

## **A chromatographic and IR-spectroscopic study on solubilization of aliphatic ketones**

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### **Abstract**

Static headspace gas-chromatographic analysis was used to determine the partition constant  $K$  of butanone, 2-hexanone, 2-octanone, 2-decanone, and a series of *n*-alkanes from pentane to dodecane in aqueous micellar solutions of sodium dodecylsulfate (SDS), dodecyltrimethylammonium bromide (DTAB), and Triton X-100. Based on the data on solute vapor pressure over solution and the pure compound, the free energies of solubilization were determined for the above substances. The ketones in SDS, DTAB, and Triton X-100 micelle solutions were studied by IR spectroscopy to determine the effect of micellar environment on the absorption due to stretching vibrations of the carbonyl group. It was shown that the thermodynamic and spectral data on ketone solubilization are in agreement.

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