

Tracer chromatographic adsorption study of Alkyl Aromatics on the Stacked MFI Morphology

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The selective adsorption phenomena depending on the molecular lengths of alkyl aromatics on the stacked morphology of MFI zeolite was demonstrated by using tracer chromatographic method in the adsorption temperature range of 473–573 K. The stacked morphology could allow much longer long-range interaction with alkylaromatics, which gave high separability for alkylaromatics specially p-xylene and o-xylene comparing with monocrystalline particle MFI zeolite. Tracer chromatographic analysis showed the longer alkyl chain length of aromatics had the higher adsorption enthalpy and entropy.