Supporting Documents

Self-healable Fluorescence Active Hydrogel Based On Ionic Block Copolymer Prepared via Ring Opening Polymerization and Xanthate Mediated RAFT Polymerization

Sovan Lal Banerjee\textsuperscript{a}, Richard Hoskins\textsuperscript{b}, Thomas Swift\textsuperscript{b}, Stephen Rimmer\textsuperscript{b*}, Nikhil K. Singha\textsuperscript{a*}

\textsuperscript{a} Rubber Technology Centre, Indian Institute of Technology, Kharagpur-721302, India.
\textsuperscript{b} School of Chemistry and Biosciences, University of Bradford, Bradford, West Yorkshire BD7 1DP, U.K.

\textbf{Figure S1:} \textsuperscript{1}H NMR analysis of potassium O-ethyl xanthate in D\textsubscript{2}O.
Figure S2: $^{13}$C NMR analysis of potassium O-ethyl xanthate.

Figure S3: Mass spectra of potassium O-ethyl xanthate.
Figure S4: (a) FTIR analysis of the prepared components, (b) XRD of PCL-OH, PCL-b-PMTAC and PCL-b-PSS.

Figure S5: (i) DLS analysis results. (ii) Water contact angle (WCA) results.
Figure S6: Creep compliance comparison of the hydrogel samples at constant stress of 0.1 MPa and at 25°C temperature.