Supporting Information

Co-assembly of curcumin and cystine bridged peptide to construct tumor-responsive nano-micells for efficient chemotherapy

Yemei Dai, ‡[a] Zelei Jiang, ‡[a] Jingyi Li,[a] Mengfan Wang,*[,a,b],Chang Liu,[c] Wei Qi,*[,a,b,d]

Rongxin Su,[a,b,d] Zhimin He [a]

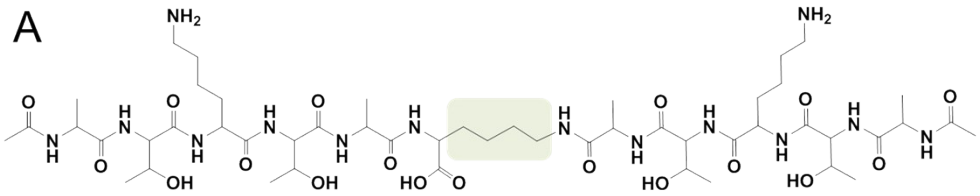
[a.] School of Chemical Engineering and Technology, State Key Laboratory of Chemical Engineering, Tianjin University, Tianjin 300350, P. R. China.

[b.] The Co-Innovation Centre of Chemistry and Chemical Engineering of Tianjin, Tianjin 300072, P. R. China.

[c.] Tianjin Key Laboratory of Membrane Science and Desalination Technology, Tianjin 300350, P. R. China.

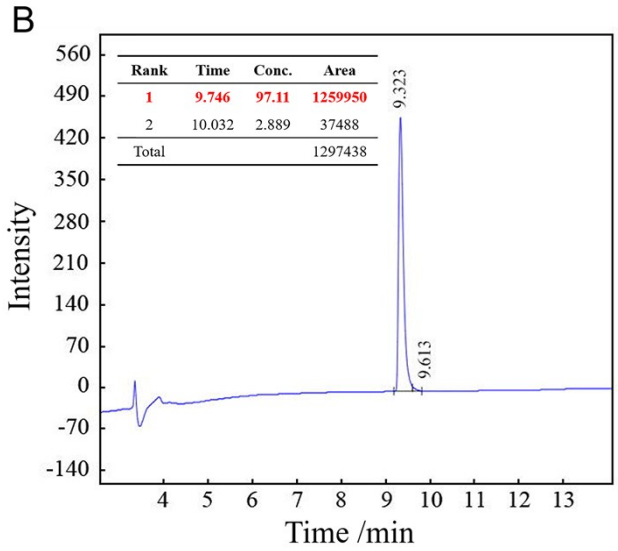
E-mail: mwang@tju.edu.cn, qiwei@tju.edu.cn

‡ These authors contributed equally to this work.



Ac-ATKTA-K-ATKTA-Ac

(LBP)



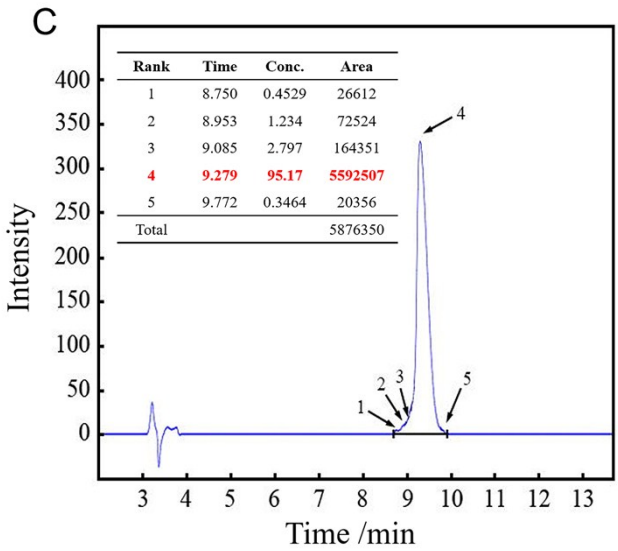


Fig. S1 (A) Molecular structure of LBP. The LBP has a similar sequence to that of CBP but lacks a disulfide bond. HPLC analysis of CBP (B) and LBP (C). Both peptides had a purity above 95%.

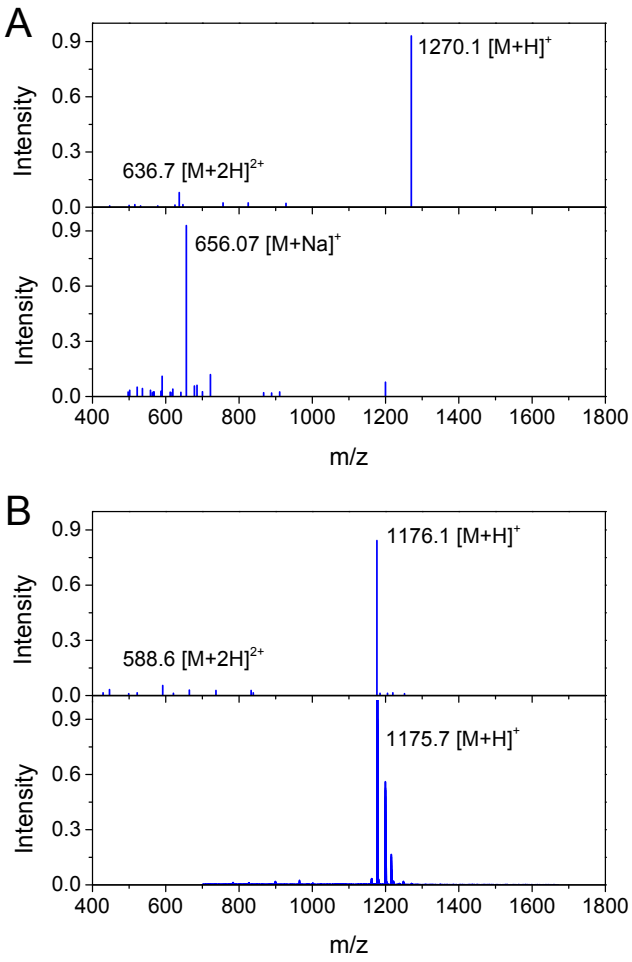


Fig. S2 Evaluation of the redox responsiveness of CBP (A) and LBP (B) by MALDI-TOF MS. Top row: before incubation with GSH, bottom row: after incubation with GSH.

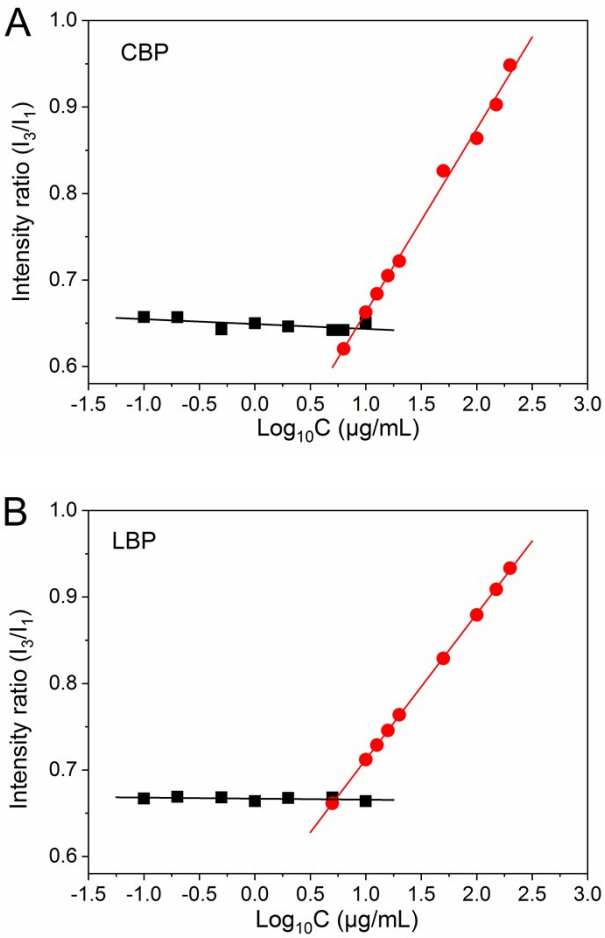


Fig. S3 Critical aggregation concentration of CBP (8.23 μg/mL) and LBP (5.29 μg/mL).

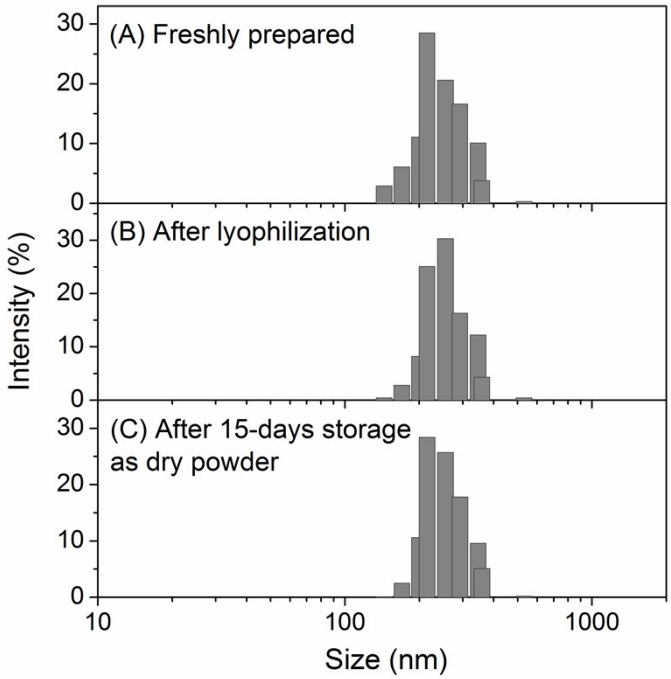


Fig. S4 DLS analysis of freshly prepared CCM-CBP micelles (A), CCM-CBP micelles after lyophilization (B), and after 15-days storage under 4 ^{o}C as a freeze-dried powder (C). Photograph of freeze-dried CCM-CBP powder (D).

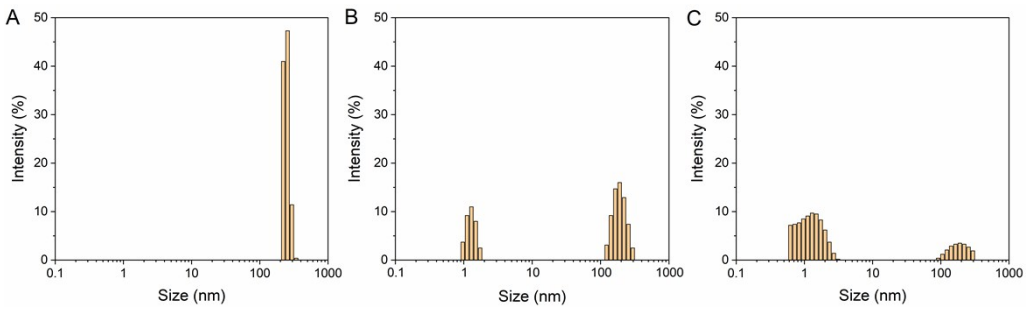


Fig. S5 DLS analysis of CCM-CBP nanomicelles incubated in GSH solution (8 mM, pH7.4) at 0 h (A), 4 h (B) and 24 h (C).

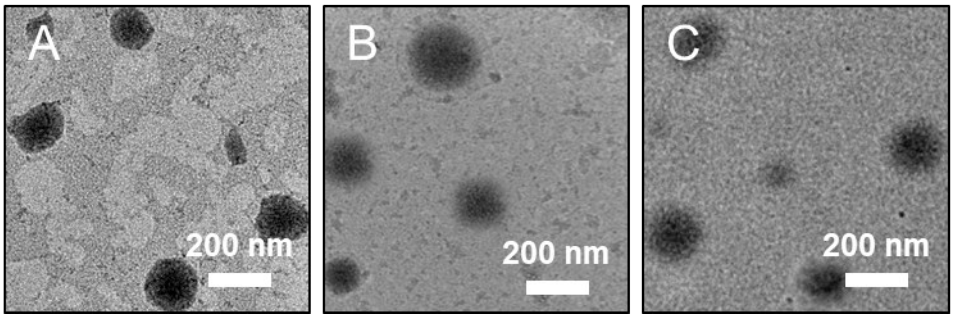


Fig. S6 Stability of CCM-LBP micelles (A) in 20% (v/v) FBS solution without (B) or with (C) 8 mM of GSH. Incubation time: 24 h.

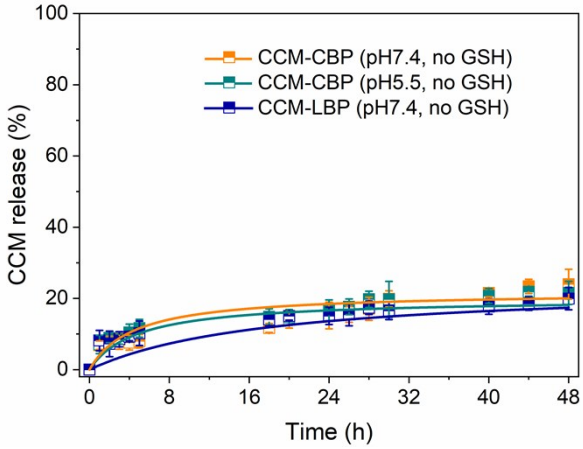


Fig. S7 Long-time release profiles of CCM-CBP micelles in the absence of GSH and CCM-LBP micelles in the presence of GSH.

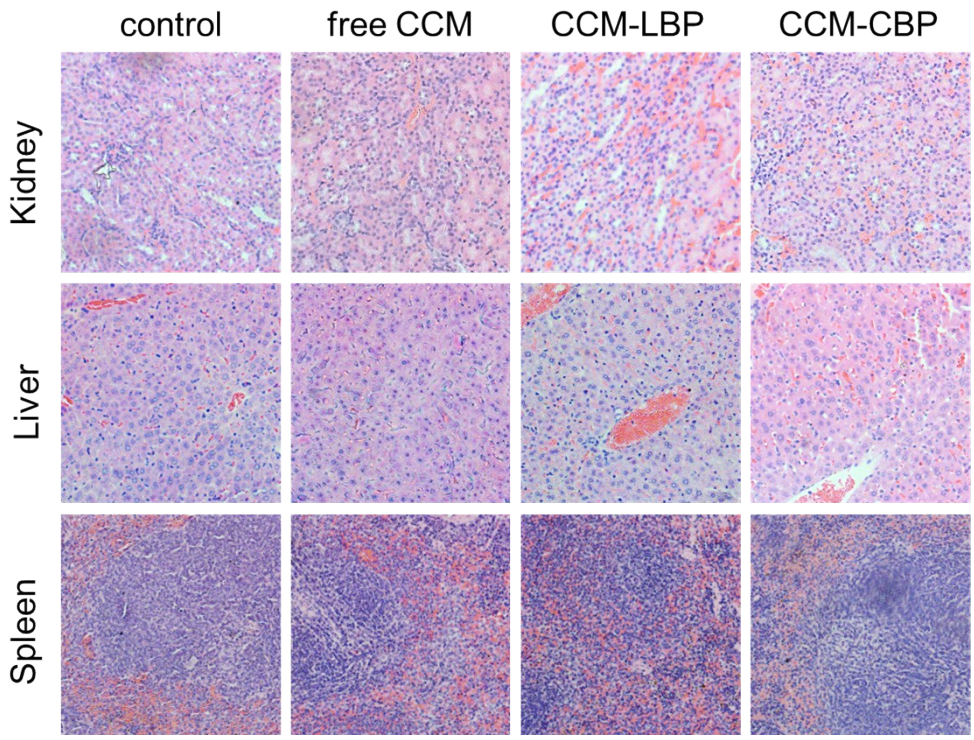


Fig. S8 H&E staining results for kidney, liver and spleen slices.