

# Inorganic Chemistry, Radiochemistry and Radiopharmacy

## ◆ Inorganic and Organometallic Chemistry

### Journals

#### Published

BARREIRA, T., LEAL, J.P., Standard Molar Enthalpies of Formation of Mg and Ca Alkoxides, *Eur. J. Inorg. Chem.* (2000) 987-991.

CARVALHO, A., DOMINGOS, A., ISOLANI, P. C., MARQUES, N., PIRES DE MATOS, A., VICENTINI, G., Synthesis, Luminescence Studies and Crystal Structures of Two Europium(II) hydrotris(pyrazol-1-yl)borate Complexes: Eu(HBpz<sub>3</sub>)<sub>2</sub>.2DPSO and Eu(HBpz<sub>3</sub>)<sub>2</sub>.2BPMU, *Polyhedron* **14** (2000) 1707-1712.

CARVALHO, A., GARCIA-MONTALVO, V., DOMINGOS, A., CEA-OLIVARES, R., MARQUES, N., PIRES DE MATOS, A., Synthesis and Characterization of Thorium and Uranium Tetraphenylimidophosphinate Complexes. Crystal and Molecular Structures of Th(tpip)<sub>4</sub>, U(tpip)<sub>4</sub> and UCl(tpip)<sub>3</sub>, *Polyhedron* **19** (2000) 1699-1705.

MARCHANDÉ, N., BRETON, S., GÉRIBALDI, S., CARRETAS, J. M., PIRES DE MATOS, A., MARÇALO, J., Gas Phase Reactivity of Rare Earth Metal Cations with Trialkylorthoformates: Synthesis of Neutral Rare Earth Alkoxides, *Int. J. Mass Spectrom.* **195/196** (2000) 139-148.

SILVA, M., DOMINGOS, A., PIRES DE MATOS, A., MARQUES, N., TROFIMENKO, S., Hydrotris(mesitylpyrazol-1-yl)borate U(IV) Compounds: Synthesis, Structure, and Ligand Isomerization, *J. Chem. Soc., Dalton Trans.* (2000) 4628-4634.

#### Accepted for publication or in press

CARRETAS, J. M., BRANCO, J., MARÇALO, J., ISOLANI, P. C., DOMINGOS, A., PIRES DE MATOS, A., Synthesis and Characterization of Polynuclear Lanthanide Aryloxides, *J. Alloys Comp.*, in press.

BRANCO, J. B., ALMEIDA GASCHE, T., GONÇALVES, A. P., PIRES DE MATOS, A., Selective Isoprene Hydrogenation over LnNi (Ln=Pr, Gd, Tm) Intermetallic Compounds, *J. Alloys Comp.*, in press.

CARVALHO, A., CACHATA, V., LEAL, J.P., Standard Molar Enthalpies of Formation of Li, Na, K

and Tl Cyclopentadienyls, *Eur. J. Inorg. Chem.*, in press.

LOPES, I., HILLIER, A.C., LIU, S.Y.; DOMINGOS, A., ASCENSO, J., GALVÃO, A., SELLA, A., MARQUES, N., Solid State Structure and Solution Behaviour of Eight-Coordinate Sm(III) Poly(pyrazolyl)-borate Compounds, *Inorg. Chem.*, in press.

PIRES DE MATOS, A., FREITAS, M., MARSHALL, A., MARQUES, N., CARVALHO, A., ISOLANI, P. C., VICENTINI, G., FTICR Studies of Polypyrazol-1-yl Borates of Europium (II) Adducts, *J. Alloys Comp.*, in press.

### Communications

ALMEIDA GASCHE, T., BRANCO, J. B., GONÇALVES, A. P., PIRES DE MATOS, A., Selective Isoprene Hydrogenation over AnNi<sub>2</sub> (An=Th, U) Intermetallic Compounds, *4<sup>th</sup> International Conference on f-Elements - ICFE'4*, Madrid, Spain, September 2000. (poster)

BRANCO, J. B., ALMEIDA GASCHE, T., GONÇALVES, A. P., PIRES DE MATOS, A., Selective Isoprene Hydrogenation over LnNi (Ln=Pr, Gd, Tm) Intermetallic Compounds, *4<sup>th</sup> International Conference on f-Elements - ICFE'4*, Madrid, Spain, September 2000. (poster)

CARRETAS, J. M., BRANCO, J., MARÇALO, J., ISOLANI, P. C., DOMINGOS, A., PIRES DE MATOS, A. P., Synthesis and Characterisation of Polynuclear Lanthanide Aryloxides, *4<sup>th</sup> International Conference on f-Elements - ICFE'4*, Madrid, Spain, September 2000. (poster)

LEAL, J. P., RAMINHOS, H., Enthalpies of Formation of Potassium, Rubidium and Caesium Phenolates, *XVII Encontro Nacional da Sociedade Portuguesa de Química*, Lisboa, Portugal, March 2000. (poster)

LOPES, I., DIAS, R., DOMINGOS, A., MARQUES, N., Synthesis of a New Class of Mixed-Ligand Yb(II) Complexes, *XVII Encontro Nacional da Sociedad Portuguesa de Química*, Lisboa, March 2000. (poster)

LOPES, I., DOMINGOS, A., MARQUES, N., Hydrotris(3-Mesitylpyrazolyl)borate Ytterbium (II) Derivatives, *4<sup>th</sup> International Conference on f-elements*, Madrid, Spain, Sep.2000. (poster)

LOPES, I., DOMINGOS, A., MARQUES, N., Hydrotris(3-Mesylpyrazolyl)borate Ytterbium (II) Derivatives, *4<sup>th</sup> International Conference on f-elements*, Madrid, Spain, September 2000. (poster)

OLIVEIRA, M.C., MARÇALO, J., ALMOSTER FERREIRA, M. A., Gas-Phase Reactions of Methanol with Manganese and Iron Oxide Cluster Cations, *15<sup>th</sup> International Mass Spectrometry Conference*, Barcelona, Spain, August 2000. (poster)

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PIRES DE MATOS, A., MARÇALO, J., FREITAS, M. A., MARSHALL, A. G., CHOPPIN, G. R., Uranium Speciation Studies in Aqueous Solutions by FTICR Mass Spectrometry: Evidence for Uranyl Perchlorate Species, *15<sup>th</sup> International Mass Spectrometry Conference*, Barcelona, Spain, August 2000. (poster)

PIRES DE MATOS, A., MARÇALO, J., FREITAS, M. A., MARSHALL, A. G., CHOPPIN, G. R., Uranium Speciation Studies in Aqueous Solutions by FTICR Mass Spectrometry: Evidence for Uranyl Perchlorate Species, *15<sup>th</sup> International Mass Spectrometry Conference*, Barcelona, Spain, August 2000. (poster)

## Theses

### *Lic.*

H. RAMINHOS

*Termoquímica de Fenóxidos e Amidetos de Metais Alcalinos*

Faculdade de Ciências da Universidade de Lisboa  
Supervisor: J.P. Leal

## Other publications

RAMOS, M.A.F.A.C., AMADOR LOUÇA, P., LEAL, J.P., Análise do Programa "Le Chat 2"; *Química* (2000) 79.

## ◆ Inorganic and Radiopharmaceutical Chemistry

### Journals

#### *Published*

COLLIN, J., MARIA, L., SANTOS, I., Uranium Iodides as Catalysts for Diels-Alder Reactions, *Journal of Molecular Catalysis A: Chemical*, **160** (2000) 263-267.

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CORREIA, J.D.G., DOMINGOS, Â., PAULO, A., SANTOS, I., Novel Six-co-ordinate Oxorhenium Complexes with Ligands Containing PN<sub>2</sub> and PNO Donor Atom Sets: Syntheses and Structural Characterization, *J. Chem. Soc., Dalton Trans.* (2000) 2477-2482.

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MARQUES, F., CRESPO, M. E., SILVA, Z. I., BICHO, M., Insulin and High Glucose Modulation of Phosphatase and Reductase Enzymes in the Human Erythrocytes: a Comparative Analysis in Normal and Diabetic States, *Diabetes Research and Clinical Practice*, **47** (2000) 191-198.

PAULO, A., DOMINGOS, A., GARCIA, R., SANTOS, I., Cationic Re(V) Oxo Complexes with Poly(pyrazolyl)borates: Synthesis, Characterization, and Stability, *Inorg. Chem.* **39** (2000) 5669-5674.

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RAPOSINHO, P.D., CASTILLO, E., D'ALLEVES, V., BROQUA, P., PRALONG, F.P., AUBERT, M.L., Chronic Blockade of the Melanocortin 4 Receptor Subtype Leads to Obesity Independently of Neuropeptide Y Action, with no Adverse Effects on the Gonadotropic and Somatotropic Axes, *Endocrinology* **141**(2000) 4419-27

SANTOS, M.A., GRAZINA, R., NETO, A.Q., CANTINHO, G., GANO, L., PATRÍCIO, L., Synthesis, Chelating Properties Towards Gallium and Biological Evaluation of Two N-substituted 3-hydroxy-4-pyridinones, *J. of Inorganic Biochemistry* **78** (2000) 303-311.

SILVA, M.C. MELO, PATRÍCIO, L., GANO, SÁ E MELO, L.M.L., INOHAE, E., MATAKA, S., THIEMANN, T., Synthesis and Biological Evaluation of Two New Radiolabelled Estrogens [<sup>125</sup>I](E)-3-methoxy-17 $\alpha$ -iodovinylestra-1,3,5(10),6-tetraen-17 $\beta$ -ol and [<sup>125</sup>I](Z)-3-methoxy-17 $\alpha$ -iodovinylestra-1,3,5(10),6-tetraen-17 $\beta$ -ol, *Appl. Radiat. Isotopes.* **54** (2) (2000) 227-239.

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CORREIA, J.D.G., DOMINGOS, Â., SANTOS, I., BOLZATI, C., REFOSCO, F., TISATO, F., Synthesis and Structural Analysis of Mono-Oxo Re(V) Complexes with Phosphino-Carboxylato Ligands, *Inorg. Chim. Acta*, in press.

### Conference Proceedings

SANTOS, M.A., GRAZINA, R., NETO, A. Q., CANTINHO, G., GANO, L., PATRÍCIO, L., Synthesis, Chelating Properties Towards Fe(III), Al(III), Ga(III) and and Biological Evaluation of Two N-substituted 3-hydroxy-4-pyridinones, Proceedings of the *6<sup>th</sup> International Symposium on Metal Ions in Biology and Medicine*, San Juan, Puerto Rico, USA, 7-10 May, 2000, pp. 613-615.

### Communications

CORREIA, J.D.G., Specific Radiopharmaceuticals of Re and Tc: Synthesis of New Ligands of the PNO, PNS and PN2 Type; Chemical and Radiochemical Studies, Conference in the Chemistry Department, ITN, July, 2000. (oral)

FERNANDES, C., DOMINGOS, A., CAMPELLO, M. P., CANTINHO, G., LISBOA, S., MOREIRA, R., PATRÍCIO, L. PENA, H., SANTOS, I., Synthesis, Characterization and Biodistribution Studies of  $^{99m}$ Tc-Peptides, *XVII Encontro Nacional da Sociedade Portuguesa de Química*, Lisboa, Portugal, March, 2000. (poster)

GARCIA, R., PAULO, A., DOMINGOS, A., SANTOS, I., Rhenium(I) Tricarbonyl Complexes with poly(methimazolyl)borates, *XVII Encontro Nacional da SPQ*, Lisbon, March 2000. (poster)

GANO, L., Ensino e Actividades de I&D em Radiofarmácia, *Congresso Ibero-Americano de Medicina Nuclear. VIII SPMN- XVII ALASBIMN* Porto, Portugal, 17-20 October, 2000. (invited)

INOHAE, E., THIEMANN, T., UMENO, K., MATAKA, S., MELO E SILVA, M. C., PATRÍCIO, L., MARUJO MARQUES, F., Synthesis and Evaluation of C-7 Substituted estra-1,3,5(10),6 tetraenes as Diagnostica for Estrogen Positive Human Breast Cancer, Abstract Book of the 78<sup>th</sup> Annual Spring Meeting of the Chemical Society of Japan, Chiba, Japan, 2000 (2PB-065, pp. 1366).

MARIA, L., DOMINGOS, A., SANTOS, I., Chemistry of U(III) Dihydrobis(pyrazolyl)borates, *XVII Encontro Nacional da Sociedade Portuguesa de Química*, Lisboa, Portugal, March, 2000. (poster)

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RAPOSINHO, P.D., PEDRAZZINI, T., TOMMASELLI, G., AUBERT, M.L., The Neuropeptide Y Y1 Antagonist/Y4 Agonist 1229U91 Stimulates LH Secretion through NPY Y4 Receptors: Assessment using NPY Y1-deficient Mice, *The Endocrine Society 82<sup>nd</sup> Annual Meeting* (Juin), Toronto. (poster)

SANTOS, I., Re and Tc Complexes with Boron Containing Ligands for Specific Radiotracers, *University of Paris- Sud, Orsay*, France, February, 2000. (invited)

SANTOS, I., Rhenium Organocompounds: Synthesis, Characterization and Potential Applications, 5<sup>th</sup> International Symposium on Organo-Metal Complexes and Catalysis, Baoding, China, August, 2000. (invited)

SANTOS, I., Re and Tc Complexes with Heterofunctionalized Phosphines for in vivo Assessment of Biological Functions, *Montréal University*, Montréal, Canada, November, 2000. (invited)

SANTOS, M.A., GRAZINA, R., NETO, A.Q., CANTINHO, G., GANO, L., PATRÍCIO, L. Synthesis, Chelating Properties Towards Fe(III), Al(III), Ga(III) and and Biological Evaluation of two N-substituted 3-hydroxy-4-pyridinones, Abstract Book of the 6<sup>th</sup> International Symposium on Metal Ions in Biology and Medicine, San Juan, Puerto Rico, USA, 7-10 May, 2000. (poster )

UMENO, K., THIEMANN, T., INOHAE, E., MATAKA, S., MELO E SILVA, M.C., PATRÍCIO, L., GANO, L., SANTOS, A.C., MARUJO MARQUES, F., C-7 substituted estra-1,3,5(10),6-tetraenes as New Radioligands for the Estrogen Receptor ER $\alpha$ , Abstract Book of the XI International Symposium on Supramolecular Chemistry, Acros Fukuoka, Fukuoka, Japan, 30 July - 4 August, 2000. (poster)

## Internal Reports

CORREIA, J.D.G., Re Chemistry with Relevance for Labelling Biomolecules with  $^{99m}$ Tc and  $^{186/188}$ Re for Imaging and Therapy, ITN, February, 2000.

CORREIA J.D.G., *Final Report to M.C., COST Action B12*, May, 2000.

FERNANDES, C., *Final Report to M.C., COST Action B12*, July, 2000.

GANO, L., PATRÍCIO, L., Development of Tc-99m Labelled Somatostatin Analogues and Evaluation of Their Radiochemical and Biological Behaviour, Final Report on IAEA-CRP *Technetium-99m labelled peptides for imaging of peripheral receptors* (IAEA-TECDC).

SILVA, M.C.M., Steroid Receptor-Based Radiotracers for Imaging Breast Tumours, *Monography*, February 2000.

## Theses

### PhD

L. GANO

*Antibodies and Peptides labeled with  $^{99m}$ Tc*  
Faculdade de Farmácia, Universidade de Lisboa,  
Supervisor: Luciana Catela Patrício

### Researcher

M.C.M. SILVA

*Potential Imaging Agents for Estrogen Receptor-Positive Breast Tumours – Synthesis and Characterisation of Estrogen Derivatives*  
ITN, Sacavém  
Supervisor: Thies Thieman

## ❖ Production and Application of Radioisotopes

### Journals

#### *Published*

NEVES, M., DORMEHL, I., KILIAN, E., LOW, W.K.A., LALAOUI, K., PEDROSO DE LIMA, J.J., Evaluation in the Baboon Model of  $^{99m}$ Tc-Biguanide as a Tracer for Renal Imaging, *Nuclear Medicine & Biology* **27** (6) (2000) 593-597.

NEVES, M., KLING, A., LAMBRECHT, R.M., Utilization of low power reactors for therapeutic radiopharmaceuticals, IAEA-CSP-4/C (2000), ISSN 1562-4153.

### Communications

NEVES, M., PEREIRA, N., GANO, L., COSTA, MC, COSTA, MR, ROSADO, M., FAUSTO, R., Synthesis, Characterization and Biodistribution of  $^{153}$ Sm-Bisphosphonates, XVII Congresso da Asociacion Latino-Americana de la Sociedad de Biología y Medicina Nuclear - ALASBIMN 2000.

PRATA, M.I., SANTOS, A.C., NEVES, M., GERALDES, C.F.G.C., PEDROSO DE LIMA, J.J., Complexes of  $^{153}\text{Sm}^{3+}$  and  $^{111}\text{In}^{3+}$  with two DTPA Derivatives with High Hepatic Specificity: *in vivo* and *in vitro* studies, VIII Congresso da Sociedade Portuguesa de Medicina Nuclear, Porto, Portugal, 17-21 October 2000: