UV and NIR dual-responsive self-assembly systems based on a novel coumarin derivative surfactant

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Supporting Information

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Synthetic route was followed as the patent in reference 1. PAS purity analysis as follow:

Figure S1. $^1$H-NMR (CDCl$_3$, 400 MHz): $\delta = 0.92$ (s, CH$_3$, 3H), 1.26-1.34 (m, CH$_2$, 2H) 1.50-1.53 (m, CH$_2$, 2H), 1.86-1.88 (m, CH$_2$, 2H), 2.78-2.81 (m, OCH$_2$, 4H), 4.06-4.09 (m, CH$_3$O, 2H), 5.27-5.30 (m, ArCH$_2$O, 2H), 6.36 (m, ArH, 1H), 6.83 (m, ArH, 1H), 7.66-7.67 (m, ArH, 1H).

Figure S2. HPLC of PAS, the purity > 95%.
Figure S3. MS of PAS-Na (a), PAS-Na after UV irradiation (b) and PAS-Na after NIR irradiation (c).
Figure S4. HPLC of 3 mmol·L⁻¹ PAS-Na undergoing UV irradiation. From top to bottom the irradiation time is 0, 1 and 3 minutes.
Figure S5. HPLC of 3 mmol·L⁻¹ PAS-Na undergoing NIR irradiation. From top to bottom the irradiation time is 0, 10, 30 and 45 minutes.
Figure S6. Fluorescence spectrum of PAS-Na before and after UV or NIR irradiation.
Figure S7. HPLC of 150 mmol•L$^{-1}$ C$_{14}$DMAO with 30 mmol•L$^{-1}$ PAS (a), after 10 minutes UV irradiation (b) and after 1 hour NIR irradiation (c).
Figure S8. Fluorescence microscope images of 150 mmol•L⁻¹ C₁₄DMAO with 30 mmol•L⁻¹ PAS (a) and 150 mmol•L⁻¹ C₁₄DMAO with 50 mmol•L⁻¹ PAS (b).
Figure S9. Fluorescence spectrum of C14DMAO/PAS mixed system before and after UV irradiation.
Figure S10. Cryo-TEM image of 150 mmol·L⁻¹ C₄DMAO with 50 mmol·L⁻¹ succinic acid.

References: