

عنوان مقاله:

Silica-supported HClO_4 and KHSO_4 as reusable green catalysts for sulfonation of aromatic compounds under solvent-free conditions

محل انتشار:

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خلاصه مقاله:

A green protocol is described for sulfonation of aromatic compounds that has been accomplished using sodium bisulfite (NaHSO_3) in the presence of reusable green heterogeneous $\text{SiO}_2/\text{HClO}_4$ and $\text{SiO}_2/\text{KHSO}_4$ (Silica-supported HClO_4 and KHSO_4 catalysts) under conventional and solvent-free microwave irradiation. The reactions afforded very good yields of products within 3 to 5 hour under conventional conditions. However, the reaction times in microwave-assisted protocol are drastically reduced to 3 to 5 minutes (from 3 to 5 hour under conventional conditions) followed by increasing product yields. Moreover, the developed silica-supported catalysts could be recycled for at least three to four times.

کلمات کلیدی:

Si-supported Brønsted acids, Green reusable catalysts, NaHSO_3 , Sulfonation, aromatic compounds

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