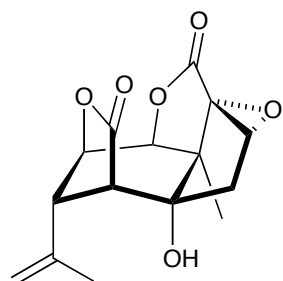
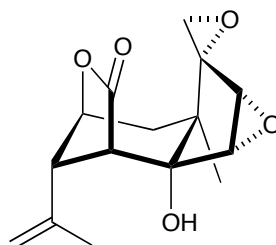


1. Natural Products of Plant Origin

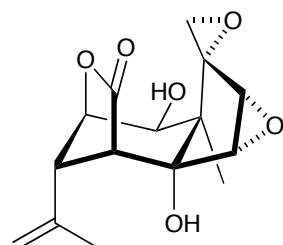
1-1. Terpenes



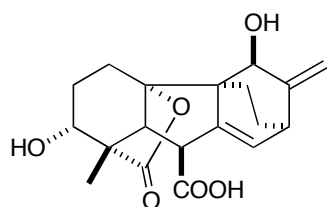
picrotoxinin



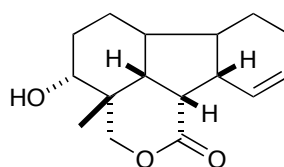
coriamyrtin



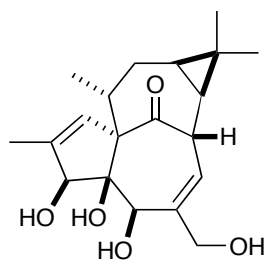
tutin



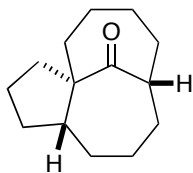
antheridic acid



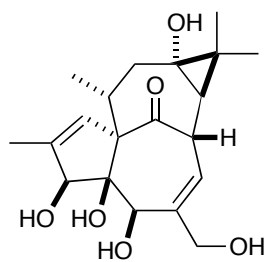
1-1. Terpenes (cont'd)



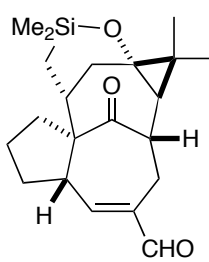
ingenol



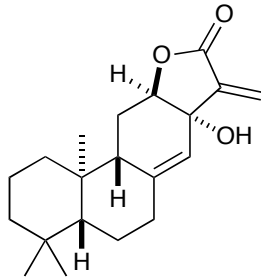
Winkler's intermediate



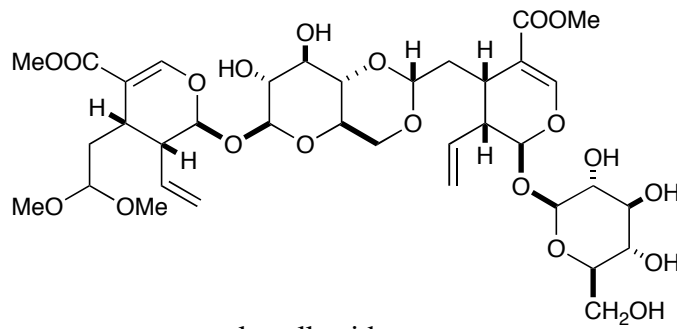
13-oxygenol



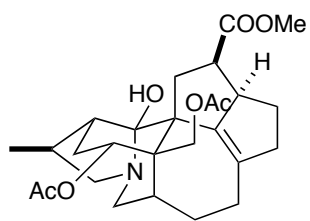
1-1. Terpenes (cont'd)



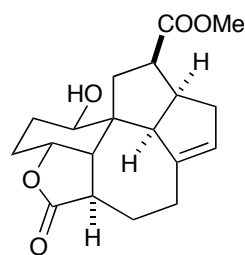
jolkinolide D



korlkoside

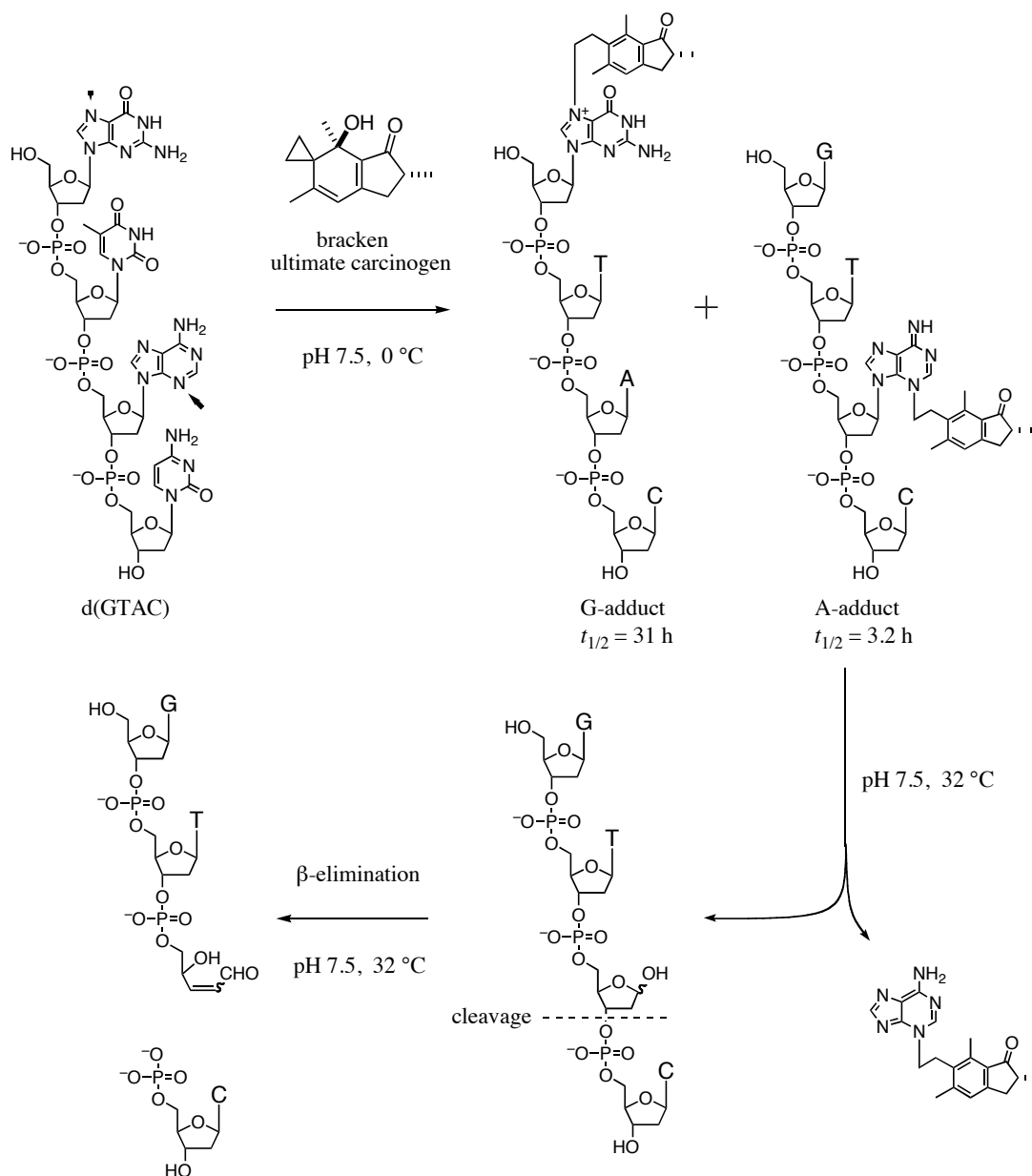
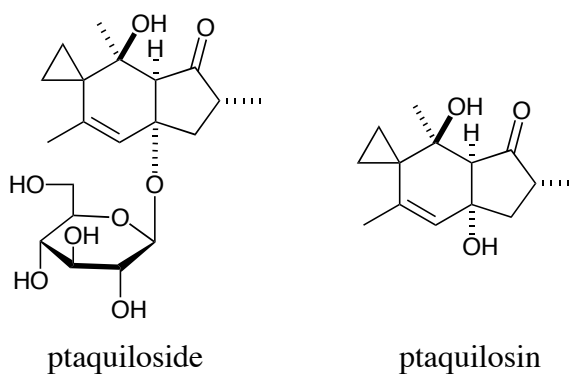


yuzurimine

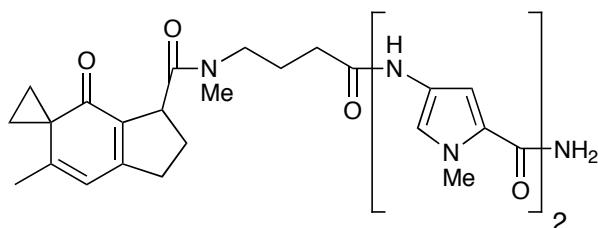
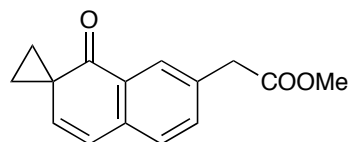
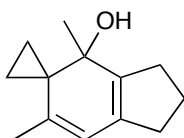
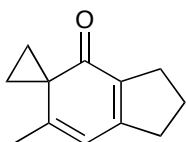


[6-7-5-5] tetracyclic core of yuzurimine

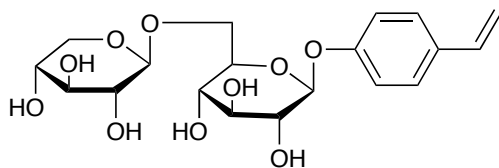
1-2. A Bracken Carcinogen and the Related Compounds



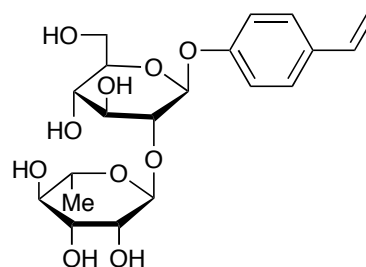
1-2. A Bracken Carcinogen and the Related Compounds (cont'd)



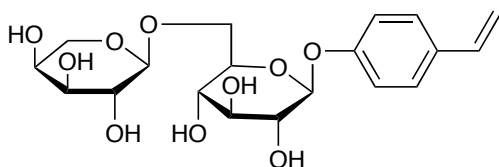
artificial analogues



ptelatoside-A

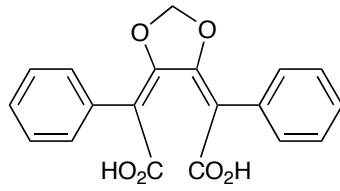


ptelatoside-B

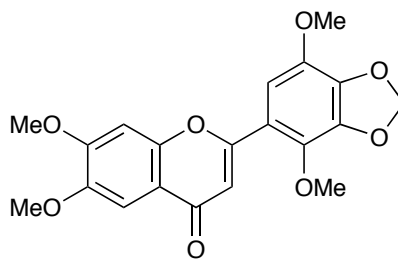


ptelatoside-C

1-3. Other Natural Products of Plant Origin and Natural Products from Fungi and Bacteria



ustalic acid



glaziovianin A

2. Marine Natural Products

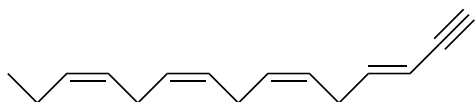
2-1. Metabolites from Algae



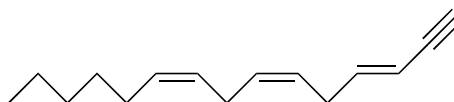
laurencenyne



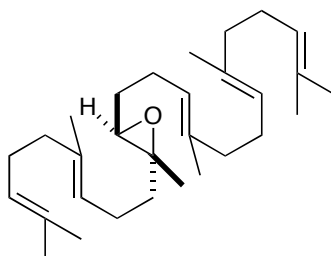
neolaurencenyne



trans-laurencenyne

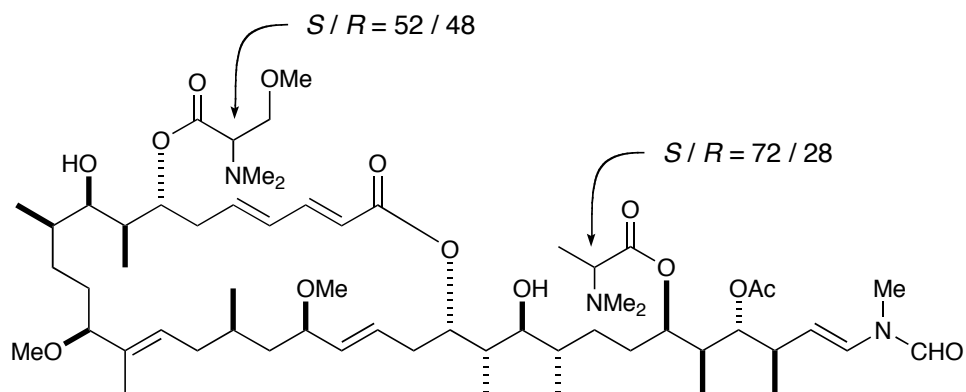


trans-neolaurencenyne

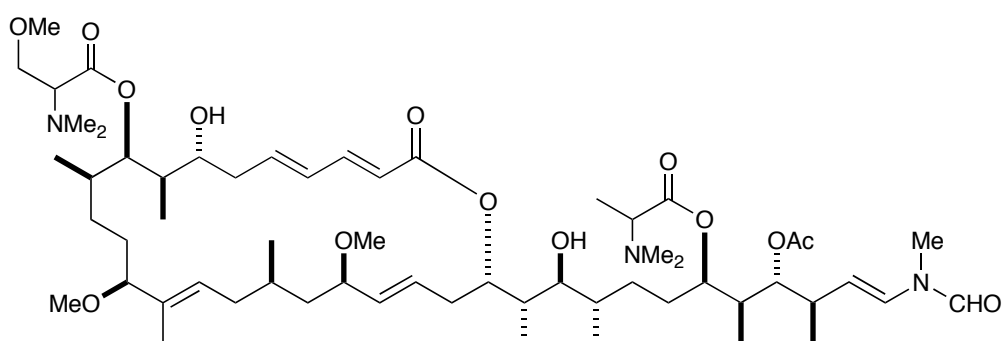


(10*R*,11*R*)-squalene-10,11-epoxide

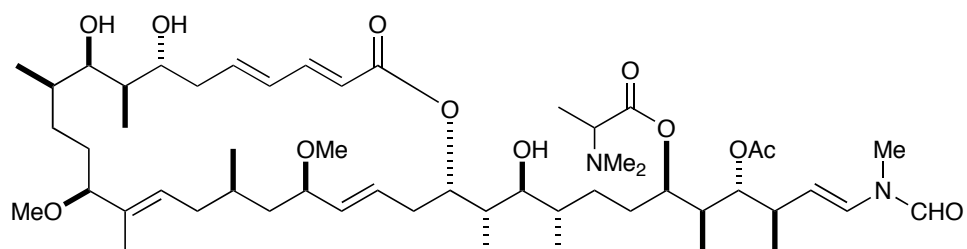
2-2. Metabolites from the Sea Hare *Aplysia kurodai*



aplyronine A

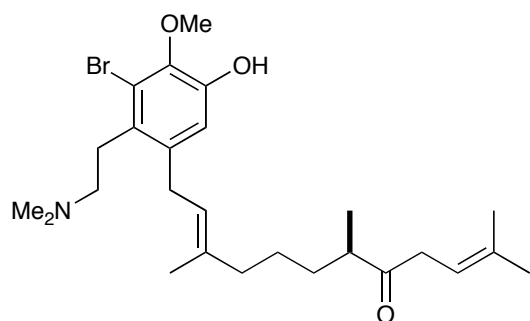


aplyronine B

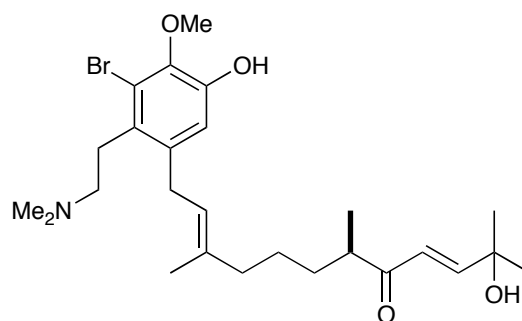


aplyronine C

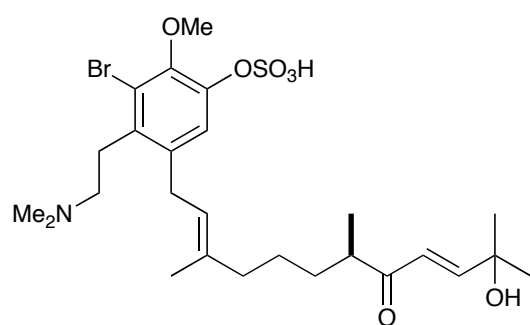
2-2. Metabolites from the Sea Hare *Aplysia kurodai* (cont'd)



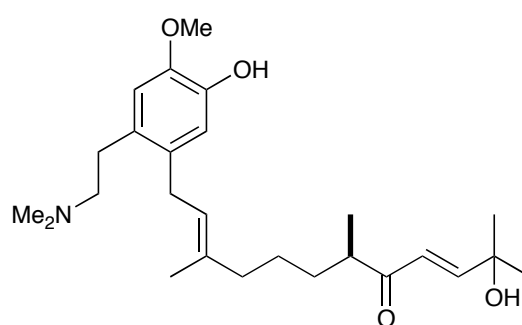
aplaminone



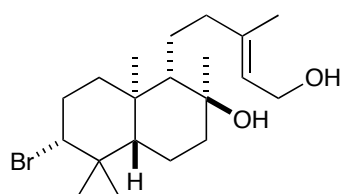
neoaplaminone



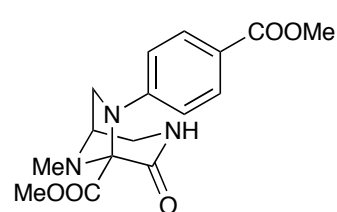
neoaplaminone sulfate



debromoneoaplaminone

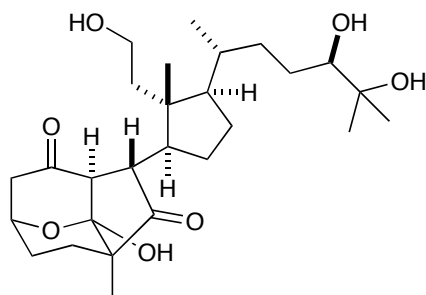


epi-aplysin-20



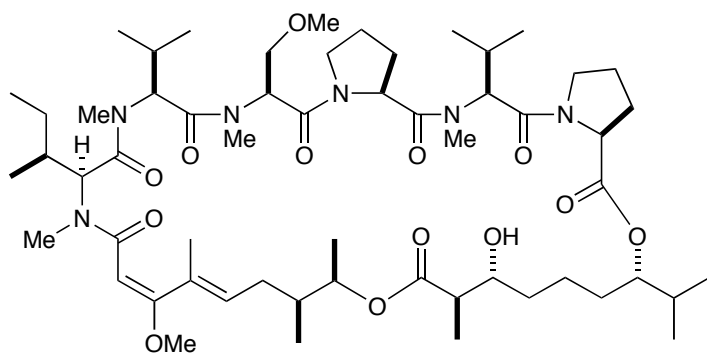
aplaminal

2-2. Metabolites from the Sea Hare *Aplysia kurodai* (cont'd)

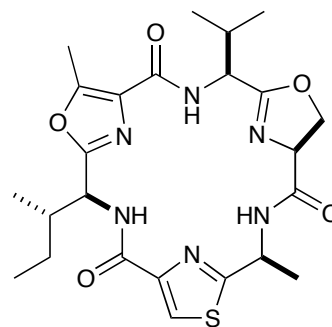


aplysiasecosterol A

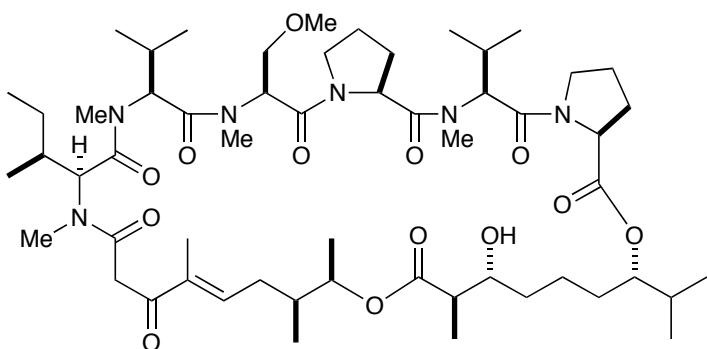
2-3. Metabolites from the Sea Hare *Dolabella auricularia*



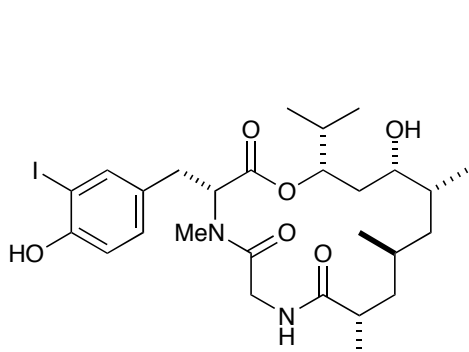
dolastatin G



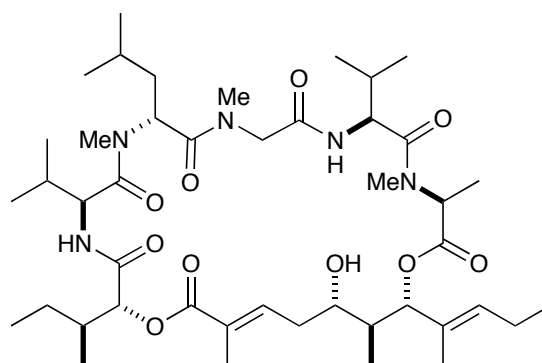
dolastatin I



nordolastatin G

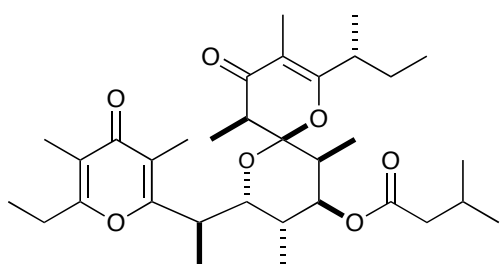


doliculide

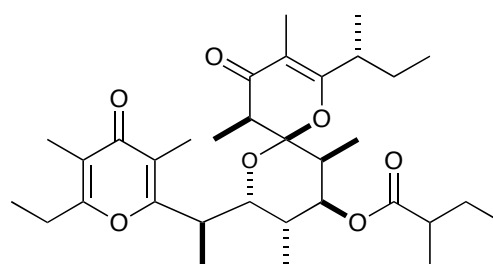


aurilide

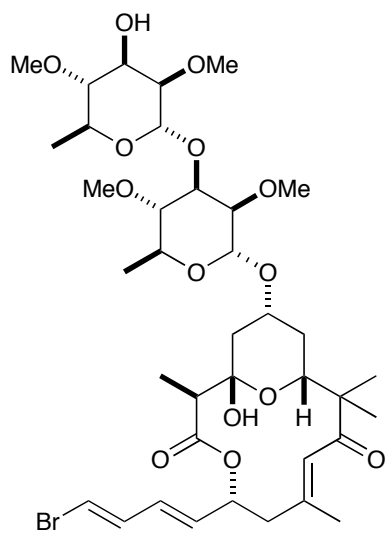
2-3. Metabolites from the Sea Hare *Dolabella auricularia* (cont'd)



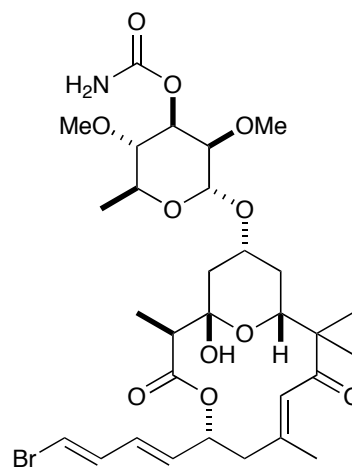
auripyronone A



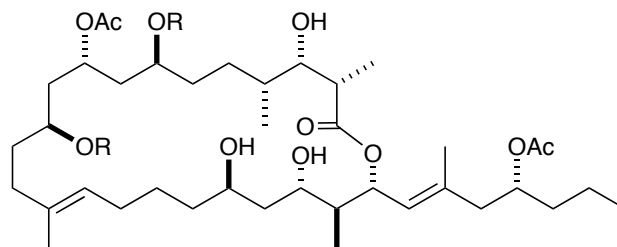
auripyronone B



auriside A



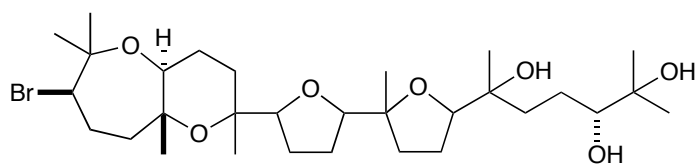
auriside B



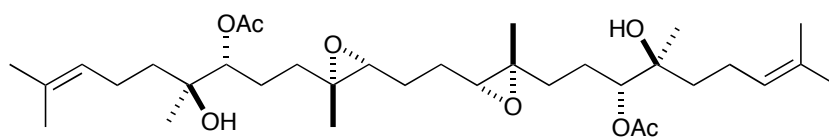
dolabelide C R = Ac

dolabelide D R = H

2-3. Metabolites from the Sea Hare *Dolabella auricularia* (cont'd)

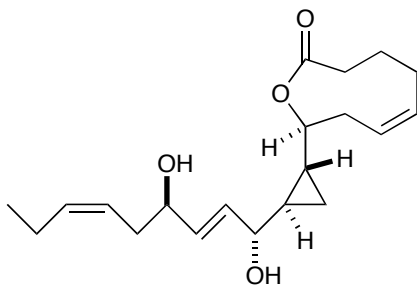


aurilol

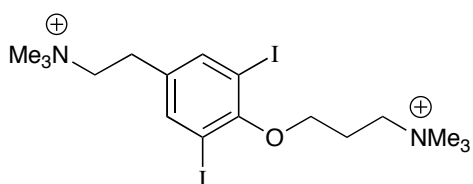


auriculol

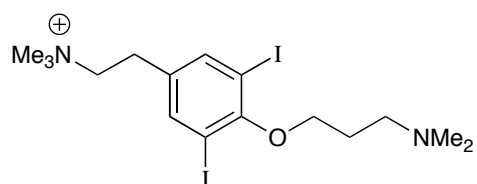
2-4. Other Marine Natural Products



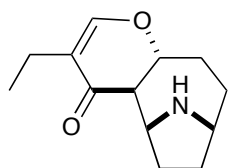
neohalicholactone



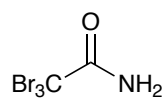
turbotoxin A



turbotoxin B

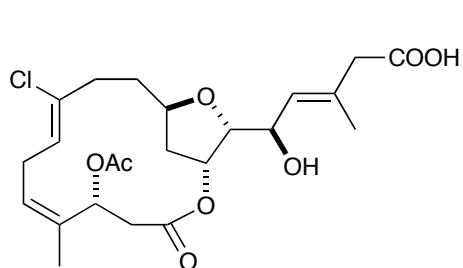


pinnamine

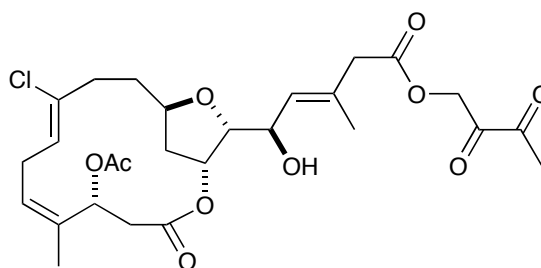


tribromoacetamide

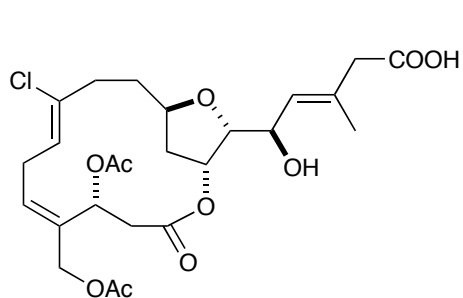
2-4. Other Marine Natural Products (cont'd)



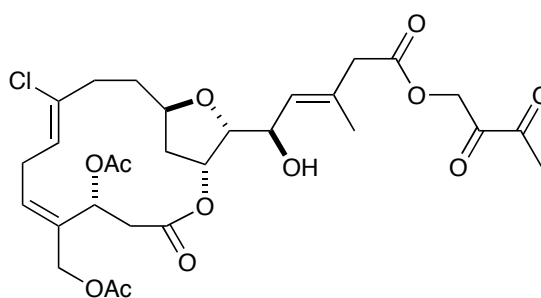
haterumalide NA



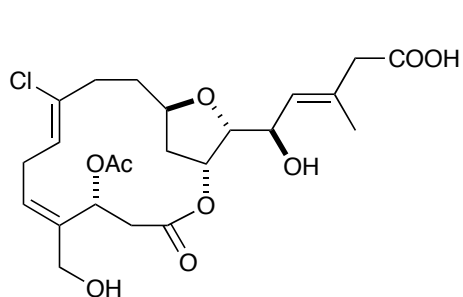
haterumalide B



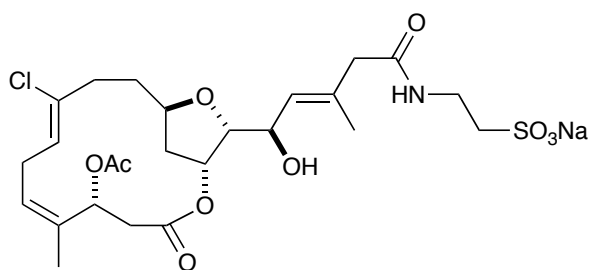
biselide A



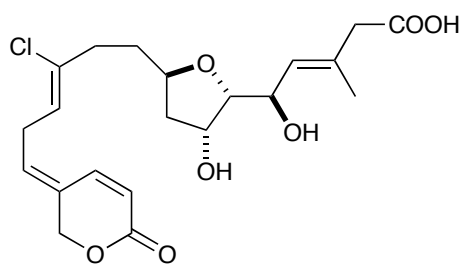
biselide B



biselide C

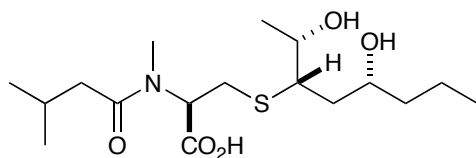


biselide D

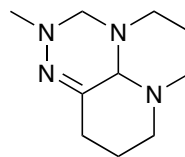


biselide E

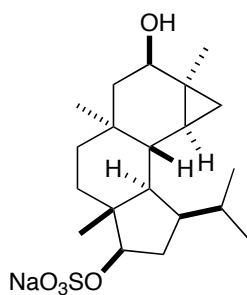
2-4. Other Marine Natural Products (cont'd)



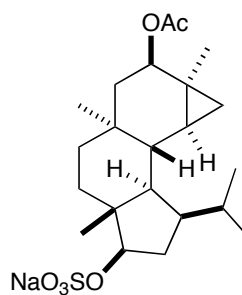
spongiacysteine



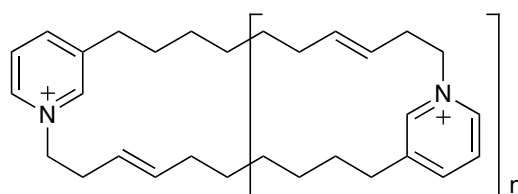
cinachyramine



5 β -hydroxy-13-*epi*-11 β -
neoverrucosanyl sulfate

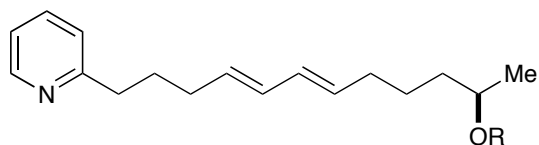


5 β -acetoxy-13-*epi*-11 β -
neoverrucosanyl sulfate



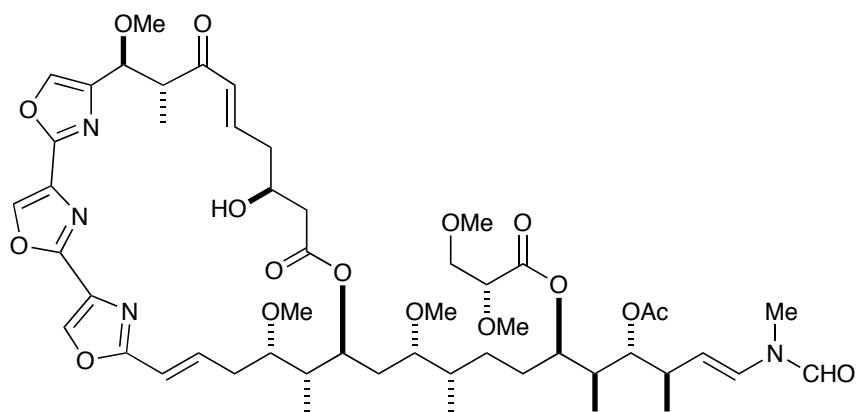
- cyclohaliclonamine A $n = 1$
- cyclohaliclonamine B $n = 2$
- cyclohaliclonamine C $n = 3$
- cyclohaliclonamine D $n = 4$
- cyclohaliclonamine E $n = 5$

2-4. Other Marine Natural Products (cont'd)

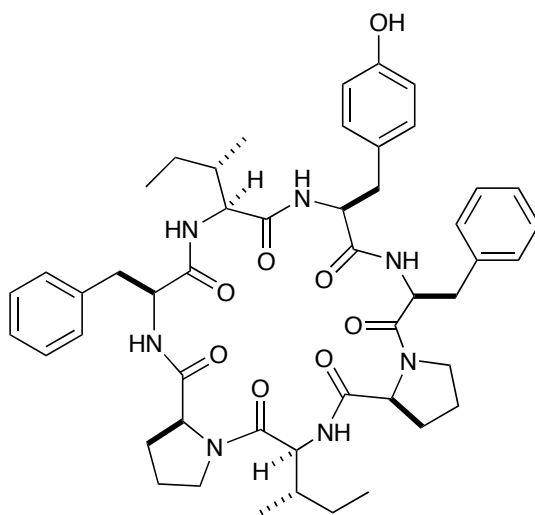


phormidinine A R = H

phormidinine B R = Ac



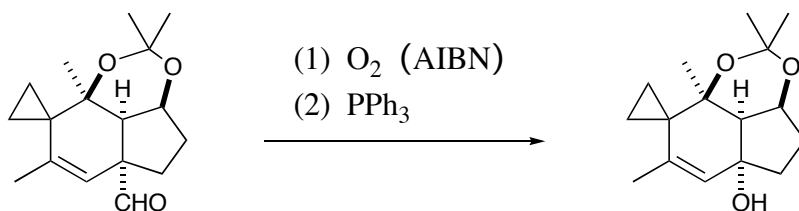
mycalolide B



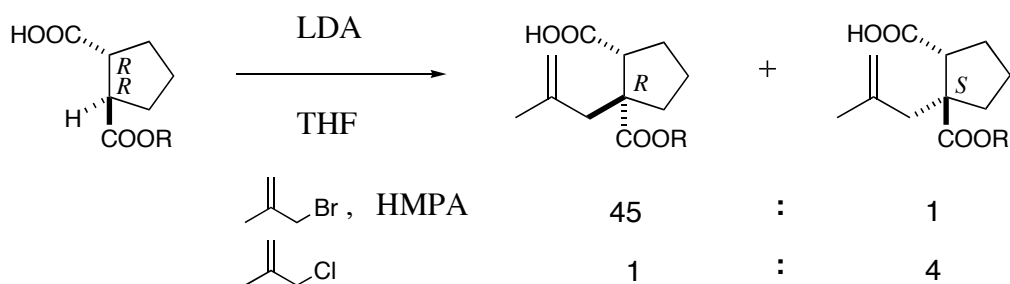
stylissatin A

3. Reactions

Deformylative hydroxylation

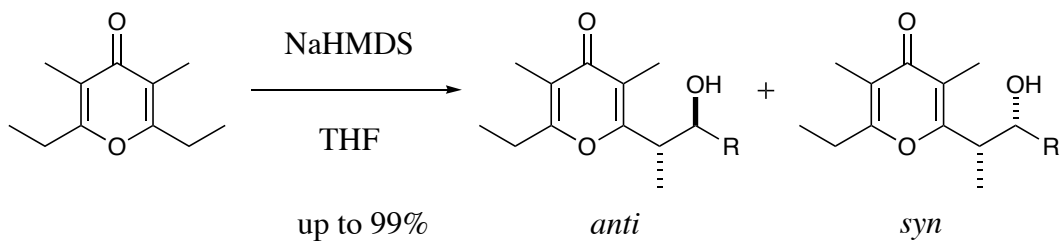


Contrasteric alkylation



R = (+)-menthyl

γ -Pyrone aldol-type reaction



anti:syn = 2.9:1 ~ 0.5:1