Supporting Information for

Synthesis and cation binding of acridono-18-crown-6 ether type ligands

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Content:

The use of the Benesi-Hildebrand method
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From the UV/Vis titration the stoichiometry and stability constant ($K_s$) of the metal ion–ligand complexation can be determined. According to our measurements the $K_s$ values ranged between $10^1$ and $10^4$ M$^{-1}$. This led us to the adoption of the Benesi-Hildebrand method applicable for the determination of association constants of complexes with 1:1 stoichiometry. For the Benesi-Hildebrand evaluation, first the absorbance spectrum ($A_0$) of the solution containing only ligand 6, and then the spectrum series (A) recorded in the present of a considerable excess of Pb$^{2+}$ ions were taken. The absorbance signals corresponding to a given wavelength (315 nm) were transformed into $A_0/(A_0 - A)$ values. The $A_0/(A_0 - A)$ values were plotted against the reciprocal of Pb$^{2+}$ ion concentration followed by a linear regression analysis. If the intercept of the straight line is divided by the slope, the stability constant can be obtained (Fig 5).

![Benesi-Hildebrand plot](image)

**Fig. 5** Benesi-Hildebrand plot for the determination of $K_s$. Data were taken at 315 nm. Equation obtained with linear regression analysis is $Y = 2.10315 \times 10^{-4}X + 0.92397$ (correlation coefficient: $R^2 = 0.9914$).