

### CO<sub>2</sub> Reforming of CH<sub>4</sub> over Ni/KIT-6 Catalysts

김명실, 박중남, 손정국, 김지만\*  
성균관대학교  
(jimankim@skku.edu\*)

The CO<sub>2</sub> reforming of CH<sub>4</sub> is one of attractive reactions in field of heterogeneous catalysis. Because it can produce the syngas (H<sub>2</sub> + CO) from greenhouse gases, CO<sub>2</sub> and CH<sub>4</sub>. In general, two kinds of catalysts are employed for this reaction: the Ni based and noble metal (Pt, Pd etc.) based catalysts.

In previous work, Ni catalysts supported on mesoporous KIT-6 with three-dimensional channels pore structure were prepared via the impregnation method. Mesoporous KIT-6 with large-pore cubic Ia-3d materials is more beneficial to the diffusion and transport of reactants and products during reaction and also can disperse Ni nanoparticles efficiently due to high surface areas of KIT-6. The highest catalytic activity and long-term stability were obtained over 10 wt% Ni/KIT-6 catalyst. The mesoporous KIT-6 as support shows a higher activity compared to SBA-15 and MCM-41 support with two-dimensional channels of 2d-hexagonal.