

Supporting Information

Enhanced catalytic activity of CO₂ hydrogenation to CO over sulfur-containing Ni/ZrO₂ catalysts: Support size effect

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Table S1 XRF results of NiCl₂·6H₂O, ZrO₂-80, ZrO₂-320, Ni/ZrO₂-80 and Ni/ZrO₂-320

Sample	NiCl ₂ ·6H ₂ O	ZrO ₂ -80	ZrO ₂ -320	Ni/ZrO ₂ -80	Ni/ZrO ₂ -320
S content (wt%)	0.876	0	0	0.428	0.414

Experimental

2.1.3. Synthesis of Ni/ZrO₂-80_{S-free}.

With 15 wt% Ni loading, 0.29 g Ni(NO₃)₂·6H₂O and 0.5 g ZrO₂-80 support were mixed in 20 ml deionized water and stirred for 2 h. After dried at 60°C overnight, the sample was calcined in air at 500°C for 2 h. Before reactions, the catalyst was reduced by H₂ at 500°C for 1 h and named as Ni/ZrO₂-80_{S-free}.

Results and discussion

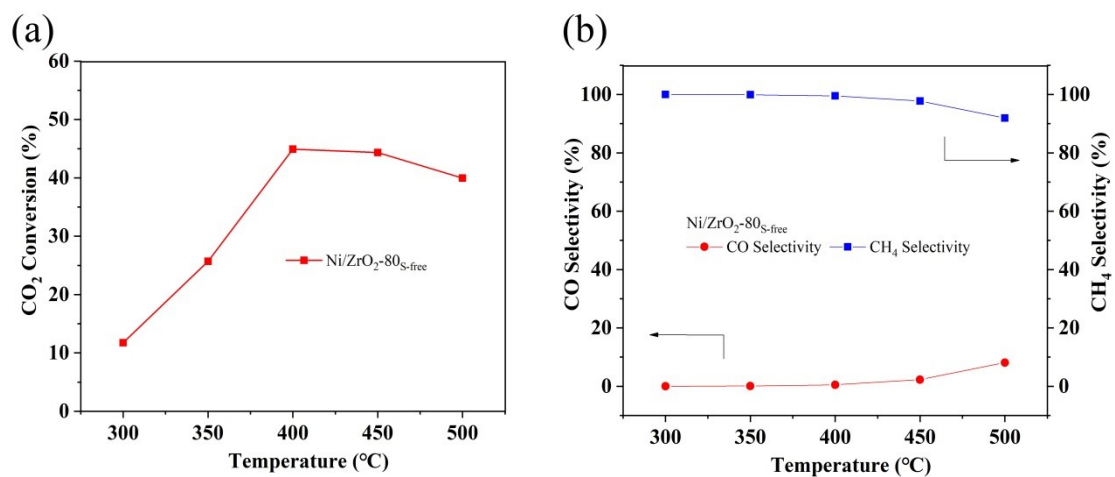


Fig.S1 (a) CO₂ conversion of Ni/ZrO₂-80_{S-free}; (b) CO and CH₄ selectivity of Ni/ZrO₂-80_{S-free} (0.1 MPa, GHSV: 13500 mL·h⁻¹·g⁻¹).