Supporting Information

**Tables**

**Table S1** The rheological parameters of liquid crystals at 37 oC

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Sample | Curcumin  (wt‰) | TP  (wt‰) | *k* | *-α* | *η*0.1  (Pa·s) | *T*C  (oC) | *τ*max(s) |
| H3Cur1 | 2.08 | --- | 271.7 | -0.72 | 1413.9 | 52.8 | 17.06 |
| H3Cur2 | 3.07 | --- | 183.6 | -0.73 | 994.3 | 55.9 | 18.82 |
| H3Cur3 | 6.32 | --- | 226.9 | -0.62 | 1016.4 | 46.8 | 0.04 |
| H3Cur4 | 14.87 | --- | 9.2 | -0.67 | 42.8 | 27.1 | 0.02 |
| H3T1 | --- | 1.33 | 350.2 | -0.63 | 1531.9 | 53.8 | 0.01 |
| H3T2 | --- | 3.05 | 302.9 | -0.67 | 1476.8 | 56.7 | 0.01 |
| H3T3 | --- | 4.03 | 257.6 | -0.74 | 1374.0 | 51.2 | 1.54 |
| H3T4 | --- | 21.10 | 158.5 | -0.63 | 705.6 | 42.7 | 3.21 |
| H3Cur4T4 | 14.88 | 21.10 | 0.5 | -0.87 | 3.4 | 21.7 | ----- |
| H3Cur4T3 | 14.82 | 4.02 | 3.2 | -0.42 | 9.0 | 30.7 | 0.03 |
| H3Cur3T4 | 6.34 | 21.10 | 154.1 | -0.75 | 852.1 | 40.3 | 0.01 |
| H3Cur3T3 | 6.31 | 4.04 | 172.8 | -0.70 | 904.7 | 47.9 | 0.01 |
| H3Cur2T4 | 3.05 | 21.10 | 183.6 | -0.73 | 982.9 | 49.4 | 0.36 |
| H3Cur2T3 | 3.04 | 4.01 | 310.1 | -0.72 | 1667.5 | 60.5 | 0.78 |

**Table S2** The rheological parameters of S3 and S6 at different temperature

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Sample | *T* (oC) | *k* | *-α* | *η*0.1(Pa·s) | *τ*max (s) |
| S3  S6 | 30 | 236.91 | -0.81 | 1473.4 | 0.25 |
| 37 | 216.08 | -0.72 | 1130.9 | 0.35 |
| 45 | 153.35 | -0.69 | 781.7 | 0.09 |
| 50 | 7.83 | -0.43 | 19.6 | ----- |
| 30 | 12906.41 | -0.77 | 75492.9 | 31.19 |
| 37 | 7931.60 | -0.76 | 52321.3 | 21.73 |
| 45 | 1.88 | -0.57 | 7.0 | 0.08 |

**Figure captions**

**Figure S1** (a) Plots of surface tension versus the total surfactant molar concentration in 0.9% NaCl solution. (b) Ideal (dashed lines), experimental (circle) CMC and *β* (square) values as a function of *α*NaDC.

**Figure S2** Representative SAXS spectra of S1, S2, S4 and S5 at 37 oC.

**Figure S3** Linear viscoelasticity domain of samples. where G' (filled) was storage moduli and G'' (hollow) was loss moduli at 37 oC.

**Figure S4** Mass ratio of Brij97-NaDC/IPM/H2O were 54/40/6, the values of *α*NaDC were 0.42 (S3), 0.3 (S3') and 0.16 (S3'') respectively at 37 oC. (a) Linear viscoelasticity domain of samples, where *G'* (filled) was storage moduli and *G''* (hollow) was loss moduli. (b) Steady viscosity as a function of share rate for samples.

**Figure S5** Sample S3 was added with different weights of TP at 37 oC. (a) Steady viscosity as a function of share rate for samples. (b) Storage (filled *G'*) and loss (hollow *G''*) moduli as a function of angular frequency for samples. (c) Storage moduli (*G'*) as a function of temperature for samples, the inset was the curve of tg*δ* (G''/G') versus temperature.

**Figure S6** Sample S3 was added with different weights of curcumin and TP at 37 oC. (a) Steady viscosity as a function of share rate for samples. (b) Storage (filled *G'*) and loss (hollow *G''*) moduli as a function of angular frequency for samples.

**Figure S7** (a) and (b), representative SAXS spectra of S3Cur and S3T at 37 oC. (c) The release of polyphenols from S3Cur and S3T at 37 oC.





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Figure S5 Sample S3 was added with different weights of TP at 37 oC. (a) Steady viscosity as a function of share rate for samples. (b) Storage (filled *G'*) and loss (hollow *G''*) moduli as a function of angular frequency for samples. (c) Storage moduli (*G'*) as a function of temperature for samples, the inset was the curve of tg*δ* (G''/G') versus temperature.





Figure S6 Sample S3 was added with different weights of curcumin and TP at 37 oC. (a) Steady viscosity as a function of share rate for samples. (b) Storage (filled *G'*) and loss (hollow *G''*) moduli as a function of angular frequency for samples.





Figure S7 (a) and (b), representative SAXS spectra of S3Cur and S3T at 37 oC. (c) The release of polyphenols from S3Cur and S3T at 37 oC.