Supporting Information

"Selective hydrogenation of acetophenone with supported Pd and Rh catalysts in water, organic solvents, and CO₂-dissolved expanded liquids" by Shin-ichiro Fujita, Yuichi Onodera, Hiroshi Yoshida, Masahiko Arai

Molecular interactions of CO_2 with organic substrates are important in discussing the positive and negative effects of CO_2 pressurization in synthetic reactions.¹ For the present reaction systems of acetophenone (AP) in water and organic solvents, AP - CO_2 interactions were examined by *in situ* high pressure FTIR-ATR measurements.¹ The wavenumber of absorption band assignable to the carbonyl group of AP was not found to change by the presence of CO_2 and so AP - CO_2 interactions were insignificant in the solvents examined.



Fig. S1. FTIR-ATR spectra of neat AP and AP in solvents (1: water, 2: methanol, 3: ethanol, 4: diethyl ether, 5: *n*-hexane) in the absence (broken lines) and presence (solid lines) of 1 MPa CO_2 at ambient temperature. AP:solvent = 2: 5 (volume)

 (a) B. M. Bhanage, M. Arai (eds.), Chapter 14 in Transformation and Utilization of Carbon Dioxide, Springer, New York, 2014, pp. 369-388. (b) Y. Akiyama, S. Fujita, H. Senboku, C. M. Rayner, S. A. Brough, M. Arai, *J. Supercrit. Fluids*, 2008, 46, 197-205.