

小万寿菊 (*Tagetes Patula* L.) 根际生物活性次生代谢物

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BIOACTIVE SECONDARY METABOLITES IN THE RHIZOSPHERE OF *TAGETES PATULA* L.

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ABSTRACT

Marigold (*Tagetes patula* L.) contains secondary metabolites toxic to various organisms. While these compounds may function as defensive agents in the plant, it is not clear whether they are exuded into the rhizosphere. A continuous root exudate trapping system (Tang and Young, 1982. *Plant Physiol.* 69: 155-60) were used to selectively trap the hydrophobic organics onto an XAD-4 resin column. Root exudates were separated and identified by capillary column gas chromatography/mass spectrometry/ data system. α -Terthienyl, 5-(3-buten-1-ynyl)-2, 2'-bithienyl, 5-(4-hydroxy-1-butynyl)-2, 2'-bithienyl, 5-(4-acetyl-1-butynyl)-2, 2'-bithienyl, 2,2-dimethyl-6-acetyl-2 H-chromene, 6-hydroxy-2-isopropenyl-5-acetyl-cumaranon and an oxygen analog of α -terthienyl were identified. Our results suggest that these bioactive metabolites are continuously released by the undisturbed root systems of *T. patula* and their presence may affect the micro-ecosystem of the root-soil interface.