

عنوان مقاله:

Reusable Copper(II)-Terpyridine Complex Supported on Activated Multi-Walled Carbon Nanotubes as an Efficient Heterogeneous Catalyst for Synthesis of 2-Aryl/alkyl imidazole Derivatives

محل انتشار:

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خلاصه مقاله:

An expeditious and efficient route for the synthesis of 2-Aryl/alkyl imidazole derivatives by the reaction of aliphatic/aromatic aldehydes with o-phenylenediamines or benzil and NH₄OAc in the presence of immobilized 4'-Phenyl-2,2':6',2''-Terpyridine Copper(II) complex on activated multi-walled carbon nanotubes [AMWCNTs-O-Cu(II)-PhTPY] exhibited high catalytic activity for the transformation. The salient features of this method include a simple procedure, mild conditions, high yields, easy purification, and a recyclable catalyst. The heterogeneous catalyst was characterized by physico-chemical techniques such as scanning electron microscopy (SEM), transmission electron microscopy (TEM), atomic force microscopy (AFM), Fourier-Transform IR spectroscopy (FT-IR), UV/Vis. spectrometries, N₂ adsorption isotherm, and thermogravimetric analysis. Leaching experiments showed that the catalyst becomes progressively more anchored to the activated support after multiple cycles of reuse.

کلمات کلیدی:

Aryl , alkyl imidazole Derivatives, Copper (II)-Terpyridine , Heterogeneous, Multi-Walled Carbon Nanotubes-2

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