

## 2-aryazo-Imidazolium: an Extra-Designable and Photo/Redox Dual Responsive Ionic Liquid Surfactants Head Group

### Supplementary Data

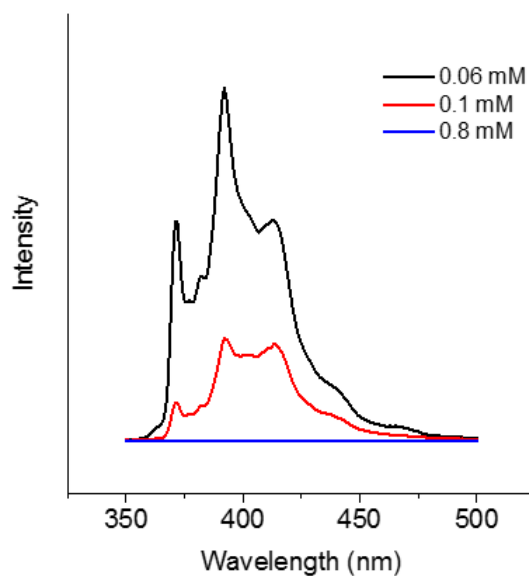


Figure S1. Fluorescence emission spectra of pyrene at 30°C for [C14PhAzoEtIm]Br for different concentration: (black) 0.06 mM (red) 0.1 mM (blue) 0.8 mM.

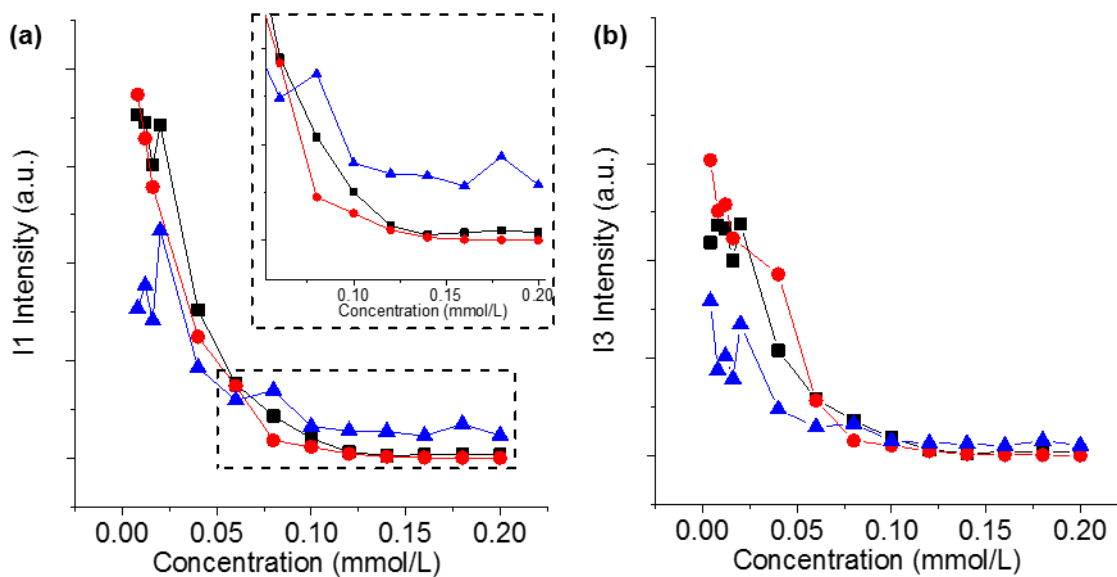


Figure S2. Fluorescence emission spectra of pyrene as a function of concentration for three 2-azobenzyl-imidazolium surfactants at 30°C: (a) I1 intensity (b) I3 intensity.

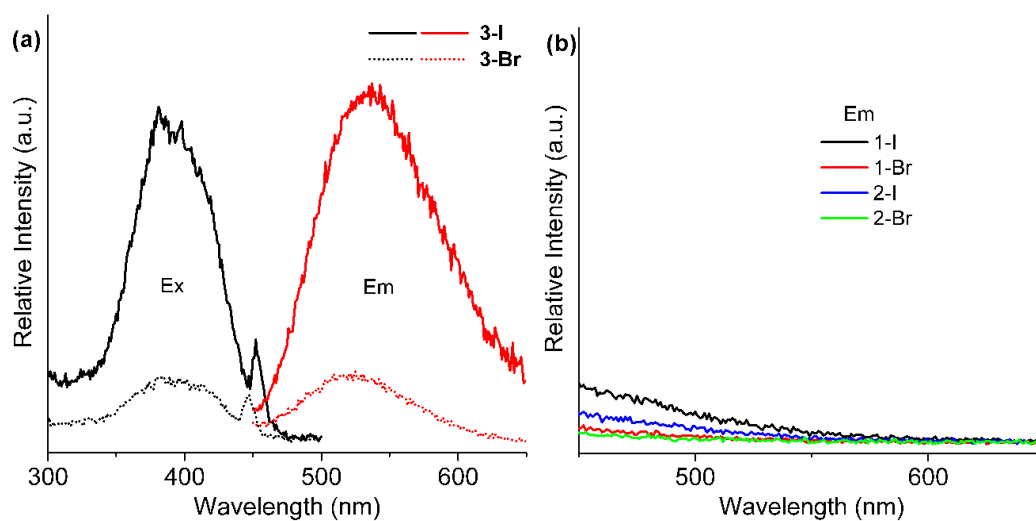


Figure S3. (a) Fluorescence emission and excitation spectra of 0.12mM 3-I and 3-Br at 25°C; (b) Fluorescence emission spectra of 1-I, 1-Br, 2-I and 2-Br under the excitation of 381 nm. Concentration of all solutions were 0.02mM.

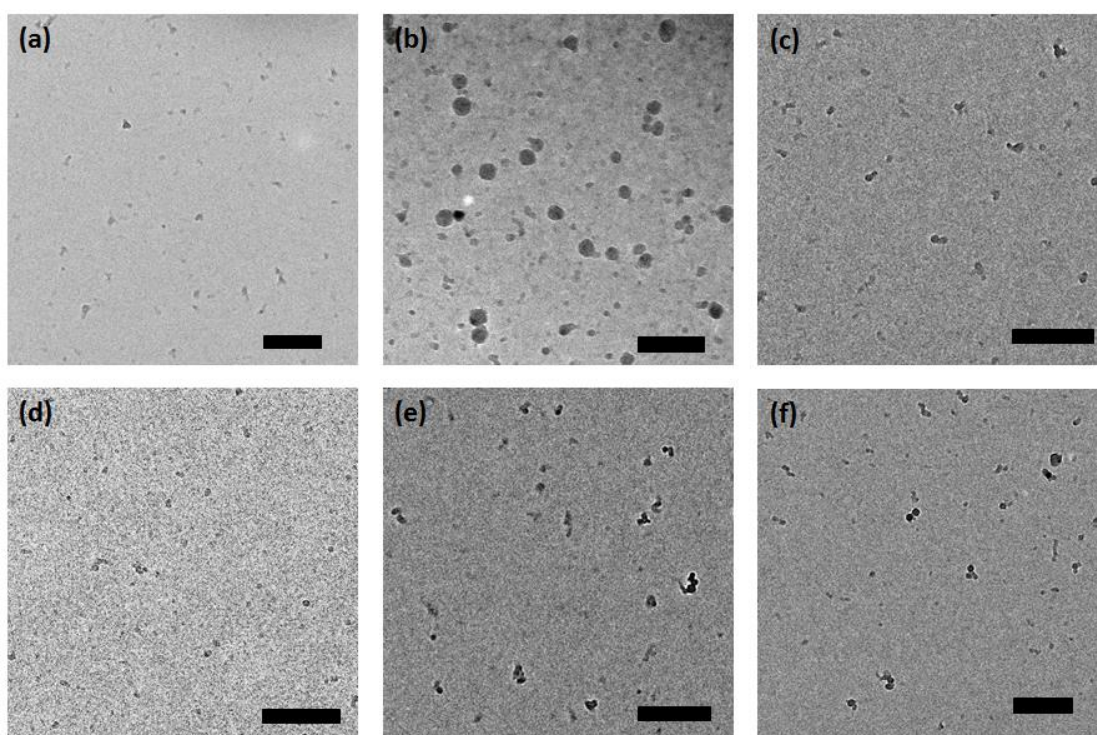


Figure S4. (a) Fluorescence emission and excitation spectra of 0.12mM 3-I and 3-Br at 25°C; (b) Fluorescence emission spectra of 1-I, 1-Br, 2-I and 2-Br under the excitation of 381 nm. Concentration of all solutions were 0.02mM