

Supplementary Information

Atomic layer deposition of CrOx/SiO₂ catalysts for dehydrogenation of propane with CO₂ to propylene

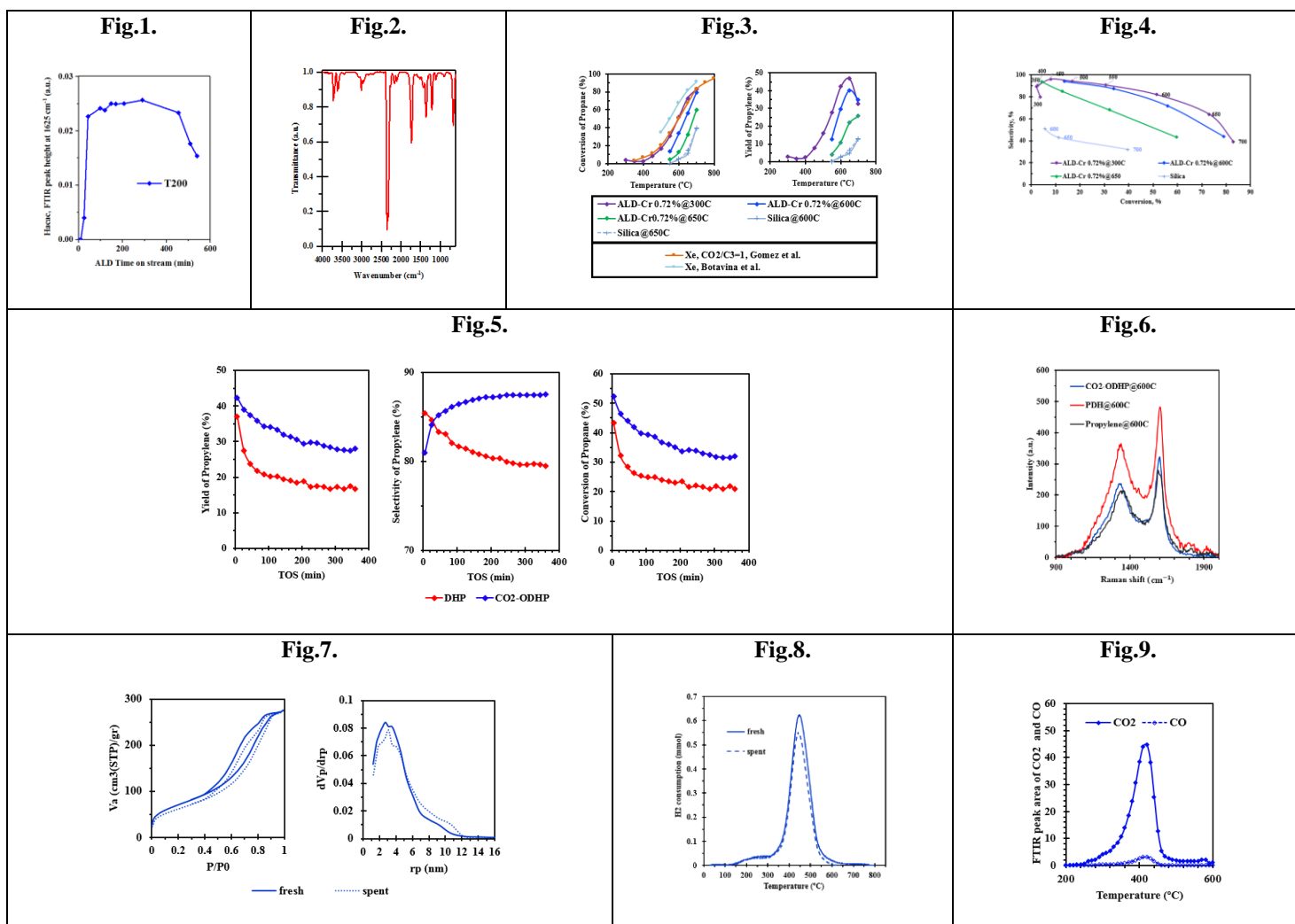


Fig 1, 2. On-line FTIR results of chemisorption and oxidation steps of ALD reaction respectively, **Fig 3,4.** Conversion of propane, Yield of propylene and Selectivity-Conversion function at different reaction temperature for the ALD catalyst with 0.72% Cr/SiO₂ with various calcination temperatures, Reaction condition: Total flow rate =30 sccm, C₃H₈=1.5 sccm, CO₂:C₃H₈=5:1. **Fig.5.** Yield, selectivity and conversion with time on stream (min) for ALD catalyst in presence and absence of CO₂, **Fig.6.** Raman spectra of spent catalysts after reaction at various conditions, **Fig.7.** Adsorption-desorption isotherm and pore size distribution of ALD catalyst before and after CO₂-ODHP reaction at 600°C, **Fig.8.** TPR of ALD catalyst before and after CO₂-ODHP reaction at 600°C, **Fig.9.** TPO results of ALD catalyst after CO₂-ODHP reaction at 600°C

References of the first paragraph of the Abstract :

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