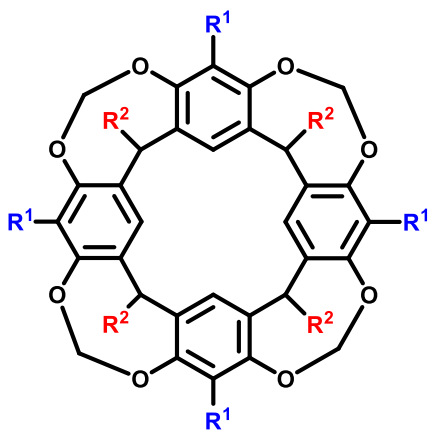
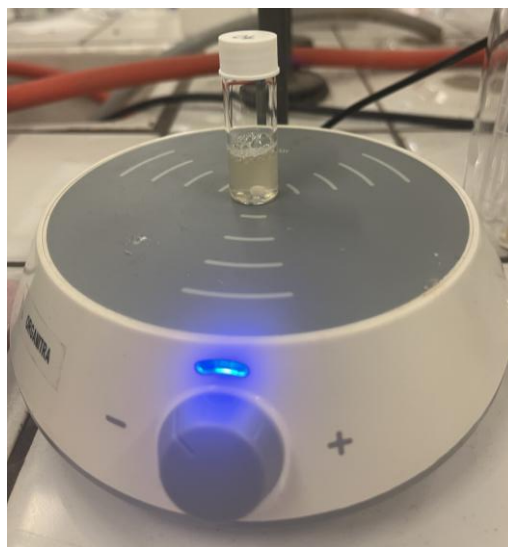


Anion Recognition by Resorcinarene Macrocycles in Micellar Media

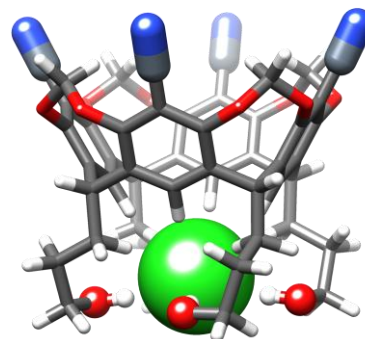
Resorcinarenes are modular macrocyclic polyphenols with a rigid cavity, widely researched as anion receptors, exhibiting a binding affinity as high as 10^5 - 10^6 M⁻¹ with halide anions in organic solvents via -CH bonding.



- 1 R¹ = NO₂, R² = *iso*-butyl, K_a = ~10⁵ M⁻¹
- 2 R¹ = CN, R² = *iso*-butyl, K_a = ~10⁶ M⁻¹
- 3 R¹ = Br, R² = -(CH₂)₃OH, K_a = ~10² M⁻¹
- 4 R¹ = CN, R² = -(CH₂)₃OH, K_a = ~10² M⁻¹



As, these receptors are not soluble in water, the goal of this project was the evaluation of the possibility of transferring them into an aqueous environment through micellar encapsulation. When incorporated in DPC micelles the receptors do bind chloride albeit with a small affinity. Further quantitative experiments will be undertaken.



Resorcinarenes to be tested in micellar environment.

Successful incorporation of the receptors into DPC micelles.

¹H-NMR titrations, were conducted on JEOL 600, to evaluate the anion-binding affinity of the receptors in micelles.

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