

Epoxidation of cyclo-olefins by Titanium Incorporated SBA-16

이승철, 김해련, 서한욱, 박상언*

인하대학교

(separk@inha.ac.kr*)

Titanium was directly incorporated onto cubic SBA-16 mesoporous silica which was synthesized with sodium metasilicate as silica source and c-HCl. Titanium incorporated SBA-16 showed highly ordered cubic material compared with previous works. UV spectra informed the peak around 220nm which means the low-energy charge-transfer transition which reflected the direct incorporation of titanium onto SBA-16 in tetrahedral position. Mainly tetrahedrally coordinated titanium as Lewis acid sites can be applied in catalytic oxidation. Catalytic performance of Ti-SBA-16 was investigated in the epoxidation of cyclo-olefins by hydrogen peroxide as an oxidant. Epoxide as a desired product was selectively obtained, and amount of incorporated titanium and kinds of solvent influenced to the reaction. Directly titanium incorporated SBA-16 showed advanced catalytic activity as mesoporous Lewis acid catalyst especially for oxidation