

4PYCHEM



4TH PORTUGUESE YOUNG CHEMISTS MEETING

APRIL 29TH - MAY 1ST 2014

UNIVERSITY OF COIMBRA
PORTUGAL



Tuesday, 29th April 2014

Main Auditorium

9h00 – 13h30 **Registration**

13h40 **Opening Ceremony**

13h50 **IL1 – Sensing and making sense of temperature and molecules at the nanoscale**
João Rocha

Organic and Inorganic Chemistry

14h30 **IL2 – Boron based dynamic bonding: an emerging tool for bioconjugation**
Pedro Góis

15h10 **OC1 - Enzymes – An attractive tool to obtain enantiomeric pure sec-alcohols**
Monteiro, C. M., Lourenço, N. M. T., Afonso, C. A. M.

15h30 **OC3 - Sustainable Tandem Reactions Involving Hydroformylation**
Ana R. Almeida, Artur R. Abreu, Pedro M. P. Gois, J. C. Bayón and Mariette M. Pereira

15h50 **OC5 - Straightforward synthesis to pyrido[2,3-*d*]pyrimidine-2,4-diones and their ADME properties**
Martyna Jatzak, Koen Muylaert, Janneke Keemink, Benjamin Wuyts, Patrick Augustijns, Christian V. Stevens

16h10 **Coffee Break + Poster Session (P1 – P43)**

17h30 **OC7 - An efficient synthetic route towards new antimicrobial deoxy sugars with anti-ageing potential - assessing the importance of configuration and deoxygenation pattern**
Catarina Dias,* Tobias Lange, Amélia P. Rauter

17h50 **OC9 - Rational Design of Novel Anti-inflammatory drugs: is COX-2 selectivity an advantage?**
Luisa C. R. Carvalho, Daniela Ribeiro, Raquel S. G. R. Seixas, Artur M. S. Silva, Eurico J. Cabrita, Eduarda Fernandes and M. Manuel B. Marques

18h10 **OC11 - Novel Ionic Liquids as Active Pharmaceutical Ingredients (ILs-APIs) based on Ibuprofen and Naproxen**
Alexandra Costa, Andreia Forte, Núria Muñoz, Madalena Dionísio and Luís C. Branco

Tuesday, 29th April 2014

18h30 General Assembly

19h30 Welcome Reception

Chemistry Auditorium

Medicinal Chemistry

14h30 IL3 - From Molecules to Man: Molecular Imaging as a Translational Tool in Biomedical Research
M. Castelo Branco, Antero J. Abrunhosa

15h10 OC2 - Spiropyrazoline oxindoles: A new class of compounds with potential anticancer activity
Ángelo Monteiro, Lídia M. Gonçalves and Maria M. M. Santos

15h30 OC4 - Synthesis and biological evaluation of spiroisoxazoline oxindoles as anticancer agents
Ribeiro C. J. A., Amaral J. D., Rodrigues C. M. P., Moreira R., and Santos M. M. M.

15h50 OC6 - Computational Study of G2 Checkpoint Protein Kinases-Inhibitor Complexes
Pedro M. M. Araújo, Luís Pinto da Silva and Joaquim C.G. Esteves da Silva

16h10 Coffee Break + Poster Session (P1 – P43)

17h30 OC8 - Targeting the erythrocytic and liver stages of malaria parasite with s-triazine-based hybrids
Rodrigues, C. A. B., Albuquerque, I. S., Gut, J., Moreira, R.; Mota, M. M., Rosenthal, P. J., Prudêncio, M., Afonso, C.A.M.

17h50 OC10 - Bis-alkylamine indolo[3,2-b]quinolines as hemozoin ligands: antimalarial cytostatic and cytotoxic activities.
Marta Figueiras, Marta Machado, Catarina Charneira, João Lavrado, Dinora Lopes, Jiri Gut, Philip J. Rosenthal, Fátima Nogueira, Rui Moreira, Alexandra Paulo

18h10 OC12 - Tackling API solubility and stability problems by developing new multicomponent crystal forms: Azelaic acid, Nalidixic acid and Dapsone
I. C. B. Martins^{*}, M. Martins, V. André and M. T. Duarte

18h30 General Assembly

19h30 Welcome Reception

Wednesday, 30th April 2014

Main Auditorium

Physical Chemistry

- 9h00** **IL4 - Charging redox flow batteries using the sunlight.**
Adélio Mendes
- 9h40** **IL5 - The Molecules of Colour**
J. Sérgio Seixas de Melo
- 10h20** **OC13 - Luminescent supramolecular hydrogen-bonded frameworks**
Samuel Guieu, João Rocha and Artur M. S. Silva
- 10h40** **OC15 - Fenton-like oxidation of small aromatic acids from biomass burning in water and in the absence of light: implications for atmospheric chemistry**
Patrícia S.M. Santos, Armando C. Duarte
- 11h00** **Coffee Break**
- 11h30** **OC17 - Study of the Photostability of UV-filters 4-Methylbenzylidene Camphor and Octocrylene in Chlorinated Water**
Mariana M. de Oliveira e Sá, Margarida S. Miranda and Joaquim C.G. Esteves da Silva
- 11h50** **OC19 - Role of the Base and Control of Selectivity in the Suzuki–Miyaura Cross–Coupling Reaction.**
Carlos F. R. A. C. Lima, Ana S. M. C. Rodrigues, Vera L. M. Silva, Artur M. S. Silva and Luís M. N. B.
- 12h10** **OC21 - Insights on the Nanostructuring of Ionic Liquids by Infrared Spectroscopy**
Inês C. M. Vaz, Marisa A. A. Rocha, Luís M. N. B. F. Santos
- 12h30** **OC23 Chemistry in the e-lab: a new wave**
Sérgio Leal, João P. Leal
- 12h50** **Lunch**
- 14h30** **Social Programme**
- 16h30** **Coffee Break + Poster Session (P44 – P91)**
- 20h00** **Conference Dinner**

Wednesday, 30th April 2014

Chemistry Auditorium

Materials Science and New Technologies

- 9h40** **IL6 - Novel nanostructured conducting materials for application to electrochemical sensing and biosensing.**
Christopher M.A. Brett
- 10h20** **OC14 - Bipyridinium salts as reversible electrochromic materials**
Noémi Jordão, Luis Cabrita, Hugo Cruz, Fernando Pina and Luís C. Branco
- 10h40** **OC16 - Effect of the microstructure of the polymeric matrix on performance of PDLC devices**
Ana Mouquinho, João Sotomayor
- 11h00** **Coffee Break**
- 11h30** **OC18 - Insights into the world of pharmaceuticals using mechanochemistry: Polymorphs, co-crystals and bio-inspired metal organic frameworks**
V. André, S.Quaresma, M. Martins and M.T. Duarte
- 11h50** **OC20 - Phosphorescent wood oil**
Diana M. Crista, Maria C. Mendonça and Joaquim Esteves da Silva
- 12h10** **OC22 - Silica-bound sulfonic acid catalysts for esterification reactions**
Mohamed M. Aboelhassan, Andreia F. Peixoto and Cristina Freire
- 12h30** **OC24 Two-Photon Activated 3D Data Storage**
Inês F. A. Mariz, Catarina A. B. Rodrigues, Ermelinda M. S. Maçôas, Filipa Siopa, Carlos Afonso and José M. G. Martinho
- 12h50** **Lunch**
- 14h30** **Social Programme**
- 16h30** **Coffee Break + Poster Session (P44 – P91)**
- 20h00** **Conference Dinner**

Thursday, 1st May 2014

Main Auditorium

Biophysics and Biological Chemistry

- 9h30** **IL7 - The Cellulosome: a multienzymatic and dynamic machine for the degradation of cellulose.**
Maria João Romão
- 10h10** **PL1 - Can structures lead to improved therapeutics?**
Ada Yonath
- 11h10** **Coffee Break**
- 11h20** **OC25 - Physiological Ca²⁺ concentrations induce PI(4,5)P₂ clustering and have an impact in PI(4,5)P₂ partition properties.**
M.J. Sarmiento, M.E. Monteiro, A. Coutinho, M. Prieto, F. Fernandes
- 11h40** **OC27 - Computational studies on the catalytic mechanism of human Heparan Sulfate 3-O-sulfotransferase in light of the Herpes Simplex Virus type 1 infection.**
Rui P. Sousa, Pedro A. Fernandes, Maria J. Ramos, Natércia F. Brás
- 12h00** **PL2 - The revolution of Personalized Medicine: Are we going to cure all diseases and at what price?**
Aaron Ciechanover
- 13h00** **Lunch**
- 14h15** **Solchemar – Excellence in Sustainable Chemistry Session sponsored by SOLCHEMAR.**
- 15h45** **Closing session with PYCA**

Thursday, 1st May 2014

Chemistry Auditorium

Analytical Chemistry

- 09h30** **IL8 -**
Elvira Fortunato
- 11h10** **Coffee Break**
- 11h20** **OC26 - Biosorbents for the removal of mercury, cadmium and lead from salt waters**
Paula Figueira, Cláudia B.Lopes, Bruno Henriques, Luciana S. Rocha, Ana T. Reis, Miguel A. Pardal, J.A. Borges, Armando C. Duarte and Eduarda Pereira
- 11h40** **OC28 - How many people contribute to Chemistry in the University of Coimbra? A comparison with other Portuguese and foreign (MIT, Lund) universities.**
Tânia F. Cova, Susana Jarmelo, Sérgio Seixas de Melo and Alberto A.C.C. Pais

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Posters Communications

Medicinal Chemistry

- 1 Synthesis of a potential orally-active antithrombotic small molecule.**
Madalena Pinto, Emília Sousa, [Paula Cardoso](#), Marta Correia-da-Silva, Bárbara Duarte, Franklim Marques
- 2 Rational design and synthesis of 8- β -D-glucosylgenistein analogues with activity against Diabetes and Alzheimer's.**
Amélia Pilar Rauter, Ana Rita Jesus, Rogério Ribeiro, M. Paula Macedo, [Ana Marta de Matos](#)
- 3 Chemical analysis of *Salvia sclareoides* volatile oil obtained by supercritical fluid extraction.**
Clara Grosso, Alice Martins, [Daniela Batista](#), Amélia P. Rauter, António M. F. Palavra
- 4 Comparative In Vitro Studies on the Photodynamic Effectiveness of 5,10,15,20-tetrakis-(quinolin-2-yl)-porphyrin and 5,10,15,20-tetrakis-(4-carboxyphenyl)-porphyrin against Colon Cancer Cells.**
Cláudia T. Arranja, Abílio J. F. N. Sobral, Joana de Almeida e Silva, Ana M. Urbano, [Letícia D. Costa](#)
- 5 Improved precursors to new bio-inspired materials: novel coordination networks by mechanochemical and solvothermal synthesis.**
Vânia André, M. Teresa Duarte, [Sílvia Quaresma](#), Marta Martin
- 6 Galectin-1 as a promising target on the development of photosensitizers.**
José A. S. Cavaleiro, João P. C. Tomé, [Patrícia M. R. Pereira](#), Sandrina Silva, Carlos A. F. Ribeiro, Rosa Fernandes

Organic and Inorganic Chemistry

- 7 Synthesis of luminescent lead iodide nanoparticles embedded in zeolite matrix and application as water sensor.**
[Rúben R. Ferreira](#), César A.T. Laia
- 8 Supramolecular networks self-assembled from copper(II) aminoalcohol blocks and 2,6-naphthalenedicarboxylate linkers.**
Vânia André, M. Teresa Duarte, Alexander M. Kirillov, [Sara S. P. Dias](#), Julia Klak
- 9 Synthesis and immobilization of Bidentate bearing Mo(II) complexes for use as heterogeneous precursor catalysts in olefin epoxidation catalysis.**
Carla D. Nunes, Maria José Calhorda, [João T. Marreiros](#)
- 10 Solid acid catalysts for epoxide ring opening with amines.**
Cristina Freire, Andreia F. Peixoto, Sónia M. Silva, [João P. Novais](#), Diogo J. Oliveira, Mohamed M. Aboelhassan

- 11 Mo nano-sized nanoparticles as efficient catalysts.**
Cristina I. Fernandes, Carla D. Nunes, Pedro D. Vaz
- 12 Synthesis of Metal-Free and Copper Phthalocyanines Containing Chiral Carbons in the Side Chain.**
Hale Ocak, Belkis Bilgin Eran, Sibel Eken Korkut, Dilek Güzeller, Muhammet Kasim Sener
- 13 High Pressure Microwave in Homogeneous Catalysis.**
Carlos J. P. Monteiro, Mariette M. Pereira, Ana R. Almeida, Marta Pineiro, Lucas D. Dias, Gilberto L.B. Aquino, Mário J.F. Calvete, Alberto A.C.C. Pais, Liliana Damas
- 14 Copper complexes of selected Biginelli 3,4-dihydropyrimidine-2(1H)- thiones: synthetic studies and structural characterization.**
M. Pineiro, N. González-Ballesteros, D. Pérez Álvarez, B. F. O. Nascimento, M. C. Rodríguez-Argüelles
- 15 Novel high efficiently photosensitizer axially carborane-cage substituted silicon phthalocyanine; Synthesis, Characterization and Photophysical Properties.**
Güknur Yasa Atmaca, Kübra Nisa Sahin, Tarik Eren, Ali Erdogmus
- 16 Synthesis of Azido Sugars as Synthons for Nitrogen-Containing Sugar Derivatives with Potential Biological Interest.**
Nuno M. Xavier, Mariana J. Patrão
- 17 A new approach towards anti-inflammatory drugs.**
Euarda Fernandes, Marina J. Dias Pires, Maria Manuel B. Marques
- 18 Synthesis of new hexacyclic steroids via $[8\pi+2\pi]$ cycloaddition of diazafulvenium methides.**
Teresa M. V. D. Pinho e Melo, Susana M. M. Lopes, Jorge A. R. Salvador, Cátia F. O. Correia
- 19 Gold nanoparticles coated with highly charged polymers.**
Guerreiro Alves, N., Moreira, J., Costa, A. And Pinheiro, J
- 20 Targeting triple-negative breast cancer cells with 6,7-bis(hydroxymethyl)-1H,3H-pyrrolo[1,2-c]thiazoles.**
Teresa M. V. D. Pinho e Melo, Maria I. L. Soares, Andreia S. R. Oliveira
- 21 Synthesis of chitosan nanoparticles bearing folic acid conjugates for active cancer cell targeting.**
Carlos A. M. Afonso, Alexandre F. Trindade, João M. Ravasco, António J. Almeida
- 22 PGN - towards a fragment of bacterial peptidoglycan.**
Sérgio R. Filipe, M. Manuel B. Marques, Tomé C. Silva

- 23 Study on Wittig olefination for the synthesis of carbohydrate-based butyrylcholinesterase inhibitors.**
Andreia Almeida, Amélia P. Rauter, Vasco Cachatra
- 24 Synthesize of aziridines from diazo-diazirine compounds.**
Cristina E. A. Sousa, M. José Alves
- 25 Exploring the 2-deoxypentopyranosides for potential application as antimicrobial agents: synthesis and surface activity.**
Andreia Almeida, Patrícia Serra, Alice Martins, Amélia P. Rauter, Vasco Cachatra, Maria Soledade Santos
- 26 Characterization of rosin samples using GC-MS and chemometrics analysis: origin and composition.**
A. A. C. C. Pais, M. J. Rosa, S. Gramacho, Tânia Firmino, M. Pineiro
- 27 ϵ -Functionalization of 5-Substituted Furfurals Via Trienamine Intermediates.**
Carlos A. M. Afonso, Alexandre F. Trindade, Vânia André, M. Teresa Duarte, Jaime A. S. Coelho
- 28 Studies interaction of copper(II) acetate with three different diaryl-3,4-dihydropyrimidine-2(1H)-thiones by microwave heating.**
C. M. Chaves, D. Pérez Álvarez, N. González-Ballesteros, M.C. Rodríguez-Argüelles, M. Pineiro
- 29 Synthesis of Prodelphinidins.**
Victor Freitas, Natércia Teixeira, Nuno Mateus
- 30 Synthesis and early ADME evaluation of a novel scaffold, Tetrahydro-6H-pyrido[3,2-b]azepin-6-one.**
Martyna Jatzak, Koen Muylaert, Janneke Keemink, Benjamin Wuyts, Christian V. Stevens, Laurens De Coen, Hans Loones, Daniel Garcia, Sven Mangelinckx, Pieter Annaert
- 31 Catalytic wet peroxide oxidation of highly concentrated 4-nitrophenol solutions using metal-free graphene-based materials.**
José L. Figueiredo, Joaquim L. Faria, Adrián M.T. Silva, Rui S. Ribeiro, Helder T. Gomes, Luisa M. Pastrana-Martínez
- 32 Production of alternative adsorbents by pyrolysis of paper mill sludge for the removal of pharmaceuticals from water.**
Sérgio M. Santos, Vânia Calisto, Catarina I. Ferreira, Marta Otero, Valdemar I. Esteves, María Victoria Gil
- 33 Biomimetic synthesis and characterization of new acridine derivatives.**
Susana L. H. Rebelo, Cristina Freire, Alexandre Magalhães, Margarida Linhares, Krzysztof Biernacki

Biophysics and Biological Chemistry

- 34 **Theoretical structural studies for the development and synthesis of stereoselective aza-sugars with improved activity towards Golgi α -mannosidase II.**
Bárbara Abreu, Nuno Micaêlo
- 35 **Design of novel peptidomimetics using non-canonical Acnc amino acids.**
Nuno Micaelo, Tarsila G. Castro
- 36 **The cytotoxic bile acid DCA is able to change apoptotic signalling through modulation of mitochondrial membrane properties.**
Fábio Fernandes, Cecília M. P. Rodrigues, Tânia Sousa, Sandra Pinto, Ana Coutinho, Manuel Prieto, Susana D. Lucas, Rui Castro, Rui Ferreira Moreira
- 37 **Synthesis of choline sulfonate buffers and their effect on cytochrome c dissolution and oxidation state.**
Nuno M. T. Lourenço, Ângelo Rocha, Luis P. Fonseca, Raquel Teixeira, Sara C. Matias
- 38 **Enzymatic Isomerisation of Glucose to Fructose by Glucose Isomerase (Sweetzyme®): A High School Experiment.**
Carlos A. M. Afonso, Svilen P. Simeonov, Andreia P. C. da Rosa
- 39 **Synthesis and biological studies of new antimicrobial 2,6-dideoxy-arabino-hexopyranosides.**
Amélia Pilar Rauter, João Pais, Ricardo Dias, Rogério Tenreiro
- 40 **Interaction of antibacterial sugar-based surfactants with model lipid membranes: insights from molecular dynamics simulations.**
Amélia P. Rauter, Rafael Nunes, Diogo Vila-Viçosa, Miguel Machuqueiro
- 41 **Ligand interactions with transthyretin amyloid fibrils.**
Pedro F. Cruz, Rui M. M. Brito, Diana S. Antunes, Elisabete Ferreira, Zaida L. de Almeida, Tiago Q. Faria
- 42 **Molecular crowding effects on thermotropic properties of the different lipid bilayers.**
Ana Maria Alves, Renato Cardoso, Maria João Moreno
- 43 **Separation of free fatty acids from deodorizer distillates using choline hydrogen carbonate and supercritical carbon dioxide.**
Alexandre Paiva, Nuno M. T. Lourenço, Ângelo Rocha, Pedro Visinha, Pedro Simões
- 44 **A Computational Study on the Catalytic Mechanism from the Human Pancreatic α -Amylase: The Glycosylation and Deglycosylation Steps**
G. P. Pinto, N. F. Brás, P. A. Fernandes, M. Toscano, N. Russo, and M. J. Ramos

Physical Chemistry

45 Solid State Investigation of 1,2-Cyclohexanedimethanol Isomers.

Teresa M. R. Maria, Ricardo A. E. Castro, João Canotilho, M. Ermelinda S. Eusébio, M. Ramos Silva, [Sara Pereira](#), Tânia Santos

46 Experimental and computational energetic study of 1-R-2-phenylindole (R=H, CH₃, C₂H₅).

Maria D.M.C. Ribeiro da Silva, Luisa M.P.F.Amaral, Victor M. F. Morais, [Tânia M. T. Carvalho](#)

47 Polymorphism of cis and trans-1,3-Cyclohexanediol Isomers.

Mário T. S. Rosado, Teresa M. R. Maria, Ricardo A. E. Castro, João Canotilho, M. Ermelinda S. Eusébio, M. Ramos Silva, [Melodia F. Oliveira](#)

48 Luminescent γ -Cyclodextrin Inclusion Compounds With Eu(III) Nitrates Complexes.

Mariela M. Nolasco, [Raquel S. Lopes](#), Patrícia M. Vaz, Luís D. Carlos, Paulo Ribeiro-Claro

49 Investigation of Surface Characterisation of 4-[4-(2-Ethylhexyloxy)Benzoyloxy]Benzoic Acid Thermotropic Liquid Crystal By Inverse Gas Chromatography.

[Fatih Cakar](#), Hale Ocak, Emine Ozturk, Ozlem Cankurtaran, Belkis Bilgin Eran, Ferdane Karaman

50 Calcium phosphate mineralization with a sulfonated polyaniline derivative.

Ferdane Karaman, [Ozlem Yazici](#), Neslihan S. Emir

51 ROMP based Boron Nitride Composites.

[Keziban Hüner](#)

52 Methacryl functionalized boron nitride / polystyrene composites and investigation of dielectric properties. [E. Altay](#), Y. Voynich, Lina L. Sartinska, T.

Eren, M. Maksutoglu

53 MIPs-based e-tongue for the detection of quaternary ammonium salts.

[João Barbosa](#)

54 Temperature dependence of the phosphorescence and of the thermally activated delayed fluorescence of 12C70 and 13C70 in amorphous polymer matrices. Is a second triplet involved?

Mário Nuno Berberan e Santos, [Tiago Palmeira](#), Alexander Fedorov

55 Tautomerism in 2 mercaptoimidazole: an experimental FTIR matrix-isolation and theoretical study.

Rui Fausto, [Elisa Brás](#), Ana Borba

- 56 Transport properties of ephedrine hydrochloride through poly(vinyl alcohol) matrices - a simple method for enantiometric differentiation.**
Hugh D. Burrows, Artur J. M. Valente, Cesar M. C. Filho, Adley Rubira, Edvani C. Muniz
- 57 Photochemical studies of new aminosquarylium dyes.**
Diana P. Ferreira, David S. Conceição, Luís F. Vieira Ferreira, V. C. Graça, Paulo F. Santos
- 58 Capture of an Elusive spiro-2H-Azirine: A Key Intermediate in the Photochemistry of 1,2-Benzisoxazole.**
Claudio M. Nunes, Igor Reva, Rui Fausto, Sandra Pinto
- 59 Dissecting the Jacobsen Catalysts Using Principal Component Analysis.**
M. Natália D. S. Cordeiro, C. Freire, Filipe Teixeira, A. Melo, R. Mosquera
- 60 4-Methylbenzylidene camphor: A computational study of its structure and energetics.**
Paulo J. O. Ferreira
- 61 Matrix Isolation FT-IR Spectroscopic and Theoretical Study of 2-Chloro-6-Fluorobenzoic Acid.**
Rui Fausto, Maria José Guerra, Nihal Kus
- 62 Photodegradation of Naproxen.**
Andreia Romeiro, M. Emília Azenha, Moisés Canle L., Hugh Burrows
- 63 CdSe Nanocrystals as Activators in Peroxyoxalate Chemiluminescence Reaction.**
Artur R. Abreu, Luis G. Arnaut, Kamila K. Mentel

Material Sciences and New Technologies

- 64 Novel magnetic gold recyclable nanocatalyst for the reduction of nitroaromatic compounds.**
Mariana Rocha, Carlos Fernandes, Clara Pereira, Cristina Freire
- 65 How to improve the memory on PDLC films.**
João Sotomayor, Ana Mouquinho, Maria Catarina Silva, João Figueirinhas
- 66 Vacuum deposition of Thin Films for Organic Electronics.**
Luís M. N. B. F. Santos, José C. S. Costa
- 67 Comparisons on the Dispersion Efficiency of Various Surfactants for Single- and Multi-Walled Carbon Nanotubes.**
Bárbara Abreu, Bárbara Claro
- 68 Ion Reduction in Metallic Nanoparticle Nucleation.**
Ana P. M. Carapeto, Ana M. Ferraria, Ana M. Botelho do Rego, S. Boufi, Manuel R. Vilar
- 69 Intrinsic CO₂ adsorption on porphyrin materials: the effect of acid/basic groups.**
Joana de Almeida e Silva, João M. Gil, Abilio J. F. N. Sobral
- 70 Alkaline-earth metals and 5-aminoisophthalic acid-based coordination polymers.**
Baltazar de Castro, Carla Queirós, Ana M. G. Silva, Luís Cunha-Silva
- 71 Electrochemical behavior of novel synthesized ionic liquids.**
Filipe Monteiro-Silva, João Barbosa, Gerardo G. Aguilar
- 72 Development of green composites based on polycaprolactone and pine wood fibers for extrusion and injection molding processing technologies.**
Joana N. Lagarinhos, A. G. Martins, Filipe E. Antunes
- 73 Functional Polymer Nanoparticles for Boron Scavenging.**
C. I. Santos
- 74 Hybrid aerogel powders prepared from water glass at atmospheric pressure.**
Maria de Fátima Júlio, Laura M. Ilharco

75 Fluorescent pH-Sensitive Nanoparticles.

Tânia Ribeiro

76 New fluorescent hexahydroxytriphenylene metal ion sensors.

Laurinda Areias

77 Thermoresponsive fluorescent polymers as temperature sensor in the physiological range.

Suzete Almeida

78 Hybrid Mesoporous Silica Smart Nanocontainers.

Elizabeth Coutinho

79 Polymer diffusion on the surface of carbon nanotubes as probed by NMR.

Eduardo F. Marques, Ricardo M.F. Fernandes, Matat Buzalo, Michael Shtein, Ilan Pri Bar, Oren Regev, István Furó

80 Corrosion of Magnesium Alloys in Physiological Media.

Ferreira, M.C., Fernandes, J.C.S., Silva, T.M., Montemor, M.F

81 Poly[Ni(*salen*)]/TiO₂ nanocomposite films with enhanced photo-induced properties.

Marta Nunes, Cristina Freire

82 Novel Photochromic Hybrid Nanosilicas: Fabrication and Characterization.

Cristina Freire, M. Fernando R. Pereira, Clara Pereira, Tânia Pinto, Paula Costa, Carlos Sousa, Paulo Coelho, C. M. Sousa, O. S. G. P. Soares, Y. Prostota

Analytical Chemistry

83 Application of gas-diffusion microextraction for high-performance liquid chromatographic analysis of volatile compounds in bread.

Rui M. Ramos, José A. Rodrigues, Rui C. Ferreira, Luís M. Gonçalves, Paulo J. Almeida

84 Simultaneous determination of different aldehydes in *Quercus suber* L. cork by gas-diffusion microextraction and high-performance liquid chromatography.

Rui M. Ramos, José A. Rodrigues, Rui C. Ferreira, Luís M. Gonçalves, Paulo J. Almeida

85 Photodegradation of 17 β -estradiol and 17 α -ethinylestradiol: Kinetic studies and effect of humic substances.

Marta Otero, Valdemar I. Esteves, Carla Patrícia Silva, Diana L.D. Lima

86 Removal of the antidepressant fluoxetine from water by activated carbons produced from paper mill sludge.

Vania Calisto, Marta Otero, Valdemar I. Esteves, Maria Victoria Gil, Guilaine Jaria

87 Removal of Fish Anesthetic (MS-222) from Water by Adsorption using Pyrolysed Industrial Residues.

Sérgio M. Santos, Vania Calisto, Marta Otero, Valdemar I. Esteves, Catarina I. A. Ferreira, Eduardo Correa, Helena Nadais

Food Chemistry

88 Wild and commercial samples of *Achillea millefolium* L.: proximate composition and individual compounds obtained by chromatography.

Lillian Barros, Isabel C.F.R. Ferreira, M. Beatriz P. P. Oliveira, Maria Inês Dias, Rita C. Alves, Ana Maria Carvalho

89 Salting-out assisted liquid-liquid extraction as a tool for the recovery of value added compounds from fennel (*Foeniculum vulgare*).

Inês M. Valente, José A. Rodrigues, Luís M. Gonçalves, Manuela M. Moreira, Pamela Neves, Thiago da Fé.

90 High pressure processing applied on strawberry pulp: effect on microbiological and physicochemical parameters during refrigerated storage.

Jorge A. Saraiva, Mauro D. Santos, Adelaide Almeida, Ângela Cunha, José A. Lopes da Silva, Liliana G. Fidalgo, Rui P. Queirós, Ivonne Delgadillo, Helena Gomes, Pilar Morais

91 Shelf-life extension of Caldo Verde soup at 4 °C by high pressure processing.

Jorge A. Saraiva, Mauro D. Santos, Adelaide Almeida, Ângela Cunha, José A. Lopes da Silva, Liliana G. Fidalgo, Rui P. Queirós, Ana Portela, João Vieira, Ivonne Delgadillo

92 Food storage under pressure, hyperbaric storage, at and above room temperature, as an alternative to refrigeration using whey cheese, Requeijão as a case study.

Pedro A. Fernandes, Jorge A. Saraiva, Mauro D. Santos, Liliana G. Fidalgo, Rui P. Queirós, Ivonne Delgadillo, Ricardo V. Duarte, Diana I. Santos, Sílvia A. Moreira