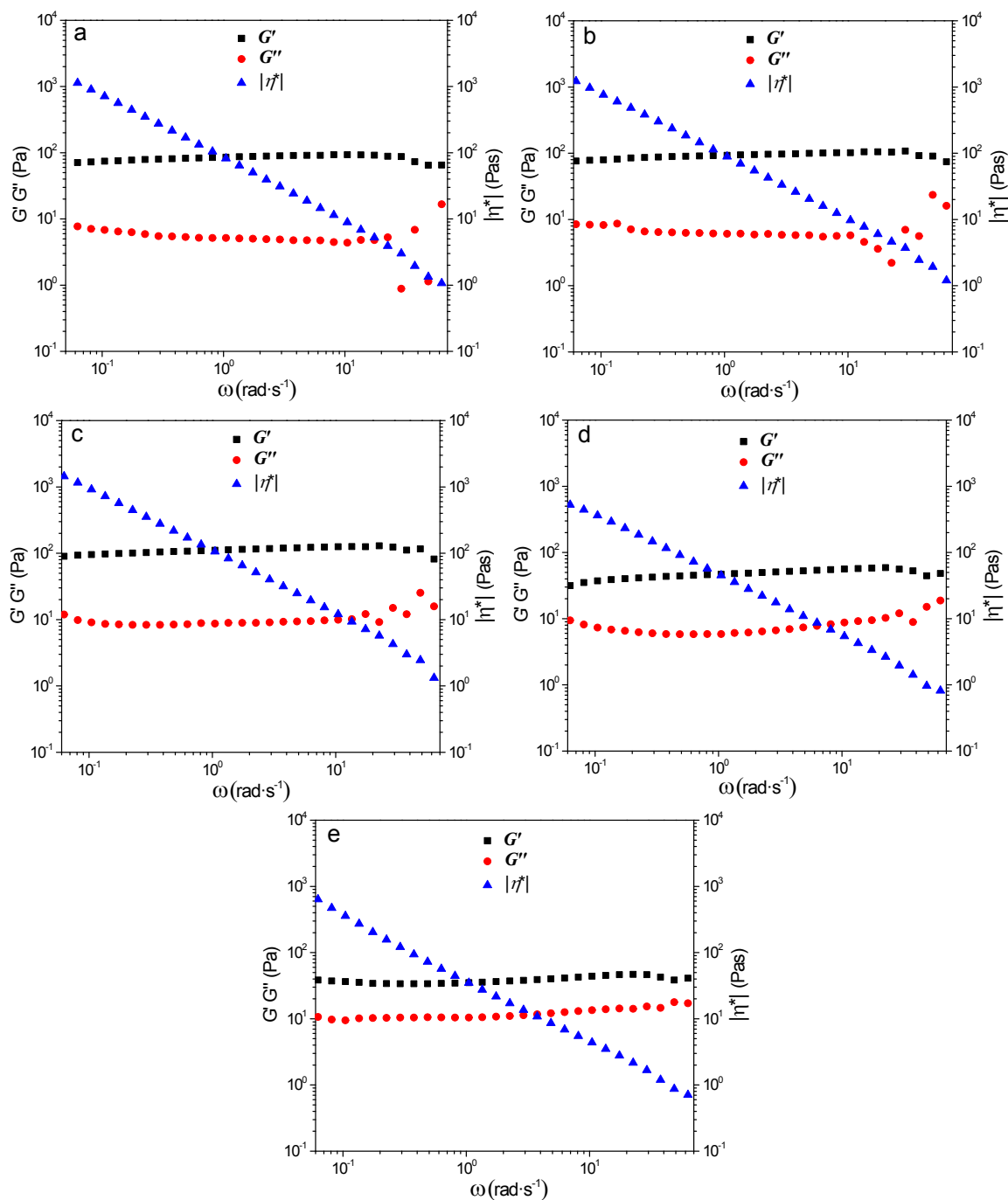
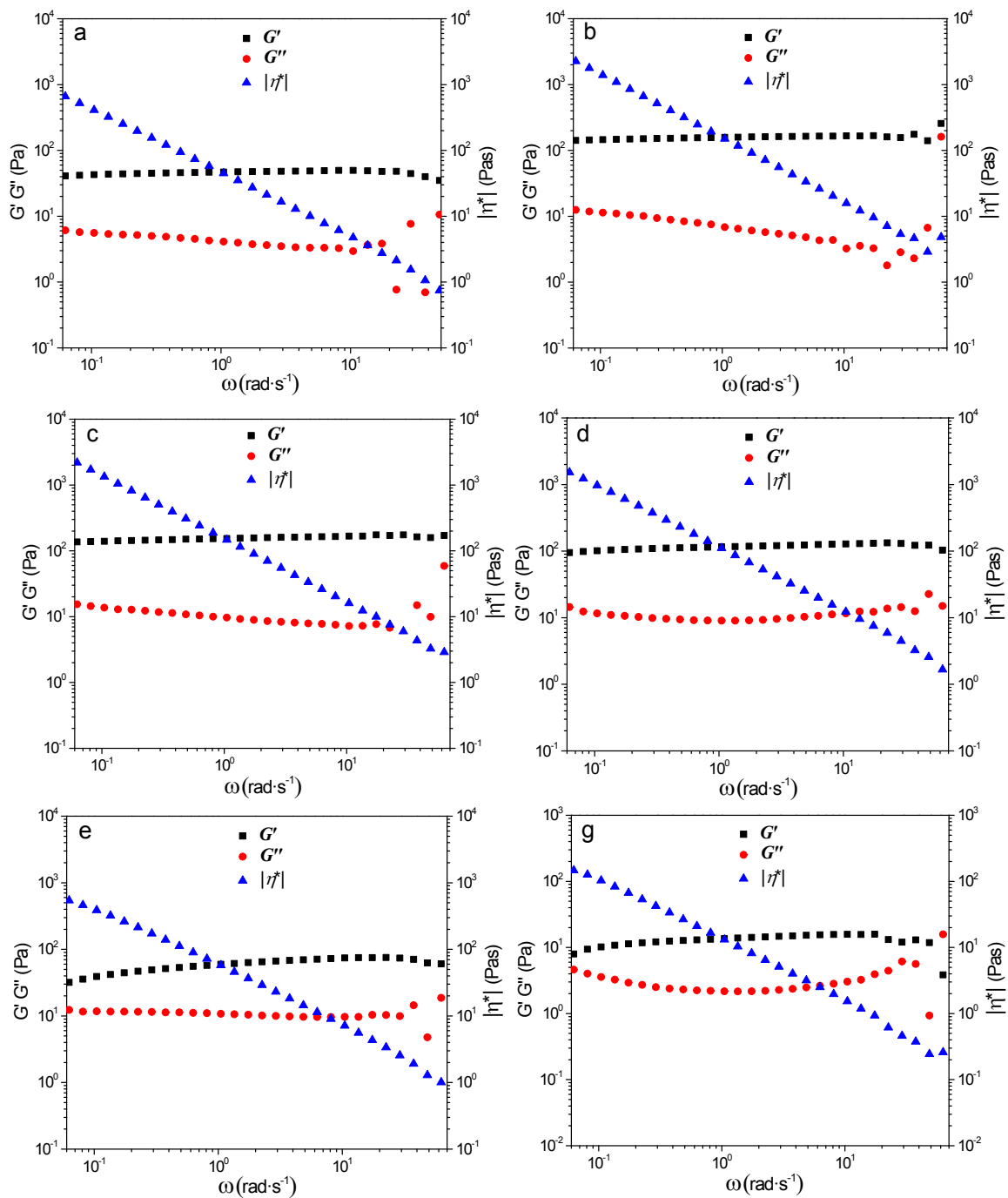


## Supporting Information for

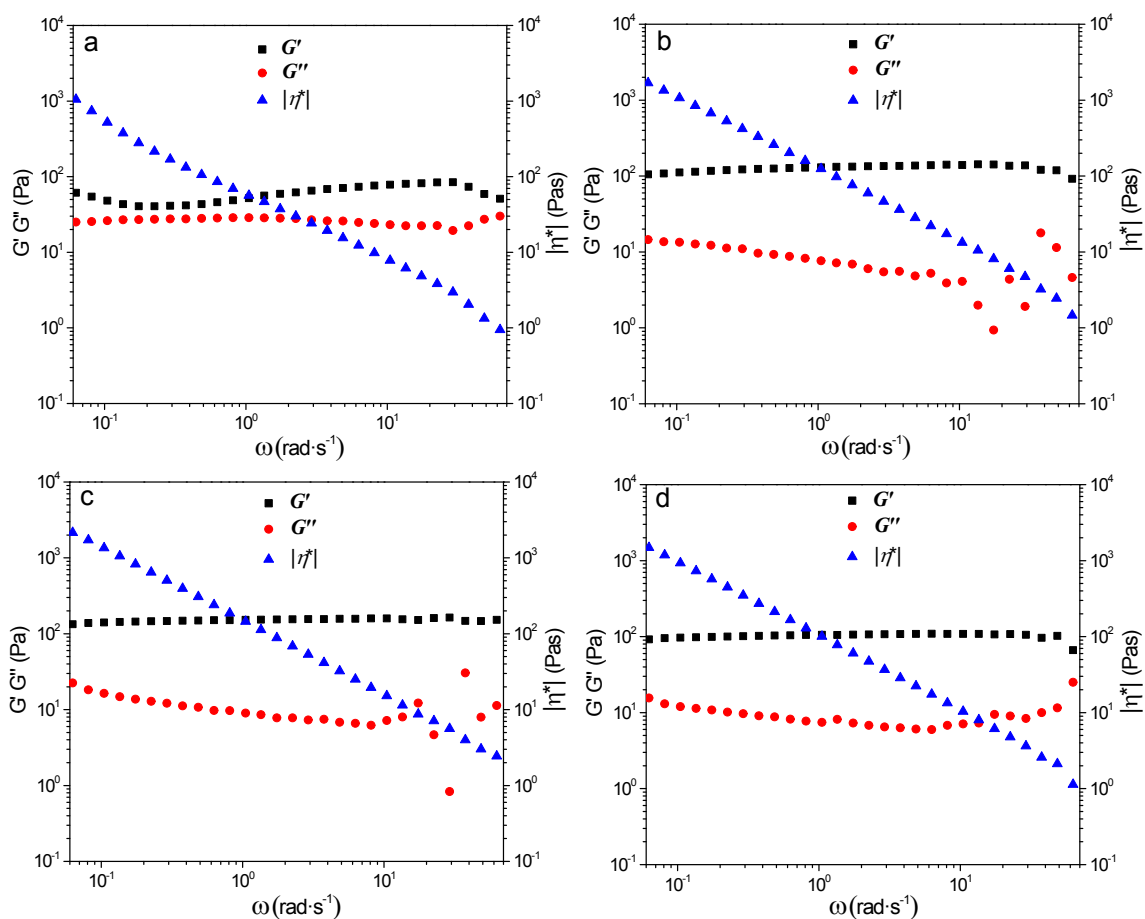
# Synergism and Formation of Vesicle Gels in Salt-Free Catanionic Hydrocarbon/Fluorocarbon Surfactant Mixtures



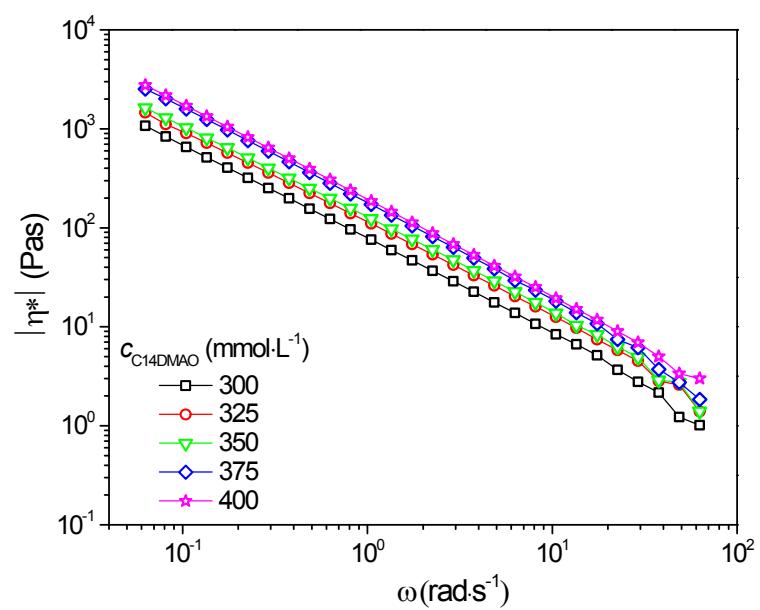
**Fig. S1.** Variation of storage modulus ( $G'$ ), viscous modulus ( $G''$ ) and complex viscosity ( $|\eta^*|$ ) as a function of angular frequency for vesicle gels formed in  $C_{14}DMAO/TFOPA$  system.  $c_{C_{14}DMAO} = 300 \text{ mmol}\cdot\text{L}^{-1}$ ,  $X_{TFOPA} = 0.285$  (a),  $0.333$  (b),  $0.362$  (c),  $0.388$  (d) and  $0.412$  (e), respectively.



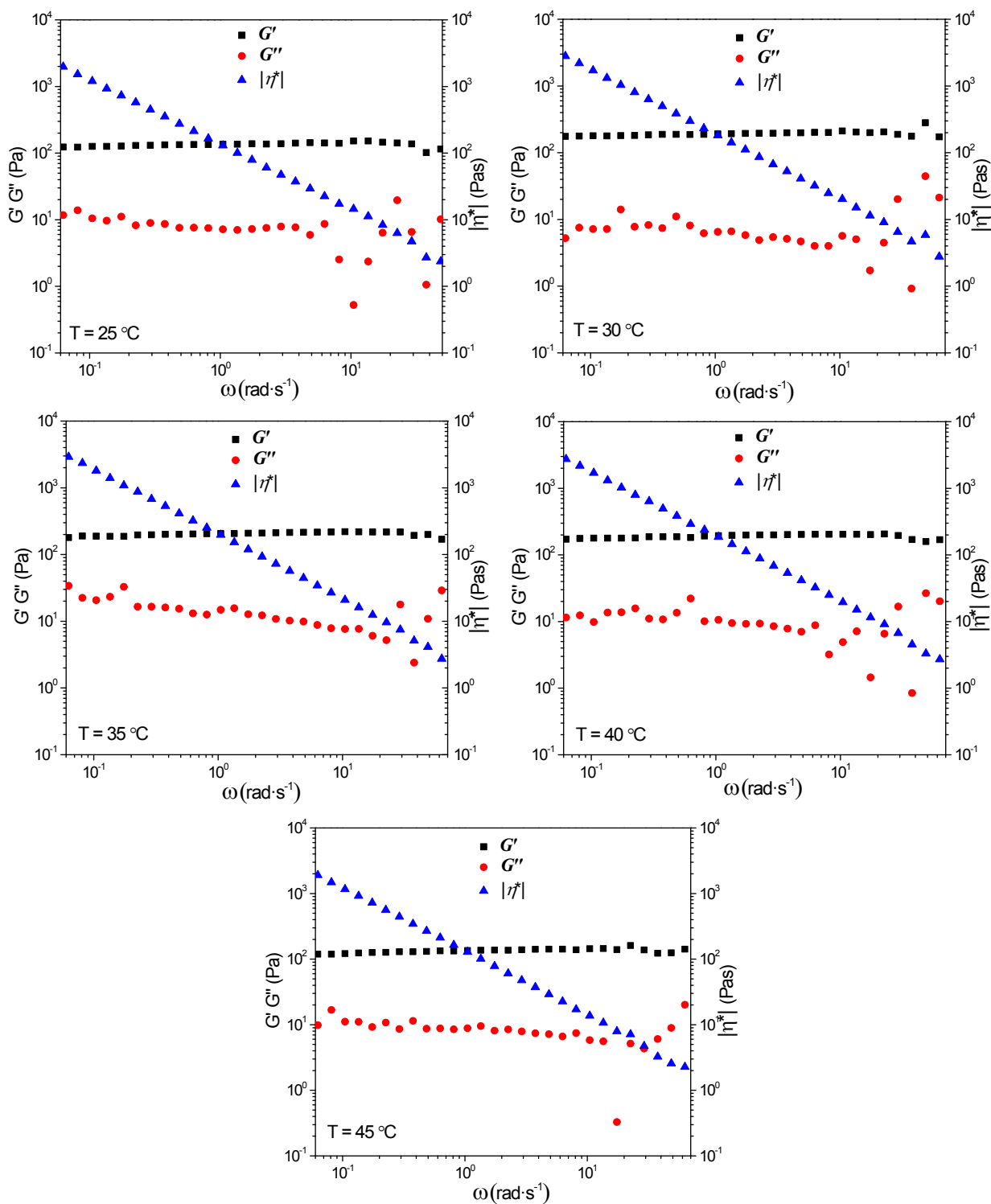
**Fig. S2.** Variation of storage modulus ( $G'$ ), viscous modulus ( $G''$ ) and complex viscosity ( $|\eta^*|$ ) as a function of angular frequency for vesicle gels formed in  $C_{14}$ DMAO/HFDPA system.  $c_{C_{14}DMAO} = 300 \text{ mmol}\cdot\text{L}^{-1}$ ,  $X_{HFDPA} = 0.268$  (a),  $0.318$  (b),  $0.348$  (c),  $0.375$  (d),  $0.400$  (e) and  $0.434$  (f) respectively.



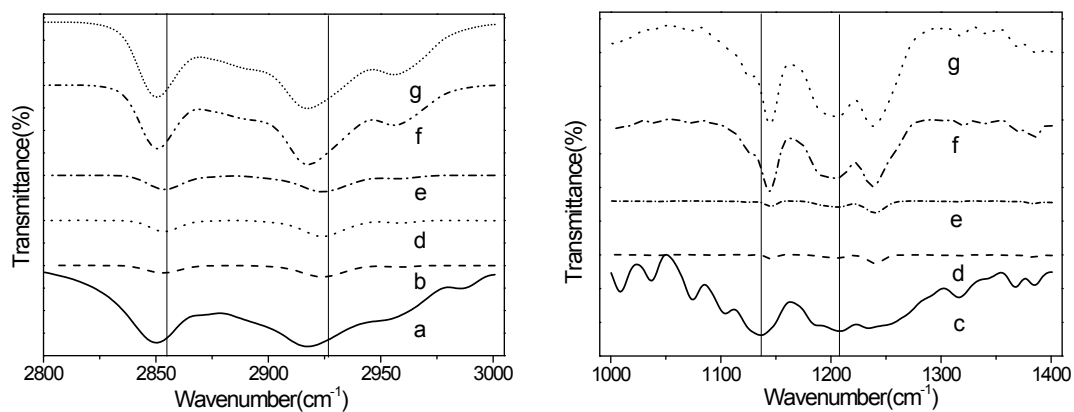
**Fig. S3.** Variation of storage modulus ( $G'$ ), viscous modulus ( $G''$ ) and complex viscosity ( $|\eta^*|$ ) as a function of angular frequency of 150 mmol·L<sup>-1</sup> HFDPA mixed with 250 (a), 300 (b), 350 (c) and 400 (d) mmol·L<sup>-1</sup> C<sub>14</sub>DMAO.



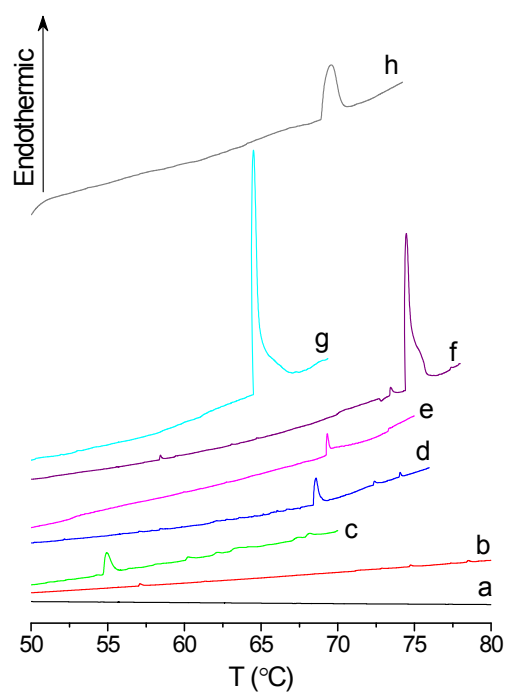
**Fig. S4.** Variation of the complex viscosity as a function of angular frequency for the samples with XHFDPA = 0.325 and increasing  $c_{C_{14}DMAO}$  as shown inset.



**Fig. S5.** Variation of storage modulus ( $G'$ ), viscous modulus ( $G''$ ) and complex viscosity ( $|\eta^*|$ ) as a function of angular frequency for a gel phase formed in  $\text{C}_{14}\text{DMAO}/\text{HFDPA}$  system with  $c_{\text{C}_{14}\text{DMAO}} = 300 \text{ mmol}\cdot\text{L}^{-1}$  and  $X_{\text{HFDPA}} = 0.318$  at different temperatures.



**Fig. S6.** IR spectra of solid  $C_{14}DMAO$  (a),  $300 \text{ mmol}\cdot\text{L}^{-1}$   $C_{14}DMAO$  aqueous solution (b), solid TFOPA (c) and different phases from  $C_{14}DMAO/TFOPA$  mixtures:  $X_{TFOPA} = 0.143$  (d,  $L_1$  phase);  $X_{TFOPA} = 0.200$  (e, fluid  $L_\alpha$  phase);  $X_{TFOPA} = 0.221$  (f, gel phase) and  $X_{TFOPA} = 0.286$  (g, gel phase).



**Fig. S7.** The magnified plots of the DSC traces in the range of 50-80°C. For the meaning of each curve, see the figure caption of Fig. 15 in the maintext.

**Table S1.** Variation of the molar fraction of TFOPA (or HFDPA) in the mixed aggregates ( $X_1^m$ ) and the interaction parameter between TFOPA (or HFDPA) and C<sub>14</sub>DMAO ( $\beta_m$ ) at various  $X_{\text{TFOPA}}$  (of  $X_{\text{HFDPA}}$ ).

$X_{\text{TFOPA}} (\alpha_1)$	$X_1^m$	$\beta_m$	$X_{\text{HFDPA}} (\alpha_1)$	$X_1^m$	$\beta_m$
0.091	0.369	-7.977	0.091	0.501	-9.487
0.155	0.405	-8.596	0.167	0.533	-8.721
0.241	0.436	-9.518	0.231	0.555	-8.246
0.286	0.455	-11.796	0.286	0.561	-9.486