

LIPID NANOSTRUCTURES

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Lipids are important component in the formulation of drug nanoparticles, drug carries, pharmaceutical and cosmetic creams. The results of structural investigation of lipid nanostructures are presented for two types of lipids: phospholipids (main component of plasma membrane) and ceramides (main component of the lipid matrix of stratum corneum). Experiments were carried out by neutron and X-ray scattering at different European neutron and synchrotron centers.

The theoretical problems are discussed related to the:

- Membrane self assembly in the mixed phospholipid/ detergent systems and stability of the mixed phospholipid/detergent vesicles in the process of drug delivery through the skin [1]
- Super-strong membrane interaction created by ceramide 6 molecules in the lipid matrix of stratum corneum (mechanical and diffusion properties of the skin) [2].
- Phase diagram of the spontaneous curvature of the phospholipid unilamellar vesicles [3]

References

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