

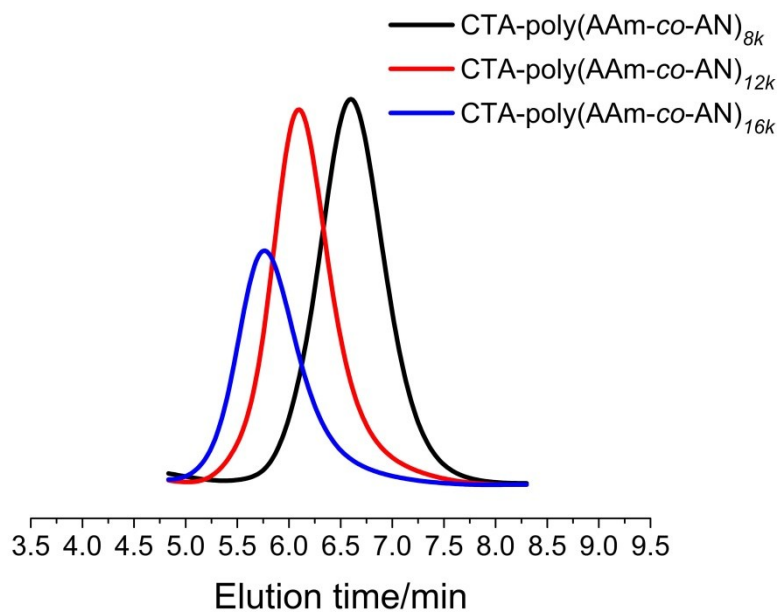
Electronic Supplementary Information (ESI) for RSC Advances

*Supplementary Information*

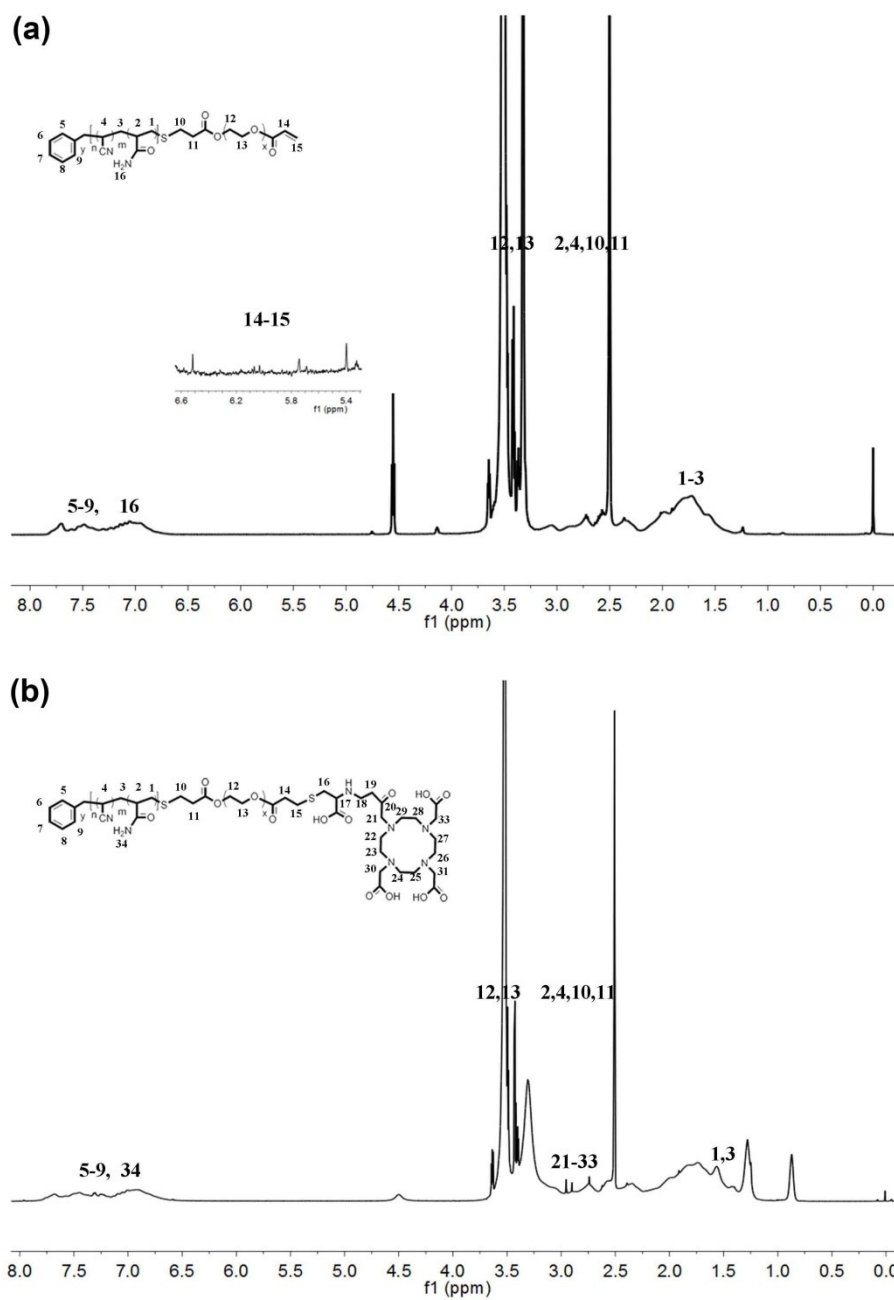
**Gadolinium/DOTA functionalized poly(ethylene glycol)-*block*-  
poly(acrylamide-*co*-acrylonitrile) micelles with synergistically  
enhanced cellular uptake for cancer theranostics**

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**Fig. S1** GPC traces recorded for (a) CTA-poly(AAm-co-AN)<sub>8k</sub> ( $M_n = 7903$ ,  $M_w/M_n = 1.143$ ), (b) CTA-poly(AAm-co-AN)<sub>12k</sub> ( $M_n = 11589$ ,  $M_w/M_n = 1.146$ ), (c) CTA-poly(AAm-co-AN)<sub>16k</sub> ( $M_n = 15146$ ,  $M_w/M_n = 1.056$ ).



**Fig. S2**  $^1\text{H}$  NMR spectra of (a) Acrylate-PEG-*b*-poly(AAm-*co*-AN) in  $\text{DMSO-d}_6$ , (b) DOTA-PEG-*b*-poly(AAm-*co*-AN) in  $\text{DMSO-d}_6$ (b).

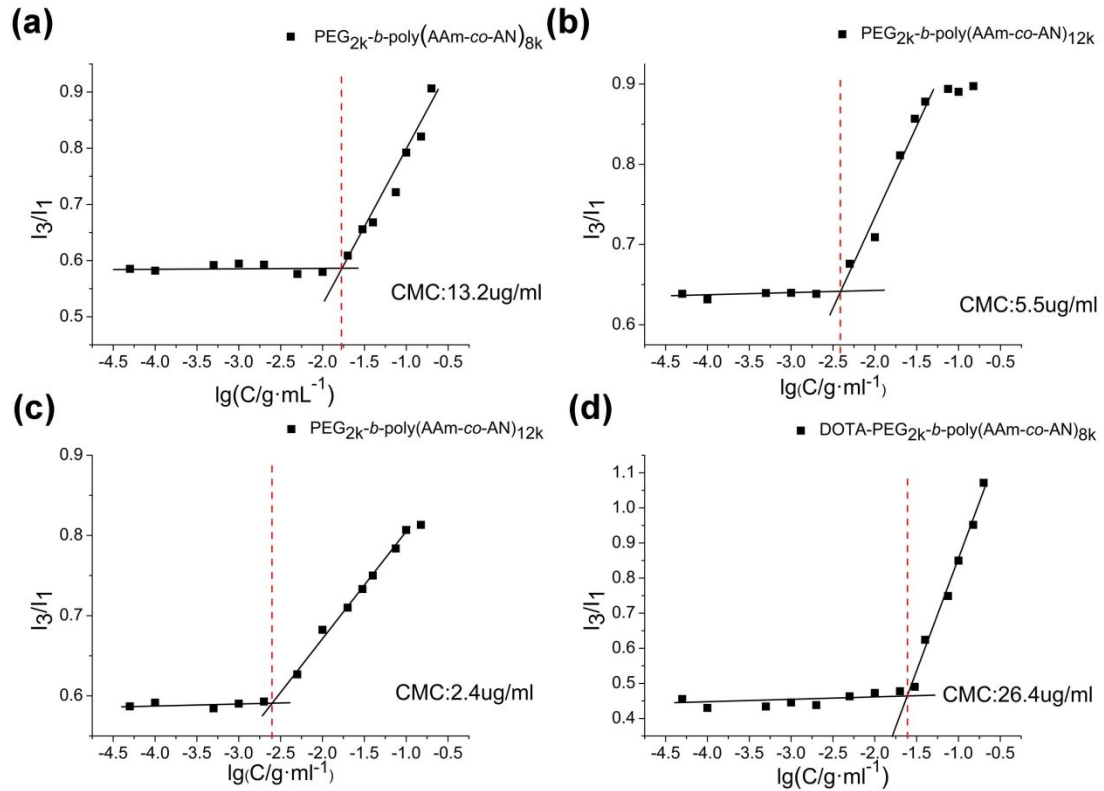


Fig.S3 Critical Micelle Concentration of (a) PEG<sub>2k</sub>-b-poly(AAm-co-AN)<sub>8k</sub>, (b) DOTA-PEG<sub>2k</sub>-b-poly(AAm-co-AN)<sub>8k</sub>, (c) PEG<sub>2k</sub>-b-poly(AAm-co-AN)<sub>12k</sub>, (d) PEG<sub>2k</sub>-b-poly(AAm-co-AN)<sub>16k</sub>

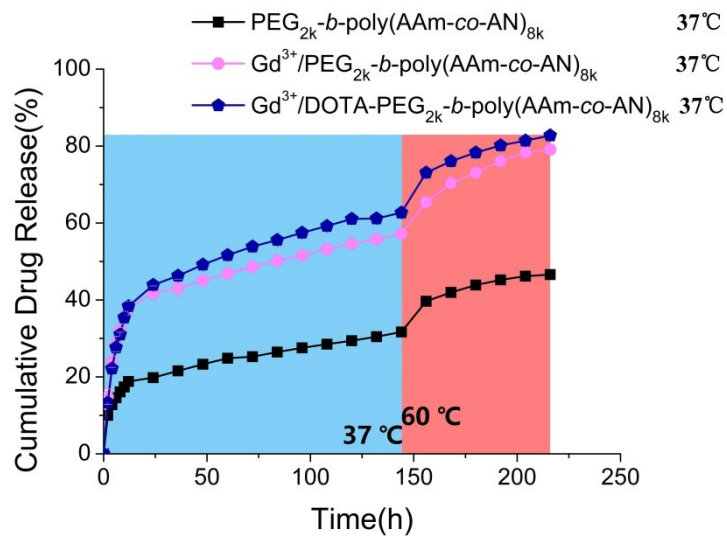


Fig.S4 Effect of Gd<sup>3+</sup> on cumulative drug release.

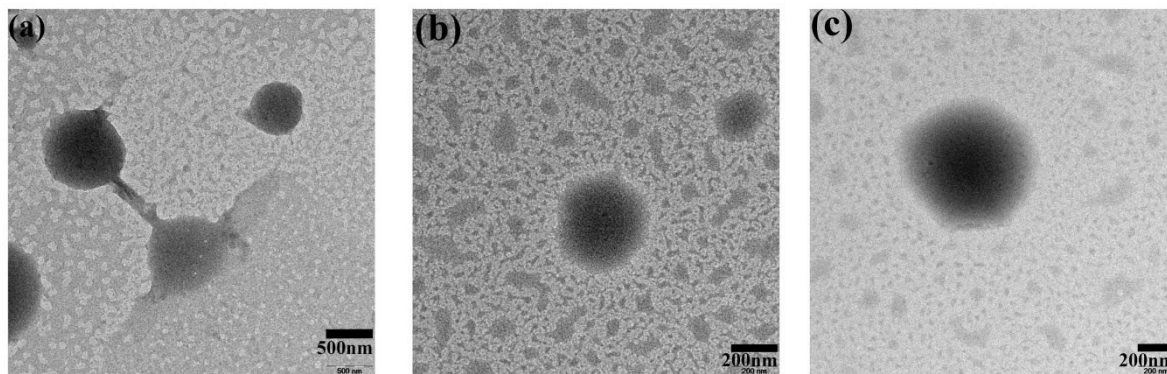


Fig.S5 Effect of cumulative drug release on PEG<sub>2k</sub>-*b*-poly(AAm-*co*-AN)<sub>8k</sub> micelle structure. a) Before release; b) 24 hours after release; c) 48 hours after release.

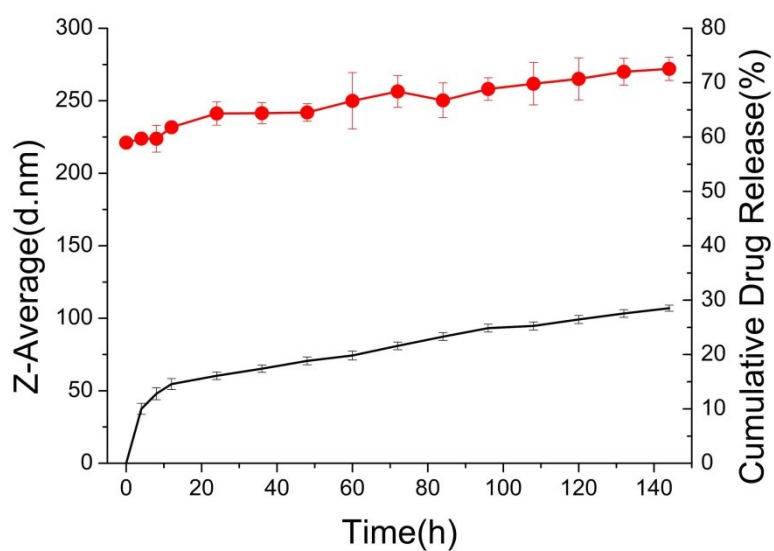


Fig.S6 Effect of cumulative drug release on hydrated size of PEG<sub>2k</sub>-*b*-poly(AAm-*co*-AN)<sub>8k</sub> micelle.

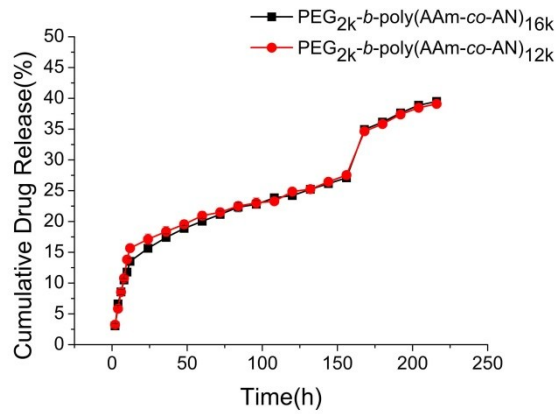


Fig.S7 Cumulative release of DOX from PEG<sub>2k</sub>-*b*-poly(AAm-co-AN)<sub>12k</sub> and PEG<sub>2k</sub>-*b*-poly(AAm-co-AN)<sub>16k</sub> micelles

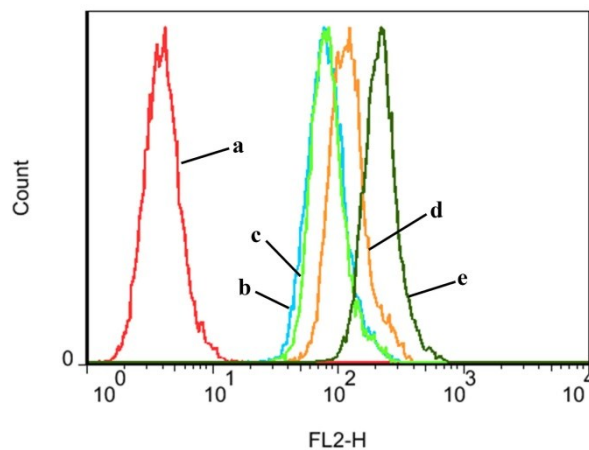


Fig.S8 Flow cytometric analysis of BEL-7402 cells after 2h incubation with (b-e) free DOX, PEG<sub>2k</sub>-*b*-poly(AAm-co-AN)<sub>16k</sub>, DOTA-PEG<sub>2k</sub>-*b*-poly(AAm-co-AN)<sub>16k</sub>, Gd<sup>3+</sup>/DOTA-PEG<sub>2k</sub>-*b*-poly(AAm-co-AN)<sub>16k</sub> micelles and (a) was blank. (DOX concentration 10 ug/mL)