

## *Supporting Information*

# **Recent Advances in Discovery, Biosynthesis and Therapeutic Potentialities of Isocoumarins Derived from Fungi: A Comprehensive Update**

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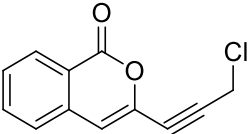
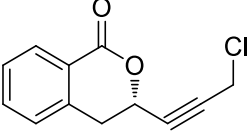
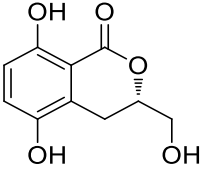
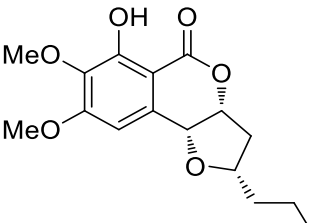
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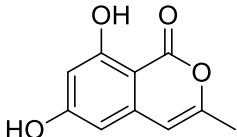
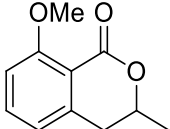
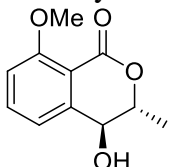
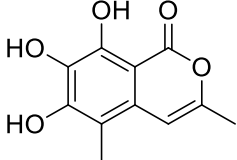
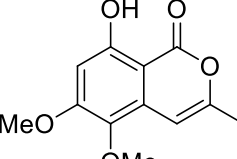
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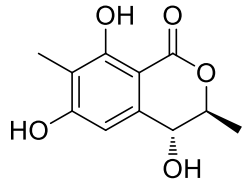
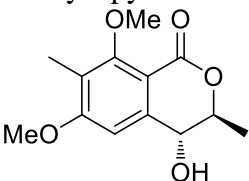
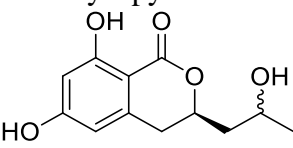
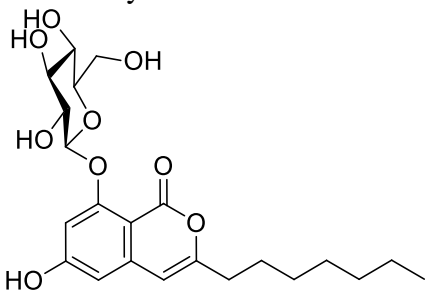
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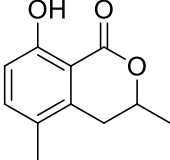
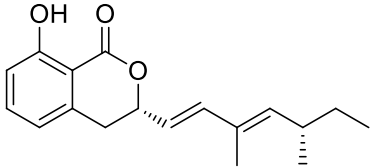
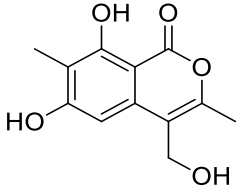
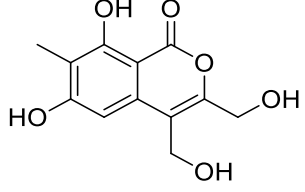
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**Table 1:** List of 351 reported Isocoumarins and their Derivatives, exclusively isolated from Fungi

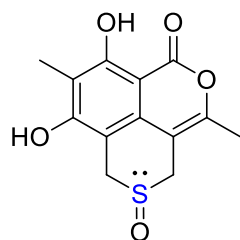
No.	Structure MF Name	Bioactivity	Source	Reference
1	 $C_{12}H_7O_2Cl$ Gymnopalynes A	Antibacterial, Antifungal, Cytotoxic	<i>Gymnopus</i> sp	1
2	 $C_{12}H_9O_2Cl$ Gymnopalynes B	Antibacterial, Antifungal, Cytotoxic	<i>Gymnopus</i> sp	1
3	 $C_{10}H_{10}O_5$ 3S-5,8-dihydroxy-3- hydroxymethyl dihydroisocoumarin	Displayed anti- inflammatory and no cytotoxicity	<i>Botryosphaeria</i> sp. KcF6	2
4	 $C_{16}H_{20}O_6$	Displayed antioxidant, antiplasmodial, antibacterial, antifungal, antialgal and no cytotoxicity, enzyme inhibition	<i>Botryosphaeria</i> sp. KcF6, <i>Colletotrichum</i> sp. CRI535-02, <i>Exserohilum</i> <i>rostratum</i> , <i>Exserohilum</i> sp, <i>Exserohilum</i> sp. (CHNSCLM-0008), <i>Leptosphaena maculans</i> , <i>Microdochium bolleyi</i>	2-8

5	<p>Monocerin</p>  <p><math>C_{10}H_8O_4</math></p>	Displayed no cytotoxicity, antibacterial enzyme inhibition	<i>Botryosphaeria</i> sp. KcF6	2,9
6	<p>3-Methyl-6,8-dihydroxyisocoumarin</p>  <p><math>C_{11}H_{12}O_3</math></p>	Displayed no cytotoxicity	<i>Botryosphaeria</i> sp. KcF6, <i>Sarcosomataceae</i> sp. NO.49-14-2-1	2,10
7	<p>8-Methoxymellein</p>  <p><math>C_{11}H_{12}O_4</math></p> <p><i>trans</i>-4-hydroxymellein</p>	Displayed no cytotoxicity	<i>Botryosphaeria</i> sp. KcF6, <i>Aspergillus</i> sp, <i>Lachnum</i> <i>palmae</i> , <i>Sarcosomataceae</i> sp. NO.49-14-2-1	2,10-12
8	 <p><math>C_{11}H_{10}O_5</math></p> <p>Botryospyrones A</p>	Antifungal	<i>Botryosphaeria ramosa</i> L29	13
9	 <p><math>C_{12}H_{12}O_5</math></p>	Antifungal	<i>Botryosphaeria ramosa</i> L29	13

10	<p>Botryospyrones B</p>  <p><math>C_{11}H_{12}O_5</math></p>	Antifungal	<i>Botryosphaeria ramosa</i> L29	13
11	<p>Botryospyrones C</p>  <p><math>C_{13}H_{16}O_5</math></p>	Not tested	<i>Botryosphaeria ramosa</i> L29	13
12	<p>Botryospyrones D</p>  <p><math>C_{12}H_{14}O_5</math></p> <p>(3<i>R</i>)-3-(2-hydroxypropyl)-6,8-dihydroxy-3,4-dihydroisocoumarin</p>	Not tested	<i>Cladosporium</i> sp. SCSIO41007	14
13	 <p><math>C_{22}H_{30}O_9</math></p> <p>Exophiarin</p>	Antidiabetic	<i>Exophiala</i> sp	15

14	 <p><math>C_{11}H_{12}O_3</math> (-)-3,4-Dihydro-8-hydroxy-3,5-dimethyl- isocoumarin</p>	Phytotoxic, displayed no cytotoxicity, antifungal, antioxidant, brine shrimp lethality	<i>Diaporthe eres</i> , <i>Valsa ceratosperma</i> , <i>Biscogniauxia capnodes</i> , Fungal starin No. 1893	16-19
15	 <p><math>C_{18}H_{22}O_3</math> Diaporone A</p>	Antibacterial, cytotoxic	<i>Diaporthe</i> sp	20
16	 <p><math>C_{12}H_{12}O_5</math> Phomoisocoumarins C</p>	Antibacterial	<i>Phomopsis prunorum</i>	21
17	 <p><math>C_{12}H_{12}O_6</math> Phomoisocoumarins D</p>	Antibacterial	<i>Phomopsis prunorum</i>	21

18



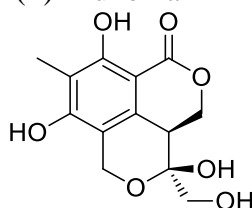
$C_{13}H_{12}O_5S$   
(±)-Prunomarin A

Anti-inflammatory

*Phomopsis prunorum*

22

19



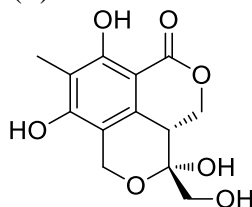
$C_{13}H_{14}O_7$   
(+)-Pestalactone B

Displayed no anti-inflammatory

*Phomopsis prunorum*

22

20



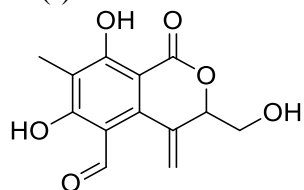
$C_{13}H_{14}O_7$   
(-)-Pestalactone B

Displayed no anti-inflammatory, antibacterial, antifungal

*Phomopsis prunorum*,  
*Pestalotiopsis* sp

22,23

21

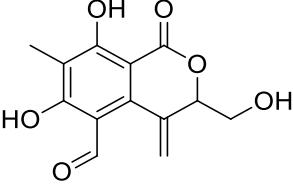
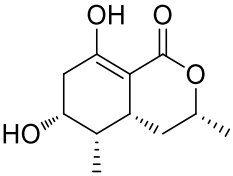
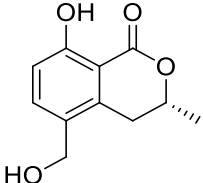
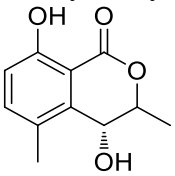
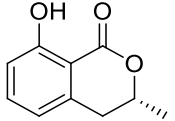


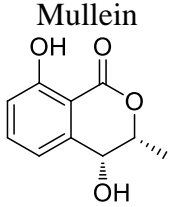
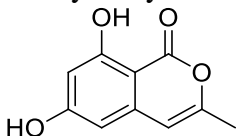
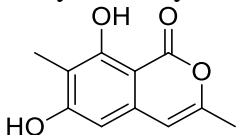
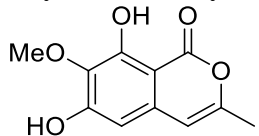
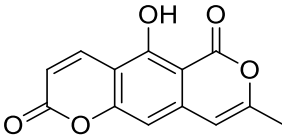
$C_{13}H_{12}O_6$   
Pestalactone C

Displayed antifungal and no anti-inflammatory, antibacterial

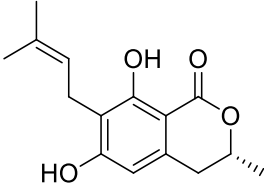
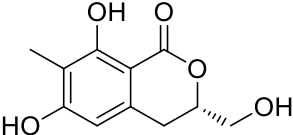
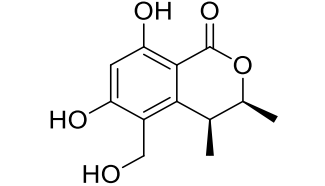
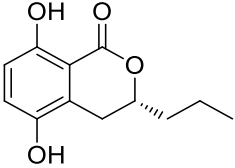
*Phomopsis prunorum*,  
*Pestalotiopsis* sp

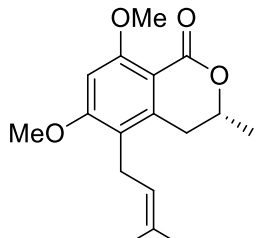
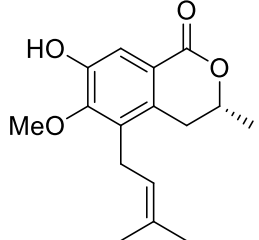
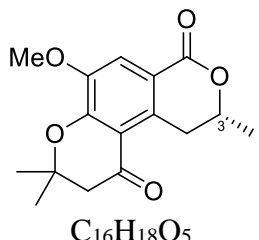
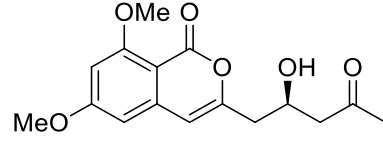
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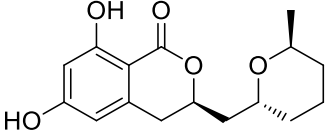
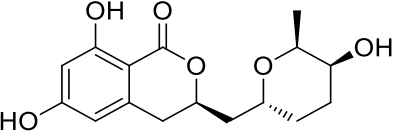
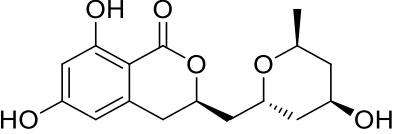
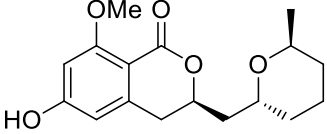
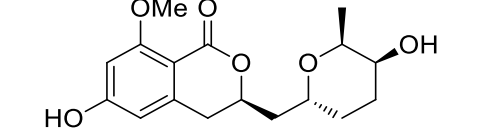
21	 <p><math>C_{13}H_{12}O_6</math> Pestalactone C</p>	Displayed no anti-inflammatory	<i>Phomopsis prunorum</i>	22
22	 <p><math>C_{11}H_{16}O_4</math> (3<i>R</i>,4<i>aR</i>,5<i>S</i>,6<i>R</i>)-6-Hydroxy-5-methylramulosin</p>	Cytotoxic	<i>Valsa ceratosperma</i>	17
23	 <p><math>C_{11}H_{12}O_4</math> (-)-5-hydroxymethylmellein</p>	Displayed no cytotoxicity	<i>Valsa ceratosperma</i>	17
24	 <p><math>C_{11}H_{12}O_4</math> (-)-(3<i>R</i>,4<i>R</i>)-<i>cis</i>-4-hydroxy-5-methylmellein</p>	Displayed no cytotoxicity	<i>Valsa ceratosperma</i> , <i>Hypoxyton</i> sp, Fungal strain No. dz17	17,24,25
25	 <p><math>C_{10}H_{10}O_3</math></p>	Displayed no cytotoxicity	<i>Aspergillus</i> sp, <i>Lachnum palmae</i> , <i>Sarcosomataceae</i> sp. NO.49-14-2-1	10-12

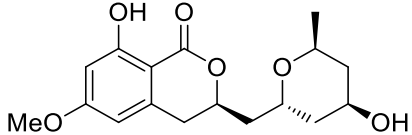
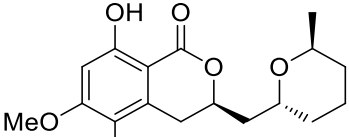
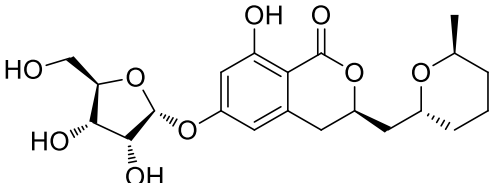
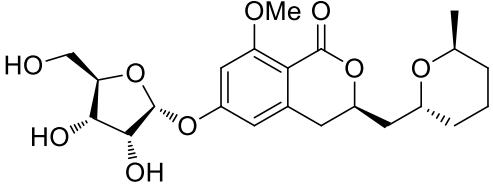
26	<p>Mullein</p>  <p><math>C_{10}H_{10}O_4</math> cis-4-hydroxymellein</p>	Displayed no cytotoxicity, antiplasmodial	<i>Aspergillus</i> sp, <i>Penicillium</i> sp, <i>Lachnum palmae</i> , <i>Microsphaeropsis</i> sp. (strain number H5-50)	11,12,26,27
27	 <p><math>C_{10}H_8O_4</math> 6,8-Dihydroxy-3-methylisocoumarin</p>	Displayed no antifungal, antibacterial, antimalarial, anti-mycobacterium, antiviral, and cytotoxicity	<i>Aspergillus similanensis</i> sp. nov. KUFA 0013, <i>Torrubiella tenuis</i> BCC 12732	28,29
28	 <p><math>C_{11}H_{10}O_4</math> 6,8-Dihydroxy-3,7-dimethylisocoumarin</p>	Displayed no antifungal, antibacterial, antioxidant	<i>Aspergillus similanensis</i> sp. nov. KUFA 0013, <i>Aspergillus versicolor</i> , <i>Penicillium coffeae</i> MA-314	28,30,31
29	 <p><math>C_{11}H_{10}O_5</math> Reticulol</p>	Displayed antioxidant and no antifungal, antibacterial, phytotoxicity, brine shrimp lethality	<i>Aspergillus similanensis</i> sp. nov. KUFA 0013, <i>Biscogniauxia capnodes</i>	18,28
30	 <p><math>C_{13}H_8O_5</math> 5-Hydroxy-8-methyl-2H,6H-pyrano[3,4-g]chromen-2,6-dione</p>	Displayed neither antifungal nor antibacterial	<i>Aspergillus similanensis</i> sp. nov. KUFA 0013	28

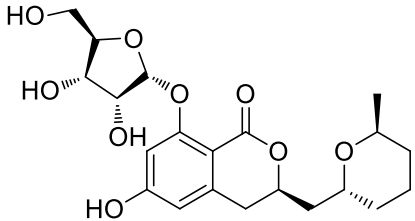
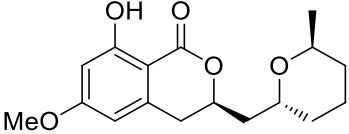
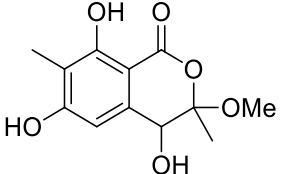
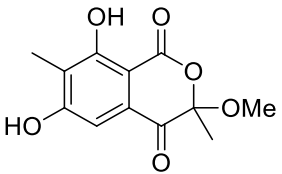
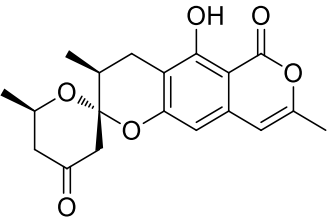


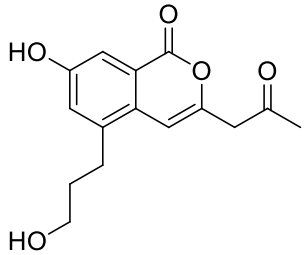
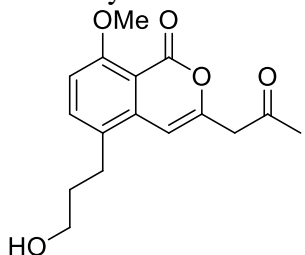
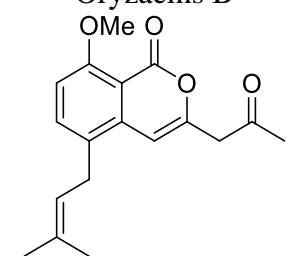
31	 <p data-bbox="568 391 696 419"><math>C_{15}H_{18}O_4</math></p> <p data-bbox="546 427 719 456">Angelicoin A</p>	Antiviral, cytotoxicity	<i>Aspergillus versicolor</i>	32
32	 <p data-bbox="568 606 696 635"><math>C_{11}H_{12}O_5</math></p> <p data-bbox="539 643 725 671">Periplanetin D</p>	Antiviral, cytotoxicity	<i>Aspergillus versicolor</i> , <i>Penicillium oxalicum</i> 0403	32
33	 <p data-bbox="568 877 696 906"><math>C_{12}H_{14}O_5</math></p> <p data-bbox="472 914 795 943">(3<i>S</i>,4<i>S</i>)-Dihydroascochin</p>	Antiviral, cytotoxicity	<i>Aspergillus versicolor</i>	32
34	 <p data-bbox="568 1125 696 1153"><math>C_{12}H_{14}O_4</math></p> <p data-bbox="524 1161 741 1190">Phomolactone B</p>	Antiviral, cytotoxicity	<i>Aspergillus versicolor</i>	32

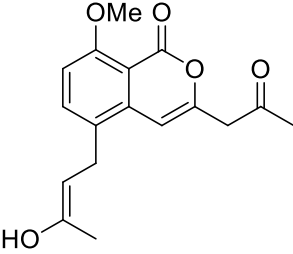
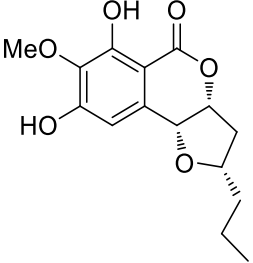
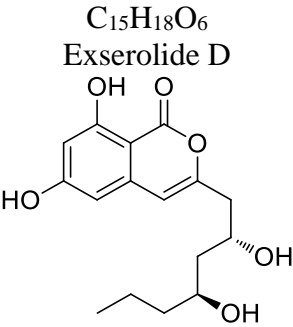
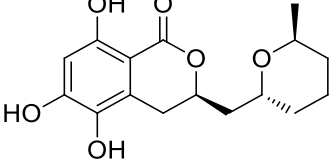
35	 $C_{17}H_{22}O_4$ Versicoumarins B	Antiviral, cytotoxicity	<i>Aspergillus versicolor</i>	32
36	 $C_{16}H_{20}O_4$ Versicoumarins C	Antiviral, cytotoxicity	<i>Aspergillus versicolor</i>	32
37	 $C_{16}H_{18}O_5$ Versicoumarins A	Antiviral, cytotoxicity	<i>Aspergillus versicolor</i>	32
38	 $C_{16}H_{18}O_6$ (S)-(-)-6,8-Di-O-methylcitreisocoumarin	No biological activity was reported	<i>Aspergillus flavus</i> OUCMDZ-2205	33

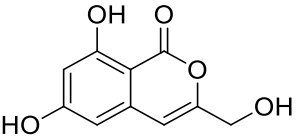
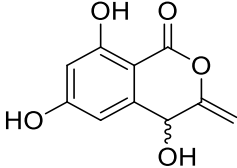
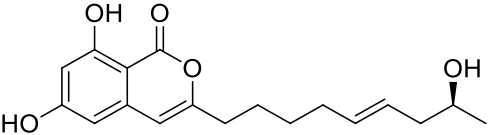
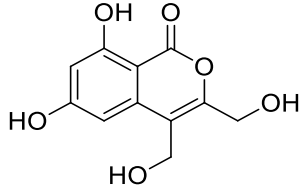
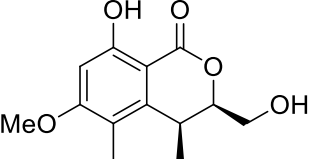
39	 $C_{16}H_{20}O_5$ Asperentin	Antifungal, antineuroinflammatory, anti-inflammatory antibacterial, cytotoxicity displayed no enzyme inhibition	<i>Aspergillus</i> sp. F00785, <i>Aspergillus</i> sp. SF-5974, <i>Aspergillus</i> sp. SF-5976, <i>Aspergillus sydowii</i> , <i>Penicillium piltunense</i> KMM 4668	34–37
40	 $C_{16}H_{20}O_6$ 5'-Hydroxyasperentin	Displayed no antifungal effect, antineuroinflammatory, cytotoxicity	<i>Aspergillus</i> sp. F00785, <i>Aspergillus</i> sp. SF-5974, <i>Aspergillus</i> sp. SF-5976, <i>Penicillium piltunense</i> KMM 4668	34,35,37
41	 $C_{16}H_{20}O_6$ 4'-Hydroxyasperentin	Displayed no antifungal effect, antineuroinflammatory	<i>Aspergillus</i> sp. F00785, <i>Aspergillus</i> sp. SF-5974, <i>Aspergillus</i> sp. SF-5976	34,35
42	 $C_{17}H_{22}O_5$ Asperentin-8-methyl ether	Displayed no antifungal effect, antineuroinflammatory	<i>Aspergillus</i> sp. F00785, <i>Aspergillus</i> sp. SF-5974, <i>Aspergillus</i> sp. SF-5976	34,35
43	 $C_{17}H_{22}O_6$ 5'-Hydroxyasperentin-8-methyl ether	Displayed no antifungal effect	<i>Aspergillus</i> sp. F00785	34

44	 <p style="text-align: center;">C<sub>17</sub>H<sub>22</sub>O<sub>6</sub></p> <p style="text-align: center;">4'-Hydroxyasperentin-6-methyl ether</p>	Displayed no antifungal effect	<i>Aspergillus</i> sp. F00785	34
45	 <p style="text-align: center;">C<sub>17</sub>H<sub>22</sub>O<sub>6</sub></p> <p style="text-align: center;">5-Hydroxyl-6-O-methylasperentin</p>	Displayed no antifungal effect	<i>Aspergillus</i> sp. F00785	34
46	 <p style="text-align: center;">C<sub>21</sub>H<sub>28</sub>O<sub>9</sub></p> <p style="text-align: center;">6-O-α-D-riboylasperentin</p>	Displayed no antifungal effect	<i>Aspergillus</i> sp. F00785	34
47	 <p style="text-align: center;">C<sub>22</sub>H<sub>30</sub>O<sub>9</sub></p> <p style="text-align: center;">6-O-α-D-riboyl-8-O-methylasperentin</p>	Displayed no antifungal effect	<i>Aspergillus</i> sp. F00785	34

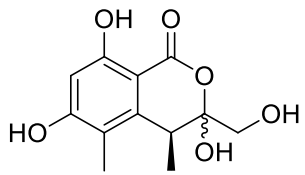
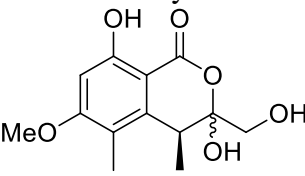
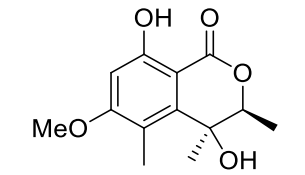
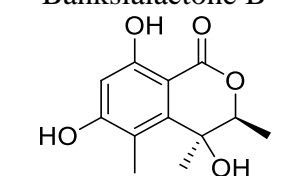
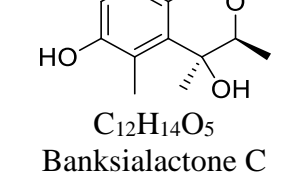
48	 <p><math>C_{21}H_{28}O_9</math> Cladosporin 8-<i>O</i>-<math>\alpha</math>-ribofuranoside</p>	Antineuroinflammatory	<i>Aspergillus</i> sp. SF-5974, <i>Aspergillus</i> sp. SF-5976	35
49	 <p><math>C_{17}H_{22}O_5</math> Asperentin 6-<i>O</i>-methyl ether</p>	Antineuroinflammatory	<i>Aspergillus</i> sp. SF-5974, <i>Aspergillus</i> sp. SF-5976	35
50	 <p><math>C_{12}H_{14}O_6</math></p>	Enzyme inhibitor	<i>Aspergillus</i> sp. 16-5B	38
51	 <p><math>C_{12}H_{12}O_6</math></p>	Displayed no enzymes inhibition effect	<i>Aspergillus</i> sp. 16-5B	38
52	 <p><math>C_{19}H_{20}O_6</math></p>	No biological activity was reported	<i>Aspergillus similanensis</i> KUFA 0013	39

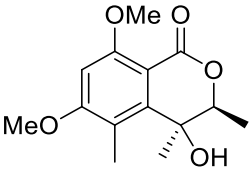
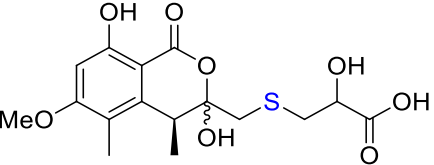
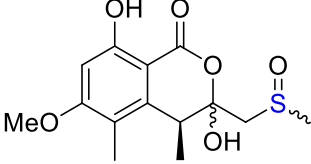
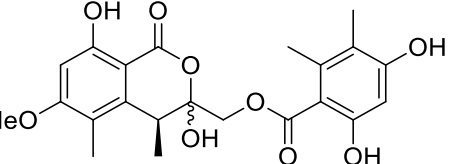
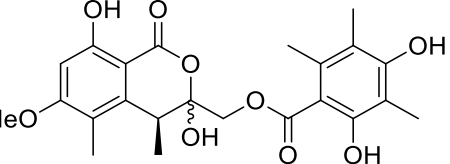
53	<p>Similanpyrone C</p>  <p><math>C_{15}H_{16}O_5</math></p>	Antiviral, cytotoxicity	<i>Aspergillus oryzae</i>	40
54	<p>Oryzaeins A</p>  <p><math>C_{16}H_{18}O_5</math></p>	Antiviral, cytotoxicity	<i>Aspergillus oryzae</i>	40
55	<p>Oryzaeins B</p>  <p><math>C_{18}H_{20}O_4</math></p> <p>Tabaisocoumarin A</p>	No biological activity was reported	<i>Aspergillus oryzae</i>	40

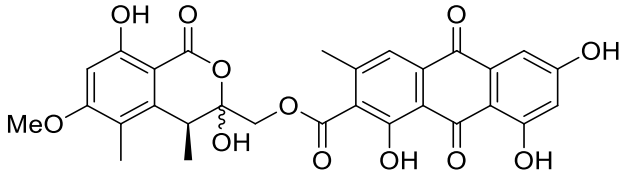
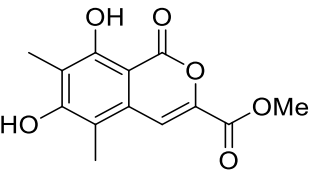
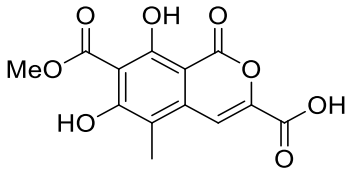
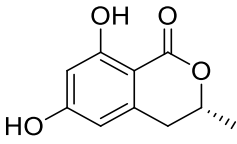
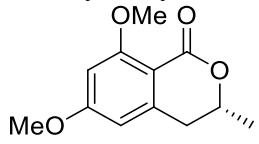
56	 <p><math>C_{17}H_{18}O_5</math> Caudacoumarin C</p>	No biological activity was reported	<i>Aspergillus oryzae</i>	40
57	 <p><math>C_{15}H_{18}O_6</math> Exserolide D</p>	No biological activity was reported	<i>Aspergillus oryzae</i>	40
58	 <p><math>C_{16}H_{20}O_6</math> Exserolide F</p>	No biological activity was reported	<i>Aspergillus oryzae</i>	40
59		Enzyme inhibitor, displayed no cytotoxicity or antimicrobial	<i>Aspergillus sydowii</i>	36

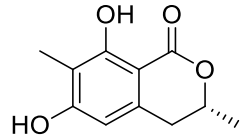
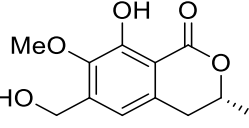
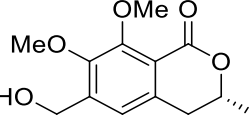
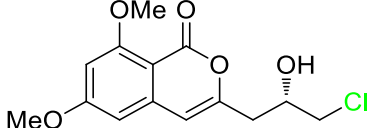
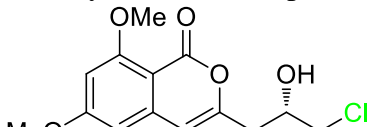
60	<p><math>C_{16}H_{20}O_6</math> Asperentin B</p>  <p><math>C_{10}H_8O_5</math> 6,8-Dihydroxy-3-hydroxymethylisocoumarin</p>	Displayed antiviral and no antimalarial, anti-mycobacterium, and cytotoxicity	<i>Aspergillus versicolor</i> , <i>Penicillium oxalicum</i> 0403, <i>Torrubiella tenuis</i> BCC 12732	29,30
61	 <p><math>C_{10}H_8O_5</math> 4,6-Dihydroxy-3,9-dehydromellein</p>	Displayed no antioxidant	<i>Aspergillus versicolor</i> , <i>Penicillium coffeae</i> MA-314	30,31
62	 <p><math>C_{18}H_{22}O_5</math> Fusariumin</p>	No biological activity was reported	<i>Aspergillus versicolor</i>	30
63	 <p><math>C_{11}H_{10}O_6</math> Penicimarin</p>	Displayed antibacterial and no cytotoxicity	<i>Aspergillus versicolor</i> , <i>Penicillium</i> sp. (MWZ14-4)	30
64		Displayed no antibacterial, antifungal, antiprotozoal, cytotoxicity, antiviral	<i>Aspergillus banksianus</i> , <i>Leptosphaeria</i> sp. SCSIO 41005	41,42



65	<p style="text-align: center;"><math>C_{13}H_{16}O_5</math> Clearanol I</p> 	Displayed no antibacterial, antifungal, antiprotozoal, cytotoxicity, antiviral	<i>Aspergillus banksianus</i> , <i>Leptosphaeria</i> sp. SCSIO 41005	41,42
66	<p style="text-align: center;"><math>C_{12}H_{14}O_6</math> Dothideomynone A</p> 	Displayed no antibacterial, antifungal, antiprotozoal, cytotoxicity, antiviral	<i>Aspergillus banksianus</i> , <i>Leptosphaeria</i> sp. SCSIO 41005	41,42
67	<p style="text-align: center;"><math>C_{13}H_{16}O_6</math> Banksialactone A</p> 	Displayed no antibacterial, antifungal, antiprotozoal, cytotoxicity	<i>Aspergillus banksianus</i>	41
68	<p style="text-align: center;"><math>C_{13}H_{16}O_5</math> Banksialactone B</p> 	Displayed no antibacterial, antifungal, antiprotozoal, cytotoxicity	<i>Aspergillus banksianus</i>	41
	<p style="text-align: center;"><math>C_{12}H_{14}O_5</math> Banksialactone C</p> 			

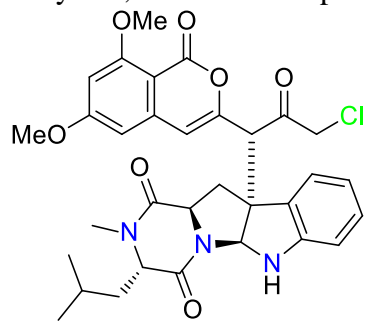
69	 $C_{14}H_{18}O_5$ Banksialactone D	Displayed no antibacterial, antifungal, antiprotozoal, cytotoxicity	<i>Aspergillus banksianus</i>	41
70	 $C_{16}H_{20}O_8S$ Banksialactone E	Displayed no antibacterial, antifungal, antiprotozoal, cytotoxicity	<i>Aspergillus banksianus</i>	41
71	 $C_{14}H_{18}O_6S$ Banksialactone F	Displayed no antibacterial, antifungal, antiprotozoal, cytotoxicity	<i>Aspergillus banksianus</i>	41
72	 $C_{22}H_{24}O_9$ Banksialactone G	Antibacterial, antifungal, antiprotozoal, cytotoxicity	<i>Aspergillus banksianus</i>	41
73	 $C_{23}H_{26}O_9$	Antibacterial, antifungal, antiprotozoal, cytotoxicity	<i>Aspergillus banksianus</i>	41

74	<p><b>Banksialactone H</b></p>  <p><math>C_{29}H_{24}O_{12}</math></p>	Antibacterial, antifungal, antiprotozoal, cytotoxicity	<i>Aspergillus banksianus</i>	41
75	<p><b>Banksialactone I</b></p>  <p><math>C_{13}H_{12}O_6</math></p>	Displayed no antibacterial, antifungal, antiprotozoal, cytotoxicity	<i>Aspergillus banksianus</i>	41
76	<p><b>Banksiamarin A</b></p>  <p><math>C_{13}H_{10}O_8</math></p>	Displayed no antibacterial, antifungal, antiprotozoal, cytotoxicity	<i>Aspergillus banksianus</i>	41
77	<p><b>Banksiamarin B</b></p>  <p><math>C_{10}H_{10}O_4</math></p>	No biological activity was reported	<i>Aspergillus versicolor</i> , <i>Lachnum palmae</i>	12,43
78	<p><b>(R)-6-hydroxymellein</b></p>  <p><math>C_{12}H_{14}O_4</math></p>	No biological activity was reported	<i>Aspergillus versicolor</i>	43

79	<p>6,8-Dimethoxy-3-methyl-3,4-dihydro-1H- isochromen-1-one</p>  <p><math>C_{11}H_{12}O_4</math></p>	No biological activity was reported	<i>Aspergillus versicolor</i>	43
80	<p>Periplanetin B</p>  <p><math>C_{12}H_{14}O_5</math></p>	Antiviral	<i>Aspergillus versicolor</i>	43
81	<p>(3<i>R</i>)-methyl-8-hydroxy-6-(hydroxymethyl)-7- methoxydihydroisocoumarin</p>  <p><math>C_{13}H_{16}O_5</math></p>	Antiviral	<i>Aspergillus versicolor</i>	43
82	<p>(3<i>R</i>)-methyl-7,8-dimethoxy-6- (hydroxymethyl)dihydroisocoumarin</p>  <p><math>C_{14}H_{15}ClO_5</math></p>	No biological activity was reported	<i>Aspergillus</i> sp. CPCC 400810	44
83	<p>8-Methyl-11-chlorodiaporthin</p>  <p><math>C_{14}H_{14}Cl_2O_5</math></p>	Cytotoxicity	<i>Aspergillus</i> sp. CPCC 400810, <i>Hamigera fusca</i> NRRL 35721	44,45

8-Methyl-11,11-dichlorodiaporthin

84



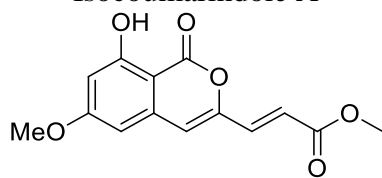
Isocoumarindole A

Antifungal, cytotoxicity

*Aspergillus* sp. CCCC  
400810

44

85



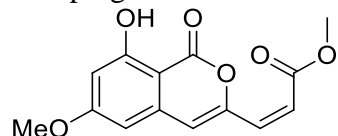
Apergisocoumrin A

Displayed cytotoxicity and  
no antibacterial

*Aspergillus* sp. HN15-5D

46

86



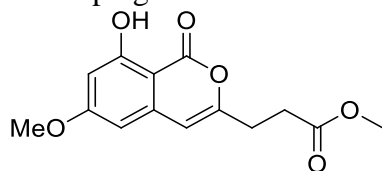
Apergisocoumrin B

Displayed cytotoxicity and  
no antibacterial

*Aspergillus* sp. HN15-5D

46

87

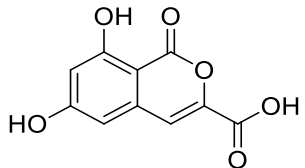
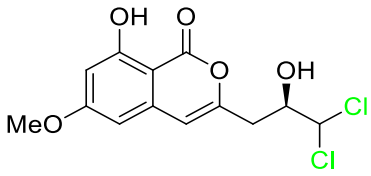
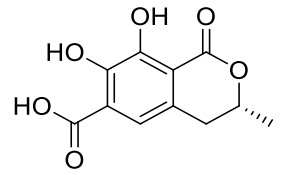
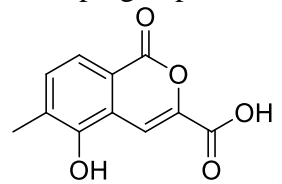


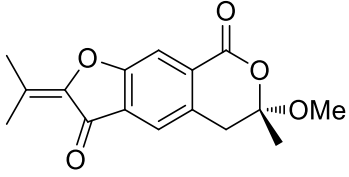
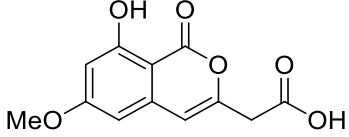
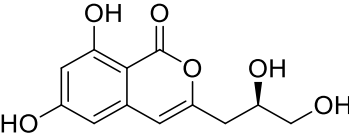
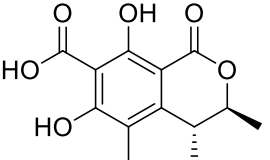
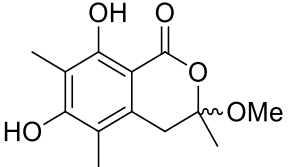
Apergisocoumrin C

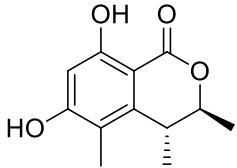
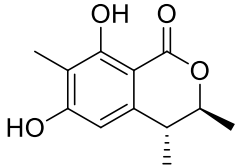
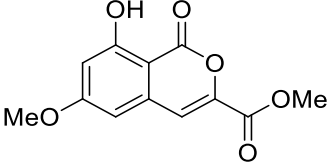
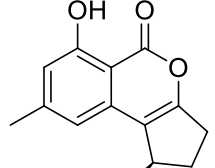
Displayed no cytotoxicity  
and no antibacterial

*Aspergillus* sp. HN15-5D

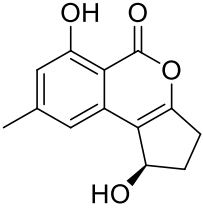
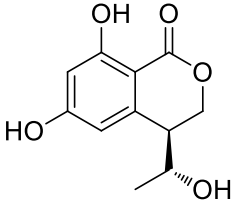
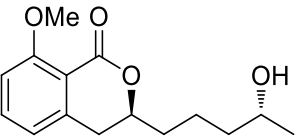
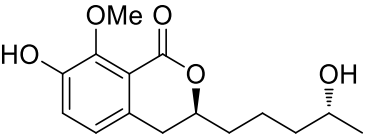
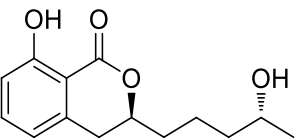
46

88	 <p style="text-align: center;"><math>C_{10}H_6O_6</math> 8-Dihydroxyisocoumarin-3-carboxylic acid</p>	Displayed no cytotoxicity and no antibacterial	<i>Aspergillus</i> sp. HN15-5D	46
89	 <p style="text-align: center;"><math>C_{13}H_{12}Cl_2O_5</math> Dichlorodiaportin</p>	Displayed antibacterial, anti-inflammatory, enzyme inhibition, antifungal and no cytotoxicity, Zebrafish toxicity	<i>Aspergillus</i> sp. HN15-5D, <i>Aspergillus falconensis</i> , <i>Penicillium commune</i> QQF-3, <i>Trichoderma</i> Sp. 09, <i>Mucor</i> sp. (No. XJ07027-5), <i>Ascomycota</i> sp. CYSK-4	46-51
90	 <p style="text-align: center;"><math>C_{11}H_{10}O_6</math> Aspergillspin F</p>	Displayed neither cytotoxicity nor antibacterial	<i>Aspergillus</i> sp. SCSIO 41501	52
91	 <p style="text-align: center;"><math>C_{11}H_8O_5</math> Aspergillspin G</p>	Displayed neither cytotoxicity nor antibacterial	<i>Aspergillus</i> sp. SCSIO 41501	52

92	 <p><math>C_{16}H_{16}O_5</math> Asperisocoumarin G</p>	Enzyme inhibitor and displayed no antimicrobial	<i>Aspergillus</i> sp. 085242	53
93	 <p><math>C_{12}H_{10}O_6</math> 2-(8-Hydroxy-6-methoxyisochromen-3'-yl) acetic acid</p>		<i>Aspergillus falconensis</i>	54
94	 <p><math>C_{12}H_{12}O_6</math> Desmethyldiaportinol</p>	Displayed neither antibacterial nor antilethalil	<i>Aspergillus falconensis</i> , <i>Phoma</i> sp. (TA07-1)	54,55
95	 <p><math>C_{13}H_{14}O_6</math> Dihydrocitrinone</p>	Displayed no cytotoxicity	<i>Penicillium notatum</i> B-52	56
96	 <p><math>C_{13}H_{16}O_5</math></p>	Displayed no cytotoxicity, antibacterial, antiviral, anti-inflammatory	<i>Penicillium stoloniferum</i> QY2-10, <i>Penicillium chrysogenum</i> SCSIO 41001	56,57

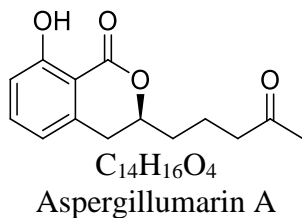
97	<p>Stoloniferol A</p>  <p><math>C_{12}H_{14}O_4</math></p>	Displayed no cytotoxicity and antibacterial	<i>Penicillium stoloniferum</i> QY2-10, <i>Penicillium</i> sp. 091402, <i>Penicillium citrinum</i> , <i>Penicillium citrinum</i> NLG-S01-P1	56,58–60
98	<p>Stoloniferol B</p>  <p><math>C_{12}H_{14}O_4</math></p> <p>(3<i>R</i>*,4<i>S</i>*)-6,8-dihydroxy-3,4,7-trimethylisocoumarin</p>	Cytotoxicity	<i>Penicillium</i> sp. 091402	58
99	 <p><math>C_{12}H_{10}O_6</math></p>	No biological activity was reported	<i>Penicillium sclerotiorum</i> PSUA13	61
100	<p>Penicilisorin</p>  <p><math>C_{14}H_{14}O_4</math></p> <p>Citrinolactone D</p>	Displayed neither cytotoxicity nor antimicrobial	<i>Penicillium</i> sp. ML226	62



101	 <p><math>C_{13}H_{12}O_4</math> Citrinolactone B</p>	No biological activity was reported	<i>Penicillium</i> sp. ML226	62
102	 <p><math>C_{11}H_{12}O_5</math> Penicimarin A</p>	Displayed no antibacterial and cytotoxicity	<i>Penicillium</i> sp. (MWZ14-4)	63
103	 <p><math>C_{15}H_{20}O_4</math> Penicimarin B</p>	Displayed antifungal, antibacterial, enzyme inhibition and no cytotoxicity	<i>Penicillium</i> sp. (MWZ14-4), <i>Penicillium</i> sp. XR046, <i>Talaromyces amestolkiae</i>	63–65
104	 <p><math>C_{15}H_{20}O_5</math> Penicimarin C</p>	Displayed antifungal, antibacterial, enzyme inhibition and no cytotoxicity	<i>Penicillium</i> sp. (MWZ14-4), <i>Penicillium</i> sp. XR046, <i>Talaromyces amestolkiae</i>	63–65
105	 <p><math>C_{14}H_{18}O_4</math></p>	Displayed antibacterial, enzyme inhibition and no cytotoxicity, insecticidal, anti-inflammatory	<i>Penicillium</i> sp. (MWZ14-4), <i>Penicillium</i> sp. (KY620115), <i>Penicillium</i> sp. XWS02F62, <i>Penicillium</i> sp. TGM112,	63,65–70

Aspergillumarin B

106

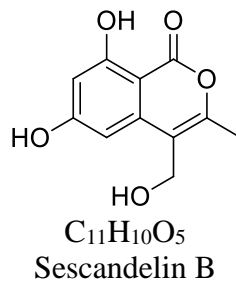


Displayed antibacterial, enzyme inhibition and no cytotoxicity, insecticidal, anti-inflammatory

*Talaromyces amestolkiae*,  
*Talaromyces* sp. SCNU-F0041, *Pestalotiopsis* sp. PSU-ES194  
*Penicillium* sp. (MWZ14-4), *Penicillium* sp. (KY620115), *Penicillium* sp. XWS02F62, *Penicillium* sp. TGM112, *Talaromyces amestolkiae*, *Talaromyces* sp. SCNU-F0041, *Pestalotiopsis* sp. PSU-ES194

63,65-71

107

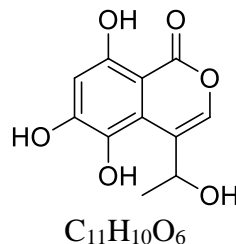


Displayed no antibacterial, enzyme inhibition and cytotoxicity

*Penicillium* sp. (MWZ14-4), *Talaromyces amestolkiae*

63,65

108

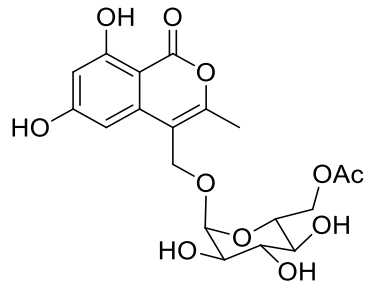
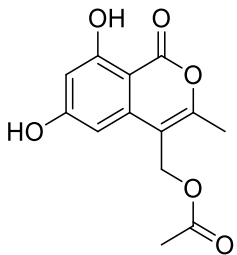
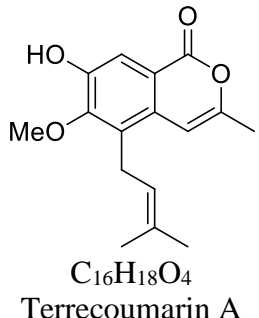


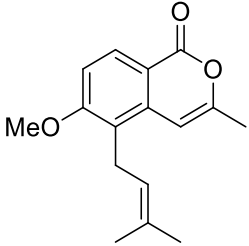
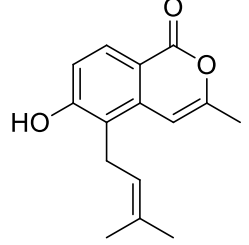
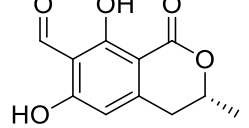
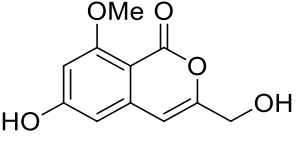
5,6,8-trihydroxy-4-(1-hydroxyethyl)isocoumarin

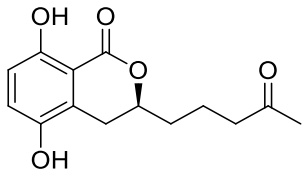
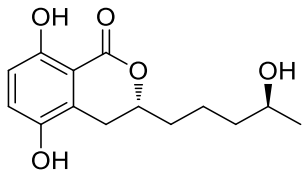
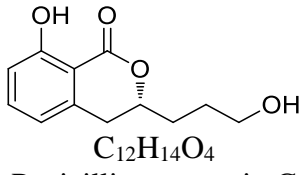
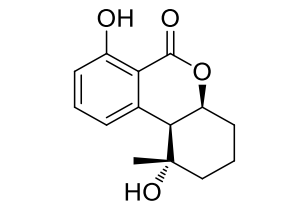
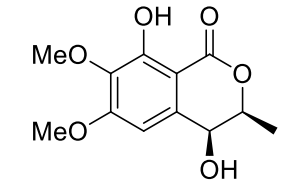
Displayed antibacterial and no cytotoxicity

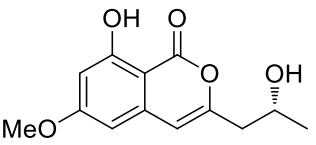
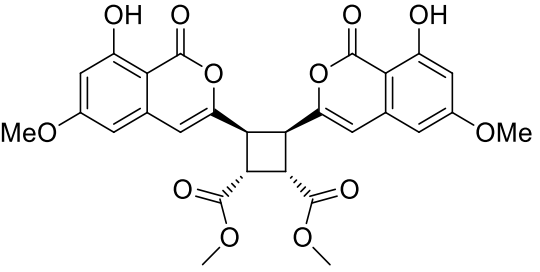
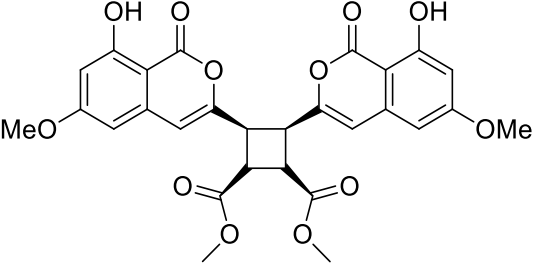
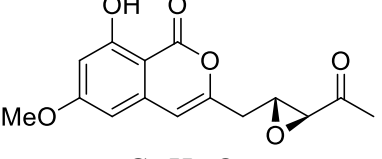
*Penicillium* sp. (MWZ14-4)

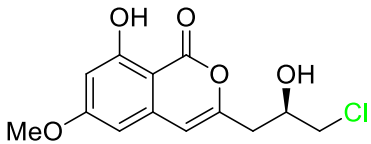
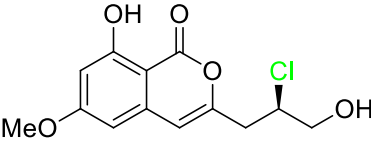
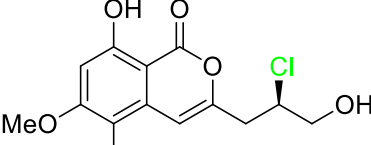
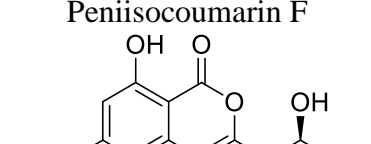
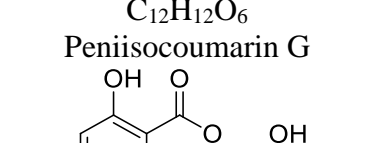
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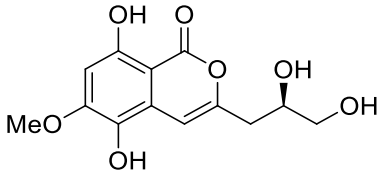
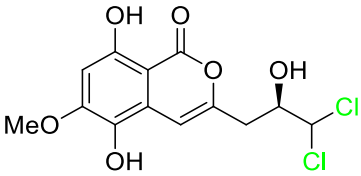
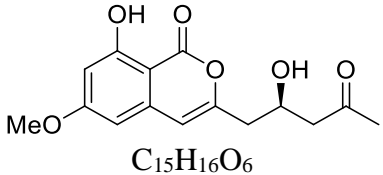
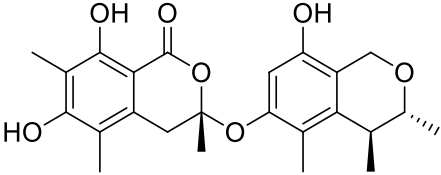
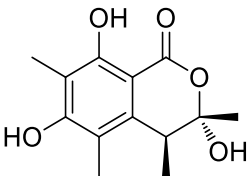
109	 <p><math>C_{19}H_{22}O_{11}</math> Penicimarin D</p>	Displayed antibacterial and no cytotoxicity	<i>Penicillium</i> sp. (MWZ14-4)	63
110	 <p><math>C_{13}H_{12}O_6</math> Penicimarin E</p>	Displayed no antibacterial and cytotoxicity	<i>Penicillium</i> sp. (MWZ14-4)	63
111	 <p><math>C_{16}H_{18}O_4</math> Terrecoumarin A</p>	Antiviral	<i>Penicillium oxalicum</i> 0403	72

112	 $C_{16}H_{18}O_3$ Terrecoumarin B	Antiviral	<i>Penicillium oxalicum</i> 0403	72
113	 $C_{15}H_{16}O_3$ Terrecoumarin C	Antiviral	<i>Penicillium oxalicum</i> 0403	72
114	 $C_{11}H_{10}O_5$ Periplanetin A	Antiviral	<i>Penicillium oxalicum</i> 0403	72
115	 $C_{11}H_{10}O_5$ 6-Hydroxy-3-hydroxymethyl-8-methoxyisocoumarin	Antiviral	<i>Penicillium oxalicum</i> 0403	72

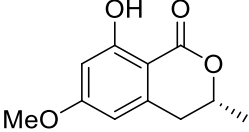
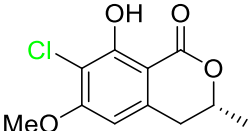
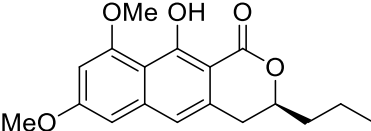
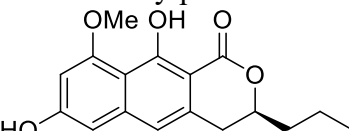
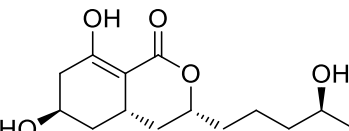
116	 <p><math>C_{14}H_{16}O_5</math> Penicillisocoumarin A</p>	Displayed antibacterial and no cytotoxicity	<i>Penicillium</i> sp (KY620115), <i>Penicillium</i> sp. XR046	64,66
117	 <p><math>C_{14}H_{18}O_5</math> Penicillisocoumarin B</p>	Displayed antibacterial and no cytotoxicity	<i>Penicillium</i> sp (KY620115)	66
118	 <p><math>C_{12}H_{14}O_4</math> Penicillisocoumarin C</p>	Displayed no cytotoxicity	<i>Penicillium</i> sp (KY620115)	66
119	 <p><math>C_{14}H_{16}O_4</math> Penicillisocoumarin D</p>	Displayed antibacterial and no cytotoxicity	<i>Penicillium</i> sp (KY620115)	66
120	 <p><math>C_{12}H_{14}O_6</math></p>	Displayed no antibacterial, cytotoxicity, antiviral, anti-inflammatory	<i>Penicillium chrysogenum</i> SCSIO 41001	57

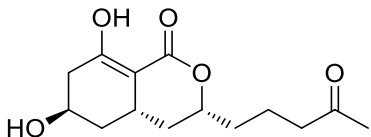
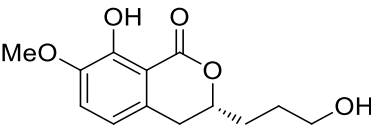
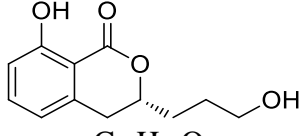
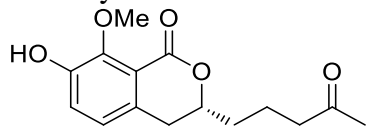
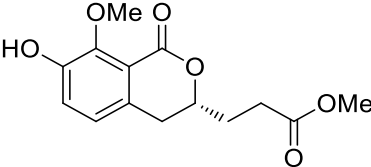
121	<p>4-Hydroxykigelin</p>  <p><math>C_{13}H_{14}O_5</math></p> <p>Diaporthin</p>	<p>Displayed enzyme inhibition, antibacterial, antioxidant and no cytotoxicity, antiviral, anti-inflammatory</p>	<p><i>Penicillium commune</i> QQF-3, <i>Penicillium chrysogenum</i> SCSIO 41001, <i>Trichoderma</i> Sp. 09, <i>Xylomelasma</i> sp. Samif07</p>	47,49,57,73
122	 <p><math>C_{28}H_{24}O_{12}</math></p> <p>Peniisocoumarin A</p>	<p>Displayed enzyme inhibition and no cytotoxicity</p>	<p><i>Penicillium commune</i> QQF-3</p>	47
123	 <p><math>C_{28}H_{24}O_{12}</math></p> <p>Peniisocoumarin B</p>	<p>Displayed enzyme inhibition and no cytotoxicity</p>	<p><i>Penicillium commune</i> QQF-3</p>	47
124	 <p><math>C_{15}H_{14}O_6</math></p> <p>Peniisocoumarin C</p>	<p>Displayed enzyme inhibition and no cytotoxicity</p>	<p><i>Penicillium commune</i> QQF-3</p>	47

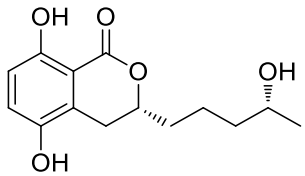
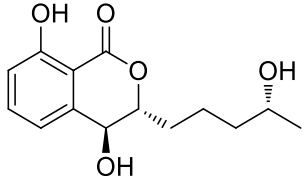
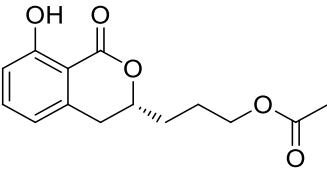
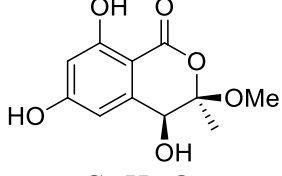
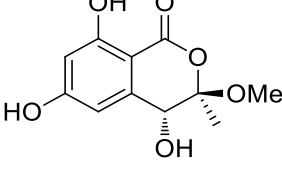
125	 <p><math>C_{13}H_{13}ClO_5</math> Peniisocoumarin D</p>	Displayed enzyme inhibition and no cytotoxicity	<i>Penicillium commune</i> QQF-3	47,48
126	 <p><math>C_{13}H_{13}ClO_5</math> Peniisocoumarin E</p>	Displayed enzyme inhibition and no cytotoxicity	<i>Penicillium commune</i> QQF-3	47
127	 <p><math>C_{13}H_{13}ClO_6</math> Peniisocoumarin F</p>	Displayed enzyme inhibition and no cytotoxicity	<i>Penicillium commune</i> QQF-3	47
128	 <p><math>C_{12}H_{12}O_6</math> Peniisocoumarin G</p>	Displayed enzyme inhibition and no cytotoxicity	<i>Penicillium commune</i> QQF-3	47
129	 <p><math>C_{13}H_{14}O_6</math> Peniisocoumarin H</p>	Displayed enzyme inhibition and no cytotoxicity	<i>Penicillium commune</i> QQF-3	47

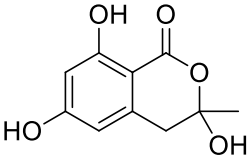
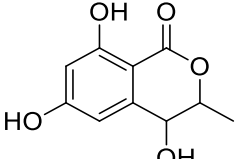
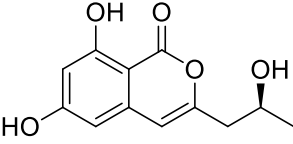
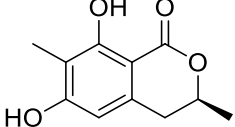
130	 <p><math>C_{13}H_{14}O_7</math> Peniisocoumarin I</p>	Displayed enzyme inhibition and no cytotoxicity	<i>Penicillium commune</i> QQF-3	47
131	 <p><math>C_{13}H_{12}Cl_2O_6</math> Peniisocoumarin J</p>	Displayed enzyme inhibition and no cytotoxicity	<i>Penicillium commune</i> QQF-3	47
132	 <p><math>C_{15}H_{16}O_6</math> (+)-6-O-Methylcitreoisocoumarin</p>	Displayed enzyme inhibition, antioxidant and no cytotoxicity, Zebrafish toxicity	<i>Penicillium commune</i> QQF-3, <i>Trichoderma</i> sp. HPQJ-34, <i>Mucor</i> sp. (No. XJ07027-5), <i>Peyronellaea glomerata</i> XSB-01-15	47,50,74,75
133	 <p><math>C_{24}H_{28}O_7</math> Penicitol D</p>	Cytotoxicity, antibacterial	<i>Penicillium citrinum</i> NLG-S01-P1	60
134	 <p><math>C_{13}H_{16}O_5</math></p>	Cytotoxicity, antibacterial	<i>Penicillium citrinum</i> NLG-S01-P1	60

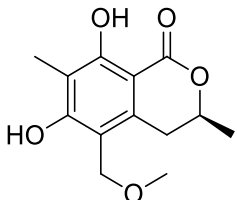
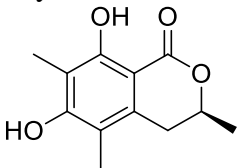
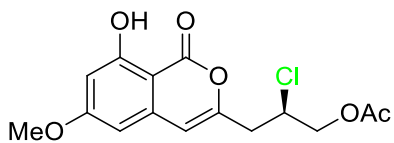
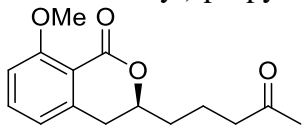


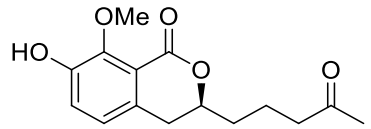
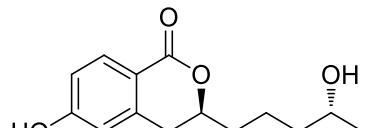
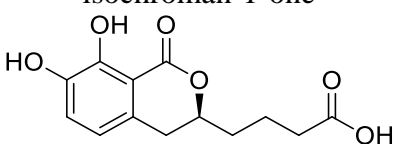
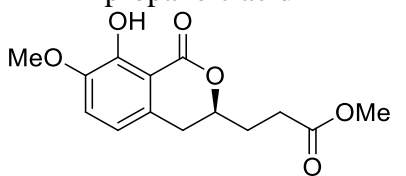
135	<p>(3<i>S</i>,4<i>S</i>)-Sclerotinin A</p>  <p><math>C_{11}H_{12}O_4</math></p>	Displayed antibacterial and no cytotoxicity, antioxidant	<i>Penicillium citrinum</i> NLG-S01-P1, <i>Lachnum palmae</i> , <i>Xylomelasma</i> sp. Samif07	12,60,73
136	<p>(3<i>R</i>)-6-Methoxymellein</p>  <p><math>C_{11}H_{11}ClO_4</math></p>	Displayed cytotoxicity and no antibacterial	<i>Penicillium citrinum</i> NLG-S01-P1, <i>Phoma</i> sp. 135	60,76
137	<p>(3<i>R</i>)-6-Methoxy-7-chloromellein</p>  <p><math>C_{18}H_{20}O_5</math></p>	Displayed no cytotoxicity	<i>Penicillium</i> sp. XWS02F62	67
138	<p>7-<i>O</i>-Methylpenicitor A</p>  <p><math>C_{17}H_{18}O_5</math></p>	Cytotoxicity	<i>Penicillium</i> sp. XWS02F62	67
139	<p>Penicitor A</p>  <p><math>C_{14}H_{22}O_5</math></p>	Displayed insecticidal and no cytotoxicity, antibacterial, anti-inflammatory	<i>Penicillium</i> sp. TGM112	68

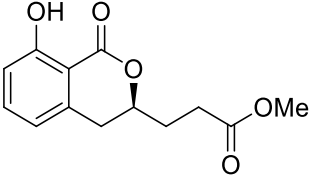
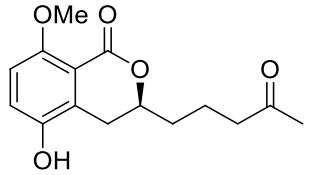
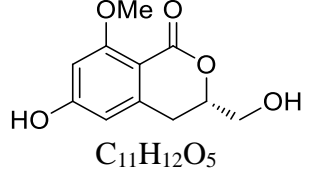
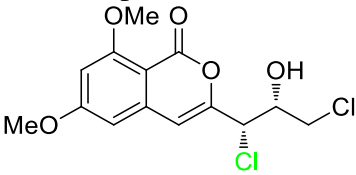
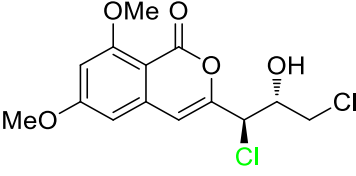
140	 <p><math>C_{14}H_{20}O_5</math> Peniciisocoumarin B</p>	Displayed insecticidal and no cytotoxicity, antibacterial, anti-inflammatory	<i>Penicillium</i> sp. TGM112	68
141	 <p><math>C_{13}H_{16}O_5</math> Peniciisocoumarin C</p>	Displayed no insecticidal, cytotoxicity, antibacterial, anti-inflammatory	<i>Penicillium</i> sp. TGM112	68
142	 <p><math>C_{12}H_{14}O_4</math> (<i>R</i>)-3-(3-hydroxypropyl)-8-hydroxy-3,4-dihydroisocoumarin</p>	Displayed no insecticidal, cytotoxicity, antibacterial, anti-inflammatory	<i>Penicillium</i> sp. TGM112	68
143	 <p><math>C_{15}H_{18}O_5</math> Peniciisocoumarin D</p>	Displayed no insecticidal, cytotoxicity, antibacterial, anti-inflammatory	<i>Penicillium</i> sp. TGM112	68
144	 <p><math>C_{14}H_{16}O_6</math> Peniciisocoumarin E</p>	Displayed insecticidal and no cytotoxicity, antibacterial, anti-inflammatory	<i>Penicillium</i> sp. TGM112	68

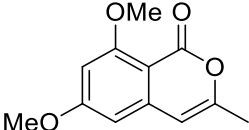
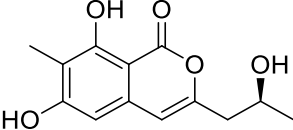
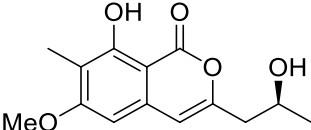
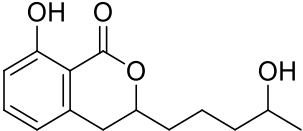
145	 $C_{14}H_{18}O_5$ Peniciisocoumarin F	Displayed insecticidal and no cytotoxicity, antibacterial, anti-inflammatory	<i>Penicillium</i> sp. TGM112	68
146	 $C_{14}H_{18}O_5$ Peniciisocoumarin H	Displayed insecticidal and no cytotoxicity, antibacterial, anti-inflammatory	<i>Penicillium</i> sp. TGM112	68
147	 $C_{14}H_{16}O_5$ Peniciisocoumarins G	Displayed insecticidal and no cytotoxicity, antibacterial, anti-inflammatory	<i>Penicillium</i> sp. TGM112	68
148	 $C_{11}H_{12}O_6$ Penicoffrazin B	Showed no antioxidant activity	<i>Penicillium coffeae</i> MA	31
149	 $C_{11}H_{12}O_6$ Penicoffrazin B	Showed no antioxidant activity	<i>Penicillium coffeae</i> MA	31

150	<p><math>C_{11}H_{12}O_6</math> Penicoffrazin C</p> 	Antioxidant	<i>Penicillium coffeae</i> MA	31
151	<p><math>C_{10}H_{10}O_5</math> 3-methoxy-6,8-dihydroxy-3-methyl-3,4-dihydroisocoumarin</p> 	Showed no antioxidant activity	<i>Penicillium coffeae</i> MA	31
152	<p><math>C_{10}H_{10}O_5</math> <i>cis</i>-4,6-dihydroxymellein</p> 	Showed antioxidant activity, antibacterial and displayed no Zebrafish toxicity, enzyme inhibition	<i>Penicillium coffeae</i> MA, <i>Mucor</i> sp. (No. XJ07027-5), <i>Cochliobolus lunatus</i> (TA26-46), <i>Peyronellaea glomerata</i> XSB-01-15	9,31,50,75
153	<p><math>C_{12}H_{12}O_5</math> <i>O</i>-demethyldiaporthin</p>  <p><math>C_{11}H_{12}O_4</math> Monaschromone</p>	Displayed no enzyme inhibition effect	<i>Penicillium</i> sp. YYSJ	77

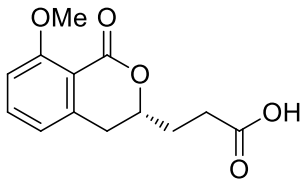
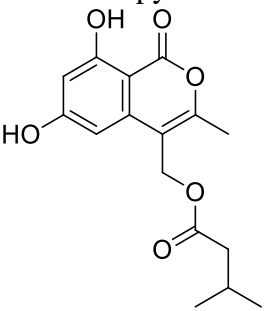
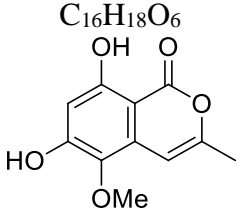
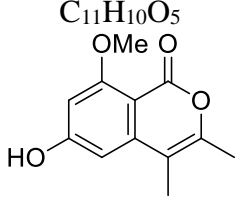
154	 <p><math>C_{13}H_{16}O_5</math> (S)-6,8-dihydroxy-5-(methoxymethyl)-3,7-dimethylisochroman-1-one</p>	Enzyme inhibitor	<i>Penicillium</i> sp. YYSJ	77
155	 <p><math>C_{12}H_{14}O_4</math> (S)-6,8-dihydroxy-3,5,7-trimethyl-isochroman-1-one</p>	Enzyme inhibitor	<i>Penicillium</i> sp. YYSJ	77
156	 <p><math>C_{15}H_{15}ClO_6</math> (R)-2-Chloro-3-(8-hydroxy-6-methoxy-1-oxo-1H-isochromen-3-yl) propyl acetate</p>	Enzyme inhibitor	<i>Penicillium</i> sp. YYSJ	77
157	 <p><math>C_{15}H_{18}O_4</math> 3R-8-Methoxy-3-(4-oxo-pentyl) isochroman-1-one</p>	Antifungal, antibacterial	<i>Penicillium</i> sp. XR046	64

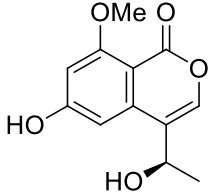
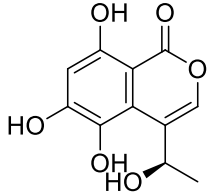
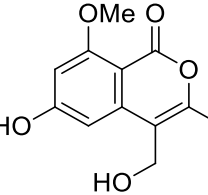
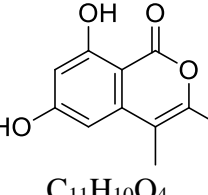
158	 <p><math>C_{15}H_{18}O_5</math> 3<i>R</i>-7-Hydroxy-8-methoxy-3-(4-oxopentyl) isochroman-1-one</p>	Antifungal, antibacterial	<i>Penicillium</i> sp. XR046	64
159	 <p><math>C_{14}H_{18}O_5</math> 5,6-Dihydroxy-3<i>R</i>-(4<i>S</i>-hydroxypentyl)- isochroman-1-one</p>	Antifungal, antibacterial	<i>Penicillium</i> sp. XR046, <i>Talaromyces amestolkiae</i>	64,65
160	 <p><math>C_{13}H_{14}O_6</math> 3<i>R</i>-(7,8-Dihydroxy-1-oxoisochroman-3-yl) propanoic acid</p>	Antifungal, antibacterial	<i>Penicillium</i> sp. XR046, <i>Talaromyces</i> sp. SCNU- F0041	64,69
161	 <p><math>C_{14}H_{16}O_6</math> Penicimarin N</p>	Antioxidant, Enzymes inhibitory and no antibacterial	<i>Penicillium</i> sp. TGM112	71

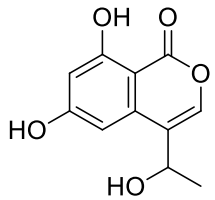
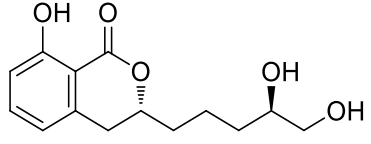
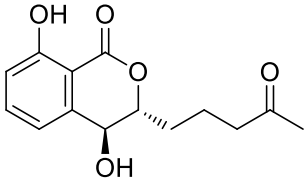
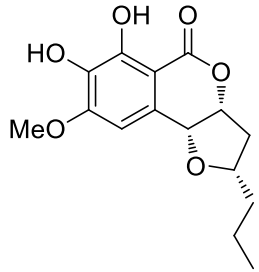
162	 <p><math>C_{13}H_{14}O_5</math> Penicimarin I</p>	Displayed no antioxidant, antibacterial, enzymes inhibition ability	<i>Penicillium</i> sp. TGM112	71
163	 <p><math>C_{15}H_{18}O_5</math> Penicimarin H</p>	Antioxidant and no antibacterial	<i>Penicillium</i> sp. TGM112	71
164	 <p><math>C_{11}H_{12}O_5</math> Eupenicillin A</p>	Displayed cytotoxicity and no antibacterial	<i>Eupenicillium</i> sp. 6A-9	78
165	 <p><math>C_{14}H_{14}Cl_2O_5</math> (9<i>R</i>*)-8-Methyl-9,11-dichlorodiaporthin</p>	Cytotoxicity	<i>Hamigera fusca</i> NRRL 35721	45
166	 <p><math>C_{14}H_{14}Cl_2O_5</math></p>	Cytotoxicity	<i>Hamigera fusca</i> NRRL 35721	45

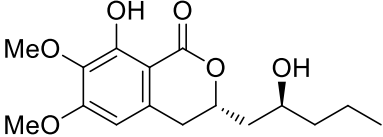
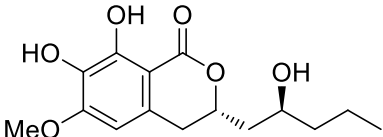
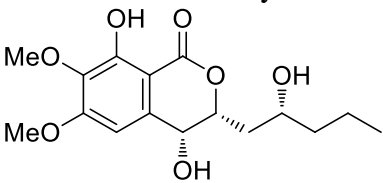
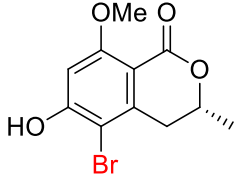
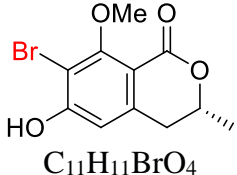
167	(9 <i>S</i> *)-8-Methyl-9,11-dichlorodiaporthin		Cytotoxicity	<i>Monascus ruber</i> BB5	79
		$C_{12}H_{12}O_4$			
	6,8-Dimethoxy-3-methylisocoumarin				
168			Cytotoxicity	<i>Monascus ruber</i> BB5	79
		$C_{13}H_{14}O_5$			
	Lunatinin (6,8-dihydroxy-3-(2-hydroxypropyl)-7-methyl-1 <i>H</i> -isochromen-1-one)				
169			Cytotoxicity	<i>Monascus ruber</i> BB5	79
		$C_{14}H_{16}O_5$			
	Monarubin B (( <i>S</i> )-8-hydroxy-3-(2-hydroxypropyl)-6-methoxy-7-methyl-1 <i>H</i> -isochromen-1-one)				
170			Antibacterial and antifungal	<i>Talaromyces verruculosus</i>	80
		$C_{14}H_{18}O_4$			
	8-Hydroxy-3-(4-hydroxypentyl)-3,4-dihydroisocoumarin				

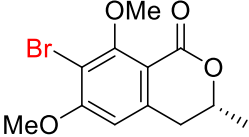
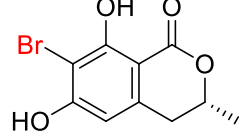
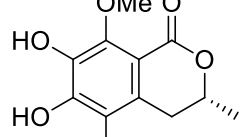
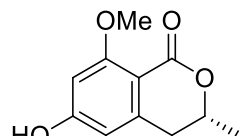
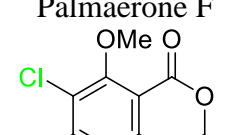


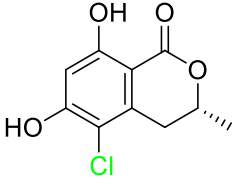
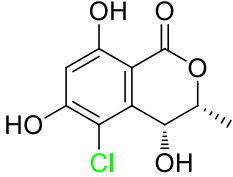
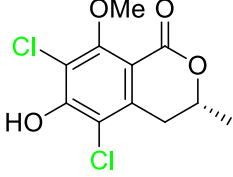
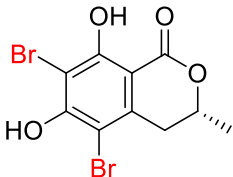
171	 <p><math>C_{13}H_{14}O_5</math> Tratenopyrone</p>	Displayed no antibacterial, anti-quorum sensing, antifungal, cytotoxicity	<i>Talaromyces tratensis</i>	81
172	 <p><math>C_{16}H_{18}O_6</math></p>	Displayed enzyme inhibition and no antibacterial	<i>Talaromyces amestolkiae</i>	65
173	 <p><math>C_{11}H_{10}O_5</math></p>	Displayed enzyme inhibition and no antibacterial	<i>Talaromyces amestolkiae</i>	65
174	 <p><math>C_{12}H_{12}O_4</math> 6-hydroxy-8-methoxy-3,4-dimethylisocoumarin</p>	Displayed enzyme inhibition and no antibacterial	<i>Talaromyces amestolkiae</i>	65

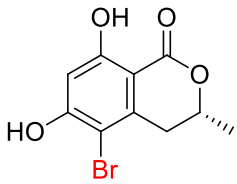
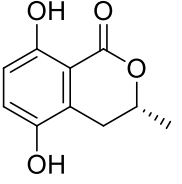
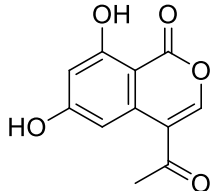
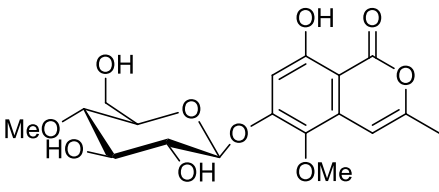
175		Displayed enzyme inhibition and no antibacterial	<i>Talaromyces amestolkiae</i>	65
	$C_{12}H_{12}O_5$ <i>S</i> -(-)-5-hydroxy-8-methoxy-4-(10-hydroxyethyl)-isocoumarin			
176		Displayed enzyme inhibition and no antibacterial	<i>Talaromyces amestolkiae</i>	65
	$C_{11}H_{10}O_6$ <i>S</i> -(-)-5,6,8-trihydroxy-4-(10-hydroxyethyl)isocoumarin			
177		Displayed enzyme inhibition and no antibacterial	<i>Talaromyces amestolkiae</i>	65
	$C_{12}H_{12}O_5$ 6-hydroxy-4-hydroxymethyl-8-methoxy-3-methyl-isocoumarin			
178		Displayed enzyme inhibition and no antimicrobial, cytotoxicity, phytotoxicity, antiviral	<i>Talaromyces amestolkiae</i> , <i>Nectria pseudotrichia</i> 120-1NP, <i>Leptosphaeria</i> sp. SCSIO 41005	42,65,82
	$C_{11}H_{10}O_4$ 3,4-dimethyl-6,8-dihydroxyisocoumarin			

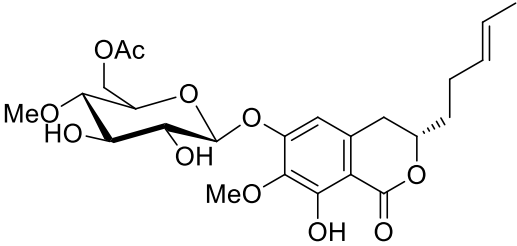
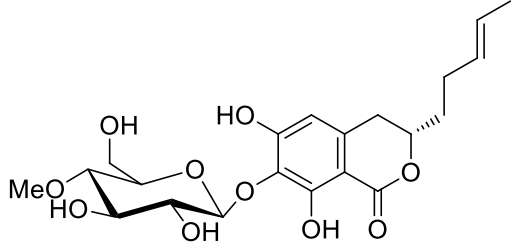
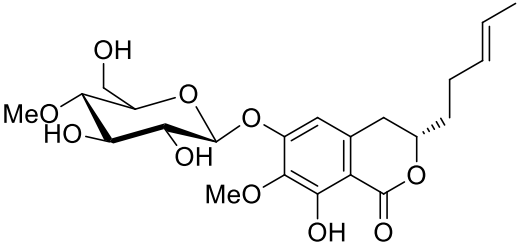
179	 <p><math>C_{11}H_{10}O_5</math> Sescandelin</p>	Displayed enzyme inhibition and no antibacterial	<i>Talaromyces amestolkiae</i>	65
180	 <p><math>C_{14}H_{18}O_5</math></p>	Displayed enzyme inhibition and no antibacterial	<i>Talaromyces amestolkiae</i>	65
181	 <p><math>C_{14}H_{16}O_5</math> Aspergillumarin C</p>	Displayed no enzyme inhibition effect	<i>Talaromyces</i> sp. SCNU-F0041	69
182	 <p><math>C_{15}H_{18}O_6</math> Demethylmonocerin</p>	Cytotoxicity and antioxidant	<i>Colletotrichum</i> sp. CRI535-02	3

183	 <p><math>C_{16}H_{22}O_6</math> Fusarentin 6,7-dimethyl ether</p>	Cytotoxicity and antioxidant	<i>Colletotrichum</i> sp. CRI535-02	3
184	 <p><math>C_{15}H_{20}O_6</math> Fusarentin 6-methyl ether</p>	Cytotoxicity and antioxidant	<i>Colletotrichum</i> sp. CRI535-02	3
185	 <p><math>C_{16}H_{22}O_7</math> Fusarentin derivative</p>	Cytotoxicity and antioxidant	<i>Colletotrichum</i> sp. CRI535-02	3
186	 <p><math>C_{11}H_{11}BrO_4</math> Palmaerone A</p>	Antifungal, antibacterial, anti-inflammatory	<i>Lachnum palmae</i>	12
187	 <p><math>C_{11}H_{11}BrO_4</math> Palmaerone B</p>	Antifungal, antibacterial	<i>Lachnum palmae</i>	12

188	 <p> <math>C_{12}H_{13}BrO_4</math>            Palmaerone C         </p>	Antifungal, antibacterial	<i>Lachnum palmae</i>	12
189	 <p> <math>C_{10}H_9BrO_4</math>            Palmaerone D         </p>	Antifungal, antibacterial	<i>Lachnum palmae</i>	12
190	 <p> <math>C_{11}H_{11}BrO_5</math>            Palmaerone E         </p>	Antifungal, antibacterial, anti-inflammatory, cytotoxicity	<i>Lachnum palmae</i>	12
191	 <p> <math>C_{11}H_{11}ClO_4</math>            Palmaerone F         </p>	Antifungal, antibacterial	<i>Lachnum palmae</i>	12
192	 <p> <math>C_{11}H_{11}ClO_4</math>            Palmaerone G         </p>	Antifungal, antibacterial	<i>Lachnum palmae</i>	12

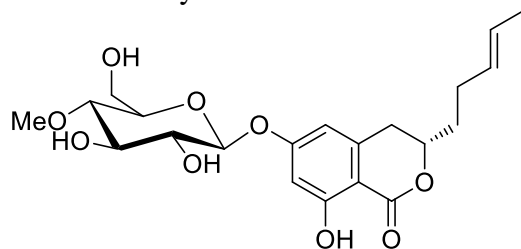
193		Not determined for any relevant biological activity	<i>Lachnum palmae</i>	12
	$C_{10}H_9ClO_4$ <b>(R)-5-Chloro-6-hydroxymellein</b>			
194		Not determined for any relevant biological activity	<i>Lachnum palmae</i>	12
	$C_{10}H_9ClO_5$ <b>(3R,4R)-5-Chloro-4,6-dihydroxymellein</b>			
195		Not determined for any relevant biological activity	<i>Lachnum palmae</i>	12
	$C_{11}H_{10}Cl_2O_4$ <b>Palmaerin A</b>			
196		Not determined for any relevant biological activity	<i>Lachnum palmae</i>	12
	$C_{10}H_8Br_2O_4$ <b>Palmaerin B</b>			

197	 <p><math>C_{10}H_9BrO_4</math> Palmaerin D</p>	Not determined for any relevant biological activity	<i>Lachnum palmae</i>	12
198	 <p><math>C_{10}H_{10}O_4</math> (R)-5-Hydroxymellein</p>	Antioxidant	<i>Lachnum palmae</i> , <i>Epicoccum</i> sp.	12,83
199	 <p><math>C_{11}H_8O_5</math> AGI-7</p>	Displayed no cytotoxicity	<i>Bionectria</i> sp. (MSX 47401)	84
200	 <p><math>C_{18}H_{22}O_{10}</math></p>	Not determined for any relevant biological activity	<i>Conoideocrella tenuis</i> BCC 18627	85

201		Antibacterial	<i>Metarhizium anisopliae</i> (No. DTH12-10)	86
	<p style="text-align: center;"><math>C_{24}H_{31}O_{11}</math></p> <p style="text-align: center;">(3<i>S</i>)-6-<i>O</i>-(4'-<i>O</i>-methyl-6'-acetyl-<math>\beta</math>-D-glucopyranoside)-7-<i>O</i>-methyl-8-hydroxyl-3-[(3<i>E</i>)penta-3-enyl]-3,4-dihydroisocoumarin</p>			
202		Antibacterial	<i>Metarhizium anisopliae</i> (No. DTH12-10)	86
	<p style="text-align: center;"><math>C_{21}H_{28}O_{10}</math></p> <p style="text-align: center;">(3<i>S</i>)-7-<i>O</i>-(4'-<i>O</i>-methyl-<math>\beta</math>-D-glucopyranoside)-6,8-dihydroxyl-3-[(3<i>E</i>)penta-3-enyl]-3,4-dihydroisocoumarin</p>			
203		Antibacterial	<i>Metarhizium anisopliae</i> (No. DTH12-10)	86
	<p style="text-align: center;"><math>C_{22}H_{30}O_{10}</math></p>			



(3*S*)-6-*O*-(4'-*O*-methyl- $\beta$ -D-glucopyranoside)-7-*O*-methyl-8-hydroxyl-3-[(3*E*)-pent-3-enyl]-3,4-dihydroisocoumarin

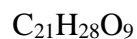


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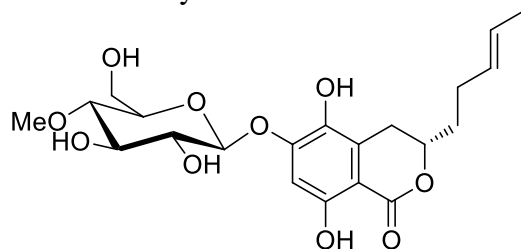
Antibacterial

*Metarhizium anisopliae*  
(No. DTH12-10)

86



(3*S*)-6-*O*-(4'-*O*-methyl- $\beta$ -D-glucopyranoside)-8-hydroxyl-3-[(3*E*)-pent-3-enyl]-3,4-dihydroisocoumarin



205

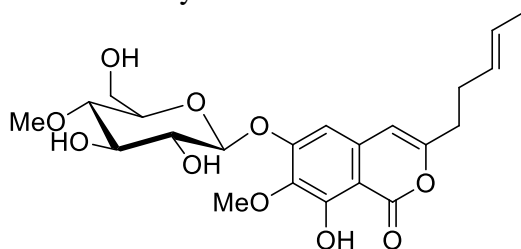
Antibacterial

*Metarhizium anisopliae*  
(No. DTH12-10)

86



(3*S*)-6-*O*-(4'-*O*-methyl- $\beta$ -D-glucopyranoside)-5,8-dihydroxyl-3-[(3*E*)-pent-3-enyl]-3,4-dihydroisocoumarin

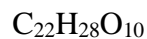


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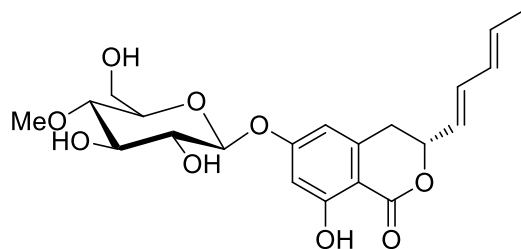
Antibacterial

*Metarhizium anisopliae*  
(No. DTH12-10)

86



6-*O*-(4'-*O*-methyl- $\beta$ -D-glucopyranoside)-7-*O*-methyl-8-hydroxyl-3-[(3*E*)-penta-3-enyl]-isocoumarin



207

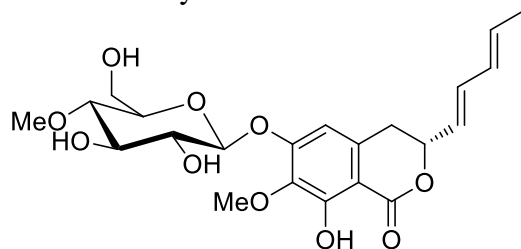
Antibacterial

*Metarhizium anisopliae*  
(No. DTH12-10)

86

$C_{21}H_{26}O_9$

(3*R*)-6-*O*-(4'-*O*-methyl- $\beta$ -D-glucopyranoside)-8-hydroxyl-3-[(1*E*,3*E*)-penta-1,3-dienyl]-dihydroisocoumarin



208

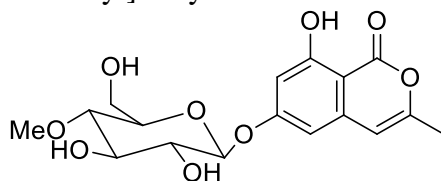
Antibacterial

*Metarhizium anisopliae*  
(No. DTH12-10)

86

$C_{22}H_{28}O_{10}$

(3*R*)-6-*O*-(4'-*O*-methyl- $\beta$ -D-glucopyranoside)-7-*O*-methyl-8-hydroxyl-3-[(1*E*,3*E*)-penta-1,3-dienyl]-dihydroisocoumarin



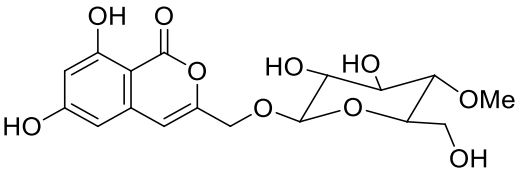
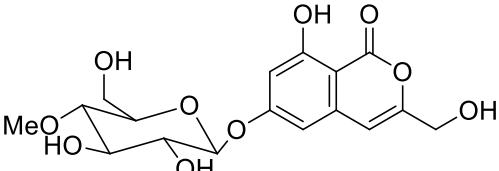
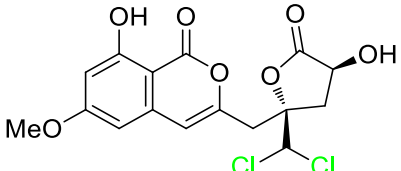
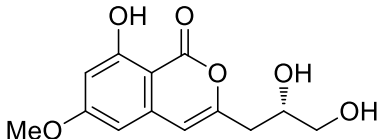
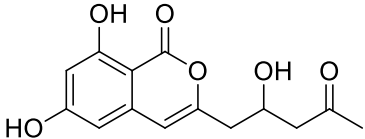
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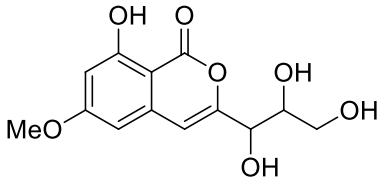
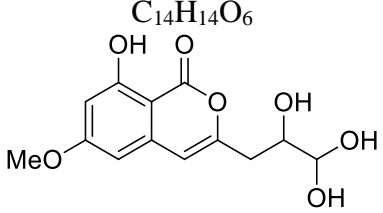
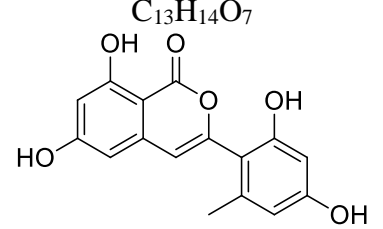
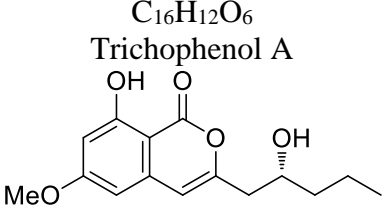
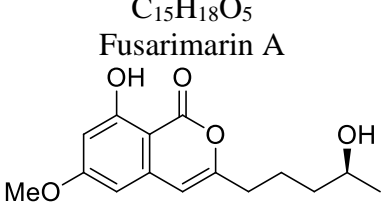
Displayed no antiviral,  
antimalarial, anti-  
mycobacterium, and  
cytotoxicity

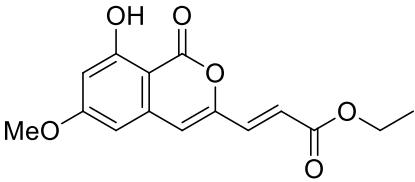
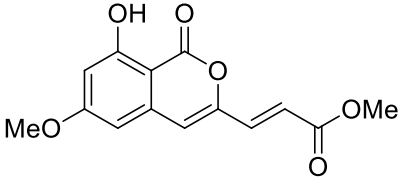
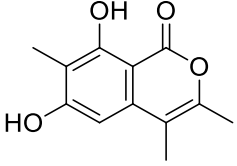
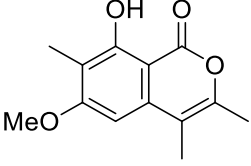
*Torrubiella tenuis* BCC  
12732

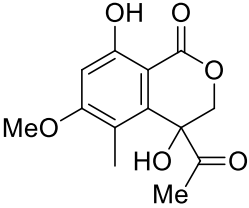
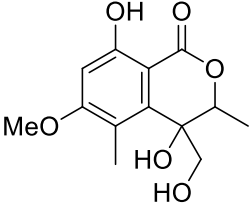
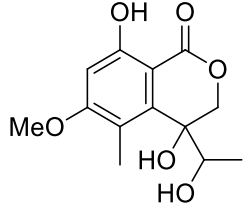
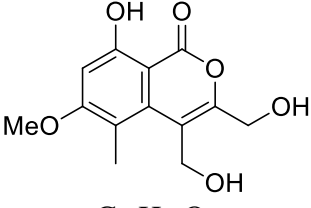
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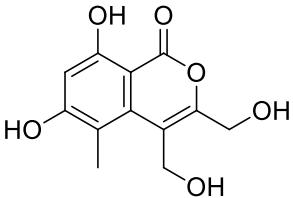
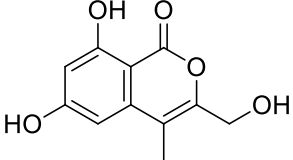
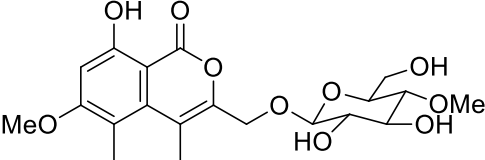
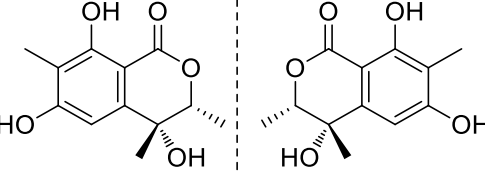
$C_{17}H_{20}O_9$

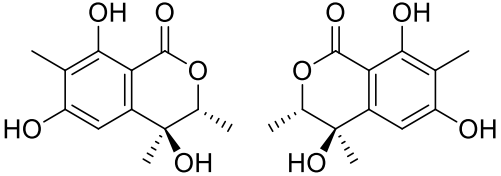
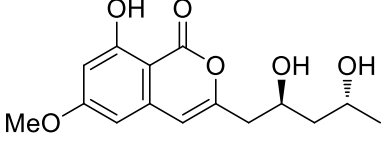
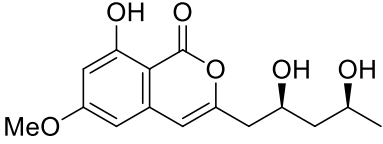
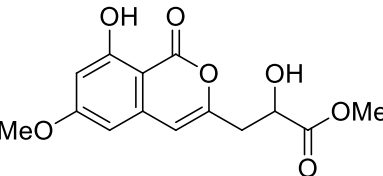
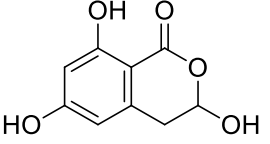
210	 <p><math>C_{17}H_{20}O_9</math></p>	Displayed no antiviral, antimalarial, anti-mycobacterium, and cytotoxicity	<i>Torrubiella tenuis</i> BCC 12732	29
211	 <p><math>C_{17}H_{20}O_9</math></p>	Displayed no antiviral, antimalarial, anti-mycobacterium, and cytotoxicity	<i>Torrubiella tenuis</i> BCC 12732	29
212	 <p><math>C_{16}H_{14}Cl_2O_7</math> Dichlorodiaportinolide</p>	Antifungal	<i>Trichoderma</i> Sp. 09	49
213	 <p><math>C_{13}H_{14}O_6</math> Diaportinol</p>	Displayed antioxidant and no Zebrafish toxicity, antibacterial, antilethalil, anti-inflammatory	<i>Trichoderma</i> Sp. 09, <i>Mucor</i> sp. (No. XJ07027-5), <i>Peyronellaea glomerata</i> XSB-01-15, <i>Phoma</i> sp. (TA07-1), <i>Ascomycota</i> sp. CYSK-4	49-51,55,75
214	 <p><math>C_{14}H_{14}O_6</math> Citreisocoumarin</p>	Displayed antioxidant, and no antibacterial antilethalil, anti-inflammatory	<i>Trichoderma</i> sp. HPQJ-34, <i>Peyronellaea glomerata</i> XSB-01-15, <i>Phoma</i> sp. (TA07-1), <i>Ascomycota</i> sp. CYSK-4	51,55,74,75

215	 $C_{14}H_{14}O_6$	Antibacterial	<i>Trichoderma harzianum</i>	87
216	 $C_{13}H_{14}O_7$	Antibacterial	<i>Trichoderma harzianum</i>	87
217	 $C_{16}H_{12}O_6$ <b>Trichophenol A</b>	Antimicrobial, antibacterial	<i>Trichoderma citrinoviride</i> A-WH-20-3	88
218	 $C_{15}H_{18}O_5$ <b>Fusarimarin A</b>	Not determined for any relevant biological activity	<i>Fusarium</i> sp. 2ST2	89
219	 $C_{15}H_{18}O_5$ <b>Fusarimarin B</b>	Not determined for any relevant biological activity	<i>Fusarium</i> sp. 2ST2	89

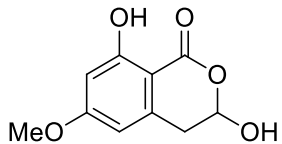
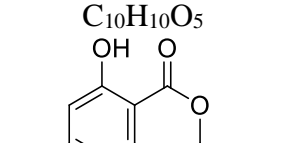
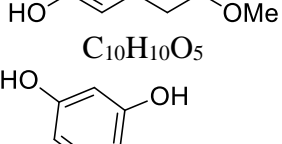
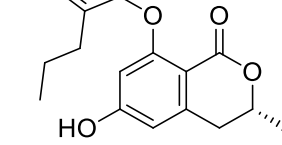
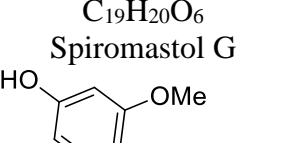
220	 <p><math>C_{15}H_{14}O_6</math> Fusarimarin C</p>	Cytotoxicity	<i>Fusarium</i> sp. 2ST2	89
221	 <p><math>C_{14}H_{12}O_6</math> Aspergisocoumrin A</p>	Cytotoxicity	<i>Fusarium</i> sp. 2ST2	89
222	 <p><math>C_{12}H_{12}O_4</math> Nectriapyrone A</p>	Displayed no cytotoxicity, phytotoxicity, antimicrobial	<i>Nectria pseudotrichia</i> 120-1NP	82
223	 <p><math>C_{13}H_{14}O_4</math> Nectriapyrone B</p>	Displayed no cytotoxicity, phytotoxicity, antimicrobial	<i>Nectria pseudotrichia</i> 120-1NP	82

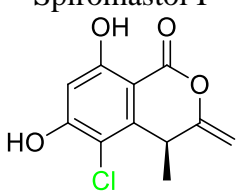
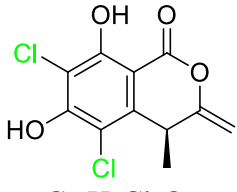
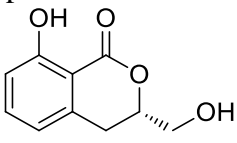
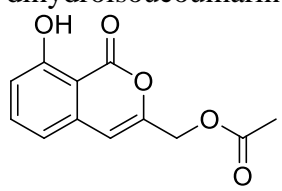
224	 <p><math>C_{13}H_{14}O_6</math> Acremonone B</p>	Was not determined for any relevant biological activity	<i>Acremonium</i> sp. PSU-MA70	90
225	 <p><math>C_{13}H_{16}O_6</math> Acremonone C</p>	Was not determined for any relevant biological activity	<i>Acremonium</i> sp. PSU-MA70	90
226	 <p><math>C_{13}H_{16}O_6</math> Acremonone D</p>	Was not determined for any relevant biological activity	<i>Acremonium</i> sp. PSU-MA70	90
227	 <p><math>C_{13}H_{14}O_6</math> Acremonone E</p>	Displayed antibacterial and no antifungal	<i>Acremonium</i> sp. PSU-MA70, <i>Paraphaeosphaeria sporulosa</i>	90,91

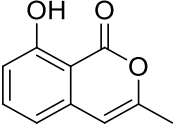
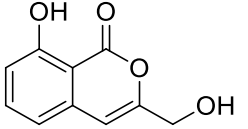
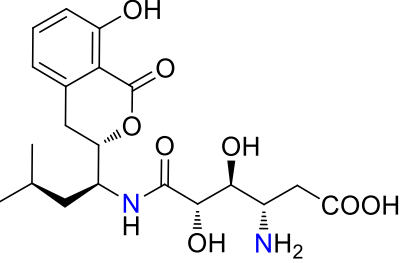
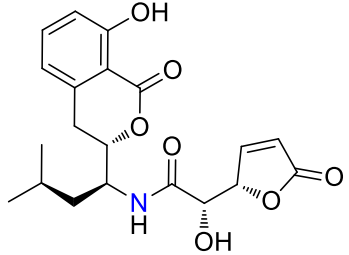
228	 <p style="text-align: center;">C<sub>12</sub>H<sub>12</sub>O<sub>6</sub> Acremonone F</p>	Displayed no antibacterial, cytotoxicity, antiviral	<i>Acremonium</i> sp. PSU- MA70, <i>Paraphaeosphaeria</i> <i>sporulosa</i> , <i>Leptosphaeria</i> sp. SCSIO 41005	42,90,91
229	 <p style="text-align: center;">C<sub>11</sub>H<sub>10</sub>O<sub>5</sub> Acremonone G</p>	Displayed no cytotoxicity, antiviral	<i>Acremonium</i> sp. PSU- MA70, <i>Leptosphaeria</i> sp. SCSIO 41005	42,90
230	 <p style="text-align: center;">C<sub>20</sub>H<sub>26</sub>O<sub>10</sub> Acremonone H</p>	Was not determined for any relevant biological activity	<i>Acremonium</i> sp. PSU- MA70	90
231	 <p style="text-align: center;">C<sub>12</sub>H<sub>14</sub>O<sub>5</sub></p>	Displayed no cytotoxicity	<i>Rhytidhysterion</i> sp. BZM-9	92

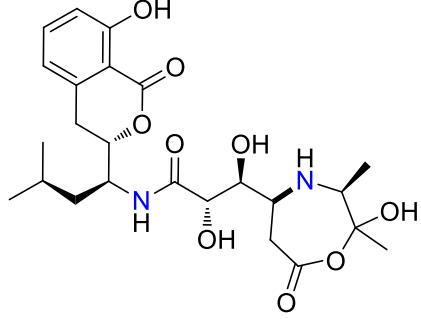
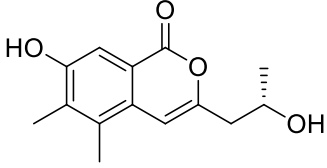
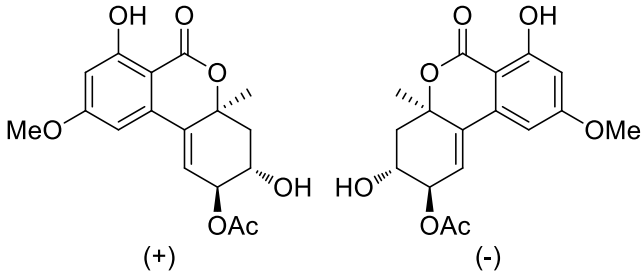
232	 <p><math>C_{12}H_{14}O_5</math></p>	Displayed no cytotoxicity	<i>Rhytidhysterone</i> sp. BZM-9	92
233	 <p><math>C_{15}H_{18}O_6</math></p> <p>Mucorisocoumarin A</p>	Displayed antioxidant activity and no Zebrafish toxicity, antibacterial, anti-inflammatory	<i>Mucor</i> sp. (No. XJ07027-5), <i>Peyronellaea glomerata</i> XSB-01-15, <i>Ascomycota</i> sp. CYSK-4	50,51,75
234	 <p><math>C_{15}H_{18}O_6</math></p> <p>Mucorisocoumarin B</p>	Displayed antioxidant activity and no Zebrafish toxicity	<i>Mucor</i> sp. (No. XJ07027-5), <i>Peyronellaea glomerata</i> XSB-01-15	50,75
235	 <p><math>C_{14}H_{14}O_7</math></p> <p>Mucorisocoumarin C</p>	Displayed Zebrafish toxicity	<i>Mucor</i> sp. (No. XJ07027-5)	50
236	 <p><math>C_9H_8O_5</math></p>	Displayed no Zebrafish toxicity	<i>Mucor</i> sp. (No. XJ07027-5)	50

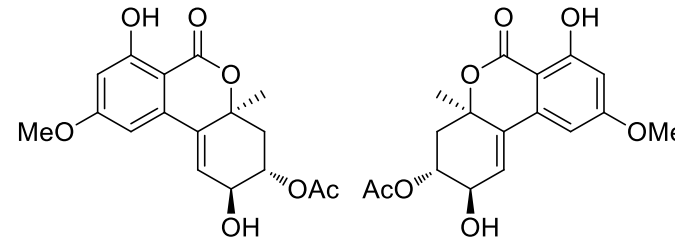
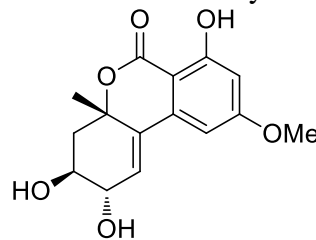
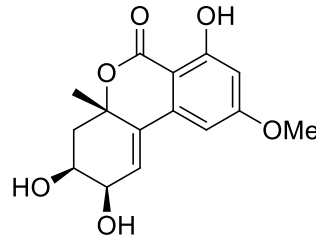
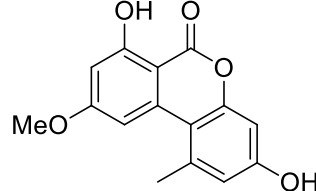


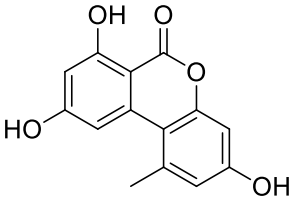
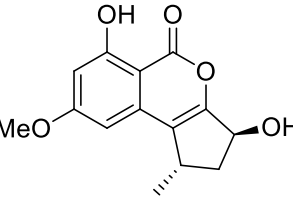
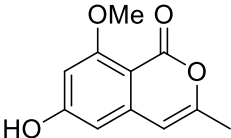
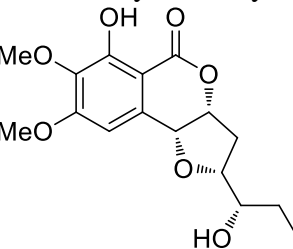
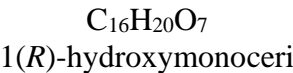
237	 $C_{10}H_{10}O_5$	Displayed no Zebrafish toxicity	<i>Mucor</i> sp. (No. XJ07027-5)	50
238	 $C_{10}H_{10}O_5$	Displayed no Zebrafish toxicity	<i>Mucor</i> sp. (No. XJ07027-5)	50
239	 $C_{19}H_{20}O_6$ <b>Spiromastol G</b>	Displayed no antibacterial	<i>Spiromastix</i> sp. MCCC 3A00308	93
240	 $C_{20}H_{22}O_6$ <b>Spiromastol H</b>	Displayed no antibacterial	<i>Spiromastix</i> sp. MCCC 3A00308	93
241	 $C_{20}H_{22}O_6$ <b>Spiromastol I</b>	Antibacterial	<i>Spiromastix</i> sp. MCCC 3A00308	93

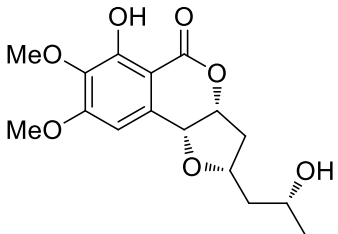
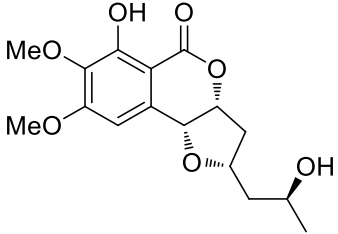
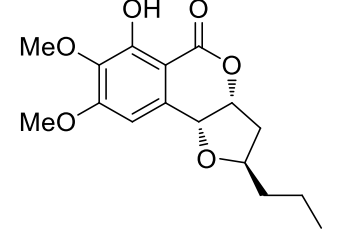
242	<p><math>C_{21}H_{22}O_6</math> Spiromastol I</p> 	Antibacterial	sp. (MCCC 3A00308)	94
243	<p><math>C_{11}H_9ClO_4</math> Spiromastimellein A</p> 	Antibacterial	<i>Spiromastix</i> sp. (MCCC 3A00308)	94
244	<p><math>C_{11}H_8Cl_2O_4</math> Spiromastimellein B</p>  <p><math>C_{10}H_{10}O_4</math> (3<i>R</i>)-3-hydroxymethyl-8-hydroxyl-3,4-dihydroisocoumarin</p>	Was not determined for any relevant biological activity	<i>Sarcosomataceae</i> sp. NO.49-14-2-1	10
245	 <p><math>C_{12}H_{10}O_5</math> 3-acetoxy-8-hydroxyl-isocoumarin</p>	Was not determined for any relevant biological activity	<i>Sarcosomataceae</i> sp. NO.49-14-2-1	10

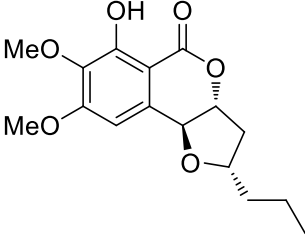
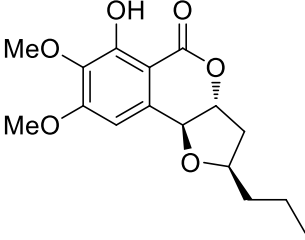
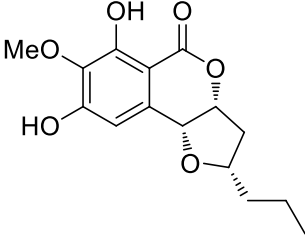
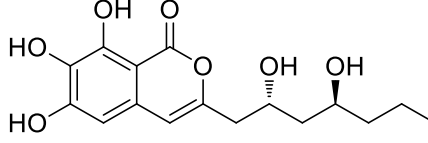
246	 $C_{10}H_8O_3$ 3-methyl-8-hydroxyisocoumarin	Was not determined for any relevant biological activity	<i>Sarcosomataceae</i> sp. NO.49-14-2-1	10
247	 $C_{10}H_8O_4$ 8-hydroxy-3-(hydroxymethyl)-1H-2-benzopyran-1-one	Was not determined for any relevant biological activity	<i>Sarcosomataceae</i> sp. NO.49-14-2-1	10
248	 $C_{20}H_{28}N_2O_8$ AI-77-B	Cytotoxicity	<i>Alternaria tenuis</i> Sg17-1	95
249	 $C_{20}H_{23}NO_7$ AI-77-F	Cytotoxicity	<i>Alternaria tenuis</i> Sg17-1	95

250	 $C_{24}H_{34}N_2O_9$ Sg17-1-4	Cytotoxicity	<i>Alternaria tenuis</i> Sg17-1	95
251	 $C_{14}H_{16}O_4$ (+)-(10 <i>R</i> )-7-hydroxy-3-(2-hydroxy-propyl)-5,6-dimethyl-isochromen-1-one	Antibacterial, antifungal, displayed no cytotoxicity	<i>Alternaria alternata</i>	96
252	 $C_{17}H_{18}O_7$ Altenuene-2-acetoxy ester	Antibacterial, antifungal, displayed no cytotoxicity	<i>Alternaria alternata</i>	96

253	 <p>(+)                      (-)</p> <p><math>C_{17}H_{18}O_7</math> Altenuene-3-acetoxy ester</p>	Antibacterial, antifungal, displayed no cytotoxicity	<i>Alternaria alternata</i>	96
254	 <p><math>C_{15}H_{16}O_6</math> Altenuene</p>	Antibacterial, antifungal, displayed no cytotoxicity	<i>Alternaria alternata</i>	96
255	 <p><math>C_{15}H_{16}O_6</math> 5'-Epialtenuene</p>	Displayed no antibacterial, antifungal, cytotoxicity	<i>Alternaria alternata</i>	96
256		Displayed cytotoxicity, antibacterial, antioxidant and no antifungal	<i>Alternaria alternata</i> , <i>Setosphaeria</i> sp. (strain LGWB-2), <i>Peyronellaea</i> <i>glomerata</i> XSB-01-15	75,96,97

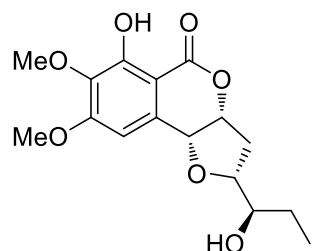
257	<p><math>C_{15}H_{12}O_5</math> Alternariol 9-methyl ether</p> 	Displayed antibacterial, cytotoxicity, antioxidant, and no antifungal,	<i>Alternaria alternata</i> , <i>Setosphaeria</i> sp. (strain LGWB-2), <i>Peyronellaea glomerata</i> XSB-01-15	75,96,97
258	<p><math>C_{14}H_{12}O_5</math> Alternariol</p> 	Displayed antibacterial and no antifungal, cytotoxicity	<i>Alternaria alternata</i>	96
259	<p><math>C_{14}H_{14}O_5</math> Phialophoriol</p> 	Displayed no antibacterial, enzyme inhibition	<i>Cochliobolus lunatus</i> (TA26-46)	9
260	<p><math>C_{11}H_{10}O_4</math> 6-Hydroxy-8-methoxy-3-methylisocoumarin</p> 	Antimalarial and displayed no cytotoxicity, antibacterial, antifungal	<i>Exserohilum rostratum</i> , <i>Exserohilum</i> sp., <i>Setosphaeria</i> sp. SCSIO41009	4,5,98
	<p><math>C_{16}H_{20}O_7</math> 11(R)-hydroxymonocerin</p> 			

261	 <p data-bbox="465 462 801 534"> <math>C_{16}H_{20}O_7</math>            12(R)-hydroxymonocerin         </p>	<p data-bbox="996 303 1288 454">           Displayed antifungal,            antialgal and no            antibacterial, enzyme            inhibition         </p>	<p data-bbox="1355 199 1691 566"> <i>Exserohilum rostratum</i>,  <i>Exserohilum</i> sp,  <i>Exserohilum</i> sp.            (CHNSCLM-0008),  <i>Setosphaeria</i> sp.            SCSIO41009,  <i>Setosphaeria rostrate</i>            LGWB-10, <i>Leptosphaena</i>  <i>maculans</i>, <i>Microdochium</i>  <i>bolleyi</i> </p>	4-8,98,99
262	 <p data-bbox="465 805 801 880"> <math>C_{16}H_{20}O_7</math>            12(S)-hydroxymonocerin         </p>	<p data-bbox="996 662 1288 774">           Showed antiplasmodial,            antifungal, antialgal,            antibacterial         </p>	<p data-bbox="1355 614 1691 837"> <i>Exserohilum</i> sp,  <i>Exserohilum</i> sp.            (CHNSCLM-0008),  <i>Setosphaeria rostrate</i>            LGWB-10, <i>Microdochium</i>  <i>bolleyi</i> </p>	5,6,8,99
263	 <p data-bbox="465 1125 801 1189"> <math>C_{16}H_{20}O_6</math>            Exserolide A         </p>	<p data-bbox="996 997 1288 1077">           Displayed neither            antibacterial nor antifungal         </p>	<p data-bbox="1355 1021 1691 1053"> <i>Exserohilum</i> sp         </p>	5

264	 <p>C<sub>16</sub>H<sub>20</sub>O<sub>6</sub> Exserolide B</p>	Displayed no antiplasmodial, antimicrobial, antioxidant, antiviral MptpB inhibitory effects	<i>Exserohilum</i> sp, <i>Exserohilum</i> sp. (CHNSCLM-0008), <i>Setosphaeria</i> sp. SCSIO41009	5,6,98
265	 <p>C<sub>16</sub>H<sub>20</sub>O<sub>6</sub> Exserolide C</p>	Antifungal and no antibacterial, antimicrobial, antioxidant, antiviral MptpB inhibitory effects	<i>Exserohilum</i> sp, <i>Exserohilum</i> sp. (CHNSCLM-0008), <i>Setosphaeria</i> sp. SCSIO41009	5,6
266	 <p>C<sub>16</sub>H<sub>20</sub>O<sub>6</sub> Exserolide D</p>	Displayed antioxidant and no antimicrobial, antiviral MptpB inhibitory effects	<i>Exserohilum</i> sp, <i>Setosphaeria</i> sp. SCSIO41009	5,98
267	 <p>C<sub>15</sub>H<sub>18</sub>O<sub>6</sub> Exserolide D</p> <p>C<sub>16</sub>H<sub>20</sub>O<sub>7</sub> Exserolide F</p>	Antibacterial and no antifungal	<i>Exserohilum</i> sp	5



268

C<sub>16</sub>H<sub>20</sub>O<sub>7</sub>

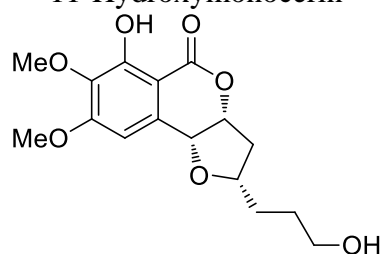
11-Hydroxymonocerin

Displayed no antimicrobial, antioxidant, antiviral MptpB inhibitory effects

*Exserohilum* sp.  
(CHNSCLM-0008),  
*Setosphaeria* sp.  
SCSIO41009

6,98

269

C<sub>16</sub>H<sub>20</sub>O<sub>7</sub>

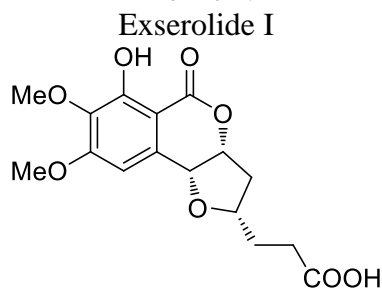
Exserolide I

Displayed no antimicrobial, antioxidant, antiviral MptpB inhibitory effects, enzyme inhibition

*Exserohilum* sp.  
(CHNSCLM-0008),  
*Setosphaeria* sp.  
SCSIO41009,  
*Leptosphaena maculans*

6,7,98

270

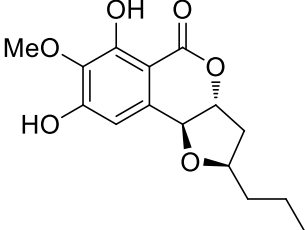
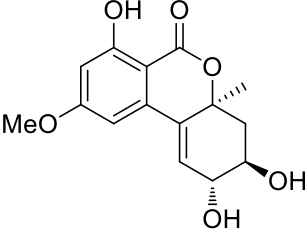
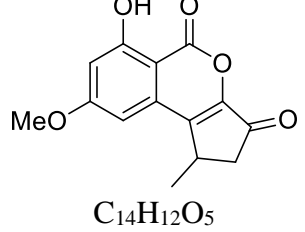
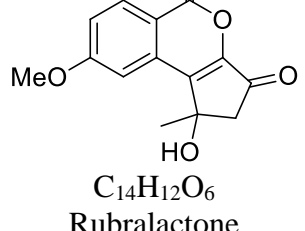
C<sub>16</sub>H<sub>18</sub>O<sub>8</sub>

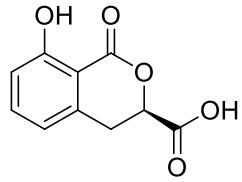
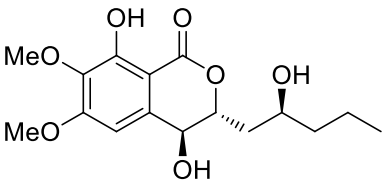
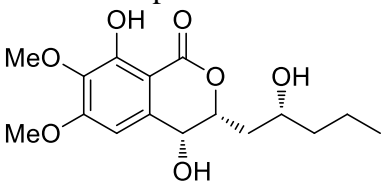
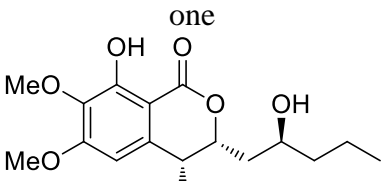
Exserolide J

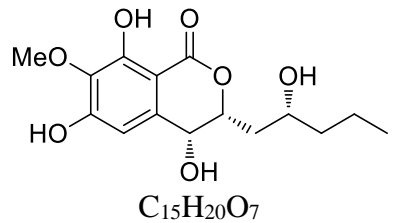
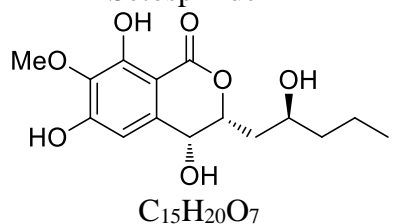
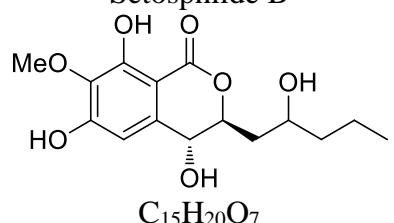
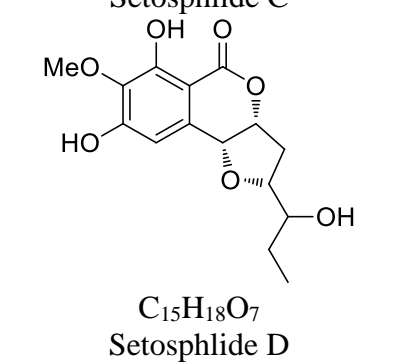
Displayed no antiplasmodial, antimicrobial, antioxidant, antiviral MptpB inhibitory effects

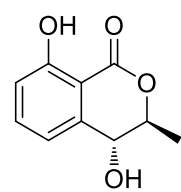
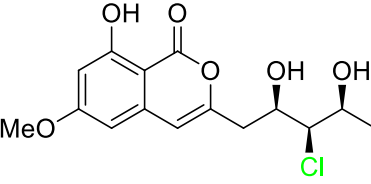
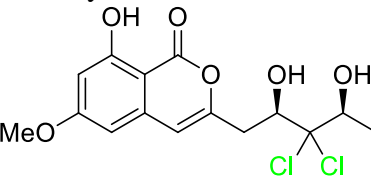
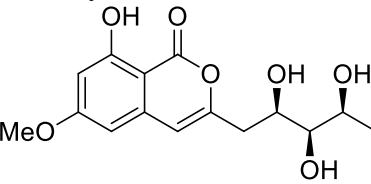
*Exserohilum* sp.  
(CHNSCLM-0008),  
*Setosphaeria* sp.  
SCSIO41009

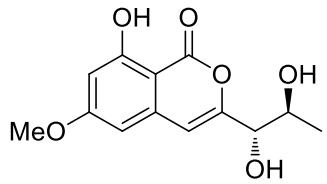
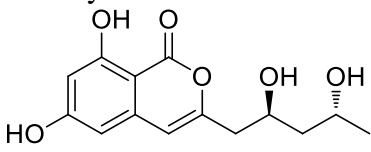
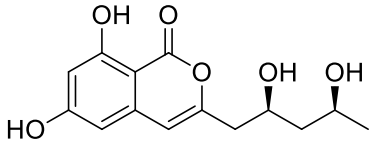
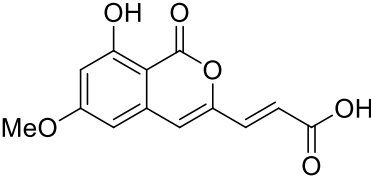
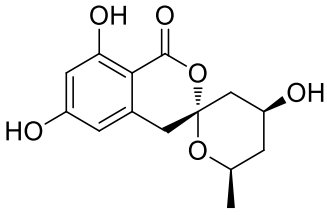
6,98

271	 <p><math>C_{15}H_{18}O_6</math> Exserolide K</p>	Displayed no antimicrobial, antioxidant, antiviral MptpB inhibitory effects	<i>Setosphaeria</i> sp. SCSIO41009	98
272	 <p><math>C_{15}H_{16}O_6</math> Isoaltenuene</p>	Displayed no cytotoxicity	<i>Setosphaeria</i> sp. (strain LGWB-2)	97
273	 <p><math>C_{14}H_{12}O_5</math> 1-Deoxyrubralactone</p>	Cytotoxicity, enzyme inhibitor	<i>Setosphaeria</i> sp. (strain LGWB-2), Fungal strain HJ33moB	97,100
274	 <p><math>C_{14}H_{12}O_6</math> Rubralactone</p>	Displayed no cytotoxicity	<i>Setosphaeria</i> sp. (strain LGWB-2)	97

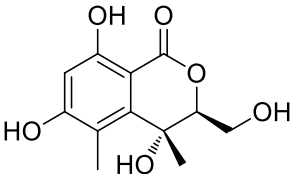
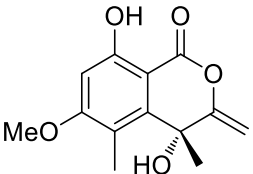
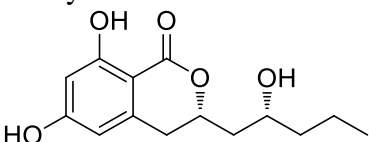
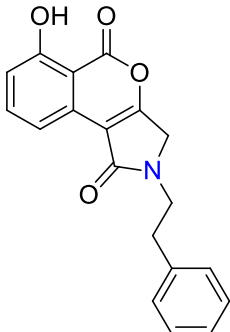
275	 <p><math>C_{10}H_8O_5</math> Phomasatin</p>	Displayed no cytotoxicity	<i>Setosphaeria</i> sp. (strain LGWB-2), <i>Phoma</i> sp. YN02-P-3, <i>Hypoxyton</i> sp.	24,97,101
276	 <p><math>C_{16}H_{22}O_7</math> Setosphacohol A</p>	Displayed no cytotoxicity	<i>Setosphaeria</i> sp. (strain LGWB-2)	97
277	 <p><math>C_{16}H_{22}O_7</math> (3<i>R</i>,4<i>R</i>)-4,8-Dihydroxy-3-((<i>R</i>)-2-hydroxypentyl)-6,7-dimethoxyisochroman-1-one</p>	Antifungal, antibacterial, antialgal	<i>Setosphaeria rostrate</i> LGWB-10, <i>Microdochium bolleyi</i>	8,99
278	 <p><math>C_{16}H_{22}O_7</math> (3<i>R</i>,4<i>R</i>)-4,8-Dihydroxy-3-((<i>R</i>)-2-hydroxypentyl)-6,7-dimethoxyisochroman-1-one</p>	Was not examined for any relevant biological activity	<i>Setosphaeria rostrate</i> LGWB-10	99

279	 <p style="text-align: center;">C<sub>15</sub>H<sub>20</sub>O<sub>7</sub> Setosphlide A</p>	Displayed no cytotoxicity	<i>Setosphaeria rostrate</i> LGWB-10	99
280	 <p style="text-align: center;">C<sub>15</sub>H<sub>20</sub>O<sub>7</sub> Setosphlide B</p>	Displayed no cytotoxicity	<i>Setosphaeria rostrate</i> LGWB-10	99
281	 <p style="text-align: center;">C<sub>15</sub>H<sub>20</sub>O<sub>7</sub> Setosphlide C</p>	Displayed no cytotoxicity	<i>Setosphaeria rostrate</i> LGWB-10	99
282	 <p style="text-align: center;">C<sub>15</sub>H<sub>18</sub>O<sub>7</sub> Setosphlide D</p>	Displayed no cytotoxicity	<i>Setosphaeria rostrate</i> LGWB-10	99

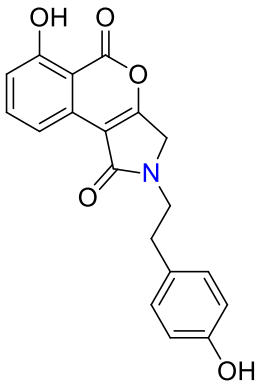
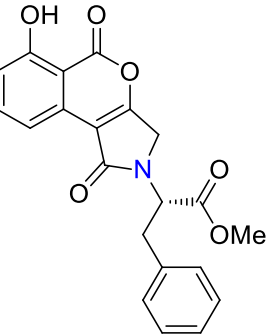
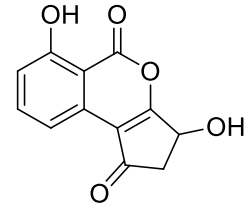
283	 $C_{10}H_{10}O_4$ (-)-(3R,4S)-4-hydroxymellein	Antioxidant	<i>Epicoccum</i> sp.	83
284	 $C_{15}H_{17}ClO_6$ Peyroisocoumarin A	Antioxidant	<i>Peyronellaea glomerata</i> XSB-01-15	75
285	 $C_{15}H_{16}Cl_2O_6$ Peyroisocoumarin B	Antioxidant	<i>Peyronellaea glomerata</i> XSB-01-15	75
286	 $C_{15}H_{18}O_7$ Peyroisocoumarin C	Antioxidant	<i>Peyronellaea glomerata</i> XSB-01-15	75

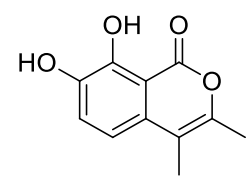
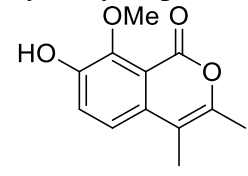
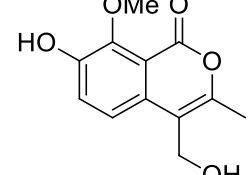
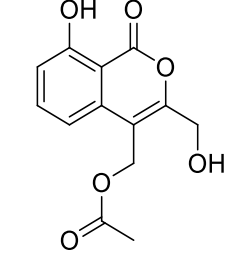
287	 <p><math>C_{13}H_{14}O_6</math> Peyroisocoumarin D</p>	Antioxidant	<i>Peyronellaea glomerata</i> XSB-01-15	75
288	 <p><math>C_{14}H_{16}O_6</math> Isocitreoisocoumarinol</p>	Antioxidant	<i>Peyronellaea glomerata</i> XSB-01-15	75
289	 <p><math>C_{14}H_{16}O_6</math> Citreoisocoumarinol</p>	Displayed antioxidant and no antibacterial, antilethalil	<i>Peyronellaea glomerata</i> XSB-01-15, <i>Phoma</i> sp. (TA07-1)	55,75
290	 <p><math>C_{13}H_{10}O_6</math> LL-Z 1640-7</p>	Antibacterial, antioxidant	<i>Peyronellaea glomerata</i> XSB-01-15	75
291	 <p><math>C_{14}H_{16}O_6</math></p>	Antioxidant	<i>Peyronellaea glomerata</i> XSB-01-15	75

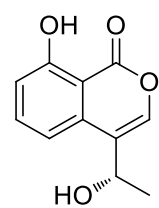
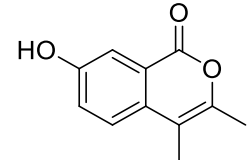
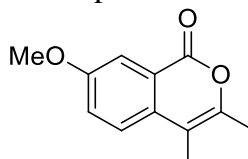
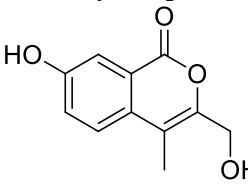
292	<p>Demethylcitreoviranol</p>	Antioxidant	<i>Peyronellaea glomerata</i> XSB-01-15	75
293	<p><math>C_{14}H_{16}O_6</math> Citreoviranol</p> <p><math>C_{11}H_{11}ClO_5</math> (3<i>R</i>,4<i>S</i>)-4-hydroxy-6-methoxy-7-chloromellein</p>	Was not determined for any relevant biological activity	<i>Phoma</i> sp. 135	76
294	<p><math>C_{13}H_{15}O_5</math> Paraphaeone E</p>	Antibacterial	<i>Paraphaeosphaeria</i> <i>sporulosa</i>	91
295	<p><math>C_{14}H_{16}O_6</math> Paraphaeone F</p>	Antibacterial	<i>Paraphaeosphaeria</i> <i>sporulosa</i>	91

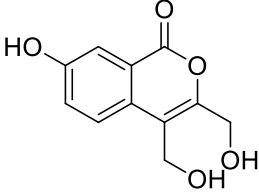
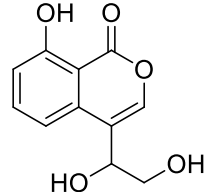
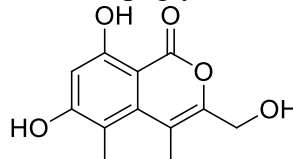
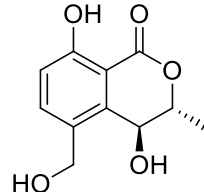
296	 <p data-bbox="571 379 705 448"> <math>C_{12}H_{14}O_6</math>  Clearanol J </p>	Displayed no cytotoxicity, antiviral	<i>Leptosphaeria</i> sp. SCSIO 41005	42
297	 <p data-bbox="571 635 705 663"> <math>C_{13}H_{14}O_5</math> </p> <p data-bbox="338 671 931 735"> <i>(R)</i>-4,8-dihydroxy-6-methoxy-4,5-dimethyl-3- methyleneisochromen-1-one </p>	Displayed no cytotoxicity, antiviral, antimalaria, anti- mycobacterium	<i>Leptosphaeria</i> sp. SCSIO 41005, <i>Halorosellinia</i> <i>oceanica</i>	42,102
298	 <p data-bbox="571 890 705 919"> <math>C_{14}H_{18}O_5</math> </p> <p data-bbox="533 927 741 959">Maculansline C</p>	Displayed no enzyme inhibition activity	<i>Leptosphaeria</i> <i>maculans</i>	7
299	 <p data-bbox="555 1305 712 1334"> <math>C_{19}H_{15}NO_4</math> </p> <p data-bbox="533 1342 734 1375">Paraphamide A</p>	Displayed no antibacterial	<i>Paraphoma</i> sp. CUGBMF180003	103

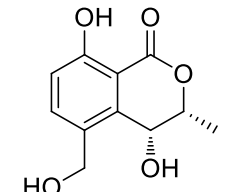
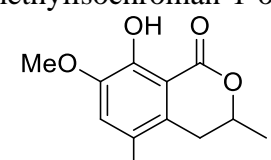
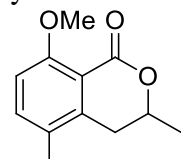
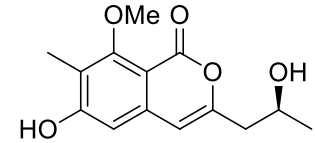


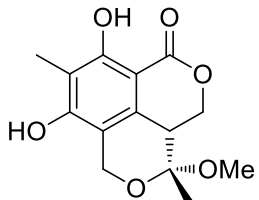
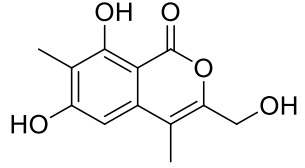
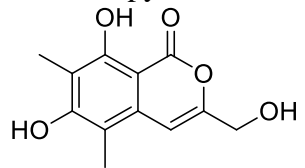
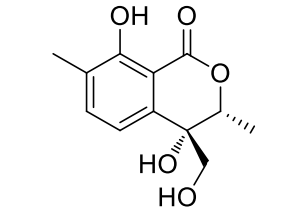
300		Displayed no antibacterial	<i>Paraphoma</i> sp. CUGBMF180003	103
301	<p data-bbox="548 582 728 654"><math>C_{19}H_{15}NO_5</math> Paraphamide B</p> 	Displayed no antibacterial	<i>Paraphoma</i> sp. CUGBMF180003	103
302	<p data-bbox="548 997 728 1069"><math>C_{21}H_{17}NO_6</math> Paraphamide C</p>  <p data-bbox="548 1284 728 1348"><math>C_{12}H_8O_5</math> Parapholactone</p>	Antibacterial	<i>Paraphoma</i> sp. CUGBMF180003	103

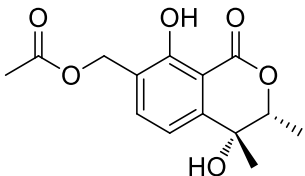
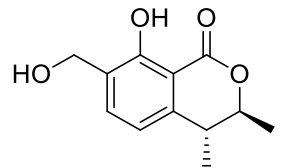
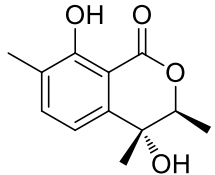
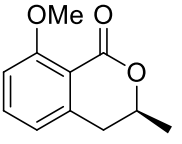
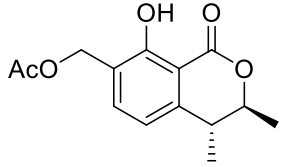
303		Antibacterial	<i>Paraphoma</i> sp. CUGBMF180003	103
	$C_{11}H_{10}O_4$ 7-Hydroxyoospolactone			
304		Displayed no antibacterial	<i>Paraphoma</i> sp. CUGBMF180003	103
	$C_{12}H_{12}O_4$ 7-Methoxyoospolactone			
305		Displayed no antibacterial	<i>Paraphoma</i> sp. CUGBMF180003	103
	$C_{12}H_{12}O_5$ 7-Methoxy-9-hydroxyoospolactone			
306		Displayed no antibacterial	<i>Paraphoma</i> sp. CUGBMF180003	103
	$C_{13}H_{12}O_6$ 10-Acetoxy-9-hydroxyoospolactone 6- dehydroxyscandelin			

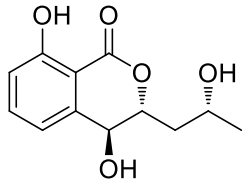
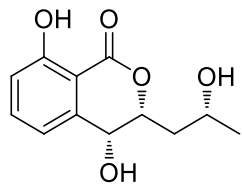
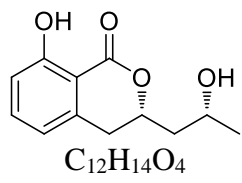
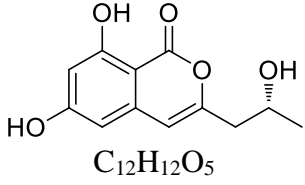
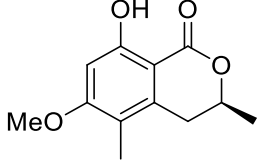
307	 $C_{11}H_{10}O_4$ 6-Dehydroxyscandelin	Displayed no antibacterial	<i>Paraphoma</i> sp. CUGBMF180003	103
308	 $C_{11}H_{10}O_3$ Oospolactone	Displayed no antibacterial	<i>Paraphoma</i> sp. CUGBMF180003	103
309	 $C_{12}H_{12}O_3$ 8- <i>O</i> -methyloospolactone	Displayed no antibacterial	<i>Paraphoma</i> sp. CUGBMF180003	103
310	 $C_{11}H_{10}O_4$ 10-Hydroxyoospolactone	Displayed no antibacterial	<i>Paraphoma</i> sp. CUGBMF180003	103

311	 <p><math>C_{11}H_{10}O_5</math> 9,10-dihydroxyoospolactone</p>	Displayed no antibacterial	<i>Paraphoma</i> sp. CUGBMF180003	103
312	 <p><math>C_{11}H_{10}O_5</math> Oospoglycol</p>	Displayed no antibacterial	<i>Paraphoma</i> sp. CUGBMF180003	103
313	 <p><math>C_{12}H_{12}O_5</math> Decarboxyhydroxycitrinone</p>	Cytotoxicity	<i>Arthrinium sacchari</i>	104
314	 <p><math>C_{11}H_{12}O_5</math> (3<i>R</i>,4<i>R</i>)-4,8-Dihydroxy-5-(hydroxymethyl)-3-methylisochroman-1-one</p>	Was not determined for any relevant biological activity	<i>Hypoxylon</i> sp.	24

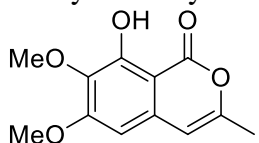
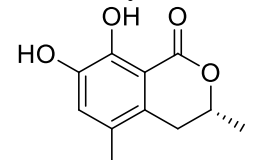
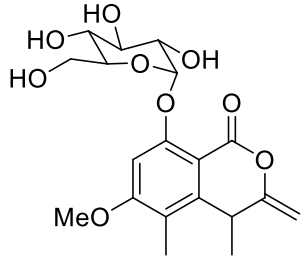
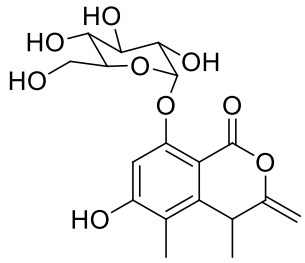
315	 <p><math>C_{11}H_{12}O_5</math></p>	Was not determined for any relevant biological activity	<i>Hypoxylon</i> sp.	24
316	 <p><math>C_{12}H_{14}O_4</math></p>	Was not determined for any relevant biological activity	<i>Hypoxylon</i> sp.	24
317	 <p><math>C_{12}H_{14}O_3</math></p>	Was not determined for any relevant biological activity	<i>Hypoxylon</i> sp.	24
318	 <p><math>C_{14}H_{16}O_5</math></p> <p>Pestalotiorin</p>	Displayed no antimycobacterial, antimalarial, cytotoxicity	<i>Pestalotiopsis</i> sp. PSU-ES194	70

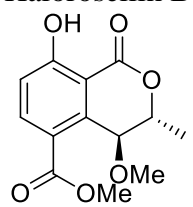
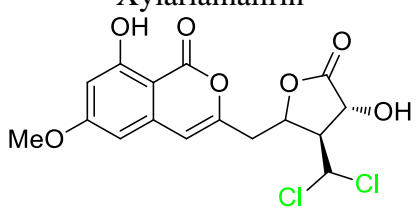
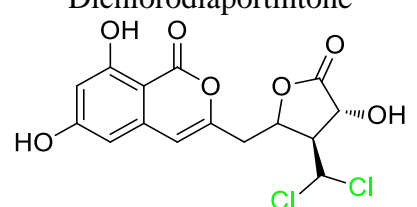
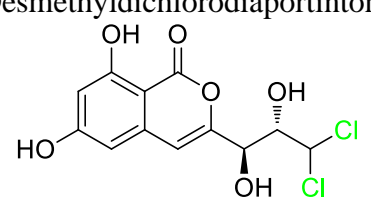
319	 <p data-bbox="571 406 705 438"><math>C_{14}H_{16}O_6</math></p> <p data-bbox="537 443 739 475">Pestalactone A</p>	Displayed no antibacterial, antifungal	<i>Pestalotiopsis</i> sp	23
320	 <p data-bbox="571 651 705 683"><math>C_{12}H_{12}O_5</math></p> <p data-bbox="537 687 739 719">Pestapyrone D</p>	Displayed no antibacterial	<i>Pestalotiopsis</i> sp	23
321	 <p data-bbox="571 890 705 922"><math>C_{12}H_{12}O_5</math></p> <p data-bbox="537 927 739 959">Pestapyrone E</p>	Displayed no antibacterial	<i>Pestalotiopsis</i> sp	23
322	 <p data-bbox="571 1177 705 1209"><math>C_{12}H_{14}O_5</math></p> <p data-bbox="481 1214 784 1246">Pestaloisocoumarin A</p>	Displayed antibacterial, antifungal and no cytotoxicity	<i>Pestalotiopsis</i> <i>heterocornis</i>	105

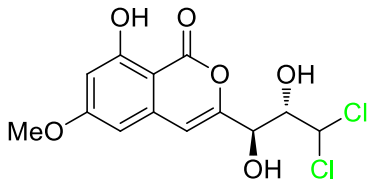
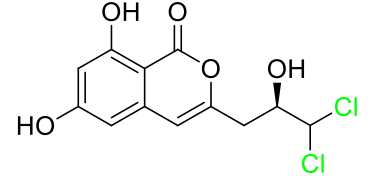
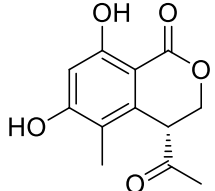
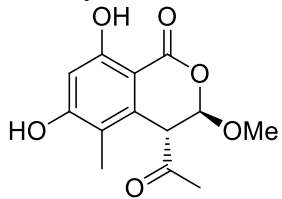
323	 <p><math>C_{14}H_{16}O_6</math> Pestaloisocoumarin B</p>	Displayed antibacterial, antifungal and no cytotoxicity	<i>Pestalotiopsis heterocornis</i>	105
324	 <p><math>C_{12}H_{14}O_4</math> Gamahorin</p>	Displayed antibacterial, antifungal and no cytotoxicity	<i>Pestalotiopsis heterocornis</i> , <i>Pestalotiopsis microspora</i> SC3082	105,106
325	 <p><math>C_{12}H_{14}O_4</math> Pestalotiopisorin B</p>	Displayed antibacterial and no CN-inhibition activity, cytotoxicity	<i>Pestalotiopsis</i> sp. HHL101	107
326	 <p><math>C_{11}H_{12}O_3</math> (R)-(-)-mellein methyl ether</p>	Was not determined for any relevant biological activity	<i>Pestalotiopsis</i> sp. HHL101	107
327	 <p><math>C_{14}H_{16}O_5</math></p>	Displayed no antifungal	<i>Pestalotiopsis microspora</i> SC3082	106

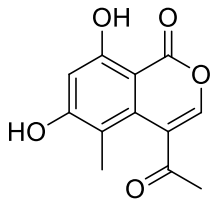
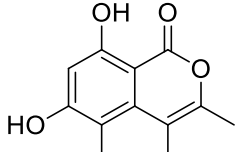
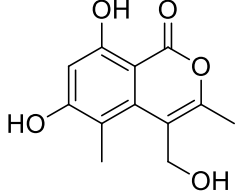
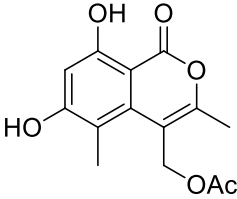
328	<p>Microsporaline D</p>  <p><math>C_{12}H_{14}O_5</math></p>	Was not determined for any relevant biological activity	<i>Ascotricha</i> sp. ZJ-M-5	108
329	<p>Ascotrichol A</p>  <p><math>C_{12}H_{14}O_5</math></p>	Was not determined for any relevant biological activity	<i>Ascotricha</i> sp. ZJ-M-5	108
330	<p>Ascotrichol B</p>  <p><math>C_{12}H_{14}O_4</math></p>	Was not determined for any relevant biological activity	<i>Ascotricha</i> sp. ZJ-M-5	108
331	<p>3-(2-hydroxypropyl)-8-hydroxy-3,4-dihydroisocoumarin</p>  <p><math>C_{12}H_{12}O_5</math></p>	Was not determined for any relevant biological activity	<i>Ascotricha</i> sp. ZJ-M-5	108
332	<p>(<i>R</i>)-orthosporin</p> 	Antifungal	<i>Biscogniauxia mediterranea</i> strain LF657	109



333	<p><math>C_{12}H_{14}O_4</math> 6-Methoxy-5-methyl mellein</p> 	<p>Displayed no antifungal, antioxidant, phytotoxicity, brine shrimp lethality</p>	<i>Biscogniauxia capnodes</i>	18
334	<p><math>C_{12}H_{12}O_5</math> 6-<i>O</i>-methylreticulol</p> 	<p>Displayed no antifungal, antibacterial, antioxidant, phytotoxicity, brine shrimp lethality, antimicrobial, cytotoxicity</p>	<i>Biscogniauxia capnodes</i> , <i>Nodulisporium</i> sp.	18,110
335	<p><math>C_{11}H_{12}O_4</math> 7-hydroxy-5-methylmellein</p> 	<p>Displayed no antiviral, anti-mycobacterium, antimalarial, cytotoxicity</p>	<i>Halorosellinia oceanica</i>	102
336	<p><math>C_{19}H_{24}O_9</math> Halorosellin A</p>  <p><math>C_{18}H_{22}O_9</math></p>	<p>Displayed no antiviral, anti-mycobacterium, antimalarial, cytotoxicity</p>	<i>Halorosellinia oceanica</i>	102

337	<p>Halorosellin B</p>  <p><math>C_{13}H_{14}O_6</math></p>	Was not determined for any relevant biological activity	<i>Xylaria mali</i>	111
338	<p>Xylariamalirin</p>  <p><math>C_{16}H_{14}Cl_2O_7</math></p>	Antibacterial, anti-inflammatory	<i>Ascomycota</i> sp. CYSK-4	51
339	<p>Dichlorodiaportintone</p>  <p><math>C_{15}H_{12}Cl_2O_7</math></p>	Displayed anti-inflammatory and no antibacterial	<i>Ascomycota</i> sp. CYSK-4	51
340	<p>Desmethyldichlorodiaportintone</p>  <p><math>C_{12}H_{10}Cl_2O_6</math></p> <p>Desmethyldichlorodiaportinol</p>	Displayed no antibacterial, anti-inflammatory	<i>Ascomycota</i> sp. CYSK-4	51

341	 $C_{13}H_{12}Cl_2O_6$ Dichlorodiaportinol	Displayed no antibacterial, anti-inflammatory	<i>Ascomycota</i> sp. CYSK-4	51
342	 $C_{12}H_{10}Cl_2O_5$ Desmethyldichlorodiaportin	Antibacterial, anti- inflammatory	<i>Ascomycota</i> sp. CYSK-4	51
343	 $C_{12}H_{12}O_5$ 4-Acetyl-3,4-dihydro-6,8-dihydroxy-5- methylisocoumarin	Was not determined for any relevant biological activity	<i>Scytalidium</i> sp.	112
344	 $C_{13}H_{14}O_6$ 4-Acetyl-3,4-dihydro-6,8-dihydroxy-3- methoxy-5-methylisocoumarin	Was not determined for any relevant biological activity	<i>Scytalidium</i> sp.	112

345	 <p>The structure shows a benzopyranone core with a methyl group at C5, hydroxyl groups at C6 and C8, and an acetyl group at C4.</p>	Was not determined for any relevant biological activity	<i>Scytalidium</i> sp.	112
	<p><math>C_{12}H_{10}O_5</math> 4-Acetyl-6,8-dihydroxy-5-methyl-2-benzopyran-1-one</p>			
346	 <p>The structure shows a benzopyranone core with methyl groups at C3 and C5, and hydroxyl groups at C6 and C8.</p>	Was not determined for any relevant biological activity	<i>Scytalidium</i> sp.	112
	<p><math>C_{12}H_{12}O_4</math> Decarboxycitrinone</p>			
347	 <p>The structure shows an isochromenone core with methyl groups at C3 and C5, hydroxyl groups at C6 and C8, and a hydroxymethyl group at C4.</p>	Was not determined for any relevant biological activity	<i>Scytalidium</i> sp.	112
	<p><math>C_{12}H_{12}O_5</math> 6,8-Dihydroxy-4-hydroxymethyl-3,5-dimethyl-isochromen-1-one</p>			
348	 <p>The structure shows an isochromenone core with methyl groups at C3 and C5, hydroxyl groups at C6 and C8, and an acetoxy group at C4.</p>	Was not determined for any relevant biological activity	<i>Scytalidium</i> sp.	112
	<p><math>C_{14}H_{14}O_6</math> Acetic acid 6,8-dihydroxy-3,5-dimethyl-1-oxo-1H-isochromen-4-ylmethyl ester</p>			

349		Antibacterial, antioxidant	<i>Xylomelasma</i> sp. Samif07	73		
	C <sub>11</sub> H <sub>10</sub> O <sub>4</sub>	8-Hydroxy-6-methoxy-3-methylisocoumarin	Was not determined for any relevant biological activity	Fungal starin No. 1893, Fungal strain No. dz17	19,25	
350		C <sub>11</sub> H <sub>10</sub> O <sub>5</sub>	5-Carboxymellein	Was not determined for any relevant biological activity	Fungal starin No. 1893, Fungal strain No. dz17	19,25
351		C <sub>15</sub> H <sub>18</sub> O <sub>5</sub>	3,4-Dihydro-6-methoxy-8-hydroxy-3,4,5-trimethyl-isocoumarin-7-carboxylic acid methyl ester	Cytotoxicity	Fungal strain No. dz17	25

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