Microbial Epoxidation of the Tricyclic Sesquiterpene Presilphiperfolane Angelate Ester

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Microbial Transformation, *Mucor ramannianus,* (2'*R*,3'*R*)-(+)-2β-(2',3'-epoxyangeloyloxy)-5β,8β-dihydroxypresilphiperfolane

Microbial transformation studies on 2β-angeloyloxy-5β,8β-dihydroxypresilphiperfolane have revealed that it was metabolized by a number of microorganisms. Using a standard two-stage fermentation technique, *Mucor ramannianus* (ATCC 9628) produced three metabolites. One of them was characterized as the novel metabolite (2'*R*,3'*R*)-(+)-2β-(2',3'-epoxyangeloyloxy)-5β,8β-dihydroxypresilphiperfolane on the basis of spectral data. The absolute configuration at both oxirane carbons was confirmed by spectral and optical activity data of the hydrolysis product of the novel metabolite which is (2*R*,3*R*)-(+)-2,3-epoxyangelic acid.