

**PHOSPHOLIPID MONOLAYER AND LIPOSOME APPLICATION IN
THE DETERMINATION OF THE PHOTOPHYSICAL
CHARACTERISTICS OF MC 540**

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Merocyanine 540 is an anionic fluorescent probe which has a wide range of applications in biomembrane research, having, as it does, a high affinity to the lipid phase of biological membranes. Thus, its interactions with model phospholipid membranes with defined structures are an important starting point in the quantification of its photophysical and photochemical characteristics. In this study, we used Langmuir type multilayers and liposomes composed of various phospholipids as model membrane systems. These systems were used for the determination of the difference in the electric dipole moments of MC 540 between the ground and first electronically excited states, for the determination of monomer-dimer distributions and equilibrium constants, for the evaluation of thermodynamic parameters (enthalpy and entropy changes) of the probe in a membrane, and for the estimation of effective values of dielectric permittivity of the probe's environment in membranes.