Supporting Information

Multiplexed stimuli-responsive molecules for high-security anti-counterfeiting applications

Hongyan Xia, Tommy Loan, Mithun Santra, Kang Xie, Mark Bradley**

Supplementary Videos

Video S1. The switch of the "Rabbit" image printed with the ID ink under different external stimuli. (Separated file)

Video S2. The switch of the "Cat" image printed with the SP ink under different external stimuli. (Separated file)

Video S3. The switch of the images of "Rabbit" and "Cat" images printed with the ID and SP inks under external stimuli. (Separated file)

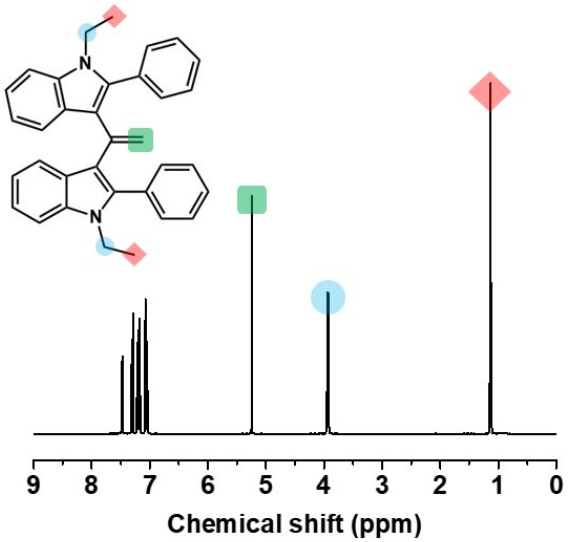

Figure S1. ^{1}H NMR spectra of ID ($CDCl_3$, 500MHz at 298K).

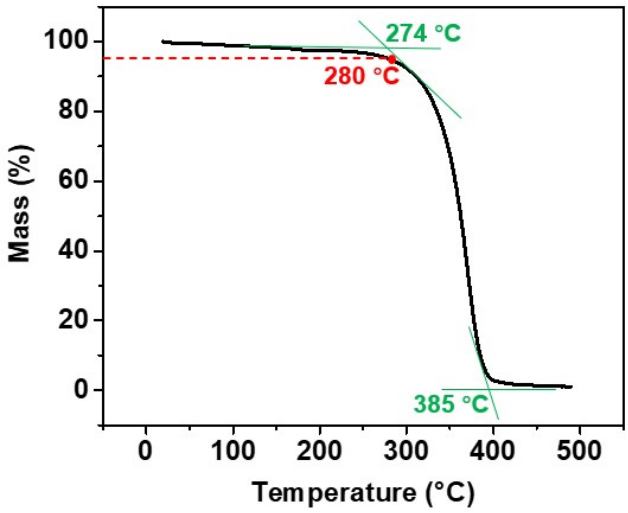

Figure S2. The TGA curve of the ID recorded under Argon at a heating rate of 10 °C/min.

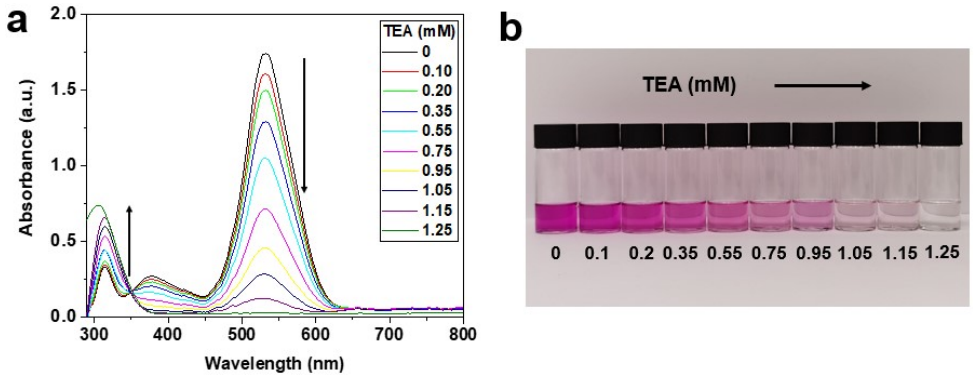

Figure S3. (a) UV-vis absorption spectra changes and (b) Images of colorimetric responses of ID in CH_2Cl_2 (0.05 mM) with 2.0 mM TFA upon adding different concentrations of TEA (from 0 to 1.25mM).

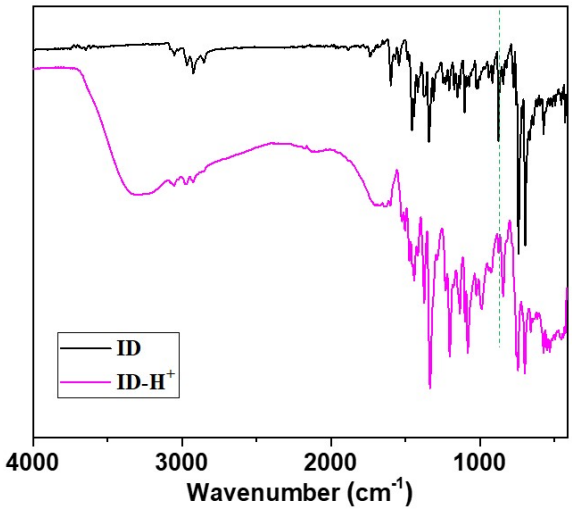

Figure S4. FT-IR spectra of ID and ID-H^+.

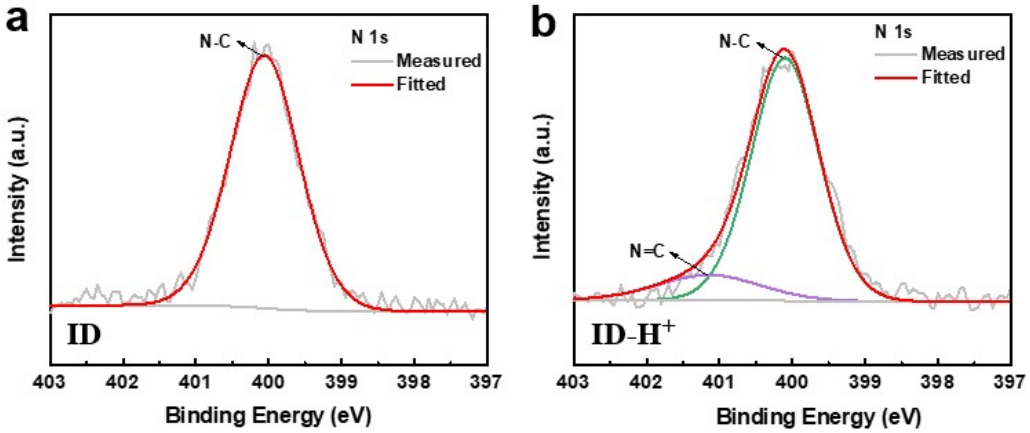

Figure S5. High-resolution XPS fitting results for the N1s spectra of ID and ID-H^+.

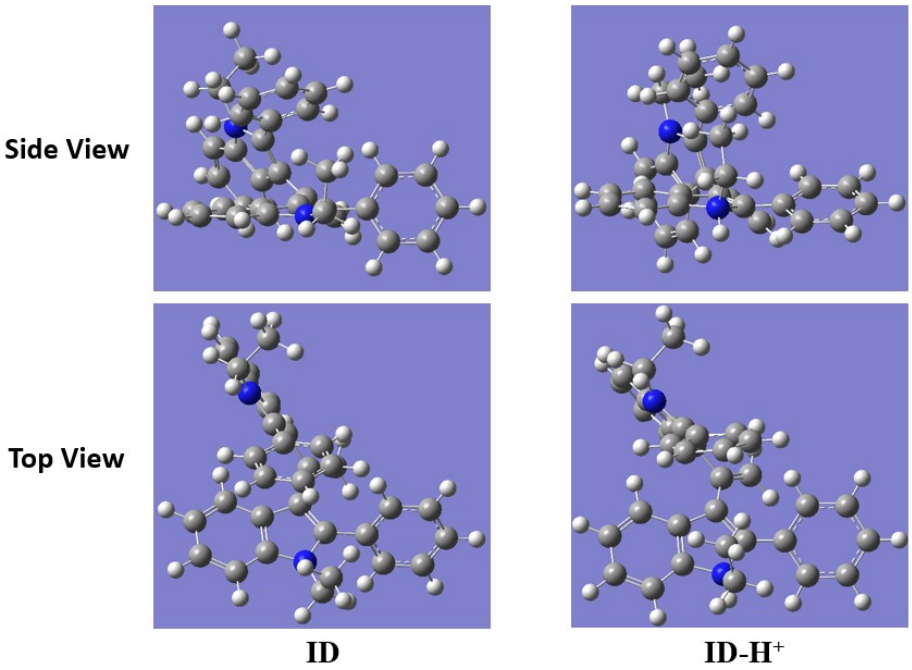

Figure S6. Optimized structure of the ID and the protonated ID.

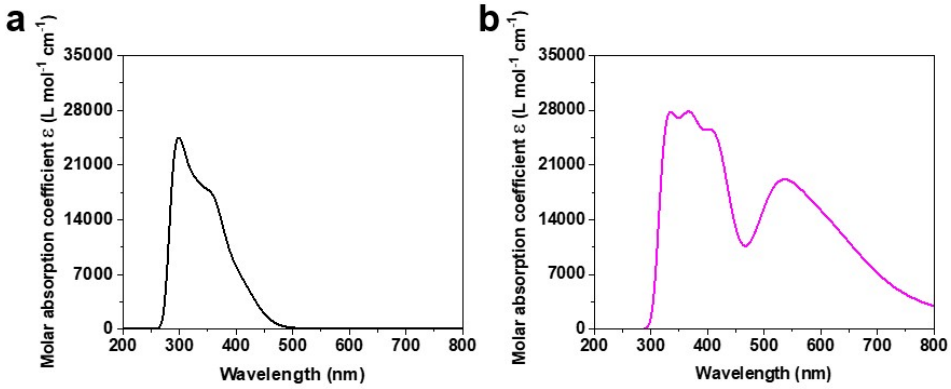

Figure S7. Simulated absorption spectra of (a) ID and (b) ID-H^+.

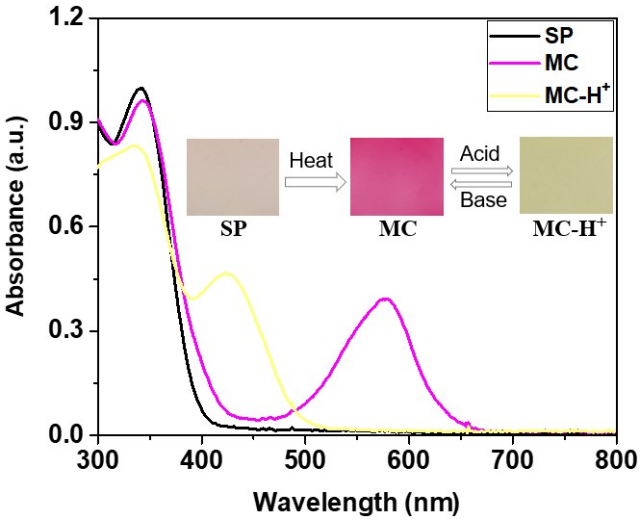

Figure S8. The corresponding absorption spectra and color changes for the SP, MC and MC-H^+ on a glass slide under external stimuli (The SP solutions were dip-coated onto the glass slide).