High-Throughput Solubility Measurements in Supercritical Carbon Dioxide

Christopher L. Bray, Bien Tan, Colin D. Wood, and Andrew I. Cooper*

* Department of Chemistry, University of Liverpool, L69 7ZD, Liverpool, United Kingdom. E-mail: aicooper@liv.ac.uk

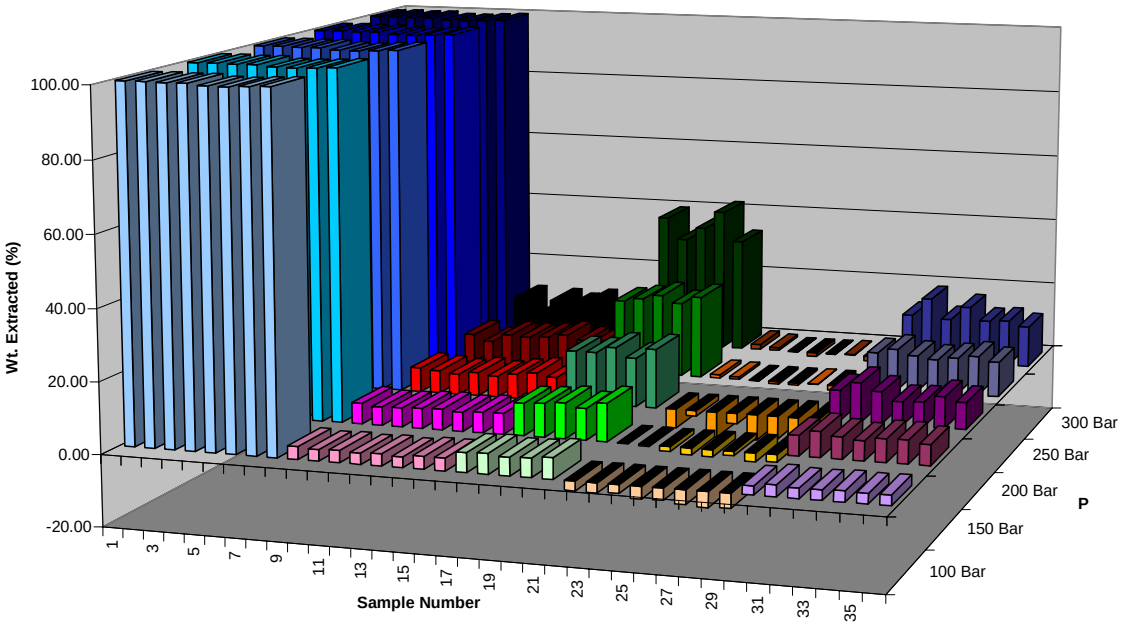

Figure S1: Reproducibility studies for HT solubility measurements in $scCO_2$. Sample-to-sample standard deviation in wt % extracted = 1.5–10 %.

Blue bars (left) = AIBN (8 replicates)

Pink/red bars = poly(vinyl stearate), M_w = 90,000 g/mol (8 replicates)

Green bars = poly(vinyl acetate), M_w = 12,500 g/mol (5 replicates)

Orange bars = poly(propylene carbonate), M_n = 50,000 g/mol (8 replicates)

Purple bars (right) = poly(3-methyl-1,5-pentan-3-methyl-glutarate), M_w = 4700 g/mol (7 replicates)

Note: Poly(propylene carbonate) shows a "negative" mass loss because this polymer absorbs significant quantities of CO_2 which are lost only slowly (periods of hours) after the samples are removed from the extraction vessel.

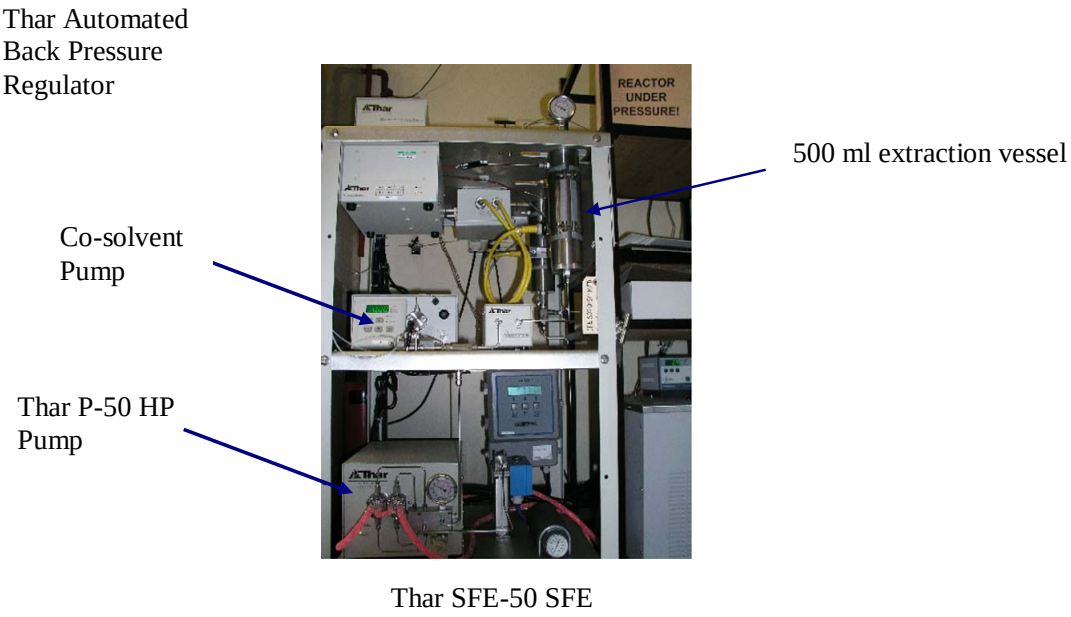

Figure S2: Photograph of equipment used for HT solubility measurements in $scCO_2$