

Supplementary data

Design and synthesis of reversible solid-state photochromic pyrazolones by introducing a pyridine ring

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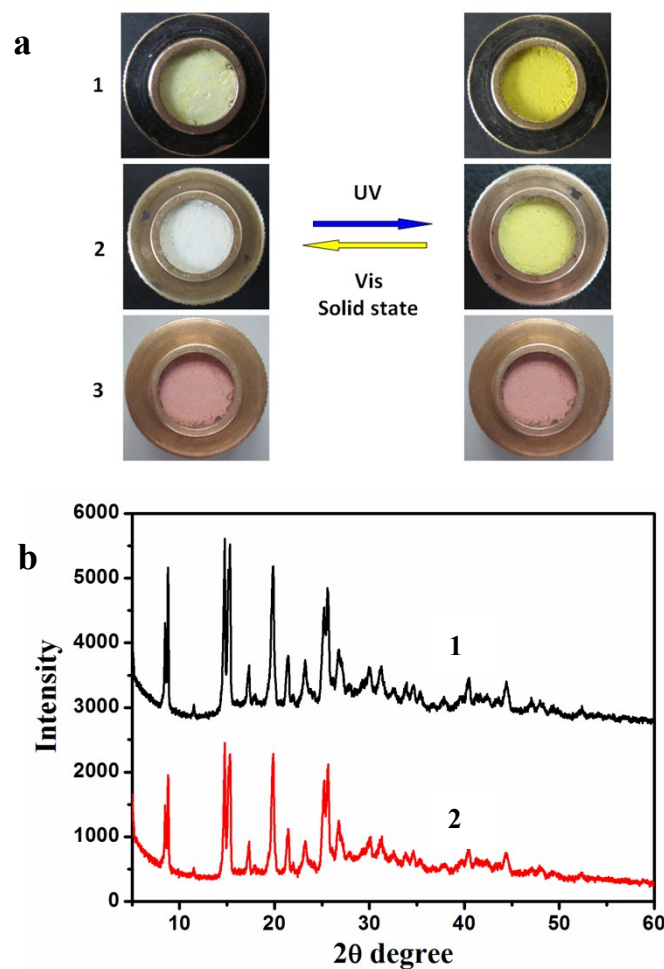


Fig. S1. Crystalline powders of 1-3 under alternative irradiation with UV and visible light (a), and XRD of 1 and 2 (b).

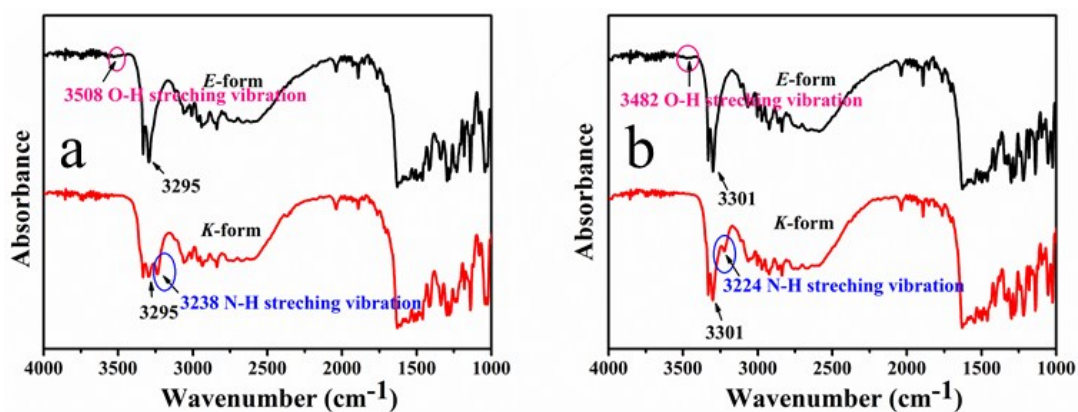


Fig. S2. FT-IR spectra of 1 (a) and 2 (b), before UV light irradiation (black) and after UV light irradiation (red).

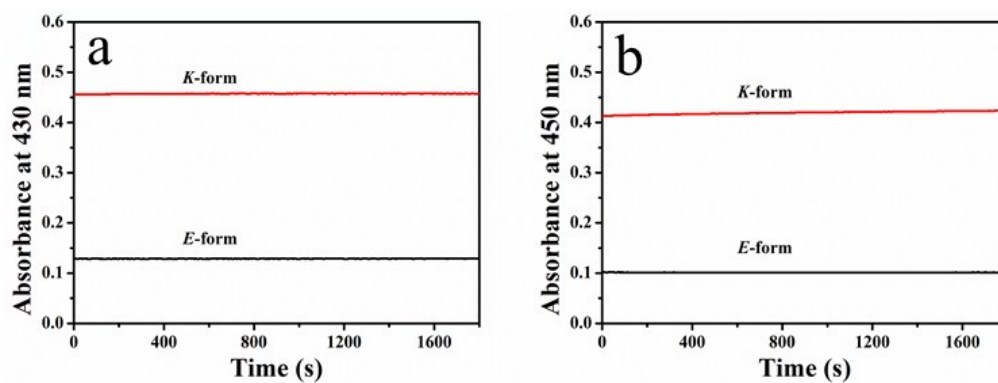


Fig. S3. Thermal stability of the white and colored species of compounds 1 (a) and 2 (b).

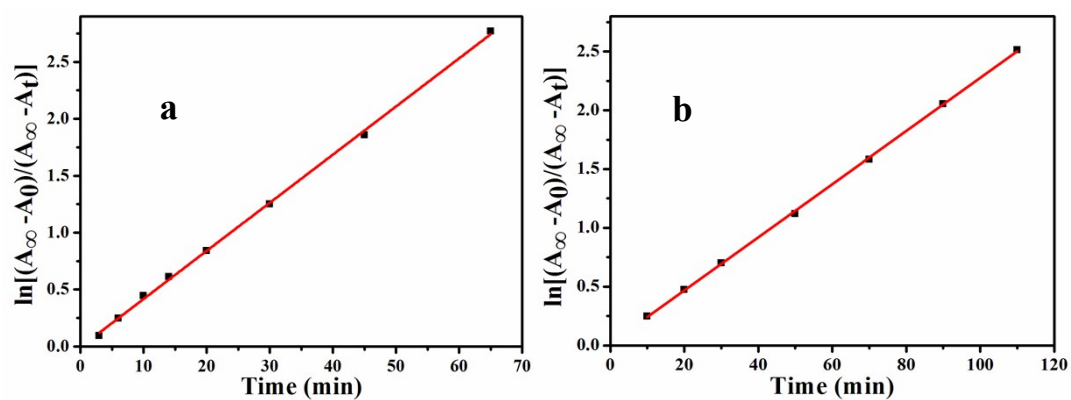


Fig. S4. First-order kinetic plots for the photocoloration reaction of 1 (a) and 2 (b) under 365 nm light irradiation.

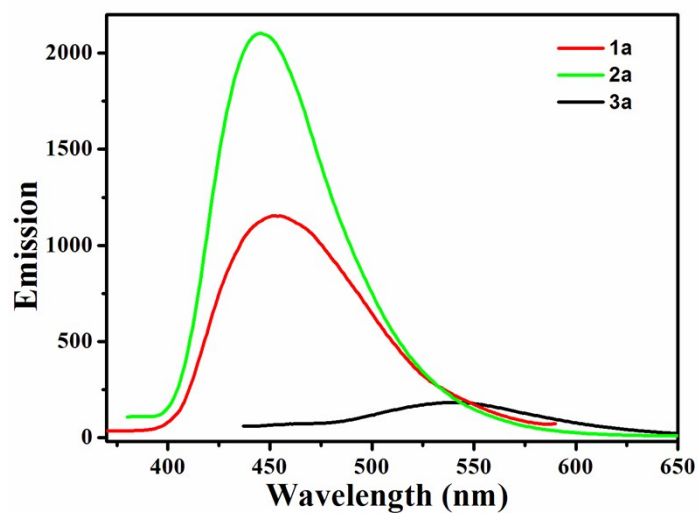


Fig. S5. The fluorescent spectra of **1a**, **2a** and **3a** in the solid state

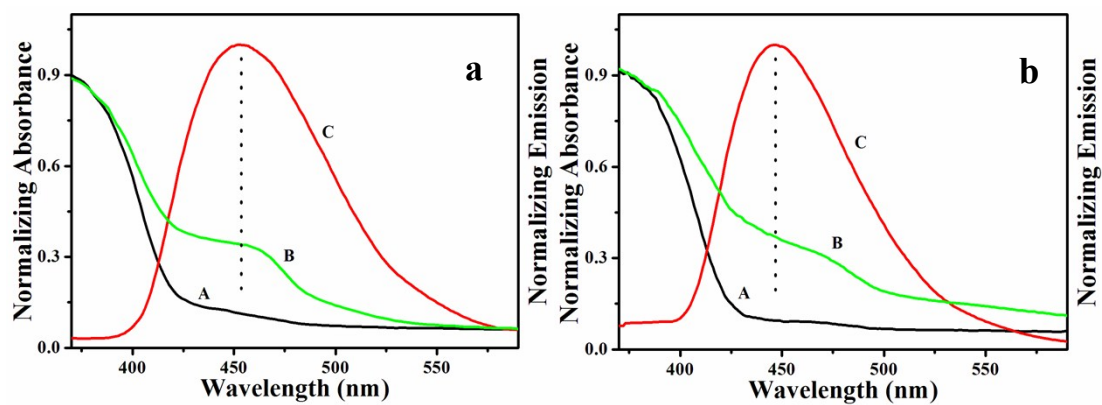


Fig. S6. Normalized emission spectra of **1** (a) and **2** (b) (red line), normalized absorption spectra of **1a** and **2a** before 365 nm light irradiation (black line), **1b** and **2b** after visible light irradiation (green line), respectively.

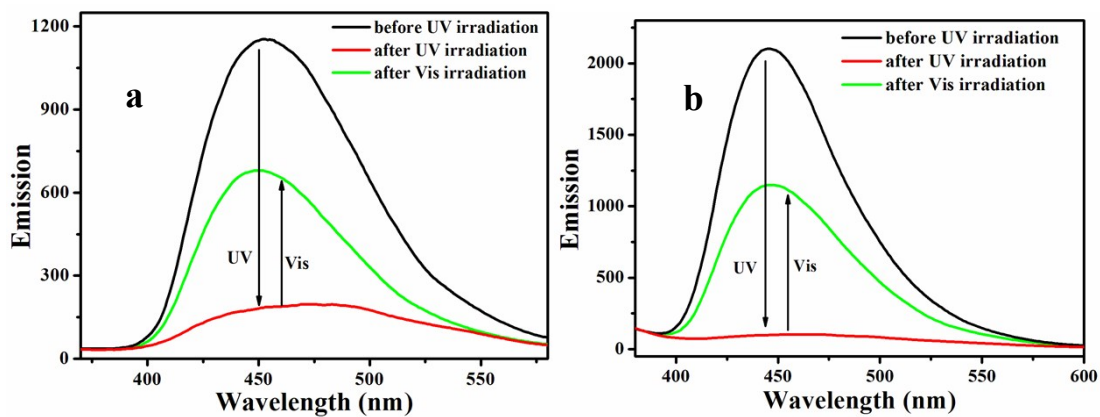


Fig. S7. Fluorescent spectral changes of **1** (a) and **2** (b) upon UV-light (365 nm) and visible light irradiation.

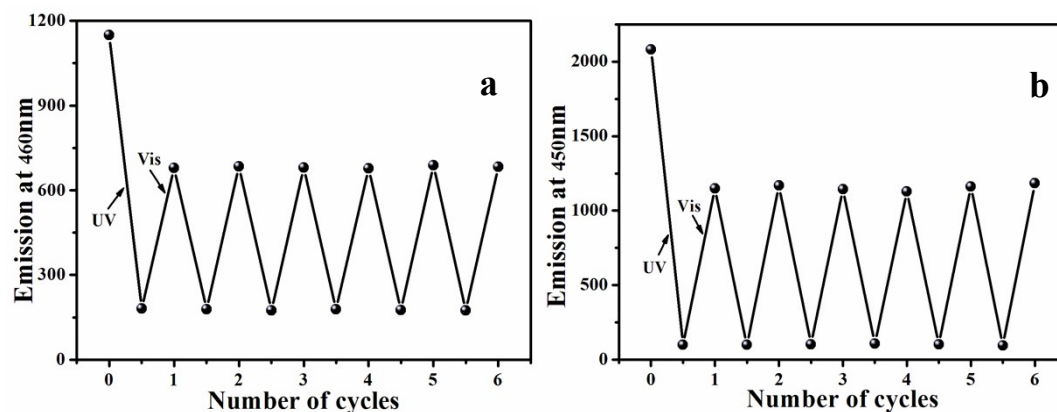


Fig. S8. Photocoloration cycles upon alternating with UV light and visible light irradiation for **1** and **2**, respectively.