

Modifications paramagnetical particles biomolecules – proteines and peptides

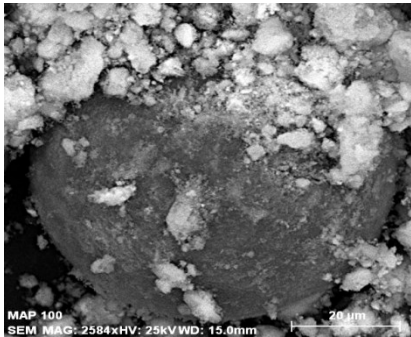
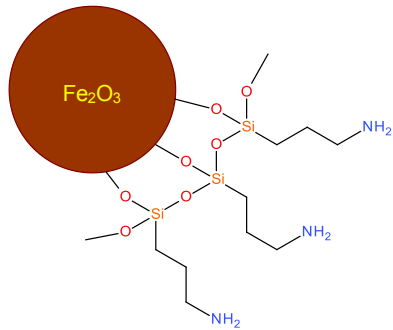
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Dne : 6.11.2013

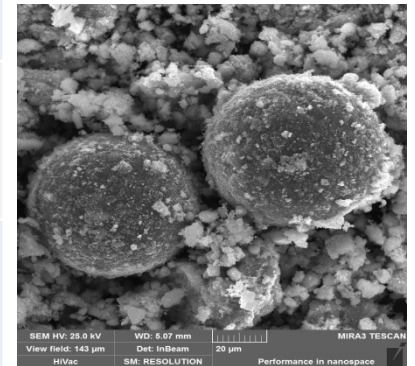
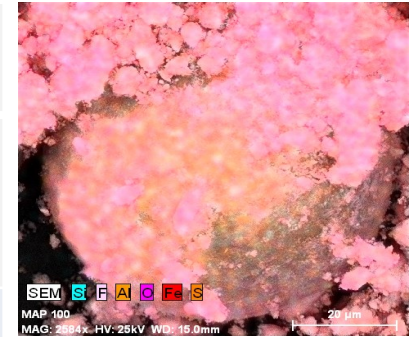
Reg.č.projektu: CZ.1.07/2.4.00/31.0023

Název projektu: Partnerská síť centra excelentního bionanotechnologického výzkumu

Paramagnetic particles (PMPs)

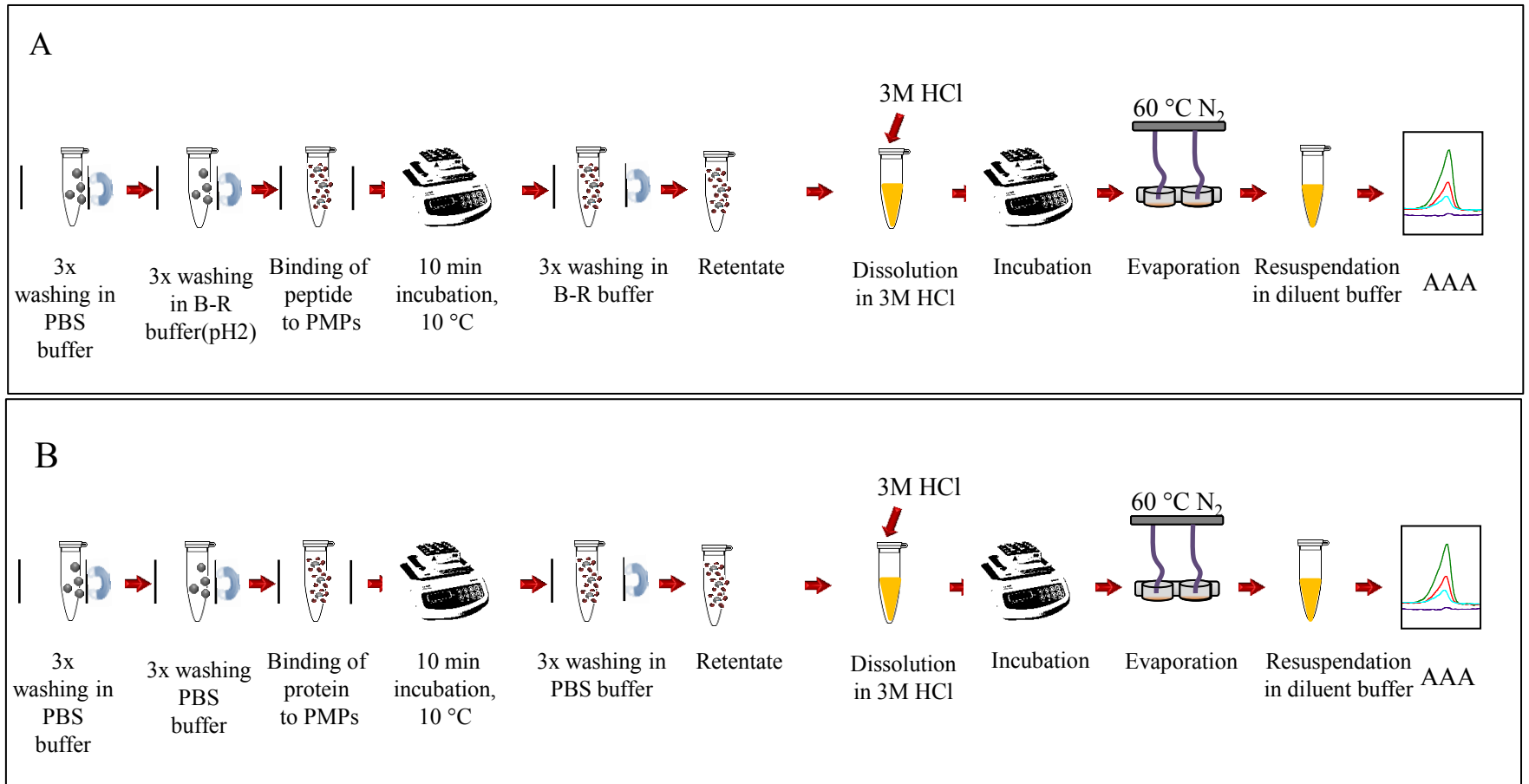


MAN-38	3-aminopropyl triethoxysilan (APS)
MAN-16	Dowex 50WX4-400
MAN-18	Ti(isopropox)4
MAN-51	amberlite
MAN-64	morfolinoethan sulfonic acid (MES)
MAN-21	Dowex 50WX4-400



Photos of PMPs with Dowex were taken with an electron microscope

Sample preparation

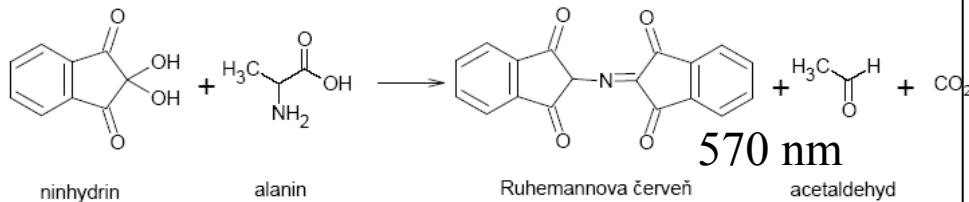


Schema of sample preparation: A) Preparation of peptide; B) Preparation of protein

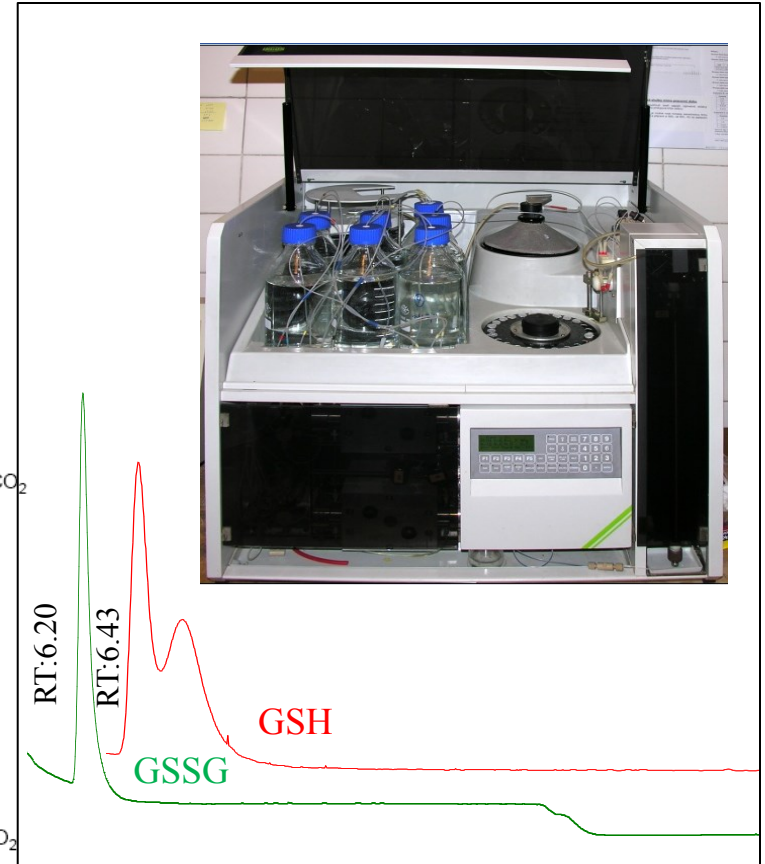
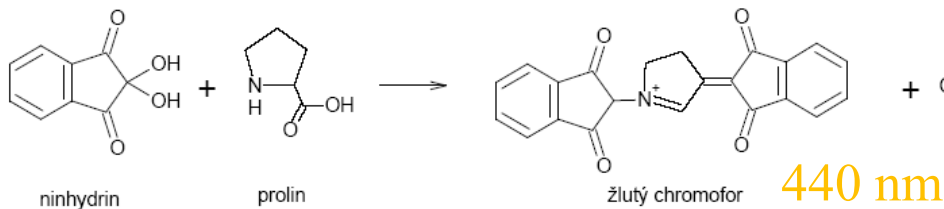
AAA 400 (detection)

A • Detection using post-column derivatization quantitative reaction with the reagent (ninyhydrine)

• Reaction with a primary amino group

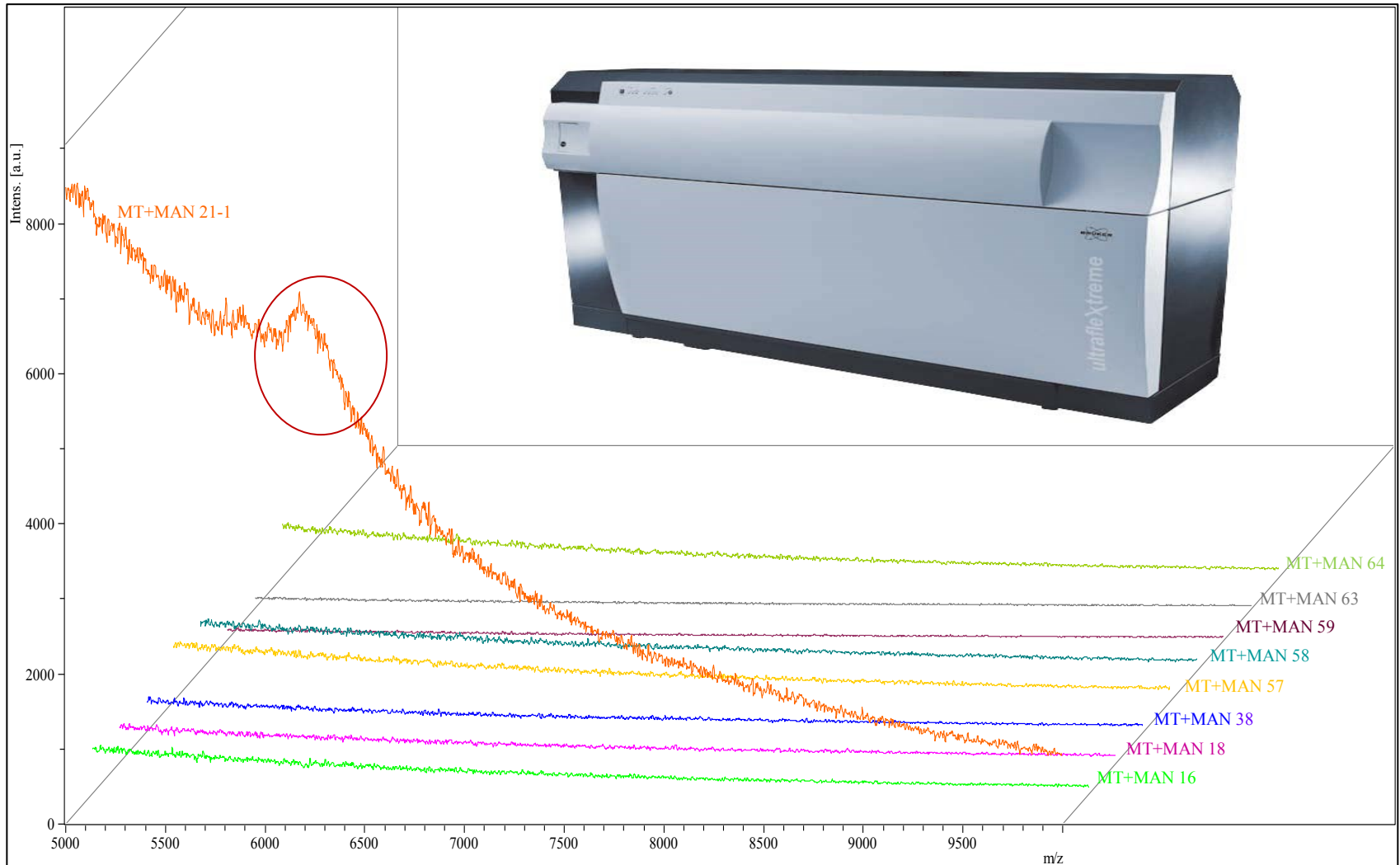


• Reaction with secondary amino group



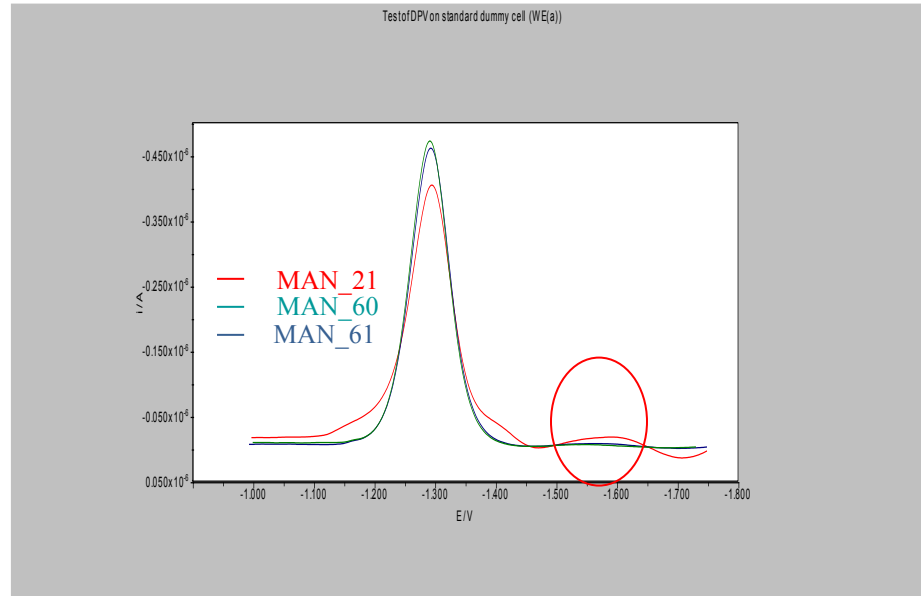
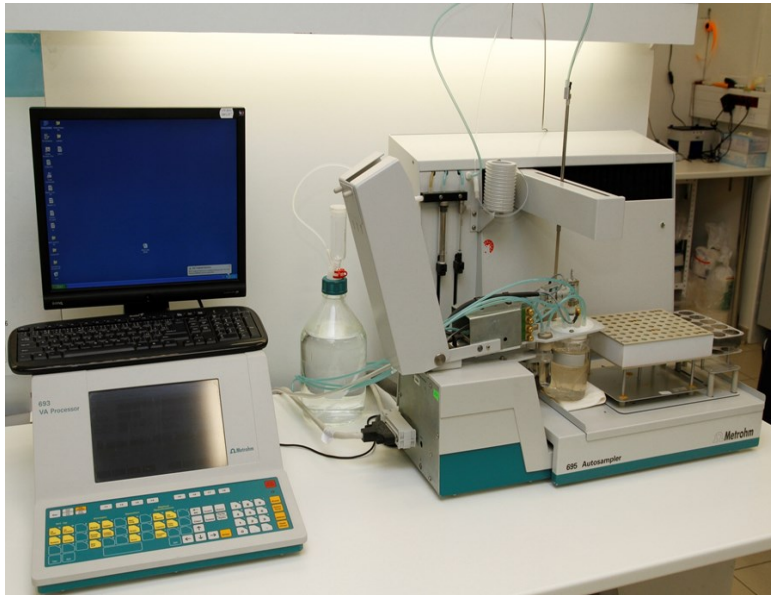
A) Detection of peptides by use ion-exchange liquid chromatography with VIS detector; B) chromatogrames of GSH, GSSG binding on the PMPs MAN 51

MALDI TOF MS(detection)



Detection of protein Metallothioneine by use MALDI-TOF MS spectrum; linear positive ion mode, matrice DHB, laser power 80 %

Electrochemical (detection)



- 747 VA Stand with 693 VA processor and 695 Autosampler
- three electrodes measuring system
- electrolyte: Brdička solution: 1mM $[\text{Co}(\text{NH}_3)_6]\text{Cl}_3$ and 1mM ammonium buffer (NH_3 (aq) + NH_4Cl)

Thank you for your attention