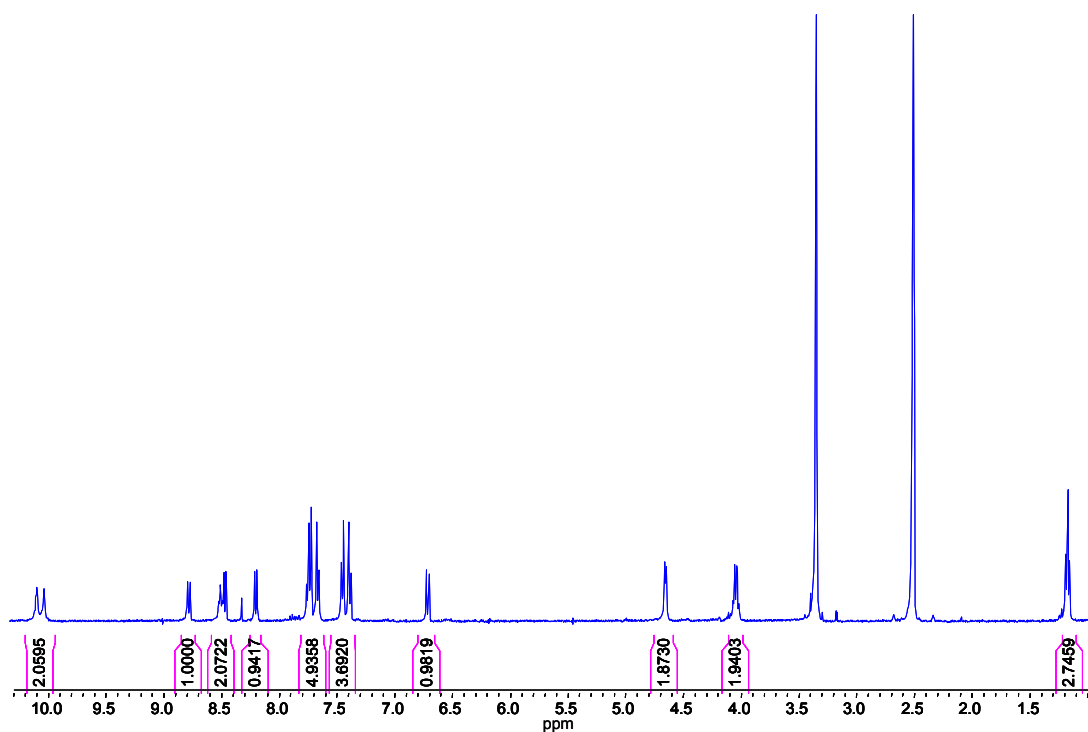


# Demonstration of bidirectional photoinduced electron transfer (PET) sensing in 4-amino-1,8-naphthalimide based thiourea anion sensors

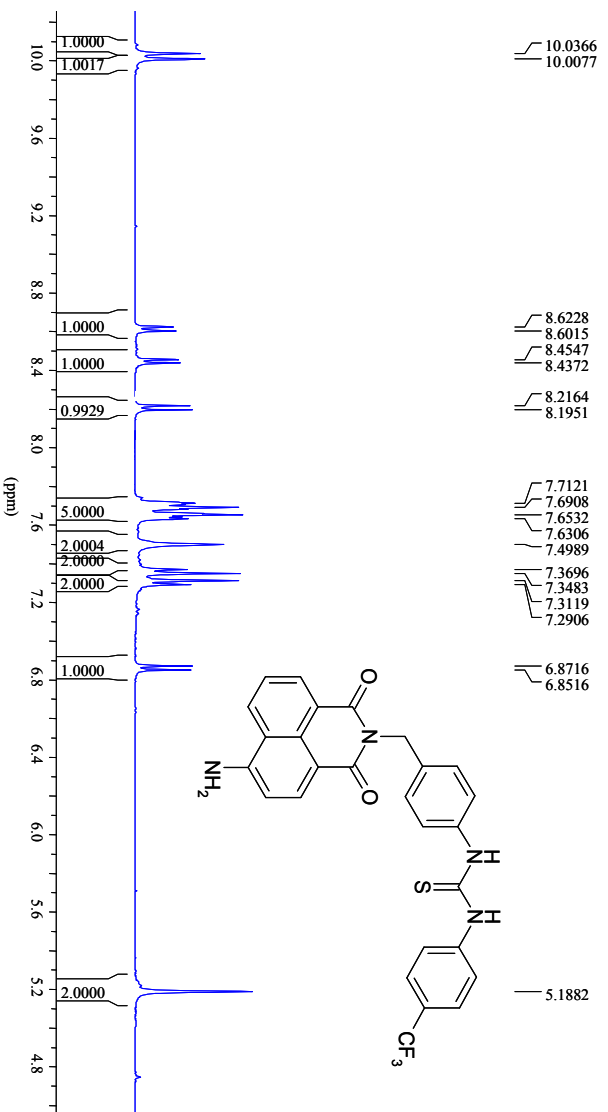
Emma B. Veale,<sup>a</sup> Gillian M. Tocci,<sup>a</sup> Frederick M. Pfeffer,<sup>b</sup> Paul E. Kruger<sup>a,c</sup> and Thorfinnur Gunnlaugsson<sup>a,\*</sup>

## Electronic Supplementary Information

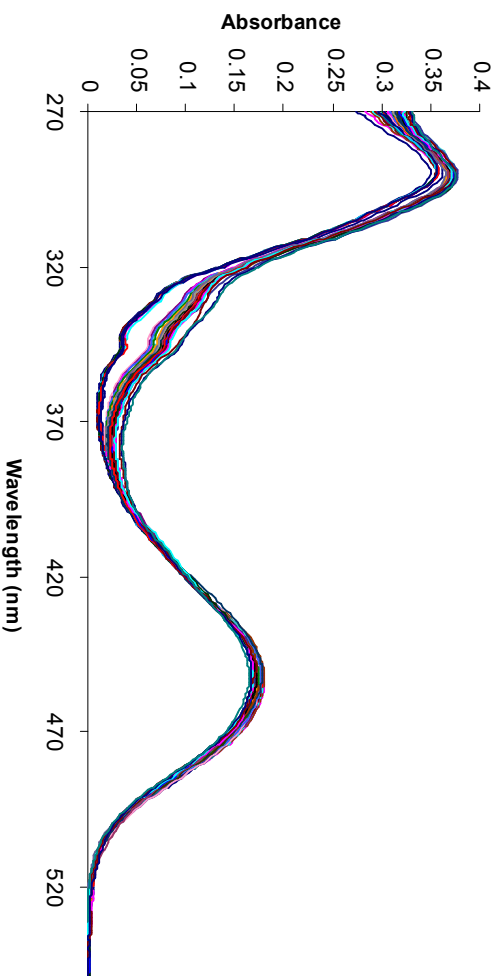
Figure 1: <sup>1</sup>H NMR (400 MHz, DMSO-d<sub>6</sub>) of 2



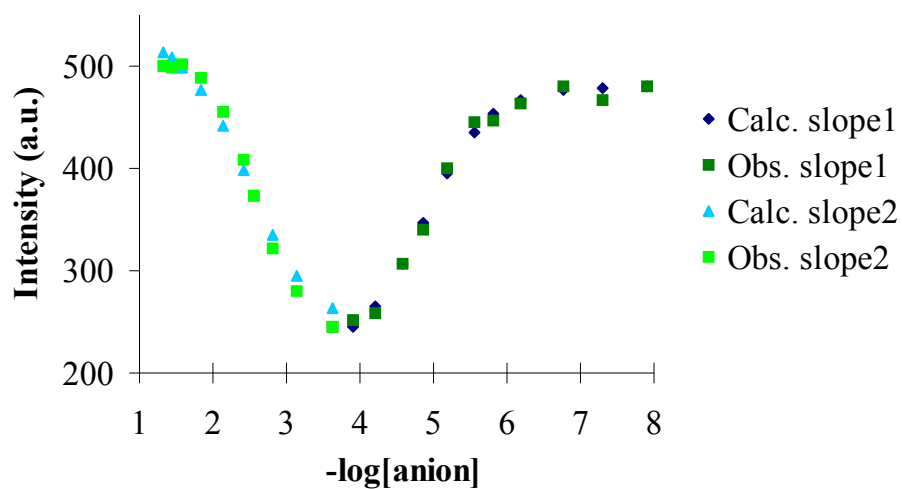
**Figure 2:**  $^1\text{H}$  NMR (400 MHz,  $\text{DMSO-d}_6$ ) of **4**



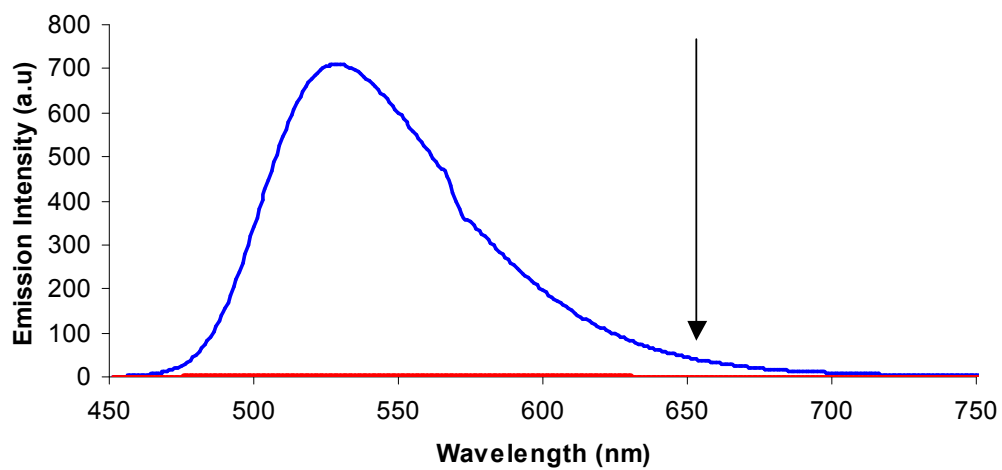
**Figure 3.** Changes in the absorbance spectrum of **5** (12  $\mu\text{M}$ ) in  $\text{DMSO}$  upon the addition of  $\text{F}^-(\text{C}_4\text{H}_9)_4^+$  (0  $\rightarrow$  58 mM).



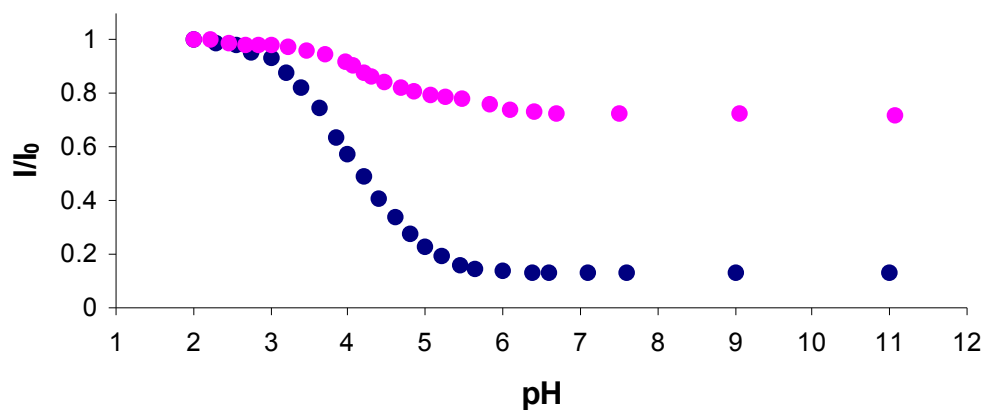
**Figure 4:** Plot of intensity vs.  $-\log[\text{AcO}^-]$  for titration of **3** with  $\text{AcO}^-$  showing observed values and calculated values used to determine the binding constants.



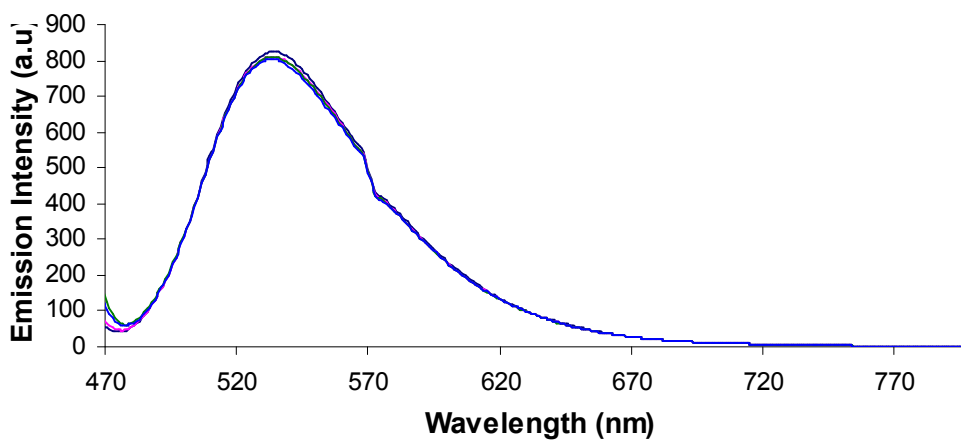
**Figure 5.** The fluorescence emission spectra of **4** in the absence and presence of excess of  $\text{HO}^-(\text{C}_4\text{H}_9)_4^+$



**Figure 6:** Plot of the emission changes for **6** (●) and **9** (●) with respect to pH.



**Figure 7:** The emission spectrum of **6** upon addition of 5 eq. F<sup>-</sup>



**Figure 8:** The emission spectrum of **9** upon addition of 5 eq. F<sup>-</sup>

