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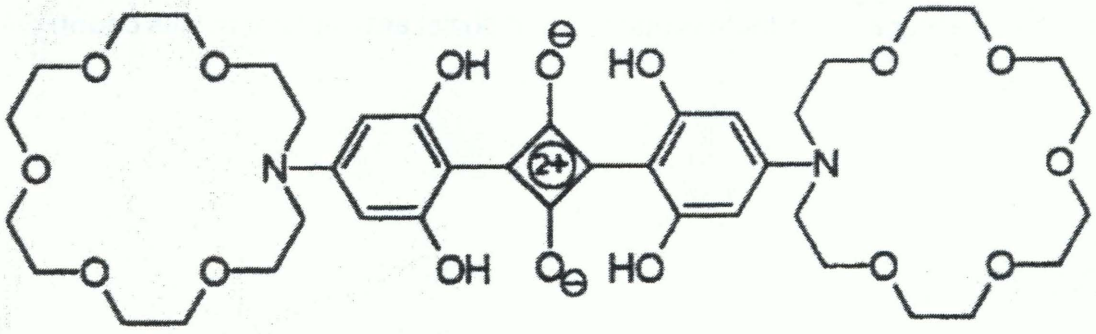
Fluoroionophores are compounds which possess the ability to both fluoresce and bind ions; when the fluorescence of the compound is altered by binding specific ions, it can be used as a probe to measure the concentration of those ions in a solution. In 1998, Akkaya and coworkers reported the synthesis of such a compound incorporating a squariane-based fluorophore and two ionophoric aza crown ethers.



We have reproduced this synthesis and have characterized fluorescence intensity and lifetime of the product in various nonaqueous solvents and in the presence of varying concentrations of sodium ions and potassium ions. These results are used to assess this compound as a probe for sodium ions and potassium ions.