

Synthesis porous material with perpendicular nanochannels using mesoporous silica SBA-15 sheet

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Mesoporous silica material SBA-15 has attracted great attention since its discovery. SBA-15 with its hexagonally ordered cylindrical pores can be synthesized in a variety of morphologies, e.g. fibers, spheres, platelets and rods.

In this work, we synthesized porous material sheet with perpendicular nano-channels using mesoporous silica SBA-15 platelets as a template. The sheet morphology of material forms perpendicularly oriented pore, which would be very useful in many applications due to its short pore length and thus easy access. It is expected shorter channel length would lead to better materials transport which is important for dispersion of catalysts and easy reactant/product transport.