OP-12

Polyketides from Endophytic Fungi *Aspergillus* sp. Associated with *Limonia acidissima*

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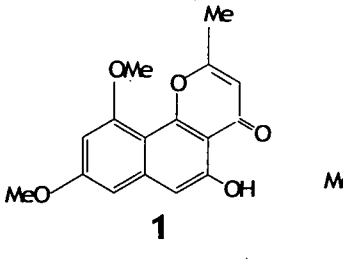
Endophytic fungi have been recognized as a potential source of structurally novel and biologically potent metabolites which are a valuable source for pharmaceutical applications and eco-friendly agrochemical industries.

The endophytic fungus *Aspergillus* sp. was isolated from the seeds of *Limonia acidissima* (L.) on potato dextrose agar (PDA) medium. The fungus was inoculated into both potato dextrose agar medium (PDA) and potato dextrose broth (PDB) and incubated at room temperature. After 4 weeks, mycelia from each medium were extracted into ethyl acetate (EtOAc) and methanol (MeOH). All extracts were subjected to bioassays for antioxidant activity on thin layer autobiographic plates against DPPH (2,2'-diphenyl-1-picrylhydrazyl), cytotoxicity against brine shrimp *Artemia salina* lethality assay and phytotoxicity against lettuce (*Lactuca sativa*) seed germination assay.

All extracts obtained from both PDA and PDB media exhibited the presence of antioxidant compounds on TLC plate as white spots in purple background when sprayed with 0.004 % of DPPH. Extracts obtained from PDB showed significant cytotoxic activity with LD_{50} values, 180 ppm (EtOAc extract of mycelia) and 218 ppm (MeOH extract of mycelia). The two extracts from PDA showed LD_{50} - 80 ppm (EtOAc extract) and 140 ppm (MeOH extract). EtOAc extracts of both PDA and PDB showed significant phytotoxic activity.



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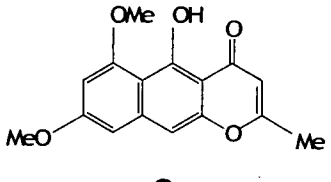

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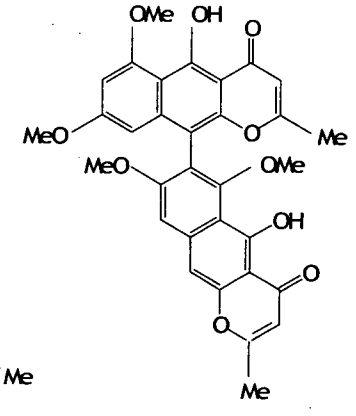

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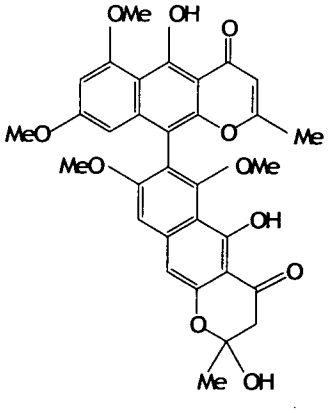

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Chromatographic separation of EtOAc and MeOH extracts from both PDA and PDB media furnished nine compounds. Four of them were identified as polyketides flavasperone (**1**), rubrofusarin B (**2**), auresperone A (**3**) and foncesinone D (**4**). Structure elucidation of the other compounds and determination of bioactivity of individual compounds are in progress.