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Electronic Supplementary Information

Highly cross-linked fluorescent poly(cyclotriphosphazene-*co*-curcumin) microspheres for selective detection of picric acid in solution phase

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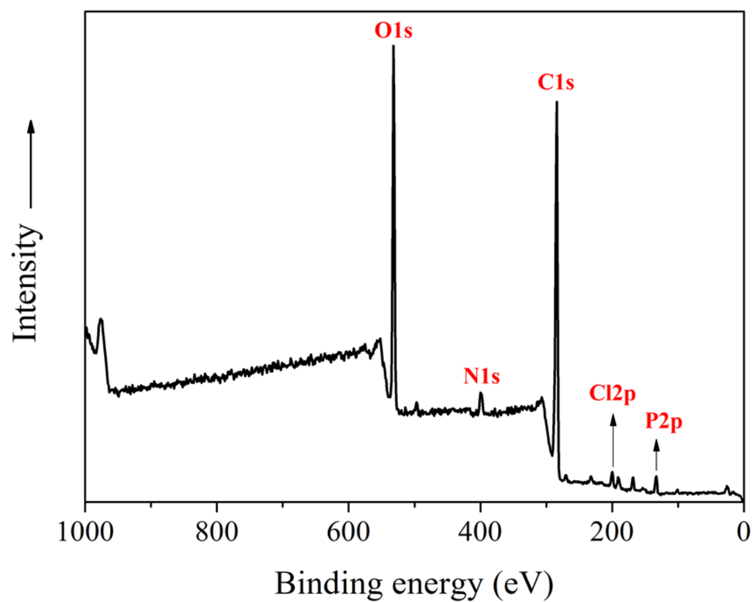

Fig. S1 XPS spectrum of the as-prepared PCPC-MS.

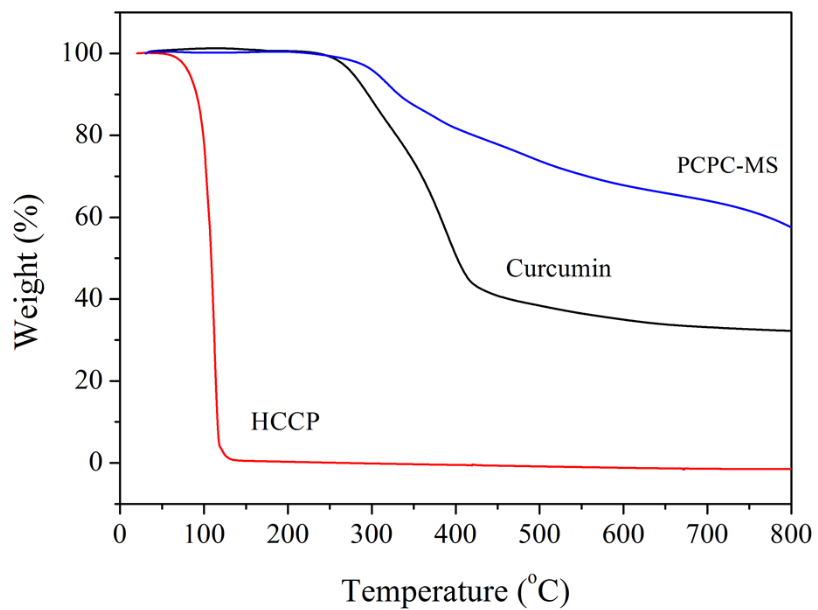

Fig. S2 TGA curves of HCCP, curcumin, and PCPC-MS.

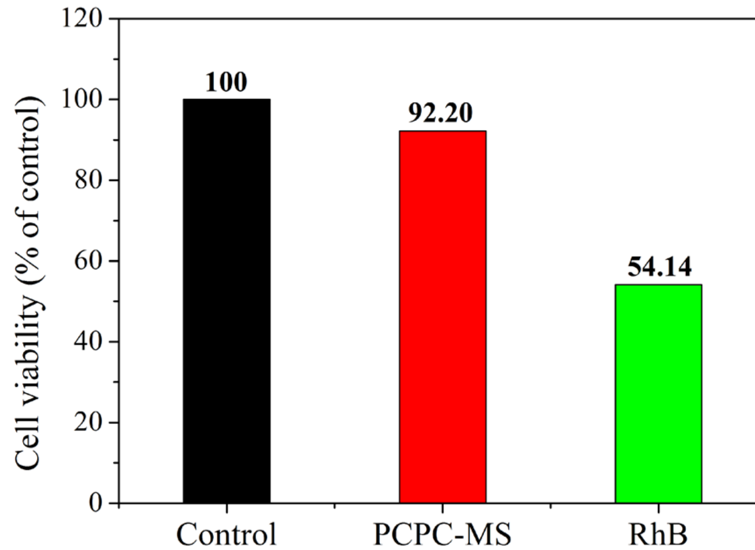

Fig. S3 Cell viability of NIH-3T3 cells after culturing for 2 days with (a) control group, (b) PCPC-MS, and (c) rhodamine B (RhB).

Cytotoxicity tests

Cell culture NIH-3T3 normal cells (a mouse embryonic fibroblast cell line) were cultivated in sterile tissue culture flasks containing Dulbecco's modified Eagle's medium (DMEM: Gibco, Wuxi Trivd Biotechnology Inc., Wuxi, China) supplied with 10% fetal bovine serum (FBS: Hyclone, Wuxi Trivd Biotechnology Inc., Wuxi, China) and 1% penicillin streptomycin (Gibco, Wuxi Trivd Biotechnology Inc., Wuxi, China) at 37 °C in a humidified atmosphere containing 5% CO_2, and the cells were passaged by trypsinization before confluence. The cells at the third to seventh passage were used in the experiments.

MTT assay Before the measurement, the samples were sterilized under ultraviolet (UV) light for 1.5 h. NIH-3T3 cells were seeded into 96-well plates with a density of 6×10^3 cells per well in 100 μL of medium. After 1 day of incubation, the culture medium was removed and replaced with 20 μg/100 μL solid samples. The cells were

cultured for another 2 days in a humidified atmosphere with 5% CO_2 at 37 °C. In addition, the cells cultured in wells with DMEM medium were served as control groups in this study. Then, 10 μL of 5 mg mL^{-1} MTT assay stock solution in phosphate-buffered saline (PBS) was added to each well of culture plates. After incubating the cells for 4 h, blue formazan crystals were formed and dissolved in 100 μL dimethyl sulfoxide (DMSO) per well. The absorbance was measured with a multimode detector (Tecan Infinite M200 PRO, Shanghai DoBio Biotech Co., Ltd) at a wavelength of 570 nm. The cell viability was calculated by following equation: cell viability (%) = $(OD_{experimental}/OD_{control})\times100\%$.

Fig. S3 shows the cell viability of NIH-3T3 cells after 2 days of incubation with PCPC-MS and rhodamine B (RhB), a fluorescent small molecule, and the group cultured in DMEM was used as a control. It is clear that the cells cultured with PCPC-MS exhibit much higher viability (92.20% of the control group) compared to that cultured with RhB (54.14% of the control group), indicating the lower cytotoxicity of PCPC-MS.

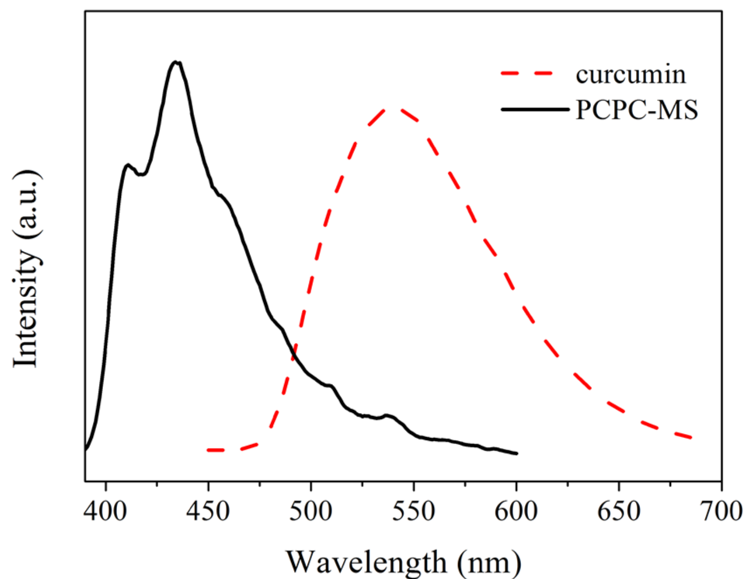

Fig. S4 Fluorescence emission spectra of curcumin and PCPC-MS in methanol.

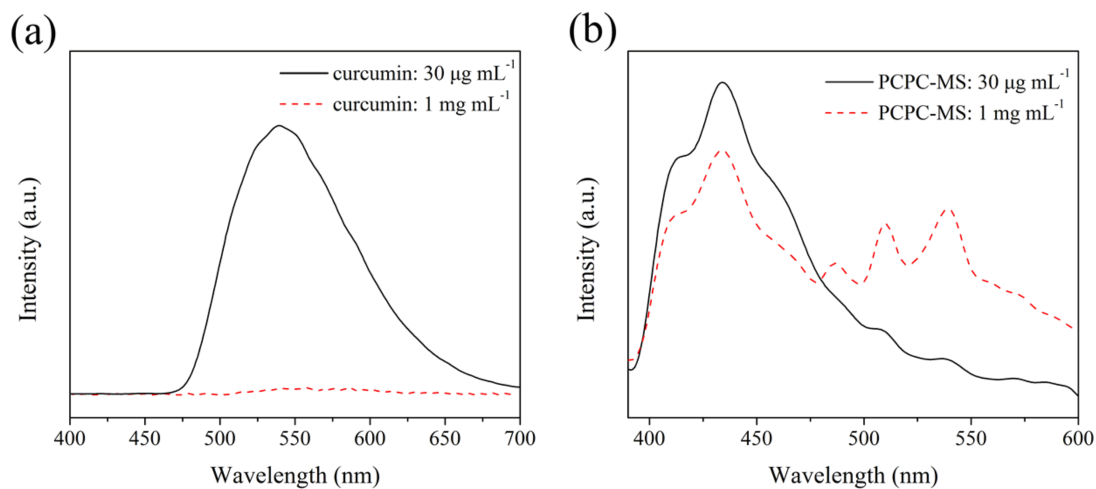

Fig. S5 Effects of concentration on the fluorescence emission of curcumin (a) and PCPC-MS (b) in methanol.

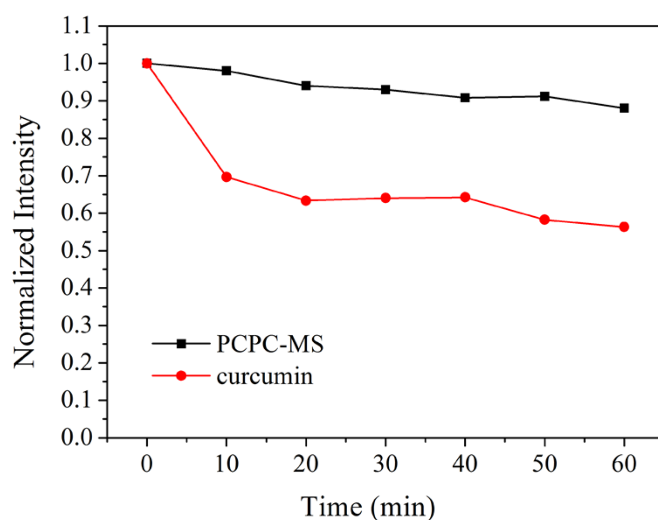

Fig. S6 Normalized intensity of the fluorescence emission peaks of PCPC-MS and curcumin in methanol *versus* UV irradiation time (372 nm).

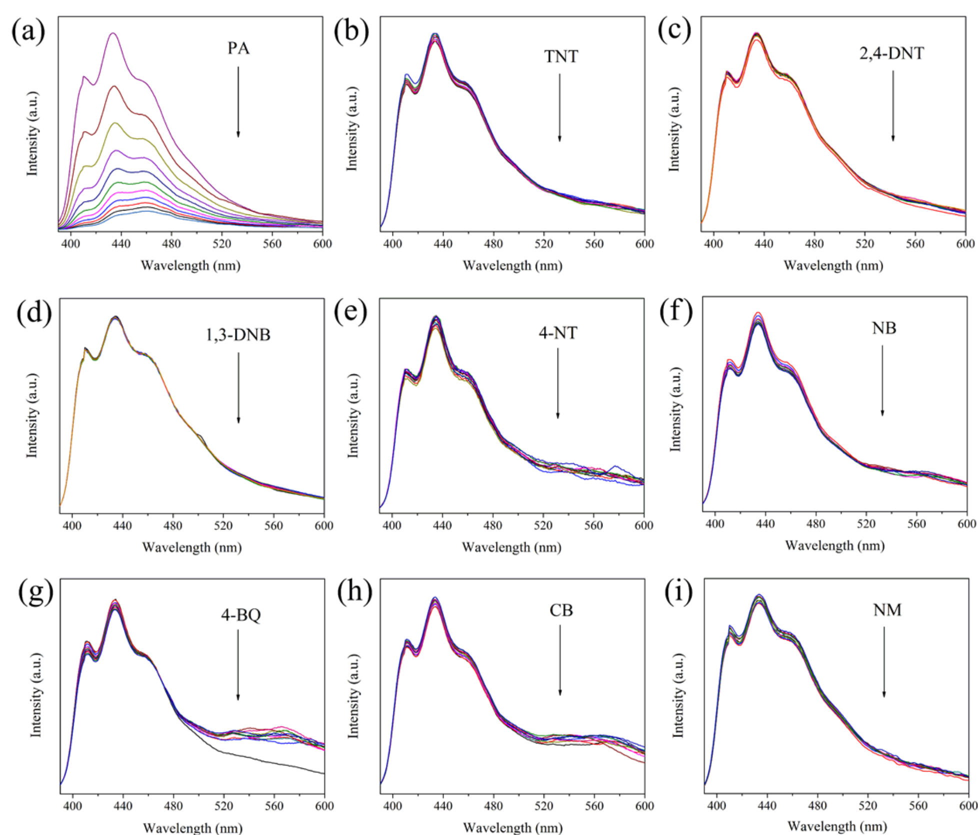

Fig. S7 Fluorescence emission spectra of PCPC-MS in methanol (30 μg mL^{-1}) with the addition of different amounts (0-47.6 μg mL^{-1}) of PA (a), TNT (b), 2,4-DNT (c), 1,3-DNB (d), 4-NT (e), NB (f), 4-BQ (g), CB (h), and NM (i) at room temperature.

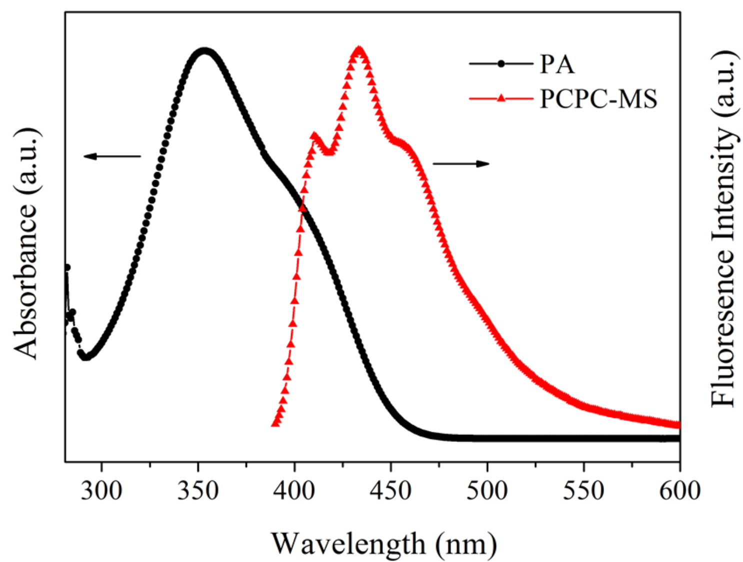

Fig. S8 Normalized absorption spectrum of PA plotted together with the normalized emission spectrum of PCPC-MS in methanol.

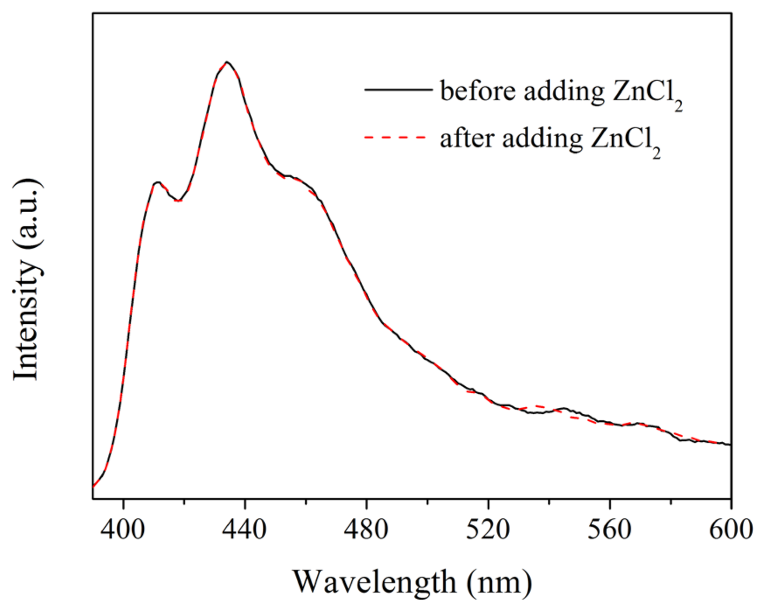

Fig. S9 Fluorescence emission spectra of PCPC-MS in methanol before and after $ZnCl_2$ treatment.

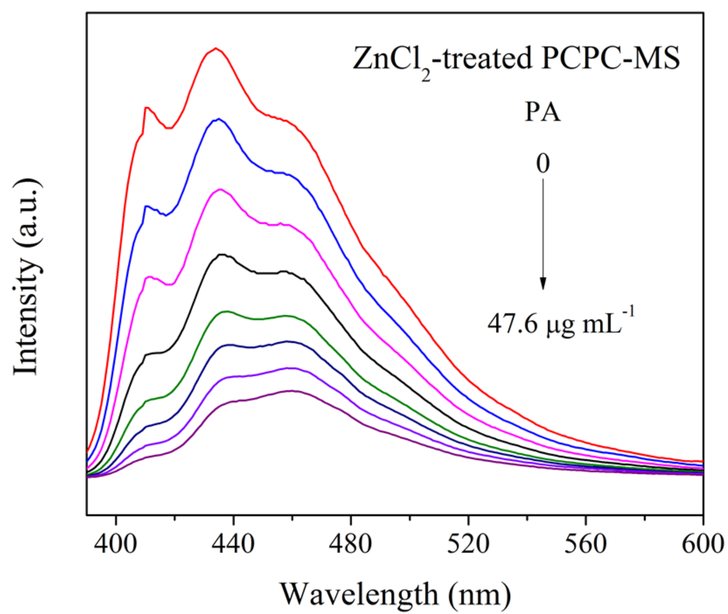

Fig. S10 Fluorescence spectral response of the $ZnCl_2$-treated PCPC-MS to PA in methanol at room temperature.

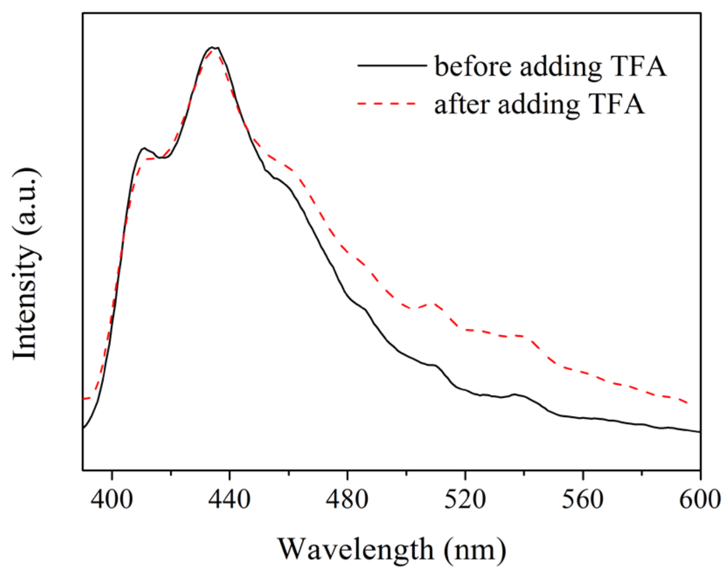

Fig. S11 Fluorescence emission spectra of PCPC-MS in methanol before and after TFA treatment.

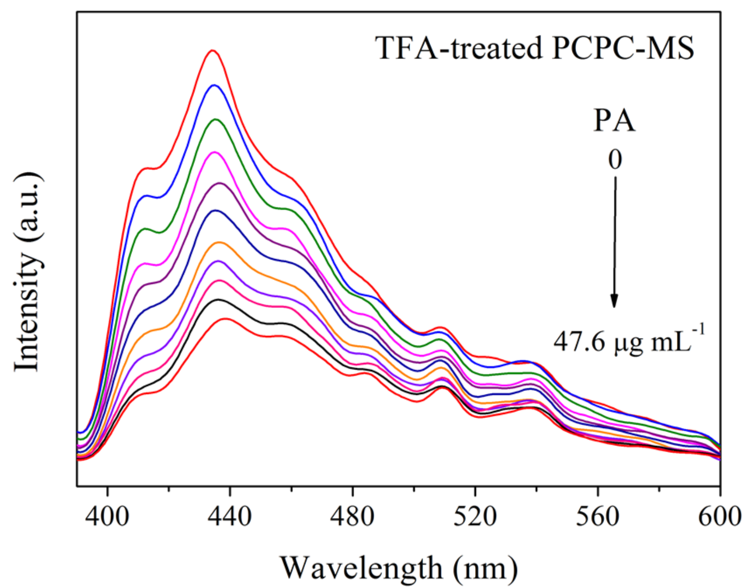

Fig. S12 Fluorescence spectral response of the TFA-treated PCPC-MS to PA in methanol at room temperature.