

## Supporting Information

### Highly ordered and multiple responsive graphene oxide / azoimidazolium surfactant intercalation hybrids: a versatile control platform

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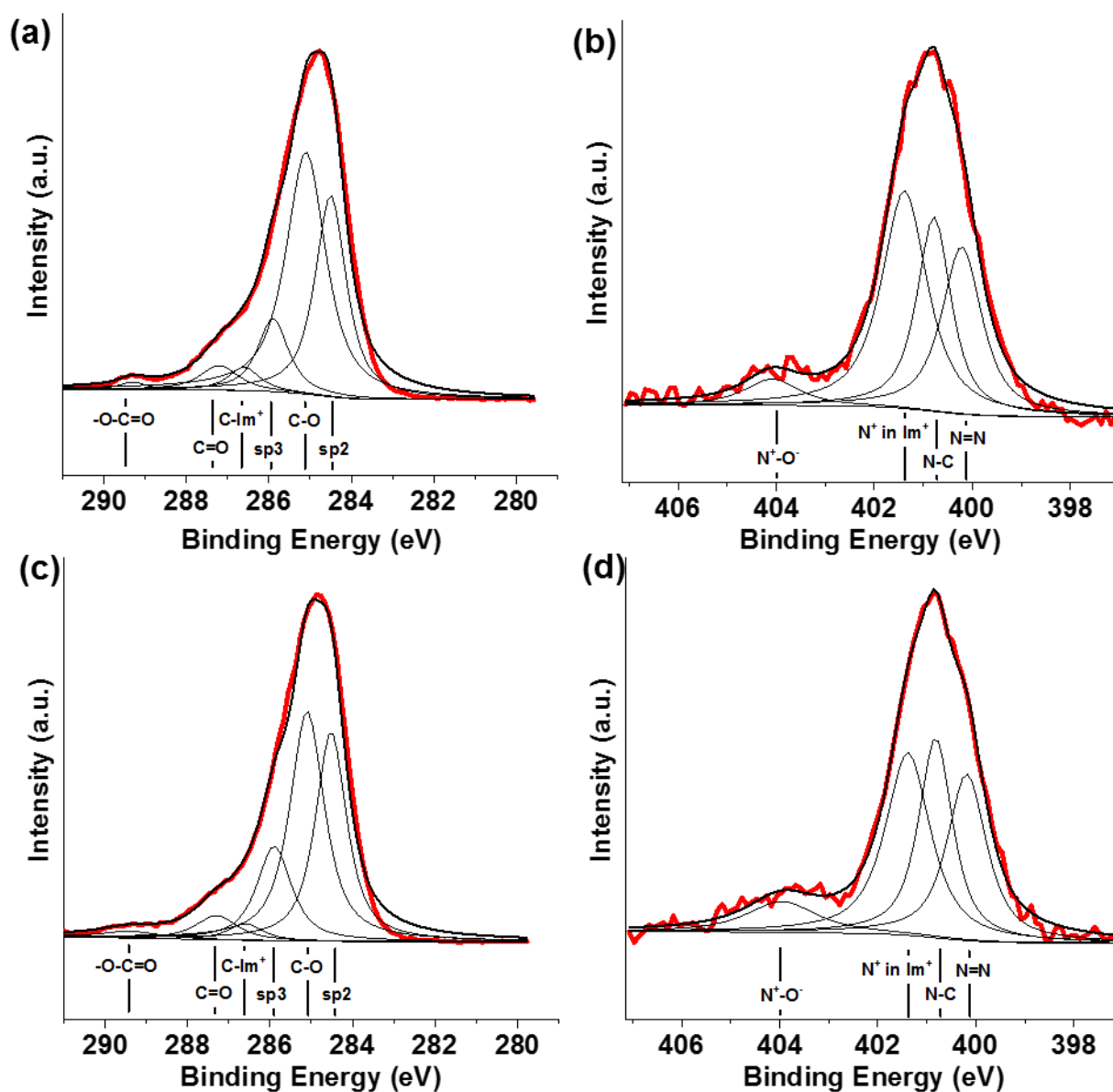
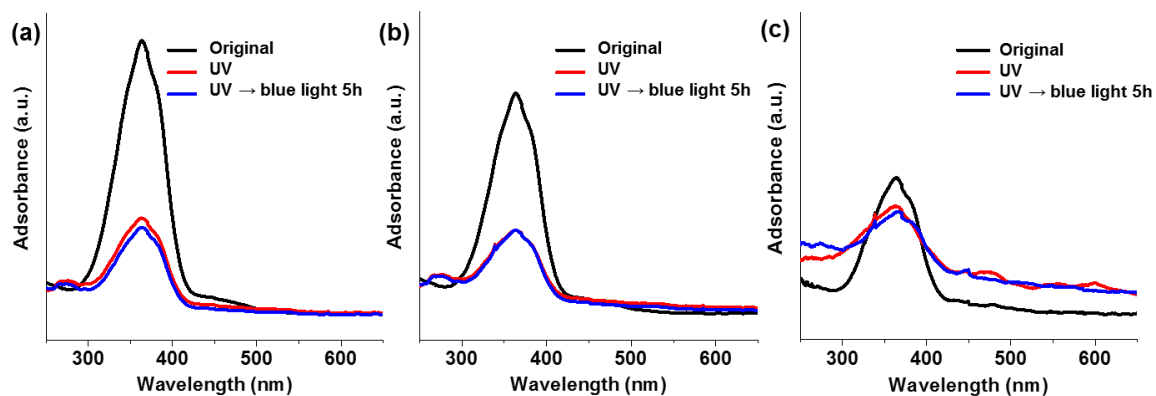
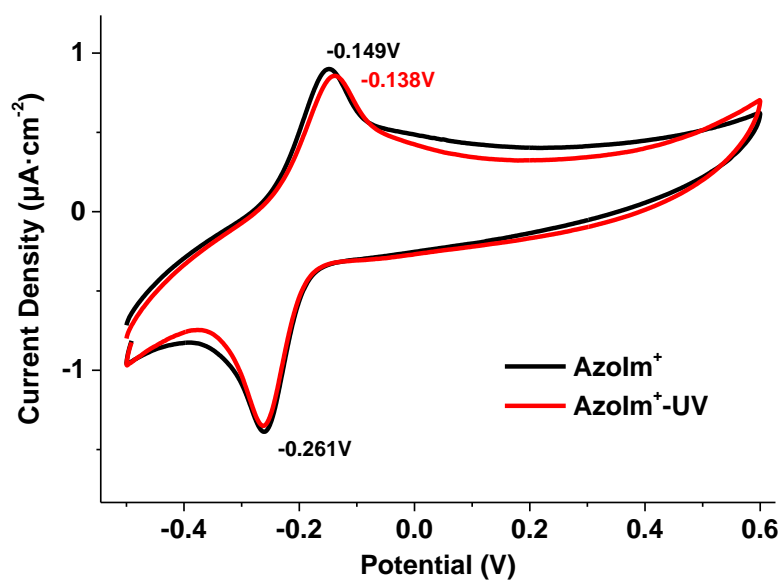


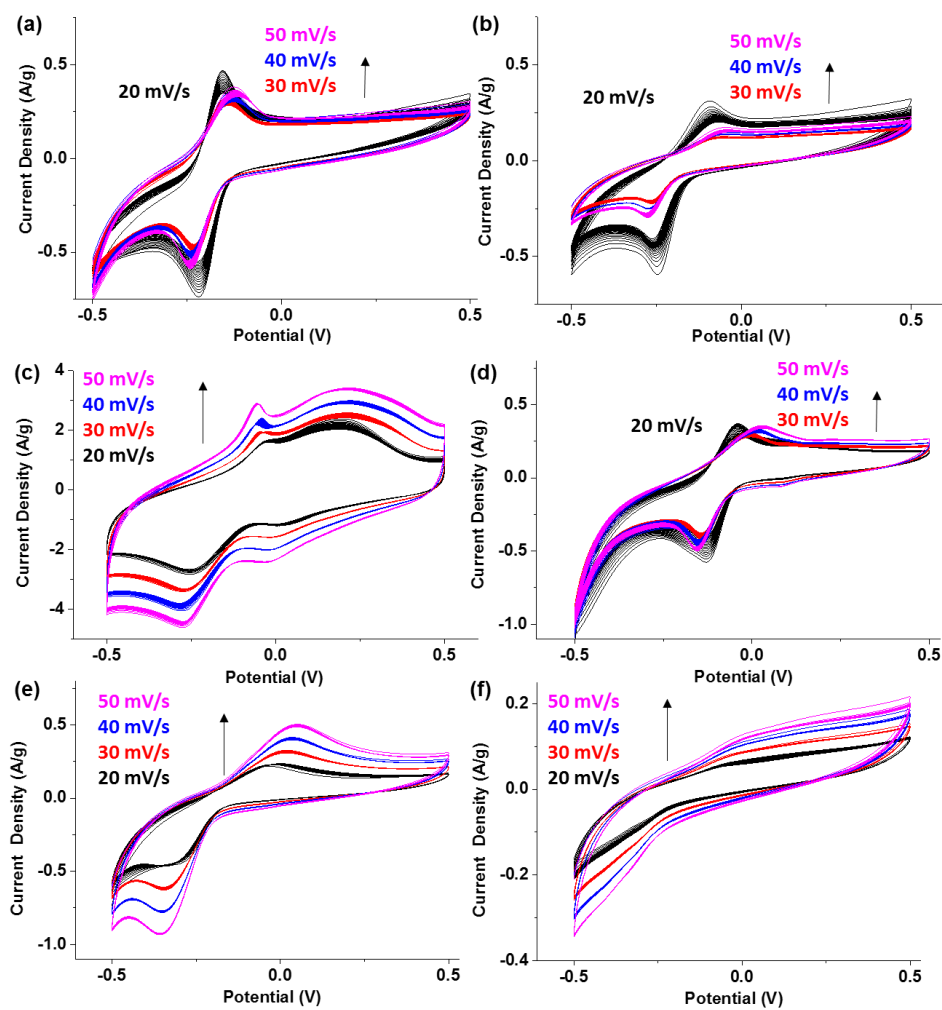
Figure S1. XPS scan spectra: (a) C1s (b) N1s of GAI-6.86; (c) C1s (d) N1s of GAI-3.43



**Figure S2.** UV-Vis spectra of diluted suspensions of the GAI in ethanol/n-hexane with different  $R_{total}$  under continual UV exposure (a)  $R_{total} = 6.86$ , (b)  $R_{total} = 3.43$  (c)  $R_{total} = 0.69$ . And with sequential light treatment: Black: original suspension; Red: 45 minutes of UV exposure; Blue: 5 hours of blue light exposure after UV treatment. The blue light was 455 nm Blue lamp (SM-7031, Yueqing Shishi. Co. Ltd).



**Figure S3.** cyclic voltammograms of the surfactant AzoIm<sup>+</sup> before and after UV exposure. Scan rate: 10mV/s. Reference: saturated calomel electrode (SCE)



**Figure S4.** cyclicvoltammetry curves with different scan rates: (a) GAI-6.86 (b) GAI-6.86-UV (c) GAI-3.43 (d) GAI-3.43-UV (e) GAI-0.69 (f)GAI-0.69-UV. Reference: SCE.