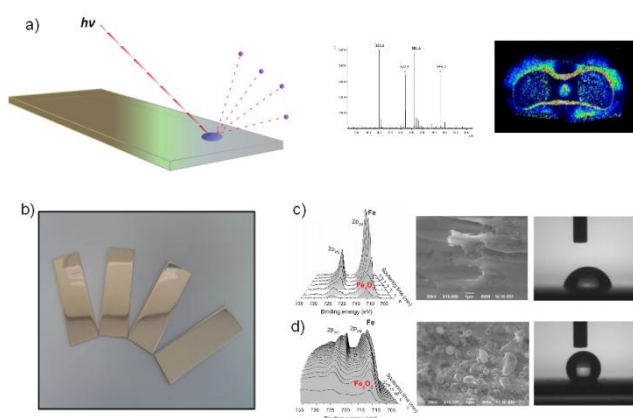


Nanostructured Materials in Matrix-free Laser Desorption Ionisation Mass Spectrometry

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Nanostructured surfaces and nanoparticles have contributed enormously to the development of surface based matrix-free soft ionisation techniques like SALDI-MS with important applications in small molecule analysis and imaging mass Spectrometry. This lecture will try to provide brief overview of materials and concepts employed for surface and particle based LDI-MS and discuss in more detail two materials recently developed in the authors laboratory namely, nanostructured indium tin oxide thin films¹ and polished weathering steel². Applications covering imaging mass spectrometry of tissues samples, serum metabolite analysis of quantification of lactose in milk have been chosen to demonstrate the versatility of the materials in a broad range of analytical problems.



(1) López, de L. C., Beloqui, A., Yate, L., Calvo, J., Puigvila, M., Llop, J., and Reichardt, N. (2015) Nanostructured Indium Tin Oxide Slides for Small-Molecule Profiling and Imaging Mass Spectrometry of Metabolites by Surface-Assisted Laser Desorption Ionization MS. *Analytical chemistry* 87, 431.

(2) Etxebarria, J., Calvo, J., and Reichardt, N.-C. (2014) Nanostructured weathering steel for matrix-free laser desorption ionisation mass spectrometry and imaging of metabolites, drugs and complex glycans. *Analyst* 139, 2873–2883.