Electronic Supplementary Material (ESI) for Natural Product Reports.

Marine natural products (2014) - C5NP00156K

Supplementary Information

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1 Introduction

These annual reviews of marine natural product chemistry, initiated by the late Professor D. John Faulkner in 1984 and continued by the New Zealand group since 2003, have previously included the structures for all new MNPs for the review year along with any revised structures. The number of new MNPs reported in 1984 was 332, but by 2014 the number has risen to 1378. With the ever-increasing size creating difficulties for preparation of the annual review, the NPR Editorial Board suggested changing the format to focus on a selection of highlighted structures. To maintain the usual comprehensive coverage of all new and revised MNPs, we have prepared this Supplementary Information (SI) document, showing *all* structures, along with their names, taxonomic origins, locations for collections, biological activities and other useful information. 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 †. Below each structural array the relevant information for each reference and associated compounds is listed. The first line contains the **Main article bibliography reference** #, followed by **Taxonomy**, **Location** and **Article title**. Each section is separated by a // 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 // (* is inserted where there are no data): **Compound number** (italicised for those compounds highlighted in the Review document), **Compound name**, **Status** (**N** for a new compound; **M** for new to marine; **R** for a revision (structure, stereochemistry, stereochemical assignment etc)), **Biological activity**, **Other information**, and **Secondary references** (giving a link to the original report for compounds with **M** or **R** status). To assist your 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 bibliography reference** and **Secondary SI reference** numbers are hyperlinked to the relevant DOI or URL. Where those are not available (numbers not underlined), the full reference is given in a brief Bibliography at the end of this SI document. **Compound numbers** are hyperlinked to a Chemspider entry where available.

1.1 Abbreviations

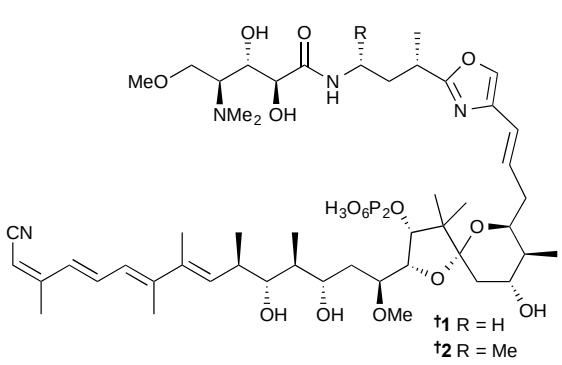
In the **Biological activity** section the following abbreviations have been used:

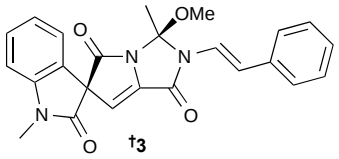
A. hydrophilia	*Aeromonas hydrophilia*
A. salina.	*Artemia salina*
AF	antifungal
AM/AB	antimicrobial/antibacterial
B. amphitrite	*Balanus amphitrite*
C. albicans	*Candida albicans*
cytotox.	cytotoxicity/cytotoxic
DPPH	2,2-diphenyl-1-picrylhydrazyl.
E. coli	*Escherichia coli*
HTCL	Human Tumour Cell Line
inhib.	inhibitor/inhibition
M. tuberculosis	*Mycobacterium tuberculosis*
MDR	multidrug resistant
M. luteus	*Micrococcus luteus*
MOA	mechanism of action
mod.	moderate
MRSA	Methicillin Resistant *Staphlococcus aureus*
M. smegmatis	*Mycobacterium smegmatis*
P. falciparum	*Plasmodium falciparum*
P. capsici	*Phytophthora capsici*
S. aureus	*Staphlococcus aureus*
S. epidermidis.	*Staphlococcus epidermidis*
stereochem.	stereochemistry
T. mentagrophytes	*Trichophyton mentagrophytes*
TRP	Transient Receptor Potential
V. harveyi	*Vibrio harveyi*

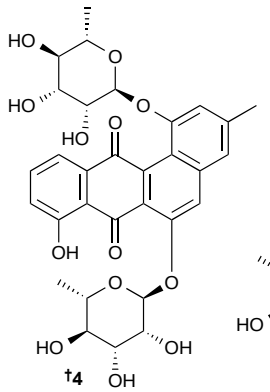
2 Additional reviews

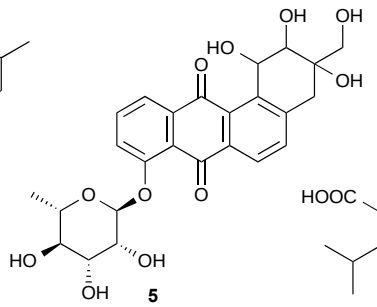
This listing is of reviews not included in the Review highlights section of the MNP review. Their placement here does not necessarily imply a lesser importance of the work described, but more likely that they may be of interest to only a smaller group of readers or have a more limited scope of coverage. General topics covered are recent advances in deep-sea natural products,[s1] some MNPs with health benefits[s2] or potential application in sports,[s3] and the exploration of marine resources for bioactive compounds.[s4] MNPs with specific types of bioactivity are reviewed in papers on selected antifungal and antiviral MNPs,[s5] quorum quenching agents as resources for antivirulence therapy,[s6] potential mosquitocidal compounds from macroalgae,[s7] antilipopolysaccharide activities of antimicrobial peptides from fish,[s8] antimicrobial compounds from marine *Pseudovibrio* sp.,[s9] antimicrobial compounds from mangrove plants,[s10] antiprotozoal compounds from macroalgae,[s11] cytotoxic and cytolytic cnidarian venoms,[s12] potential matrix metalloproteinase inhibitors from edible macroalgae,[s13] antioxidant carotenoids from marine bacteria,[s14] MNPs with potential as hepatoprotective agents,[s15] MNPs with P-glycoprotein inhibitor properties,[s16] MNPs targeting nuclear receptors,[s17] recently described low molecular weight MNPs with anticancer potential,[s18] neuroactive MNPs,[s19] MNPs with neuroprotective effects from macroalgae,[s20] recent progress with microtubule stabilizers, some of which are MNPs,[s21] microtubule-targeting MNPs,[s22] an overview of potential anti-HPV and related

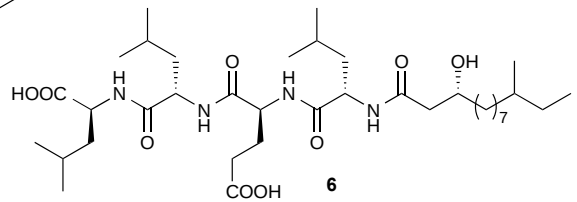
cancer agents from marine sources,[s23] bioactive marine drugs and marine biomaterials for brain diseases,[s24] quorum sensing MNPs for development of antibacterials,[s25] MNP modulators of TRAIL induced apoptosis in cancer cells,[s26] and the effects of Trabectedin and plitidepsin on the tumour microenviroment.[s27] Organism-focussed reviews include papers on *Dinophysis* toxins,[s28] non-halogenated compounds from *Laurencia* algae,[s29] bioactive MNPs from actinobacteria,[s30,s31] antitumour natural products from cnidarians,[s32] chemical and biological aspects of octocorals from the Brazilian coast,[s33] bioactives from sponges between 2001 and 2010,[s34] bioactive MNPs from echinoderms from 2009–2013,[s35] compounds from marine mussels and their effects on human health,[s36] MNPs from mangrove actinomycetes,[s37] bioactive extracts and compounds from Brazilian marine macroalgae,[s38] macroalgae-derived bioactive peptides,[s39] antioxidant compounds from red algae,[s40] toxic MNPs from cyanobacteria of potential importance to the agriculture sector,[s41] microorganisms as sources of nutraceuticals and functional foods,[s42] and MNPs from microorganisms.[s43] Reviews of classes of compounds or specifically named MNPs include papers on microorganism-derived macrolactins with antimicrobial or antitumour properties,[s44] the potential for metabolic engineering of carotenoids,[s45] 2,5-diketopiperazines between 2009 and 2014,[s46] antitumour alkaloids from marine invertebrates,[s47] halogenated alkaloids of *Agelas* sponges,[s48] bioactive alkaloids from ascidians,[s49] indole alkaloids as anti-infectives,[s50] antimicrobial peptides,[s51] cyclopeptides with potential biomedicine applications,[s52] terpenoids,[s53] quinone and hydroquinone metabolites from the ascidian *Aplidium* spp.,[s54] bioactive toxins from stinging jellyfish,[s55] okadaic acid, yessotoxins, pectenotoxins, saxitoxins, domoic acid, spirolides, palytoxins and azaspiracids from Italy,[s56] bengamides and bengazoles from *Jaspis* sponges,[s57] zampanolide and dactylolide,[s58] manzamine alkaloids,[s59] bryostatins in preclinical and clinical studies,[s60] briarane diterpenoids from gorgonians between 2011 and 2013,[s61] and cephalopod ink.[s62] Chemical defensive symbioses in the marine environment has been reviewed.[s63] A number of papers which, while not all are reviews, are useful to reference here as they describe advances in techniques or approaches to discovery that are relevant to MNP studies. These include papers on *'Marketed marine natural products in the pharmaceutical and cosmeceutical industries: tips for success'*,[s64] *'Marine microorganism-invertebrate assemblages: perspectives to solve the "supply problem" in the initial steps of drug discovery'*,[s65] *'Chemoinformatic analysis as a tool for prioritization of trypanocidal marine derived lead compounds'*,[s66] *'Co-cultivation—a powerful emerging tool for enhancing the chemical diversity of microorganisms'*,[s67] *'A chemoinformatics approach to the discovery of lead-like molecules from marine and microbial sources en route to antitumor and antibiotic drugs'*,[s68] *'Circular dichroism calculation for natural products'*,[s69] the construction and use of natural product libraries,[s70] and *'Bioprospecting from marine sediments of New Brunswick, Canada: exploring the relationship between total bacterial diversity and actinobacteria diversity'*.[s71]

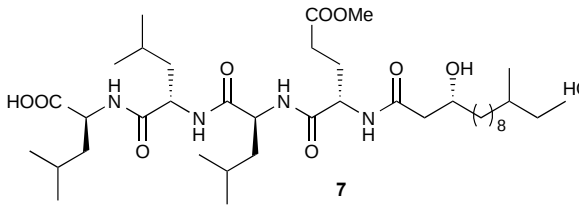


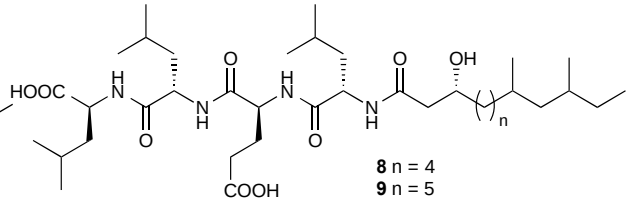


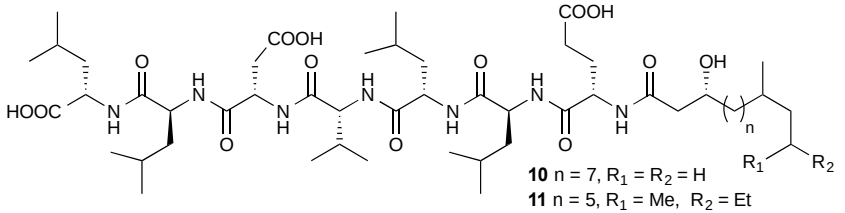












21 Proteobacteria *Entotheonella* sp. // (Porifera, *Discodermia calyx*) Shikine-jima Is., Japan // Calyculin biogenesis from a pyrophosphate protoxin produced by a sponge symbiont
1 // phosphocalyculin A // N // * // Biosynthetic study. // *

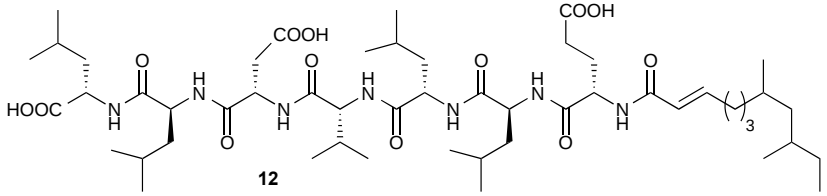
22 Proteobacteria *Entotheonella* sp. // (Porifera, *Discodermia calyx*) Shikine-jima Is., Japan // Phosphocalyculin C as a pyrophosphate protoxin of calyculin C in the marine sponge *Discodermia calyx*
2 // phosphocalyculin C // N // very potent (low nM) vs HTCL, 5000x less toxic than calyculin C // Likely protoxin form of calyculin C // *

24 Actinobacteria *Actinoalloteichus cyanogriseus* // (sediment) Weihai, China // Cyanogramide with a new spiro[indolinone-pyrroloimidazole] skeleton from *Actinoalloteichus cyanogriseus*
3 // cyanogramide // N // MDR-reversing // * // **s72**

25 Actinobacteria *Actinokineospora* sp. // (Porifera, *Spheciospongia vagabunda*) Ras Mohamed, Egypt // Dereplication strategies for targeted isolation of new antitrypanosomal actinosporins A and B from a marine sponge associated-*Actinokineospora* sp. EG49
4 // actinosporin A // N // mod. antitrypanosomal activity // * // *
5 // actinosporin B // N // * // * // *

26 Firmicutes *Bacillus subtilis* // (sediment) Gageocho reef, South Korea // Non-cytotoxic AF agents: isolation and structures of gageopeptides A–D from a *Bacillus* strain 109GGC020
6 // gageopeptide A // N // inhib. and lytic activity against *P. capsici* (0.02 uM). broad spectrum AB // * // *
7 // gageopeptide B // N // lytic activity against *P. capsici* (not as potent as 1), broad spectrum AB // * // *
8 // gageopeptide C // N // broad spectrum AB // * // *
9 // gageopeptide D // N // broad spectrum AB // * // *

27 Firmicutes *Bacillus subtilis* // (sediment) Gageocho reef, South Korea // Gageostatins A–C, antimicrobial linear lipopeptides from a marine *Bacillus subtilis*
10 // gageostatin A // N // good AF, mod. AB activity, mod. cytotox. to HTCLs // * // *
11 // gageostatin B // N // good AF, mod. AB activity, mod. cytotox. to HTCLs // * // *
12 // gageostatin C // N // good AF, mod. AB activity, mod. cytotox. to HTCLs // * // *



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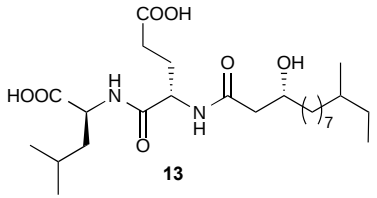

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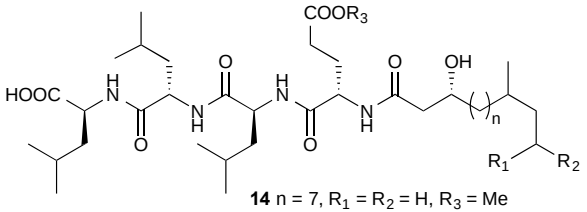
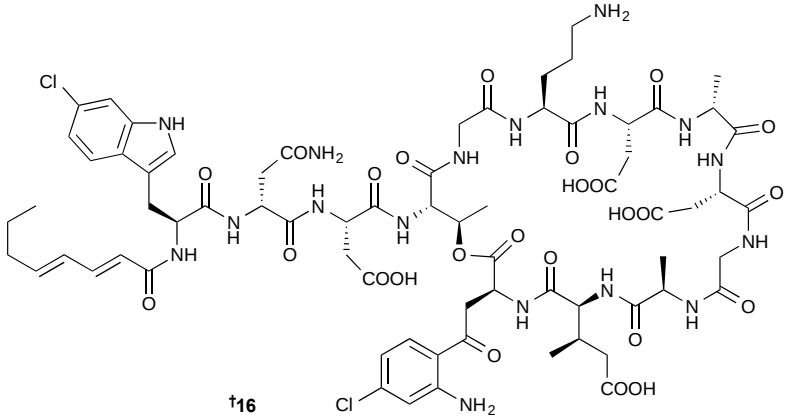


14 n = 7, R_1 = R_2 = H, R_3 = Me
15 n = 4, R_1 = Me, R_2 = Et, R_3 = H



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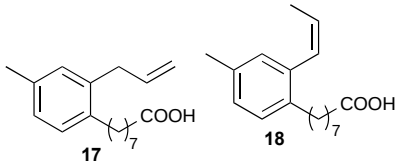

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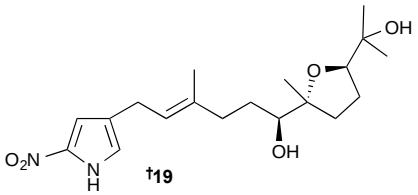

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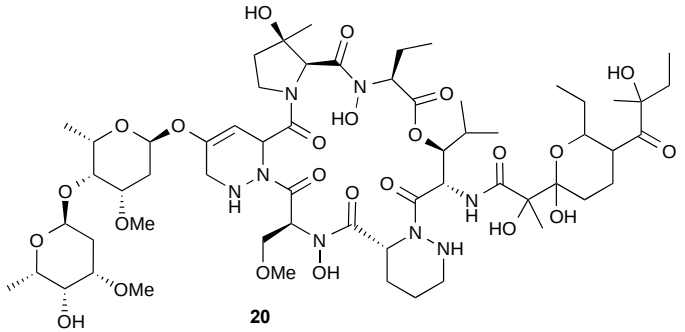

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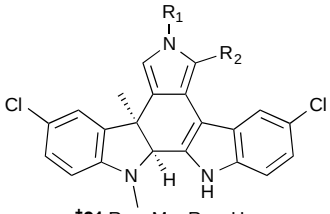
28 Firmicutes *Bacillus subtilis* // (sediment) Gageocho reef, South Korea // Gageotetrins A–C, noncytotoxic antimicrobial linear lipopeptides from a marine bacterium *Bacillus subtilis*
13 // gageotetrin A // N // inhib. of *P. capsici* (0.02 uM), good AB activity // * // *
14 // gageotetrin B // N // inhib. of *P. capsici* (0.02 uM), good AB activity // * // *
15 // gageotetrin C // N // inhib. of *P. capsici* (0.02 uM), good AB activity // * // *

29 Actinobacteria *Saccharomonospora* sp. // (sediment) La Jolla, U.S.A. // Direct cloning and refactoring of a silent lipopeptide biosynthetic gene cluster yields the antibiotic taromycin A
16 // taromycin A // N // mod. AB activity (Ca conc. dependent) // * // *

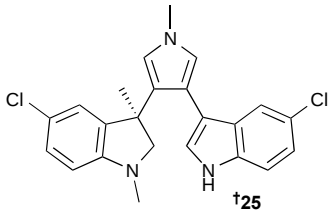
30 Actinobacteria *Solwaraspora* sp. // (Chordata, *Trididemnum orbiculatum*) Florida Keys, USA // Solwaric acids A and B, AB aromatic acids from a marine *Solwaraspora* sp.
17 // solwaric acid A // N // weak-mod. MRSA and MSSA activity // * // *
18 // solwaric acid B // N // weak-mod. MRSA and MSSA activity // * // *

32 Actinobacteria *Streptomyces* sp. // (sand) Heron Is., Australia // Heronapyrrole D: a case of co-inspiration of natural product biosynthesis, total synthesis and biodiscovery
19 // heronapyrrole D // N // broad spectrum AB (Gram-positive) // Also synthesised. // *

34 Actinobacteria *Streptomyces* sp. // (sediment) South Molle Is., Australia // Antimalarial and AB glycohexadepsipeptide-polyketide from an Australian marine-derived *Streptomyces* sp. (CMB-M0244)
20 // mollemycin A // N // potent (10-50 nM) and selective growth inhib. of certain Gram-(+) and Gram-(-) strains, potent (7-9 nM) inhib. of drug-sensitive and MDR *P. falciparum* // * // *



†**21** R_1 = Me, R_2 = H
†**22** R_1 = R_2 = Me
†**23** R_1 = H, R_2 = Me
†**24** R_1 = R_2 = H



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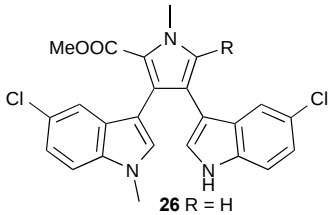
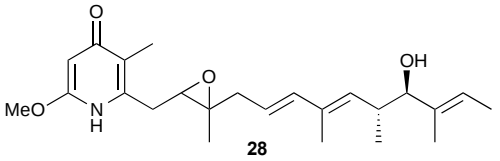


26 R = H
27 R = COOMe



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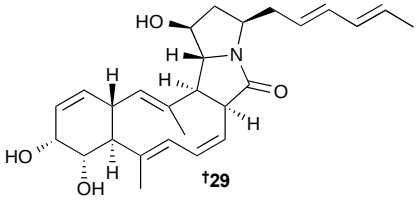

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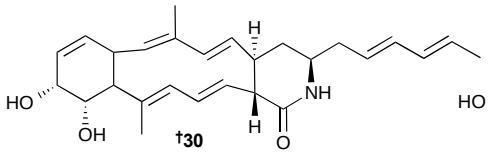

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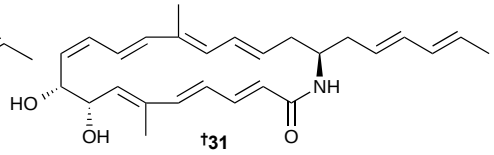

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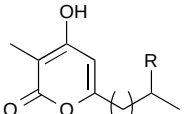
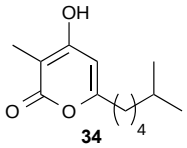


32 R = Me
33 R = H



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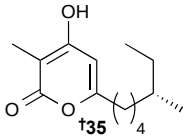


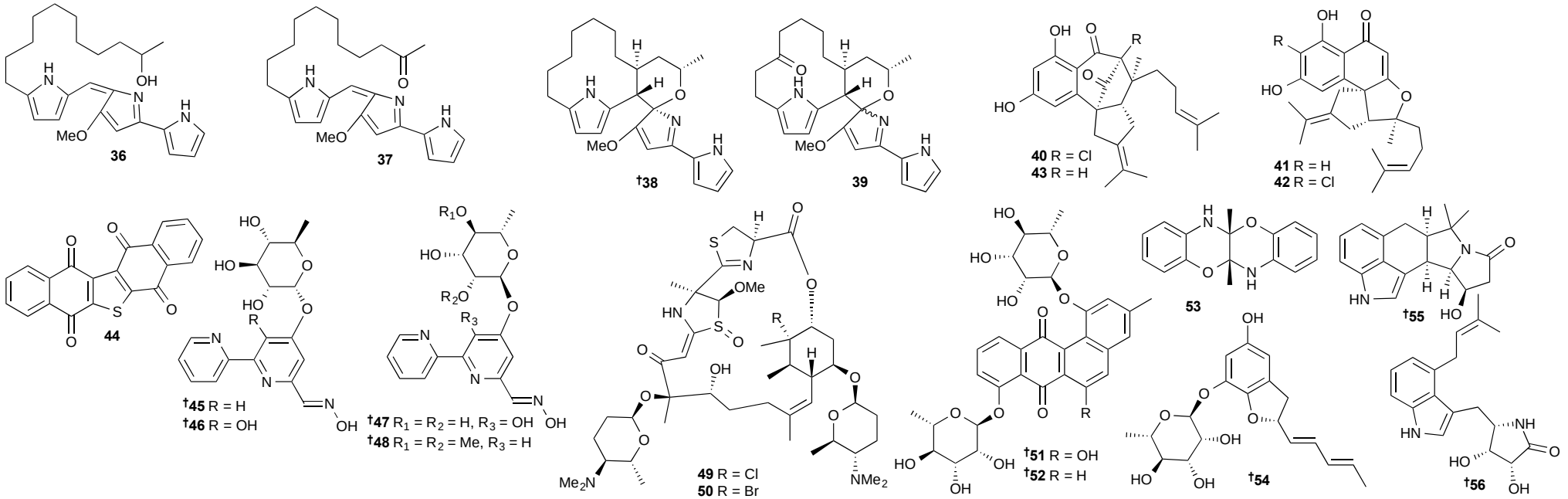
†**35**

37 Actinobacteria *Streptomyces* sp. // (sediment) Bay of Bengal, Indian Ocean // Indimicins A–E, bisindole alkaloids from the deep-sea-derived *Streptomyces* sp. SCSIO 03032
21 // indimicin A // N // * // * // *
22 // indimicin B // N // mod. cytotox. HTCL (MCF-7) // * // *
23 // indimicin C // N // * // * // *
24 // indimicin D // N // * // * // *
25 // indimicin E // N // * // * // *
26 // lynamicin F // N // * // * // *
27 // lynamicin G // N // * // * // *

36 Actinobacteria *Streptomyces* sp. // (sediment) Bay of Bengal, Indian Ocean // Elucidating hydroxylation and methylation steps tailoring piericidin A1 biosynthesis
28 // piericidin E1 // N // * // * // s73

39 Actinobacteria *Streptomyces* sp. // (sediment) Bay of Bengal, Indian Ocean // Heronamides D–F, polyketide macrolactams from the deep-sea-derived *Streptomyces* sp. SCSIO 03032
29 // heronamide D // N // * // * // *
30 // heronamide E // N // * // * // *
31 // heronamide F // N // * // * // *

41 Actinobacteria *Streptomyces* sp. // (Echinodermata, *Acanthaster planci*) Chuuk, Federated States of Micronesia // Violapyrones H and I, new cytotoxic compounds isolated from *Streptomyces* sp. associated with the marine starfish *Acanthaster planci*
32 // violapyrone H // N // mod. cytotox. HTCLs // * // *
33 // violapyrone I // N // mod. cytotox. HTCLs // * // *
34 // violapyrone B // M // mod. cytotox. HTCLs // * // s74
35 // violapyrone C // M // mod. cytotox. HTCLs // Synthesis and absolute configuration determined in ref. **42.** // s74 s75



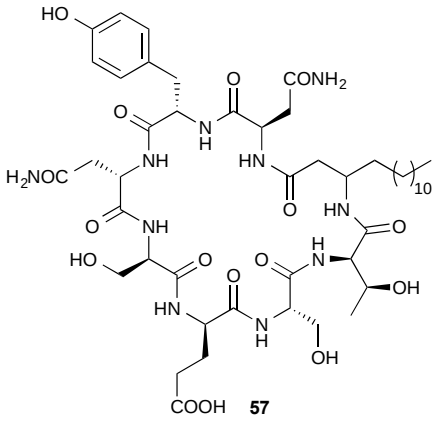
44 Actinobacteria *Streptomyces venezuelae* // Source not specified. // Elucidation of final steps of the marineosins biosynthetic pathway through identification and characterization of the corresponding gene cluster
36 // 23-hydroxyundecylprodiginine // N // * // * // **s76**
37 // 23-ketoundecylprodiginine // N // * // * // **s76**
38 // premarineosin A // N // potent antimalarial activity (nM) against several strain, mod. inhib. HepG2 // * // **s77**
39 // 16-ketopremarineosin A // N // * // * // *
48 Actinobacteria *Streptomyces* sp. // (sediment) Oceanside, U.S.A. // Correction to "Merochlorins A–D, Cyclic Meroterpenoid Antibiotics Biosynthesized in Divergent Pathways with Vanadium-Dependent Chloroperoxidases"
40 // merochlorin A // R // * // Structural correction. Abs. config. initially assigned from crystal structrue but as space group was incorrect, rel. config. only is known. // *
51 Actinobacteria *Streptomyces* sp. // * // A multitasking vanadium-dependent chloroperoxidase as an inspiration for the chemical synthesis of the merochlorins
41 // deschloro-merochlorin B // N // * // * // *
42 // iso-chloro-merochlorin B // N // * // * // *
43 // deschloro-merochlorin A // N // * // * // *
53 Actinobacteria *Serinicoccus* sp. // (sediment) Palau // Seriniquinone, a select. anticanc. agent, induces cell death by autophagocytosis, targeting cancer-protective protein dermicidin
44 // seriniquinone // M // potent and selective antitumor activity // * // **s78**
57 Actinobacteria *Actinoalloteichus cyanogriseus* // (sediment) Weihai, China // Acyclic congeners from *A. cyanogriseus* provide insights into cyclic bipyridine glycoside formation
45 // cyanogriside E // N // mod. cytotox. HTCLs // Also from a mutant strain // *
46 // cyanogriside F // N // mod. cytotox. HTCLs // Also from a mutant strain // *
47 // cyanogriside G // N // mod. cytotox. HTCLs // Also from a mutant strain // *
48 // cyanogriside H // N // mod. cytotox. HTCLs // Also from a mutant strain // *

58 Actinobacteria *Actinomadura* sp. // (Chordata, *Ecteinascidia turbinata*) Florida Keys, U.S.A. // Forazoline A: marine-derived polyketide with AF in vivo efficacy
49 // forazoline A // N // in vivo activity against *Candida* in mice, mod. activity against *C. albicans* // * // *
50 // forazoline B // N // mod. activity against *C. albicans* // from modified culture conditions with high concentration of KBr // *

59 Actinobacteria *Actinokineospora* sp. // (Porifera, *Spheciospongia vagabunda*) Red Sea // Two new antioxidant actinosporin analogues from the calcium alginate beads culture of sponge-associated *Actinokineospora* sp. strain EG49
51 // actinosporin C // N // mod. antioxidant activity // * // *
52 // actinosporin D // N // mod. antioxidant activity // * // *

60 Actinobacteria *Actinokineospora* sp., Actinobacteria *Nocardiopsis* sp. // (Porifera, *Spheciospongia vagabunda*) Red Sea, (Porifera *Dysidea avara*, Mediterranean Sea) // Production of induced secondary metabolites by a co-culture of sponge-associated actinomycetes, *Actinokineospora* sp. EG49 and *Nocardiopsis* sp. RV163
53 // 5a,6,11a,12-tetrahydro-5a,11a-dimethyl[1,4]benzoxazino[3,2-b][1,4]benzoxazine // M // * // * // s79

61 Actinobacteria *Amycolatopsis* sp. // (unidentified sponge) Micronesia // A new benzofuran glycoside and indole alkaloids from a sponge-associated rare actinomycete, *Amycolatopsis* sp.
54 // amycofuran // N // * // * // *
55 // amycocyclopiazonic acid // N // * // * // *
56 // amycolactam // N // cytotox HTCLs // * // *



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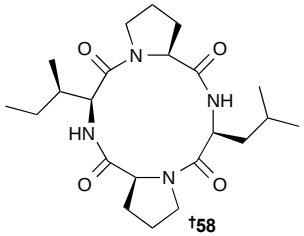
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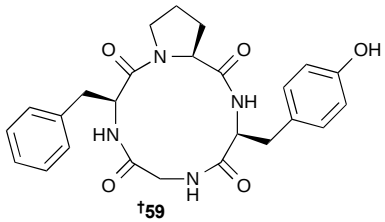
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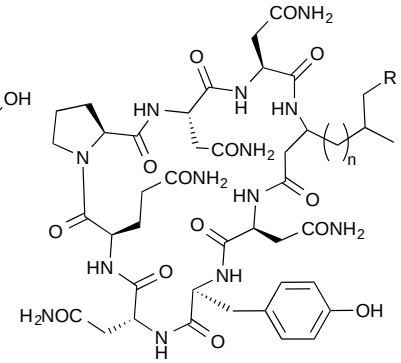
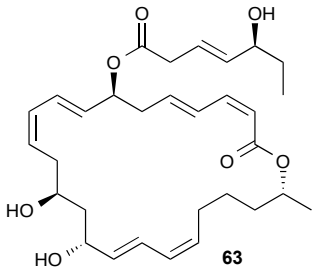


60 R = H, n = 8
61 R = H, n = 10
62 R = Me, n = 10



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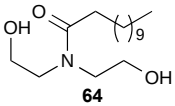


64

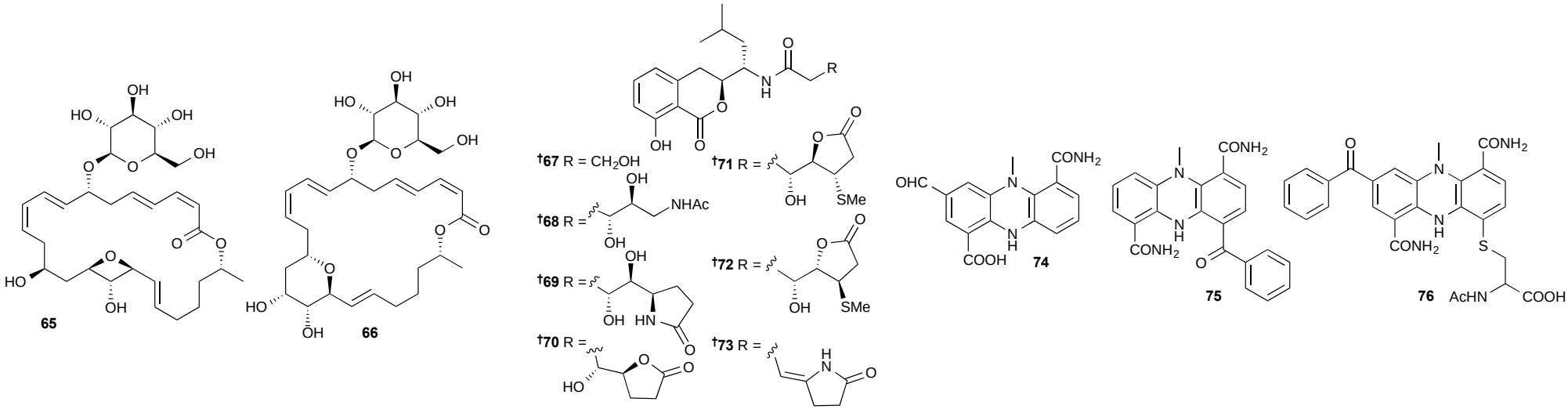
62 Fermicutes *Bacillus amyloliquefaciens* // (sediment) South China Sea // NMR spectroscopic and MS/MS spectrometric characterization of a new lipopeptide antibiotic bacillopeptin B1 produced by a marine sediment derived *Bacillus amyloliquefaciens* SH-B74
57 // bacillopeptin B1 // N // mod. AF activity against plant pathogens // * // *

63 Firmicutes *Bacillus amyloliquefaciens* // (sediment) South China Sea // Two new cyclic tetrapeptides from deep-sea bacterium *Bacillus amyloliquefaciens* GAS 00152
58 // cyclo-(Leu-Pro-Ile-Pro) // N // weak cytotox. to HTCLs // * // *
59 // cyclo-(Phe-Pro-Tyr-Gly) // N // weak cytotox. to HTCLs // * // *

64 Firmicutes *Bacillus mojavensis* // (Mollusca, *Pinctada martensii*) Weizhou Island // Production and characterization of iturinic lipopeptides as AF agents and biosurfactants produced by a marine *Pinctada martensii*-derived *Bacillus mojavensis* B0621A
60 // iso-C14 mojavensin // N // mod. AF actvity (*Fusarium oxysporum*) // MS characterisation only (no NMR) // *
61 // iso-C16 mojavensin // N // mod. AF actvity (*Fusarium oxysporum*) // MS characterisation only (no NMR) // *
62 // anteiso-C17 mojavensin // N // mod. AF actvity (*Fusarium oxysporum*) // MS characterisation only (no NMR) // *

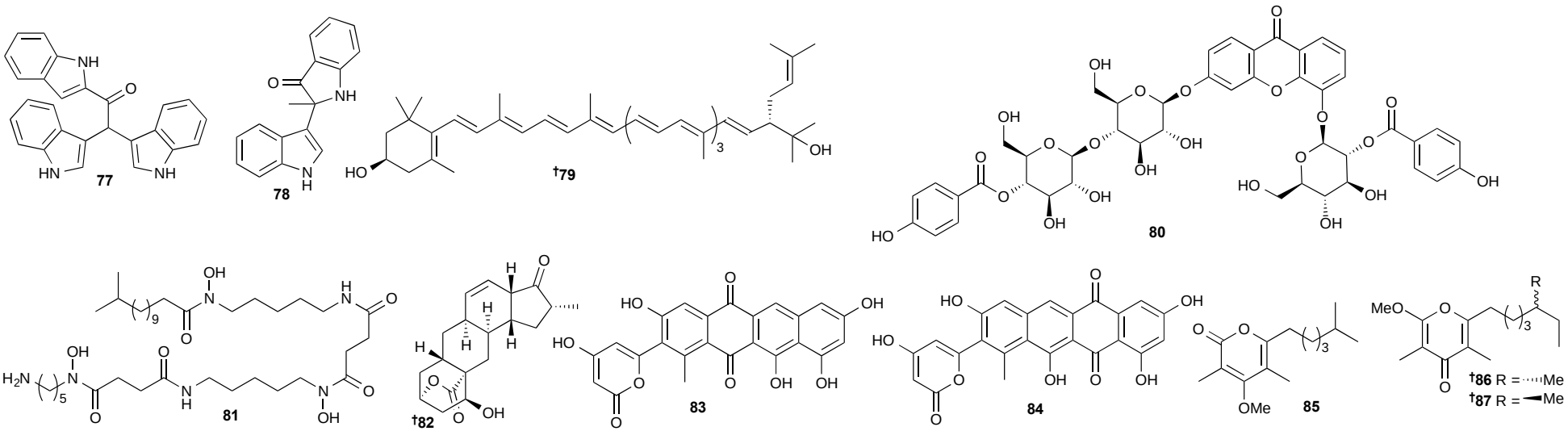
65 Firmicutes *Bacillus subtilis* // (Ochrophyta, *Anthophycus longifolius*) Mandapam, India // Polyketide family of novel AB 7-O-methyl-5′-hydroxy-3′-heptenoate–macrolactin from seaweed-associated *Bacillus subtilis* MTCC 10403
63 // 7-*O*-methyl-5′-hydroxy-3′-heptenoate−macrolactin // N // broad spectrum AB activity // Biosynthesis established. // *

66 Firmicutes *Bacillus* sp., Actinobacteria *Streptomyces* sp. // Ieodo, South Korea // Antibacterial and antiyeast compounds from marine-derived bacteria
64 // lauramide diethanolamine // M // mod. AB activity // Isolated from *Streptomyces* sp. // **s80**
65 // glycosylated macrolactin A1 // N // mod. AB activity // Isolated from *Bacillus* sp. // *
66 // glycosylated macrolactin B1 // N // mod. AB activity // Isolated from *Bacillus* sp. // *



67 Firmicutes *Bacillus* sp. // (sediment) Pacific Ocean // Amicoumacins from the marine-derived bacterium *Bacillus* sp. with the inhibition of NO production
67 // bacillcoumacin A // N // * // * // *
68 // bacillcoumacin B // N // * // * // *
69 // bacillcoumacin C // N // * // * // *
70 // bacillcoumacin D // N // * // * // *
71 // bacillcoumacin E // N // * // * // *
72 // bacillcoumacin F // N // * // * // *
73 // bacillcoumacin G // N // potent inhib. of lipopolysaccharide induced NO production. // * // *

68 Actinobacteria *Dermacoccus abyssi* // (sediment) Challenger Deep, Mariana Trench // Dermacozines H–J isolated from a deep-sea strain of *Dermacoccus abyss*i from Mariana Trench sediments
74 // dermacozine H // N // mod. radical scavenging activity (DPPH) // * // *
75 // dermacozine I // N // mod. radical scavenging activity (DPPH) // * // *
76 // dermacozine J // N // mod. radical scavenging activity (DPPH) // * // *



69 metagenomic clone derived *Esherichia coli* // (sediment) SW Indian Ocean // Two new cytotoxic indole alkaloids from a deep-sea sediment derived metagenomic clone
77 // metagenetriindole A // N // weak-mod. cytotox. to HTCLs // * // *
78 // metagenebiindole A // N // weak-mod. cytotox. to HTCLs // * // *

70 Bacteroidetes *Jejuia pallidilutea* // (unspecified seaweed) Nabeta Bay, Japan // Identification of a novel carotenoid, 2′-isopentenylsaproxanthin, by *Jejuia pallidilutea* strain 11shimoA1 and its increased production under alkaline condition
79 // 2′-isopentenylsaproxanthin // N // * // * // *

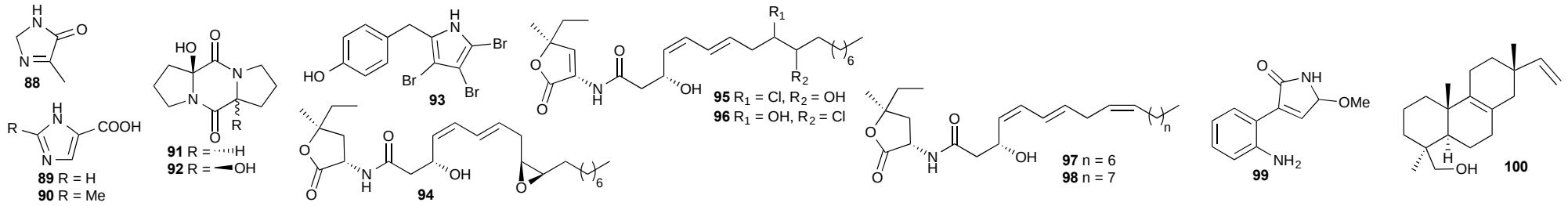
71 Actinobacteria *Micrococcus* sp. // (Porifera, *Spheciospongia vagabunda*) Red Sea // New AB xanthone from the marine sponge-derived *Micrococcus* sp. EG45
80 // microluside A // N // mod. AB activity // * // *

72 Actinobacteria *Micromonospora* sp. // (unspecified shellfish) Suruga Bay, Japan // New hydroxamate metabolite, MBJ-0003, from *Micromonospora* sp. 29867
81 // MBJ-0003 // N // modest activity against HTCL (SKOV-3) // * // *

73 Actinobacteria *Micromonospora* sp. // (unidentified sponge) Uranouchi Bay, Japan // Neomacquarimicin: a new macquarimicin analog from marine-derived actinomycete
82 // neomacquarimicin // N // * // * // *

74 Actinobacteria *Nocardiopsis* sp. // (unidentified sponge) Yeonggeumjeong, Korea // Nocatriones A and B, photoprotective tetracenediones from a marine-derived *Nocardiopsis* sp.
83 // nocatrione A // N // downregulates MMP-1 production // * // *
84 // nocatrione B // N // downregulates MMP-1 production // * // *

75 Actinobacteria *Nocardiopsis* sp. // (sediment) Hokkaido, Japan // Nocapyrones: α- and γ-Pyrones from a marine-derived *Nocardiopsis* sp.
85 // nocapyrone R // N // * // * // *
86 // (10R)-nocapyrone L // R // * // Exists as 2:3 mixture of (R)- and (S)-isomers. // **s81**
87 // (10S)-nocapyrone L // R // * // Exists as 2:3 mixture of (*R*)- and (*S*)-isomers. // **s81**

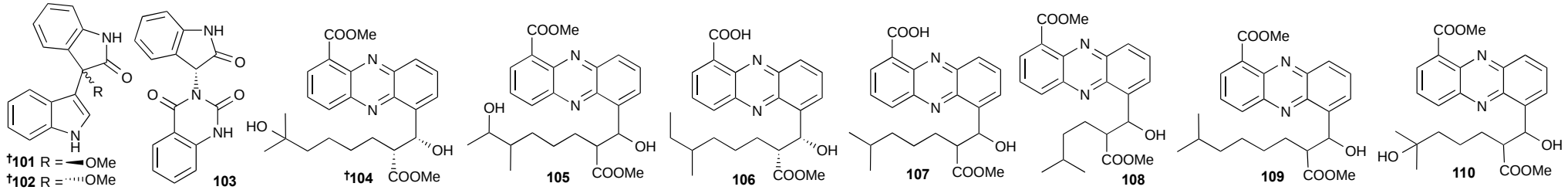


[76] Proteobacteria *Pelomonas puraquae* // (Cnidaria, *Acropora* sp.) South China Sea // Pelopuradazole, a new imidazole derivative alkaloid from the marine bacteria *P. puraquae* sp. nov.
[88] // pelopuradazole // N // * // * // *
[89] // 3H-imidazole-4-carboxylic acid // M // * // * // [s82]
[90] // 2-methyl-3H-imidazole-4-carboxylic acid // M // * // * // [s83]
[91] // pelopurin A // M // * // * // [s84]
[92] // pelopurin B // M // * // * // [s84]

[77] Proteobacteria *Pseudoalteromonas* sp. // (Rhodophyta, *Neogoniolithon fosliei*) location unspecified // A coralline algal-associated bacterium, *Pseudoalteromonas* strain J010, yields five new korormicins and a bromopyrrole
[93] // 4′-((3,4,5-tribromo-1H-pyrrol-2-yl)methyl)phenol // N // mod. AB act. // * // *
[94] // korormicin G // N // mod. AB act. // * // *
[95] // korormicin H // N // mod. AB act. // * // *
[96] // korormicin I // N // mod. AB act. // * // *
[97] // korormicin J // N // mod. AB act. // * // *
[98] // korormicin K // N // mod. AB act. // * // *

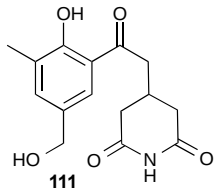
[78] Bacteroidetes *Rapidithrix thailandica* // (Biofilm on unspecified shell) Yong Ling beach, Thailand // A new AB amino phenyl pyrrolidone derivative from a novel marine gliding bacterium *Rapidithrix thailandica*
[99] // 3-(2- amino-phenyl)-5-methoxy-1,5-dihydro-pyrrol-2-one // N // mod. but selective activity against VRE // * // *

[79] Actinobacteria *Salinispora arenicola* // * // Characterization of an orphan diterpenoid biosynthetic operon from *Salinispora arenicola*
[100] // isopimara-8,15-dien-19-ol // M // * // * // [s85]



[80] Proteobacteria *Shewanella piezotolerans* // (sediment) west Pacific // Indole-based alkaloids from deep-sea bacterium *Shewanella piezotolerans* with antitumor activities
[101] // shewanelline A // N // * // Enantiomer of 1b // *
[102] // shewanelline B // N // * // Enantiomer of 1a // *
[103] // shewanelline C // N // mod. cytotox. to HTCLs // Inseparable mixture of rotamers // *

81 Actinobacteria *Streptomyces* sp. // (Porifera, *Halichondria panicea*) Baltic Sea, Germany // Nature's lab for derivatization: new and revised structures of a variety of streptophenazines produced by a sponge-derived *Streptomyces* strain
104 // streptophenazine I // N // mod. inhib. phophodiesterase type 4B // * // *
105 // streptophenazine J // N // mod. inhib. phophodiesterase type 4B // * // *
106 // streptophenazine K // N // mod. inhib. phophodiesterase type 4B, mod. AB activity // * // *
107 // streptophenazine C // R // * // * // s86
108 // streptophenazine D // R // * // * // s86
109 // streptophenazine F // R // * // * // s86
110 // streptophenazine H // R // * // * // s86



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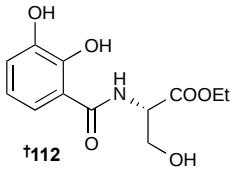
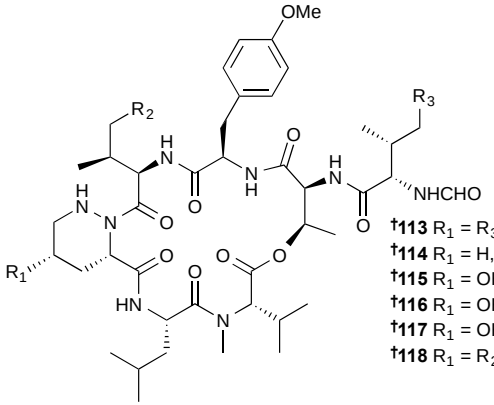
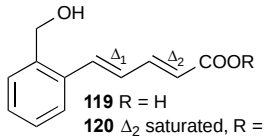


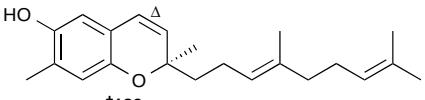
†**112**



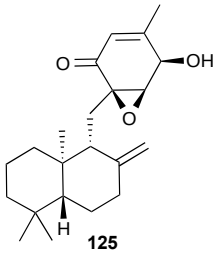
†**113** $R_1 = R_3 = H$, $R_2 = Me$
†**114** $R_1 = H$, $R_2 = R_3 = Me$
†**115** $R_1 = OH$, $R_2 = H$, $R_3 = Me$
†**116** $R_1 = OH$, $R_2 = R_3 = Me$
†**117** $R_1 = OH$, $R_2 = R_3 = H$
†**118** $R_1 = R_2 = R_3 = H$



119 R = H
120 Δ_2 saturated, R = H
121 Δ_2 saturated, R = Me
122 Δ_1,Δ_2 saturated, R = H



†**123**
†**124** Δ saturated



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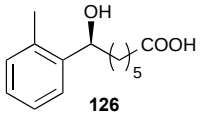

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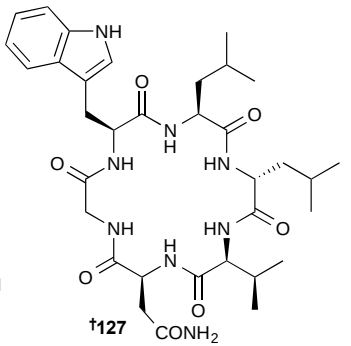
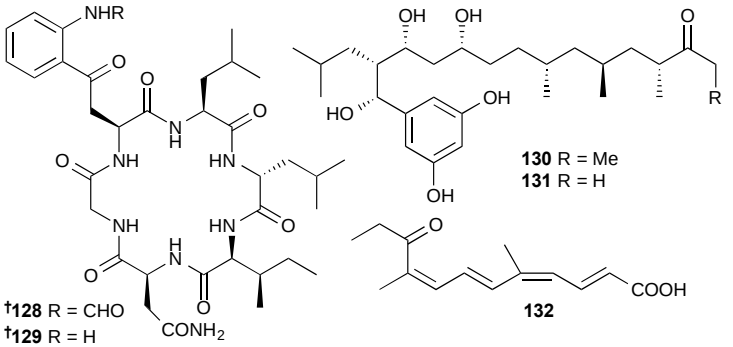


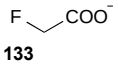
†**127**

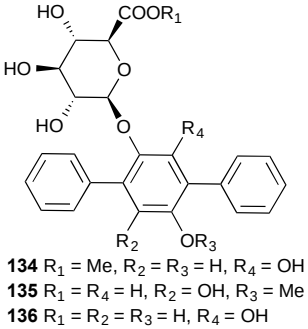
82 Actinobacteria *Streptomyces anulatus* // (Porifera, *Aplysina aerophoba*) Yongxing Is., South China Sea // A new glutarimide derivative from marine sponge-derived *Streptomyces anulatus* S71
111 // 3-[2-[2-hydroxy-3-methylphenyl-5-(hydroxymethyl)]-2-oxoethyl] glutarimide // N // * // * // *
83 Actinobacteria *Streptomyces axinellae* // (unspecified coral) South China Sea // Axinelline A, a new COX-2 inhibitor from *Streptomyces axinellae* SCSIO02208
112 // axinelline A // N // mod. COX-2 inhib. // * // *
84 Actinobacteria *Streptomyces drozdowiczii* // (sediment) South China Sea // New anti-infective cycloheptadepsipeptide congeners and absolute stereochemistry from the deep sea-derived *Streptomyces drozdowiczii* SCSIO 10141
113 // marformycin A // N // mod.-good selective inhib. of *Micrococcus luteus* // * // *
114 // marformycin B // N // mod.-good selective inhib. of *M. luteus.* // * // *
115 // marformycin C // R // * // Absolute configuration determined. // s87
116 // marformycin D // R // * // Absolute configuration determined. // s87
117 // marformycin E // N // mod.-good selective inhib. of *M. luteus* // * // *
118 // marformycin F // N // mod.-good selective inhib. of *M. luteus* // * // *
85 Actinobacteria *Streptomyces nitrosporeus* // Mutated strain of Arctic species // Lipid-lowering effects of farnesylquinone and related analogues from the marine-derived *Streptomyces nitrosporeus*
119 // nitrosporeunol A // N // * // * // *
120 // nitrosporeunol B // N // * // * // *
121 // nitrosporeunol C // N // * // * // *
122 // nitrosporeunol D // N // * // * // *

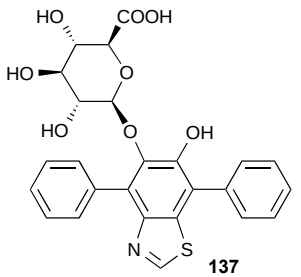
123 // nitrosporeunol E // N // * // * // *
124 // nitrosporeunol F // N // * // * // *
125 // nitrosporeunol G // N // * // * // *
126 // 2-methyl-8-hydroxybenzeneheptanoic acid // M // antihyperlipidemic activity // * // s88

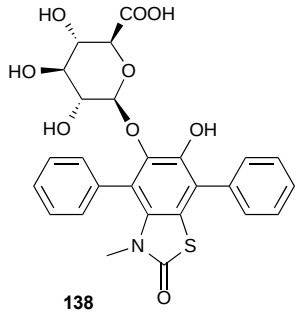
86 Actinobacteria *Streptomyces scopuliridis* // (sediment) South China Sea // Cyclic hexapeptides from the deep South China Sea-derived *Streptomyces scopuliridis* SCSIO ZJ46 active against pathogenic Gram-positive bacteria
127 // desotamide B // N // mod. AB activity // * // *
128 // desotamide C // N // * // * // *
129 // desotamide D // N // * // * // *









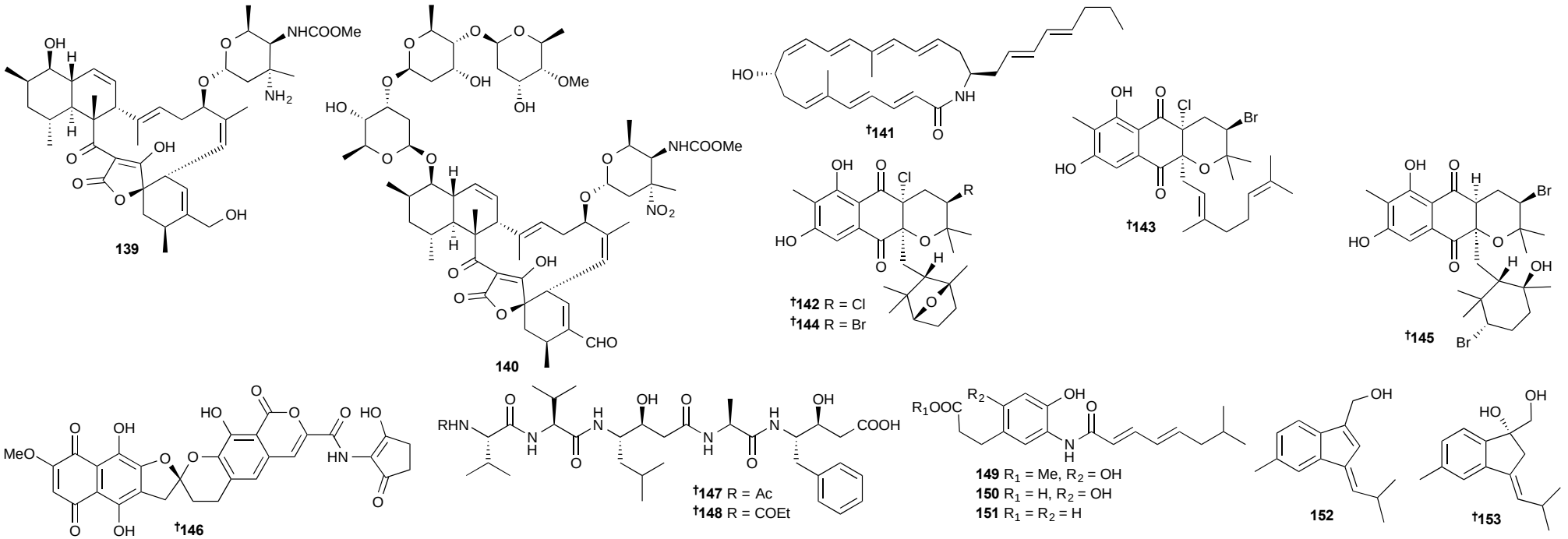


87 Actinobacteria *Streptomyces tempisquensis* // (sediment) Playa Grande, Costa Rica // Baulamycins A and B, broad-spectrum antibiotics identified as inhibitors of siderophore biosynthesis in *Staphylococcus aureus* and *Bacillus anthracis*
130 // baulamycin A // N // inhib. siderophore biosynthetic enzymes. broad spectrum AB // * // *
131 // baulamycin B // N // inhib. siderophore biosynthetic enzymes. broad spectrum AB // * // *

88 Actinobacteria *Streptomyces violans* // (Magnoliophyta, *Saliconia* sp.) Rushan County, China. // A new polyunsaturated acid from the marine-derived *Streptomyces violans*
132 // (2*E*,4*Z*,6*E*,8*Z*)-5,9-dimethyl-10-oxododeca-2,4,6,8-tetraenoic acid // N // mod. AB activity // * // *

89 Actinobacteria *Streptomyces xinghaiensis* // Xinghai Bay, China // Fluoroacetate biosynthesis from the marine-derived bacterium *Streptomyces xinghaiensis* NRRL B-24674
133 // fluoroacetate // M // * // * // s89

90 Actinobacteria *Streptomyces* sp. // (sediment) Jimei, China // *p*-Terphenyl *O*-β-glucuronides, DNA topoisomerase inhibitors from *Streptomyces* sp. LZ35ΔgdmAI
134 // echoside A // N // topoisomerase I inhib. (good), topoisomerase II inhib. (mod.), modest AB // * // *
135 // echoside B // N // topoisomerase II inhib. (mod.). // * // *
136 // echoside C // N // topoisomerase II inhib. (good). modest AB // * // *
137 // echoside D // N // * // * // *
138 // echoside E // N // * // * // *



91 Actinobacteria *Streptomyces* sp. // (Mollusca, *Lienardia totopotens*) Mactan Is., Philippines // Structure and activity of lobophorins from a turrid mollusk-associated *Streptomyces* sp.
139 // lobophorin H // N // * // * // *
140 // lobophorin I // N // AB. strongly cytotox. to HTCLs. // * // *

92 Actinobacteria *Streptomyces* sp. // (sediment) Uranouchi Bay, Japan // Structure and biological activity of 8-deoxyheronamide C from a marine-derived *Streptomyces* sp.: heronamides target saturated hydrocarbon chains in lipid membranes
141 // 8-deoxyheronamide C // N // Binds to cell membranes. // * // **s90**

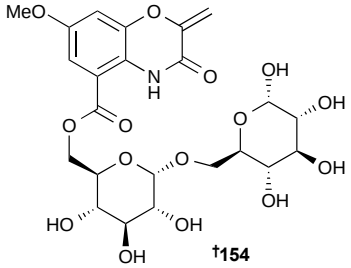
93 Actinobacteria *Streptomyces*? // (sediment) La Jolla, U.S.A. // Napyradiomycin derivatives, produced by a marine-derived actinomycete, illustrate cytotoxicity by induction of apoptosis
142 // napyradiomycin CNQ525.510B // N // induces apoptosis in HCT-116 cells // * // *
143 // napyradiomycin CNQ525.538 // N // induces apoptosis in HCT-116 cells // * // *
144 // napyradiomycin CNQ525.554 // N // induces apoptosis in HCT-116 cells // * // *
145 // napyradiomycin CNQ525.600 // N // induces apoptosis in HCT-116 cells // * // *

94 Actinobacteria *Streptomyces* sp. // (Chordata, *Molgula manhattensis*) Minato-ku, Japan // Hyaluromycin, a new hyaluronidase inhibitor of polyketide origin from marine *Streptomyces* sp.
146 // hyaluromycin // N // inhib. hyaluronidase // * // *

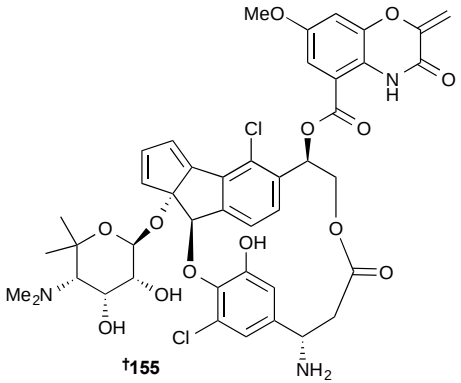
95 Actinobacteria *Streptomyces* sp. // (sediment) Hatsu-shima, Japan // Lower homologues of ahpatinin, aspartic protease inhibitors, from a marine *Streptomyces* sp.
147 // ahpatinin Ac // N // potent pepsin inhib. mod. cathepsin B inhib. // * // *
148 // ahpatinin Pr // N // potent pepsin inhib. mod. cathepsin B inhib. // * // *

96 Actinobacteria *Streptomyces* sp. // (sediment) Kiawah Is., USA // Carpatamides A–C, cytotoxic arylamine derivatives from a marine-derived *Streptomyces* sp.
149 // carpatamide A // N // mod. cytotox. to HTCLs // * // *
150 // carpatamide B // N // * // * // *
151 // carpatamide C // N // mod. cytotox. to HTCLs // * // *

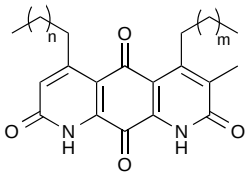
97 Actinobacteria *Streptomyces* sp. // (sediment) Anmyeon Is., South Korea // Anmindenols A and B, inducible nitric oxide synthase inhibitors from a marine-derived *Streptomyces* sp.
152 // anmindenol A // N // mod. inhib. of NO production // * // *
153 // anmindenol B // N // mod. inhib. of NO production // * // *



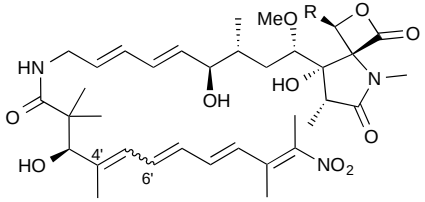
†**154**



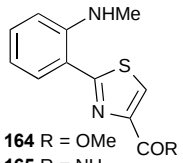
†**155**



156 n = m = 3
157 n = 3, m = 1
158 n = 1, m = 3
159 n = m = 1



†**160** R = Me, (4'Z,6'Z)
†**161** R = H, (4'*E*,6'*E*)
†**162** R = Me, (4'*E*,6'*E*)
†**163** R = Me, (4'Z,6'*E*)



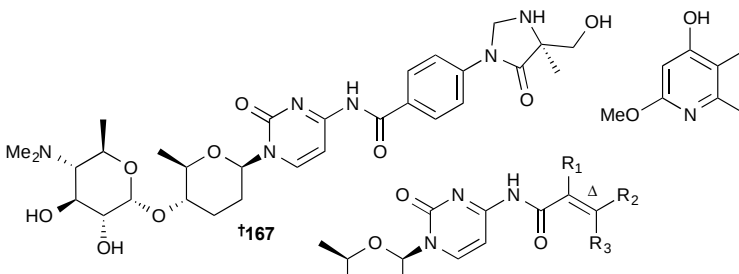
164 R = OMe
165 R = NH_2
166 R = OH

98 Actinobacteria *Streptomyces* sp. // (sediment) East Siberian continental margin, Arctic Ocean // New benzoxazine secondary metabolites from an Arctic actinomycete
154 // arcticoside // N // good inhib. of isocitrate lyase in *Candida*. // * // *
155 // C-1027 chromophore-V // N // weak inhib. of isocitrate lyase in *Candida*, strong cytotox. to HTCLS // * // *

99 Actinobacteria Streptomyces sp. // Birds Head, Indonesia // Diazaquinomycins E–G, novel diaza-anthracene analogs from a marine-derived *Streptomyces* sp.
156 // diazoquinomycin E // N // weak-mod. cytotox. to HTCLs // * // *
157 // diazoquinomycin F // N // * // * // *
158 // diazoquinomycin G // N // * // * // *
159 // diazoquinomycin A // M // * // * // s91

100 Actinobacteria *Streptomyces* sp. // (sediment) Jeju Is., South Korea // Lajollamycins, nitro group-bearing spiro-β-lactone-γ-lactams obtained from a marine-derived *Streptomyces* sp.
160 // lajollamycin // R // mod. inhib. of isocitrate lyase in *Candida* // configuration established. // s92
161 // lajollamycin B // N // mod. inhib. of isocitrate lyase in *Candida* // * // *
162 // lajollamycin C // N // mod. inhib. of isocitrate lyase in *Candida* // * // *
163 // lajollamycin D // N // mod. inhib. of isocitrate lyase in *Candida* // * // *

101 Actinobacteria *Streptomyces* sp. // (sediment) Jaebu Is., South Korea // Anithiactins A–C, modified 2-phenylthiazoles from a mudflat-derived *Streptomyces* sp.
164 // anithiactin A // N // mod. inhib. of acetylcholinesterase // Also synthesised. // *
165 // anithiactin B // N // mod. inhib. of acetylcholinesterase // * // *
166 // anithiactin C // N // mod. inhib. of acetylcholinesterase // * // *



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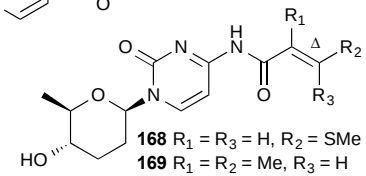
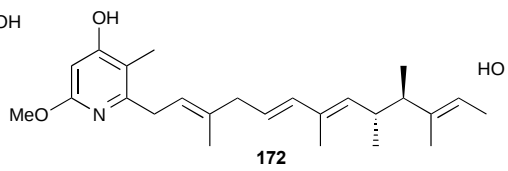


168 $R_1 = R_3 = H$, R_2 = SMe
169 $R_1 = R_2$ = Me, $R_3 = H$
170 $R_1 = H$, $R_2 = R_3$ = Me
171 $R_1 = H$, $R_2 = R_3$ = Me, Δ saturated



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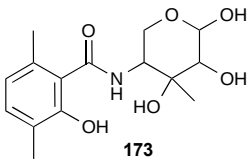

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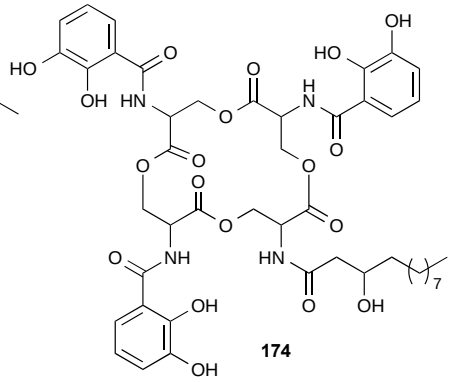

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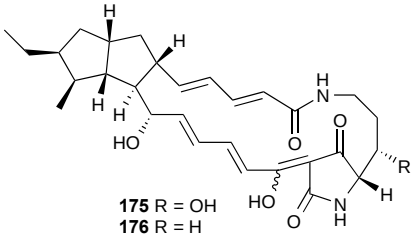
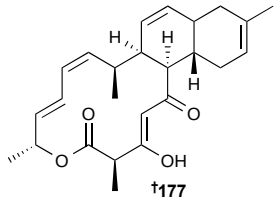
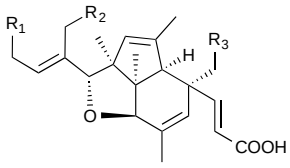


175 R = OH
176 R = H



†177



†178 $R_1 = R_2 = H$, R_3 = OH
†179 $R_1 = R_3 = H$, R_2 = OH
†180 R_1 = OH, $R_2 = R_3 = H$

102 Actinobacteria *Streptomyces* sp. // (seawater) Iriomote Is., Japan // Anti-mycobacterial nucleoside antibiotics from a marine derived *Streptomyces* sp. TPU1236A
167 // streptcytosine A // N // mod. inhib. of *M. smegmatis.* // * // *
168 // streptcytosine B // N // * // * // *
169 // streptcytosine C // N // * // * // *
170 // streptcytosine D // N // * // * // *
171 // streptcytosine E // N // * // * // *

103 Actinobacteria *Streptomyces* sp. // (sediment) Point Estero, U.S.A. // An NF-κB-based high-throughput screen identifies piericidins as inhibitors of the *Yersinia pseudotuberculosis*...
172 // Mer-A 2026B // M // inhib. type III secretion system (virulence causing) in *Yersinia tuberculosis.* // * // **s93**

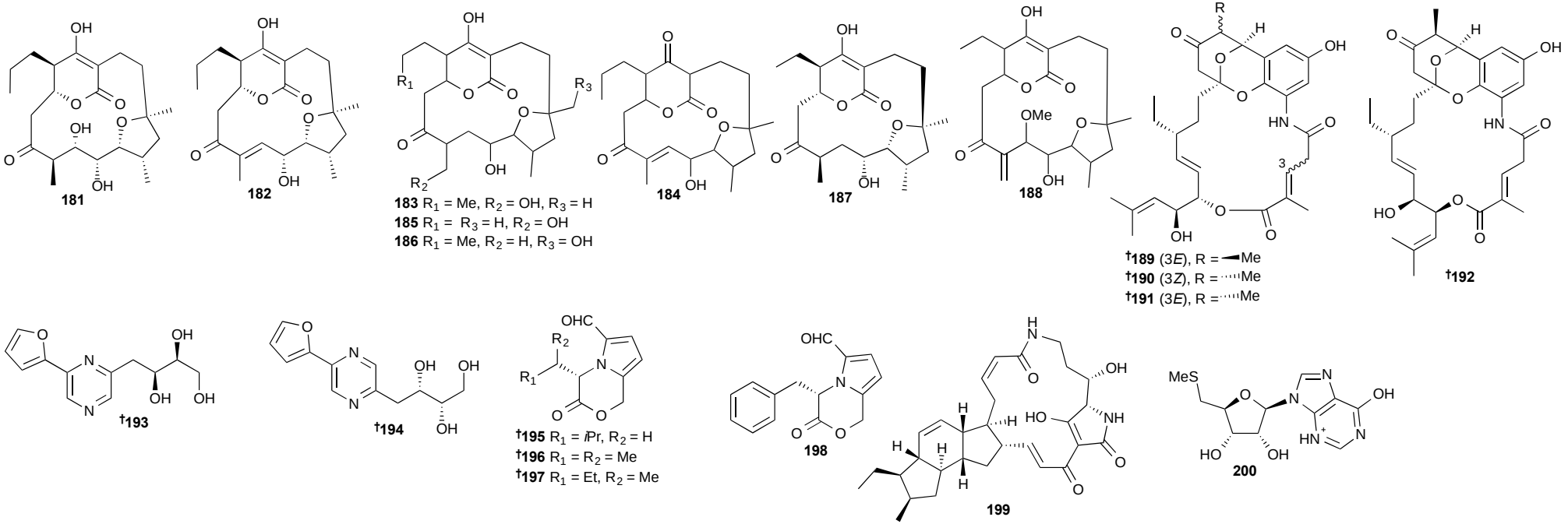
104 Actinobacteria *Verrucosispora* sp. // (unspecified sponge) East China Sea // Compounds from marine-derived *Verrucosispora* sp. FIM06054 and their potential antitumour activities
173 // FW054-1 // N // mod. cytotox. to HTCLs. // * // *

105 Proteobacteria *Vibrio campbellii*, Proteobacteria *Vibrio harveyi* // ATCC BAA-1116 // Biosynthesis of amphi-enterobactin siderophores by *Vibrio harveyi* BAA-1116: identification ..
174 // Amphi-enterobactin C12-OH // N // * // Biosynthetic study. // *

108 Proteobacteria *Pseudoalteromonas* sp. // (Cnidaria, *Leptogorgia alba*) Otoque Is., Panama // Microbiota of healthy corals are active against fungi in a light-dependent manner
175 // * // R // * // Revised config. at C6 // **s94**
176 // * // R // * // Revised config. at C7 // **s94**

112 Actinobacteria *Streptomyces* sp. // (sediment) Santa Barbara, U.S.A. // Corrigendum: Anthracimycin, a potent anthrax antibiotic from a marine-derived actinomycete
177 // anthracimycin // R // * // Revised config. (Incorrect diagram in original report). // **s95**

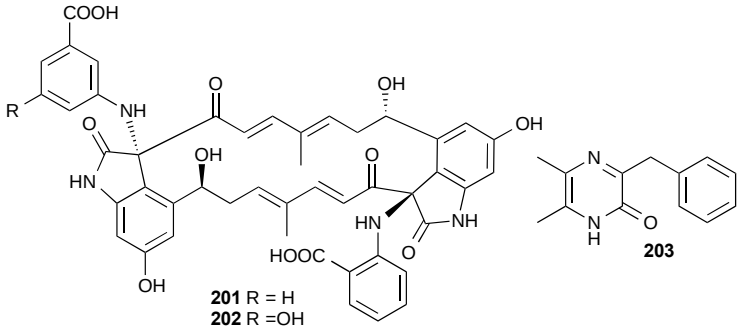
115 Actinobacteria *Streptomyces* sp. // (sediment) Kochi Harbour, Japan // Stereoselective total synthesis and structural elucidation of (−)-indoxamycins A–F
178 // indoxamycin B // R // * // * // **s96** **s97**
179 // indoxamycin D // R // * // * // **s96**
180 // indoxamycin E // R // * // * // **s96**



168 Actinobacteria *Lechevalieria aerocolonigenes* // (mangrove sediment) Iriomote Is., Japan // Mangromicins A and B: structure and antitrypanosomal activity of two new cyclopentadecane compounds from *Lechevalieria aerocolonigenes* K10-0216
181 // mangromicin A // N // good antitrypanosomal activity // * // *
182 // mangromicin B // N // mod. antitrypanosomal activity. // * // *
169 Actinobacteria *Lechevalieria aerocolonigenes* // (mangrove sediment) Iriomote Is., Japan // Mangromicins, six new anti-oxidative agents isolated from a culture broth of the actinomycete, *Lechevalieria aerocolonigenes* K10-0216
183 // mangromicin D // N // radical scavenging activity vs DPPH and NO // * // *
184 // mangromicin E // N // radical scavenging activity vs DPPH and NO // * // *
185 // mangromicin F // N // radical scavenging activity vs DPPH and NO // * // *
186 // mangromicin G // N // radical scavenging activity vs DPPH and NO // * // *
187 // mangromicin H // N // radical scavenging activity vs DPPH and NO // * // *
188 // mangromicin I // N // radical scavenging activity vs DPPH and NO // * // *
170 Actinobacteria *Streptomyces* sp. // (Tracheophyta, *Bruguiera gymnorrhiza*) unspecified location // Biosynthetic code for divergolide assembly in a bacterial mangrove endophyte
189 // divergolide E // N // * // * // *
190 // divergolide F // N // * // * // *
191 // divergolide G // N // * // * // *
192 // divergolide H // N // * // * // *

173 Actinobacteria *Jishengella endophytica* // (Tracheophyta, *Xylocarpus granatum root)*, Hainan Province, China // Alkaloids from the mangrove-derived actinomycete *Jishengella endophytica* 161111
193 // 2-(furan-2-yl)-6-(2*S*,3*S*,4-trihydroxybutyl)pyrazine // N // * // * // *
194 // 2-(furan-2-yl)-5-(2*S*,3*S*,4-trihydroxybutyl)pyrazine // M // * // * // **s98**
195 // (*S*)-4-isobutyl-3-oxo-3,4-dihydro-1H-pyrrolo[2,1-c][1,4]oxazine-6-carbaldehyde // M // * // * // **s99**
196 // (*S*)-4-isopropyl-3-oxo-3,4-dihydro-1H-pyrrolo[2,1-c][1,4]oxazine-6-carbaldehyde // M // * // * // **s99**
197 // (4*S*)-4-(2-methylbutyl)-3-oxo-3,4-dihydro-1H-pyrrolo[2,1-c][1,4]oxazine-6-carbaldehyde // M // * // * // **s99**
198 // (*S*)-4-benzyl-3-oxo-3,4-dihydro-1H-pyrrolo[2,1-c] [1,4]oxazine-6-carbaldehyde // M // * // * // **s100**

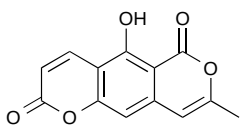
174 Actinobacteria *Micromonospora* sp. // (sediment) Butre river, Ghana // Butremycin, the 3-hydroxyl derivative of ikarugamycin and a protonated aromatic tautomer of 5′-methylthioinosine from a Ghanaian *Micromonospora* sp. K310
199 // butremycin // N // * // * // *
200 // * // N // * // * // *



201 R = H
202 R =OH
203

175 Actinobacteria *Streptomyces* sp. // (Tracheophyta, *Kandelia candel leaves*) Longhai, Zhangzhou, China // Juanlimycins A and B, ansamycin macrodilactams from *Streptomyces* sp.
201 // juanlimycin A // N // * // * // *
202 // juanlimycin B // N // * // * // *

176 Actinobacteria *Verrucosispora* sp. // (mangrove sediment) Butre River, Ghana // Butrepyrazinone, a new pyrazinone with an unusual methylation pattern from a Ghanaian *Verrucosispora* sp. K51G
203 // butrepyrazinone // M // * // * // **s101**



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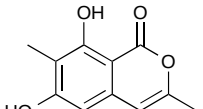

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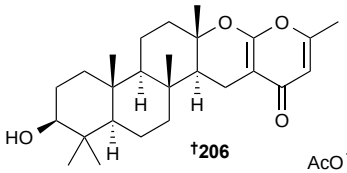
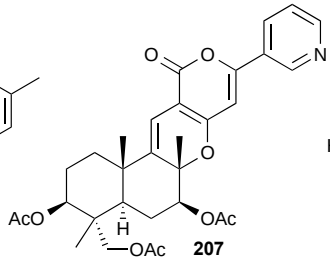


†**206**



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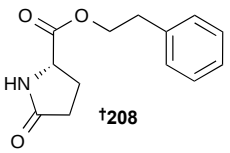

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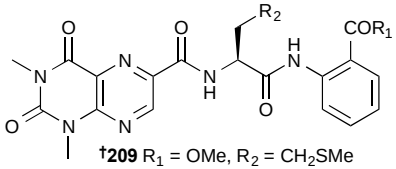
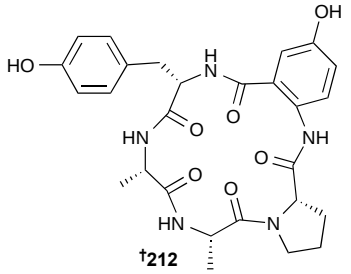


†**209** R_1 = OMe, R_2 = CH_2SMe
†**210** R_1 = OMe, R_2 = CH_2SO_2Me
†**211** R_1 = NH_2, R_2 = H

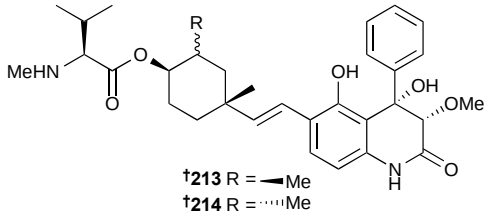


†**212**

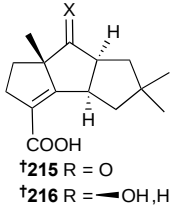
181 Ascomycota *Aspergillus similanensis* // (Porifera, *Rhabdermia* sp.) Similan Islands,Thailand // New isocoumarin derivatives and meroterpenoids from sponge-associated fungus *Aspergillus similanensis* sp. nov. KUFA 0013
204 // similanpyrone A // N // * // * // *
205 // similanpyrone B // N // * // * // *
206 // chevalone E // N // exhibits synergism with antibiotic against MRSA // * // *
207 // pyripyropene S // M // * // * // **s102**

187 Ascomycota *Aspergillus versicolor* // (seawater) SE Pacific Ocean // Activation of dormant secondary metabolite production by introducing neomycin resistance into the deep-sea fungus, *Aspergillus versicolor* ZBY-3
208 // phenethyl 5-oxo-L-prolinate // M // * // Dormant metabolite induction// **s103** **s104**

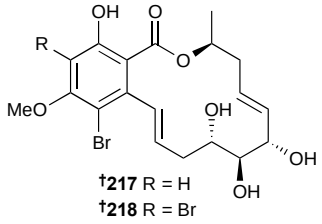
189 Ascomycota *Aspergillus* sp. // (Cnidaria, *Muricella abnormaliz*) Xisha islands, S. China Sea // Lumazine peptides penilumamides B–D and the cyclic pentapeptide asperpeptide A from a gorgonian-derived *Aspergillus* sp. fungus
209 // penilumamide B // N // * // Biosynthetic study // *
210 // penilumamide C // N // * // * // *
211 // penilumamide D // N // * // * // *
212 // asperpeptide A // N // mod. AB activity // * // *



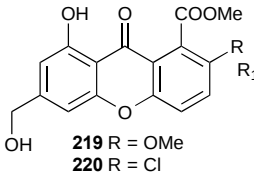
†**213** R = Me
†**214** R = Me



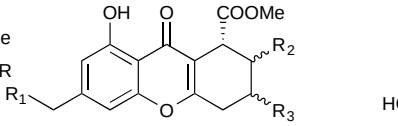
†**215** R = O
†**216** R = OH,H



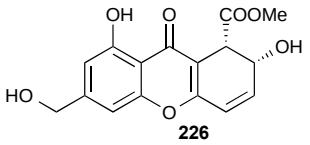
†**217** R = H
†**218** R = Br



219 R = OMe
220 R = Cl



221 R_1 = OH, R_2 = OH , R_3 = H
222 R_1 = H, R_2 = R_3 = OH
223 R_1 = OH, R_2 = OH , R_3 = H
224 R_1 = OH, R_2 = R_3 = OH
225 R_1 = OH, R_2 = OH , R_3 = OH



226

190 Ascomycota *Aspergillus* sp. // (Cnidaria, Muricella abnormaliz) Xisha Islands, S. China Sea // anti-respiratory syncytial virus prenylated dihydroquinolone derivatives from the gorgonian-derived fungus *Aspergillus* sp. XS-20090B15
213 // 22-*O*-(*N*-Me-L-valyl)aflaquinolone B // N // * // * // *
214 // 22-*O*-(*N*-Me-L-valyl)-21-epi-aflaquinolone B // N // potent inhib. of human respiratory synctial virus (RSV) // * // *

194 Basidiomycota *Chondrostereum* sp. // (Cnidaria, *Sarcophyton tortuosum*) Hainan Sanya National Coral Reef Reserve, China // Induced marine fungus *Chondrostereum* sp. as a means of producing new sesquiterpenoids chondrosterins I and J by using gycerol as the carbon source
215 // chondrosterin I // N // * // * // *
216 // chondrosterin J // N // potent activity vs 2 HTCLs // * // *

195 Ascomycota *Curvularia lunata* // (Cnidaria, *Palythoa haddoni*) Weizhou coral reef, China // Brominated resorcylic acid lactones from the marine-derived fungus *Cochliobolus lunatus* induced by histone deacetylase inhibitors

217 // 5-bromozeaenol // N // * // From chemical epigenetic modification // *

218 // 3,5-dibromozeaenol // N // * // From chemical epigenetic modification // *

196 Ascomycota *Engyodontium album* // (sediment) S. China Sea // Cytotoxic polyketides from the deep-sea-derived fungus *Engyodontium album* DFFSCS021

219 // engyodontiumone A // N // * // * // *

220 // engyodontiumone B // N // * // * // *

221 // engyodontiumone C // N // * // * // *

222 // engyodontiumone D // N // * // * // *

223 // engyodontiumone E // N // * // Racemic mixture. // *

224 // engyodontiumone F // N // * // Racemic mixture. // *

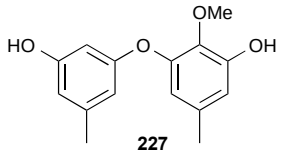
225 // engyodontiumone G // N // * // Racemic mixture. // *

226 // engyodontiumone H // N // * // mod. cytotox. vs HTCL (U937), mild AB activity // *

227 // 2-methoxyl cordyol C // N // * // * // *

228 // engyodontiumone I // N // * // * // *

229 // engyodontiumone J // N // * // * // *



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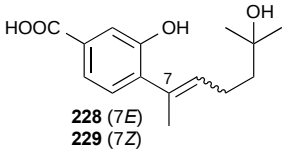
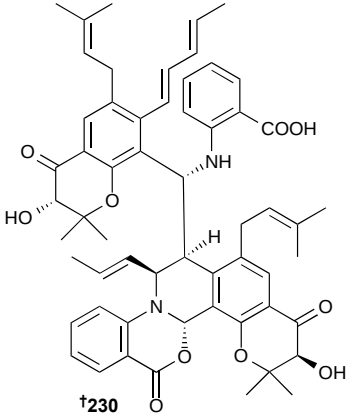
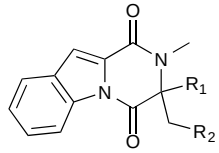


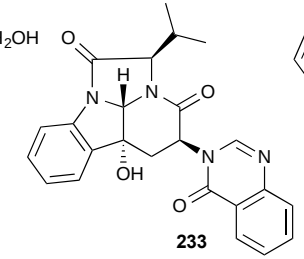
228 (7*E*)
229 (7*Z*)



†**230**



231 R_1 = OMe, R_2 = H
232 R_1 = OMe, R_2 = CH_2OH
234 R_1 = R_2 = H



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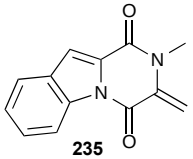

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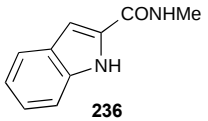

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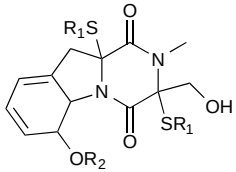
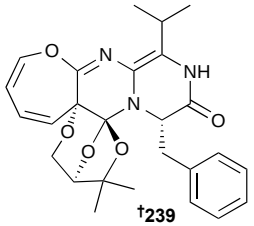


237 R_1 = R_2 = H
238 R_1 = Me, R_2 = Ac



†**239**

198 Ascomycota, Class Eurotiomycetes // (Chordata, *Lissoclinum patella*) Papua New Guinea // Oxazinin A, a pseudodimeric natural product of mixed biosynthetic origin from a filamentous fungus

230 // oxazonin A // N // antimycobacterial activity (good), antagnoist of TRP channels (modest) // Racemic mixture. // *

199 Ascomycota *Neosartorya pseudofischeri* // (Echinodermata, *Acanthaster planci*) Hainan Sanya National Coral Reef Reserve, China // Exploring the chemodiversity and biological activities of the secondary metabolites from the marine fungus *Neosartorya pseudofischeri*

231 // neosartin A // N // * // Racemic mixture. Produced in GlyPy media. // *

232 // neosartin B // N // * // Racemic mixture. Produced in GlyPy media. // *

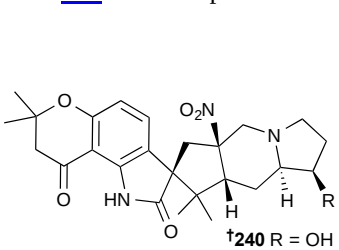
233 // neosartin C // N // * // Produced in GluPy media. // *

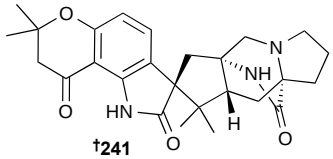
234 // 1,2,3,4-tetrahydro-2,3-dimethyl-1,4-dioxopyrazino[1,2-a]indole // M // * // Produced in GlyPy media. // **s105**

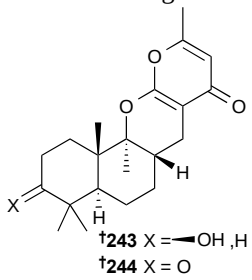
235 // 1,2,3,4-tetrahydro-2-methyl-3-methylene-1,4-dioxopyrazino[1,2-a]indole // M // * // Produced in GlyPy media. // **s106**

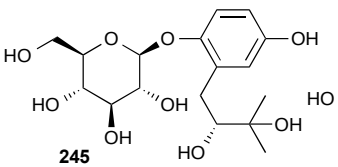
236 // *N*-methyl-1H-indole-2-carboxamide // M // * // Produced in GlyPy media. // **s107**
237 // reduced gliotoxin // M // * // Produced in GluPy media. // **s108**
238 // 6-acetylbis(methylthio)gliotoxin // M // * // Produced in GlyPy media. // **s109**

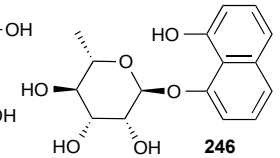
200 Ascomycota *Paecilomyces variotii* // (Rhodophyta, *Grateloupia turuturu*) Qingdao, China // Varioxepine A, a 3*H*-oxepine-containing alkaloid with a new oxa-cage from the marine algal-derived endophytic fungus *Paecilomyces variotii*
239 // varioxepine A // N // potent inhib. of *Fusarium graminearum*. mod.-good AB activity // * // *

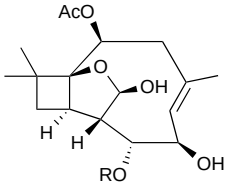


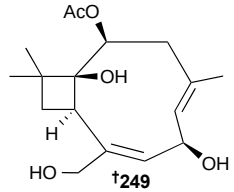


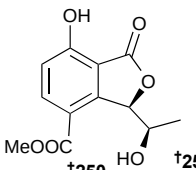


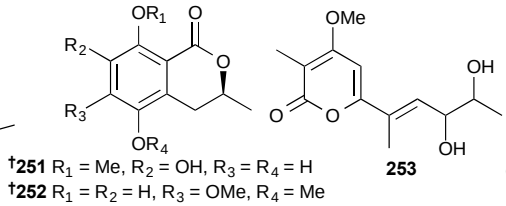


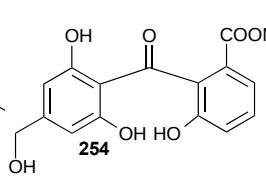


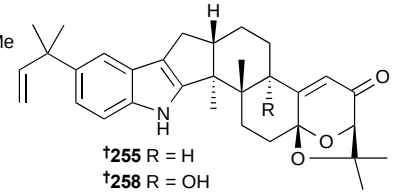


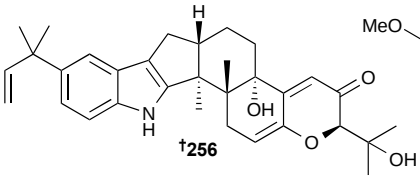


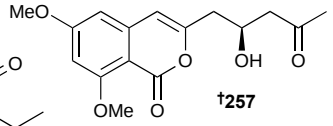












202 Ascomycota *Penicillium citrinum* // source unspecified. // Total synthesis and isolation of citrinalin and cyclopiamine congeners
240 // 17-hydroxycitrinalin B // N // * // * // *
241 // citrinalin C // N // * // * // *
242 // citrinalin B // R // * // First synthesis. // **s110**

203 Ascomycota *Penicillium* sp. // (sediment) Geomun-do Is., South Korea // Penicillipyrones A and B, meroterpenoids from a marine-derived *Penicillium* sp. fungus
243 // penicillipyrone A // N // * // * // *
244 // penicillipyrone B // N // induction of quinone reductase in murine cancer cells. // * // *

204 Ascomycota *Acremonium polychromum* // (Cnidaria, *Annella* sp.) Similan islands, Thailand // Acremonoside, a phenolic glucoside from the sea fan-derived fungus *Acremonium polychromum* PSU-F125
245 // acremonoside // N // * // * // *

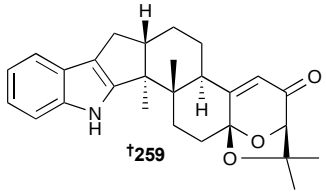
205 Ascomycota *Arthrinium* sp. // (unidentified sponge) Xisha Islands, China // A new naphthalene glycoside from the sponge-derived fungus *Arthrinium* sp. ZSDS1-F3
246 // 1,8-dihydroxynaphthol-1-*O*-α-L-rhamnopyranoside // N // * // * // *

206 Ascomycota *Ascotricha* sp. // (sediment) Fenghua County, China // Caryophyllene sesquiterpenes from the marine-derived fungus *Ascotricha* sp. ZJ-M-5 by the one strain–many compounds strategy
247 // (+)-6-*O*-demethylpestalotiopsin A // N // good cytotox. vs 2 HTCLs // * // *
248 // (+)-6-*O*-demethylpestalotiopsin C // N // good cytotox. vs 2 HTCLs // * // *
249 // (−)-6-*O*-demethylpestalotiopsin B // N // * // * // *

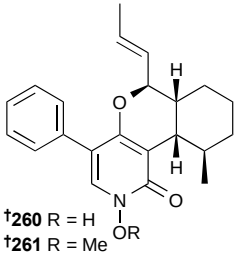
207 Ascomycota *Astrocystis* sp. // (Tracheophyta, *Nypa* sp.) Hat Khanom-Mu Ko Thale Tai National Park,, Thailand // Bioactive polyketides from the fungus *Astrocystis* sp. BCC 22166
250 // astrophthalide // N // * // * // *

251 // 5,7-dihydroxy-*O*-methylmellein // N // * // * // *
252 // 5,6-dimethoxymellein // N // * // * // *
253 // astropyrone // N // * // * // *
254 // astrophenone // M // * // Commercially available. // *

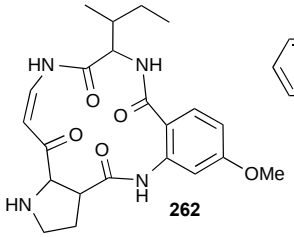
213 Ascomycota *Aspergillus flavus* // (Arthropoda, *Penaeus vannamei*) Lianyungang, China // Indole diterpenoids and isocoumarin from the fungus, *Aspergillus flavus*, isolated from the prawn, *Penaeus vannamei*
255 // 2*R*,4b*R*,6a*S*,12b*S*,12c*S*,14a*S*)-4b-deoxy-β-aflatrem // N // arrest of cell cycle in A549 cells. mod. PKC-beta inhib. mod. *S. aureus* inhib. // * // *
256 // (2*R*,4b*S*,6a*S*,12b*S*,12c*R*)-9-isopentenyl paxilline D // N // arrest of cell cycle in A549 cells // * // *
257 // (*S*)-(−)-6,8-di-*O*-methylcitreoisocoumarin // N // * // * // *
258 // β-aflatrem // M // * // * // s111
259 // pasapaline // M // * // * // s112 s113
260 // leporin B // M // * // * // s114
261 // leporin A // M // * // * // s115



†259



†260 R = H
†261 R = Me



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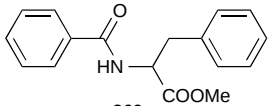

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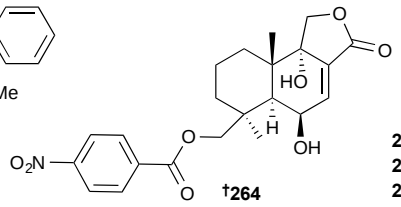

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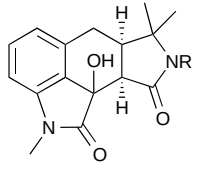
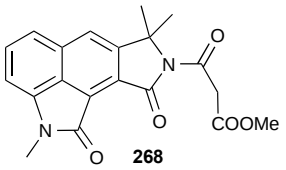


265 R = H
266 R = $COCH_2Ac$
267 R = $COCH_2COOMe$

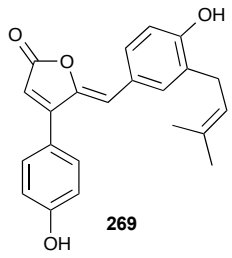


268

214 Ascomycota *Aspergillus flavipes* // (Arthropoda, *Ligia oceanica*) Zhoushan, China // A new cyclopeptide metabolite of marine gut fungus from *Ligia oceanica*
262 // * // N // * // * // *
263 // *N*-benzoyl-phenylalanine methyl ester // M // * // * // s116

215 Ascomycota *Aspergillus ochraceus* // (Rhodophyta, *Coelarthrum* sp.) Paracel Islands, China // Cytotoxic and antiviral nitrobenzoyl sesquiterpenoids from the marine-derived fungus *Aspergillus ochraceus* Jcma1F17
264 // 6β,9α-dihydroxy-14-p-nitrobenzoylcinnamolide // N // mod. activity vs 10 HTCLs and two viruses // * // *

216 Ascomycota *Aspergillus oryzae* // (sediment) Langqi Is., China // Speradines B–E, four novel tetracyclic oxindole alkaloids from the marine-derived fungus *Aspergillus oryzae*
265 // speradine B // N // * // * // *
266 // speradine C // N // * // * // *
267 // speradine D // N // * // * // *
268 // speradine E // N // * // * // *



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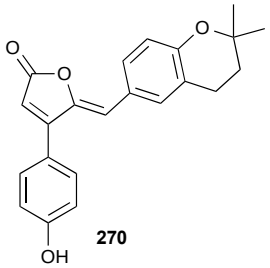

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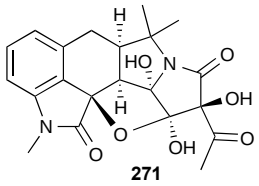

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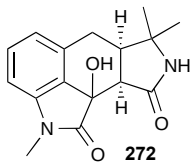

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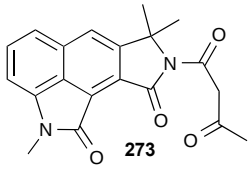

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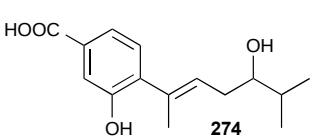

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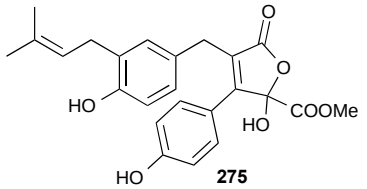


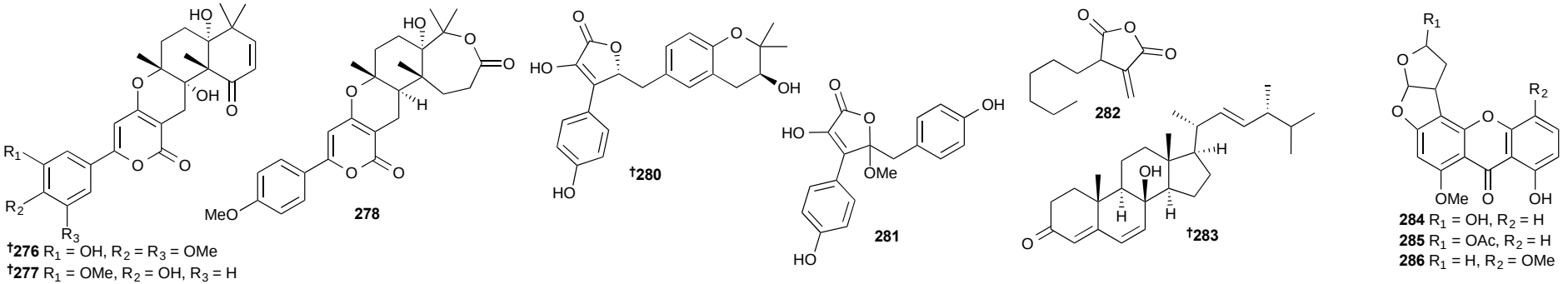
275

217 Ascomycota *Aspergillus terreus* // (Chordata, *Chelon haematocheilus*) Yellow River estuary, China // New rubrolides from the marine-derived fungus *Aspergillus terreus*
269 // rubrolide R // N // * // * // *
270 // rubrolide S // N // * // * // *

218 Ascomycota *Aspergillus oryzae* // (sediment) Min River estuary, China // Speradines F–H, three new oxindole alkaloids from the marine-derived fungus *Aspergillus oryzae*
271 // speradine F // N // * // * // *
272 // speradine G // N // * // * // *
273 // speradine H // N // * // * // *

219 Ascomycota *Aspergillus sydowii* // (unidentified sponge) Xisha Islands, China // antimicrobial and antiviral sesquiterpenoids from sponge-associated fungus, *Aspergillus sydowii*
274 // aspergillusene C // N // * // * // *

220 Ascomycota *Aspergillus terreus* // (unidentified sponge) Naozhu Sea, China // Structures and antiviral activities of butyrolactone derivatives isolated from *Aspergillus terreus*
275 // butyrolactone VIII // N // * // * // *



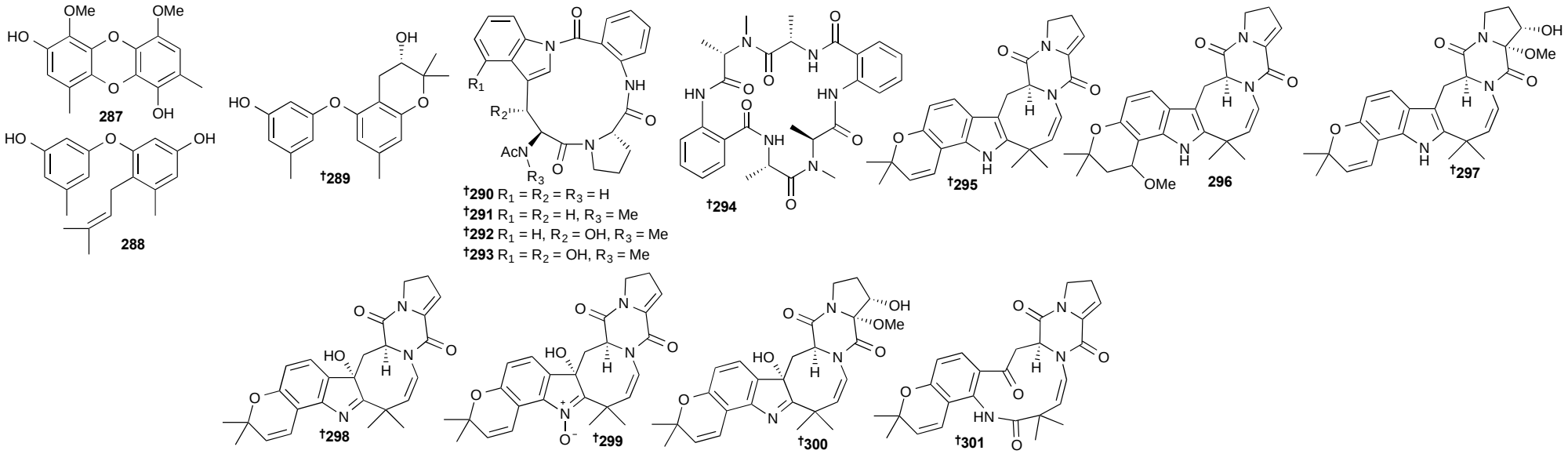
†**276** R_1 = OH, R_2 = R_3 = OMe
†**277** R_1 = OMe, R_2 = OH, R_3 = H
279 R_1 = R_2 = OMe, R_3 = H

221 Ascomycota *Aspergillus terreus* // Cnidaria, *Echinogorgia aurantiaca*) S. China Sea // Territrem and butyrolactone derivatives from a marine-derived fungus *Aspergillus terreus*
276 // territrem D // N // * // * // *
277 // territrem E // N // * // * // *
278 // 11a-dehydroxyisoterreulactone A // N // * // * // *
279 // arisugacin A // M // * // * // **s117**
280 // isobutyrolactone V // N // * // * // *
281 // isobutyrolactone II // N // * // Racemic mixture. // *

222 Ascomycota *Aspergillus tubingensis* // (Porifera, *Ircinia variabilis*) Mediterranean Sea // Sensitivity of *Neurospora crassa* to a marine-derived *Aspergillus tubingensis* anhydride exhibiting antifungal activity that is mediated by the MAS1 protein
282 // tubingenoic anhydride A // N // * // * // *

223 Ascomycota *Aspergillus ustus* // Chlorophyta, *Codium fragile*) Zhoushan Is., China // Ergosteroid derivatives from an algicolous strain of *Aspergillus ustus*
283 // isocyathisterol // N // modest AB activity // * // *

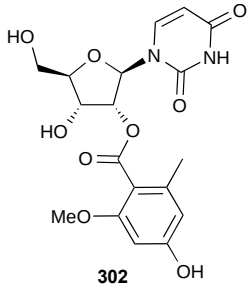
224 Ascomycota *Aspergillus versicolor* // (Porifera, *Hymeniacidon perleve*) Bohai Sea, China // Three new sterigmatocystin analogues from marine-derived fungus *Aspergillus versicolor*
284 // sterigmatocystin hemiacetal // M // * // * // **s118**
285 // acyl-hemiacetal sterigmatocystin // N // * // * // *
286 // 5-methoxydihydrosterigmatocystin // M // mod. AB activity // * // **s119**

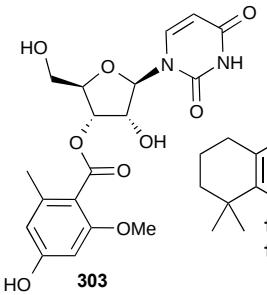


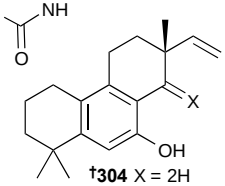
225 Ascomycota *Aspergillus versicolor* // (Porifera, *Hymeniacidon perleve*) Bohai Sea, China // Cytotoxic polyphenols from a sponge-associated fungus *Aspergillus versicolor* Hmp-48
287 // 4,6-dimethoxy-2,9-dimethyldibenzo[b,e][1,4]dioxine-1,7-diol // N // mod. inhib. vs HL-60 HTCL // * // *
288 // 3-(3-hydroxy-5-methylphenoxy)-5-methyl-4-(3-methylbut-2-en-1-yl)phenol // N // mod. inhib. vs HL-60 HTCL // Same as compd 3 in ref. **s120**. Concurrent pubs. // **s120**
289 // (3*S*)-3,4-dihydro-5-(3-hydroxy-5-methylphenoxy)-2,2,7-trimethyl-2H-chromen-3-ol // N // mod. inhib. vs HL-60 HTCL // * // *

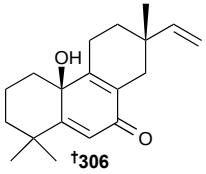
226 Ascomycota *Aspergillus versicolor* // (sediment) Yellow Sea // Psychrophilins E–H and versicotide C, cyclic peptides from the marine-derived fungus *Aspergillus versicolor* ZLN-60
290 // psychrophilin E // N // * // * // *
291 // psychrophilin F // N // * // * // *
292 // psychrophilin G // N // potent lipid lowering effects // * // *
293 // psychrophilin H // N // * // * // *
294 // versicotide C // N // * // * // *

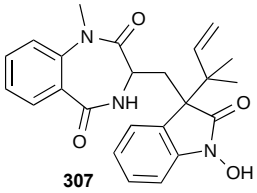
227 Ascomycota *Aspergillus versicolor* // (sediment) S. China Sea // Prenylated indole diketopiperazines from the marine-derived fungus *Aspergillus versicolor*
295 // versicamide A // N // * // * // *
296 // versicamide B // N // * // * // *
297 // versicamide C // N // * // * // *
298 // versicamide D // N // * // * // *
299 // versicamide E // N // * // * // *
300 // versicamide F // N // * // * // *
301 // versicamide G // N // * // * // *

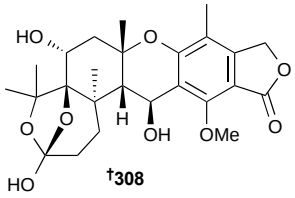


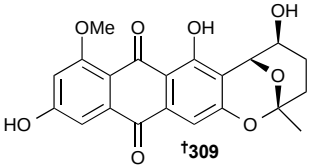


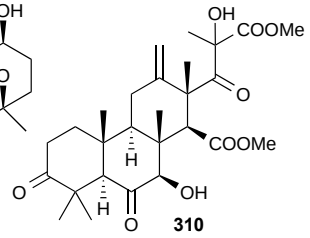












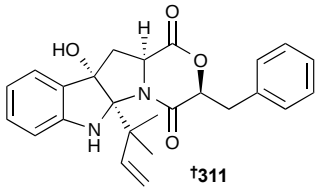
228 Ascomycota *Aspergillus versicolor* // (Cnidaria, *Dichotella gemmacea*) Xisha Islands, China // Nucleoside derivatives from the marine-derived fungus *Aspergillus versicolor*
302 // kipukasin H // M // * // * // *
303 // kipukasin I // M // * // * // *

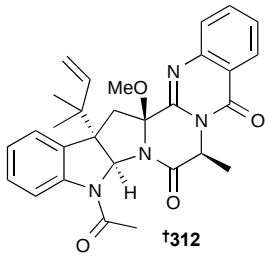
229 Ascomycota *Aspergillus wentii* // (Ochrophyta, *Sargassum fusiforme*) Nanao Is., China // Aspewentins A–C, norditerpenes from a cryptic pathway in an algicolous strain of *Aspergillus wentii*
304 // aspewentin A // N // good cytotox. vs two phytoplankton // * // *
305 // aspewentin B // N // mod. cytotox. vs 1 zooplankton and 1 phytoplankton // * // *
306 // aspewentin C // N // mod. cytotox. vs 1 phytoplankton // * // *

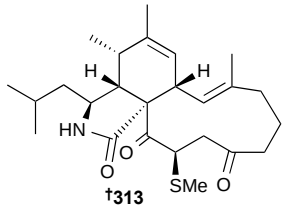
230 Ascomycota *Aspergillus* sp. // (Porifera, *Tethya aurantium*) Rovinj, Croatia // Marine bacterial inhib.s from the sponge-derived fungus *Aspergillus* sp.
307 // * // N // selective inhib. of *Vibrio* species// * // *
308 // * // N // broad spectrum AB // * // *

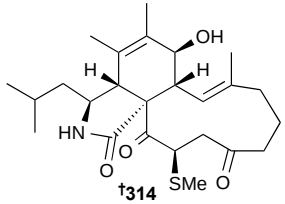
231 Ascomycota *Aspergillus* sp. // (Cnidaria, *Dichotella gemmacea*) S. China Sea // A new anthraquinone derivative from a gorgonian-derived fungus *Aspergillus* sp.
309 // 8-*O*-methylnidurufin // N // mod. AB activity // * // *

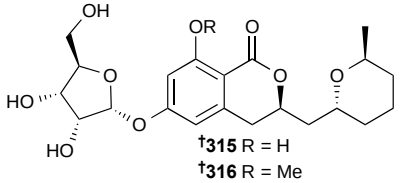
232 Ascomycota *Aspergillus* sp. // (unspecified sponge) Ishigaki Is., Japan // Terretonin G, a new sesterterpenoid antibiotic from marine-derived *Aspergillus* sp. OPMF00272
310 // terretonin G // N // mod. activity vs Gram-positive bacteria // * // *

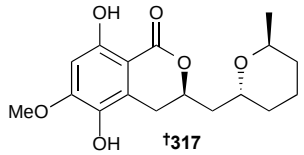










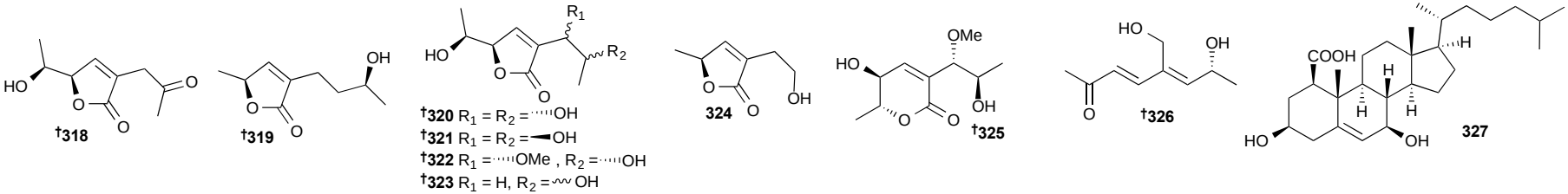


233 Ascomycota *Aspergillus* sp. // (sediment) Shorncliffe, Australia // Shornephine A: structure, chemical stability, and P-glycoprotein inhib properties of a rare diketomorpholine from an Australian marine-derived *Aspergillus* sp.
311 // shornephine A // N // P-glycoprotein inhib. (MDR reversing) // Acid labile methanolysis. // *
312 // 15b-β-methoxy-5-N-acetyladreemin // N // * // * // *

234 Ascomycota *Aspergillus* sp. // (Arthropoda, *Ligia oceanica*) Dinghai, China // Methylthio-aspochalasins from a marine-derived fungus *Aspergillus* sp.
313 // aspochalasin V // N // mod. cytotox. vs 2 HTCLs // * // *

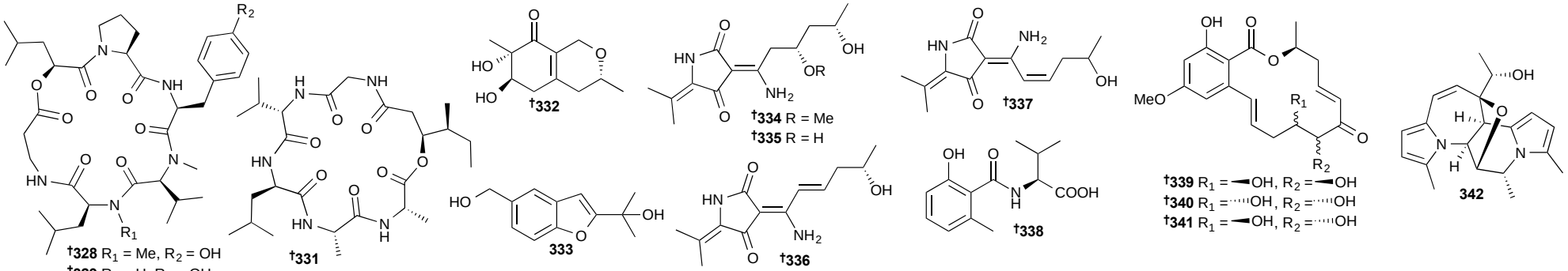
314 // aspochalasin W // N // * // * // *

235 Ascomycota *Aspergillus* sp. // (Chlorophyta, *Enteromorpha prolifera*) Jinjiang Saltern, China // Three new asperentin derivatives from the algicolous fungus *Aspergillus* sp. F00785
315 // 6-*O*-α-D-ribosylasperentin // N // * // * // *
316 // 6-*O*-α-D-ribosyl-8-*O*-methylasperentin // N // * // * // *
317 // 5-hydroxyl-6-*O*-methylasperentin // N // * // * // *



236 Ascomycota *Aspergillus* sp. // (sediment) Lau Basin hydrothermal vent, SW Pacific Ocean // Nine new and five known polyketides derived from a deep sea-sourced *Aspergillus* sp.
318 // aspiketolactonol // N // weak inhib. vs HTCLs // * // *
319 // aspilactonol A // N // weak inhib. vs HTCLs // * // *
320 // aspilactonol B // N // weak inhib. vs HTCLs // Diastereoisomeric with **321** and **322** // *
321 // aspilactonol C // N // weak inhib. vs HTCLs // Diastereoisomeric with **320** and **322** // *
322 // aspilactonol D // N // weak inhib. vs HTCLs // Diastereoisomeric with **320** and **321.** // *
323 // aspilactonol E/F // N // weak inhib. vs HTCLs // Epimeric mixture. // *
324 // (*S*)-2-(2′-hydroxyethyl)-4-methyl-γ-butyrolactone // M // * // * // **s121**
325 // aspyronol // N // weak inhib. vs HTCLs // * // *
326 // epiaspinonediol // N // weak inhib. vs HTCLs // * // *

237 Ascomycota *Aspergillus* sp. // (Phaeophyta, *Sargassum* sp.) Helgoland, Germany // A new cytotoxic steroid from co-fermentation of two marine alga-derived micro-organisms
327 // 7β-hydroxycholesterol-1β-carboxylic acid // N // * // From co-culture with unidentified bacterium. // *



238 Ascomycota *Beauveria felina* // (unidentified bryozoan) unspecified location // Cyclohexadepsipeptides of the isaridin class from the marine-derived fungus *Beauveria felina* EN-135
328 // isaridin G // N // * // * // *
329 // desmethylisaridin G // N // * // * // *

330 // desmethylisaridin C1 // N // mod. inhib. of *E. coli* // * // *

239 Ascomycota *Beauveria felina* // (unidentified bryozoan) unspecified location // Cyclodepsipeptides and other *O*-containing heterocyclic metabolites from *Beauveria felina* EN-135, a marine-derived entomopathogenic fungus

331 // iso-isariin D // N // mod. cytotox. to *A. salina* // * // *

332 // felinone A // N // weak cytotox. to *A. salina* // * // *

333 // felinone B // N // weak cytotox. to *A. salina* // Same as **389.** Concurrent publications. // s122

240 Ascomycota *Cladosporium sphaerospermum* // (sediment) Pacific Ocean // Cladosins A–E, hybrid polyketides from a deep-sea-derived fungus, *Cladosporium sphaerospermum*

334 // cladosin A // N // * // Tautomeric mixture. // *

335 // cadosin B // N // * // Tautomeric mixture. // *

336 // cladosin C // N // * // Tautomeric mixture. // *

337 // cladosin D // N // * // Tautomeric mixture. // *

338 // cladosin E // N // * // * // *

241 Ascomycota *Cochliobolus lunatus*, Ascomycota *Curvularia lunata* // (Cnidaria, *Palythoa haddoni*) Weizhou, S. China Sea // Antifouling and fungicidal resorcylic acid lactones from the sea anemone-derived fungus *Cochliobolus lunatus*

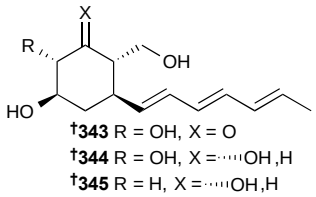
339 // cochliomycin D // N // potent activity vs B. amphitrite larvae// Diastereoisomer of **340** and **341.** // *

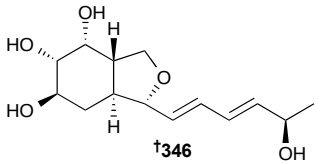
340 // cochliomycin E // N // * // Diastereoisomer of **339** and **341.** // *

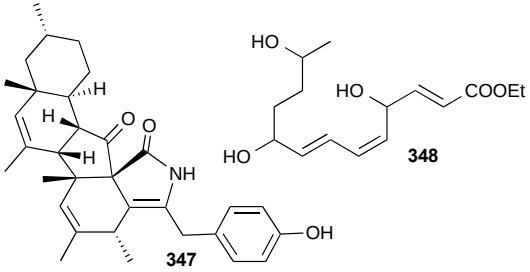
341 // cochliomycin F // N // potent activity vs *B. amphitrite* larvae // Diastereoisomer of **339** and **340.** // *

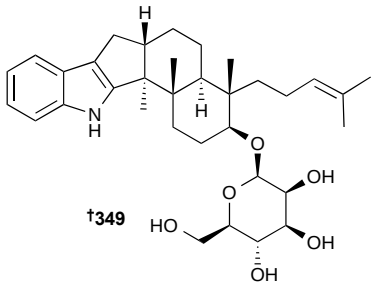
242 Ascomycota *Curvularia* sp. // (Chordata, *Agyrosomus argentatus*) Yellow Sea // Curvulamine, a new AB alkaloid incorporating two undescribed units from a *Curvularia* species

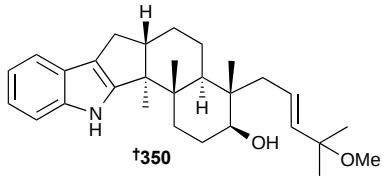
342 // curvulamine // N // potent and selective AB activity // Biosynthetic study. // *











243 Ascomycota *Dendrodochium* sp. // (Echinodermata, *Holothuria nobilis*) S. China Sea // Polyhydroxy cyclohexanols from a *Dendrodochium* sp. fungus associated with the sea cucumber *Holothuria nobilis* Selenka

343 // dendrodochol A // N // modest AF activity // * // *

344 // dendrodochol B // N // * // * // *

345 // dendrodochol C // N // modest AF activity // * // *

346 // dendrodochol D // N // * // * // *

244 Ascomycota *Diaporthaceae* sp. // (unspecified sponge) Sikao, Thailand // An AB cytochalasin derivative from the marine-derived fungus *Diaporthaceae* sp. PSU-SP2/4

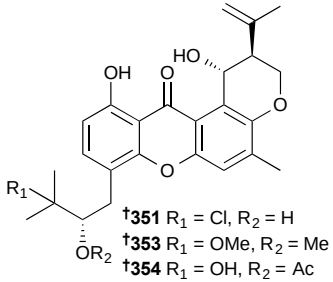
347 // diaporthalasin // N // significant AB activity vs *S. aureus* and MRSA // * // *

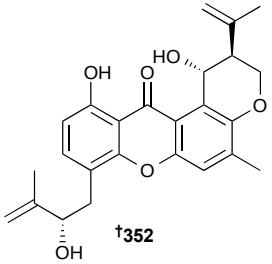
348 // diaporthacol // N // * // * // *

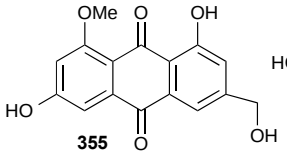
245 Ascomycota *Dichotomomyces cejpeii* // (Porifera, *Callyspongia* sp. cf. *C. flammea*) Bear Is., Australia // Indoloditerpenes from a marine-derived fungal strain of *Dichotomomyces cejpii* with antagonistic activity at GPR18 and cannabinoid receptors

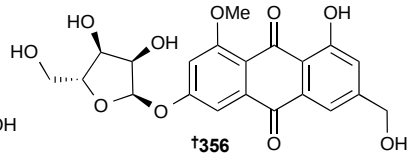
349 // emindole SB beta-mannoside // N // antagonist of cannabinoid receptor (subtype CB2) // * // *

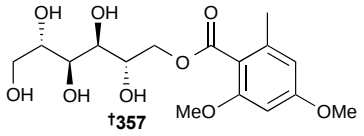
350 // 27-*O*-methylasporyzin C // N // antagonist of G protein-coupled receptor (GPR18) // * // *

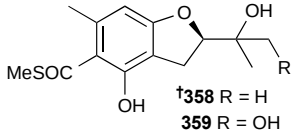












246 Ascomycota *Emericella* sp. // (sediment) S. China Sea // New prenylxanthones from the deep-sea derived fungus *Emericella* sp. SCSIO 05240

351 // emerixanthone A // N // * // * // *

352 // emerixanthone B // N // * // * // *

353 // emerixanthone C // N // * // * // *

354 // emerixanthone D // N // * // * // *

247 Ascomycota *Eurotium amstelodami* // (unidentified marine animal) Sungsan coast, Korea // Anti-inflammatory activity of questinol isolated from marine-derived fungus *Eurotium amstelodami* in lipopolysaccharide-stimulated RAW 264.7

355 // questinol // M // inhib. of production of pro-inflammatory cytokines // * // **s123**

248 Ascomycota *Eurotium cristatum* // (Phaeophyta, *Sargassum thunbergii*) Qingdao, China // Anthraquinone derivatives and an orsellinic acid ester from the marine alga-derived endophytic fungus *Eurotium cristatum* EN-220

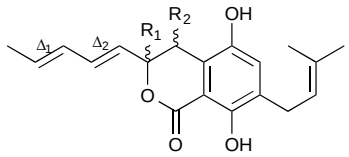
356 // 3-*O*-(α-D-ribofuranosyl)questinol // N // * // * // *

357 // cristatumside A // N // * // * // *

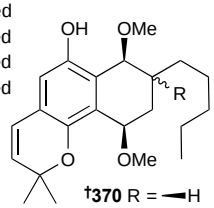
249 Ascomycota *Eurotium rubrum* // (Cnidaria, *Sarcophyton* sp.) Xuwen National Coral Reef Nature Reserve, S. China Sea // Eurothiocin A and B, sulfur-containing benzofurans from a soft coral-derived fungus *Eurotium rubrum* SH-823

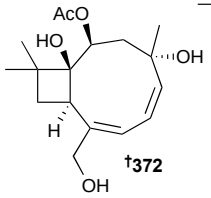
358 // eurothiocin A // N // potent competitive α-glucosidase inhibiton // * // *

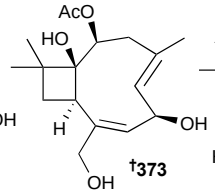
359 // eurothiocin B // N // potent competitive α -glucosidase inhibiton // * // *

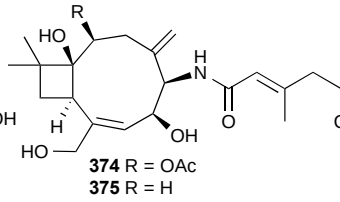


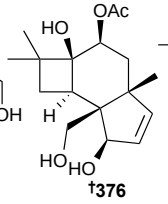
†360 R1 = ···H, R2 = ···OMe , Δ1, Δ2 saturated
†361 R1 = ▬H, R2 = ▬OMe , Δ1, Δ2 saturated
†362 R1 = ···H, R2 = ▬OMe , Δ1, Δ2 saturated
†363 R1 = ▬H, R2 = ···OMe , Δ1, Δ2 saturated
†364 R1 = ···H, R2 = ···OMe , Δ2 saturated
†365 R1 = ▬H, R2 = ▬OMe , Δ2 saturated
†366 R1 = ···H, R2 = ▬OMe , Δ2 saturated
†367 R1 = ▬H, R2 = ···OMe , Δ2 saturated
†368 R1 = ···H, R2 = ▬OMe , Δ1 saturated
†369 R1 = ▬H, R2 = ···OMe , Δ1 saturated

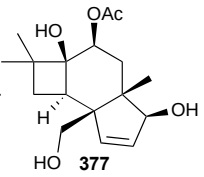












250 Ascomycota *Eurotium* sp. // (Cnidaria, *Subergorgia suberosa*) Xisha Islands, S. China Sea // Dihydroisocoumarin derivatives with antifouling activities from a gorgonian-derived *Eurotium* sp. fungus

360 // (+)-eurotiumide A // N // potent broad spectrum AB activity // * // *

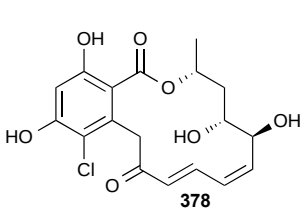
361 // (–)-eurotiumide A // N // potent broad spectrum AB activity // * // *

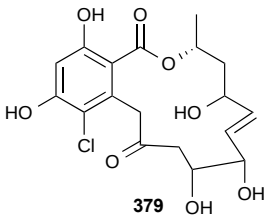
362 // (+)-eurotiumide B // N // strong antifouling activity vs *B. amphitrit*e larval settlement, broad spectrum AB activity // * // *

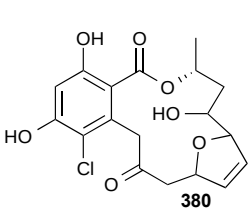
363 // (–)-eurotiumide B // N // strong antifouling activity vs *B. amphitrite* larval settlement, broad spectrum AB activity // * // *

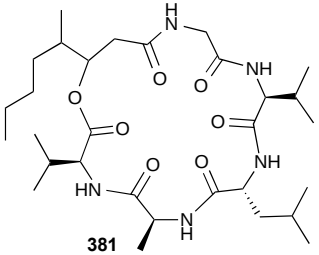
364 // (+)-eurotiumide C // N // broad spectrum AB activity // * // *
365 // (–)-eurotiumide C // N // broad spectrum AB activity. // * // *
366 // (+)-eurotiumide D // N // strong antifouling activity vs *B. amphitrite* larval settlement, broad spectrum AB activity // * // *
367 // (–)-eurotiumide D // N // strong antifouling activity vs *B. amphitrite* larval settlement, broad spectrum AB activity // * // *
368 // (+)-eurotiumide E // N // not tested // * // *
369 // (–)-eurotiumide E // N // not tested // * // *
370 // (±)-eurotiumide F // N // broad spectrum AB activity // * // *
371 // (±)-eurotiumide G // N // broad spectrum AB activity // * // *

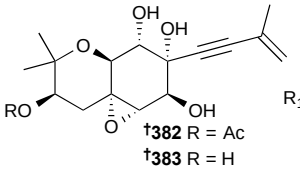
253 Ascomycota *Hansfordia sinuosae* // (Porifera, *Niphates* sp.) S. China Sea // Punctaporonins H–M: caryophyllene-type sesquiterpenoids from the sponge-associated fungus *Hansfordia sinuosae*
372 // punctaporonin H // N // * // * // *
373 // punctaporonin I // N // * // * // *
374 // punctaporonin J // N // * // * // *
375 // punctaporonin K // N // good lipid lowering activity // * // *
376 // punctaporonin L // N // * // * // *
377 // punctaporonin M // N // * // * // *

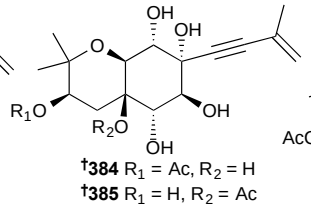


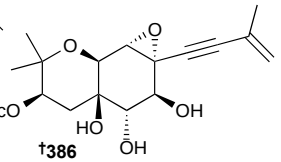






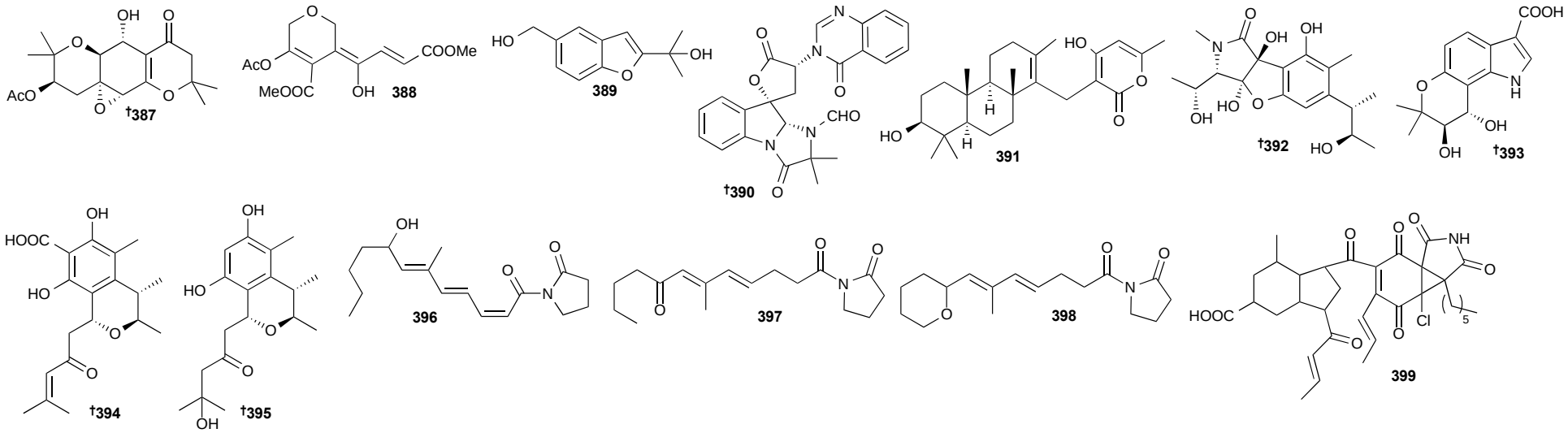




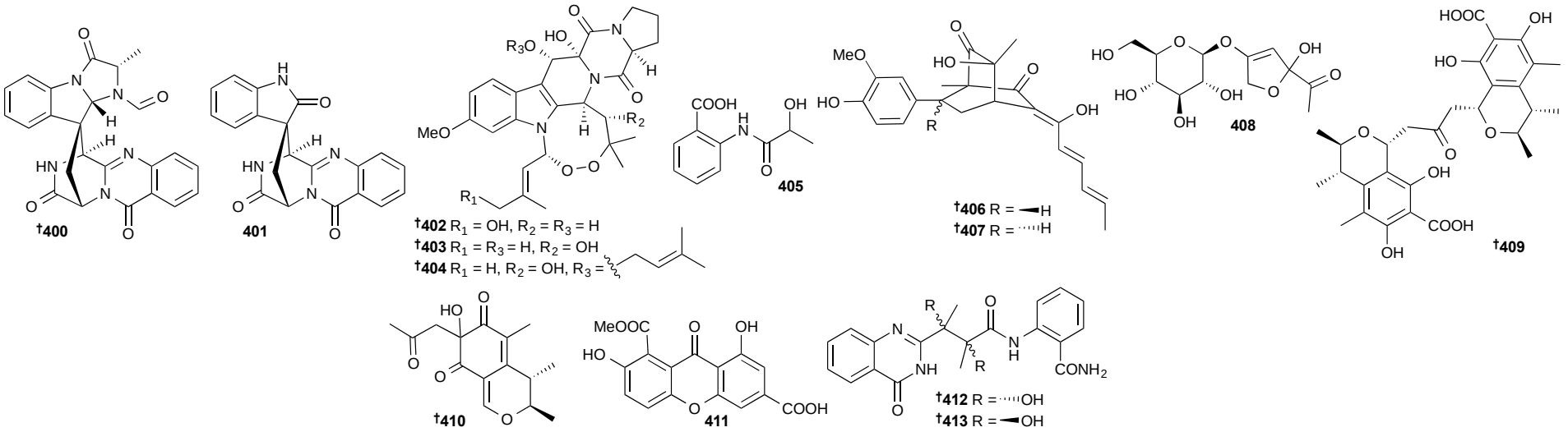


254 Ascomycota *Humicola fuscoatra* // (sediment) Tutuila, American Samoa // Study of marine natural products including resorcyclic acid lactones from *Humicola fuscoatra* that reactivate latent HIV-1 expression in an in vitro model of central memory CD4+ T cells
378 // radicicol B // N // * // * // *
379 // radicicol C // N // * // * // *
380 // radicicol D // N // * // * // *

255 Acomycota *Isaria felina* // coast of Vietnam, S. China Sea // Oxirapentyns F–K from the marine-sediment-derived fungus *Isaria felina* KMM 4639
381 // isoisariin B // M // * // * // s124
382 // oxirapentyn F // N // * // * // *
383 // oxirapentyn G // N // * // * // *
384 // oxirapentyn H // N // * // * // *
385 // oxirapentyn I // N // * // * // *
386 // oxirapentyn J // N // * // * // *
387 // oxirapentyn K // N // * // * // *
388 // isariketide // N // mod. cytotox. vs HTCL (HL-60) // * // *
389 // acremine S // N // * // Same as **333.** Concurrent publications. // s125



179 Ascomycota *Neosartorya laciniosa*, Ascomycota *Neosartorya paulistensis* // (*N. laciniosa* ex diseased coral), (*N. paulistensis* ex Porifera, *Chondrilla australiensis*) Ao Nuan Lan Is., Thailand // Antibacterial and antibiofilm activities of tryptoquivalines and meroditerpenes isolated from the marine-derived fungi *N. paulistensis*, *N. laciniosa*, *N. tsunodae*, and the soil fungi *N. fischeri* and *N. siamensis*
390 // tryptoquivaline T // N // * // Ex *N. laciniosa*. // *
391 // sartorypyrone C // N // * // Ex *N. paulistensis*. // *
256 Ascomycota *Nigrospora oryzae*, Ascomycota *Khuskia oryzae* // (Cnidaria, *Verrucella umbraculum*) Sanya City, China // Alkaloids and citrinins from marine-derived fungus *Nigrospora oryzae* SCSGAF 0111
392 // nigrospine // N // * // * // *
393 // nigrospin A // N // * // * // *
394 // nigrospin B // N // weak AF activity // * // *
395 // nigrospin C // N // weak AF activity // * // *
257 Ascomycota *Paecilomyces formosus*, Ascomycota *Paecilomyces formosa*, Ascomycota *Paecilomyces variotii* // (driftwood) Kasai Rinkai Park, Japan // Formosusin A, a novel specific inhib. of mammalian DNA polymerase β from the fungus *Paecilomyces formosus*
396 // formosusin A // N // * // * // *
397 // formosusin B // N // specific inhib. of mammalian DNA polymerase b (pol b) // * // *
398 // formosusin C // N // * // * // *
258 Ascomycota *Paraconiothyrium* sp. // (unspecified Chordata specimen) Guatemala // The marine fungal metabolite, AD0157, inhibits angiogenesis by targeting the Akt signaling pathway
399 // AD0157 // N // potent angiogenesis inhib. // * // *



259 Ascomycota *Penicillium adametzioides* // (unidentified sponge) Wenchang, China // N-Formyllapatin A, a new N-formylspiroquinazoline derivative from the marine-derived fungus *Penicillium adametzioide*s AS-53
400 // *N*-formyllapatin A // N // * // * // *
401 // lapatin B // M // mod. inhib. of *V. harveyi* // * // **s126**

260 Ascomycota *Penicillium brefeldianum* // (sediment) Pearl River estuary, S. China Sea // Prenylated indolediketopiperazine peroxides and related homologues from the marine sediment-derived fungus *Penicillium brefeldianum* SD-273
402 // 24-hydroxyverruculogen // N // * // * // *
403 // 26-hydroxyverruculogen // N // * // * // *
404 // 13-*O*-prenyl-26-hydroxyverruculogen // N // mod. cytotox. to *A. salina* // * // *

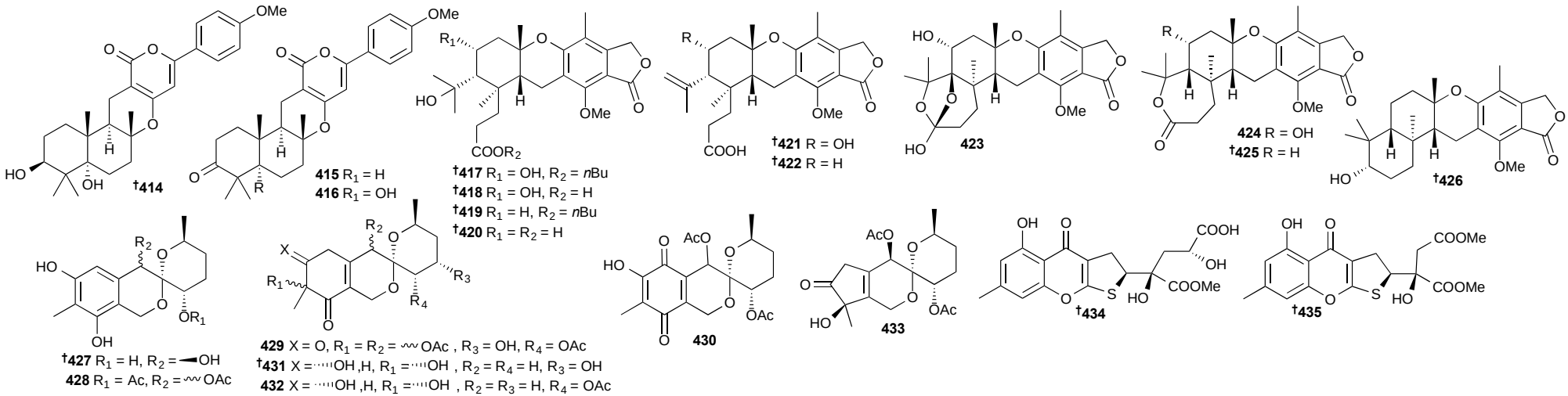
261 Ascomycota *Penicillium chrysogenum* // (unspecified source) North Sea coast, China // Secondary metabolites of the marine fungus *Penicillium chrysogenum*
405 // 2-(2-hydroxypropanamido)benzoic acid // N // antiinflammatory and analgesic effects with no ulcerogenic effect // * // *

262 Ascomycota *Penicillium chrysogenum* // (sediment) S. China Sea // Sorbicatechols A and B, antiviral sorbicillinoids from the marine-derived fungus *Penicillium chrysogenum* PJX-17
406 // sorbicatechol A // N // modest antiviral activity vs H1N1 // * // *
407 // sorbicatechol B // N // modest antiviral activity vs H1N1 // * // *

263 Ascomycota *Penicillium citrinum* // (Magnoliaphyta, *Salicornia herbacea*) Dafeng harbor, Yancheng, China // A PKS I gene-based screening approach for the discovery of a new polyketide from *Penicillium citrinum* Salicorn 46
408 // penicitriketo // N // mod. radical scavenging activity (DPPH) // * // *

264 Ascomycota *Penicillium citrinum* // (Cnidaria, *Echinogorgia aurantiaca*) Sanya, China // Three new polyketides from marine-derived fungus *Penicillium citrinum* SCSGAF 0167
409 // penicitrinol G // N // * // * // *
410 // penicitrinol H // N // * // * // *
411 // 2,11-dihydroxy-1- methoxycarbonyl-9-carboxylxanthone // N // * // * // *

265 Ascomycota *Penicillium commune* // (seawater) Qingdao, China // Structure and absolute configuration of penicilliumine, a new alkaloid from *Penicillium commune* 366606
412 // (+)-penicilliumine // N // * // * // *
413 // (−)-penicilliumine // N // * // * // *

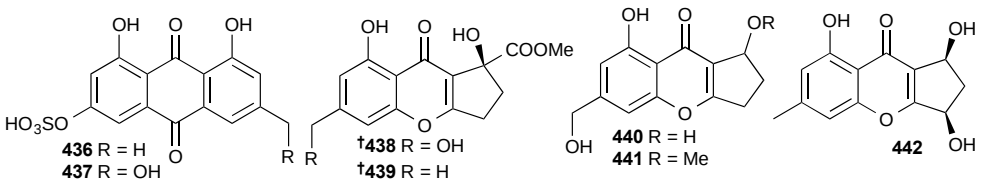


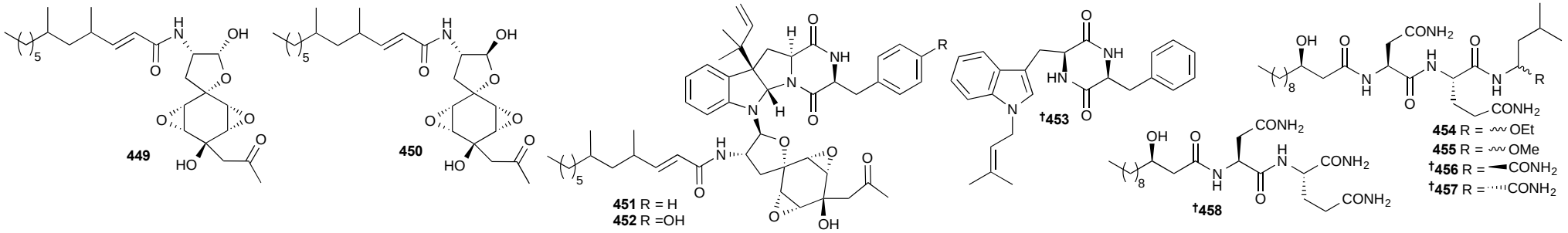
266 Ascomycota *Penicillium echinulatum* // (Rhodophyta, *Chondrus ocellatus*) Pingtan Is., China // Meroterpenes from an algicolous strain of *Penicillium echinulatum*
414 // arisugacin K // N // mod. inhib. of *E. coli* // * // *
415 // arisugacin G // M // * // * // **s127**
416 // arisugacin C // M // modest cytotox. to *A. salina* // * // **s127**

267 Ascomycota *Penicillium thomii*, Ascomycota *Penicillium lividum* // Lazurnaya Bay, Russia // Meroterpenoids from the alga-derived fungi *P. thomii* Maire and *P. lividum* Westling
417 // austalide H acid butyl ester // N // inhib. AP-1 dependent transcription without cytotox.. inhib. mollusk enzyme. // * // *
418 // austalide H acid // N // inhib. AP-1 dependent transcription without cytotox., inhib. mollusk enzyme // * // *
419 // austalide P acid butyl ester // N // inhib. mollusk enzyme // * // *
420 // austalide P acid // N // inhib. mollusk enzyme // * // *
421 // austalide Q acid // N // inhib. mollusk enzyme // * // *
422 // 13-deoxyaustalide Q acid // N // * // * // *
423 // 17-*O*-demethylaustalide B // N // * // * // *
424 // 13-*O*-deacetylaustalide I // N // inhib. AP-1 dependent transcription without cytotox., inhib. mollusk enzyme // * // *
425 // 13-deacetoxyaustalide I // N // inhib. AP-1 dependent transcription without cytotox., inhib. mollusk enzyme // * // *
426 // **(**17*S*)-dihydroaustalide K // N // * // * // *

268 Ascomycota *Penicllium thomii*, Ascomycota *Penicillium lividum* // (Phaeophyta, *Sargassum miyabei*) Lazurnaya Bay, Russia // Sargassopenillines A–G, 6,6-spiroketals from the alga-derived fungi *Penicillium thomii* and *Penicillium lividum*
427 // sargassopenilline A // N // mod. inibition of radical scavenging (DPPH) // * // *
428 // sargassopenilline B // N // * // * // *
429 // sargassopenilline C // N // inhib. transcription of oncogenic nuclear factor AP-1// * // *
430 // sargassopenilline D // N // modest inhib. of macrophage adhesion // * // *
431 // sargassopenilline E // N // mod. inibition of radical scavenging (DPPH), mod. cytotox. to mammalian cell line // * // *
432 // sargassopenilline F // N // modest inhib. of macrophage adhesion // * // *
433 // sargassopenilline G // N // * // * // *

269 Ascomycota *Penicillium oxalicum* // (Cnidaria, *Muricella flexuosa*) Sanya, China. // Dihydrothiophene-condensed chromones from a marine-derived fungus *Penicillium oxalicum* and their structure–bioactivity relationship
434 // oxalicumone D // N // mod.-selective activity vs HTCLs // * // *
435 // oxalicumone E // N // good-mod. activity vs HTCLs // * // *





270 Ascomycota *Penicillium oxalicum* // (sediment) Bohai Bay, China // Two new compounds from a marine-derived fungus *Penicillium oxalicum*
436 // emodin-3-*O*-sulphate // N // * // * // *
437 // citreorosein-3-*O*-sulphate // N // * // * // *

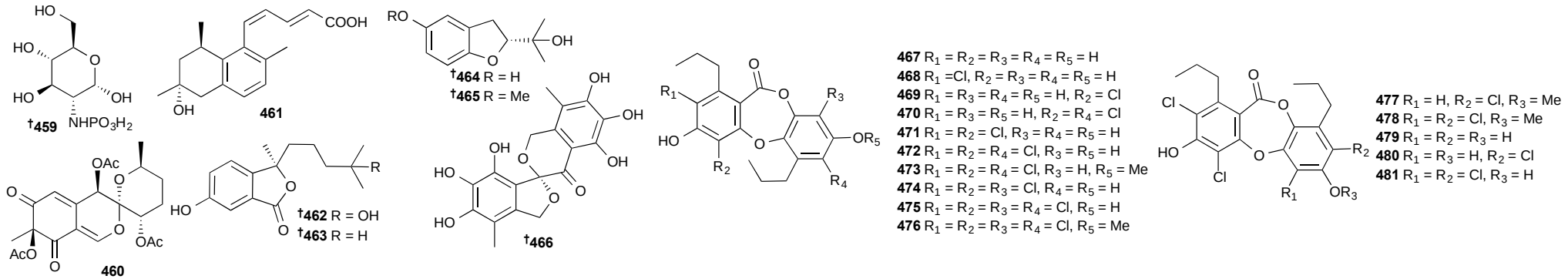
271 Ascomycota *Penicillium oxalicum* // (Cnidaria, *Muricella flexuosa*) S. China Sea // Cyclopentane-condensed chromones from marine-derived fungus *Penicillium oxalicum*
438 // coniochaetone G // N // * // * // *
439 // coniochaetone H // N // * // * // *
440 // coniochaetone I // N // * // * // *
441 // coniochaetone J // N // * // * // *
442 // coniochaetone K // N // * // * // *

272 Ascomycota *Penicillium paneum* // (sediment) S. China Sea // Prenylated indole alkaloid derivatives from marine sediment-serived fungus *Penicillium paneum* SD-44
443 // penipaline A // N // * // * // *
444 // penipaline B // N // modest cytotox. vs 2 HTCLs // * // *
445 // penipaline C // N // modest cytotox. vs 2 HTCLs // * // *

273 Ascomycota *Penicillium purpurogenum* // wild-type ex Bohai Bay, China // Three new and eleven known unusual C25 steroids: activated production of silent metabolites in a marine-derived fungus by chemical mutagenesis strategy using diethyl sulphate
446 // antineocyclocitrinol A // N // weak cytotox. to HTCLs // ex Mutant. // *
447 // antineocyclocitrinol B // N // weak cytotox. to HTCLs // ex Mutant. // *
448 // 23-*O*-methylantineocyclocitrinol // N // weak cytotox. to HTCLs // ex Mutant. // *

274 Ascomycota *Penicillium purpurogenum* // wild-type ex Bohai Bay, China // A practical strategy to discover new antitumor compounds by activating silent metabolite production in fungi by diethyl sulphate mutagenesis
- 449 // penicimutanolone // N // mod. cytotox. vs HTCLs // ex Mutant. Isolated as 6:1 isomeric mixture. // *
- 450 // penicimutanolone // N // mod. cytotox. vs HTCLs // ex Mutant. Isolated as 6:1 isomeric mixture. // *
- 451 // penicimutanin A // N // mod. cytotox. vs HTCLs // ex Mutant. // *
- 452 // penicimutanin B // N // mod. cytotox. vs HTCLs // ex Mutant. // *
- 453 // penicimutatin // N // mod. cytotox. vs HTCLs // ex Mutant. // *

275 Ascomycota *Penicillium purpurogenum* // wild-type ex Bohai Bay, China // Seven new and two known lipopeptides as well as five known polyketides: the activated production of silent metabolites in a marine-derived fungus by chemical mutagenesis strategy using diethyl sulphate
- 454 // penicimutalide A/B // N // weak cytotox. vs HTCLs // ex Mutant. // *
- 455 // penicimutalide C/D // N // weak cytotox. vs HTCLs // ex Mutant. // *
- 456 // penicimutalide E // N // weak cytotox. vs HTCLs // ex Mutant. // *
- 457 // penicimutalide F // N // weak cytotox. vs HTCLs // ex Mutant. // *
- 458 // penicimutalide G // N // weak cytotox. vs HTCLs // ex Mutant. // *



276 Ascomycota *Penicillium roqueforti* // (seawater) La Laja beach, Canary Islands // Evidence of a new intermediate compound of the chitin biogenesis found in a marine-derived fungus
- 459 // 2-deoxy-2-phosphamino-α-D-glucopyranose // N // * // * // *

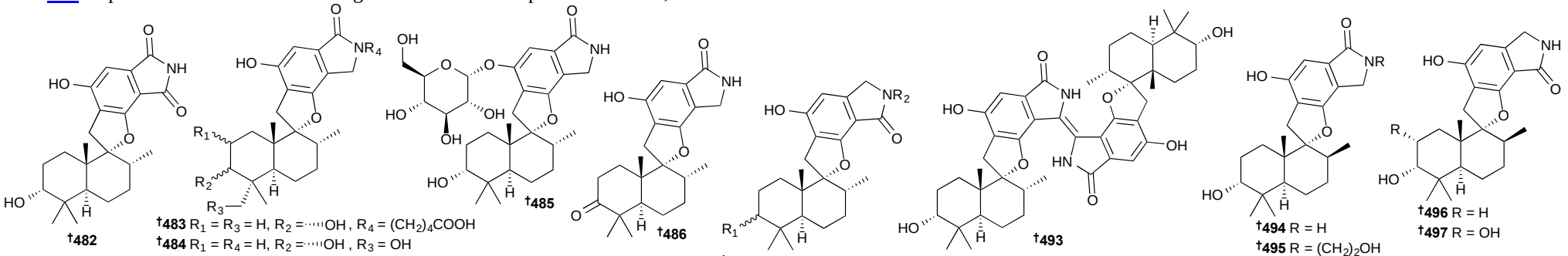
277 Ascomycota *Penicillium lividum*, Ascomycota *Penicillium thomii* // (sediment) Lazurnaya Bay, Russia // Spiroketals from marine isolates of the fungi *Penicillium thomi*i KMM 4645 and *P. lividum* KMM 4663
- 460 // daldinin D // M // * // * // s128

278 Ascomycota *Penicillium* sp. // (Echinodermata, *Brisaster latifrons*) Sea of Okhotsk // Tanzawaic acid derivatives from a marine isolate of *Penicillium* sp. (SF-6013) with anti-inflammatory and PTP1B inhibitory activities
- 461 // (2*E*,4*Z*)-tanzawaic acid D // N // inhib. of NO production // * // *

279 Ascomycota *Pseudallescheria boydii* // (Echinodermata, *Acanthaster planci*) Hainan Sanya National Coral Reef Reserve, China // Pseudaboydins A and B: novel isobenzofuranone derivatives from marine fungus *Pseudallescheria boydii* associated with starfish *Acanthaster planci*
- 462 // pseudaboydin A // N // mod. cytotox. vs HTCLs // * // *
- 463 // pseudaboydin B // N // * // * // *
- 464 // (*R*)-2-(2-hydroxypropan-2-yl)-2,3-dihydro-5-hydroxybenzofuran // M // * // * // s129
- 465 // (*R*)-2-(2-hydroxypropan-2-yl)-2,3-dihydro-5-methoxybenzofuran // M // * // * // s130

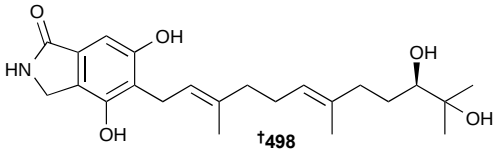
280 Ascomycota *Spicaria elegans*, Ascomycota *Mariannaea elegans* // (sediment) Jiaozhou Bay, China // Eleganketal A, a highly oxygenated dibenzospiroketal from *S. elegans* KLA03
466 // eleganketal // N // * // * // *

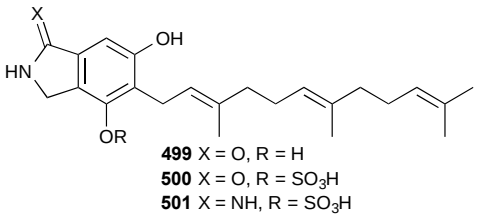
281 Ascomycota *Spiromastix* sp. // (sediment) South Atlantic Ocean // Spiromastixones A–O, AB chlorodepsidones from a deep-sea-derived *Spiromastix* sp. fungus
467 // spiromastixone A // N // mod.-good inhib. of Gram-positive bacteria // * // *
468 // spiromastixone B // N // mod.-good inhib. of Gram-positive bacteria // * // *
469 // spiromastixone C // N // mod.-good inhib. of Gram-positive bacteria // * // *
470 // spiromastixone D // N // mod.-good inhib. of Gram-positive bacteria // * // *
471 // spiromastixone E // N // mod.-good inhib. of Gram-positive bacteria // * // *
472 // spiromastixone F // N // mod.-good inhib. of Gram-positive bacteria, potent inhib. of MRSA and MRSE // * // *
473 // spiromastixone G // N // mod.-good inhib. of Gram-positive bacteria, potent inhib. of MRSA and MRSE // * // *
474 // spiromastixone H // N // mod.-good inhib. of Gram-positive bacteria, potent inhib. of MRSA and MRSE // * // *
475 // spiromastixone I // N // mod.-good inhib. of Gram-positive bacteria, potent inhib. of MRSA and MRSE // * // *
476 // spiromastixone J // N // mod.-good inhib. of Gram-positive bacteria, potent inhib. of MRSA and MRSE, inhib. of VRE // * // *
477 // spiromastixone K // N // mod.-good inhib. of Gram-positive bacteria, // * // *
478 // spiromastixone L // N // mod.-good inhib. of Gram-positive bacteria, // * // *
479 // spiromastixone M // N // mod.-good inhib. of Gram-positive bacteria, // * // *
480 // spiromastixone N // N // mod.-good inhib. of Gram-positive bacteria, // * // *
481 // spiromastixone O // N // mod.-good inhib. of Gram-positive bacteria, // * // *

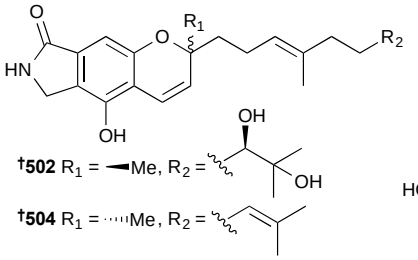


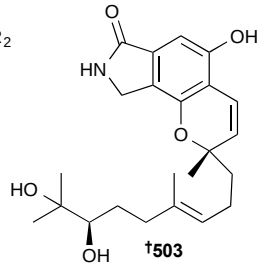
282 Ascomycota *Stachybotrys chartarum* // (Porifera, *Niphates recondita*) Weizhou Island, China // Chartarlactams A–P, phenylspirodrimanes from the sponge-associated fungus *Stachybotrys chartarum* with antihyperlipidemic activities
482 // chartarlactam A // N // * // * // *
483 // chartarlactam B // N // * // * // *
484 // chartarlactam C // N // * // * // *
485 // chartarlactam D // N // antihyperlipidemic activity // * // *
486 // chartarlactam E // N // antihyperlipidemic activity// * // *
487 // chartarlactam F // N // antihyperlipidemic activity // * // *
488 // chartarlactam G // N // * // * // *
489 // chartarlactam H // N // * // * // *

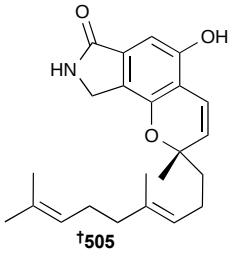
490 // chartarlactam I // N // * // * // *
491 // chartarlactam J // N // * // * // *
492 // chartarlactam K // N // antihyperlipidemic activity// * // *
493 // chartarlactam L // N // antihyperlipidemic activity // * // *
494 // chartarlactam M // N // * // * // *
495 // chartarlactam N // N // antihyperlipidemic activity // * // *
496 // chartarlactam O // N // antihyperlipidemic activity // * // *
497 // chartarlactam P // N // * // * // *



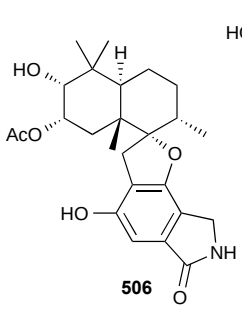


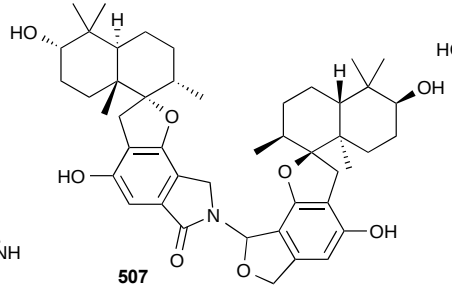


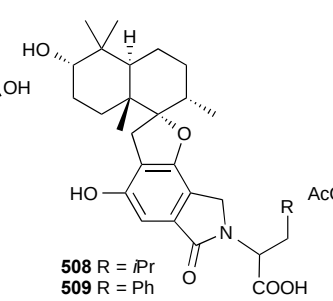


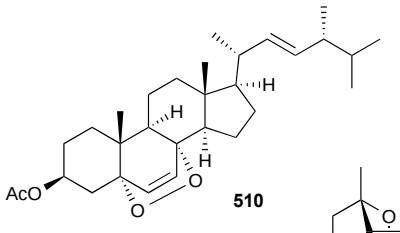


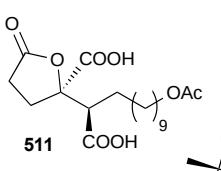
283 Ascomycota *Stachybotrys chartarum* // (Porifera, *Niphates* sp.) Beibuwan Bay, China // Isoindolinone-type alkaloids from the sponge-derived fungus *Stachybotrys chartarum*
498 // chartarutine A // N // * // * // *
499 // chartarutine B // N // mod. inhib. of HIV-1 // * // *
500 // chartarutine C // N // * // * // *
501 // chartarutine D // N // * // * // *
502 // chartarutine E // N // * // * // *
503 // chartarutine F // N // * // * // *
504 // chartarutine G // N // mod. inhib. of HIV-1 // * // *
505 // chartarutine H // N // mod. inhib. of HIV-1 // * // *

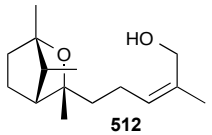


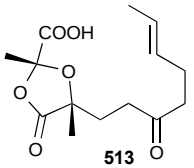


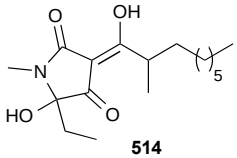






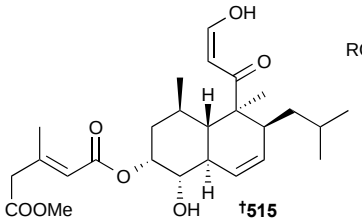


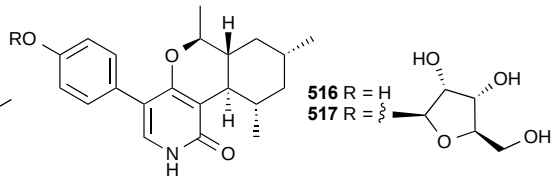


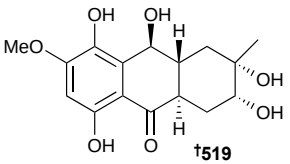


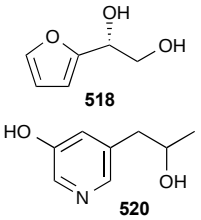
284 Ascomycota *Stachybotrys* sp. // (driftwood) Helgoland, North Sea, Germany // Spirocyclic drimanes from the marine fungus *Stachybotrys* sp. strain MF347
506 // stachyin A // N // good AB activity, modest cytotox. vs 2 HTCLs // * // *
507 // stachyin B // N // * // * // *
508 // * // M // * // * // **s131**
509 // * // M // * // * // **s131**

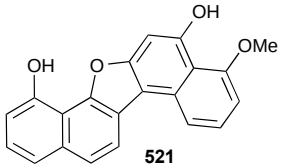
285 Ascomycota *Talaromyces trachyspermus* // (Porifera, *Clathria reinwardti*) Kram Is., Thailand // Spiculisporic acid E, a new spiculisporic acid derivative and ergosterol derivatives from the marine-sponge associated fungus *Talaromyces trachyspermus* (KUFA 0021).
510 // 3-acetyl ergosterol 5,8-endoperoxide // M // * // Possible artefact. // **s132**
511 // spiculisporic acid E // N // * // * // *
286 Ascomycota *Trichoderma citrinoviride* // (sediment) Langqi Is., China // Novel cytotoxic metabolites from the marine-derived fungus *Trichoderma citrinoviride*
512 // trichoderiol C // N // * // * // *
513 // citrinoviric acid // N // weak cytotox. vs HTCL (A-375) // * // *
514 // penicillenol D // N // weak cytotox. vs HTCL (A-375) // * // *

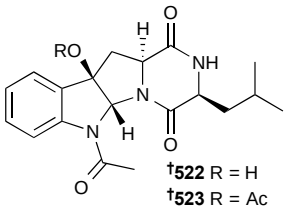




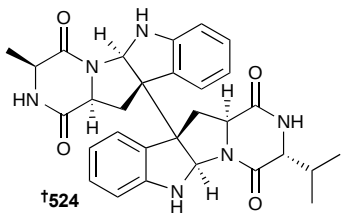


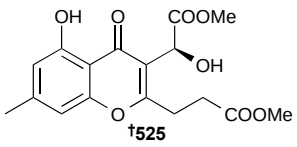


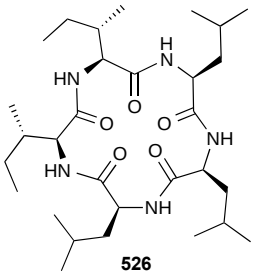


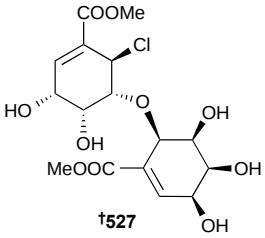


287 Ascomycota *Trichoderma harzianum* // (Porifera, *Halichondria okadai*) Osaka bay, Japan // Tandyukisin, a novel ketoaldehyde decalin derivative, produced by a marine sponge-derived *Trichoderma harzianum*
515 // tandyukisin // N // weak cytotox. vs 3 HTCLs // * // *
288 Ascomycota *Trichoderma* sp. // (unspecified source) Fram Strait, Greenland Sea // Two new antibiotic pyridones produced by a marine fungus, *Trichoderma* sp. strain MF106
516 // trichodin A // N // modest inhib. of *S. epidermidis* // * // *
517 // * // N // * // * // *
289 Ascomycota *Verticillium tenerum* // (unknown alga) Santa Barbara, U.S.A. // Phytochemical studies of *Verticillium teneru* and *Acremonium*
518 // 2-(D-glycer-1',2'-dihydroxyethyl)furan // M // * // * // **s133**
290 Ascomycota *Xylaria* sp. // (endophyte of unpsecified mangrove) Hong Kong // Xylanthraquinone, a new anthraquinone from the fungus *Xylaria* sp. 2508 from the S. China Sea
519 // xylanthraquinone // N // * // * // *
291 Ascomycota *Xylariaceae* sp. // (Cnidaria, *Melitodes squamata*) S. China Sea // Alkaloids from *Xylariaceae* sp., a marine-derived fungus.
520 // 5-(2'-hydroxypropyl)pyridin-3-ol // N // * // Racemic mixture. // *
292 Ascomycota, Order Xylariales // (unidentified sponge) Indonesia // Xylarianaphthol-1, a novel dinaphthofuran derivative, activates p21 promoter in a p53-independent manner
521 // xylarianaphthol-1 // N // Activation of p21 promoter activity. // * // *
294 Ascomycota *Aspergillus* sp. // * // Total synthesis and structural revision of (−)-protubonine A and (−)-protubonine B
522 // protubonine A // R // * // First synthesis. // **s134**
523 // protubonine // R // * // First synthesis. // **s134**







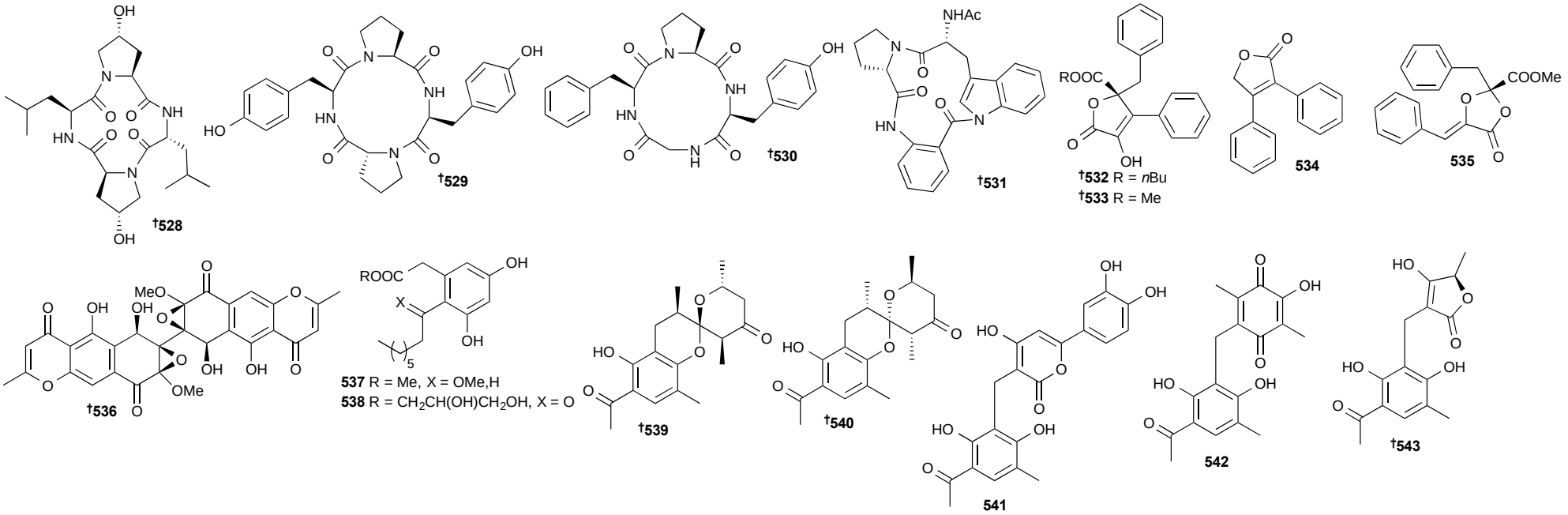


296 Ascomycota *Eurotium cristatum* // * // Total synthesis and structural revision of (+)-cristatumin C
524 // cristatumin C // R // * // First synthesis. // **s135**

298 Ascomycota *Penicillium oxalicum* // // Total synthesis of (±)-oxalicumone C and chiral resolution and elucidation of its absolute configuration
525 // (*S*)-oxalicumone C // R // * // First synthesis. // **s136**

300 Ascomycota *Aspergillus clavatus* // Kueishantao hydrothermal vent, Taiwan // Zn-driven discovery of a hydrothermal vent fungal metabolite clavatustide C, and an experimental study of the anti-cancer mechanism of clavatustide B
526 // clavatustide C // M // * // * // **s137**

302 * // * // Synthesis of marine natural product (−)-pericosine E
527 // (–)-pericosine E // R // * // Occurs as enantiomeric mixture in nature. // **s138**



348 Ascomycota *Phomopsis* sp., Ascomycota *Alternaria* sp. // (unspecified mangrove) Leizhou Peninsula, China // A new cyclopeptide with antifungal activity from the co-culture broth of two marine mangrove fungi

528 // Cyclo-(L -leucyl-trans-4-hydroxy- L -prolyl- D -leucyl-trans-4-hydroxy-L-proline) // N // mod.-high inhib. vs 4 crop threatening fungi. // * // *

349 Ascomycota *Phomopsis* sp., Ascomycota *Alternaria* sp. // (unspecified mangrove) Leizhou Peninsula, China // Two new cyclopeptides from the co-culture broth of two marine mangrove fungi and their antifungal activity

529 // cyclo(D -Pro- L -Tyr- L -Pro- L -Tyr) // N // mod.-high inhib. vs 4 crop threatening fungi // * // *

530 // cyclo(Gly- L -Phe- L -Pro- L -Tyr) // N // mod.-high inhib. vs 4 crop threatening fungi // * // *

350 Ascomycota *Aspergillus* sp. // (Phaeophyta. *Sargassum* sp.) Helgoland, Germany // Psychrophilin E, a new cyclotripeptide, from co-fermentation of two alga-derived *Aspergillus* spp.

531 // psychrophilin E // N // weak cytotox. vs 4 HTCLs // * // *

353 Ascomycota *Aspergillus flavipes* // (Tracheophyta, *Acanthus ilicifolius*, leaves) Daya Bay,China // New phenyl derivatives from endophytic *A. flavipes* derived of *Acanthus ilicifolius*

532 // flavipesin A // N // good AB activity // * // *

533 // flavipesin B // N // * // * // *

534 // 3,4-diphenylfuran-2(5H)-one // M // * // * // **s139**

535 // phenguignardic acid methyl ester // M // * // * // **s140**

354 Ascomycota *Diaporthe* sp. // (Tracheophyta, *Rhizophora stylosa*, leaves) Hainan Province, China // Diaporine, a novel endophyte-derived regulator of macrophage differentiation

536 // diaporine // N // polarise tumour associated macrophages (TABs) // * // *

355 Ascomycota *Dothiorella* sp. // (Tracheophyta, *Aegiceras corniculatum*, bark) Jiulong River estuary, China // Two new polyketides from mangrove endophytic fungus *Dothiorella* sp.

537 // dothiorelone F // N // * // * // *

538 // dothiorelone I // N // * // * // *

358 Ascomycota *Penicillium dipodomyicola* // (Tracheophyta, *Acanthus ilicifolius*, stem) S. China Sea, China // Peniphenones A–D from the mangrove fungus *Penicillium dipodomyicola* HN4-3A as inhibitors of *M. tuberculosis* phosphatase Mptp

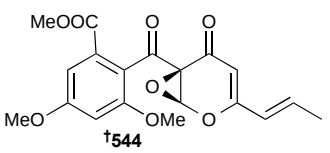
539 // (−)-peniphenone A // N // * // * // *

540 // (+)-peniphenone A // N // * // * // *

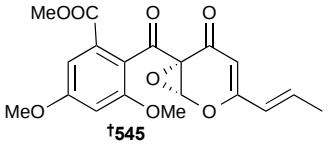
541 // peniphenone B // N // strong inhib. of *M. tuberculosis* protein tyrosine phosphatase B (MptpB) // * // *

542 // peniphenone C // N // * // * // *

543 // peniphenone D // N // * // * // *



†544



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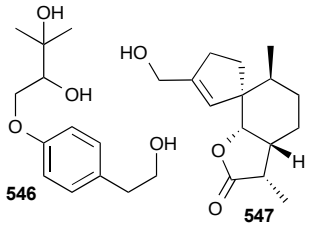
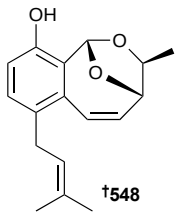


546 547



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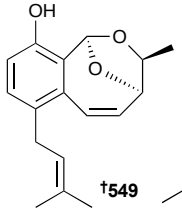

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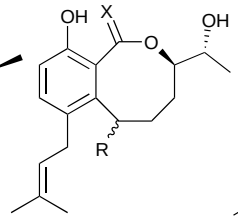
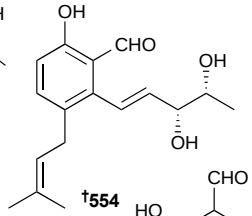


†550 X = 2H, R = OH
†551 X = 2H, R = OH
†552 X = O, R = OH
†553 X = O, R = OH



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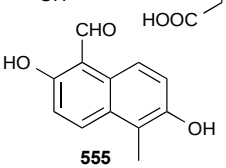

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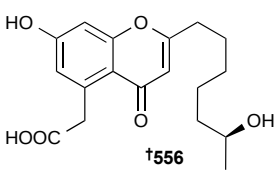

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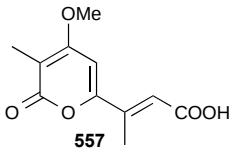


557

360 Ascomycota *Penicillium* sp., Actinobacteria *Streptomyces fradiae* // (Tracheophyta, *Aegiceras corniculatum*, sediment) Wenchang, China // Phenolic polyketides from the co-cultivation of marine-derived *Penicillium* sp. WC-29-5 and *Streptomyces fradiae* 007

544 // (9*R*,14*S*)-epoxy-11-deoxyfunicone // M // mod. cytotox. vs HTCL (H1975) // * // **s141**

545 // (9*S*,14*R*)-epoxy-11-deoxyfunicone // N // mod. cytotox. vs 2 HTCLs// * // *

361 Ascomycota *Penicillium* sp. // (Tracheophyta, *Avicennia marina*) Fujian, China // antiproliferative metabolites from the endophytic fungus *Penicillium* sp. FJ-1 isolated from a mangrove *Avicennia marina*

546 // 4-(2',3'-dihydroxy-3'-methyl-butanoxy)-phenethanol // N // modest cytotox. vs two HTCLs // * // *

547 // 15-hydroxy-6α,12-epoxy-7β,10αH,11βH-spiroax-4-ene-12-one // N // inhib. tum. growth human xenograft osteosarcoma. potent cytotox. vs HTCLs (especially MG-63) // * // *

362 Ascomycota *Pestalotiopsis vaccinii* // (Tracheophyta, *Kandelia candel*) southern China // Eight new polyketide metabolites from the fungus *Pestalotiopsis vaccinii* endogenous with the mangrove plant *Kandelia candel* (L.) Druce

548 // vaccinol A // N // * // * // *

549 // vaccinol B // N // * // * // *

550 // vaccinol C // N // * // * // *

551 // vaccinol D // N // * // * // *

552 // vaccinol E // N // * // * // *

553 // vaccinol F // N // * // * // *

554 // vaccinol G // N // * // * // *

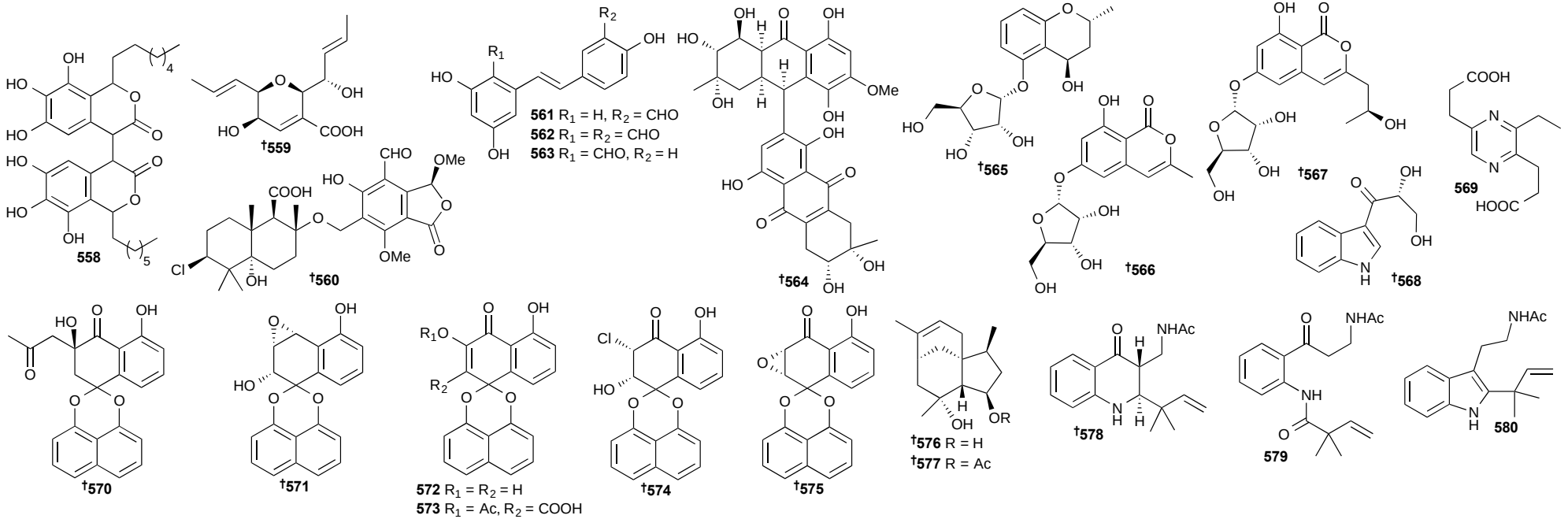
555 // vaccinal A // N // potent COX-2 inhib., modest inhib. of anti-enterovirus (EV71) // * // *

363 Ascomycota *Acremonium strictum*, Ascomycota *Sarocladium strictum* // (Tracheophyta, *Rhizopora apiculata*) CatBa Is., Vietnam // Polyketides from the mangrove-derived endophytic fungus *Acremonium strictum*

556 // 6′-hydroxypestalotiopsone C // N // * // * // *

557 // * // N // * // * // *

558 // acropyrone // N // * // * // *
559 // waol acid // N // * // * // *
560 // pestalotiopene C // N // * // * // *



364 Ascomycota *Alternaria* sp. // (Tracheophyta, *Alternaria* sp., root) Leizhou peninsula, China // Three new resveratrol derivatives from the mangrove endophytic fungus *Alternaria* sp.
561 // resveratrodehyde A // N // cytotox. vs 3 HTCLs, mod. radical scavenging activity (DPPH) // * // *
562 // resveratrodehyde B // N // cytotox. vs 3 HTCLs // * // *
563 // resveratrodehyde C // N // cytotox. vs 3 HTCLs, mod. radical scavenging activity (DPPH) // * // *

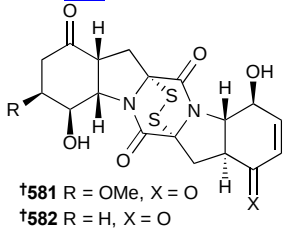
365 Ascomycota *Alternaria* sp. // (Tracheophyta, *Excoecaria agallocha*, *root*) Shankou, China. // Alterporriol-type dimers from the mangrove endophytic fungus, *Alternaria* sp. (SK11), and their MptpB inhib.s
564 // alterporriol S // N // * // * // *

366 Ascomycota *Daldinia eschscholtzii* // (Tracheophyta, *Scaevola sericea*, branch) Haikou, China // Five new secondary metabolites produced by a marine-associated fungus, *Daldinia eschscholzii*
565 // daldiniside A // N // * // * // *
566 // daldiniside B // N // * // * // *
567 // daldiniside C // N // * // * // *
568 // 1-(3-indolyl)-2R,3-dihydroxypropan-1-one // N // * // * // *
569 // 3-ethyl-2,5-pyrazinedipropanoic acid // N // * // * // *

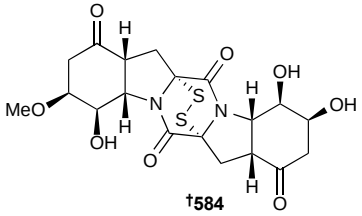
367 Ascomycota *Guignardia* sp. // (Tracheophyta, *Kandelia candel*, *fruit*) Daya Bay, China // Guignardins A–F, spirodioxynaphthalenes from the endophytic fungus *Guignardia* sp. KcF8 as a new class of PTP1B and SIRT1 inhib.s
570 // guignardin A // N // * // * // *
571 // guignardin B // N // mod. inhib. of *S. aureus* // * // *
572 // guignardin C // N // inhib. of human protein tyrosine phosphatase 1B and silent information regulator T1 (SIRT1), mod. inhib. of *S. aureus* // * // *
573 // guignardin D // N // * // * // *
574 // guignardin E // N // cytotox. vs 10 HTCLs // * // *
575 // guignardin F // N // cytotox. vs 10 HTCLs // * // *

368 Ascomycota *Penicillium bilaiae* // (Tracheophyta, *Lumnitzera racemosa*, *soil*) Hainan Is., China // Penicibilaenes A and B, sesquiterpenes with a tricyclo[6.3.1.^{1,5}]dodecane skeleton from the marine isolate of *Penicillium bilaiae* MA-267
576 // penicibilaene A // N // potent inhib. of plant pathogenic fungus *C. gloeosporoides* // * // *
577 // penicibilaene B // N // potent inhib. of plant pathogenic fungus *C. gloeosporoides*// * // *

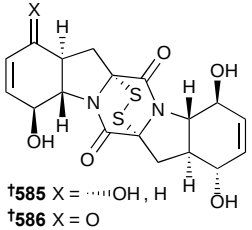
369 Ascomycota *Penicillium brocae* // (Tracheophyta, *Avicennia marina*, *leaves*) Hainan Is., China // Brocaeloids A–C, 4-oxoquinoline and indole alkaloids with C-2 reversed prenylation from the mangrove-derived endophytic fungus *Penicillium brocae*
578 // brocaeloid A // N // * // * // *
579 // brocaeloid B // N // modest cytotox. vs *A. salina* // * // *
580 // brocaeloid C // N // * // * // *



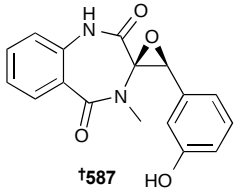
†**581** R = OMe, X = O
†**582** R = H, X = O
†**583** R = OH, X = ····OH, H



†**584**



†**585** X = ····OH, H
†**586** X = O



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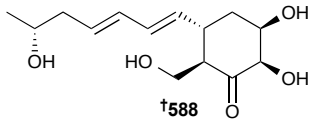
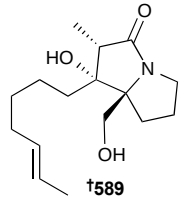


†**588**



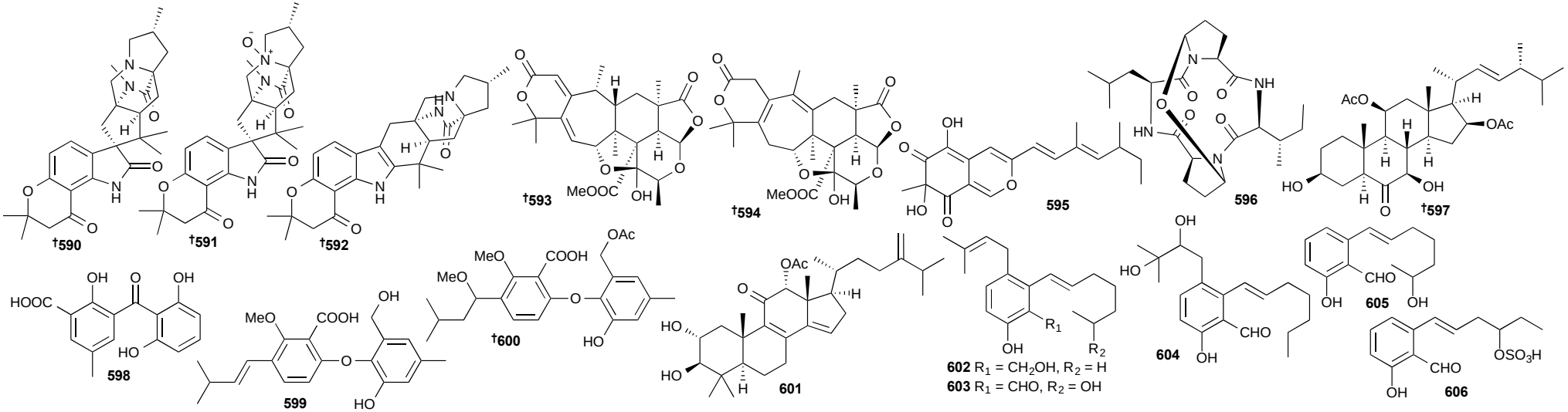
†**589**

370 Ascomycota *Penicillium brocae* // (Tracheophyta, *Avicennia marina*) Hainan Is., China // Brocazines A–F, cytotox. bisthiodiketopiperazine derivatives from *Penicillium brocae* MA-231, an endophytic fungus derived from the marine mangrove plant *Avicennia marina*
581 // brocazine A // N // good cytotox. vs 9 HTCLs // * // *
582 // brocazine B // N // good cytotox. vs 9 HTCLs // * // *
583 // brocazine C // N // * // * // *
584 // brocazine D // N // * // * // *
585 // brocazine E // N // good cytotox. vs 9 HTCLs // * // *
586 // brocazine F // N // good cytotox. vs 9 HTCLs // * // *

371 Ascomycota *Penicillium sclerotiorum* // (Tracheophyta, *Bruguiera sclerotiorum*, stem) Zhanjiang, China // (+)-Cyclopenol, a new naturally occurring 7-membered 2,5-dioxopiperazine alkaloid from the fungus *Penicillium sclerotiorum* endogenous with the Chinese mangrove *Bruguiera gymnorrhiza*
587 // (+)-cyclopenol // N // * // * // *

372 Ascomycota *Penicillium* sp. // (Tracheophyta, *Kandelia candel*, root) Shankou, China // A new polyketide from the mangrove endophytic fungus *Penicillium* sp. sk14JW2P
588 // (+)-13-hydroxylpalitantin // N // * // * // *

373 Ascomycota *Penicillium* sp. // (Tracheophyta, *Bruguiera gymnorrhiza*) Techeng Is., China // Penibruguieramine A, a novel pyrrolizidine alkaloid from the endophytic fungus *Penicillium* sp. GD6 associated with Chinese mangrove *Bruguiera gymnorrhiza*
589 // penibruguieramine A // N // * // * // *



374 Ascomycota *Penicillium* sp. // (Mangrove sediment) Sanya City, China // New prenylated indole alkaloids from fungus *Penicillium* sp. derived of mangrove soil sample
590 // mangrovamide A // N // * // * // *
591 // mangrovamide B // N // * // * // *
592 // mangrovamide C // N // * // * // *

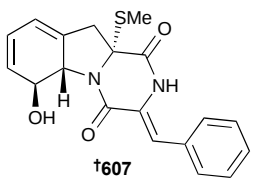
375 Ascomycota *Penicillium* sp. // (seawater) Zhanjiang Mangrove National Nature Reserve, China // Meroterpenes and azaphilones from marine mangrove endophytic fungus *Penicillium* 303#
593 // * // N // weak cytotox. vs 4 HTCLs // * // *
594 // * // N // weak cytotox. vs 4 HTCLs // * // *
595 // * // N // weak cytotox. vs 4 HTCLs // * // *

376 Ascomycota *Penicillium* sp. // Tracheophyta, *Bruguiera gymnorrhiza*, bark) Zhanjiang, China // A new cyclic peptide and a new steroid from the fungus *Penicillium* sp. GD6 isolated from the mangrove *Bruguiera gymnorrhiza*
596 // 5,5′-epoxy-MKN-349A // N // * // * // *
597 // 11-*O*-acetyl-NGA0187 // N // * // * // *

377 Ascomycota *Penicillium* sp. // (Tracheophyta, *Bruguiera gymnorrhiza*, sediment) Hainan Is., China // Diphenyl ether and benzophenone derivatives from the marine mangrove-derived fungus *Penicillium* sp. MA-37
598 // iso-monodictyphenone // N // mod. activity vs *A. hydrophilia*, weak cytotox. vs *A. salina* // * // *
599 // penikellide A // N // weak cytotox. vs *A. salina* // * // *
600 // penikellide B // N // weak cytotox. vs *A. salina* // * // *

378 Ascomycota *Penicillium* sp. // * // Secondary metabolites and AB activities of a *Bruguiera sexangula* var. Rhynchopetala -derived fungus *Penicillium* sp. (J41221)
601 // 11-oxo-12α-acetoxy-4,4-dimethyl-24-methylene-5α-cholesta-8,14-diene-2α,3β-diol // M // * // * // **s142**

379 Ascomycota *Pestalotiopsis* sp. // (Tracheophyta, *Aegiceras corniculatum*, stem) Nansha mangrove wetland, China // Pestalols A–E, new alkenyl phenol and benzaldehyde derivatives from endophytic fungus *Pestalotiopsis* sp. AcBC2 isolated from the Chinese mangrove plant *Aegiceras corniculatum*
602 // pestalol A // N // weak inhib. vs 2 viruses // * // *
603 // pestalol B // N // inhib. of tuberculosis. weak cytotox. vs 10 HTCLs, weak inhib. vs 2 viruses // * // *
604 // pestalol C // N // weak cytotox. vs 10 HTCLs // * // *
605 // pestalol D // N // weak inhib. vs 2 viruses // * // *
606 // pestalol E // N // weak inhib. vs 2 viruses // * // *



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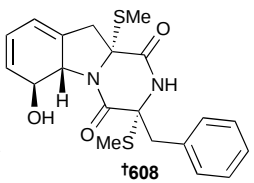

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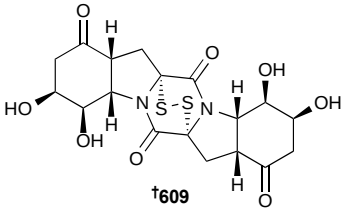

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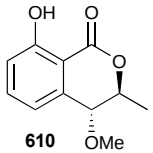

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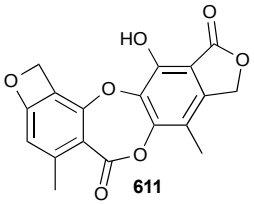

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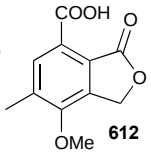

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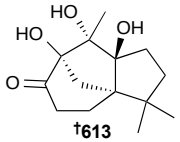

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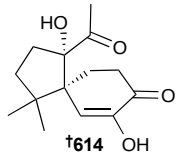

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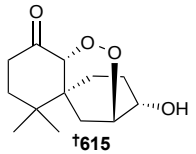
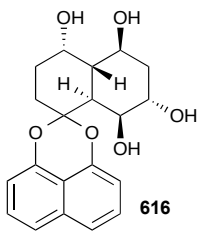


†615

380 Ascomycota *Phoma* sp. // (Tracheophyta, *Kandelia candel*, fruit) Wenchang, China // Thiodiketopiperazines from the marine-derived fungus *Phoma* sp. OUCMDZ-1847
607 // phomazine A // N // * // * // *
608 // phomazine B // N // weak cytotox. vs HTCL (MGC-803) // * // *
609 // phomazine C // N // * // * // *
381 Ascomycota *Phomopsis* sp. // (Mangrove sediment) ZhuHai, China // A new isochroman derivative from the marine fungus *Phomopsis* sp. (No. Gx-4)
610 // (3*R*,4*S*)-3,4-dihydro-8-hydroxy-4-methoxy-3-methylisocoumarin // N // * // * // *
382 Ascomycota *Phomopsis* sp. // (Tracheophyta, *Kandelia candel*, leaves) Fugong, Chinal // Phomopsidone A, a novel depsidone metabolite from the mangrove endophytic fungus *Phomopsis* sp. A123
611 // phomopsidone A // N // * // * // *
612 // 7-methyl-6-methoxy-3-oxo-1,3-dihydroisobenzofuran-4-carboxylic acid // M // * // * // **s143**
383 Basidiomycota *Pseudolagarobasidium acaciicola* // (Tracheophyta, *Bruguiera gymnorrhiza*) Unspecified location. // Tricyclic and spirobicyclic norsesquiterpenes from the endophytic fungus *Pseudolagarobasidium acaciicola*
613 // acaciicolin A // N // * // * // *
614 // spiroacaciicolide A // N // * // * // *
615 // 3-*epi*-steperoxide A // N // good cytotox. vs 8 HTCLs // * // *



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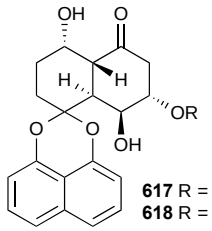
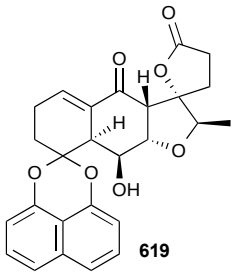


617 R = H
618 R = Me



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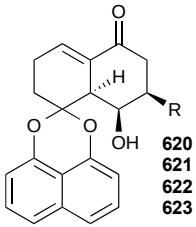
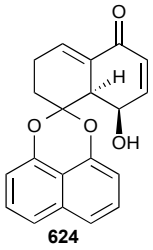


620 R = H
621 R = ····OH
622 R = ◄OH
623 R = ◄OMe



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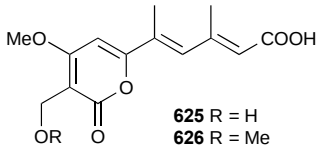
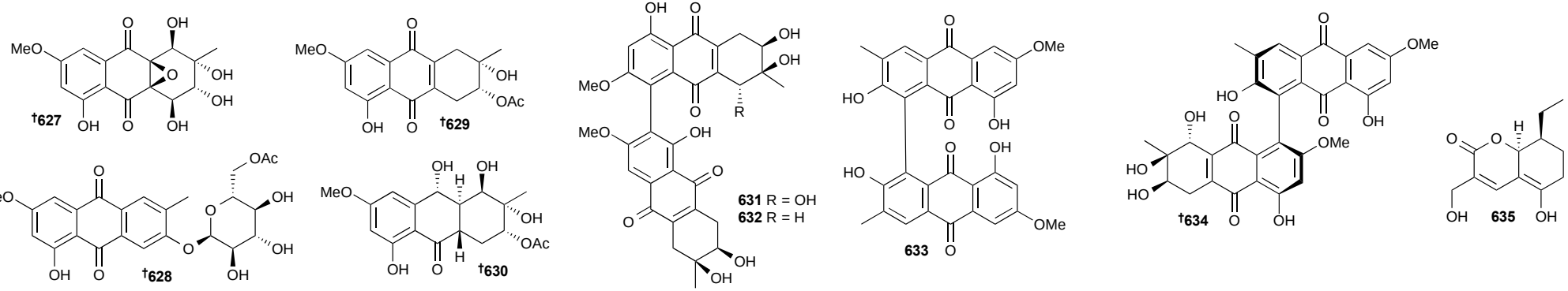


625 R = H
626 R = Me

384 Ascomycota *Rhytidhysteron* sp. // (Tracheophyta, *Azima sarmentosa*, leaves) Samutsakhon province, Thailand // Spirobisnaphthalenes from the mangrove-derived fungus *Rhytidhysteron* sp. AS21B
616 // rhytidone A // N // * // * // *
617 // rhytidone B // N // * // * // *
618 // rhytidone C // N // weak cytotox. vs 2 HTCLs // * // *

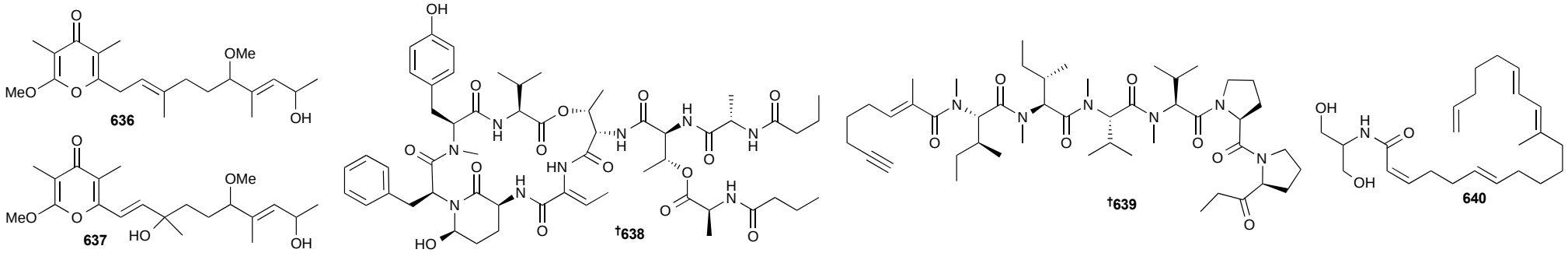
385 Ascomycota *Rhytidhysteron* sp. // (Tracheophyta, *Azima sarmentosa*, leaves) Samutsakhon Province, Thailand // Rhytidenones A–F, spirobisnaphthalenes from *Rhytidhysteron* sp. AS21B, an endophytic fungus
619 // rhytidenone A // N // * // * // *
620 // rhytidenone B // N // * // * // *
621 // rhytidenone C // N // good antiinflammatory activity (NO production inhib.) // Probable artefact of isolation of **624** // *
622 // rhytidenone D // N // modest antiinflammatory activity (NO production inhib.) // Probable artefact of isolation of **624** // *
623 // rhytidenone E // N // * // Probable artefact of isolation of **624** // *
624 // rhytidenone F // N // * // * // *

386 Ascomycota *Stemphylium* sp. // (Tracheophyta, *Bruguiera sexangula*, leaves) S. China Sea // Antibacterial α-pyrone derivatives from a mangrove-derived fungus *Stemphylium* sp.
625 // infectopyrone A // N // mod. broad spectrum AB activity // * // *
626 // infectopyrone B // N // mod. broad spectrum AB activity // * // *



387 Ascomycota *Stemphylium* sp. // (Tracheophyta, *Bruguiera sexangula* var. Rhynchopetala) S. China Sea // Bioactive anthraquinone derivatives from the mangrove-derived fungus *Stemphylium* sp. 33231
627 // auxarthrol C // N // * // * // *
628 // macrosporin 2-*O*-(6′-acetyl)-α-D-glucopyranoside // N // modest cytotox. vs *A. salina* // * // *
629 // 2-*O*-acetylaltersolanol B // N // * // * // *
630 // 2-*O*-acetylaltersolanol L // N // * // * // *
631 // alterporriol T // N // * // * // *
632 // alterporriol U // N // * // * // *
633 // alterporriol V // N // * // * // *
634 // alterporriol W // N // * // * // *

388 Ascomycota sp. Family Xylariaceae // Sanya, China // Xylaolide A, a new lactone from the fungus *Xylariaceae* sp. DPZ-SY43
635 // xylaolide A // N // * // * // *

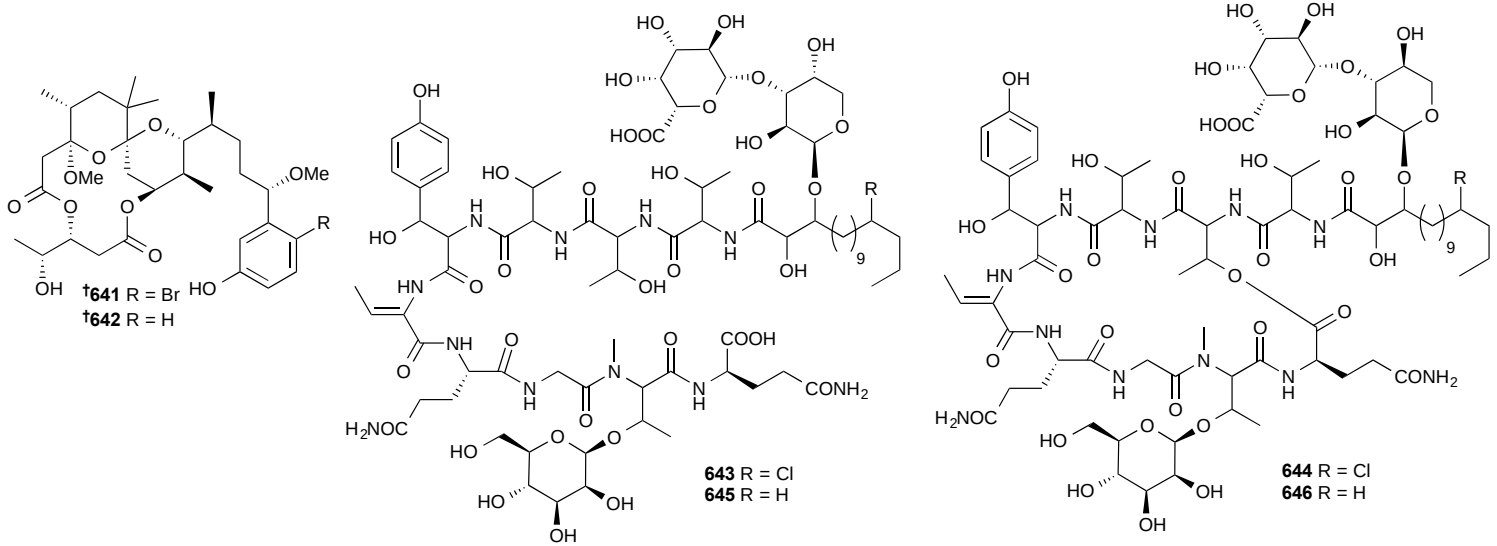


389 Cyanobacteria *Leptolyngbya* sp. // Ishigaki Is., Japan // An inhibitor of the adipogenic differentiation of 3T3-L1 cells, yoshinone A, and its analogs, isolated from *Leptolyngbya* sp.
636 // yoshinone A // N // inhib. of differentiation of 3T3-4 cells to adipocytes// * // *
637 // yoshinones B1 & B2 // N // * // Diasteroisomers // *

390 Cyanobacteria *Lyngbya* sp. // Kuraha, Japan // Kurahamide, a cyclic depsipeptide analog of dolastatin 13 from a marine cyanobacterial assemblage of *Lyngbya* sp.
638 // kurahamide // N // potent protease inhib. (elastase and chymotrypsin), mod. cytotox. (2 HTCLs) // * // *

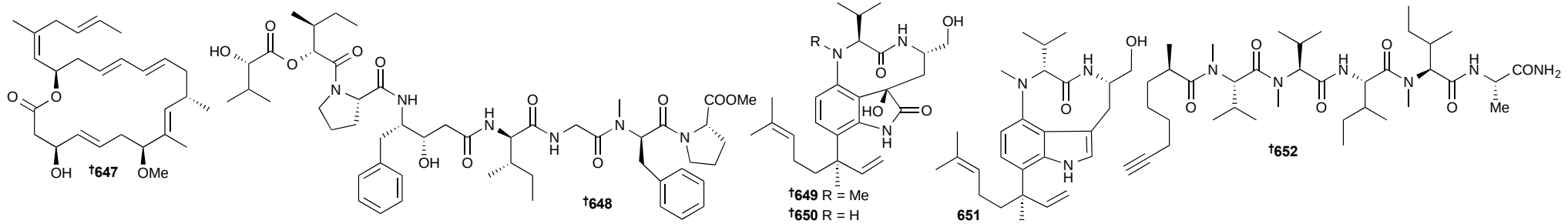
391 Cyanobacteria *Lyngbya* sp. // Kuraha, Japan // Kurahyne, an acetylene-containing lipopeptide from a marine cyanobacterial assemblage of *Lyngbya* sp.
639 // kurahyne // N // cytotox. (2 HTCLs) // induces apoptosis // *

392 Cyanobacteria *Moorea bouillonii* // Pigeon Is., Papua New Guinea // Mooreamide A: a cannabinomimetic lipid from the marine cyanobacterium *Moorea bouillonii*
640 // mooreamide A // N // cannabinoid recptor (CB_1) binding ligand // * // *

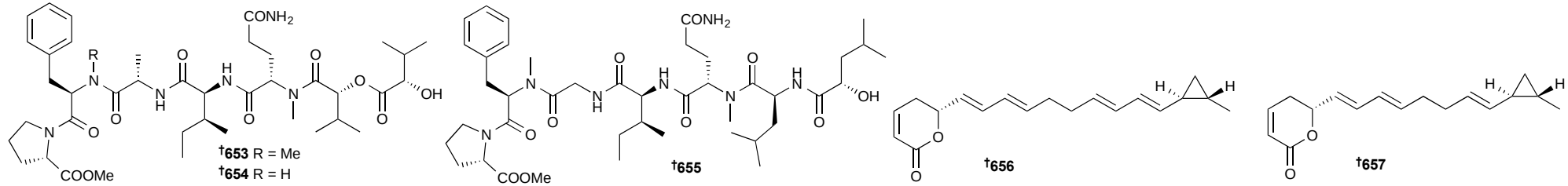


395 Cyanobacteria *Trichodesmium erythraeum* // Pulau Seringat Kias, Singapore // Anti-chikungunya viral activities of aplysiatoxin-related compounds from the marine *T. erythraeum*
641 // 3-methoxyaplysiatoxin // N // * // * // *
642 // 3-methoxydebromoaplysiatoxin // N // good inhibition of Chikungunya virus (CHIKV) // * // *

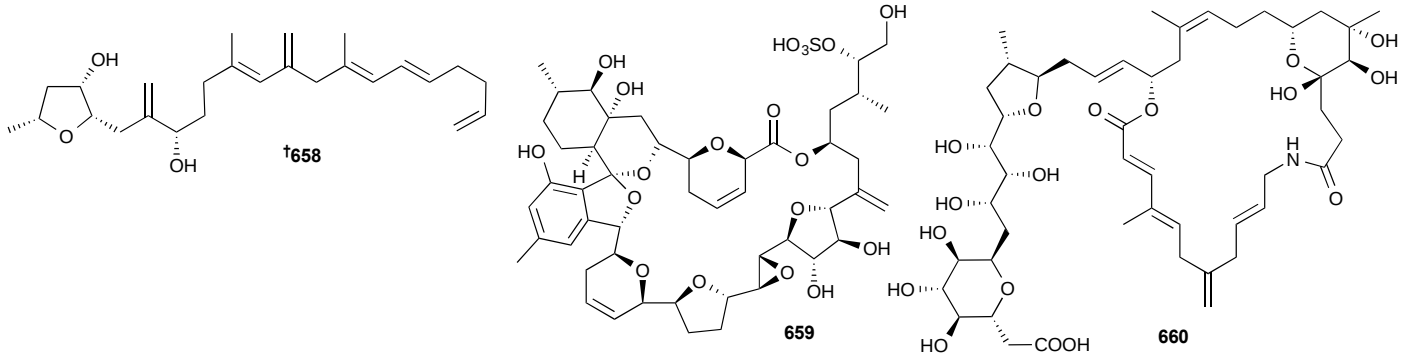
396 Cyanobacteria *Anabaena cylindrica* // Rügen Is., Germany // Balticidins A–D, antifungal hassallidin-like lipopeptides from the Baltic Sea cyanobacterium *Anabaena cylindrica* Bio33
643 // balticidin A // N // inhib. of *Candida* // * // *
644 // balticidin B // N // inhib. of *Candida* // * // *
645 // balticidin C // N // inhib. of *Candida* // * // *
646 // balticidin D // N // inhib. of *Candida* // * // *



397 Cyanobacteria *Lyngbya* sp. // Ishigaki Is., Japan // Biselyngbyolide B, a novel ER stress-inducer isolated from the marine cyanobacterium *Lyngbya* sp.
647 // biselyngbyolide B // N // potent inhib. (2 HTCLs), ER stress induction // induces apoptosis // *
398 Cyanobacteria *Lyngbya* sp. // Kuraha Beach, Japan // Maedamide, a novel chymotrypsin inhibitor from a marine cyanobacterial assemblage of *Lyngbya* sp.
648 // maedamide // N // Selective inhib. of chymotrypsin. Strong cytotox. (2 HTCLs) // * // *
400 Cyanobacteria *Moorea producens* // Kahala Beach, Hawaii // Two new lyngbyatoxin derivatives from the cyanobacterium, *Moorea producens*
649 // 2-oxo-3(*R*)-hydroxy-lyngbyatoxin A // N // weak but acute cytotox. vs *A. salina* // * // *
650 // 2-oxo-3(*R*)-hydroxy-13-*N*-desmethyl-lyngbyatoxin A // N // weak but acute cytotox. vs *A. salina* // * // *
399 Cyanobacteria *Moorea producens* // Kahala Beach, Hawaii // A new lyngbyatoxin from the Hawaiian cyanobacterium *Moorea producens*
651 // 12-*epi*-lyngbyatoxin A // M // mod. cytotox. (2 HTCLs), cytotox. to shrimp, *Palaemon paucidens* // known syn. deriv. // **s144**
401 Cyanobacteria *Oscillatoria nigroviridis* // Lawrence Reef, Colombia // Almiramide D, cytotoxic peptide from the marine cyanobacterium *Oscillatoria nigroviridis*
652 // almiramide D // N // weak cytox (5 HTCLs), potent cytotox. vs fibroblasts // * // *



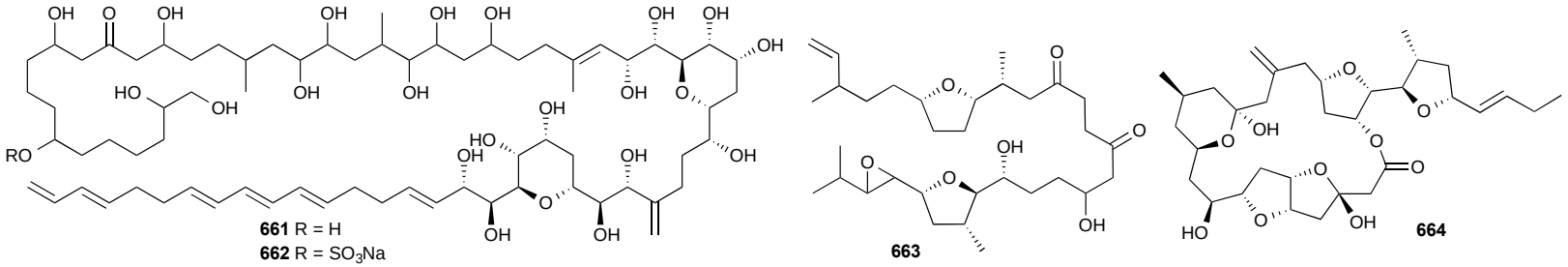
402 Cyanobacteria *Symploca* sp. // Kimbe Bay,New Britain, Papua New Guinea// Lipopeptides from the tropical marine cyanobacterium *Symploca* sp.
653 // tasiamide C // N // * // * // *
654 // tasiamide D // N // * // * // *
655 // tasiamide E // N // * // * // *
404 Cyanobacteria *Oscillatoria* sp. // * // Coibacins A and B: total synthesis and stereochemical revision
656 // coibacin A // R // * // stereochem. detmn. // **s145**
657 // coibacin B // R // * // stereochem. detmn. // **s145**



426 Dinophyta *Amphidinium* sp. // Iriomote Is., Japan // Amphirionin-4 with potent proliferation-promoting activity on bone marrow stromal cells from a marine dinoflagellate *Amphidinium* species
658 // amphirionin-4 // N // potent growth promoter of ST-2 cells // biosyn. study // *

427 Dinoflagellata *Dinophysis acuminata* // Masan Bay. Korea // Acuminolide A: structure and bioactivity of a new polyether macrolide from dinoflagellate *Dinophysis acuminata*
659 // acuminolide A // N // stim. of actomyosin ATPase activity // * // *

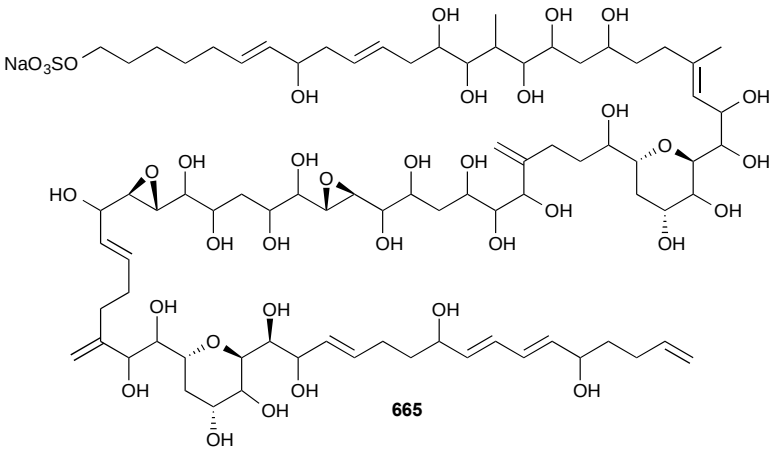
428 Dinophyta *Prorocentrum belizeanum* // La Reunion Island // Belizentrin, a highly bioactive macrocycle from the dinoflagellate *Prorocentrum belizeanum*
660 // belizentrin // N // potent lethal effects on neuronal cells // * // *

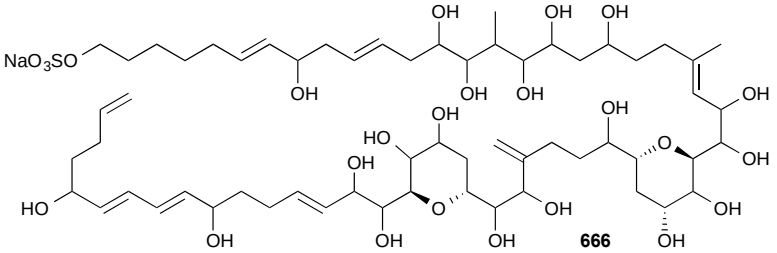


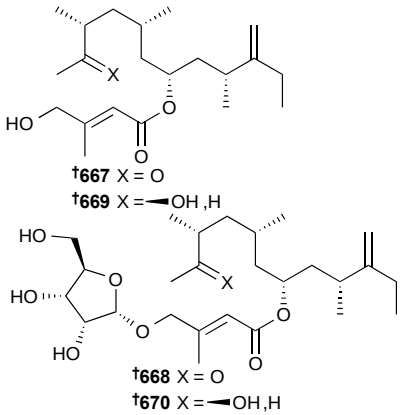
429 Dinophyta *Amphidinium carterae* // CCMP121, Provasoli-Guillard NCMA) // Antifungal amphidinol 18 and its 7-sulfate derivative from the marine dinoflagellate *Amphidinium carterae*
661 // amphidinol 18 // N // modest activity vs *C. albicans* // * // *
662 // amphidinol 19 // N // * // * // *

430 Dinophyta *Amphidinium* sp. // Iriomote Is., Japan // Amphirionin-5, a novel linear polyketide from a cultured marine dinoflagellate *Amphidinium* species with a potent cell proliferation-promoting activity
663 // amphirionin-5 // N // growth promoter of ST-2 cells // * // *

431 Dinophyta *Amphidinium* sp. // Iriomote Is., Japan // Iriomoteolide-13a, a cytotoxic 22-membered macrolide from a marine dinoflagellate *Amphidinium* species
664 // iriomoteolide-13a // N // potent cytotox. vs HeLa // * // *

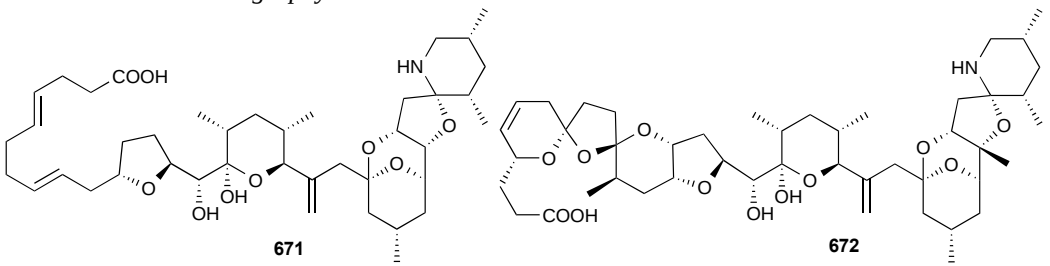




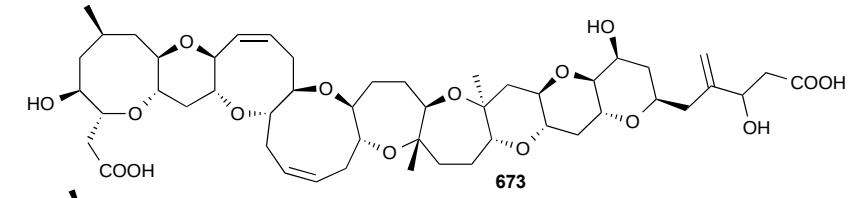


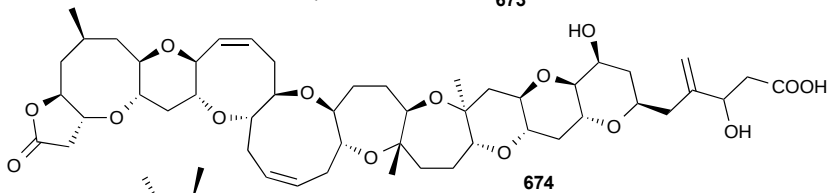
432 Dinophyta *Amphidinium* sp. // Ishigaki Is., Japan // Amdigenols E and G, long carbon-chain polyol compounds, isolated from the marine dinoflagellate *Amphidinium* sp.
665 // amdigenol E // N // inhib. of N-type Ca channel opening // * // *
666 // amdigenol G // N // inhib. of N-type Ca channel opening // * // *

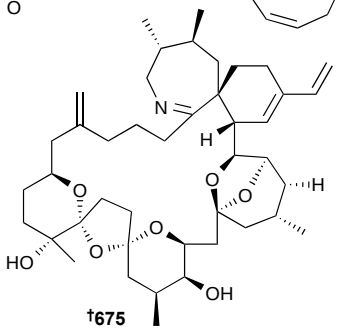
433 Dinophyta *Amphidinium* sp. // Ishigaki Is., Japan // Amphidinins C–F, amphidinolide Q analogues from marine dinoflagellate *Amphidinium* sp.
667 // amphidinin C // N // modest ABl activity, modest inhib. of *T. mentagrophytes* // * // *
668 // amphidinin D // N // modest inhib. of *T. mentagrophytes* // * // *
669 // amphidinin E // N // modest cytox vs P388 cells // * // *
670 // amphidinin F // N // modest inhib. of *T. mentagrophytes* // * // *

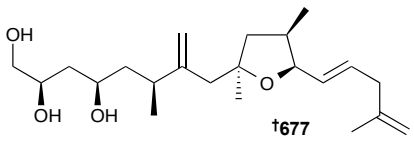


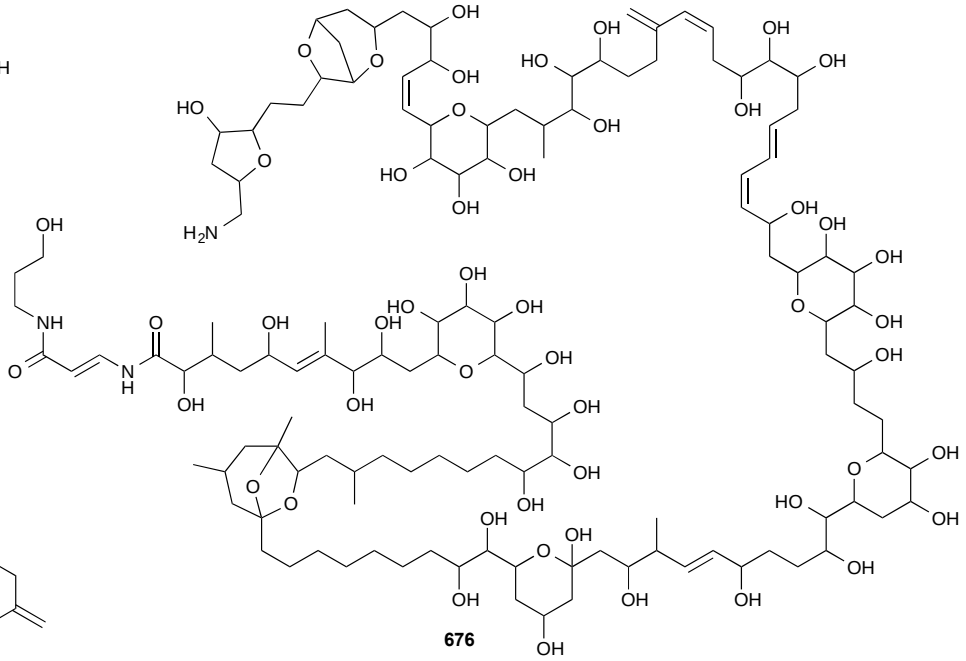
434 Dinophyta *Azadinium spinosum* // North Sea // Isolation, structure elucidation, relative LC-MS response, and in vitro toxicity of azaspiracids from the dinoflagellate *Azadinium spinosum*
671 // AZA33 // N // potent cytox to Jurkat T lymphocytes // * // *
672 // AZA34 // N // potent cytox to Jurkat T lymphocytes // * // *











435 Dinophyta *Karenia brevisulcata* // Wellington Harbour, New Zealand // Brevisulcatic acids, marine ladder-frame polyethers from the red tide dinoflagellate *Karenia brevisulcata* in New Zealand

673 // brevisulcatic acid-1 // N // cytotox. vs neuro-2a cells // MOA is activation of Na channels (as per brevetoxins and ciguatoxins?). // *

674 // brevisulcatic acid-4 // N // potent cytotox. vs neuro-2a cells // MOA is activation of Na channels (as per brevetoxins and ciguatoxins?). // *

436 Miozoa *Vulcanodinium rugosum* // South China Sea // Pinnatoxin H: a new pinnatoxin analogue from a South China Sea *Vulcanodinium rugosum* isolate.

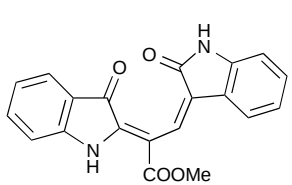
675 // pinnatoxin H // N // high acute toxicity to mice // * // *

437 Dinophyta *Ostreopsis* cf. *ovata* // coast of Catalonia, Spain // The novel ovatoxin-g and isobaric palytoxin (so far referred to as putative palytoxin) from *Ostreopsis* cf. *ovata* (NW Mediterranean Sea): structural insights by LC-high resolution MS^n

676 // ovatoxin-g // N // * // tentative structure assignment only. // *

439 Dinophyta *Amphidinium* sp. // Ishigaki Is., Japan // Absolute configuration of amphidinin A

677 // amphidinin A // R // * // * // **s146**



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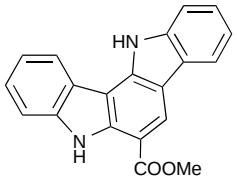

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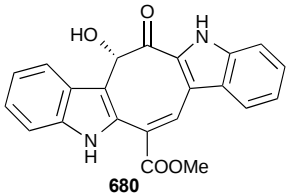
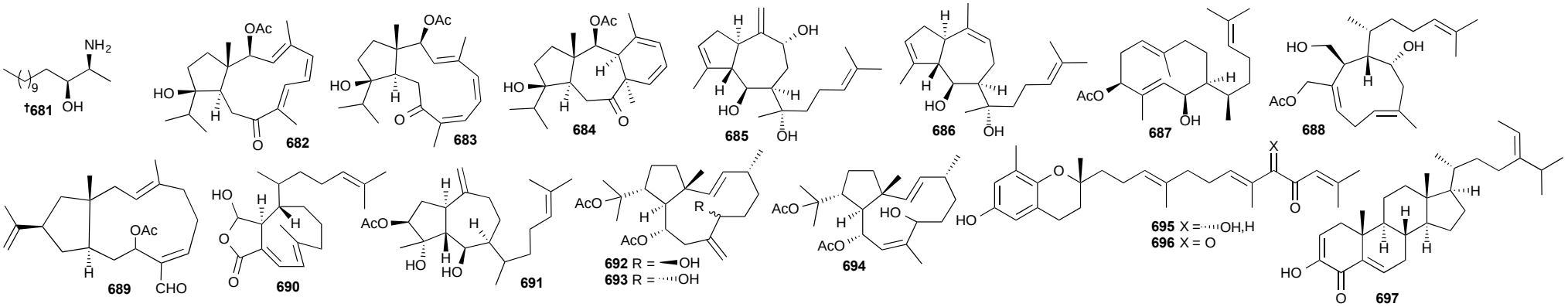


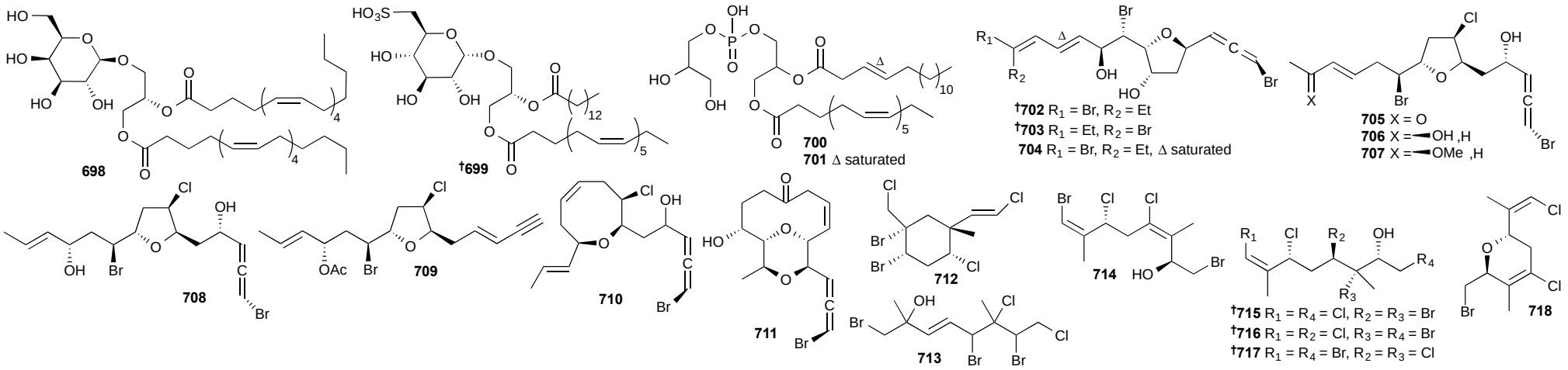
680

448 Chlorophyta *Caulerpa racemosa* // Zhanjiang, China // Racemosins A and B, two novel bisindole alkaloids from the green alga *Caulerpa racemosa*
678 // racemosin A // N // neuroprotective against Ab25-35-induced SH-SY5Y cell damage // * // *
679 // racemosin B // N // weakly neuroprotective against Ab25-35-induced SH-SY5Y cell damage // * // *

449 Chlorophyta *Caulerpa racemosa* // Zhanjiang, China // Racemosin C, a novel minor bisindole alkaloid with protein tyrosine phosphatase-1B inhibitory activity from the green alga *Caulerpa racemosa*
680 // racemosin C // N // inhib. of hPTP1B. IC50 5.86 mM // * // *



455 Ochrophyta *Xiphophora chondrophylla* // Hen and Chicken Islands, New Zealand // Identification and bioactivity of 3-*epi*-xestoaminol C isolated from the New Zealand brown alga *Xiphophora chondrophylla*
681 // 3-*epi*-xestoaminol C // N // bioactivity against a range of microorganisms evaluated // absolute configuration determined // *
456 Ochrophyta *Dictyota plectens* // Xuwen coast, Zhanjiang, China // Diterpenes from a Chinese collection of the brown alga *Dictyota plectens*
682 // (1*S**,2*S**,3*E*,5*Z*,7*E*,11*R**,12*R**)-2-acetoxy-12-hydroxydolabella-3,5,7-trien-9-one // N // evaluated against HIV-1, H5N1and LPS-induced NO production // * // *
683 // (1*S**,2*S**,3*E*,5*Z*,7*Z*,11*R**,12*R**)-2-acetoxy-12-hydroxydolabella-3,5,7-trien-9-one // N // evaluated against HIV-1, H5N1and LPS-induced NO production // * // *
684 // (1*S**,2*S**,3*S**,4*Z*,6*Z*,8*R**,11*R**,12*R**)-2-acetoxy-12-hydroxydolasta-4,6-dien-9-one // N // evaluated against HIV-1, H5N1and LPS-induced NO production // * // *
685 // 9α-hydroxydictyol E // N // evaluated against HIV-1, H5N1and LPS-induced NO production // * // *
686 // isodictyol E // N // evaluated against HIV-1, H5N1and LPS-induced NO production // * // *
687 // 3β-acetoxydilophol // N // evaluated against HIV-1, H5N1and LPS-induced NO production // * // *
688 // 19-acetyl-4-hydroxydictyodiol // N // evaluated against HIV-1, H5N1and LPS-induced NO production // * // *
457 Ochrophyta *Dictyota sp.* // Carqueiranne, France // Anti-microfouling properties of compounds isolated from several Mediterranean *Dictyota* spp.
689 // (1*R**,3*E,7E**,11*S**,12*S**)-9-acetoxy-3,7,18-dolabellatrien-17-al // N // * // * // *
690 // * // N // * // * // *
691 // 3-acetoxy-dictyotatriol A // N // * // * // *
460 Ochrophyta *Dictyota pfaffii* // Atol das Rocas, Brazil // Dolabelladienols A–C, new diterpenes isolated from Brazilian brown alga *Dictyota pfaffii*
692 // dolabelladienol A // N // evaluated in anti-HIV-1 assay system // * // *
693 // dolabelladienol B // N // evaluated in anti-HIV-1 assay system // * // *
694 // dolabelladienol C // N // evaluated in anti-HIV-1 assay system // * // *
462 Ochrophyta *Sargassum siliquastrum* // Cheju Is., Korea // Isolation of two new meroterpenoids from *Sargassum siliquastrum*
695 // sargachromanol Q // N // tested agaisnt 4 HTCLs // * // *
696 // sargachromanol R // N // active agaisnt 3 HTCLs. IC_{50} 6.5, 3.4, 13.9 □M // * // *
463 Ochrophyta *Sargassum thunbergii* // Nanji Is., China // Thunberol, a new sterol from the Chinese brown alga *Sargassum thunbergii*
697 // thunberol // N // IC_{50} against PTP1B 2.24 μg/mL // first natural sterol with 3-hydroxy-2,5-diene-4-keto grouping // *



478 Rhodophyta *Chondrus crispus* // Nova Scotia // Lipids isolated from the cultivated red alga *Chondrus crispus* inhibit nitric oxide production
698 // * // N // * // commercial scale cultivation of edible *C. crispus.* // *

479 Rhodophyta *Palmaria palmata* // Nova Scotia // Polar lipids from the marine macroalga *Palmaria palmata* inhibit lipopolysaccharide-induced nitric oxide production in RAW264.7 macrophage cells
699 // * // N // inhib. of LPS-i-NO in RAW264.7 cells // commercial scale cultivation of edible *P. palmata* // *
700 // * // N // inhib. of LPS-i-NO in RAW264.7 cells // commercial scale cultivation of edible *P. palmata* // *
701 // * // N // inhib. of LPS-i-NO in RAW264.7 cells // commercial scale cultivation of edible *P. palmata* // *

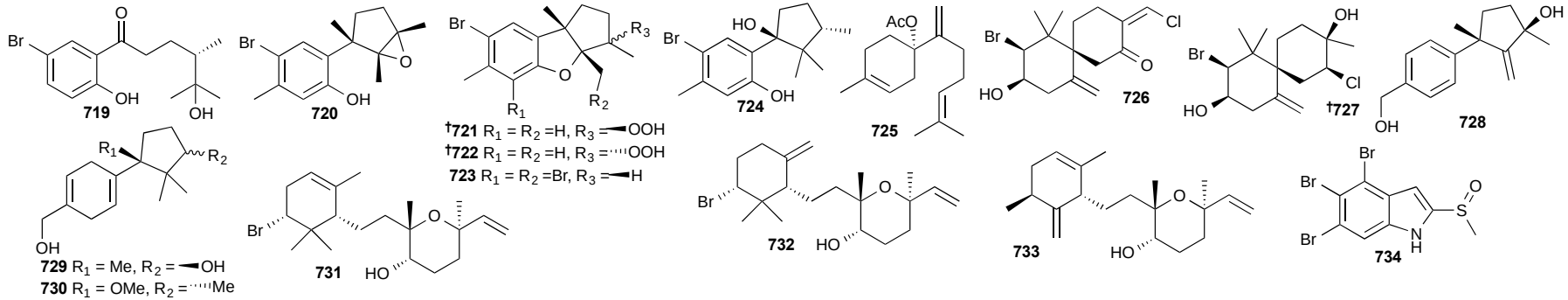
480 Rhodophyta *Laurencia* sp. // Omeazaki, Japan // Omaezallene from red alga *Laurencia* sp.: structure elucidation, total synthesis, and antifouling activity
702 // omaezallene // N // potent antifouling activity // total synth. // *
703 // (12*Z*)-omaezallene // N // potent antifouling activity // total synth. // *
704 // 10,11-dihydro-omaezallene // N // * // * // *

481 Rhodophyta *Laurencia marilzae* // Tenerife, Canary Is. // Stereochem. determination of 5-memb. cyclic ether acetogenins using a spin-spin coupling constant approach and DFT calcs
705 // marilzafurollene A // N // * // *J*-based method used for config. determn. // *
706 // marilzafurollene B // N // * // *J*-based method used for config. determn. // *
707 // marilzafurollene C // N // * // *J*-based method used for config. determn. // *
708 // marilzafurollene D // N // * // *J*-based method used for config. determn. // *
709 // 12-acetoxy-marilzafurenyne // N // * // *J*-based method used for config. determn. // *

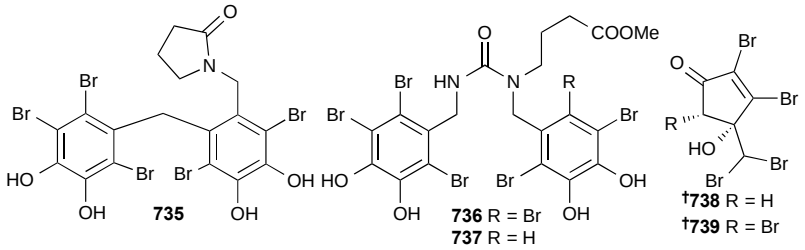
482 Rhodophyta *Laurencia chondrioides* // Kefalonia Is., Greece // An integrated approach using UHPLC–PDA–HRMS and 2D HSQC NMR for the metabolic profiling of the red alga *Laurencia:* dereplication and tracing of natural products
710 // marilzallene B // N // * // rapid dereplication using UHPLC–PDA–HRMS, 2D HSQC NMR, software and databases // *
711 // chondrioallene // N // * // rapid dereplication using UHPLC–PDA–HRMS, 2D HSQC NMR, software and databases // *

483 Rhodophyta *Plocamium hamatum, P. costatum* // Flinders Reef, & Pandalowie Bay, Australia // Accelerated identification of halogenated monoterpenes from Australian specimens of the red algae *Plocamium hamatum* and *Plocamium costatum*
712 // * // N // * // rapid derep. using LC-UV-MS-SPE-NMR // *
713 // * // N // * // rapid derep. using LC-UV-MS-SPE-NMR // *

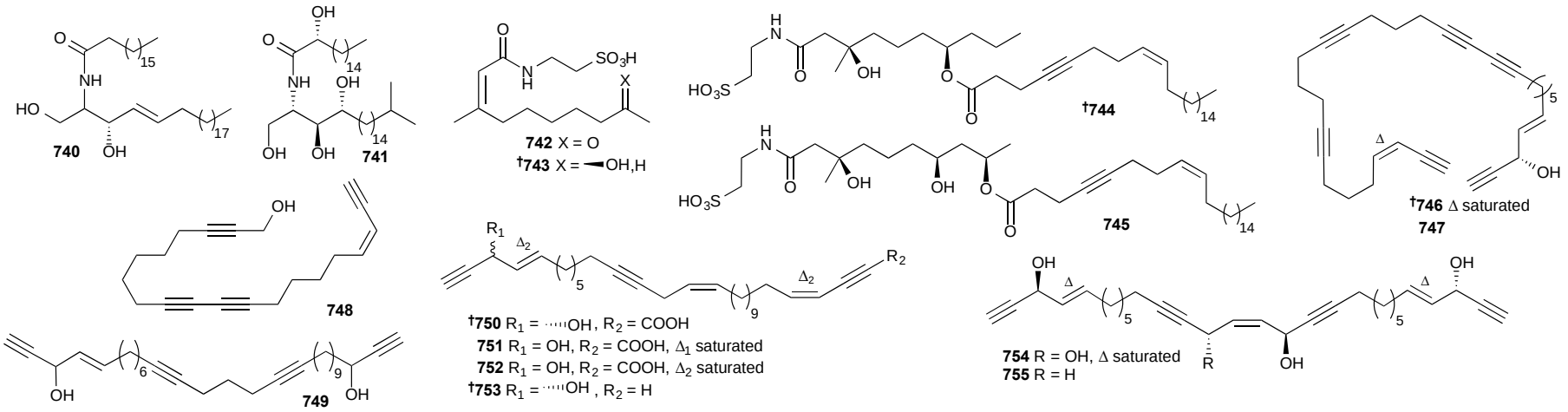
714 // costatol B // N // * // rapid derep. using LC-UV-MS-SPE-NMR // *
715 // costatol C // N // * // rapid derep. using LC-UV-MS-SPE-NMR // *
716 // costatol D // N // * // rapid derep. using LC-UV-MS-SPE-NMR // *
717 // costatol E // N // * // rapid derep. using LC-UV-MS-SPE-NMR // *
718 // costatone B // N // * // rapid derep. using LC-UV-MS-SPE-NMR // *



484 Rhodophyta *L. okamurae* // Nanji Is., China // A seco-laurane sesquiterpene and related laurane derivatives from the red alga *Laurencia okamurai* Yamada
719 // *seco*-laurokamurone // N // * // unusual *seco*-sesquiterpene // *
720 // laurepoxyene // N // strong AF activity // * // *
721 // 3β-hydroperoxyaplysin // N // strong AF activity, mod. cytox. A549 cells // * // *
722 // 3α-hydroperoxy-3-epiaplysin // N // strong AF activity // * // *
723 // 8,10-dibromoisoaplysin // N // * // * // *
724 // laurokamurene D // N // * // * // *
725 // (5*S*)-5-acetoxy-β-bisabolene // N // * // * // *
485 Rhodophyta *L. dendroidea* // SE Coast, Brazil // Sesquiterpenes from the Brazilian red alga *Laurencia dendroidea* J. Agardh
726 // dendroidone // N // * // * // *
727 // dendrodiol // N // * // * // *
486 Rhodophyta *L. obtusa* // Jeddah, Saudi Arabia // New cytotoxic laurene-, cuparene-, and laurokamurene-type sesquiterpenes from the red alga *Laurencia obtusa*
728 // laur-2-ene-3,12-diol // N // mod. cytotox. KB and MCF-7 cells // * // *
729 // cuparene-3,12-diol // N // mod. cytotox. KB cells // * // *
730 // 8,11-dihydro-1-methoxylaurokamuren-12-ol // N // * // * // *
487 Rhodophyta *L. glandulifera*, Mollusca *Aplysia punctata* // Loutraki Bay, Crete, & Nea Makri, Greece // Glandulaurencianols A–C, brominated diterpenes from the red alga, *Laurencia glandulifera* and the sea hare, *Aplysia punctata*
731 // glandulaurencianol A // N // * // * // *
732 // glandulaurencianol B // N // * // * // *
733 // glandulaurencianol C // N // * // new diterpene skeleton // *
488 Rhodophyta *L. brongniartii* // Kenting, Taiwan // Cytotoxic, anti-inflammatory, and antibacterial sulfur-containing polybromoindoles from the Formosan red alga *Laurencia brongniartii*
734 // * // N // * // * // *



489 Rhodophyta *Symphyocladia latiuscula* // Qingdao Coast, China // Antifungal bromophenols from marine red alga *Symphyocladia latiuscula*
735 // * // N // * // * // *
736 // * // N // * // * // *
737 // * // N // * // weak AF activity // *
490 Rhodophyta *Asparagopsis taxiformis* // Mayotte, W. Indian Ocean // Mahorones, highly brominated cyclopentenones from the red alga *Asparagopsis taxiformis*
738 // mahorone // N // modest AB activity // first example natural 2,3-dibromocyclopentenones // *
739 // 5-bromomahorone // N // modest AB activity // first example natural 2,3-dibromocyclopentenones // *



504 Porifera *Petrosia* sp. // Jeddah, Saudi Arabia // Cytotoxic effects of three new metabolites from Red Sea marine sponge, *Petrosia* sp.
740 // N-((3*S*,*E*)-1,3-dihydroxytetracos-4-en-2-yl)stearamide // N // IC_{50} 40 µg/mL DNA binding using methyl green displacement // * // *

505 Porifera *Echinoclathria gibbosa* // Hurghada, Egypt // New compounds from the Red Sea marine sponge *Echinoclathria gibbosa*
741 // echinoclathriamide // N // * // * // *

506 Porifera *Coscinoderma* sp. // Weno Is., Chuuk State, Micronesia // Suvanine sesterterpenes and deacyl irciniasulfonic acids from a tropical *Coscinoderma* sp. sponge
742 // deacyl irciniasulfonic acid C // N // mod. to weak AB activity and vs HTCL, ATPase // * //
743 // sodium deacyl irciniasulfonate D // N // mod. to weak AB activity and vs HTCL, ATPase // * // *

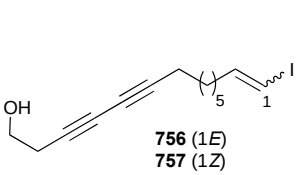
507 Porifera family Spongiidae // Unten Port, Okinawa // Taurospongins B and C, new acetylenic fatty acid derivatives from a marine sponge of the family Spongiidae
744 // taurospongin B // N // * // * // *
745 // taurospongin C // N // weak AB activity // * // *

508 Porifera *Callyspongia* sp. // Pingtung, Taiwan // Cytotoxic polyacetylenes from a Formosan marine sponge *Callyspongia* sp.
746 // callysponyne A // N // low µM activity vs 7 HTCL // * // *
747 // callysponyne B // N // low µM activity vs 7 HTCL // * // *

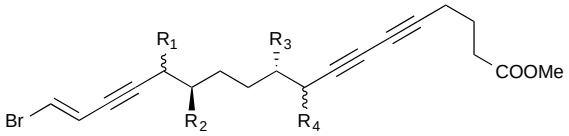
509 Porifera *Siphonochalina siphonella* // Sharm Obhur, Saudi Arabia // Cytotoxic polyacetylenes from the Red Sea sponge *Siphonochalina siphonella*
748 // callyspongenol-D // N // mod. activity vs HTCL // * // *
749 // callyspongendiol // N // weak activity vs HTCL // * // *

510 Porifera *Petrosia* sp. // Hachijo Is., Japan // Structural reappraisal of corticatic acids, biologically active linear polyacetylenes, from a marine sponge of the genus *Petrosia*
750 // corticatic acid A // R // * // Structure revised from more detailed FAB-MS studies // **s147**
751 // corticatic acid F // N // * // * // *
752 // corticatic acid G // N // * // * // *
753 // corticatynol A // N // * // * // *

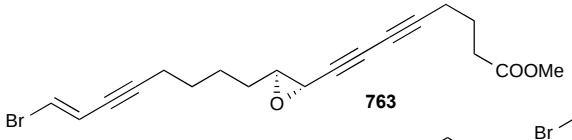
511 Porifera *Petrosia* sp. // Pingtung, Taiwan // Structure elucidation and cytotoxic evaluation of new polyacetylenes from a marine sponge *Petrosia* sp.
754 // petrosianyne A // N // weak inhib. of 5 HTCLs // * // *
755 // petrosianyne B // N // weak inhib. of 3 HTCLs // * // *



756 (1*E*)
757 (1*Z*)



758 $R_1 = R_2 = R_3 = R_4 = H$
759 $R_1 = R_2 = H$, $R_3 = OH$, R_4 = Br
760 $R_1 = R_2 = H$, $R_3 = OH$, R_4 = Br
761 R_1 = Br, $R_2 = OH$, $R_3 = R_4 = H$
762 R_1 = Br, $R_2 = OH$, $R_3 = R_4 = H$



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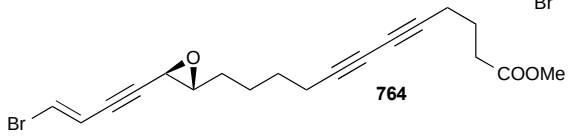

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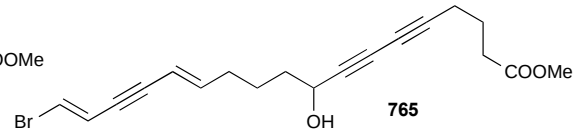

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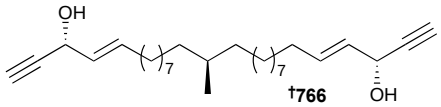
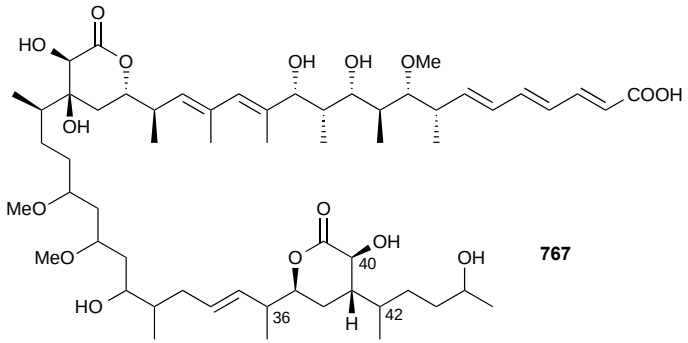


†**766**

512 Porifera *Placospongia* sp. // Tong-Yong City, S. Korea // Placotylene A, an inhibitor of the receptor activator of nuclear factor-κB ligand-induced osteoclast differentiation, from a Korean sponge *Placospongia* sp.
756 // placotylene A // N // suppresses RANKL-induced osteoclast differentiation at > 1 μM, and inhibited NFATTc1 translation // * // *
757 // placotylene B // N // * // * // *
513 Porifera *Xestospongia testudinaria* // Weizhou Is., China // Brominated polyunsat. lipids from Chinese sponge *Xestospongia testudinaria* as a new class of pancreatic lipase inhibitors
758 // xestonariene A // N // 23.8% inhib. of pancreatic lipase at 50 μM // * // *
759 // xestonariene B // N // 40.1% inhib. of pancreatic lipase at 50 μM // * // *
760 // xestonariene C // N // 11.9% inhib. of pancreatic lipase at 50 μM // * // *
761 // xestonariene D // N // 43.9% inhib. of pancreatic lipase at 50 μM // * // *
762 // xestonariene E // N // 32.8% inhib. of pancreatic lipase at 50 μM // * // *
763 // xestonariene F // N // * // * // *
764 // xestonariene G // N // * // * // *
765 // xestonariene H // N // * // * // *
515 Porifera *Petrosia* sp. // * // Chemoenzymatic synthesis and HPLC analysis of the stereoisomers of miyakosyne A [(4*E*,24*E*)-14-methyloctacosa-4,24-diene-1,27-diyne-3,26-diol], a cytotoxic metabolite of a marine sponge *Petrosia* sp., to determine the absolute configuration of its major component as 3*R*,14*R*,26*R*
766 // miyakosyne A // R // * // 96:4 Mixture of 14*R*:14*S* diastereomers, det. by synthesis // **s148**



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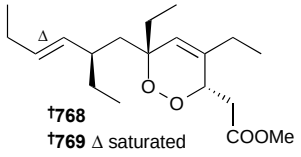
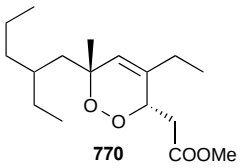


†**768**
†**769** Δ saturated



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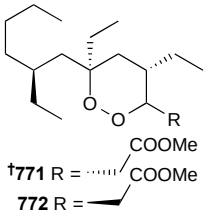
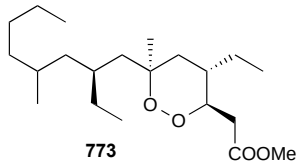


†**771** R =
772 R =



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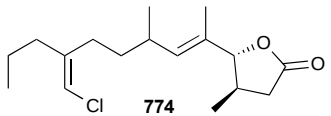

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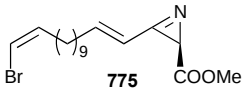

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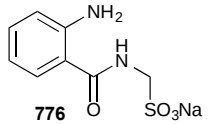


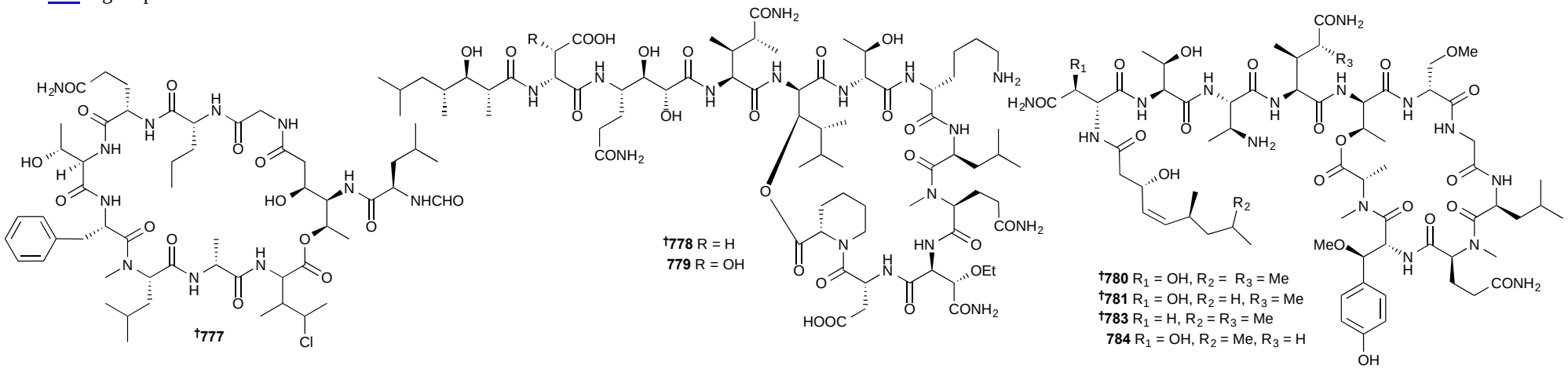
776

517 Porifera *Hemimycale* sp. // Torres Is., Vanuatu // Strength by joining methods: combining synthesis with NMR, IR, and vibrational circular dichroism spectroscopy for the determination of the relative configuration in hemicalide
767 // hemicalide // R // * // Rel. config. at C36-46 assigned by synthesis and VCD spectra // **s149**

518 Porifera *Plakortis simplex* // Yongxing Is., S. China Sea // Endoperoxide polyketides from a Chinese *Plakortis simplex*: further evidence of the impact of stereochemistry on antimalarial activity of simple 1,2-dioxanes
- **768** // haterumadioxin A methyl ester // M // mod. antimalarial activity // Known semi-synthetically // *
- **769** // haterumadioxin B methyl ester // N // mod. antimalarial activity // * // *
- **770** // * // N // * // * // *
- **771** // * // N // mod. antimalarial activity // * // *
- **772** // * // N // mod. antimalarial activity // * // *
- **773** // * // N // mod. antimalarial activity // * // *

519 Porifera *Dysidea* sp. // Biak, W. Papua, Indonesia // Two new compounds from an Indonesian sponge *Dysidea* sp.
- **774** // biaketide // N // weak activity vs HTCL // * // *
- **775** // debromoantazirine // N // weak activity vs HTCL // * // *

520 Porifera *Anoxycalyx joubini* // Trawled (279 m), E. Weddell Sea, Antarctica // Occurrence of a taurine derivative in an Antarctic glass sponge.
- **776** // glassponsine // N // * // * // *

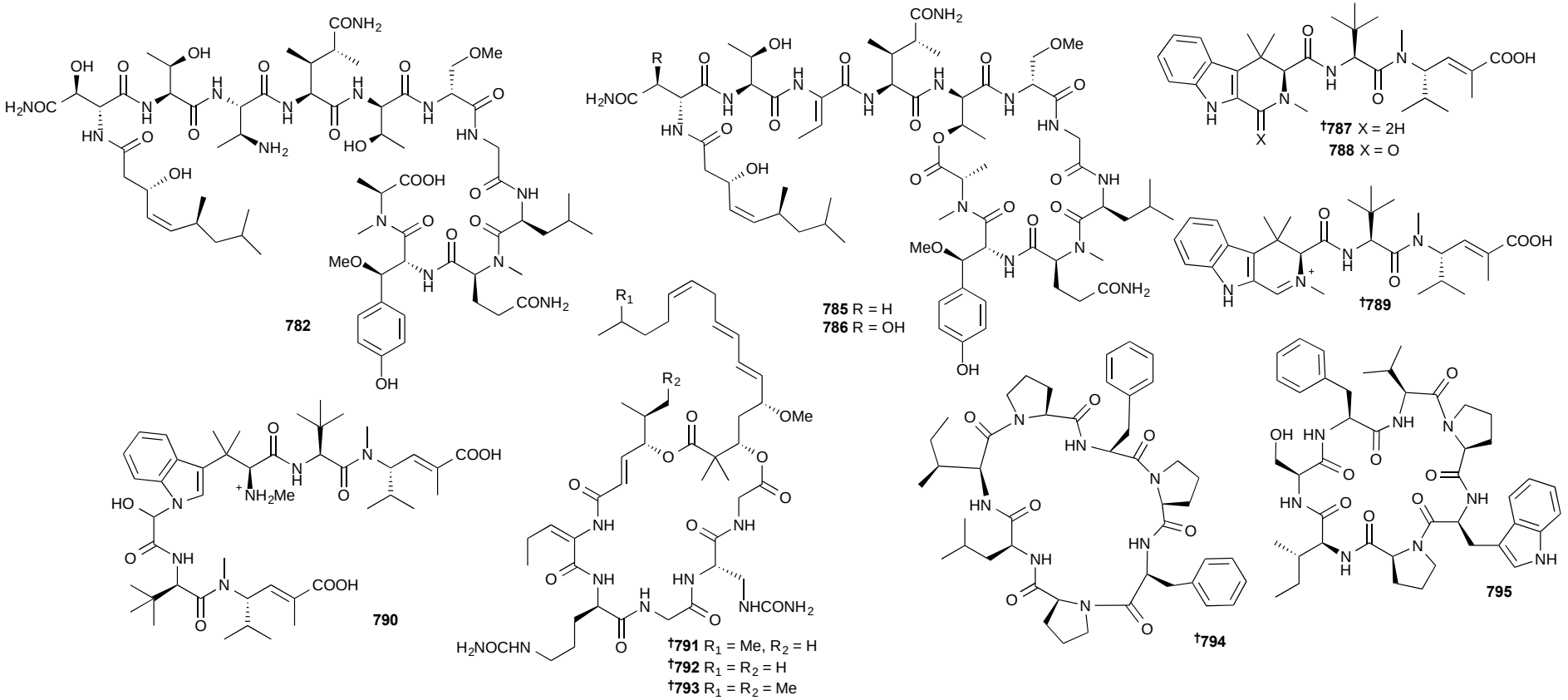


522 Porifera *Discodermia japonica* // Sagami Bay, Japan // Revised structure of cyclolithistide A, a cyclic depsipeptide from the marine sponge *Discodermia japonica*
- ***777*** // cyclolithistide A // R // * // * // **s150**

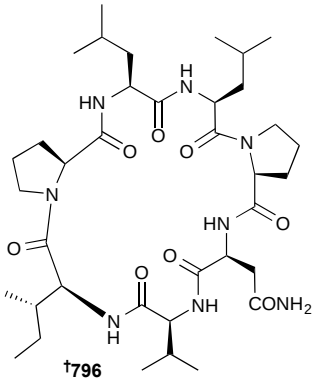
523 Porifera *Homophymia lamellosa* // Saint Marie Is., Madagascar // Isolation and structures of pipecolidepsins A and B, cytotoxic cyclic depsipeptides from Madagascan *H. lamellosa*
- ***778*** // pipecolidepsin A // N // potent activity vs 3 HTCLs // * // *
- ***779*** // pipecolidepsin B // N // potent activity vs 3 HTCLs // * // *

525 Porifera *Ecionemia acervus* // Tulear, Madagascar // Stellatolides, new cyclodepsipeptide family from *E. acervus*: isoln., solid-phase total synth., full struct. assign. of stellatolide A
- ***780*** // stellatolide A // N // potent activity vs 3 HTCLs // * // *
- ***781*** // stellatolide B // N // potent activity vs 3 HTCLs // * // *
- ***782*** // stellatolide C // N // potent activity vs 3 HTCLs // * // *
- ***783*** // stellatolide D // N // potent activity vs 3 HTCLs // * // *
- ***784*** // stellatolide E // N // potent activity vs 3 HTCLs // * // *
- ***785*** // stellatolide F // N // potent activity vs 3 HTCLs // * // *
- ***786*** // stellatolide G // N // potent activity vs 3 HTCLs // * // *

526 Porifera *Pipestela candelabra* // Houghton Reef, Australia // Potent cytotoxic peptides from the Australian marine sponge *Pipestela candelabra*
787 // milnamide E // N // potent activity vs HTCLs // * // *
788 // milnamide F // N // mod. activity vs HTCLs // * // *
789 // milnamide G // N // mod. activity vs HTCLs, 39% inhib. of NFF cells at 10 µM // * // *
790 // hemiasterlin D // N // potent activity vs HTCLs // * // *



527 Porifera *Discodermia kiiensis* // Shikine Is., Japan // Lipodiscamides A–C, new cytotoxic lipopeptides from *Discodermia kiiensis*
791 // lipodiscamide A // N // mod. activity vs HTCLs // * // *
792 // lipodiscamide B // N // mod. activity vs HTCLs // * // *
793 // lipodiscamide C // N // mod. activity vs HTCLs // * // *
528 Porifera *Stylissa caribica* // Sweetings Cay, Bahamas // Structures and solution conformational dynamics of stylissamides G and H from the Bahamian sponge *Stylissa caribica*
794 // stylissamide G // N // * // LC-MS/MS analysis of 10 *S. caribica* samples indicated source was unique chemo-morph // *
795 // stylissamide H // N // mod. activity vs HTCL // LC-MS/MS analysis of 10 *S. caribica* samples indicated source was unique chemo-morph // *



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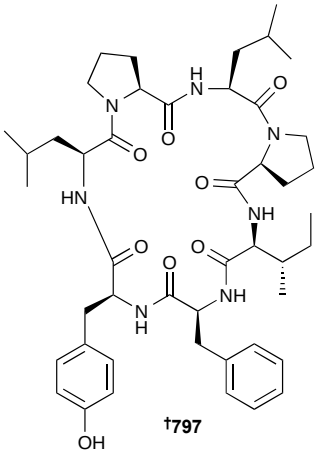

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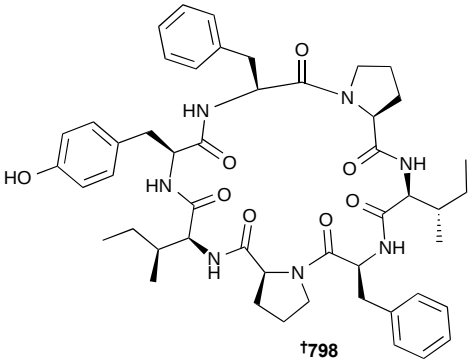

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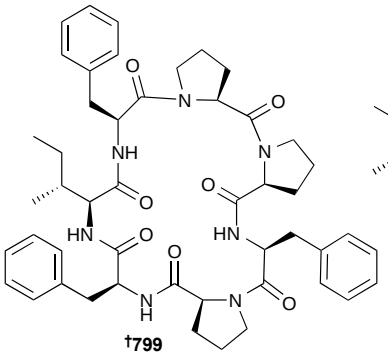

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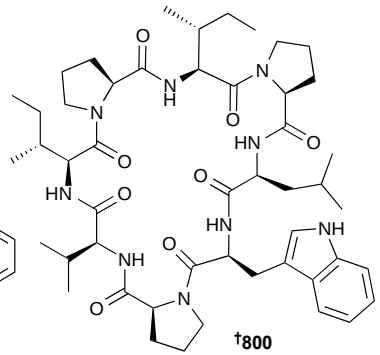
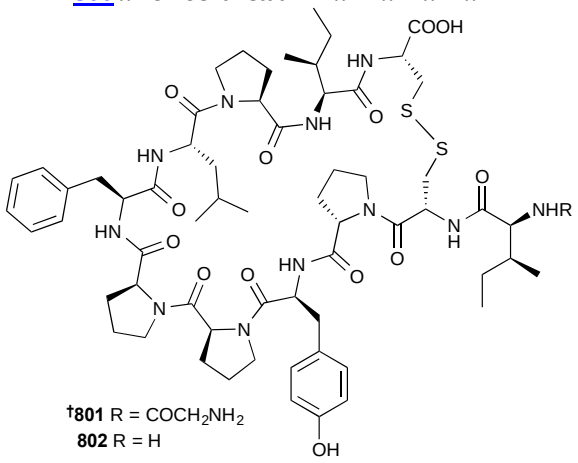
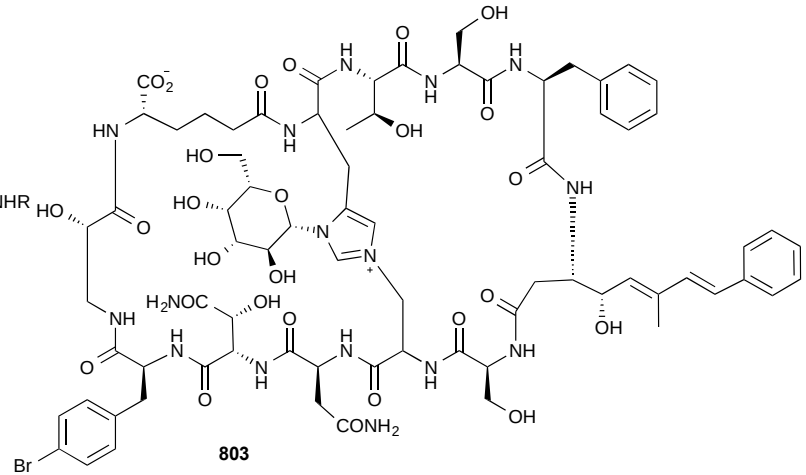


†800

529 Porifera *Reniochalina stalagmitis* // Yongxing Is., S. China Sea // Reniochalistatins A–E, cyclic peptides from the marine sponge *Reniochalina stalagmitis*
796 // reniochalistatin A // N // * // * // *
797 // reniochalistatin B // N // * // * // *
798 // reniochalistatin C // N // * // * // *
799 // reniochalistatin D // N // * // * // *
800 // reniochalistatin E // N // * // * // *



†**801** R = $COCH_2NH_2$
802 R = H



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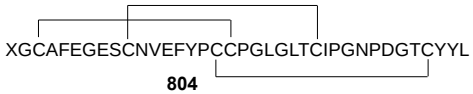


804

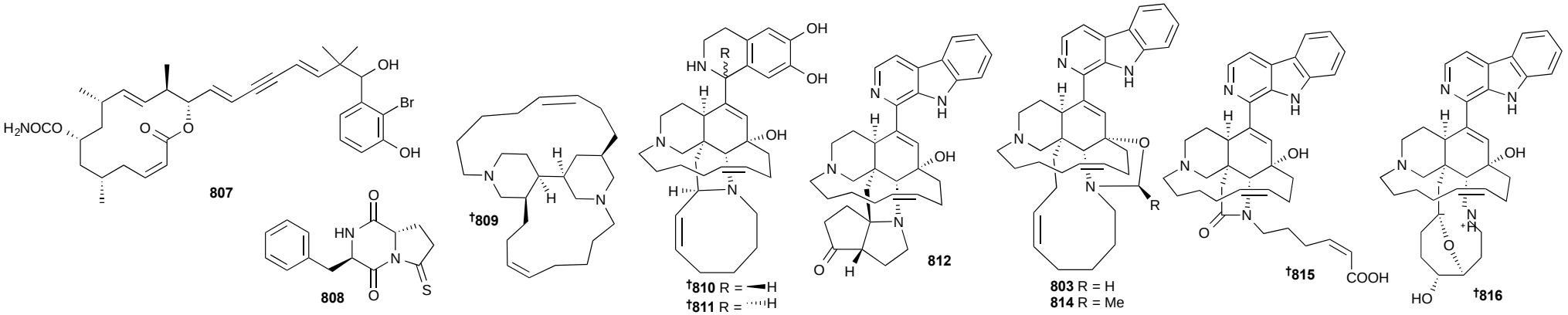
805

806

530 Porifera *Suberites waedoensis* // Chuja Is., S. Korea // New cyclic cystine bridged peptides from the sponge *Suberites waedoensis*
801 // chujamide A // N // weak activity vs HTCLs // * // *
802 // chujamide B // N // weak activity vs HTCLs, mod. vs Na+/K+ ATPase // * // *

531 Porifera *Theonella swinhoei* // Hurghada, Egypt // Theonellamide G, a potent antifungal and cytotoxic bicyclic glycopeptide from the Red Sea marine sponge *Theonella swinhoei*
803 // theonellamide G // N // mod. AB activity and vs HTCL // * // *

532 Porifera *Asteropus* sp // Geoje Island, S. Korea // Asteropsins B–D, sponge-derived knottins with potential utility as a novel scaffold for oral peptide drugs
804 // asteropsin B // N // stable to chymotrypsin, elastase and pepsin digest for >4 hrs // * // *
805 // asteropsin C // N // stable to chymotrypsin, elastase and pepsin digest for >4 hrs // * // *
806 // asteropsin D // N // stable to chymotrypsin, elastase and pepsin digest for >4 hrs // * // *



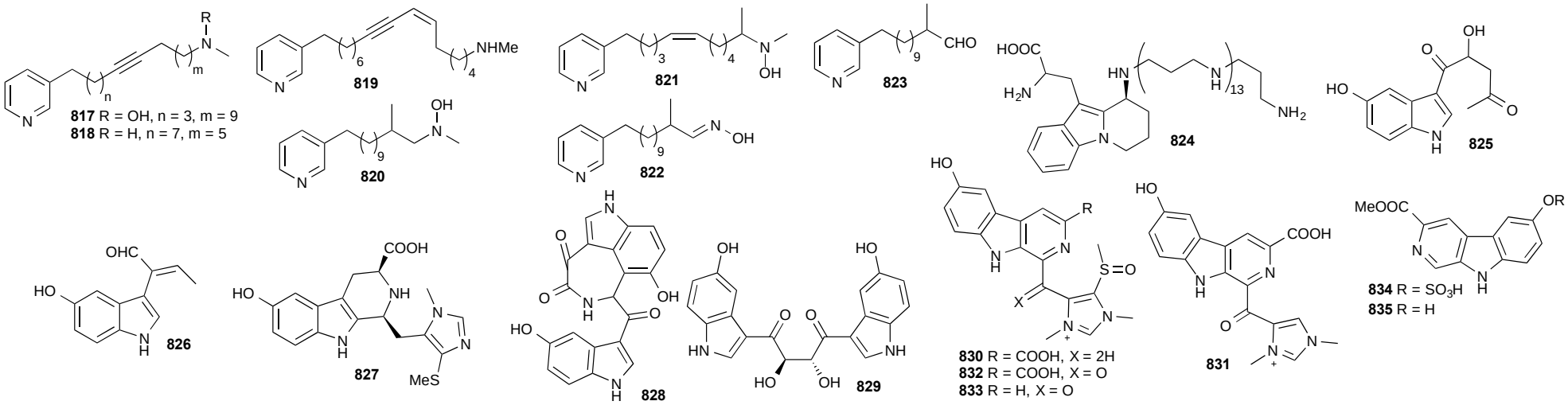
533 Porifera *Callyspongia* sp. // Ambon, Indonesia // Callyspongiolide, a cytotoxic macrolide from the marine sponge *Callyspongia* sp.
807 // callyspongiolide // N // very potent (nM) activity vs three HTCLs // * // *

537 Porifera *Callyspongia* sp. // Hainan Is., China // A new diketopiperazine from South China Sea marine sponge *Callyspongia* sp.
808 // callysponine A // N // * // * // *

538 Porifera *Acanthostrongylophora ingens* // Hoga Is., S.E. Sulawesi // Acanthocyclamine A from the Indonesian marine sponge *Acanthostrongylophora ingens*
809 // (–)-acanthocyclamine A // N // * // Abs. config. established by X-ray crystallography // *

539 Porifera *Acanthostrongylophora ingens* // Mantehage, N. Sulawesi // Acanthomanzamines A–E with new manzamine frameworks from the marine sponge *Acanthostrongylophora ingens*
810 // acanthomanzamine A // N // mod. cytoxicity vs HTCL and inhib. of proteasome action; also modest inhib. of cholesterol accumulation at 20 µM // * // *
811 // acanthomanzamine B // N // mod. cytoxicity vs HTCL and inhib. of proteasome action; also potent inhib. of cholesterol accumulation at 20 µM // * // *
812 // acanthomanzamine C // N // * // * // *
813 // acanthomanzamine D // N // weak cytoxicity vs HTCL and potent inhib. of proteasome action; also strong inhib. of cholesterol accumulation at 20 µM // * // *
814 // acanthomanzamine E // N // weak cytoxicity vs HTCL and mod. inhib. of proteasome action; also strong inhib. of cholesterol accumulation at 20 µM // * // *

540 Porifera *Acanthostrongylop. ingens* // Bajotalawaan, N. Sulawesi // Acantholactam and pre-neo-kauluamine, manzamine-related alkaloids from the Indonesian marine sponge *Acanthostrongylophora ingens*
815 // acantholactam // N // weak activity vs HTCL, weak proteasome inhib., no inhib. of cholesterol ester accumulation at 20 µM // * // *
816 // pre-neo-kauluamine // N // mod. activity vs HTCL, potent proteasome inhib., 91% inhib. of cholesterol ester accumulation at 20 µM // * // *



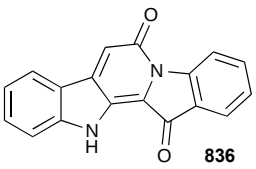
541 Porifera *Topsentia* sp. // Lingshui Bay, China // Topsendines A–F, new 3-alkylpyridine alkaloids from a Hainan sponge *Topsentia* sp.
817 // topsendine A // N // 85.9% inhib. of delayed rectifier K^+ currents in rat dissociated hippocampal neurons at 100 μM // * // *
818 // topsendine B // N // * // * // *
819 // topsendine C // N // 87.1% inhib. of delayed rectifier K^+ currents in rat dissociated hippocampal neurons at 100 μM // * // *
820 // topsendine D // N // * // * // *
821 // topsendine E // N // 76.2% inhib. of delayed rectifier K^+ currents in rat dissociated hippocampal neurons at 100 μM // * // *
822 // topsendine F // N // * // * // *
823 // 2-methyl-12-(pyridine-3-yl)dodecanal // M // * // Previously known synthetic compound // **s151**

542 Porifera *Axinyssa aculeata* // Okinawa // Protoaculeine B, a putative N-terminal residue for the novel peptide toxin aculeines
824 // protoaculeine B // N // * // * // *

543 Porifera *Hyrtios erecta* // Lingshui Bay, China // Hainanerectamines A–C, alkaloids from the Hainan sponge *Hyrtios erecta*
825 // hainanerectamine A // N // * // * // *
826 // hainanerectamine B // N // weak cytotox. vs 1 HTCL // * // *
827 // hainanerectamine C // N // weak cytotox. vs 1 HTCL // * // *

544 Porifera *Hyrtios* sp. // Kerama Is., Okinawa // Hyrtimomines, indole alkaloids from Okinawan marine sponges *Hyrtios* spp.
828 // hyrtimomine F // N // weak AB activity // * // *
829 // hyrtimomine G // N // weak AB activity // * // *
830 // hyrtimomine H // N // * // * // *
831 // hyrtimomine I // N // weak AB activity // * // *
832 // hyrtimomine J // N // weak AB activity // * // *
833 // hyrtimomine K // N // * // * // *

545 Porifera *Luffariella variabilis* // N. Sulawesi, Indonesia // Variabines A and B: new β-carboline alkaloids from the marine sponge *Luffariella variabilis*
834 // variabine A // N // * // First reported sulfated β-carboline // *
835 // variabine B // N // mod. inhib. of chymotrypsin-like activity of proteasome and Ubc13-Uev-1A // * // *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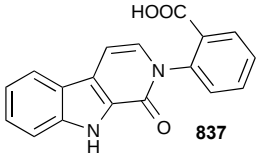
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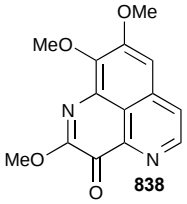
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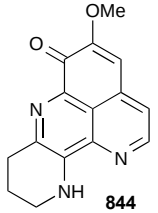
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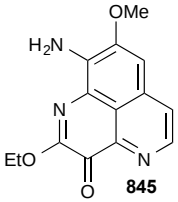
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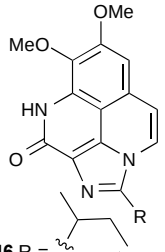
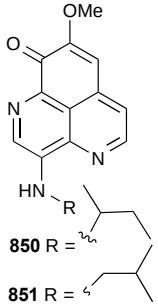
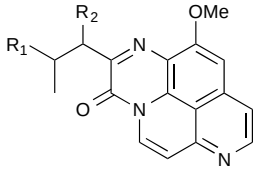
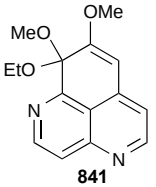

846 R =

847 R =
848 R = *i*Pr
849 R = OEt


850 R =

851 R =
852 R = $(CH_2)_3COOEt$


839 R_1 = Me, R_2 = H
840 R_1 = H, R_2 = Me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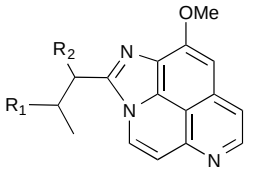
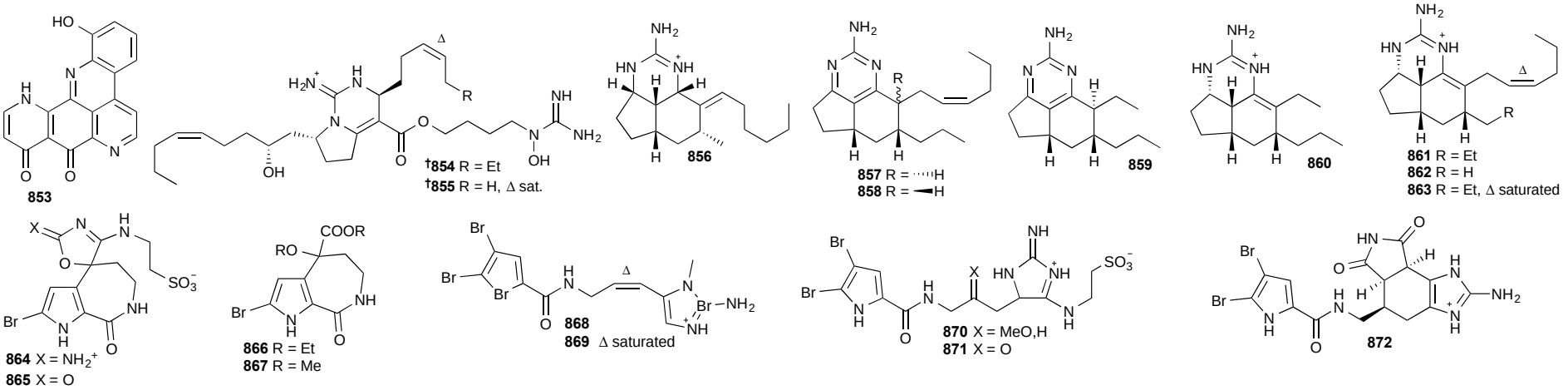

842 R_1 = H, R_2 = Me
843 R_1 = Me, R_2 = H

546 Porifera *Hyrtios* sp. // Swain Reef, Australia // Isolation, structure determination and cytotoxicity studies of tryptophan alkaloids from an Australian marine sponge *Hyrtios* sp.
836 // 6-oxofascaplysin // N // weak activity vs HTCL // MS-guided isolation // *
837 // secofascaplysic acid // N // weak activity vs HTCL // MS-guided isolation // *

549 Porifera *Aaptos* sp. // Kupang, Indonesia // Aaptamines, marine spongean alkaloids, as anti-dormant mycobacterial substances
838 // 2-methoxy-3-oxoaaptamine // N // mod. antimycobacterial activity against both active and dormant *M. smegmatis* // * // *

550 Porifera *Aaptos aaptos* // Yongxing Is./Seven Connected Islets, S. China Sea // Aaptamine derivatives with antifungal and anti-HIV-1 activities from the South China Sea sponge *Aaptos aaptos*
839 // 2-isobutyl-11-methoxy-3H-[1,6]naphthyridino[6,5,4-def]quinoxalin-3-one // N // * // * // *
840 // 2-(sec-butyl)-11-methoxy-3H-[1,6]naphthyridino[6,5,4-def]quinoxalin-3-one // N // * // * // *
841 // 9-ethoxy-8,9-dimethoxy-9H-benzo[de][1,6]naphthyridine // N // weak AF activity // Probable artefact of isolation // *
842 // 2-(sec-butyl)-10-methoxyimidazo[4,5,1-ij]pyrido[2,3,4-de]quinolone // N // weak AF activity // * // *
843 // 2-isobutyl-10-methoxyimidazo[4,5,1-ij]pyrido[2,3,4-de]quinolone // N // weak AF activity // * // *

551 Porifera *Aaptos aaptos* // Yongxing Is./Seven Connected Islets, S. China Sea // Cytotoxic aaptamine derivatives from the South China Sea sponge *Aaptos aaptos*
844 // piperidine[3,2-b]demethyl(oxy)-aaptamine // N // * // * // *
845 // 9-amino-2-ethoxy-8-methoxy-3H-benzo[de]-[1,6]naphthyridin-3-one // N // potent inhib. of 6 HTCLs // Probable artefact of isolation // *
846 // 2-(sec-butyl)-7,8-dimethoxybenzo[de]imidazo[4,5,1-ij][1,6]-naphthyridin-10(9H)-one // N // * // * // *
847 // 2-isobutyl-7,8-dimethoxybenzo[de]imidazo[4,5,1-ij][1,6]-naphthyridin-10(9H)-one // N // * // * // *
848 // 2-isopropyl-7,8-dimethoxybenzo[de]imidazo[4,5,1-ij][1,6]-naphthyridin-10(9H)-one // N // * // * // *
849 // 2-ethoxy-7,8-dimethoxybenzo[de]imidazo[4,5,1-ij][1,6]-naphthyridin-10(9H)-one // N // * // Probable artefact of isolation // *
850 // 3-(2-methylbutylamino)demethyl(oxy)aaptamine // N // * // * // *
851 // 3-isobutylaminodemethyl(oxy)-aaptamine // N // potent inhib. of 6 HTCLs // * // *
852 // 3-(N-4-ethylbutanoate)aminodemethyl(oxy)aaptamine // N // * // Probable artefact of isolation // *



552 Porifera *Ancorina geodides* // Budget Head, Tasmania, Australia // Struct. determ. of pentacyclic pyridoacridine alkaloids from Australian *A. geodides*, *Cnemidocarpa stolonifera*
853 // ancorine A // N // weak activity against HTCLs // From *Ancorina geodides* // *

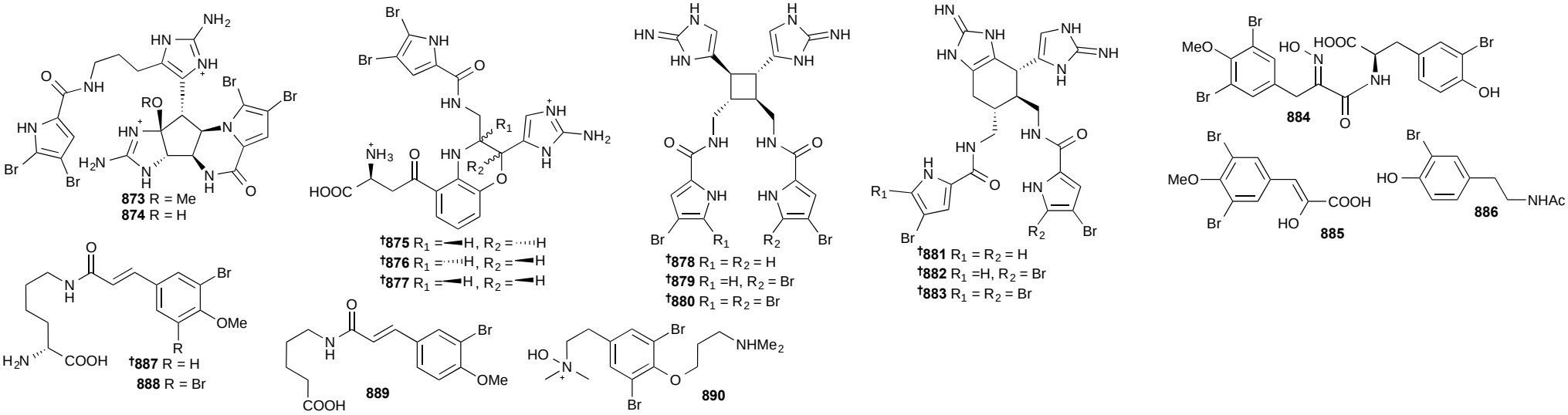
555 Porifera *Monanchora pulchra* // Urup Is, Russia // Urupocidin A: a new, inducing iNOS expression bicyclic guanidine alkaloid from the marine sponge *Monanchora pulchra*
854 // urupocidin A // N // increased iNOS expression and hence NO production in RAW 264.7 cells at 10 µM // First marine alkaloid stimulator of NO production // *
855 // urupocidin B // N // * // * // *

556 Porifera *Acanthella cavernosa* // S.W. Australia // Tricyclic guanidine alkaloids from the marine sponge *Acanthella cavernosa* that stabilize the tumor suppressor PDCD4
856 // mirabilin K // N // * // * // *

557 Porifera *Biemna laboutei* // Salary Bay, Madagascar // Netamines H–N, tricyclic alkaloids from the marine sponge *Biemna laboutei* and their antimalarial activity
857 // netamine H // N // * // mirablin A also isolated in underivatised form for the first time // *
858 // netamine I // N // * // mirablin A also isolated in underivatised form for the first time // *
859 // netamine J // N // * // mirablin A also isolated in underivatised form for the first time // *
860 // netamine K // N // mod. antimalarial activity // mirablin A also isolated in underivatised form for the first time // *
861 // netamine L // N // * // mirablin A also isolated in underivatised form for the first time // *
862 // netamine M // N // mod. activity vs HTCL // mirablin A also isolated in underivatised form for the first time // *
863 // netamine N // N // * // mirablin A also isolated in underivatised form for the first time // *

558 Porifera *Callyspongia* sp. // Great Australian Bight // Callyspongisines A–D: bromopyrrole alkaloids from an Australian marine sponge, *Callyspongia* sp.
864 // callyspongisine A // N // * // * // *
865 // callyspongisine B // N // * // likely degradation/storage artefact // *
866 // callyspongisine C // N // * // likely degradation/storage artefact // *
867 // callyspongisine D // N // * // likely degradation/storage artefact // *

559 Porifera *Agelas* sp. // Kerama Is., Okinawa // Bromopyrrole alkaloids from a marine sponge *Agelas* sp.
868 // 2-bromokeramadine // N // * // * // *
869 // 2-bromo-9,10-dihydrokeramadine // N // weak AB activity // * // *
870 // tauroacidin C // N // * // * // *
871 // tauroacidin D // N // * // * // *
872 // mukanadin G // M // mod. AB activity // * // s152



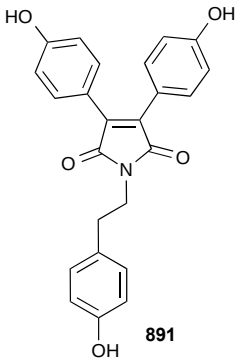
560 Porifera *Agelas* sp. // Kerama Is., Okinawa // Agelamadins A and B, dimeric bromopyrrole alkaloids from a marine sponge *Agelas* sp.
873 // agelamadin A // N // mod. AB activity // Isolated as a racemate // *
874 // agelamadin B // N // mod. AB activity // Isolated as a racemate // *

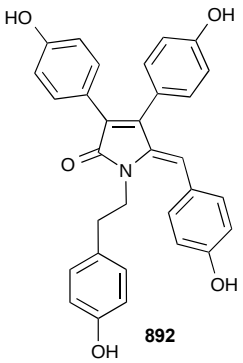
561 Porifera *Agelas* sp. // Kerama Is., Okinawa // Agelamadins C–E, bromopyrrole alkaloids comprising oroidin and 3-hydroxykynurenine from a marine sponge *Agelas* sp.
875 // agelamadin C // N // weak AB activity vs *Cryptococcus neoformans* // * // *
876 // agelamadin D // N // weak AB activity vs *C. neoformans* // * // *
877 // agelamadin E // N // weak AB activity vs *C. neoformans* // * // *

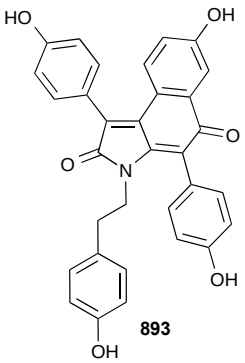
571 * // * // Asymmetric syntheses of sceptrin and massadine and evidence for biosynthetic enantiodivergence
878 // sceptrin // R // * // * // **s153**
879 // bromosceptrin // R // * // * // **s154**
880 // dibromosceptrin // R // * // * // *
881 // ageliferin // R // * // * // **s155**
882 // bromoageliferin // R // * // * // **s155**
883 // dibromoageliferin // R // * // * // **s155**

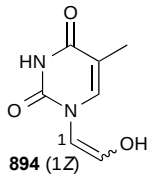
572 Porifera *Callyspongia* sp. // Heron Is., Queensland, Australia // ApoE secretion modulating bromotyrosine derivative from the Australian marine sponge *Callyspongia* sp.
884 // callyspongic acid // N // * // * // *
885 // 3,5-dibromo-4-methoxyphenylpyruvic acid // N // increased ApoE secretion at 40 μM // * // *
886 // N-acetyl-3-bromo-4-hydroxylphenylethamine // N // * // * // *

573 Porifera *Aplysinella* sp. // Sykes Reef, Great Barrier Reef, Australia // Aplysinellamides A–C, bromotyrosine-derived metabolites from an Australian *Aplysinella* sp. marine sponge
887 // aplysinellamide A // N // * // * // *
888 // aplysinellamide B // N // * // * // *
889 // aplysinellamide C // N // * // * // *
890 // aplysinellamide-1-*N*-oxide // N // * // * // *

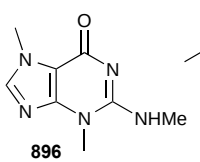








894 (1*Z*)
895 (1*E*)



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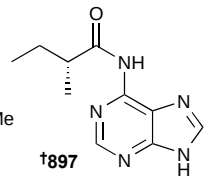
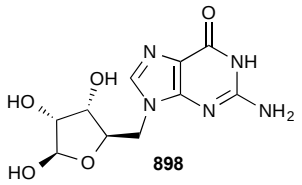


†**897**



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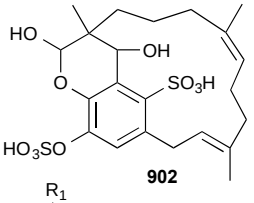

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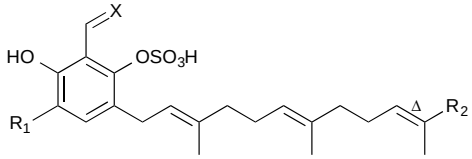
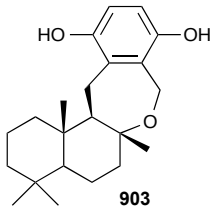
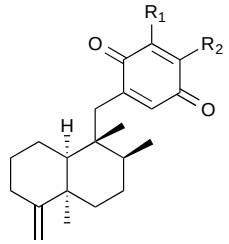


899 R_1 = OH, R_2 = COOH, X = $N(CH_2)_2SO_3H$, Δ saturated
900 R_1 = OH, R_2 = COOH, X = O, Δ saturated
901 R_1 = OSO_3H, R_2 = Me, X = O

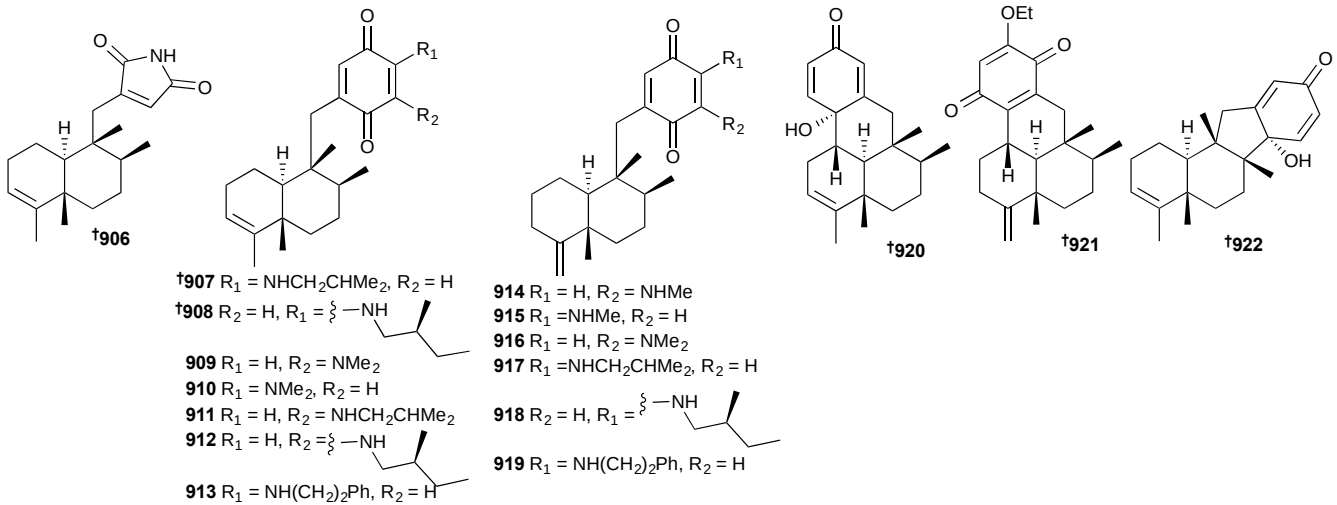


903



904 R_1 = $NHCH_2CH_2SO_3H$, R_2 = H
905 R_1 = H, R_2 = $NHCH_2CH_2SO_3H$

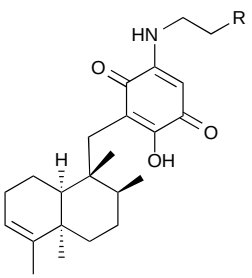
574 Porifera *Dendrilla nigra* // Tuticorin, India // Denigrins A–C: new antitubercular 3,4-diarylpyrrole alkaloids from *Dendrilla nigra*.
891 // denigrin A // N // mod. to weak AB activity // * // *
892 // denigrin B // N // mod. to weak AB activity // * // *
893 // denigrin C // N // mod. to weak AB activity // * // *
Porifera *Haliclona* sp. // Hainan Is., China // Two new thyminenol derivatives from the marine sponge *Haliclona* sp.
894 // cis-thyminenol // N // * // * // *
895 // trans-thyminenol // N // * // * // *
504 Porifera *Petrosia* sp. // Jeddah, Saudi Arabia // Cytotoxic effects of three new metabolites from Red Sea marine sponge, *Petrosia* sp.
896 // 3,7-dimethyl-2-(methylamino)-3H-purin-6(7H)-one // N // IC_{50} 68 µg/mL DNA binding using methyl green displacement // * // *
576 Porifera *Phoriospongia* sp. // Port Phillip Bay, Victoria, Australia // Isolation and synthesis of *N*-acyladenine and adenosine alkaloids from a southern Australian marine sponge, *Phoriospongia* sp.
897 // phorioadenine A // N // weak nemotocidal activ. vs *Haemonchus contortus* // Synth. used to establish abs. config. of MNP, related adenosine compd also detected by LCMS // *
577 Porifera *Dragmacidon coccineum* // Hurghada, Egypt // Dragmacidoside: a new nucleoside from the Red Sea sponge *Dragmacidon coccinea*
898 // dragmacidoside // N // * // * // *
578 Porifera *Aka (Siphonodictyon) coralliphagum* // San Salvador, Bahamas // New sesquiterpene hydroquinones from the Caribbean sponge *Aka coralliphagum*
899 // siphonodictyal E1 // N // * // * // *
900 // siphonodictyal E2 // N // * // * // *
901 // siphonodictyal E3 // N // mod. AB activity // * // *
902 // siphonodictyal E4 // N // low activity versus HTCL // * // *
903 // cyclosiphonodictyol A // N // mod. AB and low activity vs HTCL // * // *
Porifera *Dysidea* sp. // Scott Reef, W. Australia // Tauroarenarones A and B, new taurine-containing meroterpenoids from the marine sponge *Dysidea* sp.
904 // tauroarenarone A // N // * // * // *
905 // tauroarenarone B // N // * // * // *

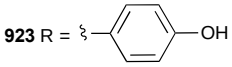


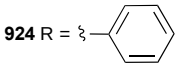
580 Porifera *Dysidea* sp. // Yongxing Is., S. China Sea // Dysidinoid A, an unusual meroterpenoid with anti-MRSA activity from the South China Sea aponge *Dysidea* sp.
906 // dysidinoid A // N // mod. antibacterial (MIC 8 µg/mL vs MRSA) // * // *

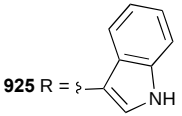
581 Porifera *Dysidea fragilis* // Pointe De Senti Joal, Senegal // Dysidaminones A–M, cytotoxic and NF-kB inhibitory sesquiterpene aminoquinones from the South China Sea sponge *Dysidea fragilis*
907 // dysidaminone A // N // mod. activity vs HTCLs and NF-κB // 18-amino group key SAR // *
908 // dysidaminone B // N // mod. activity vs HTCLs and NF-κB // 18-amino group key SAR // *
909 // dysidaminone C // N // mod. activity vs HTCLs and NF-κB // 18-amino group key SAR // *
910 // dysidaminone D // N // mod. activity vs HTCLs and NF-κB // 18-amino group key SAR // *
911 // dysidaminone E // N // mod. activity vs HTCLs and NF-κB // 18-amino group key SAR // *
912 // dysidaminone F // N // mod. activity vs HTCLs and NF-κB // 18-amino group key SAR // *
913 // dysidaminone G // N // mod. activity vs HTCLs and NF-κB // 18-amino group key SAR // *
914 // dysidaminone H // N // mod. activity vs HTCLs and NF-κB // 18-amino group key SAR // *
915 // dysidaminone I // N // mod. activity vs HTCLs and NF-κB // 18-amino group key SAR // *
916 // dysidaminone J // N // mod. activity vs HTCLs and NF-κB // 18-amino group key SAR // *
917 // dysidaminone K // N // mod. activity vs HTCLs and NF-κB // 18-amino group key SAR // *
918 // dysidaminone L // N // mod. activity vs HTCLs and NF-κB // 18-amino group key SAR // *
919 // dysidaminone M // N // mod. activity vs HTCLs and NF-κB // 18-amino group key SAR // *

582 Porifera *Dysidea avara* // Yongxing Is., S. China Sea // Dysideanones A–C, unusual sesquiterpene quinones from the South China Sea sponge *Dysidea avara*
920 // dysideanone A // N // * // 6/6/6/6 tetracyclic structure unprecedented // *
921 // dysideanone B // N // low µM activity against HTCL and various microbial species // 6/6/6/6 tetracyclic structure unprecedented // *
922 // dysideanone C // N // * // * // *



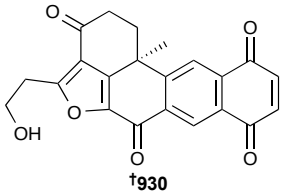
923 R = 

924 R = 

925 R = 

926 R = CH_2SMe

927 R = *i*Pr



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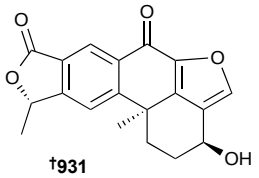

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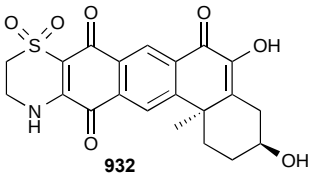

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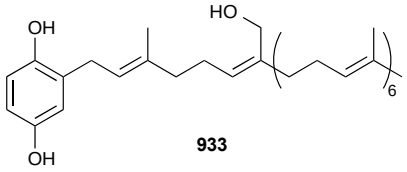
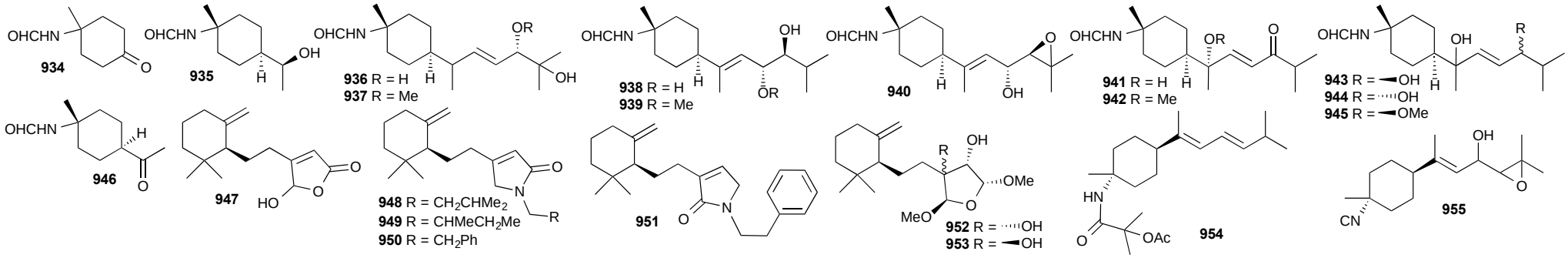


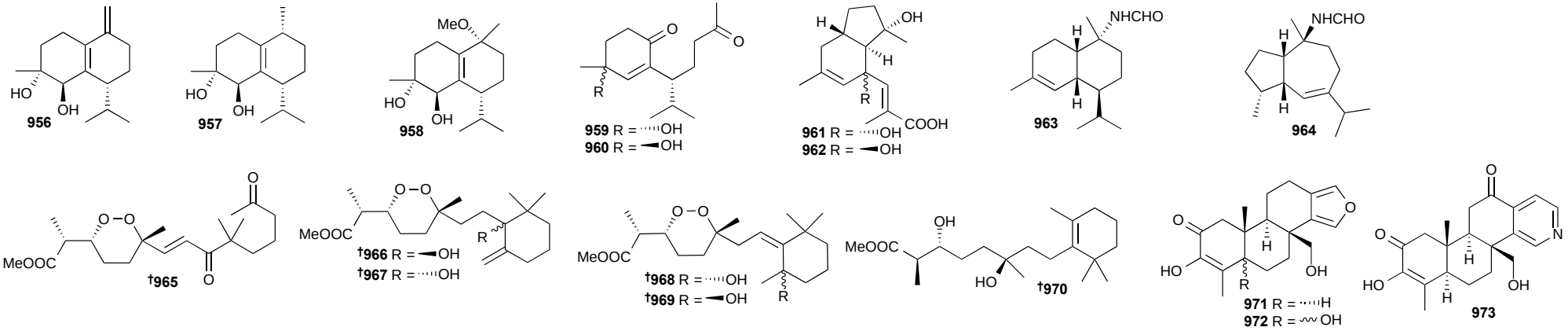
933

583 Porifera *Dactylospongia metachromia* // Ambon, Indonesia // Cytotoxic and protein kinase inhibiting nakijiquinones and nakijiquinols from the sponge *Dactylospongia metachromia*
923 // 5-*epi*-nakijiquinone S // N // low µM activity HTCL, no inhib. of protein kinases // * // *
924 // 5-*epi*-nakijiquinone Q // N // low µM activity HTCL, no inhib. of protein kinases // * // *
925 // 5-*epi*-nakijiquinone T // N // low µM activity HTCL, no inhib. of protein kinases // * // *
926 // 5-*epi*-nakijiquinone U // N // low µM activity HTCL, no inhib. of protein kinases // * // *
927 // 5-*epi*-nakijiquinone N // N // low µM activity HTCL, no inhib. of protein kinases // * // *
928 // 5-*epi*-nakijinol C // N // inactive vs HTCL, potent low µM inhib. of 16 protein kinases // * // *
929 // 5-*epi*-nakijinol D // N // inactive vs HTCL, potent low µM inhib. of 16 protein kinases // * // *

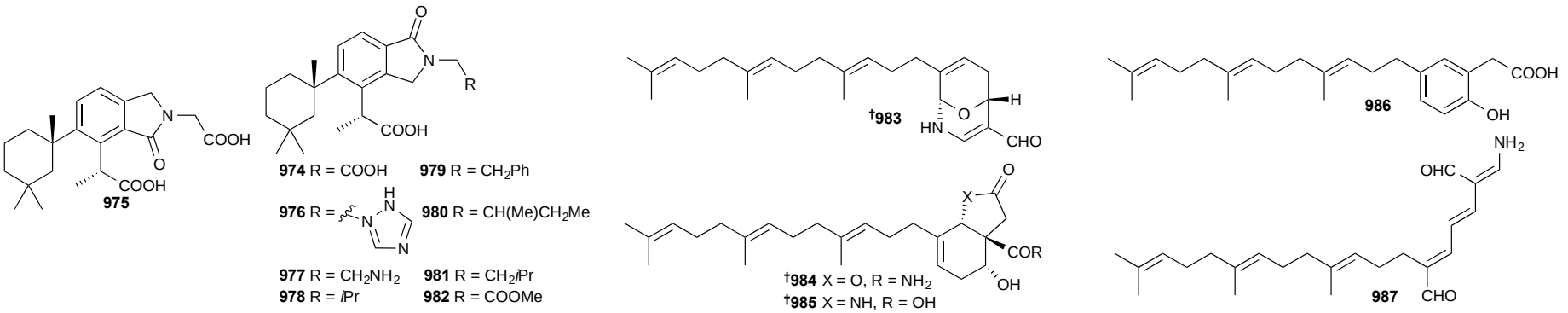
584 Porifera *Xestospongia* sp. // Likpan, N. Sulawesi, Indonesia // 1-Hydroxyethylhalenaquinone: a new proteasome inhibitor from the marine sponge *Xestospongia* sp.
930 // 1-hydroxyethylhalenaquinone // N // potent inhib. of chymotrypsin-like activity of proteasome // * // *
585 Porifera *Xestospongia vansoesti* // Palawan Is., Philippines // Indoleamine 2,3-dioxygenase inhibitors isolated from the sponge *Xestospongia vansoesti*: structure elucidation, analogue synthesis, and biological activity
931 // xestolactone A // N // weak inhib. of IDO // * // *
932 // xestosaprol O // N // mod. inhib. of IDO // SAR study of analogues shows 3-OH detrimental to IDO inhib. // *
586 Porifera *Sarcotragus* sp. *inosulus* // Porto-Conte Bay, Sardinia, Italy // Isolation of hydroxyoctaprenyl-1',4'-hydroquinone, a new octaprenylhydroquinone from the marine sponge *Sarcotragus spinosulus* and evaluation of its pharmacological activity on acetylcholine and glutamate release in the rat central nervous system
933 // hydroxyoctaprenyl-1',4'-hydroquinone // N // effect neurotransmission by enhancing Ca^{2+}-dependent glutamate release in nerve synaptosomes // * // *



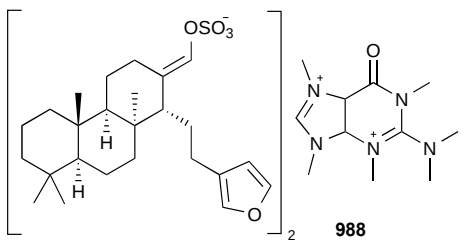
587 Porifera *Axinyssa* sp. // Andaman Sea, Thailand // Formamidobisabolene-based derivatives from a sponge *Axinyssa* sp.
934 // axinyssine A // N // * // * // *
935 // axinyssine B // N // * // * // *
936 // axinyssine C // N // weak AB activity // * // *
937 // axinyssine D // N // * // * // *
938 // axinyssine E // N // * // * // *
939 // axinyssine F // N // weak AB activity // * // *
940 // axinyssine G // N // weak AB activity // * // *
941 // axinyssine H // N // weak AB activity // * // *
942 // axinyssine I // N // * // * // *
943 // axinyssine J // N // * // * // *
944 // axinyssine K // N // * // * // *
945 // axinyssine L // N // weak AB activity // * // *
946 // 6-acetyl-3-methyl-3- formamidocyclohexane // M // * // * // s156
588 Porifera *Ircinia* sp. // Tongyeong City, S. Korea // Sesquiterpenoids with PPARδ agonistic effect from a Korean marine sponge *Ircinia* sp.
947 // * // N // mod. agonist of hPPARδ // * // *
948 // * // N // * // * // *
949 // * // N // * // * // *
950 // * // N // mod. agonist of hPPARδ // * // *
951 // * // N // * // * // *
952 // * // N // * // * // *
953 // * // N // * // * // *
589 Porifera *Axinyssa* sp. // Pingtung, Taiwan // New nitrogenous bisabolene-type sesquiterpenes from a Formosan sponge *Axinyssa* sp.
954 // axinysaline A // N // mod. activity vs 2 HTCL // * // *
955 // axinysaline B // N // * // * // *



590 Porifera *Dysidea cinerea* // Lang Co Beach, Vietnam // Muurolane-type sesquiterpenes from marine sponge *Dysidea cinerea*
956 // (4*R*,5*R*)-muurol-1(6),10(14)-diene-4,5-diol // N // * // * // *
957 // (4*R*,5*R*)-muurol-1(6)-ene-4,5-diol // N // * // * // *
958 // (4*R*,5*R*,10*R*)-10-methoxymuurol-1(6)-ene-4,5-diol // N // * // * // *
959 // (4*S*)-4-hydroxy-1,10-seco-muurol-5-ene-1,10-dione // N // * // * // *
960 // (4*R*)-4-hydroxy-1,10-seco-muurol-5-ene-1,10-dione // N // * // * // *
961 // (6*S*,10*S*)-6,10-dihydroxy-7,8-seco-2,8-cyclo-muurol-4(5),7(11)-diene-12-oic acid // N // * // * // *
962 // (6*R*,10*S*)-6,10-dihydroxy-7,8-seco-2,8-cyclo-muurol-4(5),7(11)-diene-12-oic acid // N // * // * // *
591 Porifera *Topsentia* sp. // Jeju Is., S. Korea // Four sesquiterpenes isolated from a marine sponge *Topsentia* species
963 // * // N // * // * // *
964 // * // M // * // * // **s157**
592 Porifera *Diacarnus megaspinorhabdosa* // Woody Is., S. China Sea // Relative and absolute stereochemistry of diacarperoxides: antimalarial norditerpene endoperoxides from marine sponge *Diacarnus megaspinorhabdosa*
965 // diacarperoxide H // N // mod. to weak activity against *P. falciparum* (W2) // * // *
966 // diacarperoxide I // N // mod. activity against *P. falciparum* (W2 and D6) // * // *
967 // diacarperoxide J // N // mod. activity against *P. falciparum* (W2 and D6) // * // *
968 // diacarperoxide K // N // * // * // *
969 // diacarperoxide L // N // * // * // *
970 // diacardiol B // N // * // * // *
593 Porifera *Spongia* sp. // Bunaken Marine Park, Sulawesi // Spongiapyridine and related spongians isolated from an Indonesian *Spongia* sp.
971 // 18-nor-3,17-dihydroxyspongia-3,13(16),14-trien-2-one // N // * // * // *
972 // 18-nor-3,5,17-trihydroxyspongia-3,13(16),14-trien-2-one // N // mod. aromatase inhib. and weak QR1 inducer // * // *
973 // spongiapyridine // N // * // * // *



594 Porifera *Darwinella oxeata* // Port Hardy, D'Urville Is. New Zealand // The oxeatamides: nitrogenous spongian diterpenes from the New Zealand marine sponge *Darwinella oxeata*
974 // oxeatamide A // N // * // * // *
975 // iso-oxeatamide A // N // * // * // *
976 // oxeatamide B // N // * // * // *
977 // oxeatamide C // N // * // * // *
978 // oxeatamide D // N // * // * // *
979 // oxeatamide E // N // * // * // *
980 // oxeatamide F // N // * // * // *
981 // oxeatamide G // N // * // * // *
982 // oxeatamide A 23-methyl ester // N // * // Probable artefact of isolation // *
595 Porifera *Hippospongia lachne* // Yongxing Is./Seven Connected Islets, S. China Sea // New hippolide derivatives with protein tyrosine phosphatase 1B inhibitory activity from the marine sponge *Hippospongia lachne*
983 // * // N // mod. cytoxicity against HTCL // * // *
984 // * // N // * // * // *
985 // * // N // low cytoxicity against HTCL // * // *
986 // * // N // low cytoxicity against HTCL // * // *
987 // * // N // mod. cytoxicity against HTCL // * // *



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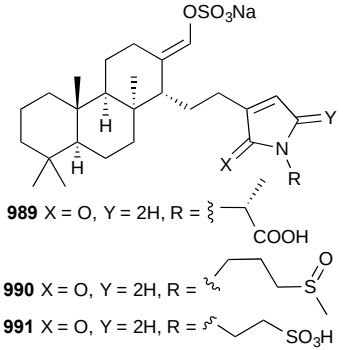


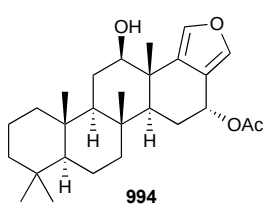
989 X = O, Y = 2H, R =

990 X = O, Y = 2H, R =

991 X = O, Y = 2H, R =

992 X = 2H, Y = O, R =

993 X = 2H, Y = O, R =



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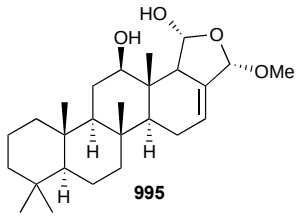

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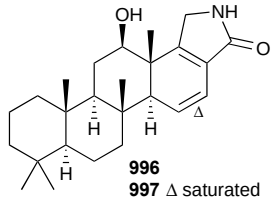

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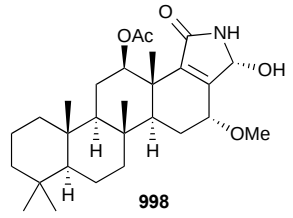
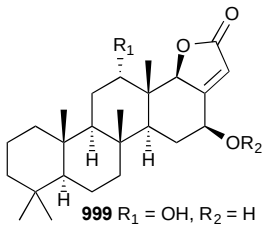
997 Δ saturated



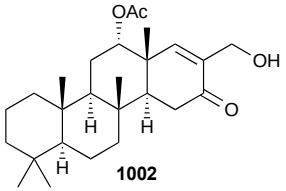
998

506 Porifera *Coscinoderma* sp. // Weno Is., Chuuk State, Micronesia // Suvanine sesterterpenes and deacyl irciniasulfonic acids from a tropical *Coscinoderma* sp. sponge
988 // suvanine *N,N*-dimethyl-1,3-dimethylherbipoline salt // N // mod. to weak AB activity and vs HTCL, ATPase // * // *
989 // coscinolactam C // N // mod. to weak AB activity and vs HTCL, ATPase // * // *
990 // coscinolactam D // N // mod. to weak AB activity and vs HTCL, ATPase // * // *
991 // coscinolactam E // N // mod. to weak AB activity and vs HTCL, ATPase // * // *
992 // coscinolactam F // N // mod. to weak AB activity and vs HTCL, ATPase // * // *
993 // coscinolactam G // N // mod. to weak AB activity and vs HTCL, ATPase // * // *

596 Porifera *Hyrtios* sp., *Petrosaspongia* sp. // Vanua Levu outter reef, Fiji // Scalarane sesterterpenes from Thorectidae sponges as inhibitors of TDP-43 nuclear factor
994 // 16-*epi*-scalarafuran // N // low affinity binding to TDP-43 // * // *
995 // * // N // high affinity binding to TDP-43 // * // *
996 // Petrosaspongiolactam A // N // high affinity binding to TDP-43 // * // *
997 // petrosaspongiolactam B // N // low affinity binding to TDP-43 // * // *
998 // petrosaspongiolactam C // N // low affinity binding to TDP-43 // * // *



999 R_1 = OH, R_2 = H
1000 R_1 = H, R_2 = Ac
1001 R_1 = R_2 = H



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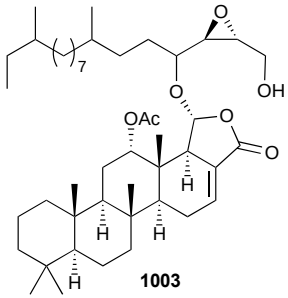

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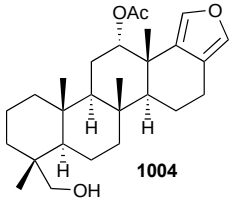

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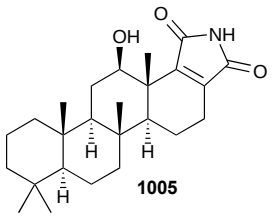

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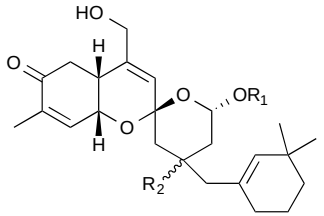


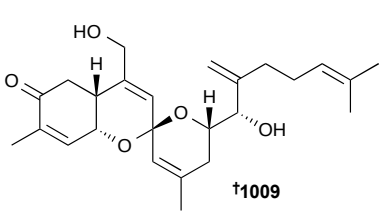
†**1006** R_1 = Me, R_2 = Me
†**1007** R_1 = Me, R_2 = Me
1008 R_1 = H, R_2 = Me

597 Porifera *Scalarispongia* sp. // Dokdo, S. Korea // Cytotoxic sesterterpenoids isolated from the marine sponge *Scalarispongia* sp.
999 // 16-*O*-deacetyl-12,16-epi-scalarolbutanolide // N // * // * // *
1000 // * // N // weak inihibito of 6 HTCLs // * // *
1001 // * // N // weak inihibito of 6 HTCLs // * // *
1002 // * // N // weak inihibito of 6 HTCLs // * // *

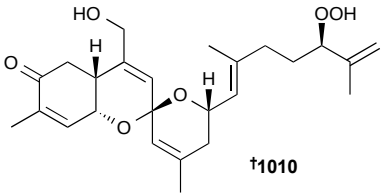
598 Porifera *Hyrtios erectus* // Yongxing Is., S. China Sea // Two new scaralane-type sesterterpenoids isolated from the marine sponge *Hyrtios erectus*
1003 // scalarinether // N // * // * // *
1004 // hydroxy-16-deacetyl-12-epi-scalarafuran acetate // N // * // * // *

599 Porifera *Hyrtios* sp. // Woody Is./Rocky Is., S. China Sea // Scalarane sesterterpenes from the Paracel Islands marine sponge *Hyrtios* sp.
1005 // sesterstamide // N // weak antileishmanial activity // * // *

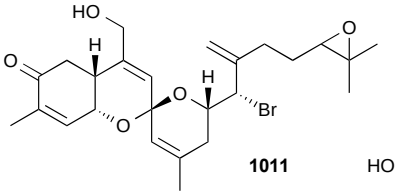
600 Porifera *Clathria gombawuiensis* // Gageo-do, S. Korea // Gombaspiroketals A–C, sesterterpenes from the sponge *Clathria gombawuiensis*
1006 // gombaspiroketal A // N // potent activity vs HTCLs, weak AB and mod. ATPase activity // * // *
1007 // gombaspiroketal B // N // potent activity vs HTCLs, weak AB and ATPase activity // * // *
1008 // gombaspiroketal C // N // potent activity vs HTCLs, weak AB and ATPase activity // * // *



†**1009**



†**1010**



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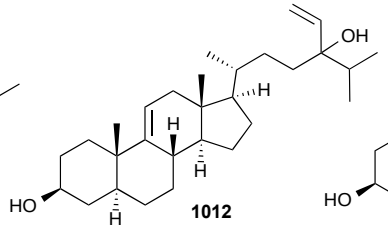

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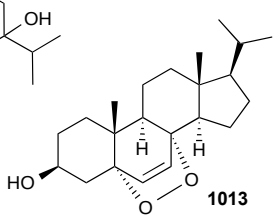

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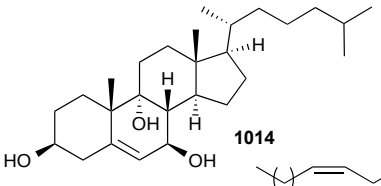

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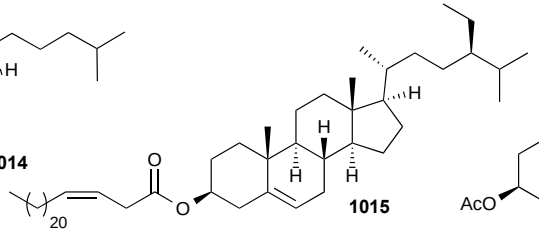

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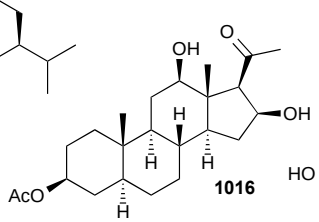

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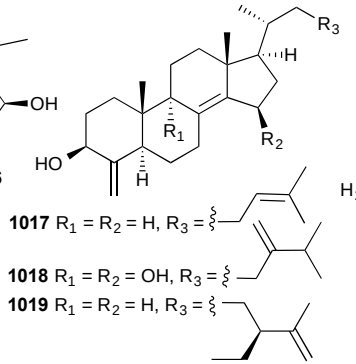
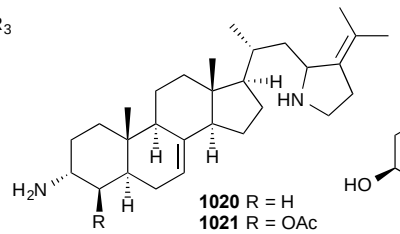
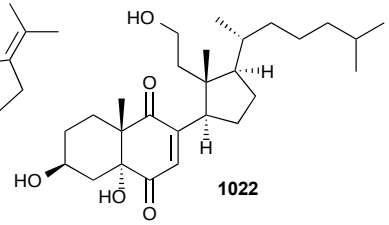


1017 $R_1 = R_2 = H$, R_3 =
1018 $R_1 = R_2 = OH$, R_3 =
1019 $R_1 = R_2 = H$, R_3 =



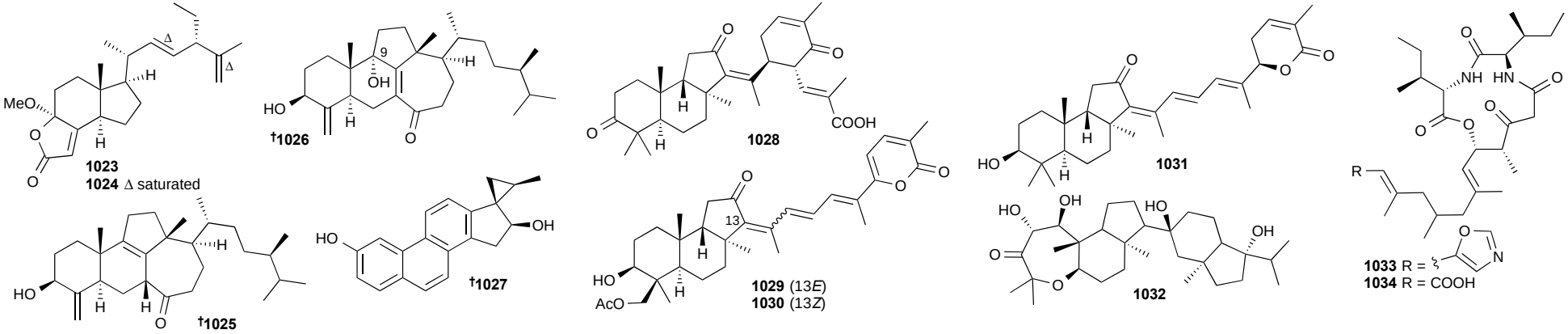
1020 R = H
1021 R = OAc



1022

601 Porifera *Phorbas* sp. // Gageo Is., S. Korea // Phorbaketals L–N, cytotoxic sesterterpenoids isolated from the marine sponge of the genus *Phorbas*
1009 // phorbaketal L // N // mod. to weak activity vs HTCLs // * // *
1010 // phorbaketal M // N // mod. to weak activity vs HTCLs // * // *
1011 // phorbaketal N // N // mod. to weak activity vs HTCLs // * // *

602 Porifera *Haliclona simulans* // Kilkieran Bay, Galway, Ireland // Isolation and identification of antitrypanosomal and antimycobacterial active steroids from *Haliclona simulans*
1012 // 24-vinyl-cholest-9-ene-3β,24-diol // N // mod. to weak AB activity and weak activity vs HTCL // * // *
1013 // 20-methyl-pregn-6-en-3β-ol, 5α,8α-epidioxy // N // mod. to weak AB activity and weak activity vs HTCL // * // *
504 Porifera *Petrosia* sp. // Jeddah, Saudi Arabia // Cytotoxic effects of three new metabolites from Red Sea marine sponge, *Petrosia* sp.
1014 // 3β,7β,9α-trihydroxycholest-5-en // N // IC_{50} 78 µg/mL DNA binding using methyl green displacement // * // *
505 Porifera *Echinoclathria gibbosa* // Hurghada, Egypt // New compounds from the Red Sea marine sponge *Echinoclathria gibbosa*
1015 // β-sitosterol-3-*O*-(3*Z*)-pentacosenoate // N // weakly active vs 3 HTCLs // * // *
1016 // 5α-pregna-3β-acetoxy-12β,16β-diol-20-one // N // * // * // *
603 Porifera *Theonella swinhoei*, *T. conica* // Amami-oshima Is., Japan // Insights on pregnane-X-receptor modulation. Natural and semisynthetic steroids from *Theonella* marine sponges
1017 // preconicasterol // N // mod. PXR agonist (EC50 = 21 µM) // From *T. conica* // *
1018 // 24-dehydroconicasterol D // N // * // From *T.swinhoei* // *
1019 // 25-dehydrotheonellasterol // N // * // From *T.swinhoei* // *
604 Porifera *Corticium niger* // Calumpan Peninsula, Philippines // Steroidal alkaloids from the marine sponge *Corticium niger* that inhibit growth of human colon carcinoma cells
1020 // plakinamine N // N // weak activity against 60 HTCLs // * // *
1021 // plakinamine O // N // mod. activity against 60 HTCLs // * // *
605 Porifera *Ircinia* sp. // Yeongdeok-Gun, S. Korea // An antibacterial 9,11-secosterol from a marine sponge *Ircinia* sp.
1022 // * // N // modest AB activity // * // *

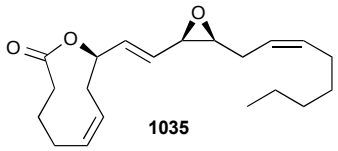


606 Porifera *Plakortis* cfr.*lita* // Bunaken Marine Park of Manado, Indonesia // Incisterols, highly degraded marine sterols, are a new chemotype of PXR agonists
1023 // incisterol A5 // N // agonist of PXR transactivation at 10 µM in HepG2 cells // * // *
1024 // incisterol A6 // N // agonist of PXR transactivation at 10 µM in HepG2 cells // * // *
607 Porifera *Theonella swinhoei* // Xisha Is., S. China Sea // New steroids with a rearranged skeleton as (h)p300 inhibitors from the sponge *Theonella swinhoei*
1025 // swinhoeisterol A // N // mod. activity vs HTCLs and (h)p300 histone deacetylase // * // *
1026 // swinhoeisterol B // N // mod. activity vs HTCLs and (h)p300 histone deacetylase // * // *
608 Porifera *Cinachyrella* sp. // Oshima-shinsone, Japan // Cinanthrenol A, an estrogenic steroid containing phenanthrene nucleus, from a marine sponge *Cinachyrella* sp.
1027 // cinanthrenol A // N // potent (nM) activity vs HTCLs and competitive binding vs estradiol against estrogen receptor // * // *

609 Porifera *Jaspis stellifera* // S. China Sea // Jaspiferins C–F, four new isomalabaricane-type triterpenoids from the South China Sea sponge *Jaspis stellifera*
1028 // jaspiferin C // N // * // * // *
1029 // jaspiferin D // N // * // * // *
1030 // jaspiferin E // N // * // * // *
1031 // jaspiferin F // N // * // * // *

610 Porifera *Siphonochalina siphonella* // Sharm Obhur, Saudi Arabia // Cytotoxic neviotane triterpene-type from the red sea sponge *Siphonochalina siphonella*
1032 // neviotine C // N // weakly active vs 3 HTCLs // Readily tautomersises to neviotine A // *

645 Porifera *Fascaplysinopsis* sp. // Madagascar // The taumycin A macrocycle: asymmetric total synthesis and revision of relative stereochemistry
1033 // taumycin A // R // * // * // **s158**
1034 // taumycin B // R // * // * // **s158**



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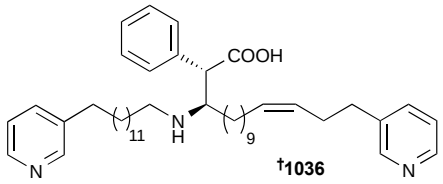
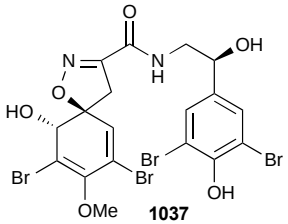


†**1036**



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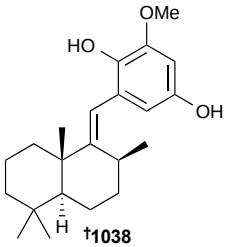

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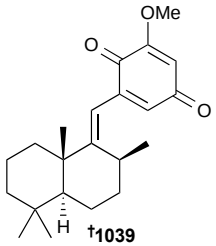


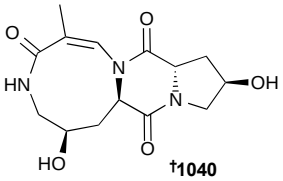
†**1039**

651 Porifera *Topsentia* sp. // * // Synthesis of topsentolides A2 and C2, and non-enzymatic conversion of the former to the latter
1035 // topsentolide A2 // R // * // * // **s159**

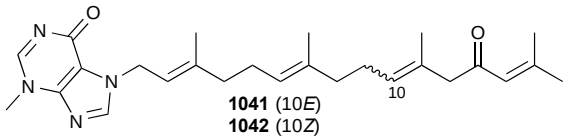
657 Porifera *Amphimedon* sp. // // (−)-(2*S*,3*R*,*Z*)-Nakinadine A: first asymmetric synthesis and absolute configuration assignment
1036 // nakinadine A // R // * // * // **s160**

666 Porifera *Verongia* sp. // * // Synthesis and assignment of the absolute stereochemistry of (+)-hemifistularin 3
1037 // (+)-hemifistularin-3 // R // * // Synthesis used to establish abs. config. of MNP // **s161**

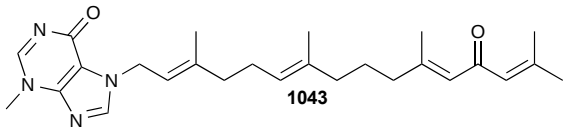
673 Porifera *Euryspongia* sp. // * // Synthesis of the sesquiterpenes albicanol, drimanol, and drimanic acid, and the marine sesquiterpene hydroquinone deoxyspongiaquinol
1038 // deoxyspongiaquinol // R // * // Abs. config. established by synthesis // **s162**
1039 // deoxyspongiaquinone // R // * // Abs. config. established by synthesis // **s162**



†**1040**



1041 (10*E*)
1042 (10*Z*)



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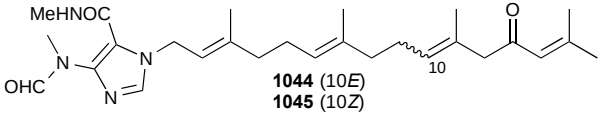
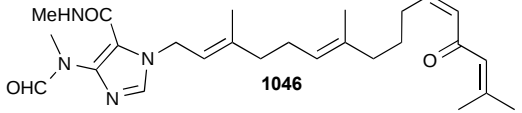
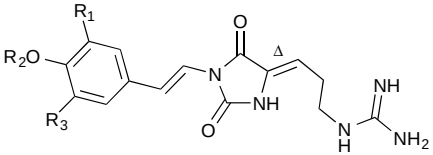


1044 (10*E*)
1045 (10*Z*)



1046

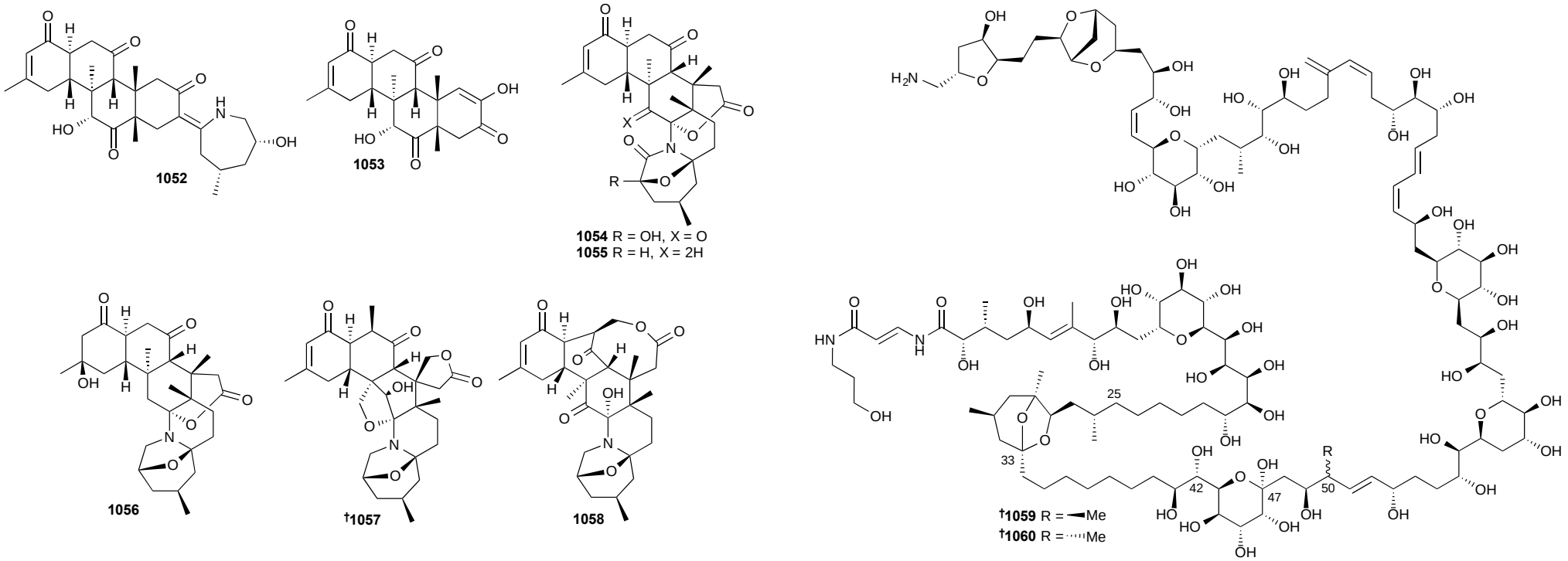


†**1047** $R_1 = R_3 = H$, $R_2 = Me$, Δ saturated
†**1048** $R_1 = Br$, $R_2 = R_3 = H$, Δ saturated
1049 $R_1 = Br$, $R_2 = R_3 = H$
†**1050** $R_1 = R_3 = Br$, $R_2 = Me$, Δ saturated
1051 $R_1 = R_3 = Br$, $R_2 = Me$

683 Cnidaria *Menella kanisa* // Xieyang Is., China // A new diketopiperazine from the gorgonian coral *Menella kanisa*
1040 // menazepine A // N // * // * // *

684 Cnidaria *Echinogorgia pseudossapo* // Daya Bay, China // Six new tetraprenylated alkaloids from the South China Sea gorgonian *Echinogorgia pseudossapo*
1041 // malonganenone L // N // PDE4D IC_{50} 8.5 µM // * // *
1042 // malonganenone M // N // * // * // *
1044 // malonganenone O // N // * // * // *
1045 // malonganenone P // N // * // * // *
1046 // malonganenone Q // N // PDE4D IC_{50} 20.3 µM // * // *

685 Cnidaria *Parazoanthus axinellae* // Villefranche-sur-Mer, France // Metabolome consistency: additional parazoanthines from the Mediterranean zoanthid *Parazoanthus axinellae*
1047 // parazoanthine F // N // * // structure by MS-MS, ECD // *
1048 // parazoanthine G // N // * // structure by MS-MS, ECD // *
1049 // parazoanthine H // N // * // structure by MS-MS // *
1050 // parazonathine I // N // * // structure by MS-MS, ECD // *
1051 // parazoanthine J // N // * // structure by MS-MS // *

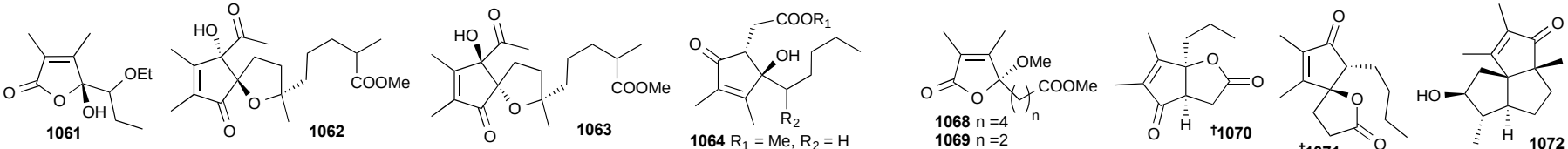


686 Cnidaria *Zoanthus* sp. // Punta del Hidalgo, Tenerife // Zoaramine, a zoanthamine-like alkaloid with a new skeleton
1052 // zoaramine // N // * // * // *
1053 // zoarenone // N // * // * // *

687 Cnidaria *Zoanthus* sp. // Punta del Hidalgo, Tenerife // New oxidized zoanthamines from a Canary Islands *Zoanthus* sp.
1054 // 2-hydroxy-11-ketonorzoanthamide B // N // * // * // *
1055 // norzoanthamide B // N // * // * // *
1056 // 15-hydroxynorzoanthamine // N // * // * // *

688 Cnidaria *Zoanthus kuroshio* // Taiwan // Kuroshines A and B, new alkaloids from *Zoanthus kuroshi*o
1057 // kuroshine A // N // * // Absolute configuration X-ray. // *
1058 // kuroshine B // N // * // * // *

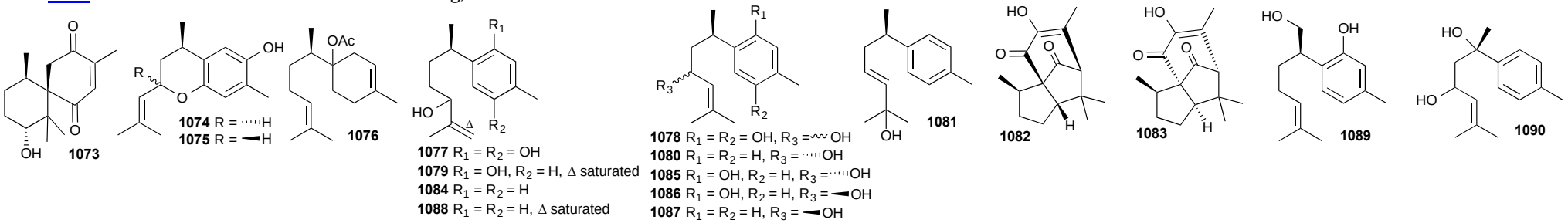
689 Cnidaria *Palythoa toxica*, Cnidaria *Palythoa tuberculosa* // Hawaii // Stereoisomers of 42-hydroxy palytoxin from Hawaiian *Palythoa toxica* and *P. tuberculosa*: stereostructure elucidation, detection, and biological activities
1059 // (42*S*)-hydroxy-(50*R*)-palytoxin // N // cytotox. // note structure in paper missing C-7 OH group. // *
1060 // (42*S*)-hydroxy-(50*S*)-palytoxin // R // cytotox. // note structure in paper missing C-7 OH group. // **s163**



692 Cnidaria *Subergorgia suberosa* // Zhanjian., S. China Sea. // Tortuosenes A and B, new diterpenoid metabolites from the Formosan soft coral *Sarcophyton tortuosum*
1061 // (5*R*)-5-(1-ethoxypropyl)-5-hydroxy-3,4-dimethylfuran-2(5H)-one // N // *B. amphitrite* settlement inhib. // mixture of epimers. // *

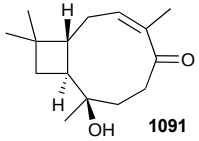
693 Cnidaria *Sinularia* sp. // Dongluo Is., China // Sinulolides A–H, new cyclopentenone and butenolide derivatives from soft coral *Sinularia* sp.
1062 // sinulolide A // N // * // core absolute via ECD. // *
1063 // sinulolide B // N // * // core absolute via ECD. // *
1064 // sinulolide C // N // * // * // *
1065 // sinulolide D // N // * // * // *
1066 // sinulolide E // N // weak NF-kB inhib. // * // *
1067 // sinulolide F // N // * // * // *
1068 // sinulolide G // N // * // * // *
1069 // sinulolide H // N // * // * // *

694 Cnidaria *Subergorgia suberosa* // Naozhou Is., S. China Sea // Suberosanones A–C, new metabolites possessing cyclopentenone system from the South China Sea gorgonian coral *Subergorgia suberosa*
1070 // suberosanone A // N // inactive antifouling, AB // absolute via calculated ECD, ent-sinularone C // s164
1071 // suberosanone B // N // inactive antifouling, AB // absolute via calculated ECD, ent-sinularone D // s164
1072 // suberosanone C // N // inactive antifouling, AB // * // *



695 Cnidaria *Pseudopterogorgia rigida*, *Antillogorgia rigida* // Bahamas Islands // Bisabolane and chamigrane sesquiterpenes from the soft coral *Pseudopterogorgia rigida*
1073 // * // N // * // * // *
1074 // (9*R**)-1,9-epoxy-4-hydroxy-α-curcumene // N // * // * // *
1075 // (9*S**)-1,9-epoxy-4-hydroxy-α-curcumene // N // * // * // *
1076 // acetyl-β-bisabolol // N // * // * // *
1077 // * // N // * // * // *
1078 // 9-hydroxy-curcuhydroquinone // N // * // * // *
1079 // 10-hydroxy-10,11-dihydrocurcuphenol // N // * // * // *

1080 // (7*R**,9*S**)-bisacumol // M // * // rhizome NP // **s165**
1081 // * // M // * // from oil and plant leaves, cytotoxic // **s166**
1082 // α-pipitzol // M // * // * // **s167**
1083 // β-pipitzol // M // * // * // **s167**
1084 // * // M // * // synthetic // **s168**
1085 // * // M // * // synthetic // **s169**
1086 // * // M // * // synthetic // **s169**
1087 // * // M // * // rhizome NP and synthetic // **s170**
1088 // * // M // * // synthetic // **s171**
1089 // * // M // * // synthetic // **s172**
1090 // * // M // * // synthetic // **s173**



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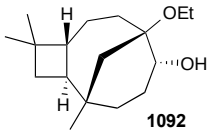

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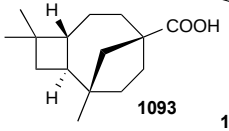

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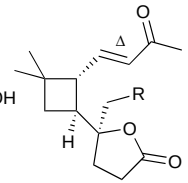
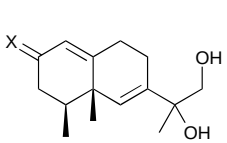
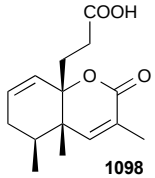


1094 R = H
1095 R = OH, Δ saturated



1096 X = O
1097 X = OH,H



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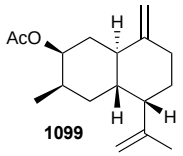

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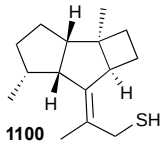
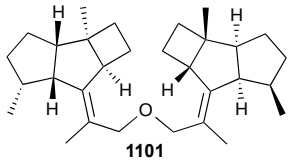
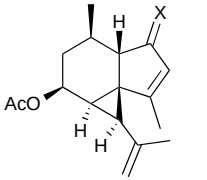


1100

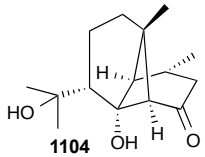


1101

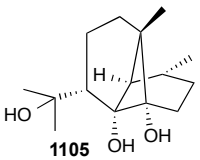
696 Cnidaria *Rumphella antipathes* // Pingtung, Taiwan // Rumphellols A and B, new caryophyllene sesquiterpenoids from a Formosan gorgonian coral, *Rumphella antipathies*
1091 // rumphellol A // N // weak inhib. superoxide formation and elastase release // * // *
1092 // rumphellol B // N // weak inhib. superoxide formation and elastase release // * // *
697 Cnidaria *Rumphella antipathes* // Pingtung, Taiwan // Rumphellaoic acid A, a novel sesquiterpenoid from the Formosan gorgonian coral *Rumphella antipathies*
1093 // rumphellaoic acid A // N // weak inhib. elastase release // * // *
698 Cnidaria *Rumphella antipathes* // Pingtung, Taiwan // Rumphellaones B and C, new 4,5-seco-caryophyllane sesquiterpenoids from *Rumphella antipathies*
1094 // rumphellaone B // N // * // * // *
1095 // rumphellaone C // N // weak inhib. superoxide formation and elastase release // * // *
699 Cnidaria *Lemnalia philippinensis* // Lanyu, Taiwan // *Oxygenated eremophilane- and neolemnane-derived sesquiterpenoids from the soft coral Lemnalia philippinensis*
1096 // philippinlin C // N // not cytotox. (3 HTCL) // * // *
1097 // philippinlin D // N // not cytotox. (3 HTCL) // * // *
1098 // philippinlin E // N // not cytotox. (3 HTCL) // * // *
700 Cnidaria *Menella kanisa* // Weizhou Is., S. China Sea // A new sesquiterpene from the Hainan gorgonian *Menella kanisa* Grassoff
1099 // menecubebane A // N // toxic to brine shrimp // * // *
701 Cnidaria *Nephthea erecta* // Green Is., Taiwan // Kelsoenethiol and dikelsoenyl ether, two unique kelsoane-type sesquiterpenes, from the Formosan soft coral *Nephthea erecta*
1100 // kelsoenethiol // N // moderate cytotox. (2 cell lines) // * // *
1101 // dikelsoenyl ether // N // * // * // *



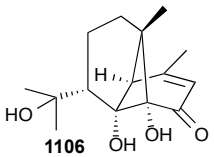
1102 X = OMe,H
1103 X = O



1104



1105



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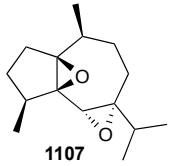
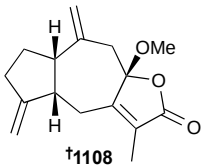
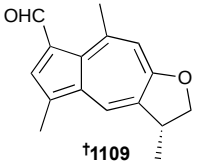


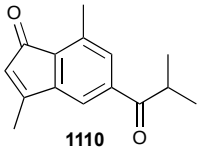
1107



†**1108**

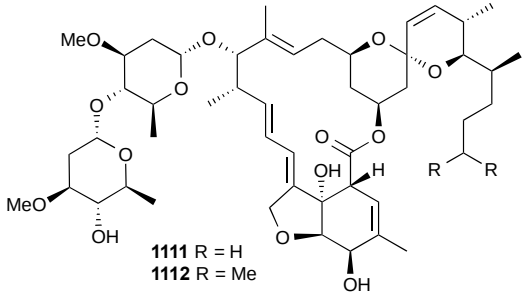


†**1109**

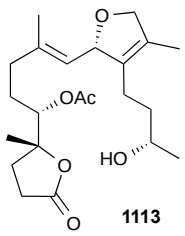


1110

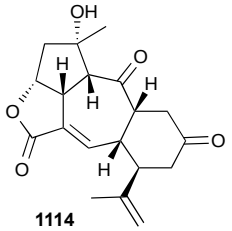
702 Cnidaria // Shag Rocks, South Georgia // Shagenes A and B, new tricyclic sesquiterpenes produced by an undescribed Antarctic octocoral
1102 // shagene A // N // antileishmanial activity // * // *
1103 // shagene B // N // inactive // * // *
703 Cnidaria *Dendronephthya* sp. // Hurghada, Egypt // Dendronephthols A–C, new sesquiterpenoids from the Red Sea soft coral *Dendronephthya* sp.
1104 // dendronephthol A // N // modest cytotox. (L5187Y) // * // *
1105 // dendronephthol B // N // * // * // *
1106 // dendronephthol C // N // modest cytotox. (L5187Y) // * // *
704 Cnidaria *Sinularia kavarattiensis* // Mandapam coast, India // Chemical examination of the soft coral *Sinularia kavarattiensis* and evaluation of anti-microbial activity
1107 // * // N // mild AB activity // * // *
705 Cnidaria *Echinogorgia sassapo* // Weizhou Islands, S. China Sea // Sesquiterpenoids and steroids from gorgonian *Echinogorgia sassapo reticulate*
1108 // (1*S*,5*S*,8*S*)-8-methoxy-menelloide B // N // * // absolute via computed ECD. // *
706 Cnidaria *Anthogorgia ochracea* // Weizhou Islands, S. China Sea // Ochracenoids A and B, guaiazulene-based analogues from gorgonian *Anthogorgia ochracea* collected from the South China Sea
1109 // ochracenoid A // N // inactive in range of assays // absolute via computed ECD. // *
1110 // ochracenoid B // N // inactive in range of assays // * // *



1111 R = H
1112 R = Me

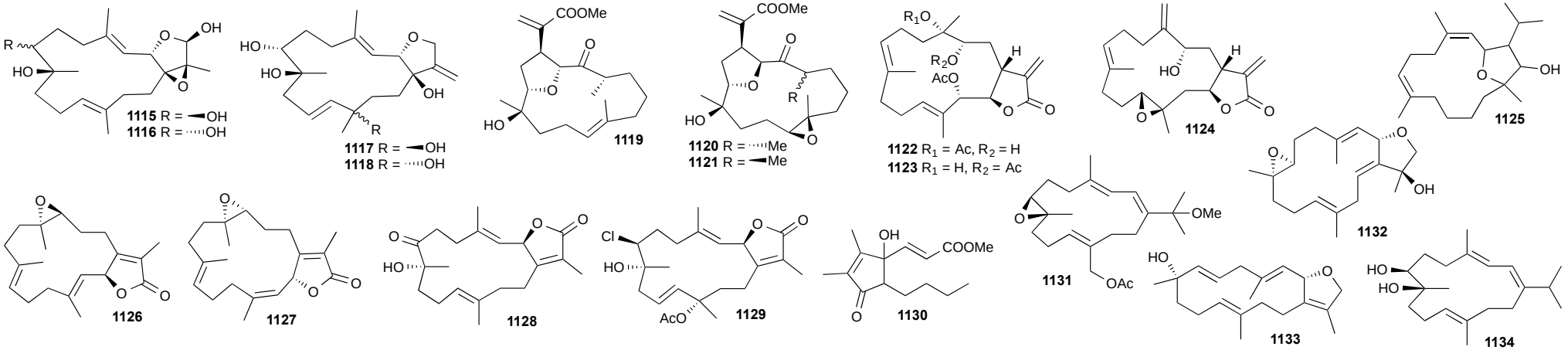


1113



1114

708 Cnidaria *Anthogorgia caerulea* // Beibu Gulf, S. China Sea // Two new avermectin derivatives from the Beibu Gulf gorgonian *Anthogorgia caerulea*
1111 // avermectin B1c // N // *B. amphitrite* settlement inhib. // * // *
1112 // avermectin B1e // N // *B. amphitrite* settlement inhib. // * // *
709 Cnidaria *Lobophytum crassum* // Dongsha Atoll, Taiwan // Secocrassumol, a seco-cembranoid from the Dongsha Atoll soft coral *Lobophytum crassum*
1113 // secocrassumol // N // antiviral (HCMV) // partial absolute config: C-8 ECD, C-12 Moshers. // *
710 Cnidaria *Sinularia gyrosa* // Dongsha Atoll, Taiwan // Sinugyrosanolide A, an unprecedented C-4 norcembranoid, from the Formosan soft coral *Sinularia gyrosa*
1114 // sinugyrosanolide A // N // modest cytotox. (P388) // * // *



711 Cnidaria *Lobophytum crassum* // Con Co, Vietnam // New anti-inflammatory cembranoid diterpenoids from the Vietnamese soft coral *Lobophytum crassum*
1115 // lobocrasol A // N // NF-kB inhib. // * // *
1116 // lobocrasol B // N // NF-kB inhib. // * // *
1117 // lobocrasol C // N // * // * // *
1118 // lobocrasol D // N // * // * // *

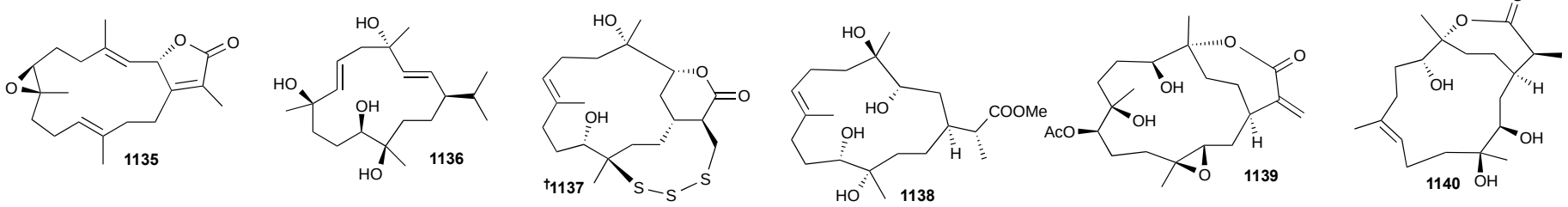
712 Cnidaria *Eunicea pinta* // San Andres Is., Colombia // Pintoxolanes A–C, highly functionalized 3,14-oxa-bridged cembranoids from the Caribbean gorgonian coral *Eunicea pinta*
1119 // pintoxolane A // N // weakly cytotox. (NCI) // * // *
1120 // pintoxolane B // N // * // * // *
1121 // pintoxolane C // N // * // * // *

713 Cnidaria *Sarcophyton crassocaule* // Dongsha, Taiwan // Bioactive cembranoids, sarcocrassocolides P–R, from the Dongsha Atoll soft coral *Sarcophyton crassocaule*
1122 // sarcocrassocolide P // N // weakly cytotox., potent inhib. of iNOS expression // * // *
1123 // sarcocrassocolide Q // N // weakly cytotox., potent inhib. of iNOS expression // * // *
1124 // sarcocrassocolide R // N // weakly cytotox., potent inhib. of iNOS expression // * // *

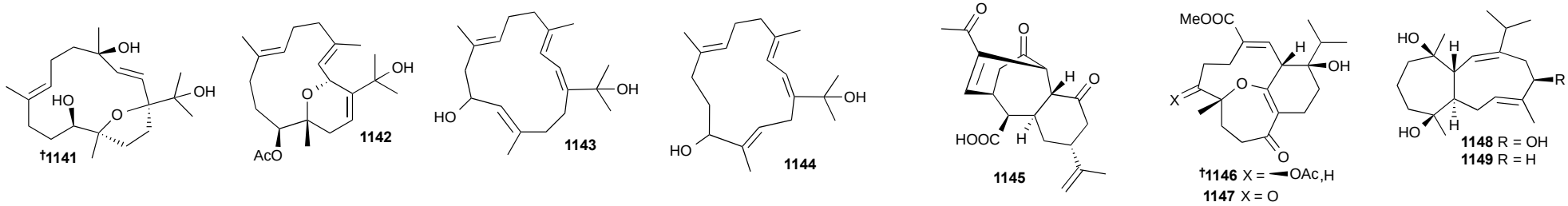
714 Cnidaria *Sarcophyton glaucum* // N. of Jeddah, Saudi Arabia // Three new cembranoid-type diterpenes from Red Sea soft coral *Sarcophyton glaucum*: isolation and antiproliferative activity against HepG2 cells
1125 // sarcophytolol // N // weakly cytotox. (4 HTCL) // * // *
1126 // sarcophytolide B // N // weakly cytotox. (4 HTCL) // * // *
1127 // sarcophytolide C // N // weakly cytotox. (4 HTCL) // * // *

715 Cnidaria *Sarcophyton ehrenbergi* // Off Hurghada, Red Sea // New terpenes from the Egyptian soft coral *Sarcophyton ehrenbergi*
1128 // 7-keto-8α-hydroxy-deepoxysarcophine // N // weakly cytotox. (MCF7) // * // *
1129 // 7β-chloro-8α-hydroxy-12-acetoxy-deepoxysarcophine // N // weakly cytotox. (MCF7) // * // *
1130 // (*E*)-methyl-3-(5-butyl-1-hydroxy-2,3-dimethyl-4-oxocyclopent-2-enyl) acrylate // N // weakly cytotox. (MCF7) // * // *

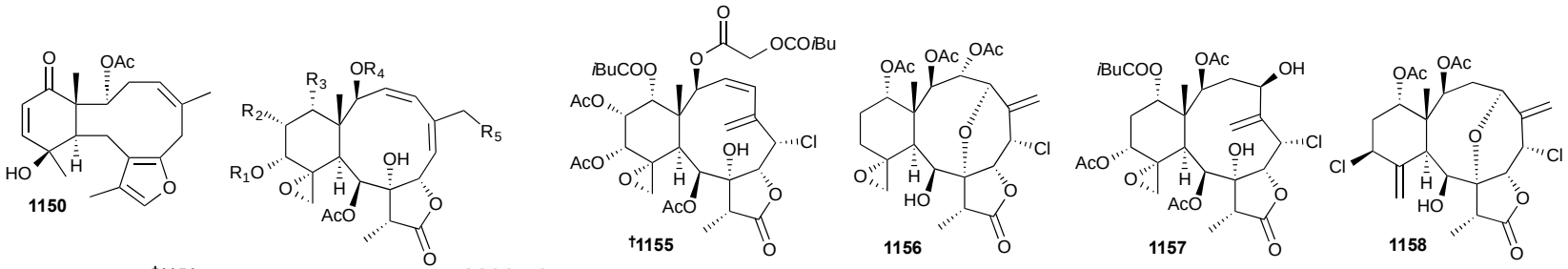
716 Cnidaria *Sarcophyton* sp. // Dongshan Is., China // Four new cembranoids from the soft coral *Sarcophyton* sp.
1131 // sarcophyton A // N // inactive (MCF-7) // * // *
1132 // sarcophyton B // N // inactive (MCF-7) // * // *
1133 // sarcophyton C // N // inactive (MCF-7) // * // *
1134 // sarcophyton D // N // inactive (MCF-7) // * // *



717 Cnidaria *Sarcophyton aurantium* // Safaga, Egypt // Cytotoxic cembranoids from the Red Sea soft coral, *Sarcophyton auritum*
1135 // 2-epi-sarcophine // N // weakly cytotox. (2 HTCL) // * // *
1136 // (1*R*,2*E*,4*S*,6*E*,8*R*,11*R*,12*R*)-2,6-cembradiene-4,8,11,12-tetrol // N // weakly cytotox. (2 HTCL) // * // *
718 Cnidaria *Sinularia* sp. // Sanya Bay, China // Novel cytotoxic nine-membered macrocyclic polysulfur cembranoid lactones from the soft coral *Sinularia* sp.
1137 // sinulariaoid A // N // cytotox. (4 HTCL) including 2 resistant lines // absolute config via X-ray analysis. // *
1138 // sinulariaoid B // N // inactive // * // *
1139 // sinulariaoid C // N // inactive // * // *
1140 // sinulariaoid D // N // inactive // * // *



719 Cnidaria *Sinularia numerosa* // Sansiantai, Taiwan // Numerosol A–D, new cembranoid diterpenes from the soft coral *Sinularia numerosa*
1141 // numerosol A // N // * // absolute config Moshers // *
1142 // numerosol B // N // * // * // *
1143 // numerosol C // N // * // * // *
1144 // numerosol D // N // * // * // *
720 Cnidaria *Sinularia kavarattiensis* // Rameshwaram, India // Bioactive cembrane derivatives from the Indian Ocean soft coral, *Sinularia kavarattiensis*
1145 // kavaranolide // N // * // * // *
721 Cnidaria *Sarcophyton tortuosum* // Lanyu Is., Taiwan // Tortuosenes A and B, new diterpenoid metabolites from the Formosan soft coral *Sarcophyton tortuosum*
1146 // tortuosene A // N // inhibit superoxide formation // absolute config calculated ECD. // *
1147 // tortuosene B // N // inhibit elastase release // * // *
722 Cnidaria *Sinularia arborea* // S. coast of Taiwan // Discovery of novel diterpenoids from *Sinularia arborea*
1148 // sinularbol A // N // weak inhib. superoxide formation and elastase release // * // *
1149 // sinularbol B // N // weak inhib. superoxide formation and elastase release // * // *



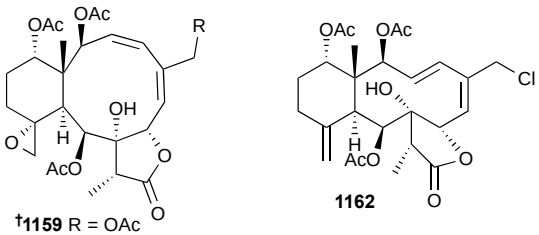
1150

†**1151** $R_1 = R_4 = Ac$, $R_2 = H$, $R_3 = R_5 = OCOCH_2CHMe_2$,
†**1152** $R_1 = R_4 = Ac$, $R_2 = OCOCH_2CHMe_2$, $R_3 = OAc$, $R_5 = OH$
†**1153** $R_1 = H$, $R_2 = OH$, $R_3 = OCOCH_2CHMe_2$, $R_4 = Ac$, $R_5 = OAc$
†**1154** $R_1 = COCH_2CHMe_2$, $R_2 = R_3 = OAc$, $R_4 = COCH_2OH$, $R_5 = Cl$

723 Cnidaria *Pennatula aculeata* // Dinawan Is., Malaysia // 2-Acetoxyverecynarmin C, a new briarane COX inhibitory diterpenoid from *Pennatula aculeata*
1150 // 2-acetoxyverecynarmin C // N // COX-1/2 inhib. // * // *

724 Cnidaria *Dichotella gemmacea* // S. China Sea // Briarane diterpenoids from the gorgonian *Dichotella gemmacea*
1151 // gemmacolide AS // N // * // absolute config via CD // *
1152 // gemmacolide AT // N // * // absolute config via CD // *
1153 // gemmacolide AU // N // * // absolute config via CD // *
1154 // gemmacolide AV // N // weakly cytotox. (A549) // absolute config via CD // *
1155 // gemmacolide AW // N // mod. cytotox. (MG63) // absolute config via CD // *
1156 // gemmacolide AX // N // * // * // *
1157 // gemmacolide AY // N // * // * // *

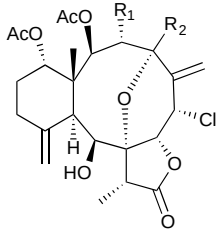
725 Cnidaria *Briareum* sp. // Southern Taiwan // Briarenolide J, the first 12-chlorobriarane diterpenoid from an octocoral *Briareum* sp. (Briareidae)
1158 // briarenolide J // N // mild inhib. superoxide generation and elastase release // * // *



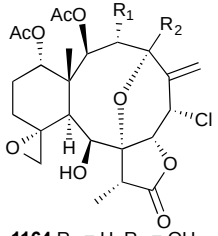
1162

†**1159** R = OAc
†**1160** R = Cl
†**1161** R = OMe

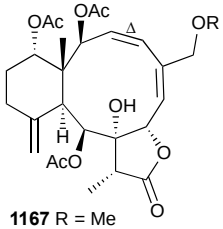
726 Cnidaria *Junceella gemmacea* // S. China Sea // Briarane diterpenes from the South China Sea gorgonian coral, *Junceella gemmacea*
1159 // junceellolide M // N // * // * // *
1160 // junceellolide N // N // * // * // *
1161 // junceellolide O // N // * // * // *
1162 // junceellolide P // N // * // * // *



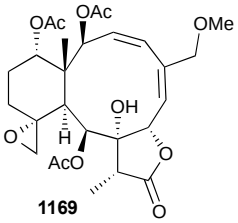
1163 R_1 = H, R_2 = OH
1166 R_1 = OAc, R_2 = H



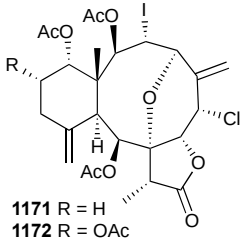
1164 R_1 = H, R_2 = OH
1165 R_1 = OAc, R_2 = H



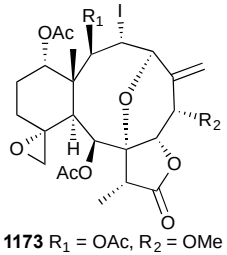
1167 R = Me
1168 R = Me, Δ saturated
1170 R = H



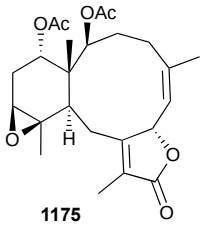
1169



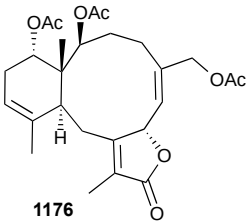
1171 R = H
1172 R = OAc



1173 R_1 = OAc, R_2 = OMe
1174 R_1 = OCOEt, R_2 = Cl



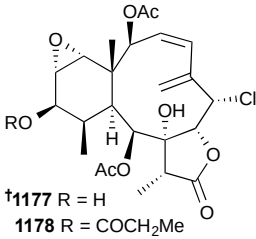
1175



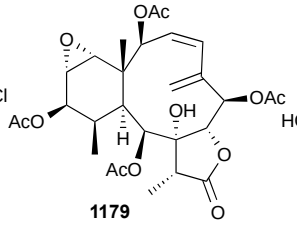
1176

727 Cnidaria *Junceella fragilis* // Meishan Is., China // Fragilisinins A–L, new briarane-type diterpenoids from gorgonian *Junceella fragilis*
1163 // fragilisinin A // N // * // absolute config via X-ray crystal structure. // *
1164 // fragilisinin B // N // * // * // *
1165 // fragilisinin C // N // * // * // *
1166 // fragilisinin D // N // * // * // *
1167 // fragilisinin E // N // *B. amphitrite* settlement inhib. // * // *
1168 // fragilisinin F // N // *B. amphitrite* settlement inhib. // * // *
1169 // fragilisinin G // N // * // * // *
1170 // fragilisinin H // N // * // * // *
1171 // fragilisinin I // N // * // * // *
1172 // fragilisinin J // N // *B. amphitrite* settlement inhib. // * // *
1173 // fragilisinin K // N // * // * // *
1174 // fragilisinin L // N // * // * // *

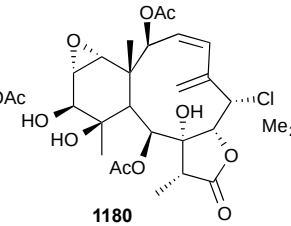
728 Cnidaria *Ellisella dollfusi* // Xisha, S. China Sea // New briarane-type diterpenoids from gorgonian *Ellisella dollfusi* from the South China Sea
1175 // dollfusilin A // N // * // * // *
1176 // dollfusilin B // N // * // * // *



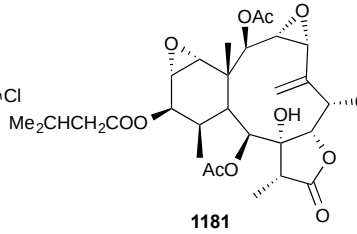
†**1177** R = H
1178 R = $COCH_2Me$



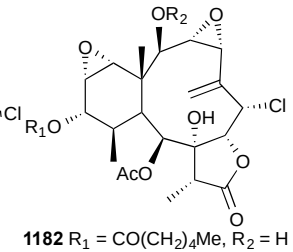
1179



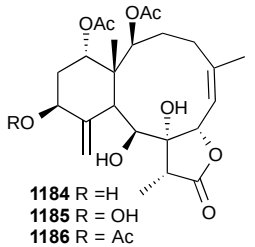
1180



1181



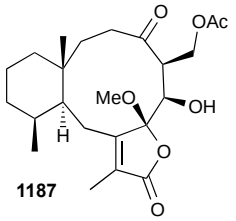
1182 R_1 = $CO(CH_2)_4Me$, R_2 = H
1183 R_1 = R_2 = Ac



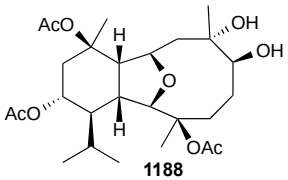
1184 R =H
1185 R = OH
1186 R = Ac

729 Cnidaria *Briareum violaceum* // Pingtung, Taiwan // New briarane diterpenoids from Taiwanese soft coral *Briareum violacea*
1177 // briaviolide A // N // * // X-ray crystal structure. // *
1178 // briaviolide B // N // * // * // *
1179 // briaviolide C // N // * // * // *
1180 // briaviolide D // N // * // * // *
1181 // briaviolide E // N // weak inhib. superoxide formation and elastase release // * // *
1182 // briaviolide F // N // * // * // *

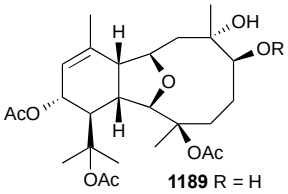
1183 // briaviolide G // N // * // * // *
1184 // briaviolide H // N // * // * // *
1185 // briaviolide I // N // weak inhib. superoxide formation and elastase release // * // *
1186 // briaviolide J // N // * // * // *



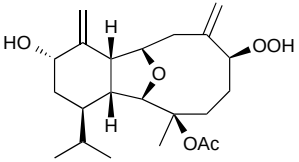
1187



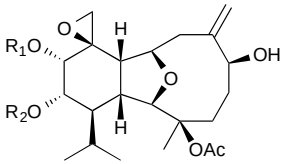
1188



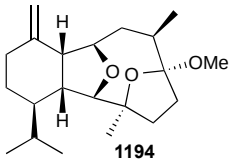
1189 R = H
1190 R = Ac



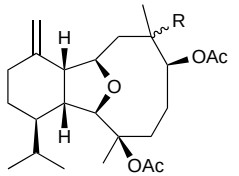
1191



1192 R_1 = Ac, R_2 = CO*n*Pr
1193 R_1 = CO*n*Pr, R_2 = Ac

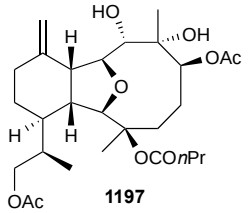


1194

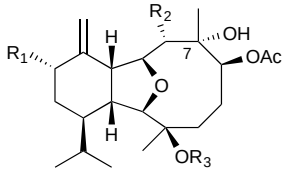


1195 R = OH
1196 R = OH

730 Cnidaria *Anthogorgia caerulea* // Beibu Gulf, S. China Sea // Two new diterpenoids from the Beibu Gulf gorgonian *Anthogorgia caerulea*
1187 // anthogonoid A // N // *B. amphitrite* settlement inhib. // * // *
1188 // antsimplexin A // N // *B. amphitrite* settlement inhib. // * // *
731 Cnidaria *Muricella sibogae* // Weizhou Is., S. China Sea // Two new eunicellin-based diterpenoids from the South China Sea gorgonian *Muricella sibogae* Nutting
1189 // sibogin A // N // * // * // *
1190 // sibogin B // N // * // * // *
732 Cnidaria *Cladiella* sp. // Peng-Hu Is, Taiwan // Cladieunicellin J, a new hydroperoxyeunicellin from *Cladiella* sp.
1191 // cladieunicellin J // N // * // * // *
733 Cnidaria *Klyxum molle* // Peng-Hu Is, Taiwan // Klymollins T–X, bioactive eunicellin-based diterpenoids from the soft coral *Klyxum molle*
1192 // klymollin T // N // * // * // *
1193 // klymollin U // N // * // * // *
1194 // klymollin V // N // * // * // *
1195 // klymollin W // N // * // * // *
1196 // klymollin X // N // reduced inducton of IL-6 // * // *

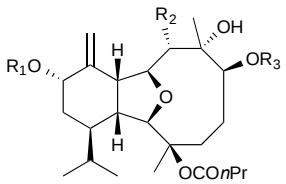


1197

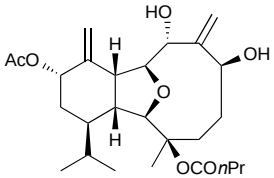


1198 R_1 = OH, R_2 = H, R_3 = Ac
1199 R_1 = OAc, R_2 = H, R_3 = Ac
1200 R_1 = OAc, R_2 = OH, R_3 = CO*n*Pr
1201 R_1 = H, R_2 = OH, R_3 = Ac
1212 R_1 = R_2 = H, R_3 = CO*n*Pr

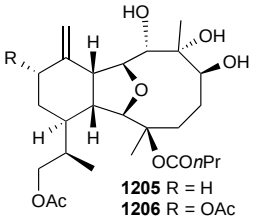
734 Cnidaria *Cladiella* sp. // Peng-Hu Is, Taiwan // Cladieunicellins M–Q, new eunicellins from *Cladiella* sp.
1197 // cladieunicellin M // N // weakly cytotox. (Molt 4) // * // *
1198 // cladieunicellin N // N // * // structure same as klymollin Q // s174
1199 // cladieunicellin O // N // weakly cytotox. (Molt 4) // * // *
1200 // cladieunicellin P // N // * // * // *
1201 // cladieunicellin Q // N // weakly cytotox. (Molt 4) // * // *
1212 // litophynin I diacetate // R // * // revised to 7*S*. // s175



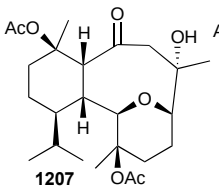
1202 R_1 = R_2 = H, R_3 = Me
1203 R_1 =Ac, R_2 = OAc, R_3 = H



1204



1205 R = H
1206 R = OAc



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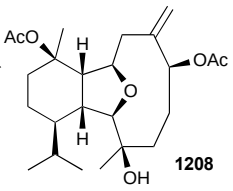

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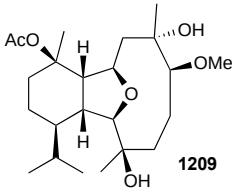

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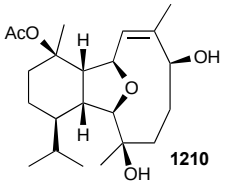
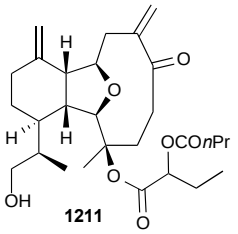
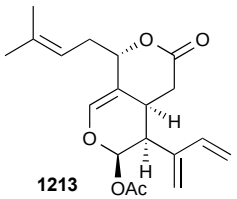


1210

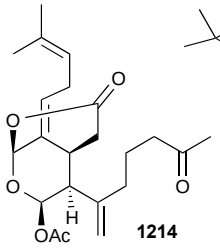


1211

[735] Cnidaria *Cladiella krempfi* // Peng-Hu Is, Taiwan // Krempfielins N–P, new anti-inflammatory eunicellins from a Taiwanese soft coral *Cladiella krempfi*
[1202] // krempfielin N // N // strong inhib. of elastase release // * // *
[1203] // krempfielin O // N // * // * // *
[1204] // krempfielin P // N // * // * // *
[736] Cnidaria *Cladiella krempfi* // Peng-Hu Is, Taiwan // Krempfielins Q and R, two new eunicellin-based diterpenoids from the soft coral *Cladiella krempfi*
[1205] // krempfielin Q // N // * // * // *
[1206] // krempfielin R // N // * // * // *
[737] Cnidaria *Cladiella hirsuta* // Peng-Hu Is, Taiwan // Eunicellin-based diterpenoids, hirsutalins N–R, from the Formosan soft coral *Cladiella hirsuta*
[1207] // hirsutalin N // N // * // * // *
[1208] // hirsutalin O // N // * // * // *
[1209] // hirsutalin P // N // * // * // *
[1210] // hirsutalin Q // N // * // * // *
[1211] // hirsutalin R // N // mod. cytotox. (2 cell lines) // * // *



1213



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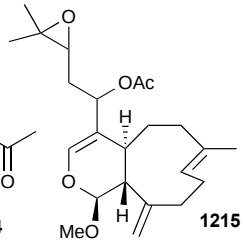

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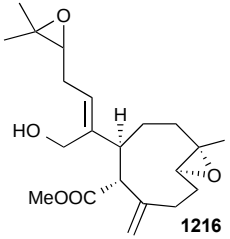

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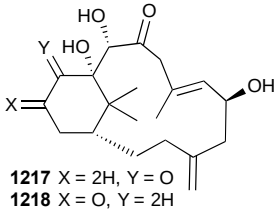
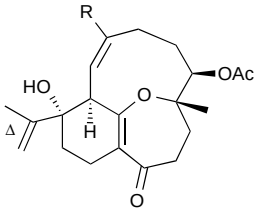
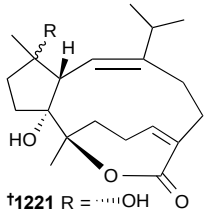


1217 X = 2H, Y = O
1218 X = O, Y = 2H

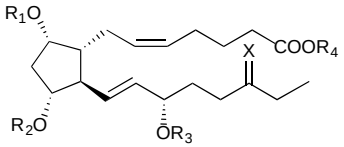
[739] Cnidaria *Cespitularia* sp. // Zamami Is., Okinawa // Structure and bioactivity of a trisnorditerpenoid and a diterpenoid from an Okinawan soft coral, *Cespitularia* sp.
[1213] // * // N // cytotox. (HCT116) // * // *
[1214] // * // N // * // * // *
[740] Cnidaria *Xenia elongata* // cultured specimens. // Mode of action of diterpene and characterization of related metabolites from the soft coral, *Xenia elongata*
[1215] // * // N // * // * // *
[1216] // * // N // * // * // *
[741] Cnidaria *Cespitularia taeniata* // Taiwan // Cespitulones A and B, cytotoxic diterpenoids of a new structure class from the soft coral *Cespitularia taeniata*
[1217] // cespitulone A // N // cytotox. (2 HTCL) // 6*S* Moshers. // *
[1218] // cespitulone B // N // * // * // *



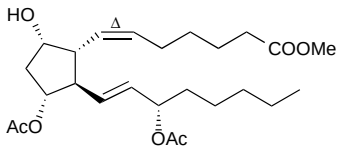
†**1219** R = Me Δ saturated
1220 R = COOMe Δ saturated
1223 R = Me



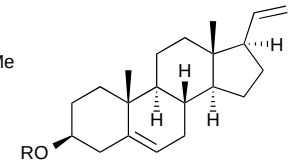
†**1221** R = OH
1222 R = OH



1224 R_1 = H, R_2 = R_3 = Ac, R_4 = Me, X = OAc,H
1225 R_1 = R_2 = R_3 = Ac, R_4 = Me, X = OAc,H
1226 R_1 = R_2 = Ac, R_3 = H, R_4 = Me, X = OAc,H
1227 R_1 = R_2 = R_3 = Ac, R_4 = Me, X = O
1228 R_1 = R_3 = H ,R_2 = Ac, R_4 = Me, X = O
1229 R_1 = H, R_2 = R_3 = Ac, R_4 = Me, X = O
1230 R_1 = R_3 = R_4 = H, R_2 = Ac, X = O
1231 R_1 = R_4 = H, R_2 = R_3 = Ac, X = O
1234 R_1 = R_3 = Ac, R_2 = H, R_4 = Me, X = 2H
1235 R_1 = H, R_2 = R_3 = Ac, R_4 = Me, X = 2H
1236 R_1 = R_2 = R_3 = Ac, R_4 = Me, X = 2H



1232 Δ saturated
1233

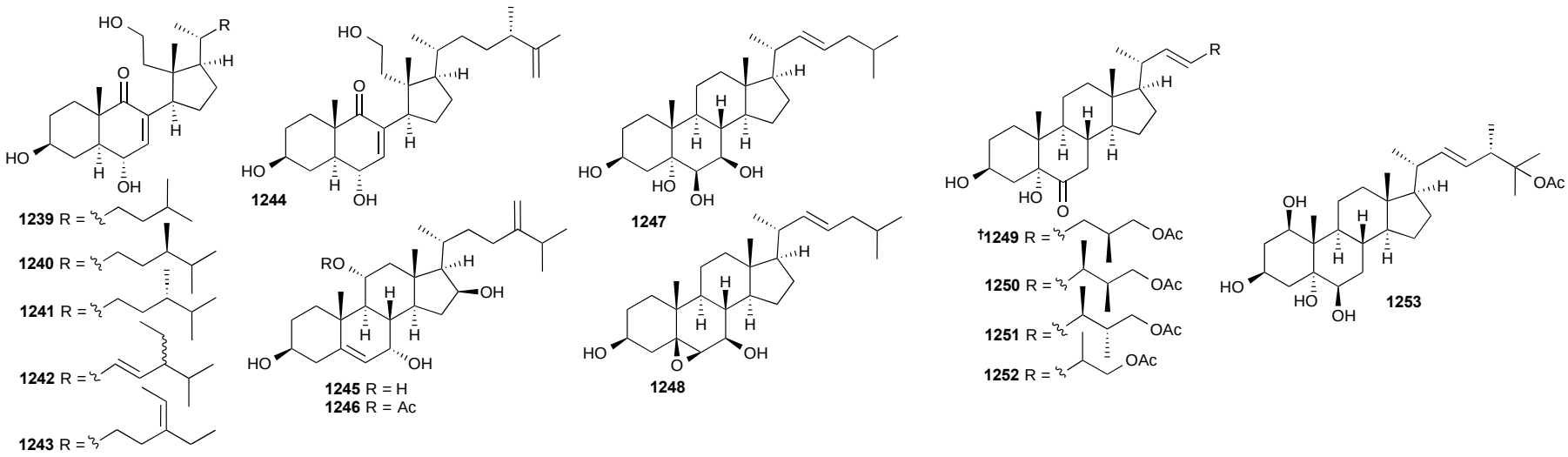


1237 R = Me
†**1238** R = Ac

742 Cnidaria *Sarcophyton trocheliophorum* // Yalong Bay, China // Sarsolenane and capnosane diterpenes from the Hainan soft coral *Sarcophyton trocheliophorum* as PTP1B inhibitors
1219 // dihydrosarsolenone // N // * // absolute config calculated ECD. // *
1220 // methyl dihydrosarsolenoneate // N // * // * // *
1221 // sarsolilide B // N // inhibit PTP1B // absolute config calculated ECD. // *
1222 // sarsolilide C // N // * // * // *
1223 // sarsolenone // R // * // config at C-2 revised. // s176

744 Cnidaria *Sarcophyton ehrenbergi* // Yang Meikeng, China // Prostaglandin derivatives: nonaromatic phosphodiesterase-4 inhibitors from the soft coral *Sarcophyton ehrenbergi*
1224 // sarcoehrendin A // N // * // * // *
1225 // sarcoehrendin B // N // phosphodiesterase-4 inhib. // * // *
1226 // sarcoehrendin C // N // * // * // *
1227 // sarcoehrendin D // N // phosphodiesterase-4 inhib. // * // *
1228 // sarcoehrendin E // N // * // * // *
1229 // sarcoehrendin F // N // phosphodiesterase-4 inhib. // * // *
1230 // sarcoehrendin G // N // * // * // *
1231 // sarcoehrendin H // N // phosphodiesterase-4 inhib. // * // *
1232 // sarcoehrendin I // N // * // * // *
1233 // sarcoehrendin J // N // phosphodiesterase-4 inhib. // * // *
1234 // 9α,15α-diacetoxy-11α-hydroxy-(5*Z*,13*E*)-prostadienoic acid methyl ester // M // phosphodiesterase-4 inhib. // * // s177
1235 // (5*Z*,9α,11α,13*E*,15*S*)-11,15-bis(acetoxy)-9-hydroxyprosta-5,13-dien-1-oic acid methyl ester // M // phosphodiesterase-4 inhib. // * // s178
1236 // 9,11,15-triacetoxy PGF2α methyl ester // M // phosphodiesterase-4 inhib. // * // s179

745 Cnidaria *Scleronephthya flexilis* // Southern Taiwan // Pregnane-type steroids from the Formosan soft coral *Scleronephthya flexilis*
1237 // 3β-methoxy-5,20-pregnadiene // N // * // * // *
1238 // * // R // * // absolute config via X-ray // s180



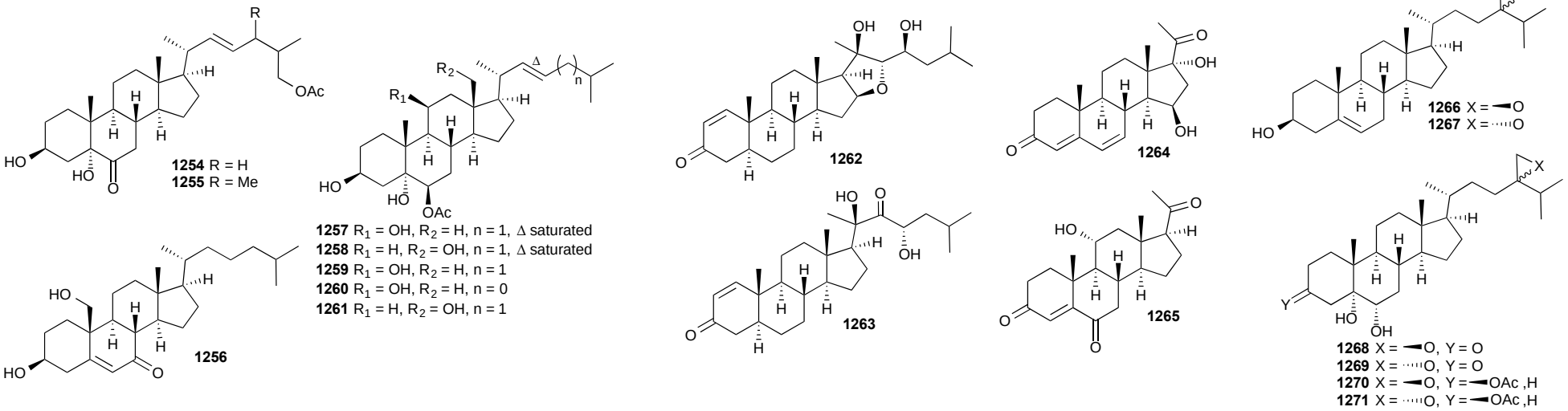
746 Cnidaria *Subergorgia suberosa* // Weizhou Is., China // Bioactive 9,11-secosteroids from gorgonian *Subergorgia suberosa* collected from the South China Sea
1239 // (5αH)-24-nor-9,11-seco-3β,6α,11-trihydroxycholest-7-en-9-one // N // * // * // *
1240 // (5αH,24*R*)-trihydroxy-24-methyl-9.11-seco-5α-cholest-7en-9-one // N // K562 15 uM, zebrafish embryo cytotox. (mixture with **1241**) // * // *
1241 // (5αH,24*S*)-trihydroxy-24-methyl-9.11-seco-5α-cholest-7en-9-one // R // * // 24*R* corrected to 24*S*. // **s181**
1242 // (5αH,22*E*,24ζ)-24-ethyl-3β,6α,11-trihydroxy-24-methyl-9.11-seco-5α-cholest-7en-9-one // N // K562 8 uM, zebrafish embryo cytotox.. // * // *
1243 // (5αH,22*E*)-3β,6α,11-trihydroxy-24-methyl-9.11-seco-5α-cholest-7en-9-one // N // K562 13 uM, zebrafish embryo cytotox. // * // *

747 Cnidaria *Sarcophyton trocheliophorum*, Cnidaria *Sinularia flexibilis* // Yalong Bay, China // 9,11-Secosteroids and polyhydroxylated steroids from two South China Sea soft corals *Sarcophyton trocheliophorum* and *Sinularia flexibilis*
1244 // 25(26)-dehydrosarcomilasterol // N // weakly cytotox. // * // *
1245 // 7α-hydroxy-crassarosterol A // N // weakly cytotox. and PTP1B inhib. // * // *
1246 // 11-acetoxy-7α-hydroxy-crassarosterol A // N // weakly cytotox. // * // *

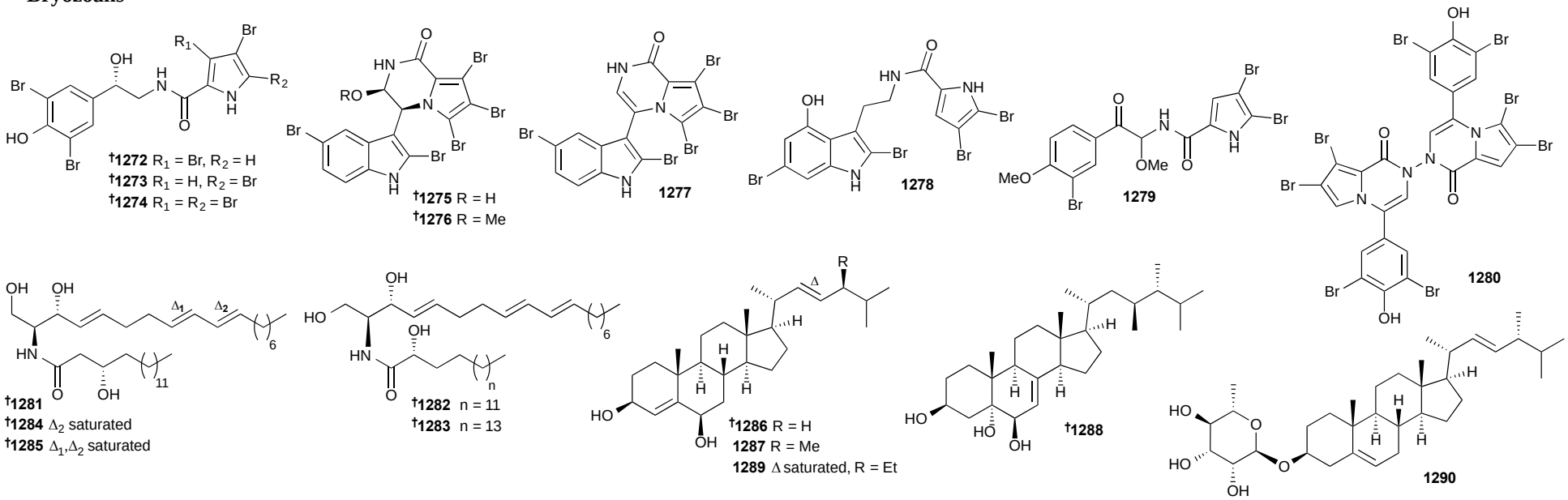
748 Cnidaria *Verrucella umbraculum* // Weizhou Is., S. China Sea // Polyhydroxylated sterols from the South China Sea gorgonian *Verrucella umbraculum*
1247 // verumbsteroid A // N // moderately cytotox. to 5 HTCLs // 3*S* (Moshers) // *
1248 // verumbsteroid B // N // * // * // *

749 Cnidaria *Echinogorgia rebekka* // Weizhou Is., S. China Sea // Antiviral C-25 epimers of 26-acetoxy steroids from the South China Sea gorgonian *Echinogorgia rebekka*
1249 // echrebsteroid A // N // antiviral (RSV) // absolute config (Moshers) // *
1250 // echrebsteroid B // N // antiviral (RSV) // * // *
1251 // echrebsteroid C // N // antiviral (RSV) // * // *
1252 // echrebsteroid D // N // antiviral (RSV) // * // *

750 Cnidaria *Sarcophyton pauciplicatum* // Hai Phong, Vietnam // NF-κB inhibitory activity of polyoxygenated steroids from the Vietnamese soft coral *Sarcophyton pauciplicatum*
1253 // sarcophanol A // N // NF-kB inhib. // * // *



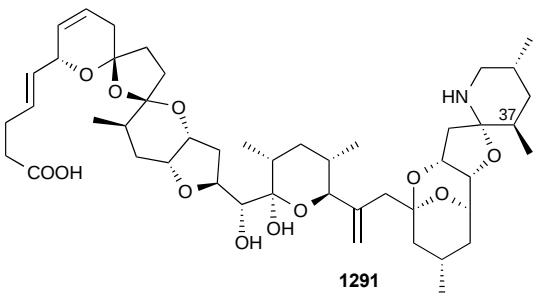
751 Cnidaria *Echinogorgia sassapo reticulata* // Dongshan Is., China // Novel polyhydroxylated steroids from the East China Sea gorgonian *Echinogorgia sassapo reticulata* with suppressive activity of leukotriene C4 generation and degranulation in bone marrow-derived mast cells
1254 // sassapol A // N // * // * // *
1255 // sassapol A // N // * // * // *
1256 // 7-oxo-5-cholesten-3β,19-diol // M // antiinflammatory inhib. of LTC4 generation // * // s182
752 Cnidaria *Leptogorgia punicea* // Aranhas Is., S. Brazil // Polyoxygenated steroids from the octocoral *Leptogorgia punicea* and in vitro evaluation of their cytotoxic activity
1257 // punicinol A // N // cytotox. to A549 HTCL // * // *
1258 // punicinol B // N // cytotox. to A549 HTCL // * // *
1259 // punicinol C // N // weakly cytotox. to A549 HTCL // * // *
1260 // punicinol D // N // weakly cytotox. to A549 HTCL // * // *
1261 // punicinol E // N // weakly cytotox. to A549 HTCL // * // *
753 Cnidaria *Subergorgia suberosa* // Naozhou Is., S. China Sea // Antifouling steroids from the South China Sea gorgonian coral *Subergorgia suberosa*
1262 // 16,22-epoxy-20β,23*S*-dihydroxycholest-1-ene-3-one // N // barnacle cyprid settlement inhib. // * // *
1263 // 20β,23*S*-dihydroxycholest-1-ene-3,22-dione // N // barnacle cyprid settlement inhib. // * // *
1264 // 15β,17α-dihydroxypregna-4, 6-diene-3,20-dione // N // * // * // *
1265 // 11α-hydroxypregna-4-ene-3,6,20-trione // M // * // previously reported in a patent. // s183
754 Cnidaria *Anthopleura midori* // Shanwei, China // Polyoxygenated 24,28-epoxyergosterols inhibiting the proliferation of glioma cells from sea anemone *Anthopleura midori*
1266 // 24(*R*),28-epoxyergost-5-en-3β-ol // M // cytotox. rat glioma cell line // previously reported synthetic compound. // s184
1267 // 24(*S*),28-epoxyergost-5-en-3β-ol // M // cytotox. rat glioma cell line // previously reported synthetic compound. // s184
1268 // 24(*R*),28-epoxyergost-3-one-5α,6α-diol // N // cytotox. rat glioma cell line // * // *
1269 // 24(*S*),28-epoxyergost-3-one-5α,6α-diol // N // * // * // *
1270 // 24(*R*),28-epoxyergost-3-acetyl-3β,5α,6α-triol // N // cytotox. rat glioma cell line // * // *
1271 // 24(*S*),28-epoxyergost-3-acetyl-3β,5α,6α-triol // N // * // * // *



794 Bryozoa *Aspidostoma giganteum* // Gulf of San Jorge, Patagonia // Bromopyrrole alkaloids isolated from the Patagonian bryozoan *Aspidostoma giganteum*
1272 // aspidostomide A // N // * // * // *
1273 // aspidostomide B // N // * // * // *
1274 // aspidostomide C // N // * // * // *
1275 // aspidostomide D // N // * // * // *
1276 // aspidostomide E // N // * // * // *
1277 // aspidostomide F // N // * // * // *
1278 // aspidostomide G // N // * // * // *
1279 // aspidostomide H // N // * // * // *
1280 // aspidazide A // N // * // * // *

795 Bryozoa *Bugula neritina* // Daya Bay, China // Neritinaceramides A–E, new ceramides from the marine bryozoan *Bugula neritina* inhabiting South China Sea and their cytotoxicity
1281 // neritinaceramide A // N // * // * // *
1282 // neritinaceramide B // N // * // * // *
1283 // neritinaceramide C // N // * // * // *
1284 // neritinaceramide D // N // * // * // *
1285 // neritinaceramide E // N // * // * // *

796 Bryozoa *Bugula neritina* // Daya Bay, China // New 3β,6β-dihydroxy and 3β,5α,6β-trihydroxy sterols from marine bryozoan *Bugula neritina* in South China Sea and their cytotoxicity
1286 // (22*E*)-cholest-4,22-diene-3β,6β-diol // N // * // * // *
1287 // (22*E*,24*S*)-24-methylcholest-4,22-diene-3β,6β-diol // M // * // * // **s185**
1288 // (23*S*,24*R*)-dimethylcholest-7-ene-3β,5α,6β-triol // N // * // * // *
1289 // * // M // * // * // **s186**
1290 // * // M // * // * // **s187**



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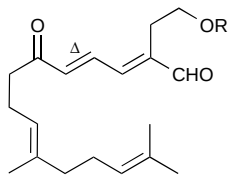
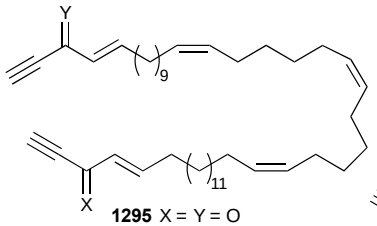
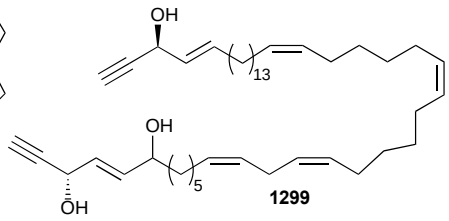


1292 R = Ac
1293 R = Ac, Δ saturated
1294 R = H, Δ saturated



1295 X = Y = O
1296 Y = O, X = ····OH,H
1297 X = O, Y = ◄OH,H
†**1298** X = ····OH,H, Y = ◄OH,H



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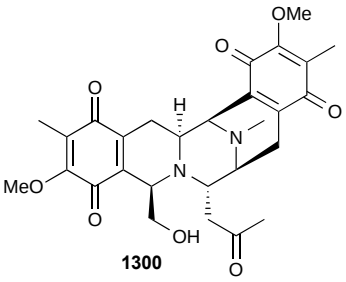

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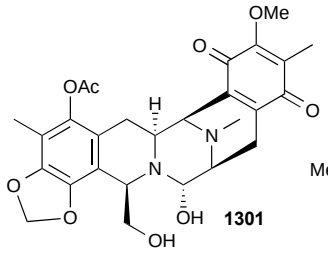

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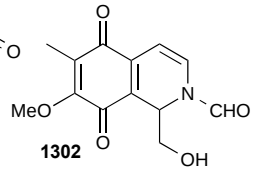

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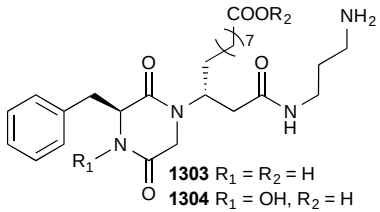


1303 $R_1 = R_2 = H$
1304 R_1 = OH, $R_2 = H$
1305 $R_1 = H$, R_2 = Me
1306 R_1 = OH, R_2 = Me

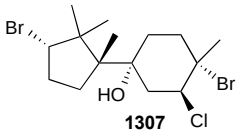
799 Mollusca *Mytilus edulis*, *Cassostrea gigas* // * // Epimers of azaspiracids: isolation, structural elucidation, relative LCMS response, and in vitro toxicity of 37-epi-azaspiracid-1
1291 // 37-*epi*-azaspiracid-1 // N // cytotox. // * // *

800 Mollusca *Thuridilla hopei* // Roca Vecchia, Lecce, Italy // Identification of thuridillin-related aldehydes from Mediterranean sacoglossan mollusk *Thuridilla hopei*
1292 // nor-thuridillonal // N // * // * // *
1293 // dihydro-nor-thuridillonal // N // * // * // *
1294 // deacetyl-dihydro-nor-thuridillonal // N // * // * // *

803 Mollusca *Peltodoris atromaculata*, Porifera *Haliclona fulva* // Punta Pizzaco, Gulf of Naples // Sequestered fulvinol-related polyacetylenes in *Peltodoris atromaculata*
1295 // fulvindione // N // cytotox. (6 HTCL) // * // *
1296 // fulvinone // N // * // * // *
1297 // fulvinone // N // * // * // *
1298 // isofulvinol // N // cytotox. (6 HTCL) // Absolute configuration (MTPA) // *
1299 // hydroxydehydroisofulvinol // N // cytotox. (6 HTCL) // * // *

804 Mollusca *Jorunna funebris*, Porifera *Xestospongia* sp. // Linshui Bay, China // New isoquinolinequinone alkaloids from the South China Sea nudibranch Jorunna funebris and its possible sponge-prey *Xestospongia* sp.
1300 // fennebricin A // N // * // * // *
1301 // fennebricin B // N // * // * // *
1302 // *N*-formyl-1,2-dihydrorenierol // N // * // * // *

805 Mollusca *Pleurobranchus areolata* // Ilha do Papagaio, Brazil // Rodriguesic acids, modified diketopiperazines from the gastropod mollusc *Pleurobranchus areolatus*
1303 // rodriguesic acid // N // * // * // *
1304 // rodriguesic acid hydroxamate // N // * // * // *
1305 // rodriguesic acid Me ester // N // * // Maybe artefactual. // *
1306 // hydroxamate of **1305** // N // * // Maybe artefactual. // *



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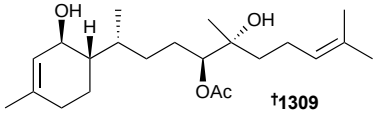


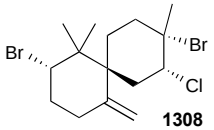
†**1309**

CCDWENCDHLCSCCD*

1311

SCCARNPACRHNHPC

1312



1308

GCCSHPACSVNNPDIC*

1310

CIWPWC

1313

807 Mollusca *Aplysia oculifera* // S. of Safaga City, Egypt // New cytotoxic halogenated sesquiterpenes from the Egyptian sea hare, *Aplysia oculifera*
1307 // oculiferane // N // cytotox. (5 HTCL) // X-ray structure. // *
1308 // epi-obtusane // N // cytotox. (5 HTCL) // X-ray structure. // *

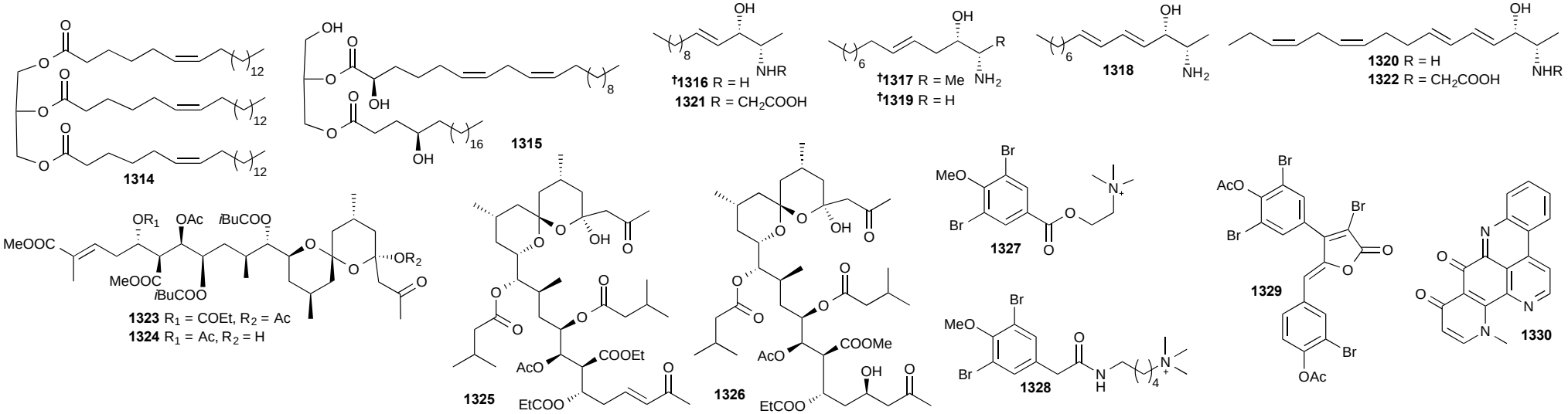
808 Mollusca *Aplysia dactylomela* // Mona Is., Puerto Rico // Dactyloditerpenol acetate, a new prenylbisabolane-type diterpene from *Aplysia dactylomela* with significant in vitro anti-neuroinflammatory activity
1309 // dactyloditerpenol acetate // N // anti-neuroinflammatory // Absolute via Kishi method. // *

820 Mollusc *Conus bandanus* // Iffa-Credo, France // Isolation, purification and functional characterization of alpha-BnIA from *Conus bandanus* venom
1310 // α-BnIA // N // inhibits □7 nAChR // * // *

823 Mollusc *Conus bandanus* // Nha Trang bay, Vietnam // Characterization of a novel *Conus bandanus* conopeptide belonging to the M-superfamily containing bromotryptophan
1311 // BnIIID // N // * // * // *

824 Mollusc *Conus australis* // Tamil Nadu, India. // Discovery of a new subclass of α-conotoxins in the venom of *Conus australis*
1312 // α-AusIA // N // inhibits □7 nAChR // * // *

825 Mollusc *Conus virgo* // Tamil Nadu, India. // Conformational analysis of a 20-membered cyclic peptide disulfide from *Conus virgo* with a wpw segment: evidence for an aromatic–proline sandwich
1313 // Vi804 // N // * // * // *



832 Chordata *Didemnum* sp. // Nabq/Sharm El-Sheikh, Egypt // Didemnacerides A and B: two new glycerides from Red Sea ascidian *Didemnum* species
1314 // didemnaceride A // N // * // * // *
1315 // didemnaceride B // N // * // * // *

833 Chordata *Pseudodistoma* sp. // Chuja-do, Korea // Amino alcohols from the ascidian *Pseudodistoma* sp.
1316 // pseudoaminol A // N // mildly cytotox. and AB // * // *
1317 // pseudoaminol B // N // mildly cytotox. and AB // * // *
1318 // pseudoaminol C // N // mildly cytotox. // * // *
1319 // pseudoaminol D // N // mildly cytotox. // * // *
1320 // pseudoaminol E // N // * // * // *
1321 // pseudoaminol F // N // * // * // *
1322 // pseudoaminol G // N // * // * // *

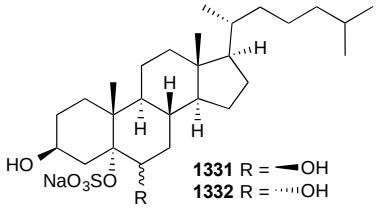
834 Chordata *Didemnum* sp. // Nabq, Egypt // Didemnaketals D and E, bioactive terpenoids from a Red Sea ascidian *Didemnum* species
1323 // didemnaketal D // N // mildly AB // * // *
1324 // didemnaketal E // N // mildly AB // * // *

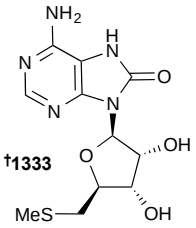
835 Chordata *Didemnum* sp. // Nabq, Egypt // Didemnaketals F and G, new bioactive spiroketals from a Red Sea ascidian *Didemnum* species
1325 // didemnaketal F // N // mildly cytotox. // * // *
1326 // didemnaketal G // N // mildly cytotox. // * // *

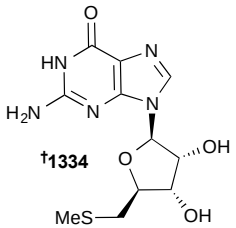
836 Chordata *Synoicum pulmonaria* // Tromso, Norway // Isolation and synthesis of pulmonarins A and B, acetylcholinesterase inhibitors from the colonial ascidian *Synoicum pulmonaria*
1327 // pulmonarin A // N // mild AChE inhib. // * // *
1328 // pulmonarin B // N // mild AChE inhib. // * // *

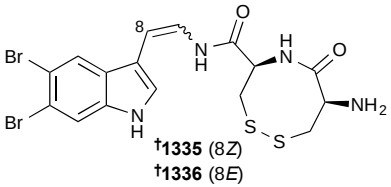
837 Chordata *Synoicum* sp. // Visakhapatnam coast, India // Rubrolide R: a new furanone metabolite from the ascidian *Synoicum* of the Indian Ocean
1329 // rubrolide R // N // * // duplicate name // **s188**

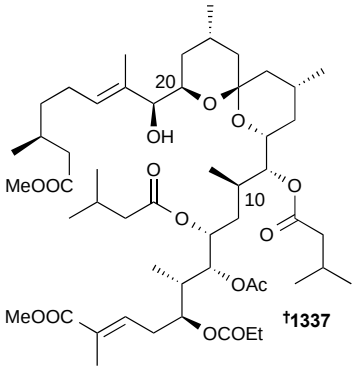
552 Chordata *Cnemidocarpa stolonifera* // Peel Is., Australia // Structure determination of pentacyclic pyridoacridine alkaloids from Australian *Ancorina geodides* and *C. stolonifera*
1330 // cnemidine A // N // moderate cytotox. PC3. // * // *

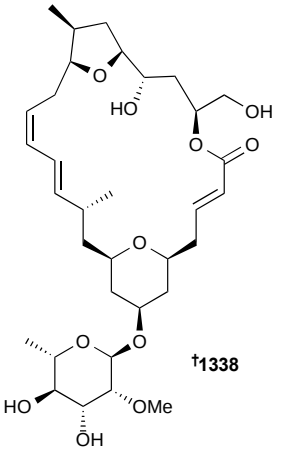












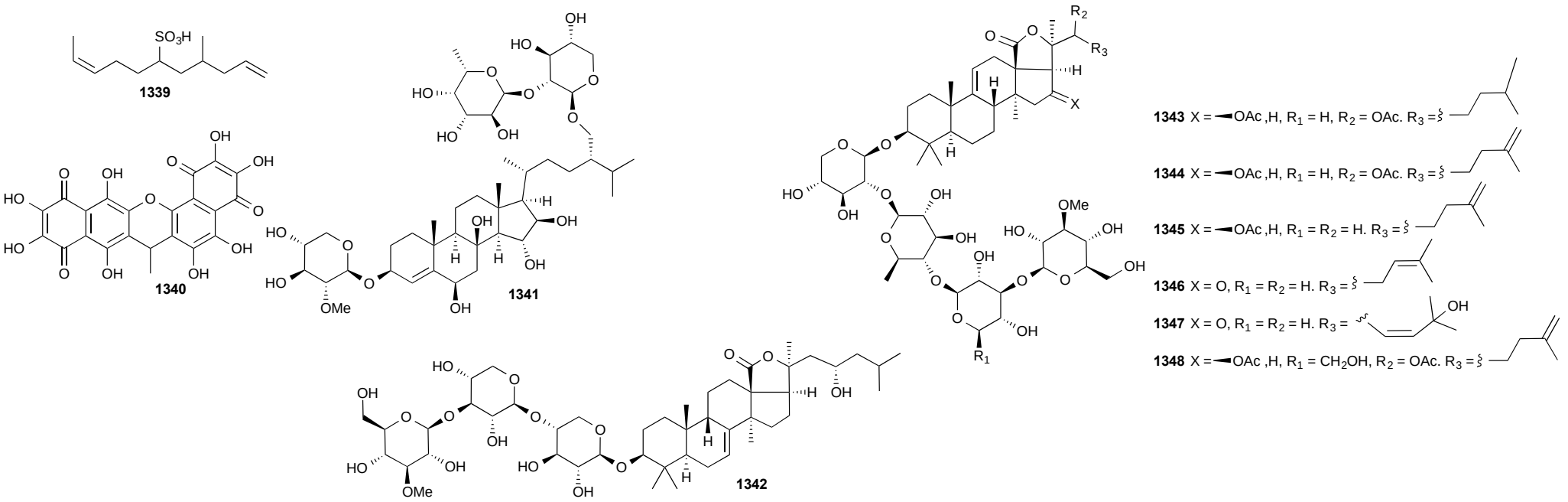
838 Chordata *Phallusia fumigata* // Bay of Pozzuoli, Italy // Phallusiasterols A and B: two new sulfated sterols from the Mediterranean tunicate *Phallusia fumigata* and their effects as modulators of the PXR receptor
1331 // phallusiasterol A // N // PXR agonist // * // *
1332 // phallusiasterol B // N // * // * // *

839 Chordata *Didemnum* sp. // Little San Salvador Is., Bahamas // Salvadenosine, a 5′-deoxy-5′-(methylthio) nucleoside from the Bahamian tunicate *Didemnum* sp
1333 // salvadenosine // N // * // confirmed by synthesis. // *
1334 // hamiguanosinol // R // * // revised by synthesis // **s189**

841 Chordata *Diazona cf formosa* // East Timor // Tanjungides A and B: new antitumoral bromoindole derived compounds from *Diazona* cf *formosa*. Isolation and total synthesis
1335 // tanjungide A // N // strongly cytotox. HTCL // confirmed by synthesis. // *
1336 // tanjungide B // N // mod. cytotox. HTCL // confirmed by synthesis. // *

845 * // * // Total synthesis and structure revision of didemnaketal B
1337 // didemnaketal B // R // * // total synthesis; revision of structure. // **s190**

852 * // * // Total synthesis and stereochemical reassignment of mandelalide A
1338 // mandelalide A // R // * // * // **s191**

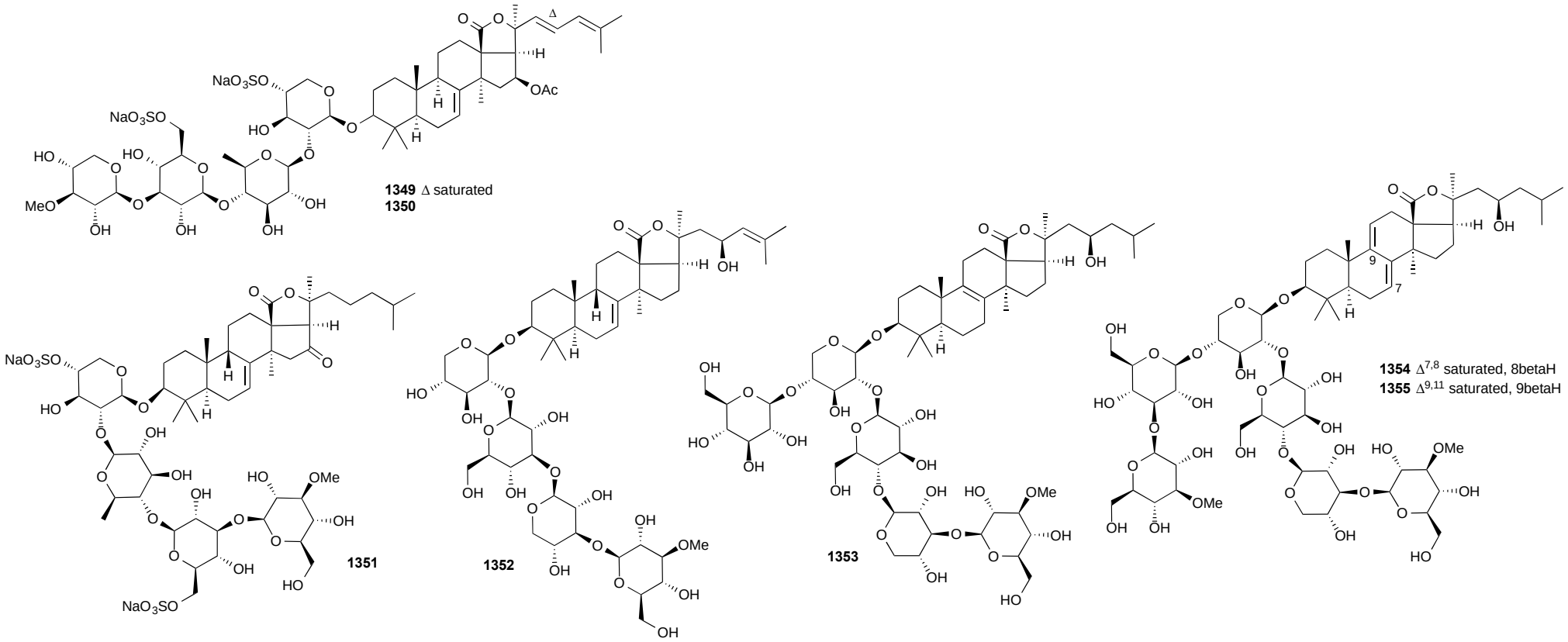


866 Echinodermata *Brisaster latifrons* // Sea of Okhotsk // A new sulfonic acid derivative, (*Z*)-4-methylundeca-1,9-diene-6-sulfonic acid, isolated from the cold water sea urchin inhibits inflammatory responses through JNK/p38 MAPK and NF-κB inactivation in RAW 264.7
1339 // (*Z*)-4-methylundeca-1,9-diene-6-sulfonic acid // N // anti-inflammatory // * // *

867 Echinodermata *Scaphechinus mirabilis* // Peter the Great Bay, Sea of Japan // Mirabiquinone, a new unsymmetrical binaphthoquinone from the sea urchin *Scaphechinus mirabilis*
1340 // mirabiquinone // N // Antioxidant (DPPH) // * // *

868 Echinodermata *Acanthaster planci* // Van Phong Bay, Vietnam // Minor steroidal triglycoside planciside D from the tropical starfish *Acanthaster planci*
1341 // planciside D // N // * // * // *
Echinodermata *Stichopus chloronotus* // Cat Ba, Haiphong, Vietnam // Triterpene saponins from the sea cucumber *Stichopus chloronotus*
1342 // stichloroside F // N // * // * // *

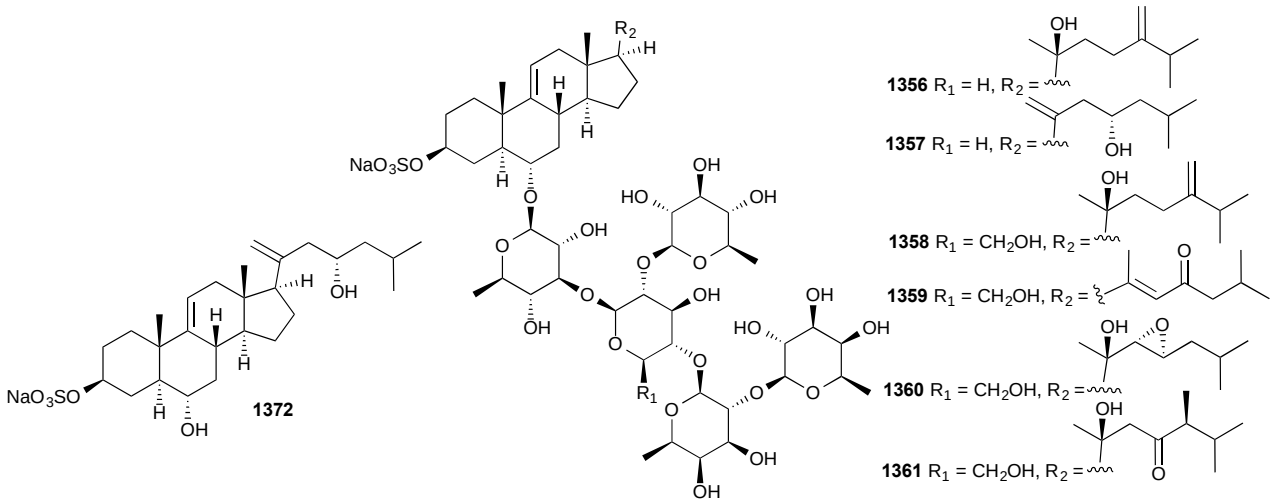
869 Echinodermata *Cladolabes schmeltzii* // Nha Trang Gulf, South China Sea // Triterpene glycosides from the sea cucumber *Cladolabes schmeltzii*. II. Structure and biological action of cladolosides A1-A6
1343 // cladoloside A1 // N // cytotox. and hemolytic // * // *
1344 // cladoloside A2 // N // cytotox. and hemolytic // * // *
1345 // cladoloside A3 // N // cytotox. and hemolytic // * // *
1346 // cladoloside A4 // N // cytotox. and hemolytic // * // *
1347 // cladoloside A5 // N // * // * // *
1348 // cladoloside A6 // N // cytotox. and hemolytic // * // *



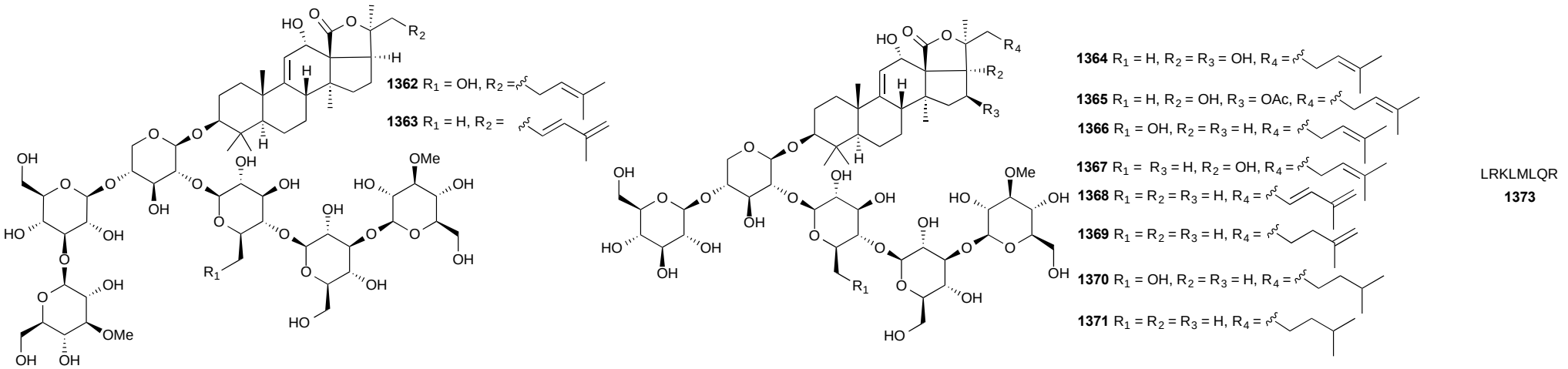
871 Echinodermata *Eupentacta fraudatrix* // Troitsa Bay, Sea of Japan // Cucumariosides F1 and F2, two new triterpene glycosides from the sea cucumber *Eupentacta fraudatrix* and their LC-ESI MS/MS identification in the starfish *Patiria pectinifera*, a predator of the sea cucumber
1349 // cucumarioside F1 // N // * // Also detected in predator Patiria pectinifera // *
1350 // cucumarioside F2 // N // * // Also detected in predator Patiria pectinifera // *

872 Echinodermata *Pseudocnus dubiosus* // South Atlantic Ocean // Pseudocnoside A, a new cytotoxic and antiproliferative triterpene glycoside from the sea cucumber *Pseudocnus dubiosus* leoninus
1351 // pseudocnoside A // N // mild cytotox. (2 HTCLs) // * // *

873 Echinodermata *Stichopus variegatus* // South China Sea, Hainan, China // Variegatusides: new non-sulphated triterpene glycosides from the sea cucumber *Stichopus variegates* Semper
1352 // variegatuside C // N // AF // * // *
1353 // variegatuside D // N // AF // * // *
1354 // variegatuside E // N // AF // * // *
1355 // variegatuside F // N // AF // * // *

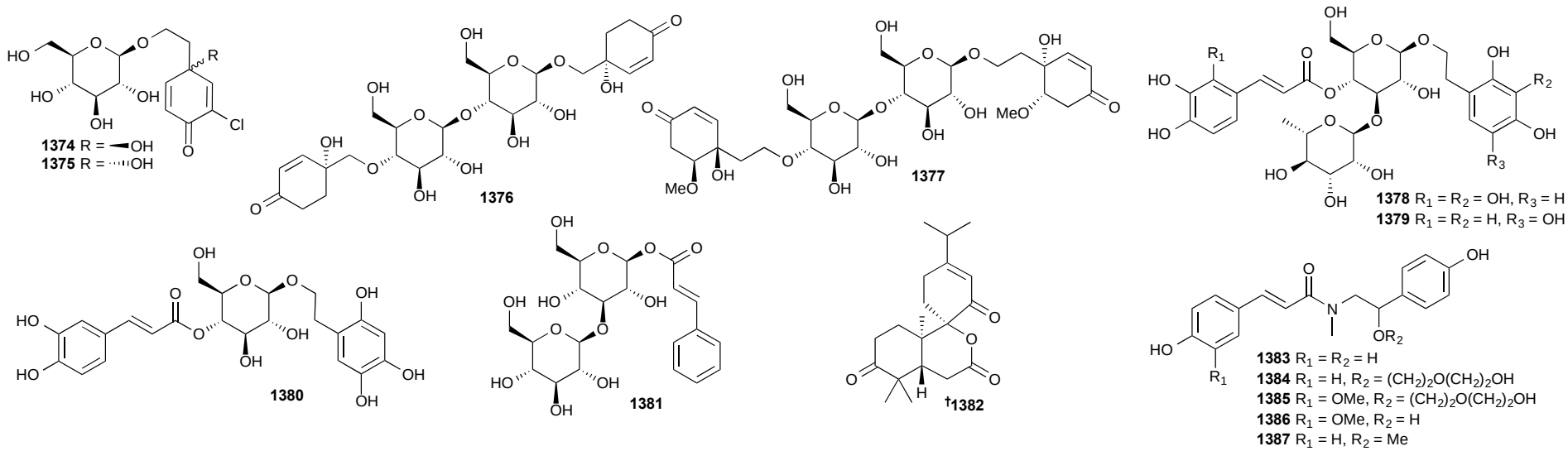


874 Echinodermata *Leptasterias ochotensis* // Bolshoy Shantar, Sea of Okhotsk // Asterosaponins from the Far Eastern starfish *Leptasterias ochotensis* and their anticancer activity
1372 // (23*S*)-6α,23-dihydroxy-5α-cholesta-9(11),20(21)-dien-3β-yl sulfate // N // * // * // *
1356 // leptasterioside B // N // cytotox., inhib. colony formation of 2 HTCLs // * // *
1357 // leptasterioside A // N // cytotox., inhib. colony formation of 2 HTCLs // * // *
1358 // leptasterioside C // N // cytotox., inhib. colony formation of 2 HTCLs // * // *
1359 // leptasterioside D // N // * // * // *
1360 // leptasterioside E // N // * // * // *
1361 // leptasterioside F // N // * // * // *

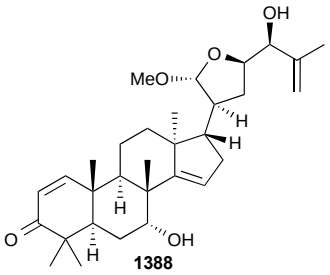


875 Echinodermata *Bohadschia cousteaui* // Red Sea, Gulf of Aqaba. // Analysis of saponins as bioactive zoochemicals from the marine functional food sea cucumber *Bohadschia cousteaui*
1362 // cousteside A // N // AF // * // *
1363 // cousteside B // N // AF // * // *
1364 // cousteside C // N // AF // * // *
1365 // cousteside D // N // AF // * // *
1366 // cousteside E // N // AF // * // *
1367 // cousteside F // N // AF // * // *
1368 // cousteside G // N // AF // * // *
1369 // cousteside H // N // AF // * // *
1370 // cousteside I // N // AF // * // *
1371 // cousteside J // N // AF // * // *

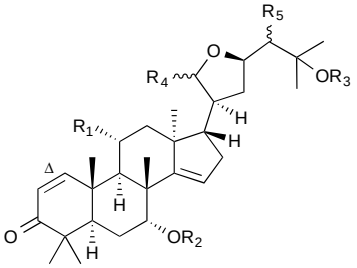
878 Echinodermata *Echinometra lucunter* // Sao Sebastiao, SP, Brazil. // Echinometrin: a novel mast cell degranulating peptide from the coelomic liquid of *Echinometra lucunter*
1373 // Echinometrin // N // pro-inflammatory // * // *



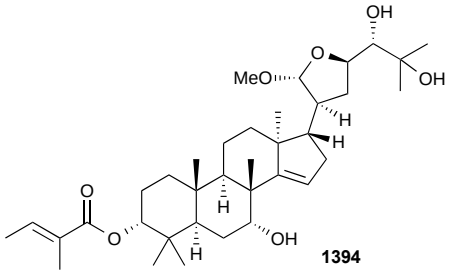
907 Tracheophyta *Avicennia marina* // Beihai city, China // Four new jacaranone analogs from the fruits of a Beibu Gulf mangrove *Avicennia marina*
1374 // marinoid F // N // * // * // *
1375 // marinoid G // N // * // * // *
1376 // marinoid H // N // * // * // *
1377 // marinoid I // N // antioxidant // * // *
908 Tracheophyta *Avicennia marina* // Beihai city, China // New antioxidative secondary metabolites from the fruits of a Beibu Gulf mangrove, *Avicennia marina*
1378 // marinoid L // N // antioxidant // * // *
1379 // marinoid K // N // antioxidant // * // *
1380 // marinoid L // N // * // * // *
1381 // marinoid M // N // * // * // *
909 Tracheophyta *Ceriops decandra* // Godavari estuary, India // Decandrinin, an unprecedented C9-spiro-fused 7,8-seco-ent-abietane from the Godavari mangrove *Ceriops decandra*
1382 // decandrinin // N // * // * // *
910 Tracheophyta *Micromelum falcatum* // Wenchang, China // Five new phenethyl cinnamides from the mangrove associates *Micromelum falcatum*
1383 // micrometam A // N // * // * // *
1384 // micrometam B // N // * // * // *
1385 // micrometam C // N // * // * // *
1386 // micrometam D // N // * // * // *
1387 // micrometam E // N // * // * // *



1388



1389 $R_1 = R_3 = H$, $R_2 = Ac$, $R_4 =$ OMe , $R_5 =$ OH
1390 $R_1 = R_2 = R_3 = H$, $R_4 =$ OMe , $R_5 =$ OAc
1391 $R_1 = R_2 = H$, $R_3 = Me$, $R_4 =$ OMe , $R_5 =$ OH , Δ saturated
1392 $R_1 = OAc$, $R_2 = H$, $R_3 = Me$, $R_4 =$ OMe , $R_5 =$ OH
1394 $R_1 = H$, $R_2 = Ac$, $R_3 = H$, $R_4 =$ OMe , $R_5 =$ OH



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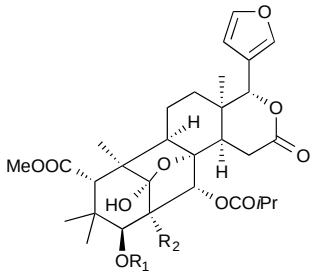
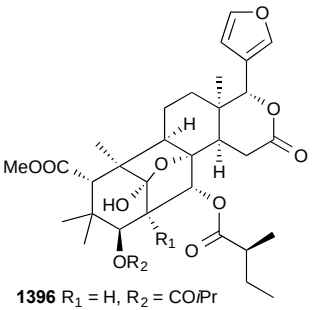
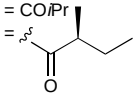
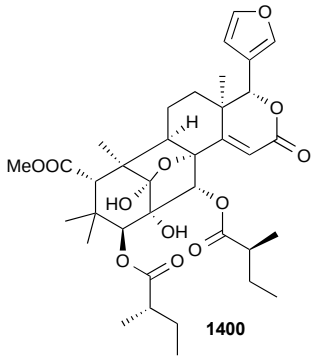


1395 $R_1 = COiPr$, $R_2 = H$
1399 $R_1 = Ac$, $R_2 = OH$



1396 $R_1 = H$, $R_2 = COiPr$
1397 $R_1 = OH$, $R_2 = COiPr$
1398 $R_1 = OH$, $R_2 =$ 



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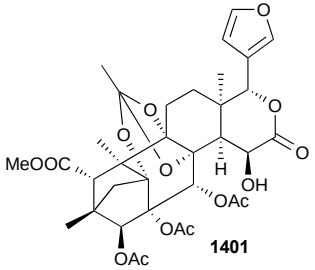

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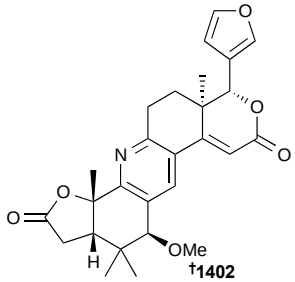
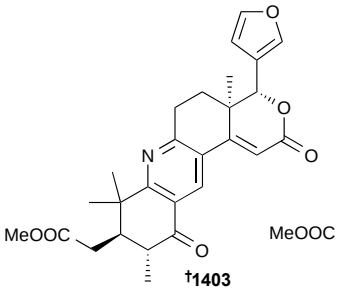
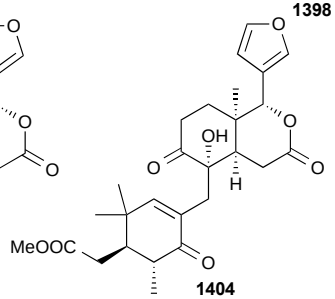


†**1402**

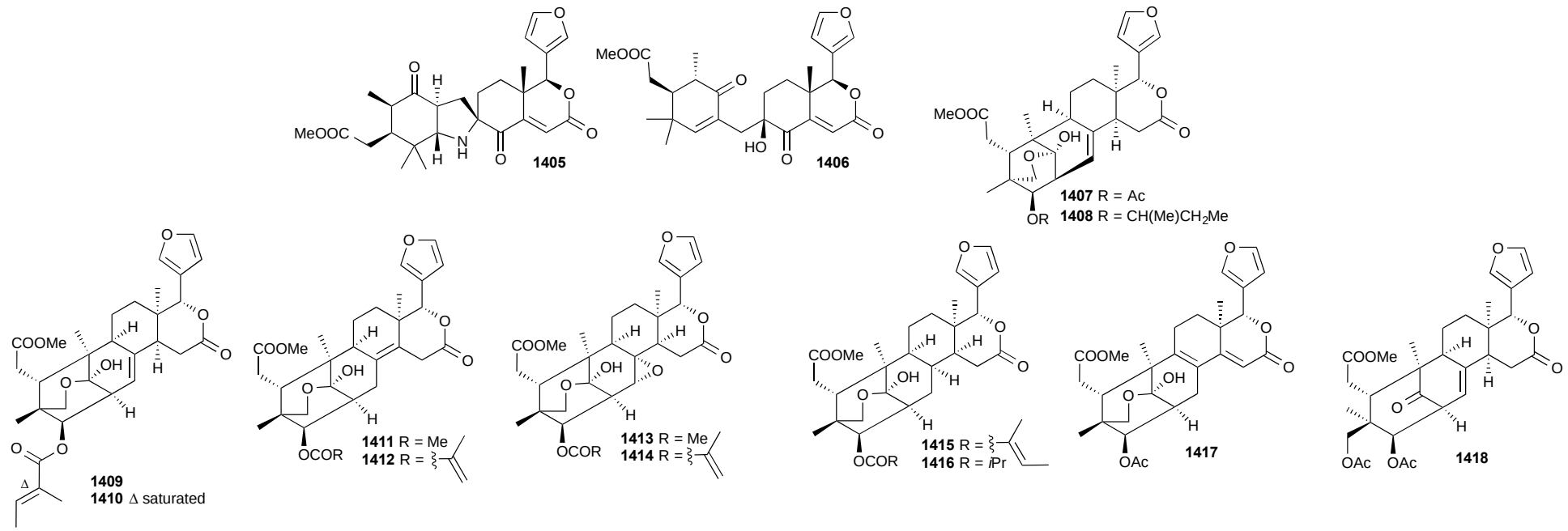


†**1403**



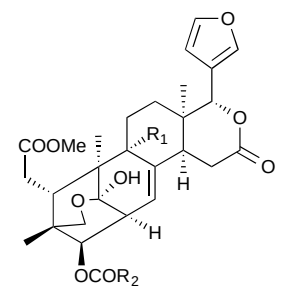
1404

911 Tracheophyta *Xylocarpus granatum* // Dongzhai, China // Apotirucallane protolimonoids from the Chinese mangrove *Xylocarpus granatum* Koenig
1388 // xylogranatumine A // N // * // * // *
1389 // xylogranatumine B // N // * // * // *
1390 // xylogranatumine C // N // * // * // *
1391 // xylogranatumine D // N // * // * // *
1392 // xylogranatumine E // N // * // * // *
1393 // xylogranatumine F // N // weakly cytotox. // * // *
1394 // xylogranatumine G // N // * // * // *
912 Tracheophyta *Xylocarpus rumphii* // Kudee Is., Thailand // Weakly anti-inflammatory limonoids from the seeds of *Xylocarpus rumphii*
1395 // xylorumphiin E // N // * // * // *
1396 // xylorumphiin F // N // * // * // *
1397 // 2-hydroxyxylorumphiin F // N // inhibit NO production // * // *
1398 // xylorumphiin G // N // * // X-ray structure. // *
1399 // xylorumphiin H // N // * // * // *
1400 // xylorumphiin I // N // inhibit NO production // * // *
1401 // xylorumphiin J // N // * // * // *
913 Tracheophyta *Xylocarpus granatum* // Dongzhai, China // Bioactive rearranged limonoids from the Chinese mangrove *Xylocarpus granatum* Koenig
1402 // xylogranatopyridine A // N // mild PTP1B inhibition // X-ray structure. Abs. confg. ECD DFT calc. // *
1403 // xylogranatopyridine B // N // * // * // *
1404 // prexylogranatopyridine // N // * // * // *



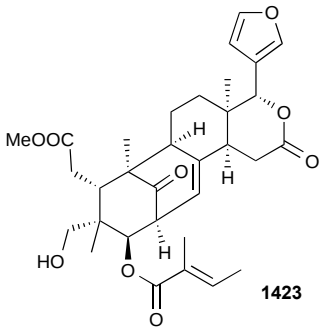
914 Tracheophyta *Xylocarpus granatum* // Hainan Is., China // Xylomexicanins E-H, new limonoids from *Xylocarpus granatum*
1405 // xylomexicanin E // N // * // * // *
1406 // xylomexicanin F // N // mildly cytotox. // * // *
1407 // xylomexicanin G // N // * // * // *
1408 // xylomexicanin H // N // * // * // *

915 Tracheophyta *Xylocarpus granatum* // Krishna estuary, India // Limonoids with an oxygen bridge between C(1) and C(29) from the seeds of a Krishna mangrove, *Xylocarpus granatum*
1409 // granatumin L // N // * // X-ray structure. // *
1410 // granatumin M // N // * // * // *
1411 // granatumin N // N // * // * // *
1412 // granatumin O // N // * // * // *
1413 // granatumin P // N // * // * // *
1414 // granatumin Q // N // * // * // *
1415 // granatumin R // N // * // * // *
1416 // granatumin S // N // * // * // *
1417 // granatumin T // N // * // * // *
1418 // granatumin U // N // * // * // *



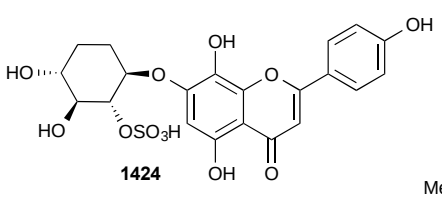
†**1419** R_1 = H, R_2 = Me
†**1420** R_1 = H, R_2 = *i*Pr
†**1421** R_1 = H, R_2 =

†**1422** R_1 = OH, R_2 =

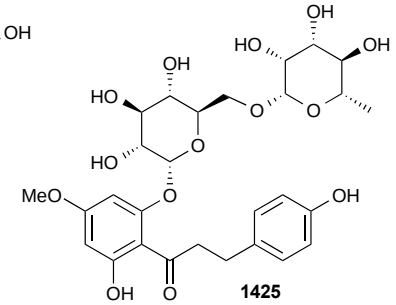


1423

916 Tracheophyta *Xylocarpus granatum* // Krishna estuary, India // Absolute configurations of new limonoids from a Krishna mangrove, *Xylocarpus granatum*
1419 // granatumin V // N // * // * // *
1420 // granatumin W // N // * // * // *
1421 // granatumin X // N // * // * // *
1422 // granatumin Y // N // * // X-ray structure. // *
917 Tracheophyta *Xylocarpus granatum* // Hainan Is., China // A new limonoid from *Xylocarpus granatum*
1423 // xylocartin C // N // * // * // *



1424



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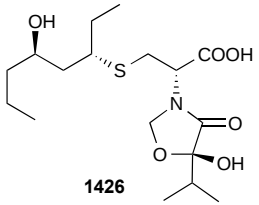

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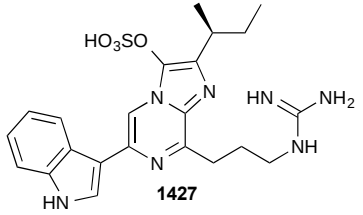

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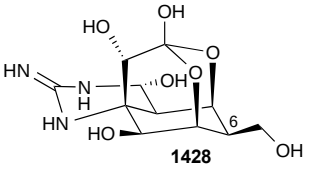

1428

928 Tracheophyta *Thalassia hemprichii* // south Marsa Alam coast, Egypt // A new 8-hydroxy flavone *O*-xyloside sulfate and antibacterial activity from the Egyptian seagrass *Thalassia hemprichii*
1424 // isoscutellarein 7-*O*-β-xyloside-2"-*O*-sulfate // N // mod. AB activity // * // *

929 Tracheophyta *Thalassodendron ciliatum* // Magawish city Hurghada, Egypt // Anti-influenza A virus activity of a new dihydrochalcone diglycoside isolated from the Egyptian seagrass *Thalassodendron ciliatum* (Forsk.) den Hartog
1425 // thalassodendrone // N // mild anti-influenza activity. // * // *

930 Annelida *Thelepus crispus* // the coast of Friday Harbor, WA, USA // Thelepamide: an unprecedented ketide-amino acid from *Thelepus crispus*, a marine annelid worm
1426 // thelepamide // N // weakly cytotox. // * // *

933 Arthropoda *Vargula hilgendorfii* // Chita, Aichi, Japan // Identification of 3-enol sulfate of Cypridina luciferin, Cypridina luciferyl sulfate, in the sea-firefly *Cypridina* (*Vargula*) *hilgendorfii*
1427 // Cypridina luciferyl sulfate // N // * // * // *

934 Chordata *Takifugu pardalis* // * // Isolation of 6-deoxytetrodotoxin from the pufferfish, *Takifugu pardalis*, and a comparison of the effects of the C-6 and C-11 hydroxy groups of tetrodotoxin on its activity
1428 // 6-deoxytetrodotoxin // N // Na_V channel blocker. // * // *

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