Category

Synthesis

Key words

oxidation

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Oxidation of Secondary Amines to Nitrones Using Magnetically Separable Tungstophosphoric Acid Supported on Silica-Encapsulated γ -Fe₂O₃ Nanoparticles

Tetrahedron Lett. 2013, 54, 6520-6523.

Preparation of Nitrones Using γ -Fe₂O₃@SiO₂-H₃PW₁₂O₄₀

Significance: The oxidation of secondary amines by superparamagnetic tungstophosphoric acid supported on silica-encapsulated γ -Fe₂O₃@SiO₂-H₃PW₁₂O₄₀) was carried out with an aqueous hydrogen peroxide as oxidant to give the corresponding nitrones **1a-h** in up to 90% yield.

Comment: The γ-Fe₂O₃@SiO₂-H₃PW₁₂O₄₀ nanoparticles were readily recovered by an external magnet and reused three times without significant loss of catalytic activity (1st reuse: **1a** 85% yield, 3rd reuse: **1a** 80% yield). The authors previously reported the preparation of γ-Fe₂O₃@SiO₂-H₃PW₁₂O₄₀ and its application to the synthesis of formamidines (*J. Mol. Struct.* **2012**, *1027*, 156).

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