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Synthesis, activity against *Botrytis cinerea* and phytotoxicity of alkoxyclovanols and alkoxyisocaryolanols.

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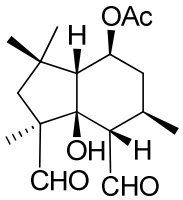
Plant pathogens such as *Botrytis cinerea* cause serious economic losses.[1] There is a considerable need to develop fungicides with novel modes of action to combat resistant strains of organisms[2] and with specific rather than general antifungal activity.[3] These novel agents should ensure compatibility with the use of integrated management practices and help to alleviate the public concerns on the safe use of chemical agents and their impact in the environment.[4]

Part of the interaction of *B. cinerea* with a host plant involves the action of the phytotoxin botrydial (**1**),[5] a strain dependent, low molecular weight virulence factor.[6] Therefore, a method of fungal control which has been explored by our research group involves the use of non-phytotoxic analogues of botrydial (**1**) or analogues to biosynthetic intermediates *en route* to **1**. Preparation of sesquiterpene derivatives with several carbon skeletons have been aimed at this end.[5]



Botrydial (**1**)

We have previously described the preparation,[5,7] evaluation of their antifungal activity and detoxification[8] by *B. cinerea* of methoxyclovanol and methoxyisocaryolanol, rearrangement products derived of caryophyllene oxide, with clovane and isocaryolane skeletons, respectivelly. In order to explore structure activity relationships (SAR) on both sesquiterpene skeletons, we present in this communication the preparation of novel alkoxyclovanols and alkoxyisocaryolanols, via tetracyanoethyllene and $Sn(OTf)_2$ catalysed solvolysis of appropriate precursors. The antifungal and phytotoxic properties of the novel alkoxyclovanols and isocaryolanols is presented and some SAR are discussed.

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