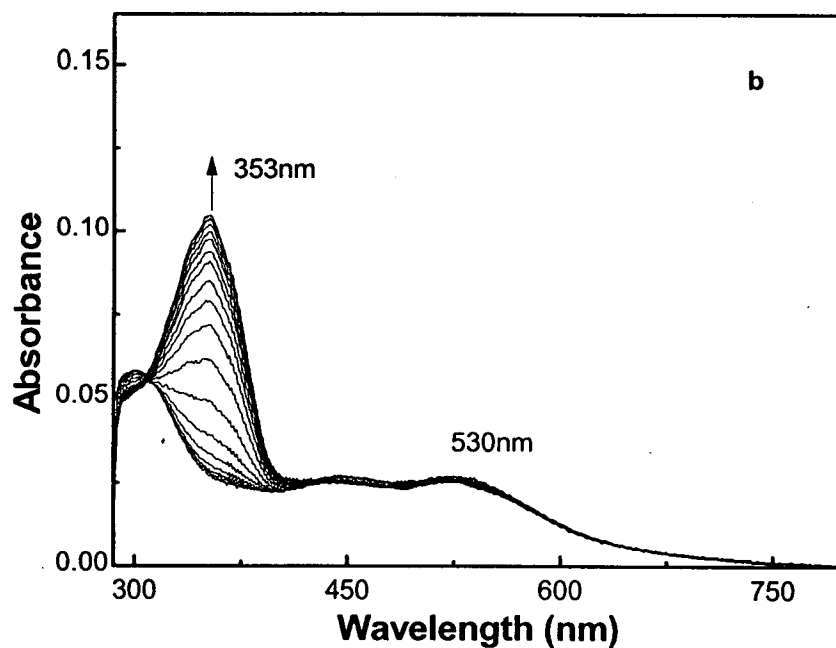
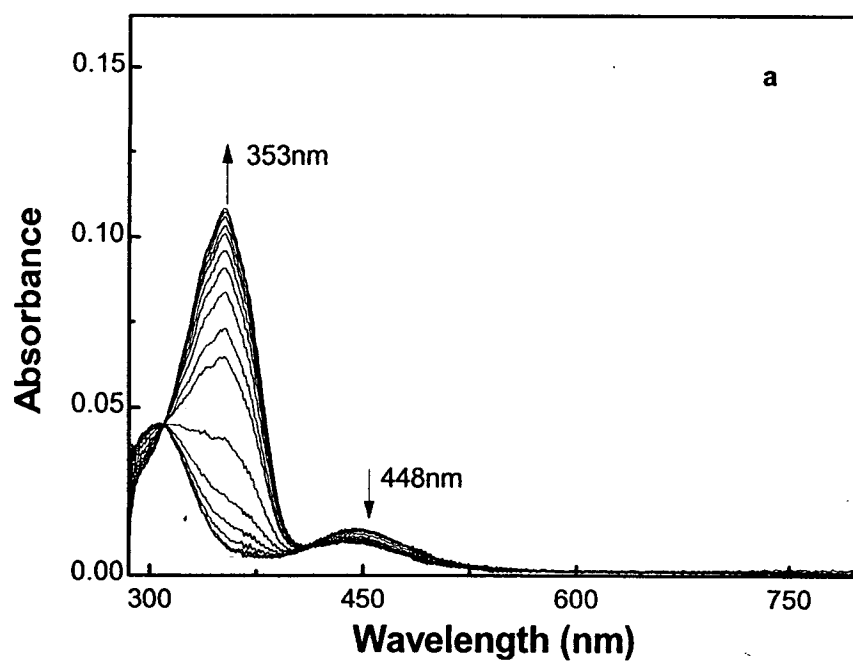


Supporting material #1

The trans to cis photoisomerization with 0.1 mW/cm^2 UV light,
(a) free C6AzSSC12, (b) C6AzSSC12-capped gold nanoparticles in toluene.

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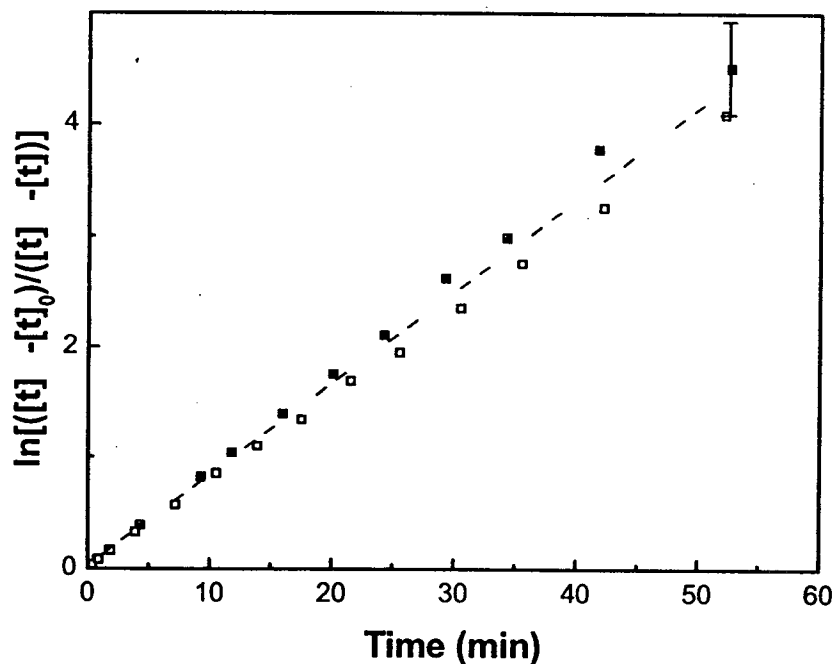


Supporting material #2

The cis to trans photoisomerization with 0.1 mW/cm^2 UV light,

(a) free C6AzSSC12, (b) C6AzSSC12-capped gold nanoparticles in toluene.

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Supporting material #3

First-order plots for cis to trans photoisomerization of free C6AzSSC12 molecules (solid squares) and C6AzSSC12-capped gold nanoparticles (open squares) in toluene, upon weak vis light (440 nm, $I = 0.1 \text{ mW/cm}^2$) irradiation. The dashed line is the kinetic data of free dye shown in Figure 8 ($I = 1.5 \text{ mW/cm}^2$), calibrated by the light intensity.

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