__**Abstracts of guest speakers**__

Mo-SAXS bench: a nice tool in a physical-chemistry lab.

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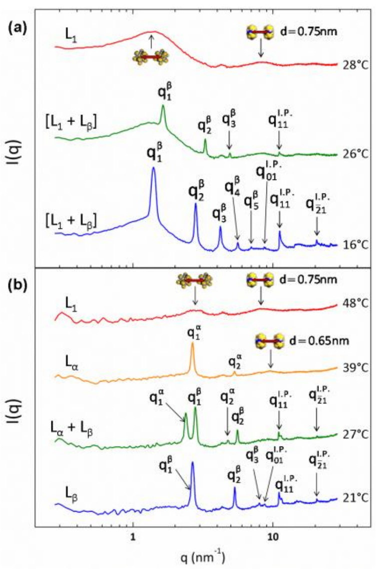
As mentioned in the definitions of the Institute of Separative Chemistry in Marcoule (ICSM), scattering techniques using hard x-rays were necessary and very suitable for some studies of nuclear materials and separative chemistry investigations with heavy ions (metals recycling).

A small angle scattering camera was implemented in our lab to fulfil the required specifications and a Mo-radiation was chosen. The SAXS set-up from Xenocs combines a micro- X-ray source coupled with a curved multilayer optics with a collimating geometry using scatterless and motorised slits as well as a large 2D detector (Mar-Research 345) with an on-line readout. A full q-range between 2.10^{-1} and 30 nm^{-1} is covered at a fixed detector position. The flux at the sample position is about 3.10^{6} photons per second with a high ratio signal/noise (10^{5}) at the border of the beamstop.

This set-up allows us to cover a wide type of experiments in absolute scale on solid (mesoporous materials) on liquids (solvent extraction and microemulsion, large ionic species in interactions) with a time-resolution of few minutes that can be sometimes useful to follow slow reactions such as geopolymerisation, as many examples that we will present in this contribution to highlight the performance of this SWAXS camera. Moreover, this setup allows us to require beamtime to synchrotron radiation or neutron facilities only for contrast variation and high time- and q-resolved experiments.



SAXS spectra of I2COSAN⁻ anion self-assembled in water at 12.5 (a) and 59 (b) %v/v and at different temperatures (Bauduin et al, Angewandte Chem. Int. Ed.2013)