**Sustained release of sodium deoxycholate from PLGA-PEG-PLGA thermosensitive polymer used for localized fat dissolution**

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|  |  |
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| A |  |
| B |  |
| **C** |  |

**Fig SI**-**1.** **(A)** H-NMR spectra of the copolymer PLGA-PEG-PLGA in chloroform (CDCl3) (A) CH of LA; (B) CH3 of LA; (C) CH2 of GA; (D and E) CH2of ethylene glycol. **(B)** The Tg of copolymer was determined by DSC (Tg =-1 °).

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**Figure SI**-**2.** Eﬀects of NaDC on loss modulus G″ and viscosity η of PLGA-PEG-PLGA (22% w/v) solution in PBS (pH 7.4) at diﬀerent temperatures. Drug loading concentration: 1% w/v, heating rates: 0.5 °C/min, oscillatory frequency: 10 rad/s.

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| C:\Users\user\Pictures\hplc4.png  A | C:\Users\user\Pictures\hplc7.png  B |

**Figure SI**-**3.** Chromatogram of RP-HPLC of release of NaDC from PLGA-PEG-PLGA copolymer in PBS (pH 7.4) at 37 °C after 2 h (A) and 24 h (B). (1) Glycolic acid; (2) Lactic acid; (3) NaDC. A mobile phase composed of acetonitrile: methanol: 20 mM sodium acetate (pH 4.3 with acetic acid) in the proportion of 60:05:35 at flow rate of 1 mL/min. NaDC was detected by RI detector.

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| **A** |  | **B** |  |

**Figure SI**-**4.** Adipocyte primary culture and viability. (A) Images of Oil Red O-stained human adipocytes. (B) Viability of cultured human adipocytes after treatment with NaDC after 2h.

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|  | **1** | **2** | **3** | **4** |
| **A** | **Control NaDC 0.1% Copolymer Copolymer / NaDC** |  |  |  |
|  | **1** | **2** | **3** | **4** |
| **B** | C:\Users\user\Desktop\pdf maghalat data\in vitro\test 1\control4 edit.tif  **Control NaDC 0.1% Copolymer Copolymer / NaDC** | C:\Users\user\Desktop\pdf maghalat data\in vitro\test 1\drug3.tif | C:\Users\user\Desktop\pdf maghalat data\in vitro\test 1\polymer6.tif | C:\Users\user\Desktop\pdf maghalat data\in vitro\test 1\dca0-1.tif |
| **C** |  | | D | |

**Figure SI**-**5.** Microscopic images of human breast cancer cell line MDA-MB-231 **(A)** after 2 h and (**B)** 24 h of incubation. (1) Control; (2) NaDC 0.1% w/v; (3) Copolymer; (4) Copolymer / NaDC. Viability of cultured human breast cancer cell after treatment with copolymer / NaDC after **(C)** 2h and **(D)** 24h.