

Microwave Synthesis of Zeolite Beta and its Catalytic Performance and CO₂ Sorption Property

유효상, 모용환¹, 박상언^{1,*}
인하대학교; ¹인하대학교 화학과
(separk@inha.ac.kr*)

The Zeolite Beta was synthesized within 4hours under microwave irradiation without fluoride as a mineralize agent. During the microwave synthesis at powers from 300 to 1200 W, zeolite Beta nanocrystals were formed and spontaneously assembled into 40 to 70 nm. The zeolite Beta-1200 W possesses surface area of 463 m²/g and pore volume of 0.28 cm³/g⁻¹. This zeolite Beta gave the highest CO₂ adsorption of 2.16 mmol/g at 1 atm, 40 °C, and showed outstanding catalytic performance in the Friedel-craft acylation of anisole with acetic anhydride due to having large amount of acid site.