

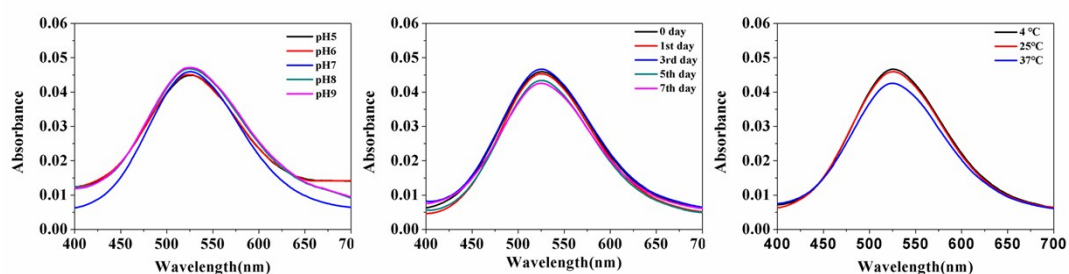
## Electronic Supplementary Material (ESI) for Journal of Materials Chemistry B

### Intracellular Fenton Reaction based on Mitochondria-Targeted Copper(II)- Peptide Complex for Induced Cells Apoptosis

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**Fig. S1** The visible spectra of CuGGH-MPP-NH<sub>2</sub> (0.5 mM) at different (a) pH, (b) time and (c) temperature.

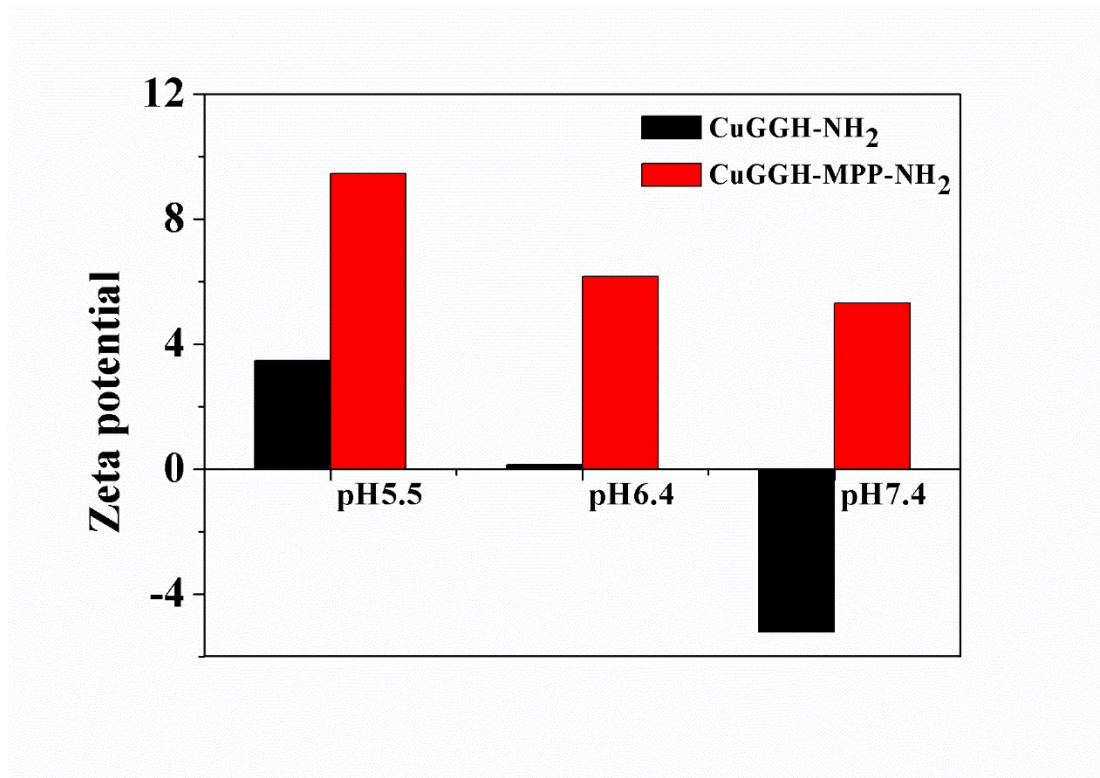


Fig. S2 The zeta potential of CuGGH-NH<sub>2</sub> and CuGGH-MPP-NH<sub>2</sub> at pH5.5, 6.4, and 7.4.

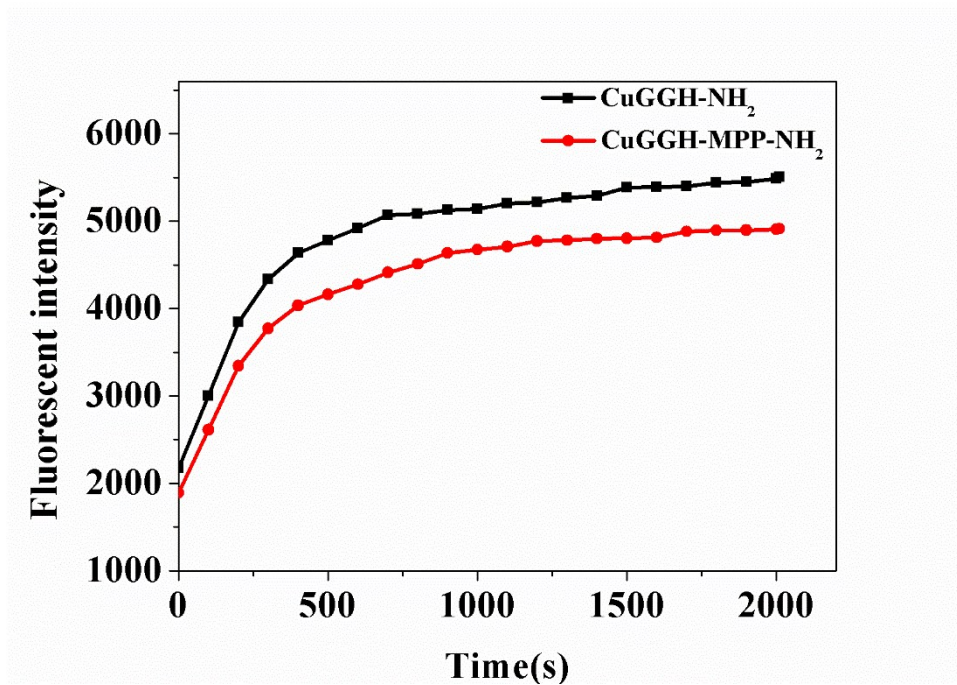
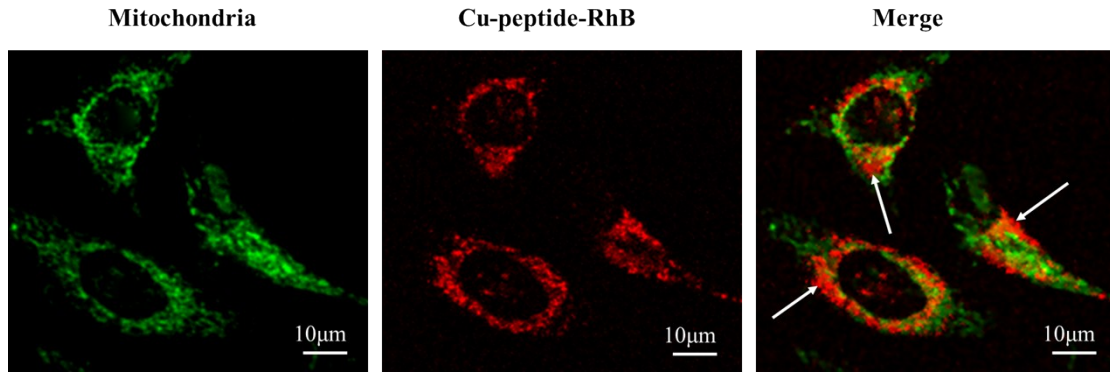
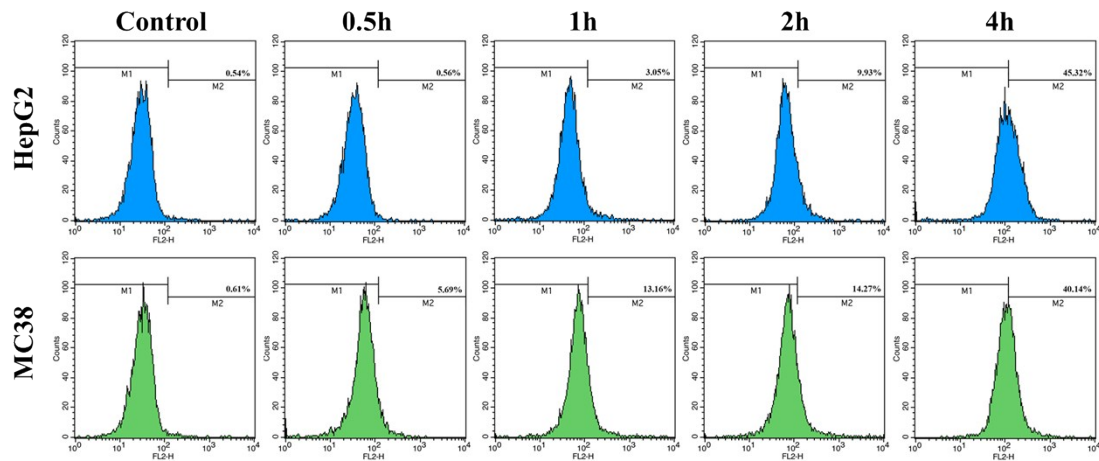


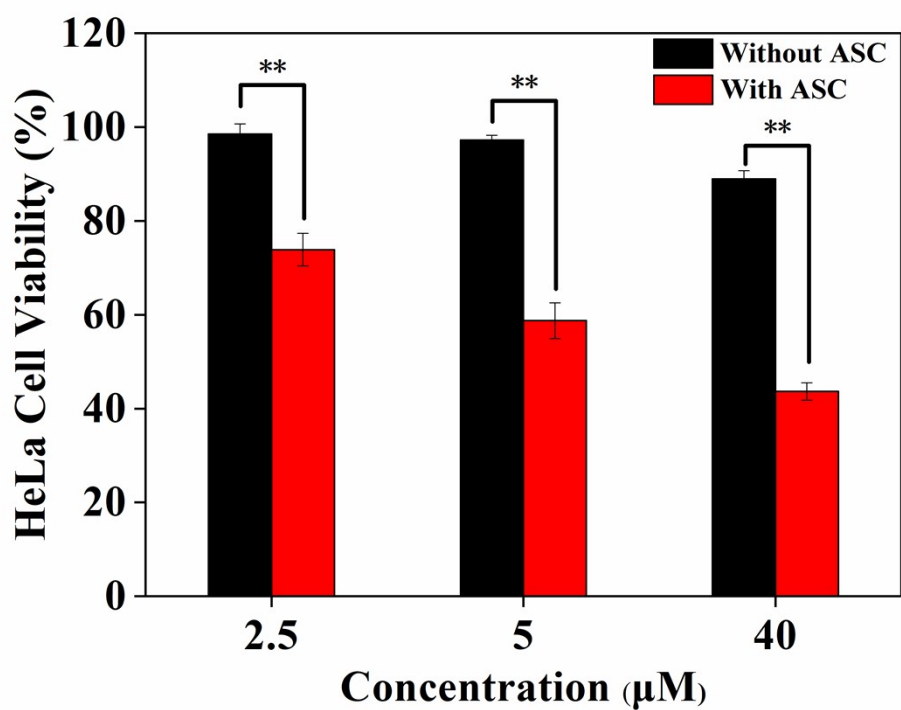
Fig. S3 Time-dependent generation of •HO measured by CCA fluorescence assay



**Fig. S4** The CLSM images of intracellular localization of CuGGH-MPP-RhB in HeLa cells after treatment with CuGGH-MPP-RhB (40  $\mu$ M) for 4 h. The mitochondria were stained by Mito-Tracker (green). The arrow bars was pointed to the co-localization (in yellow).



**Fig. S5** FCM analysis of cellular uptake in different time



**Fig. S6** HeLa Cells viability assay of different concentrations of CuGGH-MPP-NH<sub>2</sub> with or without Asc. Significance is defined as \*P < 0.05, \*\*P < 0.01.