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Peptide Amphiphilic-Based Supramolecular Structures Interaction with Liposomes

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We have used SAXS to investigate the incorporation of several peptide amphiphiles to vesicles. These modified peptides have been shown to have amphiphilic properties. Vesicles have distinct SAXS features that provide information about the electronic density across the bilayer. We have adopted a multiple Gaussian description of the bilayers using several constrains to keep the number of fitting parameters to reasonable figures. The presence of multilayers is dealt with the use of a modified Caille description as detailed by G. Pabst et al (Pabst, G.; Rappolt, M.; Amenitsch, H.; Laggner, P. Phys. ReV. E 2000, 62, 4000-4009). Asymmetric description of the bilayers has been achieved by adding perturbations to the basic symmetric description using several strategies: keeping the number of Gaussians in the description but with different parameters at each side of the bilayer (width, position and intensity as possible changes) or adding additional contributions at one or other side of the bilayer. Studying a series of compounds, we have been able to propose several modes of interaction of amphiphilic peptides with bilayers.

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No

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