

**Redox-responsive core cross-linked micelles based on cypate and
cisplatin prodrugs-conjugated block copolymers for synergistic
photothermal-chemotherapy of cancer**

Yu Han,^a Junjie Li,^a Minghui Zan,^b Shizhong Luo,^b Zhishen Ge^{*a} and Shiyong Liu^a

^a *CAS Key Laboratory of Soft Matter Chemistry, Department of Polymer Science and Engineering, University of Science and Technology of China, Hefei, Anhui 230026, China*

^b *Key Laboratory of Functional Molecular Solids, Ministry of Education, Anhui Key Laboratory of Molecule-based Materials, College of Chemistry and Materials Science, Anhui Normal University, Wuhu, Anhui, P. R. China.*

*To whom correspondence should be addressed: E-mail: gez@ustc.edu.cn, Tel:+81-551-63603670;

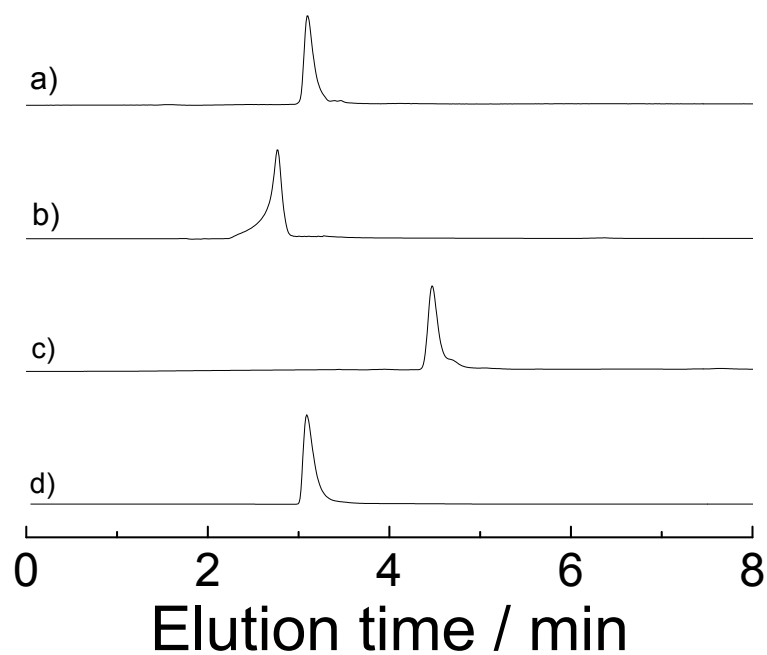


Fig. S1 RP-HPLC traces recorded for a) cisplatin, b) *c,c,t*-[Pt(NH₃)₂Cl₂(OH)(O₂CCH₂CH₂CO₂H)], c) *c,c,t*-[Pt(NH₃)₂Cl₂(OH)(O₂CCH₂CH₂CONHCH₂C≡CH)], and d) *c,c,t*-[Pt(NH₃)₂Cl₂(OH)(O₂CCH₂CH₂CONHCH₂C≡CH)] upon treating with 10 mM DTT for 1 h. The mobile phase was 80/20 methanol and water at a flow rate of 1.0 mL/min.

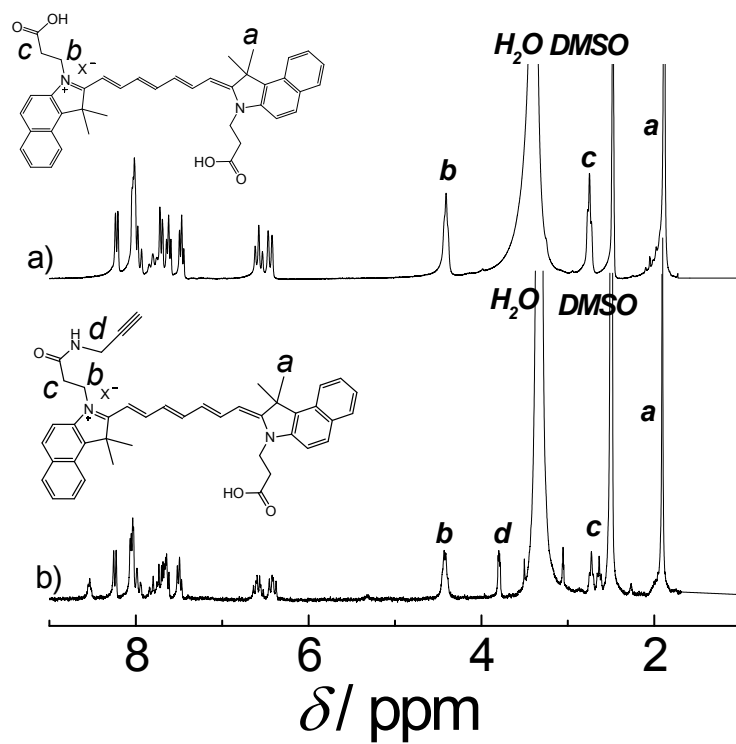


Fig. S2 ^1H NMR spectra recorded for cypate and *alkynyl*-cypate in $\text{DMSO-}d_6$.

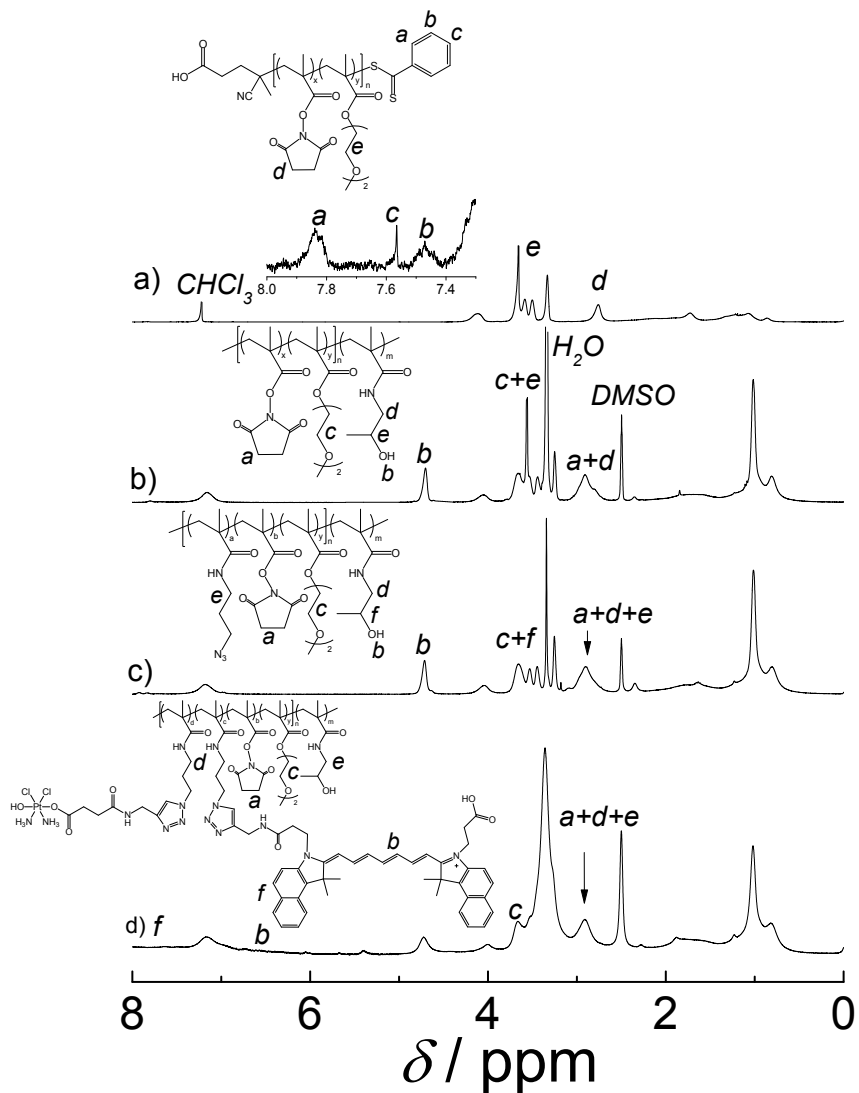


Fig. S3 ^1H NMR spectra recorded for P(MEO₂MA-co-MASI) macroRAFT agent in CDCl_3 , P(MEO₂MA-co-MASI)-*b*-PHPMA block copolymer, P(MEO₂MA-co-MASI-co-AzPMA)-*b*-PHPMA, and Pt(IV) complex and cypate-conjugated block copolymer, (Pt-Cy-PMEO₂MA-co-PMASI)-*b*-PHPMA in DMSO-*d*₆.

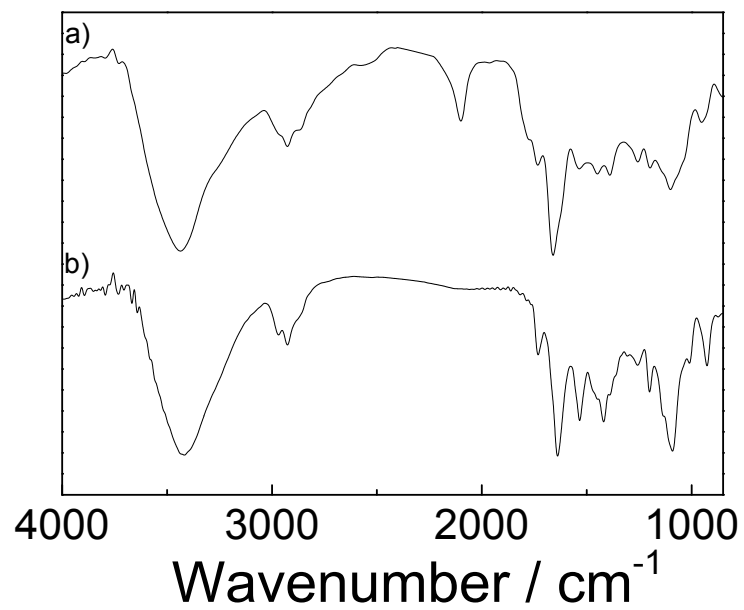


Fig. S4 FT-IR spectra recorded for a) P(MEO₂MA-*co*-MASI-*co*-AzPMA)-*b*-PHPMA block copolymer and b) (Pt-Cy-PMEO₂MA-*co*-PMASI)-*b*-PHPMA block copolymer.

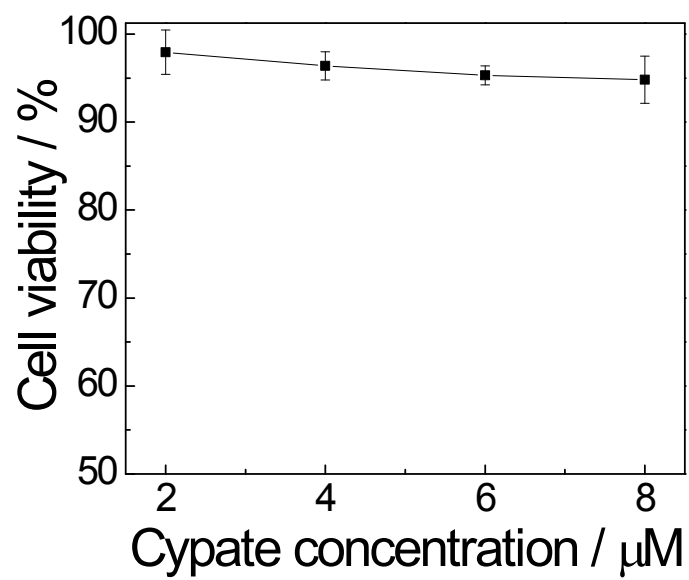


Fig. S5 Cell viability of A549R cells after incubation with P(Cy₂₁-MEO₂MA₆₇)-*b*-PHPMA₁₄₈ CCL micelles containing various cypate moiety concentrations.

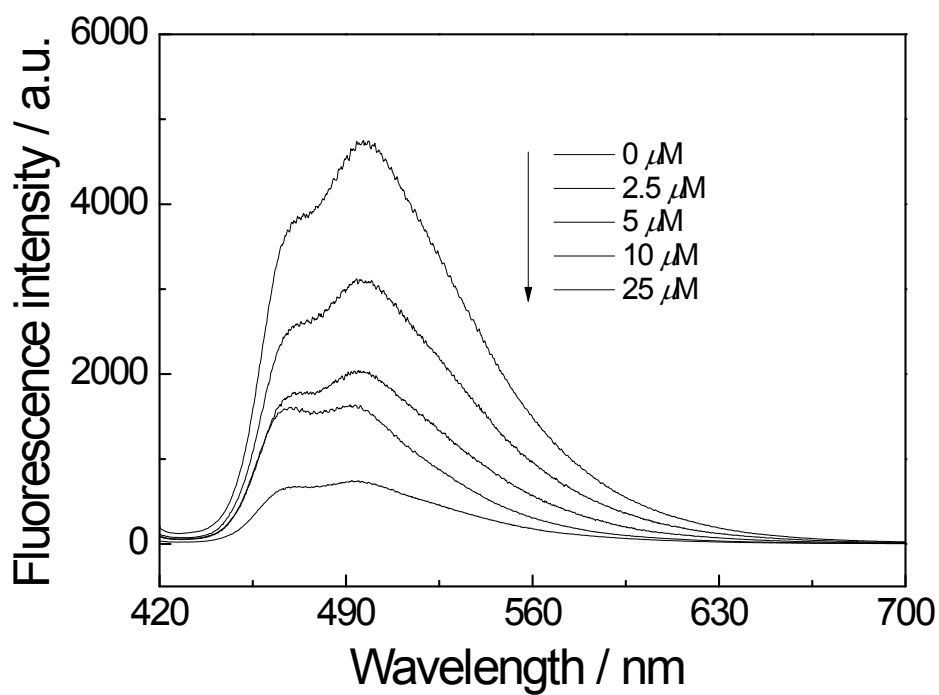


Fig. S6 Fluorescence intensity of DPBF in aqueous solution (15 μM) in the presence of P(Pt₁₄-Cy₇-MEO₂MA₆₇)-*b*-PHPMA₁₄₈ CCL micelles with varying concentrations under an 805 nm NIR laser irradiation at a power density of 1 W/cm² for 3 min. The concentrations of cybate moieties are 0, 2.5, 5, 10, and 25 μM, respectively.