

Supplementary Figure

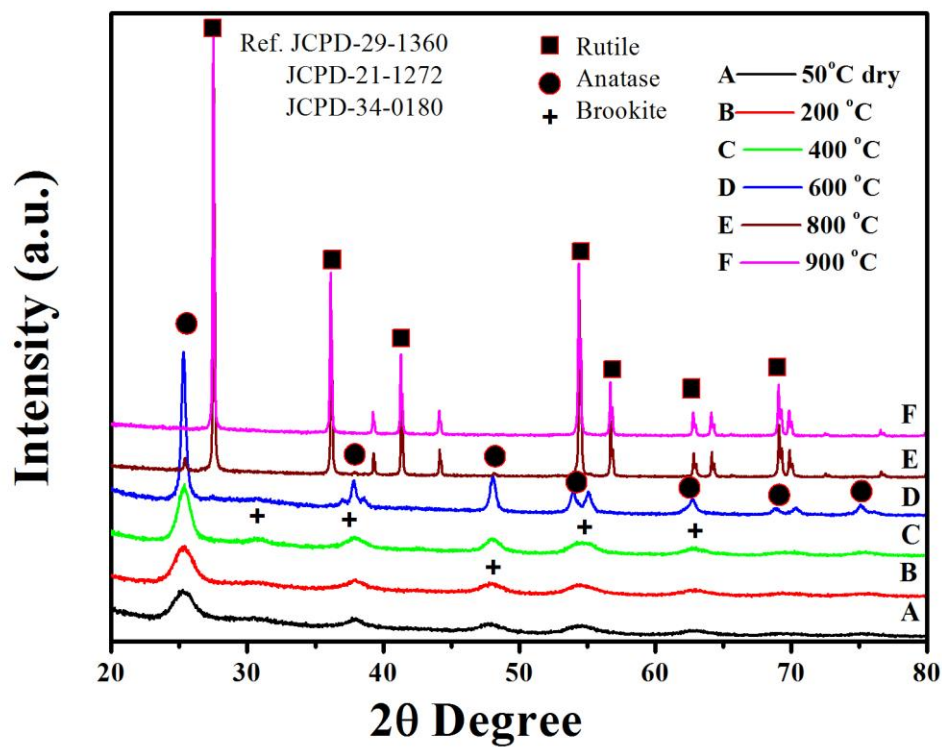


Figure S1: XRD of Sol-gel synthesised TiO₂ Nanoparticles, heated for 2hr at respective temperature.
(600°C-Pure anatase phase, 900°C-pure rutile phase)

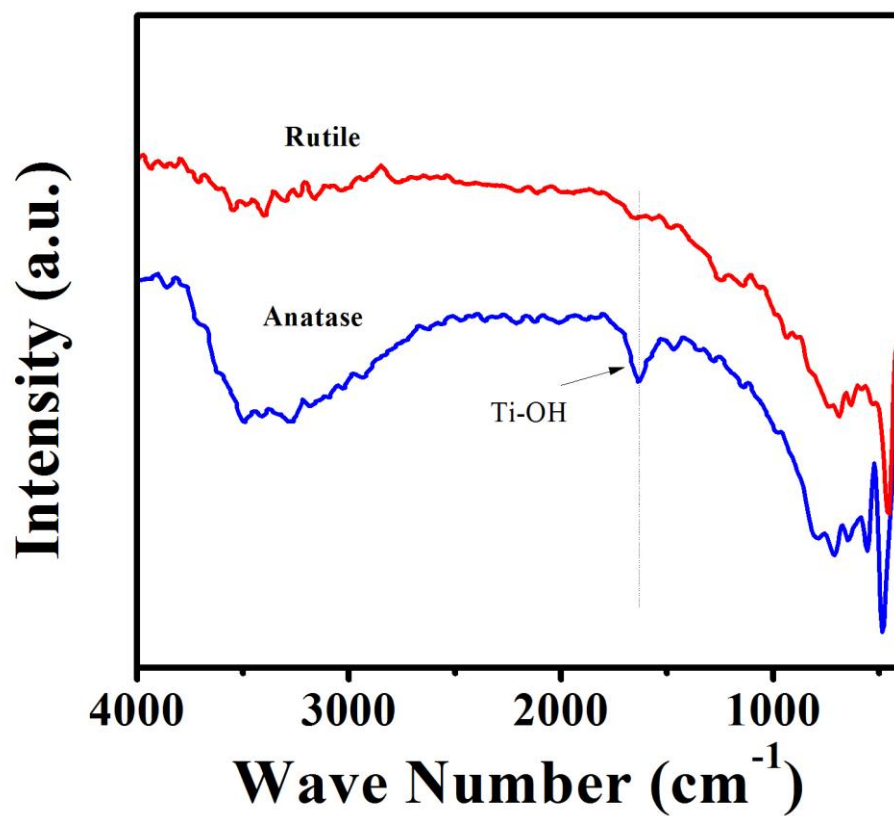


Figure S2: FTIR spectrum of Sol-gel synthesised anatase, rutile TiO₂ Nanoparticles,

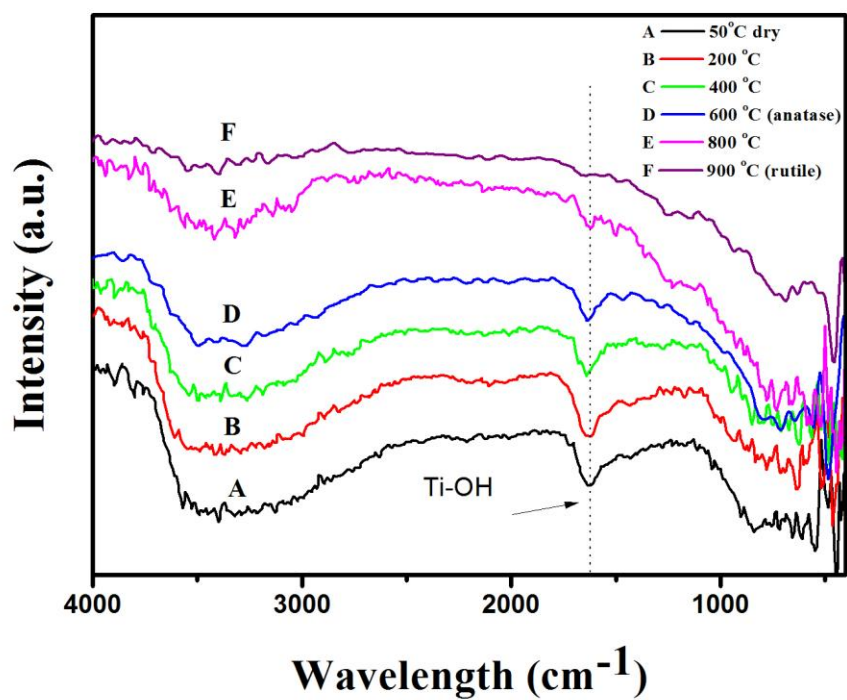


Figure S3: FTIR spectrum of Sol-gel synthesised TiO₂ Nanoparticles with different calcinations temperature,

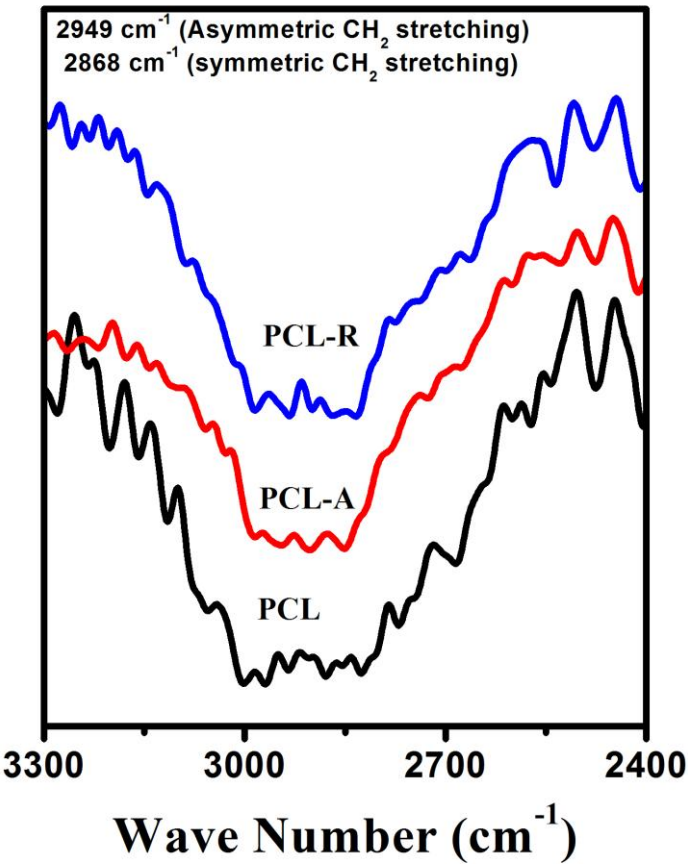


Figure S4: FTIR Spectroscopy of PCL, PCL-A and PCL-R NFs Composites

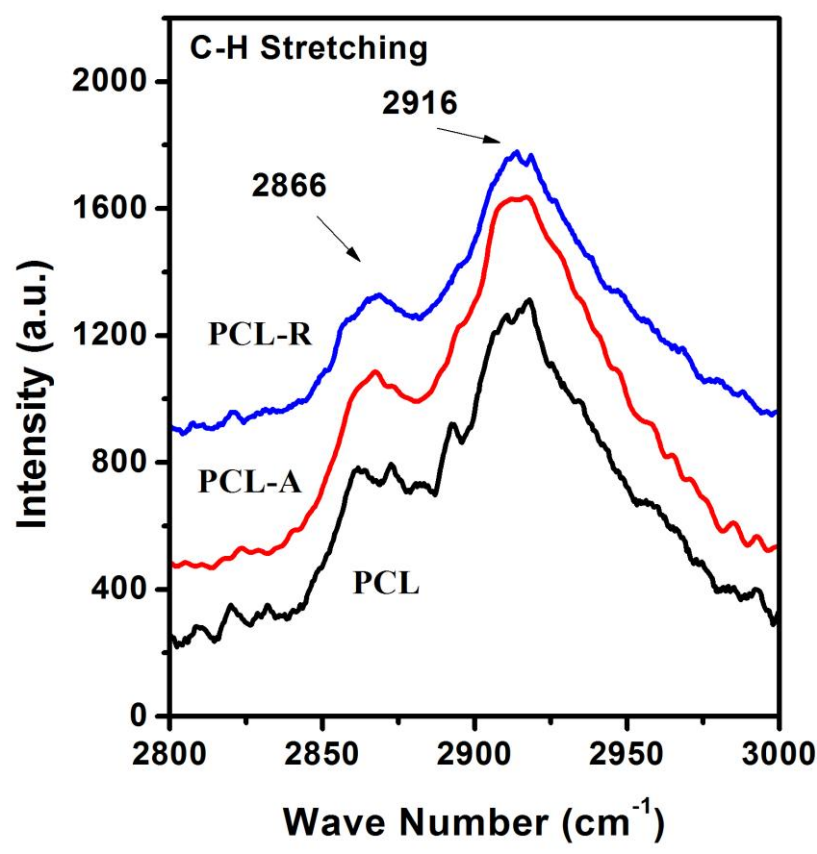


Figure S5: Raman Spectroscopy of PCL, PCL-A and PCL-R NFs Composites

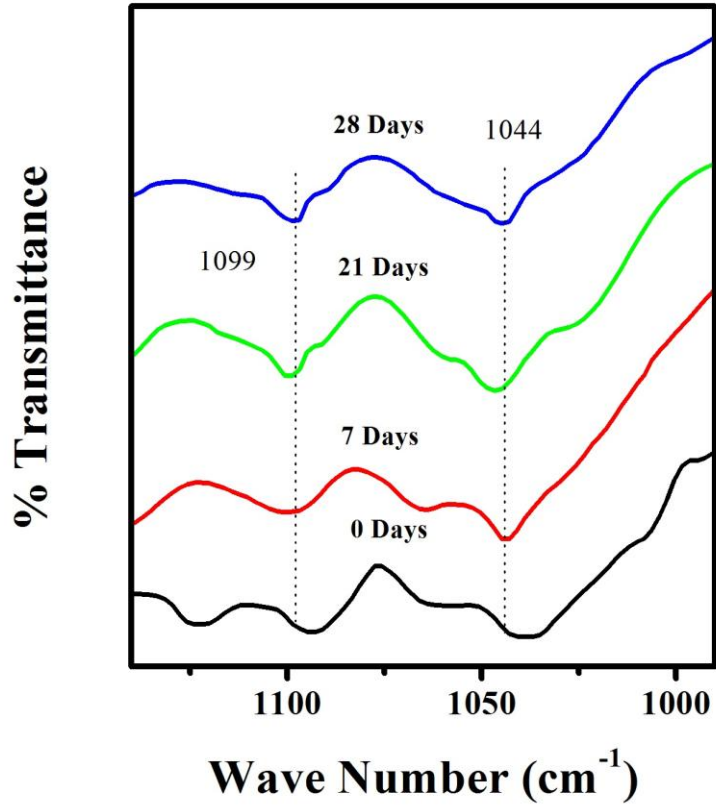


Figure S6: FTIR spectra of SBF-incubated PCL-R composites NFs as a function of time

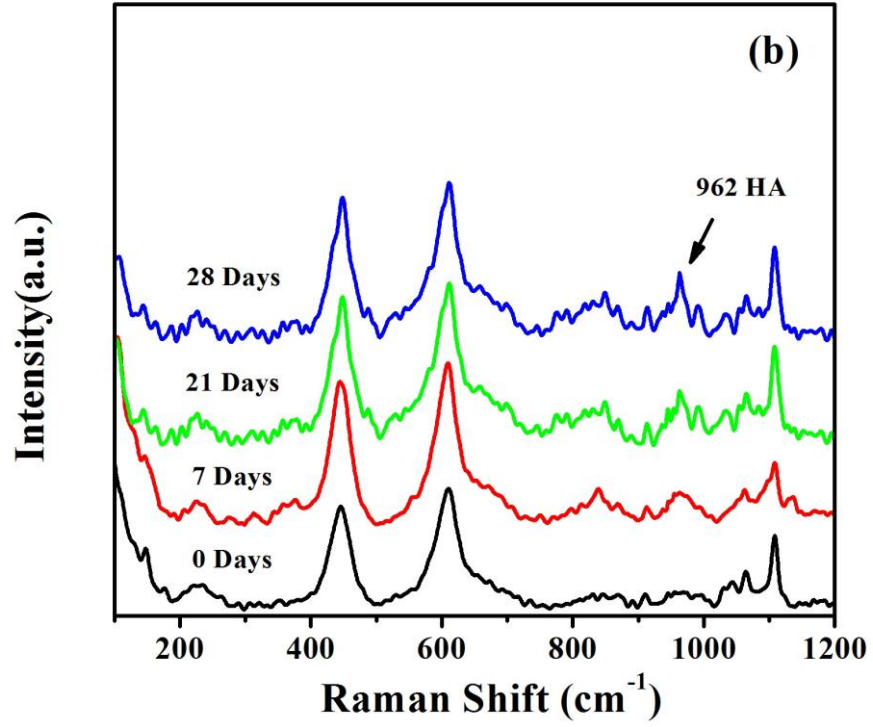


Figure S7: Raman spectra of SBF-incubated PCL-R composites NFs as a function of time

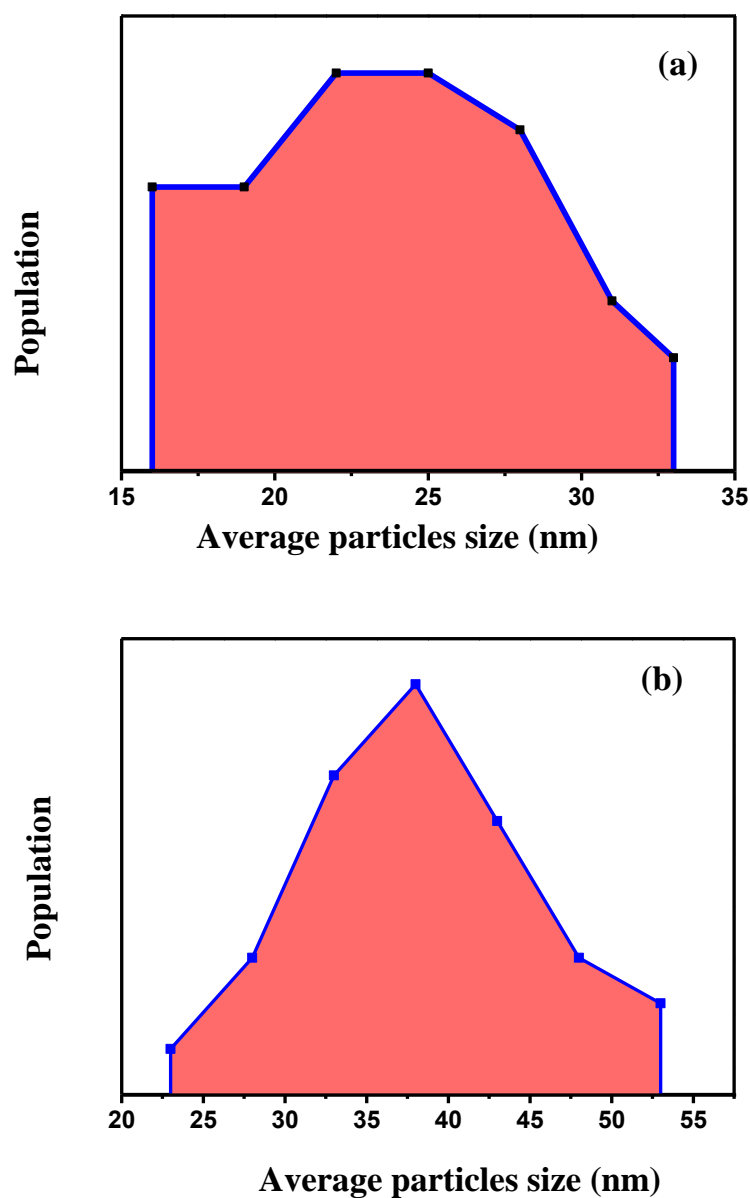


Figure S8: Average particles size distribution using TEM micrographs of TiO₂ Nanoparticles (a) Anatase (b) Rutile phase.

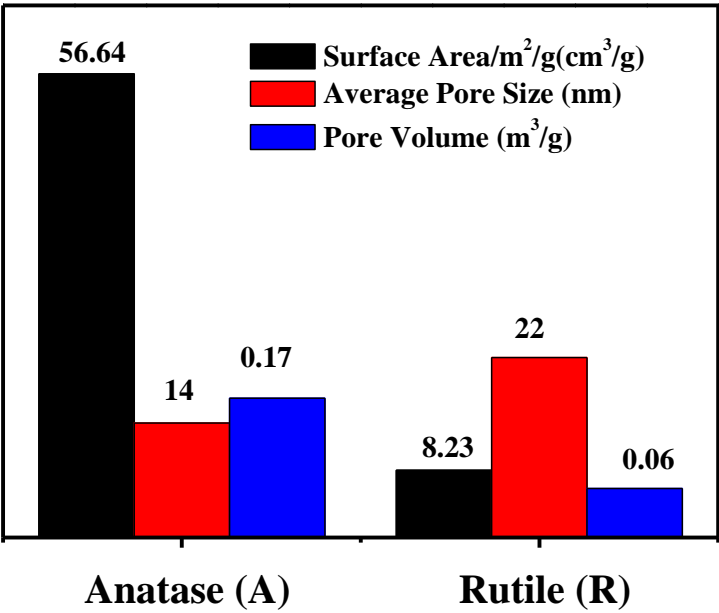


Figure S9: BET analysis of the two phase nanoparticles.

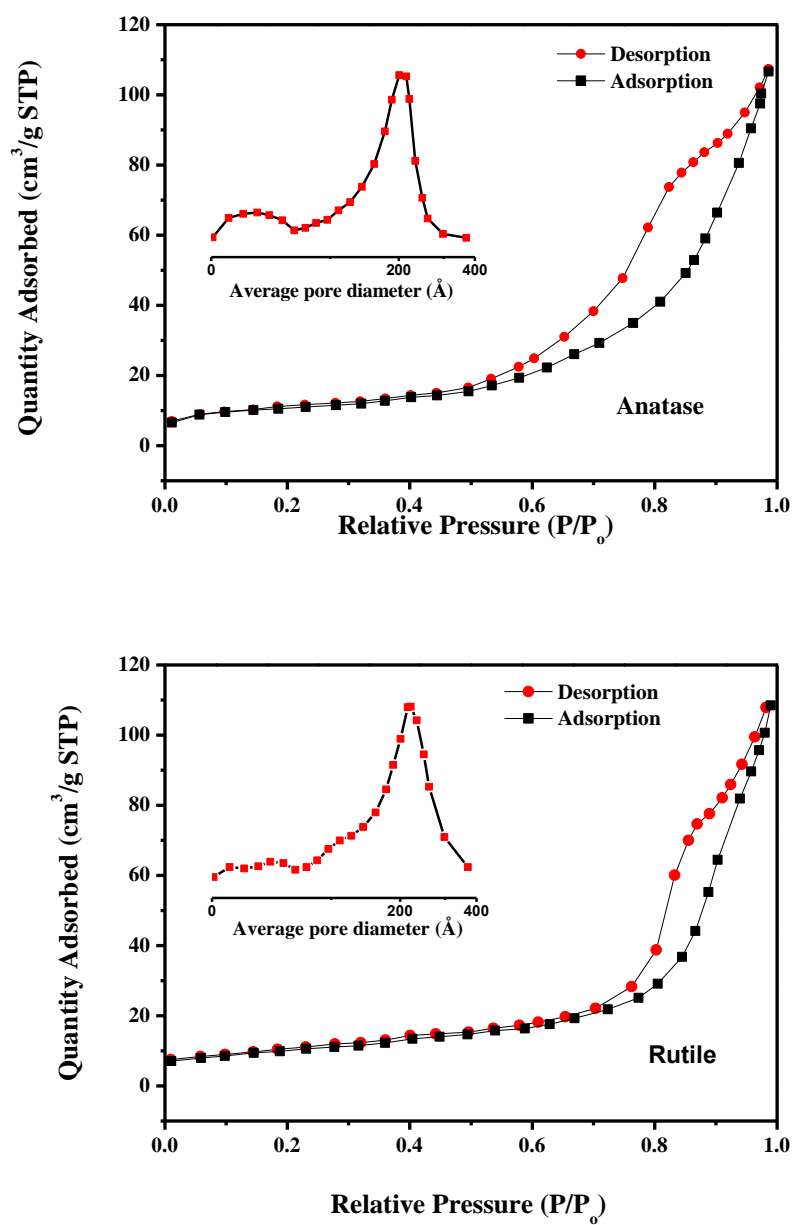


Figure S10: BET adsorption isotherm analysis of the two phase nanoparticles, inset shows pore size distribution,

Table S1: BET Surface area analyses of the nanoparticles with respect to calcinations temperature.

Sample Name	(BET) Surface Area (m ² /g)	Single point Adsorption total Pore Volume (cm ³ /g)	(BET)Average Pore width (nm)
50°C dry	198.9529	0.260953	4.68
200°C	192.9408	0.250389	5.19
400°C	114.9382	0.240613	8.37
600°C (anatase)	56.6461	0.165878	14.12
800°C	10.1756	0.091800	20.69
900 °C (rutile)	8.2351	0.057281	21.87

Table S2: Contact angle of PCL and PCL-TiO₂ nanofibres composite

Contact angle															Mean	sd(Er±)	
PCL-A	98.8	99.4	99.5	101.4	101.2	100.5	102.5	102.4	99.6	99.8	100.3	102.3	101.5	102.9	99.2	100.75	1.3648
PCL-R	107.8	104.6	105.3	107.4	107.8	105.6	104.5	106.4	105.7	106.4	107.1	108.2	104.7	106.2	106.8	106.3	1.21831
PCL	116.9	116.7	118.3	119.1	117.4	118.2	116.3	120.9	117.3	117.2	119.9	116.9	119.6	117.4	118.1	118.02	1.33106

Table S3: Details of Modulus and Toughness of nanofibres

	Modulus	Standard Deviation	Toughness	Standard Deviation
PCL	4.28		325	
	3.98		347	
	4.62		307	
Average	4.29	0.32	326	20.03
PCL-A	5.13		478	
	5.43		502	
	4.81		444	
Average	5.12	0.31	474	29.14
PCL-R	4.79		358	
	4.42		378	
	5.02		339	
Average	4.74	0.30	358	19.50