Content List: Membrane Biopyhsics

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Tuesday, 26 September 2006

In the series of articles on Membrane Biophysics xscience.info wants to provide a collection of articles which introduce into this topic. The texts are intented to be for a broad audience without a deep scientific education. In the following we list all the chapters available.

In the series of articles on Membrane Biophysics xscience,info wants to provide a collection of articles which introduce into this topic. The texts are intented to be for a broad audience without a deep scientific education. In the following we list all the chapters available. 1. Foreword2. Biological Membranes: Their Basic Bricks That we experience life as we know it is partially due to the evolution of biological membranes. They allowed to define an inner and outer part of cells and provided to protect life from a partly hostile environment. The so called plasma membrane surrounds cells and inside of each cell biological membranes confine regions of various functional properties. Areas as such are for example the endoplasmic reticulum, the Golgi apparatus or the mitochondria. The latter one is responsible for the energy production of biological cells, whereas the other ones are related to the synthesize and the distribution of important macromolecules called proteins. 3. Biological Membranes: The Lipid Bilayer Biological membranes play an important role in the functionality of biological cells. Their basic bricks are sugars, polymers of amino acids (proteins) and lipids. Lipids are small amphiphilic molecules meaning that they have a part which likes water and another one which does not like it. . In this article and following articles we want to focus on the phyiscs of lipids and their aggregates.4. Biological Membranes: Detection of Melting Processes using Differential Scanning Calorimetry In the previous article we learned that a lipid bilayer can exist in different phases. We introduced the terms solid ordered (gel) and liquid disordered (fluid). The first one is a highly ordered phase. The lipids are arranged on a lattice and their structure is ordered. If the membrane is in the other pahse the lipids have lost their internal ordering and they lack their lattice ordering as well. Therefore, a membrane which melts is subject to two different melting processes. For comments, critics, suggestions and so on feel free to contact the responsible editor: hseeger (at) xscience.info.