

### Effect of Support Structural and Polyol Type on Aqueous Phase Reforming over Platinum supported Mesoporous Carbon Catalysts

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Ordered mesoporous carbons (CMK-3, CMK-5, CMK-8, CMK-9), which has a different framework and pore structure, and their supported platinum catalysts were prepared. Catalytic activities on the aqueous phase reforming (APR) of various polyols (ethylene glycol, 1,2- and 1,3-propylene glycol, glycerol, sorbitol) have been investigated. Among ordered mesoporous carbon supported Pt catalysts, Pt/CMK-8 and Pt/CMK-9 catalyst with 3-dimensional carbon structure showed higher activity than 2-dimensional carbon supported catalysts, Pt/CMK-3 and Pt/CMK-5, owing to a partially attributed to their different pore structure. And also hollow-type carbons like CMK-5 and CMK-9 supported catalyst exhibited higher catalytic activity than rod-type carbons like CMK-3 and CMK-8 supported catalyst due to its high surface area and metal dispersion. In the effect of chain length of polyols, the hydrogen production rate tended to increase with the decrease of the feed carbon number of used polyol.