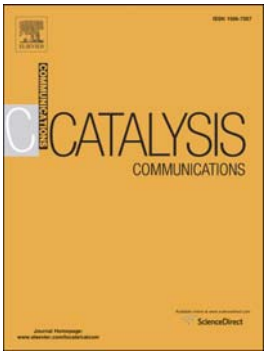

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Selective oxidation of lupeol by iodosylbenzene catalyzed by manganese porphyrins

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Abstract

Manganese porphyrin-catalyzed oxidation of lupeol by iodosylbenzene was achieved under mild conditions with low isolated yields but with remarkable selectivity, depending on the catalyst of choice. Mn(III) *meso*-tetraphenylporphyrin and Mn(III) *meso*-tetrakis(4-carbomethoxyphenyl)porphyrin provided an entry for the preparation of 3β,30-dihydroxylup-20(29)-ene (6-14% yields), whereas Mn(III) β-octabromo-*meso*-tetrakis(4-carbomethoxyphenyl)porphyrin led to 20-oxo-3β-hydroxy-29-norlupeol (6% yield), as single products. Unreacted lupeol was recovered in quantitative yield. The oxidative transformations at lupeol C20 or C30 take place with no need for protection of C3 hydroxyl moiety.

Keywords

Porphyrin; Oxidation; Lupeol; Triterpene; Homogeneous catalyst