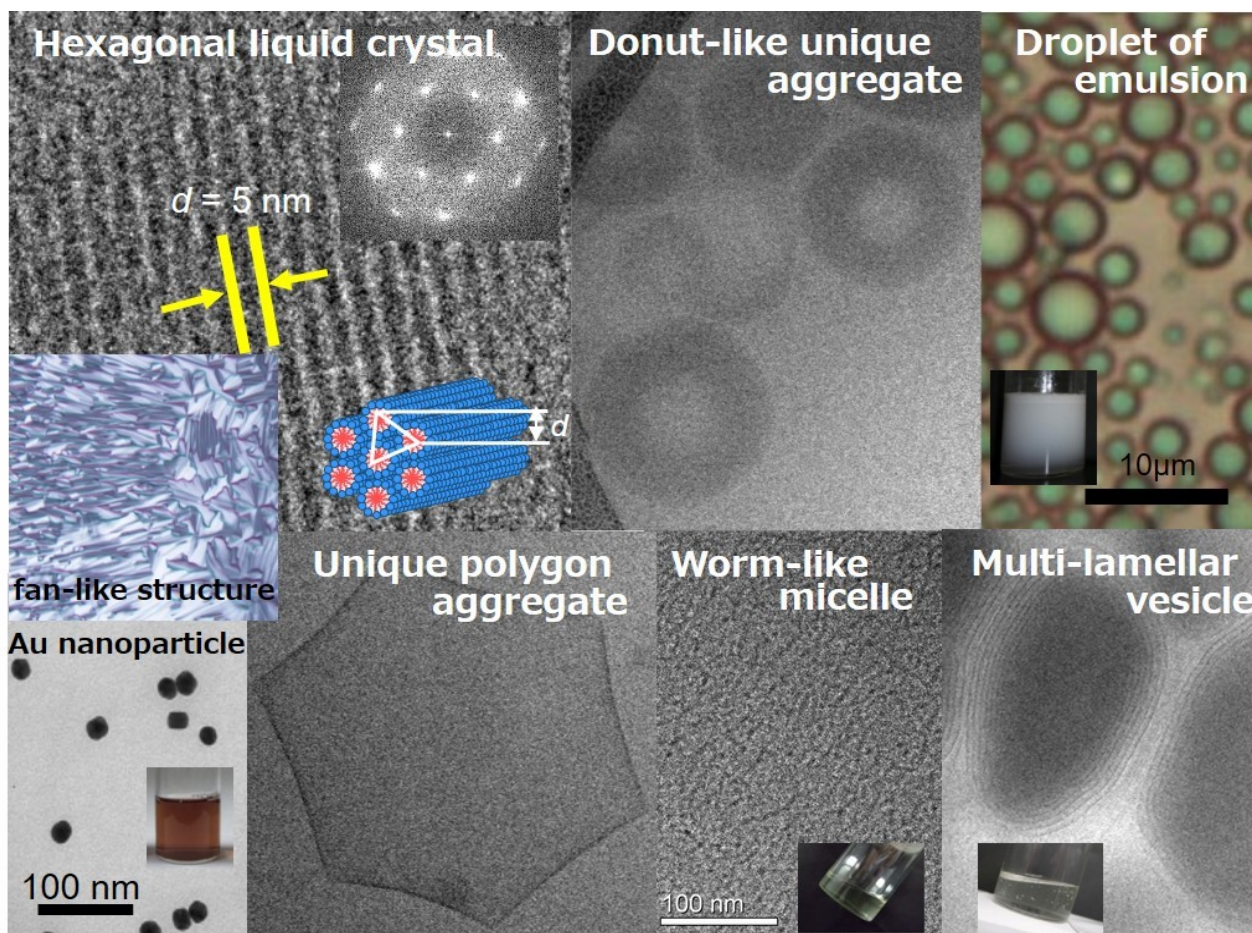


Study on Molecular Assembly of Soft Matter : Surfactant, Ionic Liquid, Amphiphilic Polymer, Metal Nanoparticle

Tomokazu YOSHIMURA [Chemistry Course]



Molecular assemblies by optical microscopy and transmission electron microscopy.

We investigate the physicochemical properties of the soft matter such as surfactants, amphiphilic polymers, ionic liquids, liquid crystals, and metal nanoparticles. We also investigate the nano-structures of the molecular aggregates by the measurements of small-angle X-ray or neutron scattering (SAXS, SANS), EXAFS, light scattering, and transmission electron microscopy. We use instruments in SPring-8 for SAXS experiment, and JAEA and J-PARC for SANS experiment, and analyze in detail nano-structure for the assemblies. Furthermore, we study preparation of metal nanoparticles protected with amphiphilic compounds, and their catalytic activities such as reduction reaction and radical scavenging reaction.

Keywords : Surfactant, Ionic liquid, Colloid, Small-angle scattering, Molecular Assembly