

## Supporting Information

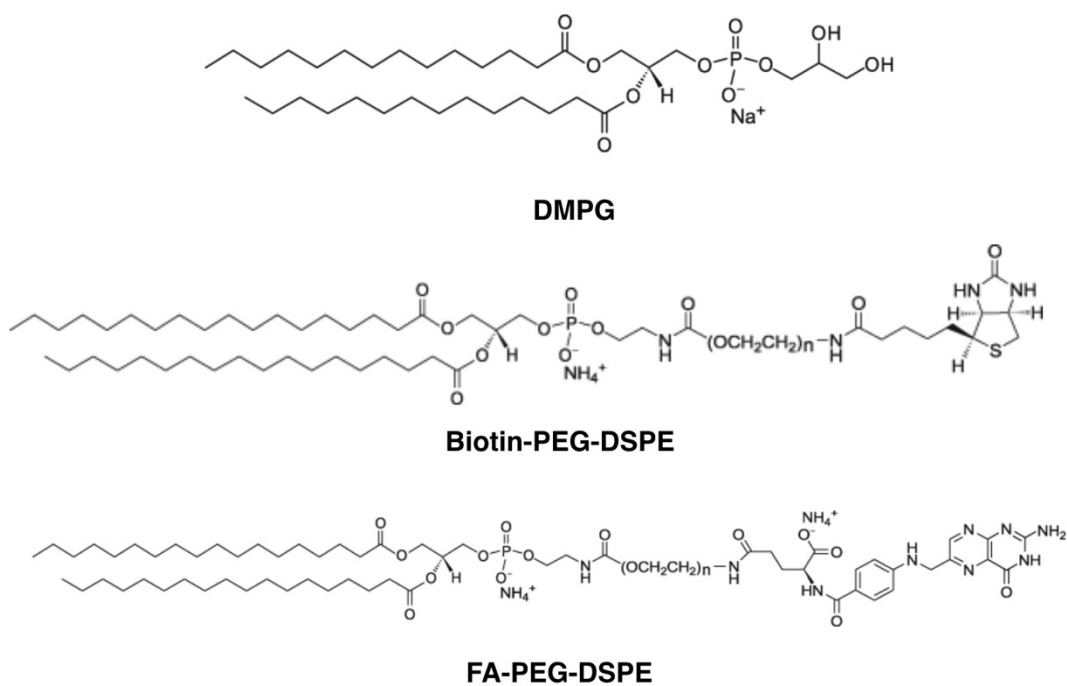
### **Facile fabrication of a resveratrol loaded phospholipid@reduced graphene oxide nanoassembly for targeted and near-infrared laser-triggered chemo/photothermal synergistic therapy of cancer *in vivo***

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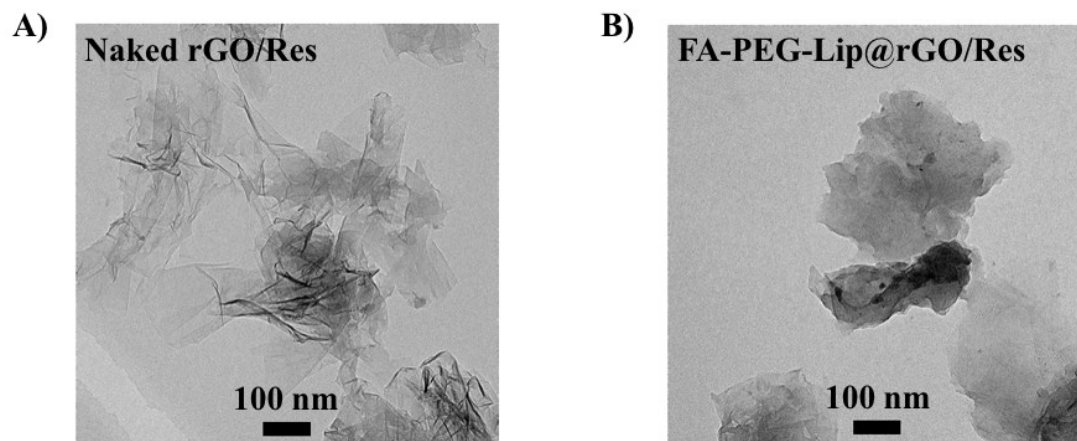
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### Structure of phospholipids used in this work.

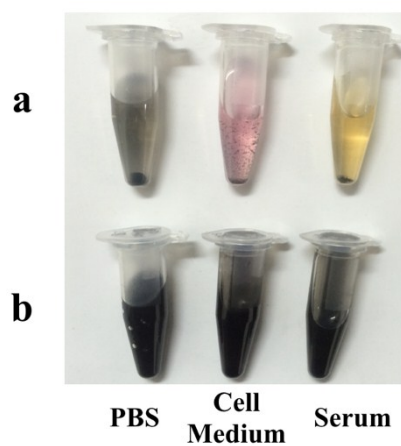
As shown in Fig. S1, DMPG = 1,2-Dimyristoyl-sn-glycero-3-phosphoglycerol; biotin-PEG-DSPE=1,2-distearoyl-sn-glycero-3-phosphoethanolamine poly (ethylene glycol)<sub>2000</sub> biotin; FA-PEG-DSPE=1,2-distearoyl-sn-glycero-3-phosphoethanolamine poly (ethylene glycol)<sub>5000</sub> folate.



**Fig. S1** Structures of DMPG, biotin-PEG-DSPE, and FA-PEG-DSPE.

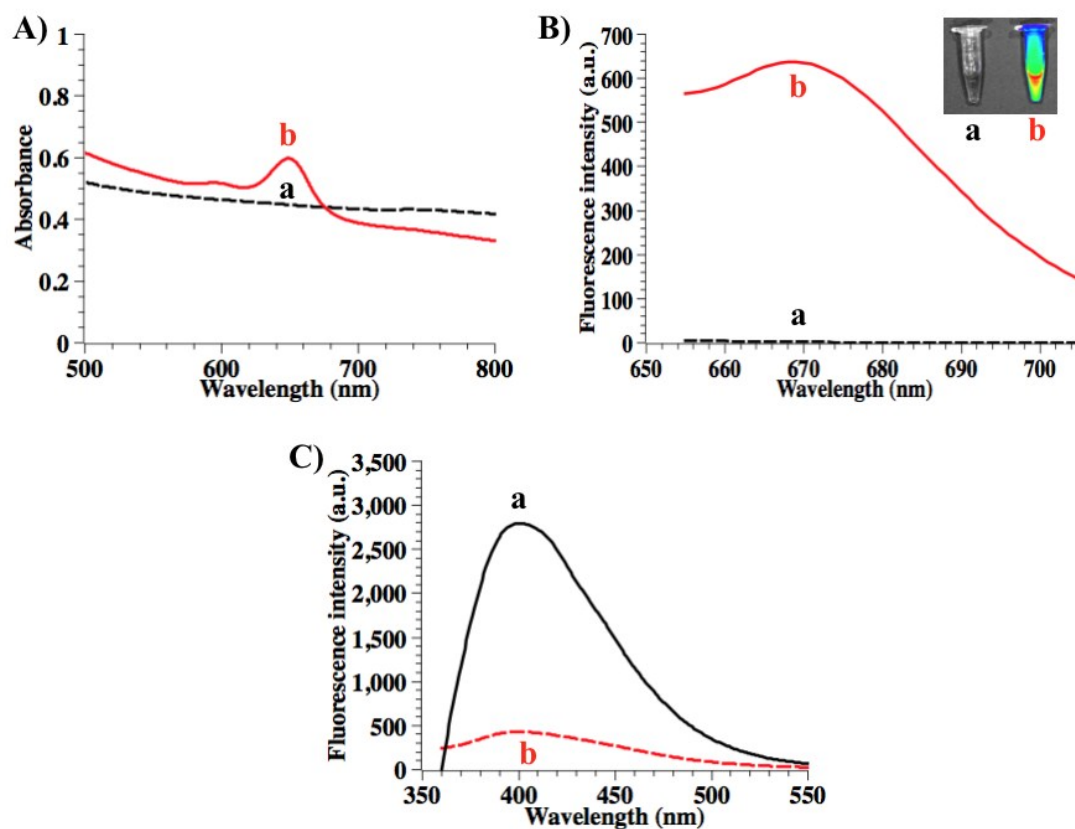


**Fig. S2** TEM images of naked rGO (A) and FA-PEG-Lip@rGO (B) with a 100 nm scale bar.



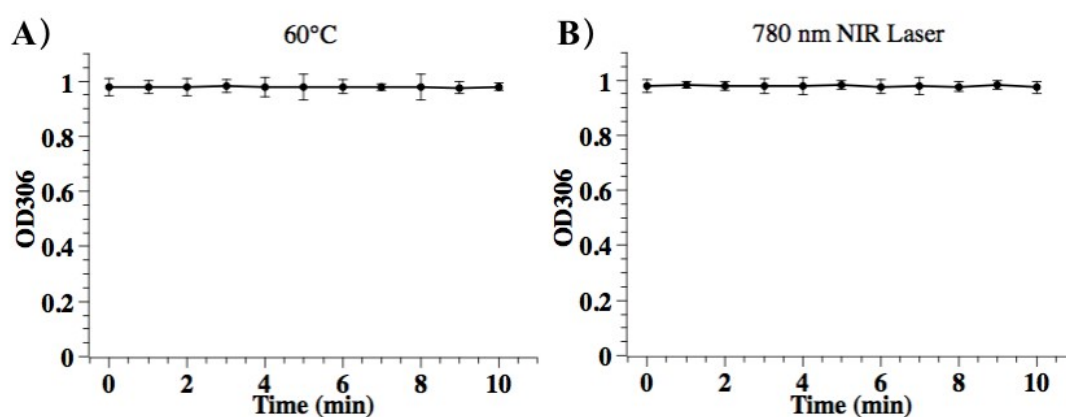
**Fig. S3** Dispersion stability assays. A picture of naked rGO (a) and FA-PEG-Lip@rGO (b) in different solutions, including PBS, cell medium, and serum and

incubated over a period of 7 days.

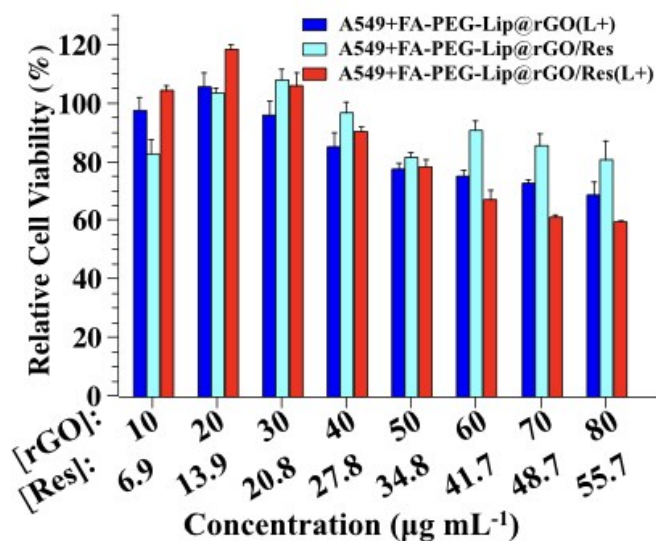


**Fig. S4** Optical properties of FA/atto647N-PEG-Lip@rGO and FA-PEG-Lip@rGO/Res. (A) UV-vis spectra of FA-PEG-Lip@rGO (a) and FA/atto647N-PEG-Lip@rGO (b). (B) Fluorescence emission spectrum of FA-PEG-Lip@rGO (a) and FA/atto647N-PEG-Lip@rGO (b). Insert: Fluorescence images. (Obtained with *in vivo*

optical imaging system, excitation: 640 nm ( $\pm 15$  nm) bandpass filter, emission: 695-770 nm bandpass filter). (C) Fluorescence emission spectrum of free Res (a) and FA-PEG-Lip@rGO/Res (b) with the same Res concentration recorded by using 325 nm as the excitation wavelength.



**Fig. S5** Stability assessment of Res ethanol solution ( $6.25 \mu\text{g mL}^{-1}$ ) measured using changes in 306 nm absorption under 60°C (A), and 780 nm NIR laser (B) exposure (mean  $\pm$  standard deviation of three experiments).



**Fig. S6** Relative cell viabilities of A549 cells after treatment with FA-PEG-Lip@rGO (L+), FA-PEG-Lip@rGO/Res, and FA-PEG-Lip@rGO/Res (L+). All data are presented as the average  $\pm$  standard error (n = 3).

**Table S1.** Hydrodynamic size and corresponding poly-dispersity index (PDI) of different samples

Sample	Naked rGO	DMPG Lip@rGO	FA-PEG-Lip@rGO
Size (nm)	122.3	127.6	221.7
PDI	0.257	0.101	0.067