

Microwave Synthesis of Zeolite Beta having Mesoporosity

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Zeolite Beta was successfully synthesized within 4 hrs through the microwave induced assembly of nanocrystalline beta, which resulted in intercrystalline mesopore. The intercrystalline mesoporosity of Zeolite Beta increased as the microwave powers increased from 300 to 1200W. Upon the microwave powers, zeolite beta nanozeolites were varying from 20 to 50 nm, then were aggregated to form the submicron-sized (< 500 nm) particles. Formation of mesoporosities in the microwave synthesized zeolite beta was ascribed to the inter-crystal void spaces due to rapid synthesis.