

عنوان مقاله:

Bimetallic MOFs as Catalysts for Efficient and Totally Selective Oxidation of Benzylic Alcohols at Ambient Conditions

محل انتشار:

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خلاصه مقاله:

The catalytic activity of bimetallic MOFs known as STA-12(M₁, M₂)(M_{1,2}= Mn, Fe, Co) was investigated in the oxidation of benzylic alcohols to corresponding aldehydes at ambient conditions. The oxidation reaction with Na₂S₂O₈/TBHP (tert-Butyl hydroperoxide) mixture shows total selectivity and excellent efficiency under desired reaction times. The heterogeneous catalyst displays high reusability and stability for the ten consecutive reactions without decreasing in yield and selectivity. To identify radical species responsible for the oxidation process, selective radical scavenging experiments were performed and a proposed oxidation mechanism was discussed.

کلمات کلیدی:

Heterogeneous catalysis, Bimetallic MOFs, Alcohol oxidation, STA-12

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