Electronic Supplementary Material (ESI) for Chemical Communications

Supporting Information for

Reversible Piezo and Photochromic Behaviors Accompanied by Emission Color Switching of Two Anthracene-Contained Organic Molecules

Zuolun Zhang, Dandan Yao, Tianlei Zhou, Hongyu Zhang,* and Yue Wang*

State Key Laboratory of Supramolecular Structure and Materials, College of Chemistry, Jilin University, Changchun 130012, P. R. China

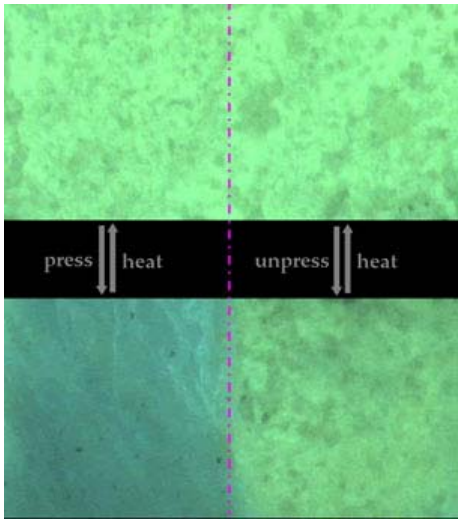

Fig. S1 Photographs of **2a** under pressing and heating treatments shows the reversible emission color changes.

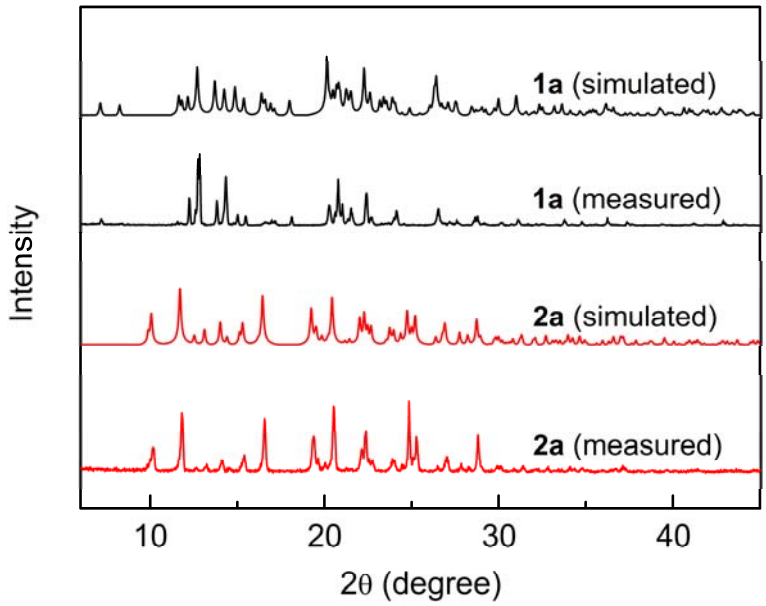

Fig. S2 Simulated (from single crystal data) and measured PXRD patterns of **1a** and **2a**.

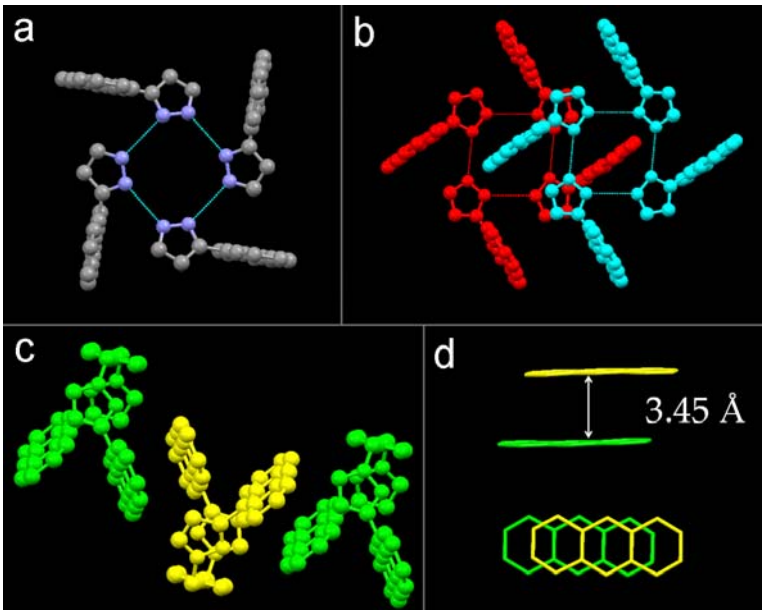

Fig. S3 (a) Tetramer structure in **1a**; (b) stacked tetramers in **1a**; (c) π-stacking structure in **2a**; (d) top and side views of the π-stacked anthracene rings in **2a**.

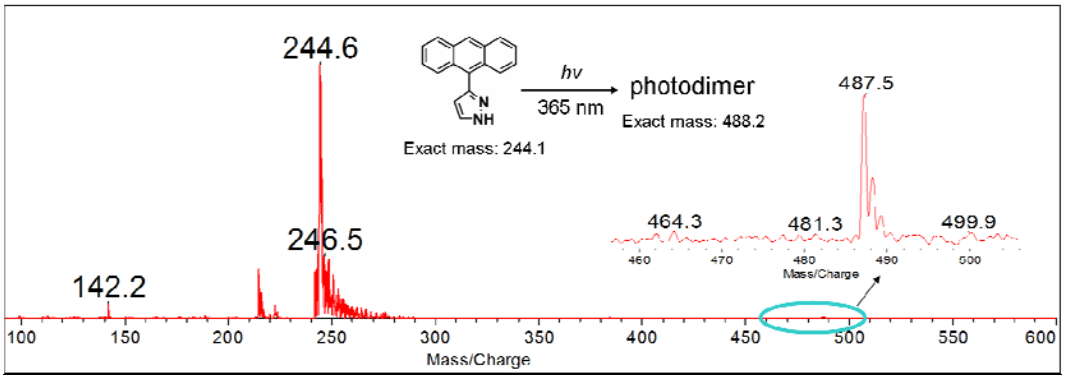

Fig. S4 Mass spectra of the sample obtained by irradiating **1b** with UV light (365 nm) for 30 min.

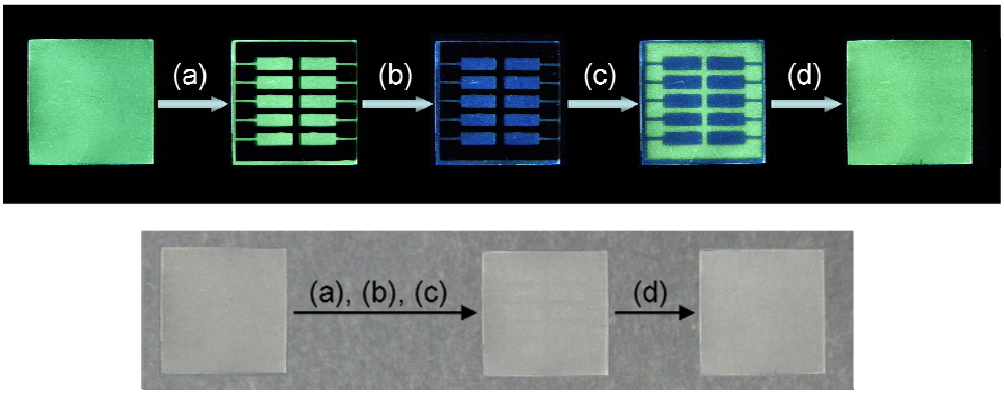

Fig. S5 Photographs of **2a** (uniformly spreaded on a cover slip of 2 cm × 2 cm) under UV (above) and room (below) light showing its reversible photochromism behavior: (a) covered by a shadow mask; (b) irradiated (365 nm) for 30 min; (c) remove the shadow mask; (d) heated at 210 °C for 5 min. (After irradiation, the image under room light showed a trace with the irradiated area exhibiting slightly lighter color, which was probably attributed to the weakened absorption between 340–420 nm (Figure S6) during irradiation, and this trace was eliminated after the heating process.)

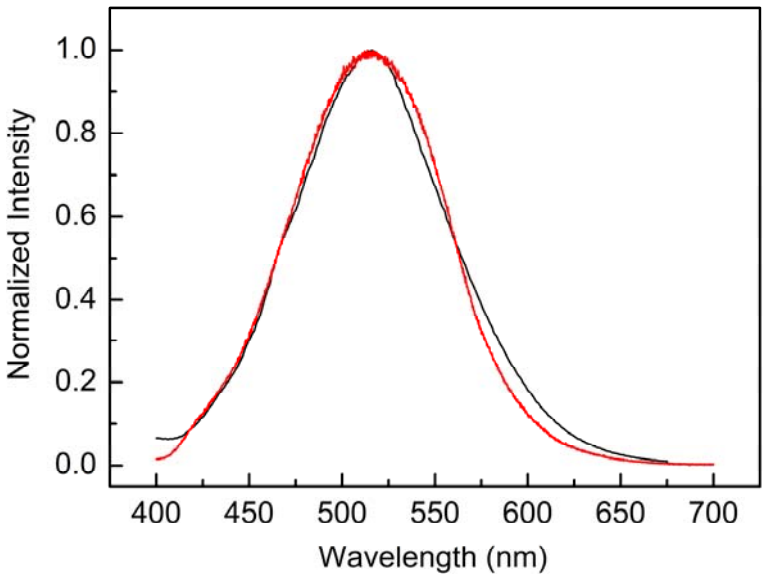

Fig. S6 Fluorescence spectra of **2a** (black) and the sample (red) obtained by irradiating **2a** with UV light (365 nm) for 30 min and then heating it at 210 °C for 5 min.

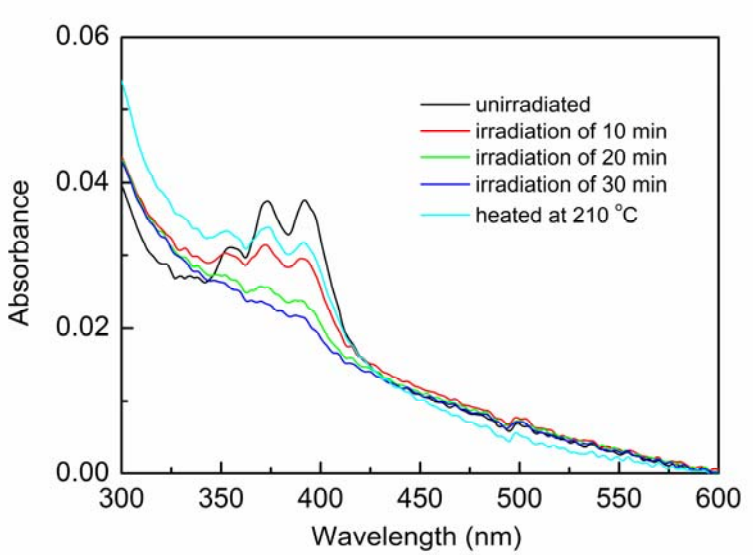

Fig. S7 Variation of the absorption spectra of **2a** upon UV irradiation (365 nm) and subsequent heating of 5 min. (It was difficult to get reliable information from diffuse reflection spectra since the spectra of these samples were very rough, so the UV-vis absorption spectra were chosen. **2a** was used in thin-crystalline film form by grinding it on a quartz substrate and then heating the substrate at 110 °C for 5 min. The quartz substrate was placed at a marked position of the sample holder when the spectra were measured.)

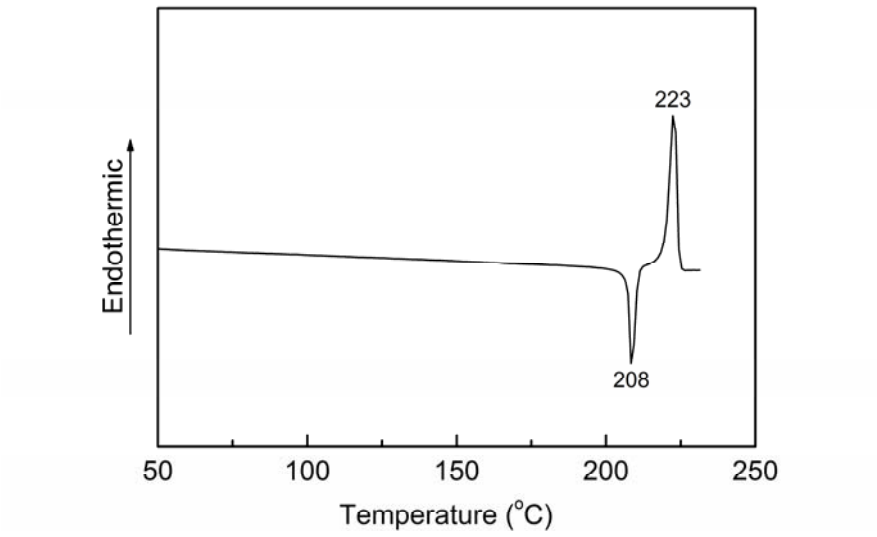

Fig. S8 DSC curves of the sample obtained when **2a** was irradiated by 365 nm UV light for 30 min. (The sample exhibited an exothermic peak originating from the cycloreversion at 208 °C and then melted at 223 °C, the melting point of unirridiated **2a**.)