Abstract:

Three types of different octasubstituted zinc azaphthalocyanines (ZIP-44Zn, ZIP-21Zn and ZIP-65Zn) were incorporated into liposomes made from dioleoylphosphatidylcholine (DOPC). These dyes were incorporated into LUVETs (large unilamellar vesicles made by extrusion technique) which were obtained from suspension of multilamellar vesicles. Fluorescence spectra of the dyes in LUVETs were measured. The binding constants of azaphthalocyanines with LUVETs were calculated. Absorption spectra of the dyes in LUVETs were also measured and extinction coefficients were calculated. We found out that ZIP-44Zn (*n*-octylsulphanyl substituents) was present in DOPC liposomes only in very small amount while the other two dyes were incorporated in high concentration into LUVETs. This fact was connected with the level of aggregation of water insoluble AzaPc. ZIP-44Zn contains long alkyl chains as substituents on periphery. These substituents do not inhibit sufficiently the aggregation in water medium or in lipid bilayer. On the other hand, ZIP-21Zn and ZIP-65Zn contain bulky substituents on periphery and they were incorporated in large amount in phospholipid bilayer of liposomes.