**Supporting Information**

**Anthryl-Substituted Heterocycles as Acid-Sensitive Fluorescence Probes**

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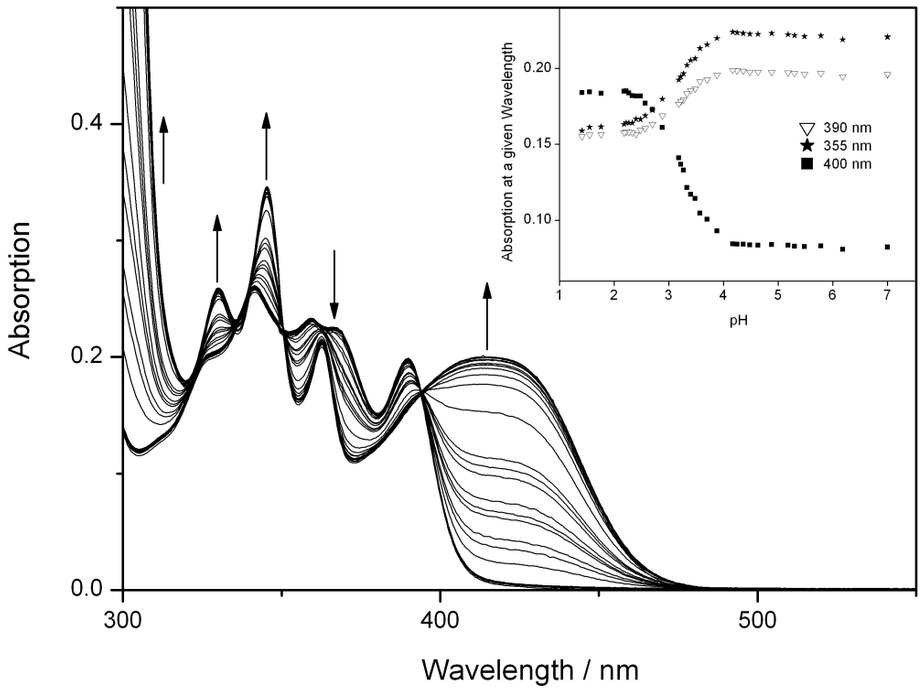


**Figure 2**. Spectrophotometric titration of **2a** ($10^{-4}$ M in MeOH) with aqueous HCl; arrows indicate the development of band maxima during titration; inset: change of absorption intensity at 355, 390, and 400 nm at varying acid concentrations.

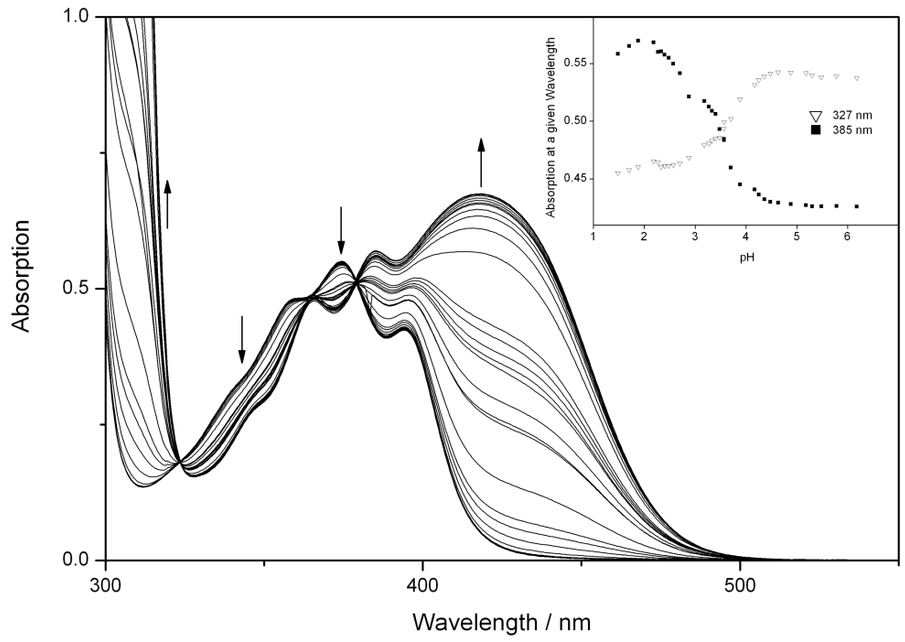


**Figure 3**. Spectrophotometric titration of **2b** ($10^{-4}$ M in MeOH) with aqueous HCl; arrows indicate the development of band maxima during titration; inset: change of absorption intensity at 372 and 385 nm at varying acid concentrations.

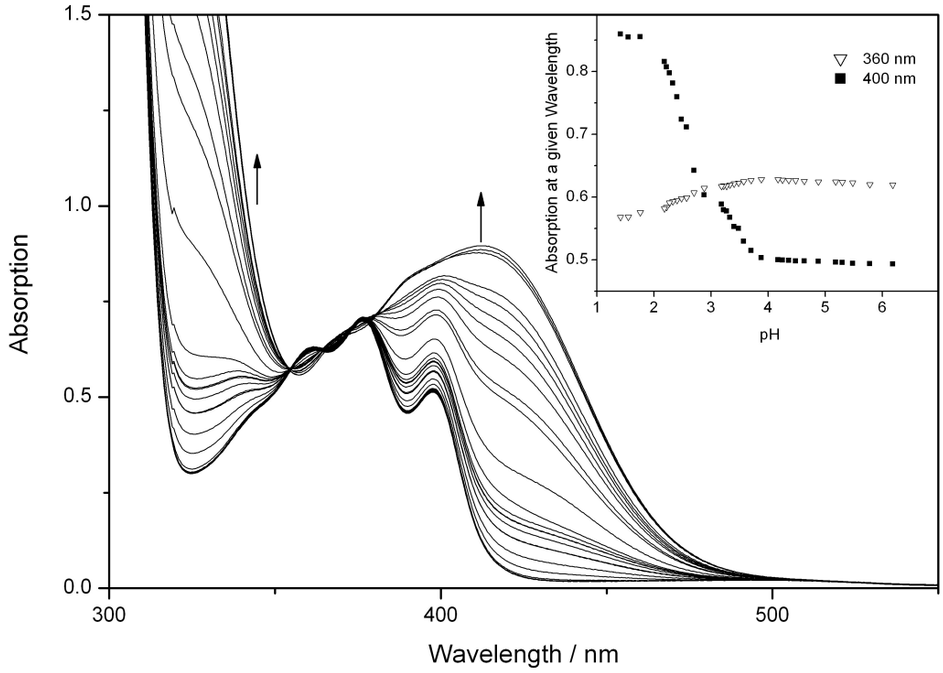


**Figure 4**. Spectrophotometric titration of **7** ($10^{-4}$ M in MeOH) with aqueous HCl; arrows indicate the development of band maxima during titration; inset: change of absorption intensity at 360 and 400 nm at varying acid concentrations.

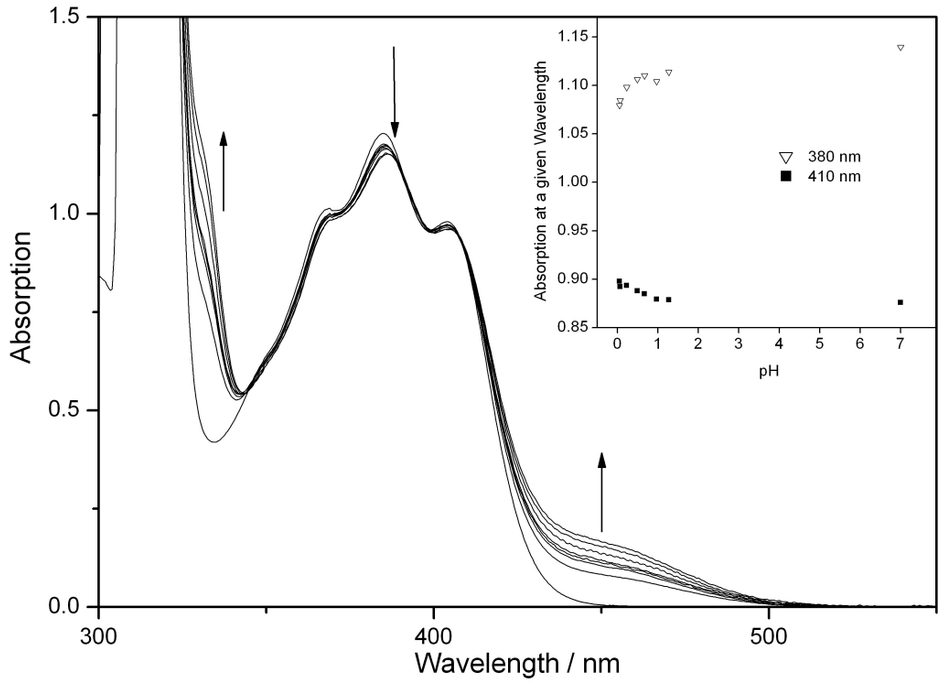


**Figure 5**. Spectrophotometric titration of **2c** ($10^{-4}$ M in MeOH) with aqueous HCl; arrows indicate the development of band maxima during titration; inset: change of absorption intensity at 380 and 410 nm at varying acid concentrations.

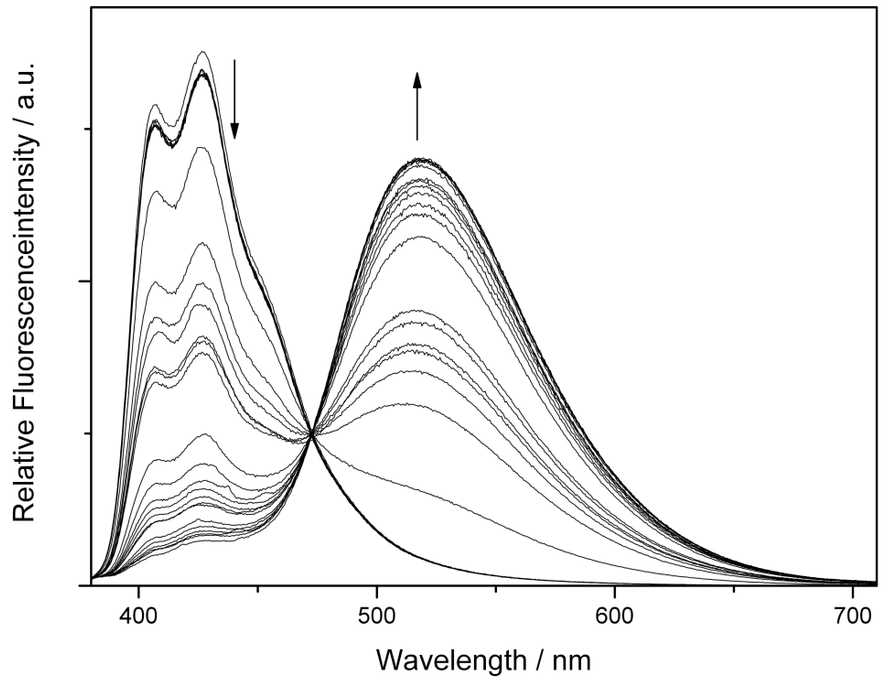


**Figure 6**. Spectrofluorimetric titration of **2a** ($10^{-5}$ M in MeOH) with aqueous HCl; arrows indicate the development of band maxima during titration; $\lambda_{ex}$ = 363 nm; before titration: c(HCl) = 0 M, titration end: c(HCl) = $3.2 \times 10^{-2}$ M.

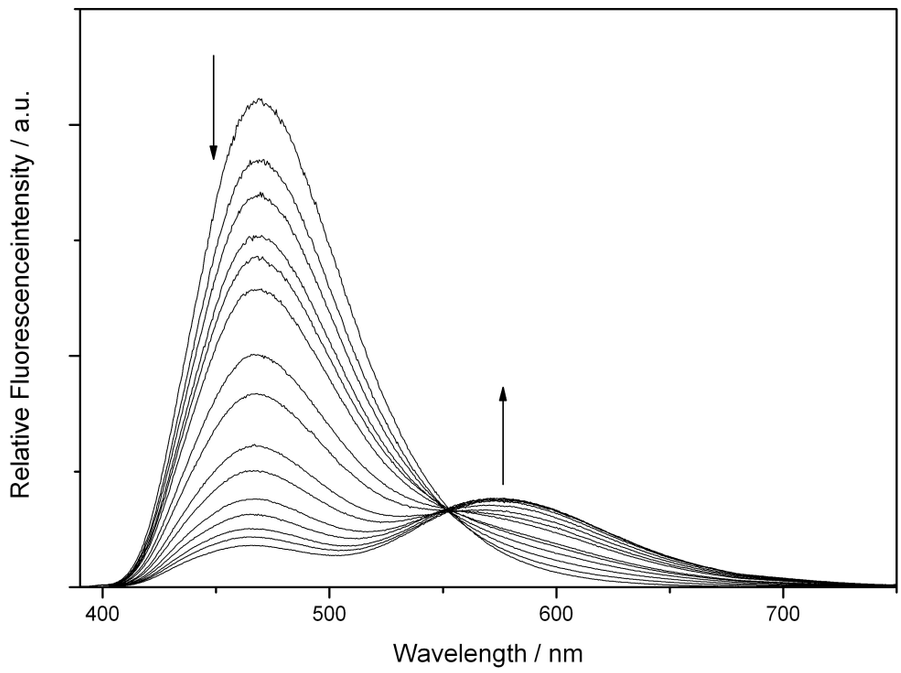


**Figure 9**. Spectrofluorimetric titration of **2c** ($10^{-5}$ M in MeOH) with aqueous HCl; arrows indicate the development of band maxima during titration; $\lambda_{ex}$ = 380 nm before titration: c(HCl) = 0 M, titration end: c(HCl) = $3.2 \times 10^{-1}$ M.

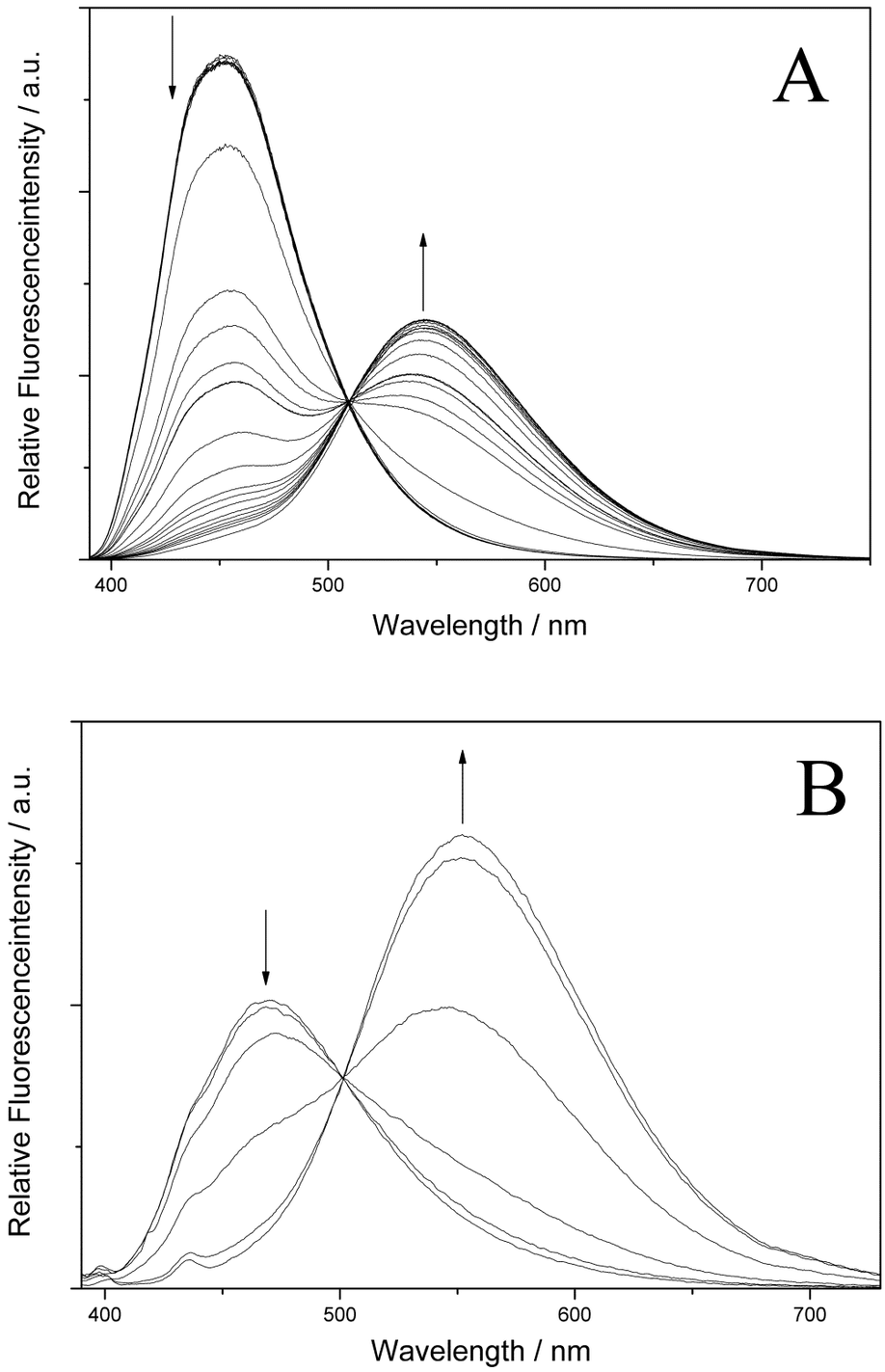


**Figure 7**. A: Spectrofluorimetric titration of **2b** ($10^{-5}$ M in MeOH) with aqueous HCl; arrows indicate the development of band maxima during titration; before titration: c(HCl) = 0 M, titration end: c(HCl) = $3.2 \times 10^{-2}$ M. B: Fluoresc ence spectra of **2b** ($10^{-6}$ M in Britton-Robinson buffer at pH 2, 3, 4, 5, 6, 7; cont. 1% DMSO); $\lambda_{ex}$ = 380 nm, arrows indicate the development of band maxima upon decreasing pH

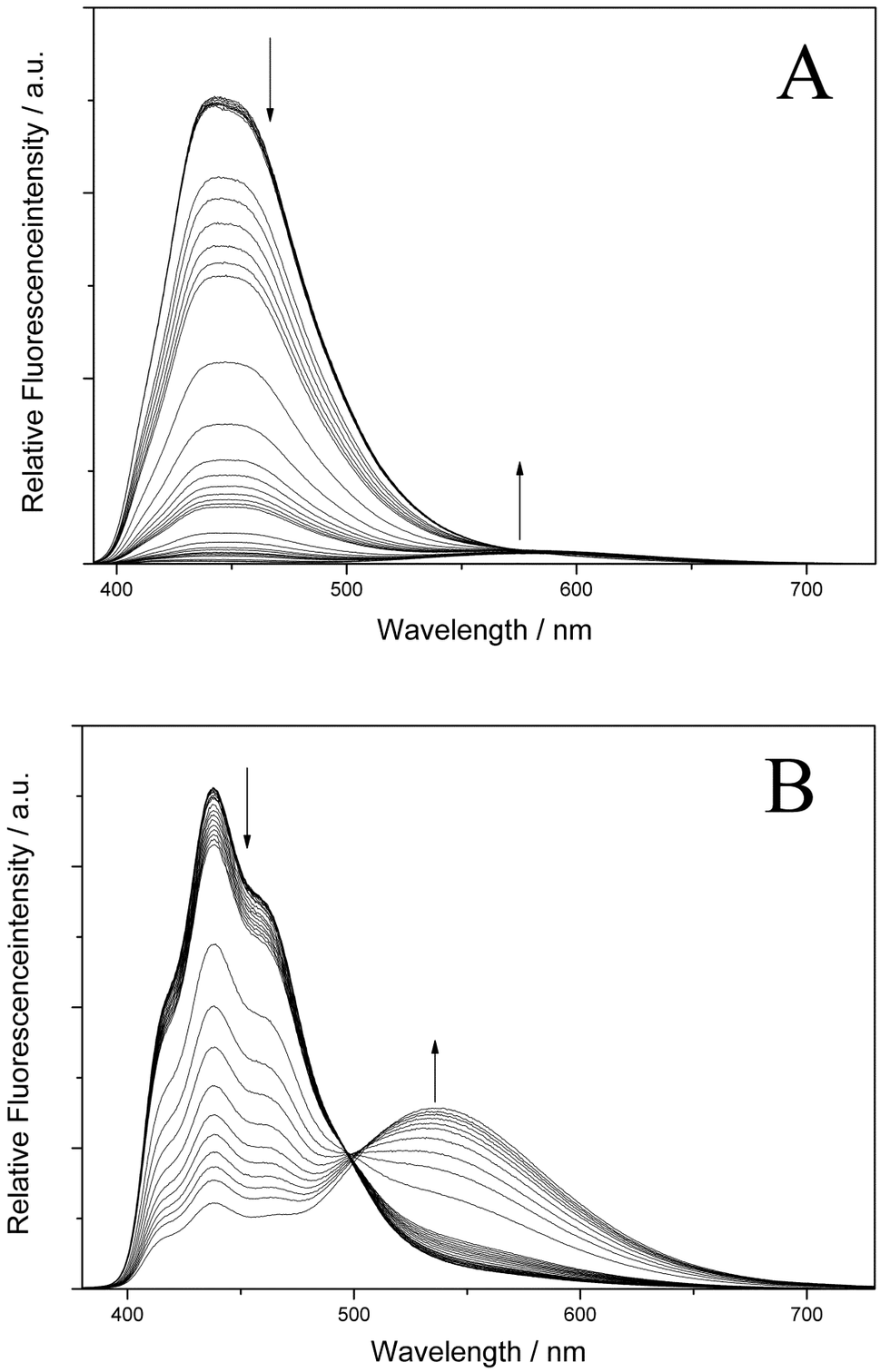


**Figure 10**. A: Spectrofluorimetric titration of **7** ($10^{-5}$ M in MeOH) with aqueous HCl; arrows indicate the development of band maxima during titration; $\lambda_{ex}$ = 370 nm; before titration: c(HCl) = 0 M, titration end: c(HCl) = $5.0 \times 10^{-2}$ M. B: Spectrofluorimetric titration of **7** ($10^{-5}$ M in $CHCl_3$) with trifluoroacetic acid; arrows indicate the development of band maxima during titration; $\lambda_{ex}$ = 370 nm; before titration: c(HCl) = 0 M, titration end: c(HCl) = $1.6 \times 10^{-2}$ M.