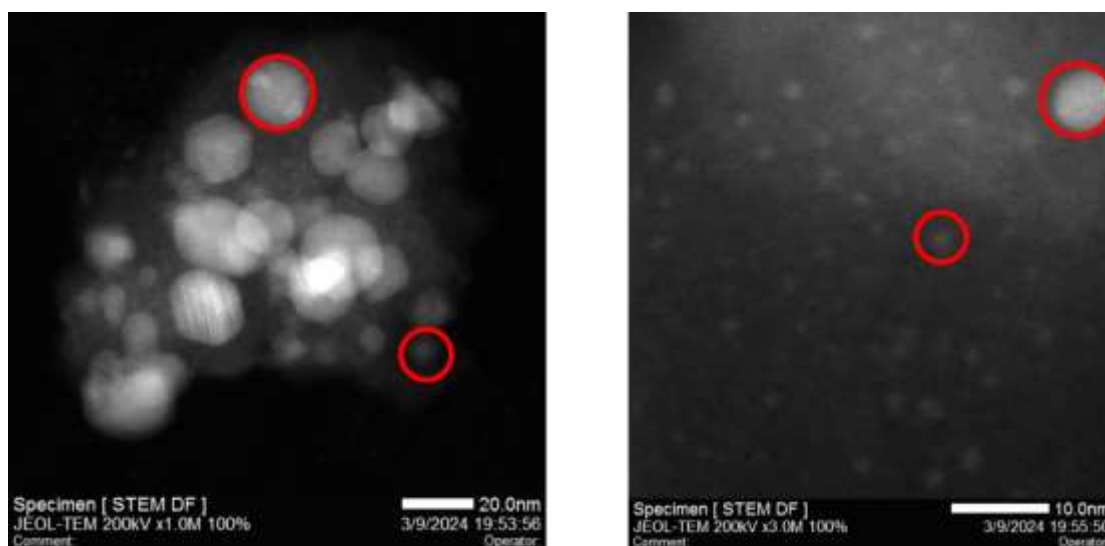
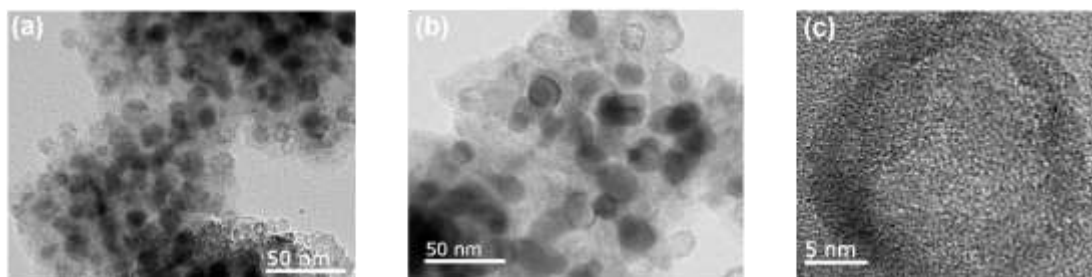


# Supplementary Information

## Figures S1–S4



**Figure S1.** STEM images of Co/SiO<sub>2</sub> at different magnifications.



**Figure S2.** (a-c) TEM images of pre-activated Co/SiO<sub>2</sub>-H<sub>2</sub>.

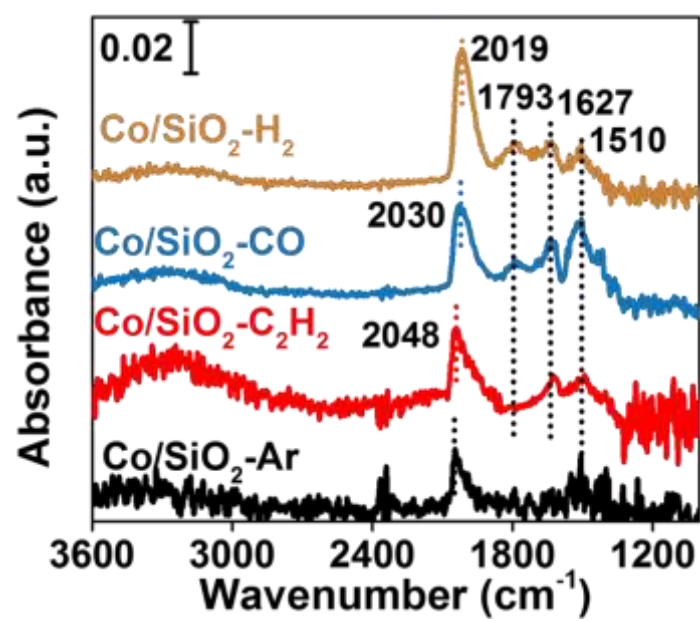
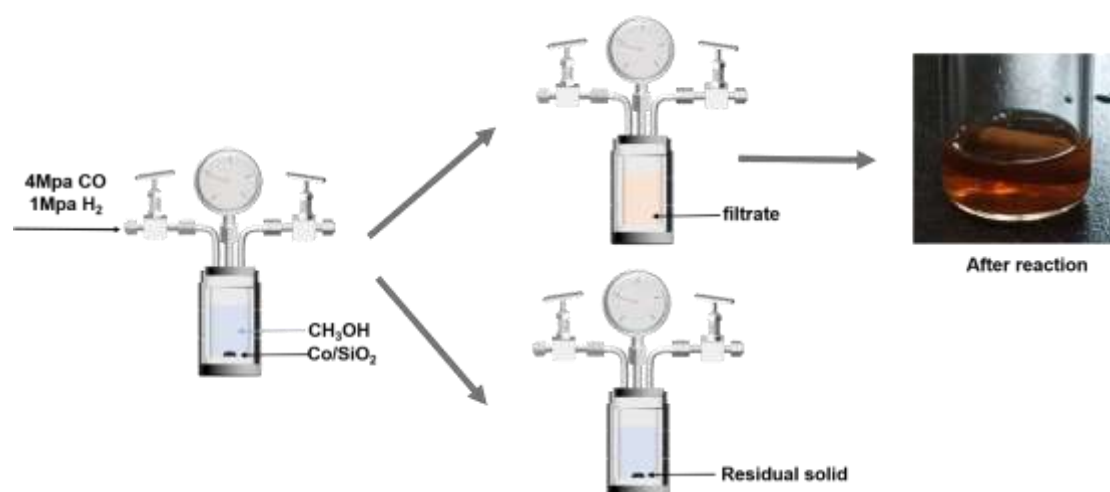


Figure S3. DRIFTS spectra of CO adsorption on different samples.



**Figure S4.** Diagram illustration of separation process.