

ALI: Deposition from Solution for Macromolecules

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The deposition of large molecules in ultra-high vacuum is often a challenge due to degradation or fragmentation during the evaporation process. An alternative deposition method for molecules of this kind is deposition from solution or colloidal suspension. This technique does not involve heating, thus eliminating the risk of degradation.

In this talk we will present BihurCrystal's new deposition system, ALI-1000, and show examples of its use with macro- and biomolecules that cannot be deposited by conventional means, such as Adenosine-Triphosphate (ATP, shown below), a biomolecule known as the energy currency in cell metabolism). The combination of scanning tunneling microscopy (STM) with x-ray photoelectron spectroscopy (XPS) provides a complete picture of the result of the deposition and shows that the molecules arrive intact at the sample, and form ordered islands.

Other examples that will be presented include the pigment β -Carotene, and carbon nanotubes.

