



Synthesis, Characterization and Application of New Merrifield resin supported Heterogeneous Mo(VI) Catalyst

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Abstract:

The work presented here is the design and synthesis of heterogeneous molybdenum(VI) catalyst supported on Merrifield resin. The catalyst was synthesized by pre-functionalization of the Merrifield resin with a Schiff Base. The synthetic process was simple and clean. The synthesized compounds were characterized by different physicochemical and spectroscopic techniques such as elemental, SEM, EDX, thermal, BET, etc. The catalytic activity of the complex was studied towards the oxidation of alcohols. A wide variety of alcohols such as primary, secondary or benzylic alcohols were oxidized into aldehydes or ketones. All the reactions were selective and isolate the products in pure form. The reactions were solventless and used aqueous H₂O₂ as oxidant. The catalyst offered regeneration and recycled for several times.

Biography:

Dr. Siva Prasad Das is working as an Assistant Professor in Department of Chemistry, School of Science, RK. University, Rajkot, Gujarat. He received B.Sc. (Chemistry; 2004) from Dibrugarh University, Dibrugarh, Assam and M.Sc. (Polymer Science; 2006) as well as Ph.D. (Chemistry/Catalysis; 2013) from Tezpur University, Tezpur, Assam. He has done Post-Doctoral research (Catalysis; 2013-2017) from Nanyang Technological University, Singapore. His research area includes on the development of nanomaterials, homogeneous and heterogeneous catalytic systems for different organic transformations.



Publication of speakers:

1. Selective and solventless oxidation of organic sulfides and alcohols using new supported molybdenum (VI) complex in microwave and conventional methods
2. Cobalt Complex of a Tetraamido Macrocyclic Ligand as a Precursor for Electrocatalytic Hydrogen Evolution
3. Nucleophilic reactivity and electrocatalytic reduction of halogenated organic compounds by nickel: O-phenylenedioxamide complexes
4. ChemInform Abstract: Merrifield Resin Supported Peroxomolybdenum(VI) Compounds: Recoverable Heterogeneous Catalysts for the Efficient, Selective and Mild Oxidation of Organic Sulfides with H₂O₂.
5. Polymer-anchored peroxo compounds of molybdenum and tungsten as efficient and versatile catalysts for mild oxidative bromination

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