Supporting Information

A light-responsive organofluid based on reverse worm-like micelles formed from an equi-charged, mixed, anionic gemini surfactant with an azobenzene spacer and cationic conventional surfactant

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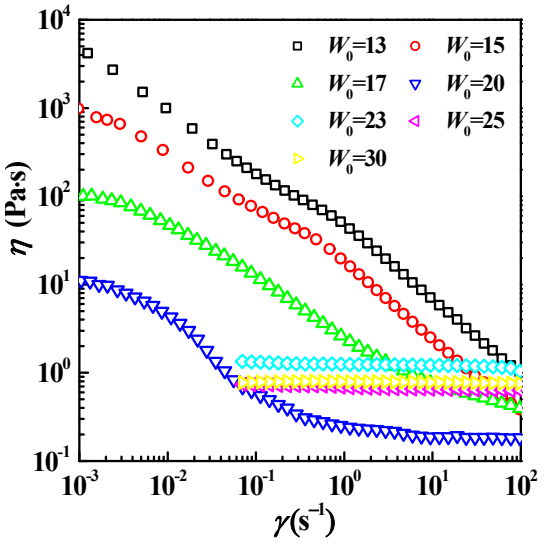

Fig.S1 Steady-state viscosity curves for the samples of mixed equally charged (β = 2) G14-azo(200mmol·L^{-1})/CTAB with different W_0.

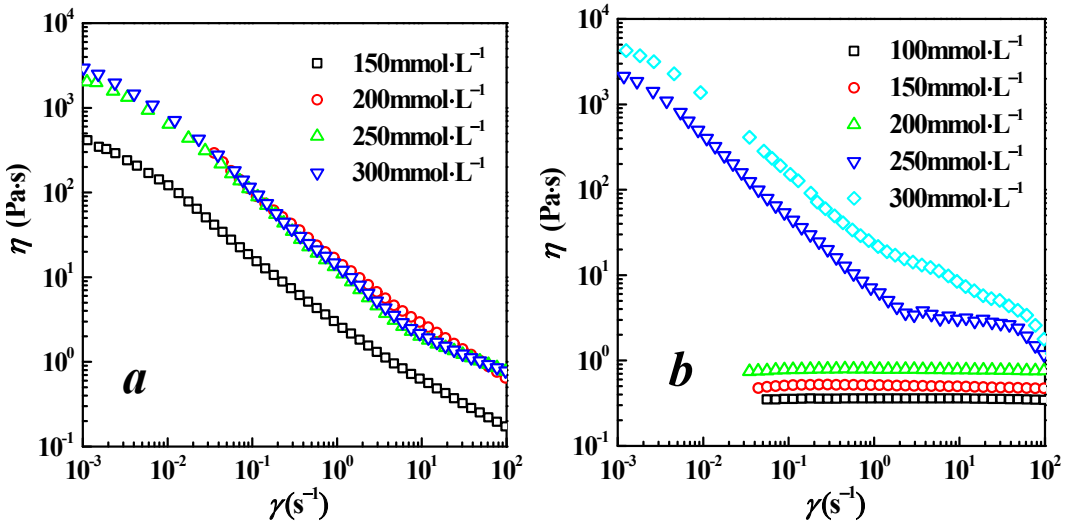

Fig.S2 Steady-state viscosity curves for the samples of mixed equi-charged ($\beta = 2$) G14-azo(the concentration as marked)/CTAB at $W_0 = 15$ (a) and 30 (b).

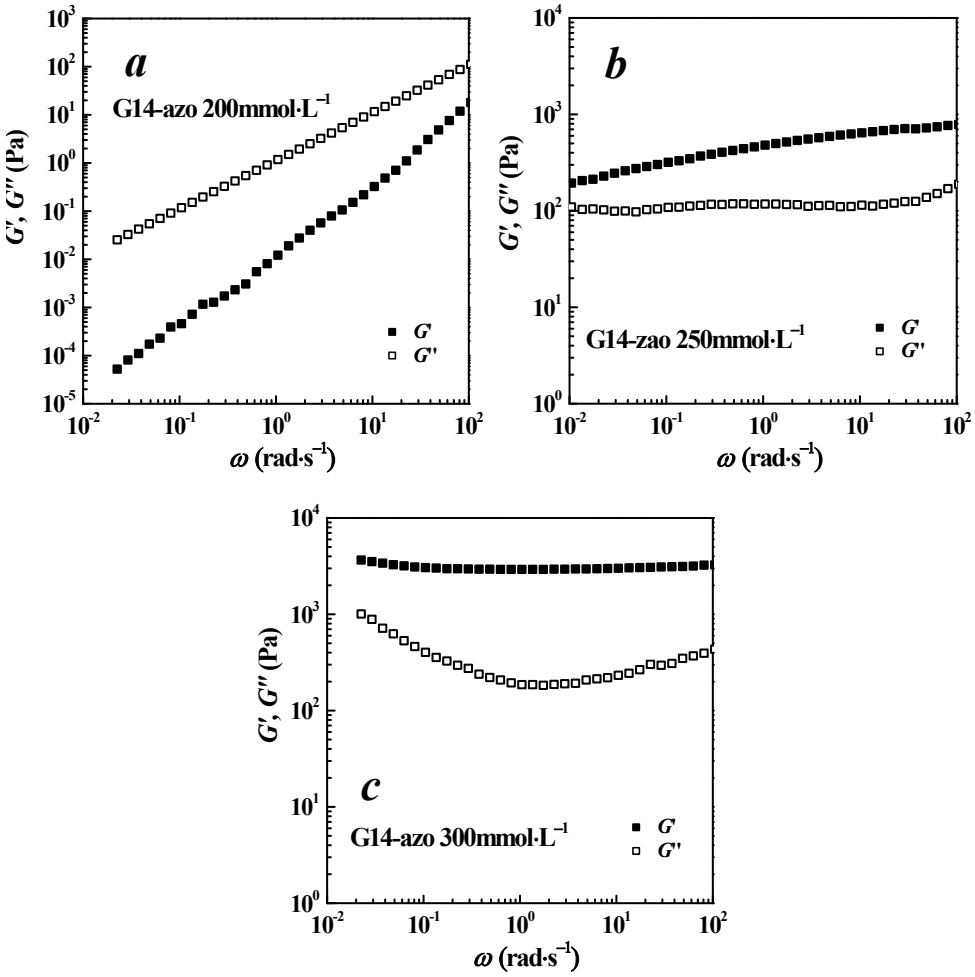

Fig.S3 Viscoelastic spectra of G14-azo/CTAB at $\beta = 2$ and $W_0 = 30$, the concentration of G14-azo is 200 mmol·L^{-1} (*a*), 250 mmol·L^{-1} (*b*) and 300 mmol·L^{-1} (*c*).

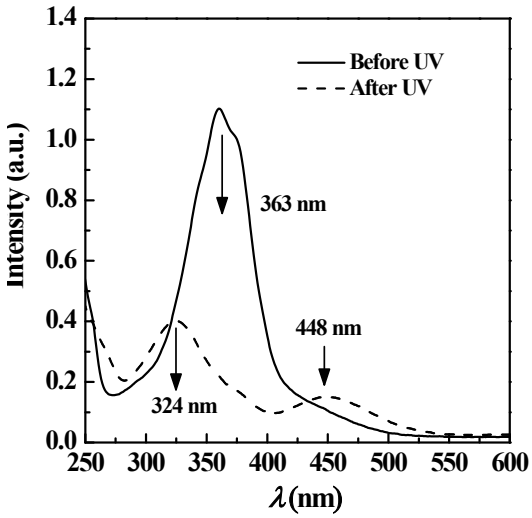

Fig.S4 UV-vis spectra of G14-azo(0.1 mmol·L^{-1})/CTAB (β=2 and W_0=30) in cyclohexane before and after UV irradiation.

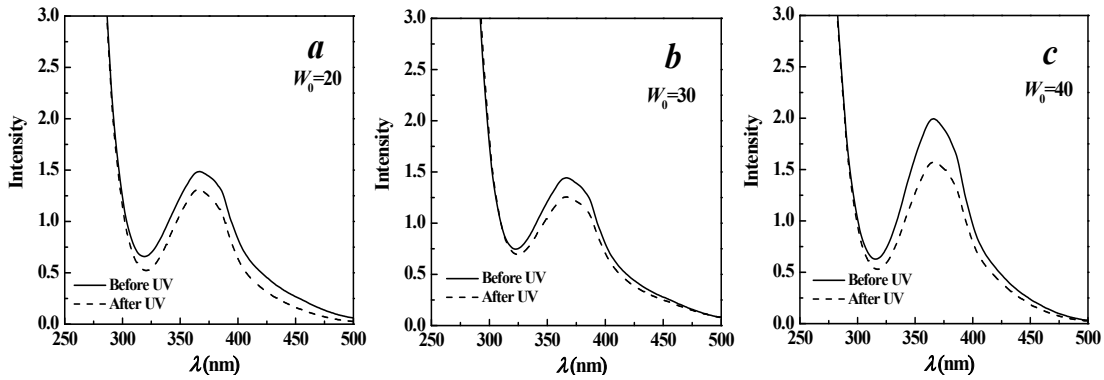

Fig.S5 UV-vis spectra of G14-azo(300 mmol·L^{-1})/CTAB (β=2) at W_0 = 20 (a), 30 (b) and 40 (c), which were measured immediately after diluting the solution to 0.1 mmol·L^{-1} G14-azo.

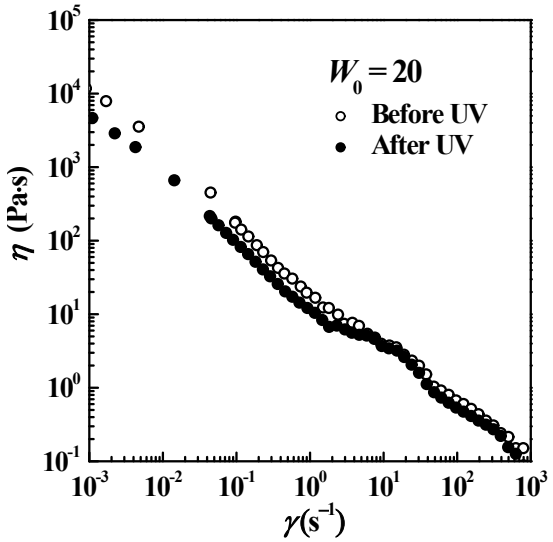

Fig.S6 Steady-state viscosity comparison of the sample of equally charged G14-azo(300 mmol·L^{-1})/CTAB at W_0 = 20 before and after UV irradiation for **10 h**.

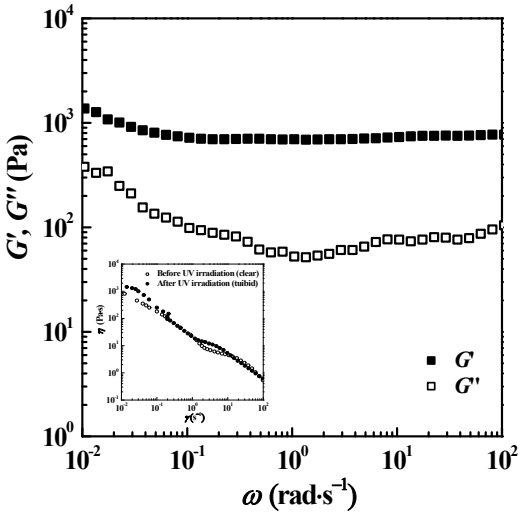

Fig.S7 Viscoelastic spectrum measured for the turbid sample (after UV irradiation for **5 h**) of equally charged G14-azo(300 mmol·L^{-1})/CTAB at W_0 = 30. The insert shows the steady-state viscosity comparison between the clear and turbid solution (before and after UV irradiation).

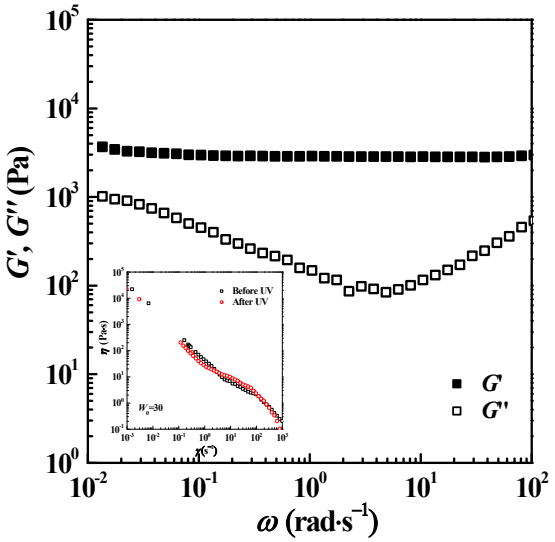

Fig.S8 Viscoelastic spectrum measured for the turbid sample (after UV irradiation for **10 h**) of equally charged G14-azo(300 mmol·L^{-1})/CTAB at W_0 = 30. The insert shows the steady-state viscosity comparison between the clear and turbid solution (before and after UV irradiation).

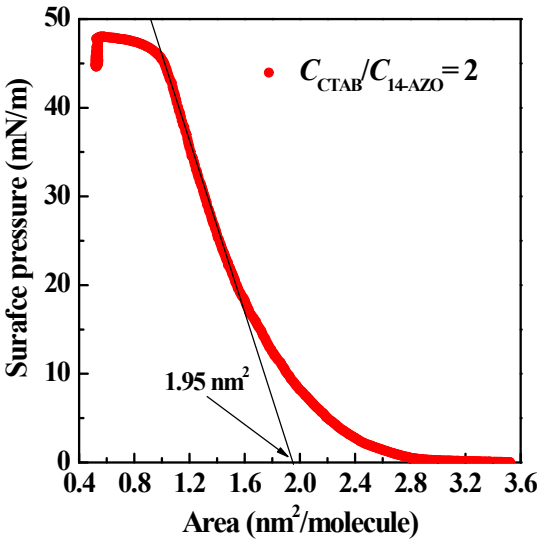

Fig.S9 The π~A isotherms of equally charged G14-azo/CTAB monolayer on the water subphase containing 1 mol·L^{-1} NaBr at 25 ^{o}C.