Physico-chemical characterization of soft matter

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Resumen

Soft matter is present in our everyday lives and the characterization of these complex systems are essential for the applications. Among soft matter, polyelectrolytes present have very interesting properties, such as rheological properties or pH sensitivity. In this talk, we will discuss two different systems containing polyelectrolytes: i) Water-in-water (W/W) emulsions are formed when two aqueous solutions of incompatible polymers are mixed. It is challenging to stabilize this emulsion because of its very low interfacial tension (10-6 N/m) and the size of the interface (dozens of nm). Emulsions formed by polyethylene oxide (PEO) and dextran can be stabilized by polyelectrolyte with some hydrophobic fragments like chitosan, diethylaminoethyl dextran or propylene glycol alginate. ii) surface charge polymeric micelles structure and interactions have been characterized by neutron scattering.