$CoO-CoAl_2O_4$ Catalyst Supports with Bimodal Pore Structure for Fischer-Tropsch Synthesis

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Gas to liquid (GTL) technology has been significant interest due to expensive oil prices since the last decade. Liquid fuel from syngas over Fischer-Tropsch Synthesis regards green fuel, which has contains much less sulfur, aromatics and other particulates than fossil fuels.

The production of synfuel from natural gas contains two main processes which are reforming reaction and FT (Fischer-Tropsch) synthesis using Fe, Ru, Ni, and Co catalysts. Bimodal pore catalyst supports show a high catalytic activity, because macropores offer quick access to active phase on reactants/products and mesopores provide a spacious active surface area. The supports containing spinel structure have been proposed to have good mechancial properties and chemical resistance.

In our study, we newly suggest a bimodal catalyst support consisting of $CoO-CoAl_2O_4$ with meso-macro pore structure for the application of synfuel production.