Uniwersytet Wrocławski

Repozytorium

Plik pochodzi z repozytorium Wydziału Chemii Uniwersytetu Wrocławskiego

ATR-IR spectroscopic study of the structural changes in the hydrophobic region of ICPAN/DPPC bilayers.

Autorzy

Katarzyna Cieślik-Boczula

Bogusława Czarnik-Matusewicz

M. G. Perevozkina

Aleksander Filarowski

Noel Boens

W. M. De Borggraeve

Aleksander Koll

Rok wydania

2008

Czasopismo

Journal of Molecular Structure

Numer woluminu

878

Strony

162-168

DOI

10.1016/j.molstruc.2007.08.003

Kolekcja

Naukowa

Język

Angielski

Streszczenie

Structural changes in the hydrophobic region in the self-aggregates of the long hydrocarbon chain ICPAN (((*N*,*N*-dimethyl-*N*-octyl-2-ammonioethyl)-3-(3,5-di-*tert*-butyl-4-hydroxyphenyl)propionate bromide)) homologues and their interaction with a DPPC (dipalmitoylophosphatidylcholine) bilayer were the subject of detailed investigation using ATR infrared spectroscopy. On the base of analysis of the bands assigned to CH_2 stretching, scissoring, and rocking and CH wagging vibrations it was revealed that the hydrophobic parts ICPANs adopt a *gauche*-rich disordering structure. Moreover, it was shown that the micellar- or lamellar-like character of these structures depends on the hydrocarbon chain length. Results obtained from the ICPAN/DPPC mixtures indicate an increase in the conformational disorder in hydrophobic part compare to pure DPPC film. This effect depends on the length of the aliphatic chain of ICPAN homologues and on the relative concentrations of DPPC and ICPAN.

Słowa kluczowe

Phenosan derivatives, DPPC, Lipid bilayer structure, CH vibrations of aliphatic chains, ATR-IR

Adres publiczny

https://doi.org/10.1016/j.molstruc.2007.08.003

Strona internetowa wydawcy

http://www.elsevier.com

Typ publikacji

Artykuł

Plik został wygenerowany dnia 2026-11-12 08:22:50

Adres w repozytorium https://old.chem.uni.wroc.pl/pl/repozytorium/yCjYRSm.