The effect of 3-pentadecylphenol on DPPC bilayers ATR-IR and ^{31}P NMR studies.

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Streszczenie

The influence of 3-pentadecylphenol (PDP) on the structure and physicochemical properties of the lipid bilayers of DPPC liposomes was studied using ATR-IR and ^{31}P NMR methods. On the basis of analysis of the bands assigned to the CH_2 stretching, CH_2 scissoring, CO stretching, and PO_2^- stretching vibrations it was revealed that PDP influences both the hydrophobic and hydrophilic parts of the DPPC liposome bilayer. Analysis of the ^{31}P NMR line-shape indicated a lamellar to non-lamellar phase transition in PDP-doped DPPC dispersions. It was shown that PDP/DPPC isotropic aggregates have similar νCO and $\nu_{as}PO_2^-$ band positions and lower *gauche* populations in the hydrophobic chain region compared with the DPPC bilayer in the liquid-crystal phase.

Słowa kluczowe

Phenolic lipid, DPPC, Liposome, ATR-IR, 31P NMR, Phase transition

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