

Hydrothermal Synthesis of Heterogeneous Catalysts

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Abstract

Using safer solvents and reaction conditions, to prevent waste and minimize waste by using catalytic reactions are the some of twelve principles for Green Chemists. That's why we choose the hydrothermal method for our studies. Hydrothermal synthesis refers to heterogeneous reactions in aqueous media above 100°C and 1bar. This method is always an efficient technique, which is ecofriendly for synthesizing Metal-organic frameworks (MOFs). They are containing lanthanides and multifunctional carboxylic acid ligands have recently received more attention due not only to their intriguing structure, but also to their enormous range of applications. In particular, they can potentially be applied in catalysis, luminescence, hydrogen storage, optoelectronic devices, sensors, ion exchange, magnetism, and material science. We synthesized MOFs consist of organic linkers which consist of carboxylic moieties, lanthanides and transition metals by hydrothermal method. Their thermal behaviors and catalytic performance was investigated, and the selectivity was measured as 100% for the oxidation of thymol to thymoquinone.

Biography

Emel Yildiz has completed her PhD at 2001 from Cukurova University, Turkey. She is the full professor of Cukurova University, Turkey. She has over 58 publications that have been cited over 200 times. Research Area: Synthesis of Metal-Organic Complexes by Hydrothermal Method, Synthesis and Applications of Heterogeneous Catalysts, Alternative Drug Design for Alzheimer's and Thalassemia Diseases, Synthesis of Energy Storage Materials. She teaches Inorganic Chemistry, Metals Chemistry, Pharmaceutical Chemistry, Entrepreneurship, Chemical Risk Factors, Labor Safety in Laboratories, Hazardous Substances and Waste Management courses in department.

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