

Synthesis and characterization of photo- and pH-responsive nanoparticles containing amino- substituted azobenzene

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Supporting Information

090512-2

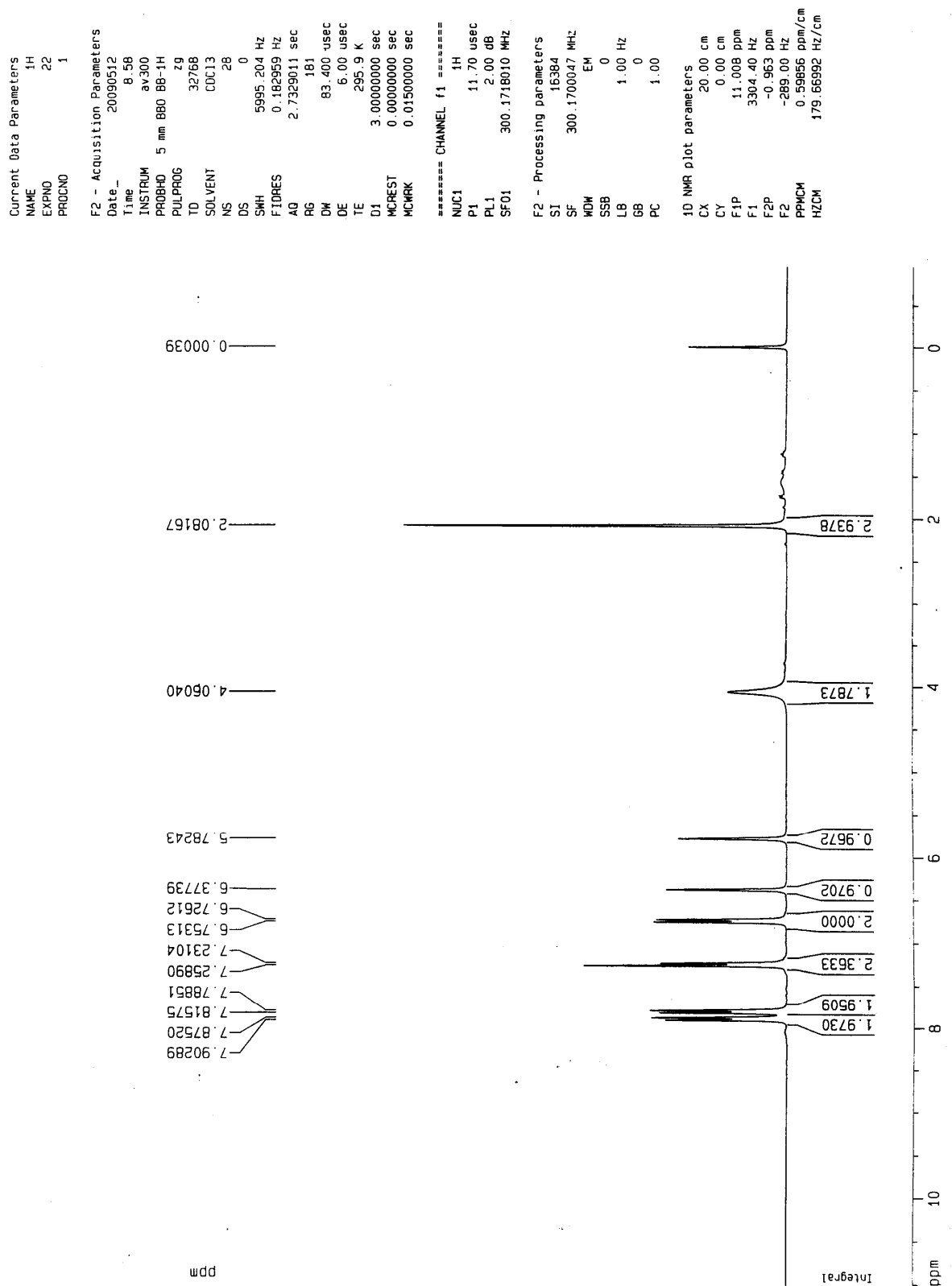


Figure 1S ^1H NMR spectrum of monomer trans- AMAAB in CDCl_3

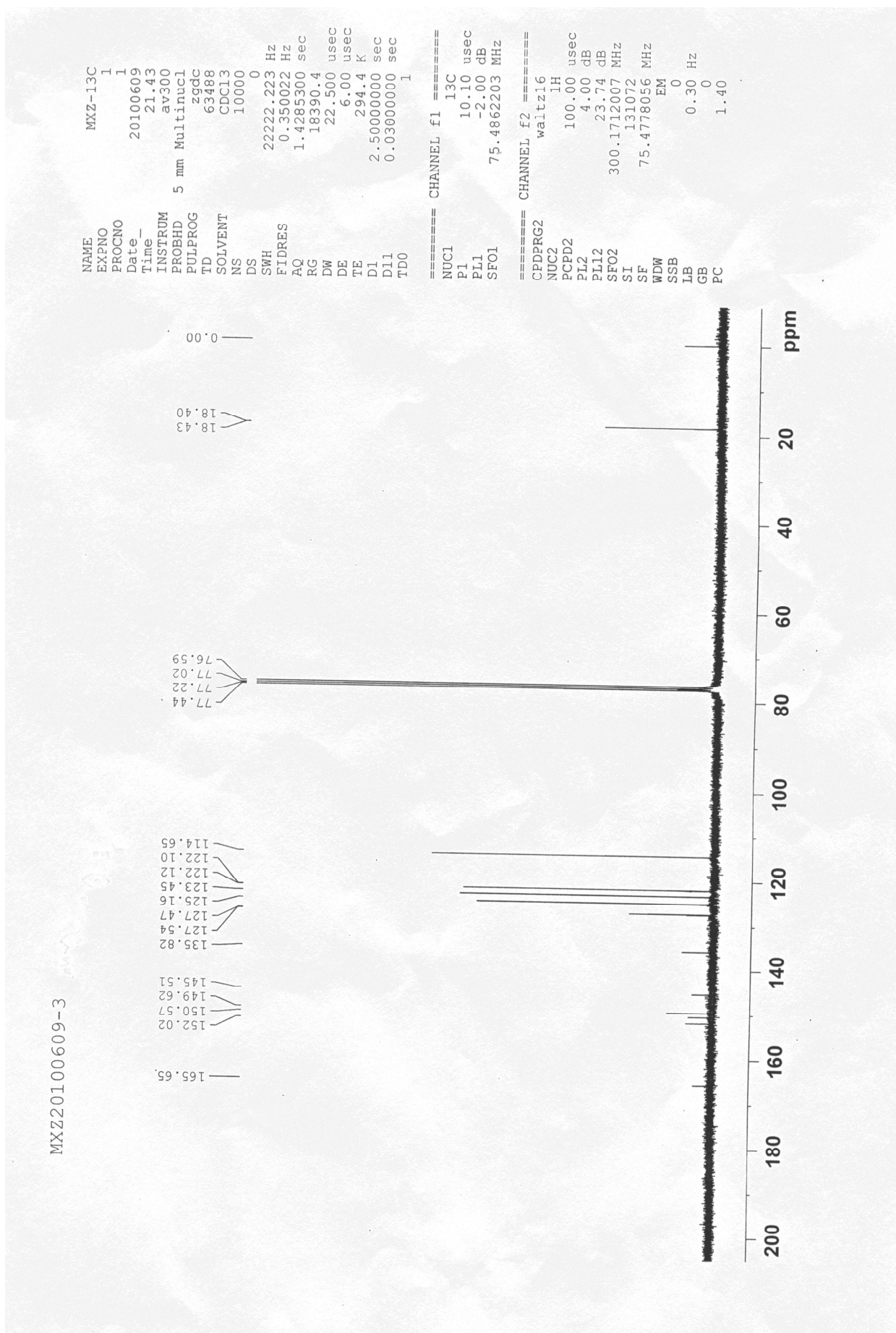


Figure 2S ^{13}C NMR spectrum of monomer trans- AMAAB in CDCl_3

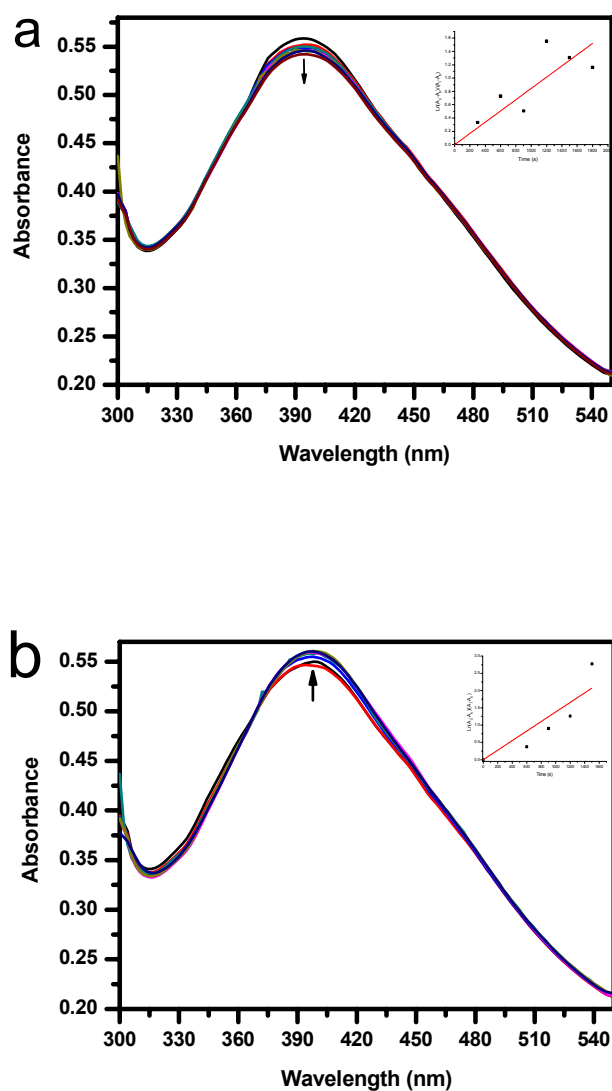


Figure 3S UV/vis spectra and spectral changes of NpT1N1 suspension (0.02 mg/mL in DMF) upon irradiation with 405 nm light for 0, 5, 10, 15, 20, 25, 30, 35 min (a) and then upon irradiation with 456 nm light for 0, 5, 10, 15, 20, 25, 30 min (b). Insets: first order plot for photoisomerization.

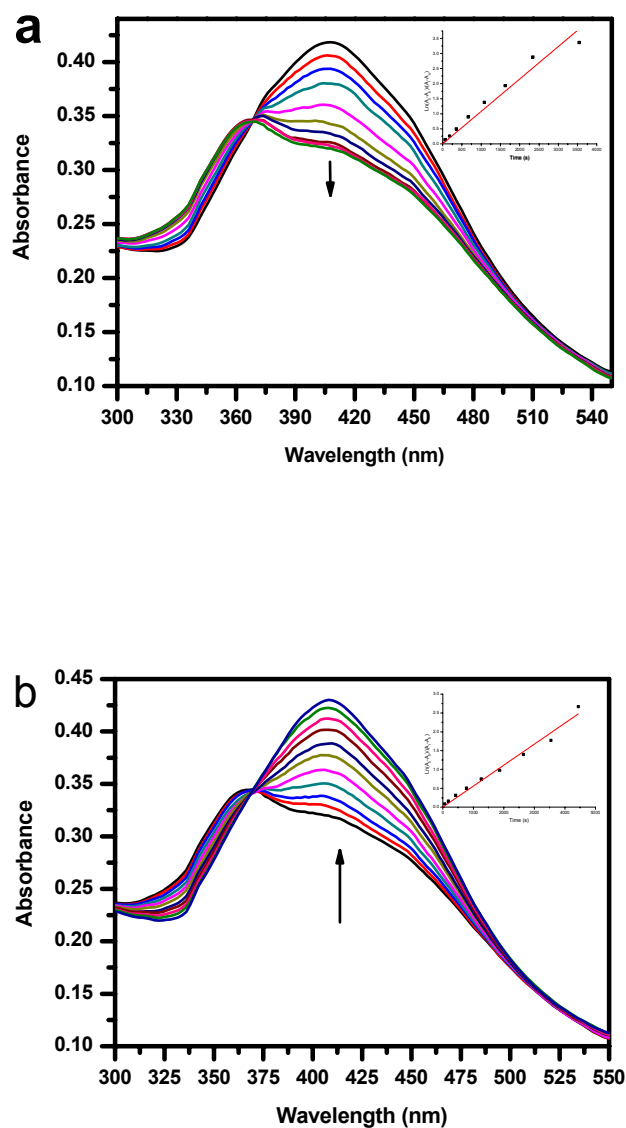


Figure 4S UV/vis spectra and spectral changes of NpT3N1 suspension (0.2 mg/mL in DMF) upon irradiation with 405 nm light for 0, 1, 3, 6, 11, 18, 27, 39, 59, 89 min (a) and then upon irradiation with 456 nm light for 0, 1, 3, 7, 13, 21, 31, 44, 59, 74, 94 min (b). Insets: first order plot for photoisomerization.

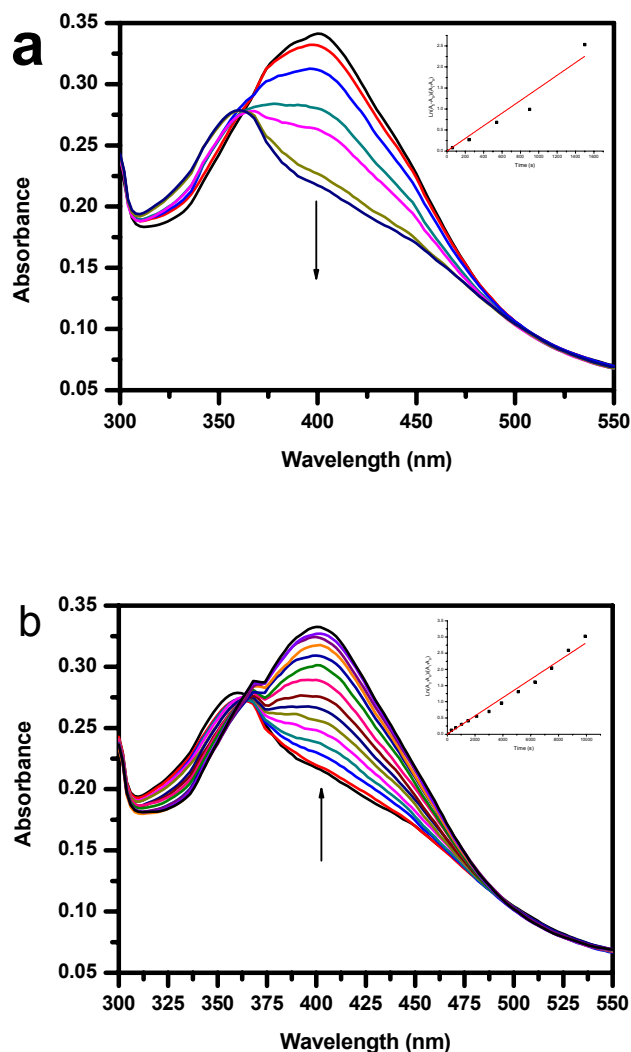


Figure 5S UV/vis spectra and spectral changes of NpT10N1 suspension (0.2 mg/mL in DMF) upon irradiation with 405 nm light for 0, 1, 4, 9, 15, 25, 35 min (a) and then upon irradiation with 456 nm light for 0, 1, 5, 10, 17, 25, 35, 50, 65, 85, 105, 125, 145, 165, 185 min (b). Insets: first order plot for photoisomerization.

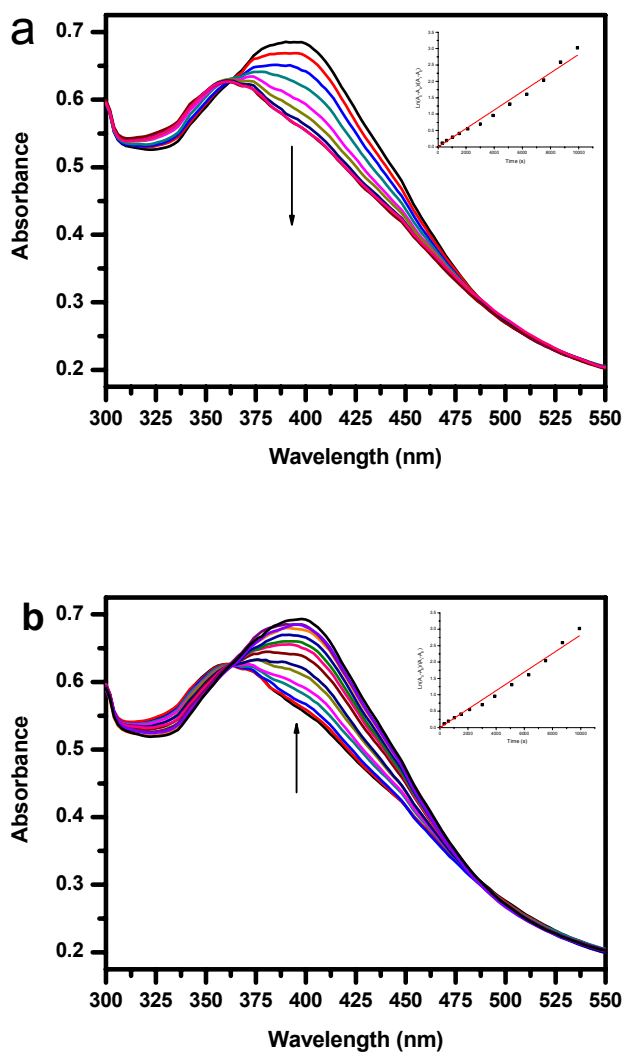


Figure 6S UV/vis spectra and spectral changes of NpT20N1 suspension (0.2mg/mL in DMF) upon irradiation with 405 nm light for 0, 1, 3, 6, 11, 25, 35, 45 min (a) and then upon irradiation with 456 nm light for 0, 1, 4, 9, 16, 26, 36, 50, 65, 80, 100, 120, 140, 160, 180 min (b). Insets: first order plot for photoisomerization.

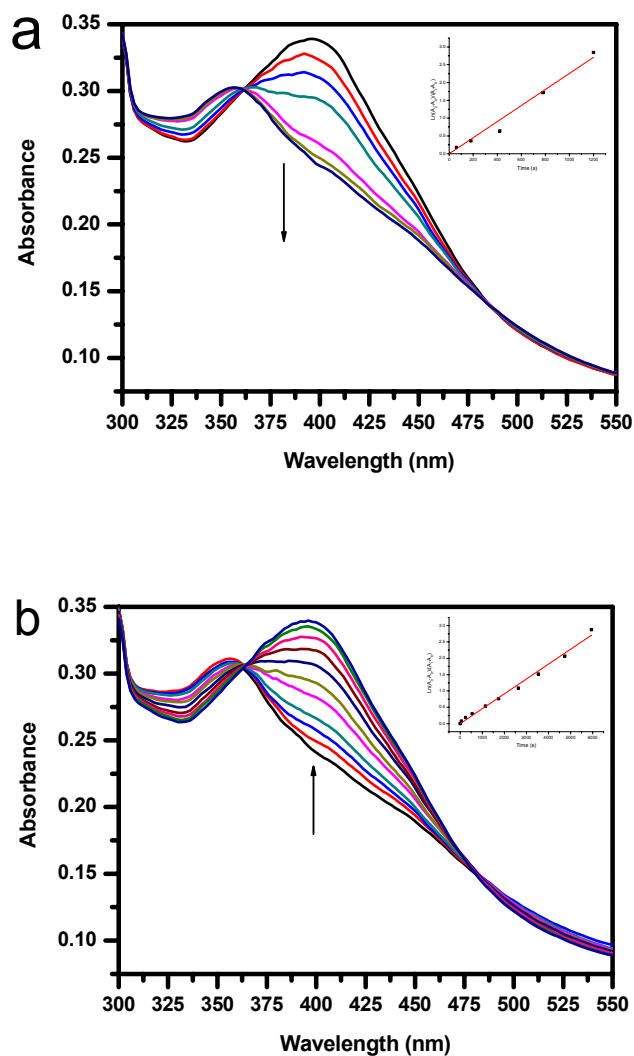


Figure 7S UV/vis spectra and spectral changes of NpT50N1 suspension (0.4mg/mL in DMF) upon irradiation with 405 nm light for 0, 1, 3, 7, 13, 20, 30 min (a) and then upon irradiation with 456 nm light for 0, 1, 4, 9, 19, 29, 44, 59, 79, 99, 119 min (b). Insets: first order plot for photoisomerization.

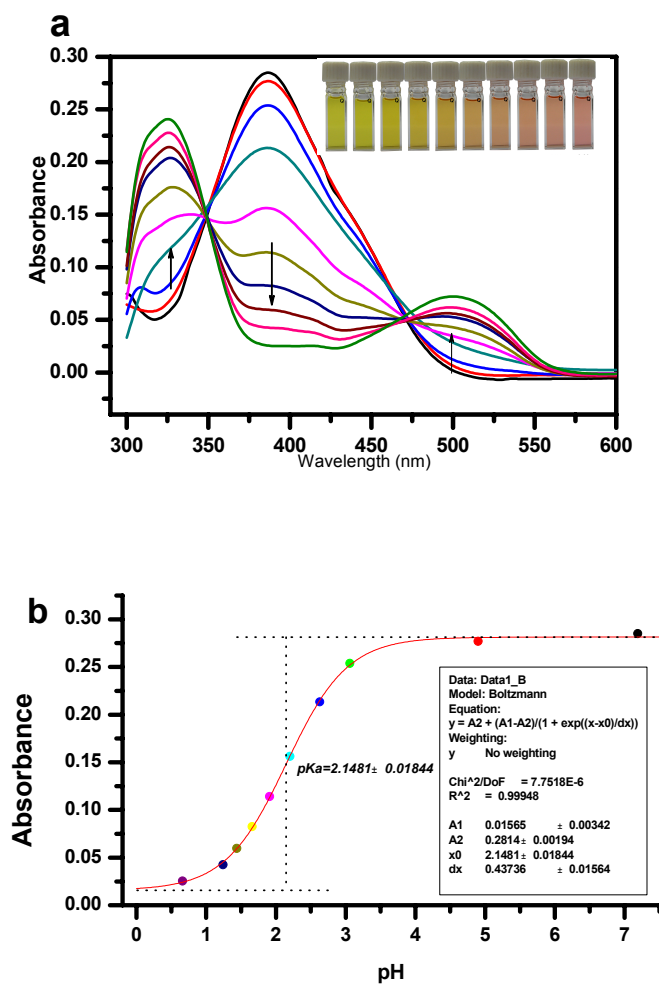
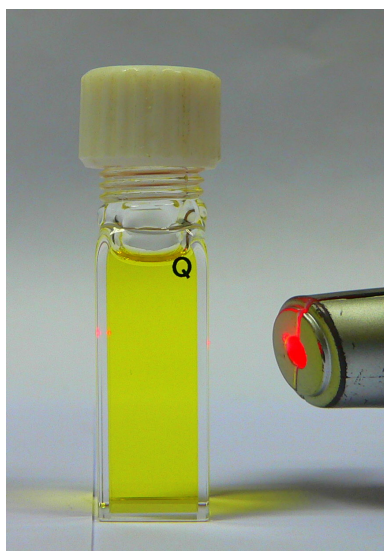
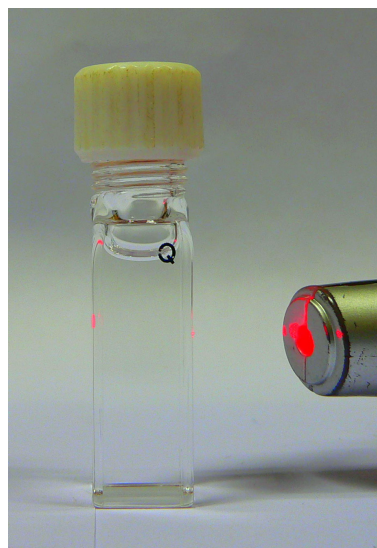


Figure 8S (a) UV/vis spectra of (10 μ mol/L AMAAB in 50% V/V ethanol- hydrochloric acid aqueous solution) at pH 6.86, 3.13, 2.06, 1.23, 0.86, 0.64, 0.41, 0.21, 0.00, -0.50. The arrow indicates the direction of decreasing pH. Inset: the color of the suspension at different pH. (b) Change in absorbance at 402 nm of AMAAB solution.



AMAAB solution
(0.0001mol/L in 50% V/V ethanol- water)



Blank
(50% V/V ethanol- water)

Figure 9S Photographs of the AMAAB solution and blank (solvent) when a light beam was irradiated from the side.