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## **Supplementary Information**

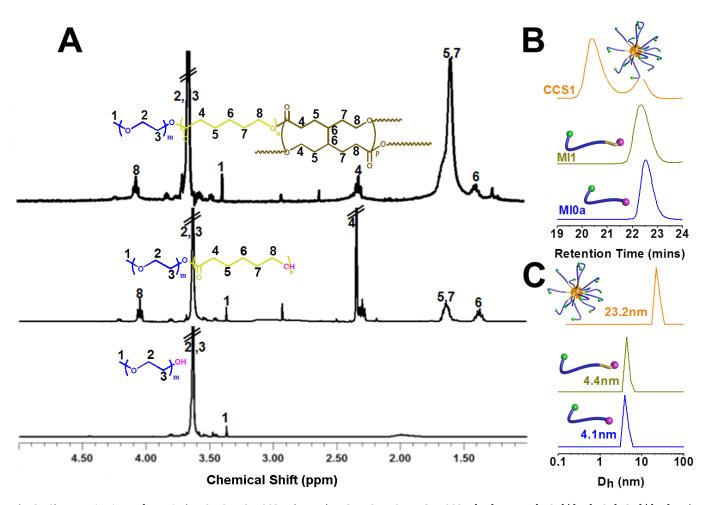
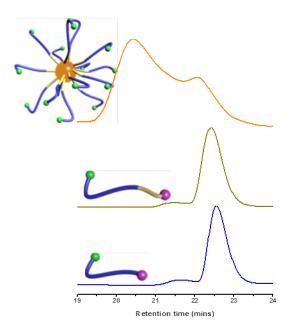


Fig. S1 Characterizations of a typical PEG-PCL-BOD CCS polymer (MeO-PEG<sub>5k</sub>-PCL<sub>1k</sub>-BOD, CCS1; [MI]=5 mM, [MSA]/ [MI] =3, [BOD]/ [MI]=15), the MI (MeO-PEG<sub>5k</sub>-PCL<sub>1k</sub>; MI1) and initiator (MeO-PEG<sub>5k</sub>-OH) involved in the preparation: (A) <sup>1</sup>H NMR spectrum (in CDCl<sub>3</sub>) (B) THF GPC differential refractive index (DRI) chromatograms (C) DLS mass distribution in THF

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**Fig. S2** THF GPC differential refractive index (DRI) chromatograms of a functionalized CCS polymer (MAL-PEG<sub>5k</sub>-PCL<sub>3k</sub>-BOD), the MI (MAL-PEG<sub>5k</sub>-PCL<sub>3k</sub>) and initiator (MAL-PEG<sub>5k</sub>-OH) involved during the preparation

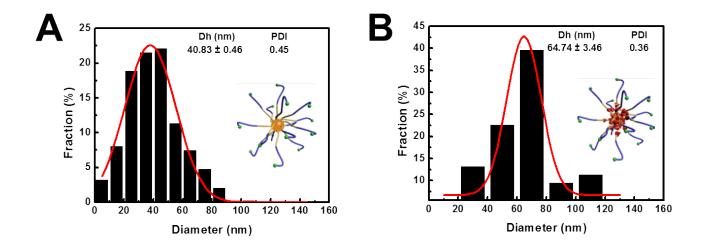


Fig. S3 Particle size distribution of (A) CCS4 and (B) pirarubicin-loaded CCS4 measured by TEM

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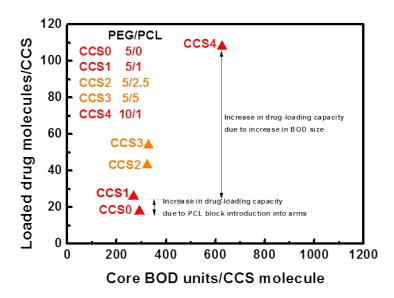


Fig. S4 Pirarubicin loading capacity of MeO-PEG-PCL-BOD CCS polymers with change in BOD units