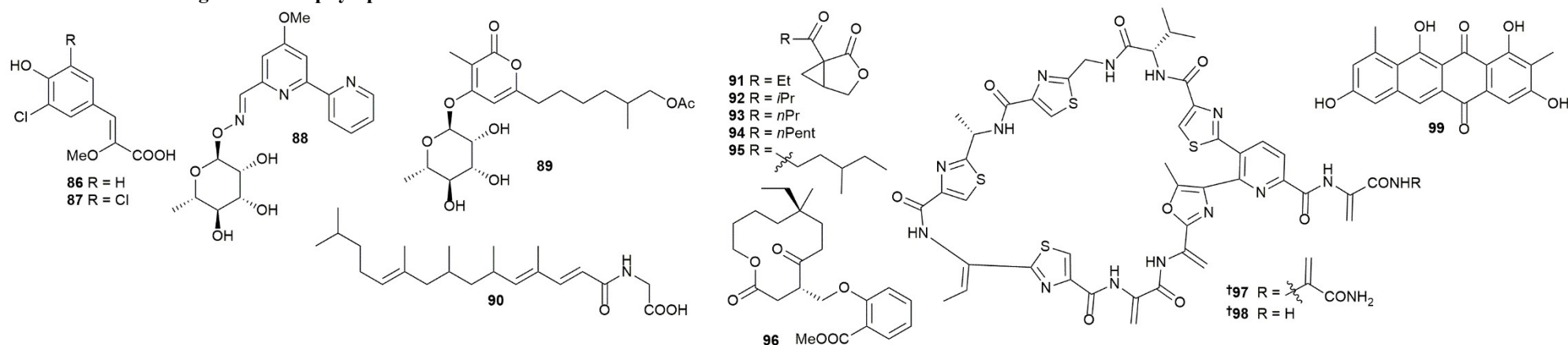
- 19** Actinobacteria *Micromonospora* sp. // Sungei Buloh Wetland Reserve, Singapore // Sungeidines from a non-canonical enediyne biosynthetic pathway
57 // N // sungeidine A // NT.
58 // N // sungeidine B // NT.
59 // N // sungeidine C // NT.
60 // N // sungeidine D // NT.
61 // N // sungeidine E // NT.
62 // N // sungeidine F // NT.
63 // N // sungeidine G // NT.
64 // N // sungeidine H // NT.
- 20** Actinobacteria *Micromonospora* sp. // near Florida Keys, USA // A marine microbiome antifungal targets urgent-threat drug-resistant fungi
65 // N // turbinmicin // pot. to weak activ. vs 39 fungal strains; *in vivo* efficacy and no toxicity in mouse model.
- 21** Actinobacteria *Nocardiopsis flavescens* // Hainan Is., China // Discovery, biosynthesis, and heterologous production of loanamycin, a potent anticancer indolocarbazole alkaloid
66 // N // loanamycin A // pot. cytotox. vs 8 HTCLs.
67 // N // loanamycin B // NT.
68 // N // loanamycin C // NT.

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- 22** Actinobacteria *Nocardiopsis* sp. // Bahamas // Androsamide, a cyclic tetrapeptide from a marine *Nocardiopsis* sp., suppresses motility of colorectal cancer cells
69 // N // androsamide // IA vs 3 HTCLs; induces apoptosis in 2 HTCLs.
- 23** Proteobacteria *Pantoea* sp. // Castello Aragonese, Ischia, Italy // Molecular network and culture media variation reveal a complex metabolic profile in *Pantoea* cf. *eucria* D2 associated with an acidified marine sponge
70 // N // (Z)-N-(3-hydroxyoctadec-9-enoyl)-L-leucine // mod. to IA vs 5 microb. strains.
- 24** Proteobacteria *Pseudoalteromonas* sp. // * // Alterins produced by oyster-associated *Pseudoalteromonas* are antibacterial cyclolipopeptides with LPS-binding activity
71 // N // alt_926 // weak activ. to IA vs 13 bact. strains.
72 // N // alt_940 // mod. activ. to IA vs 13 bact. strains.
73 // N // alt_952 // pot. activ. to IA vs 13 bact. strains.
74 // N // alt_954 // pot. activ. to IA vs 13 bact. strains.
75 // N // alt_970 // pot. activ. to IA vs 13 bact. strains.
76 // N // alt_980 // pot. activ. to IA vs 13 bact. strains.
77 // N // alt_982 // mod. activ. to IA vs 13 bact. strains.
- 25** Proteobacteria *Pseudoalteromonas* sp. // * // Hawaiian bobtail squid symbionts inhibit marine bacteria via production of specialized metabolites, including new bromoalterochromides BAC-D/D'
78 // N // bromoalterochromide D // mod. activ. to IA vs 2 bact. strains.
79 // N // bromoalterochromide D' // mod. activ. to IA vs 2 bact. strains.
- 26** Proteobacteria *Pseudomonas* sp. // Zhoushan Archipelago, Zhejiang, China // New metabolites from the marine-derived bacterium *Pseudomonas* sp. ZZ820R
80 // N // monaxanthone A // IA vs 5 HTCLs; IA vs 2 bact. strains.
81 // N // monaxanthone B // IA vs 5 HTCLs; IA vs 2 bact. strains.
82 // N // monaphenol A // IA vs 5 HTCLs; IA vs 2 bact. strains.
83 // N // monathioamide A // IA vs 5 HTCLs; IA vs 2 bact. strains.
84 // N // monaprenylindole A // IA vs 5 HTCLs; IA vs 2 bact. strains.
85 // N // monavalerolactone A // IA vs 5 HTCLs; IA vs 2 bact. strains.

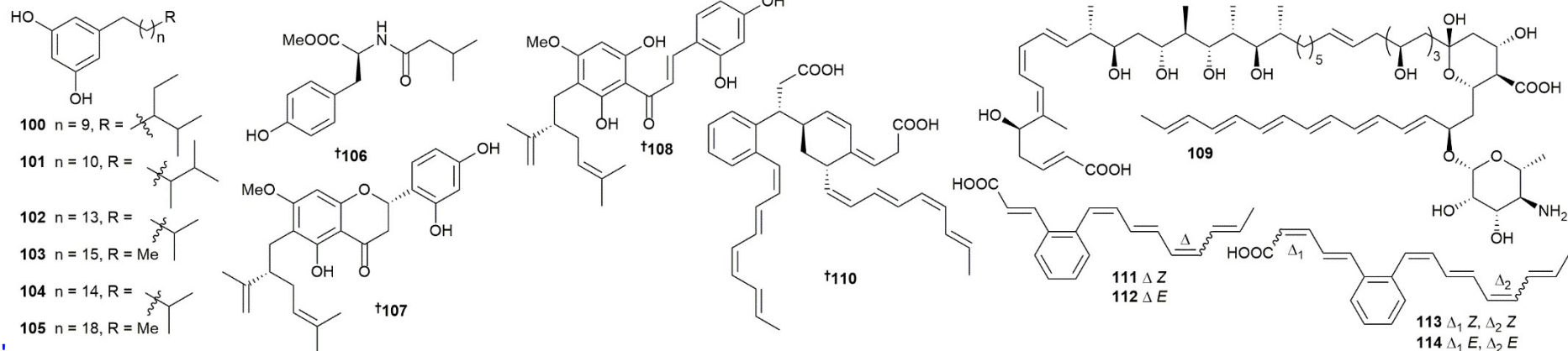
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- 27** Actinobacteria *Saccharomonospora* sp. // * // Two new secondary metabolites, saccharochlorines A and B, from a marine bacterium *Saccharomonospora* sp. KCTC-19160
86 // N // saccharochlorine A // BACE1 inhib.; IA vs bact. strains, HTCL, and MAO
87 // N // saccharochlorine B // BACE1 inhib.; IA vs bact. strains, HTCL, and MAO
- 28** Actinobacteria *Saccharothrix xinjiangensis* // Caspian Sea beach, Iran // Structurally diverse metabolites from the rare actinobacterium *Saccharothrix xinjiangensis*
88 // N // caerulomycin M // weak activ. to IA vs 5 microb. strains; IA vs 1 HTCL.
89 // N // saccharopyrone // IA vs 5 microb. strains; weak cytotox. vs 1 HTCL.
90 // N // saccharonoic acid // IA vs 5 microb. strains; IA vs 1 HTCL.
- 29** Actinobacteria *Salinispora* sp. // * // Extending the salinilactone family
91 // N // salinilactone D // NT.
92 // N // salinilactone E // NT.
93 // N // salinilactone F // weak cytotox. vs brine shrimp.
94 // N // salinilactone G // weak cytotox. vs brine shrimp.
95 // N // salinilactone H // NT.
- 30** Proteobacteria *Shewanella algae* // * // Antibacterial and antioxidant aryl-enclosed macrocyclic polyketide from intertidal macroalgae associated heterotrophic bacterium *Shewanella algae*
96 // N // 2'-[(8-ethyl-8-methyl-2,5-dioxo-1-oxacyclododecanyl)methoxy]-methyl benzoate // questionable structure
- 31** Actinobacteria *Streptomonospora* sp. // Cuxhaven, Germany // Litoralimycins A and B, new cytotoxic thiopeptides from *Streptomonospora* sp. M2
97 // N // litoralimycin A // weak cytotox. to IA vs 6 HTCLs; IA vs 11 microb. strains.
98 // N // litoralimycin B // IA vs 1 HTCLs; IA vs 11 microb. strains.
- 32** Actinobacteria *Streptomonospora* sp. // Hengam Is. // Genotyping-guided discovery of persiamycin A From sponge-associated halophilic *Streptomonospora* sp. PA3
99 // N // persiamycin A // weak activ. to IA vs 7 bact. strains; IA vs 1 HTCL.

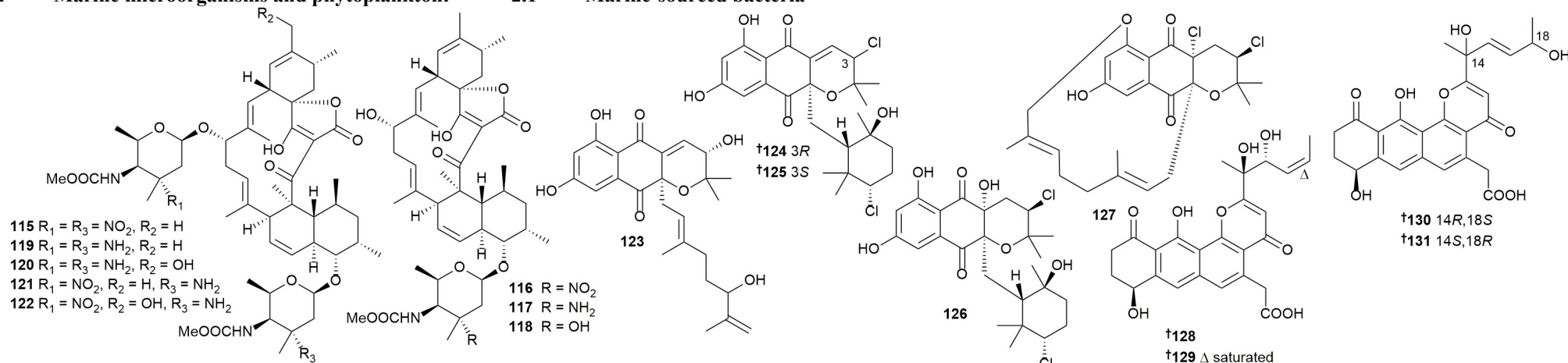
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- 33** Actinobacteria *Streptomyces blancoensis* // * // Adipostatins E-J, new potent antimicrob.s identified as inhibitors of coenzyme-A biosynthesis
100 // N // adipostatin E // mod. PPCS inhib.; mod. activ. to IA vs 11 bact. strains.
101 // N // adipostatin F // weak PPCS inhib.; mod. activ. to IA vs 11 bact. strains.
102 // N // adipostatin G // weak PPCS inhib.; mod. activ. to IA vs 11 bact. strains.
103 // N // adipostatin H // IA vs PPCS; IA vs 11 bact. strains.
104 // N // adipostatin I // weak PPCS inhib.; weak activ. to IA vs 11 bact. strains.
105 // N // adipostatin J // IA vs PPCS; IA vs 11 bact. strains.
- 34** Actinobacteria *Streptomyces* sp. // Shensi Is. (Zhejiang Province, China) // A new compound from the marine-derived *Streptomyces* sp. SS13M
106 // N // *N*-(12-methyl-10-oxobutyl)-L-tyrosine methyl ester // IA vs 2 HTCLs.
- 35** Actinobacteria *Streptomyces* sp. // Son Tra Is., Da Nang, Vietnam // Antimicrob. lavandulylated flavonoids from a sponge-derived actinomycete
107 // N // 6-lavandulyl-7-methoxy-5,2',4'-trihydroxyflavanone // weak activ. to IA vs 7 microb. strains.
108 // N // 5'-lavandulyl-4'-methoxy-2,4,2',6'-tetrahydroxylchalcone // mod. activ. to IA vs 7 microb. strains.
- 36** Actinobacteria *Streptomyces* sp. // * // Discovery, biosynthesis and antifungal mechanism of the polyene-polyol meijiemycin
109 // N // meijiemycin // weak activ. to IA vs 3 fungal strains; inhib. hyphal growth *via* ergosterol aggregation; IA vs nMCL.
- 37** Actinobacteria *Streptomyces youssoufiensis* // * // Genetic manipulation of an aminotransferase family gene *dtlA* activates youssoufenes in marine-derived *Streptomyces youssoufiensis*
110 // N // youssoufene A1 // weak activ. to IA vs 7 bact. strains.
111 // N // youssoufene B1 // IA vs 7 bact. strains.
112 // N // youssoufene B2 // IA vs 7 bact. strains.
113 // N // youssoufene B3 // IA vs 7 bact. strains.
114 // N // youssoufene B4 // IA vs 7 bact. strains.

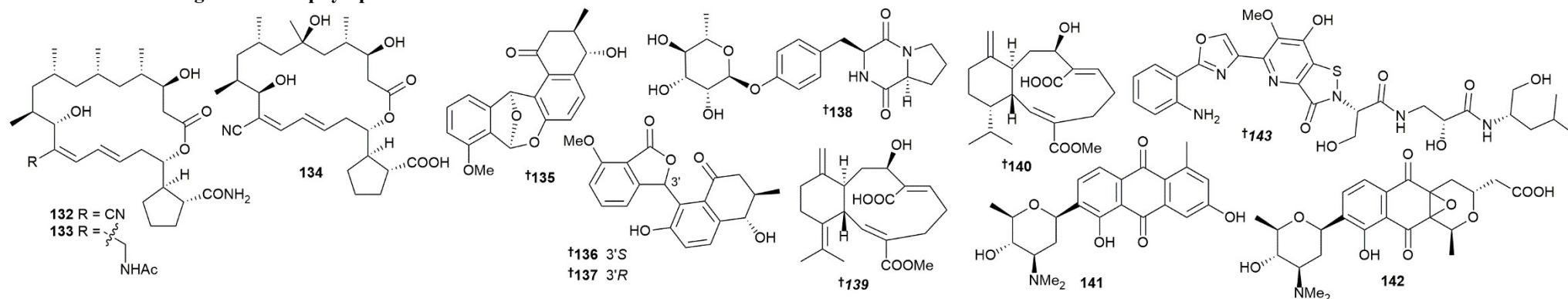
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- 38** Actinobacteria *Streptomyces* sp. // * // Heterologous expression leads to discovery of diversified lobophorin analogues and a flexible glycosyltransferase
 115 // N // lobophorin H7 // mod. activ. vs 4 bact. strains; weak cytotox. vs 4 HTCLs.
 116 // N // lobophorin H12 // mod. to weak activ. vs 4 bact. strains; weak cytotox. to IA vs 4 HTCLs.
 117 // N // lobophorin H13 // IA vs 4 bact. strains; IA vs 4 HTCLs.
 118 // N // lobophorin H14 // IA vs 4 bact. strains.
 119 // N // lobophorin H6 // IA vs 4 bact. strains; IA vs 4 HTCLs.
 120 // N // lobophorin H5 // IA vs 4 bact. strains; IA vs 4 HTCLs.
 121 // N // lobophorin H4 // mod. to weak activ. vs 4 bact. strains; IA vs 4 HTCLs.
 122 // N // lobophorin H3 // IA vs 4 bact. strains; IA vs 4 HTCLs.
- 39** Actinobacteria *Streptomyces* sp. // Baía Ana Chaves, Sao Tome // New napyradiomycin analogues from *Streptomyces* sp. strain CA-271078
 123 // N // napyradiomycin A3 // IA vs 3 microb. strains; IA vs 1 HTCL.
 124 // N // napyradiomycin B7a // mod. activ. to IA vs 5 microb. strains; IA vs 1 HTCL.
 125 // N // napyradiomycin B7b // IA vs 5 microb. strains; IA vs 1 HTCL.
 126 // M // napyradiomycin SC // mod. activ. to IA vs 5 microb. strains; IA vs 1 HTCL.
 127 // N // napyradiomycin D1 // mod. activ. to IA vs 4 microb. strains; IA vs 1 HTCL.
- 40** Actinobacteria *Streptomyces* sp. // Binzhou Shell Dike Is. and Wetland National Nature Reserve, China // Shellmycin A–D, novel bioactive tetrahydroanthra-γ-pyrone antibiotics from marine *Streptomyces* sp. shell-016
 128 // N // shellmycin A // mod. activ. to IA vs 6 microb. strains; mod. to weak cytotox. vs 4 HTCLs.
 129 // N // shellmycin B // weak activ. to IA vs 6 microb. strains; mod. to weak cytotox. vs 4 HTCLs.
 130 // N // shellmycin C // weak activ. to IA vs 6 microb. strains; weak to IA vs 4 HTCLs.
 131 // N // shellmycin D // weak activ. to IA vs 6 microb. strains; mod. to weak cytotox. vs 4 HTCLs.

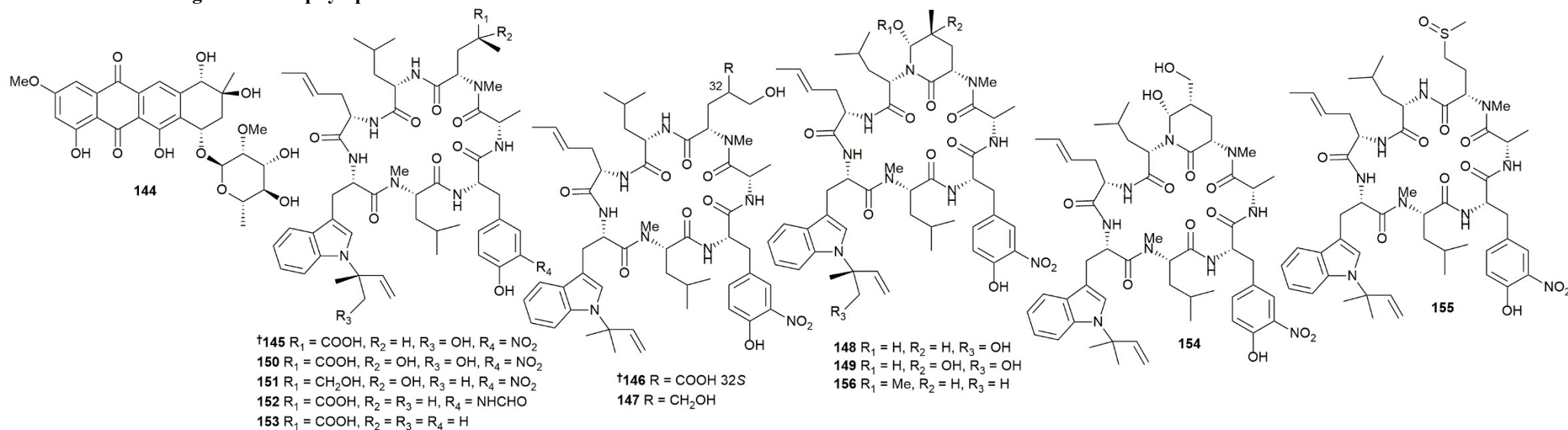
2 Marine microorganisms and phytoplankton:

2.1 Marine-sourced bacteria



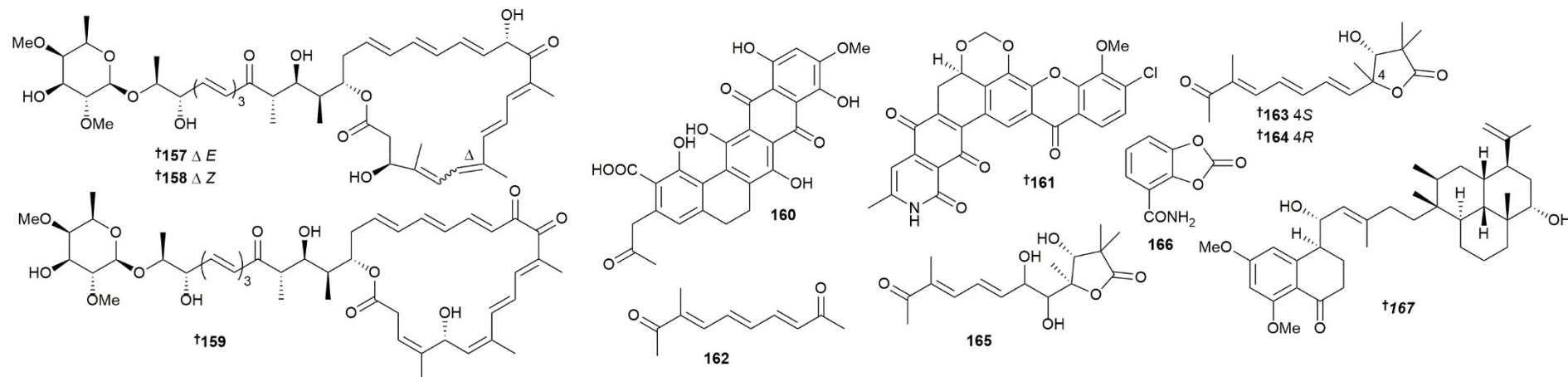
- 41** Actinobacteria *Streptomyces olivaceus* // Daya Bay, S. China Sea // New borrelidins from *Onchidium* sp. associated *Streptomyces olivaceus* SCSIO LO13
133 // N // borrelidin N // IA vs 5 bact. strains; IA vs 5 HTCLs and 2 nHCLs.
134 // N // borrelidin O // IA vs 5 bact. strains; IA vs 5 HTCLs and 2 nHCLs.
- 42** Actinobacteria *Streptomyces* sp. // * // Donghaecyclinones A–C: new cytotoxic rearranged angucyclinones from a volcanic Is.-derived marine *Streptomyces* sp.
135 // N // donghaecyclinone A // IA vs 10 microb. strains; IA vs 5 HTCLs.
136 // N // donghaecyclinone B // IA vs 10 microb. strains; weak to IA vs 5 HTCLs.
137 // N // donghaecyclinone C // IA vs 10 microb. strains; weak cytotox. vs 5 HTCLs.
- 43** Actinobacteria *Streptomyces* sp. // Zhoushan Is. Zhejiang, China // A rare diketopiperazine glycoside from marine-sourced *Streptomyces* sp. ZZ446
138 // N // maculosin-*O*- α -L-rhamnopyranoside // weak activ. to IA vs 3 microb. strains.
- 44** Actinobacteria *Streptomyces albogriseolus* // Weizhou Is., Guangxi Province, P. R. China // *Streptomyces albogriseolus* SY67903 produces eunicellin diterpenoids structurally similar to terpenes of the gorgonian *Muricella sibogae*, the bacterial source
139 // N // microeunicellol A // weak cytotox. to IA vs 6 HTCLs.
140 // N // microeunicellol B // IA vs 6 HTCLs.
- 45** Actinobacteria *Streptomyces* sp. // Shengsi Is., Zhejiang Province, China // Lactoquinomycin C and D, two new medermycin derivatives from the marine-derived *Streptomyces* sp. SS17A
141 // N // lactoquinomycin C // IA vs 2 HTCLs.
142 // N // lactoquinomycin D // IA vs 2 HTCLs.
- 46** Actinobacteria *Streptomyces* sp. // Burnt Point, PE, Canada // Discovery of an isothiazolinone-containing antitubercular natural product levesquamide
143 // N // levesquamide // weak activ. vs 3 *M. tuberculosis* strains; IA vs 4 bact. strains; IA vs 4 HTCLs.

2 Marine microorganisms and phytoplankton: 2.1 Marine-sourced bacteria



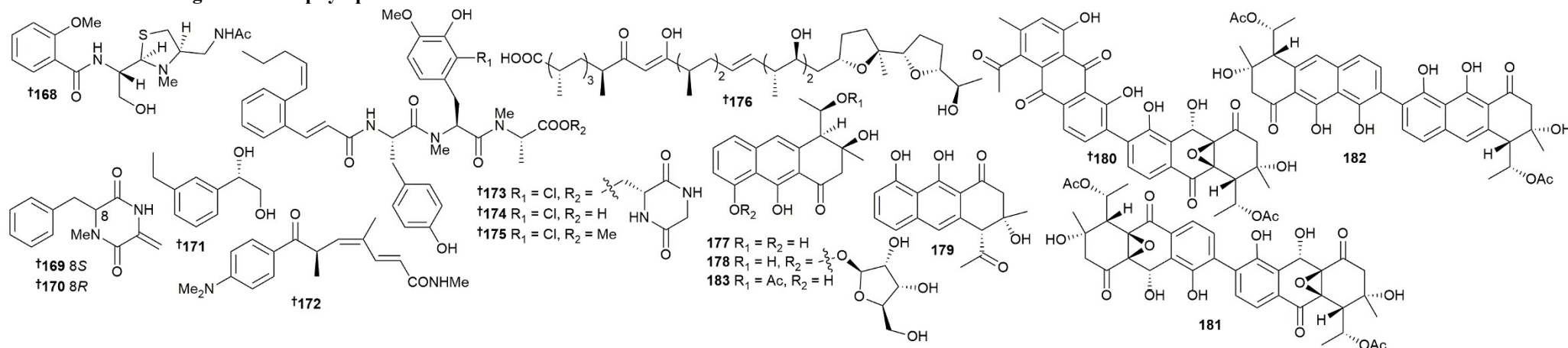
- 47** Actinobacteria *Streptomyces* sp. // * // Steffimycin E, a new anti-mycobacterial agent against *Mycobacterium avium* complex, produced by *Streptomyces* sp. OPMA02852
144 // N // steffimycin E // weak to no Mtb activ. vs 4 strains; IA vs 1 HTCL.
48 Actinobacteria *Streptomyces atratus* // S. China Sea // Antitubercular ilamycins from marine-derived *Streptomyces atratus* SCSIO ZH16 Δ ilaR
145 // N // ilamycin G // weak Mtb activ.; IA vs 5 HTCLs and 2 nHCLs.
146 // N // ilamycin H // weak Mtb activ.; IA vs 5 HTCLs and 2 nHCLs.
147 // N // ilamycin I // mod. Mtb activ.; IA vs 5 HTCLs and 2 nHCLs.
148 // N // ilamycin J // pot. Mtb activ.; IA vs 5 HTCLs and 2 nHCLs.
149 // N // ilamycin K // mod. Mtb activ.; IA vs 5 HTCLs and 2 nHCLs.
150 // N // ilamycin L // pot. Mtb activ.; IA vs 5 HTCLs and 2 nHCLs.
151 // N // ilamycin M // mod. Mtb activ.; IA vs 5 HTCLs and 2 nHCLs.
152 // N // ilamycin N // weak Mtb activ.; IA vs 5 HTCLs and 2 nHCLs.
153 // N // ilamycin O // weak Mtb activ.; IA vs 5 HTCLs and 2 nHCLs.
154 // N // ilamycin P // mod. Mtb activ.; Weak to IA vs 5 HTCLs and 2 nHCLs.
155 // N // ilamycin Q // mod. Mtb activ.; IA vs 5 HTCLs and 2 nHCLs.
156 // N // ilamycin R // mod. Mtb activ.

2 Marine microorganisms and phytoplankton: 2.1 Marine-sourced bacteria



- 49** Actinobacteria, *Streptomyces* sp. // Han River, Republic of Korea // Structures and biosynthetic pathway of pulvomycins B–D: 22-membered macrolides from an estuarine *Streptomyces* sp.
157 // N // pulvomycin B // IA vs 6 bact. strains; weak activ. to IA vs 4 fungal strains; weak to IA vs 6 HTCLs.
158 // N // pulvomycin C // IA vs 6 bact. strains; IA vs 4 fungal strains; mod. to weak cytotox. vs 6 HTCLs.
159 // N // pulvomycin D // IA vs 6 bact. strains; IA vs 4 fungal strains; mod. to weak cytotox. vs 6 HTCLs.
- 50** Actinobacteria *Streptomyces albus* // * // Novel fredericamycin variant overproduced by a streptomycin-resistant *Streptomyces albus* subsp. *chlorinus* strain
160 // N // fredericamycin C2 // weak activ. to AI vs 3 bact. strains.
- 51** Actinobacteria *Streptomyces qinglanensis* // * // Bioactive molecules from mangrove *Streptomyces qinglanensis* 172205
161 // N // 15R-17,18-dehydroxantholipin // pot. activ. to IA vs 3 microb. strains; weak cytotox. vs 2 HTCLs.
162 // N // (3E,5E,7E)-3-methyldeca-3,5,7-triene-2,9-dione // IA vs 3 microb. strains; IA vs 2 HTCLs.
163 // N // qinlactone A // IA vs 3 microb. strains; IA vs 2 HTCLs.
164 // N // qinlactone B // IA vs 3 microb. strains; IA vs 2 HTCLs.
165 // N // qinlactone C // IA vs 3 microb. strains; IA vs 2 HTCLs.
- 52** Actinobacteria *Streptomyces* sp. // Cu lao Cham, Quang Nam, Vietnam // Novel 1,3-benzodioxole from marine-derived actinomycete in East Vietnam Sea
166 // N // 1,3-benzodioxole-2-one-4-carboxylamide // IA vs 7 microb. strains; IA vs 4 HTCLs.
- 53** Actinobacteria *Streptomyces* sp. // San Salvador, Bahamas // Guanahanolide A, a meroterpenoid with a sesterterpene skeleton from coral-derived *Streptomyces* sp.
167 // N // guanahanolide A // IA vs 6 microb. strains; weak cytotox. to IA vs 3 HTCLs; IA vs 1 nMCL.

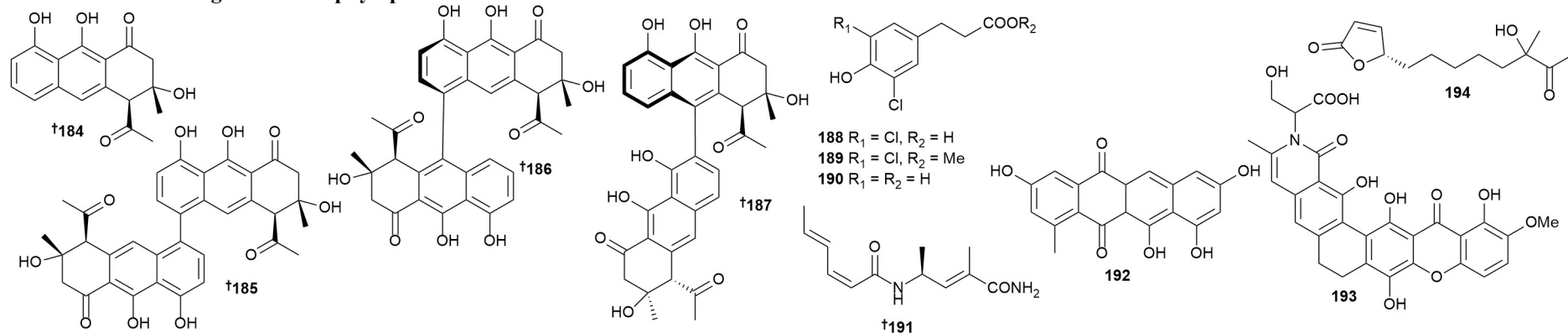
2 Marine microorganisms and phytoplankton: 2.1 Marine-sourced bacteria



- 54** Actinobacteria *Streptomyces* sp. // Mariana Trench // New antifungal metabolites from the Mariana Trench sediment-associated actinomycete *Streptomyces* sp. SY1965
168 // N // streptothiazomycin A // IA vs 3 microb. strains.
169 // N // streptodiketopiperazine A // IA vs 3 microb. strains.
170 // N // streptodiketopiperazine B // IA vs 3 microb. strains.
171 // N // (S)-1-(3-ethylphenyl)-1,2-ethanediol // IA vs 3 microb. strains.
55 Actinobacteria *Streptomyces* sp. // S. China Sea // Heterologous expression of the trichostatin gene cluster and functional characterization of *N*-methyltransferase TsnB8
172 // N // isotrichostatin RK // NT.
56 Actinobacteria *Streptomyces* sp. // Xieyang Is., Guangxi Province, China // Discovery and biosynthesis of pepticcinnamins G–M featuring three enzymes-catalyzed nonproteinogenic amino acid formation
173 // N // pepticcinnamin G // NT.
174 // N // pepticcinnamin H // NT.
175 // N // pepticcinnamin I // NT.
57 Actinobacteria // La Jolla, California, USA // Complementary genomic, bioinformatics, and chemical approaches facilitate the absolute structure assignment of ionostatin, a linear polyketide from a rare marine-derived actinomycete
176 // N // ionostatin // weak cytotox. vs 2 HTCLs.
58 Actinobacteria *Streptomyces sampsonii*, *S. albidoflavus* // Daya Bay, S. China Sea // Julichrome monomers from marine gastropod mollusc-associated *Streptomyces* and stereochemical revision of julichromes Q_{3.5} and Q_{3.3}
177 // N // julichrome Q11 // mod. activ. to IA vs 9 bact. strains.
178 // N // julichrome Q12 // mod. activ. to IA vs 9 bact. strains.
179 // M // julichrome Q10 // weak activ. to IA vs 9 bact. strains.
180 // R // julichrome Q3 · 5 // IA vs 9 bact. strains.
181 // R // julichrome Q3 · 3 // IA vs 9 bact. strains.
182 // M // julichrome Q6 · 6 // mod. to weak activ. vs 9 bact. strains.
183 // M // julichrome Q6 // weak activ. to IA vs 9 bact. strains.

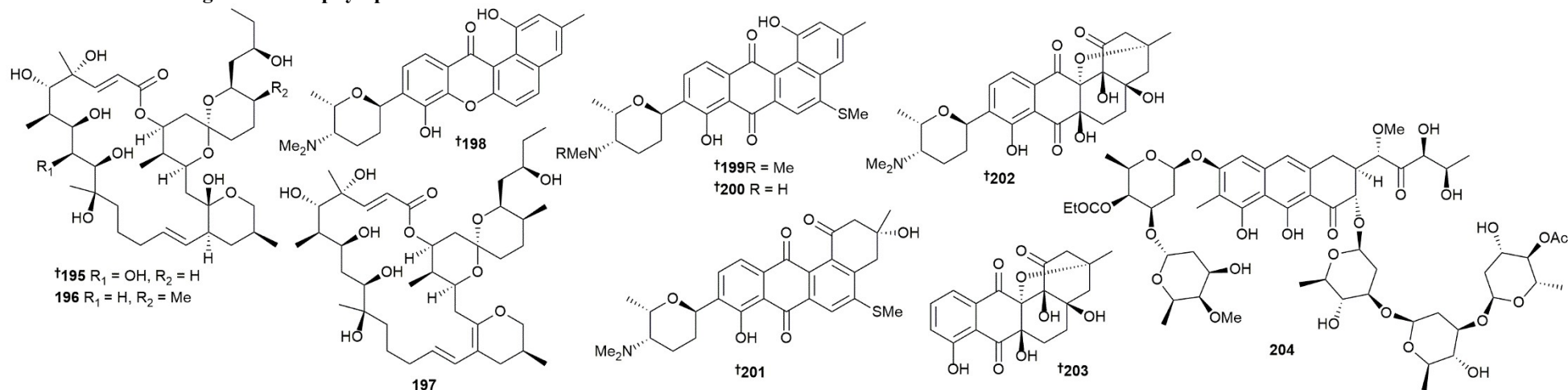
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 Compound number // Status // Compound name // Biological activity and Other information

2 Marine microorganisms and phytoplankton: 2.1 Marine-sourced bacteria



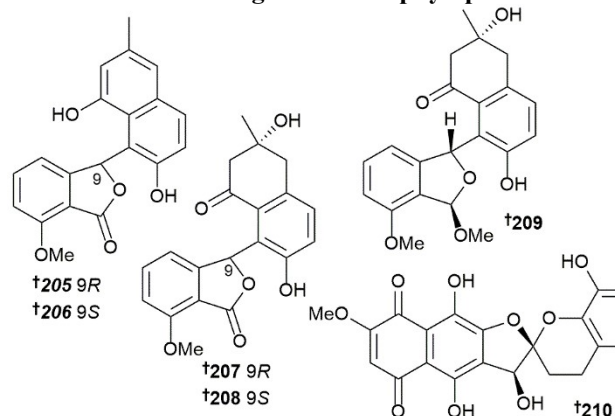
- 59** Actinobacteria *Streptomyces fumigatiscleroticus* // Paracel Is. // Dimeric tetrahydroanthracene regioisomers and their monomeric precursor produced by *Streptomyces fumigatiscleroticus* HDN10255
184 // N // 4-epi-julichrome Q10 // IA vs 4 HTCLs.
185 // N // 4-epi-julichrome Q10.10 A // IA vs 4 HTCLs.
186 // N // 4-epi-julichrome Q10.10 B // weak cytotox. to IA vs 4 HTCLs.
187 // N // 4-epi-julichrome Q10.10 C // IA vs 4 HTCLs.
- 60** Actinobacteria *Streptomyces coelicolor* // Jizan, Saudi Arabia // Antimicrob. chlorinated 3-phenylpropanoic acid derivatives from the Red Sea marine actinomycete *Streptomyces coelicolor* LY001
188 // N // 3-(3,5-dichloro-4-hydroxyphenyl)propanoic acid // weak activ. to IA vs 3 microb. strains.
189 // N // 3-(3,5-dichloro-4-hydroxyphenyl)propanoic acid methyl ester // weak activ. to IA vs 3 microb. strains.
190 // N // 3-(3-chloro-4-hydroxyphenyl)propanoic acid // weak activ. to IA vs 3 microb. strains.
- 61** Actinobacteria *Streptomyces* sp. // Jeollanam-do, S. Korea // Sarmentosamide, an anti-aging compound from a marine-derived *Streptomyces* sp. APmarine042
191 // M // sarmentosamide // MMP-1 secretion inhib.; AO activ.; IA vs 1 nHCL.
- 62** Actinobacteria *Streptomyces* sp. // Mersa Matruh city, Egypt // Mersaquinone, a new tetracene derivative from the marine-derived *Streptomyces* sp. EG1 exhibiting activity against methicillin-resistant *Staphylococcus aureus* (MRSA)
192 // N // mersaquinone // mod. activ. vs MRSA.
- 63** Actinobacteria *Streptomyces* sp. // Uki, Kumamoto Prefecture, Japan // Ukixanthomycin A: a hexacyclic xanthone from the mudflat-derived actinomycete *Streptomyces* sp.
193 // N // ukixanthomycin A // weak activ. vs 1 fungus.
- 64** Actinobacteria *Streptomyces* sp. // Strait of Georgia // Mycenolide A, new butenolide from a marine sediment-derived bacterium *Streptomyces* sp. 4054
194 // N // mycenolide A // NT.

2 Marine microorganisms and phytoplankton: 2.1 Marine-sourced bacteria

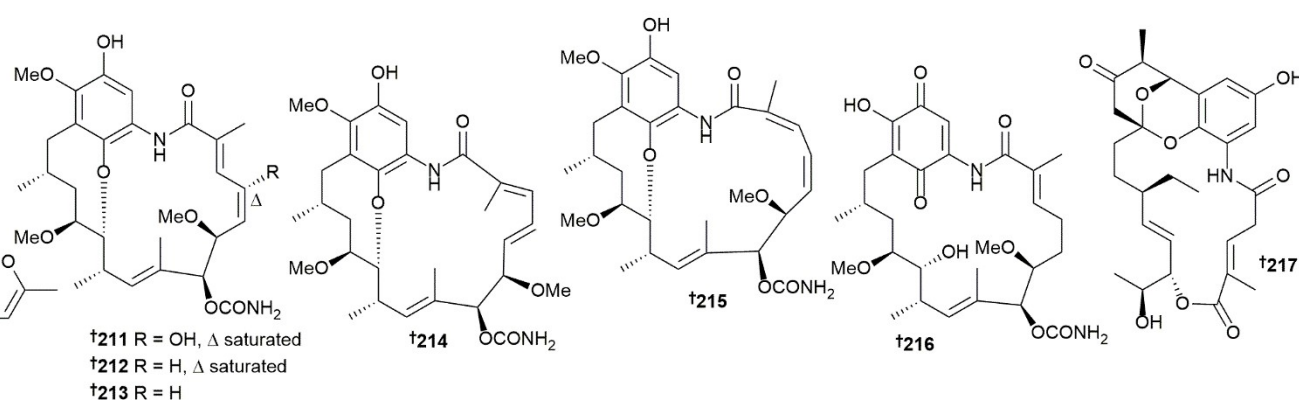


- 65** Actinobacteria *Streptomyces* sp. // Fugong village, Zhangzhou, China // Discovery of three 22-membered macrolides by deciphering the streamlined genome of mangrove-derived *Streptomyces* sp. HM190
195 // N // $C_{39}H_{66}O_{13}$ // weak cytotox. to IA vs 3 HTCLs; IA vs 3 microb. strains.
196 // N // $C_{40}H_{68}O_{12}$ // IA vs 3 HTCLs; IA vs 3 microb. strains.
197 // N // $C_{40}H_{66}O_{11}$ // IA vs 3 HTCLs; IA vs 3 microb. strains.
- 66** Actinobacteria *Streptomyces* sp. // S. China Sea // Monacyclines G–K and ent-gephyromycin A, angucycline derivatives from the marine-derived *Streptomyces* sp. HDN15129
198 // N // monacyclinone G // IA vs 8 HTCLs.
199 // N // monacyclinone H // IA vs 8 HTCLs.
200 // N // monacyclinone I // weak cytotox. to IA vs 8 HTCLs.
201 // N // monacyclinone J // weak cytotox. vs 8 HTCLs.
202 // N // monacyclinone K // IA vs 8 HTCLs.
203 // N // ent-gephyromycin A // IA vs 8 HTCLs.
- 67** Actinobacteria *Streptomyces microflavus* // * // Antibacterial activity of chromomycins from a marine-derived *Streptomyces microflavus*
204 // N // chromomycin A9 // pot. activ. to IA vs 21 microb. strains.

2 Marine microorganisms and phytoplankton:

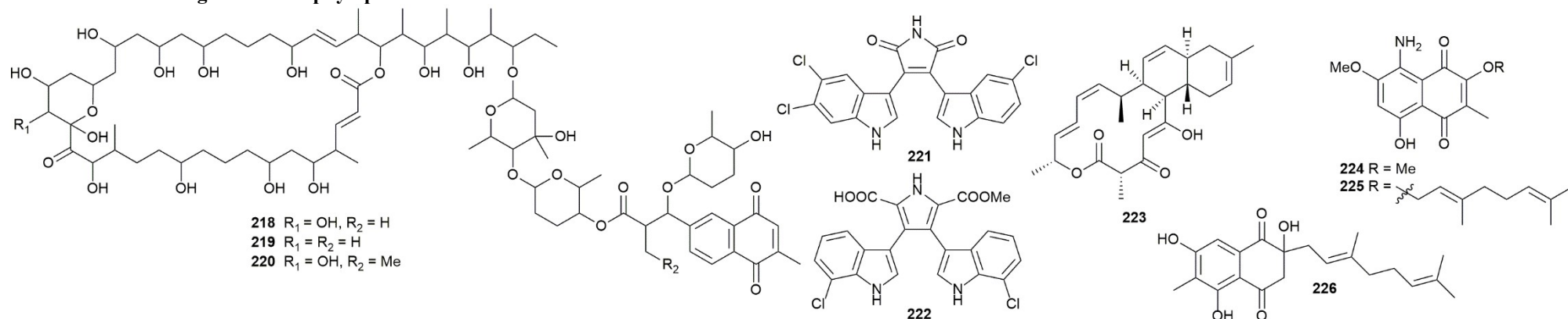


2.1 Marine-sourced bacteria



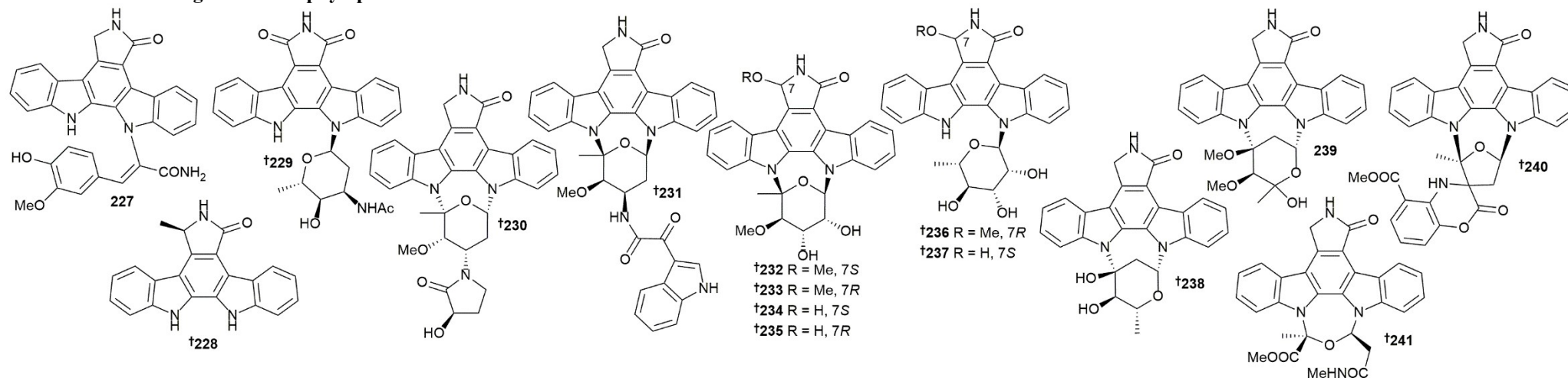
- 68** Actinobacteria *Streptomyces* sp. // Kiaochow Bay, China // Isolation, stereochemical study, and racemization of (±)-pratenone A, the first naturally occurring 3-(1-naphthyl)-2-benzofuran-1(3*H*)-one polyketide from a marine-derived actinobacterium
205 // N // (+)-pratenone A // mod. activ. to IA vs 3 microb. strains.
206 // N // (–)-pratenone A // mod. activ. to IA vs 3 microb. strains.
207 // N // furamycin I // IA vs 3 HTCLs.
208 // N // furamycin II // IA vs 3 microb. strains; IA vs 3 HTCLs.
209 // N // furamycin III // IA vs 3 HTCLs.
- 69** Actinobacteria *Streptomyces* sp. // Tambuli East, Lapu-Lapu City, Cebu, Philippines // Synergistic anti-methicillin-resistant *Staphylococcus aureus* (MRSA) activity and absolute stereochemistry of 7,8-dideoxygriseorhodin C
210 // M // 7,8-dideoxygriseorhodin C // pot. activ. to IA vs 6 microb. strains; IA vs 2 mammalian CLs.
- 70** Actinobacteria *Streptomyces* sp. // S. China Sea // Ansamycin derivatives from the marine-derived *Streptomyces* sp. SCSGAA 0027 and their cytotoxic and antiviral activities
211 // N // herbimycin G // IA vs 4 HTCLs; no HSP90 inhib.; IA vs 3 bact. strains.
212 // N // herbimycin H // IA vs 4 HTCLs; no HSP90 inhib.; IA vs 3 bact. strains.
213 // N // herbimycin I // IA vs 4 HTCLs; no HSP90 inhib.; IA vs 3 bact. strains.
214 // N // herbimycin J // IA vs 4 HTCLs; no HSP90 inhib.; IA vs 3 bact. strains.
215 // N // herbimycin K // IA vs 4 HTCLs; no HSP90 inhib.; IA vs 3 bact. strains.
216 // N // herbimycin L // NT.
217 // N // divergolide O // weak activ. vs HSV-1; IA vs 2 HTCLs.

2 Marine microorganisms and phytoplankton: 2.1 Marine-sourced bacteria



- 71** Actinobacteria *Streptomyces* sp. // Minami-Ise, Mie, Japan // Iseolides A–C, antifungal macrolides from a coral-derived actinomycete of the genus *Streptomyces*
218 // N // isolide A // mod. cytotox. vs 1 murine CL; pot. activ. to IA vs 7 microb. strains.
219 // N // isolide B // weak cytotox. vs 1 murine CL; pot. activ. to IA vs 7 microb. strains.
220 // N // isolide C // mod. cytotox. vs 1 murine CL; pot. activ. to IA vs 7 microb. strains.
- 72** Actinobacteria *Streptomyces* sp. // S. China Sea // Chlorinated bis-indole alkaloids from deep-sea derived *Streptomyces* sp. SCSIO 11791 with antibacterial and cytotoxic activities
221 // N // dionemycin // weak to IA vs 6 HTCLs; pot. to mod. activ. vs 8 bact. strains.
222 // N // 6-methoxy-7',7''-dichlorochromopyrrolic acid // weak to IA vs 6 HTCLs; mod. to no AB vs 8 strains.
- 73** Actinobacteria *Streptomyces* sp. // Miyara river, Ishigaki Is., Okinawa, Japan // 2-Epi-anthracyclin, a new cytotoxic agent from the marine-derived actinomycete *Streptomyces* sp. OPMA00631
223 // N // 2-epi-anthracyclin // IA vs 1 HTCL; weak to no AB vs 2 strains.
- 74** Actinobacteria *Streptomyces* sp. // Chile // Naphthoquinone-based meroterpenoids from marine-derived *Streptomyces* sp. B9173
224 // N // flavioigeranin B1 // weak activ. vs 2 bact. strains; IA vs 2 HTCLs.
225 // N // flavioigeranin B // weak activ. to IA vs 2 bact. strains; IA vs 2 HTCLs.
226 // N // flavioigeranin D // mod. activ. vs 2 bact. strains; mod. cytotox. vs 2 HTCLs.

2 Marine microorganisms and phytoplankton: 2.1 Marine-sourced bacteria



75 Actinobacteria *Streptomyces* sp. // Dongtou, China // Identification, structure–activity relationships of marine-derived indolocarbazoles, and a dual PKC θ / δ inhibitor with potent antipancreatic cancer efficacy

227 // N // A61-34G // PKC θ inhib. >2.5 μ g/mL.

228 // N // M1-5E // PKC θ inhib. >2.5 μ g/mL.

229 // N // 13G-31G // PKC θ inhib. >2.5 μ g/mL.

230 // N // 13G-22I // mod. PKC θ inhib., IC $_{50}$ = 0.17 μ M.

231 // N // 13G-29I // weak PKC θ inhib., IC $_{50}$ = 1.79 μ M.

232 // N // 13G-20E // PKC θ inhib. >2.5 μ g/mL.

233 // N // 13G-20F // mod. PKC θ inhib., IC $_{50}$ = 0.89 μ M.

234 // N // 13G-22F // weak PKC θ inhib., IC $_{50}$ = 2.25 μ M.

235 // N // 13G-22G // PKC θ inhib. >2.5 μ g/mL.

236 // N // A47-17E // PKC θ inhib. >2.5 μ g/mL.

237 // N // A47-17C // PKC θ inhib. >2.5 μ g/mL.

238 // N // M1-3D // PKC θ inhib. >2.5 μ g/mL.

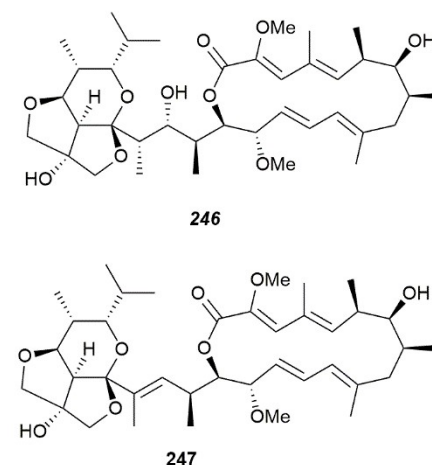
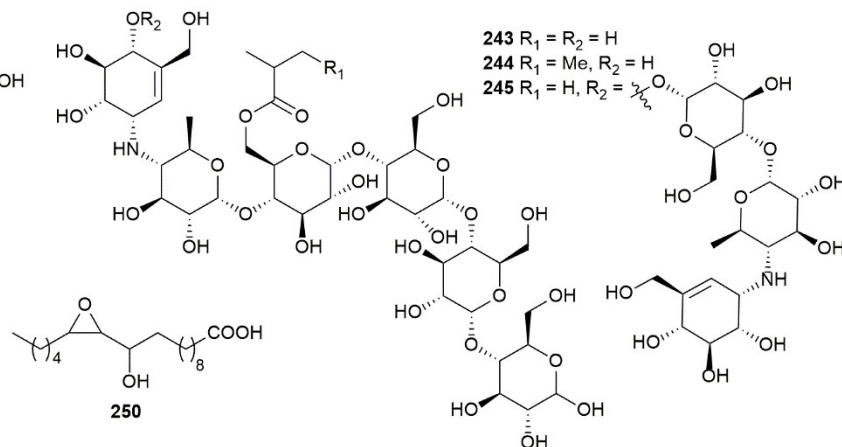
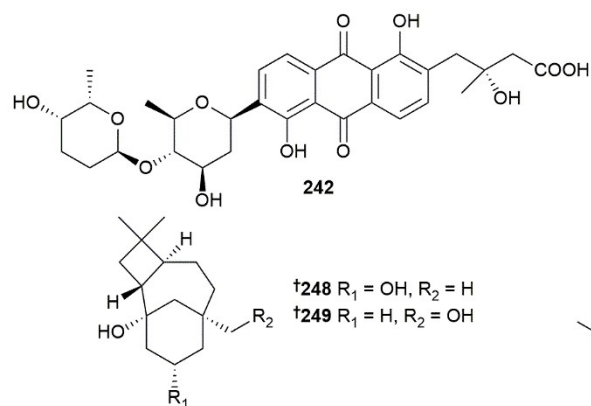
239 // N // 13G-28L // PKC θ inhib. >2.5 μ g/mL.

240 // N // 13G-28G // PKC θ inhib. >2.5 μ g/mL.

241 // N // 13G-22D // PKC θ inhib. >2.5 μ g/mL.

2 Marine microorganisms and phytoplankton:

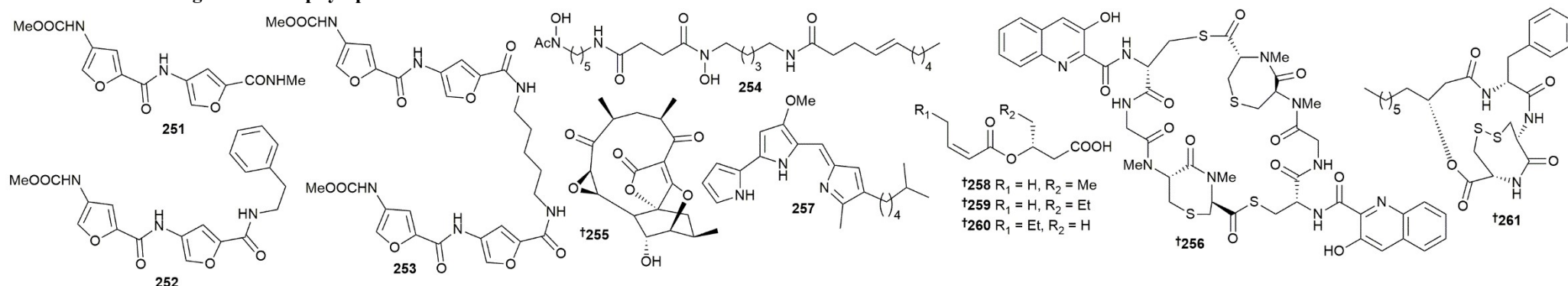
2.1 Marine-sourced bacteria



- 76** Actinobacteria *Streptomyces lusitanus* // Indian Ocean // Antibiotic angucycline derivatives from the deepsea-derived *Streptomyces lusitanus*
- 77** Actinobacteria *Streptomyces* sp. // Rizhao coastal area, Shandong Province of China // Acylated aminooligosaccharides from the Yellow Sea *Streptomyces* sp. HO1518 as both α -glucosidase and lipase inhibitors
- 243** // N // D6-*O*-isobutyryl-acarviostatin I03 // mod. inhib. vs amylase, sucrase and pancreatic lipase.
- 244** // N // D6-*O*-2-methyl-butyryl-acarviostatin I03 // mod. inhib. vs amylase, sucrase and pancreatic lipase.
- 245** // N // D6-*O*-isobutyryl-acarviostatin II03 // pot. to mod. inhib. vs amylase, sucrase and pancreatic lipase.
- 78** Actinobacteria *Streptomyces* sp. // Shensi Is., Zhejiang province, China // Cytotoxic bafilomycin analogues 6/5/5 with tricyclic ring system from a marine-derived *Streptomyces* sp
- 246** // N // bafilomycin P // IA vs 1 HTCL.
- 247** // N // bafilomycin Q // weak cytotox. vs 1 HTCL.
- 79** Actinobacteria *Streptomyces* sp. // Xisha Is., S. China Sea // Micaryolanes A and B, two new caryolane-type sesquiterpenoids from marine *Streptomyces* sp. AH25
- 248** // N // micaryolane A // IA vs 2 HTCLs; IA vs 3 bact. strains.
- 249** // N // micaryolane B // IA vs 2 HTCLs; IA vs 3 bact. strains.
- 80** Proteobacteria *Teredinibacter turnerae* // Panglao, Bohol, Philippines // Inhibition of biofilm formation by modified oxylipins from the shipworm symbiont *Teredinibacter turnerae*
- 250** // N // turneroic acid // weak bact. biofilm inhib.; IA vs 1 nMCL.

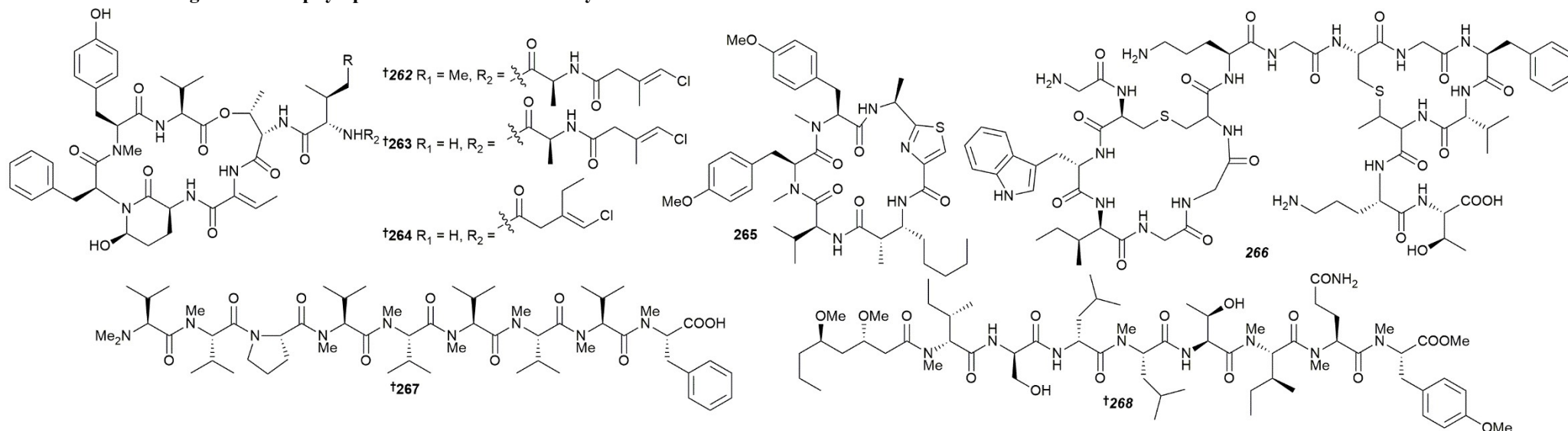
2 Marine microorganisms and phytoplankton:

2.1 Marine-sourced bacteria



- 81** Actinobacteria *Verrocosispora* sp. // * // Proximicins F and G and diproximicin A: aminofurans from the marine-derived *Verrucosispora* sp. SCSIO 40062 by overexpression of PPtase genes
251 // N // proximicin F // IA vs 4 bact. strains; IA vs 3 enzymes; IA vs 4 HTCLs.
252 // N // proximicin G // weak activ. to IA vs 4 bact. strains; IA vs 3 enzymes.
253 // N // diproximicin A // IA vs 4 bact. strains; IA vs 3 enzymes; IA vs 4 HTCLs.
- 82** Actinobacteria *Verrucosispora* sp. // * // FW0622, a new siderophore isolated from marine *Verrucosispora* sp. by genomic mining
254 // N // FW0622 // IA vs 6 microb. strains.
- 83** Actinobacteria *Verrucosispora* sp. // S. China Sea // A new abyssomicin polyketide with anti-influenza A virus activity from a marine-derived *Verrucosispora* sp. MS100137
255 // N // abyssomicin Y // weak activ. vs 1 virus; IA vs 1 HTCL.
- 84** Actinobacteria *Verrucosispora* sp. // Central West Coast of Florida // Verrucosamide, a cytotoxic 1,4-thiazepane-containing thiodepsipeptide from a marine-derived actinomycete
256 // N // verrucosamide // mod. cytotox. to IA vs NCI 60 cell line.
- 85** Proteobacteria *Vibrio* sp. // Ria Formosa lagoon, Faro, Portugal // Genomics–metabolomics profiling disclosed marine *Vibrio spartinae* 3.6 as a producer of a new branched side chain prodigiosin
257 // N // isoheptylprodigiosin // weak activ. vs 8 bact. strains.
- 86** Proteobacteria *Vibrio* sp. // * // Three new *O*-isocrotonyl-3-hydroxybutyric acid congeners produced by a sea anemone-derived marine bacterium of the genus *Vibrio*
258 // N // *O*-isocrotonyl-3-hydroxypentanoic acid // IA vs 1 rat cell line; weak active. vs 1 bact. strain.
259 // N // (*R*)-*O*-isocrotonyl-3-hydroxyhexanoic acid // IA vs 1 rat cell line; IA vs 1 bact. strain.
260 // N // *O*-(*Z*)-2-hexenoyl-3-hydroxybutyric acid // IA vs 1 rat cell line; IA vs 1 bact. strain.
- 87** Proteobacteria // * // Total synthesis and stereochemical assignment of sunshinamide and its anticancer activity
261 // R // sunshinamide // pot. to mod. cytotox. vs 4 HTCLs; mod. cytotox. vs 2 nHCL; induces apoptosis.

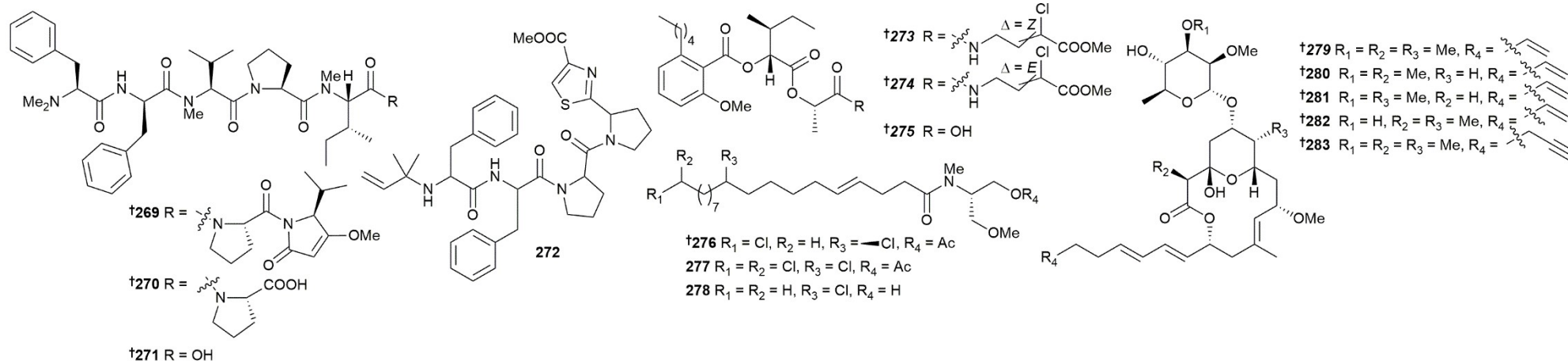
2 Marine microorganisms and phytoplankton: 2.2 Cyanobacteria



- 103** Cyanobacteria *Schizothrix* sp., *Coleofasciculus* sp. // Fagasa Bay, Tutuila, American Samoa // Tutuilamides A–C: vinyl-chloride-containing cyclodepsipeptides from marine cyanobacteria with potent elastase inhibitory properties
262 // N // tutuilamide A // pot. elastase inhib.; mod. cytotox. vs 1 HTCL.
263 // N // tutuilamide B // pot. elastase inhib.; weak cytotox. vs 1 HTCL.
264 // N // tutuilamide C // pot. elastase inhib.; weak cytotox. vs 1 HTCL.
- 104** Cyanobacteria *Moorea producens* // Tuvuca Is., Fiji // Antimalarial peptide and polyketide natural products from the Fijian marine cyanobacterium *Moorea producens*
265 // N // kakeromamide B // mod. activ. vs *P. falciparum*; weak activ. vs *P. berghei*; weak cytox. vs 2 nMCLs.
- 105** Cyanobacteria *Kamptonema* sp. // * // Landornamides: antiviral ornithine-containing ribosomal peptides discovered through genome mining
266 // N // landornamide A // mod. AV activ.
- 106** Cyanobacteria *Symploca* sp. // Kabira Bay, Okinawa, Japan // Heptavalinamide A, an extensively *N*-methylated linear nonapeptide from a cyanobacterium *Symploca* sp. and development of a highly sensitive analysis of *N,N*-dimethylvaline by LCMS
267 // N // heptavalinamide A // weak cytotox. vs 1 HTCL.
- 107** Cyanobacteria *Okeania* sp. // Iko-pier, Kuroshima Is., Okinawa Prefecture, Japan // Ikoamide, an antimalarial lipopeptide from an *Okeania* sp. marine cyanobacterium
268 // N // ikoamide // mod. activ. vs *P. falciparum*; IA vs 2 HTCLs.

2 Marine microorganisms and phytoplankton:

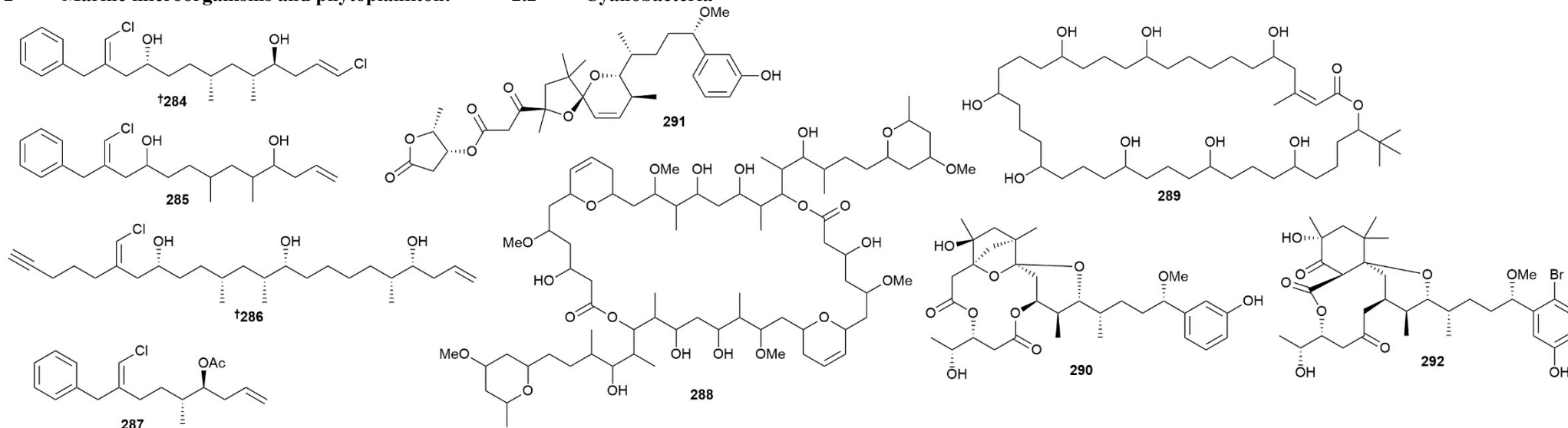
2.2 Cyanobacteria



- 108** Cyanobacteria *Dapis* sp. // Noho Is., Okinawa, Japan // Iheyamides A–C, antitrypanosomal linear peptides isolated from a marine *Dapis* sp. cyanobacterium
269 // N // iheyamide A // weak activ. vs 2 *Trypanosoma* strains; IA vs 1 nHCL.
270 // N // iheyamide B // IA vs 2 *Trypanosoma* strains; IA vs 1 nHCL.
271 // N // iheyamide C // IA vs 2 *Trypanosoma* strains; IA vs 1 nHCL.
- 109** Cyanobacteria *Limnoraphis* sp. // Puck Bay // Eighteen new aeruginosamide variants produced by the Baltic cyanobacterium *Limnoraphis* CCNP1324
272 // N // AEG671 // IA vs 1 HTCL.
- 110** Cyanobacteria *Hormoscilla* sp. // Anae Is., Guam // Discovery, total synthesis, and SAR of anaenamides A and B: anticancer cyanobacterial depsipeptides with a chlorinated pharmacophore
273 // N // anaenamide A // weak cytotox. vs 1 HTCL.
274 // N // anaenamide B // weak cytotox. vs 1 HTCL.
275 // N // anaenoic acid // IA vs 1 HTCL.
- 111** Cyanobacteria *Moorea bouillonii* // Rocky Point, Mantanani Is., Sabah, Malaysia // Biosurfactants from marine cyanobacteria collected in Sabah, Malaysia
276 // N // columbamide F // some biosurfactant activ.; IA vs 1 HTCL.
277 // N // columbamide G // IA vs 1 HTCL.
278 // N // columbamide H // IA vs 1 HTCL.
- 112** Cyanobacteria *Okeania* sp. // Irijima, Okinawa Prefecture, Japan // Irijimasides A–E, macrolide glycosides from an *Okeania* sp. marine cyanobacterium
279 // N // irijimaside A // osteoclast formation inhib.
280 // N // irijimaside B // osteoclast formation inhib.
281 // N // irijimaside C // osteoclast formation inhib.
282 // N // irijimaside D // osteoclast formation inhib.
283 // N // irijimaside E // osteoclast formation inhib.

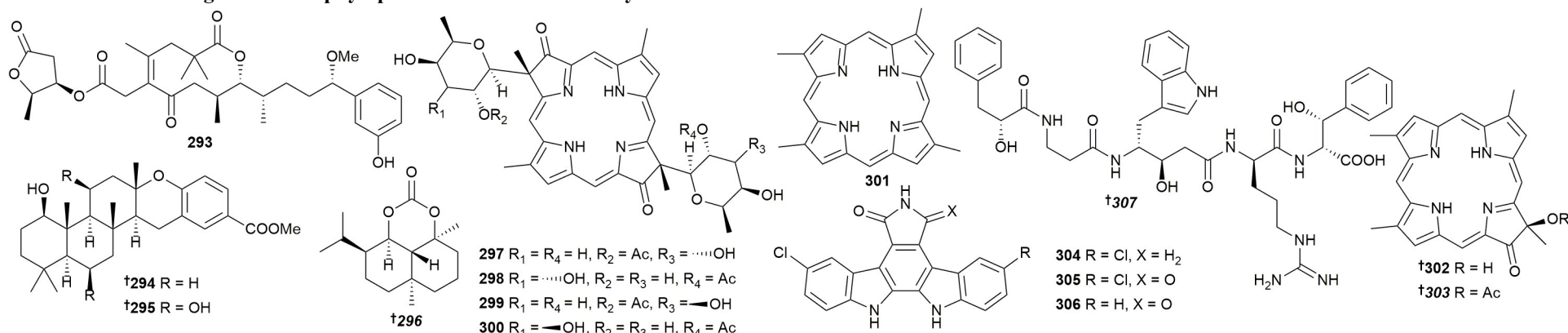
2 Marine microorganisms and phytoplankton:

2.2 Cyanobacteria



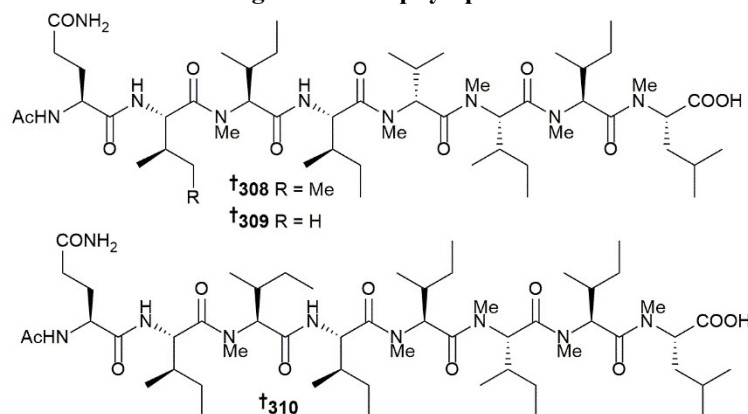
- 113** Cyanobacteria *Trichodesmium thiebautii* // Padre Is., Gulf of Mexico // Isolation of isotrichophycin C and trichophycins G–I from a collection of *Trichodesmium thiebautii*
284 // N // isotrichophycin C // IA vs mouse neuroblast cell line.
285 // N // trichophycin G // weak cytotox. vs mouse neuroblast cell line.
286 // N // trichophycin H // IA vs mouse neuroblast cell line.
287 // N // trichophycin I // NT.
- 114** Cyanobacteria *Symploca* sp. // American Samoa // A convolutional neural network-based approach for the rapid annotation of molecularly diverse natural products
288 // N // symplocolide A // weak cytotox. vs 1 HTCL.
- 115** Cyanobacteria *Leptolyngbya* sp. // Palmyra Atoll // Palstimolide A: a complex polyhydroxy macrolide with antiparasitic activity
289 // N // palstimolide A // mod. activ. vs *P. falciparum*; weak activ. vs *Leishmania donovani*; weak cytox. vs 1 nMCL.
- 116** Cyanobacteria *Lyngbya* sp. // S. China Sea // Chemical and biological study of novel aplysiatoxin derivatives from the marine cyanobacterium *Lyngbya* sp.
290 // N // neo-debromoaplysiatoxin G // weak inhib. Kv1.5 channel; IA vs brine shrimp.
291 // N // neo-debromoaplysiatoxin H // weak inhib. Kv1.5 channel; IA vs brine shrimp.
- 117** Cyanobacteria *Moorea producens* // Kuba Beach, Nakagusuku, Okinawa, Japan // Neo-aplysiatoxin A isolated from Okinawan cyanobacterium *Moorea producens*

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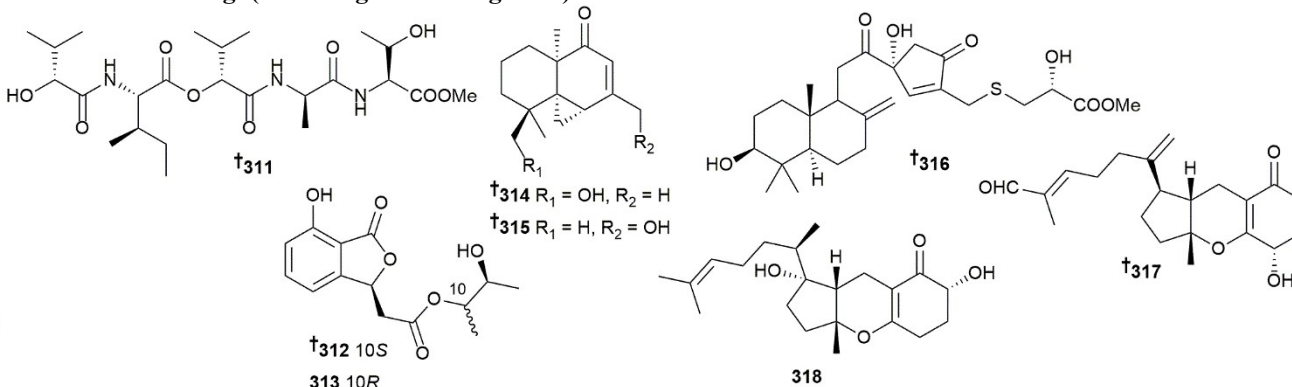


- 118** Cyanobacteria *Lyngbya* sp. // Sanya harbor, Hainan, China // Neo-debromoaplysiatoxin C, with new structural rearrangement, derived from debromoaplysiatoxin
293 // N // neo-debromoaplysiatoxin C // IA vs 2 HTCLs; IA vs PKC.
- 119** Cyanobacteria // * // 6-Deoxy- and 11-hydroxytolypodiols: meroterpenoids from the cyanobacterium HT-58-2
294 // N // 6-deoxytolypodiol // IA as AI
295 // N // 11-hydroxytolypodiol // mod. AI activ.
- 120** Cyanobacteria // Florida Keys, Florida, USA // Eudesmacarbonate, a eudesmane-type sesquiterpene from a marine filamentous cyanobacterial mat (Oscillatoriales) in the Florida Keys
296 // N // eudesmacarbonate // toxicity vs zebrafish embryo/larvae model.
- 121** Cyanobacteria *Brasilonema* sp. // Nan Madol, Pohnpei, Federated States of Micronesia // Tolyporphins L–R: unusual tetrapyrroles from a *Brasilonema* sp. of cyanobacterium
297 // R // tolyporphin L // NT.
298 // R // tolyporphin M // NT.
299 // N // tolyporphin N // NT.
300 // N // tolyporphin O // NT.
301 // N // tolyporphin P // NT.
302 // N // tolyporphin Q // NT.
303 // N // tolyporphin R // NT.
- 122** Cyanobacteria *Fischerella ambigua* // * // Halogenation-guided chemical screening provides insight into tjipanazole biosynthesis by the cyanobacterium *Fischerella ambigua*
304 // N // tjipanazole K // IA vs ABCG2
305 // N // tjipanazole L // IA vs ABCG2.
306 // N // tjipanazole M // weak inhib. ABCG2
- 131** Cyanobacteria // * // Total synthesis and structural revision of kasumigamide, and identification of a new analogue
307 // R // kasumigamide // NT.

2 Marine microorganisms and phytoplankton:

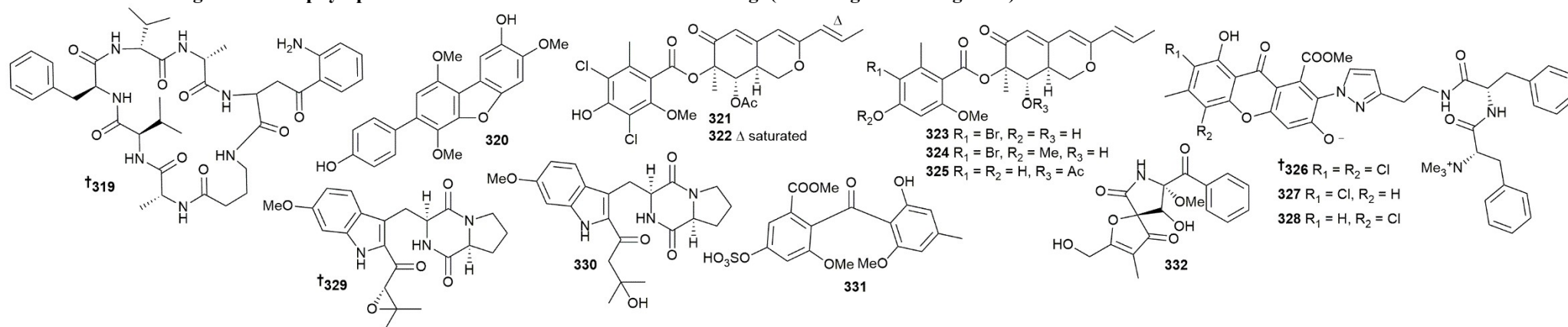


2.3 Marine-sourced fungi (excluding from mangroves)



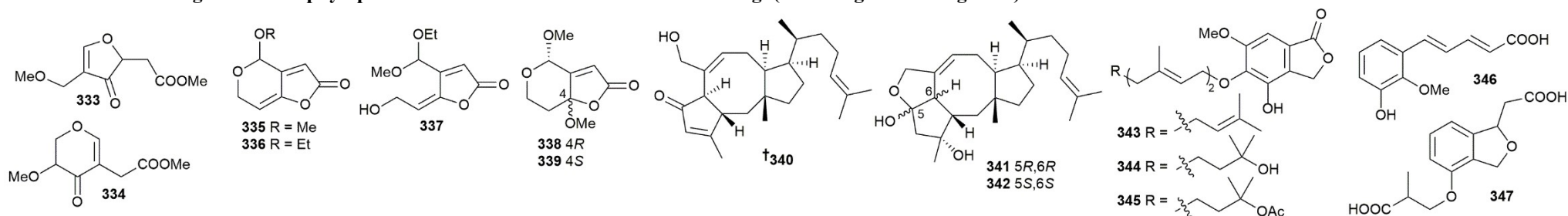
- 142** Ascomycota *Acremonium* sp. // (red alga, *Mastophora rosa*) N.E.ern Taiwan // Anti-inflammatory effects of peptides from a marine algicolous fungus *Acremonium* sp. NTU492 in BV-2 microglial cells
308 // N // acrepeptin A // mod. NO prod. inhib.
309 // N // acrepeptin B // IA.
310 // N // acrepeptin C // mod. NO prod. inhib.
311 // N // acrepeptin D // IA.
- 143** Ascomycota *Alternaria* sp. // (unspecified sea anemone) Laishizhou Is., Shenzhen City, Guangdong Province, China // Secondary metabolites with nitric oxide inhibition from marine-derived fungus *Alternaria* sp. 5102
312 // N // alternabenzofuran A // IA.
313 // N // alternabenzofuran B // IA.
314 // N // alternaterpenoid A // weak NO prod. inhib.
315 // N // alternaterpenoid B // IA.
- 144** Ascomycota *Alternaria* sp. // (soft coral, *Lobophyton crassum*) Dongsha Atoll, S. China Sea // Alternarin A, a drimane meroterpenoid, suppresses neuronal excitability from the coral-associated fungi *Alternaria* sp. ZH-15
316 // N // alternarin A // mod. inhib. spontaneous synchronous Ca^{2+} oscillations and 4-aminopyridine induced epileptic discharges
- 145** Ascomycota *Alternaria* sp. // (sponge, *Callyspongia* sp.) Hainan Is., China // Cytotoxic meroterpenoids from the fungus *Alternaria* sp. JJY-32
317 // N // tricycloalternarene X // weak cytotox. vs 1 HTCL, IA vs 1 HTCL.
318 // N // tricycloalternarene Y // IA vs 2 HTCLs

2 Marine microorganisms and phytoplankton: 2.3 Marine-sourced fungi (excluding from mangroves)



- 146** Ascomycota *Aspergillus candidus* // (unspecified sponge) Ningbo, Zhejiang Province, P. R. China // Unguisin G, a new kynurenine-containing cyclic heptapeptide from the sponge-associated fungus *Aspergillus candidus* NF2412
319 // N // unguisin G // IA vs 8 bacteria and 1 fungus.
- 147** Ascomycota *Aspergillus candidus* // (unspecified sponge) Xisha Is., S. China Sea // p-Terphenyl alcohols from a marine sponge-derived fungus, *Aspergillus candidus* OUCMDZ-1051
320 // N // 4-O-methylcandidusin A // mod. cytotox. vs 1 HTCL, weak cytotox. vs 17, IA vs 8. IA vs 1 fungus.
- 148** Ascomycota *Aspergillus falconensis* // (sediment) Canyon at Dahab, Red Sea, Egypt // Azaphilones from the Red Sea fungus *Aspergillus falconensis*
321 // N // falconensin O // weak inhib. NF-kB. IA vs 1 HTCL.
322 // N // falconensin P // weak inhib. NF-kB. IA vs 1 HTCL.
323 // N // falconensin Q // weak inhib. NF-kB. IA vs 1 HTCL.
324 // N // falconensin R // weak inhib. NF-kB. IA vs 1 HTCL.
325 // N // falconensin S // weak inhib. NF-kB. IA vs 1 HTCL.
- 149** Ascomycota *Aspergillus flavipes* // (sponge, *Dysidea* sp.) S. China Sea // Flavipesides A–C, PKS-NRPS hybrids as pancreatic lipase inhibitors from a marine sponge symbiotic fungus *Aspergillus flavipes* 164013
326 // N // flavipeside A // pot. inhib. pancreatic lipase. IA vs 6 HTCLs and 3 nHCLs.
327 // N // flavipeside B // pot. inhib. pancreatic lipase. IA vs 6 HTCLs and 3 nHCLs.
328 // N // flavipeside C // pot. inhib. pancreatic lipase. IA vs 6 HTCLs and 3 nHCLs.
- 150** Ascomycota *Aspergillus fumigatus* // (sediment) Bohai Sea, China // Genome-inspired chemical exploration of marine fungus *Aspergillus fumigatus* MF071
329 // N // 9S,20-epoxy-18-oxotryprostatin A // IA vs 4 bact. strains.
330 // N // 20-hydroxy-18-oxotryprostatin A // IA vs 4 bact. strains.
331 // M // monomethylsulochrin-4-sulphate // IA vs 4 bact. strains.
332 // M // pseurotin H // IA vs 4 bact. strains.

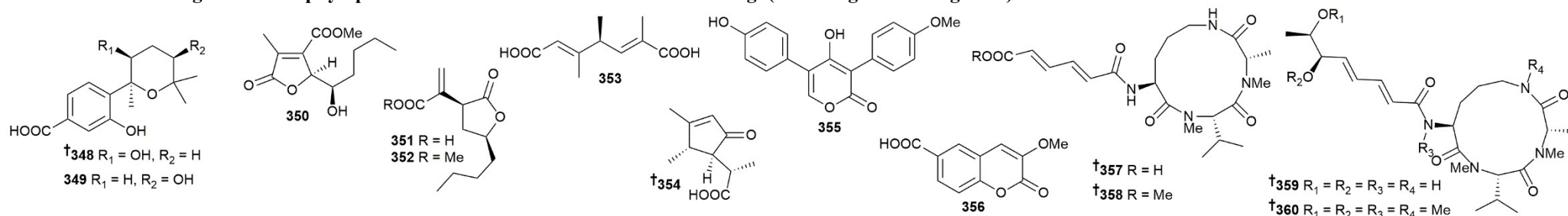
2 Marine microorganisms and phytoplankton: 2.3 Marine-sourced fungi (excluding from mangroves)



- 151** Ascomycota *Aspergillus giganteus* // (green alga, *Ulva lactuca*) North-east Taiwan // Highly oxygenated constituents from a marine alga-derived fungus *Aspergillus giganteus* NTU967
333 // N // aspergilsmin A // IA vs 2 HTCLs. IA vs angiogenesis inhib.
334 // N // aspergilsmin B // IA vs 2 HTCLs. IA vs angiogenesis inhib.
335 // N // aspergilsmin C // weak cytotox. vs 2 HTCLs. Mod. inhib. angiogenesis.
336 // N // aspergilsmin D // IA vs 2 HTCLs. IA vs angiogenesis inhib.
337 // N // aspergilsmin E // IA vs 2 HTCLs. IA vs angiogenesis inhib.
338 // N // aspergilsmin F // IA vs 2 HTCLs. IA vs angiogenesis inhib.
339 // N // aspergilsmin G // IA vs 2 HTCLs. IA vs angiogenesis inhib.
- 152** Ascomycota *Aspergillus insuetus* // (sediment) N.E. S. China Sea // Ophiobolin sesterterpenoids and farnesylated phthalide derivatives from the deep sea cold-seep-derived fungus *Aspergillus insuetus* SD-512
340 // N // (6*R*)-16,17,21,21-O-tetrahydrophiobolin G // IA vs 8 bact. strains.
341 // N // (6*R*)-16,17-dihydrophiobolin H // IA vs 8 bact. strains.
342 // N // (5*S*,6*S*)-16,17-dihydrophiobolin H // mod. activ. vs 5 bact. strains, weak activ. vs 3.
343 // N // farnesylemefuranone D // mod. activ. vs 2 bact. strains, weak activ. vs 5, IA vs 1.
344 // N // farnesylemefuranone E // mod. activ. vs 1 bact. strain, weak activ. vs 6, IA vs 1.
345 // N // farnesylemefuranone F // mod. activ. vs 4 bact. strains, weak activ. vs 3, IA vs 1.
- 153** Ascomycota *Aspergillus niveoglaucus* // (sediment) Nha Trang Bay, Vietnam // Auroglaucon-related neuroprotective compounds from Vietnamese marine sediment-derived fungus *Aspergillus niveoglaucus*
346 // N // niveoglaucin A // weak neuroprotective effect.
347 // N // niveoglaucin B // IA.

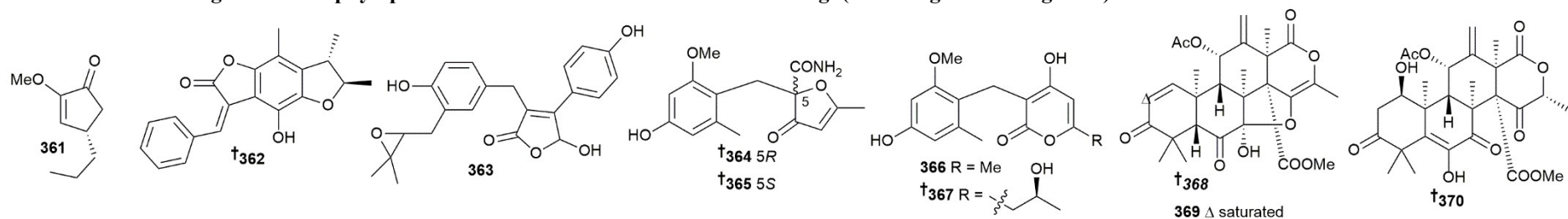
2 Marine microorganisms and phytoplankton:

2.3 Marine-sourced fungi (excluding from mangroves)



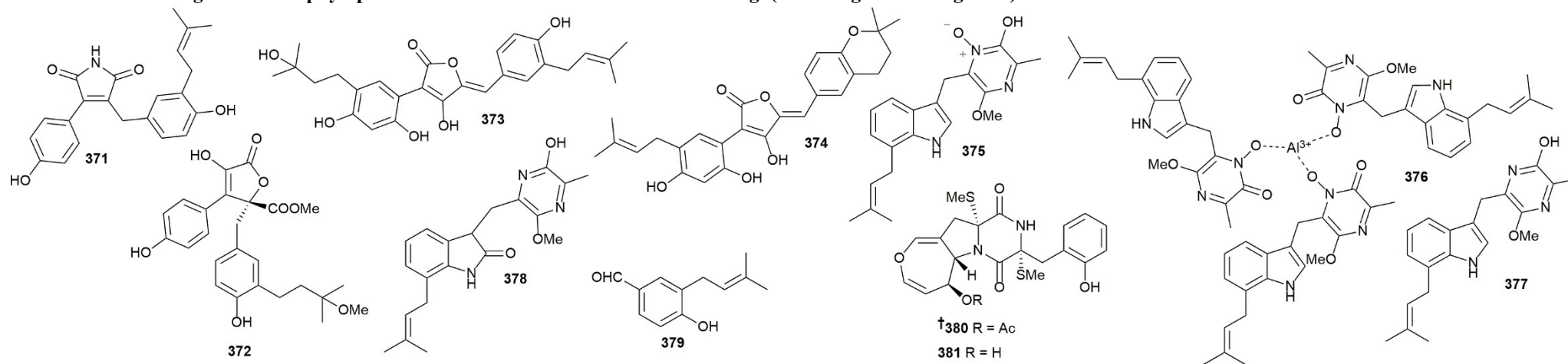
- 154** Ascomycota *Aspergillus sydowii* // (red alga, *Symphocladia latiuscula*) Qingdao, China // Antioxidant bisabolane-type sesquiterpenoids from algal-derived fungus *Aspergillus sydowii* EN-434
348 // N // (7*S*,8*S*)-8-hydroxysydowic acid // IA AO (DPPH assay)
349 // N // (±)-(7*R**,10*R**)-10-hydroxysydowic acid // IA AO (DPPH assay)
- 155** Ascomycota *Aspergillus tamarii* // (unidentified tunicate) Phuket, Thailand // Aspertamarinolides A-C: γ-butenolides from the marine-derived fungus *Aspergillus tamarii* PSU-MF90
350 // N // aspertamarinolide A // NT.
351 // N // aspertamarinolide B // NT.
352 // N // aspertamarinolide C // NT.
- 156** Ascomycota *Aspergillus sydowii* // (sediment) S. Atlantic Ocean // New monoterpenoids and polyketides from the deep-sea sediment-derived fungus *Aspergillus sydowii* MCCC 3A00324
353 // N // aspermonoterpenoid A // IA vs NO prod.
354 // N // aspermonoterpenoid B // IA vs NO prod.
355 // N // asperphenylpyrone // IA vs NO prod.
356 // N // aspercoumarine acid // IA vs NO prod.
- 157** Ascomycota *Aspergillus insulicola* // (unidentified sponge) Prydz Bay, Antarctica // Antibacterial cyclic tripeptides from Antarctica-sponge-derived fungus *Aspergillus insulicola* HDN151418
357 // N // sclerotiotide M // pot. activ. vs 1 bact., mod. activ. vs 5 bact. strains, weak activ. vs 2 bact. strains. IA vs 16 HTCLs.
358 // N // sclerotiotide N // pot. activ. vs 1 bact., mod. vs 3, weak vs 4. IA vs 16 HTCLs.
359 // N // sclerotiotide O // weak vs 2 bact. strains, IA vs 6. IA vs 16 HTCLs.
360 // R // sclerotiotide L // NT

2 Marine microorganisms and phytoplankton: 2.3 Marine-sourced fungi (excluding from mangroves)



- 158** Ascomycota *Aspergillus terreus*, *Paecilomyces lilacinus* (co-culture) // (red alga, *Laurencia okamurai*), Qingdao, China // Induced terreins production from marine red algal-derived endophytic fungus *Aspergillus terreus* EN-539 co-cultured with symbiotic fungus *Paecilomyces lilacinus* EN-531
361 // N // asperterrein // weak activ. vs 2 bact. strains, IA vs 7 strains and 5 fungi.
- 159** Ascomycota *Aspergillus terreus* // (seawater) Eastern Pacific Ocean // Aspeterreurenone A, a cytotoxic dihydrobenzofuran–phenyl acrylate hybrid from the deep-sea-derived fungus *Aspergillus terreus* CC-S06-18
362 // N // aspeterreurenone A // weak cytotox. vs 4 HTCLs, IA vs 1 nHCL.
- 160** Ascomycota *Aspergillus terreus* // (sediment) S. China Sea // A new butenolide derivative from the deep-sea fungus *Aspergillus terreus* SCSIO FZQ028
363 // N // (±)-asperteretal F // IA vs 2 HTCLs and 4 bact. strains. IA AO (DPPH assay)
- 161** Ascomycota *Aspergillus terreus* // (sea hare, *Aplysia pulmonica*) Weizhou, China // Benzyl furanones and pyrones from the marine-derived fungus *Aspergillus terreus* induced by chemical epigenetic modification
364 // N // (+)-asperfuranone // weak inhib. PTP1B. Weak activ. vs 1 fungus, IA vs 2 fungi and 6 bact. strains.
365 // N // (–)-asperfuranone // weak activ. PTP1B. Weak activ. vs 1 fungus, IA vs 2 fungi and 6 bact. strains.
366 // N // asperpyranone A // weak activ. PTP1B. Weak activ. vs 1 bact., IA vs 6 bact. and 3 fungi.
367 // N // asperpyranone B // weak activ. PTP1B. Weak activ. vs 1 fungus, IA vs 6 bact. strains and 3 fungi
- 162** Ascomycota *Aspergillus terreus* // (gastropod mollusc, *Onchidium struma*) Zhanjiang, Xuwen, Guangdong Province, China // Furanasperterpenes A and B, two meroterpenoids with a novel 6/6/6/6/5 ring system from the marine-derived fungus *Aspergillus terreus* GZU-31-1
368 // N // furanasperterpene A // mod. lipid lowering effects in 3T3-L1 adipocytes. IA vs 1 nHCL.
369 // N // furanasperterpene B // No lipid lowering effects in 3T3-L1 adipocytes. IA vs 1 nHCL.
370 // N // 11-acetoxy-terretonin E // mod. lipid lowering effects in 3T3-L1 adipocytes. IA vs 1 nHCL.

2 Marine microorganisms and phytoplankton: 2.3 Marine-sourced fungi (excluding from mangroves)



163 Ascomycota *Aspergillus terreus* // (decayed wood) Hat Bang Pu, Khao Sam Roi Yot National Park, Prachuap Khiri Khan Province, Thailand // Antimicrob., antimalarial and anticholinesterase substances from the marine-derived fungus *Aspergillus terreus* BCC51799

371 // N // asperteramide // weak activ. vs 1 bact., IA vs 2 fungi, 2 HTCLs and 1 simian nCL. No antiplasmodial activ. NT for AChE activ.

372 // M // aspernolide C // NT.

373 // N // aspulvinone R // NT.

374 // N // aspulvinone S // NT.

375 // M // astepyraxinoxide // weak cytotox. vs 1 HTCL, IA vs 1 HTCL and 1 simian nCL, 6 bact. and 2 fungi. No antiplasmodial activ. IA vs AChE.

376 // N // astalluminoxide // NT.

377 // M // astepyraxinol A // IA vs 2 HTCLs and 1 simian nCL, 6 bact. and 2 fungi. No antiplasmodial activ. NT for AChE active.

378 // N // astepyraxinol B // NT.

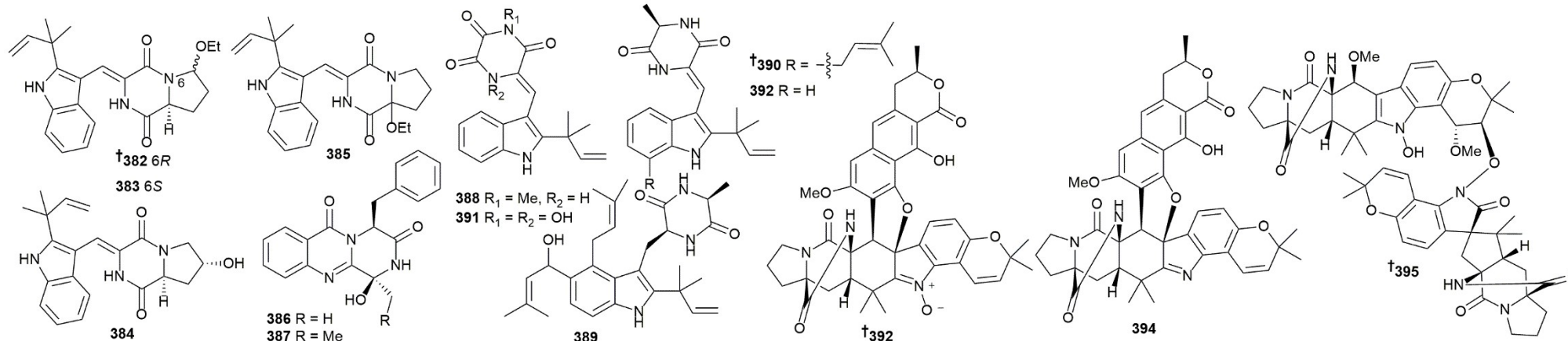
379 // M // 4-hydroxy-3-(3-methylbut-2-enyl)benzaldehyde // NT.

164 Ascomycota *Aspergillus terreus* // (sea hare, *Aplysia pulmonica*) Weizhou coral reefs, S. China Sea // New thiodiketopiperazine and 3,4-dihydroisocoumarin derivatives from the marine-derived fungus *Aspergillus terreus*

380 // N // emestrin L // IA vs 5 HTCLs, 6 bact. strains and 3 fungi. IA vs PTP1B. IA AO (DPPH assay).

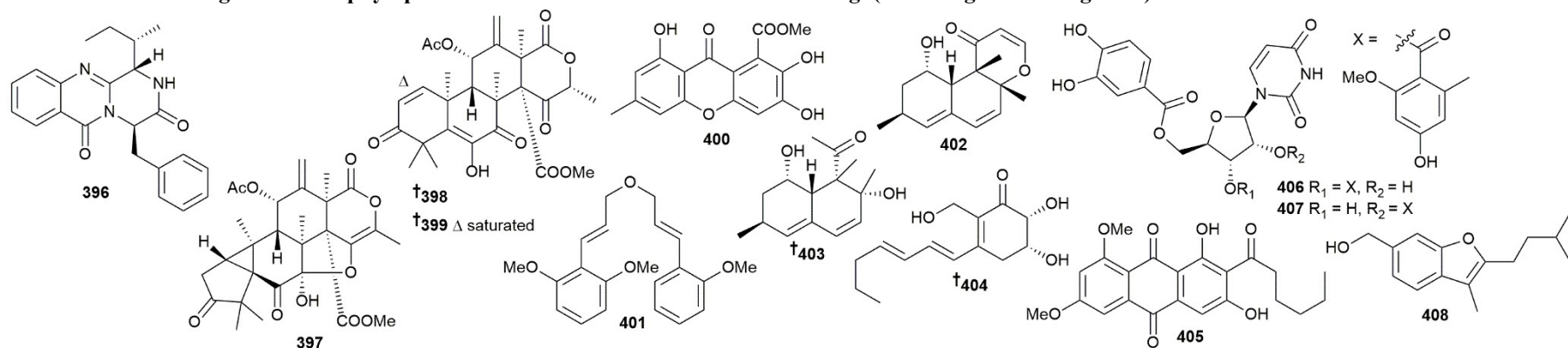
381 // N // emestrin M // IA vs 5 HTCLs, 6 bact. strains and 3 fungi. IA vs PTP1B. IA AO (DPPH assay).

2 Marine microorganisms and phytoplankton: 2.3 Marine-sourced fungi (excluding from mangroves)



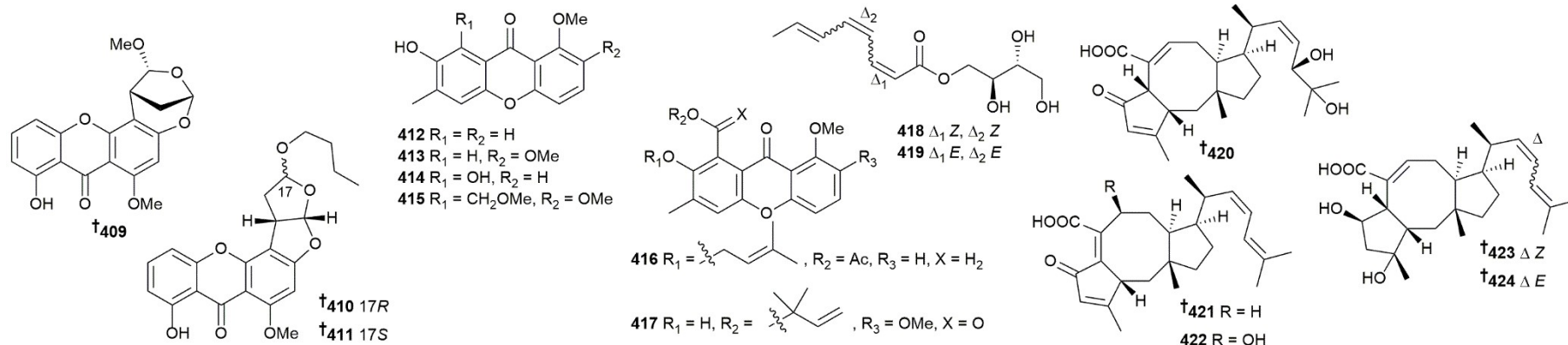
- 165** Ascomycota *Aspergillus versicolor* // (crab, *Chiromantes haematocheir*) Zhoushan, Zhejiang, China // Bioactive indolyl diketopiperazines from the marine derived endophytic *Aspergillus versicolor* DY180635
382 // N // aspamide A // IA as AI. High docking score vs a coronavirus protease (Mpro) in virtual screen.
383 // N // aspamide B // IA as AI. High docking score vs a coronavirus protease (Mpro) in virtual screen.
384 // N // aspamide C // IA as AI. IA vs a coronavirus protease (Mpro) in virtual screen.
385 // N // (±)-aspamide D // IA as AI. IA vs a coronavirus protease (Mpro) in virtual screen.
386 // N // aspamide F // IA as AI. High docking score vs a coronavirus protease (Mpro) in virtual screen.
387 // N // aspamide G // IA as AI. High docking score vs a coronavirus protease (Mpro) in virtual screen.
- 166** Ascomycota *Aspergillus* sp. // (unspecified soft coral) S. China Sea // New indole diketopiperazine alkaloids from soft coral-associated epiphytic fungus *Aspergillus* sp. EGF 15-0-3
388 // N // 11-methylneoechinulin E // IA vs HTCLs.
389 // N // variecolorin M // IA vs HTCLs.
390 // N // (+)-variecolorin G // IA vs HTCLs.
391 // M // 11,14-dihydroxyneoechinulin E // IA vs HTCLs.
392 // M // (+)-neoechinulin A // IA vs HTCLs.
- 167** Ascomycota *Aspergillus* sp. // (sediment) Waikiki Beach, Oahu, Hawaii, USA // Waikikiamides A–C: complex diketopiperazine dimer and diketopiperazine–polyketide hybrids from a Hawaiian marine fungal strain *Aspergillus* sp. FM242
393 // N // waikikiamide A // mod. cytotox. vs 3 HTCLs, IA vs 1.
394 // N // waikikiamide B // IA vs 4 HTCLs.
395 // N // waikikiamide C // weak cytotox. vs 4 HTCLs.

2 Marine microorganisms and phytoplankton: 2.3 Marine-sourced fungi (excluding from mangroves)



- 168** Ascomycota *Aspergillus* sp. // (sediment) Tokyo Bay, Tokyo, Japan // A new diketopiperazine-like inhibitor of bone morphogenetic protein-induced osteoblastic differentiation produced by marine-derived *Aspergillus* sp. BFM-0085
396 // N // protuboxepin K // mod. inhib. bone morphogenetic protein-induced alkalie phosphatase
- 169** Ascomycota *Aspergillus terreus* // (gastropod mollusc, *Onchidium struma*) Zhanjiang, Xuwen, Guangdong province, China // Aspermeroterpenes A–C: three meroterpenoids from the marine-derived fungus *Aspergillus terreus* GZU-31-1
397 // N // aspermeroterpene A // mod. inhib. NO prod.
398 // N // aspermeroterpene B // mod. inhib. NO prod.
399 // N // aspermeroterpene C // mod. inhib. NO prod.
- 170** Ascomycota *Aspergillus versicolor* // (sediment) Bohai Sea // One new xanthenone from the marine-derived fungus *Aspergillus versicolor* MF160003
400 // N // 3-hydroxy pinselin // IA vs 5 bact. strains.
- 171** Ascomycota *Aspergillus versicolor* // (sediment) Shenzhen River Estuary // Aromatic compounds from the marine-derived fungus *Aspergillus versicolor*
- 172** Ascomycota *Aspergillus versicolor* // (sediment) Mariana Trench // Antimicrob. and antioxidant polyketides from a deep-sea-derived fungus *Aspergillus versicolor* SH0105
402 // N // isoversiol F // IA vs 9 bact. strains. IA AO (DPPH and FRAP assays).
403 // N // decumbenone D // IA vs 9 bact. strains. IA AO (DPPH and FRAP assays).
404 // N // palitantin B // IA vs 9 bact. strains. IA AO (DPPH and FRAP assays).
405 // N // 1,3-di-O-methyl-norsolorinic acid // IA vs 9 bact. strains. IA AO (DPPH and FRAP assays).
- 173** Ascomycota *Aspergillus versicolor* // (gorgonian, *Dichotella gemmacea*) Xisha Is., S. China Sea // Epigenetic agents trigger the production of bioactive nucleoside derivatives and bisabolane sesquiterpenes from the marine-derived fungus *Aspergillus versicolor*
406 // N // kipukasin K // weak inhib. 2 bact. strains, IA vs 4, 3 fungi and 5 HTCLs. Weak antifouling activity vs *Bugula neritina* larvae
407 // N // kipukasin L // IA.
408 // N // aspergillusene E // weak inhib. 2 bact. strains, IA vs 4. Weak inhib. 1 fungus, IA vs 2 and 5 HTCLs. Weak antifouling activity vs *Bugula neritina* larvae.

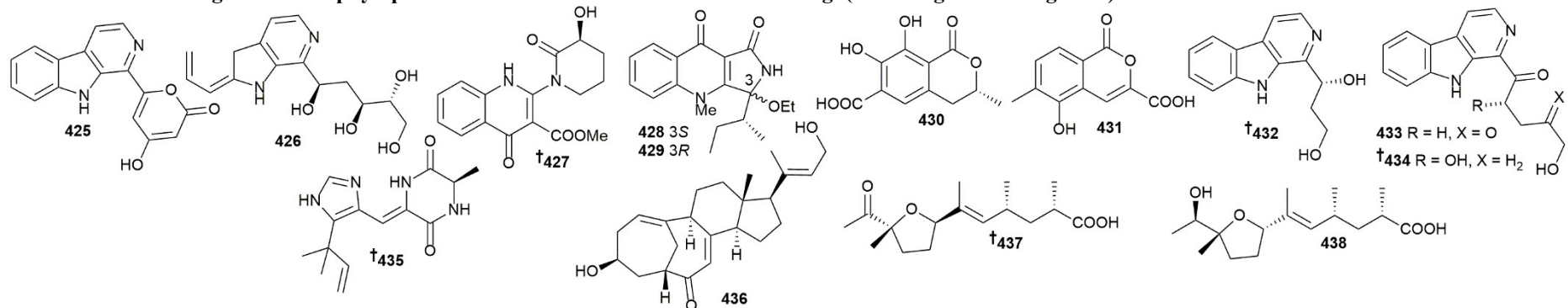
2 Marine microorganisms and phytoplankton: 2.3 Marine-sourced fungi (excluding from mangroves)



- 174** Ascomycota *Aspergillus versicolor* // (unspecified sponge) Xisha Is., China // Isolation and identification of three new sterigmatocystin derivatives from the fungus *Aspergillus versicolor* guided by molecular networking approach
409 // N // sterigmatocystin A // mod. angiogenesis promotion. IA vs 1 virus.
410 // N // sterigmatocystin B // No angiogenesis promotion. IA vs 1 virus.
411 // N // sterigmatocystin C // No angiogenesis promotion. IA vs 1 virus.
- 175** Ascomycota *Aspergillus versicolor* // (unspecified alga) Qingdao, China // Herbicidal and antifungal xanthone derivatives from the alga-derived fungus *Aspergillus versicolor* D5
412 // N // versicone I // IA vs 4 fungi.
413 // N // versicone J // IA vs 4 fungi.
414 // N // versicone K // IA vs 4 fungi.
415 // N // versicone L // IA vs 4 fungi.
416 // N // versicone M // IA vs 4 fungi.
417 // N // versicone N // IA vs 4 fungi.
- 176** Ascomycota *Aspergillus* sp. // (sediment) Yap Trench Indian Ocean // Two new compounds from the deep-sea-derived fungus *Aspergillus* sp. YPGA8
418 // N // aspertriol A // IA vs α -glucosidase.
419 // N // aspertriol B // IA vs α -glucosidase.
- 177** Ascomycota *Aspergillus* sp. // (seawater) S. China sea // New ophiobolins from the deep-sea derived fungus *Aspergillus* sp. WHU0154 and their anti-inflammatory effects
420 // N // 18,19-dihydro-18,19-dihydroxyasperophiobolin E // IA vs NO prod.
421 // N // Δ 16,17-8-dehydroxy-ophiobolin D // IA vs NO prod.
422 // N // Δ 16,17-ophiobolin D // IA vs NO prod.
423 // N // asperophiobolin L // IA vs NO prod.
424 // N // (16E)-asperophiobolin L // IA vs NO prod.

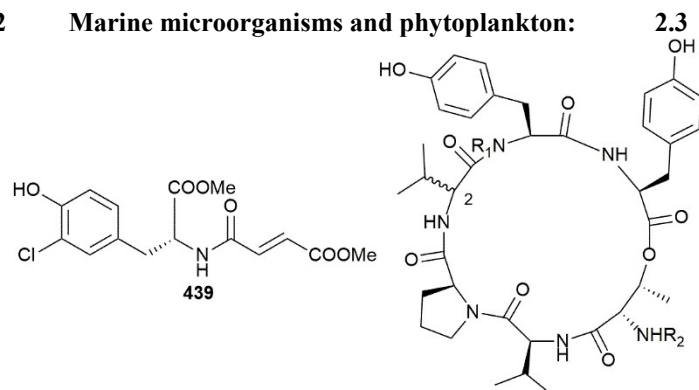
2 Marine microorganisms and phytoplankton:

2.3 Marine-sourced fungi (excluding from mangroves)



- 178** Ascomycota *Aspergillus* sp. // (gorgonian, *Melitodes squamata*) Sanya, Hainan province, China // New alkaloids and isocoumarins from the marine gorgonian-derived fungus *Aspergillus* sp. SCSIO 41501
425 // N // aspergillspin A // IA vs 3 HTCLs and 2 bact. strains.
426 // N // aspergillspin B // IA vs 3 HTCLs and 2 bact. strains.
427 // N // aspergillspin C // IA vs 3 HTCLs and 2 bact. strains.
428 // N // aspergillspin D // IA vs 3 HTCLs and 2 bact. strains.
429 // N // aspergillspin E // IA vs 3 HTCLs and 2 bact. strains.
430 // N // aspergillspin F // IA vs 3 HTCLs and 2 bact. strains.
431 // N // aspergillspin G // IA vs 3 HTCLs and 2 bact. strains.
- 179** Ascomycota *Aspergillus* sp. // (bivalve mollusc, *Panopea abbreviata*) S. China Sea // Cytotoxic alkaloids from the marine shellfish-associated fungus *Aspergillus* sp. XBB-4 induced by an amino acid-directed strategy
432 // N // aspercarboline A // IA vs 6 HTCLs.
433 // N // aspercarboline B // IA vs 6 HTCLs.
434 // N // aspercarboline C // IA vs 6 HTCLs.
435 // N // asperdione A // IA vs 6 HTCLs.
- 180** Ascomycota *Aspergillus* sp. // (sponge, *Haliclona* sp.) Linshui, Hainan province, China // A new aquatic pathogen inhibitor produced by the marine fungus *Aspergillus* sp. LS116
436 // N // aspergillsteroid A // weak inhib. 1 bact. strain, IA vs 3.
- 181** Ascomycota *Aspergillus* sp. // (sponge, *Haliclona* sp.) Lingshui, Hainan Province, China // New antifungal tetrahydrofuran derivatives from a marine sponge-associated fungus *Aspergillus* sp. LS78
437 // N // aspericacid A // IA vs 2 fungi.
438 // N // aspericacid B // IA vs 2 fungi.

2 Marine microorganisms and phytoplankton:

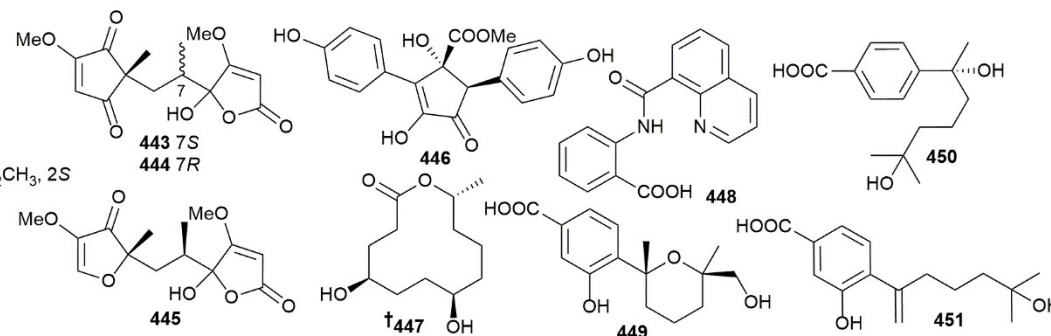


Marine-sourced fungi (excluding from mangroves)

†440 R₁ = Me, R₂ = Ac, 2S

†441 R₁ = Me, R₂ = COCH₂CH₃, 2S

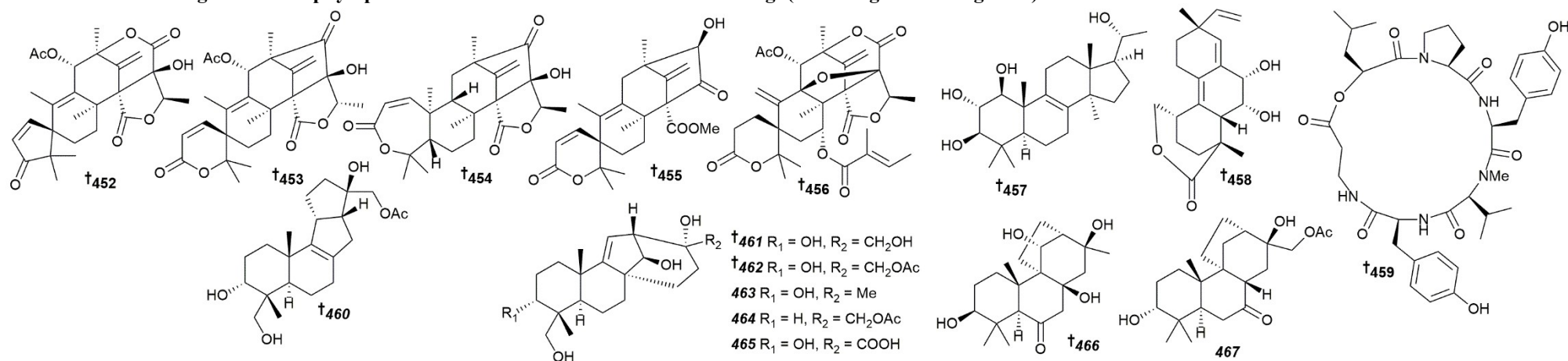
442 R₁ = H, R₂ = Ac, 2R



- 182** Ascomycota *Aspergillus* sp. // (sponge, *Haliclona* sp.) Linshui, Sanya City, China // A new antibacterial chlorinated amino acid derivative from the sponge-derived fungus *Aspergillus* sp. LS53
439 // N // aspergamide A // weak inhib. 1 bact. strain.
- 183** Ascomycota *Aspergillus* sp. // (sponge, *Petrosia* sp.) Yongxing Is., China // Pancreatic lipase inhibitory cyclohexapeptides from the marine sponge-derived fungus *Aspergillus* sp. 151304
440 // N // petrosamide A // weak inhib. pancreatic lipase. IA vs 4 HTCLs.
441 // N // petrosamide B // mod. inhib. pancreatic lipase. IA vs 4 HTCLs.
442 // N // petrosamide C // pot. inhib. pancreatic lipase. IA vs 4 HTCLs.
- 184** Ascomycota *Aspergillus* sp. // (red alga, *Grateloupia filicina*) Qingdao, China // Anti-phytopathogenic bacterial metabolites from the seaweed-derived fungus *Aspergillus* sp. D40
443 // N // sclerotiorumin D // IA vs 6 bact. strains.
444 // N // sclerotiorumin E // IA vs 6 bact. strains.
445 // N // sclerotiorumin F // IA vs 6 bact. strains.
- 185** Ascomycota *Aspergillus* sp. // (unspecified coral) Ross Sea // Protein tyrosine phosphatase 1B inhibitors from a marine-derived fungal strain *Aspergillus* sp. SF-5929
446 // N // (±)-tylopilusin D // mod. inhib. PTP1B
- 186** Ascomycota *Aspergillus* sp. // (sea cucumber, *Holothuria nobilis* Selenka) Antarctic // Aspergillolide, a new 12-membered macrolide from sea cucumber-derived fungus *Aspergillus* sp. S-3-75
447 // N // aspergillolide // No immunosuppression (splenocyte proliferation assay)
- 187** Ascomycota *Aspergillus* sp. // (sediment) Indian Ocean // New quinoline alkaloid and bisabolane-type sesquiterpenoid derivatives from the deep-sea-derived fungus *Aspergillus* sp. SCSIO06786
448 // N // 2-(quinoline-8-carboxamido)benzoic acid // IA vs 5 bact. strains.
449 // N // 3-hydroxy-4-((2S,6S)-6-(hydroxymethyl)-2,6-dimethyltetrahydro-2H-pyran-2-yl)benzoic acid // IA vs 5 bact. strains
450 // N // (–)-austrosene // IA vs 5 bact. strains.
451 // N // 3-hydroxy-4-(5-hydroxy-5-methyl-1-methylenehexyl)-benzoic acid // IA vs 5 bact. strains.

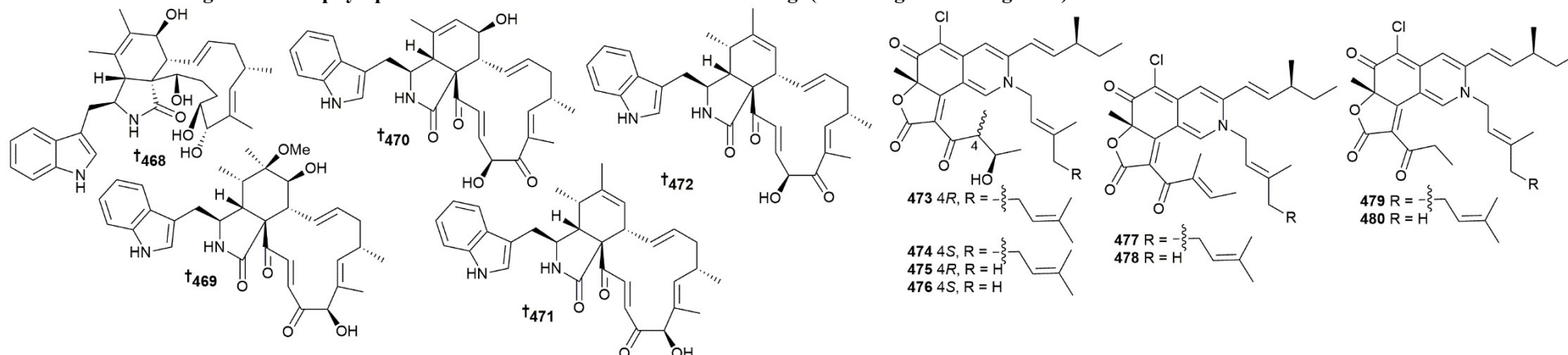
2 Marine microorganisms and phytoplankton:

2.3 Marine-sourced fungi (excluding from mangroves)



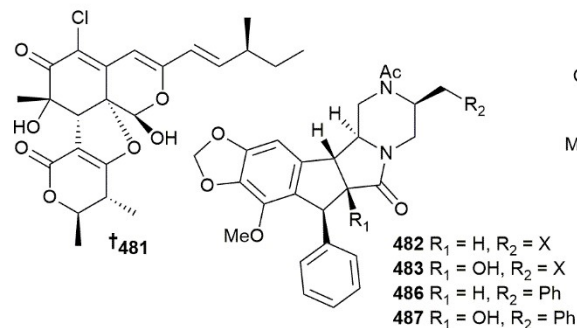
- 188** Ascomycota *Aspergillus* sp. // (brown alga, *Saccharina cichorioides* f. *sachaliensis*) S. China Sea // Structurally diverse meroterpenoids from a marine-derived *Aspergillus* sp. fungus
 452 // N // asperaustin A // NT.
 453 // N // asperaustin B // IA vs AChE.
 454 // N // asperaustin C // IA vs AChE.
 455 // R // austinoneol A // IA vs AChE.
 456 // R // precalidodehydroaustin // IA vs AChE.
- 190** Ascomycota *Beauveria felina* // (unidentified bryozoan) unspecified location // Secondary metabolites with agricultural antagonistic potentials from *Beauveria felina*, a marine-derived entomopathogenic fungus
 457 // N // felinane A // NT.
 458 // N // felinane B // NT.
 459 // N // isaridin H // NT.
- 191** Ascomycota *Botryotinia fuckeliana* // (seawater) Western Pacific // Botryotins A–H, tetracyclic diterpenoids representing three carbon skeletons from a deep-sea-derived *Botryotinia fuckeliana*
 460 // N // botryotin A // mod. antiallergy effect (RBL-2H3 cells). IA vs 7 HTCLs.
 461 // N // botryotin B // IA vs antiallergy effect (RBL-2H3 cells). IA vs 7 HTCLs.
 462 // N // botryotin C // IA vs antiallergy effect (RBL-2H3 cells). IA vs 7 HTCLs.
 463 // N // botryotin D // IA vs antiallergy effect (RBL-2H3 cells). IA vs 7 HTCLs.
 464 // N // botryotin E // IA vs antiallergy effect (RBL-2H3 cells). IA vs 7 HTCLs.
 465 // N // botryotin F // IA vs antiallergy effect (RBL-2H3 cells). IA vs 7 HTCLs.
 466 // N // botryotin G // IA vs antiallergy effect (RBL-2H3 cells). IA vs 7 HTCLs.
 467 // N // botryotin H // IA vs antiallergy effect (RBL-2H3 cells). IA vs 7 HTCLs.

2 Marine microorganisms and phytoplankton: 2.3 Marine-sourced fungi (excluding from mangroves)

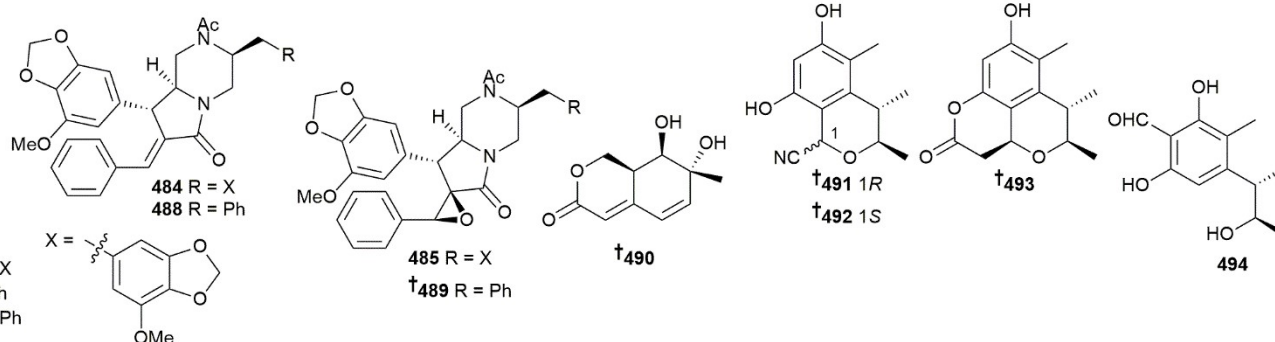


- 192** Ascomycota *Chaetomium globosum* // (sea cucumber, *Apostichopus japonicus*) Chengshantou Is., Weihai City, Yellow Sea, China // Chaetoglobosins and azaphilones from *Chaetomium globosum* associated with *Apostichopus japonicus*
468 // N // cytoglobosin X // IA vs 4 bact. strains and 2 fungi.
- 193** Ascomycota *Chaetomium globosum* // (coral *Pocillopora damicornis*) Sanya Bay, Hainan Province, China // HPLC-DAD-guided isolation of diversified chaetoglobosins from the coral-associated fungus *Chaetomium globosum* C2F17
469 // N // 6-O-methyl-chaetoglobosin Q // NT.
470 // R // chaetoglobosin E // NT.
471 // R // penochalasin G // NT.
472 // R // armochaetoglobins G // NT.
- 194** Ascomycota *Chaetomium globosum* // (seawater) Western Pacific Ocean // Cytotoxic nitrogenated azaphilones from the deep-sea-derived fungus *Chaetomium globosum* MP4-S01-7
473 // N // N-(3,7-dimethyl-2,6-octadienyl)-2-aza-2-deoxychaetoviridin A // mod. cytotox. vs 2 HTCLs.
474 // N // 4'-epi-N-(3,7-dimethyl-2,6-octadienyl)-2-aza-2-deoxychaetoviridin A // mod. cytotox. vs 2 HTCLs.
475 // N // N-(3-methyl-2-butenyl)-2-aza-2-deoxychaetoviridin A // weak cytotox. vs 2 HTCLs.
476 // N // 4'-epi-N-(3-methyl-2-butenyl)-2-aza-2-deoxychaetoviridin A // weak cytotox. vs 2 HTCLs.
477 // N // N-(3,7-dimethyl-2,6-octadienyl)-2-aza-2-deoxychaetoviridin E // mod. cytotox. vs 2 HTCLs.
478 // N // N-(3-methyl-2-butenyl)-2-aza-2-deoxychaetoviridin E // weak cytotox. vs 2 HTCLs.
479 // N // 4',5'-dinor-5'-deoxy-N-(3,7-dimethyl-2,6-octadienyl)-2-aza-2-deoxychaetoviridin A // weak cytotox. vs 2 HTCLs.
480 // N // 4',5'-dinor-5'-deoxy-N-(3-methyl-2-butenyl)-2-aza-2-deoxychaetoviridin A // weak cytotox. vs 1 HTCL, IA vs 1.

2 Marine microorganisms and phytoplankton:

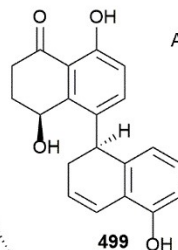
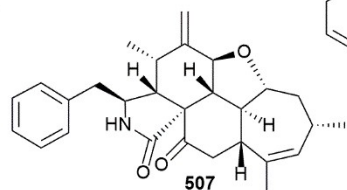
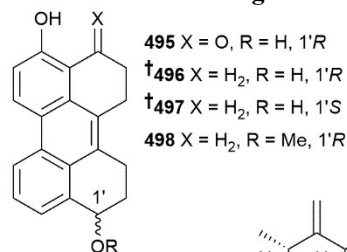


2.3 Marine-sourced fungi (excluding from mangroves)

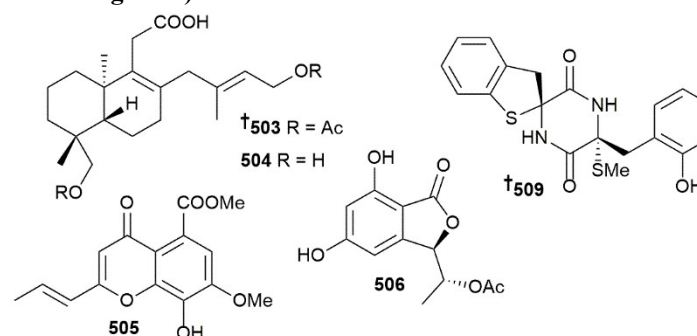
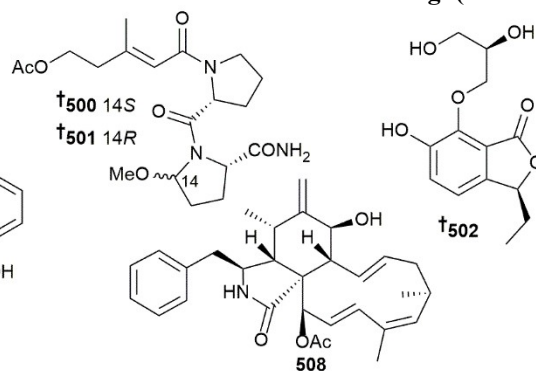


- 195** Ascomycota *Chaetomium globosum* // * // Two anti-inflammatory chlorinated azaphilones from *Chaetomium globosum* TW1-1 cultured with 1-methyl-L-tryptophan and structure revision of chaephilone C
481 // R // chaephilone C // mod. inhib. NO prod. IA vs α -glucosidase.
- 196** Ascomycota *Chrysosporium* sp. // (fish, *Mugil* mullet), fish market, Brisbane, Australia // Chrysosporazines F–M: P-glycoprotein inhibitory phenylpropanoid piperazines from an Australian marine fish derived fungus, *Chrysosporium* sp. CMB-F294
482 // N // chrysosporazine F // mod. inhib. P-glycoprotein. IA vs 2 bact. strains, 1 fungus and 1 HTCL.
483 // N // chrysosporazine G // mod. inhib. P-glycoprotein. IA vs 2 bact. strains, 1 fungus and 1 HTCL.
484 // N // chrysosporazine H // IA vs P-glycoprotein. IA vs 2 bact. strains, 1 fungus and 1 HTCL.
485 // N // chrysosporazine I // IA vs P-glycoprotein. IA vs 2 bact. strains, 1 fungus and 1 HTCL.
486 // N // chrysosporazine J // mod. inhib. P-glycoprotein. IA vs 2 bact. strains, 1 fungus and 1 HTCL.
487 // N // chrysosporazine K // mod. inhib. P-glycoprotein. IA vs 2 bact. strains, 1 fungus and 1 HTCL.
488 // N // chrysosporazine L // IA vs P-glycoprotein. IA vs 2 bact. strains, 1 fungus and 1 HTCL.
489 // N // chrysosporazine M // IA vs P-glycoprotein. IA vs 2 bact. strains, 1 fungus and 1 HTCL.
- 197** Ascomycota *Cladosporium cladosporioides* // (sediment) S.west Pacific Ocean // Cladosporactone A, a unique polyketide with 7-methylisochromen-3-one skeleton from the deep-sea-derived fungus *Cladosporium cladosporioides*
490 // N // cladosporactone A // No antiallergy effect (RBL-2H3 cells).
- 198** Ascomycota *Cladosporium cladosporioides* // (sediment) Okinawa Trough // New citrinin derivatives from the deep-sea-derived fungus *Cladosporium* sp. SCSIO z015
491 // N // cladosporin A // IA vs 3 bact. strains and brine shrimp. IA AO (DPPH assay).
492 // N // cladosporin B // IA vs 3 bact. strains and brine shrimp. IA AO (DPPH assay).
493 // N // cladosporin C // IA vs 3 bact. strains and brine shrimp. IA AO (DPPH assay).
494 // N // cladosporin D // mod. AO (DPPH assay). IA vs 3 bact. strains and brine shrimp.

2 Marine microorganisms and phytoplankton:



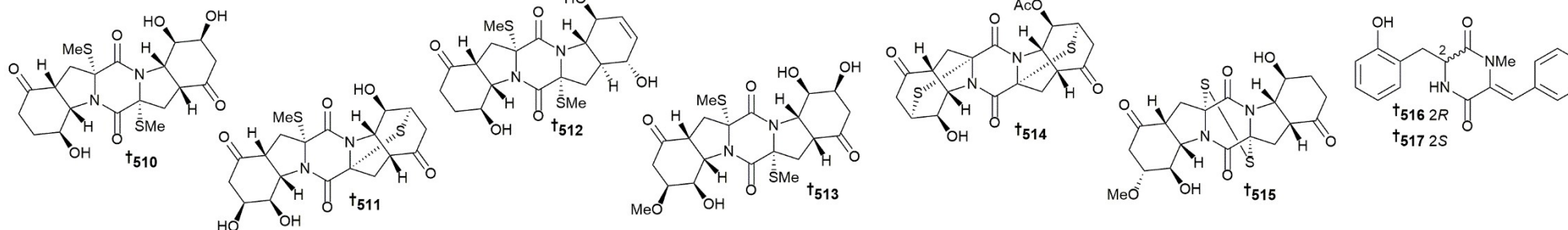
2.3 Marine-sourced fungi (excluding from mangroves)



- 199** Ascomycota *Cladosporium* sp. // (blood cockle) Haikou Bay, Hainan province, China // Alkyltolerant with Q.S. inhibitory activities from the marine-derived fungus *Cladosporium* sp. KFD33
 495 // N // albertoxin VIII // weak inhib. QS.
 496 // N // albertoxin IX // weak inhib. QS.
 497 // N // albertoxin X // weak inhib. QS.
 498 // N // albertoxin XI // weak inhib. QS.
 499 // N // albertoxin XII // weak inhib. QS.
- 200** Ascomycota *Cochliobolus lunatus* // (red alga, *Coelarthrum* sp.) Yongxing Is., S. China Sea // Lipopeptide epimers and a phthalide glycerol ether with AChE inhibitory activities from the marine-derived fungus *Cochliobolus lunatus* SCSIO41401
 500 // N // sinulariapeptide A // mod. inhib. AChE. IA vs 5 HTCLs.
 501 // N // sinulariapeptide B // mod. inhib. AChE. IA vs 5 HTCLs.
 502 // N // C₁₃H₁₆O₆ // mod. inhib. AChE. IA vs 5 HTCLs.
- 201** Ascomycota *Diaporthe longicolla*, *Phomopsis longicolla* // (sediment) Indian Ocean // Bioactive metabolites from the deep-sea-derived fungus *Diaporthe longicolla* FS429
 503 // N // longidiacid A // weak inhib. MptpB. IA vs 4 HTCLs.
 504 // N // longidiacid B // IA vs MptpB. IA vs 4 HTCLs.
 505 // N // longichromone A // IA vs MptpB. IA vs 4 HTCLs.
 506 // N // longiphthalidin A // IA vs MptpB. IA vs 4 HTCLs.
 507 // N // longichalasin A // IA vs MptpB. IA vs 4 HTCLs.
 508 // N // longichalasin B // weak inhib. MptpB. IA vs 4 HTCLs.
- 202** Ascomycota *Epicoccum nigrum* // (sediment) unspecified location // Stereochemical elucidation of natural products from residual chemical shift anisotropies in a liquid crystalline phase
 509 // N // spiroepicoccin A // NT.

2 Marine microorganisms and phytoplankton:

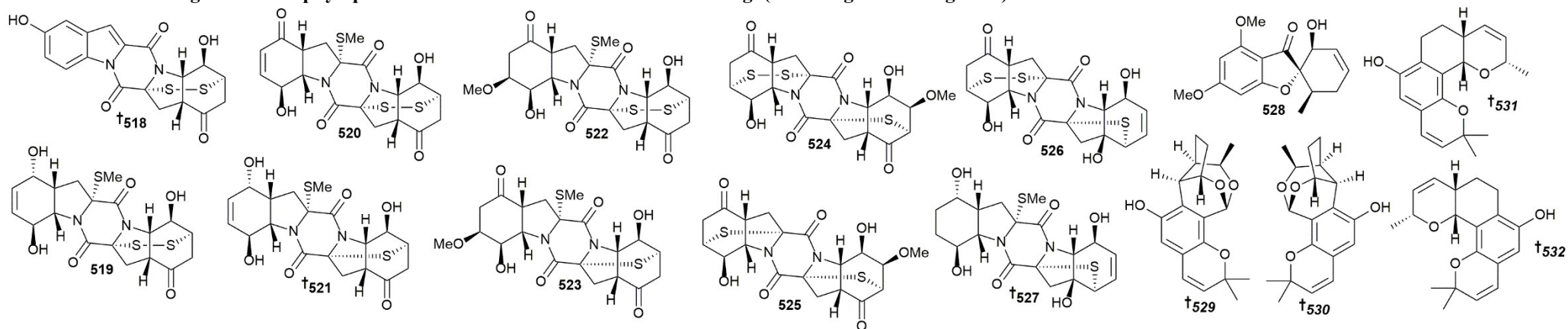
2.3 Marine-sourced fungi (excluding from mangroves)



- 203** Ascomycota *Epicoccum nigrum* // (sediment) Western Pacific // New antibacterial thiodiketopiperazines from the deep sea sediment-derived fungus *Epicoccum nigrum* SD-388
510 // N // 7-dehydroxyepicoccin H // mod. inhib. 3 bact. strains, IA vs 8.
511 // N // 7-hydroxyeutypellazine F // mod. inhib. 3 bact. strains, IA vs 9.
204 Ascomycota *Epicoccum nigrum* // (sediment) West Pacific // Cytotoxic thiodiketopiperazine derivatives from the deep sea-derived fungus *Epicoccum nigrum* SD-388
512 // N // 5'-hydroxy-6'-ene-epicoccin G // IA vs 1 HTCL and 1 nHCL.
513 // N // 7-methoxy-7'-hydroxyepicoccin G // IA vs 1 HTCL and 1 nHCL.
514 // N // 8'-acetoxyepicoccin D // IA vs 1 HTCL and 1 nHCL.
515 // N // 7'-demethoxyrostratin C // weak cytotox. vs 1 HTCL and 1 nHCL.
516 // N // (2R)-5-hydroxydiphenylalazine A // IA vs 1 HTCL and 1 nHCL.
517 // N // (2S)-5-hydroxydiphenylalazine A // IA vs 1 HTCL and 1 nHCL.

2 Marine microorganisms and phytoplankton:

2.3 Marine-sourced fungi (excluding from mangroves)



205 Ascomycota *Epicoccum nigrum* // (fish gills, *Amphilobus* sp.) Western Pacific // Ampiepicoccins A–J: epipolythiodioxopiperazines from the fish-gill-derived fungus *Epicoccum nigrum* HDN17-88

518 // N // ampiepicoccin A // IA vs 1 bact. strain and 1 virus.

519 // N // ampiepicoccin B // IA vs 1 bact. strain and 1 virus.

520 // N // ampiepicoccin C // IA vs 1 bact. strain and 1 virus.

521 // N // ampiepicoccin D // IA vs 1 bact. strain and 1 virus.

522 // N // ampiepicoccin E // weak inhib. 1 bact. strain, IA vs 1 virus.

523 // N // ampiepicoccin F // weak inhib. 1 bact. strain, IA vs 1 virus.

524 // N // ampiepicoccin G // IA vs 1 bact. strain and 1 virus.

525 // N // ampiepicoccin H // IA vs 1 bact. strain and 1 virus.

526 // N // ampiepicoccin I // IA vs 1 bact. strain and 1 virus.

527 // N // ampiepicoccin J // IA vs 1 bact. strain and 1 virus.

206 Ascomycota *Eupenicillium* sp. // (soft coral, *Sinularia* sp.) Sansha, Hainan Province, China // A new griseofulvin derivative from a soft coral-derived fungus *Eupenicillium* sp. SCSIO41208

528 // N // eupenigriseofulvin // IA vs 5 fungi.

207 Ascomycota *Eurotium* sp // (sediment) S. China Sea // Euroticins A and B, two pairs of highly constructed salicylaldehyde derivative enantiomers from a marine-derived fungus *Eurotium* sp. SCSIO F452

529 // N // (+)-euroticin A // IA vs 4 HTCLs. IA AO (DPPH). IA vs α -glucosidase or tyrosinase.

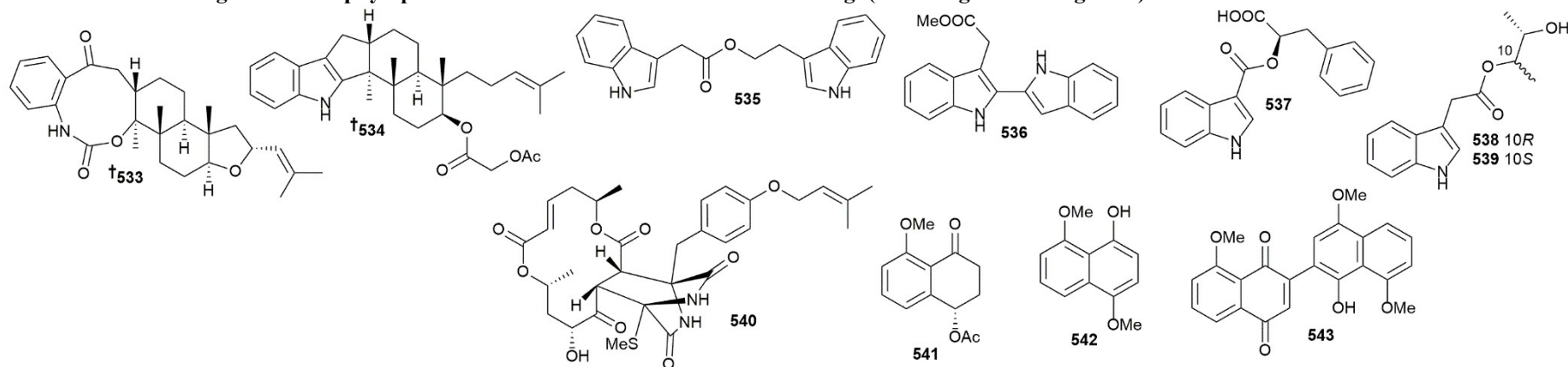
530 // N // (–)-euroticin A // IA vs 4 HTCLs. IA AO (DPPH). IA vs α -glucosidase or tyrosinase.

531 // N // (+)-euroticin B // mod. AO (DPPH). IA vs 4 HTCLs. IA vs α -glucosidase or tyrosinase.

532 // N // (–)-euroticin B // mod. AO (DPPH). IA vs 4 HTCLs. IA vs α -glucosidase or tyrosinase.

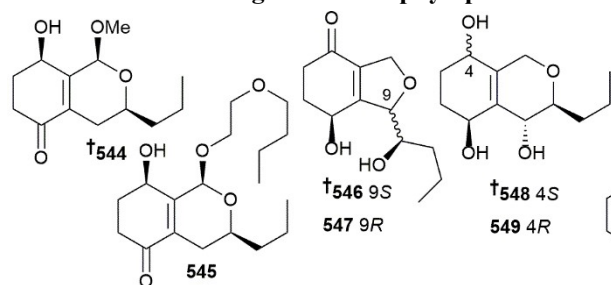
2 Marine microorganisms and phytoplankton:

2.3 Marine-sourced fungi (excluding from mangroves)

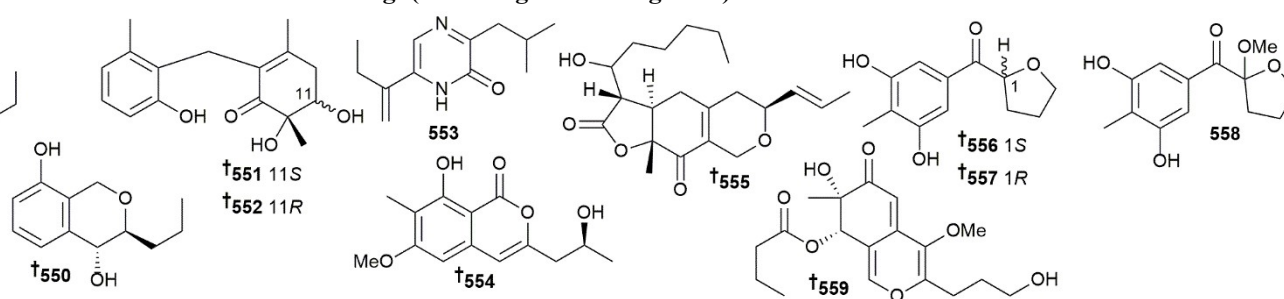


- 208** Ascomycota *Fusarium* sp. // (sea star, *Acanthaster planci*) Xisha Is., China // L-Tryptophan induces a marine-derived *Fusarium* sp. to produce indole alkaloids with activity against the Zika virus
533 // N // fusaindoterpene A // IA vs 1 virus and 2 HTCLs.
534 // N // fusaindoterpene B // weak inhib. 1 virus. IA vs 2 HTCLs.
535 // N // fusariumindole A // IA vs 1 virus and 2 HTCLs.
536 // N // fusariumindole B // IA vs 1 virus and 2 HTCLs.
537 // N // fusariumindole C // IA vs 1 virus and 2 HTCLs.
538 // N // (±)-isoalternatine A // IA vs 1 virus and 2 HTCLs.
539 // M // chlamidosporin // IA vs 1 virus and 2 HTCLs.
- 209** Ascomycota // (brown alga, *Sargassum thunbergii*) Osaka Bay, Japan // Halosmysin A, a novel 14-membered macrodiolide isolated from the marine-algae-derived fungus Halosphaeriaceae sp.
540 // N // halosmysin A // weak cytotox. vs 1 HTCL and 1 murine TCL, IA vs 1 murine TCL
- 210** Ascomycota *Hypoxylon rubiginosum* // (sediment) S. China Sea // Cytotoxic secondary metabolites from a sea-derived fungal strain of *Hypoxylon rubiginosum* FS521
541 // N // hypoxone A // IA vs 4 HTCLs.
542 // M // 4,8-dimethoxy-1-naphthol // IA vs 4 HTCLs.
543 // M // 1'-hydroxy-4',8,8'-trimethoxy[2,2']binaphthalenyl-1,4-dione // weak cytotox. vs 4 HTCLs.

2 Marine microorganisms and phytoplankton:



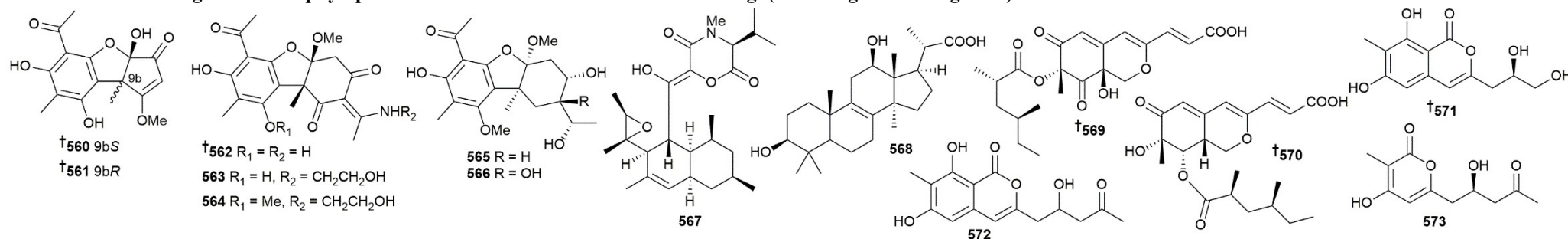
2.3 Marine-sourced fungi (excluding from mangroves)



- 211** Ascomycota *Letendraea* sp. // (unidentified crab) Zhairuoshan Is., Zhoushan, Zhejiang Province, China // New polyketides from the marine-derived fungus *Letendraea* sp. 5XNZ4-2
544 // N // phomopsiketone D // IA vs 5 bact. strains and 1 HTCL. IA vs NO prod.
545 // N // phomopsiketone E // weak inhib. NO prod. IA vs 5 bact. strains and 1 HTCL.
546 // N // phomopsiketone F // IA vs 5 bact. strains and 1 HTCL. IA vs NO prod.
547 // N // phomopsiketone G // NT.
548 // N // letendronol A // IA vs 5 bact. strains and 1 HTCL. IA vs NO prod.
549 // N // letendronol B // IA vs 5 bact. strains and 1 HTCL. NT for inhib. NO prod.
550 // N // letendronol C // NT.
- 212** Ascomycota *Microsphaeropsis* sp. // (gorgonian, *Anthogorgia ochracea*) S. China Sea // Microketides A and B, polyketides from a gorgonian-derived *Microsphaeropsis* sp. fungus
551 // N // microketide A // pot. activ. vs 13 bact. strains, mod. activ. vs 2 bact. strains, mod. activ. vs 4 fungi, weak inhib. 1 phytoplankton, IA vs 3 phytoplankton.
552 // N // microketide B // pot. activ. vs 8 bact. strains, mod. activ. vs 7 bact. strains, mod. activ. vs 4 fungi, weak inhib. 1 phytoplankton, IA vs 4 phytoplankton.
- 213** Ascomycota *Monascus ruber* // (bivalve mollusc *Meretrix meretrix*) Hailing Is., Yangjiang, China // Monarubins A–C from the marine shellfish-associated fungus *Monascus ruber* BB5
553 // N // monarubin A // IA vs 6 HTCLs.
554 // N // monarubin B // mod. cytotox. vs 2 HTCLs, IA vs 4 HTCLs.
555 // N // monarubin C // IA vs 6 HTCLs.
- 214** Ascomycota *Myrothecium* sp. // (sediment) Yongxing Is., China // Isolation and characterization of new anti-inflammatory and antioxidant components from deep marine-derived fungus *Myrothecium* sp. Bzo-1062
556 // N // (–)-1*S*-myrothecol // pot. AO (ABTS and ORAC) but IA DPPH assay. IA vs NO prod.
557 // N // (+)-1*R*-myrothecol // pot. AO (ABTS and ORAC) but IA DPPH assay. IA vs NO prod.
558 // N // methoxy-myrothecol // IA AO (ABTS, ORAC and DPPH assays). IA vs NO prod.
559 // N // myrothin // IA AO (ABTS, ORAC and DPPH assays). IA vs NO prod.

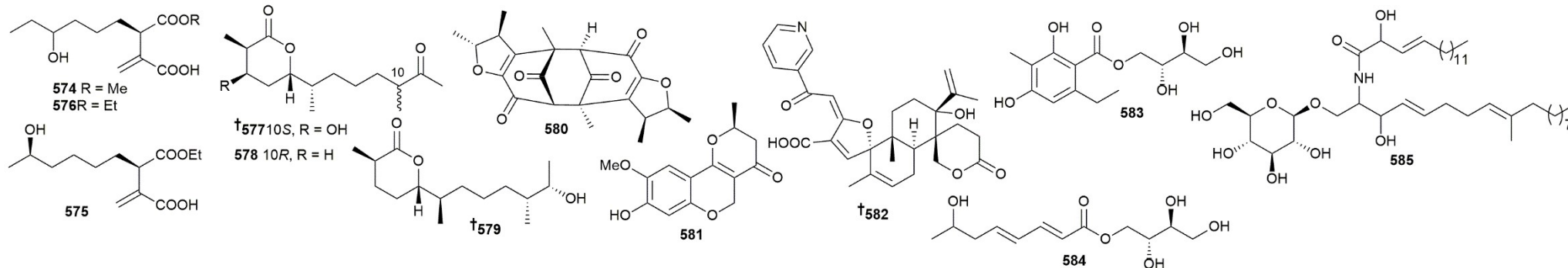
2 Marine microorganisms and phytoplankton:

2.3 Marine-sourced fungi (excluding from mangroves)



- 215** Ascomycota *Ochroconis* sp. // (sediment) Indian Ocean // Ochuscins A–G, highly oxygenated usnic acid derivatives from the deep-sea-derived fungus *Ochroconis* sp. FS449
560 // N // ochuscin A // IA vs AChE.
561 // N // ochuscin B // mod. inhib. AChE.
562 // N // ochuscin C // mod. inhib. AChE.
563 // N // ochuscin D // mod. inhib. AChE.
564 // N // ochuscin E // IA vs AChE.
565 // N // ochuscin F // IA vs AChE.
566 // N // ochuscin G // mod. inhib. AChE.
- 216** Ascomycota *Paraboeremia selaginellae* // (unidentified alga) Senbonhama, Shizuoka Prefecture, Japan // Antifungal compound against azole-resistant *Candida albicans* from a marine-derived fungus, *Paraboeremia selaginellae*
567 // N // selaginemine A // IA vs 1 fungus.
- 217** Ascomycota *Paradendryphiella salina* // (brown alga, *Pelvetia caniculata*) unspecified location // Secondary metabolites from the culture of the marine-derived fungus *Paradendryphiella salina* PC 362H and evaluation of the anticancer activity of its metabolite hyalodendrin
568 // N // dendryphiellide A // IA vs 3 HTCLs.
- 218** Ascomycota *Paraphaeosphaeria* sp. // (unspecified shrimp) Zhairuoshan Is., Zhoushan, Zhejiang Province, China // New azaphilone, isocoumarin and α -pyrone derivatives from the marine-derived gut fungus *Paraphaeosphaeria* sp. XZD2-1
569 // N // lunatoic acid D // IA vs 1 HTCL, 3 bact. strains and 1 fungus.
570 // N // lunatoic acid E // IA vs 1 HTCL, 3 bact. strains and 1 fungus.
571 // N // lunatinin B // IA vs 1 HTCL, 3 bact. strains and 1 fungus.
572 // N // lunatinin C/D // IA vs 1 HTCL, 3 bact. strains and 1 fungus.
573 // N // lunatinin E // IA vs 1 HTCL, 3 bact. strains and 1 fungus.

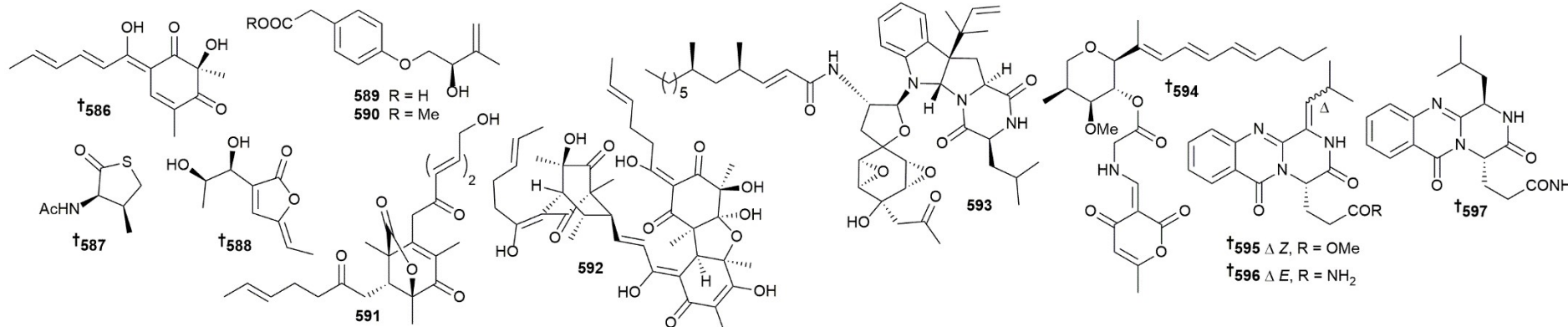
2 Marine microorganisms and phytoplankton: 2.3 Marine-sourced fungi (excluding from mangroves)



- 219** Ascomycota *Penicillium antarcticum* // (tunicate, *Aplidium pallidum*) Corranroo Bay, Galway, Ireland // A novel high-throughput screening platform identifies itaconate derivatives from marine *Penicillium antarcticum* as inhibitors of mesenchymal stem cell differentiation
574 // N // methyl 8-hydroxyhexylitaconate // weak inhib. human mesenchymal stem cell osteogenic differentiation.
575 // N // ethyl 9-hydroxyhexylitaconate // weak inhib. human mesenchymal stem cell osteogenic differentiation.
576 // N // ethyl 8-hydroxyhexylitaconate // weak inhib. human mesenchymal stem cell osteogenic differentiation.
- 220** Ascomycota *Penicillium chermesinum* // (red alga, *Pterocladia tenuis*) Rongcheng, Shandong province, China // Three new sesquiterpenoids from the algal-derived fungus *Penicillium chermesinum* EN-480
577 // N // chermesiterpenoid A // IA vs 11 bact. strains and 7 fungi.
578 // N // chermesiterpenoid B // pot. actv. vs 1 bact. strain, weak activ. vs 1 bact. strain, IA vs 9 bact. strains. weak activ. vs 1 fungus, IA vs 6 fungi.
579 // N // chermesiterpenoid C // pot. actv. vs 1 bact. strain, weak activ. vs 1 bact. strain, IA vs 9 bact. strains. weak activ. vs 1 fungus, IA vs 7 fungi.
- 221** Ascomycota *Penicillium citrinum* // (sponge, *Suberea* sp.) Hoga Is. waters, Wakatobi National Park, S. E. Sulawesi, Indonesia // A new citrinin derivative from the Indonesian marine sponge-associated fungus *Penicillium citrinum*
580 // N // penicitrinone G // IA vs 8 bact. strains and 2 fungi.
- 222** Ascomycota *Penicillium glabrum* // (sediment) Ross Sea // Anti-inflammatory and protein tyrosine phosphatase 1B inhibitory metabolites from the Antarctic marine-derived fungal strain *Penicillium glabrum* SF-7123
581 // N // 9-O-methylneuchromenin // IA vs NO prod. or PTP1B
- 223** Ascomycota *Penicillium chrysogenum* // (brown alga, *Leathesia nana*) Weihai, Shandong Province, China // Antimicrob. meroterpenoids and erythritol derivatives isolated from the marine-algal-derived endophytic fungus *Penicillium chrysogenum* XNM-12
582 // N // oxalicine C // weak inhib. 4 bact. strains and 3 fungi, IA vs 2 fungi.
583 // N // penicierythritol A // weak inhib. 4 bact. strains and 5 fungi.
584 // N // penicierythritol B // weak inhib. 2 bact. strains, IA vs 2. weak inhib. 3 fungi, IA vs 2 fungi.
- 224** Ascomycota *Penicillium chrysogenum* // (sediment) Red Sea // LAMA-1: a cerebroside isolated from the deep-sea-derived fungus *Penicillium chrysogenum*
585 // N // LAMA-1 // IA vs 5 HTCLs.

2 Marine microorganisms and phytoplankton:

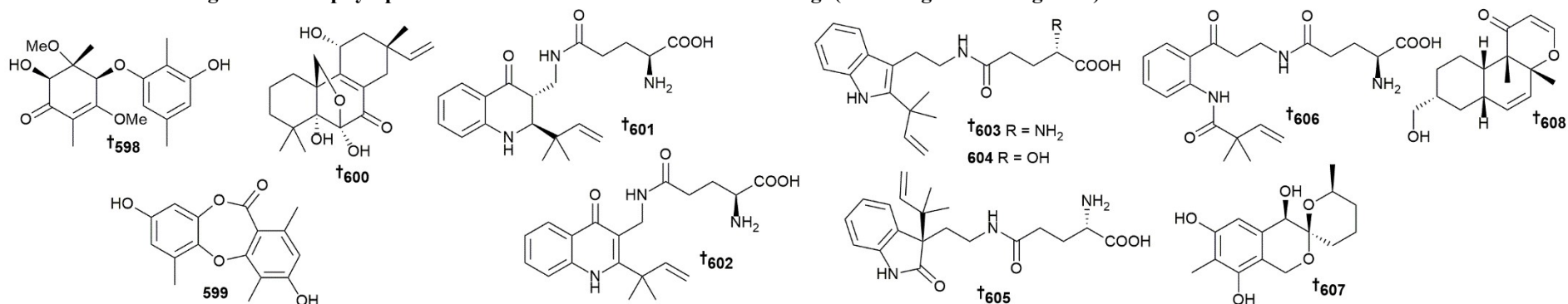
2.3 Marine-sourced fungi (excluding from mangroves)



- 225** Ascomycota *Penicillium chrysogenum* // (sponge *Plakortis simplex*) Xisha Is., China // Two new compounds from the marine sponge derived fungus *Penicillium chrysogenum*
586 // N // C₁₄H₁₆O₄ // mod. inhib. PTP1B. IA vs 2 HTCLs and 1 virus.
587 // N // C₇H₁₁NO₂S // IA vs PTP1B. IA vs 2 HTCLs and 1 virus.
- 226** Ascomycota *Penicillium chrysogenum* // (red alga, *Grateloupia turuturu*) Qingdao, China // Cytotoxic secondary metabolites isolated from the marine alga-associated fungus *Penicillium chrysogenum* LD-201810
588 // N // penilactonol A // IA vs 6 HTCLs.
589 // N // (2'R)-stachyline B // IA vs 6 HTCLs.
590 // N // (2'R)-westerdijkin A // IA vs 6 HTCLs.
- 227** Ascomycota *Penicillium* sp. // (sponge, *Theonella swinhoei*) Xisha Is. // New sorbicillinoid derivatives with GLP-1R and eEF2K affinities from a sponge-derived fungus *Penicillium chrysogenum* 581F1
591 // N // 13-hydroxy-dihydrotrichodermolide // High affinity for proteins GLP-1R (diabetes) and eEF2K (cancer).
592 // N // 10,11,27,28-tetrahydrotrisorbicillinone C // High affinity for proteins GLP-1R (diabetes) and eEF2K (cancer).
- 228** Ascomycota *Penicillium purpurogenum* // neomycin induced mutant strain // Penicimutanin C, a new alkaloidal compound, isolated from a neomycin-resistant mutant 3-f-31 of *Penicillium purpurogenum* G59
593 // N // penicimutanin C // IA vs 5 HTCLs.
- 229** Ascomycota *Penicillium janthinellum*, *P. simplicissimum* // (sediment) Cu Lao Cham Is., Quang Nam, Vietnam // Anti-neuroinflammatory agent, restricticin B, from the marine-derived fungus *Penicillium janthinellum* and its inhibitory activity on the NO production in BV-2 microglia cells
594 // N // restricticin B // Some inhib. NO, iNOS, COX-2 and pro-inflammatory cytokines prod. IA vs 6 bact. strains, 3 fungi and 6 HTCLs.
- 230** Ascomycota *Penicillium polonicum* // (seawater? unclear) Huanghua, Hebei Province, China // Absolute configurations and chitinase inhibitions of quinazoline-containing diketopiperazines from the marine-derived fungus *Penicillium polonicum*
595 // N // polonimide A // pot. inhib. 1 chitinase enzyme, IA vs another, 3 HTCLs and 1 nHCL.
596 // N // polonimide B // pot. inhib. 1 chitinase enzyme, IA vs another, 3 HTCLs and 1 nHCL.
597 // N // polonimide C // pot. inhib. 1 chitinase enzyme, IA vs another, 3 HTCLs and 1 nHCL.

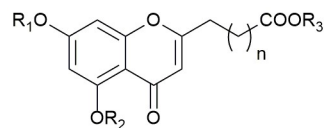
2 Marine microorganisms and phytoplankton:

2.3 Marine-sourced fungi (excluding from mangroves)



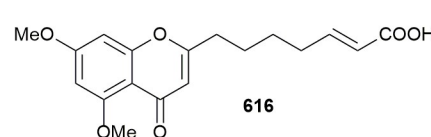
- 231** Ascomycota *Penicillium sclerotiorum* // (gastropod mollusc, *Onchidium struma*) Xuwen, Guangdong Province, China // New polyketides and diterpenoid derivatives from the fungus *Penicillium sclerotiorum* GZU-XW03-2 and their anti-inflammatory activity
598 // N // penisclerotiorin A // weak inhib. NO prod., IA vs 1 nHCL.
599 // M // penidepsidone A // IA vs NO prod., NT vs 1 nHCL.
600 // N // diaporthein C // IA vs NO prod., NT vs 1 nHCL.
- 232** Ascomycota *Penicillium solitum* // (unspecified isopod) Admiralty Bay, King George Is., Antarctica // Water-soluble glutamic acid derivatives produced in culture by *Penicillium solitum* IS1-A from King George Is., Maritime Antarctica
601 // N // solitumine A // IA vs 4 bact. strains and 5 HTCLs. IA vs *Leishmania*, *Trypanosoma cruzi* or proteasomes.
602 // N // solitumine B // IA vs 4 bact. strains and 5 HTCLs. IA vs *Leishmania*, *Trypanosoma cruzi* or proteasomes.
603 // N // solitumidine A // IA vs 4 bact. strains and 5 HTCLs. IA vs *Leishmania*, *Trypanosoma cruzi* or proteasomes.
604 // N // solitumidine B // IA vs 4 bact. strains and 5 HTCLs. IA vs *Leishmania*, *Trypanosoma cruzi* or proteasomes.
605 // N // solitumidine C // IA vs 4 bact. strains and 5 HTCLs. IA vs *Leishmania*, *Trypanosoma cruzi* or proteasomes.
606 // N // solitumidine D // IA vs 4 bact. strains and 5 HTCLs. IA vs *Leishmania*, *Trypanosoma cruzi* or proteasomes.
- 234** Ascomycota *Penicillium cyclopium* // (sediment) East China Sea // Antibacterial alkaloids and polyketide derivatives from the deep sea-derived fungus *Penicillium cyclopium* SD-413
607 // N // 9-dehydroxysargassopenilline A // mod. inhib. 1 bact. strain, weak inhib. 2, IA vs 9.
608 // N // 1,2-didehydropeaurantiogriseol E // mod. inhib. 2 bact. strains, weak inhib. 2, IA vs 8.

2 Marine microorganisms and phytoplankton:

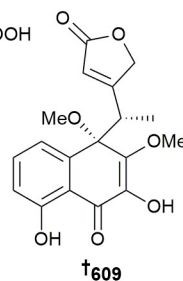


- 610** $R_1 = R_2 = R_3 = H, n = 5$
611 $R_1 = R_2 = H, R_3 = Me, n = 5$
612 $R_1 = Me, R_2 = R_3 = H, n = 5$
613 $R_2 = R_3 = Me, R_1 = H, n = 5$
614 $R_1 = R_3 = Me, R_2 = H, n = 5$
615 $R_1 = R_2 = R_3 = Me, n = 5$
617 $R_1 = R_2 = Me, R_3 = H, n = 3$
618 $R_1 = R_2 = R_3 = Me, n = 3$
619 $R_1 = H, R_2 = R_3 = Me, n = 3$
620 $R_1 = R_2 = R_3 = Me, n = 1$
621 $R_1 = R_2 = Me, R_3 = H, n = 5$

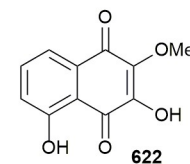
2.3 Marine-sourced fungi (excluding from mangroves)



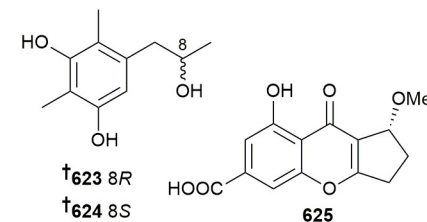
616



†**609**



622



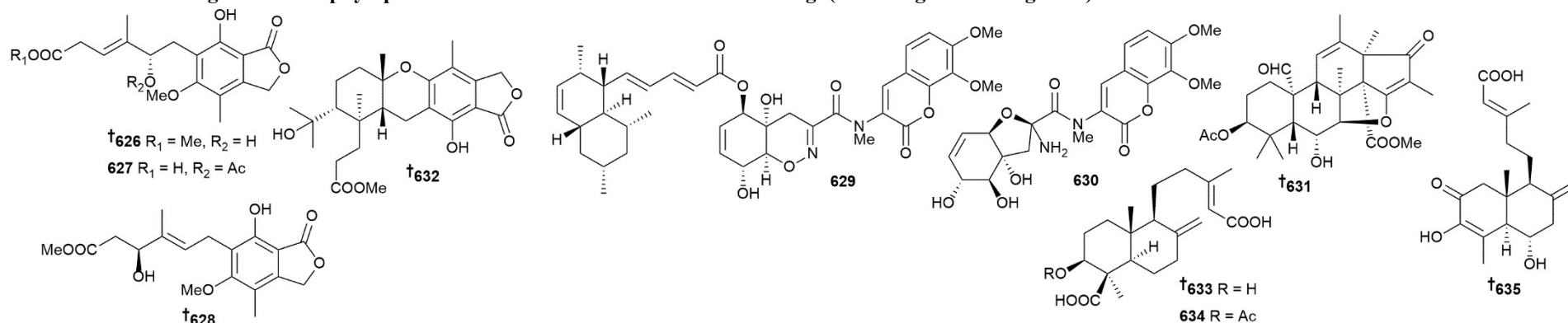
†**623** 8R
†**624** 8S

625

- 235** Ascomycota *Penicillium thomii* // (sediment) Yap Trench // Penithoketone and penithochromones A–L, polyketides from the deep-sea-derived fungus *Penicillium thomii* YPGA3
609 // N // penithoketone // weak cytotox. vs 1 HTCL, IA vs 3 HTCLs.
610 // N // penithochromone A // IA vs 4 HTCLs.
611 // N // penithochromone B // IA vs 4 HTCLs.
612 // N // penithochromone C // IA vs 4 HTCLs.
613 // N // penithochromone D // IA vs 4 HTCLs.
614 // N // penithochromone E // IA vs 4 HTCLs.
615 // N // penithochromone F // IA vs 4 HTCLs.
616 // N // penithochromone G // IA vs 4 HTCLs.
617 // N // penithochromone H // IA vs 4 HTCLs.
618 // N // penithochromone I // IA vs 4 HTCLs.
619 // N // penithochromone J // IA vs 4 HTCLs.
620 // N // penithochromone K // IA vs 4 HTCLs.
621 // M // penithochromone L // IA vs 4 HTCLs.
622 // M // 3,5-dihydroxy-2-methoxy-1,4-naphthalenedione // IA vs 4 HTCLs.
236 Ascomycota *Penicillium* sp. // (sediment) Indian Ocean // Two new aromatic polyketides from a deep-sea fungus *Penicillium* sp. SCSIO 06720
623 // N // 5-[(2R)-2-hydroxypropane-1-yl]-2,6-dimethylbenzene-1,3-diol // NT.
624 // N // 5-[(2S)-2-hydroxypropane-1-yl]-2,6-dimethylbenzene-1,3-diol // NT.
625 // N // coniochaetone L // NT.

2 Marine microorganisms and phytoplankton:

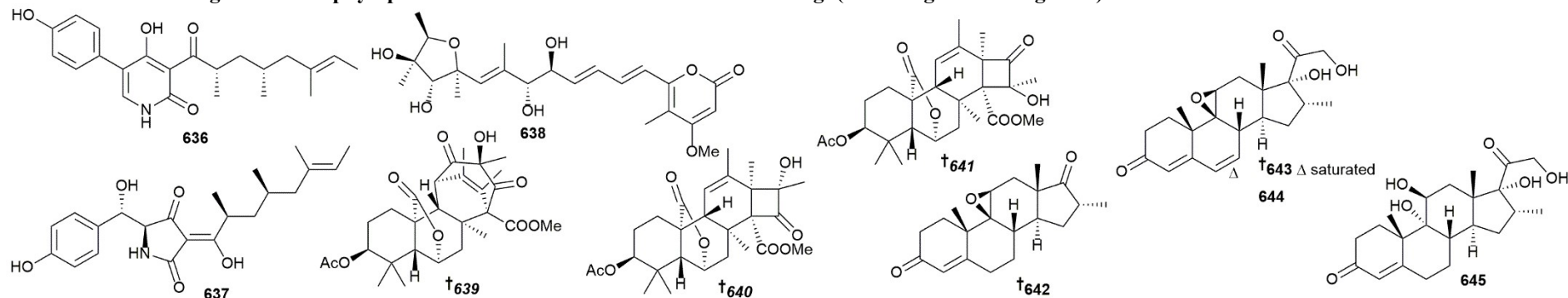
2.3 Marine-sourced fungi (excluding from mangroves)



- 237** Ascomycota *Penicillium parvum* // (sediment) S. China Sea // Penicacids E–G, three new mycophenolic acid derivatives from the marine-derived fungus *Penicillium parvum* HDN17-478
626 // N // penicacid E // IA vs 6 HTCLs, 4 bact. strains and 1 fungus.
627 // N // penicacid F // IA vs 6 HTCLs, 4 bact. strains and 1 fungus.
628 // N // penicacid G // IA vs 6 HTCLs, 4 bact. strains and 1 fungus.
- 238** Ascomycota *Penicillium steckii* // (sediment) Sagami Bay off Hatsushima Is., Shizuoka, Japan // Hatsusamides A and B: two new metabolites produced by the deep-sea-derived fungal strain *Penicillium steckii* FKJ-0213
629 // N // hatsusamide A // weak cytotox. vs 1 HTCL, IA vs 4. IA vs 2 strains *P. falciparum*.
630 // N // hatsusamide B // IA vs 5 HTCLs and 2 strains *P. falciparum*.
- 239** Ascomycota *Penicillium* sp. // (sediment) Mariana Trench // Bioactive metabolites from the Mariana Trench sediment-derived fungus *Penicillium* sp. SY2107
631 // N // andrastone C // weak inhib. 2 bact. strains and 1 fungus. IA vs 2 HTCLs.
- 240** Ascomycota *Penicillium thomii* // (seawater) Yap Trench // Terpenoids from the deep-sea-derived fungus *Penicillium thomii* YPGA3 and their bioactivities
632 // N // austalide Y // mod. inhib. NO prod. IA vs 2 HTCLs. IA vs α -glucosidase.
633 // N // 3 β -hydroxy-agathic acid // IA vs 2 HTCLs. IA vs NO prod. or α -glucosidase.
634 // N // 3 β -acetoxy-agathic acid // mod. inhib. NO prod. IA vs 2 HTCLs. IA vs α -glucosidase.
- 241** Ascomycota *Penicillium thomii* // (seawater) Yap Trench // Penitholabene, a rare 19-nor labdane-type diterpenoid from the deep-sea-derived fungus *Penicillium thomii* YPGA3
635 // N // penitholabene // mod. inhib. α -glucosidase.

2 Marine microorganisms and phytoplankton:

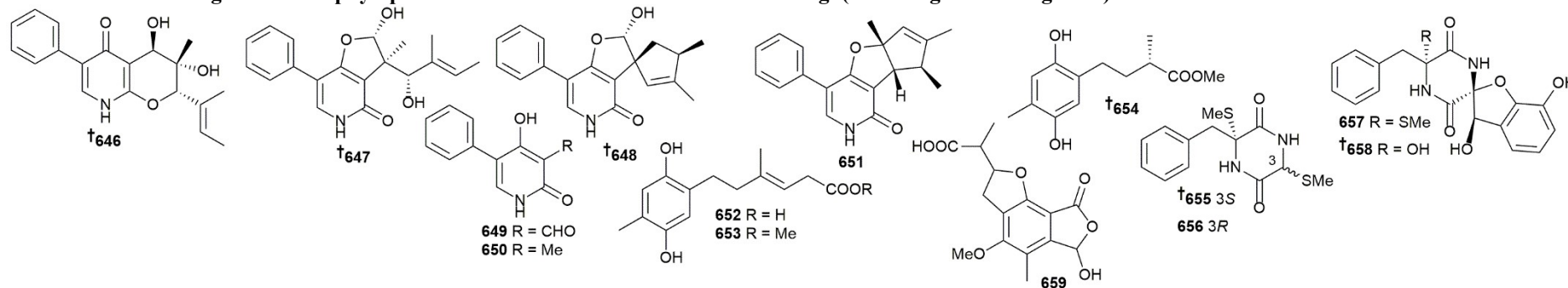
2.3 Marine-sourced fungi (excluding from mangroves)



- 242** Ascomycota *Penicillium vancouverense* // (sea snail, *Monodonta neritoide*) Shonai coast, Yamagata, Japan // Phytotoxic compounds isolated from a sea snail derived fungus, *Penicillium vancouverense* YY-1
636 // N // vancouverone A // IA phytotox. vs 4 plant species.
637 // N // vancouverone B // IA phytotox. vs 4 plant species.
638 // N // 10,11-dihydroxy-citreoviridin // IA phytotox. vs. 4 plant species.
- 243** Ascomycota *Penicillium* sp. // (unspecified soft coral) Fiery Cross Reef, S. China Sea // Penicimeroterpenoids A–C, meroterpenoids with rearrangement skeletons from the marine-derived fungus *Penicillium* sp. SCSIO 41512
639 // N // penicimeroterpenoid A // mod. inhib. 3 protein tyrosine phosphatases, IA vs 4. IA vs trypsin, human leukocyte elastase, cathepsin L and xanthine oxidase.
640 // N // penicimeroterpenoid B // mod. inhib. 2 protein tyrosine phosphatases, IA vs 5. IA vs trypsin, human leukocyte elastase, cathepsin L and xanthine oxidase.
641 // N // penicimeroterpenoid C // mod. inhib. 2 protein tyrosine phosphatases, IA vs 5. IA vs trypsin, human leukocyte elastase, cathepsin L and xanthine oxidase.
- 244** Ascomycota *Penicillium* sp. // (soft coral, *Sinularia* sp.) Yongxing Is., S. China Sea // Four new steroids from the marine soft coral-derived fungus *Penicillium* sp. SCSIO41201
642 // N // penicildione A // IA vs 6 HTCLs.
643 // N // penicildione B // IA vs 6 HTCLs.
644 // N // penicildione C // IA vs 6 HTCLs.
645 // N // penicildione D // IA vs 6 HTCLs.

2 Marine microorganisms and phytoplankton:

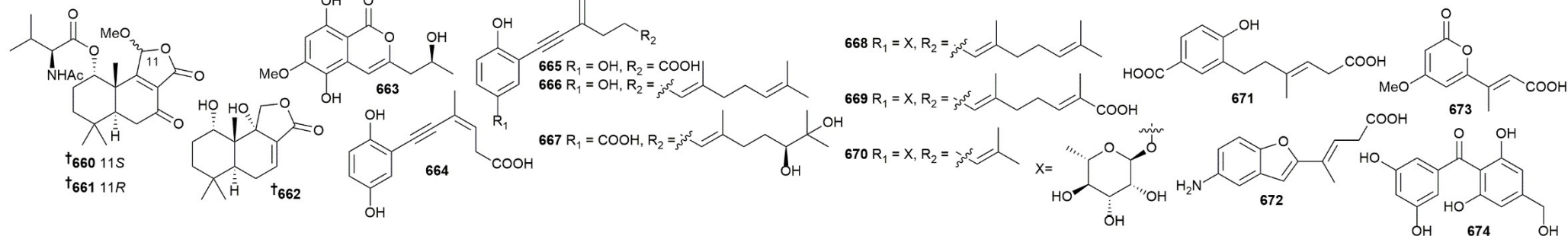
2.3 Marine-sourced fungi (excluding from mangroves)



- 245** Ascomycota *Penicillium* sp. // (unspecified shrimp) Zhairuoshan Is., Zhoushan, Zhejiang Province, China // New pyridone alkaloids from marine-derived fungus *Penicillium* sp.
646 // N // citridone H // IA vs 2 HTCLs, 4 bact. strains and 1 fungus, IA vs NO prod.
647 // N // citridone I // IA vs 2 HTCLs, 4 bact. strains and 1 fungus, mod. inhib. NO prod.
648 // N // citridone J // IA vs 2 HTCLs, 4 bact. strains and 1 fungus, mod. inhib. NO prod.
649 // N // citridone K // IA vs 2 HTCLs, 4 bact. strains and 1 fungus, IA vs NO prod.
650 // N // citridone L // IA vs 2 HTCLs, 4 bact. strains and 1 fungus, IA vs NO prod.
651 // M // ent-citridone A // IA vs 2 HTCLs, 4 bact. strains and 1 fungus, IA vs NO prod.
- 246** Ascomycota *Penicillium* sp. // (unidentified sponge) Prydz Bay // Antibacterial polyketides from Antarctica sponge-derived fungus *Penicillium* sp. HDN151272
652 // N // ketidocillinone A // IA vs 8 bact. strains and 1 fungus.
653 // N // ketidocillinone B // mod. inhib. 2 bact. strains, weak inhib. 2, IA vs 4 and 1 fungus.
654 // N // ketidocillinone C // weak inhib. 6 bact. strains, IA vs 2 and 1 fungus.
- 247** Ascomycota *Penicillium* sp. // (brown alga, *Padina* sp.) S. China Sea // Citriperazines A-D produced by a marine algae-derived fungus *Penicillium* sp. KMM 4672
655 // N // citriperazine A // IA vs 3 HTCLs.
656 // N // citriperazine B // IA vs 3 HTCLs.
657 // N // citriperazine C // IA vs 3 HTCLs.
658 // N // citriperazine D // IA vs 3 HTCLs.
- 248** Ascomycota *Penicillium* sp. // (sediment) S. China Sea // A mycophenolic acid derivative from the fungus *Penicillium* sp. SCSIO sof101
659 // N // penicacid D // IA vs 4 bact. strains.

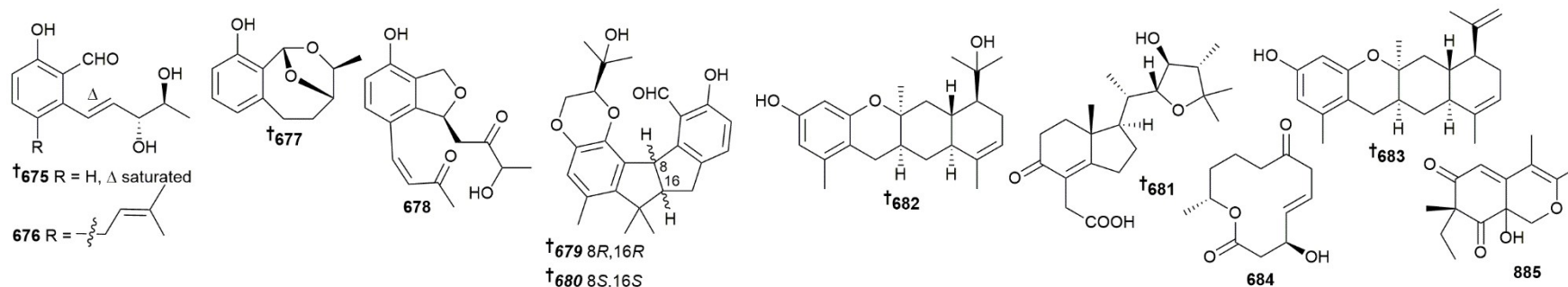
2 Marine microorganisms and phytoplankton:

2.3 Marine-sourced fungi (excluding from mangroves)



- 249** Ascomycota *Penicillium minioluteum* // (sediment) unspecified location // Bioactive drimane sesquiterpenoids and isocoumarins from the marine-derived fungus *Penicillium minioluteum* ZZ1657
660 // N // purpuride E // weak inhib. 2 bact. strains and 1 fungus. IA vs 2 HTCLs.
661 // N // purpuride F // mod. inhib. 1 bact. strain, weak inhib. 1 and 1 fungus. IA vs 2 HTCLs.
662 // N // purpuride G // weak inhib. 1 bact. strain, IA vs 1, weak inhib. 1 fungus. weak cytotox. vs 1 HTCL, IA vs 1.
663 // N // peniisocoumarin H // weak inhib. 1 bact. strain, IA vs 1, weak inhib. 1 fungus. IA vs 2 HTCLs.
- 250** Ascomycota *Pestalotiopsis neglecta* // (red alga, *Coelarthrum* sp.) Yongxing Is., S. China Sea // Ene-yne hydroquinones from a marine-derived strain of the fungus *Pestalotiopsis neglecta* with effects on liver X receptor alpha
664 // N // pestalotioquinol C // IA vs 3 HTCLs and 1 virus. No affinity with liver X α receptor.
665 // N // pestalotioquinol D // IA vs 3 HTCLs and 1 virus. No affinity with liver X α receptor.
666 // N // pestalotioquinol E // IA vs 3 HTCLs and 1 virus. No affinity with liver X α receptor.
667 // N // pestalotioquinol F // IA vs 3 HTCLs and 1 virus. No affinity with liver X α receptor.
668 // N // pestalotioquinoside A // IA vs 3 HTCLs and 1 virus. No affinity with liver X α receptor.
669 // N // pestalotioquinoside B // IA vs 3 HTCLs and 1 virus. No affinity with liver X α receptor.
670 // N // pestalotioquinoside C // IA vs 3 HTCLs and 1 virus. Some affinity with liver X α receptor .
- 251** Ascomycota *Pestalotiopsis neglecta* // (red alga, *Coelarthrum* sp.) Yongxing Is., S. China Sea // New pestallic acids and diphenylketone derivatives from the marine alga-derived endophytic fungus *Pestalotiopsis neglecta* SCSIO41403
671 // N // pestallic acid F // IA vs 1 virus. IA vs COX-2.
672 // N // pestallic acid G // IA vs 1 virus. IA vs COX-2.
673 // N // pestalotiopyrone N // IA vs 1 virus. NT vs COX-2.
674 // N // neopestalone // IA vs 1 virus. weak inhib. COX-2.

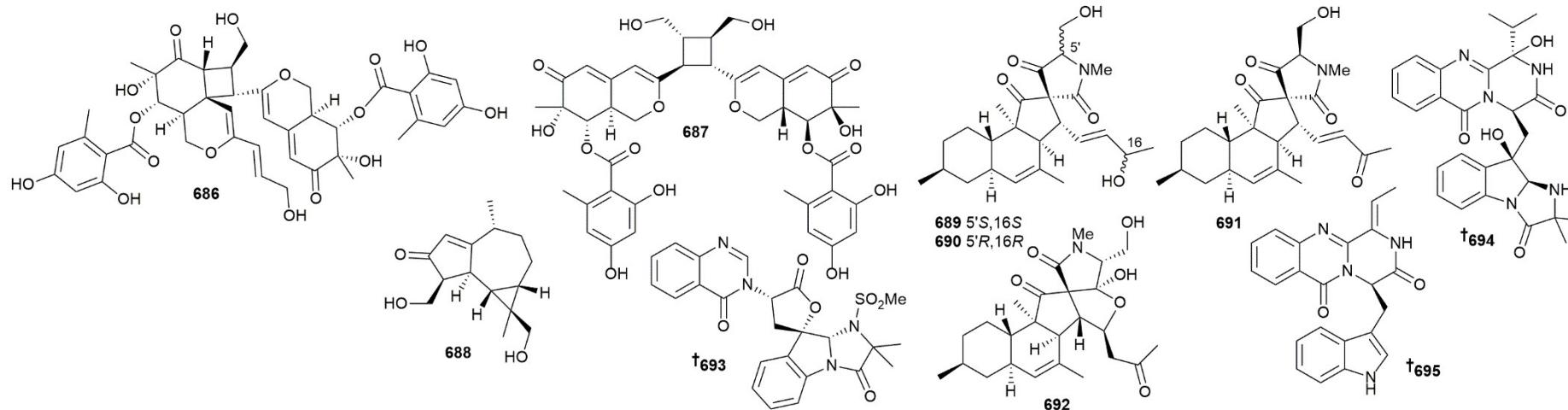
2 Marine microorganisms and phytoplankton: 2.3 Marine-sourced fungi (excluding from mangroves)



- 252** Ascomycota *Pestalotiopsis* sp. // (sponge, *Phakellia fusca*) Xisha Is., China // New cytotoxic natural products from the marine sponge-derived fungus *Pestalotiopsis* sp. by epigenetic modification
675 // N // pestalotiopol A // IA vs 4 HTCLs.
676 // N // pestalotiopol B // IA vs 4 HTCLs.
677 // N // pestalotiopol C // IA vs 4 HTCLs.
678 // N // pestalotiopol D // IA vs 4 HTCLs.
- 253** Ascomycota *Phomopsis lithocarpi* // (sediment) Indian Ocean // Lithocaldehydes A and B, polyketones from the deep sea-derived fungus *Phomopsis lithocarpus* FS508
679 // N // lithocaldehyde A // weak inhib. 2 bact. strains and 3 fungi.
680 // N // lithocaldehyde B // weak inhib. 2 bact. strains and 3 fungi.
- 254** Ascomycota *Phomopsis tersa*, *Diaporthe tersa* // (sediment) Indian Ocean // Phosteoid A, a highly oxygenated norsteroid from the deep-sea-derived fungus *Phomopsis tersa* FS441
681 // N // phosteoid A // IA vs 4 HTCLs. IA vs NO prod.
- 255** Ascomycota *Phomopsis tersa* // (sediment) Indian Ocean // Photeroids A and B, unique phenol–sesquiterpene meroterpenoids from the deep-sea-derived fungus *Phomopsis tersa*
682 // N // photeroid A // IA vs 4 HTCLs.
683 // N // photeroid B // IA vs 4 HTCLs.
- 256** Ascomycota *Plenodomus* sp., *Pyrenochaeta nobilis* // (sediment) Windebyer Noor, Baltic Sea // Design of fungal co-cultivation based on comparative metabolomics and bioactivity for discovery of marine fungal agrochemicals
684 // N // dendrodolide N // weak inhib. 1 bact. strain, IA vs 3. IA vs 1 fungus and 1 oomycete.
685 // N // 8a-hydroxy-spiciferinone // IA vs 4 bact. strains, 1 fungus and 1 oomycete.

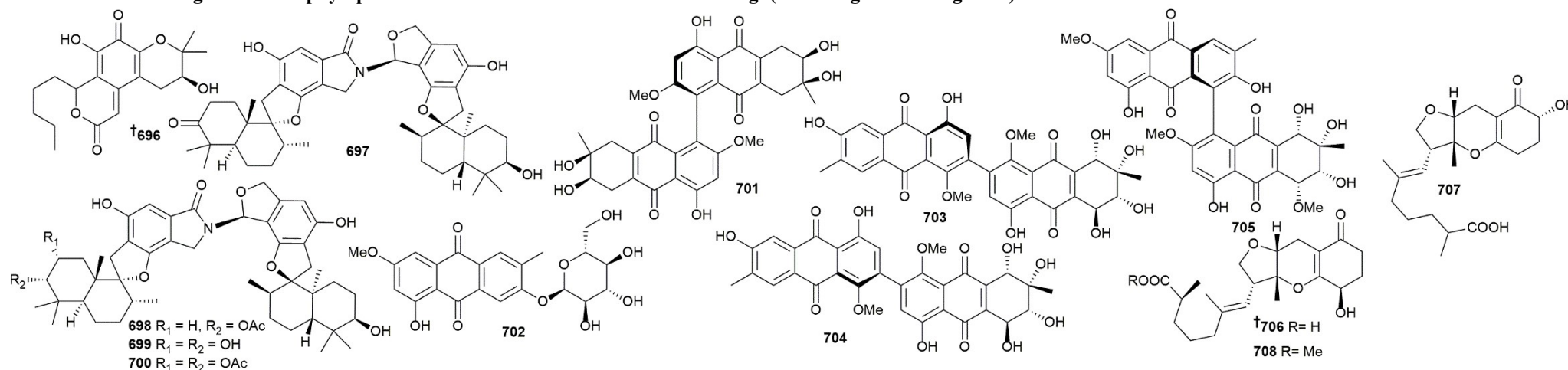
2 Marine microorganisms and phytoplankton:

2.3 Marine-sourced fungi (excluding from mangroves)



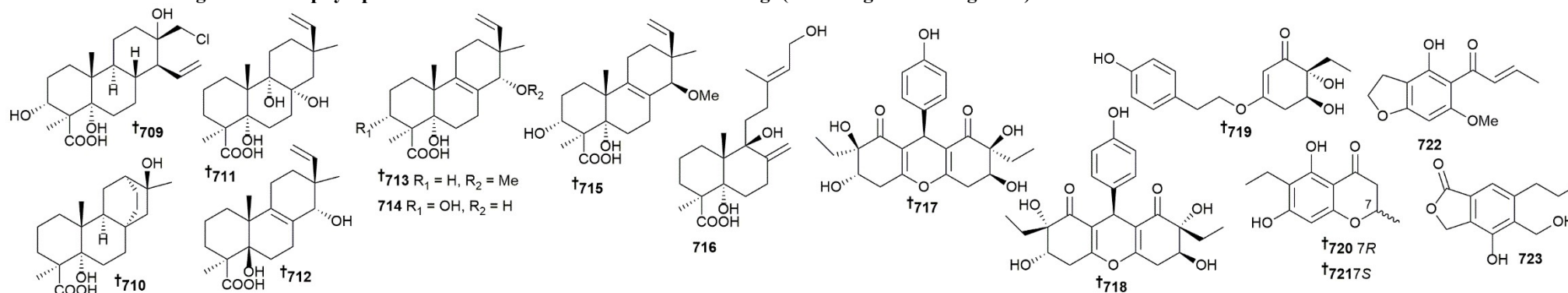
- 257** *Ascomycota* sp. // (sediment) Huanghua, Bohai Sea // Dipleosporalones A and B, dimeric azaphilones from a marine-derived *Pleosporales* sp. fungus
686 // N // dipleosporalone A // mod. cytotox. vs 1 HTCL, weak cytotox. vs 5 HTCLs.
687 // N // dipleosporalone B // weak cytotox. vs 4 HTCLs, IA vs 1 HTCL.
- 258** *Ascomycota Pseudallescheria boydii* // (soft coral, *Sarcophyton* sp.) // New aromadendrane sesquiterpenoid pseuboydone F from the marine-derived fungus *Pseudallescheria boydii* F44-1
688 // N // pseuboydone F // IA vs 7 HTCLs.
- 259** *Ascomycota Pyrenochaetopsis* sp. // (brown alga, *Fucus vesiculosus*) Falckenstein Beach, Kiel Fjord, Germany // Pyrenosetins A–C, new decalinoylspirotetramic acid derivatives isolated by bioactivity-based molecular networking from the seaweed-derived fungus *Pyrenochaetopsis* sp. FVE-001
689 // N // pyrenosetin A // mod. cytotox. vs 2 HTCLs.
690 // N // pyrenosetin B // mod. cytotox. vs 1 HTCL, IA vs 1.
691 // N // pyrenosetin C // IA vs 2 HTCLs.
- 260** *Ascomycota Pyrenochaetopsis* sp. // (brown alga, *Fucus vesiculosus*) Falckenstein Beach, Kiel Ford, Germany // Pyrenosetin D, a new pentacyclic decalinoyltetramic acid derivative from the algicolous fungus *Pyrenochaetopsis* sp. FVE-087
692 // N // pyrenosetin D // IA vs 1 HTCL and 1 nHCL.
- 261** *Ascomycota Scedosporium apiospermum*, *Pseudallescheria boydii* // (soft coral, *Lobophyton crassum*) Hainan Sanya National Coral Reef Reserve, P. R. China // Potential antidiabetic fumiquinazoline alkaloids from the marine-derived fungus *Scedosporium apiospermum* F41-1
693 // N // scetryptoquivaline A // IA vs adipogenesis induction.
694 // N // scequinadoline I // IA vs adipogenesis induction.
695 // N // scequinadoline J // mod. adipogenesis induction.

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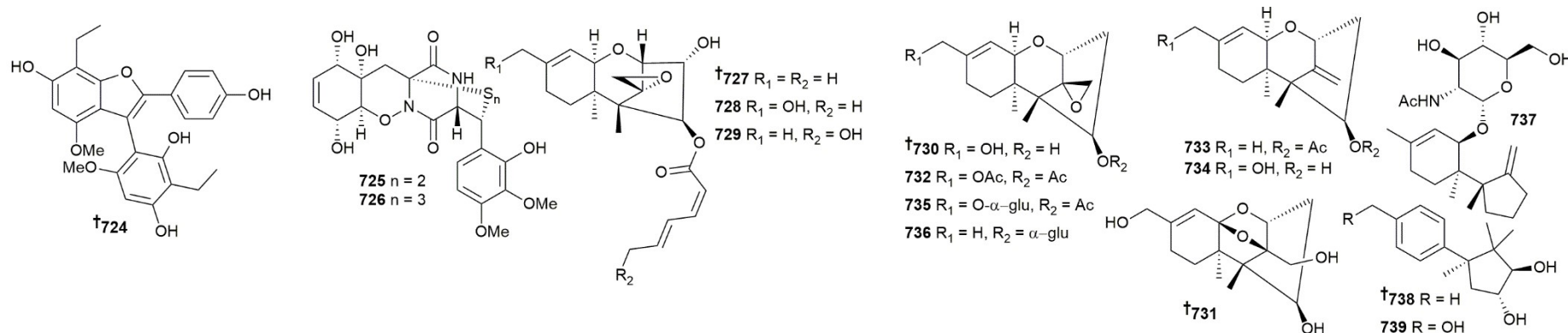
- 262** Ascomycota *Spiromastix* sp. // (sediment) Northern S. China Sea // Upregulation of a marine fungal biosynthetic gene cluster by an endobacterial symbiont
696 // N // spiromarmycin // weak inhib. 21 bact. strains, IA vs 38. pot. active. vs 1 fungus, mod. activ. vs 8 fungi, weak activ. vs 8 fungi, IA vs 12.
- 263** Ascomycota *Stachybotrys chartarum* // (sponge, *Niphates* sp.) Beibuwan Bay, GuangXi Province, China // Chartarlactams Q–T, dimeric phenylspirodrimanes with antibacterial and antiviral activities
697 // N // chartarlactam Q // weak activ. vs 1 bact. strain, IA vs 1 bact. strain and 1 virus.
698 // N // chartarlactam R // weak activ. vs 1 bact. strain, IA vs 1 bact. strain and 1 virus.
699 // N // chartarlactam S // mod. activ. vs 1 bact. strain, IA vs 1 bact. strain and 1 virus.
700 // N // chartarlactam T // IA vs 2 bact. strains, weak activ. vs 1 virus.
- 264** Ascomycota *Stemphylium lycopersici* // (gorgonian coral, *Dichotella gemmacea*) S. China Sea // Anthraquinone derivatives from a coral associated fungus *Stemphylium lycopersici*
701 // N // alterporriol Y // IA vs 3 HTCLs.
702 // N // macrosporin 2-O- α -D-glucopyranoside // IA vs 3 HTCLs.
- 265** Ascomycota *Stemphylium* sp. // (unidentified sponge) Jeju-do, Korea // Bioactive bianthraquinones and meroterpenoids from a marine-derived *Stemphylium* sp. fungus
703 // N // alterporriol Z1 // IA vs 6 HTCLs and 6 bact. strains. Mod. inhib. NO prod. IA vs SrtA or ICL.
704 // N // alterporriol Z2 // IA vs 6 HTCLs and 6 bact. strains. Mod. inhib. NO prod. IA vs SrtA or ICL.
705 // N // alterporriol Z3 // IA vs 6 HTCLs and 6 bact. strains. IA vs NO prod., SrtA or ICL.
706 // N // tricycloalterfurene E // IA vs 6 HTCLs and 6 bact. strains. IA vs NO prod., SrtA or ICL.
707 // N // tricycloalterfurene F // IA vs 6 HTCLs and 6 bact. strains. IA vs NO prod., SrtA or ICL.
708 // N // tricycloalterfurene G // IA vs 6 HTCLs and 6 bact. strains. IA vs NO prod., SrtA or ICL.

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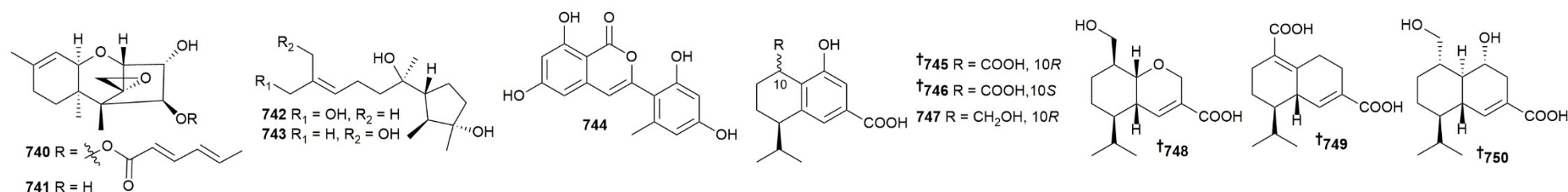


- 266** Ascomycota *Talaromyces scorteus* // (sea anemone, *Cerianthus* sp.) Magellan seamounts // Talascortenes A–G, highly oxygenated diterpenoid acids from the sea-anemone-derived endozoic fungus *Talaromyces scorteus* AS-242
- 709** // N // talascortene A // mod. activ. vs 1 bact. strain, weak activ. vs 1 bact. strain, IA vs 5 bact. strains and 4 fungi.
- 710** // N // talascortene B // mod. activ. vs 1 bact. strain, weak activ. vs 3, IA vs 3. mod activ. vs 1 fungus, weak activ. vs 2 fungi, IA vs 1 fungus.
- 711** // N // talascortene C // weak activ. vs 1 bact. strain, IA vs 6 bact. strains and 4 fungi.
- 712** // N // talascortene D // weak activ. vs 3 bact. strains, IA vs 4 bact. strains and 4 fungi.
- 713** // N // talascortene E // pot. activ. vs 1 bact. strain, weak activ. vs 1 bact. strain, IA vs 5 bact. strains mod. activ. vs 1 fungus, IA vs 3 fungi.
- 714** // N // talascortene F // weak activ. vs 1 bact. strain, IA vs 6 bact. strains and 4 fungi.
- 715** // N // talascortene G // weak activ. vs 2 bact. strains, IA vs 5 bact. strains and 4 fungi.
- 716** // N // 5 α ,9 β -dihydroxyisocupressic acid // weak activ. vs 1 bact. strain, IA vs 6 bact. strains and 4 fungi.
- 267** Ascomycota *Trichobotrys effusus* // (sediment) S. China Sea // Highly substituted phenol derivatives with nitric oxide inhibitory activities from the deep-sea-derived fungus *Trichobotrys effuse* FS524
- 717** // N // trieffusol A // IA vs NO prod.
- 718** // N // trieffusol B // IA vs NO prod.
- 719** // N // trieffusol C // Mod. inhib. NO prod.
- 720** // N // (+)-trieffusol D // Mod. inhib. NO prod.
- 721** // N // (–)-trieffusol D // Mod. inhib. NO prod.
- 722** // N // trieffusol E // IA vs NO prod.
- 723** // N // trieffusol F // IA vs NO prod.

2 Marine microorganisms and phytoplankton: 2.3 Marine-sourced fungi (excluding from mangroves)

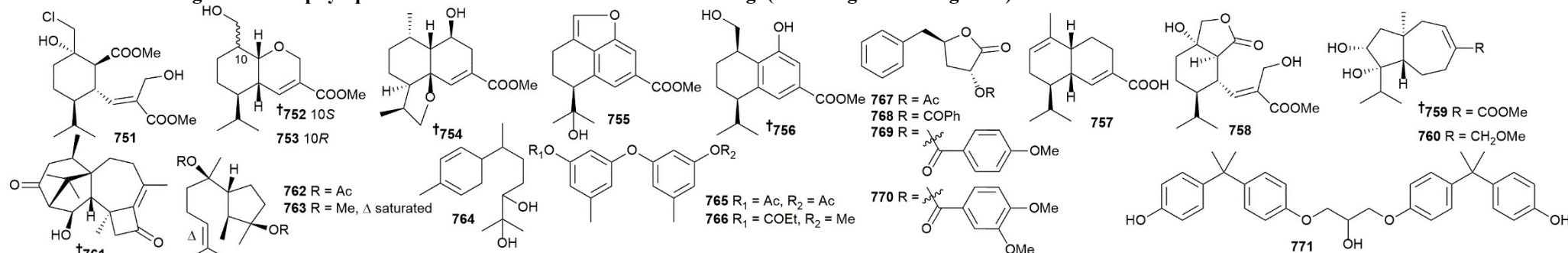


- 268** Ascomycota *Trichobotrys effusus* // (sediment) S. China Sea // Structural elucidation, total synthesis, and cytotoxic activity of effphenol A
724 // N // effphenol A // IA vs 4 HTCLs.
- 269** Ascomycota *Trichoderma* sp. // (unspecified red alga) Palau // Epipolythiodiketopiperazine and trichothecene derivatives from the NaI-containing fermentation of marine-derived *Trichoderma* cf. *brevicompactum*
725 // N // 5-*epi*-pretrichodermamide A // NT.
726 // N // 5-*epi*-trithiopretrichodermamide A // NT.
727 // N // trichobreol A // mod. activ. vs 2 fungi, IA vs 2 fungi.
728 // N // trichobreol B // mod. activ. vs 1 fungus, weak activ. vs 1 fungus, IA vs 2 fungi.
729 // N // trichobreol C // weak activ. vs 1 fungus, IA vs 3 fungi.
- 270** Ascomycota *Trichoderma brevicompactum* // (red alga, *Chondria tenuissima*) Dalian, China // Antifungal and antimicrobial trichothecene sesquiterpenes from the marine algicolous fungus *Trichoderma brevicompactum* A-DL-9-2
730 // N // trichodermarin G // weak activ. vs 2 fungi, IA vs 3 fungi. weak activ. vs 4 microalgae.
731 // N // trichodermarin H // IA vs 5 fungi and 4 microalgae.
732 // N // trichodermarin I // weak activ. vs 3 fungi, IA vs 2 fungi. weak activ. vs 3 microalgae, IA vs 1.
733 // N // trichodermarin J // IA vs 5 fungi, weak activ. vs 3 microalgae, IA vs 1 microalga.
734 // N // trichodermarin K // IA vs 5 fungi and 4 microalgae.
735 // N // trichodermarin L // IA vs 5 fungi, IA vs 3 fungi. weak activ. vs 3 microalgae, IA vs 1 microalga.
736 // N // trichodermarin M // IA vs 5 fungi, IA vs 3 fungi. weak activ. 3 microalgae, IA vs 2 microalgae.
737 // N // trichodermarin N // IA vs 5 fungi and 4 microalgae.
738 // N // trichocuparin A // IA vs 5 fungi and 4 microalgae.
739 // N // trichocuparin B // IA vs 5 fungi and 4 microalgae.



- 271** Ascomycota *Trichoderma* sp. // (unspecified red alga) Palau // Antifungal trichothecene sesquiterpenes obtained from the culture broth of marine-derived *Trichoderma* cf. *brevicompactum* and their structure-activity relationship
740 // N // trichobreol D // weak inhib. 2 fungi, IA vs 2.
741 // N // trichobreol E // NT.
- 272** Ascomycota *Trichoderma citrinoviride* // (red alga, *Laurencia okamurai*) Weihai, China // Cyclonerane sesquiterpenes and an isocoumarin derivative from the marine-alga-endophytic fungus *Trichoderma citrinoviride* A-WH-20-3
742 // N // (10E)-isocyclonerotriol // weak activ. vs 3 bact. strains, IA vs 2 bact. strains. weak activ. vs 2 microalgae, IA vs 2 microalgae.
743 // N // (10Z)-isocyclonerotriol // weak activ. vs 4 bact. strains, IA vs 1 bact. strain. weak activ. vs 1 microalga, IA vs 3 microalgae.
744 // N // trichophenol A // weak activ. vs 5 bact. strains and 4 microalgae.
- 273** Ascomycota *Trichoderma* sp. // (sponge, *Dysidea* sp.) Xisha Is. // Trichodermaloids A–C, cadinane sesquiterpenes from a marine sponge symbiotic *Trichoderma* sp. SM16 fungus
745 // N // trichodermaloid A // weak cytotox. vs 1 HTCL, IA vs 2 HTCLs and 8 bact. strains.
746 // N // trichodermaloid B // weak cytotox. vs 1 HTCL, IA vs 2 HTCLs and 8 bact. strains.
747 // M // aspergilloid G // IA vs 3 HTCLs and 8 bact. strains.
748 // R // rhinomilisin E // IA vs 3 HTCLs and 8 bact. strains.
749 // N // trichodermaloid C // weak cytotox. vs 1 HTCL, IA vs 2 HTCLs and 8 bact. strains.
750 // R // rhinomilisin G // IA vs 3 HTCLs and 8 bact. strains.

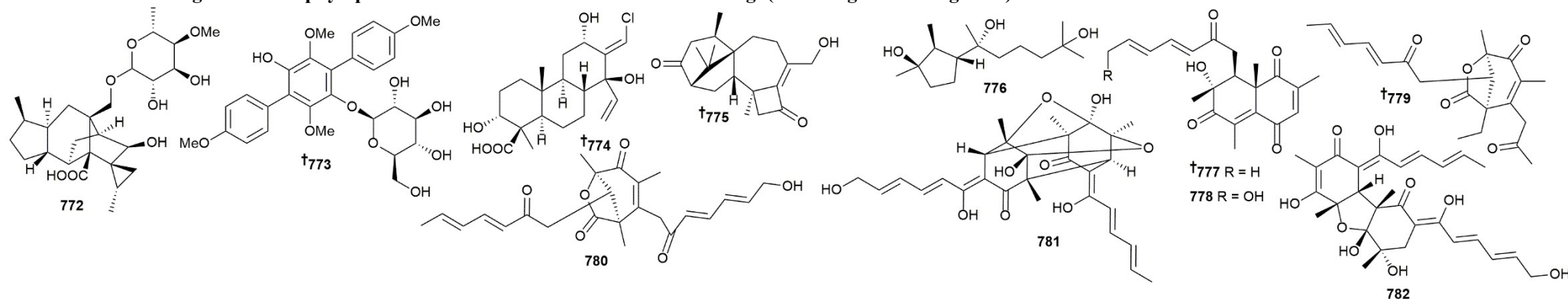
2 Marine microorganisms and phytoplankton: 2.3 Marine-sourced fungi (excluding from mangroves)



- 274** Ascomycota *Trichoderma virens* // (red alga, *Rhodomela confervoides*) Dalian, China // Cadinane and carotene derivatives from the marine algiculous fungus *Trichoderma virens* RR-dl-6-8
- 751** // N // trichocadinin H // pot. activ. vs 2 phytoplankton, mod. activ. vs 2 phytoplankton, IA vs 4 bact. strains.
- 752** // N // trichocadinin I // mod. activ. vs 3 phytoplankton, weak activ. vs 1 phytoplankton, IA vs 4 bact. strains.
- 753** // N // trichocadinin J // mod. activ. vs 4 phytoplankton, IA vs 4 bact. strains.
- 754** // N // trichocadinin K // mod. activ. vs 3 phytoplankton, weak activ. vs 1 phytoplankton, IA vs 4 bact. strains.
- 755** // N // trichocadinin L // pot. activ. vs 2 phytoplankton, mod. activ. vs 2, IA vs 4 bact. strains.
- 756** // N // trichocadinin M // pot. activ. vs 1 phytoplankton, mod. activ. vs 2 phytoplankton, weak activ. vs 1 phytoplankton, IA vs 4 bact. strains.
- 757** // M // trichocadinin N // mod. activ. vs 2 phytoplankton, weak activ. vs 2 phytoplankton, IA vs 4 bact. strains.
- 758** // M // methylhydroheptelidate // pot. activ. vs 2 phytoplankton, mod. activ. vs 2 phytoplankton, IA vs 4 bact. strains.
- 759** // N // 14-*O*-methyltrichocarotin G // weak activ. 4 phytoplankton, IA vs 4 bact. strains.
- 760** // N // 14-*O*-methyl CAF-603 // weak activ. 4 phytoplankton, IA vs 4 bact. strains.
- 275** Ascomycota *Trichoderma erinaceum* // (sea star *Acanthaster planci*) Hainan Sanya National Coral Reef Reserve, China // L-Phenylalanine alters the privileged secondary metabolite production in the marine-derived fungus *Trichoderma erinaceum* F1-1
- 761** // N // harziandione A // NT.
- 762** // N // cyclonerodiol A // NT.
- 763** // N // cyclonerodiol B // NT.
- 764** // N // trichodermaerin A // NT.
- 765** // N // trichoderolide A // IA vs 2 HTCLs.
- 766** // N // trichoderolide B // IA vs 2 HTCLs.
- 767** // N // trichoderolide C // IA vs 2 HTCLs.
- 768** // N // trichoderolide D // IA vs 2 HTCLs.
- 769** // N // trichoderolide E // IA vs 2 HTCLs.
- 770** // N // trichoderolide F // IA vs 2 HTCLs.
- 771** // M // 4'-[(2-hydroxy-1,3-propanedilyl)bis[oxy-4,1-phenylene(1-methylethylidene)]]bisphenol // IA vs 2 HTCLs.

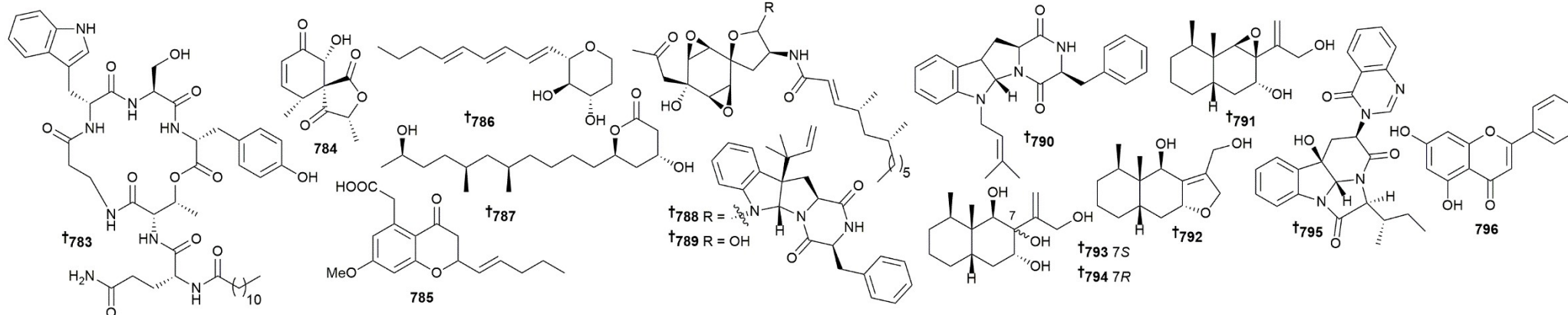
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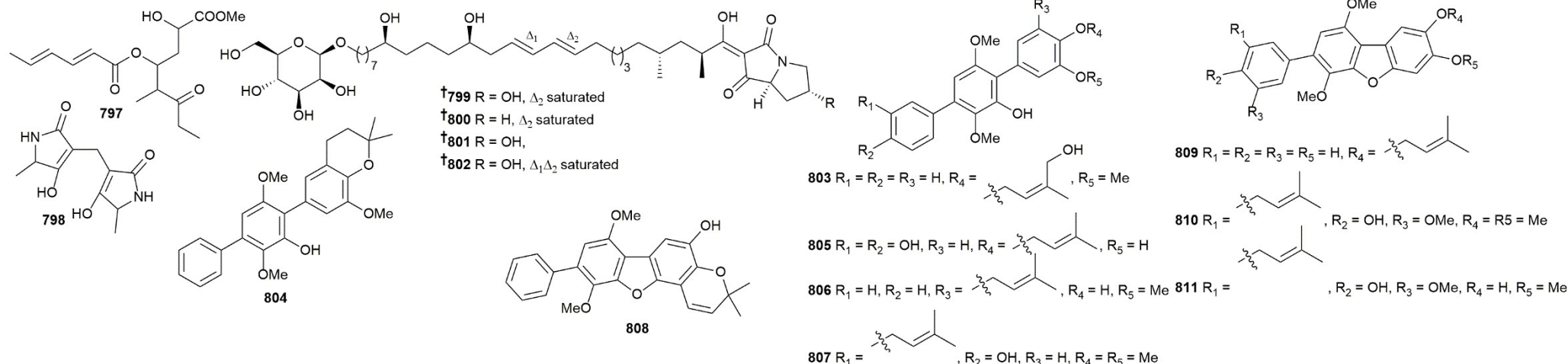
- 276** Ascomycota *Trichoderma harzianum* // (sediment) Bohai Sea // Trichosordarin A, a norditerpene glycoside from the marine-derived fungus *Trichoderma harzianum* R5
772 // N // trichosordarin A // weak cytotox. to brine shrimp, IA vs 2 phytoplankton.
- 277** Ascomycota *Trichoderma reesei* // (unidentified sponge) S. China Sea // One new terphenyl glycoside from a sponge-derived fungus *Trichoderma reesei* (HN-2016-018)
773 // N // gliocladinin D // IA vs 6 HTCLs and 3 bact. strains. IA vs Topo-1.
- 278** Ascomycota *Trichoderma harzianum* // (unidentified soft coral) Xisha Is. // Terpenoids from the coral-derived fungus *Trichoderma harzianum* (XS-20090075) induced by chemical epigenetic manipulation
774 // N // harzianolic acid A // IA vs 9 bact. strains and 1 fungus. IA vs AChE or Topo-1.
775 // N // harzianone E // weak activ. vs 1 bact. strain, IA vs 8 bact. strains and 1 fungus. IA vs AChE or Topo-1.
776 // N // 3,7,11-trihydroxy-cycloneran // IA vs 9 bact. strains and 1 fungus. IA vs AChE or Topo-1.
- 279** Ascomycota *Trichoderma reesei* // (unidentified sponge) // Sorbicillinoid derivatives from sponge-derived fungus *Trichoderma reesei* (HN-2016-018)
777 // N // trichoreeseione A // IA vs 5 HTCLs and 2 nHCLs.
778 // N // trichoreeseione B // IA vs 5 HTCLs and 2 nHCLs.
779 // N // trichodermolide B // IA vs 5 HTCLs and 2 nHCLs.
780 // N // 13-hydroxy-trichodermolide // IA vs 5 HTCLs and 2 nHCLs.
781 // N // 24-hydroxy-trichodimerol // weak cytotox. vs 2 HTCLs, IA vs 3 and 2 nHCLs.
782 // N // 15-hydroxy-bisvertinol // IA vs 5 HTCLs and 2 nHCLs.

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- 280** Ascomycota *Verruculina enalia* // (driftwood) Phetchaburi province, Thailand // A cyclic lipodepsipeptide, a spirolactone, and a chromanone from the marine fungus *Verruculina enalia* (Kohlm.) Kohlm. & Volkm.-Kohlm. BCC 22226
783 // N // verruculin // weak activ. vs 1 bact. strain, IA vs 1 bact. strain and 1 fungus. NT vs 1 fungus, 2 HTCLs. IA vs 1 normal simian cell line. IA vs Mtb.
784 // N // verruculinone // IA vs 2 bact. strains and 2 fungi. weak cytotox. vs 1 HTCL, IA vs 1. weak cytotox. vs 1 normal simian cell line. IA vs Mtb.
785 // N // 7-O-methylaposphearin C // NT.
- 281** ascomycota // * // Total synthesis of the proposed structure for chaunopyran A and its absolute configuration
786 // R // chaunopyran A // *
- 282** ascomycota // * // Total synthesis and stereochemical assignment of penicidine A
787 // R // penicidine A // *
- 283** Ascomycota // * // Total synthesis of (-)-penicimutanin A and related congeners
788 // R // (-)-penicimutanin A // *
789 // R // penicimutanolone // *
790 // R // penicimutatin // *
- 284** Ascomycota // * // Overturning the peribysin family natural products isolated from *Periconia byssoides* OUPS-N133: synthesis and stereochemical revision of peribysins A, B, C, F, and G
791 // R // peribysin A // *
792 // R // peribysin C // *
793 // R // peribysin F // *
794 // R // peribysin G // *
- 285** Ascomycota // * // Concise, enantioselective total syntheses of both the proposed and revised structures of (-)-versiquinazoline H
795 // R // (-)-versiquinazoline H // *
- 288** Ascomycota *Chaetomium globosum* // Konkan coast, India // Endophytic fungus, *Chaetomium globosum*, associated with marine green alga, a new source of Chrysin
796 // M // chrysin // *

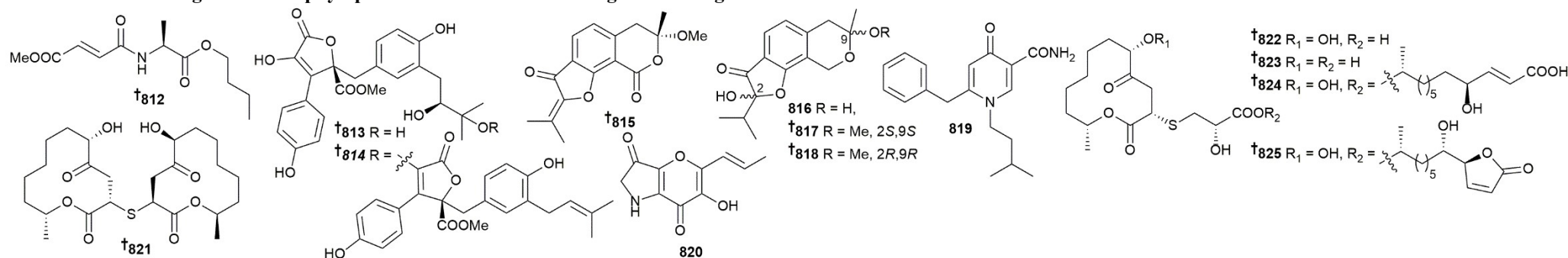
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- 320** Ascomycota *Acremonium citrinum* // (sediment, *Kandelia obovata*) Yunxiao county, Zhangzhou City, Fujian Province, China // Cytotoxic compound triacremionate from marine fungus *Acremonium citrinum*. MMF4
797 // N // triacremionate // IA vs 1 HTCL, promotes apoptosis.
798 // N // dietziamide C // IA vs 1 HTCL.
- 321** Ascomycota *Aspergillus* sp // (sediment, unidentified mangrove) Sanya, Hainan province, China // Structural revision and absolute configuration of burnettramic acid A
799 // R // burnettramic acid A // pot. activ. vs 3 fungi, weak activ. vs 2 fungi IA vs 2 fungi, IA vs 4 bact strains.
800 // N // burnettramic acid C // pot. activ. vs 2 fungi, weak activ. vs 2 fungi, IA vs 3 fungi, IA vs 4 bact. strains.
801 // N // burnettramic acid D // pot. activ. vs 1 fungus, weak activ. vs 1 fungus, IA vs 5 fungi, IA vs 4 bact. strains.
802 // N // burnettramic acid E // pot. activ. vs 1 fungus, weak activ. vs 1 fungus, IA vs 5 fungi, IA vs 4 bact. strains.
- 322** Ascomycota *Aspergillus candidus* // (roots, *Rhizophora apiculata*) Sanya Bailu Park, Hainan Province, China // Prenylated *p*-terphenyls from a mangrove endophytic fungus, *Aspergillus candidus* LDJ-5
803 // N // prenylterphenyllin F // weak cytotox. vs 3 HTCL, IA vs 7 HTCL, IA vs 5 bact. strains.
804 // N // prenylterphenyllin G // IA vs 10 HTCL, IA vs 5 bact. strains.
805 // N // prenylterphenyllin H // IA vs 10 HTCL, weak activ. vs 1 bact. strain, IA vs 4 bact. strains.
806 // N // prenylterphenyllin I // mod cytotox. vs 4 HTCL, weak cytotox. vs 2 HTCL, IA vs 4 HTCL, IA vs 5 bact. strains.
807 // N // prenylterphenyllin J // IA vs 10 HTCL, IA vs 5 bact. strains.
808 // N // prenylcandidusin D // IA vs 10 HTCL, IA vs 5 bact. strains.
809 // N // prenylcandidusin E // weak cytotox. vs 4 HTCL, IA vs 6 HTCL, IA vs 5 bact. strains.
810 // N // prenylcandidusin F // weak cytotox. vs 1 HTCL, IA vs 9 HTCL, IA vs 5 bact. strains.
811 // N // prenylcandidusin G // mod cytotox. vs 1 HTCL, weak cytotox. vs 4 HTCL, IA vs 5 HTCL, IA vs 5 bact. strains.

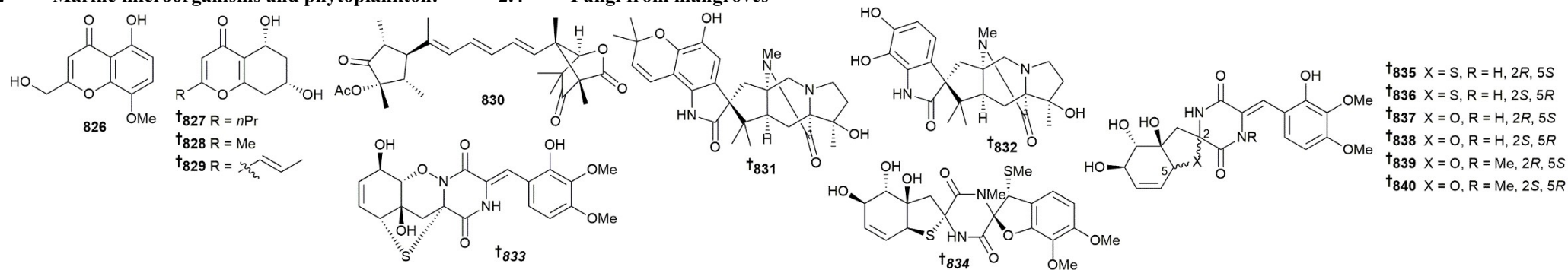
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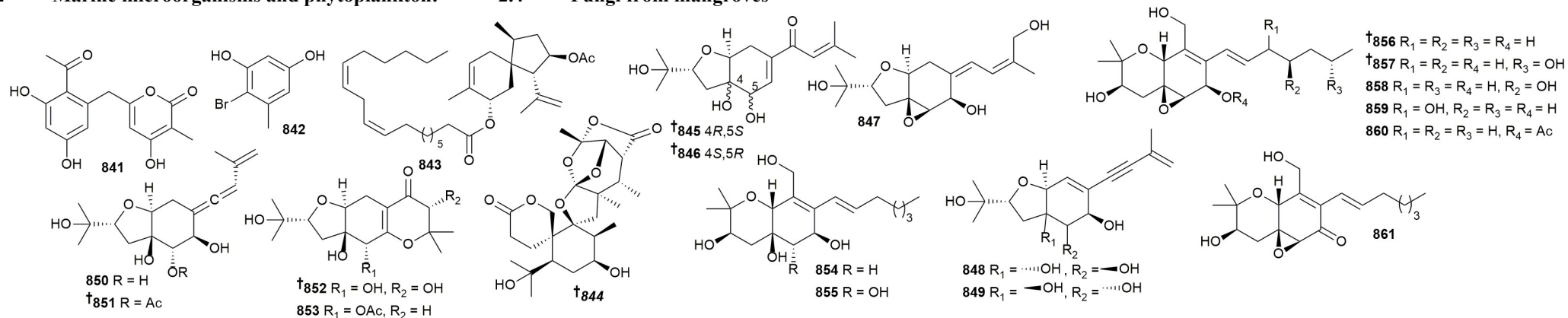
- 323** Ascomycota *Aspergillus* sp. // (roots, *Aegiceras corniculata*) Guangxi Shankou Mangrove Ecological National Nature Reserve, China // Nitrogen-containing compounds from mangrove-derived fungus *Aspergillus* sp. 87
812 // N // aspergilamide A // IA vs 1 bact. strains.
- 324** Ascomycota *Aspergillus terreus* // (rhizosphere sediment, *Rhizophora stylosa*) Techeng Isle, China // Asperbutenolide A, an unusual aromatic butenolide dimer with diverse bioactivities from a marine-derived fungus *Aspergillus terreus* SCAU011
813 // N // (8"S,9")-dihydroxy-dihydrobutyrolactone I // IA vs α -glucosidase, IA vs bact strains, IA vs fungi, IA vs COX-2, IA vs 2 HTCL.
814 // N // asperbutenolide A // weak inhib. vs α -glucosidase, pot. activ vs 1 bact strain, pot. activ. vs 1 fungi, pot. inhib. vs COX-2, IA vs 2 HTCL.
815 // N // asperisocoumarin G // IA vs α -glucosidase.
816 // N // asperisocoumarin H // IA vs α -glucosidase.
817 // N // (-)-asperisocoumarin I // IA vs α -glucosidase.
818 // N // (+)-asperisocoumarin I // IA vs α -glucosidase.
- 326** Ascomycota *Aspergillus* sp. // (rhizosphere, *Bruguiera gymnorrhiza*), China // New pyrones and their analogs from the marine mangrove-derived *Aspergillus* sp. DM94 with antibacterial activity against *Helicobacter pylori*
819 // N // (6-benzyl-1-isopentyl-4-oxo-1,4-dihydropyridin-3-yl)-carboxamide // IA vs 2 bact. strains.
820 // N // (E)-6-hydroxy-5-(1-propenyl)-1,2-dihydropyrano[3,2-b]pyrrole-3,7-dione // IA vs 2 bact. strains.
- 327** Ascomycota *Cladosporium oxysporum* // (roots, *Avicennia marina*) Hainan Province, China // Thiocladospolides F-J, antibacterial sulfur containing 12-membered macrolides from the mangrove endophytic fungus *Cladosporium oxysporum* HDN13-314
821 // N // thiocladospolide F // IA vs 11 HTCLs, weak activ. vs 2 bact. strains, weak activ. vs 4 fungi.
822 // N // thiocladospolide G // IA vs 11 HTCLs, mod. activ vs 1 bact strain., weak activ. vs 4 fungi.
823 // N // thiocladospolide H // IA vs 11 HTCLs, weak activ. vs 2 bact. strains, weak activ. vs 4 fungi.
824 // N // thiocladospolide I // IA vs 11 HTCLs, IA vs 2 bact. strains, weak activ. vs 4 fungi.
825 // N // thiocladospolide J // IA vs 11 HTCLs, weak activ. vs 2 bact. strains, weak activ. vs 4 fungi.

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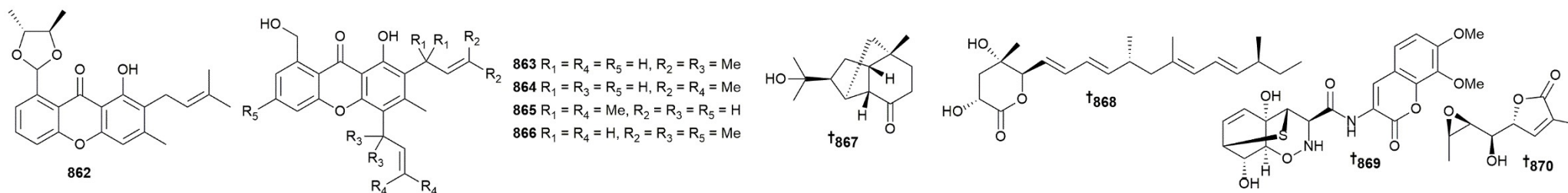
- 328** Ascomycota *Colletotrichum gloeosporioides* // (roots, *Ceriops tagal*) Dong Zhai Port, Haikou City, Hainan Province, P. R. China // Four new chromone derivatives from *Colletotrichum gloeosporioides*
- 826** // N // 5-hydroxy-2-(hydroxymethyl)-8-methoxy-4H-chromen-4-one // IA vs 5 bact. strains, IA vs 1 HTCL.
- 827** // N // (5*R*,7*S*)-5,7-dihydroxy-2-propyl-5,6,7,8-tetrahydro-4H-chromen-4-one // IA vs 5 bact. strains, IA vs 1 HTCL.
- 828** // N // (5*R*,7*S*)-5,7-dihydroxy-2-methyl-5,6,7,8-tetrahydro-4H-chromen-4-one // IA vs 5 bact. strains, IA vs 1 HTCL.
- 829** // N // (5*R*,7*S*)-5,7-dihydroxy-2-[(*E*)-prop-1-en-1-yl]-5,6,7,8-tetrahydro-4H-chromen-4-one // IA vs 5 bact. strains, IA vs 1 HTCL.
- 329** Ascomycota *Emericella* sp. // (rhizosphere, unidentified mangrove) Jeddah, Saudi Arabia // Cytotoxic secondary metabolites from mangrove-rhizosphere-associated fungus *Emericella* sp. strain SWR1718
- 830** // N // emericelactone E // IA vs 1 HTCL.
- 330** Ascomycota *Penicillium janthinellum*, *P. simplicissimum* // (rhizosphere, unidentified mangrove) Dongzhaigang mangrove natural reserve, Hainan Is., China // Paraherquamide J, a new prenylated indole alkaloid from the marine-derived fungus *Penicillium janthinellum* HK1-6
- 831** // N // paraherquamide J // IA vs bact. strains, IA vs topo-1, IA vs brine shrimp.
- 832** // M // paraherquamide K // IA vs bact. strains, IA vs topo-1, IA vs brine shrimp.
- 332** Ascomycota *Penicillium janthinellum*, *P. simplicissimum* // (roots, *Sonneratia caseolaris*) Hainan Province, China // Penispirozines A–H, three classes of dioxopiperazine alkaloids with spirocyclic skeletons isolated from the mangrove-derived *Penicillium janthinellum*
- 833** // N // penispirozine A // IA vs 4 HTCLs.
- 834** // N // penispirozine B // IA vs 4 HTCLs.
- 835** // N // penispirozine C // IA vs 4 HTCLs, cytoprotective @ 10 μ M with increased expression of SOP-2, HO-0.
- 836** // N // penispirozine D // IA vs 4 HTCLs, cytoprotective @ 10 μ M with increased expression of SOP-2, HO-1.
- 837** // N // penispirozine E // IA vs 4 HTCLs.
- 838** // N // penispirozine F // IA vs 4 HTCLs.
- 839** // N // penispirozine G // IA vs 4 HTCLs.
- 840** // N // penispirozine H // IA vs 4 HTCLs.

2 Marine microorganisms and phytoplankton: 2.4 Fungi from mangroves



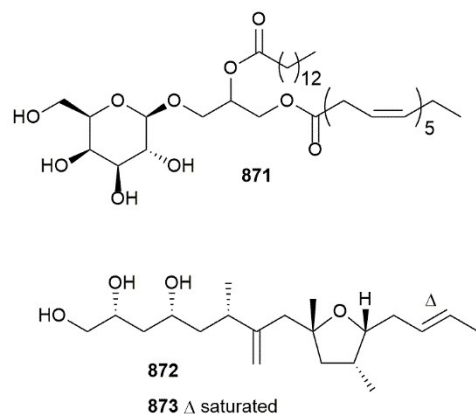
- 333** Ascomycota *Penicillium janthinellum* // (rhizosphere, unidentified mangrove) China // Isolation and neuroprotective activity of phenolic derivatives from the marine-derived fungus *Penicillium janthinellum*
841 // N // 6-(2-acetyl-3,5-dihydroxybenzyl)-4-hydroxy-3-methyl-2H-pyran-2-one // attenuates OGD cell viability loss in astrocytes
842 // N // C₇H₇BrO₂ // NT.
- 334** Ascomycota *Penicillium bilaiae*, *P. chermesinum* // (rhizosphere, *Lumnitzera racemosa*), Hainan Is., China // Chermebilaenes A and B, new bioactive meroterpenoids from co-cultures of marine-derived isolates of *Penicillium bilaiae* MA-267 and *Penicillium chermesinum* EN-480
843 // N // chermebilaene A // pot. activ. vs 1 fungus, pot. activ. vs 1 bact. strain.
844 // N // chermebilaene B // IA vs 1 bact. strain, AI vs 1 fungus.
- 336** Ascomycota *Pseudopestalotiopsis theae* // (roots, *Rhizophora racemosa*) Lagos, Nigeria // Polyketide derivatives from mangrove derived endophyte *Pseudopestalotiopsis theae*
845 // N // pestalotheol I // IA vs 1 MTCL, IA vs bact. strain.
846 // N // pestalotheol J // IA vs 1 MTCL, IA vs bact. strain.
847 // N // pestalotheol K // IA vs 1 MTCL, IA vs bact. strain.
848 // N // pestalotheol L // IA vs 1 MTCL, IA vs bact. strain.
849 // N // pestalotheol M // IA vs 1 MTCL, IA vs bact. strain.
850 // N // pestalotheol N // IA vs 1 MTCL, IA vs bact. strain.
851 // N // pestalotheol O // IA vs 1 MTCL, IA vs bact. strain.
852 // N // pestalotheol P // IA vs 1 MTCL, IA vs bact. strain.
853 // N // pestalotheol Q // IA vs 1 MTCL, IA vs bact. strain.
854 // N // cytosporin O // IA vs 1 MTCL, IA vs bact. strain.
855 // N // cytosporin P // IA vs 1 MTCL, IA vs bact. strain.
856 // N // cytosporin Q // IA vs 1 MTCL, IA vs bact. strain.
857 // N // cytosporin R // IA vs 1 MTCL, IA vs bact. strain.
858 // N // cytosporin S // IA vs 1 MTCL, IA vs bact. strain.
859 // N // cytosporin T/U // IA vs 1 MTCL, IA vs bact. strain.
860 // N // cytosporin V // IA vs 1 MTCL, IA vs bact. strain.
861 // N // cytosporin W // weak cytotox. vs 1 MTCL, IA vs bact. strain.

Key: Main article bibliography reference // Taxonomy // Location // Article title
 Compound number // Status // Compound name // Biological activity and Other information

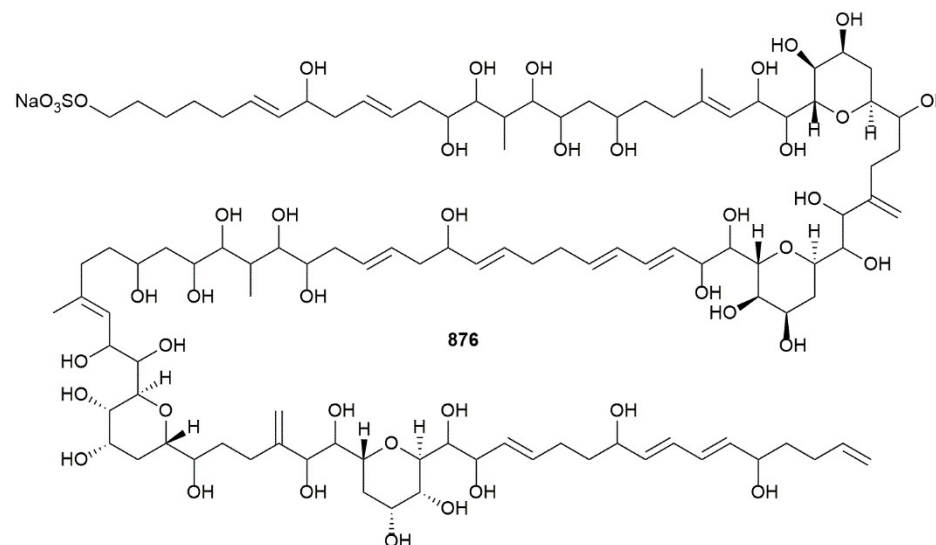
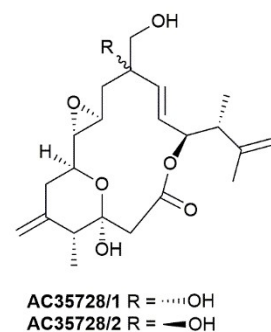


- 337** Ascomycota *Stachybotrys chartarum* // (roots, unidentified mangrove) Fujian Province, China // Staprexanthonones, xanthone-type stimulators of pancreatic β -cell proliferation from a mangrove endophytic fungus
 862 // N // staprexanthone A // pancreatic β -cell promoter @ 10 μM .
 863 // N // staprexanthone B // pancreatic β -cell promoter @ 10 μM .
 864 // N // staprexanthone C // IA vs pancreatic β -cell promoter @ 10 μM .
 865 // N // staprexanthone D // IA vs pancreatic β -cell promoter @ 10 μM .
 866 // N // staprexanthone E // pancreatic β -cell promoter @ 10 μM .
- 338** Ascomycota *Trichoderma longibrachiatum* // (roots, halophyte *Suaeda glauca*) Jiaozhou Bay, Qingdao, China // Sesquiterpenes and cyclodepsipeptides from marine-derived fungus *Trichoderma longibrachiatum* and their antagonistic activities against soil-borne pathogens
 867 // N // trichodermene A // weak AF vs 1 strain, reported "unprecedented" skeleton common in literature.
- 339** Ascomycota *Trichoderma harzianum* // (roots, *Excoecaria agallocha*) Hainan province, China // Antifungal nafuredin and epithiodiketopiperazine derivatives from the mangrove-derived fungus *Trichoderma harzianum* D13
 868 // N // nafuredin C // mod. activ. vs 1 fungus, IA vs 2 fungi.
 869 // N // trichodermamide G // NT.
- 340** mangrove fungi driftwood // * // Synthesis of (+)-hypoxylactone through allenolate γ -addition: revision of stereochemistry
 870 // R // (+)-hypoxylactone // NT.

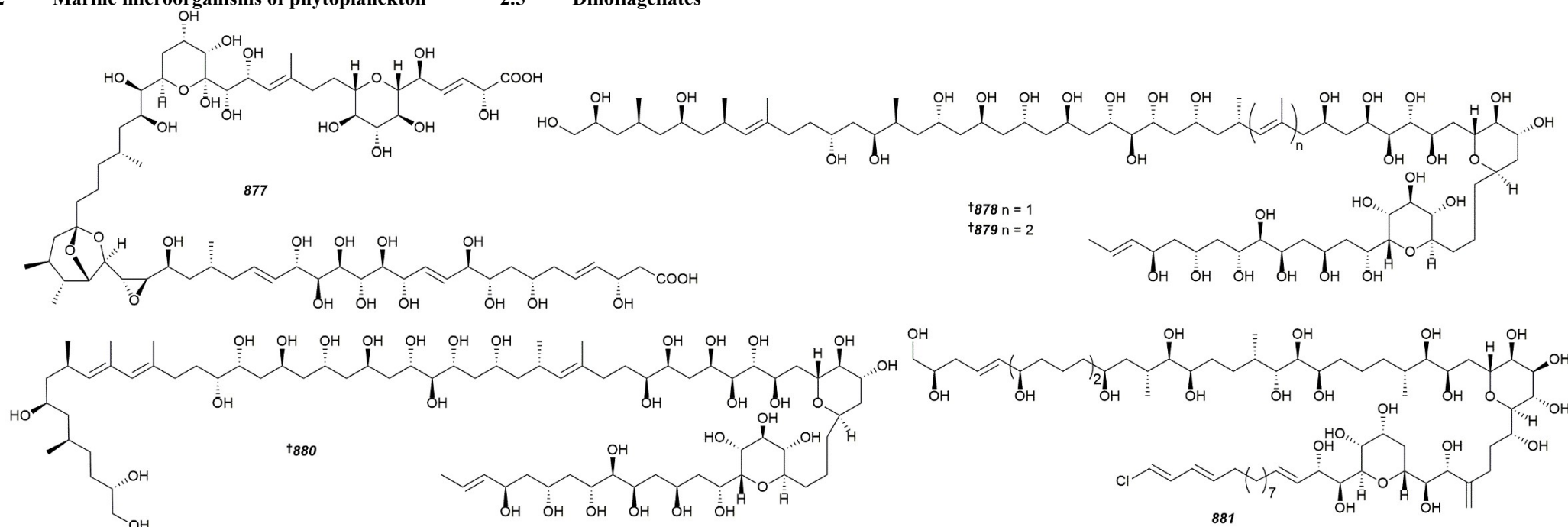
2 Marine microorganisms of phytoplankton



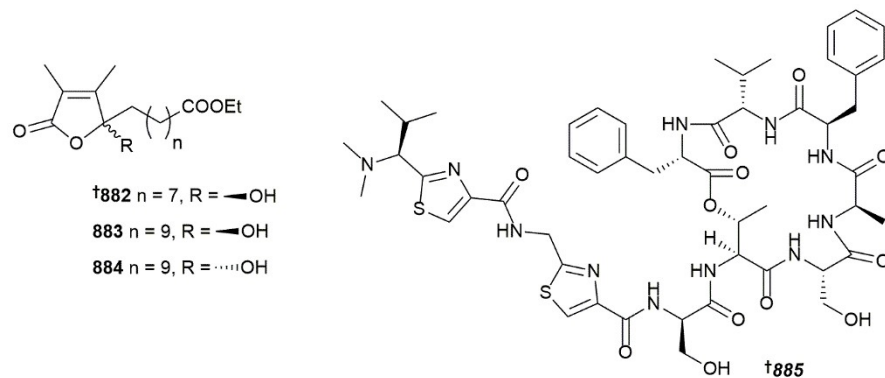
2.5 Dinoflagellates



- 341** Miozoa *Karenia mikimotoi* // Corpus Christi, Texas, USA // Anti-inflammatory activity of glycolipids and a polyunsaturated fatty acid methyl ester isolated from the marine dinoflagellate *Karenia mikimotoi*
871 // N // 3-O- β -D-galactopyranosyl-1-O-3,6,9,12,15-octadecapentaenoyl-2-O-tetradecanoylglycerol // IA vs *S. aureus*, *E. coli* and *C. albicans*, incr. TLR4 and suppr. CD80 expression.
- 342** Miozoa *Amphidinium* sp. // Iriomote Is., Japan // Amphirionins-3 and -6, new polyketides from the cultured marine dinoflagellate *Amphidinium* species
872 // N // amphirionin-3 // IA vs 1 HTCL.
873 // N // amphirionin-6 // IA vs 1 HTCL.
- 343** Miozoa *Amphidinium* sp. // Iriomote Is., Japan // Iriomoteolides-14a and 14b, new cytotoxic 15-membered macrolides from marine dinoflagellate *Amphidinium* species
874 // N // iriomoteolide-14a // weak cytotox. vs 1 HTCL.
875 // N // iriomoteolide-14b // weak cytotox. vs 1 HTCL.
- 344** Miozoa *Amphidinium* sp. // Ishigaki Is., Okinawa, Japan // Amdigenol D, a long carbon-chain polyol, isolated from the marine dinoflagellate *Amphidinium* sp.
876 // N // amdigenol D // NT.

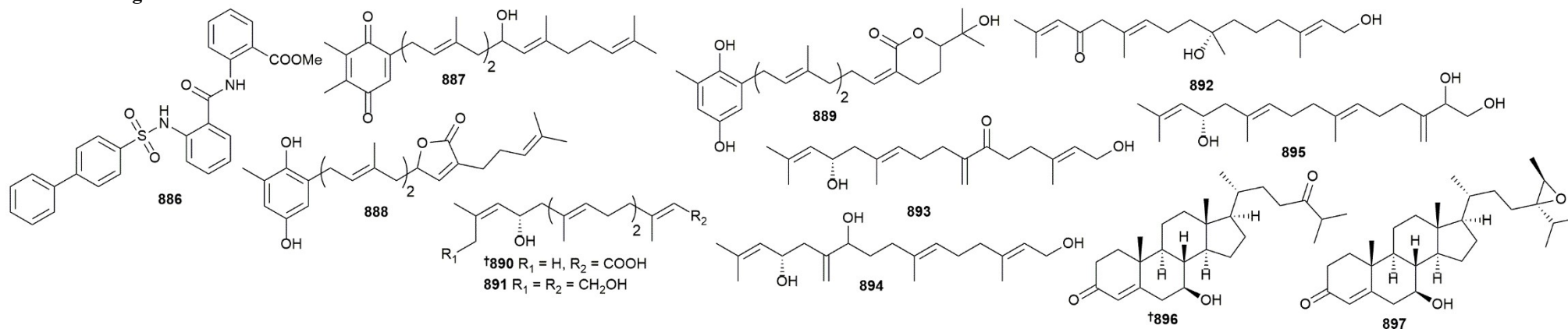


- 345** Miozoa *Prorocentrum hoffmannianum* // La Réunion Is. // Prorocentroic acid, a neuroactive super-carbon-chain compound from the dinoflagellate *Prorocentrum hoffmannianum*
877 // N // prorocentroic acid // Weak to mod. modulator of neuronal cells. Exposure to subtoxic concs. causes complex changes to neuronal signalling.
- 346** Miozoa *Amphidinium gibbosum* // Lingshui Bay, Hainan Province, PR China // Determination of the absolute configuration of super-carbon-chain compounds by a combined chemical, spectroscopic, and computational approach: gibbosols A and B
878 // N // gibbosol A // Weak activator of vascular cell adhesion.
879 // N // gibbosol B // Weak inhib. of vascular cell adhesion.
- 347** Miozoa *Amphidinium gibbosum* // Lingshui Bay, Hainan Province, PR China // A polyol-polyol super-carbon-chain compound containing thirty-six carbon stereocenters from the dinoflagellate *Amphidinium gibbosum*: absolute configuration and multi-segment modification
880 // N // gibbosol C // 1A in vascular cell adhesion assay.
- 353** Dinophyta // * // Synthesis and stereochemistry of the C30–C63 section of karlotoxin 2
881 // R // karlotoxin 2 // *



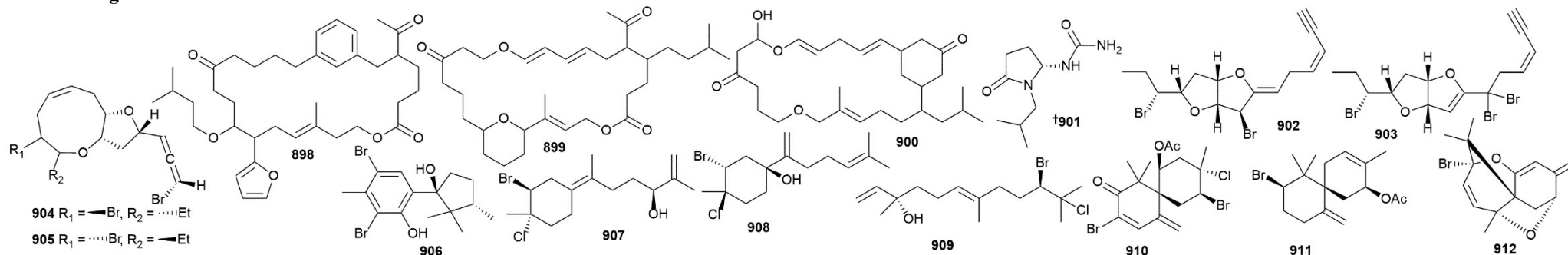
- 381** Chlorophyta *Caulerpa racemosa* var. *turbinata* // Xuwen County, Zhanjiang City, Guangdong Province, China // Three new butenolides from the green alga *Caulerpa racemosa* var. *turbinata*
882 // N // caulerpalide A // IA vs 6 microb. strains.
883 // N // (+)-caulerpalide A // IA vs 6 microb. strains.
884 // N // (–)-caulerpalide A // IA vs 6 microb. strains.
- 382** Chlorophyta *Derbesia* sp. // Fagatele Bay, American Samoa // Pagoamide A, a cyclic depsipeptide isolated from a cultured marine chlorophyte, *Derbesia* sp., using MS/MS-based molecular networking
885 // N // pagoamide A // IA vs 1 HTCL.

4 Brown algae



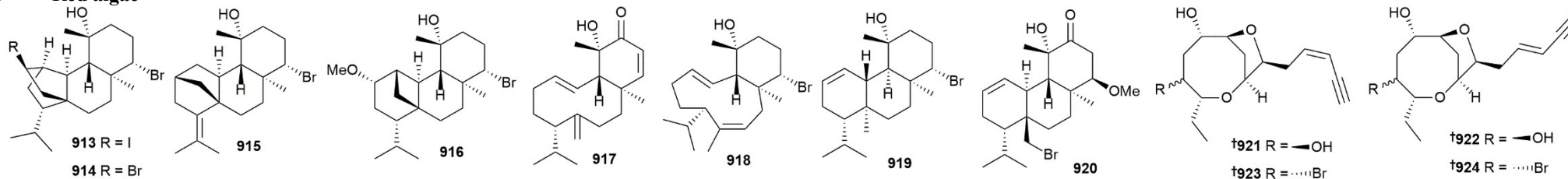
- 394** Ochrophyta/*Sargassum naozhouense* // Leizhou Peninsula, Guangdong Province, China // Sargassulfamide A, an unprecedented amide derivative from the seaweed *Sargassum naozhouense*
886 // N // sargassulfamide A // NT.
- 395** Ochrophyta *Sargassum macrocarpum* // Tsukumowan, Ishikawa Prefecture, Japan // Macrocarquinoids A–C, new meroterpenoids from *Sargassum macrocarpum*
887 // N // macrocarquinoid A // IA vs advanced glycation end products.
888 // N // macrocarquinoid B // IA vs advanced glycation end products.
889 // N // macrocarquinoid C // IA vs advanced glycation end products.
- 396** Ochrophyta *Bifurcaria bifurcata* // Intertidal rock pool at Kilkee, Co. Clare, Ireland // Oxygenated acyclic diterpenes with anticancer activity from the Irish brown seaweed *Bifurcaria bifurcata*
890 // N // $C_{20}H_{32}O_3$ // Weak cytotox. vs 1 HTCL.
891 // N // $C_{20}H_{34}O_3$ // NT.
892 // N // $C_{20}H_{34}O_3$ // NT.
893 // N // $C_{20}H_{32}O_3$ // NT.
894 // N // $C_{20}H_{34}O_3$ // NT.
895 // N // $C_{20}H_{34}O_3$ // NT.
- 397** Ochrophyta *Sargassum fusiforme* // * // Chemical constituents from *Sargassum fusiforme* (Harv.) Setch.
896 // N // sargassuol A // NT.
897 // N // sargassuol B // NT.

5 Red algae



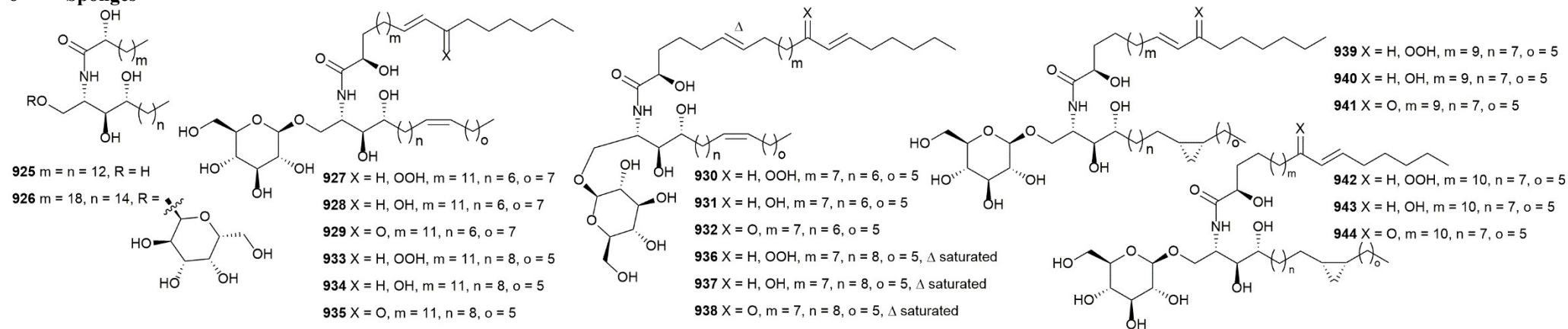
- 401** Rhodophyta *Gracilaria salicornia* // Mandapam, India // Salicornolides A-C from *Gracilaria salicornia* attenuate pro-inflammatory 5-lipoxygenase: prospective natural anti-inflammatory leads
898 // N // salicornolide A // IA as AI.
899 // N // salicornolide B // IA as AI.
900 // N // salicornolide C // IA as AI.
- 402** Rhodophyta *Acanthophora spicifera* // Xuwen County, Zhanjiang City, Guangdong Province, China // Acanthophoraine A, a new pyrrolidine alkaloid from the red alga *Acanthophora spicifera*
901 // N // acanthophoraine A // IA vs 6 microb. strains.
- 403** Rhodophyta *Laurencia japonensis* // Yoshio, Katsuura, Boso Peninsula, Chiba Prefecture, Japan // Two new brominated C_{15} -acetogenins from the red alga *Laurencia japonensis*
902 // N // katsuurenyne A // IA in insecticidal assay.
903 // N // katsuurenyne B // IA in insecticidal assay.
- 404** Rhodophyta *Laurencia nangii* // Carrington Reef, Sabah, Malaysia // Two new epimers of C_{15} -acetogenin, 4-*epi*-isolaurallene and 4-*epi*-itomanallene A as diastereomeric model
904 // N // 4-*epi*-isolaurallene // IA vs 5 microb. strains.
905 // M // 4-*epi*-itomanallene A // IA vs 5 microb. strains, known synthetically
- 405** Rhodophyta *Laurencia mariannensis* // Tean Is., Thailand // Teanol, a new brominated sesquiterpene from the Thailand *Laurencia mariannensis*
906 // N // teanol // Pot. cytotox. vs brine shrimp.
- 406** Rhodophyta *Laurencia composita* // Zhanjiang, Guangdong Province, China // Structurally diverse halos sesquiterpenoids from the red alga *Laurencia composita* Yamada
907 // N // laurecomposin A // Mod. and weak activ. vs 2 of 10 microb. strains.
908 // N // laurecomposin B // Weak activ. vs 1 of 10 microb. strains.
909 // N // halonerolidol // NT.
910 // N // compositacin L // NT.
911 // N // compositacin M // NT.
912 // N // compositacin N // Weak activ. vs 1 of 10 microb. strains.

5 Red algae



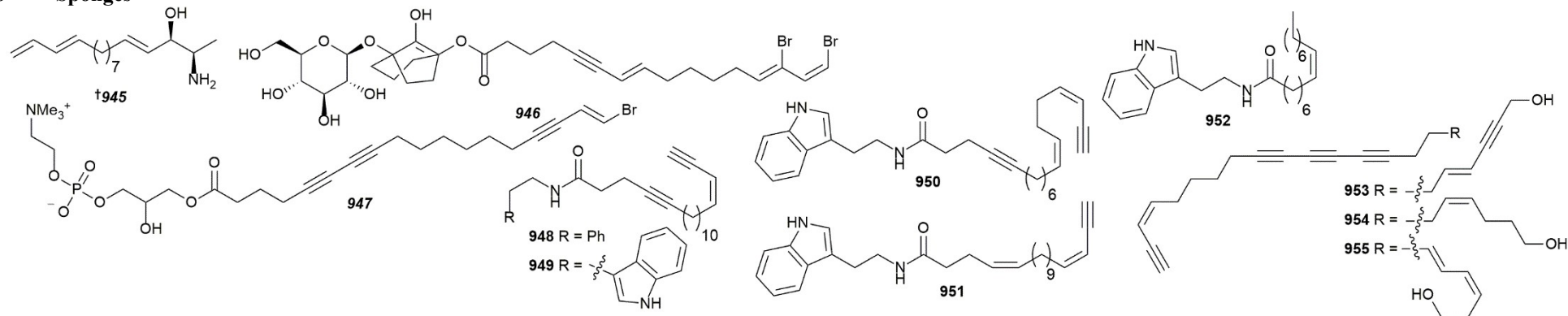
- 407** Rhodophyta *Sphaerococcus coronopifolius* // Ai Giannis Bay, Parga, Greece // Halogenated diterpenes with *in vitro* antitumor activity from the red alga *Sphaerococcus coronopifolius*
913 // N // iodocoronol // IA vs 6 HTCLs.
914 // N // bromocoronol // IA vs 6 HTCLs.
915 // N // bromotetrasphaereniol // IA vs 6 HTCLs.
916 // N // 1-methoxy-ioniol I // IA vs 6 HTCLs.
917 // N // corotrienone // Weak cytotox. vs 2 of 6 HTCLs.
918 // N // iso-bromocorodienol // IA vs 6 HTCLs.
919 // N // debromosphaerol // IA vs 6 HTCLs.
920 // N // 8-methoxy-dihydro-sphaerococcenol // Weak cytotox. vs 1 of 6 HTCLs.
- 411** Rhodophyta // * // Forwards and backwards – synthesis of *Laurencia* natural products using a biomimetic and retrobiomimetic strategy incorporating structural reassignment of laurefurenynes C–F
921 // R // laurefurenyne C // Revised following total synth.
922 // R // laurefurenyne D // Revised following total synth.
923 // R // laurefurenyne E // Revised following total synth.
924 // R // laurefurenyne F // Revised following total synth.

6 Sponges



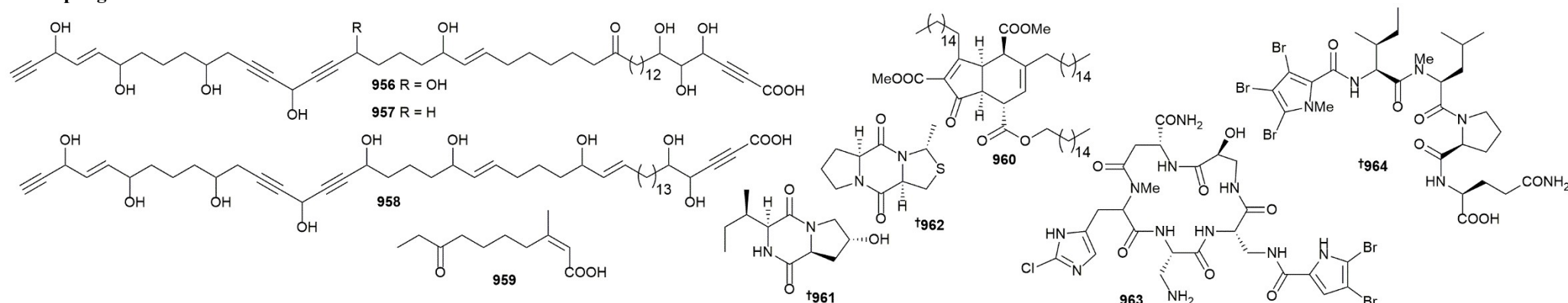
- 421** Porifera *Stylissa carteri* // Sharm El Sheikh, Egypt // New cytotoxic natural products from the Red Sea sponge *Stylissa carteri*
- 925** // N // stylissamide A // IA vs 2 HTCLs, name already used for another compound.
- 926** // N // stylissoside A // IA vs 2 HTCLs.
- 422** Porifera *Aulosaccus* sp. // Dregde (505 m), Iturup Is., Kuril Is. // Structural analysis of oxidized cerebrosides from the extract of deep-sea sponge *Aulosaccus* sp.: occurrence of amide-linked allylically oxygenated fatty acids
- 927** // N // $C_{49}H_{93}NO_{12}$ // NT.
- 928** // N // $C_{49}H_{93}NO_{11}$ // NT.
- 929** // N // $C_{49}H_{91}NO_{11}$ // NT.
- 930** // N // $C_{49}H_{93}NO_{12}$ // NT.
- 931** // N // $C_{49}H_{93}NO_{11}$ // NT.
- 932** // N // $C_{49}H_{91}NO_{11}$ // NT.
- 933** // N // $C_{49}H_{93}NO_{12}$ // NT.
- 934** // N // $C_{49}H_{93}NO_{11}$ // NT.
- 935** // N // $C_{49}H_{91}NO_{11}$ // NT.
- 936** // N // $C_{49}H_{93}NO_{12}$ // NT.
- 937** // N // $C_{49}H_{93}NO_{11}$ // NT.
- 938** // N // $C_{49}H_{91}NO_{11}$ // NT.
- 939** // N // $C_{49}H_{93}NO_{12}$ // NT.
- 940** // N // $C_{49}H_{93}NO_{11}$ // NT.
- 941** // N // $C_{49}H_{91}NO_{11}$ // NT.
- 942** // N // $C_{49}H_{93}NO_{12}$ // NT.
- 943** // N // $C_{49}H_{93}NO_{11}$ // NT.
- 944** // N // $C_{49}H_{91}NO_{11}$ // NT.

6 Sponges



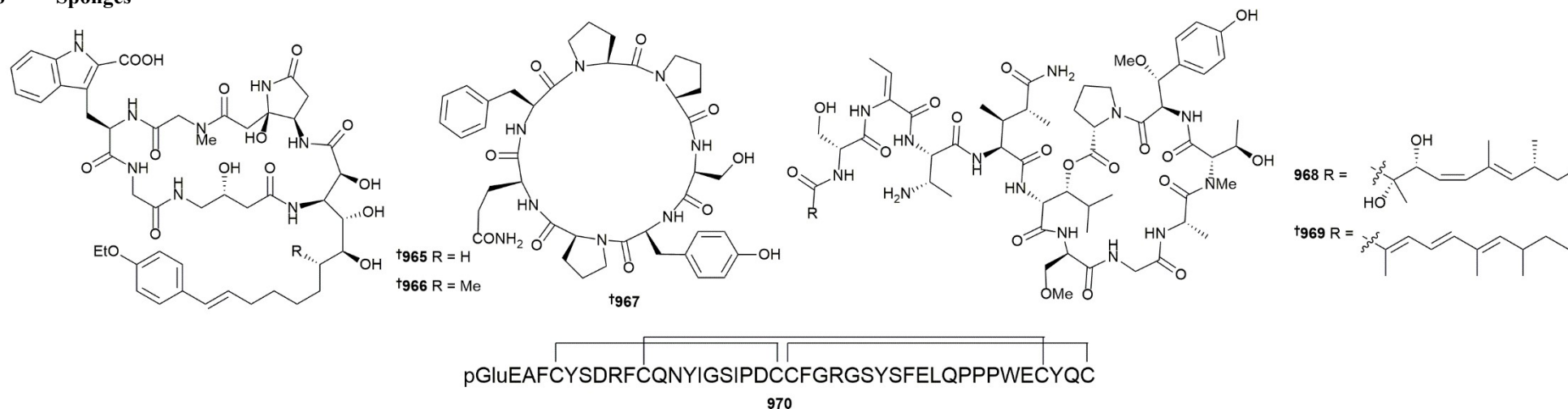
- 423** Porifera *Haliclona* sp. // Tonga // National Cancer Institute (NCI) program for natural products discovery: rapid isolation and identification of biologically active natural products from the NCI prefractionated library
945 // N // halaminol E // Weak cytotox. vs 1 HTCL.
- 424** Porifera *Xestospongia* sp. // Curaçao and Taiwan // Influence of geographical location on the metabolic production of giant barrel sponges (*Xestospongia* spp.) revealed by metabolomics tools
946 // N // C₂₅H₃₆Br₂O₉ // IA, found through large-scale metabolomics analysis across four countries.
947 // N // C₂₆H₃₉BrNO₇P // IA, found through large-scale metabolomics analysis across four countries.
- 425** Porifera *Siphonochalina siphonella* // Magawish Is., Hurghada, Egypt // New cytotoxic polyacetylene amides from the Egyptian marine sponge *Siphonochalina siphonella*
955 // N // siphonellamide A // Weak cytotox. vs 1 of 3 HTCLs.
949 // N // siphonellamide B // IA vs 3 HTCLs.
950 // N // siphonellamide C // NT.
951 // N // siphonellamide D // NT.
952 // N // siphonellamide E // IA vs 3 HTCLs.
- 426** Porifera *Siphonochalina siphonella* // Magawish Is., Hurghada, Egypt // New cytotoxic polyacetylene alcohols from the Egyptian marine sponge *Siphonochalina siphonella*
953 // N // siphonellanol A // IA vs 3 HTCLs.
954 // N // siphonellanol B // IA vs 3 HTCLs.
955 // N // siphonellanol C // IA vs 3 HTCLs.

6 Sponges

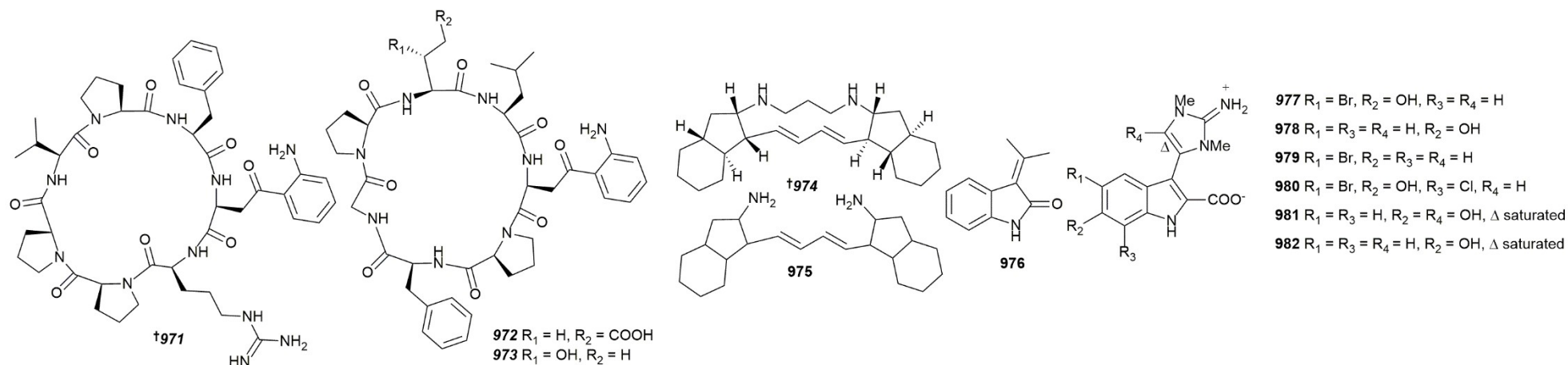


- 427** Porifera *Haliclona* sp. // Mayotte, Indian Ocean // Osirisynes G-I, new long-chain highly oxygenated polyacetylenes from the Mayotte marine sponge *Haliclona* sp.
956 // N // osirisyne G // IA.
957 // N // osirisyne H // IA.
958 // N // osirisyne I // IA.
- 428** Porifera *Gelliodes* sp. // Hon Thom, Phu Quoc, Vietnam // Chemical constituents of the Vietnamese marine sponge *Gelliodes* sp. and their cytotoxic activities
959 // N // gelliodesinic acid // IA vs 3 HTCLs.
- 429** Porifera *Plakortis* sp. // Weno Is., Chuuk State, Federated States of Micronesia // Antioxidant properties of the manzamenones from the tropical marine sponge *Plakortis* sp.
960 // N // C₆₂H₁₁₀O₇ // IA as AI.
- 430** Porifera *Axinella sinoxea* // Larak Is., Persian Gulf // Integrating molecular networking and ¹H NMR spectroscopy for isolation of bioactive metabolites from the Persian Gulf sponge *Axinella sinoxea*
961 // N // (–)-cyclo(L-trans-Hyp-L-Ile) // IA.
- 431** Porifera *Tedania* sp. // Zhanjiang, Guangdong province, China // A new thiodiketopiperazine from the marine sponge *Tedania* sp.
962 // N // tedanizaine A // IA vs 2 CLs.
- 432** Porifera *Ircinia* sp. // Thousand Is., Indonesia // Unique polyhalogenated peptides from the marine sponge *Ircinia* sp.
963 // N // haloirciniamide A // IA, rare chlorohistidine and dibromopyrrole peptide.
964 // N // seribunamide A // IA, rare tribromopyrrole containing peptide.

6 Sponges

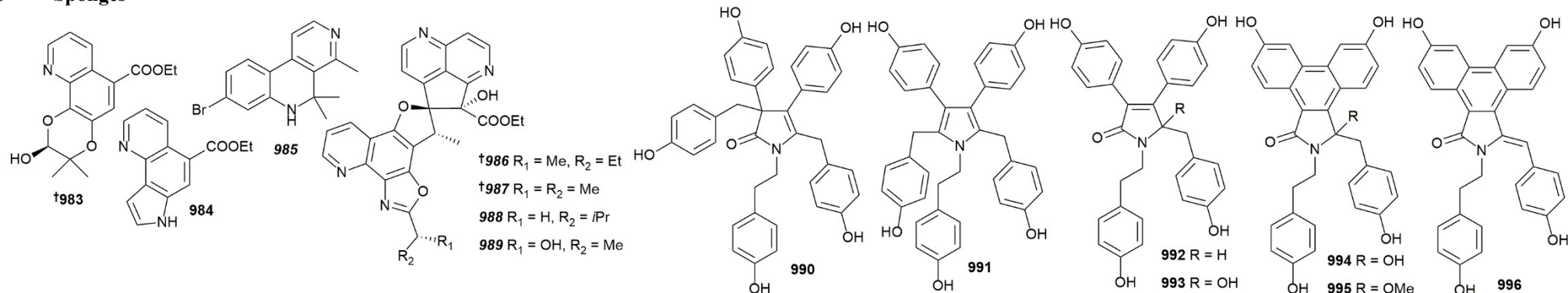


- 433** Porifera *Pachastrella* sp. // Dredged (191 m depth), Yakushinsone, Japan // Microsclerodermins N and O, cytotoxic cyclic peptides containing a *p*-ethoxyphenyl moiety from a deep-sea marine sponge *Pachastrella* sp.
965 // N // microsclerodermin N // Mod. cytotox. vs 1 HTCL.
966 // N // microsclerodermin O // Mod. cytotox. vs 1 HTCL.
- 434** Porifera *Stylissa caribica* // Compass Cay Is., Exuma Is., the Bahamas // New tricks with an old sponge: feature-based molecular networking led to fast identification of new stylissamide L from *Stylissa caribica*
967 // N // stylissamide L // IA.
- 435** Porifera *Theonella swinhoei* // Papua New Guinea // Swinhopeptolides A and B: cyclic depsipeptides from the sponge *Theonella swinhoei* that inhibit Ras/Raf interaction
968 // N // swinhopeptolide A // Weak inhib. of Ras-Raf signalling.
969 // N // swinhopeptolide B // Weak inhib. of Ras-Raf signalling.
- 436** Porifera *Axinella* sp. // Thunderbolt reef, Port Elizabeth, S. Africa // Recifin A, initial example of the Tyr-lock peptide structural family, is a selective allosteric inhibitor of tyrosyl-DNA phosphodiesterase I
970 // N // Recifin A // Potent inhib. of TDP1, cysteine-rich knotted peptide.



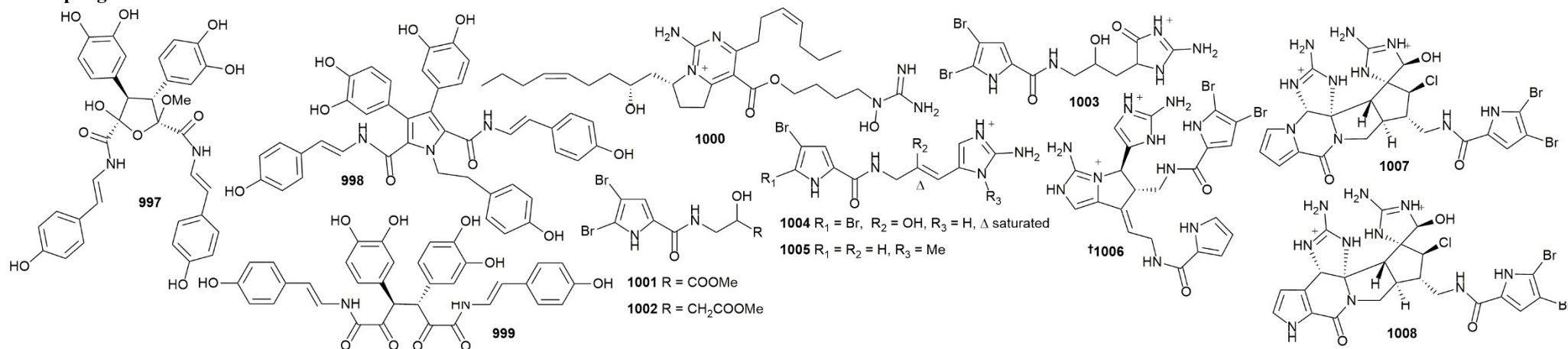
- 437** Porifera *Phakellia fusca* // Yongxing Is., S. China Sea // Phakefustatins A–C: kynurenine-bearing cycloheptapeptides as RXR α modulators from the marine sponge *Phakellia fusca*
971 // N // phakefustatin A // Total synth. also achieved. IA as AB, weak to mod. cytotox. vs 3 HTCLs but IA vs non-malignant CLs. Inhibits RXR pathway
972 // N // phakefustatin B // IA as AB and vs 3 HTCLs.
973 // N // phakefustatin C // IA as AB and vs 3 HTCLs.
- 438** Porifera *Haliclona* sp. // Caroline Is., Federated States of Micronesia // X-ray crystallography and unexpected chiroptical properties reassign the configuration of haliclonadamine
974 // R // haliclonadamine // NT.
975 // N // halichondriamine C // NT.
- 428** Porifera *Gelliodes* sp. // Hon Thom, Phu Quoc, Vietnam // Chemical constituents of the Vietnamese marine sponge *Gelliodes* sp. and their cytotoxic activities
976 // M // 3-(propan-2-ylidene)-1,3-dihydro-2H-indol-2-one // IA vs 3 HTCLs.
- 439** Porifera *Geodia* sp. // Dredged, Great Australian Bight // Trachycladindoles H–M: molecular networking guided exploration of a library of Southern Australian marine sponges
977 // N // trachycladindole H // IA vs 2 HTCLs, *E. coli*, *B. subtilis*, *C. albicans*.
978 // N // trachycladindole I // IA vs 2 HTCLs, *E. coli*, *B. subtilis*, *C. albicans*.
979 // N // trachycladindole J // IA vs 2 HTCLs, *E. coli*, *B. subtilis*, *C. albicans*.
980 // N // trachycladindole K // IA vs 2 HTCLs, *E. coli*, *B. subtilis*, *C. albicans*.
981 // N // trachycladindole L // IA vs 2 HTCLs, *E. coli*, *B. subtilis*, *C. albicans*.
982 // N // trachycladindole M // IA vs 2 HTCLs, *E. coli*, *B. subtilis*, *C. albicans*.

6 Sponges



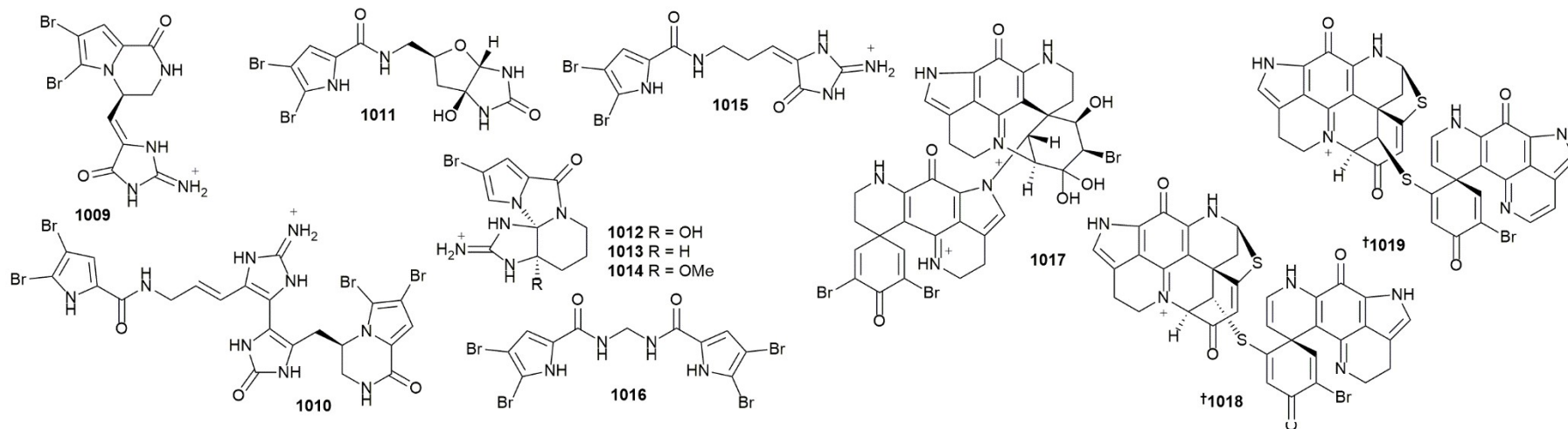
- 440** Porifera *Aaptos aaptos* // Xisha Is., S. China Sea // Aaptolines A and B, two new quinoline alkaloids from the marine sponge *Aaptos aaptos*
983 // N // aaptoline A // IA vs 3 HTCLs, probable artefact of extraction.
984 // N // aaptoline B // IA vs 3 HTCLs, probable artefact of extraction.
- 441** Porifera *Verongula rigida* // Key Largo, Florida // Isolation and synthesis of veranamine, an antidepressant lead from the marine sponge *Verongula rigida*
985 // N // veranamine // Mod. to pot. inhib. of sigma-1 and 5HT_{2B} receptors therefore antidepressant act. Total synth. also achieved.
- 442** Porifera *Aaptos suberitoides* // Xisha Is., S. China Sea // Aaptodines A–D, *spiro* naphthyridine–furooxazoloquinoline hybrid alkaloids from the sponge *Aaptos suberitoides*
986 // N // aaptodine A // Weak to mod. Inhib. of osteoclast differentiation, Et ester likely artefact of extraction.
987 // N // aaptodine B // Weak to mod. Inhib. of osteoclast differentiation, Et ester likely artefact of extraction.
988 // N // aaptodine C // Weak to mod. Inhib. of osteoclast differentiation, Et ester likely artefact of extraction.
989 // N // aaptodine D // Weak to mod. Inhib. of osteoclast differentiation, Et ester likely artefact of extraction.
- 443** Porifera *Dactylia* sp. // Republic of the Maldives // Denigrins and dactylpyrroles, arylpyrrole alkaloids from a *Dactylia* sp. marine sponge
990 // N // denigrin D // IA against oncogenic gene.
991 // N // denigrin E // IA against oncogenic gene.
992 // N // denigrin F // IA against oncogenic gene.
993 // N // denigrin G // IA against oncogenic gene.
994 // N // dactylpyrrole A // IA against oncogenic gene.
995 // N // dactylpyrrole B // IA against oncogenic gene.
996 // N // dactylpyrrole C // IA against oncogenic gene.

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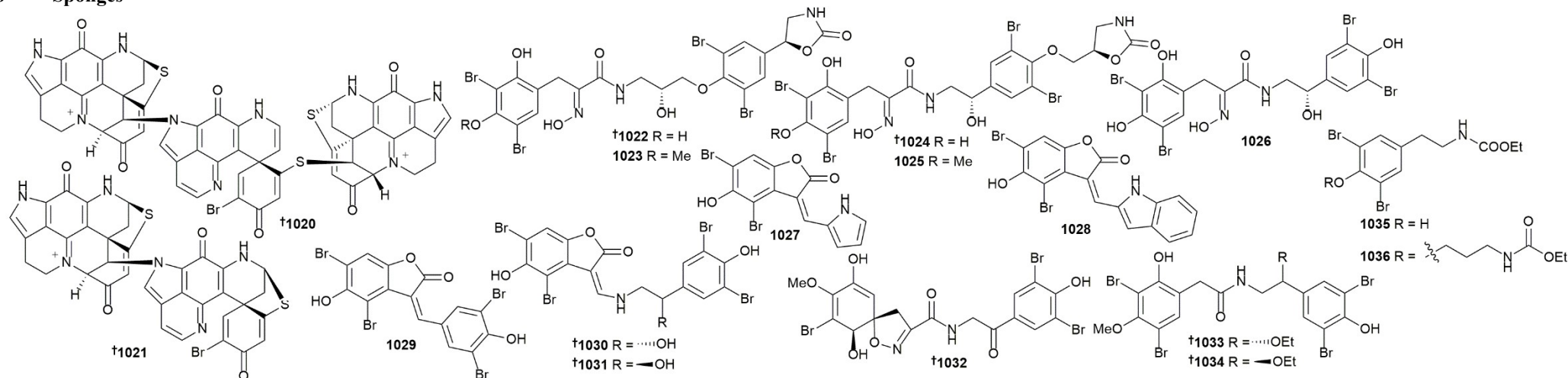
- 444** Porifera *Pseudosuberites* sp. // Harkers Is., North Carolina, USA // Suberitamides A–C, aryl alkaloids from a *Pseudosuberites* sp. marine sponge that inhibit Cbl-b ubiquitin ligase activity
997 // N // suberitamide A // Weak inhib. of autoubiquitination.
998 // N // suberitamide B // Weak inhib. of autoubiquitination.
999 // N // suberitamide C // IA.
- 445** Porifera *Monanchora pulchra* // Dredge (140 m), Kunashir Is., Kuril Is. // Urupocidin C: a new marine guanidine alkaloid which selectively kills prostate cancer cells via mitochondria targeting
1000 // N // urupocidine C // Weak to mod. cytotox. vs 3 HTCLs, targets mitochondria.
- 446** Porifera *Agelas* sp. // Kerama Is., Okinawa, Japan // Agesasines A and B, bromopyrrole alkaloids from marine sponges *Agelas* spp
1001 // N // agesasine A // Racemate, IA vs 3 HTCLs.
1002 // N // agesasine B // Racemate, IA vs 3 HTCLs.
1003 // N // 9-hydroxydihydrodispacamide // Racemate, IA vs 3 HTCLs.
1004 // N // 9-hydroxydihydrooroidin // Racemate, IA vs 3 HTCLs.
1005 // M // 9E-keramadine // IA vs 3 HTCLs.
- 447** Porifera *Stylissa carteri* // Wallis and Futuna Is. // Futunamine, a pyrrole–imidazole alkaloid from the sponge *Stylissa* aff. *carteri* collected off the Futuna Is.
1006 // N // futunamine // IA, weak neuroprotective, AO and AI effects.
1007 // N // debromokonbu'acidin // IA, weak neuroprotective, AO and AI effects.
1008 // N // didebromocarteramine // IA as AI.

6 Sponges



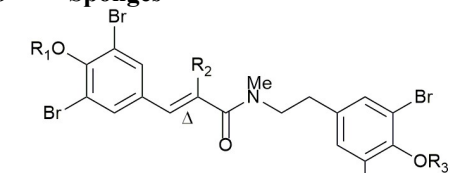
- 448** Porifera *Agelas oroides* // ROV (100 m depth), Tel Aviv coast, Israel // Bromopyrrole alkaloids of the sponge *Agelas oroides* collected near the Israeli Mediterranean coastline
1009 // N // agesamine C // IA in QS assay.
1010 // N // dioroidamide A // IA in QS assay.
1011 // N // slagenin D // IA in QS assay.
1012 // N // (-)-monobromoagelaspongin // IA in QS assay.
1013 // N // (-)-11-deoxymonobromoagelaspongin // IA in QS assay.
1014 // N // (-)-11-O-methylmonobromoagelaspongin // IA in QS assay.
1015 // N // E-dispacamide // IA in QS assay.
1016 // N // pyrrosoline // IA in QS assay.
- 449** Porifera *Latrunculia triverticillata* // Three Kings Is., New Zealand // Exploration of the electrophilic reactivity of the cytotoxic marine alkaloid discorhabdin C and subsequent discovery of a new dimeric C-1/N-13-linked discorhabdin natural product
1017 // N // discorhabdin C dimer // Weak to mod. antiparasitic, racemate.
- 450** Porifera *Latrunculia biformis* // Dredge (291 m), S.ern Weddell Sea (Antarctica) // New discorhabdin B dimers with anticancer activity from the Antarctic deep-sea sponge *Latrunculia biformis*
1018 // N // (-)-(1*S*,2*R*,6*R*,8*S*,6'*S*)-discorhabdin B dimer // Weak cytotox. vs 2 HTCLs.
1019 // N // (-)-(1*R*,2*R*,6*R*,8*S*,6'*S*)-16',17'-dehydroadiscorhabdin B dimer // NT.

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- 451** Porifera *Latrunculia biformis* // Dredge (291 m), S. Weddell Sea (Antarctica) // Tridiscorhabdin and didiscorhabdin, the first discorhabdin oligomers linked with a direct C–N bidge from the sponge *Latrunculia biformis* collected from the deep sea in Antarctica
1020 // N // (–)-tridiscorhabdin // Mod. cytotox. vs 2 hum. CL, first trimeric discorhabdin.
1021 // N // (–)-didiscorhabdin // NT.
- 452** Porifera *Pseudoceratina* sp. // Yongxing Is., S. China Sea // Pseudoceroximes A–E and pseudocerolides A–E – bromotyrosine derivatives from a *Pseudoceratina* sp. marine sponge collected in the S. China Sea
1022 // N // pseudoceroxime A // Weak activ. vs 1 bact. strain, IA vs 1 fungi, IA vs 2 HTCLs.
1023 // N // pseudoceroxime B // Weak activ. vs 1 bact. strain, IA vs 1 fungi, IA vs 2 HTCLs.
1024 // N // pseudoceroxime C // IA vs 1 bact. strain, IA vs 1 fungi, IA vs 2 HTCLs.
1025 // N // pseudoceroxime D // IA vs 1 bact. strain, IA vs 1 fungi, IA vs 2 HTCLs.
1026 // N // pseudoceroxime E // Weak activ. vs 1 bact. strain, IA vs 1 fungi, IA vs 2 HTCLs.
1027 // N // pseudocerolide A // IA vs 1 bact. strain, IA vs 1 fungi, IA vs 2 HTCLs.
1028 // N // pseudocerolide B // IA vs 1 bact. strain, IA vs 1 fungi, IA vs 2 HTCLs.
1029 // N // pseudocerolide C // Weak activ. vs 1 bact. strain, IA vs 1 fungi, IA vs 2 HTCLs.
1030 // N // pseudocerolide D // IA vs 1 bact. strain, IA vs 1 fungi, IA vs 2 HTCLs.
1031 // N // pseudocerolide E // IA vs 1 bact. strain, IA vs 1 fungi, IA vs 2 HTCLs.
1032 // N // 13-ketohemifistularin 3 // IA vs 1 bact. strain, IA vs 1 fungi, IA vs 2 HTCLs.
1033 // N // ceratinine J // IA vs 1 bact. strain, IA vs 1 fungi, IA vs 2 HTCLs.
1034 // N // ceratinine K // IA vs 1 bact. strain, IA vs 1 fungi, IA vs 2 HTCLs.
1035 // N // ceratinine L // IA vs 1 bact. strain, IA vs 1 fungi, IA vs 2 HTCLs.
1036 // N // ceratinine M // IA vs 1 bact. strain, IA vs 1 fungi, IA vs 2 HTCLs.

6 Sponges

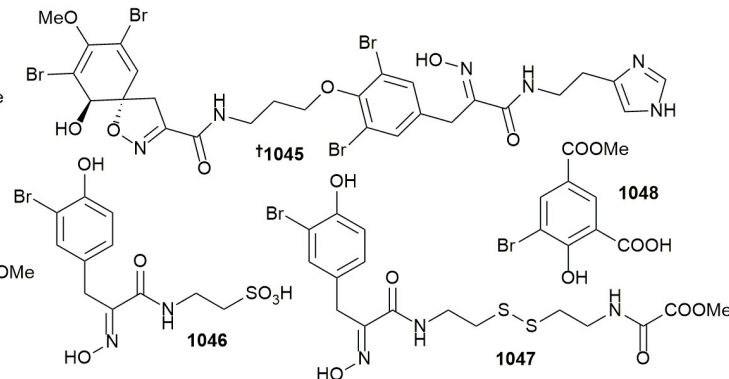
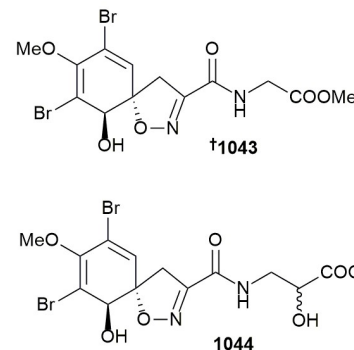
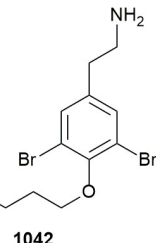
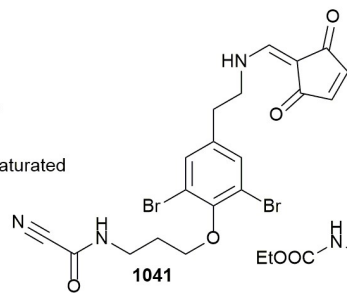


1037 $R_1 = Me$, $R_2 = NMe_2$, $R_3 = \text{CH}_2\text{CH}_2\text{CH}_2\text{NH}_2$, Δ saturated

1038 $R_1 = H$, $R_2 = NMe_2$, $R_3 = Me$, Δ saturated

1039 $R_1 = Me$, $R_2 = H$, $R_3 = \text{CH}_2\text{CH}_2\text{CH}_2\text{NH}_2$

1040 $R_1 = Me$, $R_2 = R_3 = H$



453 Porifera *Pseudoceratina* sp. // Raroia, Tuamotu archipelago, French Polynesia // Q.S. inhibitory and antifouling activities of new bromotyrosine metabolites from the Polynesian sponge *Pseudoceratina* n. sp.

1037 // N // aplyzanzine C // Mod. to pot. activ. vs fungi.

1038 // N // aplyzanzine D // Mod. activ. vs fungi.

1039 // N // aplyzanzine E // Mod. to pot. activ. vs fungi.

1040 // N // aplyzanzine F // Mod. activ. vs fungi.

454 Porifera *Pseudoceratina arabica* // Anas Reef, Red Sea, Saudi Arabia // Pseudoceratonic acid and moloka'iamine derivatives from the Red Sea verongioid sponge *Pseudoceratina arabica*

1041 // N // ceratinine N // Weak cytotox. vs 3 HTCL, 1 nHCL.

1042 // N // ceratinine O // Weak cytotox. vs 1 HTCL, IA vs 2 HTCL.

455 Porifera *Aplysina lacunosa* // Little San Salvador Is., The Bahamas // Bromo-spiroisoxazoline alkaloids, including an isoserine peptide, from the Caribbean marine sponge *Aplysina lacunosa*

1043 // N // lacunosin A // IA as chymotrypsin inhib.

1044 // N // lacunosin B // IA as chymotrypsin inhib., mix of diasteteromers.

1045 // N // desaminopurealin // IA as chymotrypsin inhib., racemate.

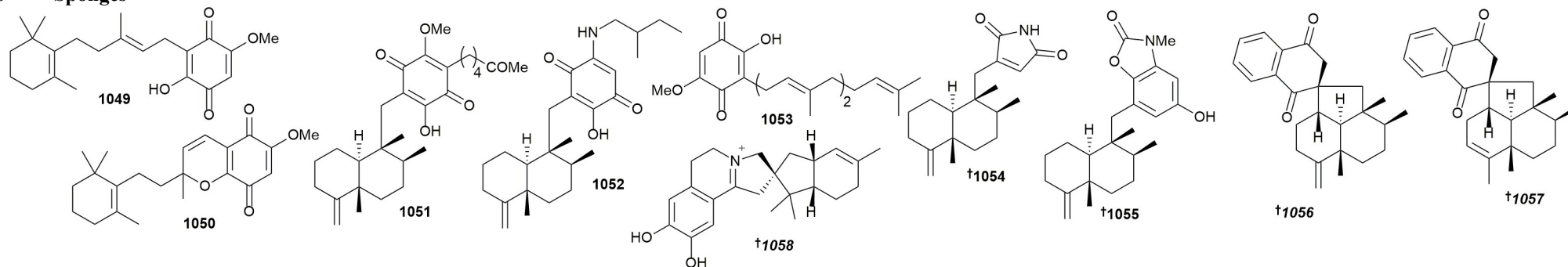
456 Porifera *Aplysinella rhax* // Wainunu, Bua, Fiji Is. // Antiparasitic activity of bromotyrosine alkaloids and new analogues isolated from the Fijian marine sponge *Aplysinella rhax*

1046 // M // psammaplin O // IA in 2 antiparasitic assays.

1047 // N // psammaplin P // IA in 2 antiparasitic assays.

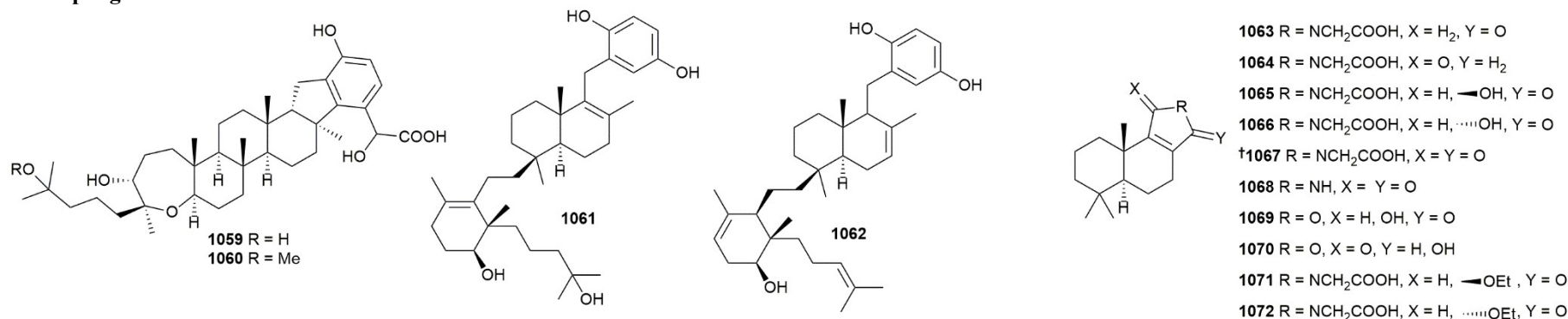
1048 // M // 3-bromo-2-hydroxy-5-(methoxycarbonyl)benzoic acid // IA in 2 antiparasitic assays.

6 Sponges



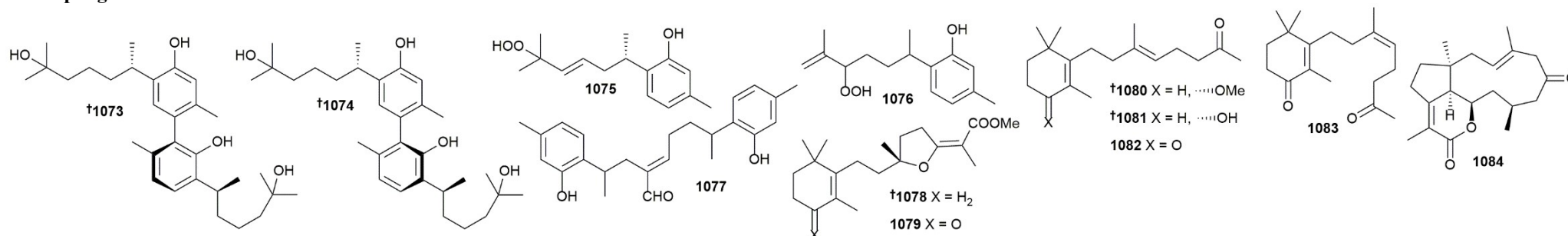
- 457** Porifera *Spongia* sp. // ROV (153 m), Miyako-Sone sea mount, Japan // Metachromins X and Y from a marine sponge *Spongia* sp. and their effects on cell cycle progression
1049 // N // metachromin X // IA vs 1 HTCL, total synth. also achieved.
1050 // N // metachromin Y // IA vs 1 HTCL, isol. as racemate.
- 458** Porifera *Verongula* sp. // Ko Ha Islets, Krabi Province, Thailand // Quintraquinone, a meros sesquiterpene from the yellow sponge *Verongula* cf. *rigida* Esper
1051 // N // quintraquinone // IA vs 3 HTCLs.
1052 // N // 5-epi-nakijiquinone L // IA vs 3 HTCLs.
1053 // N // 3-farnesyl-2-hydroxy-5-methoxyquinone // IA vs 3 HTCLs.
- 459** Porifera *Dysidea septosa* // Yongxing Is., S. China Sea // Discovery of nitrogenous sesquiterpene quinone derivatives from sponge *Dysidea septosa* with anti-inflammatory activity *in vivo* zebrafish model
1054 // N // dysidinoid B // IA vs 2 HTCLs, 1 nHCL, weak AI.
1055 // N // dysicigyhne A // IA vs 2 HTCLs, 1 nHCL.
- 460** Porifera *Dysidea etheria* // Xisha Is., S. China Sea // Spiroetherones A and B, sesquiterpene naphthoquinones, as angiogenesis inhibitors from the marine sponge *Dysidea etheria*
1056 // N // spiroetherone A // Weak to mod. anti-angiogenic, weak cytotox. vs 4 HTCLs, first meros sesquiterpeneoid with naphthoquinone.
1057 // N // spiroetherone B // Weak anti-angiogenic, first meros sesquiterpeneoid with naphthoquinone.
- 461** Porifera *Citronia astra* // Day reef, North QLD, Australia // Citronamine A, an antiparasmodial isoquinoline alkaloid from the Australian marine sponge *Citronia astra*
1058 // N // citronamine A // Weak to mod. activ. vs *P. falciparum*, IA vs HEK293.

6 Sponges



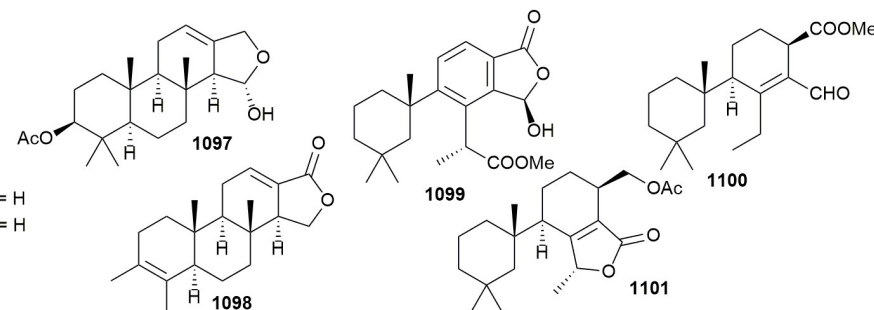
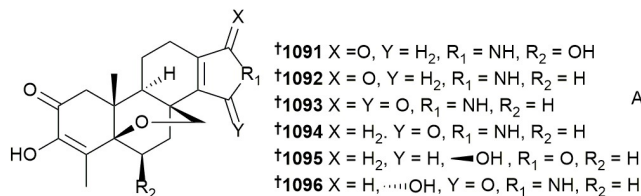
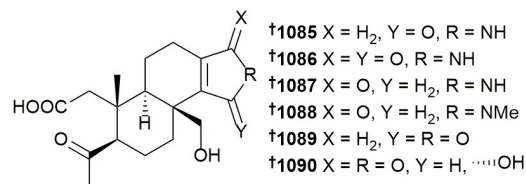
- 462** Porifera/*Calyx* sp. // S.W. Is., Palau // Calyxaprenols A-D, new merohexaprenoid metabolites from the marine sponge *Calyx* sp.
1059 // N // calyxaprenol A // NT.
1060 // N // calyxaprenol B // NT.
1061 // N // calyxaprenol C // NT.
1062 // N // calyxaprenol D // NT.
- 463** Porifera *Dysidea* sp. // Captain Nitro's reef, Port Phillip Heads, Victoria, Australia // Dysidealactams and dysidealactones: sesquiterpene glycinyllactams, imides, and lactones from a *Dysidea* sp. marine sponge collected in Southern Australia
1063 // N // dysidealactam A // IA vs 2 bact., 1 fungus, 2 HTCLs.
1064 // N // dysidealactam B // IA vs 2 bact., 1 fungus, 2 HTCLs.
1065 // N // dysidealactam C // IA vs 2 bact., 1 fungus, 2 HTCLs.
1066 // N // dysidealactam D // IA vs 2 bact., 1 fungus, 2 HTCLs.
1067 // N // dysidealactam E // IA vs 2 bact., 1 fungus, 2 HTCLs.
1068 // N // dysidealactam F // IA vs 2 bact., 1 fungus, 2 HTCLs.
1069 // N // dysidealactone A // IA vs 2 bact., 1 fungus, 2 HTCLs.
1070 // N // dysidealactone B // IA vs 2 bact., 1 fungus, 2 HTCLs.
1071 // N // 15-*O*-ethyl dysidealactam C // Artefact of isol., IA vs 2 bact., 1 fungus, 2 HTCLs.
1072 // N // 15-*O*-ethyl dysidealactam D // Artefact of isol., IA vs 2 bact., 1 fungus, 2 HTCLs.

6 Sponges



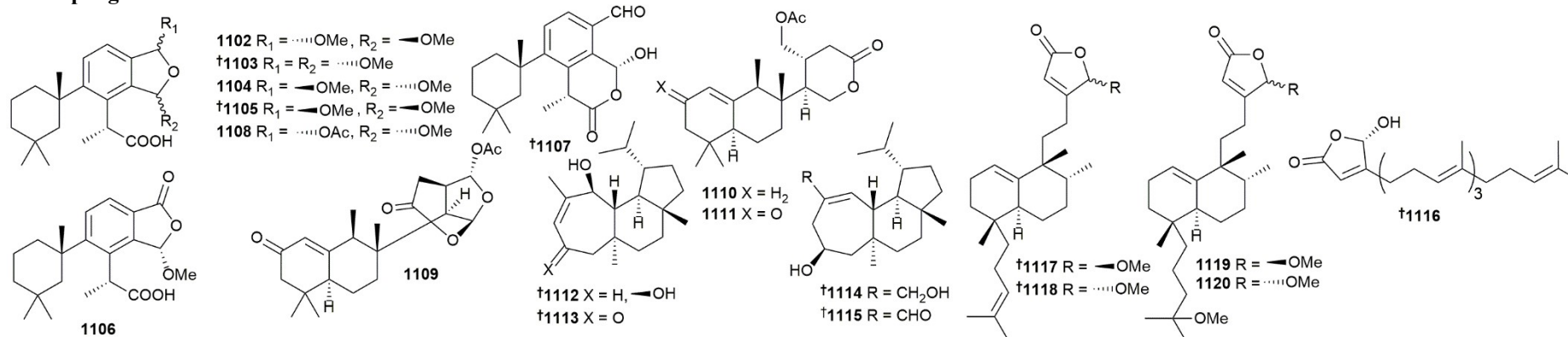
- 464** Porifera *Myrmekioderma* sp. // Phi Phi Is., Krabi Province, Thailand // Biscurcudiols, myrmekioperoxides, and myrmekiodermaral from the Thai marine sponge *Myrmekioderma* sp.
1073 // N // (R)-4,6"-biscurcudiol // IA vs 5 HTCLs.
1074 // N // (S)-4,6"-biscurcudiol // IA vs 5 HTCLs.
1075 // N // myrmekioperoxide A // NT.
1076 // N // myrmekioperoxide B // NT, mixture of stereoisomers.
1077 // N // myrmekiodermaral // IA vs 5 HTCLs.
- 465** Porifera *Diacarnus megaspinorhabdosa* // Yongxing Is., S. China Sea // New polyketides and norterpeneoids from the marine sponge *Diacarnus megaspinorhabdosa*
1078 // N // diacarnustin A // IA vs 6 HTCLs, *E. coli*, *S. aureus*, *C. albicans*.
1079 // N // diacarnustin B // IA vs 6 HTCLs, *E. coli*, *S. aureus*, *C. albicans*.
1080 // N // diacarnoid A // IA vs 6 HTCLs, *E. coli*, *S. aureus*, *C. albicans*.
1081 // N // diacarnoid B // IA vs 6 HTCLs, *E. coli*, *S. aureus*, *C. albicans*.
1082 // N // diacarnoid C // IA vs 6 HTCLs, *E. coli*, *S. aureus*, *C. albicans*.
1083 // N // diacarnoid D // IA vs 6 HTCLs, *E. coli*, *S. aureus*, *C. albicans*.
- 466** Porifera *Fascaplysinopsis reticulata* // Shanhui Is., Xisha Is., S. China Sea // Cytotoxic components from the Xisha sponge *Fascaplysinopsis reticulata*
1084 // N // clavirolide H // IA vs 7 HTCLs.

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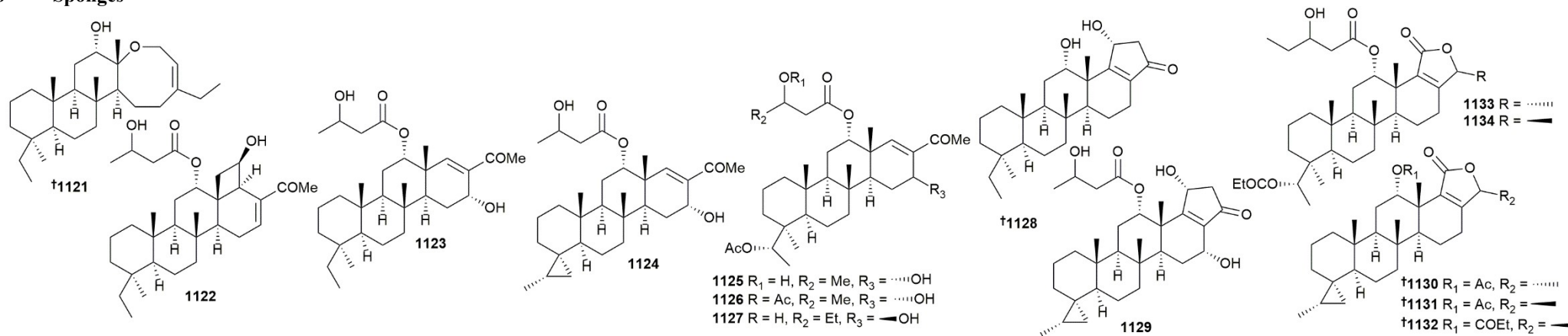
- 467** Porifera *Spongia* sp. // Zhanjiang, Guangdong Province, P. R. China // Novel 3,4-seco-3,19-dinorspongian and 5,17-epoxy-19-norspongian diterpenes from the marine sponge *Spongia* sp.
1085 // N // dinorspongian A // IA vs 4 HTCLs.
1086 // N // dinorspongian B // IA vs 4 HTCLs.
1087 // N // dinorspongian C // IA vs 4 HTCLs.
1088 // N // dinorspongian D // IA vs 4 HTCLs.
1089 // N // dinorspongian E // IA vs 4 HTCLs.
1090 // N // dinorspongian F // IA vs 4 HTCLs.
1091 // N // epoxynorspongian A // IA vs 4 HTCLs.
1092 // N // epoxynorspongian B // IA vs 4 HTCLs.
1093 // N // epoxynorspongian C // IA vs 4 HTCLs.
1094 // N // epoxynorspongian D // IA vs 4 HTCLs.
1095 // N // epoxynorspongian E // IA vs 4 HTCLs.
1096 // N // epoxynorspongian F // IA vs 4 HTCLs.
- 468** Porifera *Acanthodendrilla* sp. // Pulau-Pulau, Indonesia // Two new spongiolide diterpene analogues isolated from the marine sponge *Acanthodendrilla* sp.
1097 // N // 3 β -acetoxy-15-hydroxyspongiolide-12-en // IA vs 3 HTCLs.
1098 // N // 3-methylspongiolide-3,12-dien-16-one // IA vs 3 HTCLs.
- 469** Porifera *Dendrilla antarctica* // Palmer Station, Antarctica // Bioactivity of spongiolide diterpenoid scaffolds from the Antarctic sponge *Dendrilla antarctica*
1099 // N // dendrillin B // Weak to mod. antiparasitic, IA as biofilm inhib.
1100 // N // dendrillin C // IA.
1101 // N // dendrillin D // IA.

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- 470** Porifera *Dendrilla antarctica* // Palmer Station, Antarctica // Spongin diterpenoids derived from the Antarctic sponge *Dendrilla antarctica* are potent inhibitors of the *Leishmania* parasite
 1102 // N // membranoid B // Artefact of isol., mod. antitrypanosomal active, IA vs HTCL
 1103 // R // membranoid C // Artefact of isol., weak antitrypanosomal active, IA vs HTCL
 1104 // N // membranoid D // Artefact of isol., mod. antitrypanosomal active, IA vs HTCL
 1105 // R // membranoid E // Artefact of isol., weak antitrypanosomal active, IA vs HTCL
 1106 // N // membranoid F // Artefact of isol., IA antitrypanosomal active, IA vs HTCL
 1107 // N // membranoid G // Artefact of isol., mod. antitrypanosomal active, IA vs HTCL
 1108 // N // membranoid H // Artefact of isol., weak antitrypanosomal active, IA vs HTCL
- 471** Porifera *Chelonaplysilla* sp. // Samoa // Diterpenoids isolated from the Samoan marine sponge *Chelonaplysilla* sp. inhibit *Mycobacterium tuberculosis* growth
 1109 // N // macfarlandin F // IA vs Mtb.
 1110 // N // macfarlandin G // IA vs Mtb.
 1111 // N // macfarlandin H // IA vs Mtb.
- 472** Porifera *Halichondria* sp. // Yongxing Is., S. China Sea // Four homoverrucosane-type diterpenes from the marine sponge *Halichondria* sp
 1112 // N // 2,5-dihydroxy-homoverrucos-(3)-ene // IA vs 1 HTCL.
 1113 // N // 2-hydroxy-5-oxo-homoverrucos-(3)-ene // IA vs 1 HTCL.
 1114 // N // 5,18-dihydroxy-homoverrucosane // IA vs 1 HTCL.
 1115 // N // 5-hydroxy-18-aldehyde-homoverrucosane // IA vs 1 HTCL.
- 473** Porifera *Dactylosporgia elegans* // Yongxing Is., S. China Sea // Dactylospenes A–E, sesterterpenes from the marine sponge *Dactylosporgia elegans*
 1116 // N // dactylospene A // Weak cytotox. vs 4 HTCLs.
 1117 // N // dactylospene B // IA vs 4 HTCLs.
 1118 // N // dactylospene C // Weak cytotox. vs 3 of 4 HTCLs.
 1119 // N // dactylospene D // IA vs 4 HTCLs.
 1120 // N // dactylospene E // IA vs 4 HTCLs.

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474 Porifera *Dysidea granulosa* // Xisha Is., S. China Sea // Bishomoscalarane sesterterpenoids from the sponge *Dysidea granulosa* collected in S. China Sea

1121 // N // granulosane A // IA vs 4 HTCLs.

1122 // N // $C_{31}H_{48}O_5$ // IA vs 4 HTCLs.

1123 // N // $C_{30}H_{48}O_5$ // IA vs 4 HTCLs.

1124 // N // $C_{30}H_{46}O_5$ // Weak cytotox. vs 2 of 4 HTCLs.

1125 // N // $C_{32}H_{50}O_7$ // IA vs 4 HTCLs.

1126 // N // $C_{34}H_{52}O_8$ // IA vs 4 HTCLs.

1127 // N // $C_{33}H_{52}O_7$ // IA vs 4 HTCLs.

1128 // N // $C_{27}H_{42}O_3$ // IA vs 4 HTCLs.

1129 // N // $C_{31}H_{46}O_6$ // IA vs 4 HTCLs.

1130 // N // $C_{29}H_{42}O_4$ // IA vs 4 HTCLs.

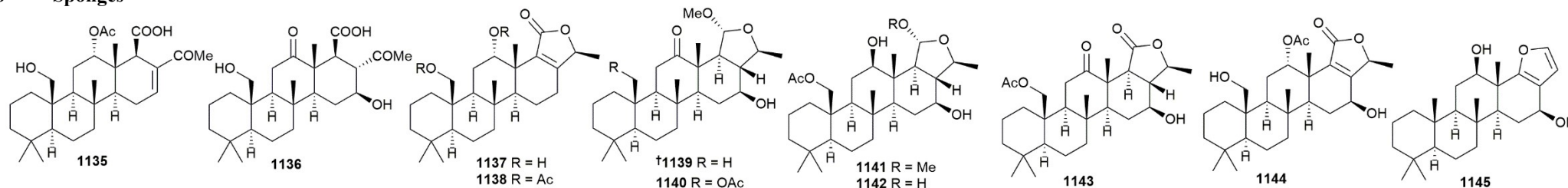
1131 // N // $C_{29}H_{42}O_4$ // IA vs 4 HTCLs.

1132 // N // $C_{30}H_{44}O_4$ // IA vs 4 HTCLs.

1133 // N // $C_{35}H_{54}O_7$ // IA vs 4 HTCLs.

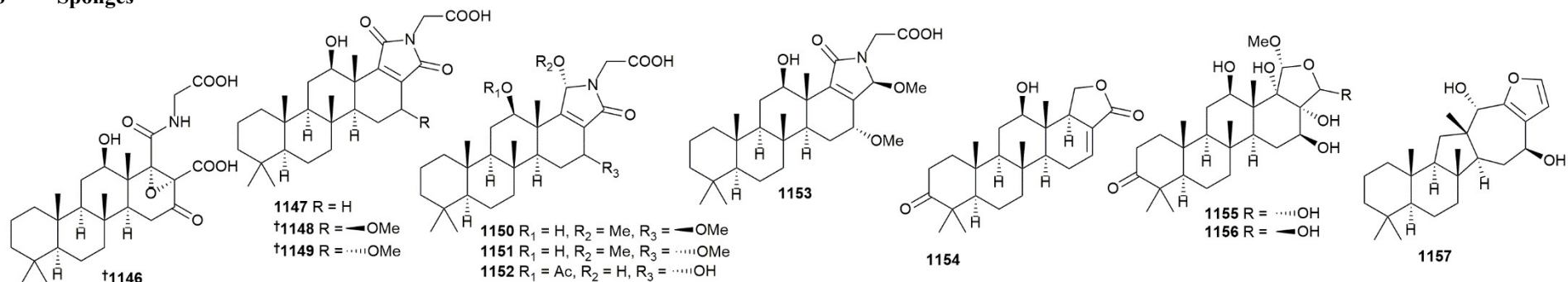
1134 // N // $C_{35}H_{54}O_7$ // IA vs 4 HTCLs.

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- 475** Porifera *Lendenfeldia* sp. // S.ern Taiwan // Probing anti-proliferative 24-homoscalaranes from a sponge *Lendenfeldia* sp.
1135 // N // lendenfeldarane A // IA vs 4 HTCLs.
1136 // N // lendenfeldarane B // IA vs 4 HTCLs.
1137 // N // lendenfeldarane C // Weak cytotox. vs 3 of 4 HTCLs.
1138 // N // lendenfeldarane D // IA vs 4 HTCLs.
- 476** Porifera *Lendenfeldia* sp. // S.ern Taiwan // Sponge-derived 24-homoscalaranes as potent anti-inflammatory agents
1139 // N // lendenfeldarane E // Weak AI.
1140 // N // lendenfeldarane F // Weak AI.
1141 // N // lendenfeldarane G // Weak AI.
1142 // N // lendenfeldarane H // IA.
1143 // N // lendenfeldarane I // IA.
1144 // N // lendenfeldarane J // IA.
- 477** Porifera *Hyrtios* sp. // Anda, Bohol Is., the Philippines // Scalarane-type sesterterpenes from the Philippines sponge *Hyrtios* sp.
1145 // N // C₂₅H₃₈O₃ // Weak AB vs 1 of 3 Gram + strains.

6 Sponges



478 Porifera *Hyrtios erectus* // Chuuk Is., Federated States of Micronesia // Cytotoxic scalarane sesterterpenes from the sponge *Hyrtios erectus*

1146 // N // hyrtioscalarin A // IA vs 6 HTCLs.

1147 // N // hyrtioscalarin B // IA vs 6 HTCLs.

1148 // N // hyrtioscalarin C // IA vs 6 HTCLs.

1149 // N // hyrtioscalarin D // Weak cytotox. vs 4 of 6 HTCLs.

1150 // N // hyrtioscalarin E // IA vs 6 HTCLs.

1151 // N // hyrtioscalarin F // IA vs 6 HTCLs.

1152 // N // hyrtioscalarin G // Weak cytotox. vs 3 of 6 HTCLs.

1153 // N // hyrtioscalarin H // IA vs 6 HTCLs.

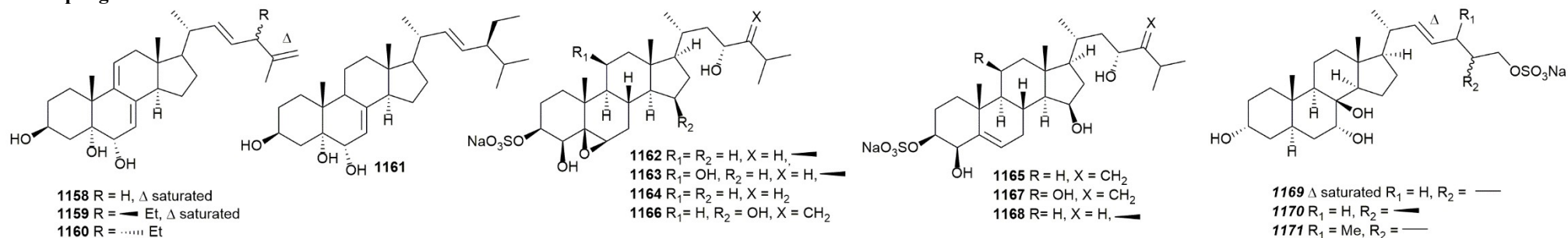
1154 // N // 12-deacetyl-3-oxoscalarin // IA vs 6 HTCLs.

1155 // N // 17(R),18(S)-dihydroxy-19(R),20(S)-dimethoxysessterstatin 5 // Weak cytotox. vs 4 of 6 HTCLs.

1156 // N // 17(R),18(S)-dihydroxy-19(R),20(R)-dimethoxysessterstatin 5 // IA vs 6 HTCLs.

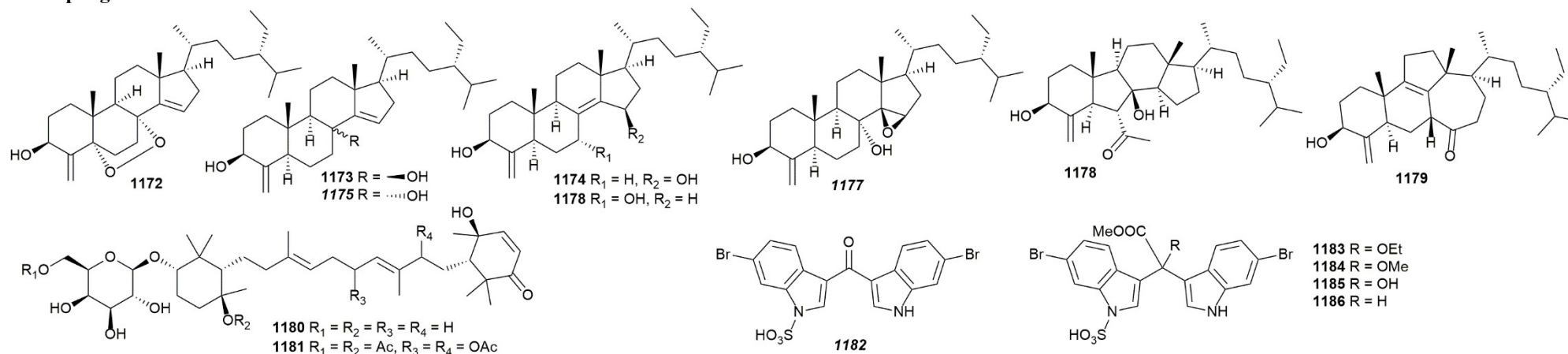
1157 // N // sarmahyrtisol B // Weak cytotox. vs 5 of 6 HTCLs.

6 Sponges



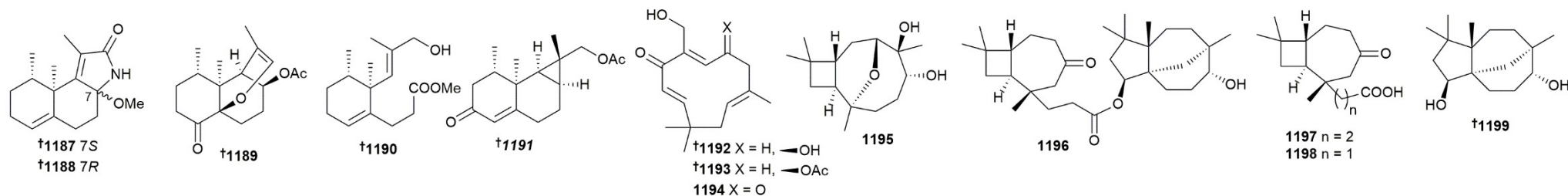
- 479** Porifera *Plakortis* sp. // YongXing Is., S. China Sea // Four new polyhydroxylated steroids from the S. Sea sponge *Plakortis* sp.
1158 // N // plaksterol A // IA vs 6 HTCLs.
1159 // N // plaksterol B // IA vs 6 HTCLs.
1160 // N // plaksterol C // IA vs 6 HTCLs.
1161 // N // plaksterol D // IA vs 6 HTCLs.
- 480** Porifera *Haliclona gracilis* // Shikotan Is., Kuril Is. // Gracilosulfates A–G, monosulfated polyoxygenated steroids from the marine sponge *Haliclona gracilis*
1162 // N // gracilosulfate A // IA vs 1 HTCL.
1163 // N // gracilosulfate B // IA vs 1 HTCL.
1164 // N // gracilosulfate C // NT.
1165 // N // gracilosulfate D // IA vs 1 HTCL.
1166 // N // gracilosulfate E // NT.
1167 // N // gracilosulfate F // IA vs 1 HTCL.
1168 // N // gracilosulfate G // IA vs 1 HTCL.
- 481** Porifera *Lamellodysidea chlorea* // Sawtell Shoal, Coffs Harbour, NSW, Australia // Anti-prion and α -synuclein aggregation inhibitory sterols from the sponge *Lamellodysidea* cf. *chlorea*
1169 // N // lamellosterol A // More potent anti-prion activ. than +ve control.
1170 // N // lamellosterol B // More potent anti-prion activ. than +ve control.
1171 // N // lamellosterol C // More potent anti-prion activ. than +ve control.

6 Sponges

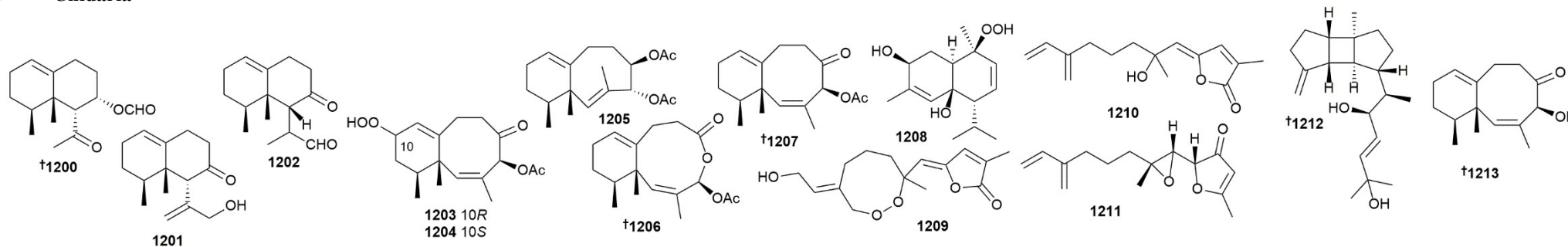


- 482** Porifera *Theonella swinhoei* // Bohol province, Philippines // Oxygenated theonellastrols: interpretation of unusual chemical behaviors using quantum mechanical calculations and stereochemical reassignment of 7 α -hydroxytheonellasterol
1172 // N // theonellasterol-5,8-oxide // IA against RAW264.7.
1173 // N // 8 β -hydroxytheonellasterol // IA against RAW264.7.
1174 // N // 15 β -hydroxytheonellasterol // IA against RAW264.7.
1175 // N // 8 α -hydroxytheonellasterol // IA against RAW264.7, spontaneously rearranges through allylic OH migration.
1176 // N // 8 α -hydroxy-14,15- β -epoxy-theonellasterol // IA against RAW264.7.
1177 // R // 7 α -hydroxytheonellasterol // IA against RAW264.7.
1178 // N // 8 β -hydroxy-7 α -formyl-B-northeonellasterol // IA against RAW264.7.
1179 // N // 28-homoswinhoeisterol // IA against RAW264.7.
- 483** Porifera *Melophlus sarasinorum* // Siladen, Indonesia // Melophluosides A and B, new triterpene galactosides from the marine sponge *Melophlus sarasinorum*
1180 // N // melophluoside A // IA vs 1 HTCL, *E. coli*, *B. subtilis*, *C. albicans*.
1181 // N // melophluoside B // Weak cytotox. vs 1 HTCL, IA vs *E. coli*, *B. subtilis*, *C. albicans*.
- 506** Porifera *Echinodictyum* sp. // * // Structure revision of the rare sponge metabolite echinosulfone A, and biosynthetically related echinosulfonic acids A–D
1182 // R // echinosulfone A // First synth., req. revision.
1183 // R // echinosulfonic acid A // Revised based upon synth.
1184 // R // echinosulfonic acid B // Revised based upon synth.
1185 // R // echinosulfonic acid C // Revised based upon synth.
1186 // R // echinosulfonic acid D // Revised based upon synth.

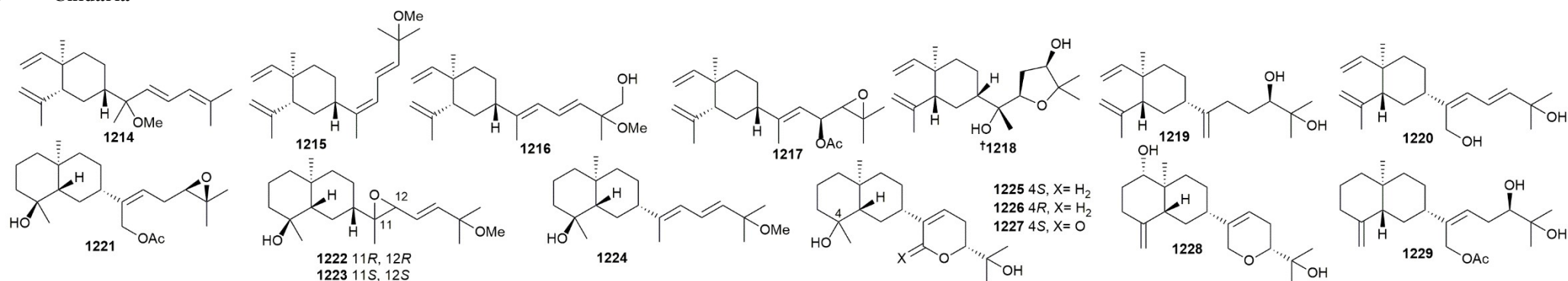
7 Cnidaria



- 535** Cnidaria *Lemnalia* sp. // Xisha Is., S. China Sea // Clavukoellians G–K, new nardosinane and aristolane sesquiterpenoids with angiogenesis promoting activity from the marine soft coral *Lemnalia* sp.
1187 // N // clavukoellian G // IA angiogenesis.
1188 // N // clavukoellian H // IA angiogenesis.
1189 // N // clavukoellian I // IA angiogenesis.
1190 // N // clavukoellian J // IA angiogenesis.
1191 // N // clavukoellian K // Pro-angiogenic in zebrafish model.
- 536** Cnidaria *Leptogorgia* sp. // S. China Sea // Leptogorgins A–C, humulane sesquiterpenoids from the Vietnamese gorgonian *Leptogorgia* sp.
1192 // N // leptogorgin A // IA vs 1 HTCL.
1193 // N // leptogorgin B // IA vs 1 HTCL.
1194 // N // leptogorgin C // NT.
- 537** Cnidaria *Rumphella antipathes* // S. ern Taiwan // Rumphellolide K, a novel C-3/8 ether linkage caryophyllane from *Rumphella antipathes*
1195 // N // rumphellolide K // IA as AI.
- 538** Cnidaria *Rumphella antipathes* // S. Taiwan // Novel caryophyllane-related sesquiterpenoids with anti-inflammatory activity from *Rumphella antipathes*
1196 // N // rumphellolide L // weak AI.
1197 // N // antipacid A // IA as AI.
1198 // N // antipacid B // IA as AI.
1199 // M // clovane-2b,9a-diol // NT.

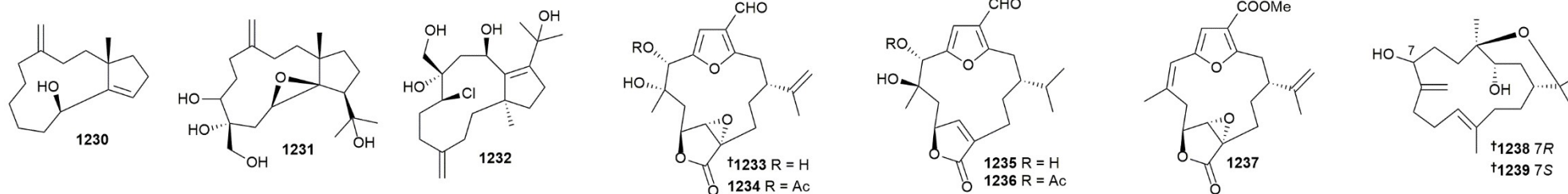


- 539** Cnidaria *Litophyton nigrum* // Xisha Is., Hainan province, China // Uncommon nornardosinane, seconeolemnane and related sesquiterpenoids from *Litophyton nigrum*
1200 // N // linardosinene A // IA vs 1 HTCL.
1201 // N // linardosinene B // IA vs 1 HTCL.
1202 // N // linardosinene C // IA vs 5 HTCLs.
1203 // N // lineolemnene A // IA vs 5 HTCLs.
1204 // N // lineolemnene B // IA vs 5 HTCLs.
1205 // N // lineolemnene C // IA vs 1 HTCL.
1206 // N // lineolemnene D // IA vs 1 HTCL.
1207 // R // 4-acetoxy-2,8-neolemnadien-5-one // Abs config. by X-ray
- 540** Cnidaria *Heteroxenia fuscescens* // National Institute of Oceanography and Fisheries, Hurghada, Egypt // Isolation of new secondary metabolites from gorgonian soft coral *Heteroxenia fuscescens* collected from Red Sea
1208 // N // heterofusceterpene A // IA vs 2 HTCLs.
- 541** Cnidaria *Sinularia tumulosa* // Ximao Is., Hainan Province, China // Uncommon terpenoids with anti-inflammatory activity from the Hainan soft coral *Sinularia tumulosa*
1209 // N // sinulatumolin A // Weak AI, weak cytotox. vs 4 HTCLs.
1210 // N // sinulatumolin B // IA as AI, weak cytotox. vs 4 HTCLs
1211 // N // sinulatumolin C // Weak AI, weak cytotox. vs 4 HTCLs.
1212 // N // sinulatumolin D // Weak AI.
1213 // N // sinulatumolin E // Weak AI, acetylation product X-ray - identical to **1207**.

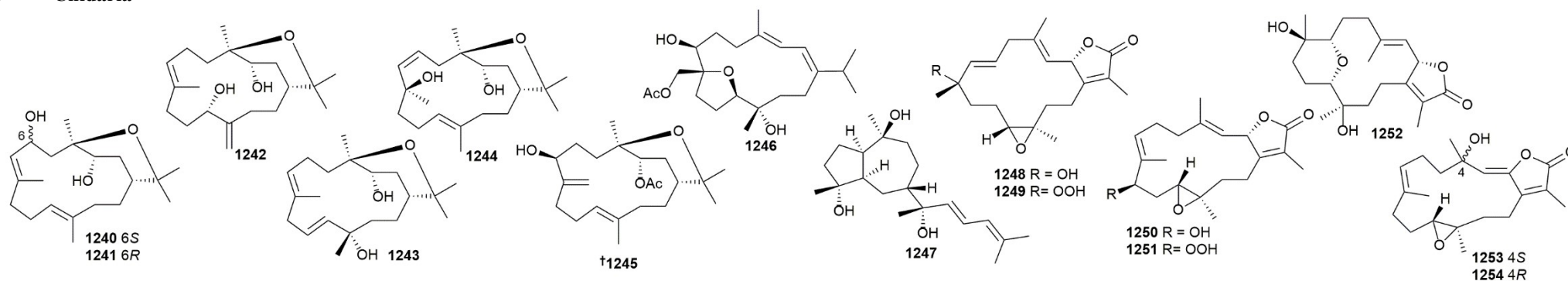


- 543** Cnidaria *Sinularia polydactyla* // Xisha Is., Hainan Province, China // New lobane-type diterpenoids from the Xisha soft coral *Sinularia polydactyla*
1214 // N // 13-methoxyloba-8,10,15(16),17(18)-tetraene // IA immunological, PTP1B and AB.
1215 // N // 8,10,13(15)*Z*,16*E*-lobatetraene // IA immunological, PTP1B and AB.
1216 // N // 19-hydroxy-lobatetraene // IA immunological, PTP1B and AB.
1217 // M // 17,18-epoxy-loba-16-acetoxy-8,10,13 (15)-trien // IA immunological, PTP1B and AB.
- 544** Cnidaria *Lobophytum varium* // Jihui Fish Port, Taitung, Taiwan // Isolation of lobane and prenyleudesmane diterpenoids from the soft coral *Lobophytum varium*
1218 // N // lobovarol F // IA as AI.
1219 // N // lobovarol G // IA as AI.
1220 // N // lobovarol H // IA as AI.
1221 // N // lobovarol I // IA as AI.
1222 // N // (11*R*,12*R*)-lobovarol J // IA as AI.
1223 // N // (11*S*,12*S*)-lobovarol J // IA as AI.
1224 // N // lobovarol K // IA as AI.
1225 // N // lobovarol L // IA as AI.
1226 // N // lobovarol M // IA as AI.
1227 // N // lobovarol N // IA as AI.
1228 // N // lobovarol O // IA as AI.
1229 // N // lobovarol P // IA as AI.

7 Cnidaria



- 545** Cnidaria *Anthelia* sp. // Krakatau Is., Banten, Indonesia // Sangiangols A and B, two new dolabellanes from an Indonesian marine soft coral, *Anthelia* sp.
1230 // N // sangiangol A // Weak cytotox. vs 1 TCL.
1231 // N // sangiangol B // Weak cytotox. vs 1 TCL.
- 546** Cnidaria *Clavularia flava* // Green Is., Taiwan // Ubiquitin-proteasome modulating dolabellanes and secosteroids from soft coral *Clavularia flava*
1232 // N // clavinflol C // Weak to no proteasome inhib.
- 551** Cnidaria *Leptogorgia* sp // Aleta, Panama // Modulation of glial responses by furanocembranolides: leptolide diminishes microglial inflammation *in vitro* and ameliorates gliosis *in vivo* in a mouse model of obesity and insulin resistance
1233 // N // leptogorgodiol A // Weak AI.
1234 // N // 7-acetoxy-leptogorgodiol A // pro-inflammatory.
1235 // N // leptogorgodiol B // AI.
1236 // N // 7-acetoxy-leptogorgodiol B // AI.
1237 // N // Z-isopukalide // IA as AI.
- 552** Cnidaria *Lobophytum* sp. // Xisha Is., Hainan province, China // Quantum mechanical–NMR-aided configuration and conformation of two unreported macrocycles isolated from the soft coral *Lobophytum* sp.: energy calculations versus coupling constants
1238 // N // lobophytolin A // IA vs 4 HTCLs.
1239 // N // lobophytolin B // IA vs 4 HTCLs.



553 Cnidaria *Lobophytum* sp. // Xisha Is., Hainan, China // Rare new bicyclic cembranoid ethers and a novel trihydroxy prenylated guaiane from the Xisha soft coral *Lobophytum* sp.

1240 // N // lobophytolin C // IA vs 4 HTCLs.

1241 // N // lobophytolin D // Weak cytotox. vs 4 HTCLs.

1242 // N // lobophytolin E // IA vs 4 HTCLs.

1243 // N // lobophytolin F // IA vs 4 HTCLs.

1244 // N // lobophytolin G // IA vs 4 HTCLs.

1245 // N // lobophytolin H // IA vs 4 HTCLs.

1246 // N // lobophytolin I // IA vs 4 HTCLs.

1247 // N // lobophytolin J // IA vs 4 HTCLs.

554 Cnidaria *Sarcophyton cherbonnieri* // Jihui Fish Port, Taiwan // Anti-inflammatory cembranoids from a formosa soft coral *Sarcophyton cherbonnieri*

1248 // N // cherbonolide F // IA as AI.

1249 // N // cherbonolide G // IA as AI.

1250 // N // cherbonolide H // IA as AI.

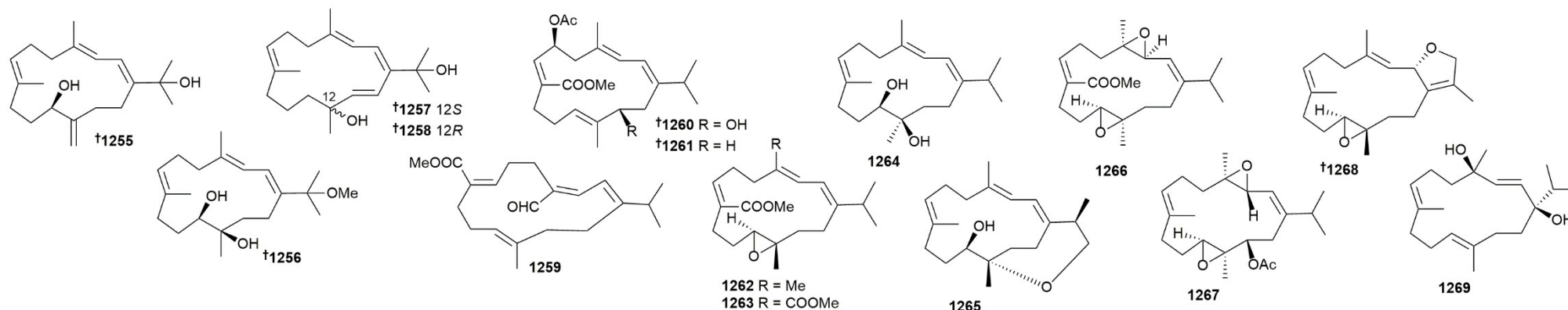
1251 // N // cherbonolide I // IA as AI.

1252 // N // cherbonolide J // *ent*-sarcophyolide E, IA as AI.

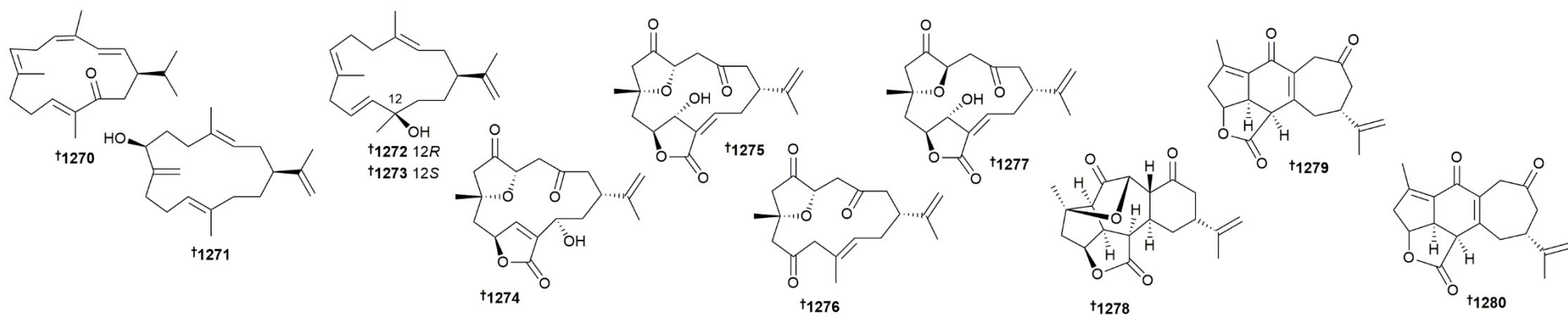
1253 // N // cherbonolide K // IA as AI.

1254 // N // cherbonolide L // IA as AI.

7 Cnidaria

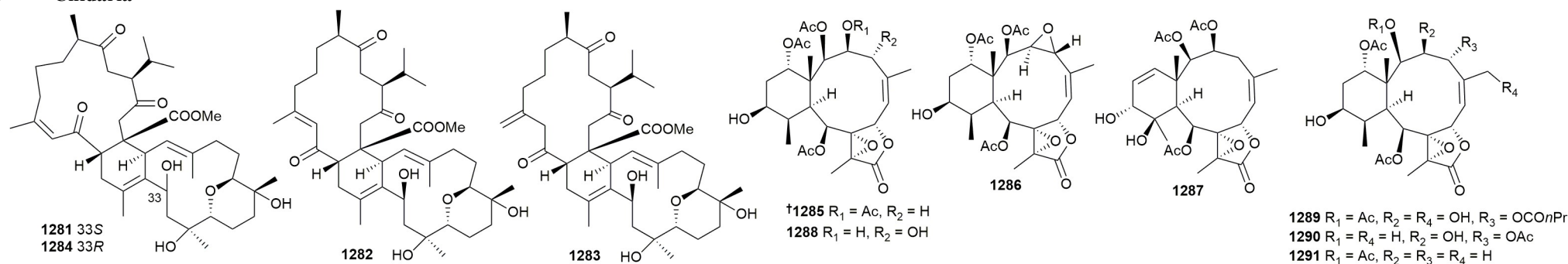


- 555** Cnidaria *Sarcophyton crassocaule* // Ximao Is., Hainan Province, China // Absolute configurations of new cembrane-type diterpenoids from the Hainan soft coral *Sarcophyton crassocaule*
1255 // N // ximaocembrol A // NT.
1256 // N // ximaocembrol B // NT.
1257 // N // (+)-ximaocembrol C // Isolated as racemate, NT.
1258 // N // (–)-ximaocembrol C // Isolated as racemate, NT.
- 556** Cnidaria *Sarcophyton ehrenbergi* // Weizhou Is., Guangxi Province, China // Further polyoxygenated cembranoids from S. China Sea soft coral *Sarcophyton ehrenbergi*
1259 // N // sarcoehrenin A // IA as AI.
1260 // N // sarcoehrenin B // IA as AI.
1261 // N // sarcoehrenin C // IA as AI.
1262 // N // sarcoehrenin D // IA as AI.
1263 // N // sarcoehrenin E // IA as AI.
1264 // N // sarcoehrenin F // IA as AI.
1265 // N // sarcoehrenin G // IA as AI.
1266 // N // sarcoehrenin H // IA as AI.
1267 // N // sarcoehrenin I // 11-acetyl gibberosene C, IA as AI.
1268 // N // (2*S*,11*S*,12*S*)-isosarcophytoxide // Ent. of known MNP, IA as AI.
1269 // N // sarcoehrenin J // IA as AI.



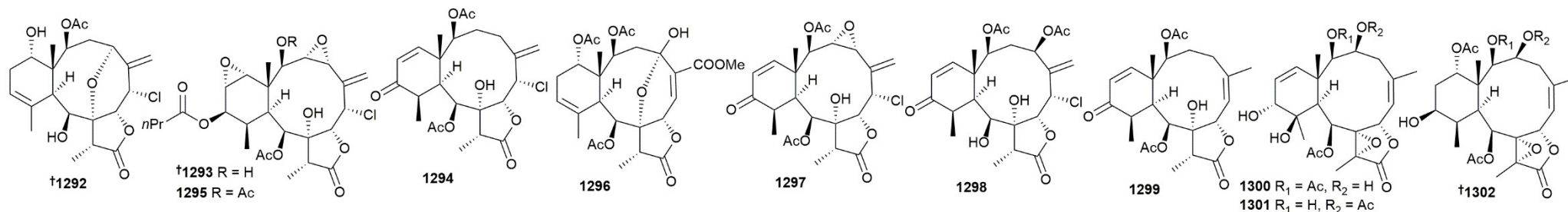
- 557** Cnidaria *Sinularia crassa* // West Is., China // New cembrane-type diterpenoids from the S. China Sea soft coral *Sinularia crassa* and their α -glucosidase inhibitory activity
1270 // N // sinulacrassin A // NT.
1271 // N // sinulacrassin B // Ent. of known MNP, IA α -glucosidase, cytotox.
1272 // N // *ent*-xishaflavalin G // Isolated as racemate. IA α -glucosidase, cytotox.
1273 // N // sinulacrassin C // Ent. of known MNP. IA α -glucosidase, cytotox.
- 558** Cnidaria *Sinularia scabra* and *S. polydactyla* // Xigu Is. and Ximao Is., Hainan Province, China // Polycyclic furanobutenolide-derived norditerpenoids from the S. China Sea soft corals *Sinularia scabra* and *Sinularia polydactyla* with immunosuppressive activ.
1274 // N // xiguscabrolide H // IA cytotox. and immunosuppressive.
1275 // R // 5-*epi*-sinuleptolide // Abs. config. by X-ray, IA cytotox. and immunosuppressive.
1276 // R // norcembrane 5 // Abs. config. by X-ray, IA cytotox. and immunosuppressive.
1277 // R // sinuleptolide // Abs. config. by X-ray, weak cytotox. and immunosuppressive.
1278 // R // ineleganolide // Abs. config. by X-ray, IA cytotox. and immunosuppressive.
1279 // R // yonarolide // Abs. config. by TDDFT ECD, IA cytotox. and immunosuppressive
1280 // R // scabrolide A // Abs. config. by TDDFT ECD, IA cytotox. and immunosuppressive.

7 **Cnidaria**

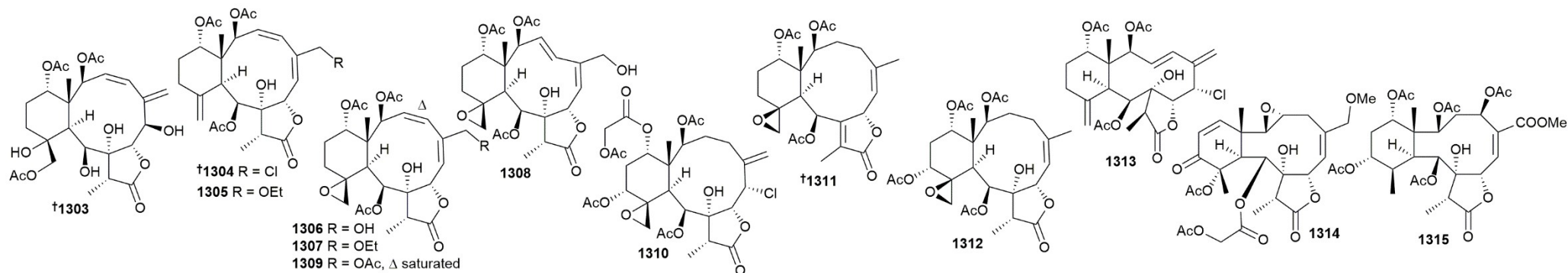


- 559** Cnidaria *Sarcophyton digitatum* // Aquarium cultured specimens // New bisembranoids sardigitolides A–D and known cembranoid-related compounds from *Sarcophyton digitatum*: isolation, structure elucidation, and bioactivities
1281 // N // sardigitolide A // IA vs 4 HTCLs.
1282 // N // sardigitolide B // Weak cytotox. vs 1 of 4 HTCLs.
1283 // N // sardigitolide C // IA vs 4 HTCLs.
1284 // N // sardigitolide D // IA vs 4 HTCLs.
- 567** Cnidaria *Briareum excavatum* // Lanyu Is., Taiwan // Briarenols F–H: new polyoxygenated briarane diterpenoids produced by the octocoral *Briareum excavatum*
1285 // R // excavatolide C // Abs. config. by X-ray, promoted COX-2 expression.
1286 // N // briarenol F // Weak AI.
1287 // N // briarenol G // Weak AI.
1288 // N // briarenol H // Weak AI.
- 568** Cnidaria *Briareum excavatum* // Lanyu Is., Taiwan // Briarenols I–K, new anti-inflammatory 8,17-epoxybriaranes from the octocoral *Briareum excavatum* (Briareidae)
1289 // N // briarenol I // IA as AI.
1290 // N // briarenol J // IA as AI.
1291 // N // briarenol K // 12-*epi* briareolide B, IA as AI.

7 Cnidaria

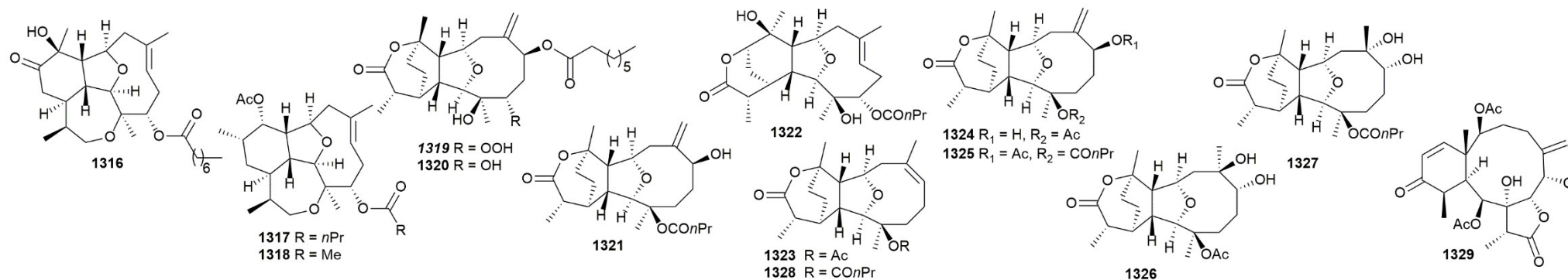


- 569** Cnidaria *Briareum excavatum* // Aquarium cultured specimens // Identification and characterization of chlorine-containing briaranes from a cultured octocoral *Briareum excavatum* (Briareidae)
1292 // R // excavatolide A // Abs. config. by X-ray, IA as AI.
1293 // R // briaexcavatolide F // Abs. config. by X-ray, NT.
1294 // N // briarenol M // IA as AI.
1295 // N // briarenol N // IA as AI.
- 570** Cnidaria *Briareum stechei*, *B. excavatum* // Aquarium cultured specimens // Briarenols Q–T: briaranes from a cultured octocoral *Briareum stechei* (Kükenthal, 1908)
1296 // N // briarenol Q // IA as AI.
1297 // N // briarenol R // IA as AI.
1298 // N // briarenol S // 4b-acetoxysolenolide E, IA as AI.
1299 // N // briarenol T // 12-dehydro cavernulin B, IA as AI.
- 571** Cnidaria *Briareum* sp // Lanyu Is. (Orchid Is.), Taiwan // New trihydroxybriarane diterpenoids from an octocoral *Briareum* sp.
1300 // N // briaviolide Y // IA as AI.
1301 // N // briaviolide Z // IA as AI.
1302 // R // excavatolide B // Abs. config. by X-ray, NT.



- 572** Cnidaria *Ellisella* sp. // S. China Sea // Briarane-type diterpenoids from a gorgonian coral *Ellisella* sp. with anti-HBV activities
1303 // N // ellisellolide A // IA vs HepB virus.
1304 // N // ellisellolide B // IA vs HepB virus.
1305 // N // ellisellolide C // IA vs HepB virus.
1306 // N // ellisellolide D // IA vs HepB virus.
1307 // N // ellisellolide E // IA vs HepB virus.
1308 // N // ellisellolide F // IA vs HepB virus.
1309 // N // ellisellolide G // IA vs HepB virus.
1310 // N // ellisellolide H // IA vs HepB virus.
- 574** Cnidaria *Junceella fragilis* // Lanyu Is., Taiwan // 11β,20β-Epoxybriaranes from the gorgonian coral *Junceella fragilis* (Ellisellidae)
1311 // R // juncenolide K // Abs. config. by X-ray, IA as AI.
1312 // N // fragilide X // pro-inflammatory.
- 575** Cnidaria *Junceella fragilis* // Conco Is., Vietnam // Briarane-type diterpenoids from the Vietnamese gorgonian *Junceella fragilis*
1313 // N // 17-*epi*-juncecellolide B // IA vs 8 HTCLs.
- 576** Cnidaria *Erythropodium caribaeorum* // Santa Marta Bay, Colombia // Metabolic profiling of the soft coral *Erythropodium caribaeorum* (Alcyonacea: Anthothelidae) from the Colombian Caribbean reveals different chemotypes
1314 // N // erythrolide W // IA vs 3 HTCLs.
1315 // N // erythrolide X // IA vs 3 HTCLs.

7 Cnidaria



577 Cnidaria *Briareum asbestinum* // Isla San Cristobal, Panama // New eunicellin-type diterpenes from the Panamanian octocoral *Briareum asbestinum*

1316 // N // briarellin T // Weak AI.

1317 // N // asbestinin 27 // Weak AI.

1318 // N // asbestinin 28 // Weak AI.

579 Cnidaria // * // The discreet structural diversity of briarellins: DU8+ guided multiple structure revisions yielded two unknown structural types

1319 // R // briarellin A // NT.

1320 // R // briarellin B // NT.

1321 // R // briarellin D // NT.

1322 // R // briarellin H // NT.

1323 // R // briarellin J // NT.

1324 // R // briarellin K // NT.

1325 // R // briarellin L // NT.

1326 // R // briarellin M // NT.

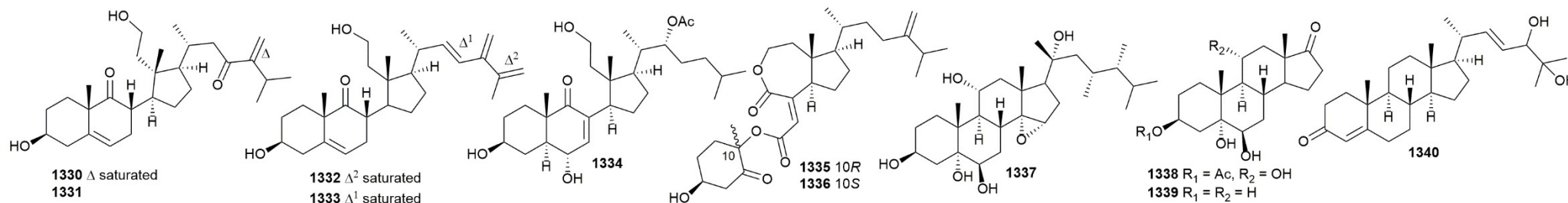
1327 // R // briarellin Q // NT.

1328 // R // briarellin R // NT.

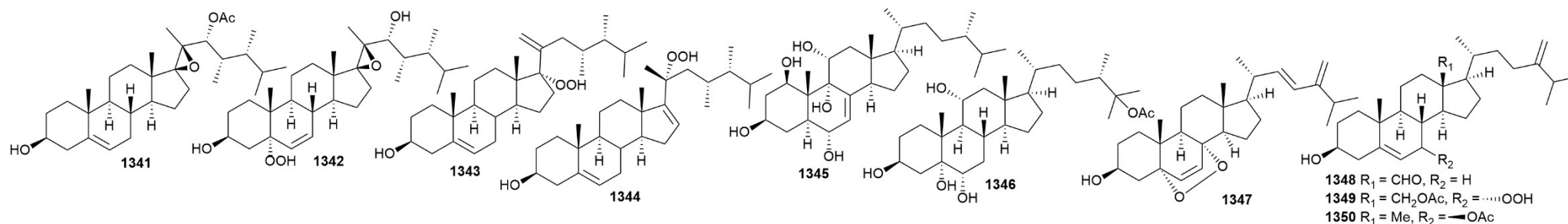
580 Cnidaria *Briareum asbestinum* // Yucatan Peninsula, Mexico // Relative configuration of micrograms of natural compounds using proton residual chemical shift anisotropy

1329 // R // briarane B-3 // NT.

7 **Cnidaria**

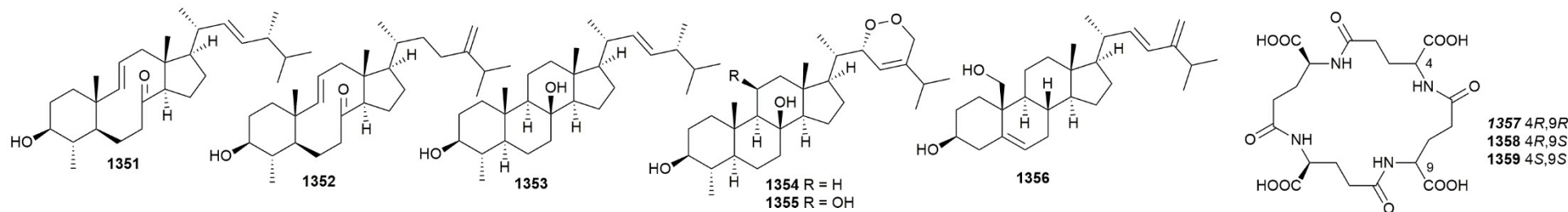


- 546** Cnidaria *Clavularia flava* // Green Is., Taiwan // Ubiquitin-proteasome modulating dolabellanes and secosteroids from soft coral *Clavularia flava*
1330 // N // 3 β ,11-dihydroxy-24-methyl-9,11-secocholest-5-en-9,23-dione // Weak inhib.proteasome
1331 // N // 3 β ,11-dihydroxy-24-methylene-9,11-secocholest-5-en-9,23-dione // Weak inhib. proteasome
- 584** Cnidaria *Sinularia leptoclados* // Pingtung, Taiwan // ¹H NMR-based isolation of anti-inflammatory 9,11-secosteroids from the octocoral *Sinularia leptoclados*
1332 // N // sinleptosterol A // Weak AI.
1333 // N // sinleptosterol B // Weak AI.
- 585** Cnidaria *Iciligorgia* sp. // Yongxing Is., Hainan Province, P. R. China // Osteoclastogenesis modulatory steroids from the S. China Sea gorgonian coral *Iciligorgia* sp.
1334 // N // (22*R*)-22-acetoxy-3 β ,6 α ,11-trihydroxy-9,11-seco-5 α -cholest-7-en-9-one // NT.
- 586** Cnidaria *Sinularia erecta* // Ximao Is., Hainan Province, China // Erectsterates A and B, a pair of novel highly degraded steroid derivatives from the S. China Sea soft coral *Sinularia erecta*
1335 // N // erectsterate A // NT.
1336 // N // erectsterate B // IA vs 4 HTCLs.
- 540** Cnidaria *Heteroxenia fuscescens* // National Institute of Oceanography and Fisheries, Hurghada, Egypt // Isolation of new secondary metabolites from gorgonian soft coral *Heteroxenia fuscescens* collected from Red Sea
1337 // N // heterofuscesterol A // IA vs 2 HTCLs.
1338 // N // heterofuscesterol B // IA vs 2 HTCLs.
1339 // M // 3 β ,5 α ,6 β -trihydroxyandrosta-17-one // IA vs 2 HTCLs.
- 536** Cnidaria *Leptogorgia* sp. // S. China Sea // Leptogorgins A–C, humulane sesquiterpenoids from the Vietnamese gorgonian *Leptogorgia* sp.
1340 // N // leptogorgoid A // IA vs 1 HTCL.



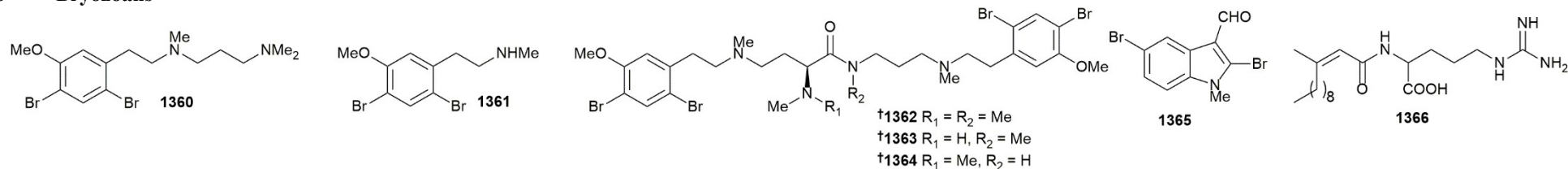
- 587** Cnidaria *Lobophytum* sp. // Ximao Is., Hainan Province, China // New steroids from the S. China Sea soft coral *Lobophytum* sp.
1341 // N // (22*R*,23*S*)-3 β -hydroxy-23-methyl-17,20-epoxyergost-5-en-22-yl acetate // IA vs NF-kB.
1342 // N // (22*R*,23*S*)-5-hydroperoxy-23-methyl-5 α -17,20-epoxyergost-6-ene-3 β ,22-diol // Weak inhib. NF-kB
- 588** Cnidaria *Rumphella* sp. // Sanya, Hainan Province, China // Two new hydroperoxy steroids from the S. China Sea gorgonian *Rumphella* sp.
1343 // N // xidaosteroid A // IA vs 4 HTCLs.
1344 // N // xidaosteroid B // IA vs 4 HTCLs.
- 589** Cnidaria *Sarcophyton acutum* // National Institute of Oceanography and Fisheries, Hurghada, Egypt // Cytotoxic polyhydroxy sterols from the Egyptian Red Sea soft coral *Sarcophyton acutum*
1345 // N // acutumosterol A // IA vs 3 HTCLs, IA vs *Leishmania major*.
1346 // N // acutumosterol B // IA vs 3 HTCLs, IA vs *Leishmania major*.
- 590** Cnidaria *Sinularia* sp. // Yalong Bay, Sanya, China // A new 5 α ,8 α -epidioxysterol with immunosuppressive activity from the S. China Sea soft coral *Sinularia* sp.
1347 // N // yalongsterol A // IA cytotox. and immunosuppressive.
- 591** Cnidaria *Sinularia depressa* // Ximao Is., Hainan Province, China // Sinulasterols A–C, three new bioactive oxygenated sterols from the S. China Sea soft coral *Sinularia depressa*
1348 // N // sinulasterol A // IA as AI.
1349 // N // sinulasterol B // IA as AI.
1350 // N // sinulasterol C // IA as AI.

7 Cnidaria



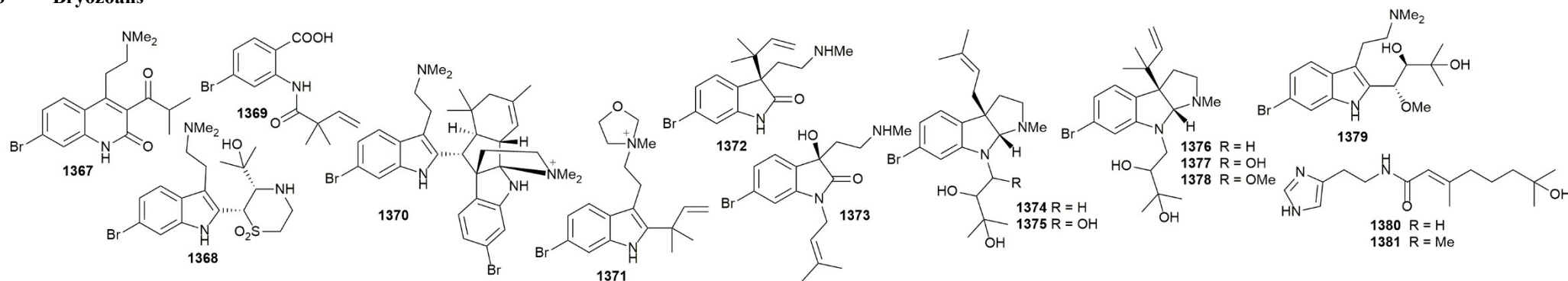
- 592** Cnidaria *Simularia polydactyla* // Hurghada, Egypt // Bioactive steroids from the Red Sea soft coral *Simularia polydactyla*
1351 // N // (9E,22E,24R)-3 β -hydroxy-4 α ,24-dimethyl-8,9-seco-5 α -cholesta-9(11),22-dien-8-one // NT.
1352 // N // (9E)-3 β -hydroxy-4 α ,24-dimethyl-8,9-seco-5 α -cholesta-9(11),24(28)-dien-8-one // NT.
1353 // N // (22E,24R)-4 α ,24-dimethyl-5 α -cholest-22-en-3 β ,8 β -diol // IA vs 2 HTCLs, nHCL.
1354 // N // (23E)-22 α ,28-epidioxy-4 α ,24-dimethyl-5 α -cholest-23-en-3 β ,8 β -diol // NT.
1355 // N // (23E)-22 α ,28-epidioxy-4 α ,24-dimethyl-5 α -cholest-23-en-3 β ,8 β ,11 β -triol // NT.
1356 // N // (22E)-24-methyl-cholesta-5,22,24(28)-trien-3 β ,19-diol // IA vs 2 HTCLs, nHCL.
- 595** Cnidaria *Alatina alata*, *Chironex yamaguchii* // Waikiki Beach, Oahu, Hawaii // Isolation, structure determination, and synthesis of cyclic tetraglutamic acids from box jellyfish species *Alatina alata* and *Chironex yamaguchii*
1357 // N // cnidarin 4A // IA vs nHCL.
1358 // N // cnidarin 4B // NT.
1359 // N // cnidarin 4C // NT.

8 Bryozoans



- 616** Bryozoa *Amathia lamourouxi* // Woolgoolga, NSW, Australia // Antiplasmodial alkaloids from the Australian bryozoan *Amathia lamourouxi*
1360 // N // convolutamine K // weak antiplasmodial activ. vs 3D7, NT vs Dd2. IA vs 1 nHCL.
1361 // N // convolutamine L // IA antiplasmodial activ. vs 3D7, NT vs Dd2. IA vs 1 nHCL.
1362 // N // volutamide F // mod. antiplasmodial activ. vs 3D7 and Dd2. IA vs 1 nHCL.
1363 // N // volutamide G // mod. antiplasmodial activ. vs 3D7 and Dd2. IA vs 1 nHCL.
1364 // N // volutamide H // Weak antiplasmodial activ. vs 3D7 and Dd2. IA vs 1 nHCL.
1365 // N // 2,5-dibromo-1-methyl-1H-indole-3-carbaldehyde // No antiplasmodial activ. vs 3D7 and Dd2. IA vs 1 nHCL.
- 617** Bryozoa *Dendrobeania murrayana* // Vesterålsfjorden, Norway // Dendrobeaniamine A, a new alkaloid from the Arctic marine bryozoan *Dendrobeania murrayana*
1366 // N // dendrobeaniamine A // IA vs 1 HTCL, 1 nHCL, 6 bact. strains and 1 fungus. IA vs TNF- α inhib. or AO activ. (ORAC).

8 Bryozoans



618 Bryozoa *Flustra foliacea* // Iceland // Bromotryptamine and imidazole alkaloids with anti-inflammatory activity from the bryozoan *Flustra foliacea*

1367 // N // flustramine Q // mod. AI via inhib. pro-inflammatory cytokines.

1368 // N // flustramine R // IA as AI.

1369 // N // flustramine S // mod. AI via inhib. pro-inflammatory cytokines.

1370 // N // flustramine T // weak AI via inhib. pro-inflammatory cytokines.

1371 // N // flustramine U // mod. AI via inhib. pro-inflammatory cytokines.

1372 // N // flustramine V // IA as AI.

1373 // N // flustramine W // IA as AI.

1374 // N // flustraminol C // IA as AI.

1375 // N // flustraminol D // IA as AI.

1376 // N // flustraminol E // IA as AI.

1377 // N // flustraminol F // IA as AI.

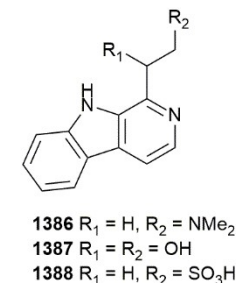
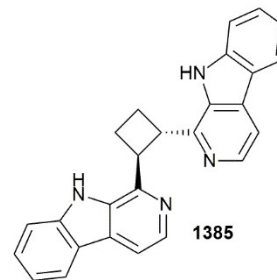
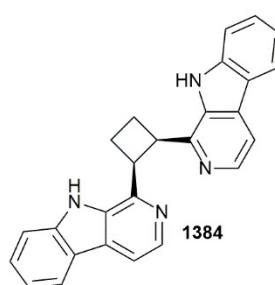
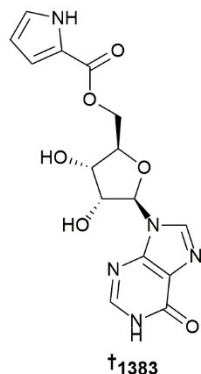
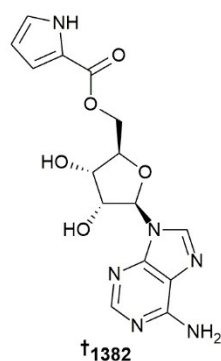
1378 // N // flustraminol G // IA as AI.

1379 // N // flustraminol H // mod. AI via inhib. pro-inflammatory cytokines.

1380 // N // flustrimidazole A // mod. AI via inhib. pro-inflammatory cytokines.

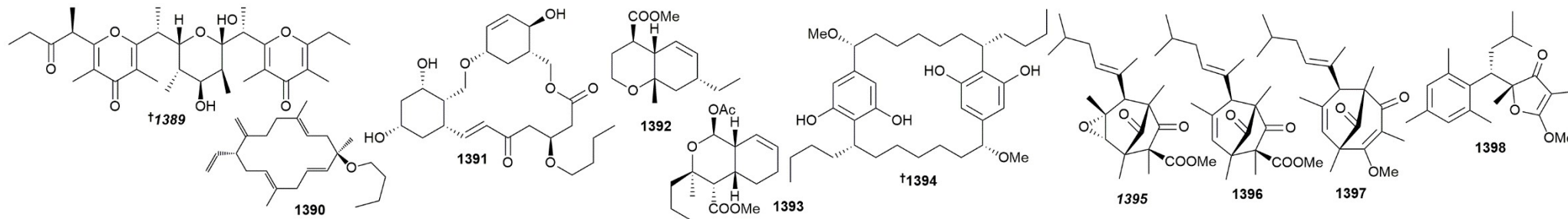
1381 // N // flustrimidazole B // IA as AI.

8 Bryozoans



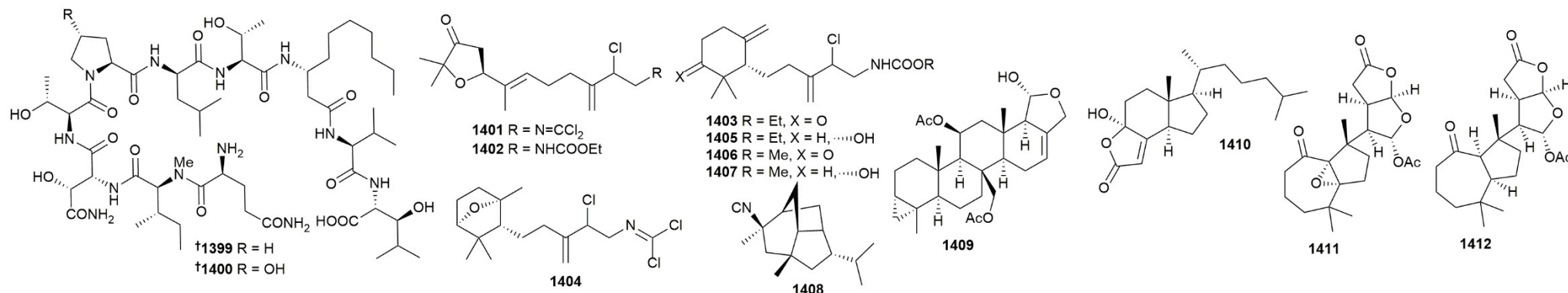
- 619** Bryozoa *Nelliella nelliiformis* // 'Eua, Kingdom of Tonga // Kinase-inhibitory nucleoside derivatives from the Pacific bryozoan *Nelliella nelliiformis*
1382 // N // nellielloside A // pot. inhib. 13 of 485 kinases. IA vs 1 HTCL, 1 bact. strain and 1 fungus.
1383 // N // nellielloside B // pot. inhib. 7 of 7 kinases. IA vs 1 HTCL, 1 bact. strain and 1 fungus.
- 620** Bryozoa *Orthoscuticella ventricosa* // Korora beach, Coffs Harbour, NSW, Australia // Orthoscuticellines A–E, β-carboline alkaloids from the bryozoan *Orthoscuticella ventricosa* collected in Australia
1384 // N // orthoscuticelline A // weak antiplasmodial activ. vs 3D7, weak cytotox. vs 1 HTCL.
1385 // N // orthoscuticelline B // IA antiplasmodial activ. vs 3D7, IA. vs 1 HTCL.
1386 // N // orthoscuticelline C // NT.
1387 // N // orthoscuticelline D // weak antiplasmodial activ. vs 3D7, weak cytotox. vs 1 HTCL.
1388 // N // orthoscuticelline E // weak antiplasmodial activ. vs 3D7, weak cytotox. vs 1 HTCL.

9 **Molluscs**



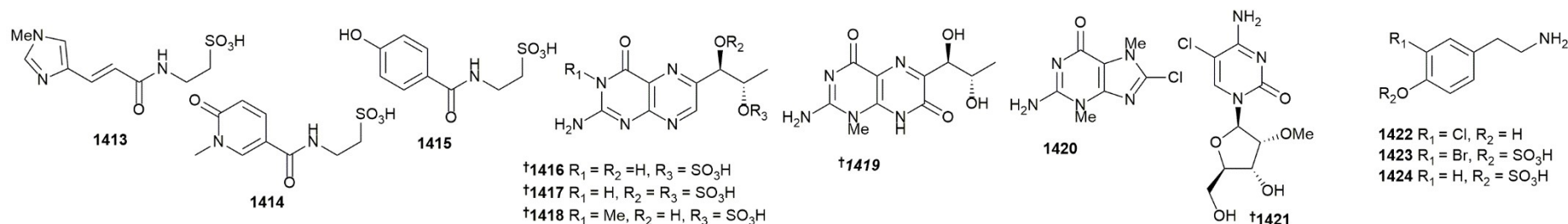
- 626 Mollusca *Onchidium* sp. // Hainan, China // A new bis- γ -pyrone polypropionate of onchidiol family from marine pulmonate mollusk *Onchidium* sp.
1389 // N // 4,16-di-epi-onchidiol // X-ray. IA vs 4 HTCLs.
- 627 Mollusca *Chicoreus ramosus* // Tuticorin, Tamil Nadu, India // An unreported bis-abeo cembrane-type diterpenoid with antioxidative and anti-lipoxygenase activities from the muricid gastropod mollusc *Chicoreus ramosus*
1390 // N // (3*E*, 6*E*, 10*E*)-8a-butoxy-17(15 $\rightarrow$ 14), 20(12 $\rightarrow$ 11)-bis-abeo-cembra-3,6,10,14(17),15-pentaene // IA as AI and AO.
- 628 Mollusca *Chicoreus ramosus* // Tuticorin, Tamil Nadu, India // Polyether macrocyclic polyketide from the muricid gastropod *Chicoreus ramosus* attenuates pro-inflammatory 5-lipoxygenase
1391 // N // 6-(butoxy)-13,15,22-trihydroxy-3,18-dioxatricyclo[18.3.1.0^{11,16}]tricos-9,20-diene-4,8-dione // IA as AI and AO.
- 629 Mollusca *Sepiella inermis* // Arabian Sea // First report of anti-inflammatory chromenyl derivatives from the spineless cuttlefish *Sepiella inermis*
1392 // N // methyl 7-ethyl-3,4,4a,7,8,8a-hexahydro-8a-methyl-2H-chromene-4-carboxylate // IA as AI.
1393 // N // methyl 1-acetoxy-3,4,4a,5,6,8a-hexahydro-3-methyl-3-propyl-1H-isochromene-4-carboxylate // IA as AI.
- 630 Mollusca *Planaxis sulcatus* // Quang Binh, Vietnam // A new [7.7]paracyclopentane from Vietnamese marine snail *Planaxis sulcatus* (Born, 1780)
1394 // N // dedichloronostocyclopentane D // weak cytotox. vs 8 HTCLs.
- 631 Mollusca *Placobranchus ocellatus*, *Plakobranchus ocellatus* // Ximao Is., Hainan Province, China // Complex polypropionates from a S. China Sea photosynthetic mollusk: isolation and biomimetic synthesis highlighting novel rearrangements
1395 // N // ocellatusone A // Isolated as racemate. NT.
1396 // N // ocellatusone B // Isolated as racemate. NT.
1397 // N // ocellatusone C // Isolated as racemate. NT.
1398 // N // ocellatusone D // Isolated as racemate. NT.

9 Molluscs



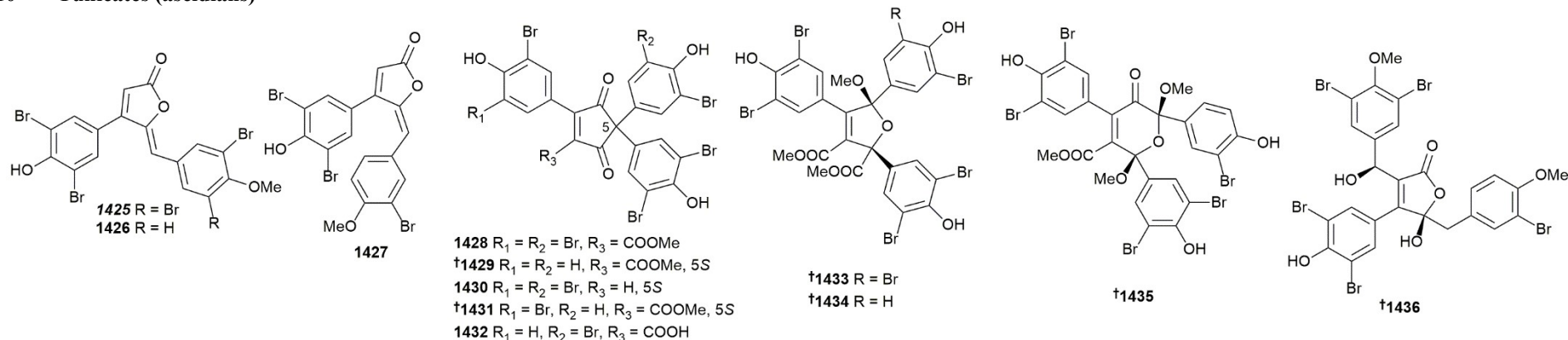
- 632** Mollusca *Stylocheilus striatus* // Moorea Atoll, French Polynesia // Biological activities of cyclic and acyclic B-type laxaphycins in SH-SY5Y human neuroblastoma cells
1399 // N // [des-(Ala⁴-Hle⁵)] acyclolaxaphycin B // Weak effect on autophagy.
1400 // N // [des-(Ala⁴-Hle⁵)] acyclolaxaphycin B3 // Weak effect on autophagy.
- 638** Mollusca *Phyllidiella pustulosa* // North Sulawesi, Indonesia // Metabolome of the *Phyllidiella pustulosa* species complex (Nudibranchia, Heterobranchia, Gastropoda) reveals rare dichloroimidic sesquiterpene derivatives from a phylogenetically distinct and undescribed clade
1401 // N // C₁₆H₂₂Cl₃NO₂ // NT.
1402 // N // C₁₈H₂₈ClNO₄ // NT, solvent artefact.
1403 // N // C₁₈H₂₈ClNO₃ // NT, solvent artefact.
1404 // N // C₁₆H₂₄Cl₃NO // NT.
1405 // N // C₁₈H₃₀ClNO₃ // NT, solvent artefact.
1406 // N // C₁₇H₂₆ClNO₃ // NT, solvent artefact.
1407 // N // C₁₇H₂₈ClNO₃ // NT, solvent artefact.
- 639** Mollusca *Phyllidiella pustulosa* // Mudjimba Is., Queensland, Australia // A sesquiterpene isonitrile with a new tricyclic skeleton from the Indo-Pacific nudibranch *Phyllidiella pustulosa*: spectroscopic and computational studies
1408 // N // (-)-9-isocyanoneoallopupukeanane // mod. antiparasmodial activ. (impure).
- 640** Mollusca *Doriprismatica stellata* // Bunaken National Park // Antibacterial scalarane from *Doriprismatica stellata* nudibranchs (Gastropoda, Nudibranchia), egg ribbons, and their dietary sponge *Spongia* cf. *agaricina* (Demospongiae, Dictyoceratida)
1409 // N // 12-deacetoxy-4-demethyl-11,24-diacetoxy-3,4-methylenedioxoscalarin // Weak to mod. AB
- 641** Mollusca *Dendrodoris fumata* // Hon Me Is., Thanh Hoa, Vietnam // Dendrodoristerol, a cytotoxic C₂₀ steroid from the Vietnamese nudibranch mollusk *Dendrodoris fumata*
1410 // N // dendrodoristerol // IA vs 6 HTCLs.
- 642** Mollusca *Goniobranchus coi* // Percy Isles, North Queensland // Dynamic NMR and computational studies inform the conformational description of dendrillane terpenes from the nudibranch *Goniobranchus coi*
1411 // N // (+)-5,9-epoxydendrillolide A // NT. X-ray.
1412 // N // (+)-10-oxonordendrillolide A // NT.

10 Tunicates (ascidians)



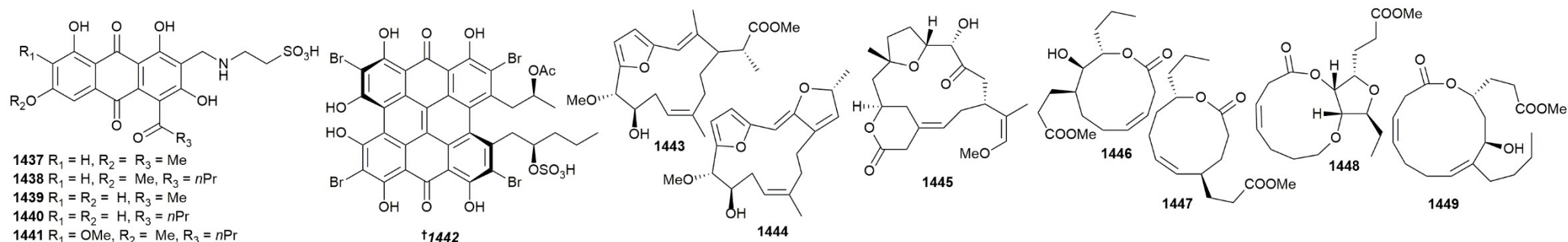
- 686** Chordata *Cnemidocarpa irene* // Oshima-Kojima Islet off the Oshima Peninsula, Hokkaido, Japan // Diverse aromatic metabolites in the solitary tunicate *Cnemidocarpa irene*
- 1413** // N // ireneamide A // IA AChE, HeLa, larval metamorphosis.
- 1414** // N // ireneamide B // IA AChE, HeLa, larval metamorphosis.
- 1415** // N // ireneamide C // IA AChE, HeLa, larval metamorphosis.
- 1416** // N // 6-biopterin-2'-sulfate // IA AChE, HeLa, larval metamorphosis.
- 1417** // N // 6-biopterin-1'-2'-disulfate // Mouse intracerebroventricular inject. gives flaccid response. Binds to ionotropic glutamate receptor. IA AChE, HeLa, larval metamorphosis.
- 1418** // N // 3-methyl-6-biopterin-2'-sulfate // IA AChE, HeLa, larval metamorphosis.
- 1419** // N // 1-methyl-7-oxobiopterin // Respons. for fluorescence of blood cells. IA AChE, HeLa, larval metamorphosis.
- 1420** // N // ireneguanine // IA AChE, HeLa, larval metamorphosis.
- 1421** // N // irenecytidine // IA AChE, HeLa, larval metamorphosis.
- 1422** // M // 3-chlorotyramine // IA AChE, HeLa, larval metamorphosis.
- 1423** // N // 3-bromotyramine-*O*-sulfate // Mouse intracerebroventricular inject. toxic. IA AChE, HeLa, larval metamorphosis.
- 1424** // N // tyramine-*O*-sulfate // Mouse intracerebroventricular inject. toxic. IA AChE, HeLa, larval metamorphosis.

10 Tunicates (ascidians)



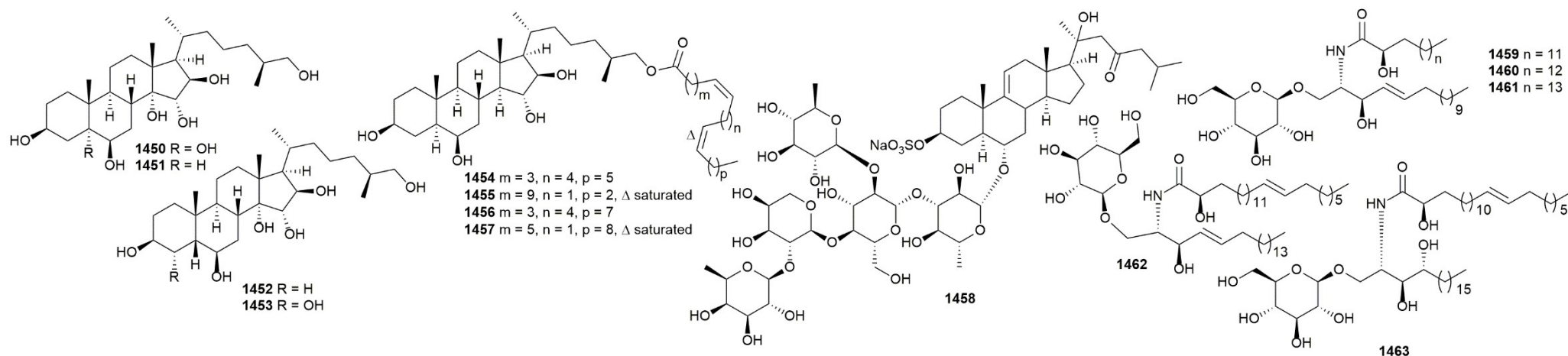
- 687** Chordata *Synoicum kuranui* // Great Barrier Is., New Zealand // Targeted isolation of rubrolides from the New Zealand marine tunicate *Synoicum kuranui*
1425 // N // rubrolide T // Potent AB *B. subtilis*, IA *E. coli*.
1426 // N // (Z)-rubrolide U // Potent AB *B. subtilis* - E/Z mixture, IA *E. coli*.
1427 // N // (E)-rubrolide U // Potent AB *B. subtilis* - E/Z mixture, IA *E. coli*.
- 688** Chordata *Synoicum* sp. // Keomun-do, Korea // Isocadiolides A–H: polybrominated aromatics from a *Synoicum* sp. ascidian
1428 // N // isocadiolide A // Weak activ. to IA vs 3 G+ and 3 G- bact. strains. IA SrtA, ICL enzymes, vs 2 HTCLs.
1429 // N // isocadiolide B // Weak activ. to IA vs 3 G+ and 3 G- bact. strains. IA SrtA, ICL enzymes, vs 2 HTCLs.
1430 // N // isocadiolide C // Weak activ. to IA vs 3 G+ and 3 G- bact. strains. IA SrtA, ICL enzymes, vs 2 HTCLs.
1431 // N // isocadiolide D // Weak activ. to IA vs 3 G+ and 3 G- bact. strains. IA SrtA, ICL enzymes, vs 2 HTCLs.
1432 // N // isocadiolide E // IA vs 3 G+ and 3 G- bact. strains. IA SrtA, ICL enzymes, vs 2 HTCLs.
1433 // N // isocadiolide F // IA vs 3 G+ and 3 G- bact. strains. IA SrtA, ICL enzymes, vs 2 HTCLs.
1434 // N // isocadiolide G // Weak activ. to IA vs 3 G+ and 3 G- bact. strains. IA SrtA, ICL enzymes, vs 2 HTCLs.
1435 // N // isocadiolide H // IA vs 3 G+ and 3 G- bact. strains. IA SrtA, ICL enzymes, vs 2 HTCLs.
1436 // N // cadiolide N // Weak activ. to IA vs 3 G+ and 3 G- bact. strains. IA SrtA, ICL enzymes, vs 2 HTCLs.

11 Echinoderms

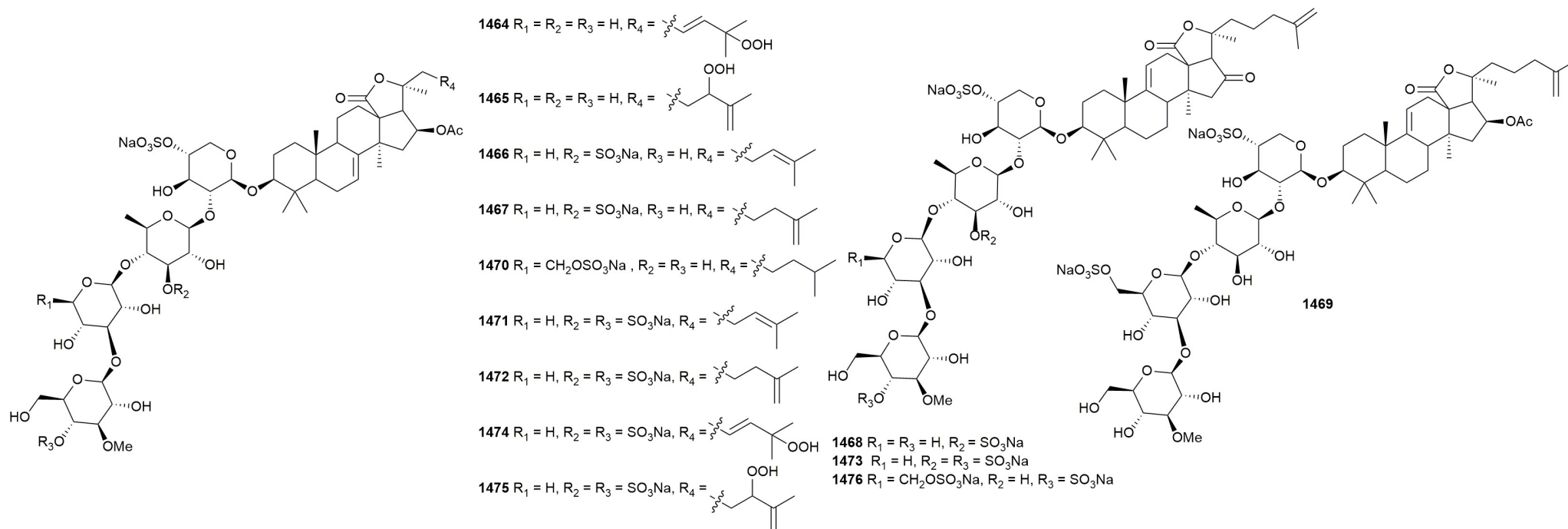


- 709** Echinodermata *Comatula rotalaria* // Great Barrier Reef, Queensland, Australia // Comatulins A–E, taurine-conjugated anthraquinones from the Australian crinoid *Comatula rotalaria*
1437 // N // comatulin A // IA as AV, IA nematocide.
1438 // N // comatulin B // IA as AV, IA nematocide.
1439 // N // comatulin C // IA as AV.
1440 // N // comatulin D // IA as AV.
1441 // N // comatulin E // IA as AV.
- 710** Echinodermata *Hyalocrinus naresianus* // Shima Spur, Kumano-nada Sea, Japan // Magnetically induced alignment of natural products for stereochemical structure determination via NMR
1442 // N // gymnochrome G // NT.
- 711** Echinodermata *Salmacis bicolor* // Arabian Sea // Anti-inflammatory polyoxygenated furanocembranoids, salmacembranes A–B from the sea urchin *Salmacis bicolor* attenuate pro-inflammatory cyclooxygenases and lipoxygenase
1443 // N // salmacembrane A // IA as AI.
1444 // N // salmacembrane B // IA as AI.
- 712** Echinodermata *Stomopneustes variolaris* // Kadiapattanam coast, India // Antioxidant and anti-inflammatory cembrane-type diterpenoid from Echinoidea sea urchin *Stomopneustes variolaris* attenuates pro-inflammatory 5-lipoxygenase
1445 // N // 4-hydroxy-1-(16-methoxyprop-16-en-15-yl)-8-methyl-21,22-dioxatricyclo[11.3.1.15,8]octadecane-3,19-dione // IA as AI.
- 713** Echinodermata *Stomopneustes variolaris* // Kadiapattanam coast, India // Stomopneulactone D from long-spined sea urchin *Stomopneustes variolaris*: anti-inflammatory macrocyclic lactone attenuates cyclooxygenase-2 expression in lipopolysaccharide-activated macrophages
1446 // N // stomopneulactone A // IA as AI.
1447 // N // stomopneulactone B // IA as AI.
1448 // N // stomopneulactone C // IA as AI.
1449 // N // stomopneulactone D // IA as AI.

11 Echinoderms



- 716** Echinodermata *Anthenoides laevigatus* // Qui Nhon Province, Vietnam // Unusual polyhydroxylated steroids from the starfish *Anthenoides laevigatus*, collected off the coastal waters of Vietnam
1450 // N // (25*S*)-5α-cholestane-3β,5,6β,14,15α,16β,26-heptaol // IA vs 3 TCLs.
1451 // N // (25*S*)-5α-cholestane-3β,6β,14,15α,16β,26-hexaol // NT.
1452 // N // (25*S*)-5β-cholestane-3β,6β,14,15α,16β,26-hexaol // NT.
1453 // N // (25*S*)-5β-cholestane-3β,4α,6β,14,15α,16β,26-heptaol // NT.
- 717** Echinodermata *Ceramaster patagonicus* // Iturup Is., Russia // New conjugates of polyhydroxysteroids with long-chain fatty acids from the deep-water Far Eastern starfish *Ceramaster patagonicus* and their anticancer activity
1454 // N // (25*S*)-5α-cholestane-3β,6β,15α,16β-tetraol-26-yl 5'*Z*,11'*Z*-octadecadienoate // IA vs 3 HTCLs.
1455 // N // (25*S*)-5α-cholestane-3β,6β,15α,16β-tetraol-26-yl 11'*Z*-octadecenoate // IA vs 3 HTCLs.
1456 // N // (25*S*)-5α-cholestane-3β,6β,15α,16β-tetraol-26-yl 5'*Z*,11'*Z*-eicosadienoate // IA vs 3 HTCLs.
1457 // N // (25*S*)-5α-cholestane-3β,6β,15α,16β-tetraol-26-yl 7'*Z*-eicosenoate // IA vs 3 HTCLs.
- 718** Echinodermata *Culcita novaeguineae* // * // Reduction of SCUBE3 by a new marine-derived asterosaponin leads to arrest of glioma cells in G1/S
1458 // N // CN-3 // Weak cytotox., mechanism studied.
- 720** Echinodermata *Holothuria spinifera* // Sharm El Sheikh, Egypt // New cytotoxic cerebroside from the Red Sea cucumber *Holothuria spinifera* supported by *in-silico* studies
1459 // N // spiniferoside A1 // IA vs 1 HTCL.
1460 // N // spiniferoside A2 // IA vs 1 HTCL.
1461 // N // spiniferoside A3 // IA vs 1 HTCL.
1462 // N // spiniferoside B // Weak cytotox. vs MCF-7.
1463 // N // spiniferoside C // Weak cytotox. vs MCF-7.



721 Echinodermata *Colochirus quadrangularis* // Vietnam // Structures and bioactivities of quadrangularisides A, A₁, B, B₁, B₂, C, C₁, D, D₁–D₄, and E from the sea cucumber *Colochirus quadrangularis*: the first discovery of the glycosides, sulfated by C-4 of the terminal 3-*O*-methylglucose residue. synergetic effect on colony formation of tumor HT-29 cells of these glycosides with radioactive irradiation

1464 // N // quadrangulariside A // Weak erythrocytic, IA cytotox., HT-29 colony inhib.

1465 // N // quadrangulariside A₁ // Weak erythrocytic, weak HT-29 colony inhib.

1466 // N // quadrangulariside B // Mod. erythrocytic, cytotox., HT-29 colony inhib.

1467 // N // quadrangulariside B₁ // Mod. erythrocytic, cytotox., HT-29 colony inhib.

1468 // N // quadrangulariside B₂ // Mod. erythrocytic, weak cytotox., mod. HT-29 colony inhib.

1469 // N // quadrangulariside C // Mod. erythrocytic, HT-29 colony inhib., IA cytotox.

1470 // N // quadrangulariside C₁ // Mod. erythrocytic, weak cytotox., weak HT-29 colony inhib.

1471 // N // quadrangulariside D // Mod. erythrocytic, weak cytotox., mod. HT-29 colony inhib.

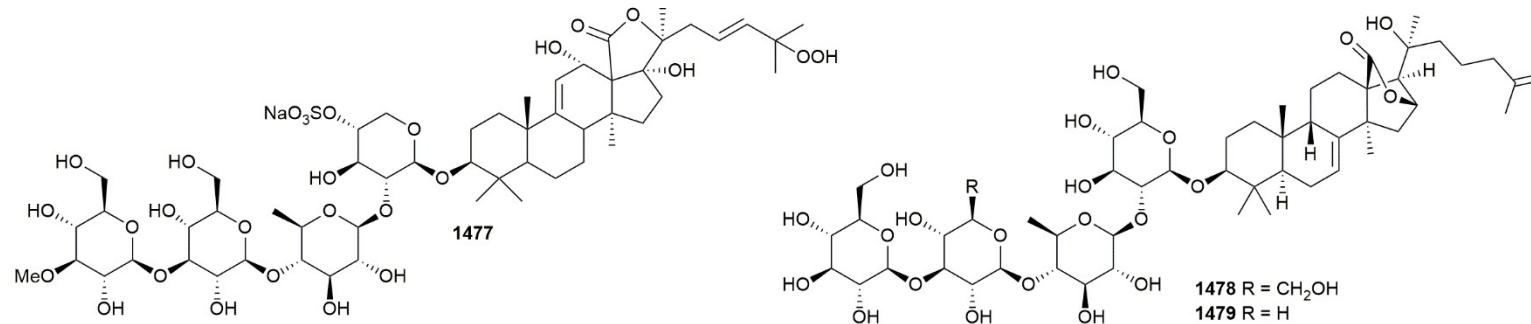
1472 // N // quadrangulariside D₁ // Mod. erythrocytic, weak cytotox., weak HT-29 colony inhib.

1473 // N // quadrangulariside D₂ // Weak erythrocytic, HT-29 colony inhib., IA cytotox.

1474 // N // quadrangulariside D₃ // Weak erythrocytic, IA cytotox.

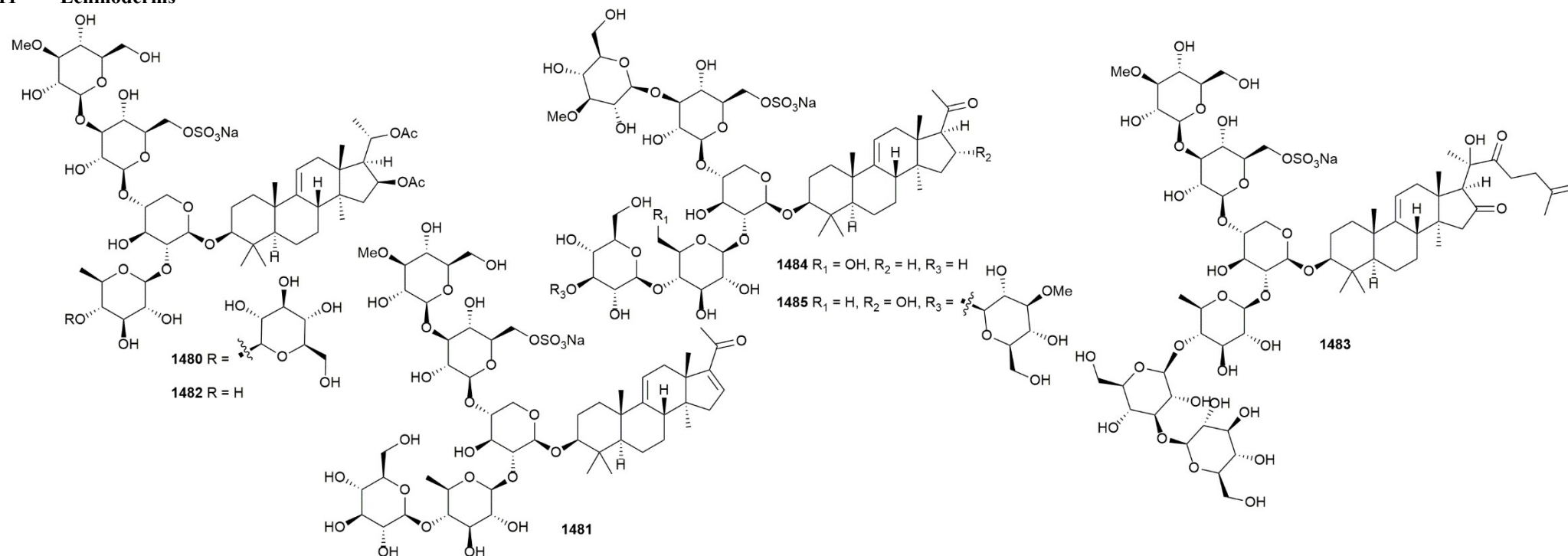
1475 // N // quadrangulariside D₄ // Weak erythrocytic, IA cytotox.

1476 // N // quadrangulariside E // Weak erythrocytic, HT-29 colony inhib., IA cytotox.



- 722** Echinodermata *Holothuria edulis* // Cu Lao Cham Is., Quangnam, Vietnam // Triterpene glycosides from the Vietnamese sea cucumber *Holothuria edulis*
1477 // N // holothurin A5 // IA vs 5 HTCLs.
- 723** Echinodermata *Apostichopus japonicus* // Bohai Sea // Two novel non-holostane type glycosides from the viscera of sea cucumber *Apostichopus japonicus*
1478 // N // apostichoposide A1 // IA vs 3 HTCLs.
1479 // N // apostichoposide B1 // IA vs 3 HTCLs.

11 Echinoderms



724 Echinodermata *Thyonidium kurilensis* // Onokotan Is. // Kurilosides A₁, A₂, C₁, D, E and F—triterpene glycosides from the Far Eastern Sea cucumber *Thyonidium* (= *Duasmodyctyla*) *kurilensis* (Levin): structures with unusual non-holostane aglycones and cytotoxicities

1480 // N // kuriloside A₁ // weak erythrocytic, cytotox.

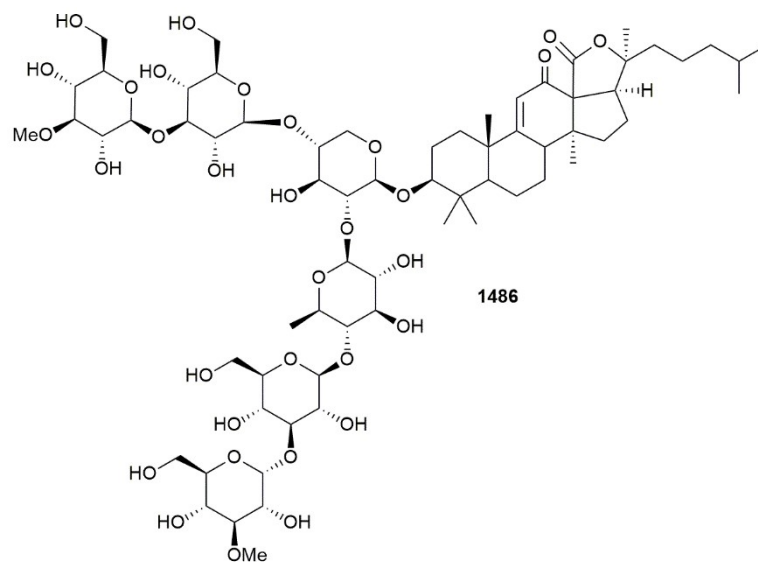
1481 // N // kuriloside A₂ // weak erythrocytic, cytotox.

1482 // N // kuriloside C₁ // weak erythrocytic.

1483 // N // kuriloside D // weak erythrocytic.

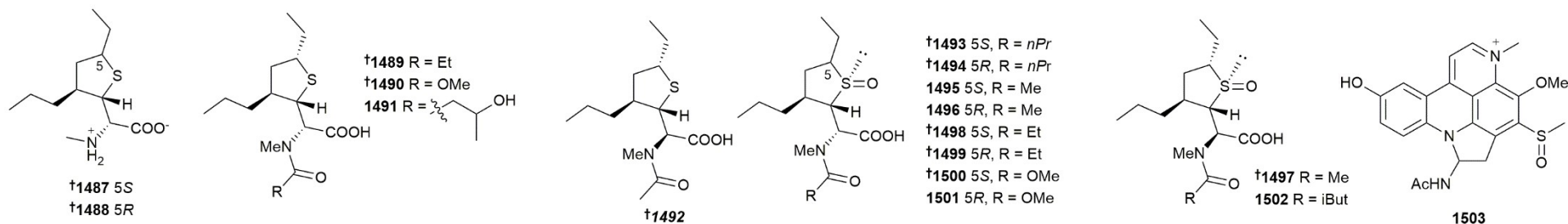
1484 // N // kuriloside E // IA erythrocytes, cytotox.

1485 // N // kuriloside F // IA erythrocytes, cytotox.



- 725** Echinodermata *Bohadschia vitiensis* // Kosrae, Federated States of Micronesia // Triterpene glycosides isolated from the edible sea cucumber *Bohadschia vitiensis* and their antagonistic activity against transient receptor potential ankyrin 1
- 1486** // N // bivittoside E // weak inhib. hTRPA1

12 Miscellaneous



738 Annelida *Eupolymnia nebulosa* // Corranroo, Co., Galway, Ireland // Nebulosins: trisubstituted thiolane natural products from the N.E.ern Atlantic annelid *Eupolymnia nebulosa*

1487 // N // nebulosin A // IA AO.

1488 // N // nebulosin B // IA AO.

1489 // N // nebulosin C // IA AO.

1490 // N // nebulosin D // IA AO.

1491 // N // nebulosin E // NT.

1492 // N // nebulosin F // Weak AO.

1493 // N // nebulosin G // IA AO.

1494 // N // nebulosin H // IA AO.

1495 // N // nebulosin I // IA AO.

1496 // N // nebulosin J // NT.

1497 // N // nebulosin K // NT.

1498 // N // nebulosin L // IA AO.

1499 // N // nebulosin M // IA AO.

1500 // N // nebulosin N // IA AO.

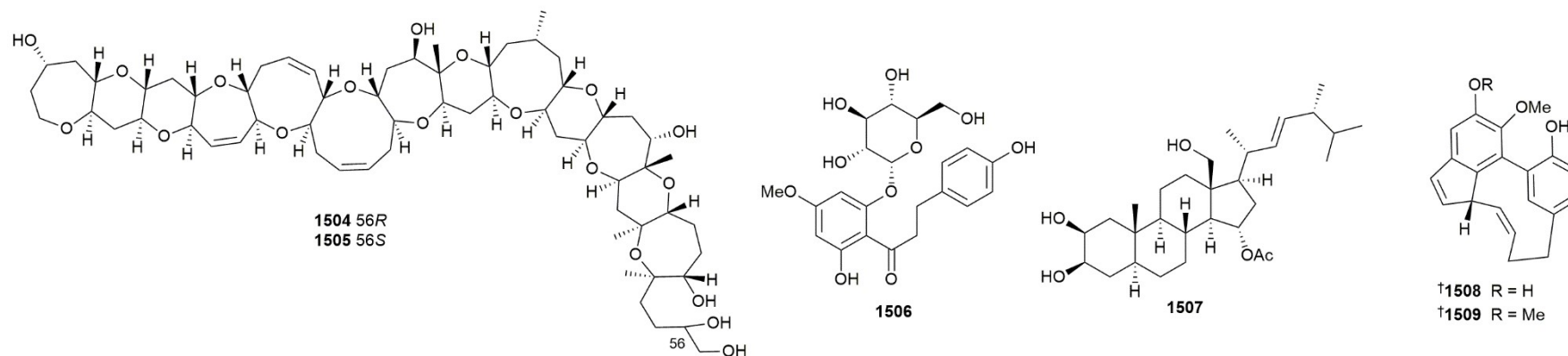
1501 // N // nebulosin O // IA AO.

1502 // N // nebulosin P // NT.

739 Annelida *Pseudoceros indicus* // * // Structural revision of pseudocerosine and validation of a biosynthetic proposal for E-ring formation in pyridoacridine alkaloids

1503 // R // pseudocerosine // NT.

12 Miscellaneous



- 747** Chordata // St. Thomas, U.S. Virgin Is., USA // LC–HRMS and chemical derivatization strategies for the structure elucidation of Caribbean ciguatoxins: identification of C-CTX-3 and -4
1504 // N // Caribbean ciguatoxin 3 (C-CTX-3) // *
1505 // N // Caribbean ciguatoxin 4 (C-CTX-4) // *
- 749** Tracheophyta *Thalassodendron ciliatum* // Hurghada, Egypt // Egyptian red sea seagrass as a source of biologically active secondary metabolites
1506 // N // thalassodendron B // Weak cytotox. 1 HTCL, AO vs DPPH.
- 750** Tracheophyta *Thalassodendron ciliatum* // Sharm El Sheikh, Egypt // Thalassosterol, a new cytotoxic aromatase inhibitor ergosterol derivative from the Red Sea seagrass *Thalassodendron ciliatum*
1507 // N // thalassosterol // Weak vs 1 of 3 HTCLs.
- 751** Tracheophyta *Zostera marina* // Olympiazentrum Schilksee, Kiel, Schleswig-Holstein, Germany // Structure and conformation of zosteraphenols, tetracyclic diarylheptanoids from the seagrass *Zostera marina*: an NMR and DFT study
1508 // N // zosteraphenol A // IA vs 3 HTCLs, IA AI.
1509 // N // zosteraphenol B // IA vs 3 HTCLs, IA AI.