

Microwave 3-D fabrication of microwave prepared nanozeolites to Mesoporous ZSM-5

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A direct route for synthesis of nano ZSM-5 (< 30 nm) was achieved by using microwave with the aid of water soluble nano carbon which also obtained by microwave in the TPAOH solution from D-glucose. The water soluble nano carbon which could be considered as microwave adsorber triggered the formation of nanozeolite seeds under microwave and could control the zeolite's particle size to the less than 30 nm with homogeneous particle size distribution. Those nano ZSM-5 particles were 3-D stacked to the big particles (> 20 μm) and provide mesopores (< 12 nm) with narrowed poresize distribution.