

Supplementary Information

Selective Methanol Formation via CO-Assisted Direct
Partial Oxidation of Methane over Copper containing
CHA-type Zeolites Prepared by One-pot Synthesis

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References

1. Supplementary Figures

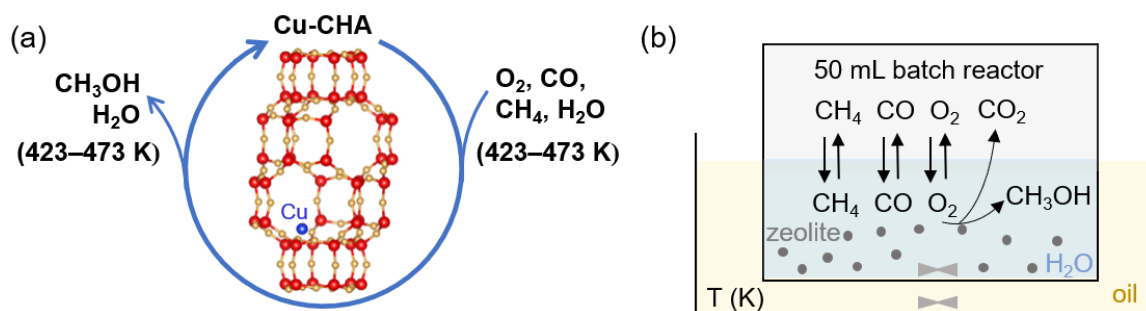


Figure S1 Illustration of (a) catalytic conversion of methane to methanol over copper containing CHA-type zeolites, and (b) experimental set-up for a batch reactor in an oil bath.

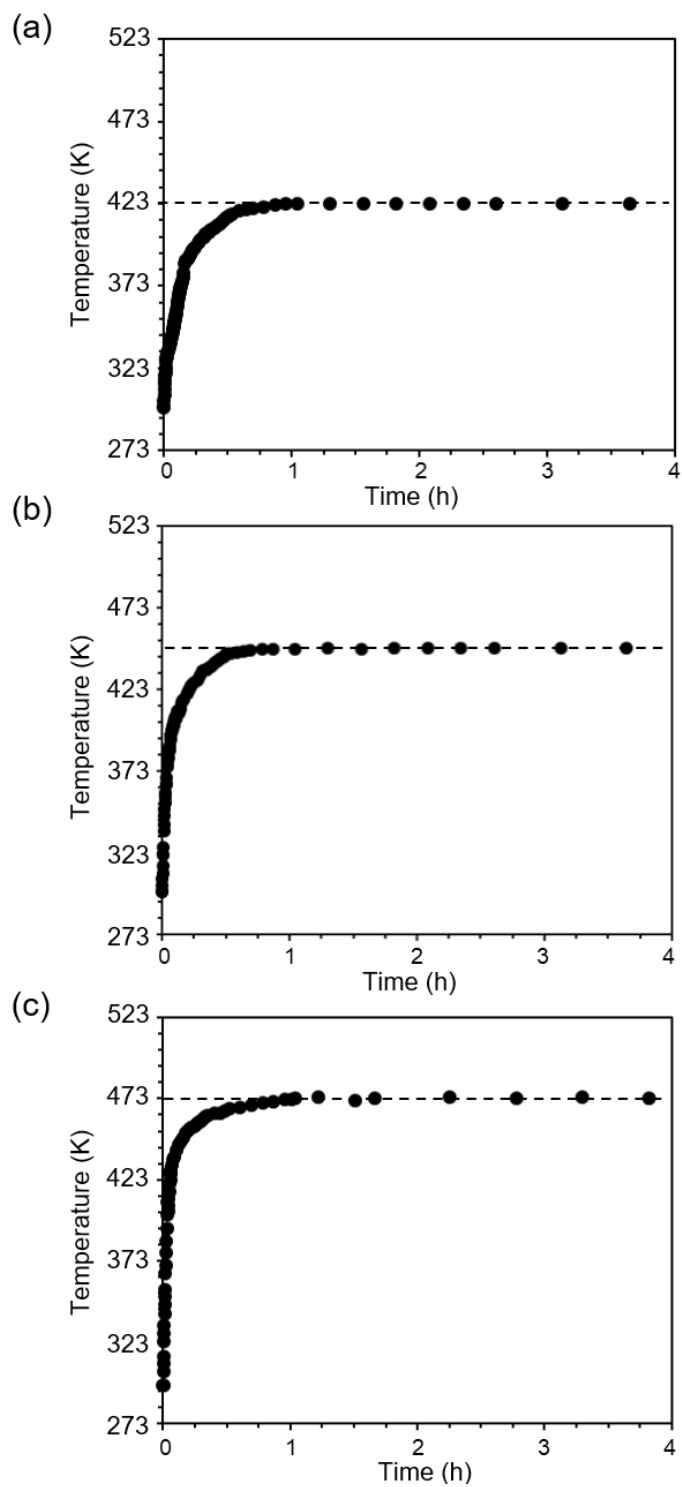


Figure S2 Temperature profiles of oil baths during heating-up to (a) 423, (b) 448, and (c) 473 K.

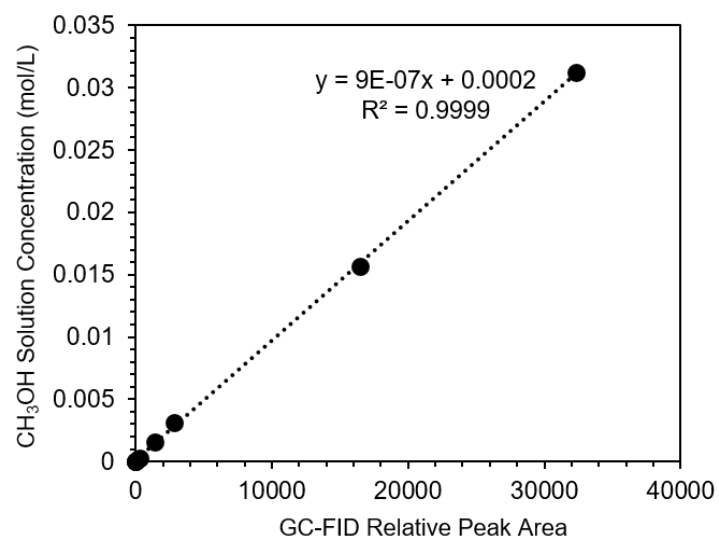


Figure S3 Calibration curve of CH₃OH for GC-FID.

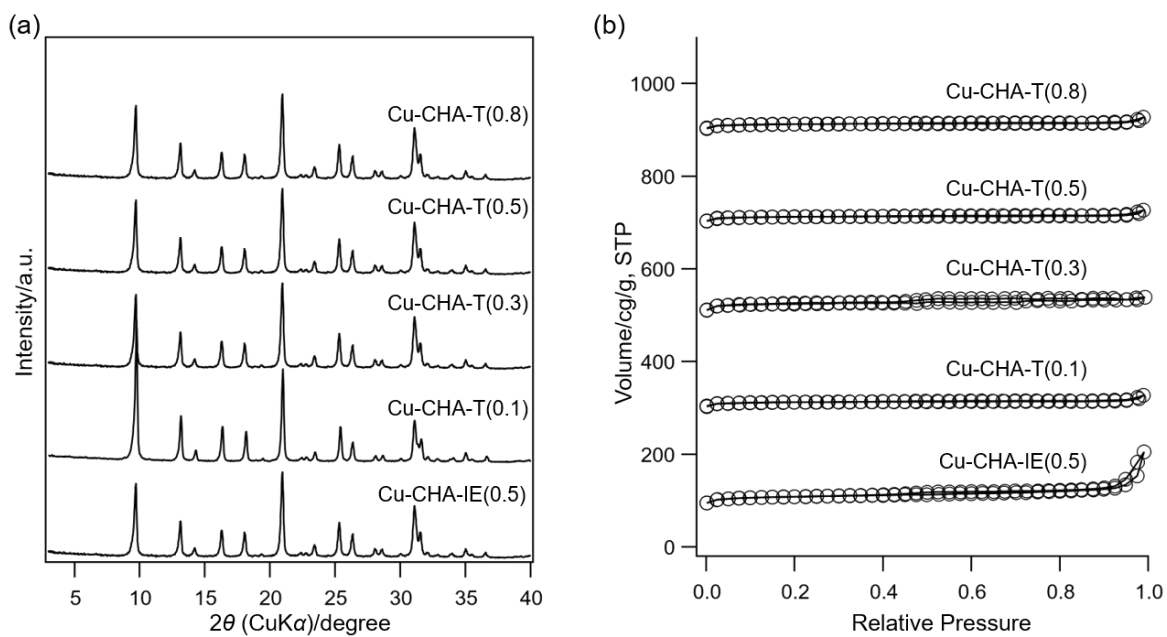


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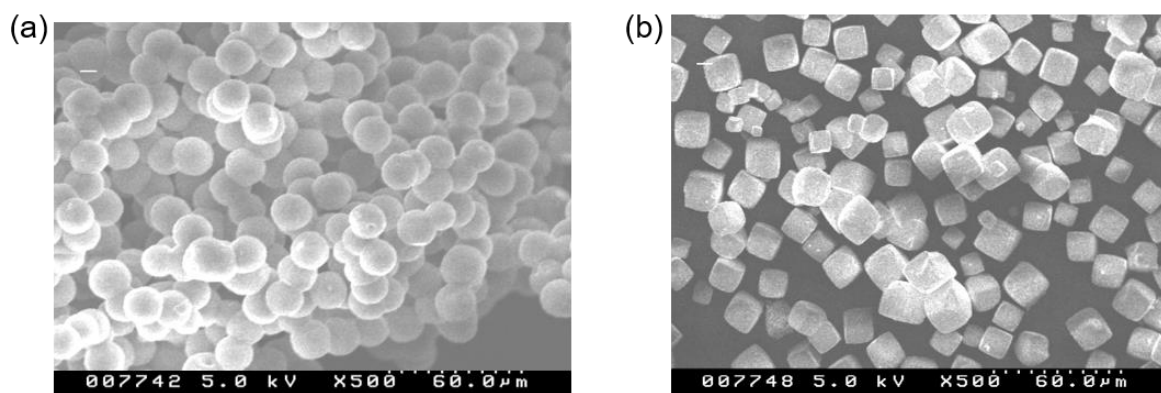


Figure S5 SEM images of (a) conventional CHA-type zeolite and (b) one-pot synthesized Cu-CHA-T(0.5) sample.

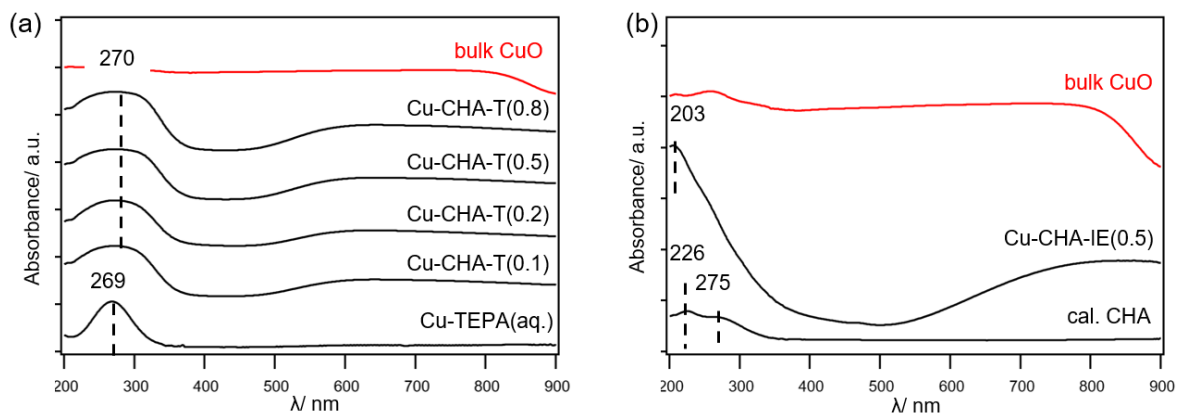


Figure S6 Diffuse Reflectance (DR) UV-Vis spectra of (a) one-pot synthesized Cu-CHA materials having different copper loadings and Cu-TEPA complex in solution, (b) liquid ion-exchanged and calcined conventional CHA-type materials.

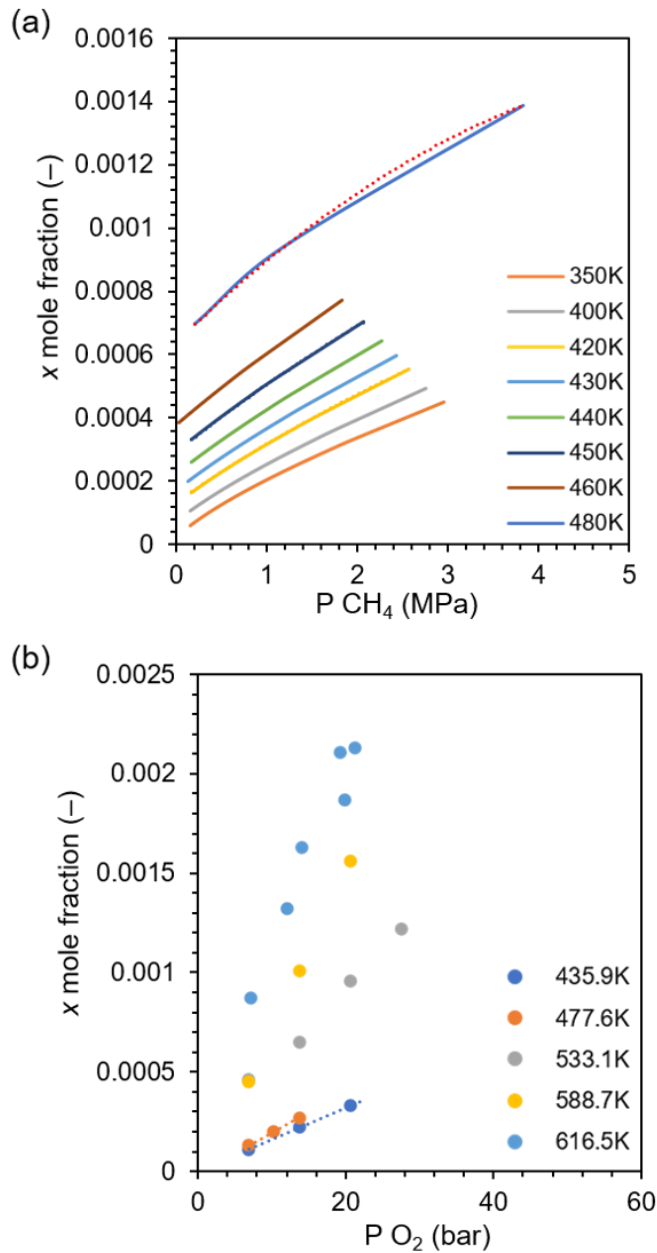


Figure S7 The mole fraction of (a) CH₄ and (b) O₂ in water at different temperatures and partial pressures of gaseous. This figure is designed based on previous literature in References from 1 to 4.

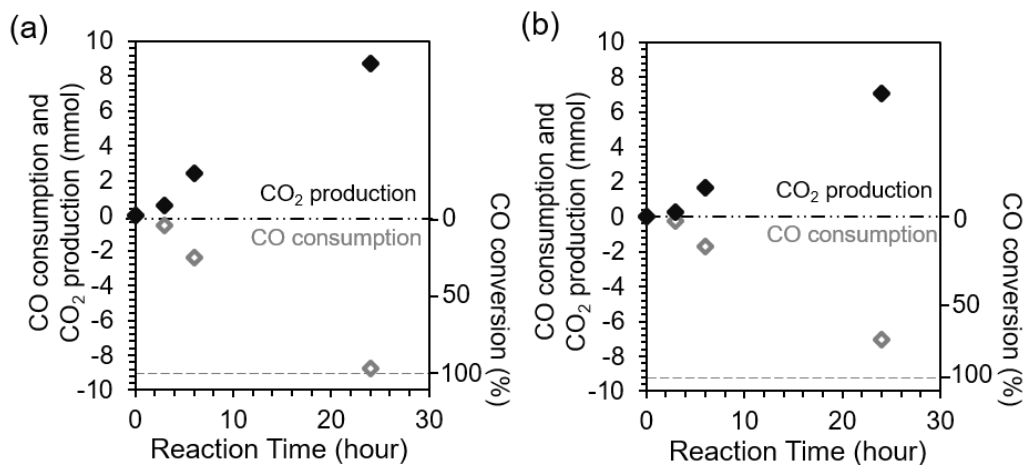


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2. References

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