Electronic Supporting Information

Functional Gold Nanoparticles with Different Shapes for Photothermal Therapy and Drug Delivery

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Supplementary Figures

Figure S1. SEC traces of the polymers with DMAc as the eluent.

Figure S2. ¹H NMR spectra of (a) P(OEGMA)-b-P(VBA) and (b) P(OEGMA)-b-P(VBI/DOX). DOX conversion was calculated by the decreasing peak integral of aldehyde signal (10.0 ppm) from VBA.
Figure S3. UV-Vis spectra of P(OEGMA)-b-P(VBA) and P(OEGMA)-b-P(VBI/DOX) showing the appearance of DOX absorption peak ($\lambda_{\text{max}} = 480$ nm) and partial disappearance of RAFT chain end ($\lambda_{\text{max}} = 300$ nm)
Figure S4. Bathochromic shift in the plasmon resonance band of gold nanoparticles confirmed by UV-Vis spectroscopy indicating successful polymer grafting to the nanoparticles. Shape of gold nanoparticles (a) sphere (b) rod (c) star.
Figure S5. Photothermal heating of P(OEGMA)-b-P(VBA) functionalized gold nanoparticles with NIR light (continuous wave, $\lambda = 725\text{-}2500$ nm, 1.34 W cm$^{-2}$) for 3 min at different gold concentrations determined by TGA. Light source was prepared by utilizing a continuous white light source (260nm--2500nm), a 725 nm long-pass filter and a 40 mm path length cuvette filled with water placed after the long-pass filter to block any irradiation which would be strongly absorbed by water.