

Author's Accepted Manuscript

Investigation on ionic states of 1,2-Dipalmitoyl-sn-glycero-3-phosphorylcholine (DPPC) using organic laser dyes: A FRET study

Arpan Datta Roy, Jaba Saha, D. Dey, D. Bhattacharjee, Syed Arshad Hussain



PII: S0022-2313(16)30613-5
DOI: <http://dx.doi.org/10.1016/j.jlumin.2016.12.040>
Reference: LUMIN14455

To appear in: *Journal of Luminescence*

Received date: 12 May 2016
Revised date: 24 October 2016
Accepted date: 25 December 2016

Cite this article as: Arpan Datta Roy, Jaba Saha, D. Dey, D. Bhattacharjee and Syed Arshad Hussain, Investigation on ionic states of 1,2-Dipalmitoyl-sn-glycero-3-phosphorylcholine (DPPC) using organic laser dyes: A FRET study, *Journal of Luminescence*, <http://dx.doi.org/10.1016/j.jlumin.2016.12.040>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting galley proof before it is published in its final citable form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

**Investigation on ionic states of 1,2-Dipalmitoyl-sn-glycero-3-phosphorylcholine (DPPC)
using organic laser dyes: A FRET study**

Arpan Datta Roy, Jaba Saha, D. Dey, D. Bhattacharjee, Syed Arshad Hussain*

Thin Film and Nanoscience Laboratory, Department of Physics, Tripura University,

Suryamaninagar – 799022, Tripura, India

sa_h153@hotmail.com

sahussain@tripurauniv.in

* Corresponding author. Tel.: +919862804849 (M), +91381 2375317 (O); Fax: +913812374802

(O)

ABSTRACT

Fluorescence Resonance Energy Transfer (FRET) between two organic dyes Fluorescein and Rhodamine 6G were successfully investigated in aqueous solution in presence and absence of 1,2-Dipalmitoyl-sn-glycero-3-phosphorylcholine (DPPC) at different pH. Spectroscopic studies suggest that both the dyes were present mainly as monomer in solution. FRET occurred from Fluorescein to Rhodamine 6G in solutions. Energy transfer efficiency increases in presence of DPPC and the maximum efficiency was 59.3% when the concentration of DPPC was 1.4×10^{-4} M at ambient condition. pH plays a crucial role in this investigation as the energy transfer efficiency was found to change in presence of DPPC at different pH. It has been demonstrated that with proper calibration it is possible to use the present system under investigation to realize various ionic states of DPPC by observing the change in FRET efficiency between these two dyes.

Graphical Abstract

Download English Version:

<https://daneshyari.com/en/article/5397602>

Download Persian Version:

<https://daneshyari.com/article/5397602>

[Daneshyari.com](https://daneshyari.com)