

Supporting Information

Albumin-Mediated Incorporation of Water-Insoluble Therapeutics in Layer-by-Layer Assembled Thin Films and Microcapsules

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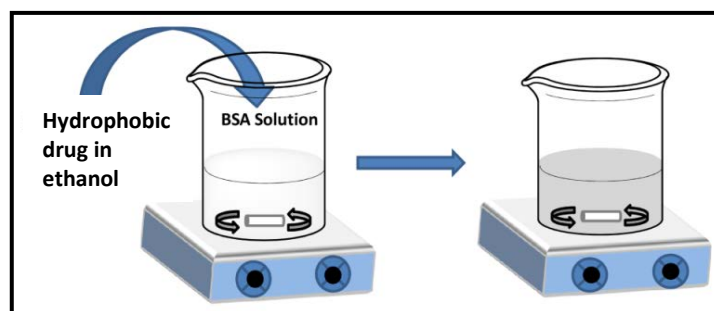


Fig. S1. Schematic representation of preparation of pyrene-BSA conjugates.

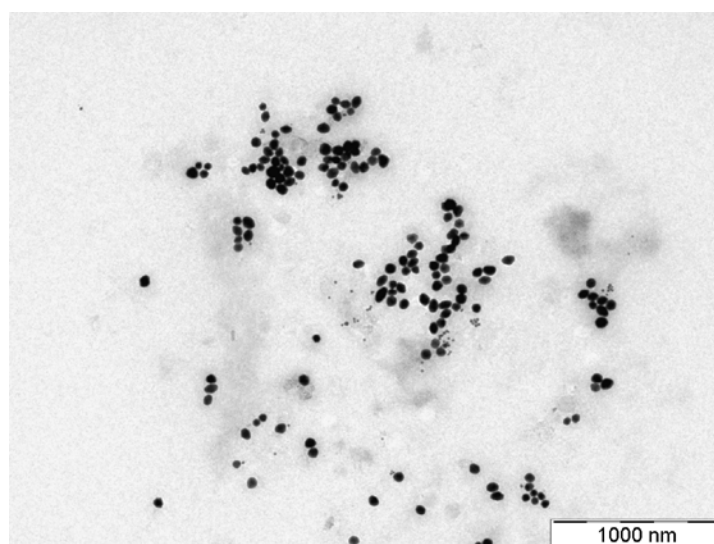


Fig. S2. Transmission Electron Microscopic (TEM) image of drop casted PyB.

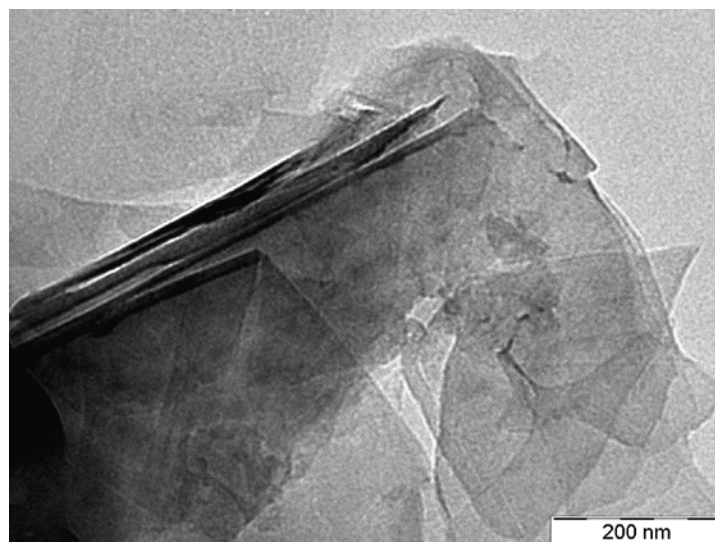


Fig. S3. Transmission Electron Microscopic (TEM) image of drop casted CuB.

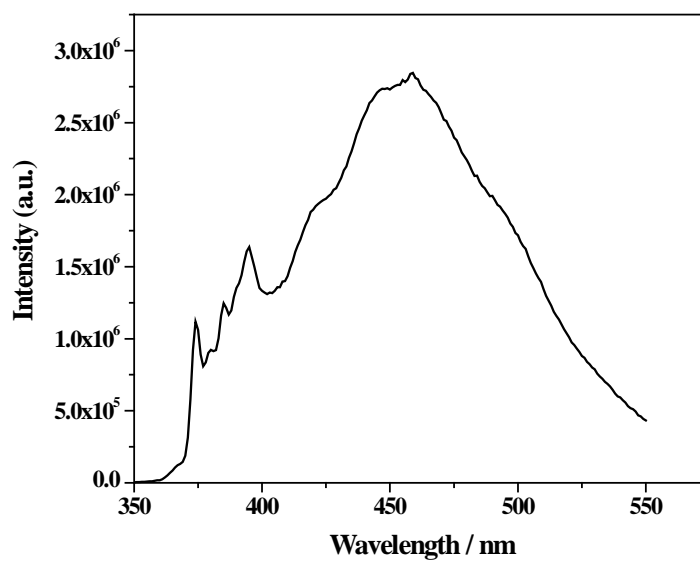


Fig. S4. Fluorescence spectra of (PyB/CH)₁₀.

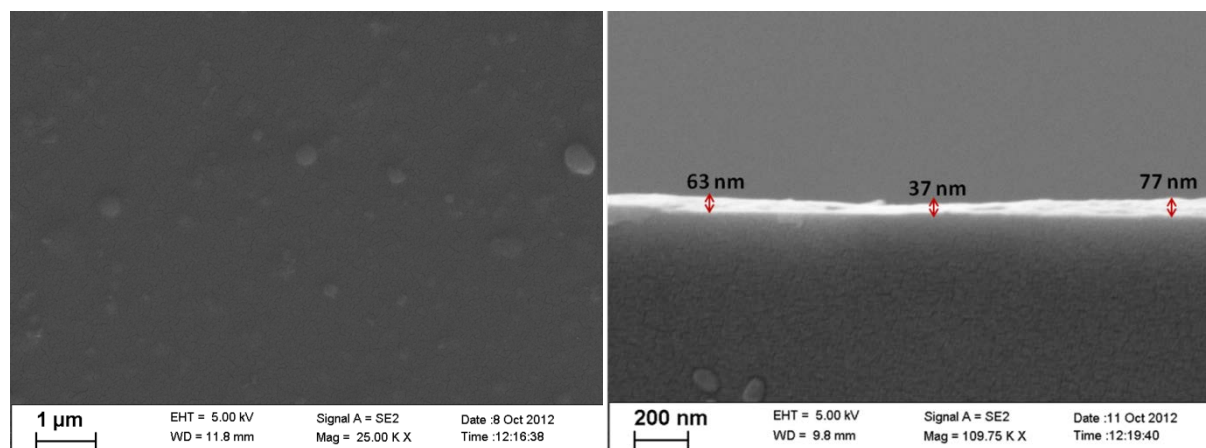


Fig. S5. SEM image of surface (left) and cross-section (right) of 20-bilayer film of CuB/CH.

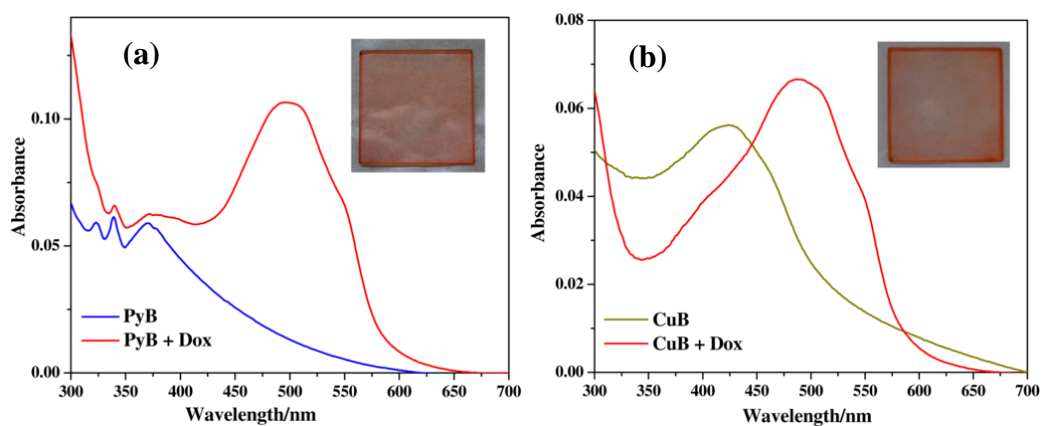


Fig. S6 UV-visible absorbance spectra of (PyB/CH)₁₀ (a) and (CuB/CH)₁₀ (b) film before and after loading of Doxorubicin. The inset shows the photographic image of the films after Dox loading, the red coloration confirms the loading of Dox.

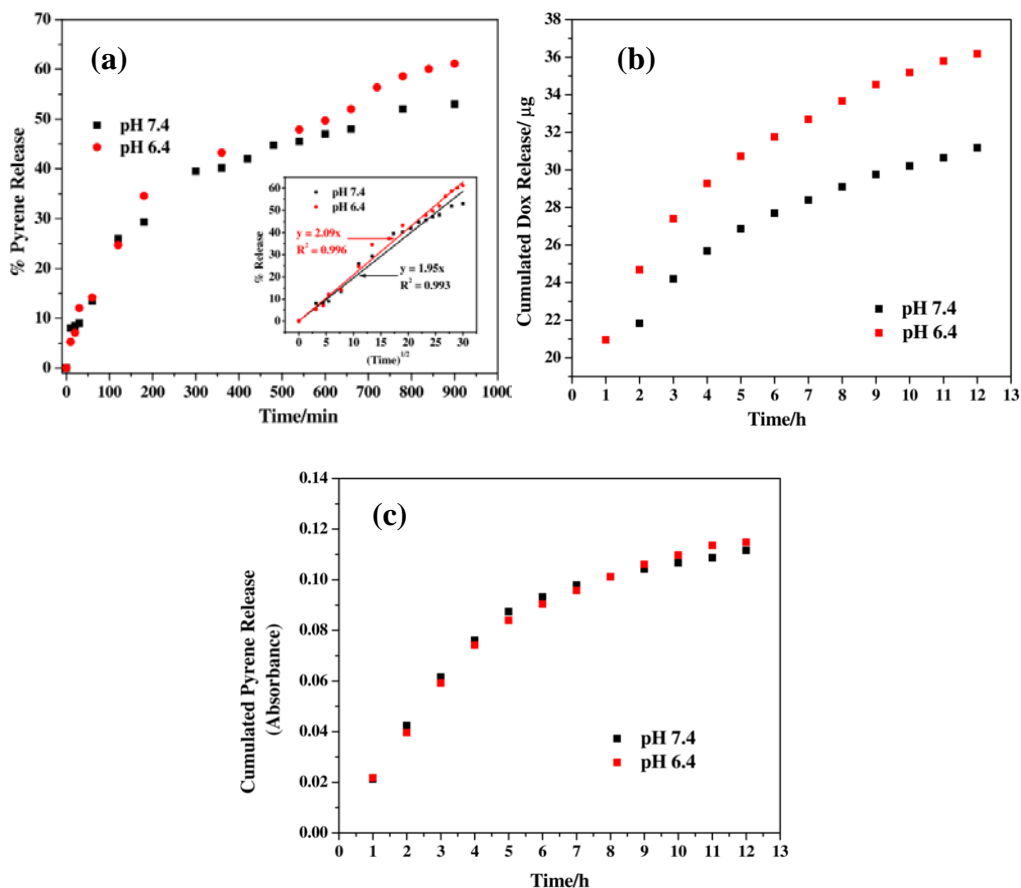


Fig. S7 (a) Release profile of Pyrene at different pH from $(\text{PyB}/\text{CH})_{10}$ film post-loaded with Doxorubicin. (b) and (c) are cumulated amount of Doxorubicin and Pyrene, respectively, released in the media.

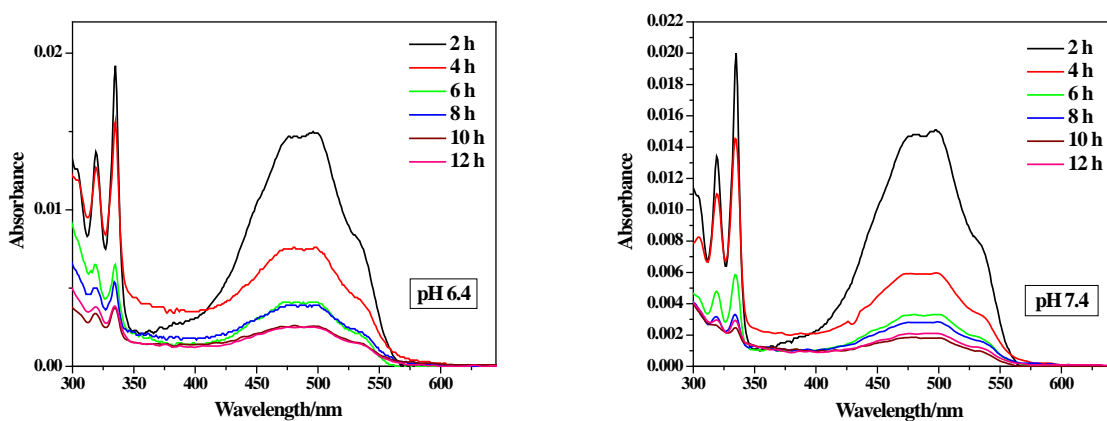


Fig. S8. UV-vis absorbance spectra of release media (PBS of pH 6.4 and pH 7.4) after release experiment has been conducted with Dox loaded $(\text{PyB}/\text{CH})_{10}$ thin films.

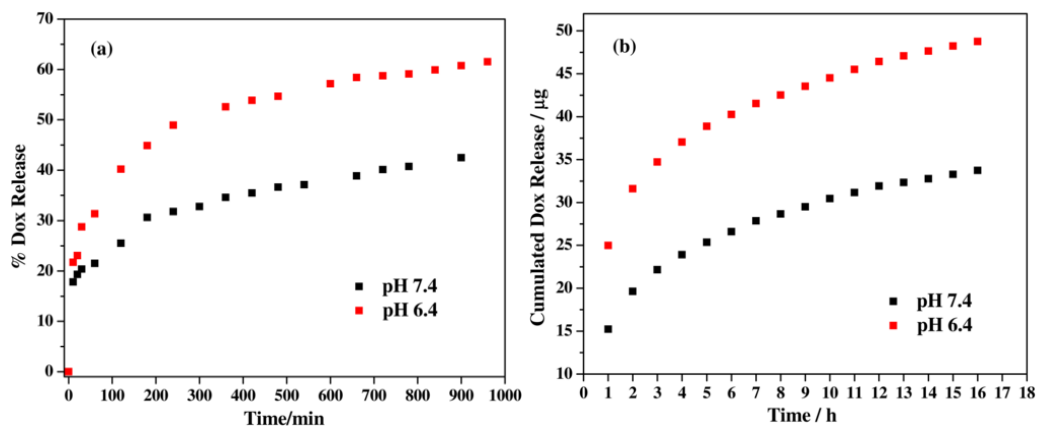


Fig. S9 (a) Release profile of Doxorubicin for $(\text{CuB}/\text{CH})_{10}$ films post-loaded with Doxorubicin at pH 7.4 and pH 6.4. (b) Cumulated amount of Doxorubicin in the medium at pH 7.4 and pH 6.4.

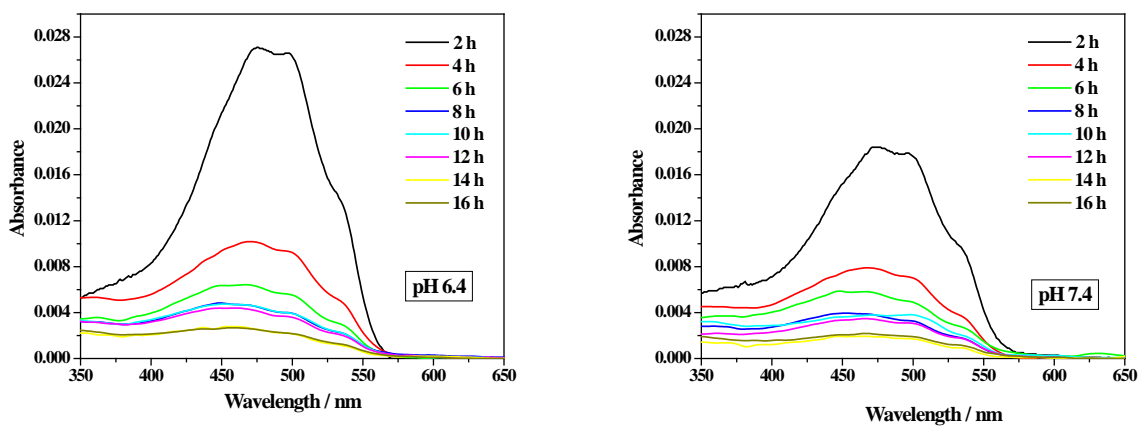


Fig. S10. UV-vis absorbance spectra of release media (PBS of pH 6.4 and pH 7.4) after release experiment has been conducted with Dox loaded $(\text{CuB}/\text{CH})_{10}$ thin films.

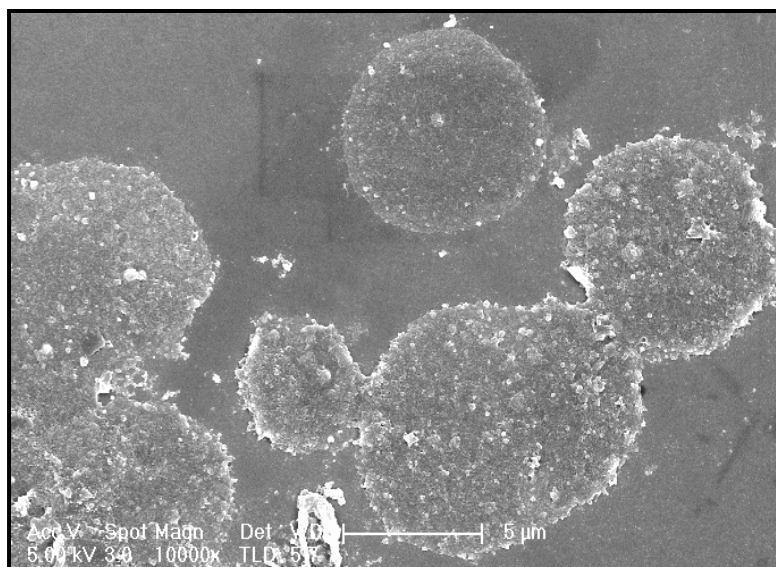


Fig. S11. FESEM image of microcapsules of PSS/(CH/PyB)₅/PDDAC.

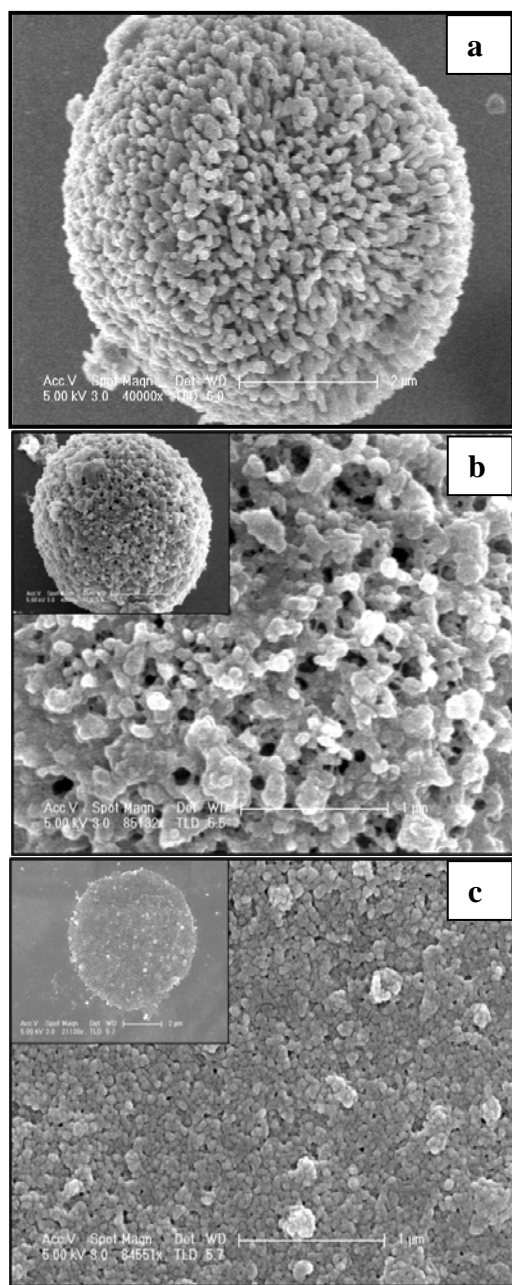


Fig. S12. FESEM image showing the surface morphology of (a) bare CaCO₃ microparticle (b) CaCO₃ microparticles coated with PSS(CH/PyB)₅/PDDAC and (c) microcapsule of PSS/(CH/PyB)₅/PDDAC formed after core dissolution.

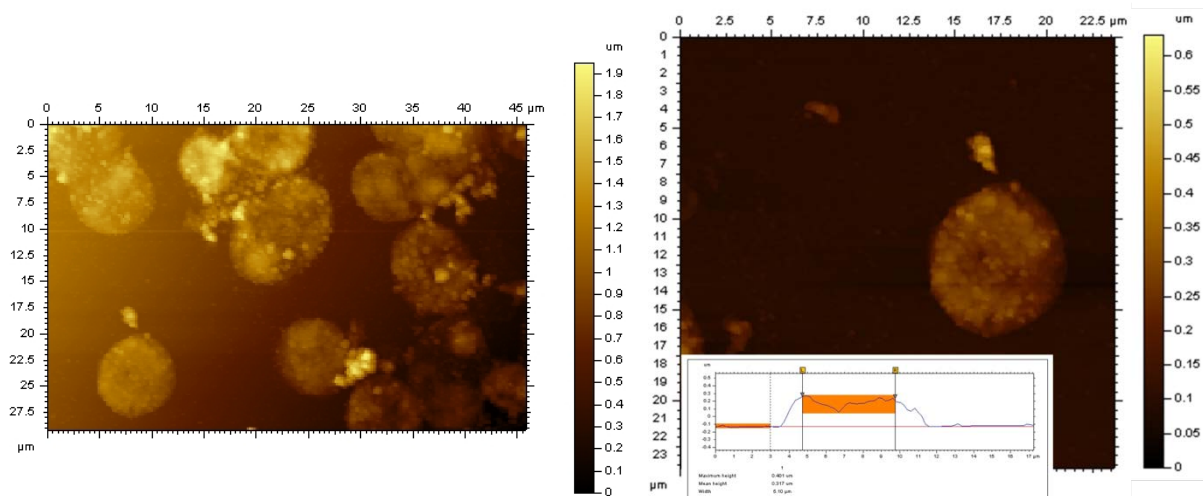


Fig. S13. AFM image of microcapsule of PSS/(CH/PyB)₅/PDDAC. Thickness of the shell of the microcapsule as determined from height profile is 158 nm.

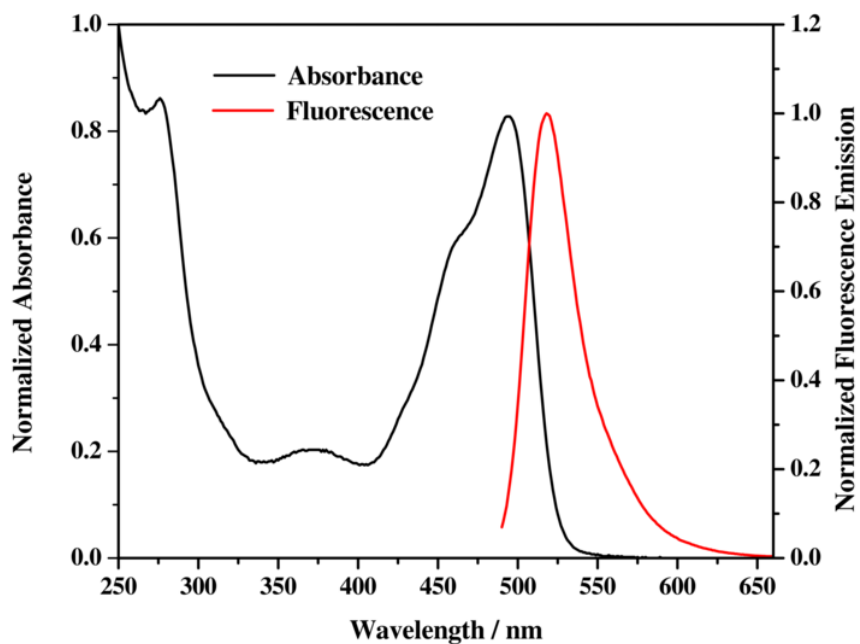


Fig. S14: UV-visible and Fluorescence Emission Spectra of FITC-BSA.

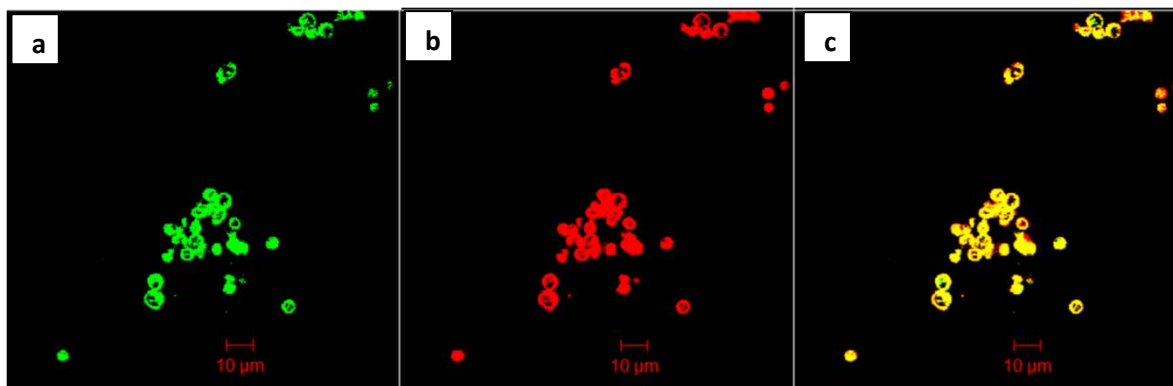


Fig. S15: Confocal Laser Scanning micrograph of FITC-BSA encapsulated microcapsules of CH/PyB after loading with hydrophilic dye, Rhodamine B. (a) CLSM image showing fluorescence from FITC (excited at 488 nm). (b) CLSM image showing fluorescence from Rhodamine B (excited at 543 nm). (c) Superposition of images (a) and (b).

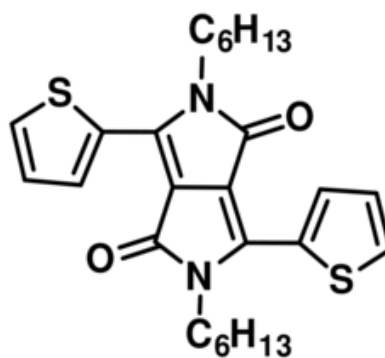


Fig. S16: Structure of TDPP.