Supporting information

An Cationic Azobenzene-Surfactant-Modified Graphene Hybrid: Unique Photoresponse and Electrochemical Behavior

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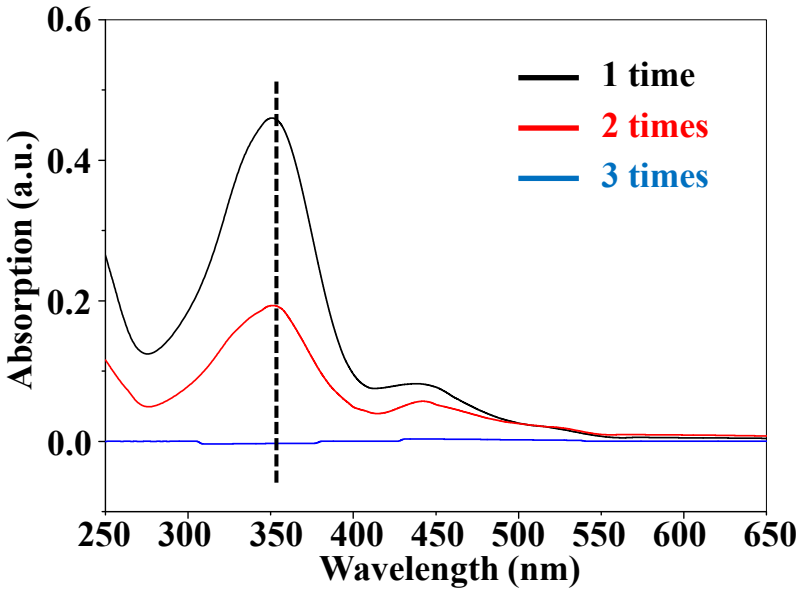

Figure (S1) UV-Vis spectra of the filtrate $AzoC_7NO$ solution after different washing times with 100 mL deionized water

The grafting degree of Azo-GO can be calculated from the XPS, using the Eq. (S1) as follows, where C is atomic ratios, I is the atomic integration area of XPS, SF is the atomic sensitivity factors.

$$C_E = (\frac{I_E}{SF_E})/(\sum_{x=1}^{N}\frac{I_x}{SF_x}) \quad \textbf{(S1)}$$

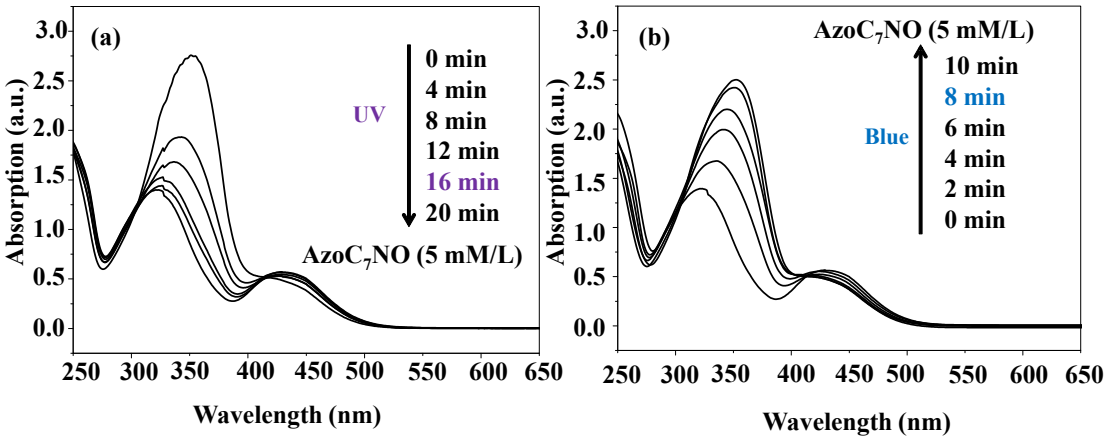

Figure (S2) UV-Vis spectra of (a) $AzoC_7NO$ (5 mM/L) upon UV light irradiation for different times, (b) UV light irradiated $AzoC_7NO$ (5 mM/L) upon blue light irradiation for different times

Table (S1) light irradiated times of the photostationary balance at different concentrations of Azo-GO

Azo-GO	Balance time of UV irradiation	Balance time of Blue irradiation
0.5 mg/mL	25 min	12 min
1.0 mg/mL	45 min	22 min
1.5 mg/mL	80 min	35 min

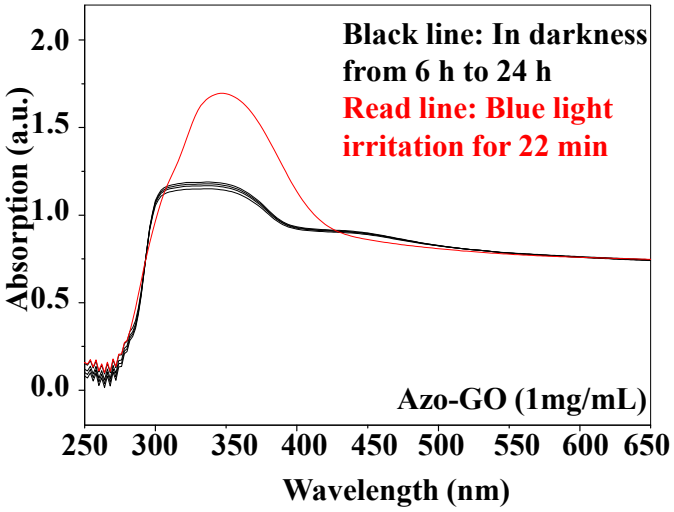

Figure (S3) UV-Vis spectra of UV light irradiated Azo-GO (1 mg/mL) in darkness from 6 h to 24 h

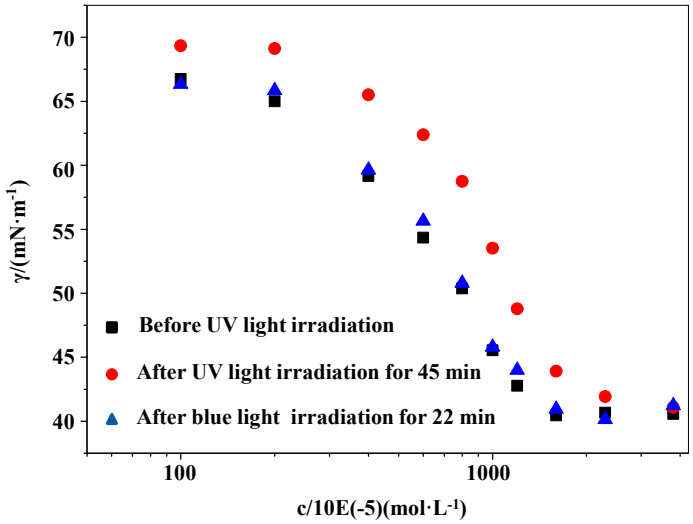

Figure (S4) The curves of surface tension against the concentrations of $AzoC_7NO$ before and after light irradiation at room temperature