Fluorescence and Light Scattering Studies on Indole-3-Acetic Acid in Micellar Media

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Abstract — Indole-3-Acetic Acid (I-3-AA) is a phytochrome auxin found in tulip bulbs, in unripe pea seeds, in fungi and in rice cells. It is a plant growth hormone and is biologically and analytically an important molecule. Even small traces of I-3-AA can be assayed by using fluorimetric method. The enhanced fluorescence emission intensity as well as quantum yield values in microheterogeneous micellar environment prove that the suspending hydrophobic I-3-AA molecules are solubilized. The solubilizing action of surfactants on I-3-AA has been supplemented by light scattering studies and some theoretically calculated spectral parameters like empirical fluorescence coefficient (kf), fluorescence quantum yield (f), molar extinction coefficient (ε) and Stokes’ shift values.

Keywords: Surfactants, I-3-AA, Fluorescence, Solubilization.