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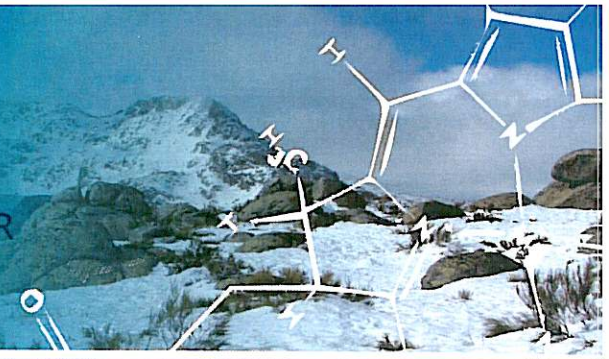

8º Encontro Nacional de CROMATOGRAFIA

2, 3 e 4 | Dezembro | 2013

Faculdade de Ciências da Saúde
Universidade da Beira Interior

LIVRO DE RESUMOS

Centro de Investigação em Ciências da Saúde
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Terça–feira, 3 de Dezembro

09:00-10:00	**Comunicação Plenária:** Two-dimensional liquid chromatography coupled to high resolution mass spectrometry for improving proteome coverage - Juan Pablo Albar (Centro Nacional de Biotecnologia – CICS, Espanha)	
10:00-10:30	**Comunicação Convidada:** Exploring the metabolomics of human fluids in disease research: the asthma case-study - Sílvia M. Rocha (UA)	
10:30-10:50	**Café e sessão de posters**	
	Sessão Oral VI	**Sessão Oral VII**
10:50-11:30	Chromatographic multi-dimension in GC: Reality, alternative or just a separative extravagancy – Marco D.R. Gomes da Silva (REQUIMTE-UL)	Pre-miR-29 purification by amino acids-affinity chromatography – Patrícia Pereira (CICS-UBI)
11:30-11:50	Comprehensive two-dimensional liquid chromatography applied to complex organic samples – Andreia S. Paula (DC & CESAM-UA)	Kinetic characterization of retinoic X receptor binding to specific and unspecific DNA oligoduplexes with quartz crystal microbalance – Rogério Rodrigues (IBB-UAlg)
11:50-12:10	Determinação de compostos α-dicarbonílicos utilizando a extração líquido-líquido assistida por *salting-out* – Inês M. Valente (REQUIMTE-UP)	Molecular recognition of polynucleotides and plasmid DNA by L-methionine support– Élia Mota (CICS-UBI)
12:10-12:40	**Seminário Soquimica**	
12:40-14:00	**Almoço**	
14:00-14:30	**Comunicação Convidada:** A cromatografia e a micotoxicologia alimentar - Armando Venâncio (UM)	
	Sessão Oral VIII	**Sessão Oral IX**
14:30-14:50	Determinação de aminas biogénicas por extração líquido-líquido assistida por *salting-out* e cromatografia líquida de alta eficiência com deteção fluorimétrica – Rui M. Ramos (REQUIMTE-UP)	Novel affinity chromatography processes for the purification of plasmid DNA using small aromatic molecules– Catarina Nunes (CICS-UBI)
14:50-15:10	Cartas de controlo para avaliação da precisão dos resultados cromatográficos (GC-FID) de metanol e outros compostos voláteis em aguardentes de origem vínica – Ofélia Anjos (IPCB)	Multicomponent chiral separations by analytical and preparative Liquid Chromatography – António E. Ribeiro (IPB)
15:10-15:30	QUECHERS extraction and GC-MS for the analysis of polychlorinated biphenyls in wild and cultivated mussels – Tânia V. Madureira (ICBAS-UP)	Effect of pH in the adsorption mechanism of lysozyme on carboxymethyl cellulose - Francisco Marques (CICS-UBI)
15:30-16:00	**Café e sessão de posters**	
	Sessão Oral X	**Sessão Oral XI**
16:00-16:20	GC-MS as a tool towards identification of typical sugars occurred in *Helicobacter pylori* lipopolysaccharides – Lisete Silva (QOPNA-UA)	Physical Characterization of Protein-Ligand Interaction by Impedance Acoustic Waves - Jorge de-Carvalho (IBB-UAlg)
16:20-16:40	GC×GC-ToFMS metabolomics profiling of exhaled breath condensate: potential in health status monitoring – Corália F Barbosa (QOPNA-UA)	Recovery of biological active catechol-O-methyltransferase isoforms from Q-Sepharose – Filipa Correia (CICS-UBI)
16:40-17:00	Protective effect of electron beam irradiation in tocopherols integrity: evaluation by HPLC-fluorescence detection – João C. Barreira (CIMO-IPB)	Multimodal behavior of phenylboronate chromatography – Rimenys Jr. Carvalho (IBB, UL)
20:00-22:30	**Jantar do Encontro**	

CO.29. Protective effect of electron beam irradiation in tocopherols integrity: evaluation by HPLC-fluorescence detection

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The high perishability is a common characteristic in mushrooms. This limitation demands for continuous investigation to achieve an effective conservation technology, allowing their preservation while simultaneously protecting the main bioactive compounds and the chemical composition in general. However, these two objectives might be more accurately achieved by combining two technologies, instead of using a single one. Therefore, electron-beam irradiation (up to 10 kGy) was applied to dried samples of Boletus edulis and Russula delica, increasing previous knowledge using gamma- and electron-beam irradiation at lower doses (up to 6 kGy) and different wild mushroom species. In this study, an HPLC system coupled to a fluorescence detector (FP-2020; Jasco), programmed for excitation at 290 nm and emission at 330 nm, was used to evaluate changes in tocopherols profile among irradiated and non-irradiated mushrooms.

The chromatographic separation was achieved with a Polyamide II normal-phase column (250 × 4.6 mm; YMC Waters) operating at 30 °C. The mobile phase used was a mixture of n-hexane and ethyl acetate (70:30, v/v) at a flow rate of 1 mL/min. The compounds were identified by chromatographic comparisons with authentic standards. Quantification was based on the fluorescence signal response, using the internal standard method.

The vitamer quantified in highest amount was δ-tocopherol in both mushrooms, but B. edulis presented higher total tocopherols quantities. The effects on tocopherols profiles were significant for all quantified isoforms (except δ-tocopherol in B. edulis). Irradiated samples tended to present higher amounts, as it was particularly observed for 2 kGy dose in B. edulis (129 μg /100 g dw) and the 6 kGy in R. delica (87 μg /100 g dw), showing consistency with a previous study [1]. This result might be explained by differences in free oxygen availability inside the polyethylene bag. Overall, the applied doses might

guarantee not only desinfested and decontaminated samples, but also provide the aditional advantage of protecting one of the important bioactive lipophilic compounds.

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[1] Fernandes, Â., Barreira, J.C.M., António, A.L., Martins, A., Oliveira, M.B.P.P., Ferreira, I.C.F.R. (2013) Food and Bioprocess Technology, 6, 2895-2903.