

Dendrimer interaction with model cell membranes.

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PAMAM dendrimers are known for their capability of penetrate cell membrane and rearrange supported lipid bilayers by hole formation (Parimi, Langmuir. 2008. 24:13532-9). From QCM experiments we see a clear difference in the interaction between dendrimers and supported lipid bilayer depending on the lipid composition. For tested lipids, 1,2-dihexadecanoyl-sn-glycero-3-phosphocholine (DPPC) and 1-palmitoyl-2-oleoyl-sn-glycero-3-phosphocholine (POPC), an larger and faster adsorption is seen for DPPC bilayers than for the POPC bilayers. In general a slow reaction creating a stable compound take place in all the tested lipid compositions. This is also seen in Neutron reflectivity experiments were Bragg-peaks arrives after several hours indicating an rearrangement into a short range lamellar structure of lipid-dendrimer aggregates.