Supporting Information

Dual Stimuli-Responsive Block Copolymers for Controlled Release Triggered by Upconversion Luminescence or Temperature Variation

Yueh-Chi Chung, a Chien-Hsin Yang, a Rong-Ho Lee, b and Tzong-Liu Wang * a

a Department of Chemical and Materials Engineering, National University of Kaohsiung, Kaohsiung 811, Taiwan, Republic of China
b Department of Chemical Engineering, National Chung Hsing University, Taichung 402, Taiwan, Republic of China
Figure S1. $^1$H NMR (600MHz) spectrum of PDEAAm-$b$-PNBA.

Figure S2. IR spectrum of PDEAAm-$b$-PNBA.
Figure S3. GPC curve and data of PDEAAm-b-PNBA.

![Figure S3](image1)

| Peak     | Mn  | Np  | Mw  | Mz  | Mw+1 | Mw  | PD  | IV  |
|----------|-----|-----|-----|-----|------|-----|-----|-----|
| Peak010301 | 10599 | 14666 | 14039 | 17312 | 20760 | N/A | 1.29061 | N/A |

Figure S4. DSC thermogram of the block copolymer PDEAAm-b-PNBA.

![Figure S4](image2)
Figure S5. High-resolution TEM images of the UCNP-loaded BCP micelles.

Figure S6. High-resolution TEM images of the UCNP and NR co-loaded BCP micelles.