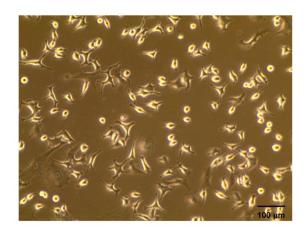
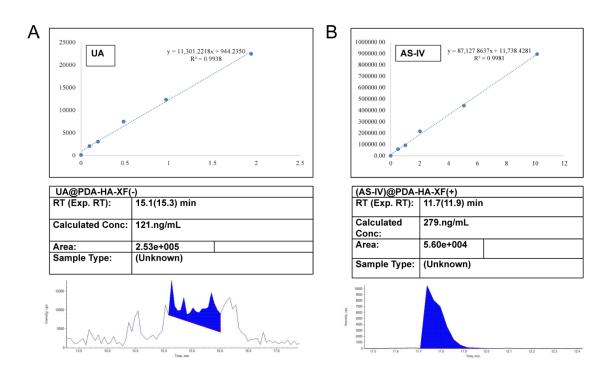
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**Figure S1.** The lung circulating tumor cell line CTC-TJH-01 used in this study was collected from the female patients' peripheral blood with stage IIa lung adenocarcinoma.



**Figure S2.** Quantification of the encapsulation rate of nanomedicines using liquid chromatograph mass spectrometer (LC-MS).

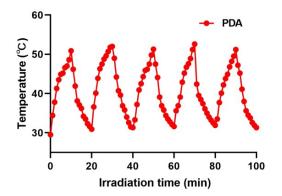


Figure S3. Temperature change curves of PDA ( 0.6 mg/mL ) over five cycles of laser on/off under 808 nm laser irradiation (1 W/cm<sup>2</sup>).

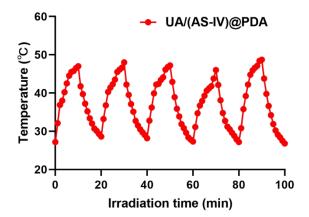
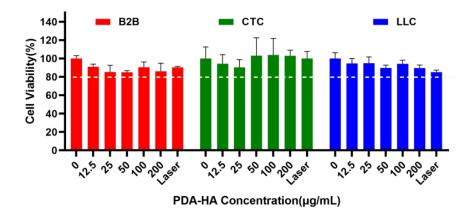


Figure S4. Temperature change curves of UA/(AS-IV)@PDA ( 0.6~mg/mL ) over five cycles of laser on/off under 808 nm laser irradiation (1  $W/cm^2$ ).



**Figure S5.** In vitro biocompatibility of the blank HA-modified PDA NPs (PDA-HA) and cell damage of 808 nm laser irradiation.