Supporting Information for the Manuscript:

Temperature-Responsive Multilayer Films of Micelle-Based Composites for Controlled Release of Third-Generation EGFR Inhibitor

Li Xu,[*,†] Hailong Wang,[†] Zihan Chu,[†] Lawrence Cai,[†] Haifeng Shi,[*,†] Chunyin Zhu,[†] Donghui Pan,[‡] Jia Pan,[§] Xiang Fei,[⊥] Yabin Lei[†]

[†]*Institute of Life Sciences, Jiangsu University, Zhenjiang, Jiangsu 212013, China*

[‡]*Jiangsu Institute of Nuclear Medicine, Wuxi, Jiangsu 214063, China*

[§]*Novo Nordisk Research Center – Indianapolis, Inc., Indianapolis, IN 46241, USA*

[⊥]*Belle Aire Creations, 1600 Baskin Road, Mundelein, IL 60060, USA*

[*] Corresponding author, e-mail: lxu66@ujs.edu.cn.

[*] Corresponding author, e-mail: shihf@ujs.edu.cn.

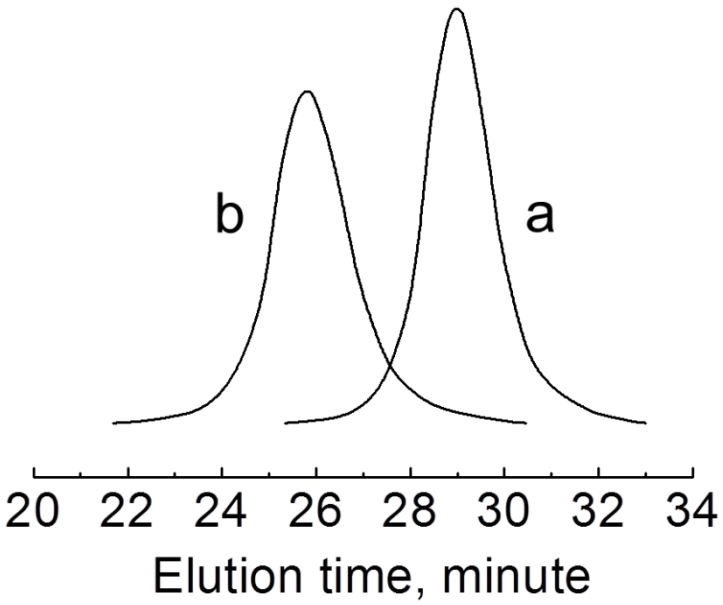

Figure S1. DMF GPC traces of for (a) PNIPAM-Br macroinitiator (M_n = 11,300 and M_w/M_n = 1.18) and (b) PNIPAM-*b*-PHEMA polymer (M_n = 20,800 and M_w/M_n = 1.26), respectively.

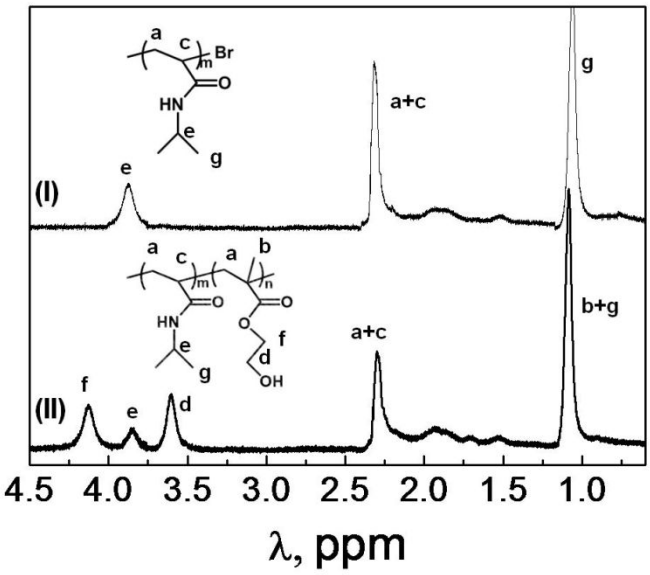

Figure S2. ^{1}H NMR spectra for (I) PNIPAM-Br and (II) PNIPAM-*b*-PHEMA in D_2O at 20 °C, respectively.

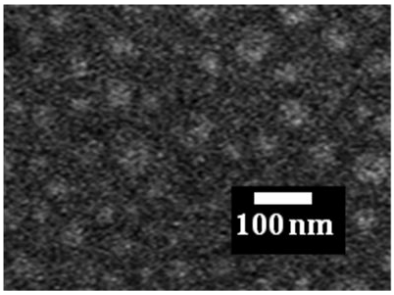

Figure S3. SEM image of $[BCM/HA]_1$ bilayer films assembled at the surface of silicon wafer.

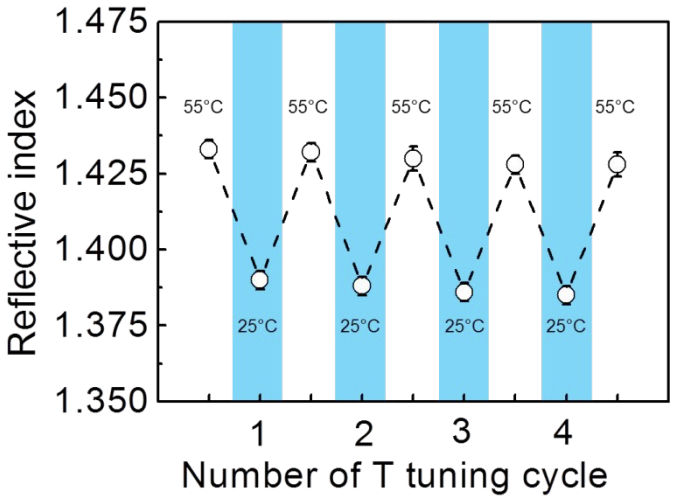

Figure S4. Reflective index during reversible temperature-triggered swelling/de-swelling of $[BCM/HA]_6$ films in 0.01 M phosphate buffer solutions at 55 °C and 25 °C, respectively, measured by *in situ* ellipsometry with alternating 5-min film incubations in pH 2.2 solutions.

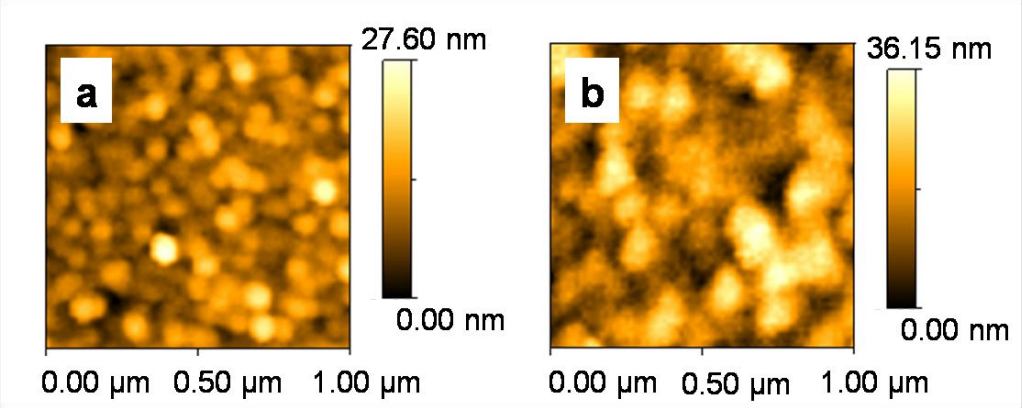

Figure S5. AFM topography images of $[BCM/HA]_6$ films after being immersed in pH 2.2 PBS at (a) 55 °C and (b) 25 °C for 40 hours, respectively.

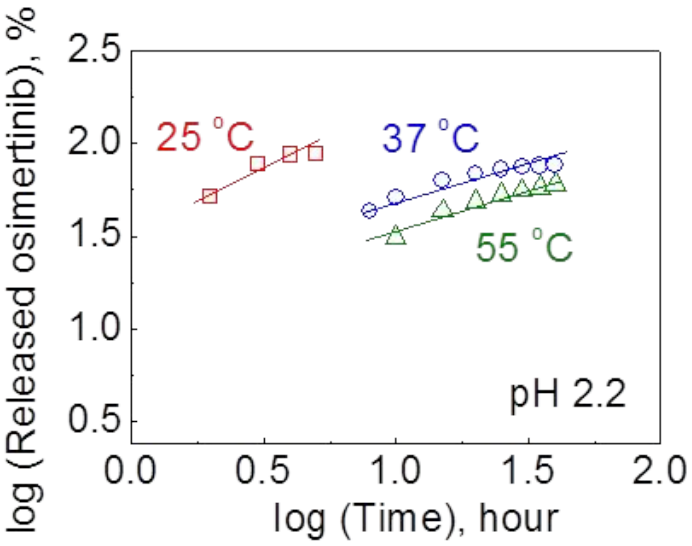

Figure S6. Log-log plots of kinetics of osimertinib release from $[BCM/HA]_6$ films at 25 °C (squares), 37 °C (circles) and 55 °C (triangles), respectively. Osimertinib release was conducted in PBS at pH 2.2.

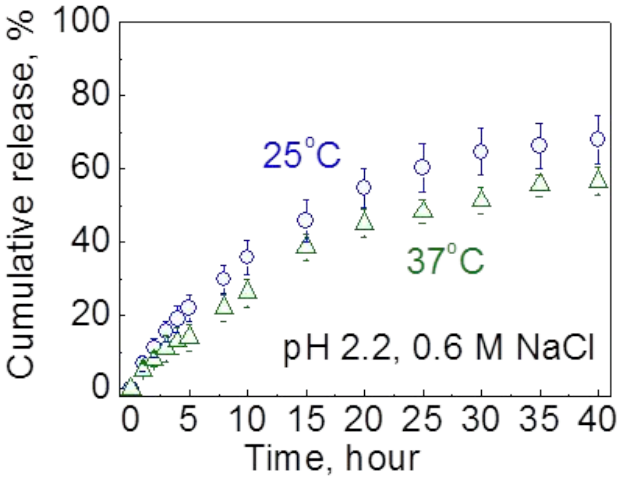

Figure S7. Release profiles of osimertinib from $[BCM/HA]_6$ multilayer films immersed in PBS with 0.6 M NaCl at 25 °C (circles) and 37 °C (triangles), respectively.