

Atomically dispersed rhodium on zirconia for direct methane conversion

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Direct methane conversion into value-added products becomes more important due to depletion of crude oil and large reserves of shale gas. Due to inertness of methane, cleaving the first C-H bond has been very difficult and high reaction temperature has been required. Selective methane activation is important for the direct methane conversion into chemicals. In this work, atomically dispersed Rh on ZrO₂ has been synthesized and showed selective methane activation to produce various chemicals in the aqueous solution or gas phase.