

Highly Sensitive and Selective Fluorometric Off-On K⁺ Probes Constructed via Host-Guest Molecular Recognition and Aggregation-Induced Emission

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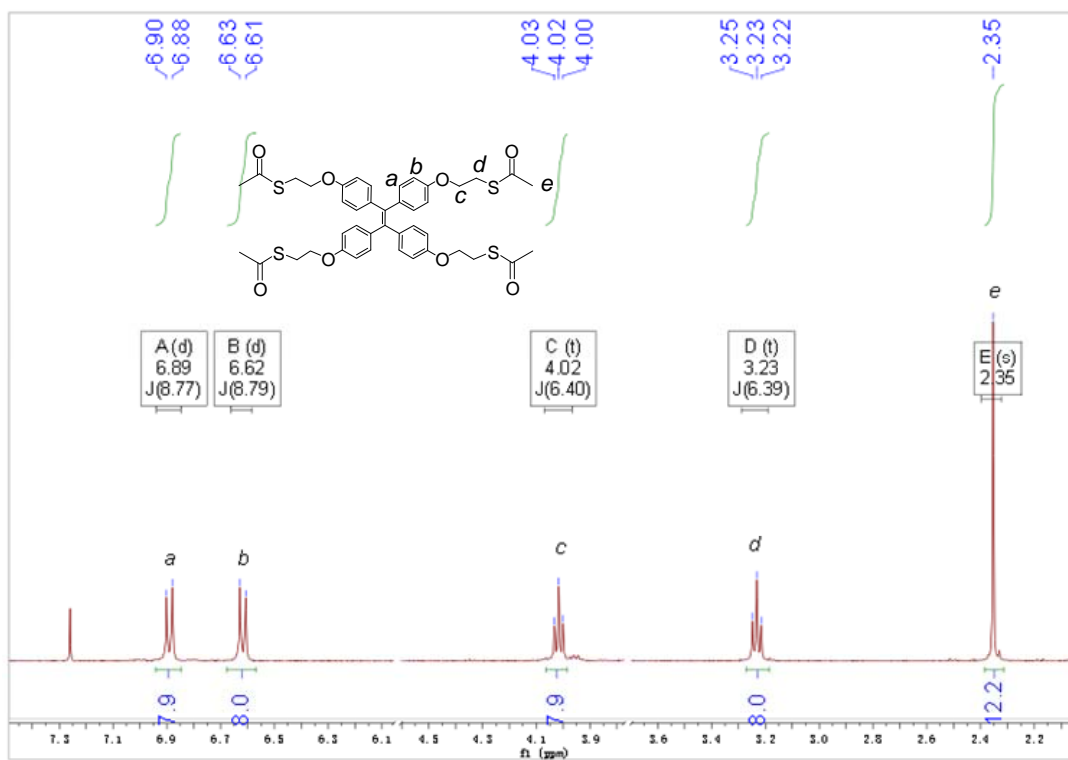


Figure S1. ^1H NMR spectrum recorded for **2** in CDCl_3 .

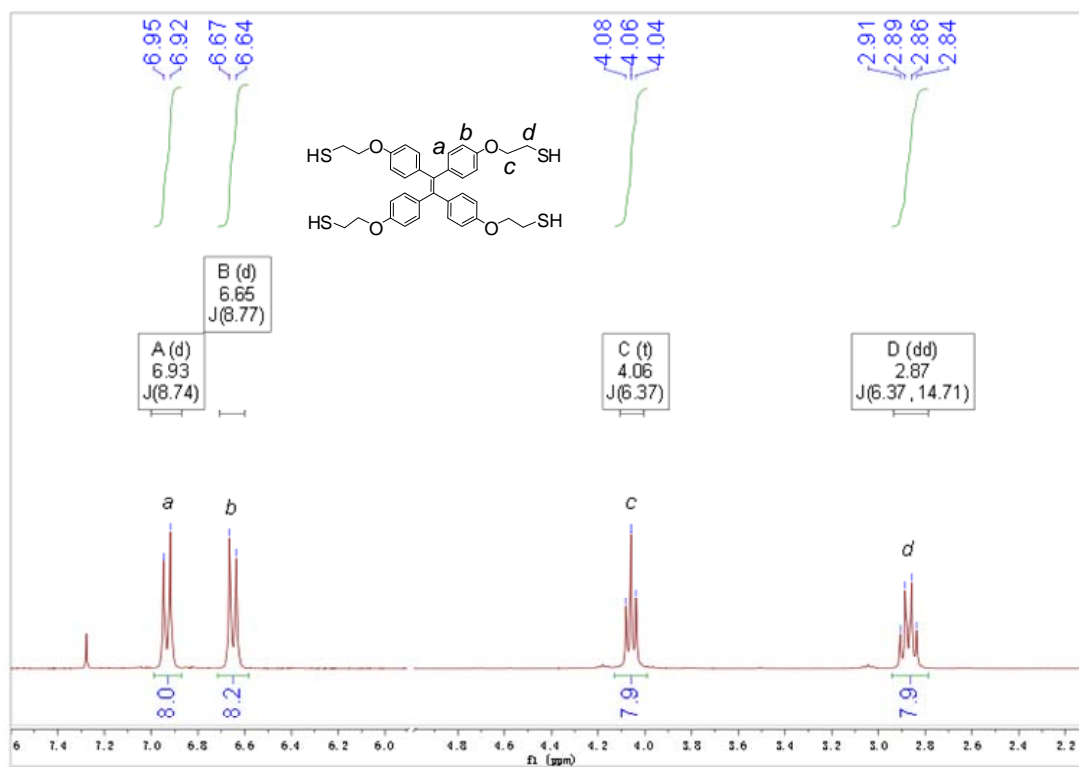


Figure S2. ^1H NMR spectrum recorded for TPE-(SH)₄ (3) in CDCl₃.

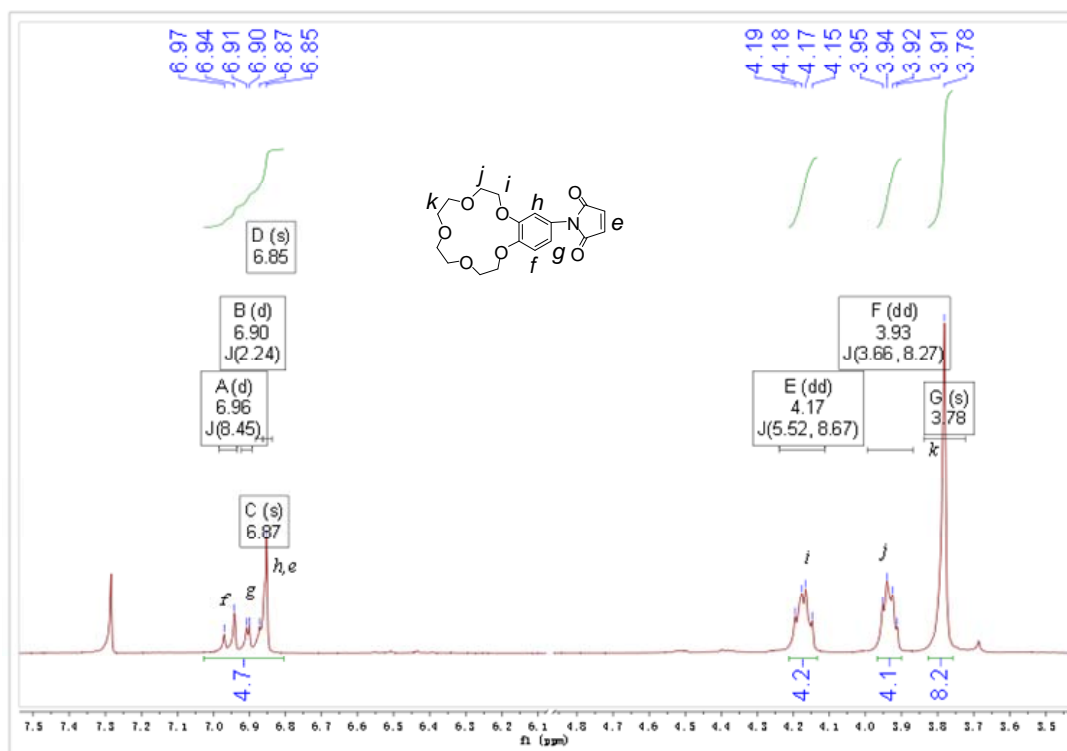


Figure S3. ¹H NMR spectrum recorded for B15C5-MI (**6**) in CDCl₃.

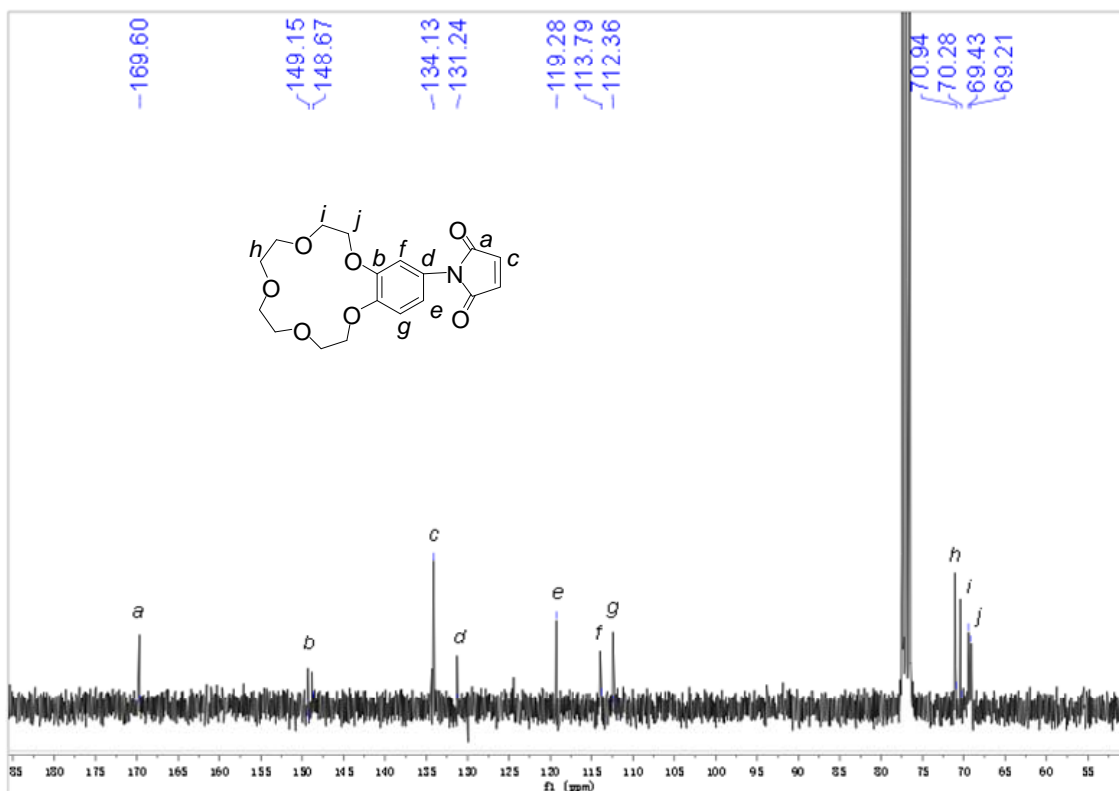


Figure S4. ^{13}C NMR spectrum recorded for B15C5-MI (**6**) in CDCl_3 .

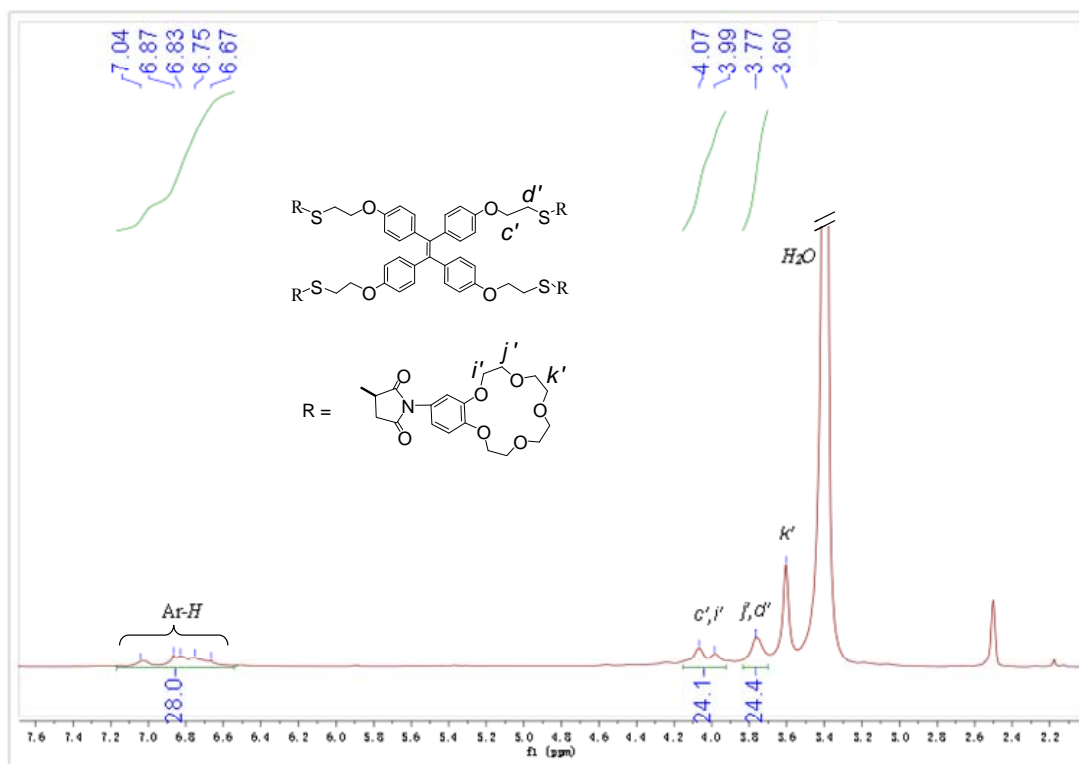


Figure S5. ^1H NMR spectrum recorded for TPE-(B15C5) $_4$ in $\text{DMSO-}d_6$.

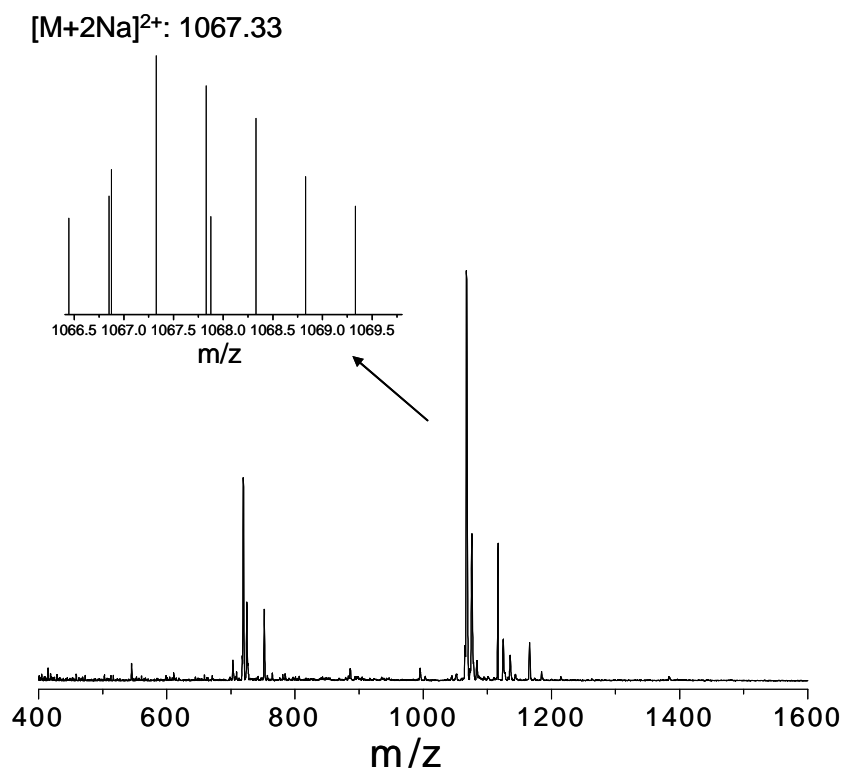


Figure S6. ESI-MS recorded for TPE-(B15C5)₄ (7).

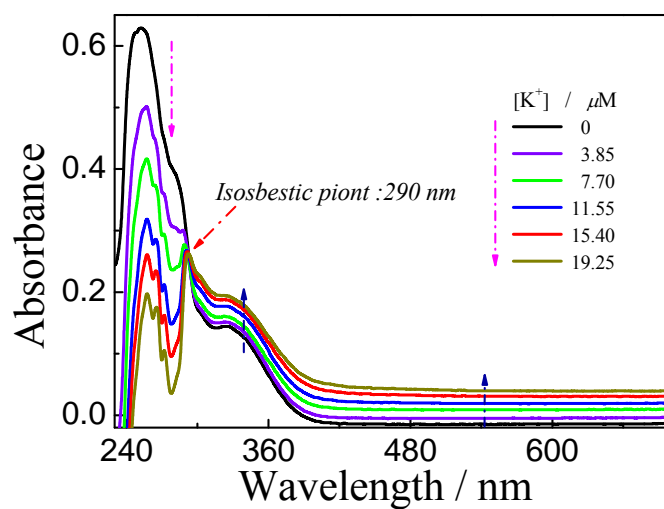


Figure S7. UV-Vis absorption spectra recorded for TPE-(B15C5)₄ in THF upon gradual addition of K⁺ ions (0-20 μM, KSCN). The final TPE-(B15C5)₄ concentrations were fixed at 9.6 μM in all cases.

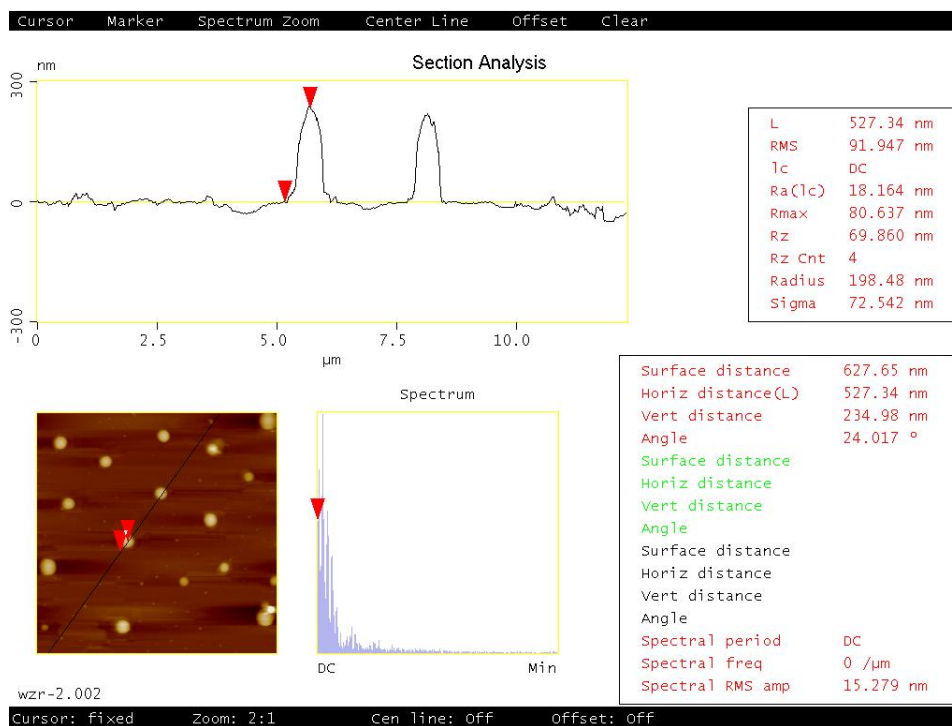


Figure S8. AFM height image ($10 \times 10 \mu\text{m}$) recorded for supramolecularly cross-linked nanoparticles formed in the mixture of TPE-(B15C5)₄ ($4.8 \mu\text{M}$) and K^+ ions ($19.2 \mu\text{M}$) in THF.

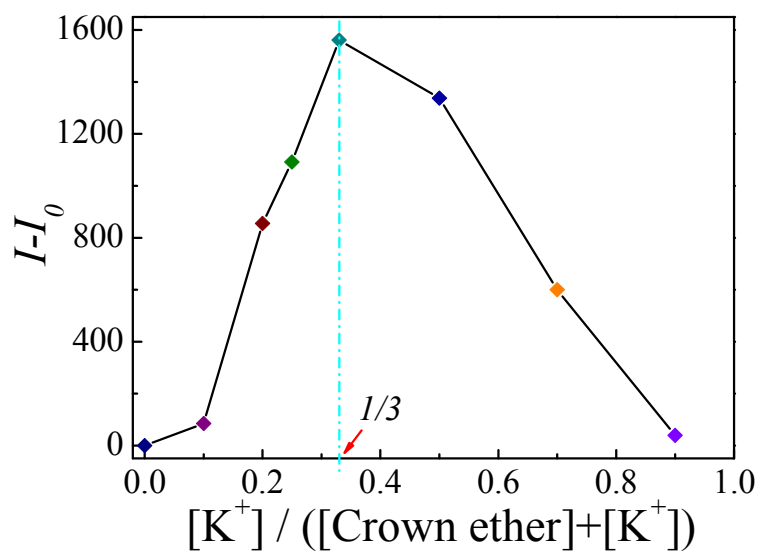


Figure S9. Job plot of crown ether moieties in TPE-(B15C5)₄ with K⁺ ions. The total concentration of the host (crown ether) and guest (K⁺ ions) in THF is 28.8 μM ($\lambda_{ex} = 360$ nm, $\lambda_{em} = 460$ nm; slit widths: Ex. 5 nm, Em. 5 nm; 25 °C). I_0 and I represent the fluorescence intensities of TPE-(B15C5)₄ in THF in the absence and presence of varying amounts of K⁺ ions respectively.