Accessory Material

The formation of fluorescent alkali metal and alkaline earth complexes by 1-phenyl-4-(2-{10-[2-(4-phenylpiperazino)ethyl]-9-anthryl}ethyl)piperazine and alkaline earth complexes by 4-{2-[10-(2-morpholinoethyl)-9-anthryl]ethyl}thiomorpholine in acetonitrile

Jason P. Geue, Nicholas J. Head, A. David Ward and Stephen F. Lincoln*

Department of Chemistry, The University of Adelaide, Adelaide, SA 5005, Australia

Fig. S1. The increase in emission of (1) ($3.00 \times 10^{-6}$ mol dm$^{-3}$) with [Na$^+$]$_{total}$ ($1.00 \times 10^{-5}$-$5.00 \times 10^{-3}$ mol dm$^{-3}$) in acetonitrile at $I = 0.05$ mol dm$^{-3}$ ($\text{NEt}_4\text{ClO}_4$) and 298.2 K when excited at 378 nm. The lowest emission spectrum is that of (1) alone.
**Fig. S2.** The increase in emission of (1) \((3.00 \times 10^{-6} \text{ mol dm}^{-3})\) with \([\text{K}^+]\) \((5.00 \times 10^{-5}-5.00 \times 10^{-3} \text{ mol dm}^{-3})\) in acetonitrile at \(I = 0.05 \text{ mol dm}^{-3}\) (NEt₄ClO₄) and 298.2 K when excited at 377 nm. The lowest emission spectrum is that of (1) alone.

**Fig. S3.** The increase in emission of (1) \((3.00 \times 10^{-6} \text{ mol dm}^{-3})\) with \([\text{Rb}^+]\) \((5.00 \times 10^{-5}-4.00 \times 10^{-3} \text{ mol dm}^{-3})\) in acetonitrile at \(I = 0.05 \text{ mol dm}^{-3}\) (NEt₄ClO₄) and 298.2 K when excited at 377 nm. The lowest emission spectrum is that of (1) alone.
**Fig. S4.** The increase in emission of (1) (3.00 × 10^{-6} \text{ mol dm}^{-3}) with [Mg^{2+}] (1.00 × 10^{-6} - 1.00 × 10^{-4} \text{ mol dm}^{-3}) in acetonitrile at \( I = 0.05 \text{ mol dm}^{-3} \) (NEt₄ClO₄) and 298.2 K when excited at 379 nm. The lowest emission spectrum is that of (1) alone.

**Fig. S5.** The increase in emission of (1) (3.00 × 10^{-6} \text{ mol dm}^{-3}) with [Sr^{2+}] (1.00 × 10^{-6} - 3.00 × 10^{-3} \text{ mol dm}^{-3}) in acetonitrile at \( I = 0.05 \text{ mol dm}^{-3} \) (NEt₄ClO₄) and 298.2 K when excited at 377 nm. The lowest emission spectrum is that of (1) alone.
**Fig. S6.** The increase in emission of (1) \((3.00 \times 10^{-6} \text{ mol dm}^{-3})\) with \([\text{Ba}^{2+}]\) \((1.00 \times 10^{-6}-3.00 \times 10^{-3} \text{ mol dm}^{-3})\) in acetonitrile at \(I = 0.05 \text{ mol dm}^{-3}\) (NEt4ClO4) and 298.2 K when excited at 377 nm. The lowest emission spectrum is that of (1) alone.

**Fig. S7.** The increase in emission of (2) \((3.00 \times 10^{-6} \text{ mol dm}^{-3})\) with \([\text{Mg}^{2+}]\) \((1.00 \times 10^{-6}-3.00 \times 10^{-3} \text{ mol dm}^{-3})\) in acetonitrile at \(I = 0.05 \text{ mol dm}^{-3}\) (NEt4ClO4) and 298.2 K when excited at 377 nm. The lowest emission spectrum is that of (2) alone.
**Fig. S8.** The increase in emission of (2) \((3.00 \times 10^{-6} \text{ mol dm}^{-3})\) with \([\text{Sr}^{2+}] (1.00 \times 10^{-5}-6.00 \times 10^{-3} \text{ mol dm}^{-3})\) in acetonitrile at \(I = 0.05 \text{ mol dm}^{-3} (\text{NEt}_4\text{ClO}_4)\) and 298.2 K when excited at 377 nm. The lowest emission spectrum is that of (2) alone.

**Fig. S9.** The increase in emission of (2) \((3.00 \times 10^{-6} \text{ mol dm}^{-3})\) with \([\text{Ba}^{2+}] (5.00 \times 10^{-5}-6.00 \times 10^{-3} \text{ mol dm}^{-3})\) in acetonitrile at \(I = 0.05 \text{ mol dm}^{-3} (\text{NEt}_4\text{ClO}_4)\) and 298.2 K when excited at 377 nm. The lowest emission spectrum is that of (2) alone.