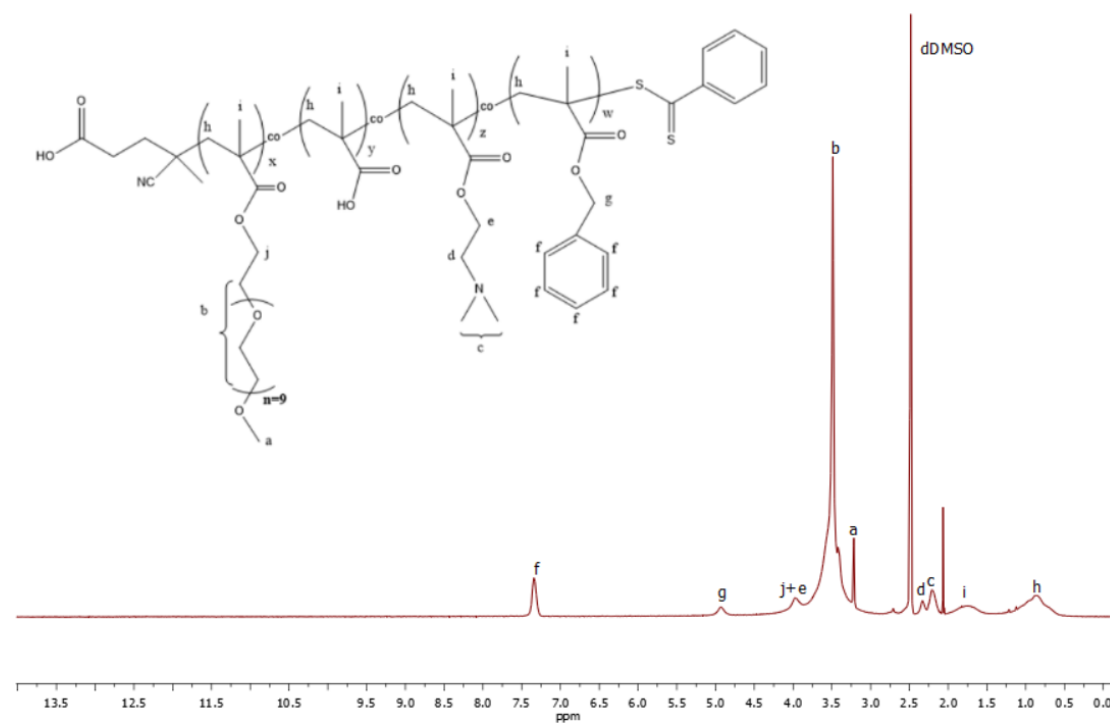


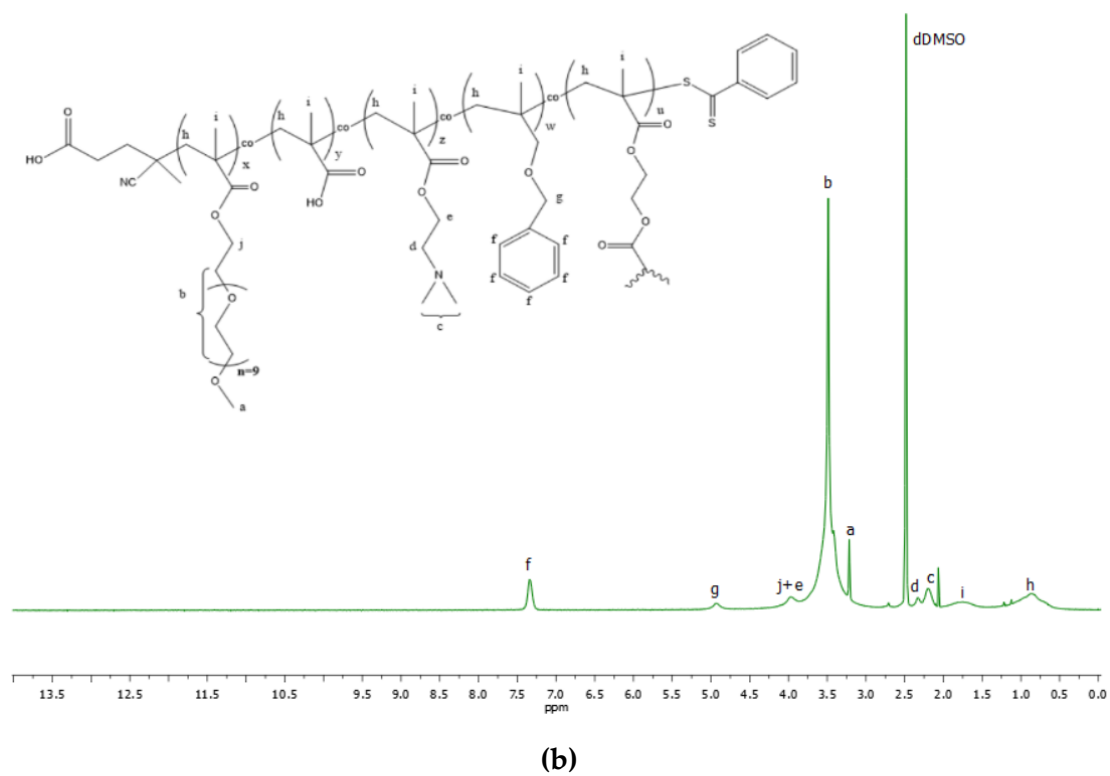
Supplementary Materials

LT2



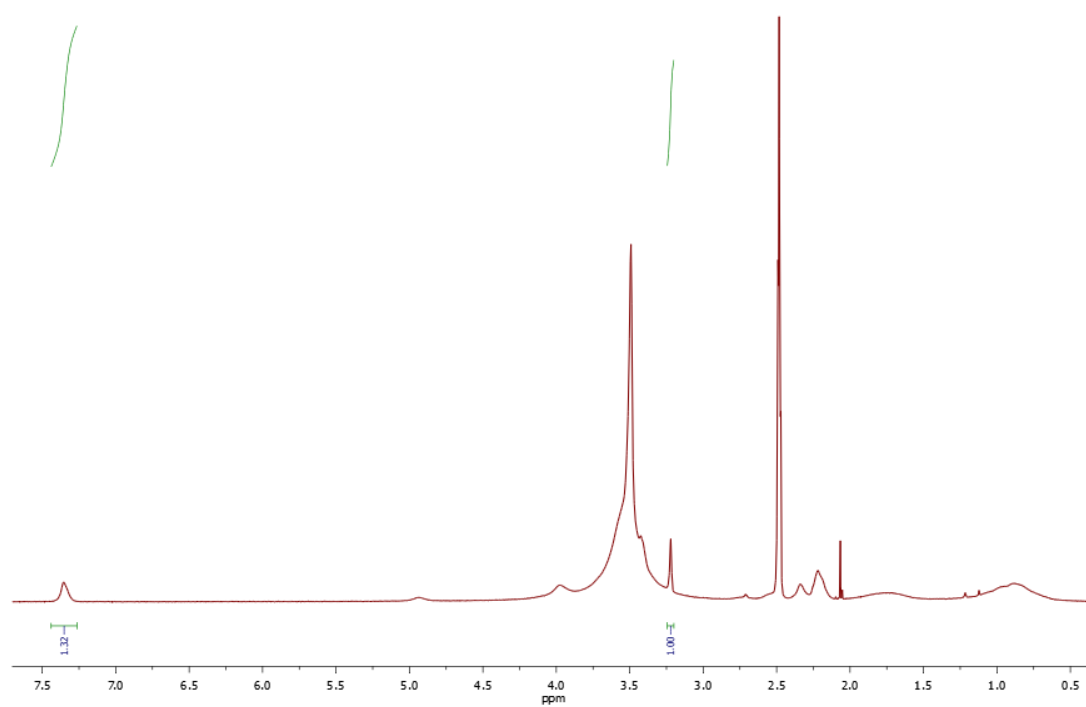
(a)

HT2



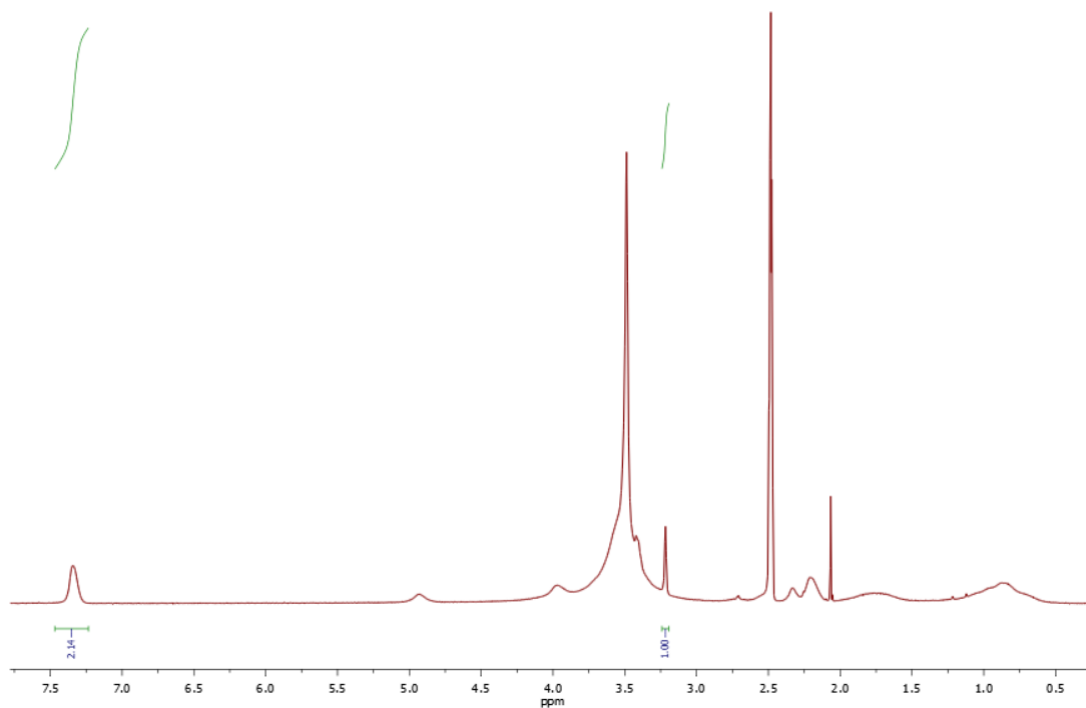
**Figure S1.** <sup>1</sup>H-NMR spectrum of (a) LT2 (red) and (b) HT2 (green).

**LT1**



**(a)**

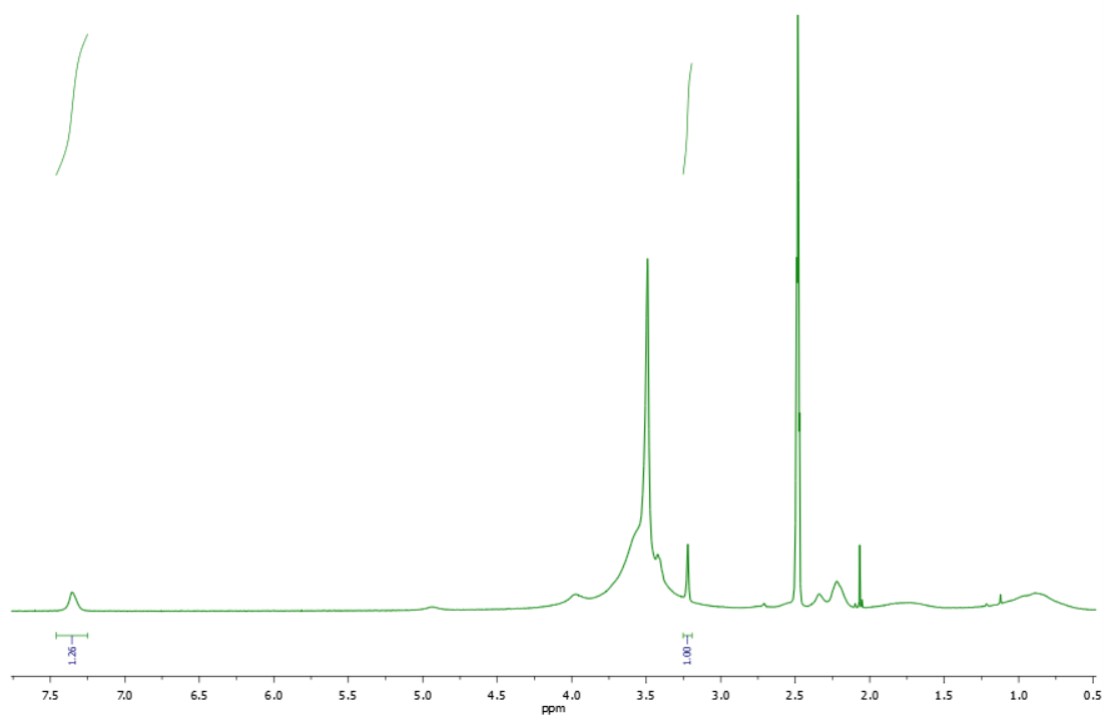
**LT2**



**(b)**

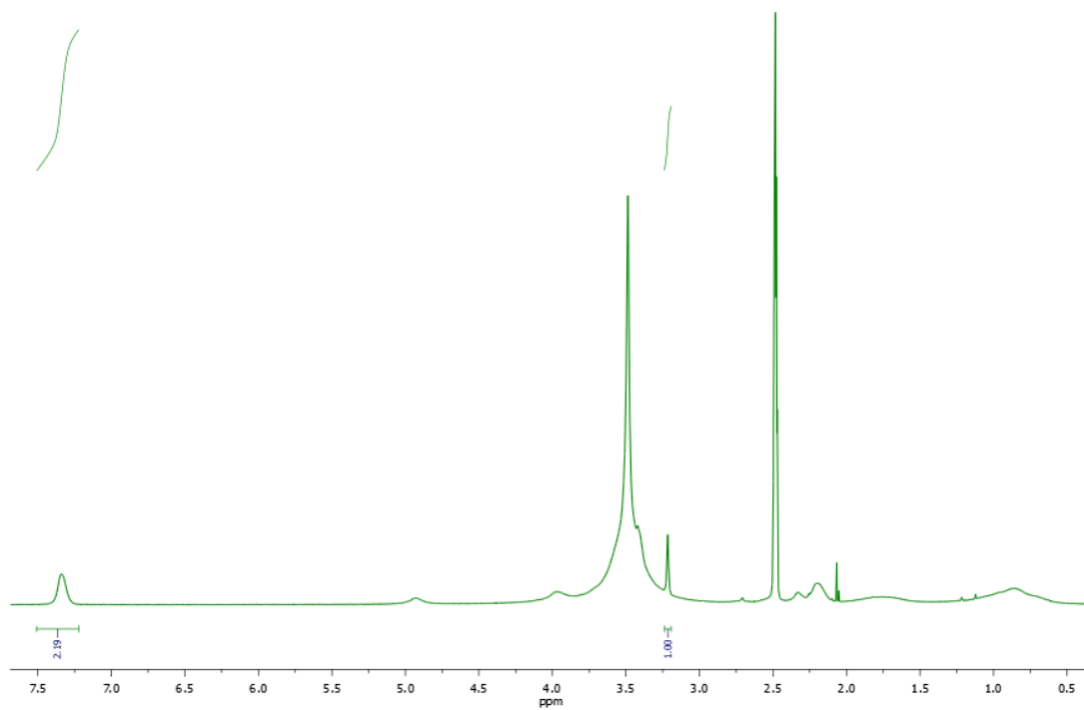
**Figure S2.** Integrations of peaks “a” and “f” of linear quaterpolymers (a) LT1 and (b) LT2.

**HT1**



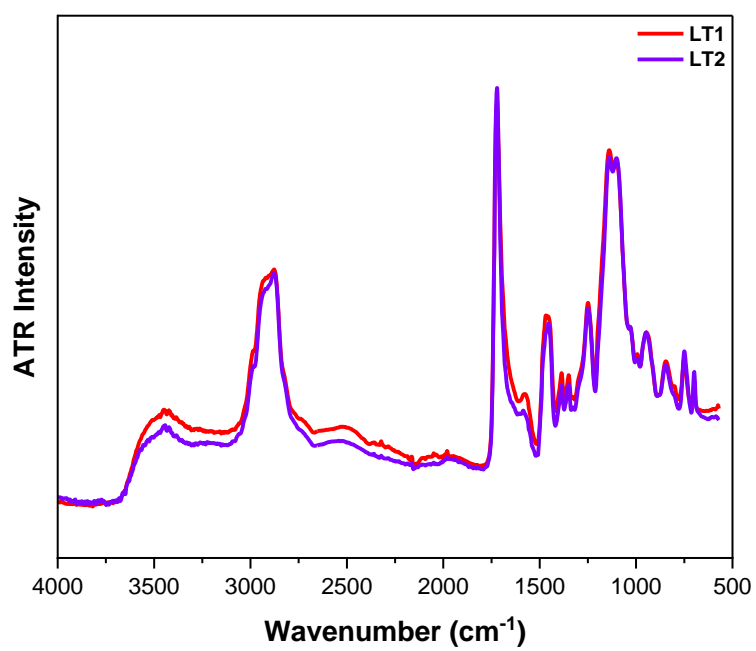
**(a)**

**HT2**

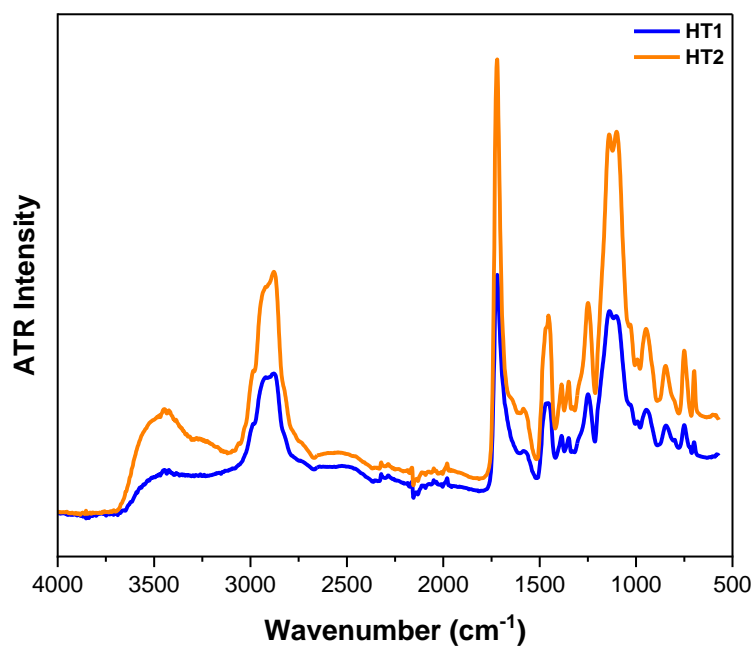


**(b)**

**Figure S3.** Integrations of peaks “a” and “f” of hyperbranched quaterpolymers (a) HT1 and (b) HT2.

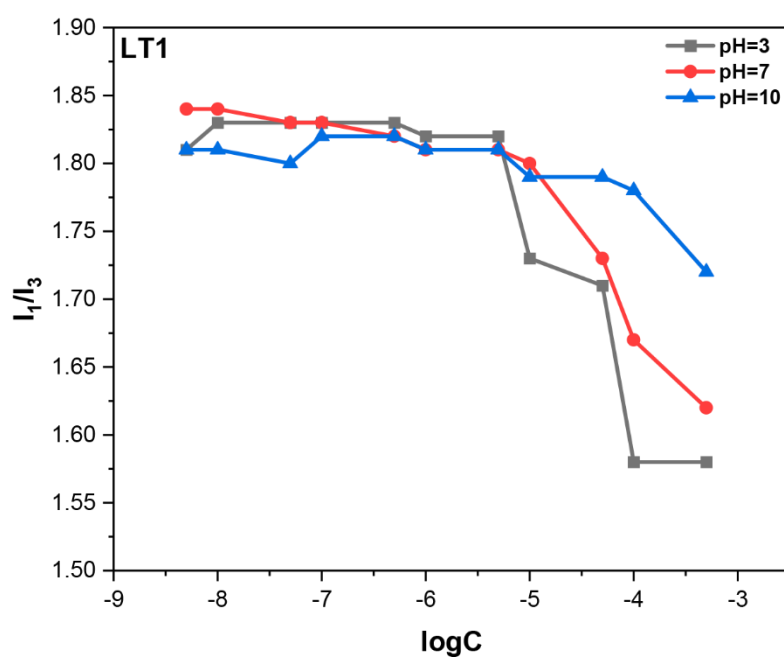


(a)

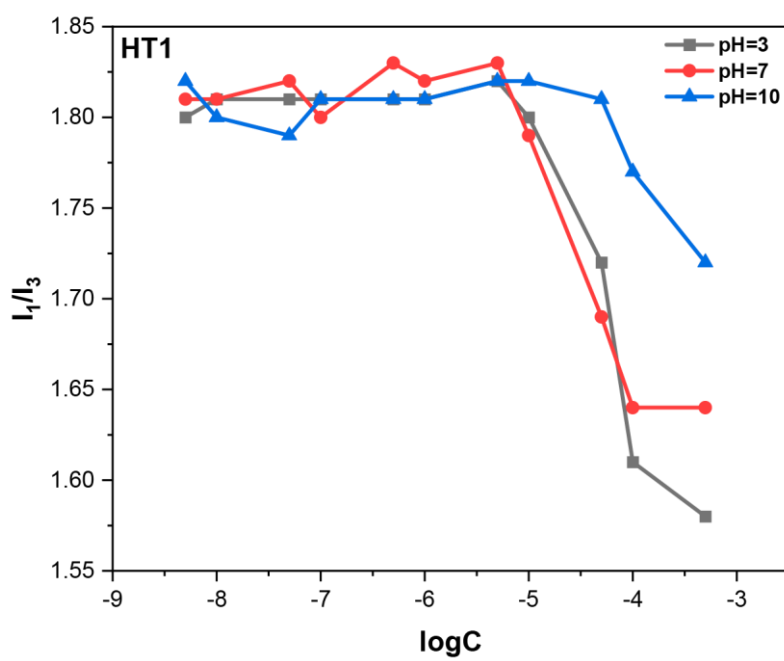


(b)

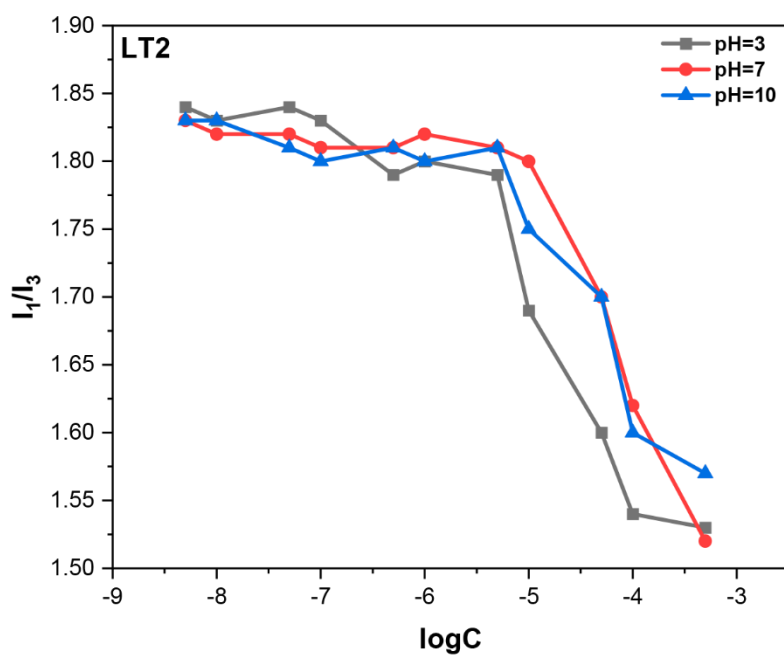
**Figure S4.** ATR-FTIR spectra of (a) LT1/LT2 and (b) HT1/HT2.



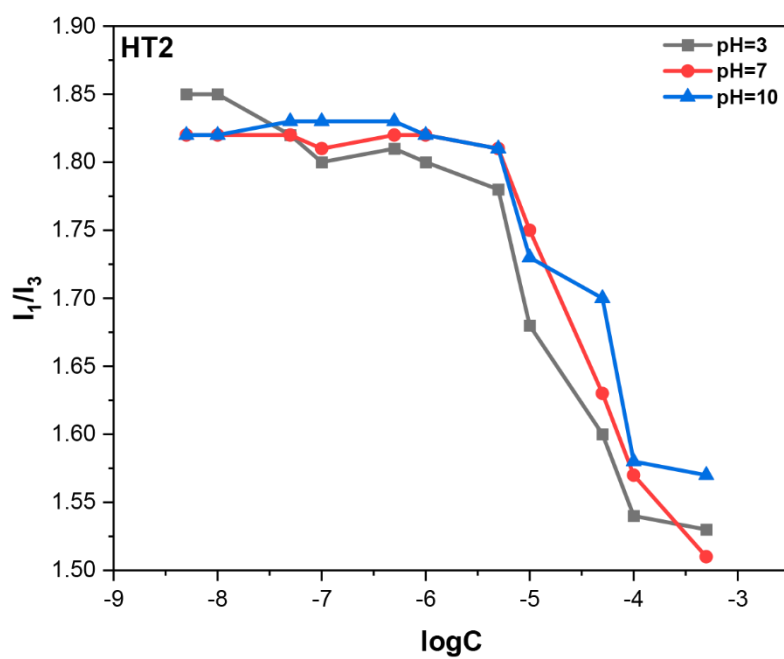
(a)



(b)

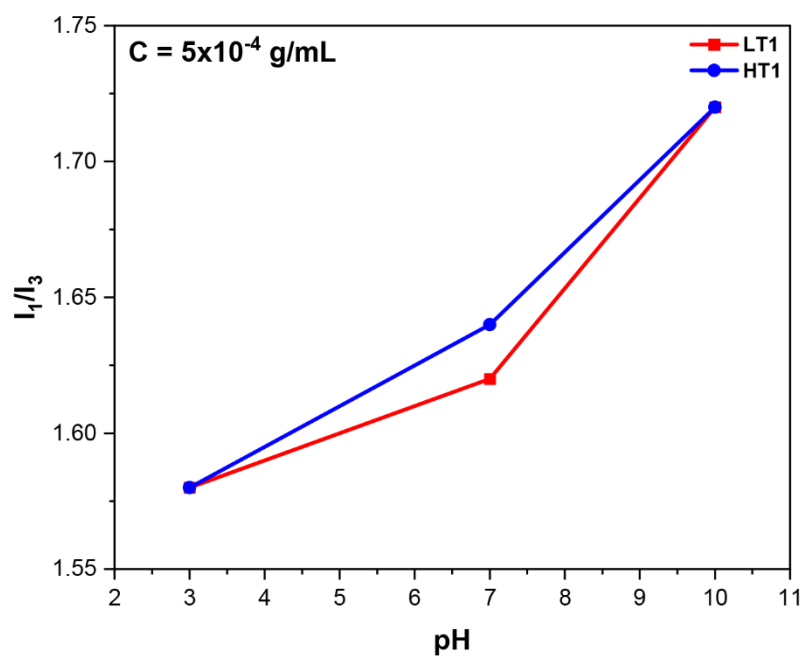


(c)

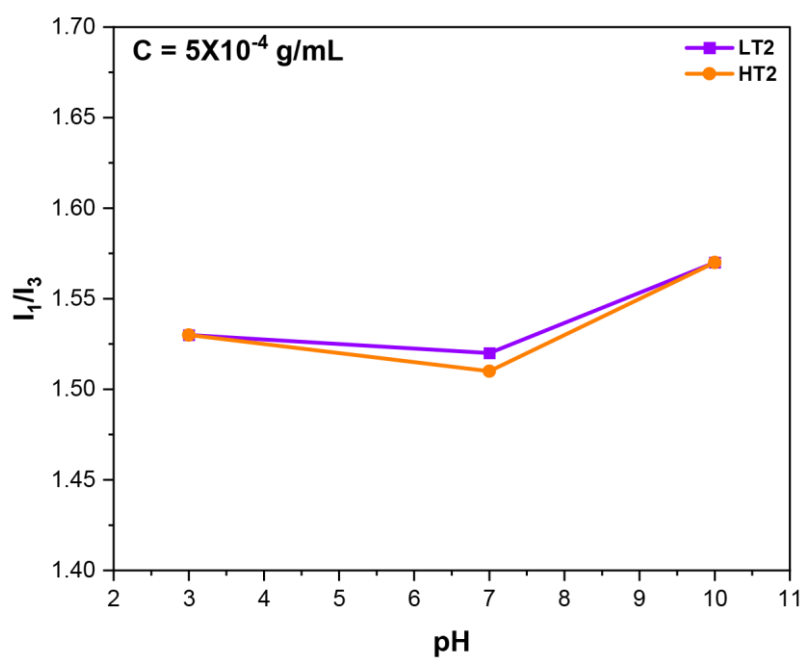


(d)

**Figure S5.**  $I_1/I_3$  ratio as a function of the logarithm of (a) LT1, (b) HT1, (c) LT2 and (d) HT2 concentration at three different pHs.



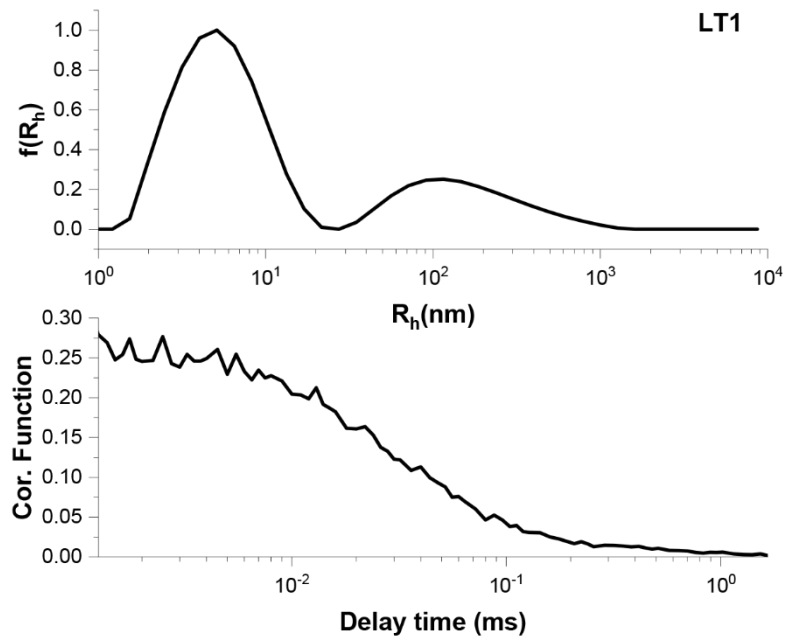
(a)



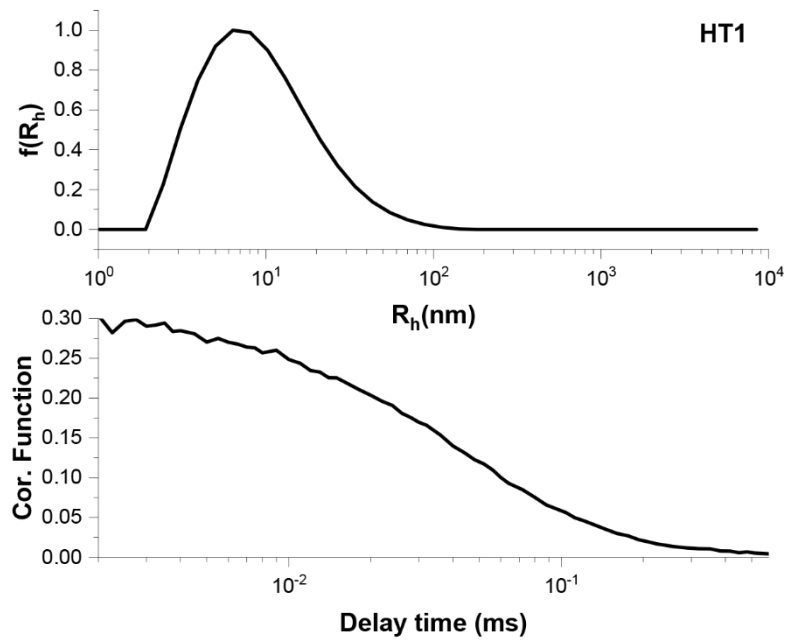
(b)

**Figure S6.**  $I_1/I_3$  ratio of the maximum quaterpolymer concentration investigated ( $C = 5 \times 10^{-4}$  g/mL) as a function of pH for (a) LT1 / HT1 and (b) LT2 / HT2 polymers.

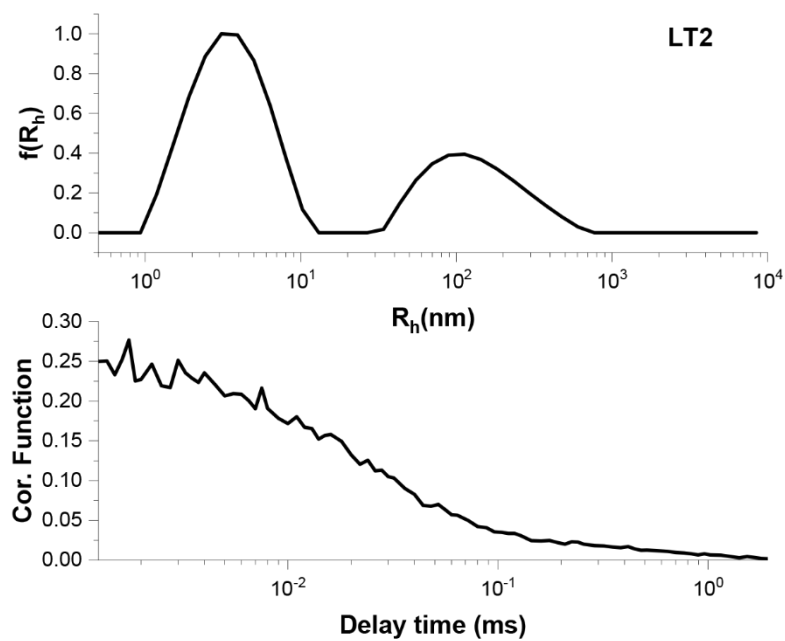




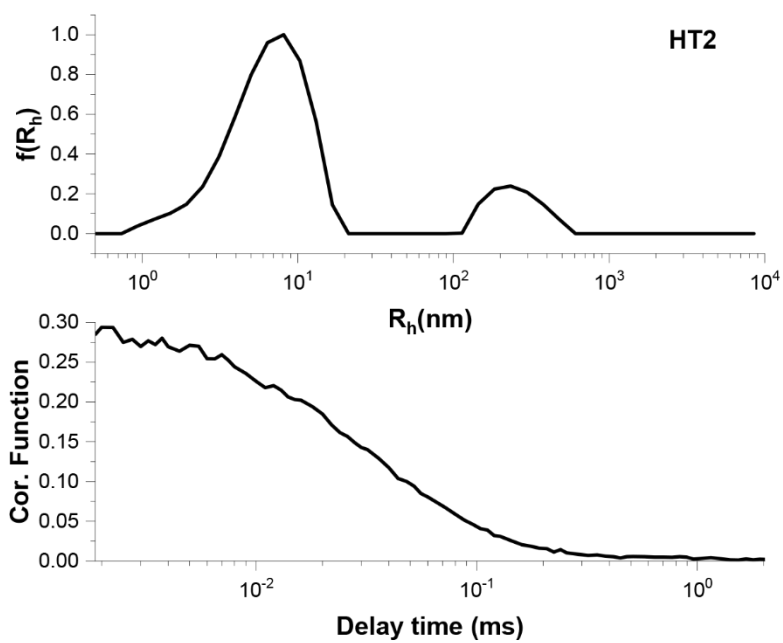
(a)



(b)



(c)



(d)

**Figure S7.** Intensity weighted size distribution and its respective correlation function for (a) LT1, (b) HT1, (c) LT2 and (d) HT2 at pH=7.