Supporting information

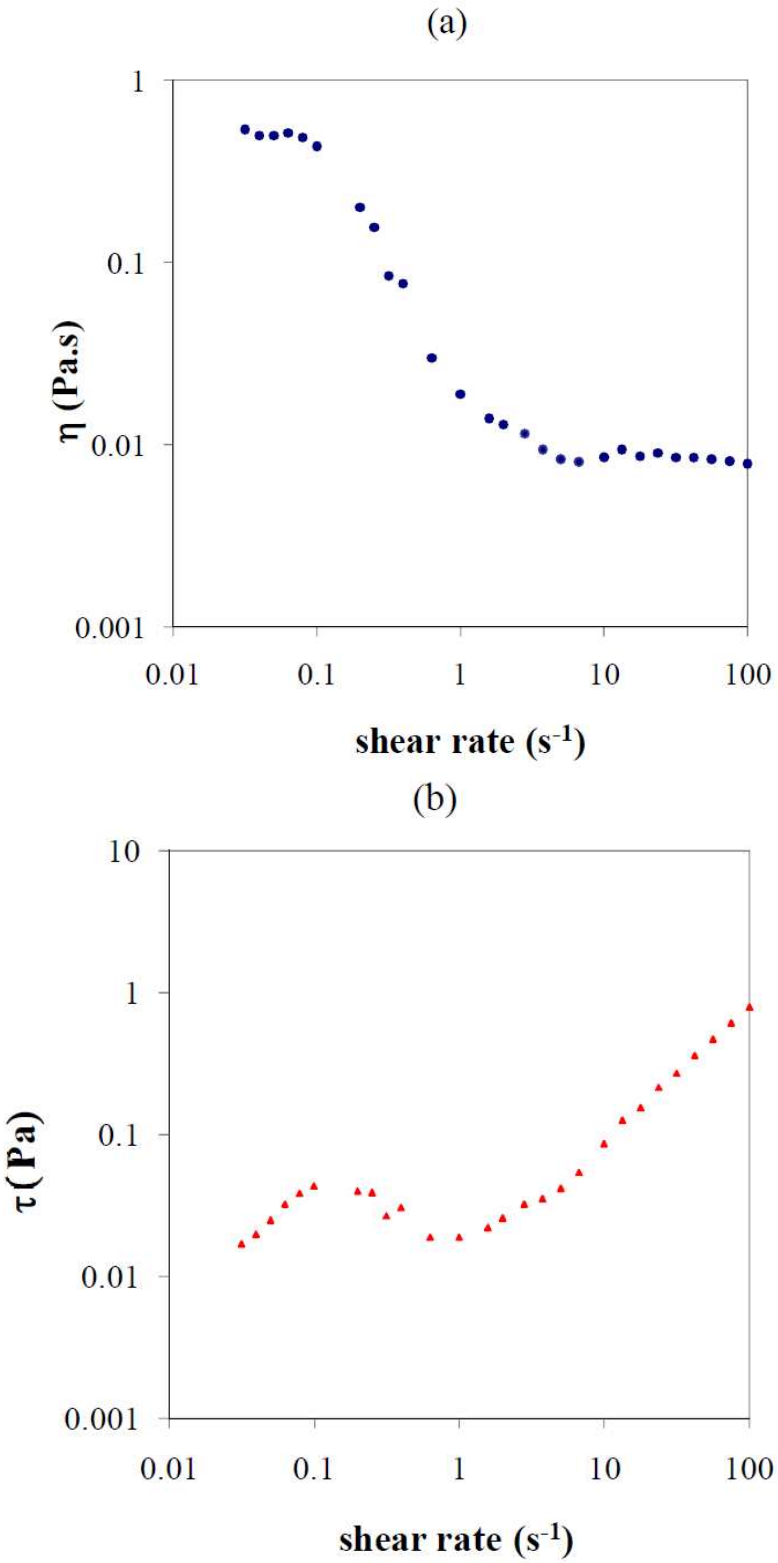

Fig. S1 Viscosity (a) and stress (b) as a function of shear rate for 2 wt% pinacyanol samples. Measurements were made at 25 ºC in an AR-G2 instrument using a 20 mm plate-plate geometry.

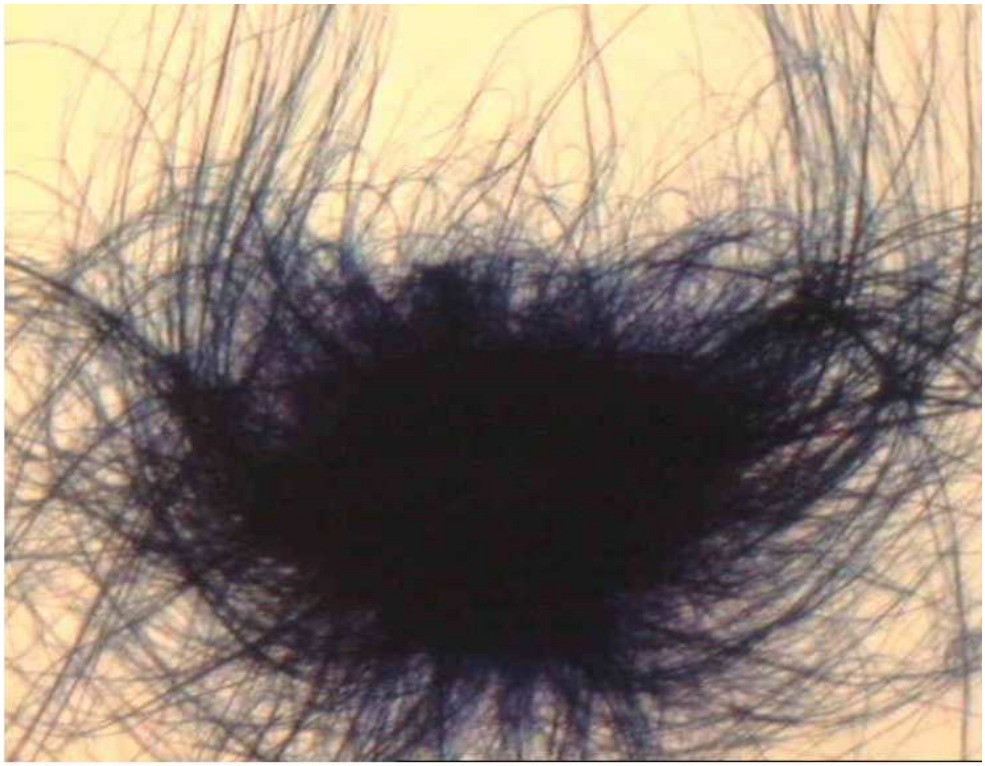

Fig. S2 Polarized optical microscopy image of a pinacyanol chloride sample in contact with aqueous acetic acid.

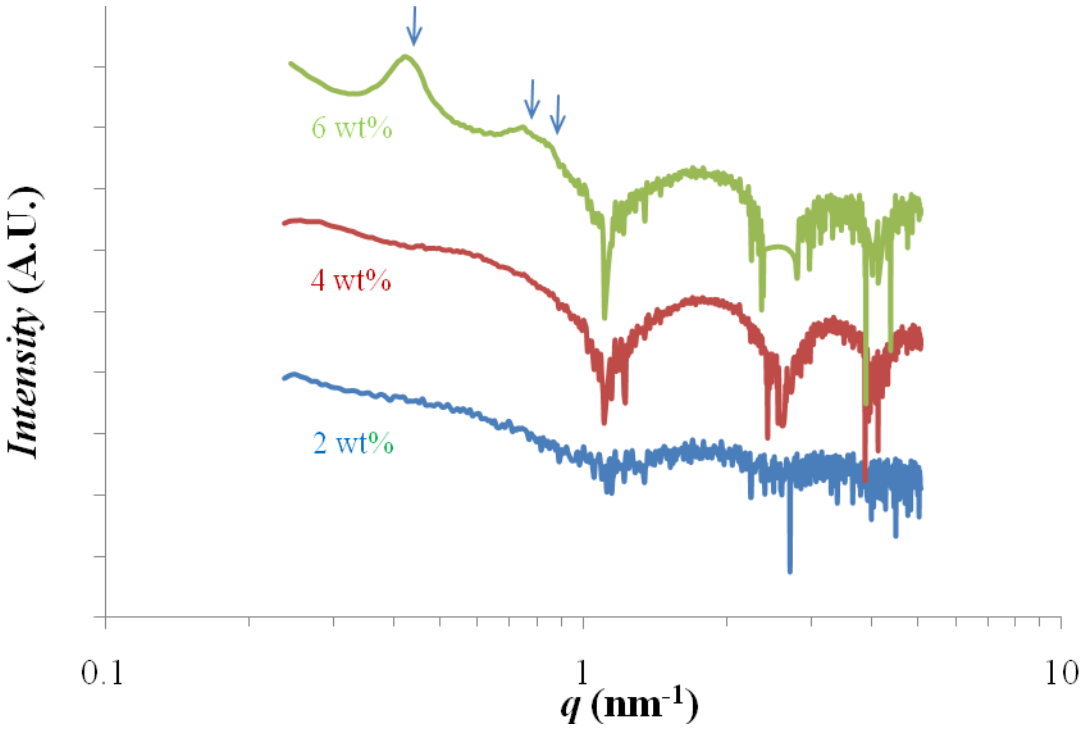

Figure S3: SAXS profiles (25 ºC) at different concentrations from a point collimated instrument. The arrows indicate the relative positions of reflections (with respect to the first peak) for a hexagonal lattice.

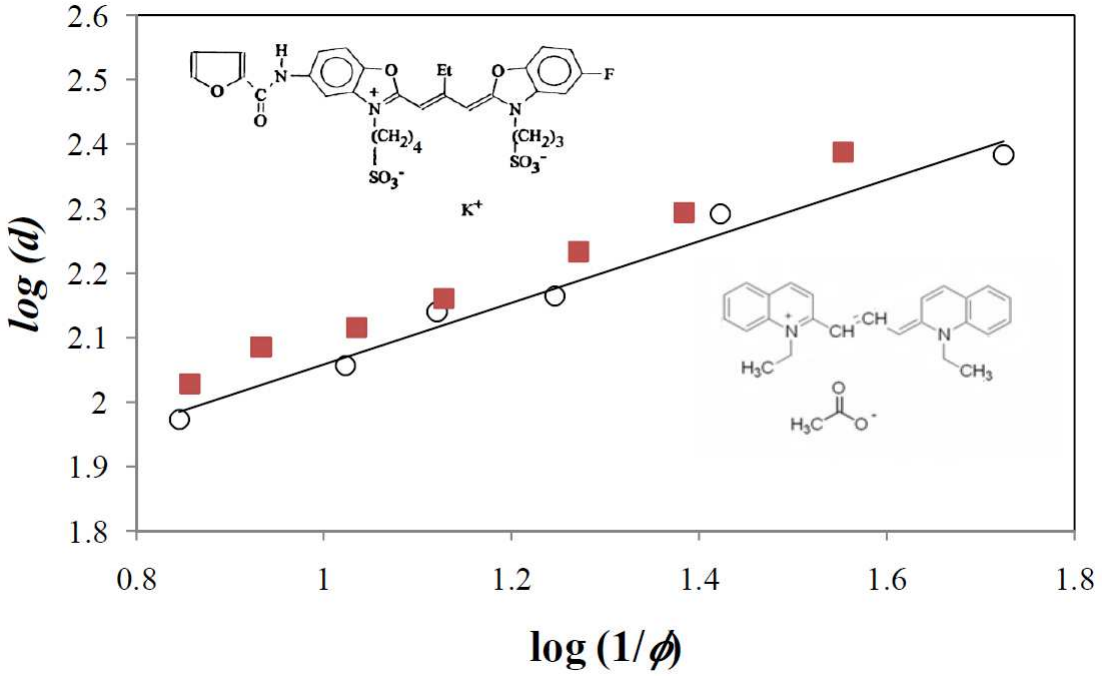

Fig.S4 Variation of the Bragg spacing from the first SAXS peak as a function of the inverse of the dye volume fraction. Squares: data from Ref. 6, corresponding to the molecule depicted in the upper-left side. Circles: pinacyanol acetate. The line is the best fit to pinacyanol acetate experimental points.

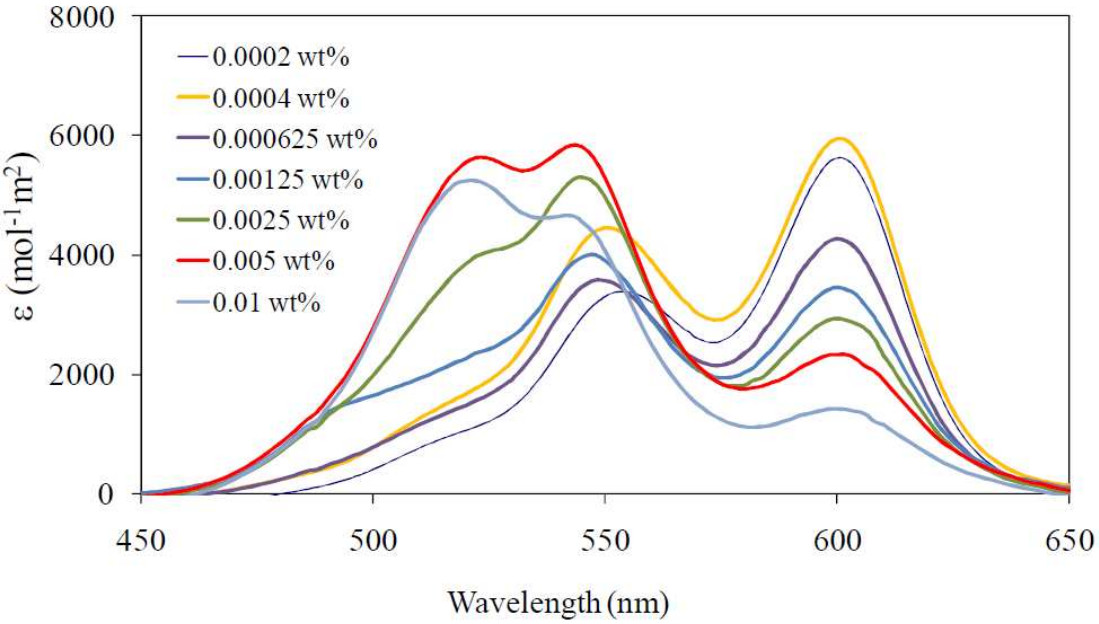

Fig. S5 Concentration dependent UV/vis spectra of pinacyanol acetate in water at room temperature

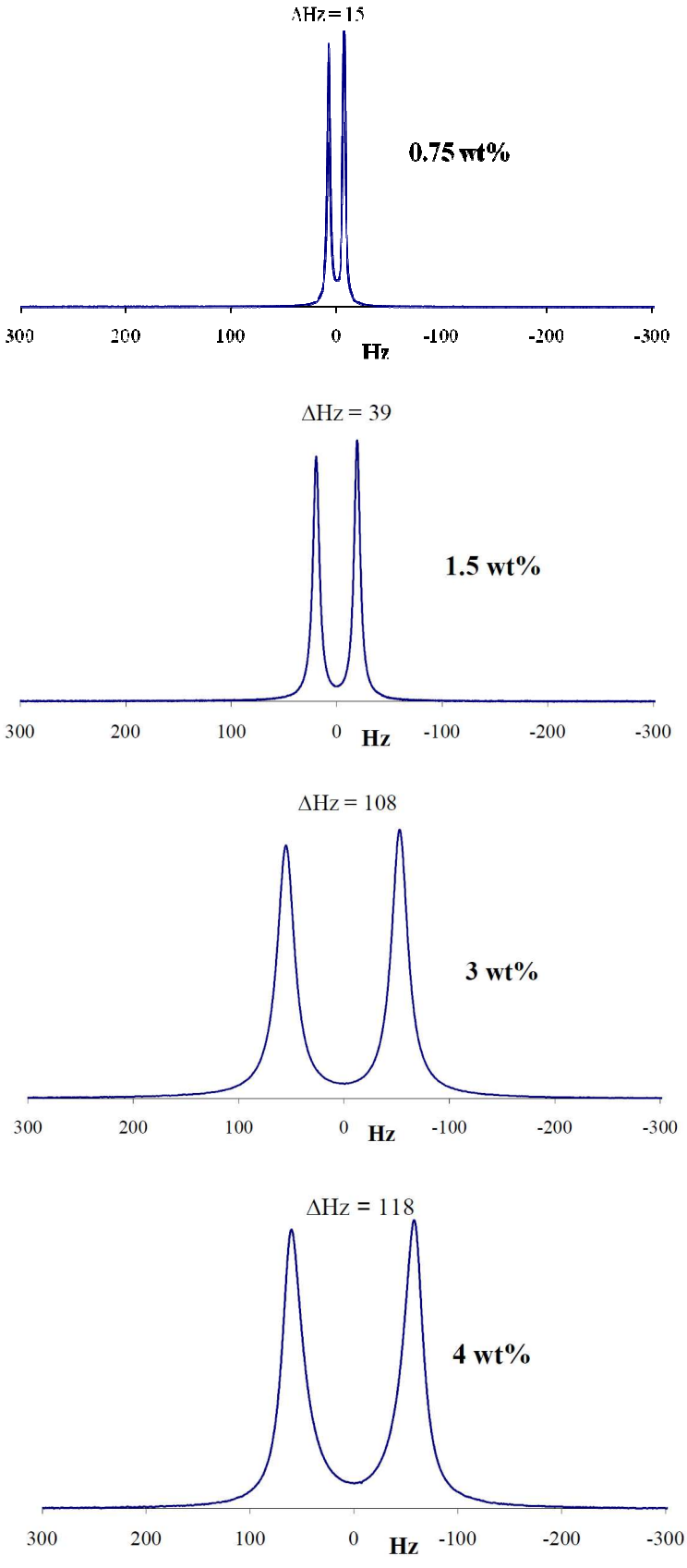

Fig. S6 ^{2}H NMR spectra at different pinacyanol acetate concentrations.

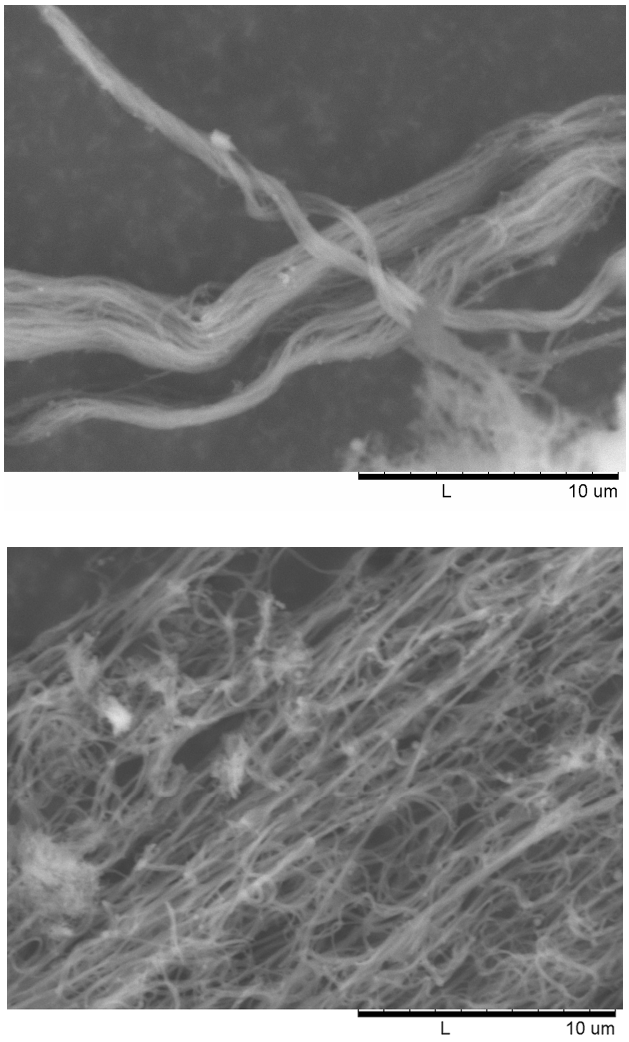

Fig.S7 SEM images of as-prepared silica (before calcination) synthesized from pinacyanol acetate solutions. Images were taken with a Hitachi TM-1000 microscope.

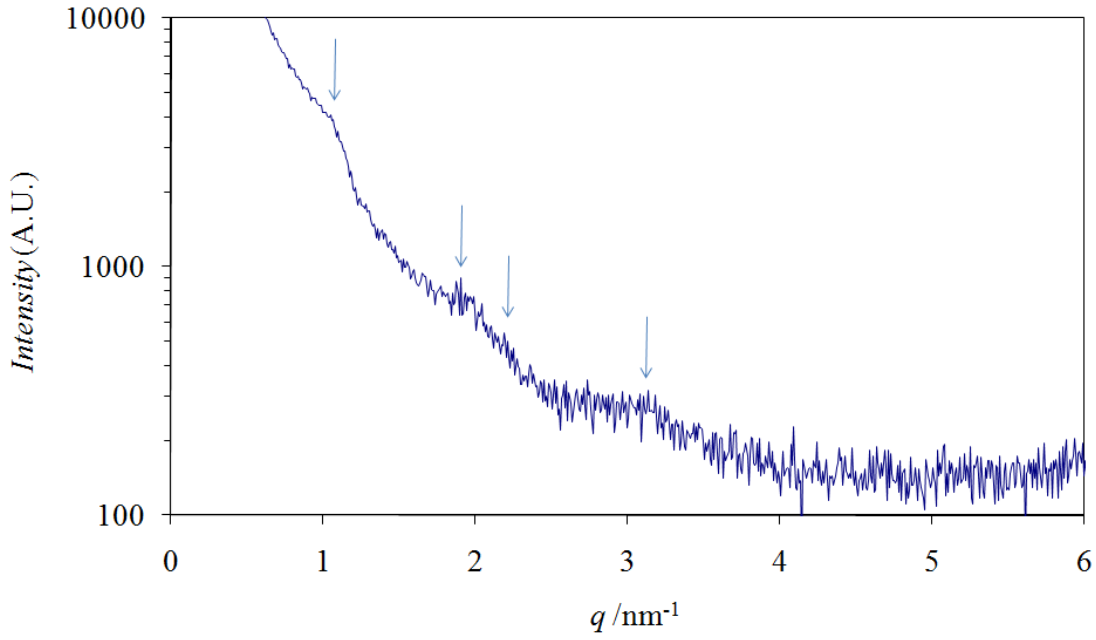

Fig.S8 SAXS curve of the sample shown in Fig.9 (main text) before calcination. Arrows indicate the relative peak positions (with respect to the first peak) for a hexagonal lattice. The initial pinacyanol concentration in the reaction mixture was 3 wt%.

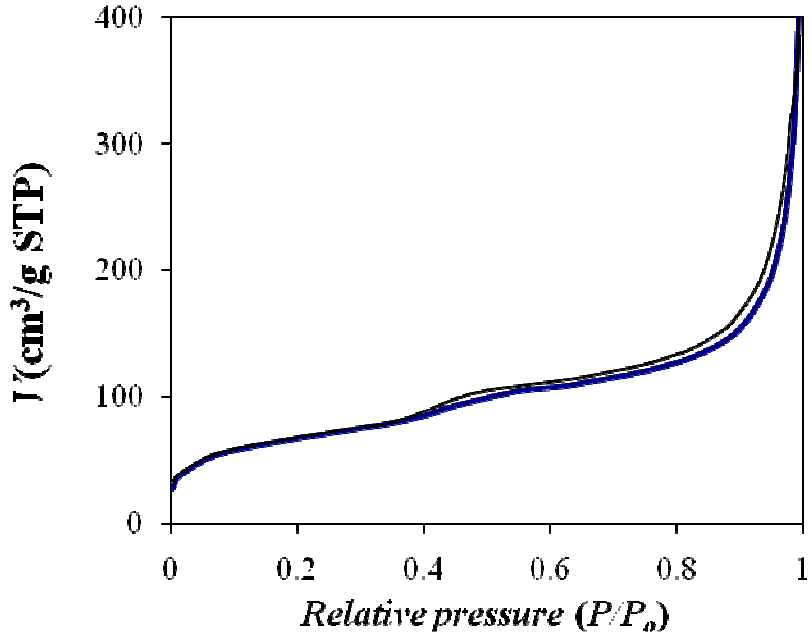

Fig. S9 Adsorption-Desorption nitrogen isotherms of the sample shown in Fig.9 (main text)