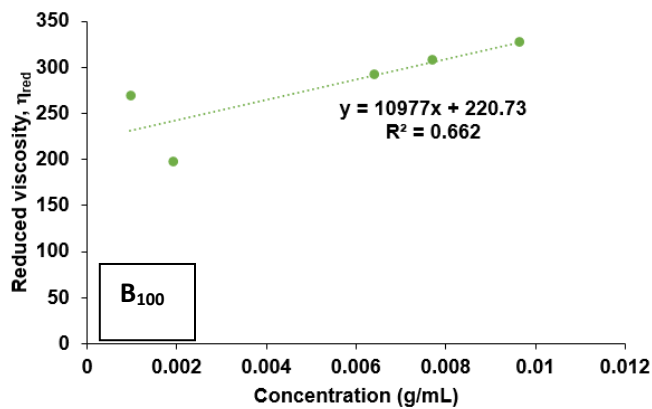
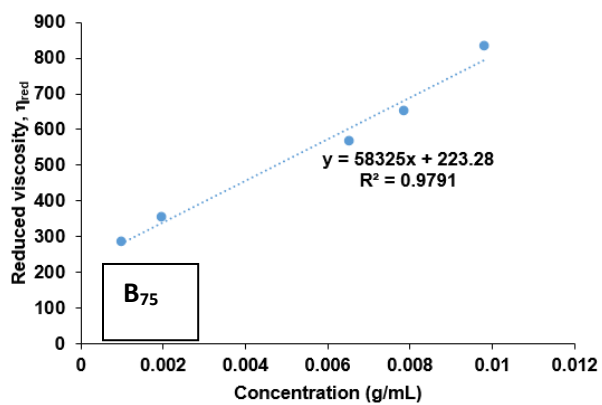
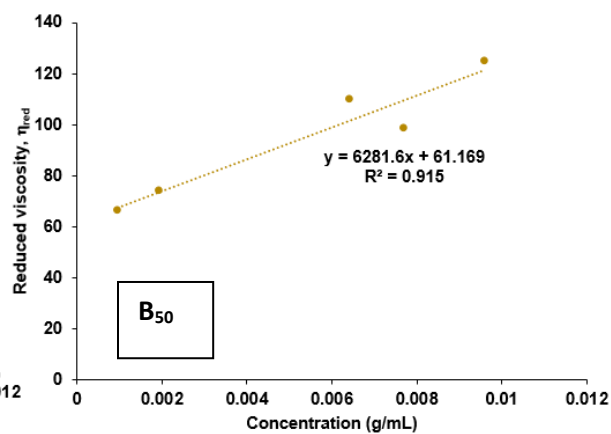
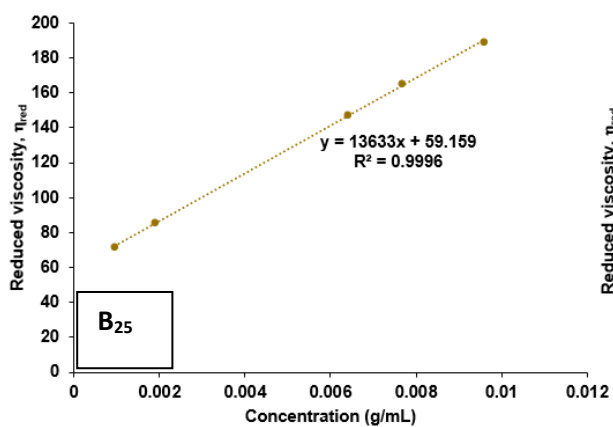
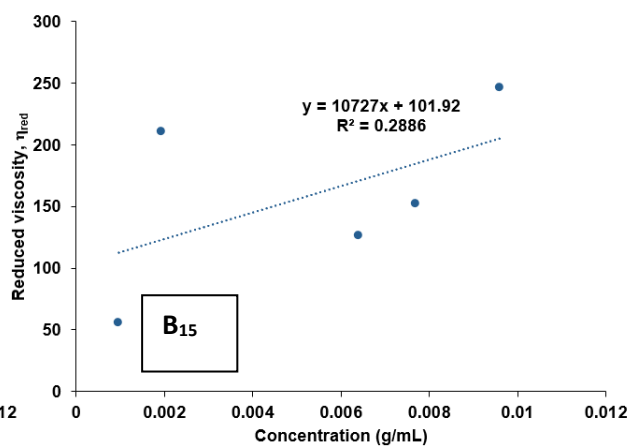
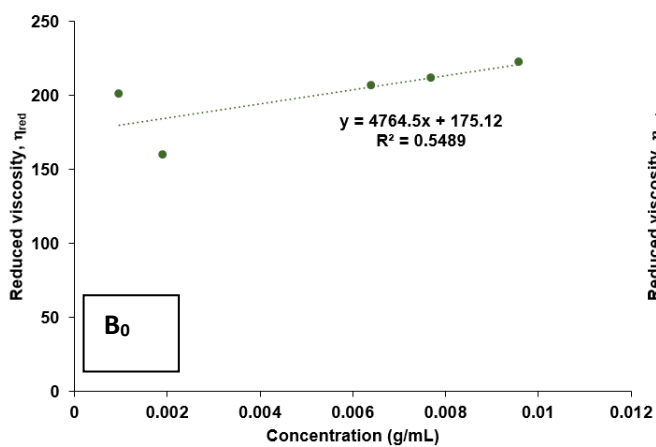
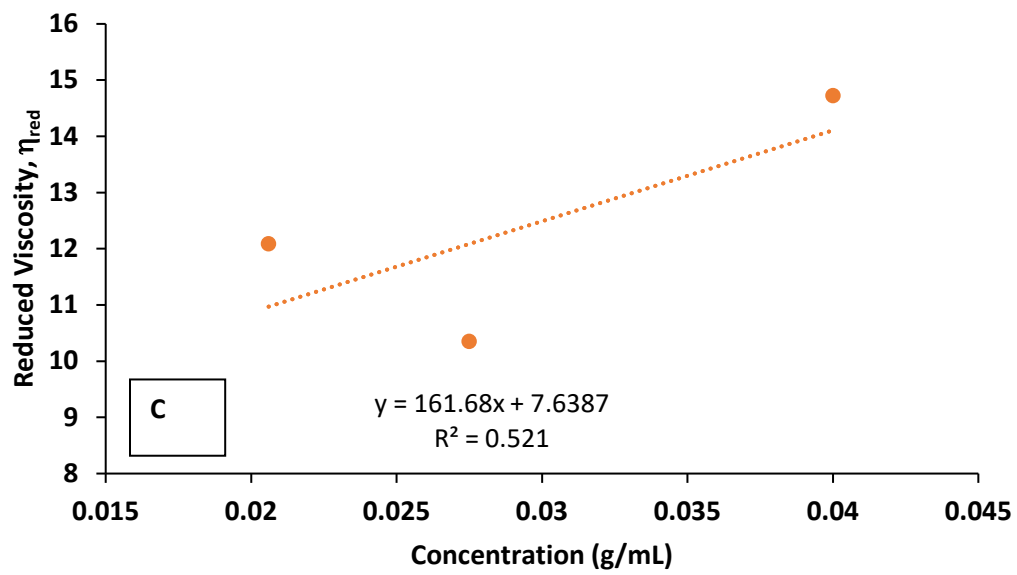


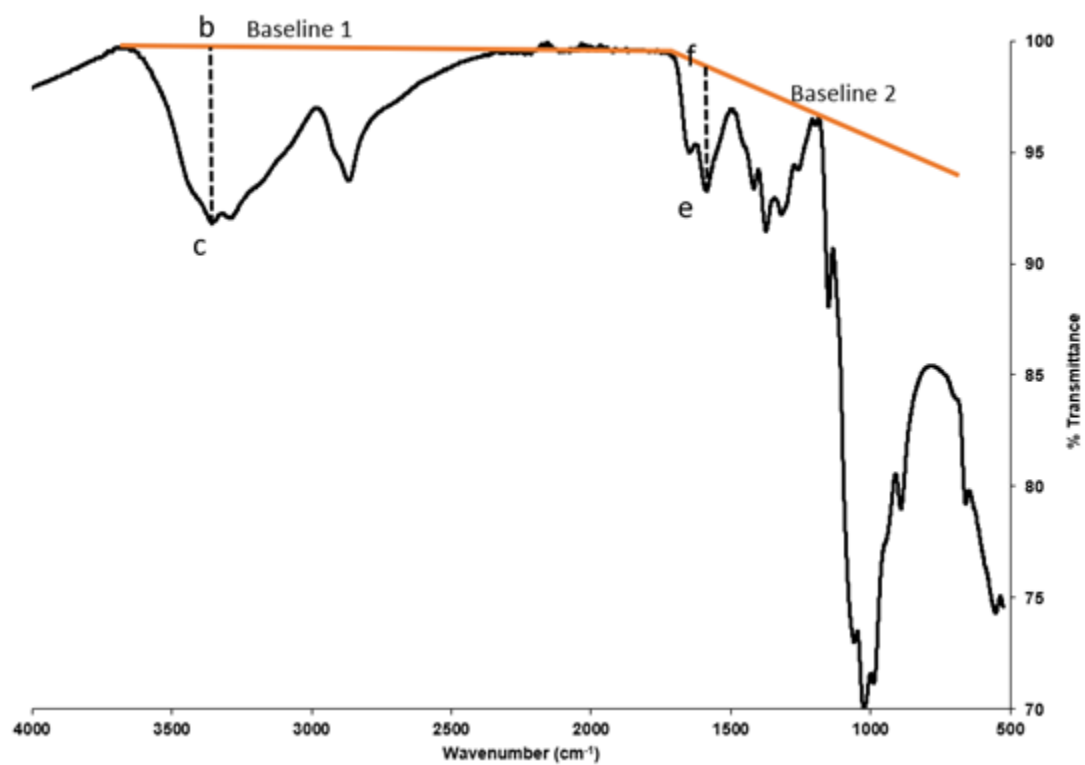
Supplementary materials

- S1:** Reduced viscosity (η_{red}) against polymer concentration (in g/mL) correlation graphs for intrinsic viscosity determination
- S2:** Figure showing the baseline technique of determining the absorption ratio of the FTIR spectra (ef:bc)
- S3:** Figure showing the FTIR spectra of COSPCMC-2 and COSPCMC-4
- S4:** Table showing the interpretation of the major peaks in COSPCMC hydrogel's FTIR spectra

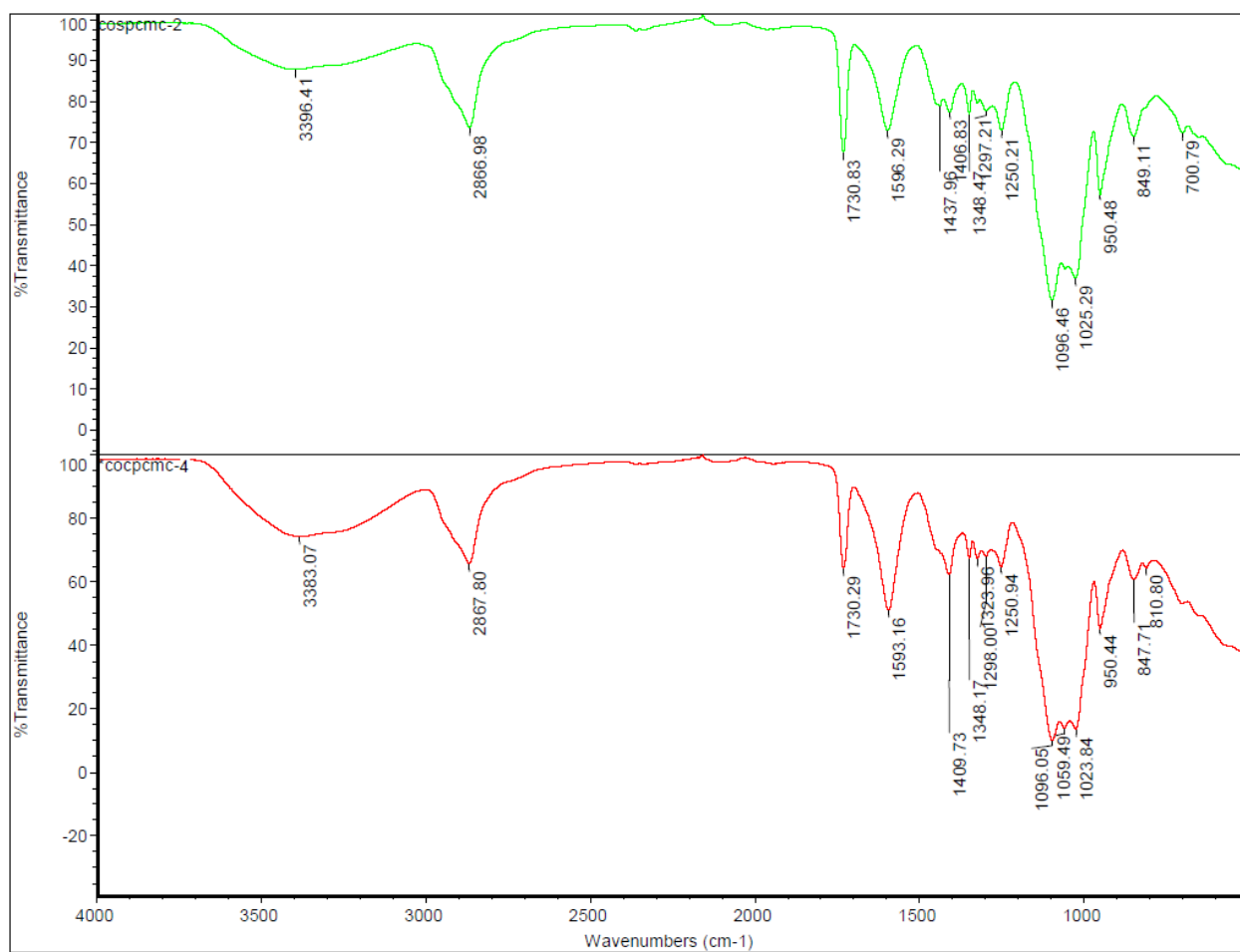




S1: Reduced viscosity (η_{red}) against polymer concentration (in g/mL) correlation graphs for intrinsic viscosity determination



S2: Figure showing the baseline technique of determining the absorption ratio of the FTIR spectra (ef:bc)



S3: Figure showing the FTIR spectra of COSPCMC-2 and COSPCMC-4

S4: Interpretation of the major peaks in COSPCMC hydrogel through analysis of the FTIR spectra

Wavenumber (cm⁻¹)	Possible functional group (Coates 2006)	Associated compound
3383	-OH	COS and CMC
2867	C-H stretch in >CH ₂	PEGDA
1730	C=O in unsaturated esters	PEGDA
1590	NH in RCONH group	COS
1409	CH in CH=CH ₂ group	PEGDA
1250	CN	COS
1096	-O- in ether group	CMC
950	C=C	PEGDA
847	Glucopyranose ring	COS