

### 30 - 66 Solubilization by Phosphate Esters of Calix [4] resorcinarenes Bearing Four Alkyl Side Chains

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Phosphate esters of calix [4] resorcinarenes each bearing four alkyl side chains ([4] Ar5P-R<sub>n</sub>) were evaluated as a solubilizing agent and usefulness for dyeing. [4] Ar5P-R<sub>n</sub> was oriented toward the surface of water or benzene-water interface. [4] Ar5P-R<sub>8</sub> lessened surface tension and [4] Ar5P-R<sub>16</sub> reduced interfacial tension. [4] Ar5P-R<sub>n</sub> showed high solubilization for organic compounds such as benzene, B-naphthol, and dye, particularly so at high concentrations near cmc. The solubilization capacity by [4] Ar5P-R<sub>n</sub> decreased in greater size of the organic compounds, as well as alkyl chain length in [4] Ar5P-R<sub>n</sub> had effect on solubilization capacity for the organic compounds. [4] Ar5P-R<sub>16</sub> was the most effective solubilizing agent, *i.e.* 500-fold molar benzene was dissolved in [4] Ar5P-R<sub>16</sub> at a solubility limit of  $1 \times 10^{-4}$  M. Dyes also dissolved in [4] Ar5P-R<sub>n</sub> solution and acetate rayon could be dyed effectively using [4] Ar5P-R<sub>8</sub> to assist the dyeing. The solubilization for the organic compounds may possibly be due to the formation of finely dispersed colloidal particles or a microemulsion.

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