

عنوان مقاله:

Preparation nanostructured materials by sol–gel crosslinking process in present N, N-dimethyl amino pyridinium ionic liquid as a catalysis

محل انتشار:

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خلاصه مقاله:

Silica porous materials with use of the some of ionic liquids (ILs) based N, N-dimethyl aminopyridinium cation (DMAP) with high thermal stability was prepared. First according to a proper sol-gel method, various RTILs with anions such as Br⁻, BF₄⁻ as a new kind of recyclable templates in present of trimethoxy silane (TMOS) as the sol-gel precursor and deionized water were employed. Then ILs was removed from the silica matrix by calcination method. The resulting gels were characterized by using thermogravimetric analysis, infrared spectroscopy. The calcined gels were analyzed using scanning electron microscopy and X-ray diffraction. In the continuous, reaction was followed under acidic conditions at temperature above the melting point of the functional IL such as; 2-ethoxyethyl-4-(N, N-dimethyl amino) pyridinium tetrafluoroborate with larger hydrophilic polar region in a so-called nanocasting sol-gel technique, those silica nanostructured materials with highly ordered monolithic was obtained.

کلمات کلیدی:

Sol-Gel process; N, N-dimethyl amino pyridinium ionic liquid; Nanostructured material; Silica; Ionogel

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