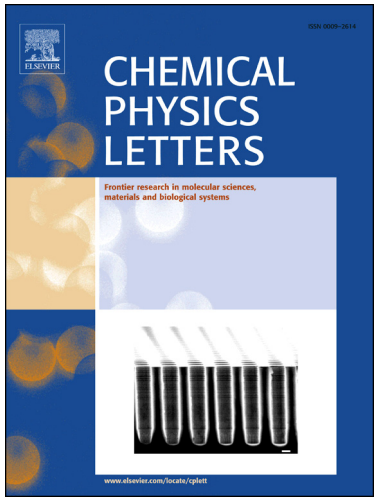

Research paper

Surfactant concentration dependent metachromasy of an anionic cyanine dye in adsorbed and deposited Langmuir films

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Surfactant concentration dependent metachromasy of an anionic cyanine dye in adsorbed and deposited Langmuir films

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Abstract:

This communication reports the metachromasy or the changes in shapes and positions of the absorption spectra of an anionic cyanine dye merocyanine 540 abbreviated as MC540, in aqueous solutions and in LB films when electrostatically interacted with a well-known cationic surfactant cetyltrimethylammonium bromide abbreviated as CTAB. Critical Micellar Concentration of CTAB affected largely on the dissociation of MC540 molecular aggregates in the CTAB-MC540 complex LB films. Spectroscopic studies of these LB films showed only monomeric absorption band and intense fluorescence band. This complex LB film can act as efficient fluorescence probe for several biological systems.

Key words: Metachromasy, Critical Micellar Concentration (cmc), Langmuir-Blodgett (LB) films, BAM images, UV-vis absorption and fluorescence spectroscopy.