Electronic Supplementary Material (ESI) for Catalysis Science & Technology

High CO_2 and CO conversion to hydrocarbons using bridged Fe nanoparticles on carbon nanotubes

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Supporting Information

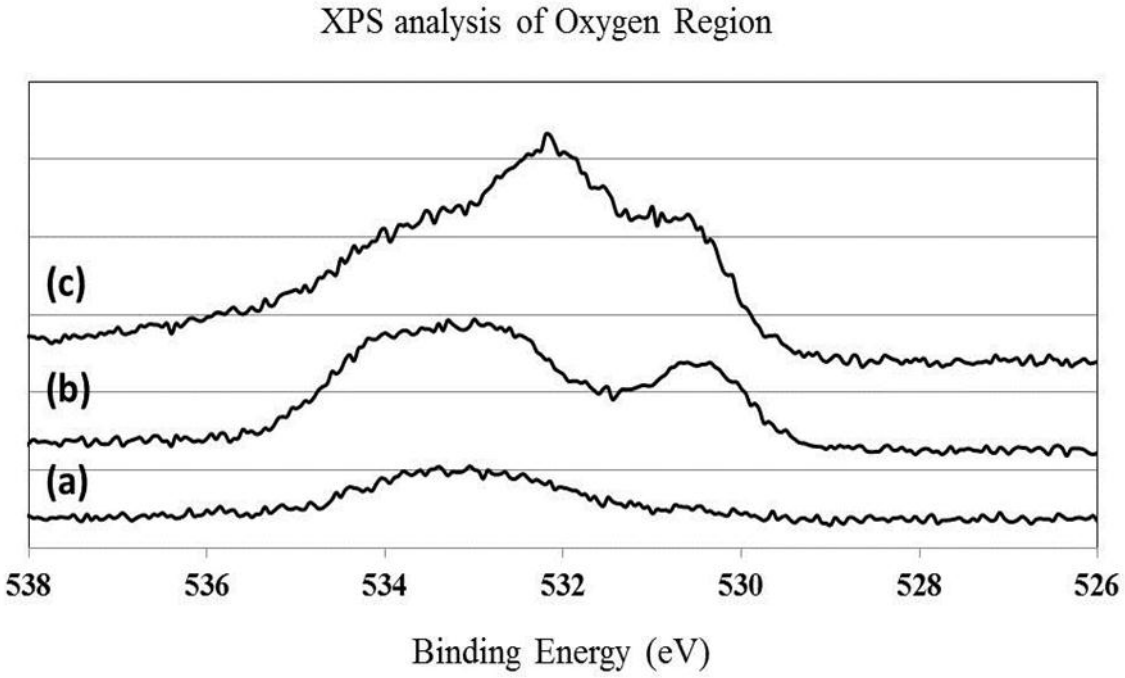

Figure S1 X-ray photoelectron spectroscopy of oxygen region of (a) as produced Fe@CNT, (b) oxidised (570 °C in air) CNTs and (c) reduced Fe@CNTs (50 sccm H_2 at 400 °C)

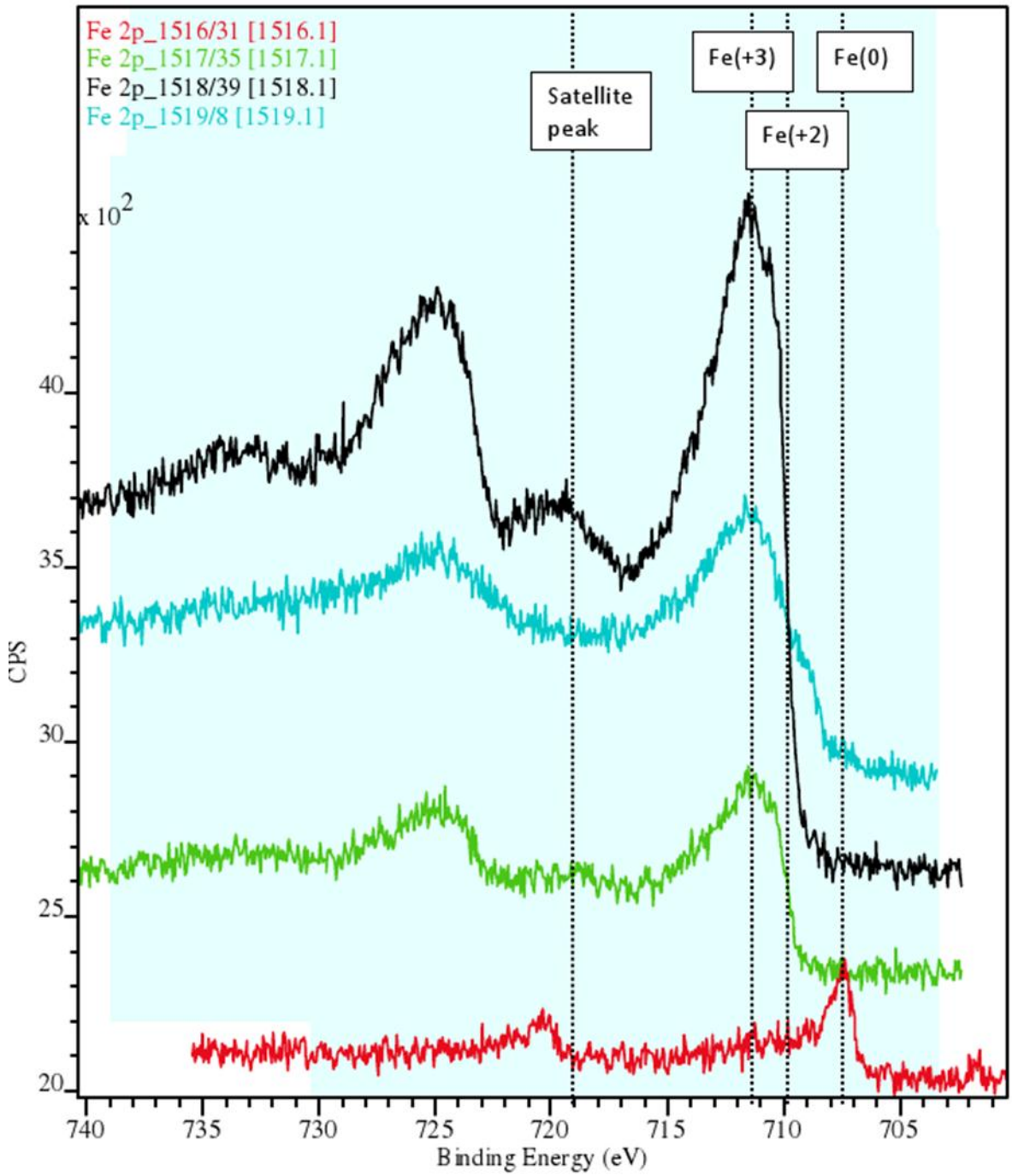

Figure S2 X-ray photoelectron spectroscopy of Fe regions

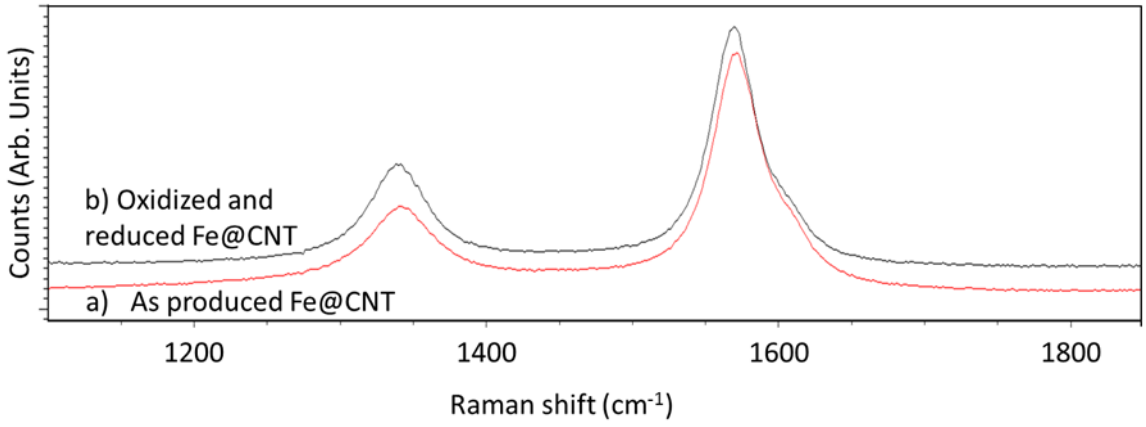

Figure S3 Raman spectra showing (a) as produced Fe@CNT catalyst and (b) Oxidized and reduced Fe@CNT

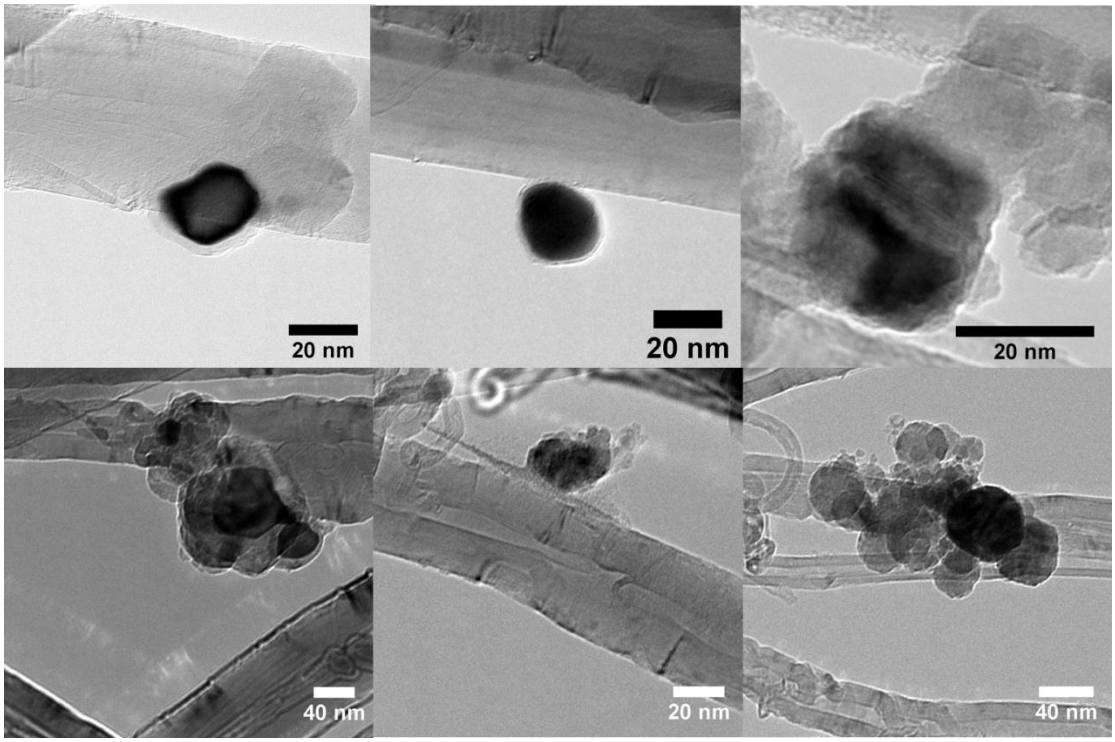

Figure S4 TEM micrographs of Fe decorated CNTs

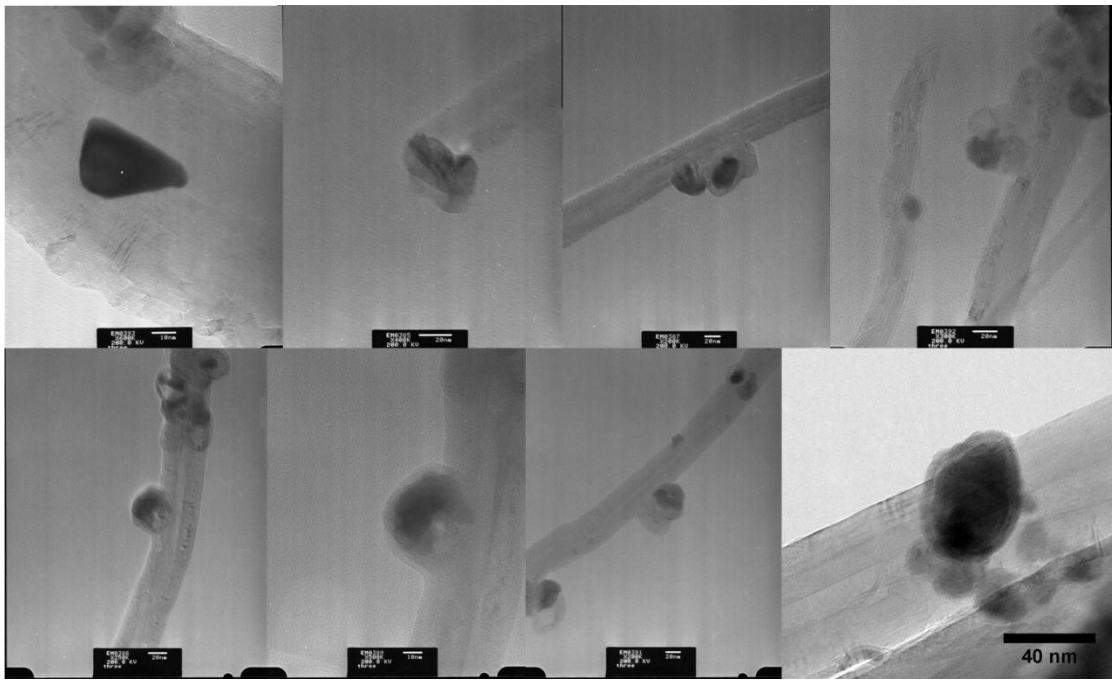

Figure S5 TEM micrographs of Fe@CNTs

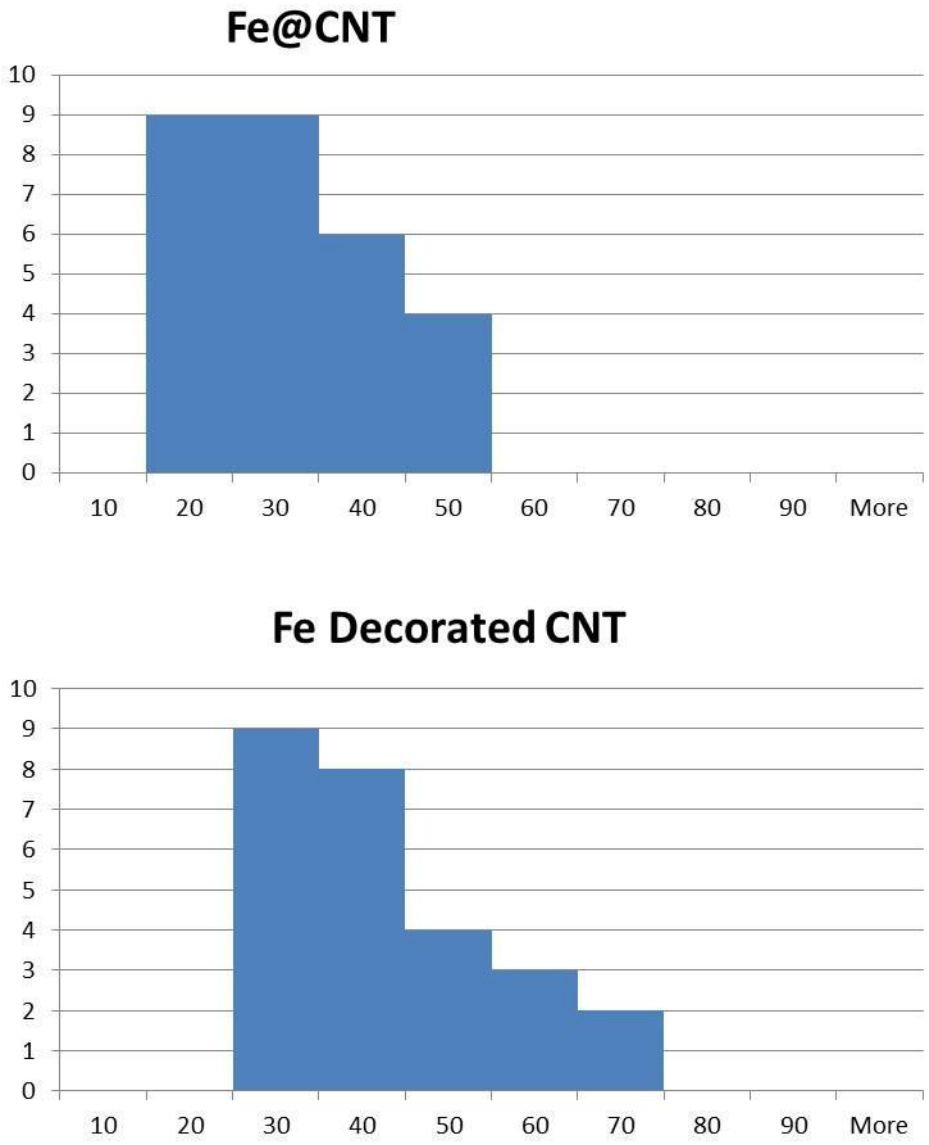

Figure S6 Histograms showing size distribution of iron nanoparticles of each catalyst

Equation 1 FTYCO = mol CO converted to hydrocarbon / grams iron second

Equation 2 $FTYCO_2$ = mol CO_2 converted to product / grams iron second