Séminaire

CONFÉRENCIER INVITÉ

Vendredi 19 Mars 2021 à 11h

Visioconférence

Institut de biologie structurale - 71 avenue des Martyrs CS 10090 38044 Grenoble Cedex 9 - T.+33 (0)4 57 42 85 00

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par **Pierre Bauduin**

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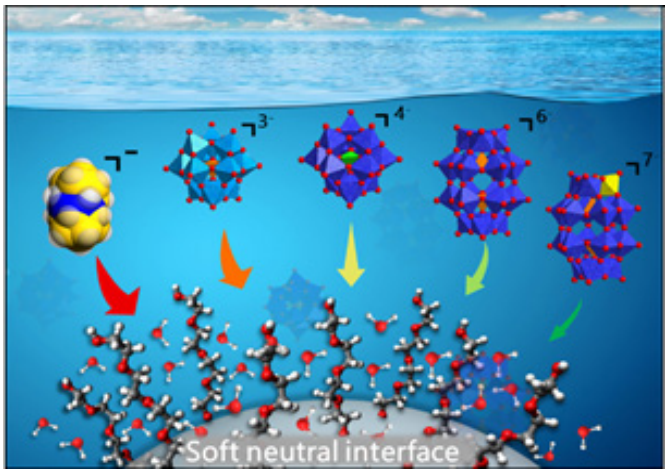
Marcoule

The superchaotropic effect of nanometer sized ions on soft matter

Ionic species, such as polyoxometalates (POMs) or (metal-) boron clusters, are at the frontier between ions and (charged-)colloids due to their nm size. The large size and low charge density of nanoions, compared to classical ions, are responsible for a peculiar behavior called the “superchaotropic effect”. This property refers to the strong tendency of nano-ions to adsorb to neutral polar interfaces, with adsorption constant in the µM to mM range, see Fig.: adsorption of metallacarborane (yellow) POMs (blue) on polyethoxylated grafted surface, here a micellar surface of PEO surfactant). Adsorption of nano-ions on soft matter, such as micelles, lyotropic phases or foams, leads to tremendous effects in the supramolecular structures and in the physico-chemical properties of the systems. Therefore, the super-chaotropic effect of nano-ions opens opportunities in biology,separation science, catalysis, solubilization of hydrophobic complexes, and for the design of nanostructured hybrid materials. However a deep understanding in the adsorption phenomenon of nano-ions is still missing.



Hôte : Christine Ebel (IBS/groupe Membrane & Pathogènes)

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