

Characterization of Disk type Mesoporous Carbon Nitride using SBA-15 Material

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Carbon nitride (CN) is a well-known and fascinating material that has attracted worldwide attention because of the incorporation of nitrogen atoms in the carbon nanostructure. Recently, Vinu et al. successfully reported the preparation of mesoporous carbon nitride with a uniform pore-size distribution (MCN-1) using SBA-15 as a template. Recently, our group was successful synthesized of disk type mesoporous silica. Because of the short channels of disk type materials, it was observed the serious diffusion or mass transfer limits in Knoevenagel condensation of benzaldehyde with ethyl cyanoacetate. So, disk type mesoporous carbon nitride material also has several advantages, including disk type SBA-15 material. The characterization of disk type MCN material was shown by small angle XRD powder patterns, scanning/transmission electron microscopy, nitrogen sorption analysis and catalytic activity by Knoevenagel condensation as base catalyst.