Webinar

Unravelling Molecular Materials using Mass Spectrometry

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Noble metal clusters are considered to be the bridge between atoms and nanoparticles where every atom counts. Such molecular clusters were identified as "Molecular Ion" in the gas phase using mass spectrometry (MS). Application of different types of MS techniques for the synthesis, identification of new clusters, understanding cluster growth, multiple reaction monitoring and mechanism establishment will be covered during the presentation. Integration of ion mobility separation (IMS) with MS enabled separating ions with respect to their size and shape, in addition to their mass will be discussed. Detailed DFT calculations of the above mentioned studies was carried out to create rational link between the structure and properties. Quantitative analysis was also possible when ICP MS was used to understand the metal dissolution process in presence of carbohydrates. Such interaction was used to create non-enzymatic glucose sensor based on amorphous nanoglass.

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