Szmytkowski, J.; Bond, T.; Paige, M.; Scott, R.; Steer, R. "Spectroscopic and Photophysical Properties of ZnTPP in a Room Temperature Ionic Liquid"

Supporting Information:

Background subtraction and emission spectrum correction procedures.

(i) ZnTPP absorption spectra:

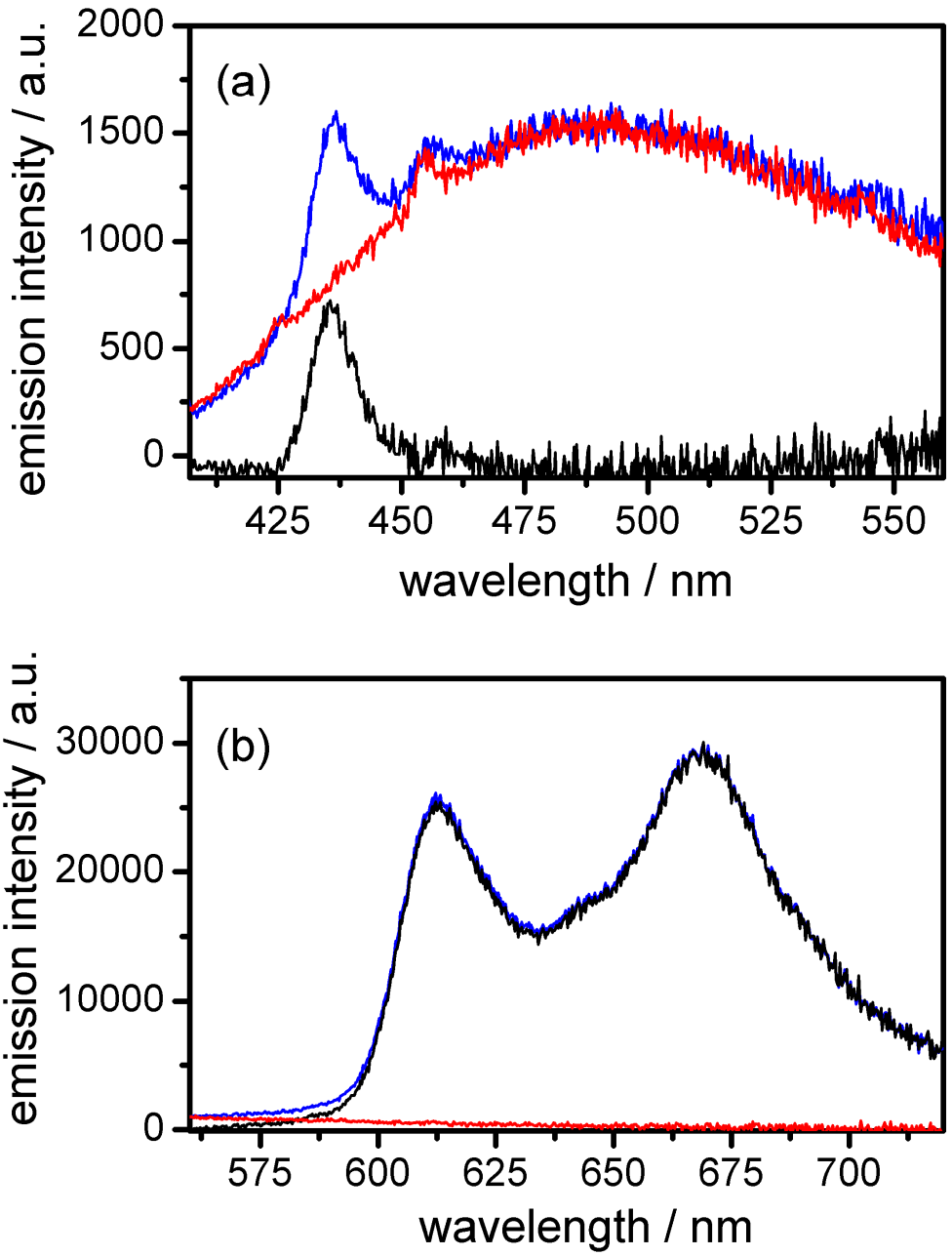
Subtraction of the background absorption due to the ionic liquid solvent is straightforward and affects only the Soret band absorption of ZnTPP in the 390 nm < λ < 450 nm region. The absorption spectra of Figures 1A and 1B in the paper were obtained with a Varian Cary 500 spectrophotometer using a dual beam mode of operation and the ionic liquid alone in the reference beam.

(ii) ZnTPP emission spectra:

Figure S1, below, shows a typical fluorescence spectrum obtained by exciting ZnTPP in [bmim][PF_6] at 400 nm. Excitation to the blue of the main Soret absorption band is required in order to obtain the S_2 – S_0 emission spectrum without major interference from scattered excitation light because the Stokes shift of the emission is very small (in all solvents). Excitation at 400 nm produces a much higher integrated emission yield from the IL solvent alone (Figure S1(a)) than from the ZnTPP solute in the Soret region, necessitating a careful subtraction of the solvent emission in addition to the usual correction of the emission spectrum. The IL emission spectra must be normalized to a constant excitation intensity in the centre of the fluorescence cuvette since the presence of the ZnTPP (with finite absorbance at the excitation wavelength) reduces the intensity of the incident light. The

correction factor increases as the concentration of ZnTPP in the IL increases. The procedure is carefully documented in detail in reference 13 in the paper itself.

Figure S1:



In this figure the traces in blue are the raw fluorescence spectra corrected

only for variation in the sensitivity of the detection system with emission wavelength, those in red are the corrected, normalized emission plus Raman scatter from the ionic liquid alone, and the traces in black are the background-subtracted corrected spectra which constitute one set of traces in the emission spectra of Figure 1B of the paper. Spectral bandwidth was 2 nm in each case and the case shown is for [ZnTPP]= 50 x 10^{-6} M in [bmim][PF_6] at room temperature.