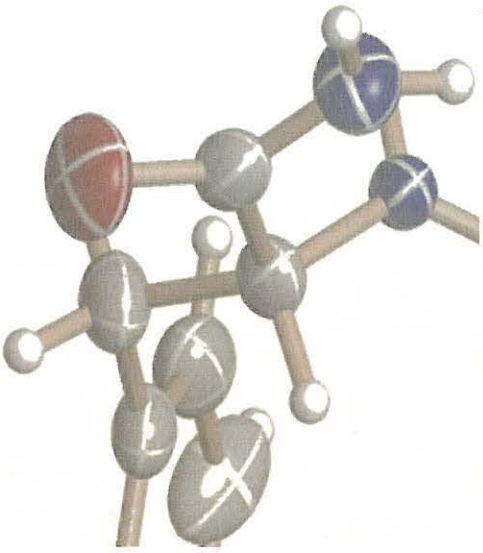
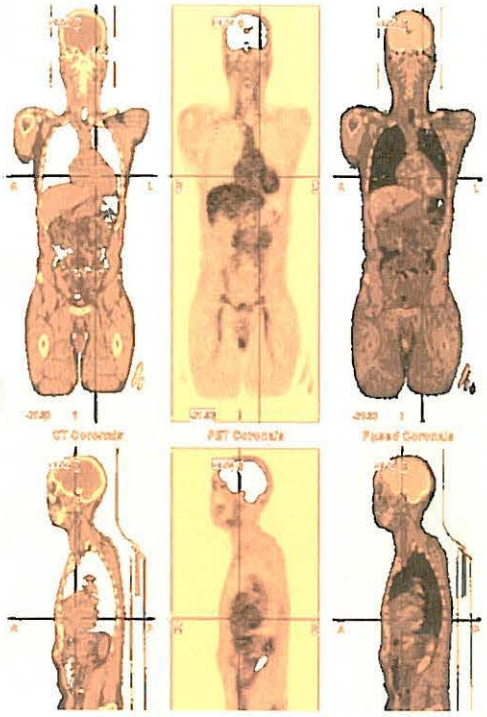


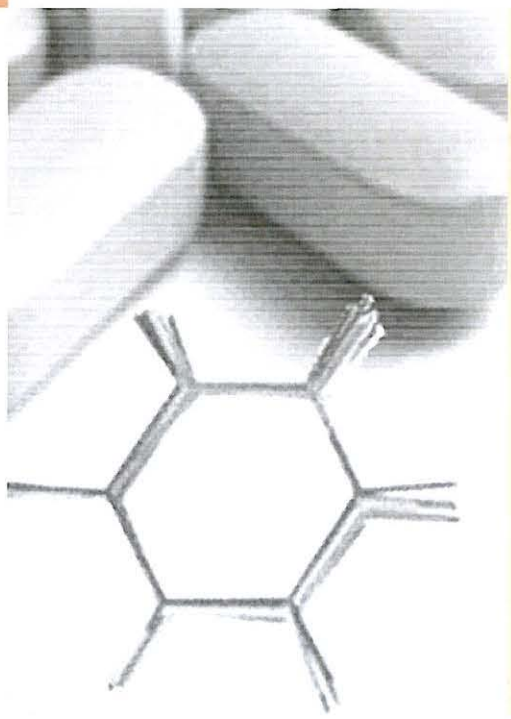


1st Symposium on MEDICINAL CHEMISTRY of University

Braga

Campus de Gualtar

17 May 2013



Universidade do Minho

Sociedade Portuguesa de Química

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PROGRAM

8:00 h	Registration
9:30 h	Opening Session
	Chairperson: Maria Fernanda Proença
10:00 h	**PL1** *Targeting G-protein coupled receptors in cancer with radio(metal)labeled peptides: from bench to bed*, Helmut Maecke
10:45 h	**IC1** *Pharmaceutical industry trends and its impact in R&D,* Marco Gil
11:15 h	Coffee Break
	Chairperson: António Gil Fortes
11:30 h	**OC1** *Development of paraben-free hydrogel based on plant extracts for topical application*, João Barreira
11:45 h	**OC2** *N_3O_3-type bifunctional chelators for Ga^{3+}*, Arsénio de Sá
12:00 h	Poster Session
12:30 h	Lunch
	Chairperson: Isabel Ferreira
14:00 h	**PL2** *Neurodegenerative diseases and drug discovery: How long how far?*, Fernanda Borges
14:45 h	**IC2** *Boron promoted assembly of new human neutrophile elastase inhibitors,* Pedro Gois
15:15 h	**OC3** *Biological evaluation of new 2-(hydroxymethyl)-2-cycloalkene-1-ones,* Raquel Frade
15:30 h	Coffee Break and Poster Session
	Chairperson: Ana Paula Esteves
16:15 h	**OC4** *Enantioselective Diels-Alder Reactions in the Synthesis of Sugars/Iminosugars,* Vera Duarte
16:30 h	**IC3** *Synthesis and evaluation of the antitumoral and/or antiangiogenic potencial of new thieno[3,2-b]pyridine derivatives*, Maria João R.P. Queiroz
17:00 h	Closing Remarks

OC1

Development of paraben-free hydrogel based on plant extracts for topical application

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Historically, medicinal preparations are derived from plants and their employment in dermatological and cosmetic products is increasing [1]. Topical application of products containing compounds with free radical scavenging properties protects tissues from oxidative damage [2]. The skin is an important protective barrier between the environment and the inner milieu, being highly exposed to oxidative stress, either from exogenous as well as endogenous sources [3]. The antioxidant potential of herbal extracts or pure isolated compounds have been extensively studied, but very few reports are available on the antioxidant properties of final formulations in which they have been included. In the present study, aqueous and ethanolic extracts from the flower buds of hawthorn (*Crataegus monogyna* Jacq.) were incorporated into hydrosoluble gels. Gels have been largely used in cosmetic products and as a dermatologic base, as they are easily dispersed, non-oily and can carry hydrosoluble active principles. Gel consistency was optimized when carbopol 940 was added at 1%. The prepared formulations presented a light green colour, a non-greasy texture and were promptly absorbed by the skin. Since the inclusion of parabens is nowadays poorly accepted by the consumers, imidazolidinyl urea was included as the antimicrobial component. Regarding pH evaluation, there were no significant alterations during the 90 days of observation, with values ranging between 5.5 and 6.5. The antioxidant activity of the prepared hydrogels was assessed and compared with a blank formulation (with all the components used in the hydrogel formulation, except the extract) and also with the results obtained for the extracts alone, at the same concentration (100 μg/mL). The antioxidant activity measured in each hydrosoluble gel is very close to the value obtained for the isolated extract, in what regards inhibition of lipid peroxidation using thiobarbituric acid reactive substances (TBARS) and β-carotene bleaching inhibition, 2,2-diphenyl-1-picrylhydrazyl (DPPH) scavenging activity and reducing power. Hydrogels prepared with ethanolic extracts showed higher antioxidant activity than aqueous extracts, unless in β-carotene bleaching inhibition assay. In general, it became evident that the inclusion of extracts in the prepared hydrosoluble gels caused very limited losses in their bioactivity.

Acknowledgments:

The authors are grateful to Fundação para a Ciência e a Tecnologia (FCT) for financial support to CIMO (strategic project PEst-OE/AGR/UI0690/2011). J.C.M. Barreira thanks to FCT, POPH-QREN and FSE for his grant (SFRH/BPD/72802/2010).

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[2] S. Meenakshi *et al.*, *J. Ethnopharmacol.*, **2006**, *107*, 67-72.
[3] H. Masaki, *J. Dermatol. Sci.*, **2010**, *58*, 85-90.