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Supporting information

Synthesis and Characterization of Anatase TiO_2 Nanorods: Insights from Nanorods' Formation and Self-Assembly

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Figure S1. (a) A typical UV-Vis absorption spectrum of dilute dispersion of TiO_2 NRs in toluene. The spectrum shows a sharp absorption edge at 380 nm corresponding to band-to-band transitions. (b) Energy dependence of $(\alpha h\nu)^{0.5}$ versus Photon energy $(h\nu)$ for the determination of the band gap derived from diffused UV-Vis absorption spectrum of TiO_2 NRs based on indirect transitions (n=0.5) for anatase NRs. The bandgap of the anatase NRs was estimated based on ($\alpha = K(h\nu - E_g)^{0.5}/h\nu$) where E_g is the bandgap, α is the absorption coefficient, K is the absorption constant for indirect transitions, and $h\nu$ is the incident photon energy. The bandgap of the anatase NRs is equal to 3.28 eV which is calculated from the extrapolation of the absorption edge onto the energy axis where $\alpha = 0$. #