Electronic Supplementary Material (ESI) for RSC Advances.

Supporting information

Differential Scanning Calorimetry (DSC) experiments were performed to look at the thermoreversibility of the gel at pH 7. Three consecutive runs were performed starting from -70 to 35 ^{o}C (1st heating) and 35 ^{o}C to -70 ^{o}C (cooling) and then -70 to 35 ^{o}C (2nd heating) in the case of CPC in CH_2Cl_2:H_2O.

From the DSC micrograph shown in Fig. S1, it has been observed that the gel showed endotherm on heating and exotherm on cooling. The melting peaks from the heating curve and the crystallization peaks from the cooling curve for CPC gel formed from 6 wt% CH_2Cl_2:H_2O (3:1 v/v) were measured from DSC thermograms. The large hump formed is the super cooling peak (because of aqueous media /water as a solvent) due to the formation of ice and the peak at -11.79 ^{o}C is the sample peak.

Fig. S1 DSC thermogram of the CPC gel formed from CH_2Cl_2:H_2O [6 wt% CPC in the binary solvent mixture CH_2Cl_2:H_2O (3 : 1 v/v)].

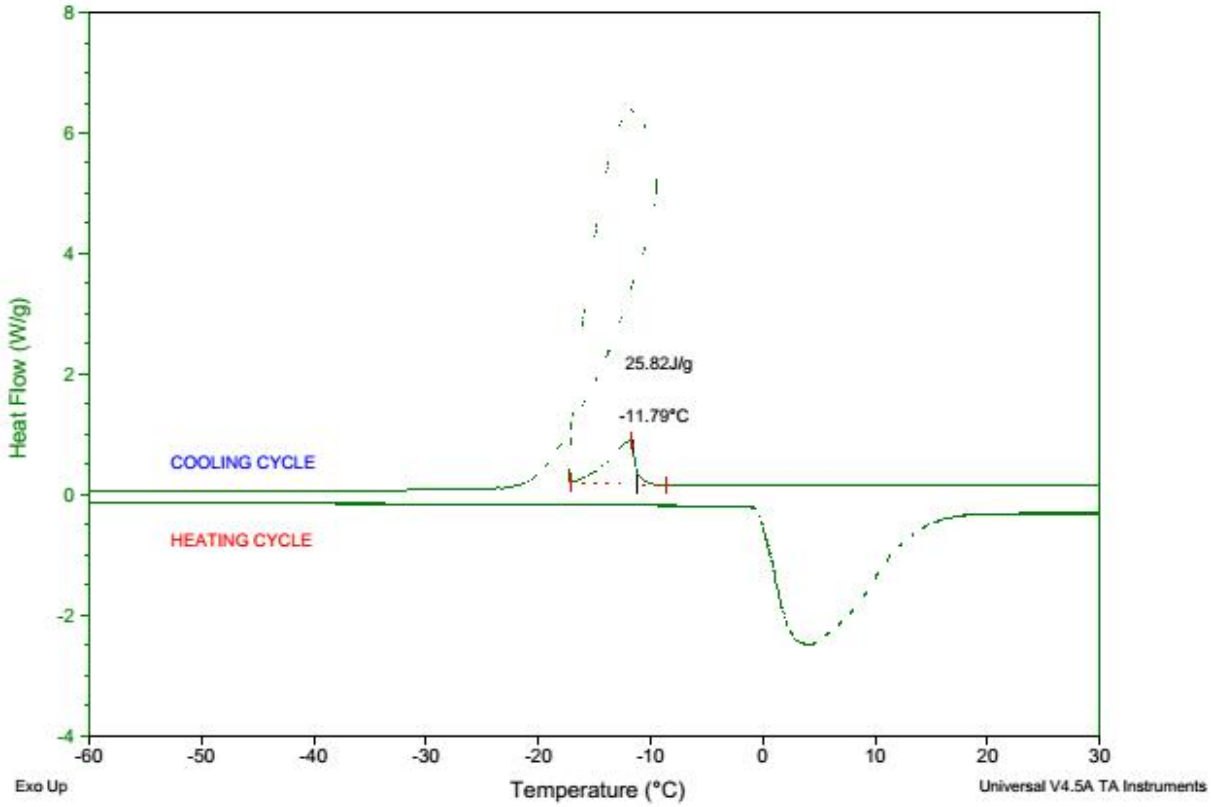


Fig. S2 DSC thermogram of the CPC gel formed from $CHCl_3$:H_2O [6 wt% CPC in the binary solvent mixture CH_3Cl:H_2O (3 : 1 v/v)]. Three consecutive runs were performed starting from -70 to 60 ^oC (1st heating) and 60 ^oC to -70 ^oC (cooling) and then -70 to 60 ^oC (2nd heating) in the case of CPC in $CHCl_3$:H_2O.

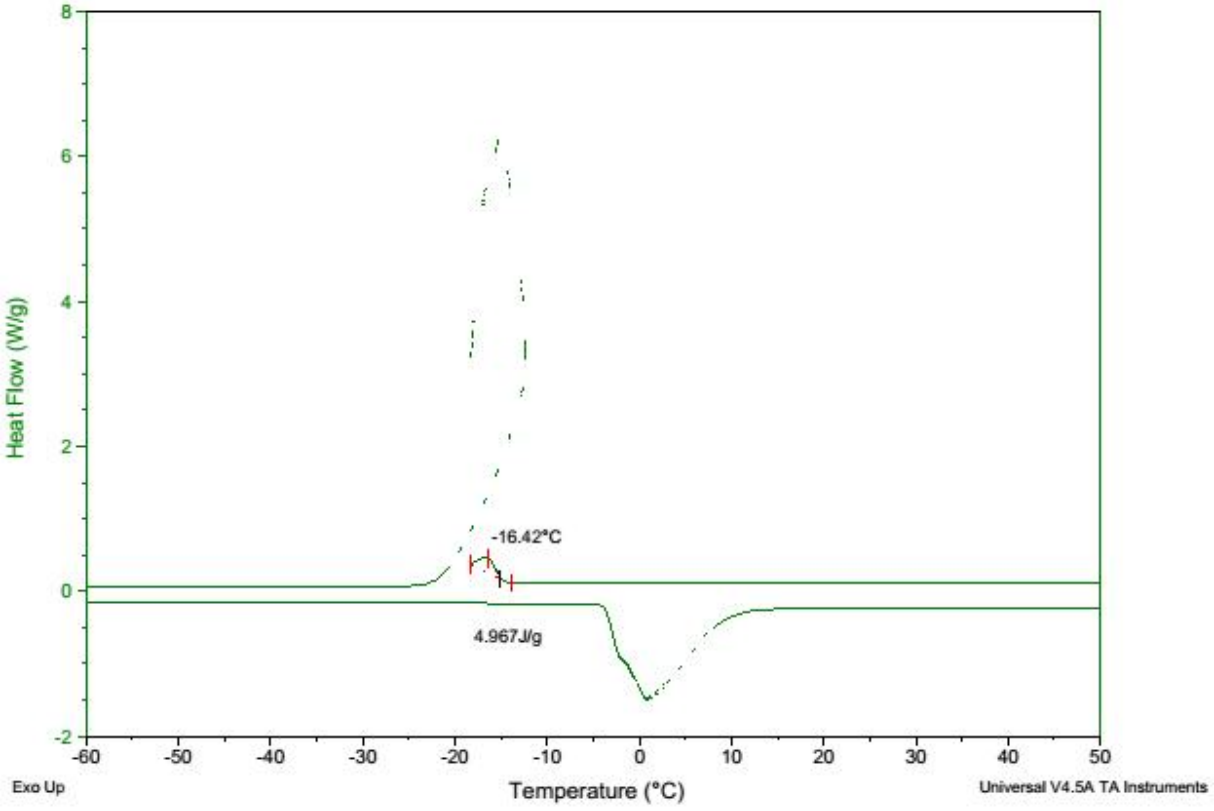


Fig. S3 High resolution SEM images of the CPC gel formed from CH_2Cl_2 (dielectric constant = 9.08) solvent showing extended fibrous structures [6 wt% CPC in the binary solvent mixture CH_2Cl_2:H_2O (3 : 1 v/v)].

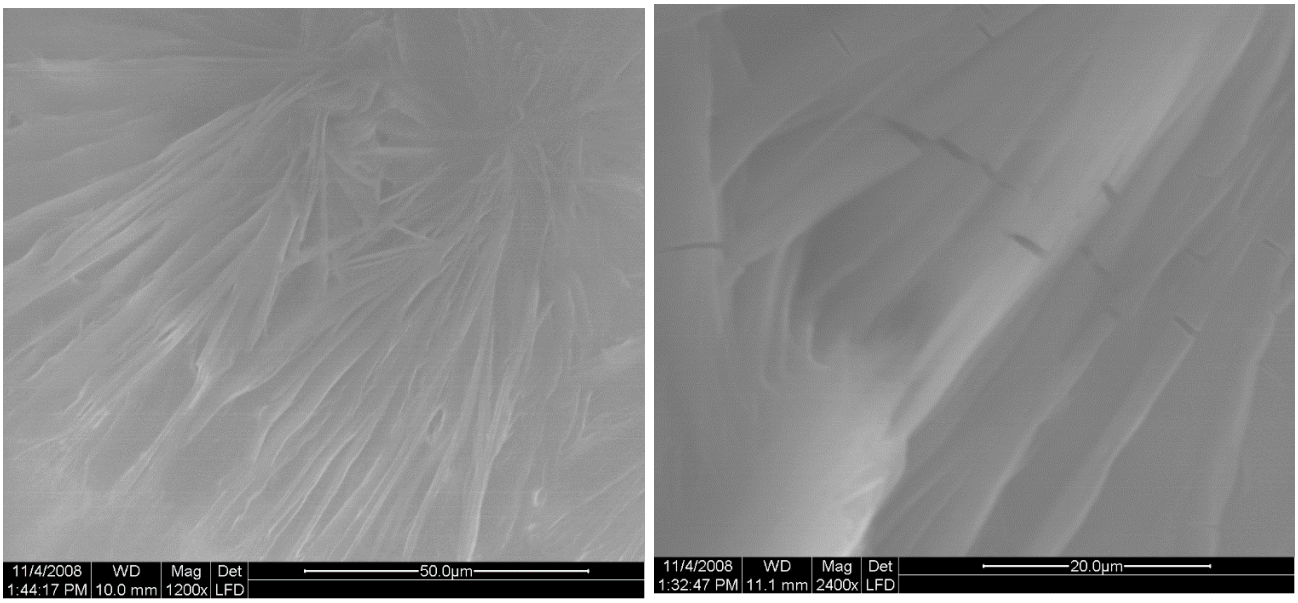


Fig. S4 High resolution SEM images of the CPC gel formed from $CHCl_3$ (dielectric constant = 4.81) solvent formed at pH 7 [6 wt% CPC in the binary solvent mixture $CHCl_3$:H_2O (3 : 1 v/v)].

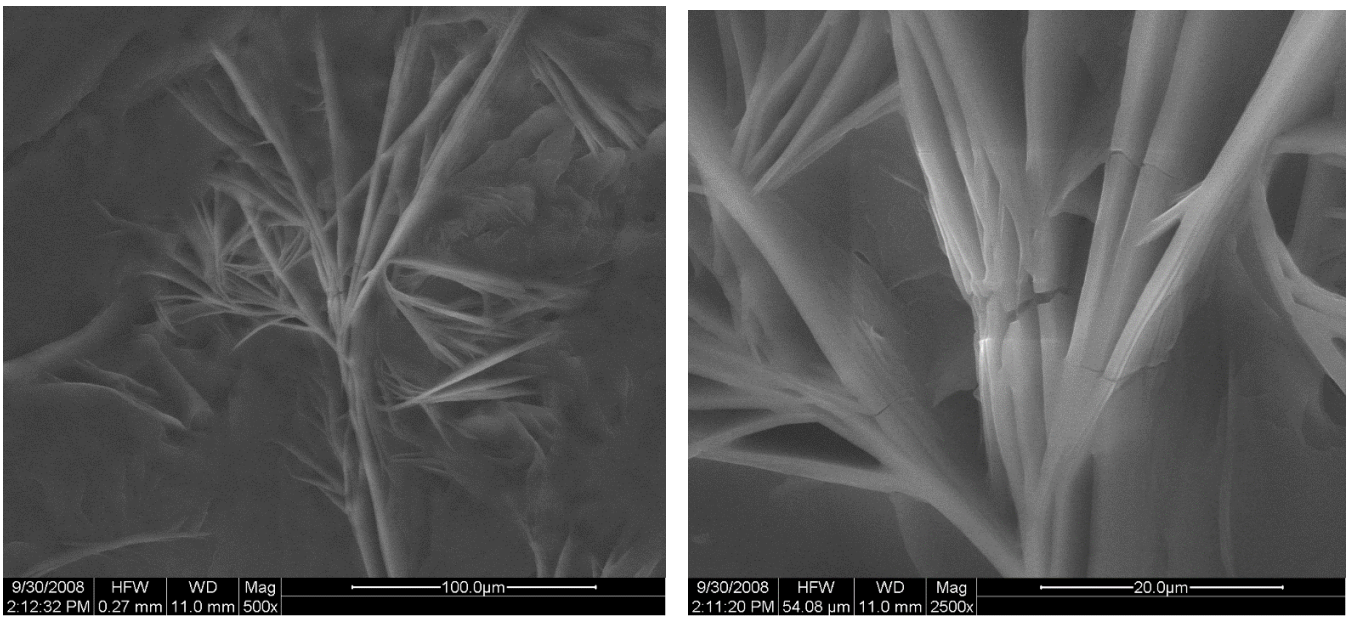
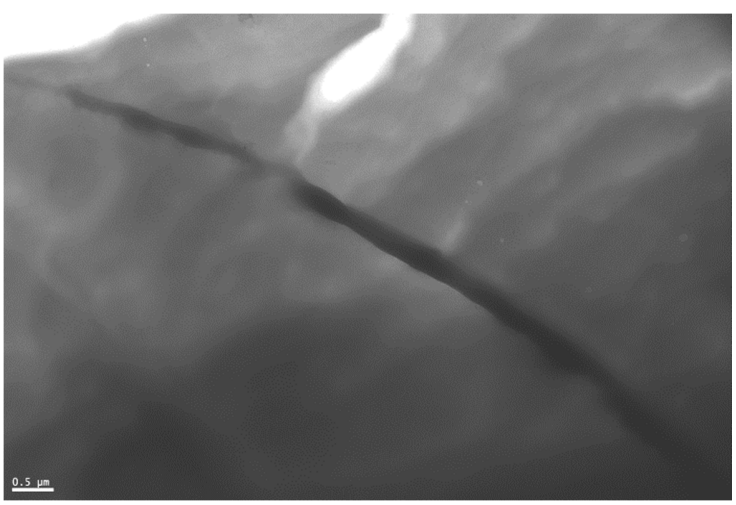
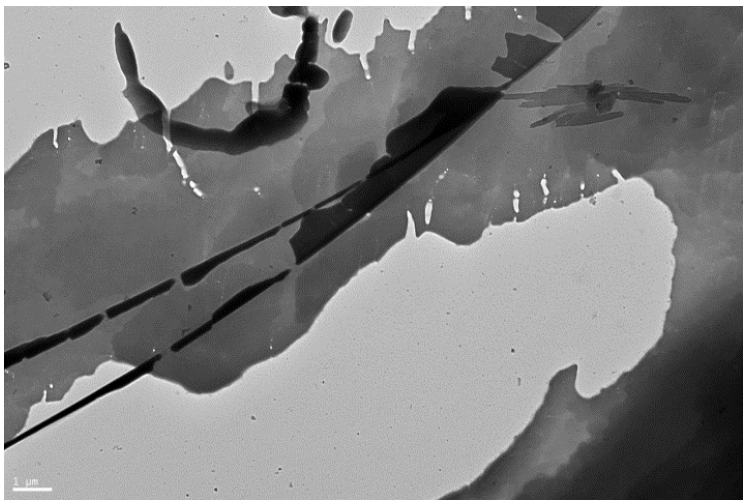


Fig. S5 High resolution TEM images of the CPC gel formed from CH_2Cl_2 (dielectric constant = 9.08) solvent showing extended fibrous twisted tubes with end-to-end connected structures [6 wt% CPC in the binary solvent mixture CH_2Cl_2:H_2O (3 : 1 v/v)].





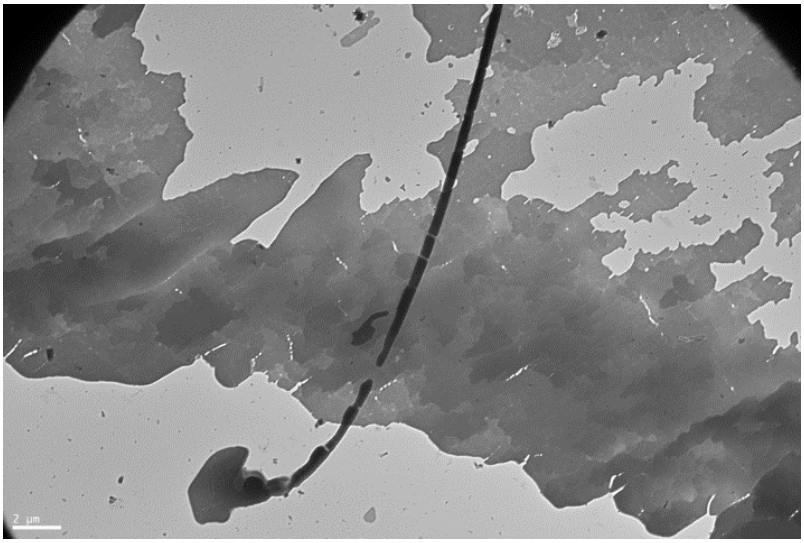
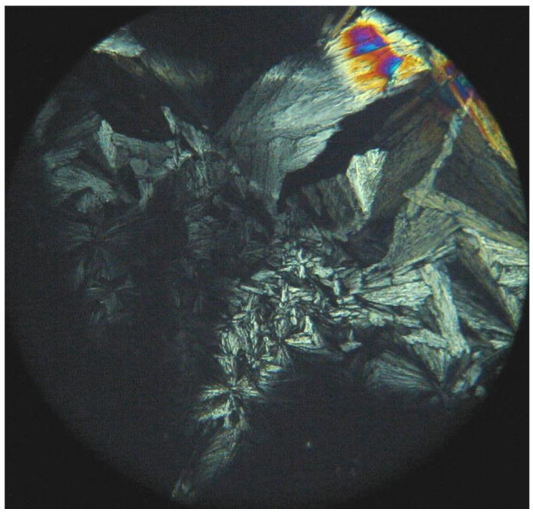
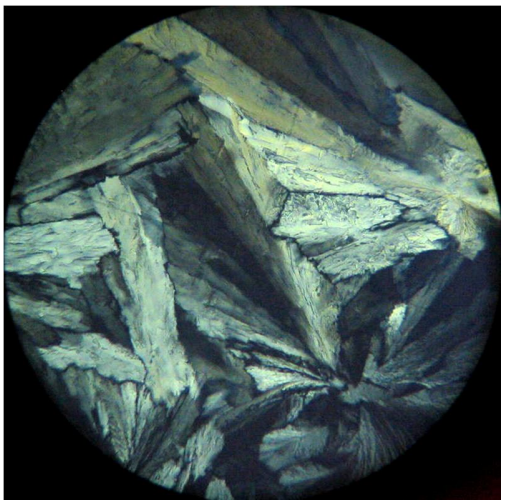


Fig. S6. Optical images of the gel phase of CPC gel in CH_2Cl_2:H_2O (transparent gel) under crossed polarizers (a) 4 X, (b) 4 X, (c) 10 X





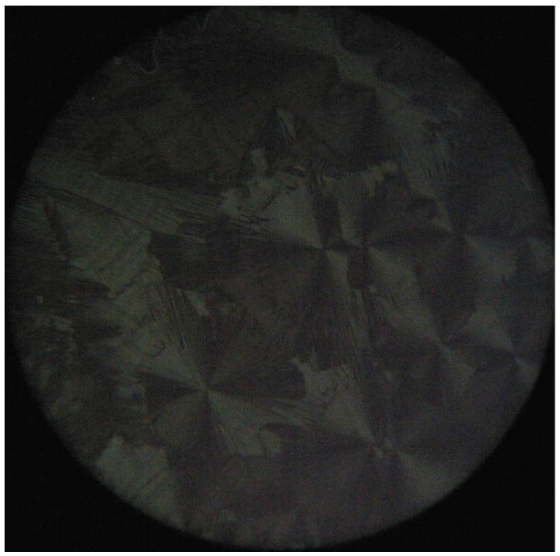


Fig. S7 High resolution TEM images of the CPC gel formed from $CHCl_3$ (dielectric constant = 4.81) solvent formed at pH 7 showing lamellar sheets folding into fibrous tubular structures with 0.4 – 1.5 μm width [6 wt% CPC in the binary solvent mixture $CHCl_3$:H_2O (3 : 1 v/v)].

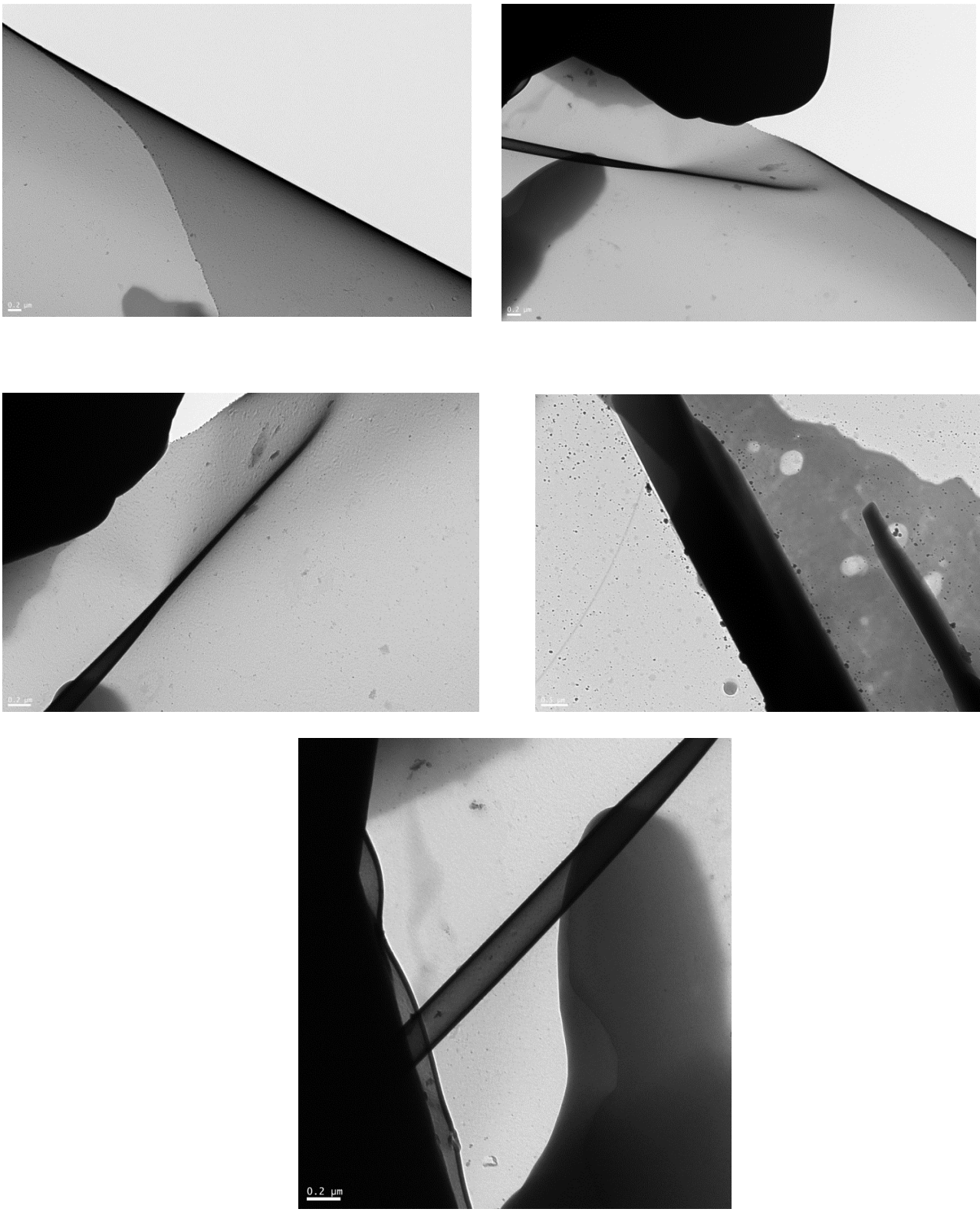


Fig. S8 showing the effect of pH on CPC gel formation at 25 ºC.