Supplementary Information

Effects of support and reaction pressure for the synthesis of dimethyl ether over heteropolyacid catalysts

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Supplementary Figure S1. N₂ absorption-desorption isotherms of supports (a) and catalysts (b)

The isotherms for the supports and catalysts are shown in Supplementary Figure S1 (a) and (b), respectively. The supports are non-porous materials with macropores showing type II isotherms with H3 hysteresis loops. Al₂O₃ shows as Type IV isotherm with H1 hysteresis.

The isotherms for the catalysts, Supplementary Fig. S1 (b) reveal a lower amount of adsorbed N₂. The isotherm of HSiW/SiO₂ is type II with H3 hysteresis. HSiW/CeO₂ shows a type IV isotherm with H1 hysteresis and HSiW/Al₂O₃ shows a type IV isotherm with H1 and H3 hysteresis.