

Multifunctional hyaluronic acid-derived carbon dots for self-targeted imaging-guided photodynamic therapy

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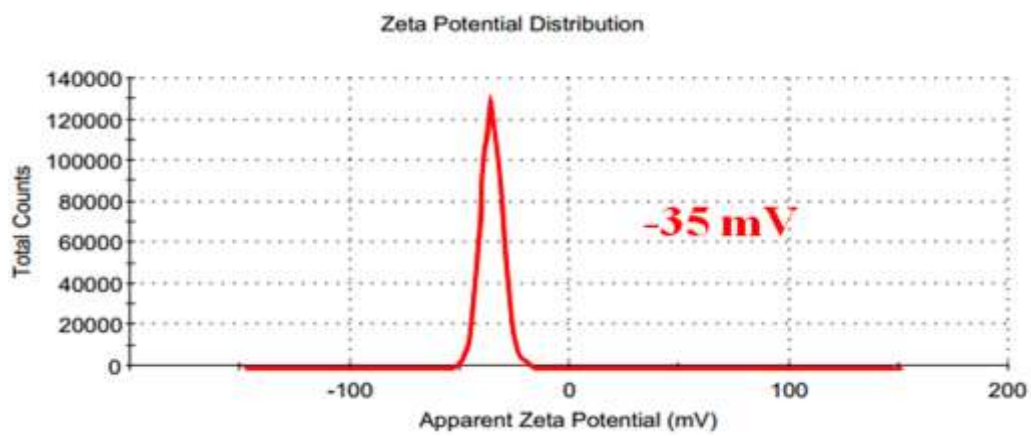


Fig. S1 Surface charge of HA-CDs was measured by zeta potential.

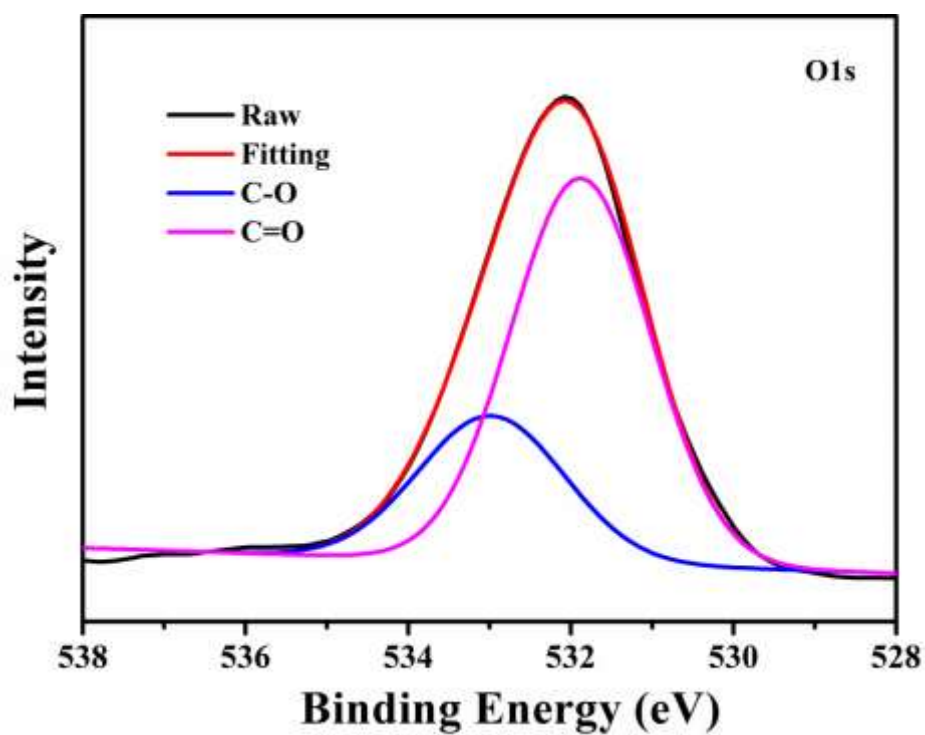


Fig. S2 High-resolution O1s XPS spectra of HA-CDs.

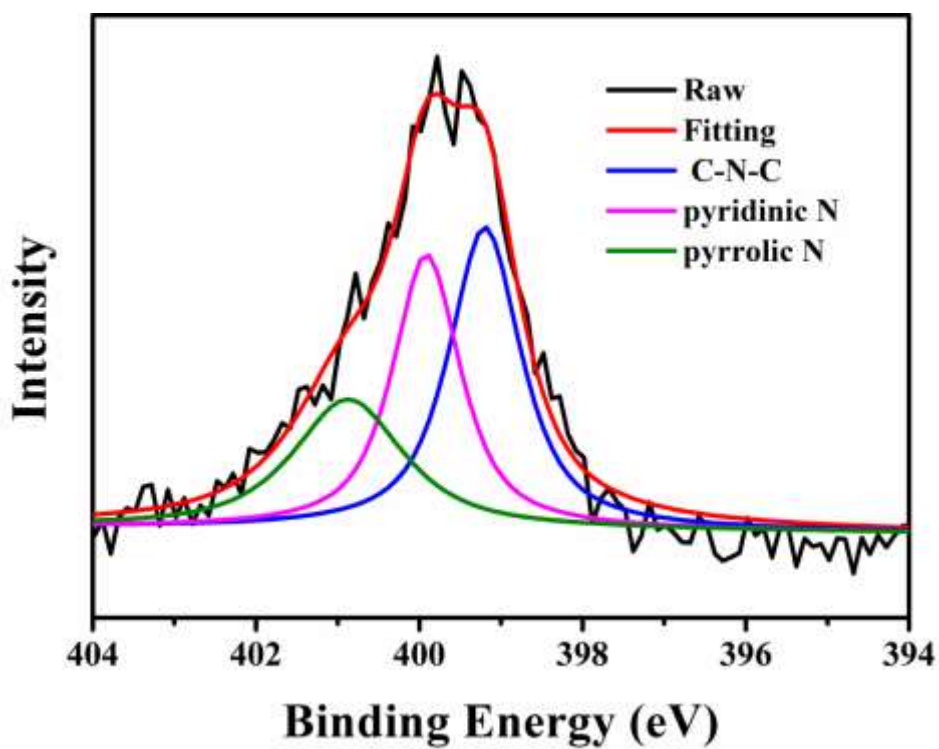


Fig. S3 High-resolution N1s XPS spectra of HA-CDs.

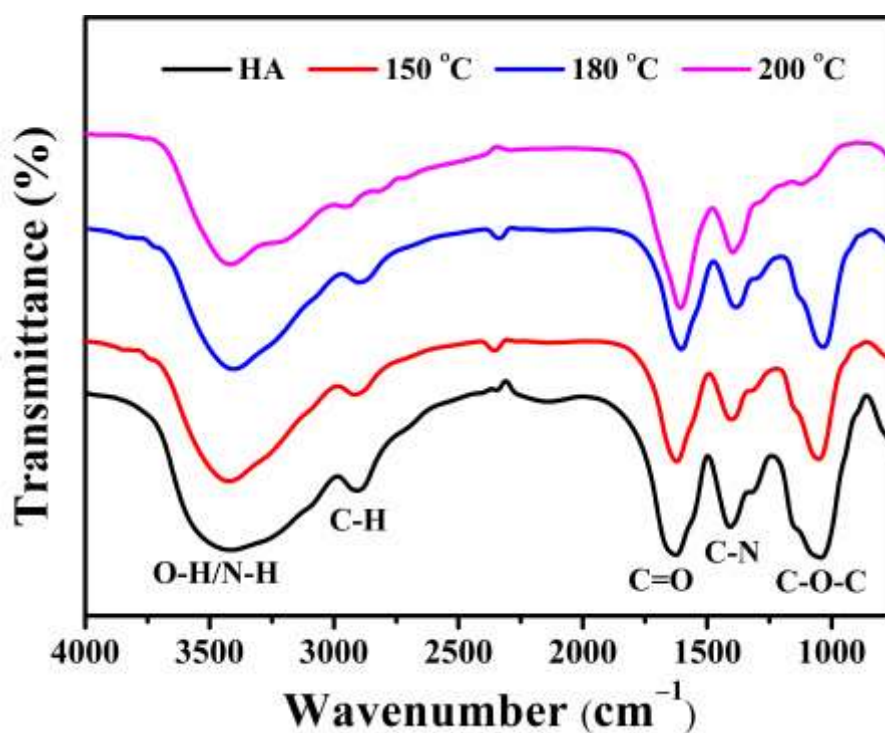


Fig. S4 FT-IR spectra of HA and HA-CDs prepared at different temperatures (150 °C, 180 °C and 200 °C) in water, respectively.

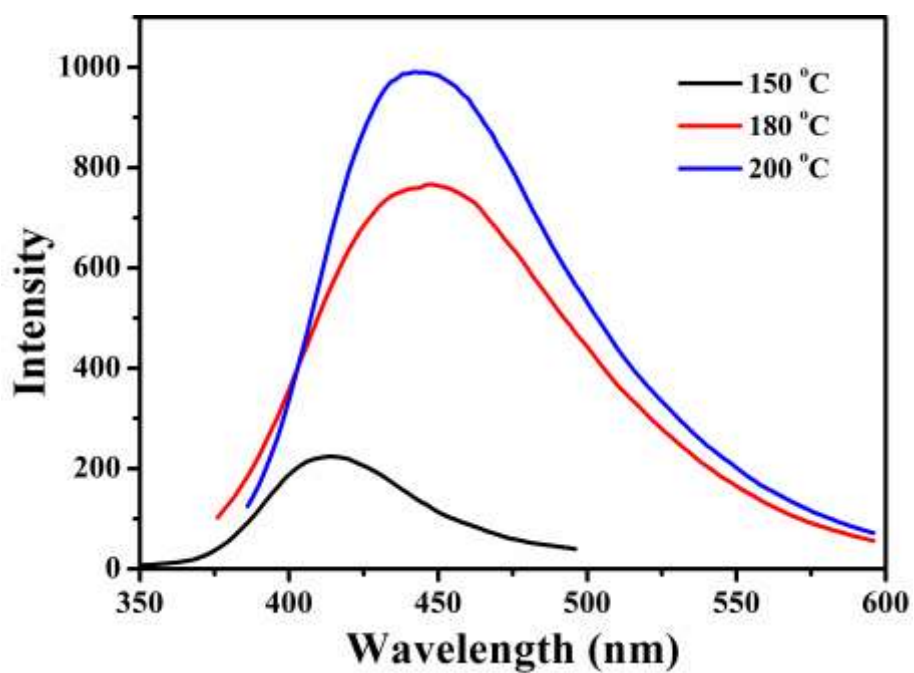


Fig. S5 PL emission spectra of the aqueous solutions of the HA-CDs prepared at different temperatures (150 °C, 180 °C and 200 °C), respectively.

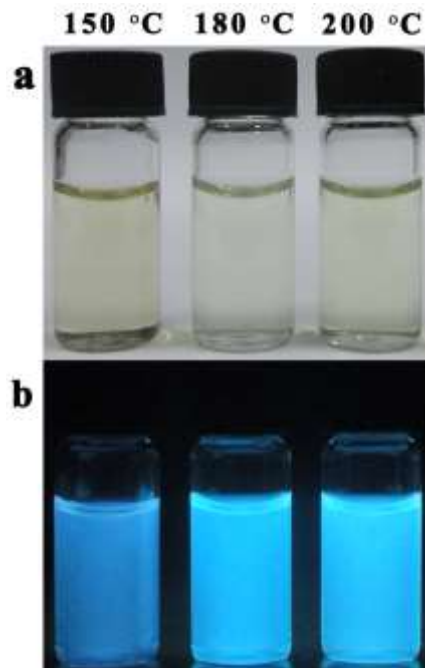


Fig. S6 Photographs of the aqueous solutions of the HA-CDs prepared at different temperatures (150 °C, 180 °C and 200 °C) under visible light (a) and 365-nm UV irradiation (b).

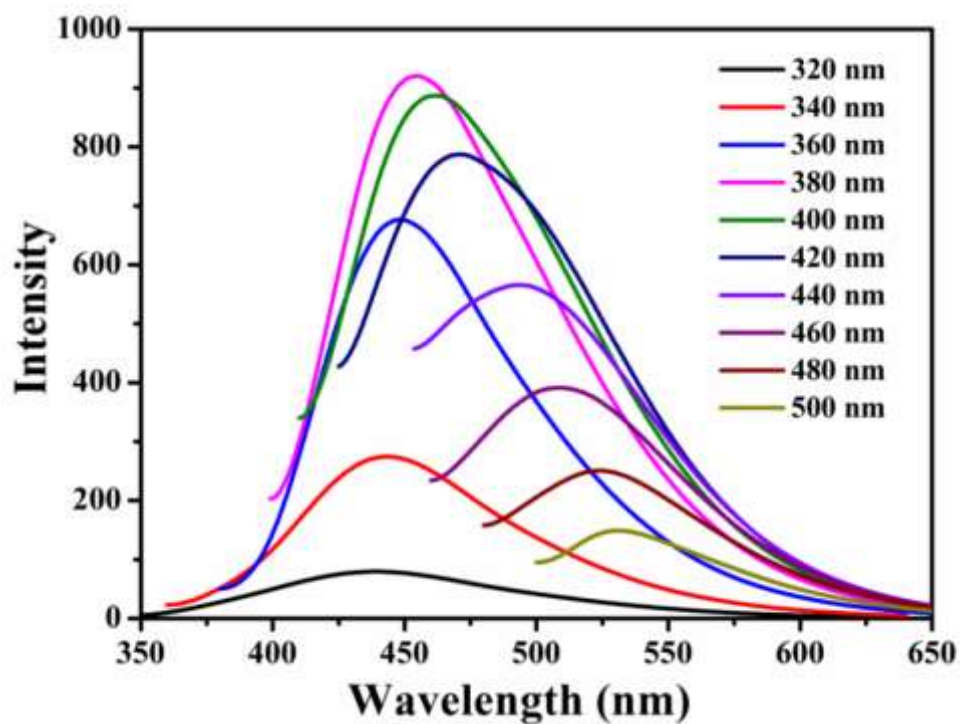


Fig. S7 PL emission spectra of HA-CDs with different excitation wavelengths from

320 to 500 nm.

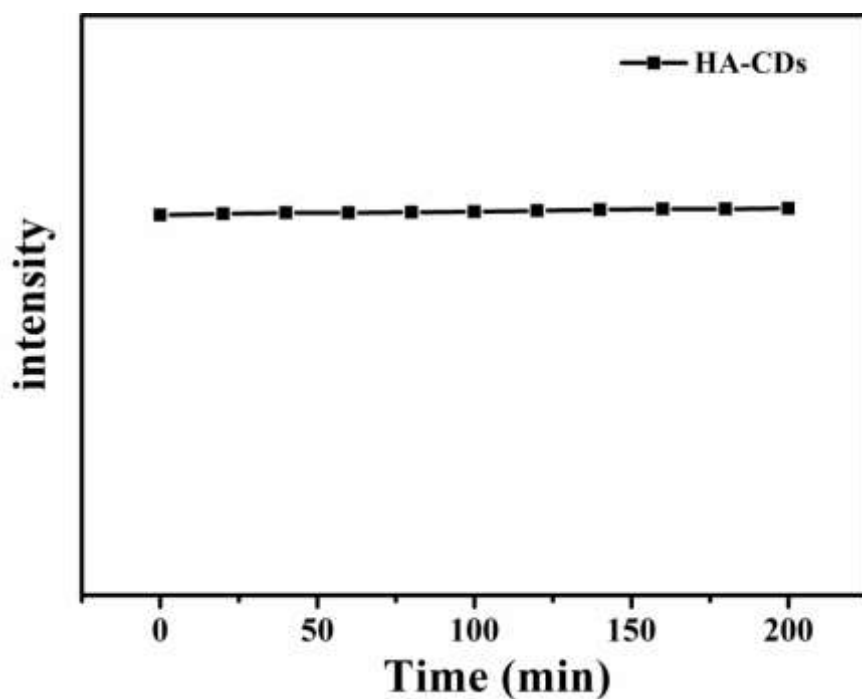


Fig. S8 Effect of illumination time under 365-nm UV light on the fluorescence intensity.

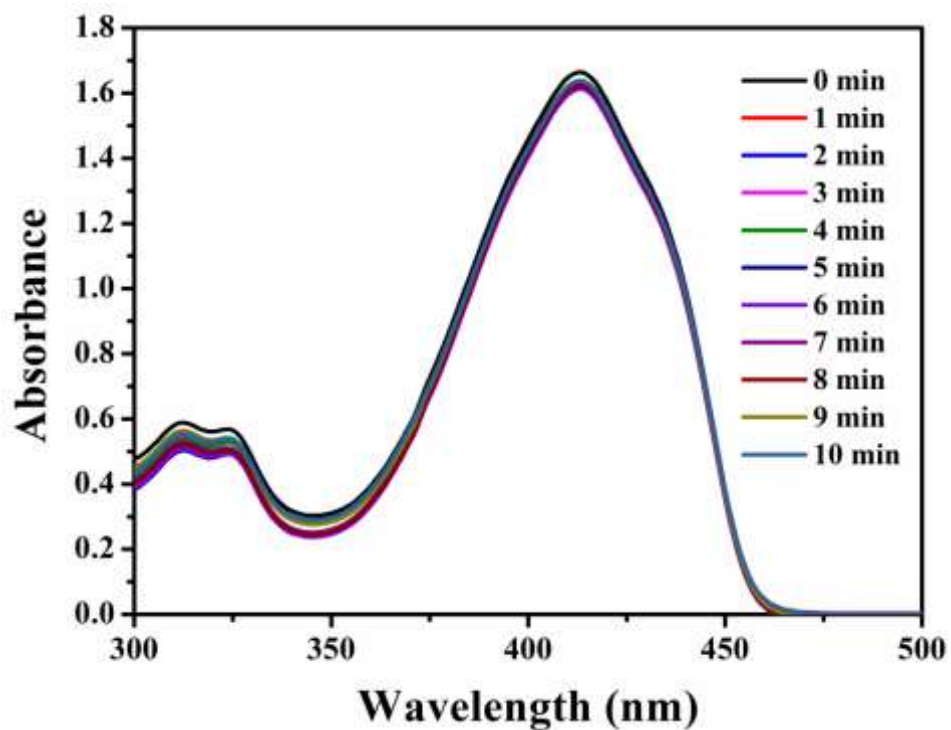


Fig. S9 UV-Vis spectra of DPBF for different times without laser irradiation.

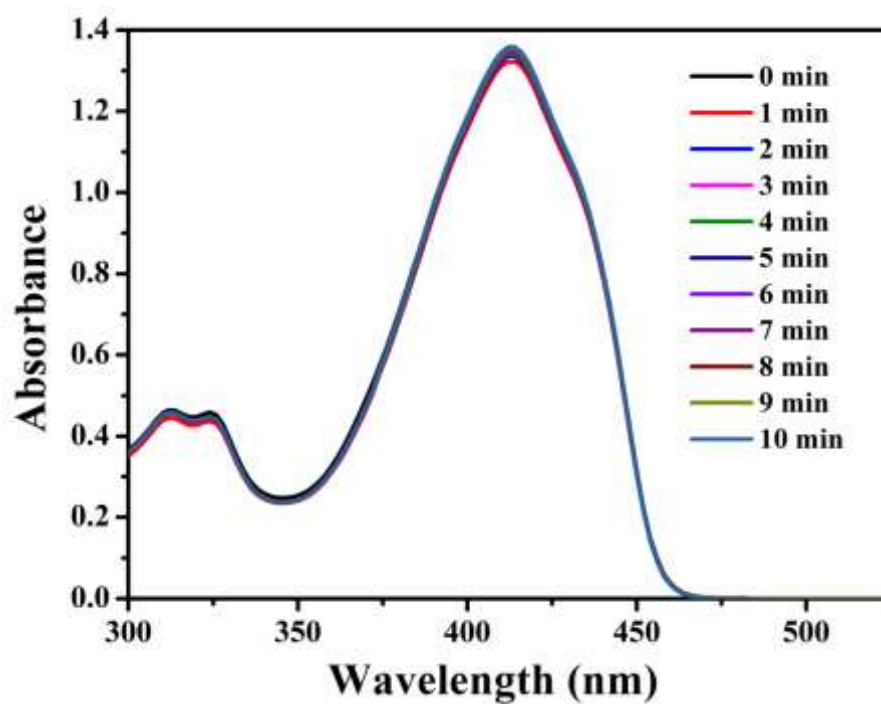


Fig. S10 UV-Vis spectra of DPBF for different irradiation times by a 650-nm (1 W cm^{-2}) laser.

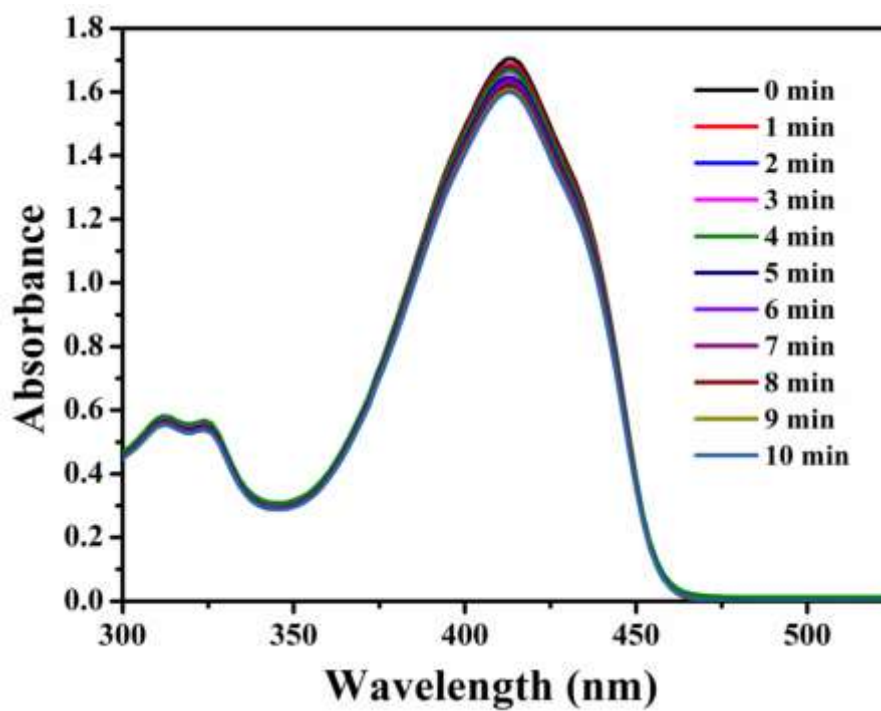


Fig. S11 UV-Vis spectra of DPBF+HA-CDs for different times without laser irradiation.

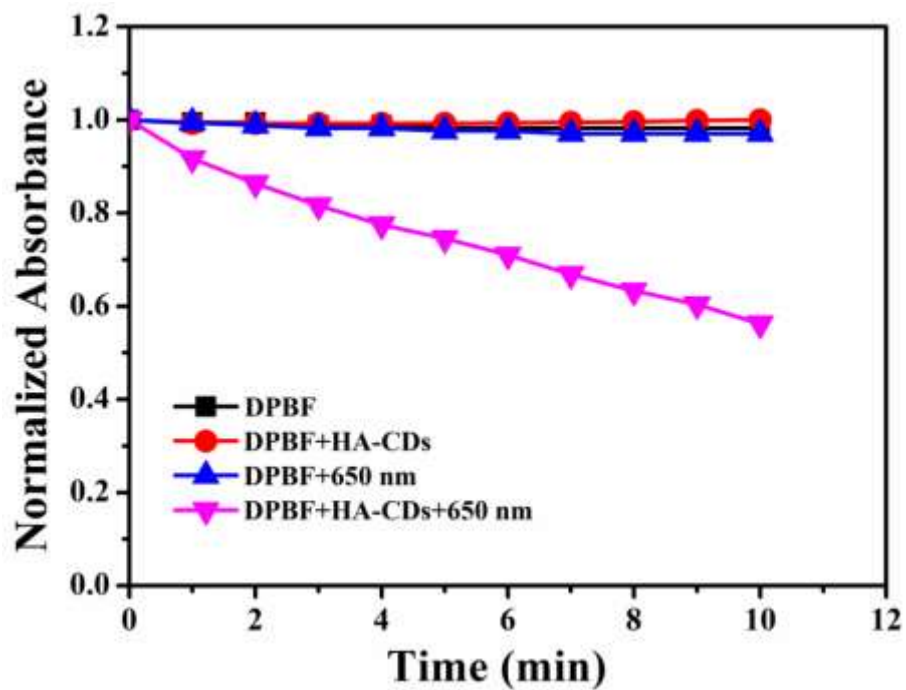


Fig. S12 A comparison of DPBF photo-degradations under the irradiation of 650-nm laser.

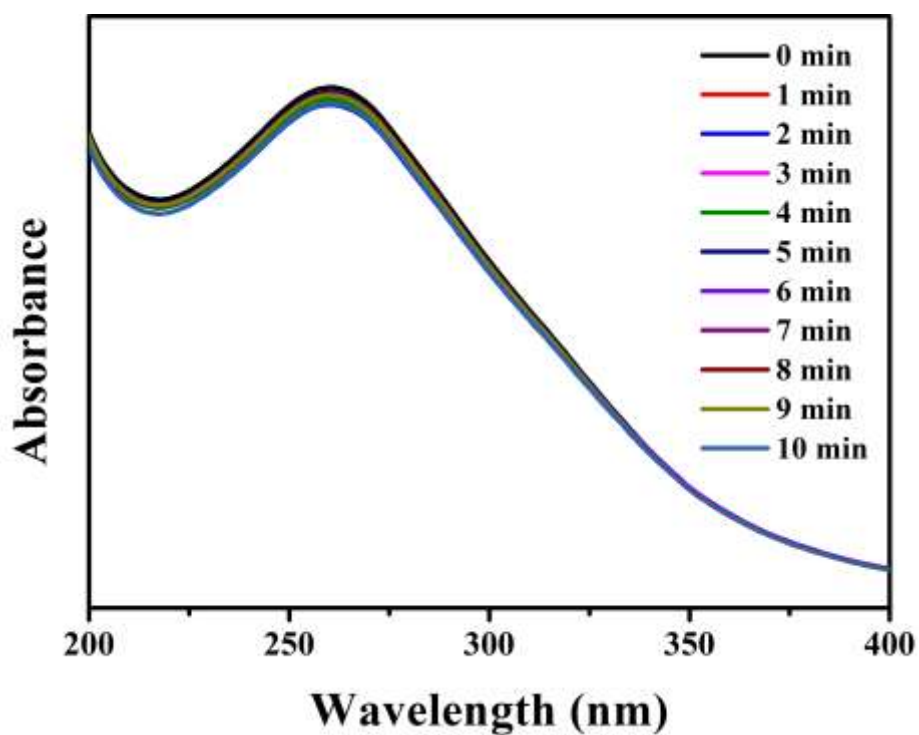


Fig. S13 UV-Vis spectra of NBT for different irradiation times by a 650-nm (1 W cm^{-2}) laser.

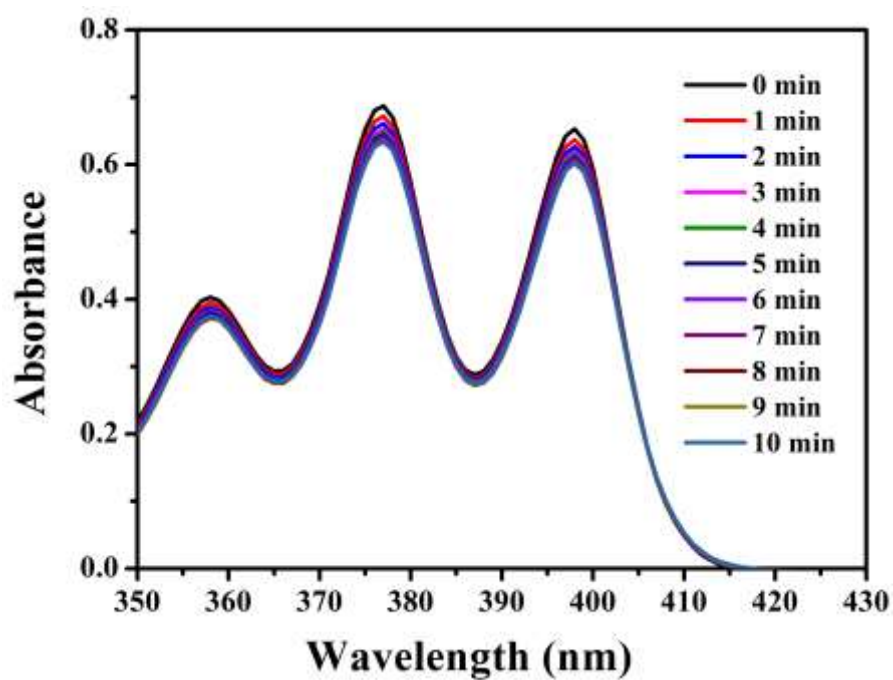


Fig. S14 UV-Vis spectra of Na₂-ADPA + HA-CDs for different irradiation times by a 650-nm (1 W cm⁻²) laser.

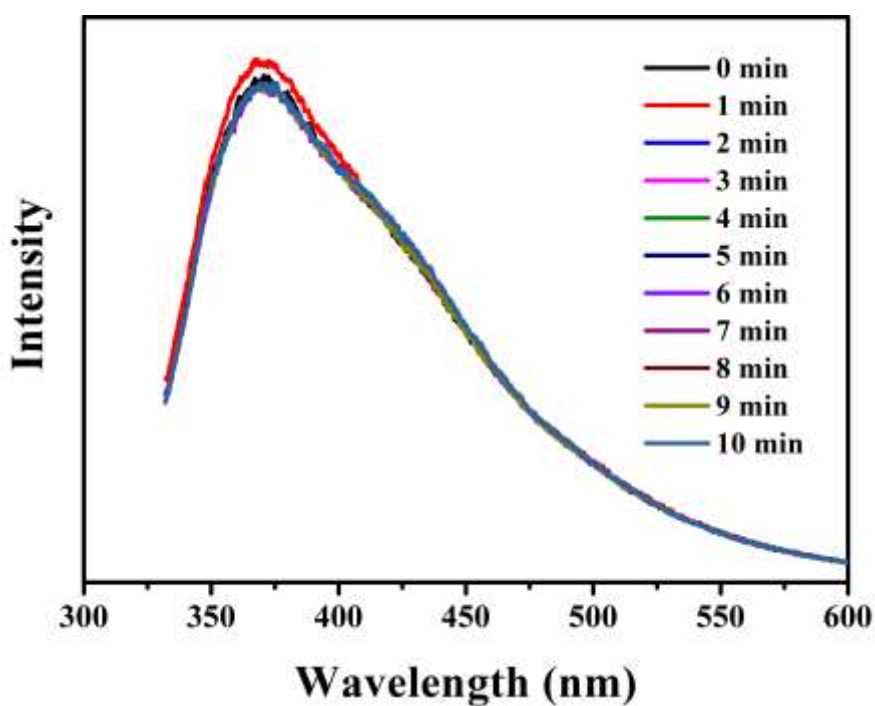


Fig. S15 PL. spectra of TA + HA-CDs with different irradiation times by a 650-nm (1 W cm⁻²) laser.

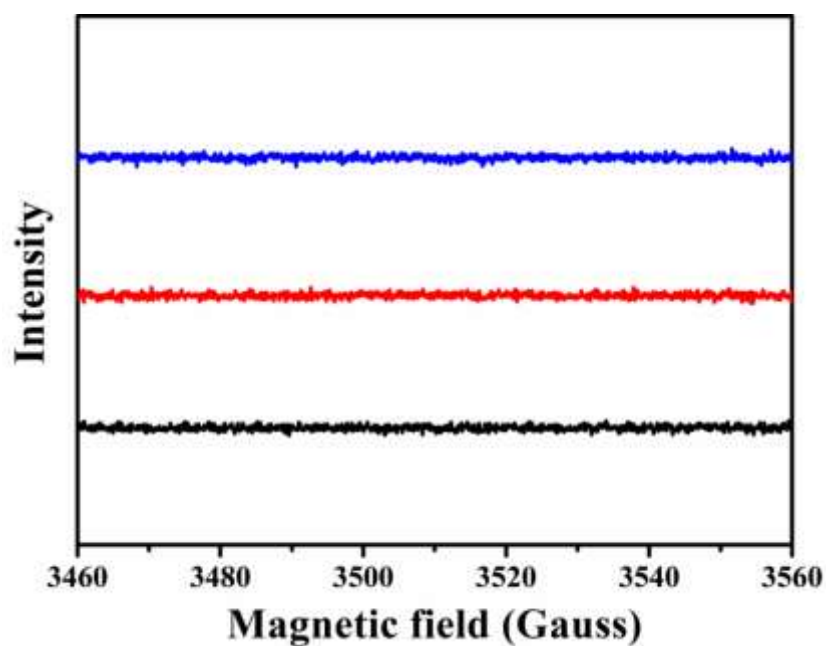


Fig. S16 ESR spectra of TEMP with laser irradiation (black line), TEMP and HA-CDs without laser irradiation (red line), TEMP and HA-CDs with laser irradiation (blue line). Samples irradiated with 650-nm laser (1 W cm^{-2}).

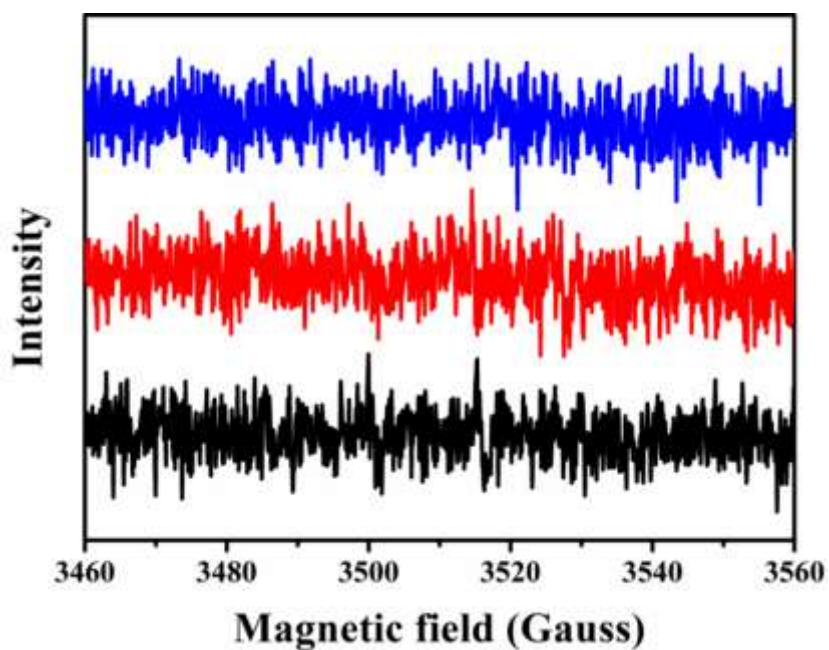


Fig. S17 ESR spectra of DMPO with laser irradiation (black line), DMPO and HA-CDs without laser irradiation (red line), DMPO and HA-CDs with laser irradiation (blue

line). Samples irradiated with 650-nm laser (1 W cm^{-2})

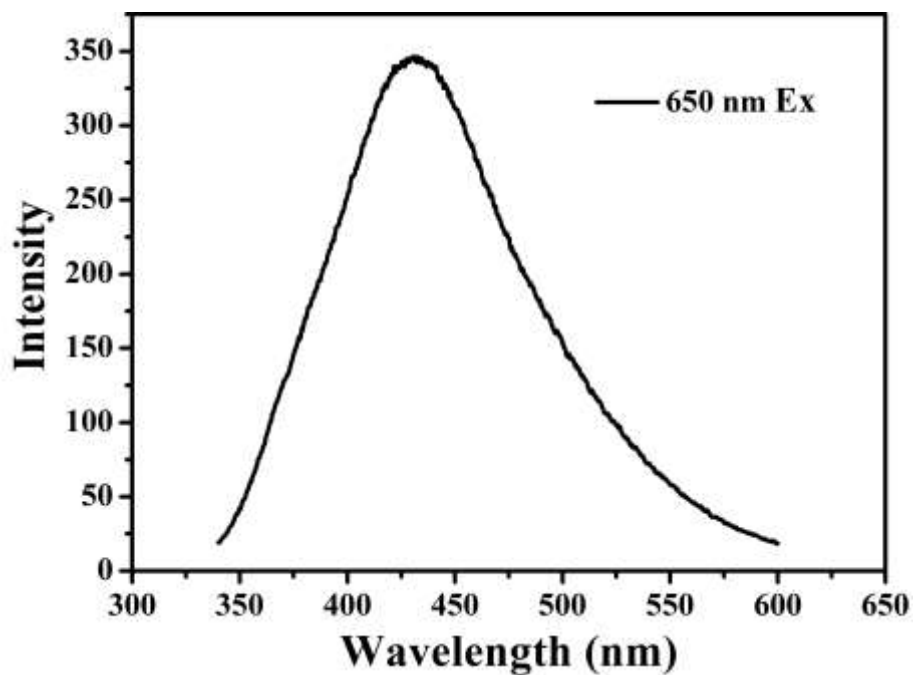


Fig. S18 PL emission spectra of HA-CDs at 650-nm excitation

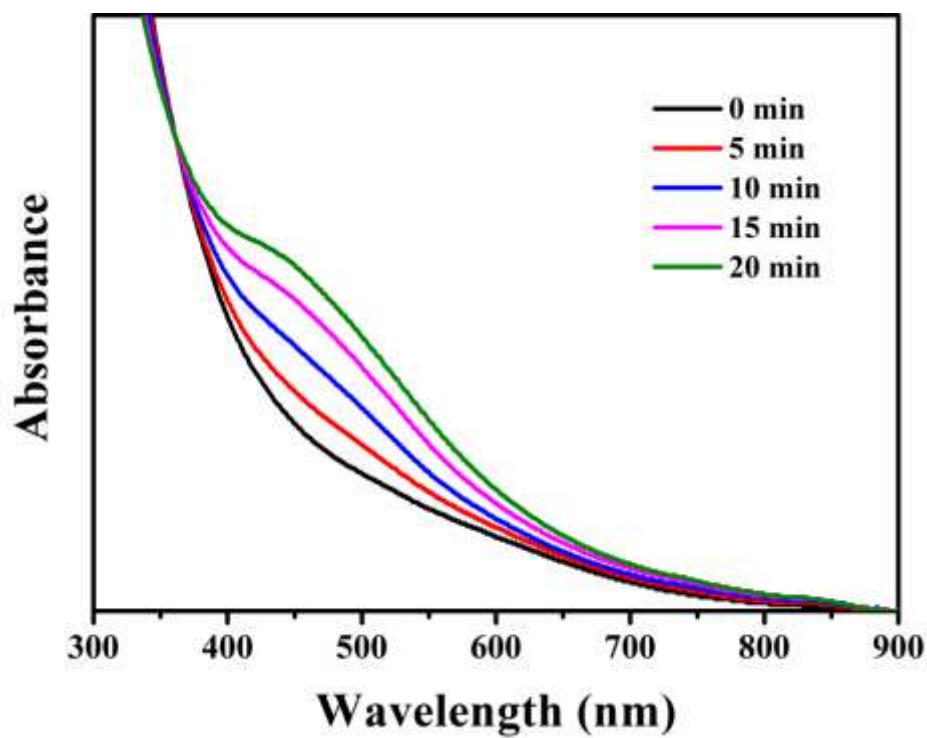


Fig. S19 UV-Vis spectra of HA-CDs + Ag⁺ for different irradiation times by a 650-nm

(1 W cm⁻²) laser.

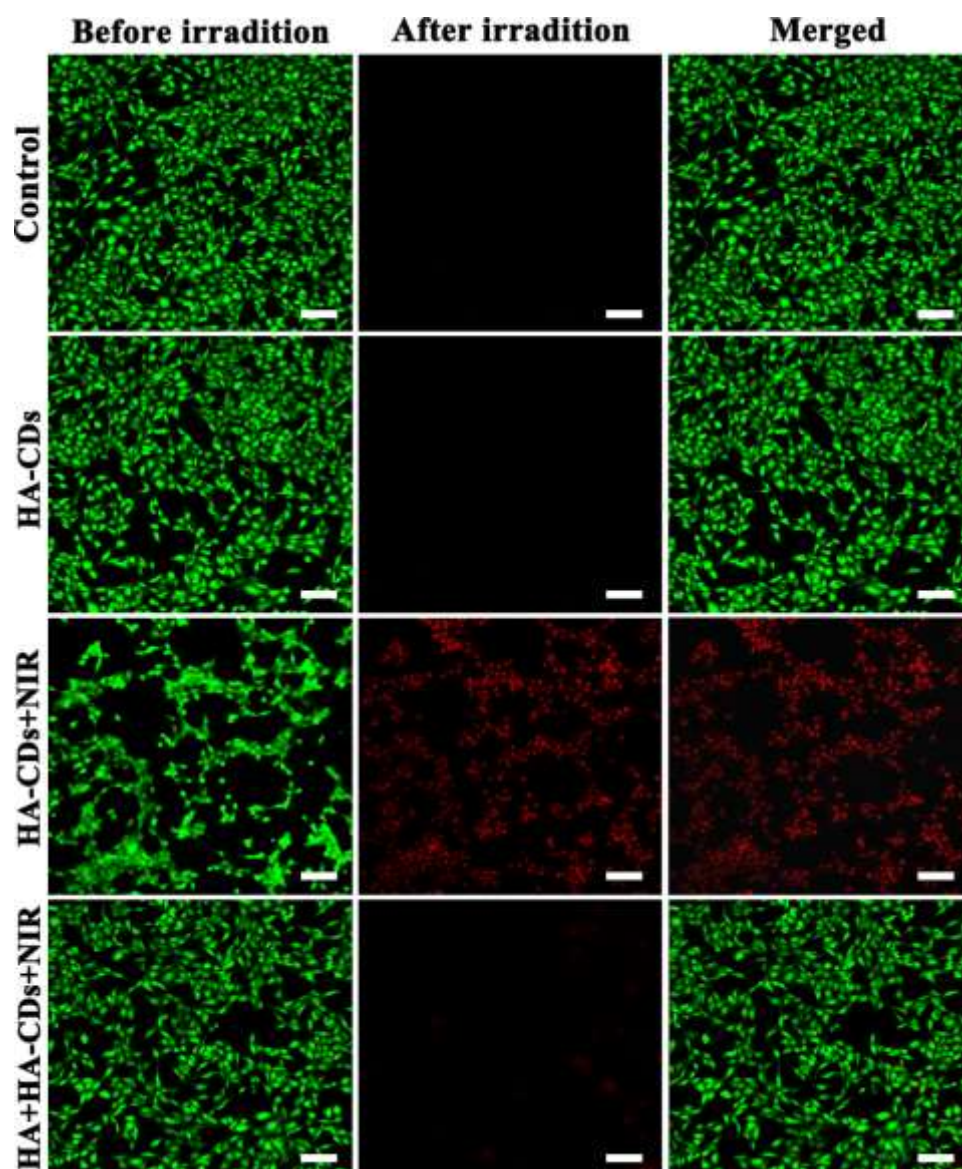


Fig. S20 Confocal microscopy images of 4T1 cells stained with calcein-AM (green, living cells) and PI (red, dead cells) after treatment with PBS and HA-CDs with or without free HA blocked, respectively. These images were taken before and after irradiation with a 650-nm laser (1.0 W cm⁻², 10 min). Scale bar: 100 μ m.

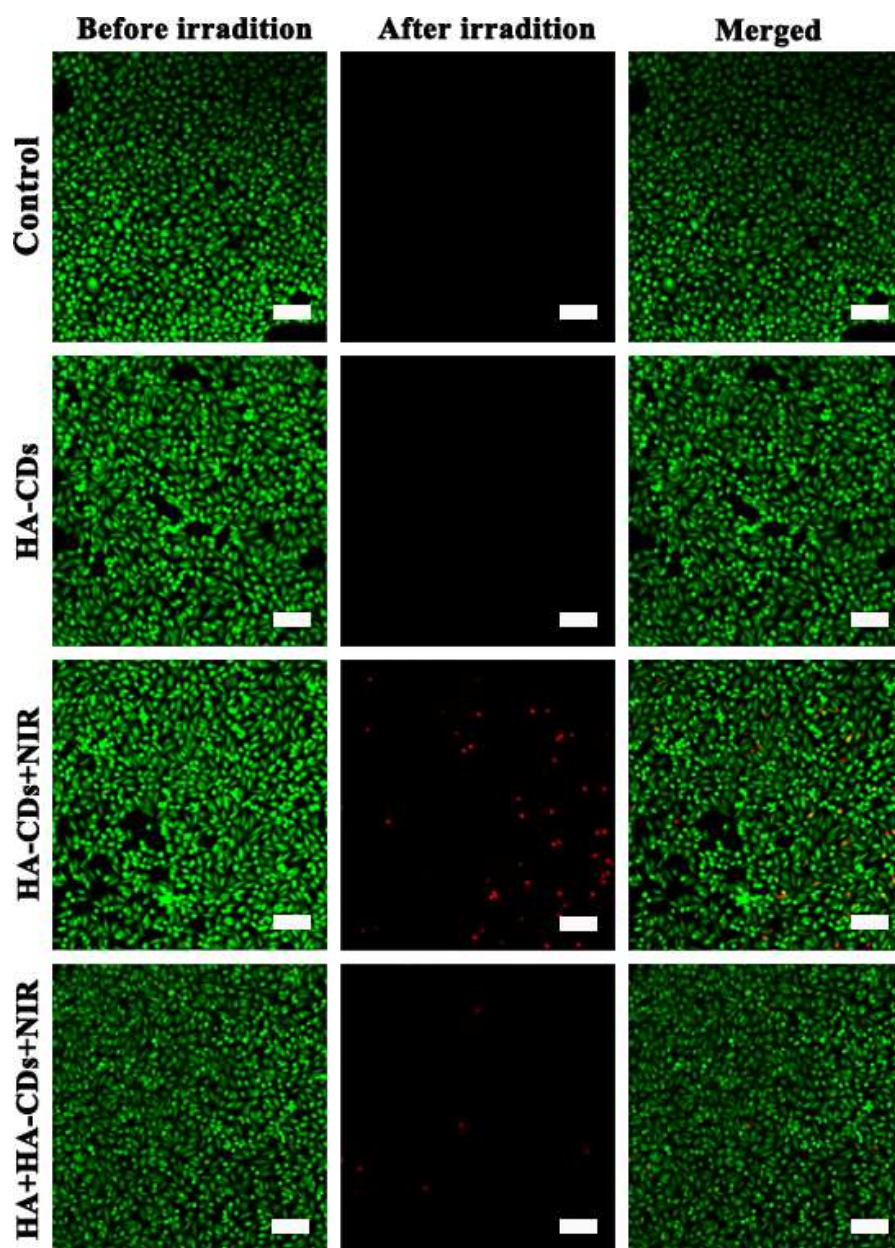


Fig. S21 Confocal microscopy images of L929 cells stained with calcein-AM (green, living cells) and PI (red, dead cells) after treatment with PBS and HA-CDs with or without free HA blocked, respectively. These images were taken before and after irradiation with a 650-nm laser (1.0 W cm^{-2} , 10 min). Scale bar: 100 μm .