## **Supplemental Information**

## Novel Single Wall Carbon Nanotube (SWCNT) Functionalization Agent Facilitating *in vivo* Chemo/Thermo Combined Therapy

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**Fig. S1.** Characterizations of EB dispersed SWCNT. (a). Images of EB dispersed SWCNT at different ratios. (b). AFM image of SWCNT/EB complex at 1:5 ratio.



Fig. S2. Optical images of fluorescent signals generated from EB/Albumin complex at

different ratios by Carestream optical imaging system.



**Fig. S3.** Spectrum of EB/Albumin. (a). UV-vis-NIR spectrum of EB with and without Albumin. (b). Fluorescent spectrum of EB with and without Albumin. 6.8 time fluorescent signal intensity was found after EB binds with Albumin. Insert is fluorescent images of EB with and without Albumin under optical imaging system. Excitation and emission were set as 580 nm and 700 nm, respectively.



**Fig. S4.** Characterization of SWCNT/EB loaded with paclitaxel (PTX). (a). UV-vis-NIR absorbance of SWCNT/EB, SWCNT/EB/albumin and SWCNT/EB/albumin/PTX. A specific absorbance at 280 nm from Albumin was observed. (b). Size measurements of SWCNT/EB, SWCNT/EB/albumin and SWCNT/EB/albumin/PTX.



Fig. S5. Standard curve of PTX determined by HPLC at 254 nm.



**Fig. S6.** The HPLC spectrum of PTX released from SWCNT/EB/Albumin/PTX complex at 50°C (left) and 37°C (right). PTX amount was calculated according to the area under the curve.

Mode	Affinity (kcal/mol)
1	-16.1
2	-16.0
3	-15.9
4	-15.9
5	-15.9
6	-15.9
7	-15.9
8	-15.9
9	-15.9

Table S1. Binding affinity between EB and SWCNT at different modes

PTX to Albumin (wt%)	Loading content (wt%)	Yield (%)
Albumin	NA	NA
1:9	5.33	53.33
1:4	16.46	82.34
2:3	31.55	50.18

Table S2. PTX loading efficiency onto albumin at different ratios

Table S3. Albumin/PTX loading efficiency onto SWCNT/EB at different ratios

Albumin/PTX : SWCNT/EB	Loading efficiency	
(wt%)	(wt%)	
1:1	41.51	
3:1	55.46	
5:1	79.18	
10:1	81.33	