

## Supporting Information

### Hyaluronidase-trigger nanocarriers for targeted delivery of anti-liver cancer compound

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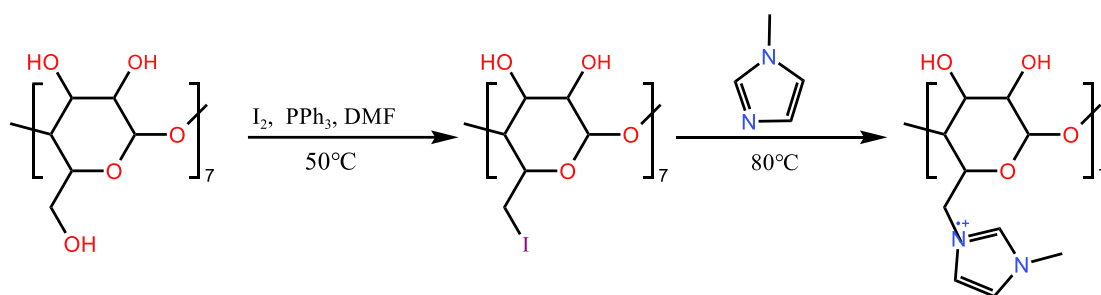
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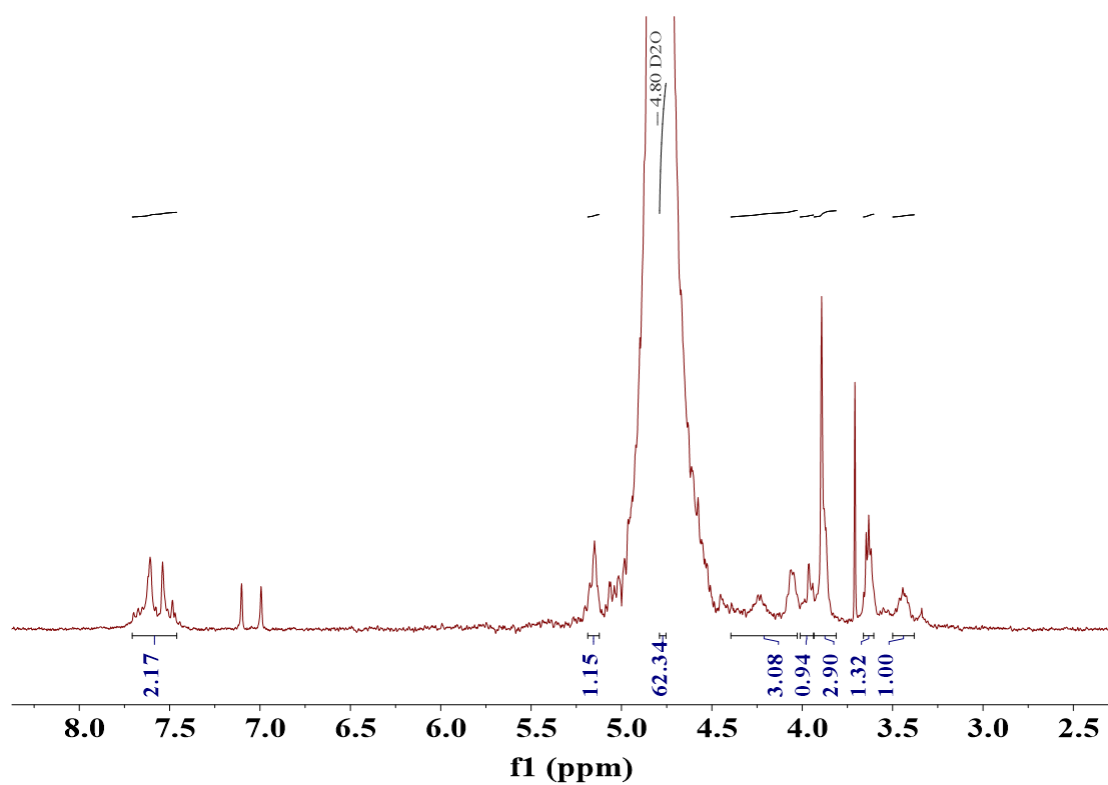
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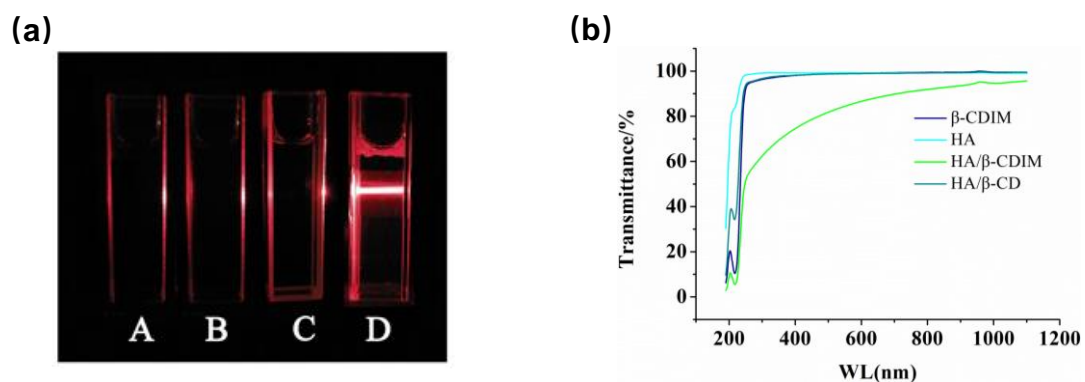
E-mail: zhaoyann@163.com



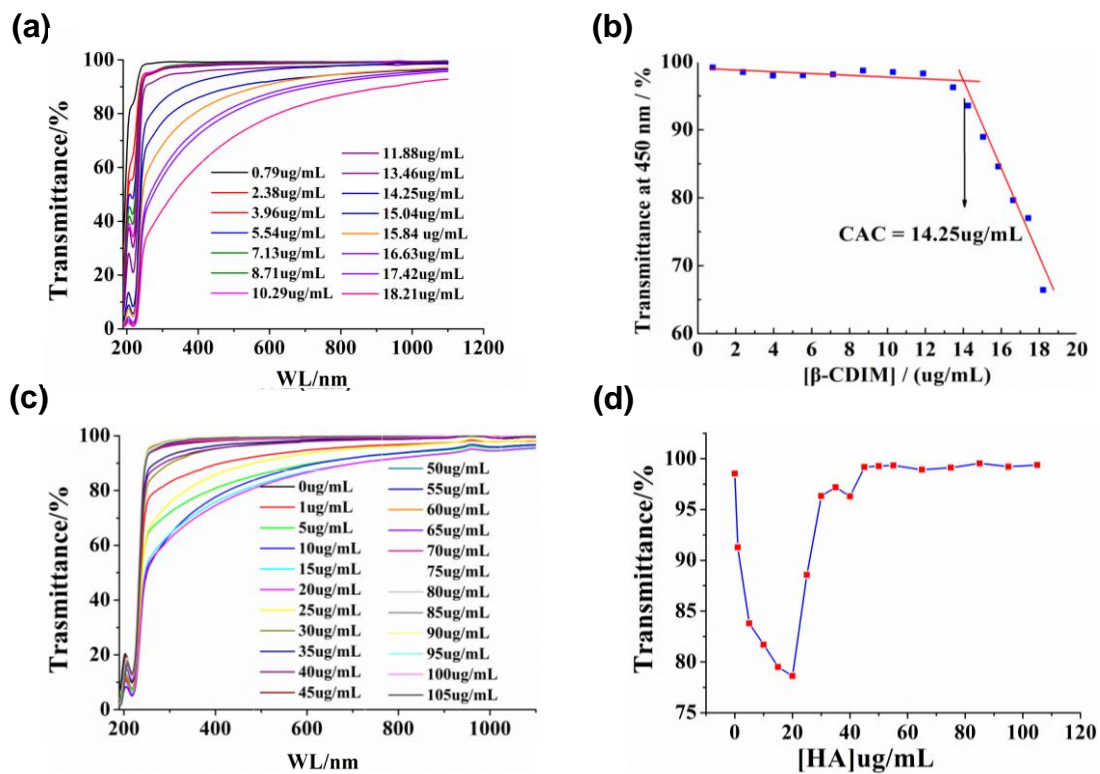
**Figure S1.** (MD)<sub>7</sub>-β-CD synthesis route diagram.



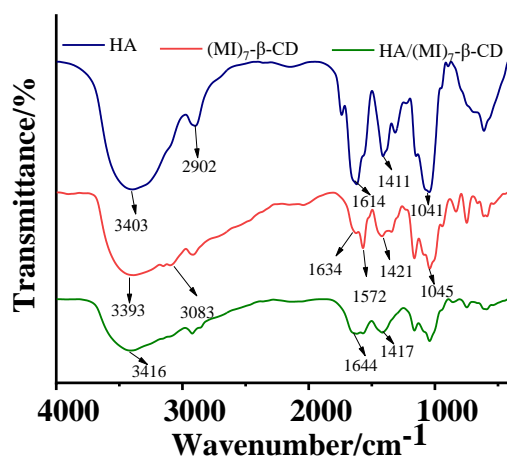
**Figure S2.** The  $^1\text{H}$  NMR spectrum of  $(\text{MI})_7\text{-}\beta\text{-CD}$  in  $\text{D}_2\text{O}$ .



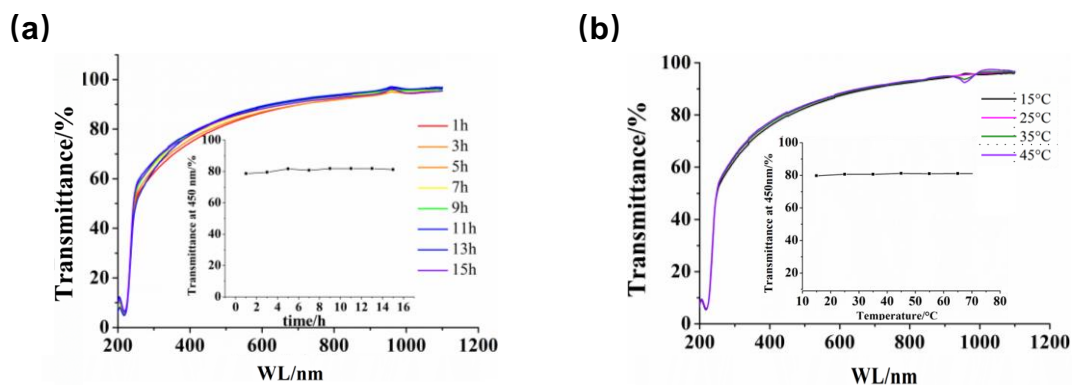
**Figure S3.** (a) The images of Tyndall effect of  $(\text{MI})_7\text{-}\beta\text{-CD}$  (A),  $\text{HA}/\beta\text{-CD}$  (B),  $\text{HA}$  (C), and  $\text{HA}/(\text{MI})_7\text{-}\beta\text{-CD}$  NCs (D). (b) Optical transmittance of  $(\text{MI})_7\text{-}\beta\text{-CD}$  ( $14.73 \mu\text{g/mL}$ ),  $\text{HA}$  ( $20 \mu\text{g/mL}$ ), and their mixture.



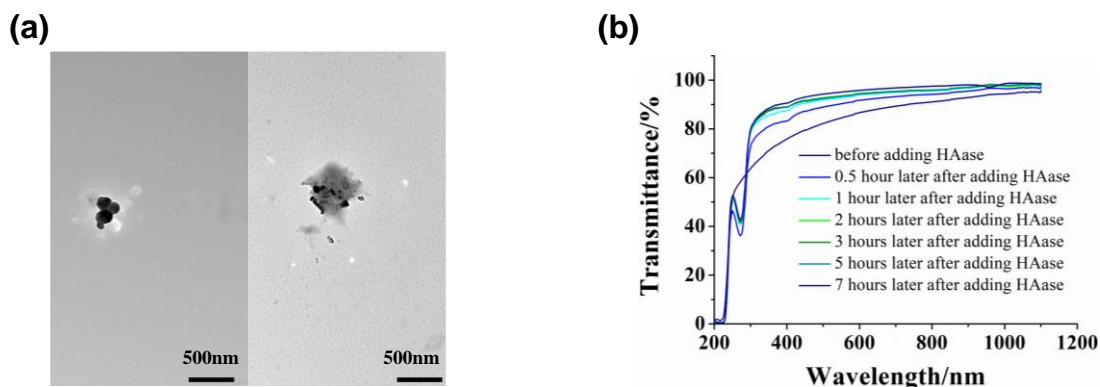
**Figure S4.** (a) Optical transmittance of HA (30 μg/mL) after adding (MI)<sub>7</sub>-β-CD with the concentration from 0 to 14.25 μg/mL at 25°C. (b) optical transmittance at 450 nm of HA (30 μg/mL) by increasing the (MI)<sub>7</sub>-β-CD concentration from 0 to 18.21 μg/mL at 25°C. (c) Optical transmittance of (MI)<sub>7</sub>-β-CD (14.73 μg/mL) after adding HA with the concentration from 0 to 110 μg/mL at 25°C. (d) dependence of the optical transmittance at 450 nm of (MI)<sub>7</sub>-β-CD (14.73 μg/mL) by increasing the HA concentration from 0 to 110 μg/mL at 25°C.



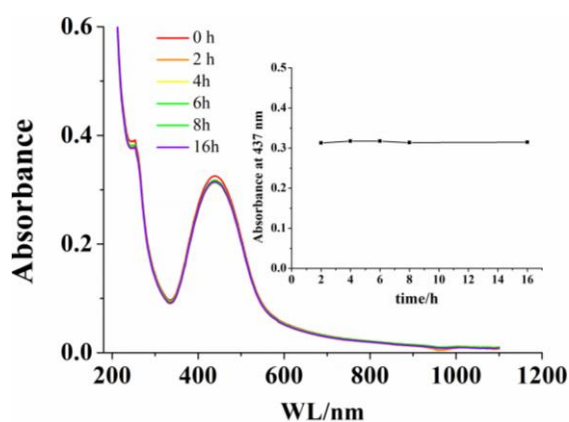
**Figure S5.** FT-IR of HA, (MI)<sub>7</sub>-β-CD, and HA/(MI)<sub>7</sub>-β-CD NCs.



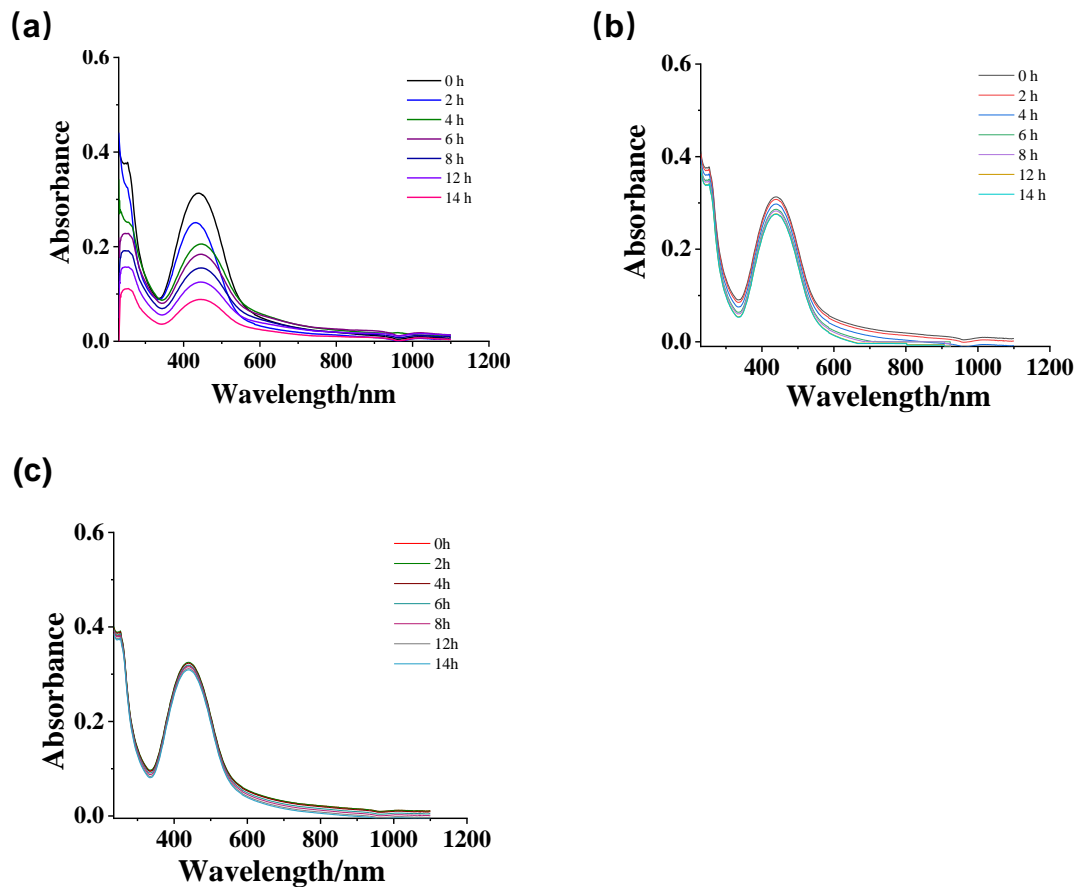
**Figure S6.** (a) The optical transmittance curves of HA/(MI)<sub>7</sub>-β-CD NCs within 15 h. Inset: the transmittance value at 450 nm changes with time. [HA] = 20.00 μg/mL, [(MI)<sub>7</sub>-β-CD] = 14.73 μg/mL (b) UV-vis transmittance curves of HA/(MI)<sub>7</sub>-β-CD solution at different temperatures (15–45°C). Inset: Transmittance values at 450 nm vary with temperature. [HA] = 20.00 μg/mL, [(MI)<sub>7</sub>-β-CD] = 14.73 μg/mL



**Figure S7.** (a) TEM images of HA/(MI)<sub>7</sub>-β-CD NCs before adding HAase (left), TEM images of HA/(MI)<sub>7</sub>-β-CD NCs after adding HAase (right). (b) Changes of transmittance of HA/(MI)<sub>7</sub>-β-CD NCs with time after the addition of HAase. [HA] = 20.00 μg/mL, [(MI)<sub>7</sub>-β-CD] = 14.73 μg/mL, [HAase] = 5.00 mg/mL



**Figure S8.** UV-vis absorption of CSL-trapped NCs at room temperature for 16 h. Inset: the absorbance of CSL-trapped NCs at 437 nm changes for 16 h.



**Figure S9.** UV-vis absorption curves of CSL-trapped HA/(MI)<sub>7</sub>- $\beta$ -CD NCs were measured at different time under treating with HAase solutions at pH 7.4 (a), PBS solutions at pH 5.0 (b), and PBS solutions at pH 7.4 (c).