

# **DNA-lipoplex: a non-invasive method for gene delivery. A neutron scattering investigation**

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1. Introduction to biological membranes, the function-structure-dynamics relationship
2. Neutron scattering and membrane dynamics
  - a. Quasi-elastic and elastic incoherent neutron scattering
  - b. Time domains and instruments
  - c. IN13
3. Properties of oriented membranes, examples:
  - a. The gangliosides
  - b. The myelin
  - c. The DNA-lipoplex
4. Check of the membrane mosaicity by diffraction
5. The anisotropy in membrane dynamics
6. The DNA-lipoplex: a non-invasive method for gene delivery
7. The effect of the instability of the isoelectric point on the membrane dynamics
8. The Zaccai and Bicout model for the interpretation of the elastic incoherent neutron scattering data
9. Thermodynamic characterization of the DNA-lipoplexes.
10. Conclusions