

## **Complexation and Coordination Studies of Micelle Forming Surfactant Sodium Lauryl Sulphate with EriochromeAzuroI B.**

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**Abstract:**Surfactants enhances complexation of triphenylmethane dyes by formation of a new dye : surfactant complex which is as an intermediate stable complex. Addition of quaternary salts of surfactants to the deeply colored solution of dyes causes a marked change in its  $\lambda_{max}$ . The absorption spectra of EriochromeAzuroIB, EAB; a triphenylmethane dye, has been studied in the presence as well as in the absence of sodium lauryl sulphate, SLS. At different pH values ranging from pH 1.00 to 12.00, the spectra is studied. Hypsochromic shift is observed in the absorption spectra in the presence of surfactant. Dissociation constant has been evaluated both in the presence and absence of surfactant. Decrease in the values of dissociation constant, pK values in the presence of surfactant is observed which indicated formation of water soluble, stable, dye-surfactant complex. Composition of stable dye-surfactant complex is determined and effect of foreign ions such as Chlorides i.e NaCl, KCl, NH<sub>4</sub>Cl; the nitrates i.e KNO<sub>3</sub>, NaNO<sub>3</sub>, NH<sub>4</sub>NO<sub>3</sub>; and sulphates i.e K<sub>2</sub>SO<sub>4</sub>, Na<sub>2</sub>SO<sub>4</sub> and (NH<sub>4</sub>)<sub>2</sub>SO<sub>4</sub> has been studied in detail. It is found out that the Binary submicellar aggregates can be proposed as the active species in ternary complex formation with metal ions and hence can be termed as modified reagents, as EAB-SLS.

**Keywords :**Triphenylmethane Dye EAB, Surfactant SLS, Modified reagent, Hypsochromic Shift.

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