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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**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)_{2000} biotin; FA-PEG-DSPE=1,2-distearoyl-sn-glycero-3-phosphoethanolamine poly (ethylene glycol)_{5000} folate.

![Fig. S1 Structures of DMPG, biotin-PEG-DSPE, and FA-PEG-DSPE.](image-url)
**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 (±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 μg mL⁻¹) measured using changes in 306 nm absorption under 60°C (A), and 780 nm NIR laser (B) exposure (mean ± 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 ± standard error (n = 3).

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

<table>
<thead>
<tr>
<th>Sample</th>
<th>Naked rGO</th>
<th>DMPG Lip@rGO</th>
<th>FA-PEG-Lip@rGO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size (nm)</td>
<td>122.3</td>
<td>127.6</td>
<td>221.7</td>
</tr>
<tr>
<td>PDI</td>
<td>0.257</td>
<td>0.101</td>
<td>0.067</td>
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