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研究论文

Silylation of Alcohols and Phenols with Hexamethyldisilazane over Highly Reusable Propyl Sulfonic Acid Functionalized Nanostructured SBA-15

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摘要 Various alcohols and phenols were trimethylsilylated in excellent yields using hexamethyldisilazane in the presence of catalytic amounts of environmentally friendly, hydrophobic, highly thermal stable, and completely heterogeneous sulfonic acid functionalized mesostructured SBA-15 in dichloromethane at ambient temperature. Primary, bulky secondary, tertiary, and phenolic hydroxyl functional groups were transformed to the corresponding trimethylsilyl ethers in excellent yields. The simple experimental procedure was accompanied by easy recovery and the catalyst was reusable (at least 18 reaction cycles); these are attractive features of this protocol.

关键词： reusable heterogeneous catalyst solid sulfonic acid SBA-15 protecting group silylation hexamethyldisilazane

Abstract： Various alcohols and phenols were trimethylsilylated in excellent yields using hexamethyldisilazane in the presence of catalytic amounts of environmentally friendly, hydrophobic, highly thermal stable, and completely heterogeneous sulfonic acid functionalized mesostructured SBA-15 in dichloromethane at ambient temperature. Primary, bulky secondary, tertiary, and phenolic hydroxyl functional groups were transformed to the corresponding trimethylsilyl ethers in excellent yields. The simple experimental procedure was accompanied by easy recovery and the catalyst was reusable (at least 18 reaction cycles); these are attractive features of this protocol.

Keywords： reusable heterogeneous catalyst, solid sulfonic acid, SBA-15, protecting group, silylation, hexamethyldisilazane

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