

عنوان مقاله:

Preparation of AIPOF- δ nano-pore crystals: Effect of alteration in precursor gel preparation on the morphology of crystals

محل انتشار:

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خلاصه مقاله:

Aluminophosphate- δ (AIPOF- δ) nano-pore zeolite was synthesized. The effect of alteration in precursor gel preparation on the morphology of zeolite was studied. The effect of variety of synthesis conditions on the purity, crystal and pore size, and crystallinity of AIPOF- δ zeolite been studied. A hydrothermal synthesis has been used to produce nano-pore Aluminophosphate- δ crystals. The crystals were characterized by X-ray diffraction (XRD), scanning electron microscope (SEM). The morphology of crystals was changed by alteration on precursor gel. The size of crystals decreased from 10 to 2 micrometer when the aging time of precursor gel was changed from 2 to 12 h. The results also showed that the aluminum triisopropylate, as Aluminum source, has been affected the crystals more pure than the crystals were synthesized by aluminum hydroxide. The Al source was changed affected factors such as the pH precursor gel and then changed the morphology of crystals. The SEM analysis and Debye-Scherrer equation showed that the average particle size is about 58 nm.

کلمات کلیدی:

Nano-pore, AIPOF- δ , Precursor gel, Preparation, Morphology

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