

Designed synthesis of large pore and surface area microporous polymer by using modified Sonogashira-Hagihara

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Microporous materials are interesting because of their applications in areas such as heterogeneous catalysis, gas storage, heavy metal and organic pollutant removal, and molecular separations. Till now, there are many synthesizing methods and monomers to obtain the expected structures and surface areas of the porous materials. Here, we report the synthesis of microporous polymers Sonogashira-Hagihara coupling chemistry that is one of the most popular routes to synthesize the polymers. We synthesized the polymer by avoiding the CuI which is the most commonly used catalysts in Sonogashira-Hagihara coupling chemistry and will cause the side reaction-homopolymerization of ethynyl groups. As synthesized polymers are having ordered structures and higher specific surface compared to the CuI catalyst method. The chemical and surface properties of the polymers are analyzed by using TEM, BET, NMR, IR.

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