Effect of Sucrose on Porosity of Aluminum Oxide Particles Synthesized via Spray Pyrolysis Technic

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In catalysis, Aluminum oxide particles are usually employed as catalyst support due to their rigidity, inactiveness and, not to mention, cheap price. The catalyst supports should have pore structures which are appropriately developed to maximize catalyst service performance. One of cause that deteriorate performance of the catalyst is sintering of active sites on support during the reaction. One method that prevent the sintering is nanoconfinement that cage in the active metals within pore. However, it is difficult to achieve 20nm to 30nm size regime using commercially available pore structuring agents.
ucrose is added to aluminum oxide synthesis stock solution which using commercially available triblock copolymer and the particles are generated by spray pyrolysis technic. The resultant particles have different pore structure with respect to the amount of sucrose added.