



Application of MALDI-FT-ICR-MS for nanostructured thin films characterization

EU_FT-ICR-MS 2nd Advanced Users School

Bogdan Purcareanu¹, Alina Morosan², Adrian Costache², Alexia Popescu², Bogdan Mihaiescu³, Rodica Cristescu⁴, Daniela Istrati², Dan Eduard Mihaiescu²

1 - Biotehnos SA, Otopeni city,

2 - University Politehnica Bucharest - Faculty of Applied Chemistry and Material Science,

3 - University of Bucharest - Faculty of Biology,

4 - National Institute for Laser, Plasma and Radiation Physics, Magurele city.

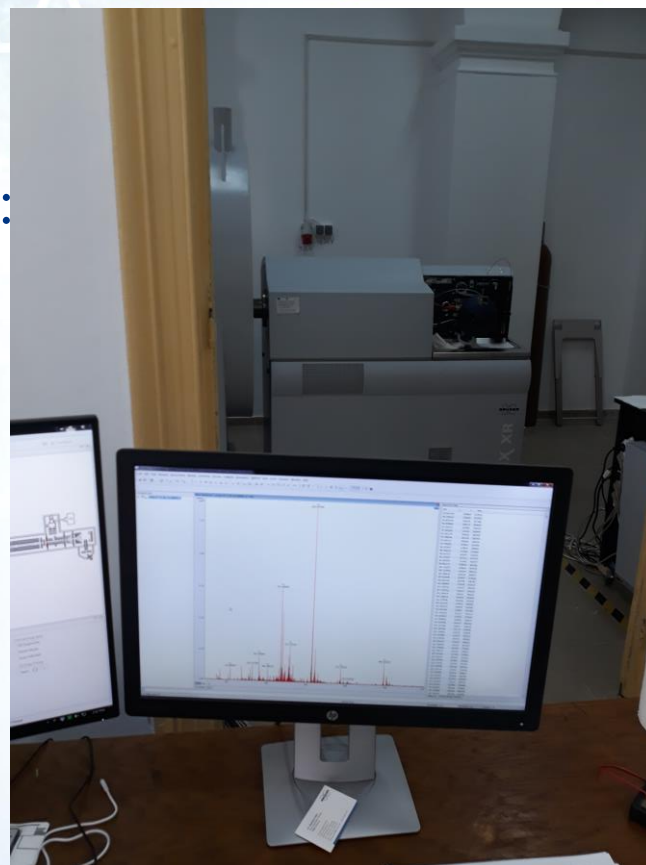
SolariX-XR, QqqFT-ICR HR mass spectrometer with 15 T magnet



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Interfaces:
MALDI
GC
LC
Direct Probe
Infusion

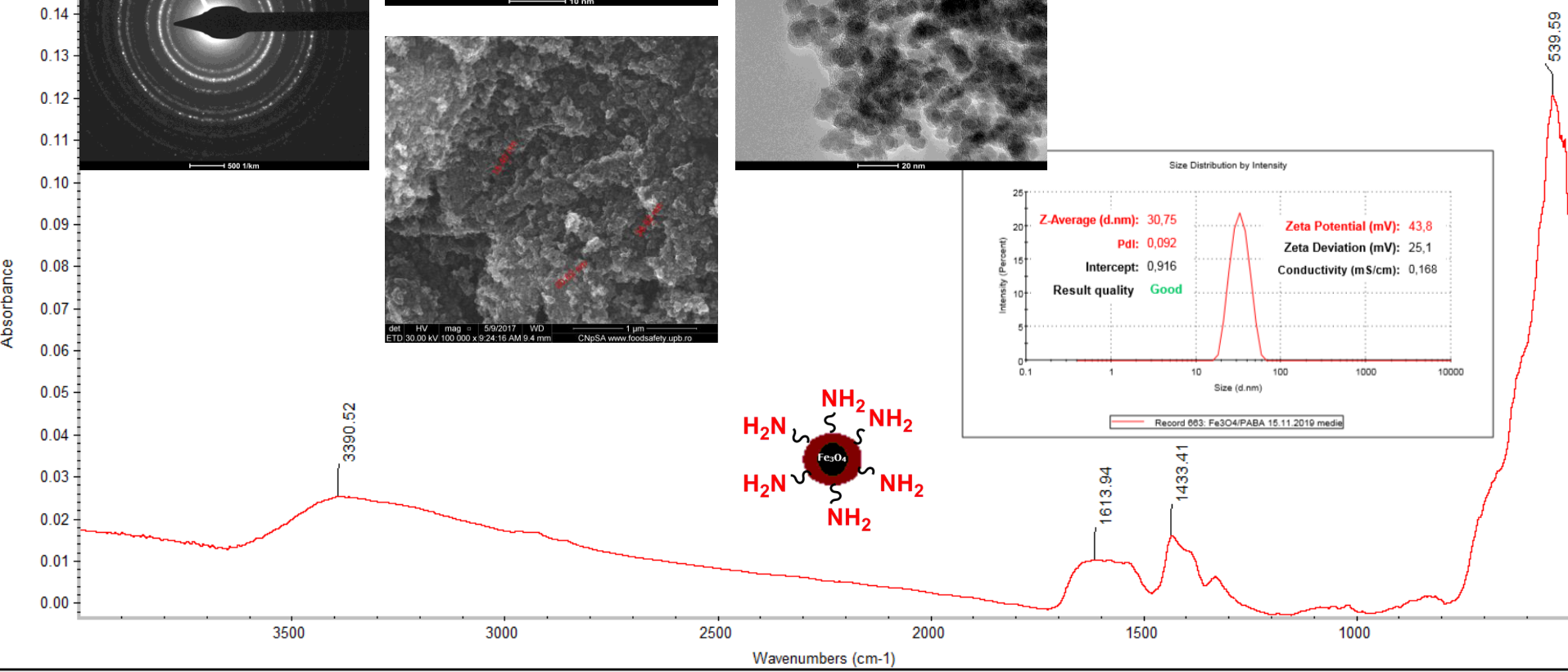
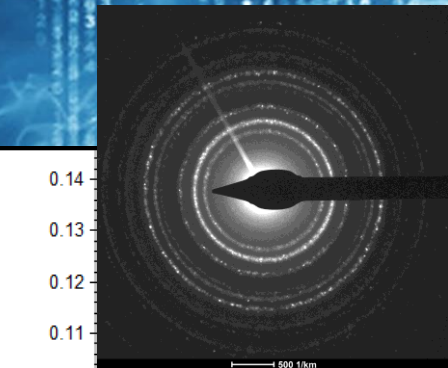
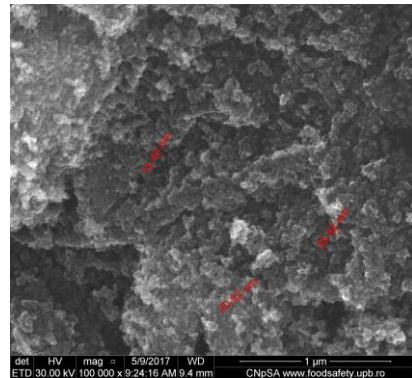
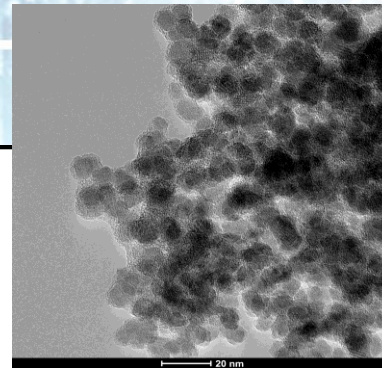
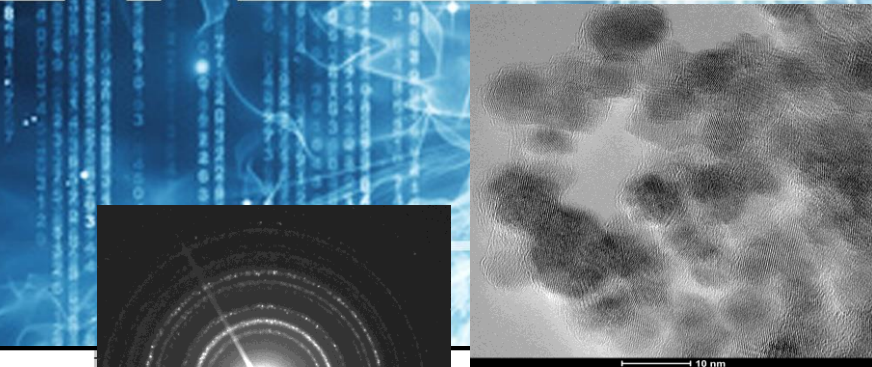


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Synthesis and characterisation of magnetic core nanoparticles ($\text{Fe}_3\text{O}_4/\text{PABA}$)



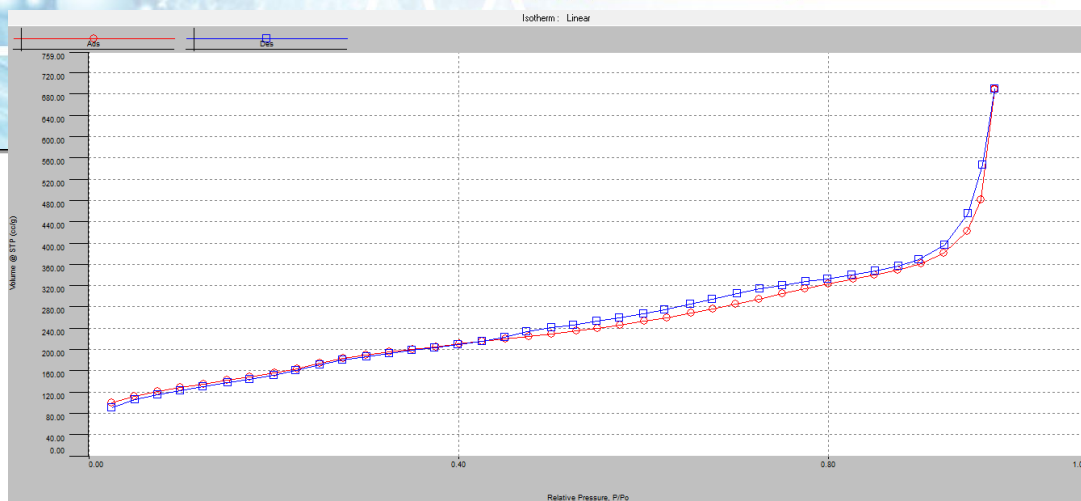
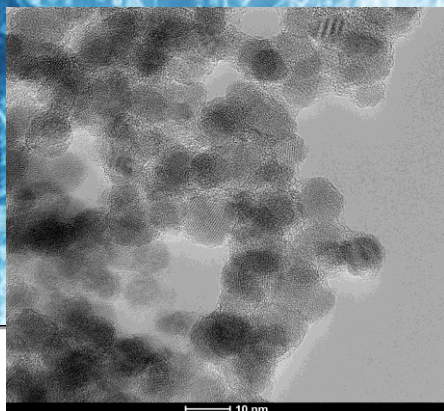
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The synthesis and characterisation of magnetite core-shell nanoparticles with secondary silica shell ($\text{Fe}_3\text{O}_4/\text{PABA}/\text{SiO}_2$)

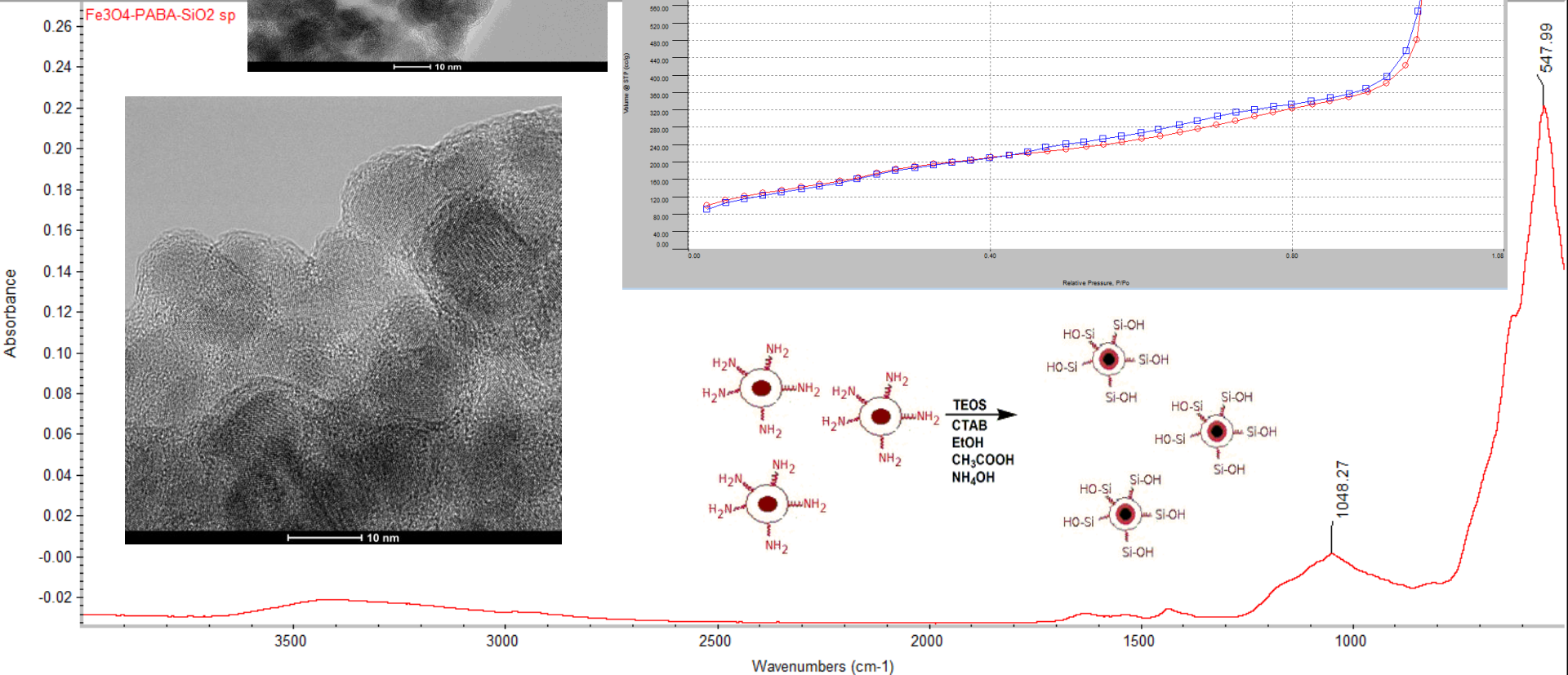
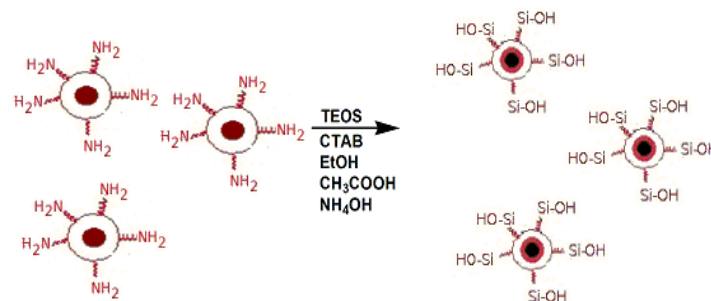
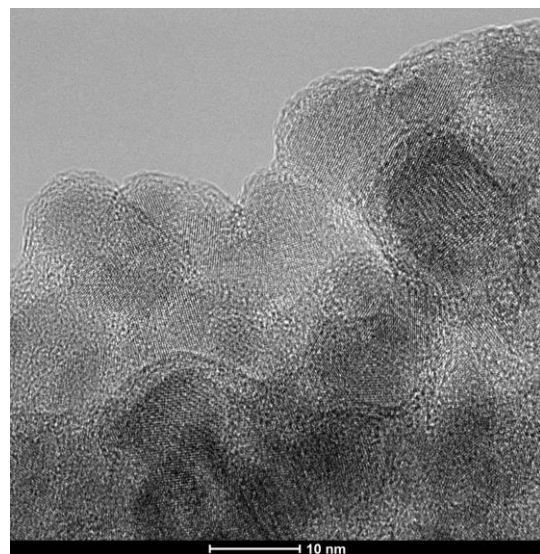


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Fe₃O₄-PABA-SiO₂ sp

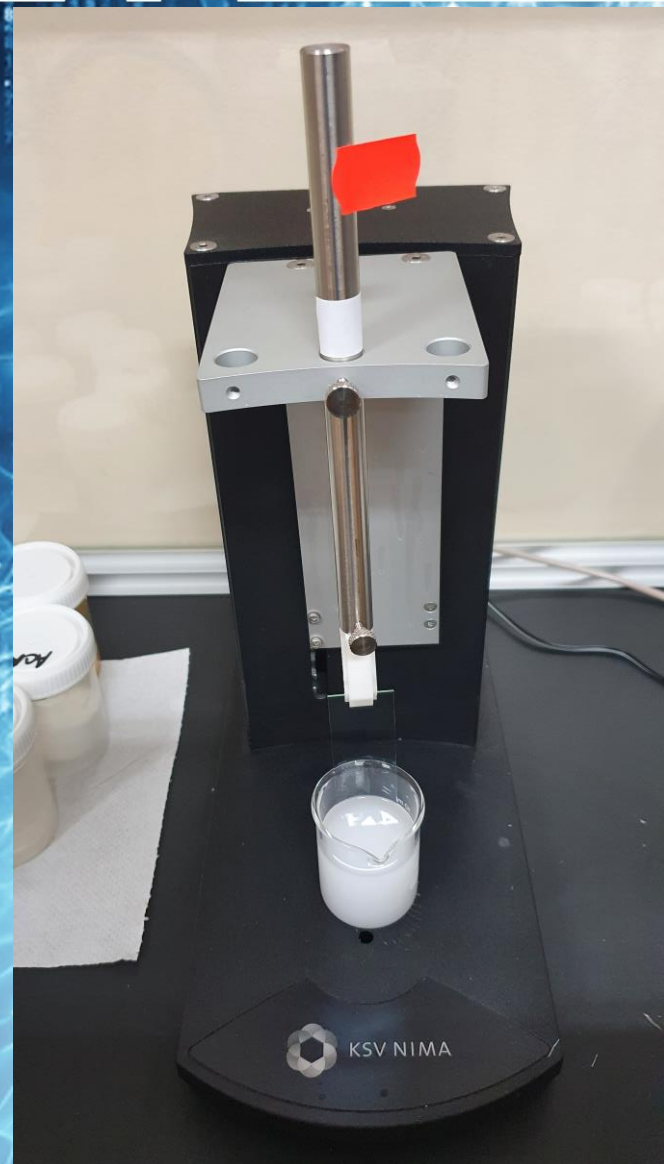
Absorbance



Dip-coating thin films



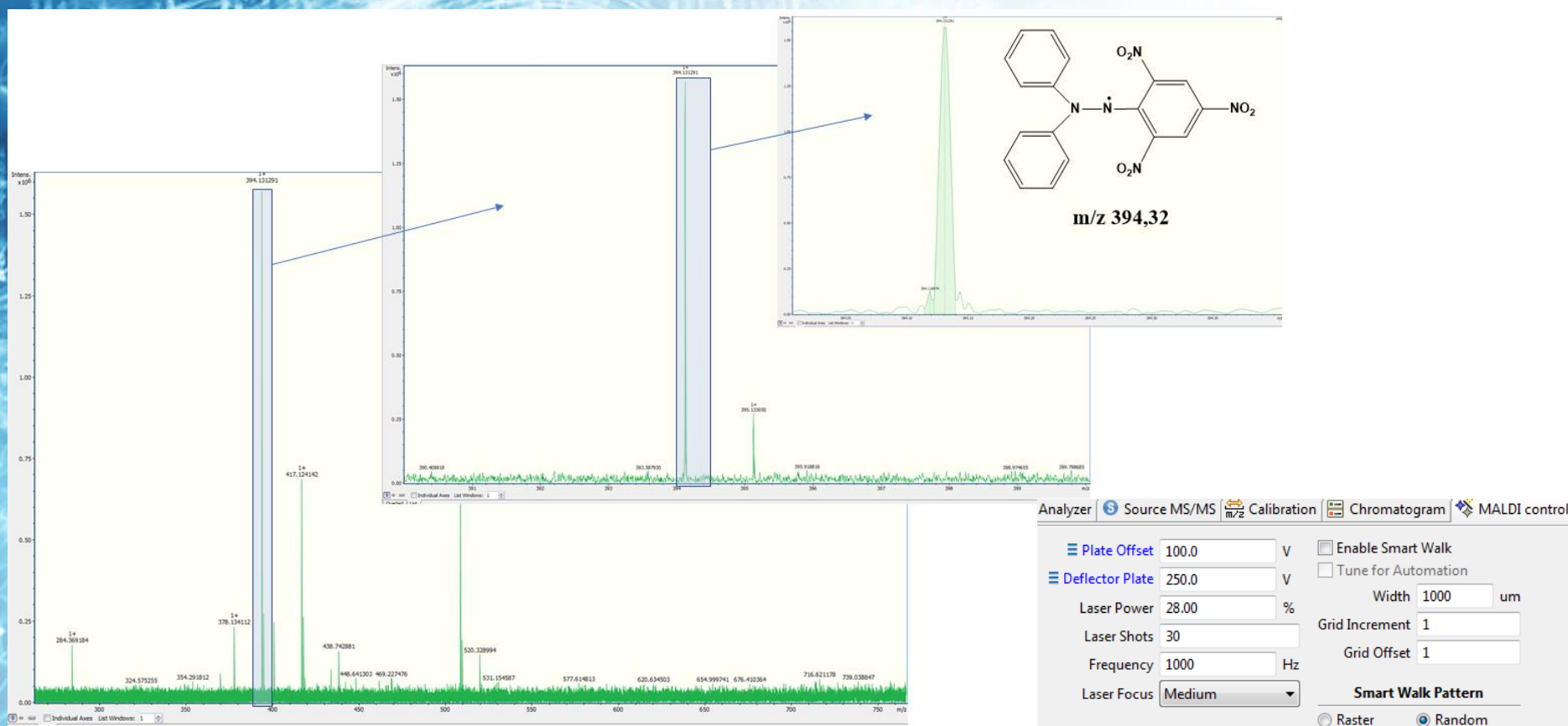
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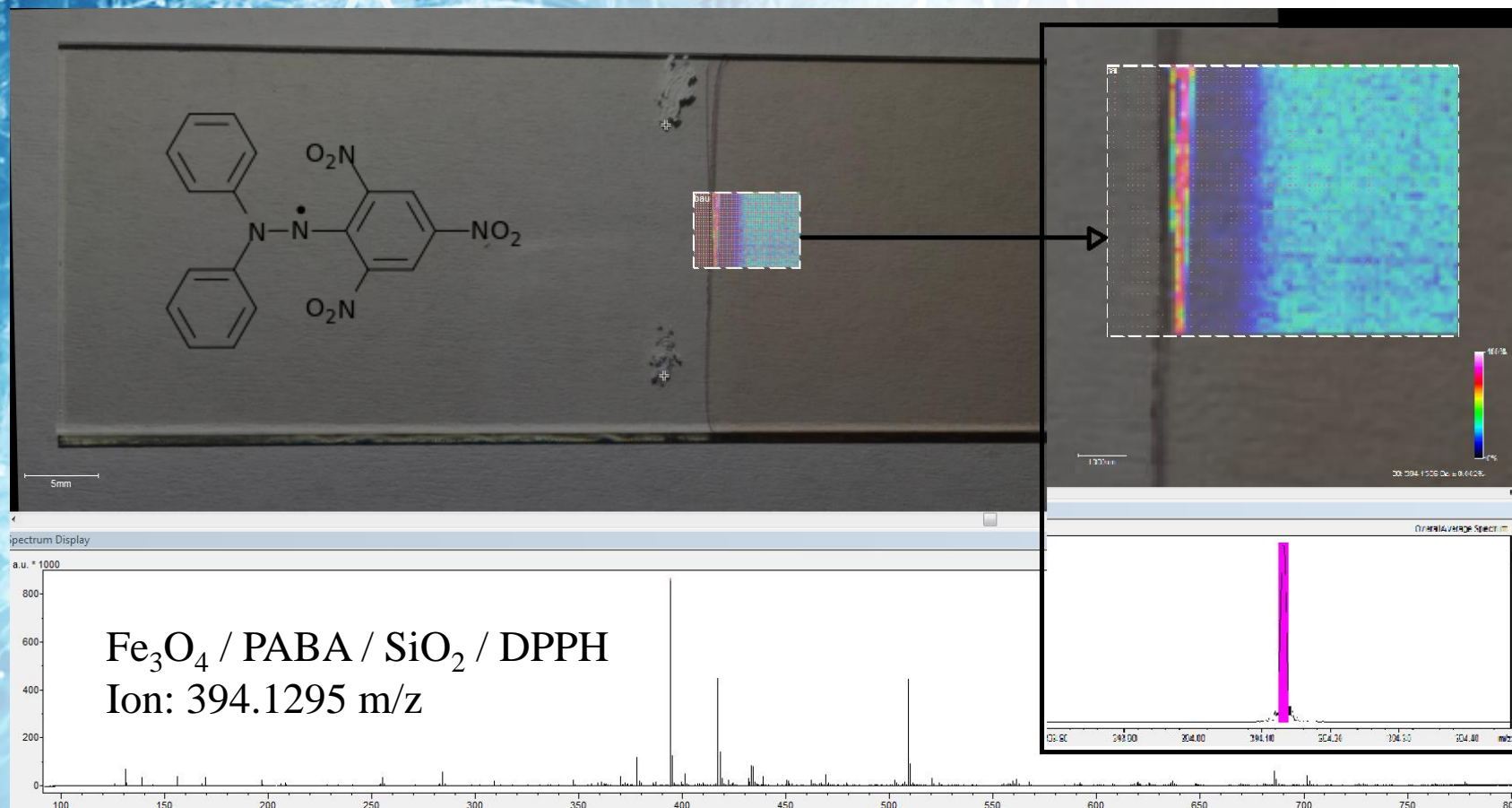
Nanofilms obtained by dip-coating method from dispersions of core-shell magnetite nanoparticles with secondary silica shell ($\text{Fe}_3\text{O}_4\text{-PABA-SiO}_2$) loaded with DPPH radical





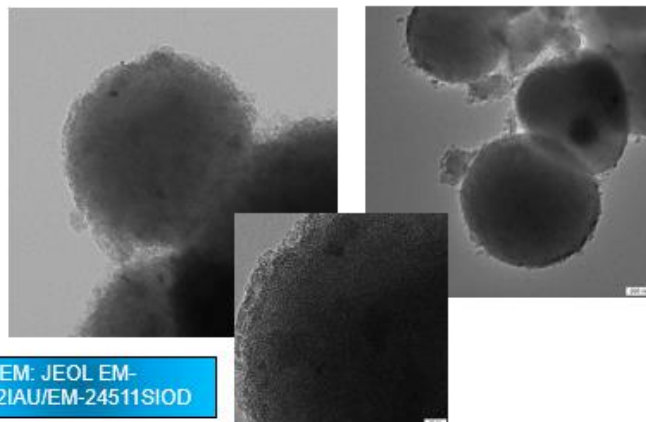
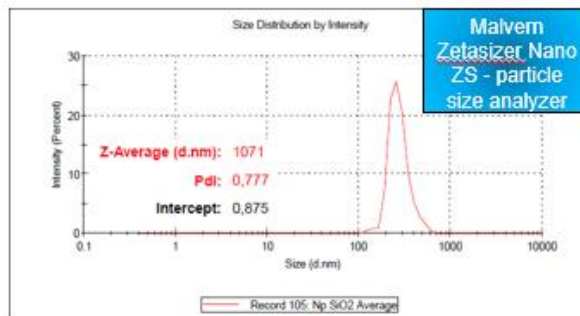
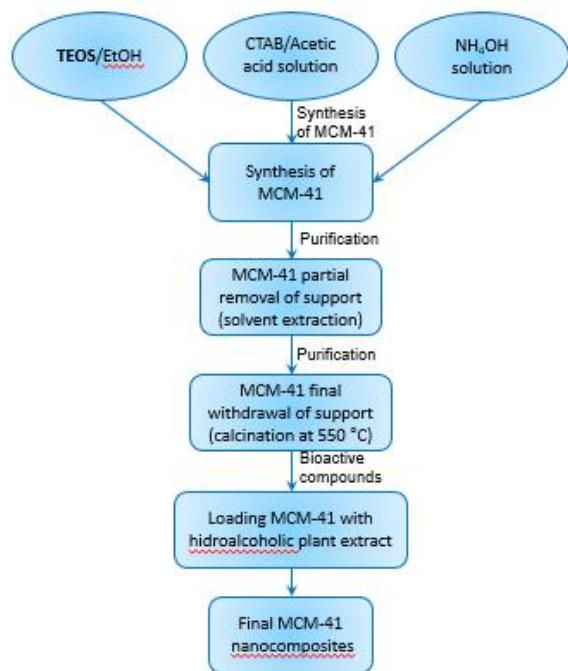
EU FT-ICR MS

Nanofilms obtained by dip-coating method from dispersions of core-shell magnetite nanoparticles with secondary silica shell (Fe_3O_4 -PABA- SiO_2) loaded with DPPH radical

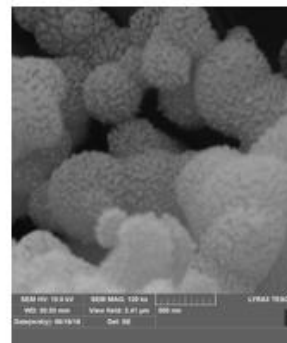
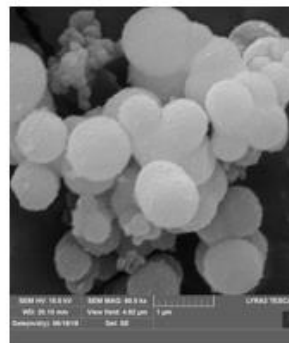
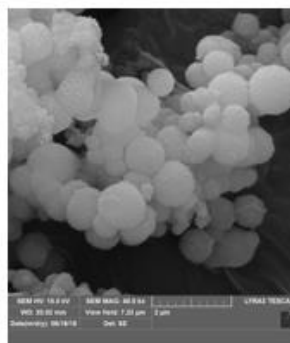
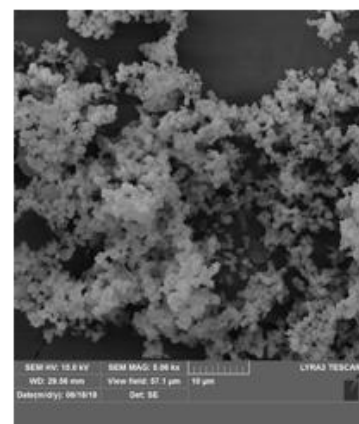




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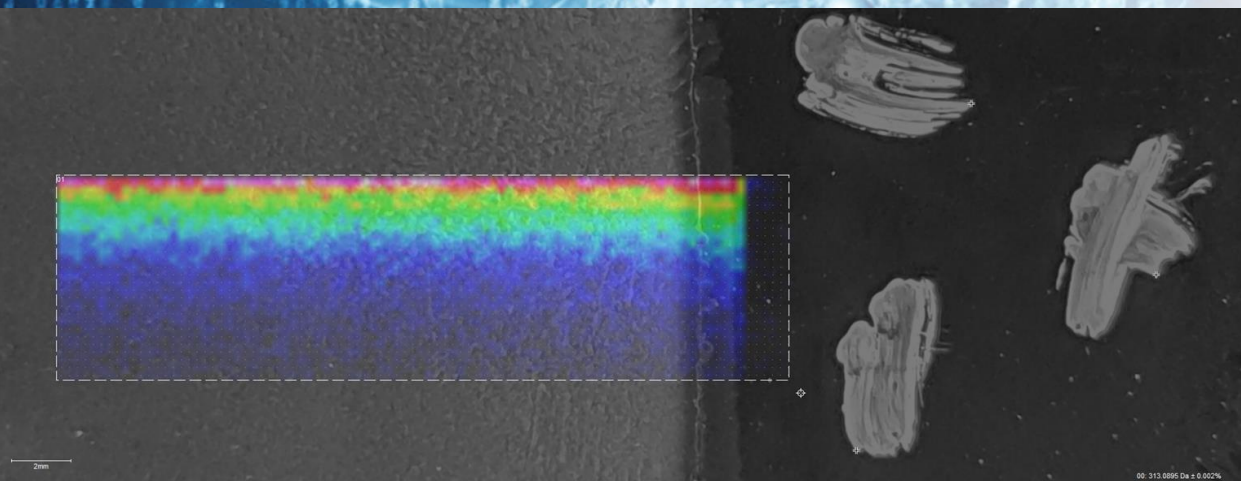
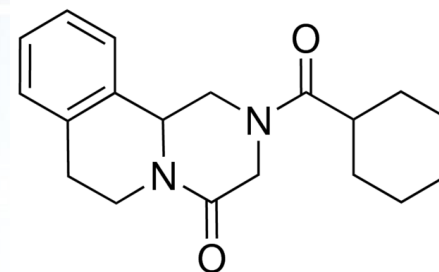
Synthesis and characterization of MCM-41



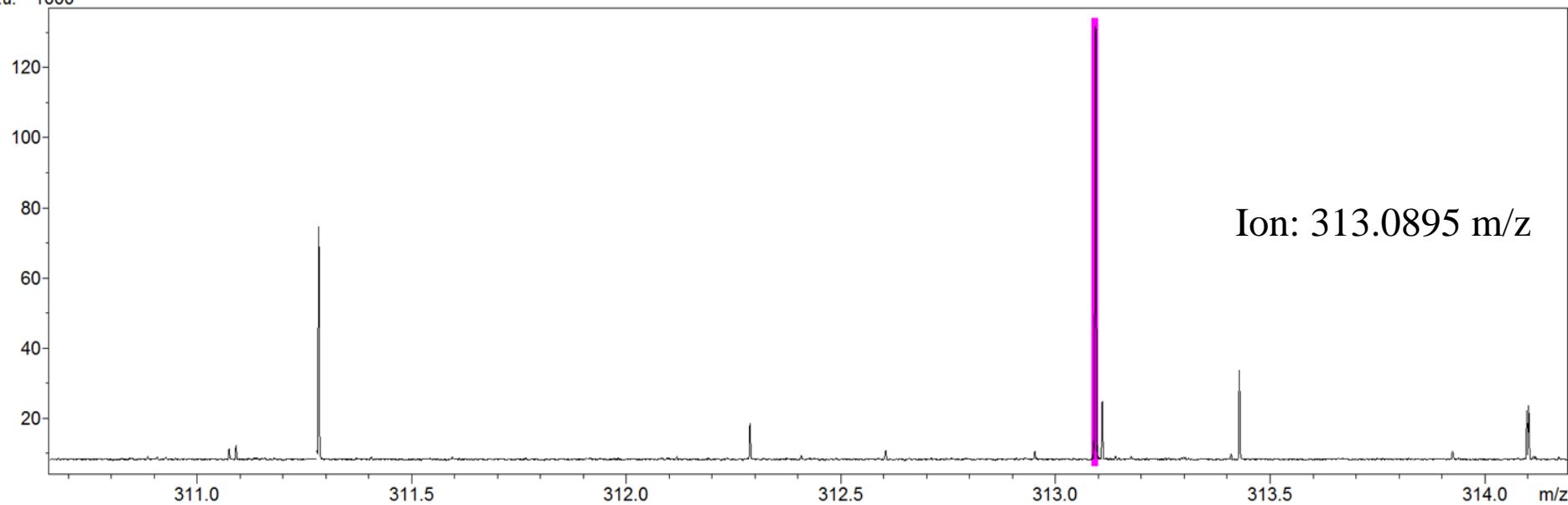
MCM - Mesoporous material loaded with Praziquantel



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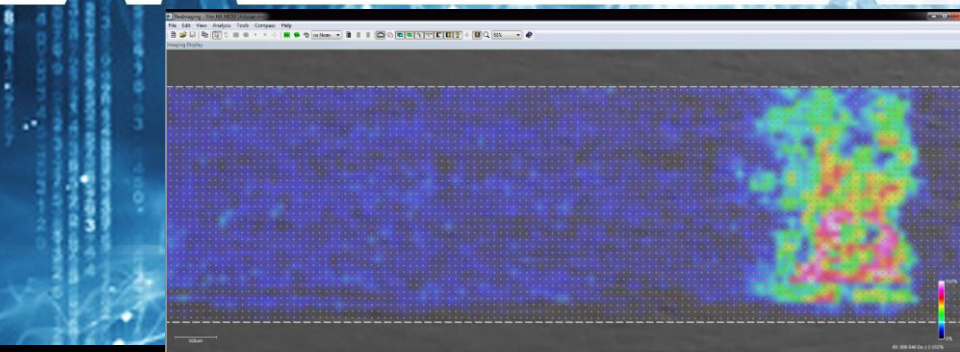
a.u. * 1000



Thin films (dip coating) of biopolymer encapsulated MCM41 np's loaded with Harpagophytum extract



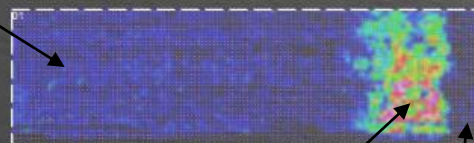
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Higher thickness film

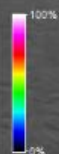
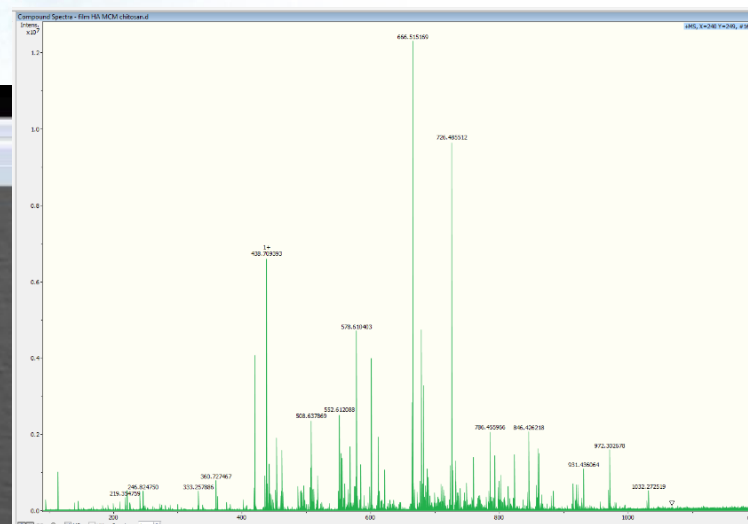


Deposition discontinuity



Low thickness film

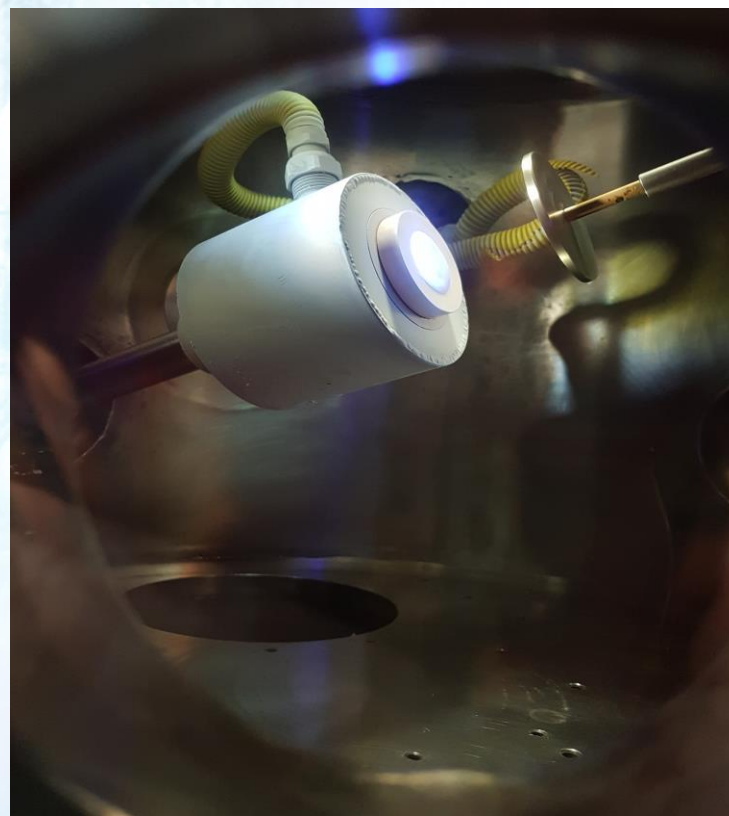
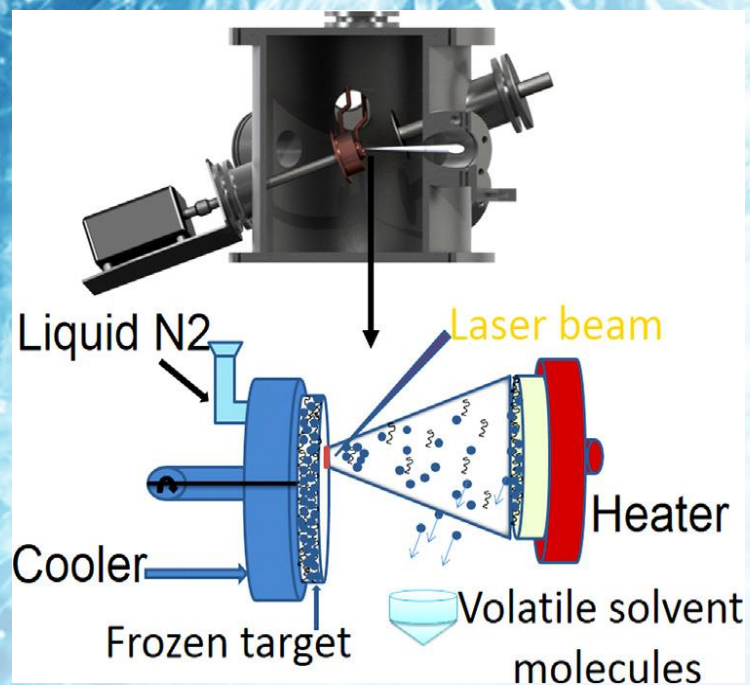
ITO/glass slide



MAPLE: MATRIX Assisted Pulsed Laser Evaporation

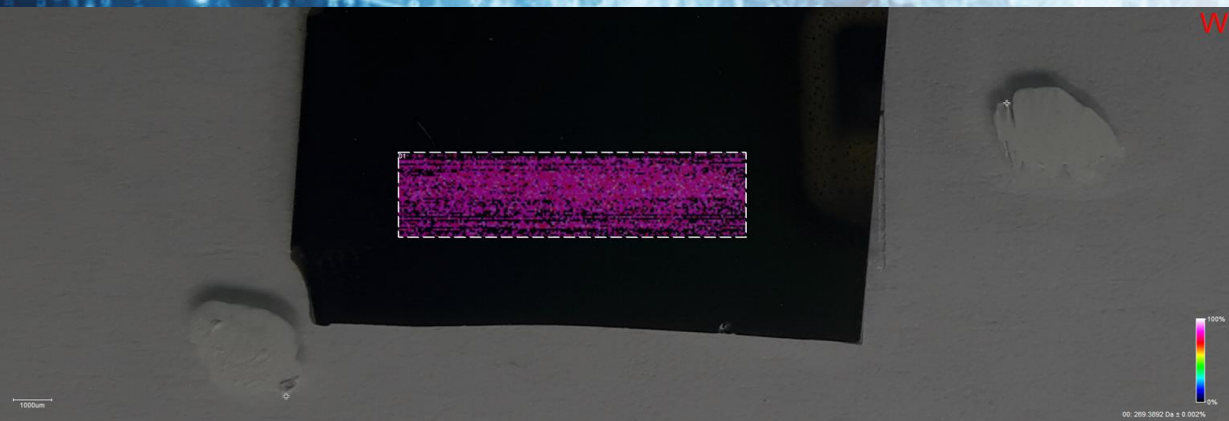


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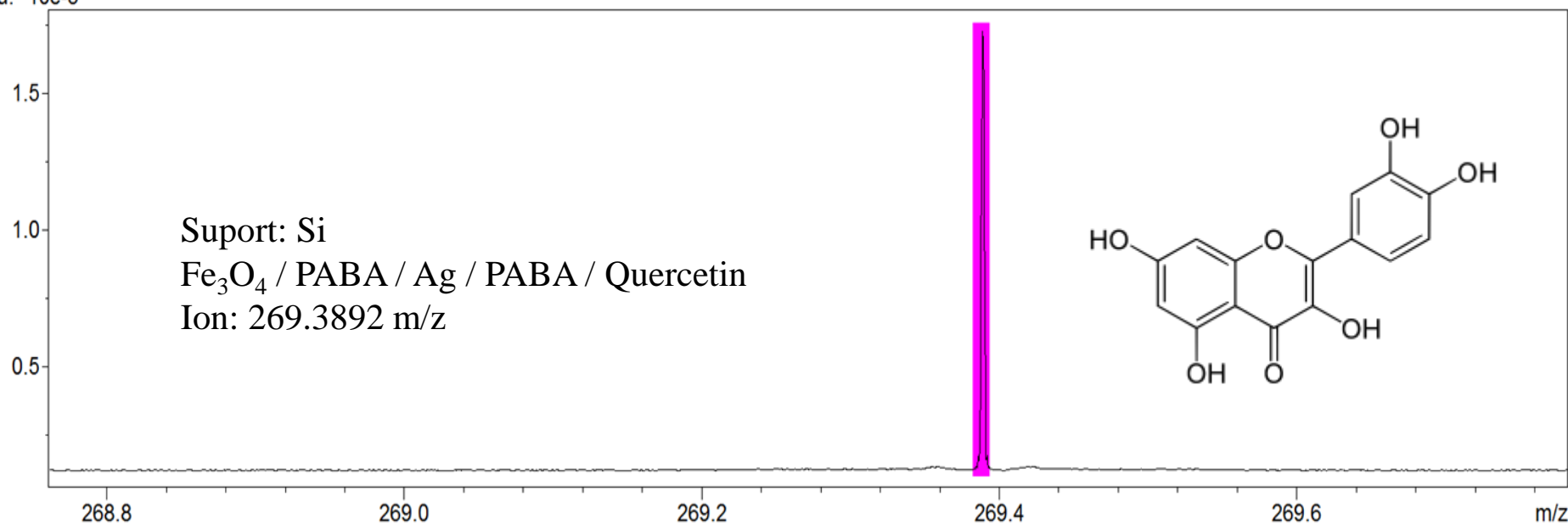
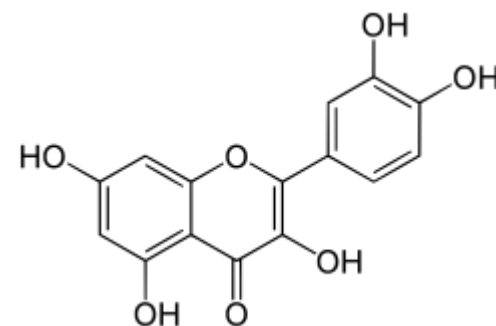


a.u. *10e-3

Suport: Si

Fe_3O_4 / PABA / Ag / PABA / Quercetin

Ion: 269.3892 m/z



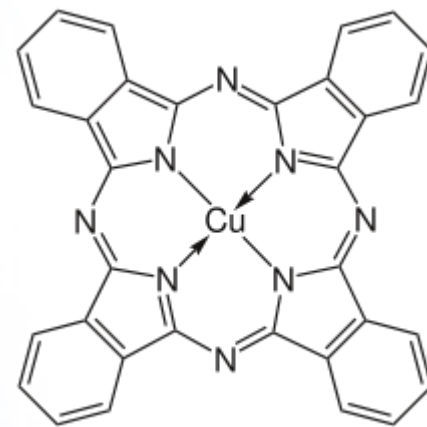
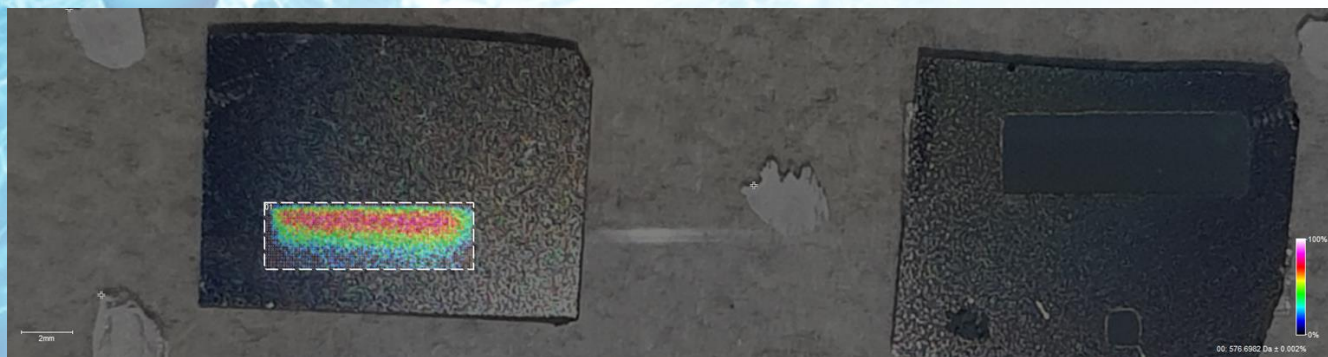
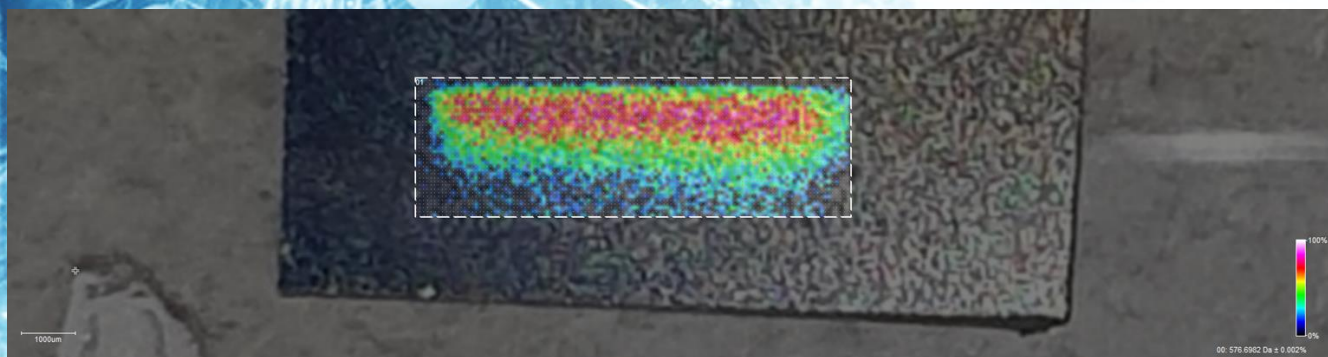
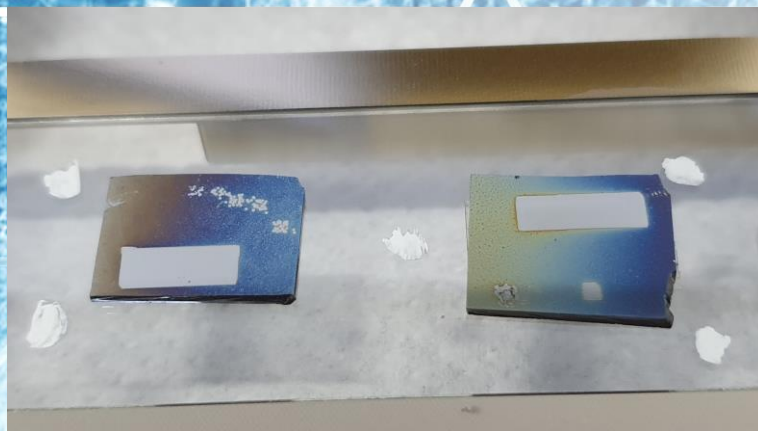
Suport: Si

Fe_3O_4 / PABA / Ag / PABA / Copper phthalocyanine

Ion: 576.6982 m/z



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Acknowledgment



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THANK YOU FOR YOUR ATTENTION !

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