Supporting information for:

Soluble fluorescent polymeric nanoparticles based on pyrrole derivatives: synthesis, characterization and their structure dependent sensing properties

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**Fig.S1.** Gel permeation chromatograms for NmPPy nanoparticles (blue line) and NphPPy nanoparticles (red line).
**Fig. S2.** FE-SEM images of (a) NmPPy sample (b) NphPPy sample.

**Fig. S3.** FT-IR spectrum of ppy5 nanoparticles.
**Fig. S4.** FT-IR spectrum of NmPPy nanoparticles.

**Fig. S5.** FT-IR spectrum of NphPPy nanoparticles.
Fig. S6. XPS spectrum of ppy5 nanoparticles.

Fig. S7. XPS spectrum of NmPPy nanoparticles.
Fig. S8. XPS spectrum of NphPPy nanoparticles.

Fig. S9. (a) UV–vis absorption spectra of PPy nanoparticles (2.4 g L\(^{-1}\)) in the presence of thiram (10-100 µmol L\(^{-1}\)) (b) UV–vis absorption spectra of thiram (10-100 µmol L\(^{-1}\)).
Fig. S10. (a) UV–vis absorption spectra of NphPPy nanoparticles (3.8 × 10^{-3} g L^{-1}) in the presence of Fe^{3+} (8-48 µmol L^{-1}) (b) UV–vis absorption spectra of Fe^{3+} (8-48 µmol L^{-1}).