

## Supporting Information

### **Tumor-specific activated photodynamic therapy with an oxidation regulated strategy for enhancing anti-tumor efficacy**

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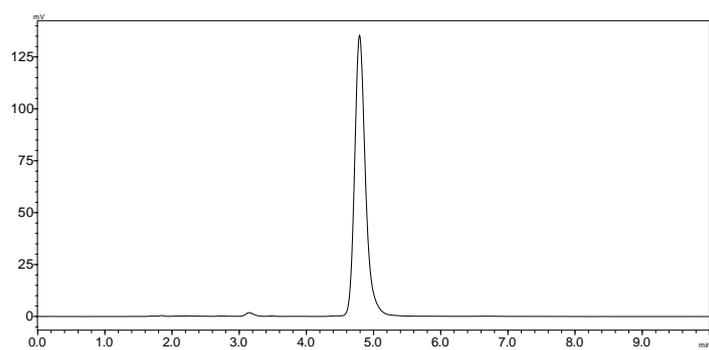


Figure S1. The purity of GA determined by High-performance liquid chromatography (HPLC).

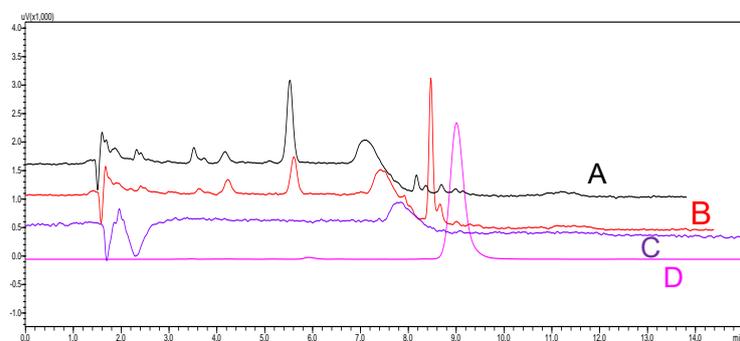
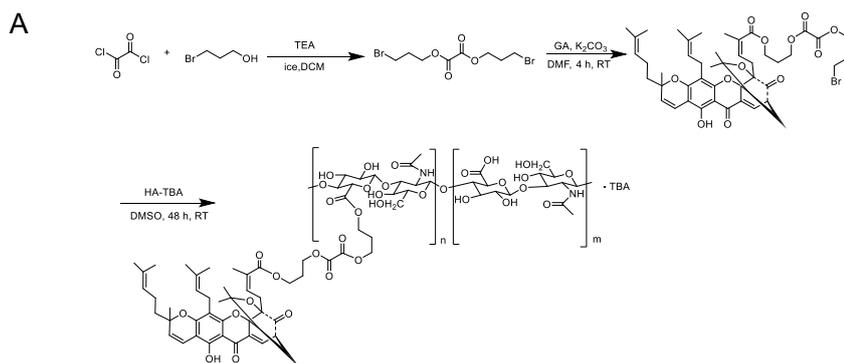
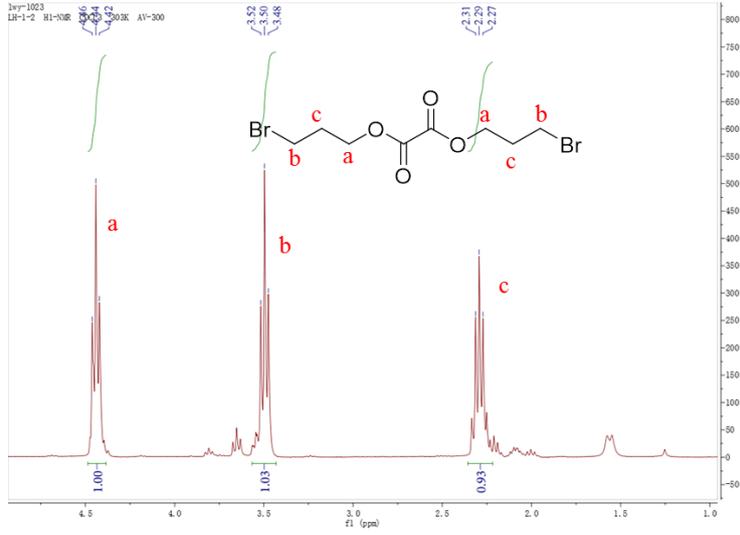
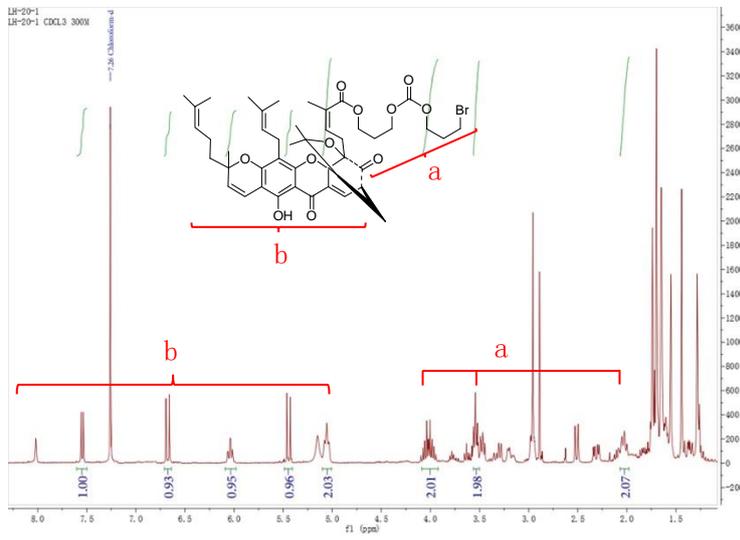
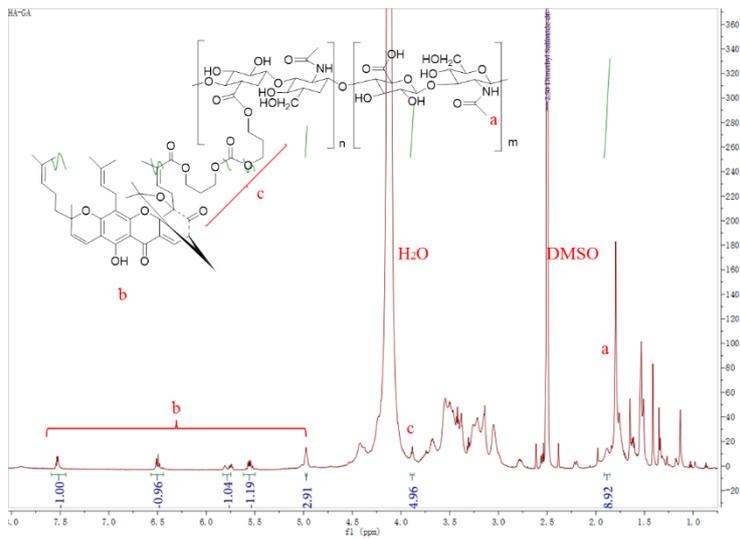


Figure S2. HPLC analysis of (A) HA-GA@Ce6. (b) HA-GA@Ce6 after 2 min laser irradiated. (c) HA. (d) GA.



**B****C****D**

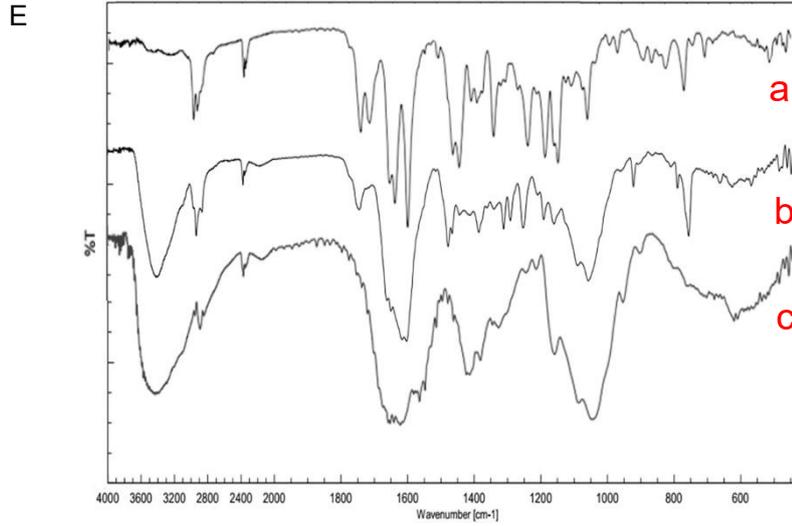


Figure S3. (A) Synthesis scheme of HA-GA. (B)  $^1\text{H}$  NMR spectrum of bis(3-bromopropyl) oxalate-linker. (C)  $^1\text{H}$  NMR spectrum of GA-Linker covalent bonding compound. (D)  $^1\text{H}$  NMR spectrum of HA-GA. (E) FTIR spectrum of GA-Linker (a), HA-GA (b) and HA (c).

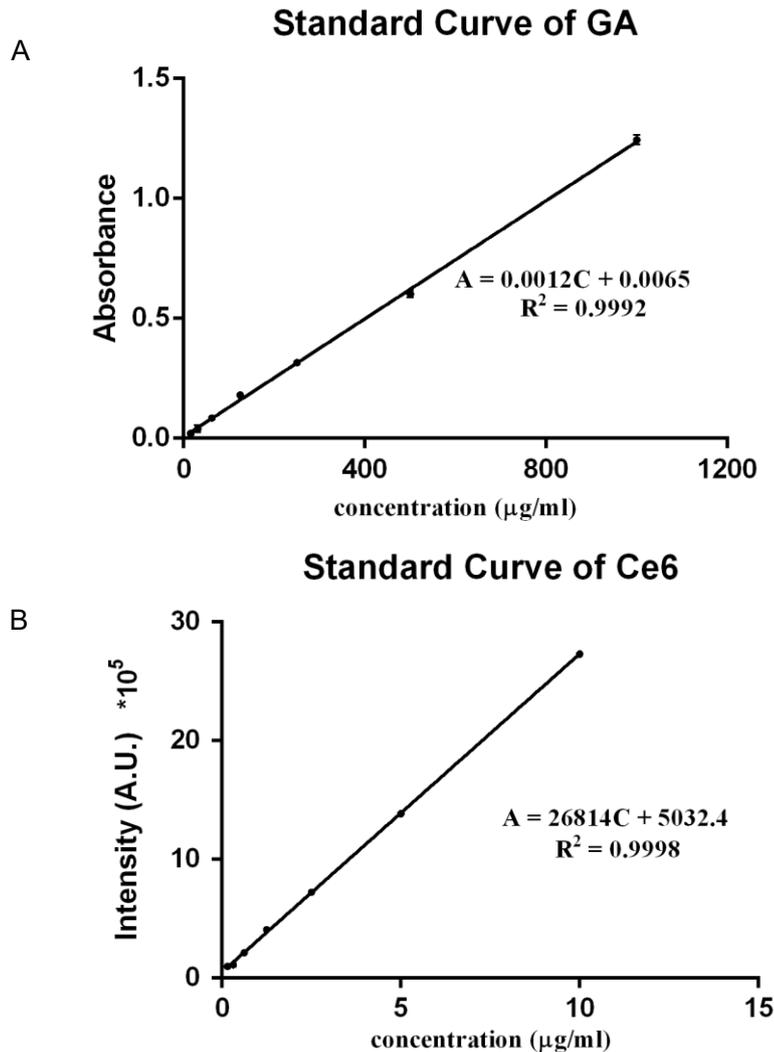


Figure S4. Standard Curve of (A) GA and (B) Ce6.

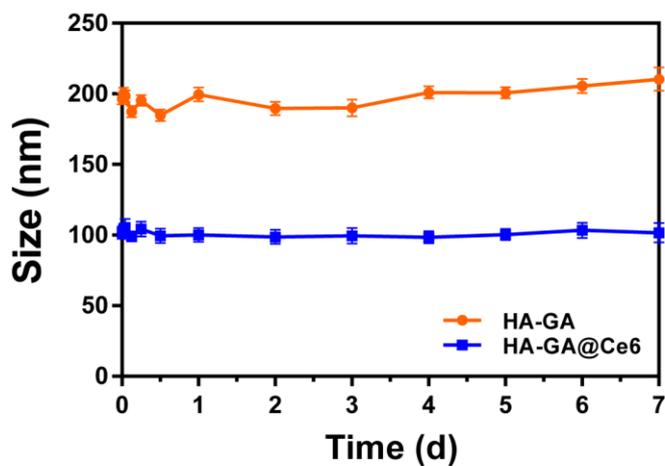


Figure S5. Variation in the size of HA-GA@Ce6 and HA-GA at storage for 7 days.

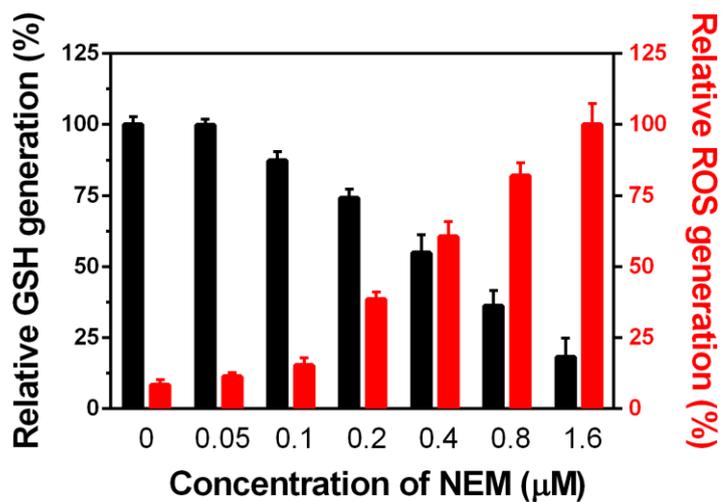


Figure S6. The depletion of GSH and the elevation of ROS level induced by NEM.

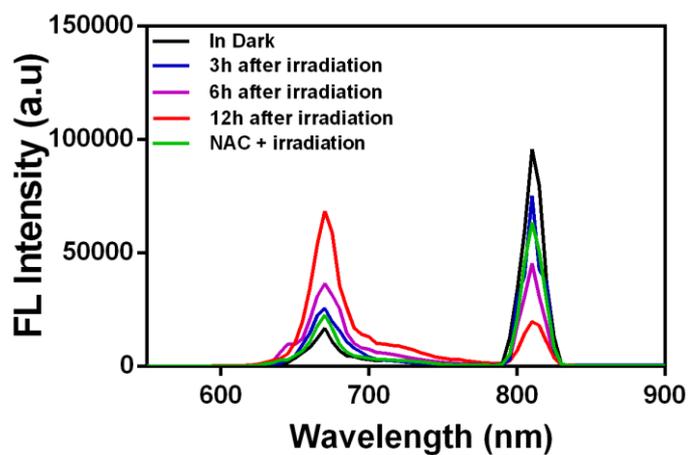


Figure S7. The fluorescence emission spectrum of HA-GA@Ce6/DiR.

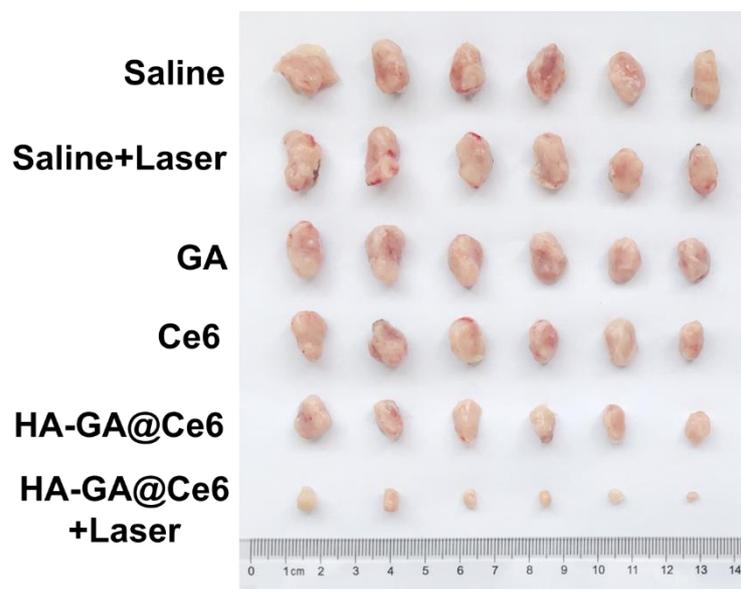


Figure S8. The representative *ex-tumor* images taken on Day 21 after the first treatment.