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(54) Title: LACTONE FORMULATIONS AND METHOD OF USE

(57) Abstract: Compounds of Formulae (Ia) and (Ic) having a lactone structure and a methylene group at the alpha-position of the lactone structure and methods for using and making the compounds have been disclosed. The lactone compounds can be reacted with a nucleophilic agent to open the lactone ring to a compound of Formula (Ib). The lactone of Formula (Ia) and its functional derivatives have been isolated from *Securidaca virgata*. The purified compounds have demonstrated activity in assays for anti-bacterial and anti-fungal activities, and for treating proliferation disorders such as cancer.



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