Synthesis of Montroumarin

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A simple stereoselective synthesis of montroumarin [(3S)-6,8-dihydroxy-3-phenyl-3,4-dihydroisocoumarin] isolated from Montrouziera sphaeroidea has been achieved. Condensation of benzoyl chloride with 3,5-dimethoxyhomophthalic acid afforded 6,8-dimethoxy-3-phenylisocoumarin (3) which on sequential saponification and esterification yielded the keto ester 5. Enantioselective reduction of the latter with baker’s yeast directly furnished the (3S)-6,8-dimethoxy-3-phenyl-3,4-dihydroisocoumarin (6) in good enantioselectivity which on demethylation provided montroumarin. All of the synthesized compounds were examined in vitro for antifungal activity.

Key words: Montroumarin, Dihydroisocoumarin, Antifungal