



Mini Review

Exploring endophytes for *in vitro* synthesis of bioactive compounds similar to metabolites produced *in vivo* by host plants

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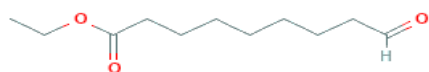
***Correspondence:** p.singh@ulster.ac.uk.

2 -D structures of compounds obtained from endophytes

1. Ethyl trans-9,10-epoxy-11-oxoundecanoate [1]



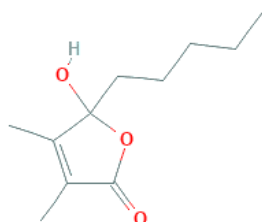
2. Ethyl 9-oxononanoate [2]



3. Ethyl zaelate [1]

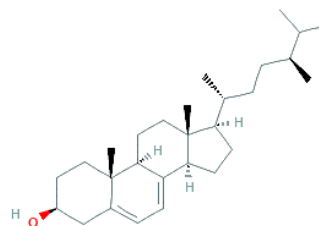


4. Hydroxydihydrobovolide [3]

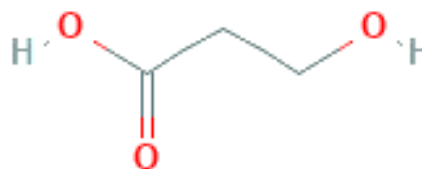


5. 8,1',5'-trihydroxy-3',4' dihydro-1'H-[2,4']binaphthalenyl-1,4,2'-trione

6. 3 β -hydroxy-ergosta-5-ene [4]



7. 3-Hydroxypropionic acid [5]

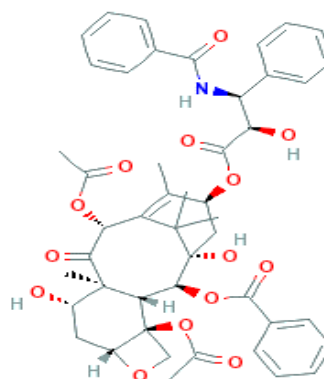


8. Leu-surfactin

9. 1,8-cineole (monoterpene) [6]



10. Taxol [7]

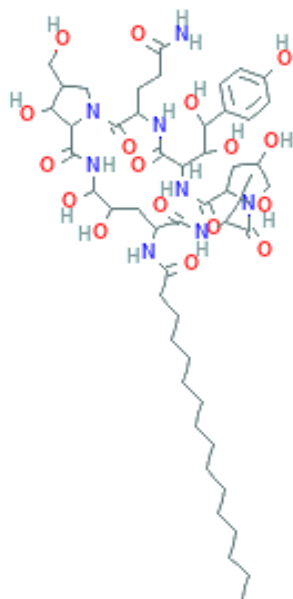


11. Phomopsichalasin [8]



12. 6-oxo-2-propenyl-3,6-dihydro-2H-pyran-3-yl ester

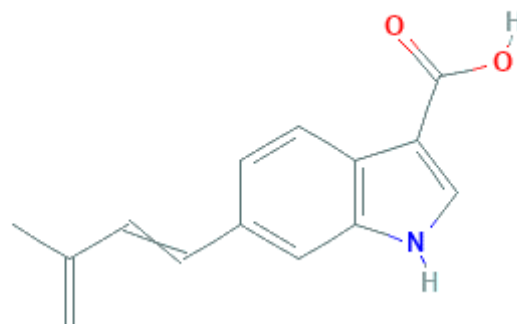
13. Cryptocandin [9]

14. 3 β ,5 α ,6 β -trihydroxyergosta-7,22-diene15. 3 β -hydroxy-ergosta-5-ene

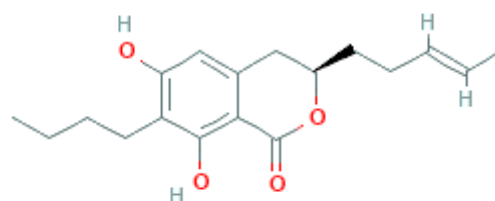
16. 3-oxo-ergosta-4,6,8(14),22-tetraene

17. 3 β -hydroxy-5 α ,8 α -epidioxy-ergosta-6,22-diene18. 3 β -hydroxy-5 α ,8 α -epidioxy-ergosta-6,9(11),22-triene, 3-oxo-ergosta-4-ene

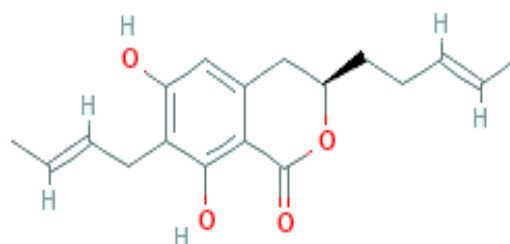
19. 6-isoprenylindole-3-carboxylic acid [10]

20. 3 β ,5 α -dihydroxy-6 β -acetoxy-ergosta-7,22-diene21. 3 β ,5 α -dihydroxy-6 β -phenylacetyloxy-ergosta-7,22-diene

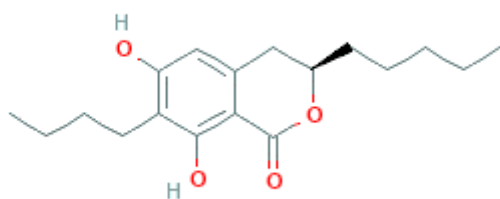
22. 7-butyl-6,8-dihydroxy- 3(R)-pent-11-enylisochroman-1-one [11]



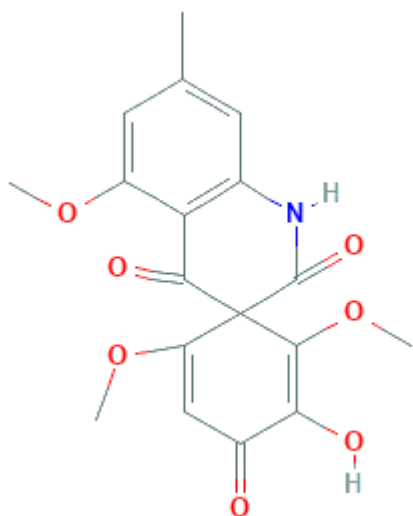
23. 7-but-15-enyl-6,8-dihydroxy-3(R)-pent-11-enylisochroman-1-one [12]



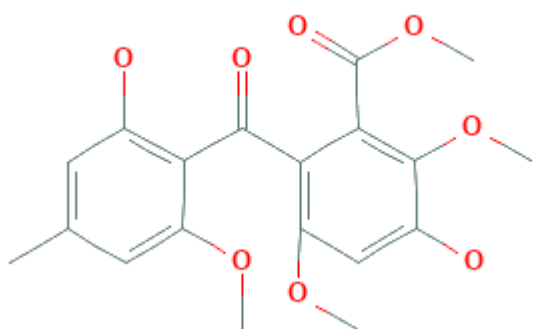
24. 7-butyl-6,8-dihydroxy-3(R)-



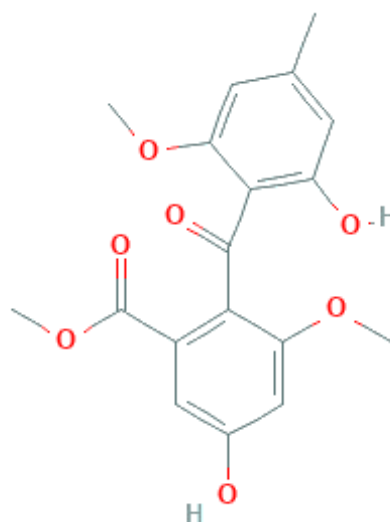
25. Asperfumoid [14]



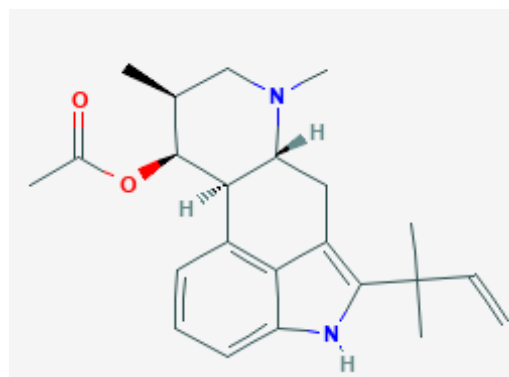
26. Asperfumin [15]



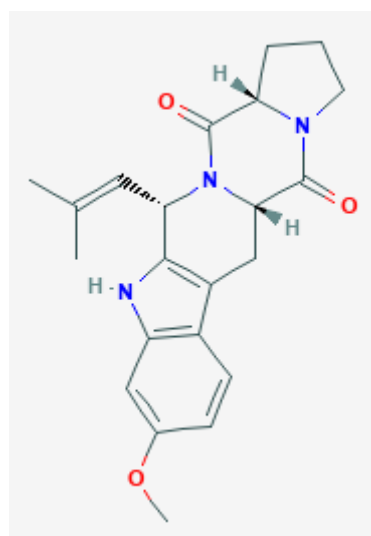
27. Monomethylsulochrin [16]



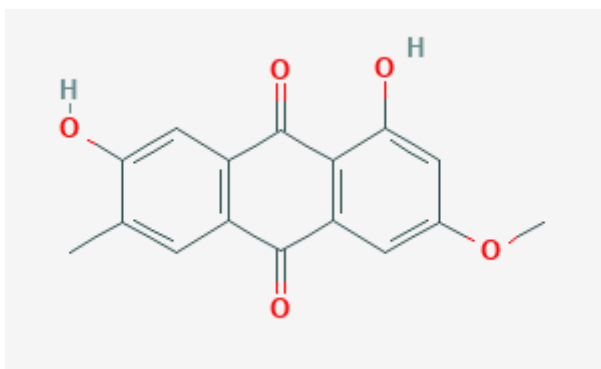
28. Fumigaclavine C [17]



29. Fumitremorgin C [18]



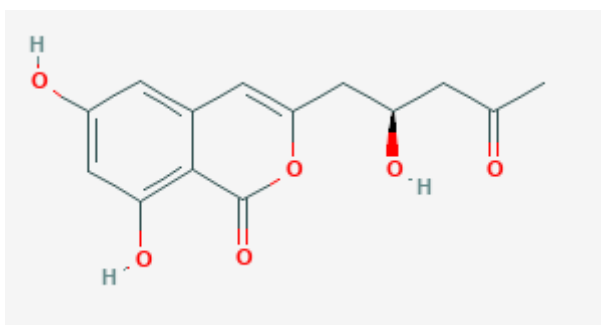
39. Macrosporin [25]



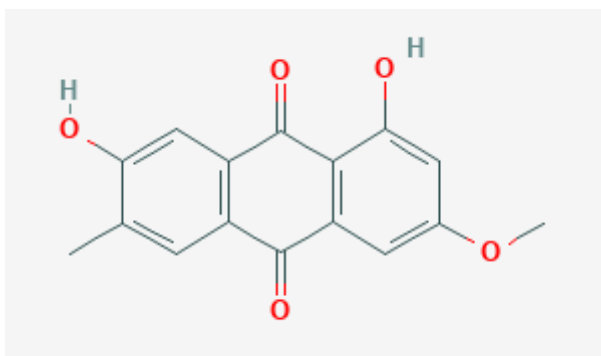
40. 3-O-methylalaternin

41. Methyltriacetic lactone

42. Citreoisocoumarin [26]

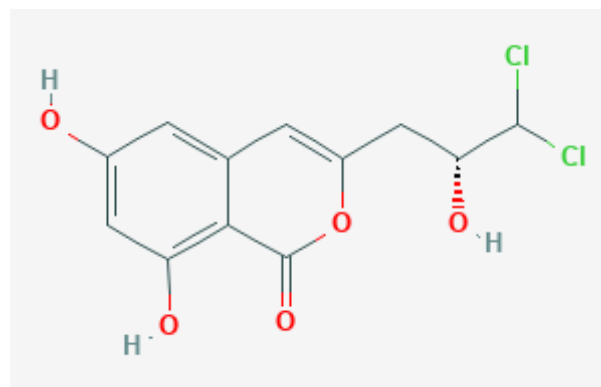


43. Macrosporin [27]

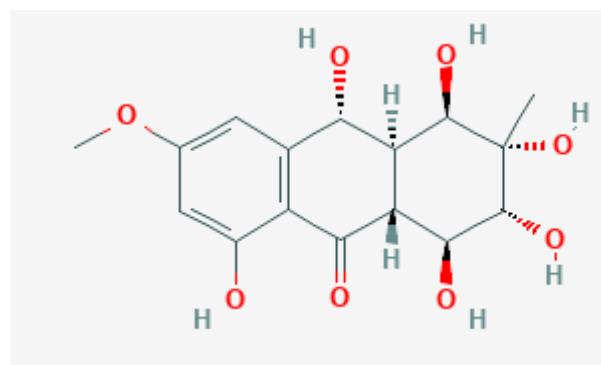


44. Desmethyldiaportino

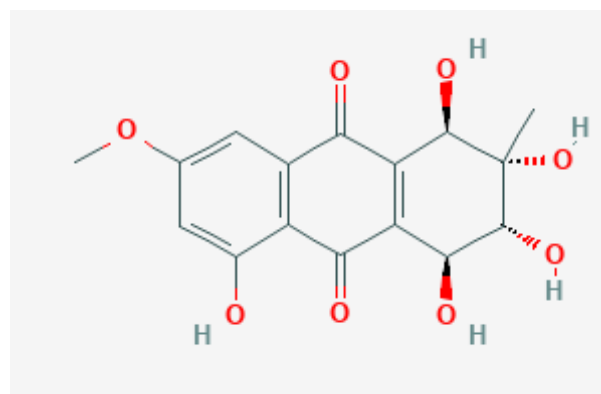
45. Desmethyldichlorodiaportin [28]



46. Ampelanol [29]

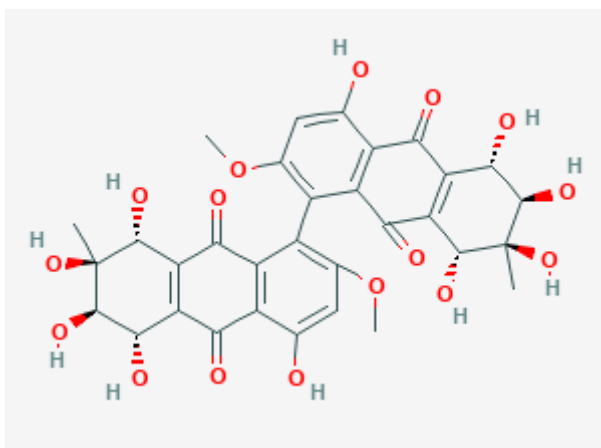


47. Altersolanol A [30]

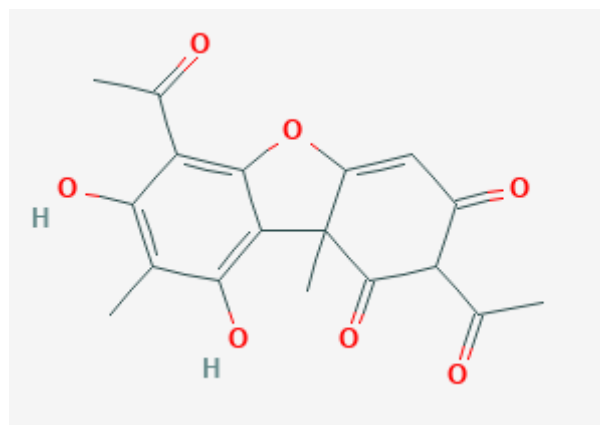


48. Alterporriols D

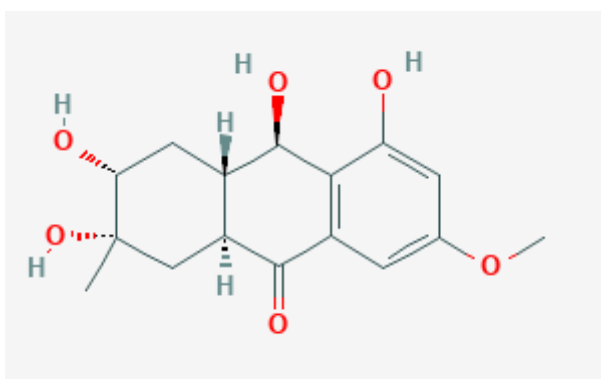
49. Alterporriols E [31]



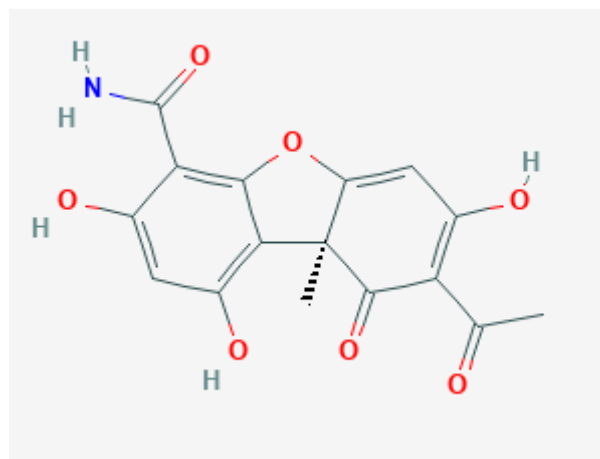
52. Usnic acid [34]



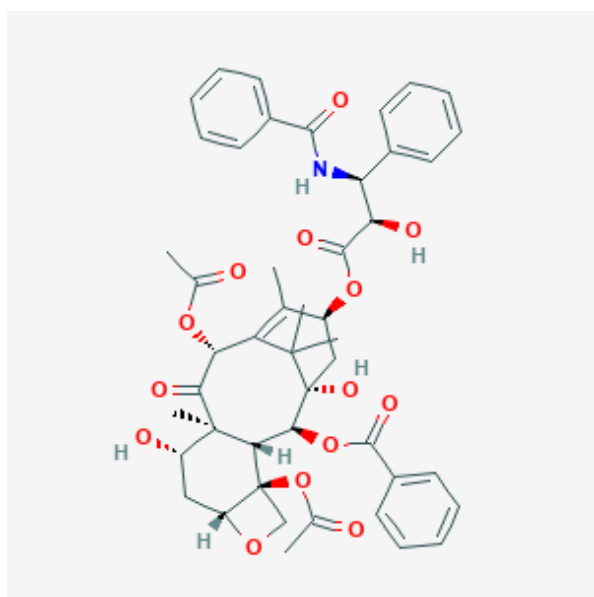
50. Altersolanol J [32]



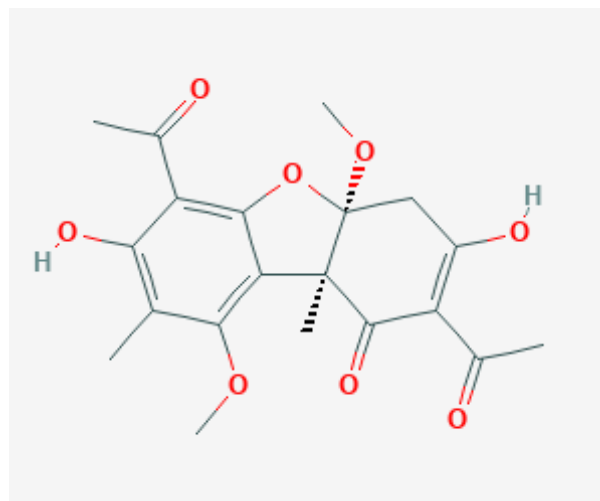
53. Cercosporamide [35]



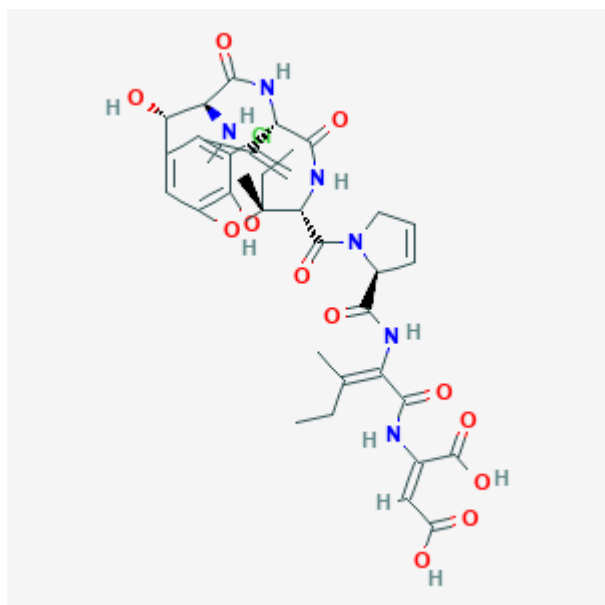
51. Paclitaxel [33]



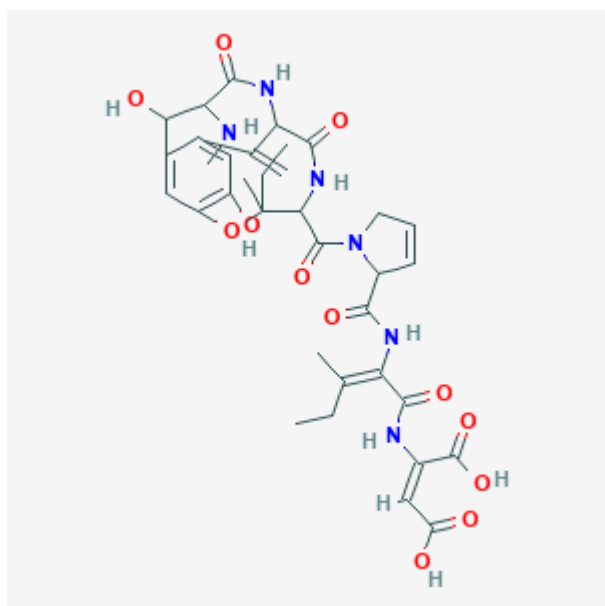
54. Phomodione [36]



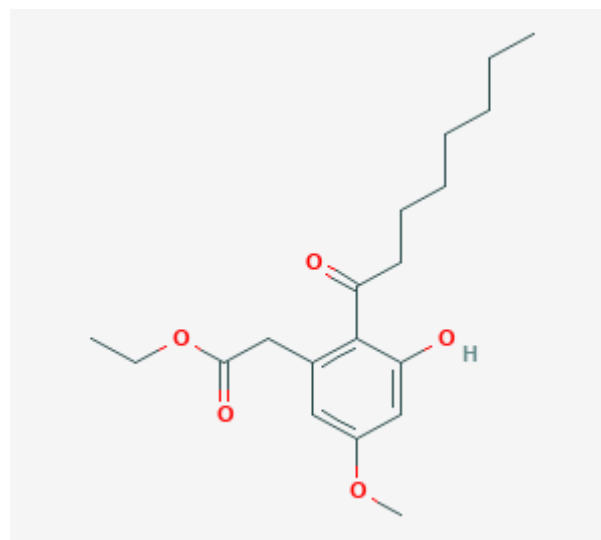
55. Phomopsin A [37]



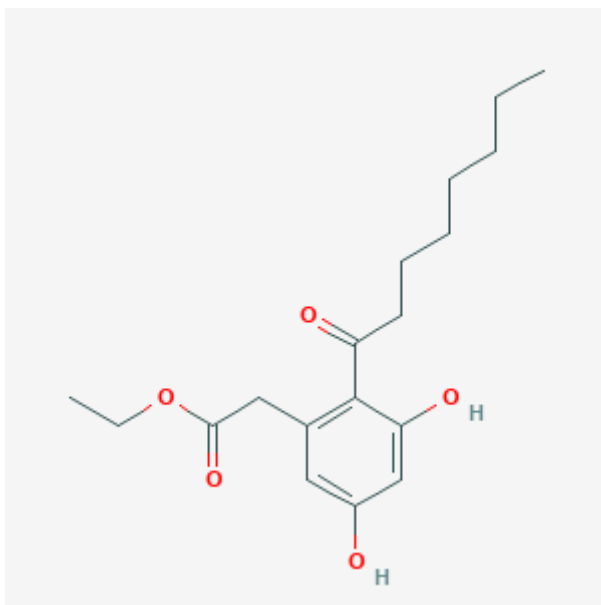
56. Phomopsin B [38]



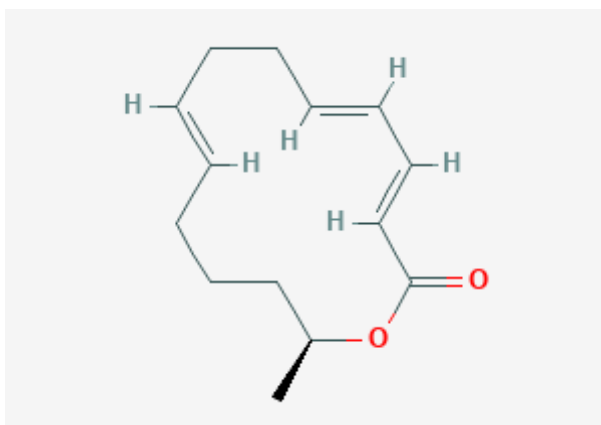
57. Phomopsin C [39]



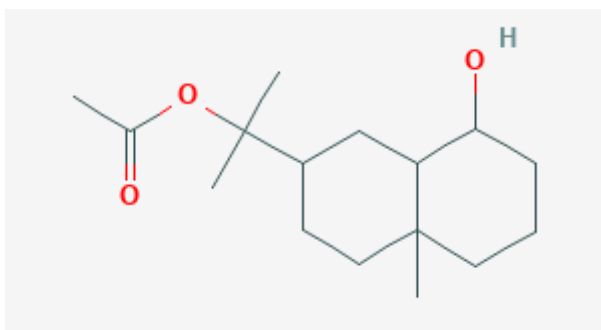
58. Cytosporone B[40]



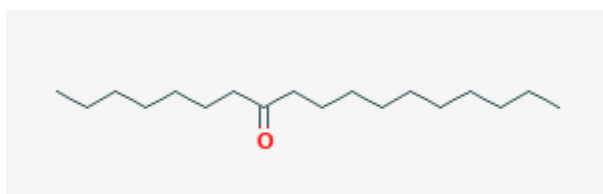
65. Benquoine [47]



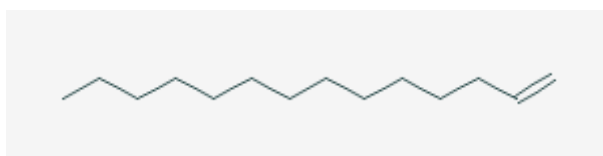
66. Terpene [48]



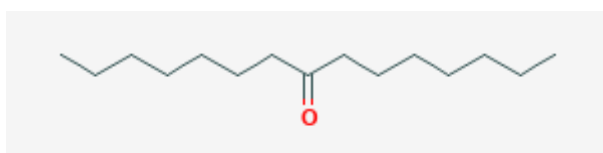
67. 8-octadecanone [49]



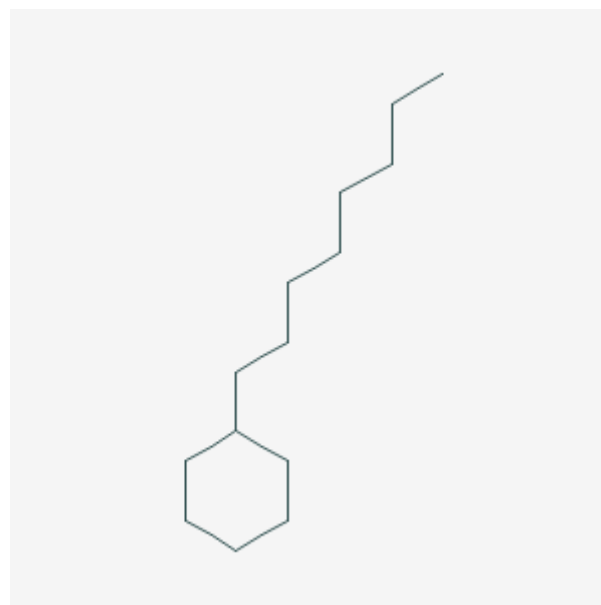
68. 1-tetradecene [50]



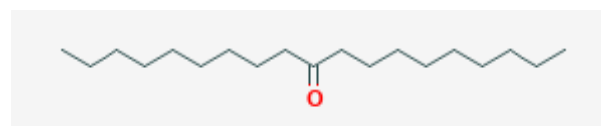
69. 8-pentadecanone [51]



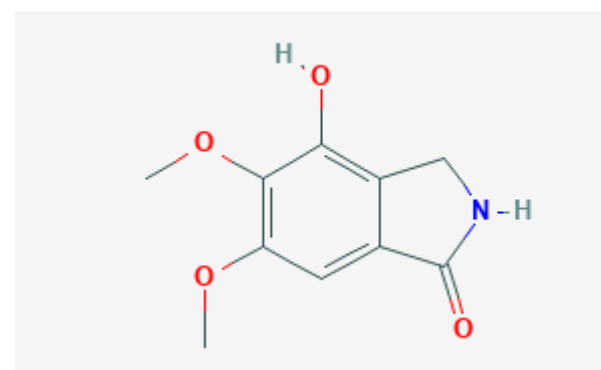
70. Octylcyclohexane [52]



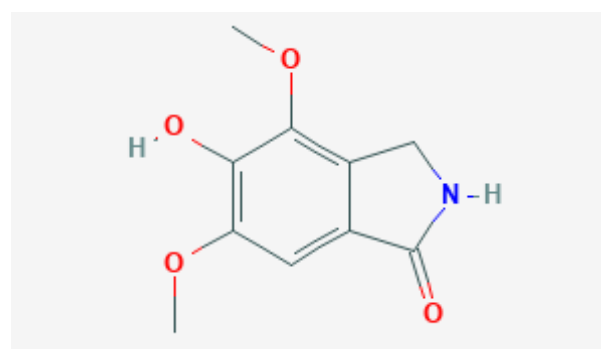
71. 10-nonadecanone [53]



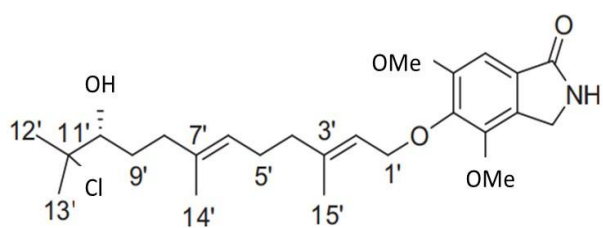
72. Emerimidine A [54]



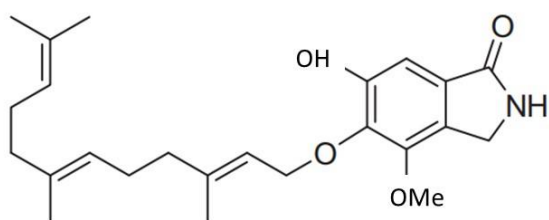
73. Emerimidine B [55]



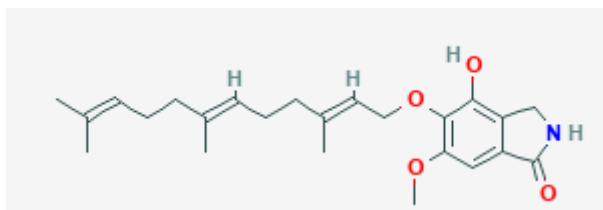
74. Emeriphenolicins A [56]



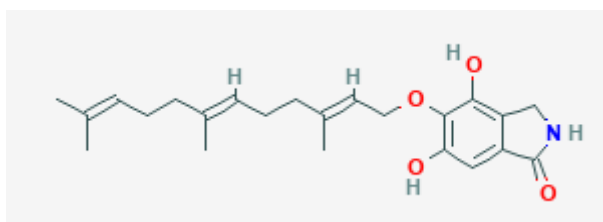
75. Emeriphenolicins A [56]



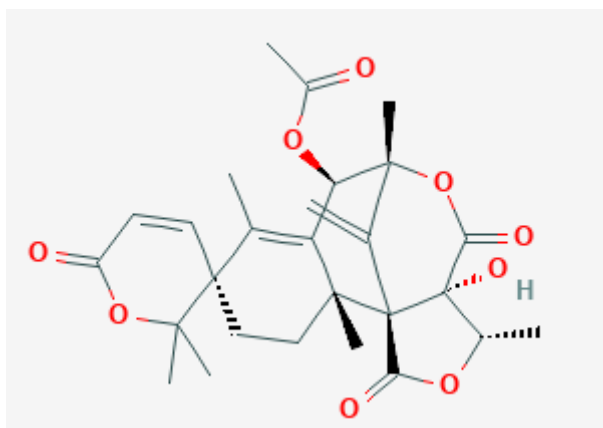
76. Aspernidine A [57]



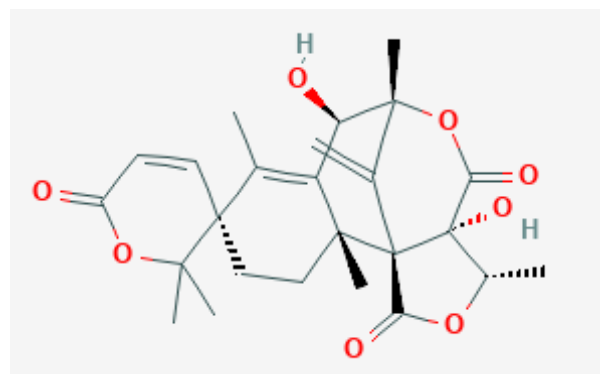
77. Aspernidine B [58]



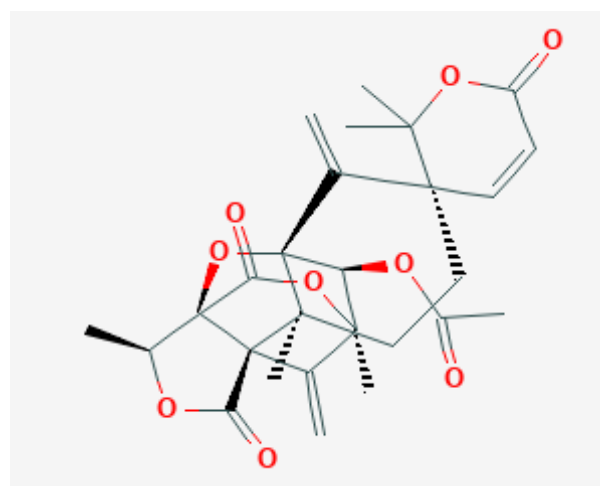
78. Austin [59]



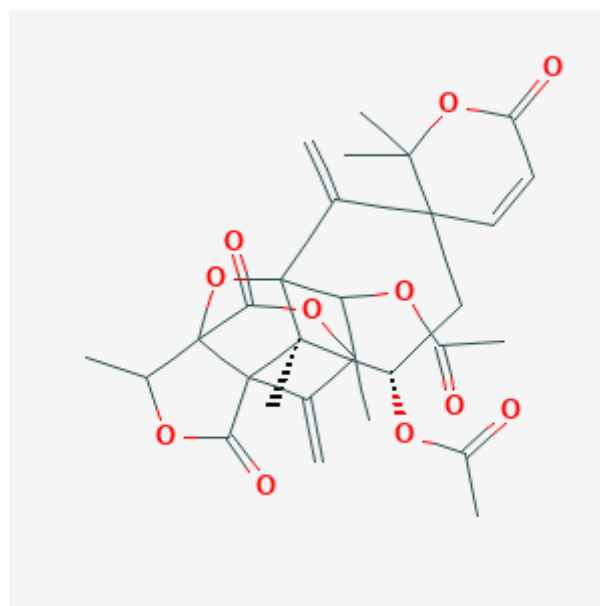
79. Austinol [60]



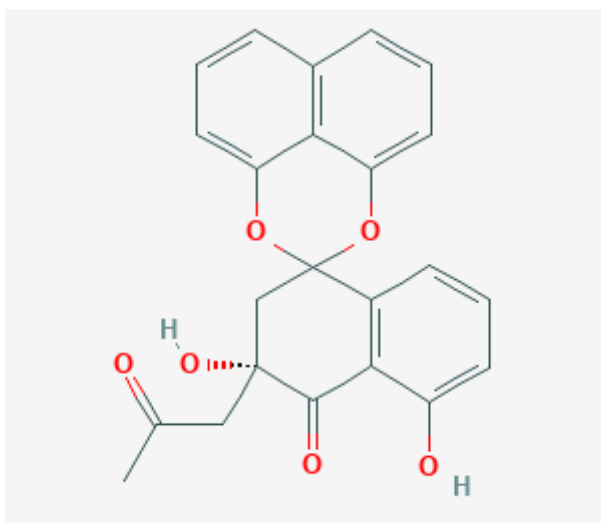
80. Dehydroaustin [61]



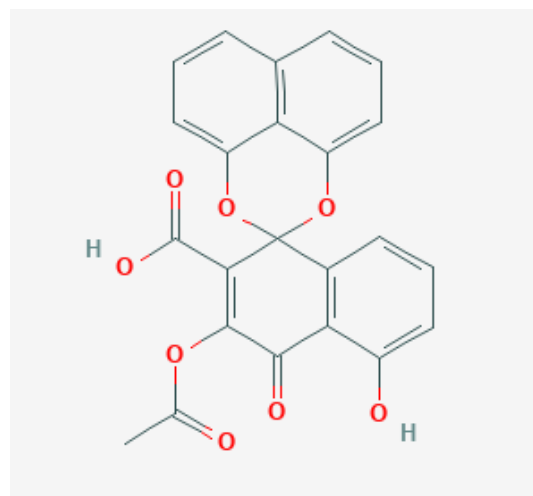
81. Acetoxydehydroaustin [62]



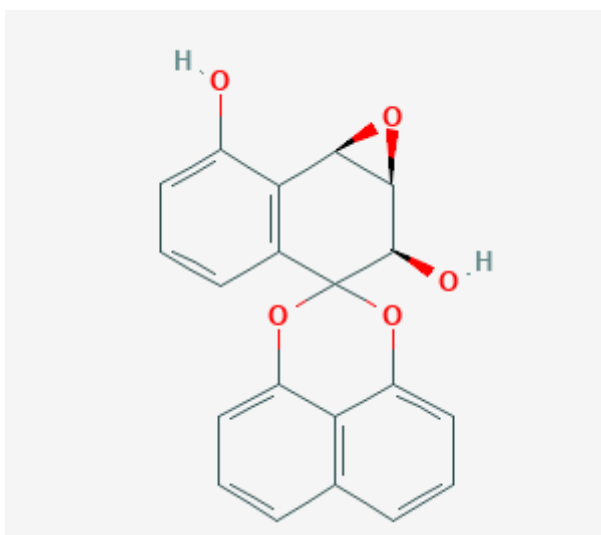
82. Guignardin A [63]



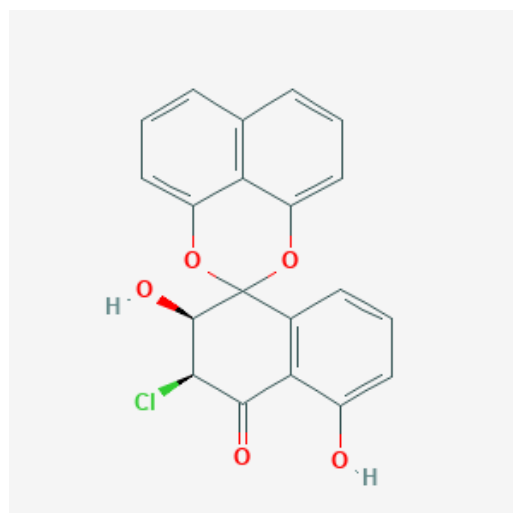
85. Guignardin D [66]



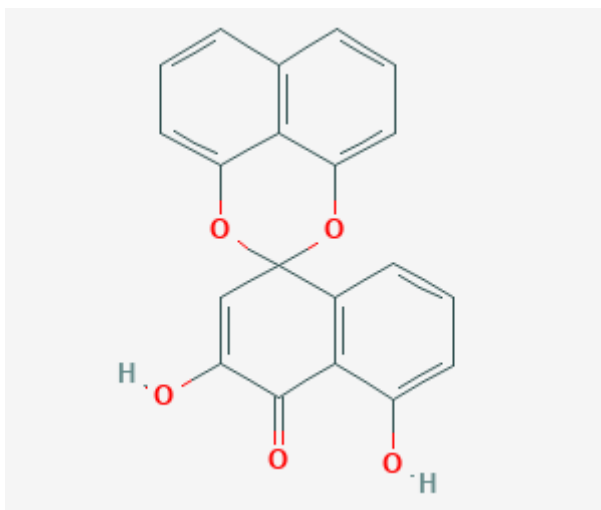
83. Guignardin B [64]



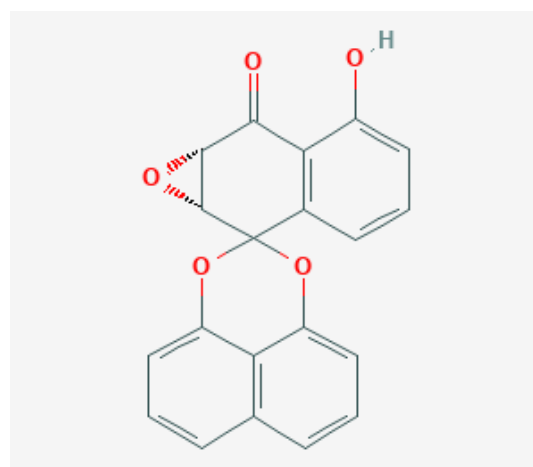
86. Guignardin E [67]



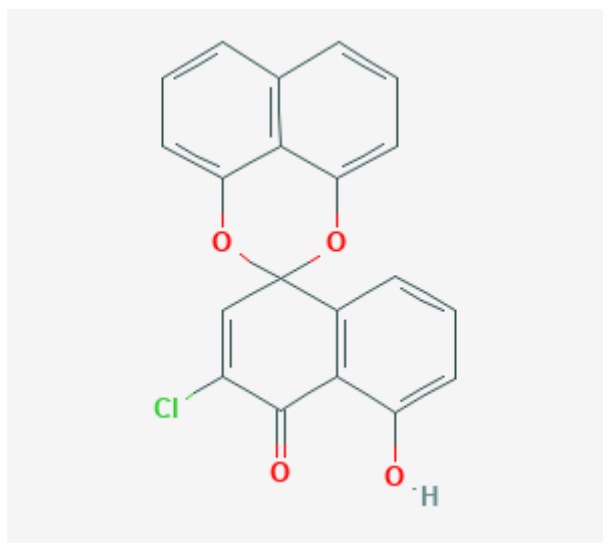
84. Guignardin C [65]



87. Guignardin F [68]

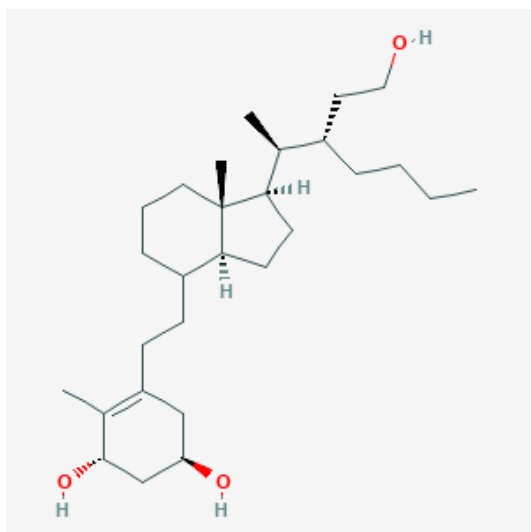


88. Palmarumycin C1 [69]

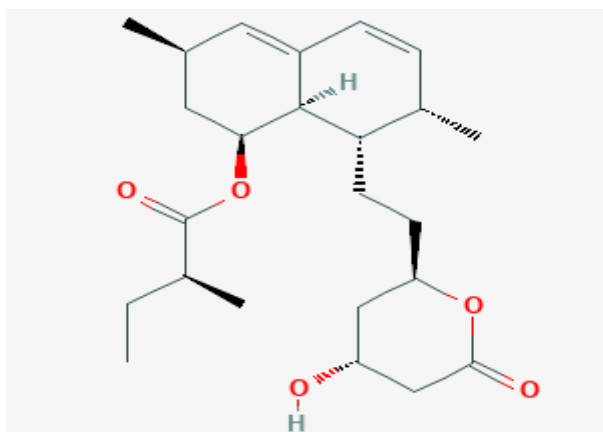


89. BG1

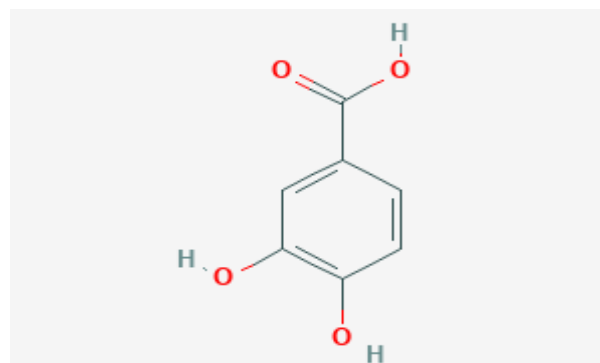
90. JC1[70]



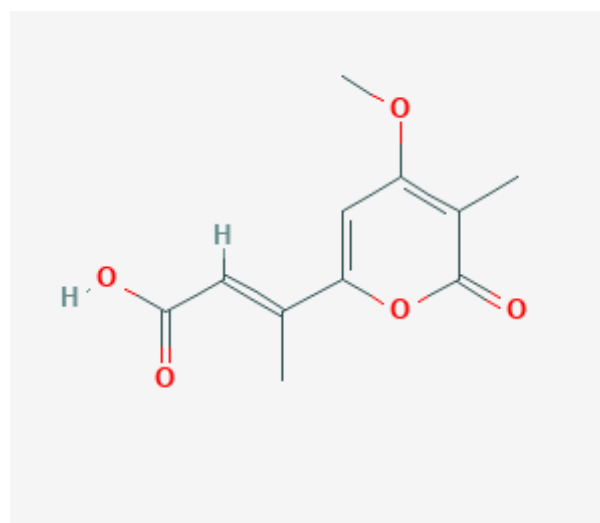
91. Lovastatin [71]



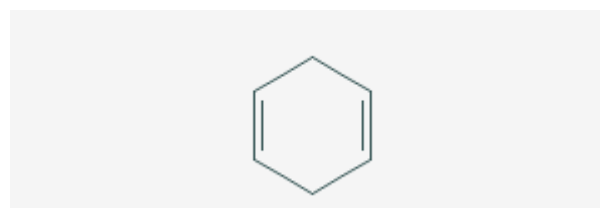
92. Protocatechuic acid [72]



93. Acropyrone [73]



94. 1,4-Cyclohexadiene [74]



References

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