

Twofold polyketide branching by a stereoselective enzymatic Michael addition.

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Abstract

The versatility of the branching module of the rhizoxin polyketide synthase was tested in an in vitro enzyme assay with a polyketide mimic and branched (di)methylmalonyl-CoA extender units. Comparison of the products with synthetic reference compounds revealed that the module is able to stereoselectively introduce two branches in one step by a Michael addition-lactonisation sequence, thus expanding the scope of previously studied PKS systems.

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