

SUPPLEMENTARY MATERIALS

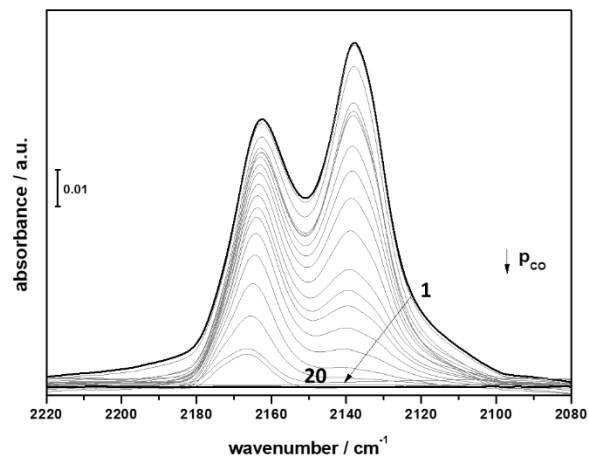
In Situ FT-IR Characterization of CuZnZr/Ferrierite Hybrid Catalysts for One-Pot CO₂-to-DME Conversion

Ivana Miletto ¹, Enrico Catizzone ², Giuseppe Bonura ³, Chiara Ivaldi ¹, Massimo Migliori ², Enrica Gianotti ¹, Leonardo Marchese ¹, Francesco Frusteri ³ and Girolamo Giordano ^{2,*}

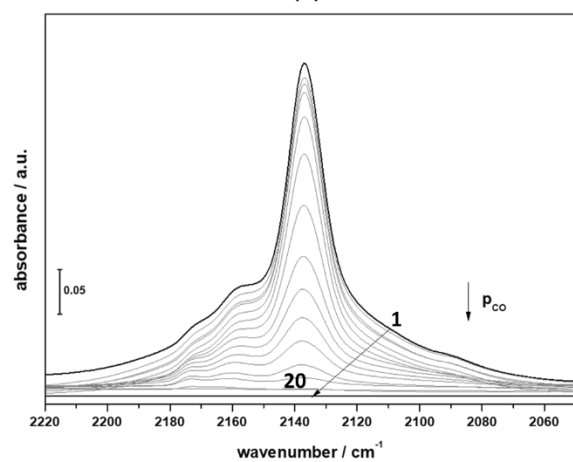
¹ Dipartimento di Scienze ed Innovazione Tecnologica, Università del Piemonte Orientale "Amedeo Avogadro", Viale Teresa Michel, 11. 15100 Alessandria (Italy);

² Dipartimento di Ingegneria per l'Ambiente e il Territorio e Ingegneria Chimica, Università della Calabria, via P. Bucci, 87036, Rende (Italy);

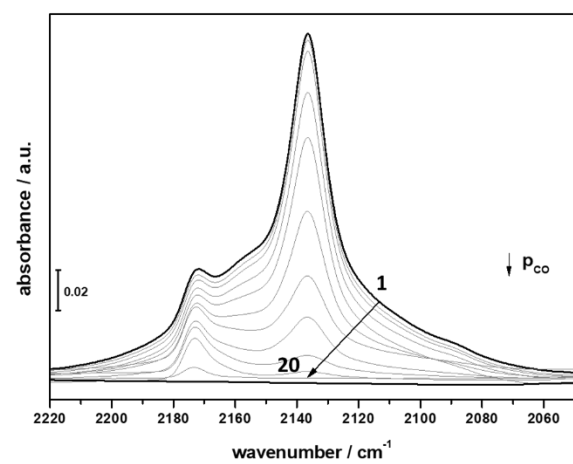
³ CNR-ITAE, Istituto di Tecnologie Avanzate per l'Energia "Nicola Giordano", via S. Lucia sopra Contesse 5, 98126, Messina (Italy)



(a)



(b)



(c)

Figure S1 FTIR difference spectra in the CO stretching region of CO adsorbed at 80 K on HFER8 (a), HFER30 (b) and HFER60 (c) catalysts. Curve 1: Adsorption of 40 mbar of CO, Curves 1 to 20: decreasing CO doses up to 1×10^{-4} mbar

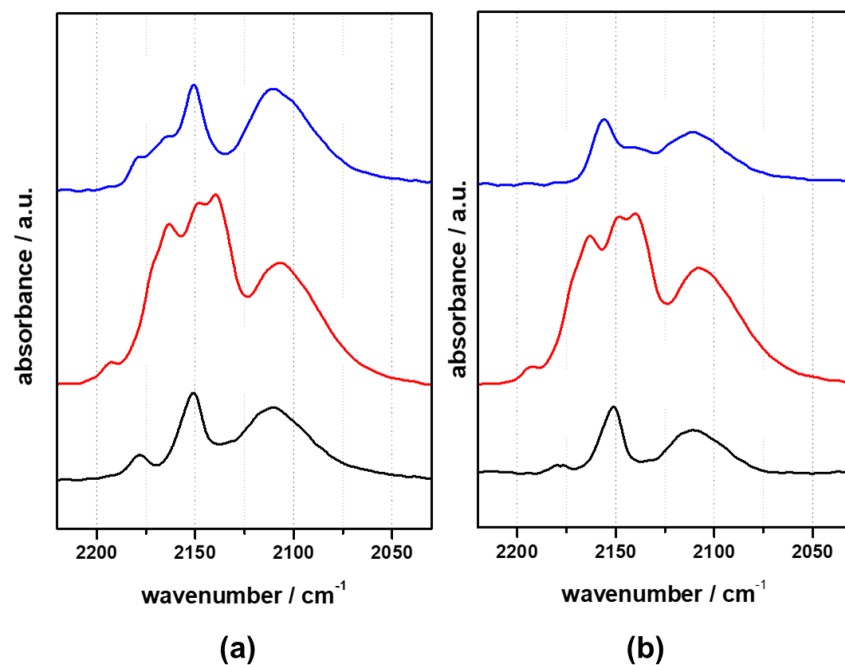


Figure S2 FTIR difference spectra of CO adsorbed on CZZFER30-used (a) and CZZFER60-used (b) at r.t. (black curve), at LN temperature (red curve) and at LN temperature after outgassing until the disappearance of the CO liquid like signal at 2138 cm⁻¹ (blue curve).