

Synthesis of novel cyclodextrin modified reduced graphene oxide composites by simple hydrothermal method

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we measured the photothermal conversion efficiency (η) of rGO@CD. The η value was calculated as follows:

$$\eta = hS(\Delta T_{\max} - \Delta T_{\max s}) / I(1 - 10^{-A}) \quad (1) \text{ and } hS = m_s C_s / \tau \quad (2)$$

where η is the photothermal conversion efficiency. ΔT_{\max} is the temperature change of the rGO@CD solution at the maximum steady-state temperature, $\Delta T_{\max s}$ is the temperature change of solvent at the maximum steady-state temperature. I is the laser power, A is the absorbance of rGO@CD at 808 nm. C_s and m_s is the heat capacity and mass of solvent, respectively. τ is the time constant, which is can be determined by the linear curve fitting of temperature cooling time vs its $\ln(\theta)$, ($\theta = \Delta T / \Delta T_{\max}$).

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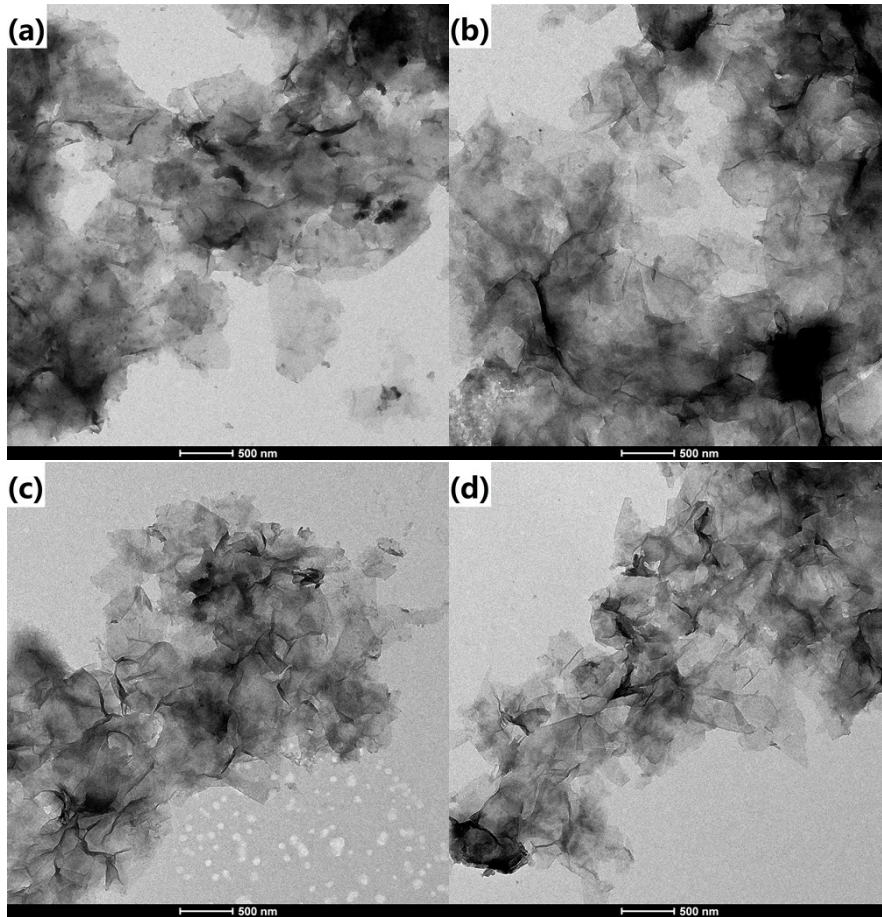
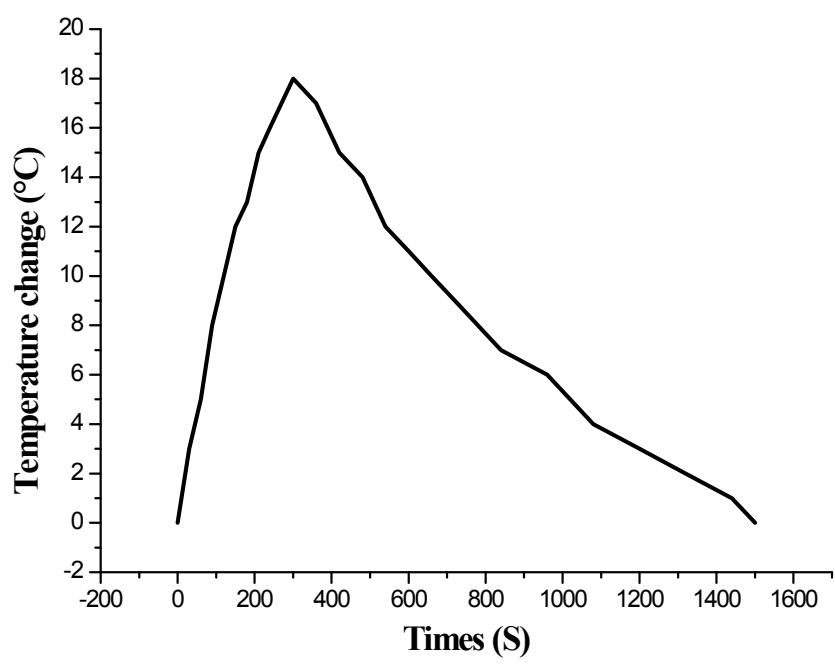


Fig S1. TEM images of rGO@CD in 6 days at different pH (a) 2 days at pH 7.4 (b) 6 days at pH 7.4 (c) 2 days at pH 5.0 (d) 6 days at pH 5.0



FigS2. The photothermal response of rGO@CD under the NIR irradiation condition (808 nm, continuous wave, 1 W, 300 s), then the laser was turn off.

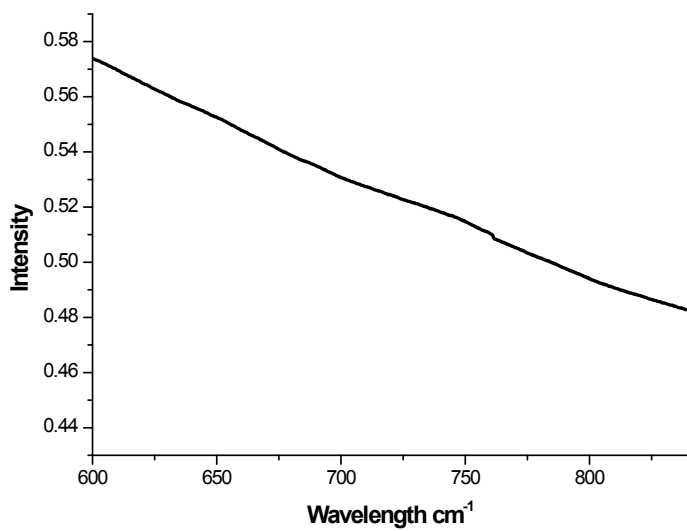


Fig.S3 UV-Vis spectrum of rGO@CD.

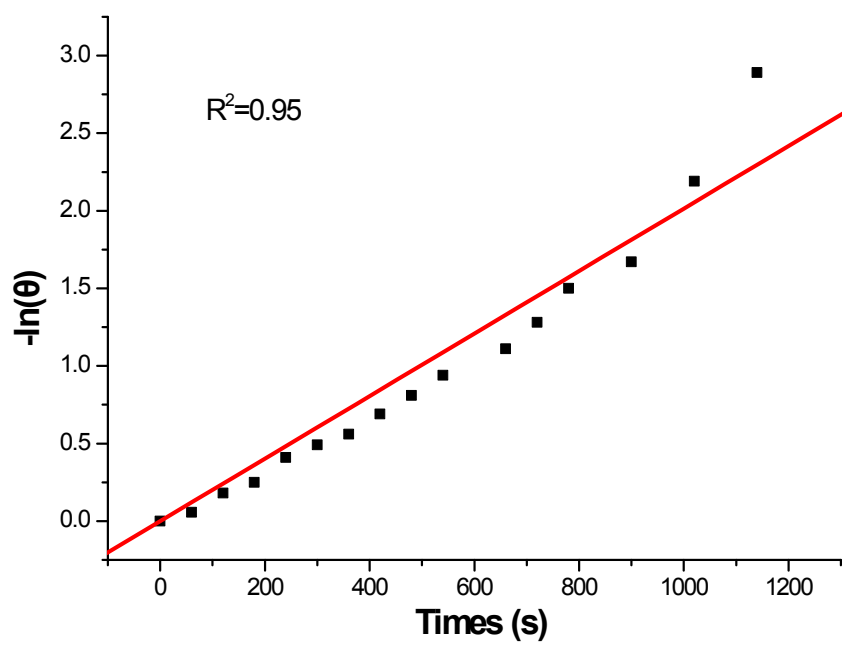


Fig.S4 Linearity curves fitted from the temperature cooling time vsln(θ) of rGO@CD (100 µg/mL).

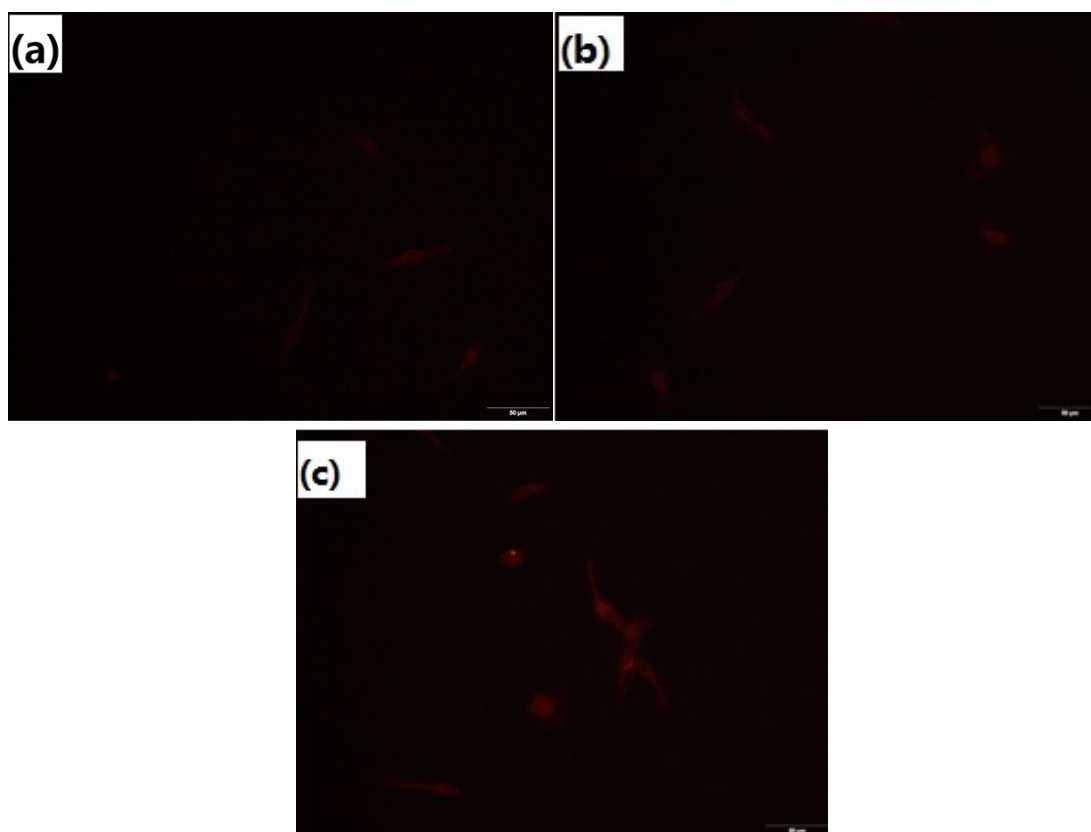


Fig.S5 Intracellular DOX release in SKOV3 cell for different incubating times with 100 µg/mL rGO@CD@PEG@FA@DOX by cell fluorescence imaging (a) 1h (b) 3h (c) 6h.