

## Curriculum Vitae

Family name: DE SOUZA

Given name: Marcus Vinicius Nora

Place of birth: Rio de Janeiro, Brazil

Nationality: Brazilian

Home address: Rua Padre Frederico 171/27

Bairro Santa Catarina

36036-150 Juiz de Fora - MG - Brazil

Phone: (032) 215-4189.

Professional address: Fundação Oswaldo Cruz, Instituto de Tecnologia em Fármacos-Far Manguinhos.

Rua Sizenando Nabuco, 100, Manguinhos

SANTANA

21041-250 - Rio de Janeiro, RJ - Brazil

Telefone: +55(21) 39772404

e-mail: marcos\_souza@far.fiocruz.br

URL da Homepage: [www.fiocruz.br](http://www.fiocruz.br)

### Education and Diplomas

#### **2008-2008:**

Post-Doc in medicinal chemistry

Genzyme – Boston – **USA**

Research supervisor: Renato Skerlj

Metal Base Complexes.

#### **2000-2002:**

Post-Doctoral in medicinal chemistry,

Juiz de Fora University (Minas Gerais) **Brazil**.

Research supervisor: De Almeida Mauro Vieira

Carbohydrate Chemistry.

#### **1999-2000:**

Post-Doctoral in medicinal chemistry,

The Florida State University (Tallahassee) **USA**.

Research supervisor: Pr. Robert A. HOLTON

Taxol (confidential subject) and Total synthesis (Brevetoxine).

#### **1995-1999:**

Ph.D in organic and biorganic chemistry, Université d'Orsay (Paris XI University)

Institute de Chimie des Substances Naturelles (CNRS, Gif -sur-Yvette) **France**.

Research supervisor: Dr. Robert H. DODD.

Thesis title: "Novel access to rigid or substituted analogs of quinolinic acids by ortho-metalation reactions, palladium-catalyzed coupling reactions and radicals cyclizations applied to the pyridine nucleus".

#### **1991-1994:**

Master in Science Degree, UFMG University (Minas Gerais - MG) - **Brazil**.  
Laboratory of carbohydrates chemistry (NUPEQ).  
Reserch supervisor: Pr. Aurelio MARANDUBA.  
Thesis Title: "Synthesis of esterified carbohydrates with application in liquid cristals".

#### **1987-1990:**

Four Year degree in chemistry, UFJF University (Minas Gerais - MG) - **Brazil**.

### **Research experience**

#### **2011-2011:**

Visiting professor NIH (National Health Institute – Bethesda –Washington) –  
Research in Tuberculosis – Dr. Clifton E. Barry III

#### **2002-2008:**

Six years as responsible of research group in medicinal chemistry focus in Neglect Diseases.

#### **1998:**

Three months training program, University of Barcelona Facultat de farmacia /  
Organic Chemistry Laboratory - Barcelona - **Spain**.  
Research supervisor: Pr. Anna DIEZ.  
"Synthetic Applications of 3-Amino-5-piperidein-2-ones: Synthesis of Methionine-derived Peptidomimetics".

#### **1995:**

Six Months training program, Campinas University (Sao Paulo - SP) **Brazil**.  
Research supervisor: Pr. Lucia BAPTISTELA.  
"Preparation of heptoses from quinic acid".

#### **1994:**

Three months training program, UFJF University (Minas Gerais-MG) - **Brazil**.  
Laboratory of carbohydrates chemistry (NUPEQ).  
Research supervisor: Pr. Mauro Vieira DE ALMEIDA.  
"Synthesis of esterified carbohydrates and inositois with aplications in liquids cristals".

#### **1990-1991:**

One year training program, Laboratory of carbohydrates chemistry (NUPEQ).  
Reserch supervisor: Pr. Aurelio MARANDUBA.  
"Synthesis of carbohydrates compounds".

### **Awards**

#### **2010:**

Most Citad Paper for the paper entitled: Promissing Drugs against Tuberculosis.  
*Recent Patents on Anti-Infective Drug Discovery*, v. 1, p. 33-45, **2006**.

**2009:**

Most Citad Paper 2006-2009 for the paper entitled: Antimalarial activity of 4-(5-trifluoromethyl-1H-pirazol-1-yl)-chloroquine analogues. *Bioorganic & Medicinal Chemistry Letters*, v. 16, p. 649-653, **2006**. Elsevier

**2008:**

Corporated Social Responsibility Award - Genzyme's collaboration with FIOCRUZ, The 4th Annual Scrip Awards - (www.scripaward.com)

**2008:**

Young Scientist FAPERJ (Rio de Janeiro – RJ)

**2008:**

For the contributions in the research at Far-Manguinhos FioCruz - RJ

**Editorial Advisory Board**

- 1) Letters in Drug Discovery Design (Scientific Journal)
- 2) Arkivoc (Scientific Journal)
- 3) Recent Patents on Anti-Infective Drug Discovery (Scientific Journal)

**Languages**

Portuguese: fluent (mother tongue).  
French: fluent (spoken, written).  
Spanish: fluent (spoken, written).  
English: good level (spoke, written).

**Select Publications**

- 1) Gonçalves, R.S.B.; De Souza, M.V.N.; Wardell, S. M. S. V.; Wardell, J. L., Tiekink, E. R. T. (*R*\*,*S*\*)-(±)-1-(2-[2,8-Bis(trifluoromethyl)quinolin-4-yl](hydroxy)methylpiperidin-1-yl)ethanone methanol monosolvate. *Acta Crystallographica. Section E*, v.67, p.2714 - 2715, **2011**.
- 2) De Souza, M. V. N.; Lima, C. H. S.; Wardell, J. L.; Wardell, S. M. S. V.; Tiekink, E. R. T. *N*-[(*E*)-2-Methoxybenzylidene]pyrazine-2-carbohydrazide. *Acta Crystallographica. Section E*, v.67, p.1714 - 1715, **2011**.
- 3) Porto, B. L. S.; De Souza, M. V. N.; De Oliveira M. A. L. Analysis of Omega 3 Fatty Acid in Natural and Enriched Chicken Eggs by Capillary Zone Electrophoresis. *Analytical Sciences*, v.27, p.541 - 546, **2011**.

- 4) De Souza, M. V. N.; Pinheiro, A. C.; Tiekink, E. R. T.; Wardell, S. M. S. V.; Wardell, J. L. Benzyl *N*-(1- $\{N'$ -[(*E*)-2-chlorobenzylidene]hydrazinecarbonyl-2-hydroxyethyl)carbamate. *Acta Crystallographica. Section E*, v.67, p.1868 - 1869, **2011**.
- 5) Wardell, S. M. S. V.; Tiekink, E. R. T.; De Souza, M. V. N.; Pinheiro, A. C.; Wardell, J. L. Benzyl *N*-(1- $N'$ -[(*E*)-2,3-dihydroxybenzylidene]hydrazinecarbonyl-2-hydroxyethyl)carbamate dihydrate. *Acta Crystallographica. Section E*, v.67, p. 2155 - 2156, **2011**.
- 6) Tiekink, E. R. T.; De Souza, Marcus V. N.; Pinheiro, A. C.; Wardell, S. M. S. V.; Wardell, J. L. Benzyl *N*-(2-hydroxy-1- $\{N'$ -[(1*E*)-2-hydroxybenzylidene]hydrazinecarbonyl)ethyl)carbamate. *Acta Crystallographica. Section E*, v.67, p.1866 - 1867, **2011**.
- 7) Pinheiro, A. C.; De Souza, M. V. N.; Tiekink, E. R. T.; Wardell, S. M. S. V.; Wardell, J. L. *tert*-Butyl *N*-(1*S*)-1-[(2,4-dihydroxybenzylidene)hydrazinecarbonyl]-2-hydroxyethylcarbamate ethanol monosolvate. *Acta Crystallographica. Section E*, v.67, p.581 - 582, **2011**.
- 8) Pinheiro, A. C.; De Souza, M. V. N.; Tiekink, E. R. T.; Wardell, S. M. S. V.; Wardell, J. L. *tert*-Butyl *N*-((1*S*)-2-hydroxy-1- $\{N'$ -[(1*E*)-4-methoxybenzylidene]hydrazinecarbonyl)ethyl)carbamate. *Acta Crystallographica. Section E*, v.67, p.1805 - 1806, **2011**.
- 9) Castro, A. A.; De Souza, M. V. N.; Rey, N. A.; Farias, P.A.M. Determination of Efavirenz in diluted alkaline electrolyte by cathodic adsorptive stripping voltammetry at the mercury film electrode. *Journal of the Brazilian Chemical Society (Online)*, v.22, p.1662 - 1668, **2011**.
- 10) Faria, A. F.; Marcellos, L. F.; Vasconcelos, J. P.; De Souza, M. V. N.; Do Carmo, W.R.; Diniz, R.; De Oliveira, M. A. L. Ethambutol Analysis by Copper Complexation in Pharmaceutical Formulations: Spectrophotometry and Crystal Structure. *Journal of the Brazilian Chemical Society (Impresso)*, v.22, p.867 - 874,

**2011.**

11) Wardell, J. L.; De Souza, M.V.N.; Wardell, S.M.S.V.; Lourenço, M.C.S. Mefloquine derivatives: Crystal structures and anti-tubercular activities of diphenyl[*((R\*,S\*)-2,8-bis(trifluoromethyl)quinolin-4-yl)-piperidin-2-yl-methanolato-O,N]*boron and ( $\pm$ )-*erythro*-mefloquinium tetraphenylborate solvates. *Journal of Molecular Structure (Print)*, p.67 - 74, **2011**.

12) Gonçalves, R. S. B.; Pinheiro, A. C.; Da Silva, E. T.; Da Costa, J. C. S.; Kaiser, C. R.; De Souza, M. V. N. Simple methodology for the preparation of amino alcohols from amino acid esters using NaBH<sub>4</sub>-Methanol in THF. *Synthetic Communications*, v.41, p.1276 - 1281, **2011**.

13) De Souza, M.V.N.; Ferreira, M. L.; Cardoso, L. N. F. Sodium Chlorite (NaClO<sub>2</sub>): An important reagent in alcohol and aldehyde oxidation and its application in total synthesis of natural products. *Journal of Biologically Active Products from Nature*, v.1, p.52 - 80, **2011**.

14) Gonçalves, R.S.; Kaiser, C.R.; De Souza, M.V.N.; Wardell, J.L.; Wardell, S.M.S.V.; Howie, R.A. Structures of 4-{3-(X-phenyl)perhydro-1,3-oxazolo[3,4-a]pyridin-1-yl}-2,8-bis(trifluoromethyl)quinolines (X = H, 2-O<sub>2</sub>N, 3-O<sub>2</sub>N and 4-O<sub>2</sub>N), derived from Mefloquine. *Zeitschrift für Kristallographie*, v.226, p.793-803, **2011**.

15) Cunico, W.; Gomes, C.R.B.; Ferreira, M.L.G.; Ferreira, T.G.; Cardinot, D.; De Souza, M.V.N.; Lourenço, M.C.S. Synthesis and anti-mycobacterial activity of novel amino alcohol derivatives. *European Journal of Medicinal Chemistry*, v.46, p.974 - 978, **2011**.

16) Lima, C.H.S.; Henriques, M.G.M.O.; Candéa, A.L.P.; Lourenço, M.C.S.; Bezerra, F.A.F.M.; Kaiser, C. R.; De Souza, M.V.N. Synthesis and antimycobacterial evaluation of *N-(E)*-heteroaromaticpyrazine-2-carbohydrazide derivatives. *Medicinal Chemistry (Hilversum)*, v.7, p.245 - 249, **2011**.

17) Cardoso, S.H.; Barreto, M.B.; Lourenço, M.C.S.; Henriques, M.G.M.O.;

Candéa, A.L.P.; Kaiser, C.R.; De Souza, M.V.N. Synthesis and *in vitro* antimycobacterial activity of *N*'-benzylidene-2-oxo-2H-chromene-3-carbohydrazides derivatives. *Chemical Biology & Drug Design (Print)*, v.77, p.489, **2011**.

18) Pinheiro, A.C.; Rocha, M.N.; Nogueira, P.M.; Nogueira, T.C.M.; Jasmim, L.F.; De Souza, M.V.N.; Soares, R.P. Synthesis, cytotoxicity, and *in vitro* antileishmanial activity of mono-*t*-butyloxycarbonyl-protected diamines. *Diagnostic Microbiology and Infectious Disease*, v.71, p.273 - 278, **2011**.

19) Wardell, J.L.; De Souza, M.V.N.; Pinheiro A. C.; Tiekink, E. R. T.; Wardell, S.M.S.V. *tert*-Butyl *N*-((1*S*)-2-hydroxy-1-*N'*-[(*E*)-2-hydroxy-4-methoxybenzylidene]hydrazinecarbonyl)ethyl)carbamate. *Acta Crystallographica. Section E*, v. 67, p.1888 - 1889, **2011**.

20) Howie, R.A.; De Souza, M.V.N.; Pinheiro, A.; Kaiser, C.R.; Wardell, J.L.; Wardell, S.M.S.V. (*S*)-1-[*N*-(Benzylidene)hydrazinylcarbonyl]-2-hydroxyethylcarbamate esters: layered structures created from X - H...O ( X = N,O) hydrogen-bonds. *Zeitschrift für Kristallographie*, v.226, p. 483-491, **2011**.

21) Pinheiro, A.C.; De Souza, M.V.N.; Wardell, J.L.; Wardell, S.M.S.V.; Tiekink, E.R.T. 1,3-Dicyclohexyl-3-[(pyridin-2-yl)carbonyl]urea monohydrate from synchrotron radiation. *Acta Crystallographica. Section E*, v.67, p.2676 - 2677, **2011**.

22) Gonçalves, R.S.B.; Kaiser, C.R.; De Souza, M.V.N.; Wardell, J.L.; Wardell, S.M.S.V.; Tiekink, E.R.T. 2-{1-[2,8-Bis(trifluoromethyl)quinolin-4-yl]-3,5,6,7,8,8a-hexahydro-1H-1,3-oxazolo[3,4-a]pyridin-3-yl}phenol. *Acta Crystallographica. Section E*, v.67, p.1656 – 1657, **2011**.

23) De Souza, M.V.N.; Wardell, J.L.; Wardell, S.M.S.V.; Ng, S.W.; Tiekink, E.R.T. 2-{[2,8-Bis(trifluoromethyl)quinolin-4-yl](hydroxy)methyl}piperidin-1-ium 3-amino-5-nitrobenzoate sesquihydrate. *Acta Crystallographica. Section E*, v.67, p. 3019 - 3020, **2011**.

- 24) Howie, R.A.; De Souza, M.V.N.; Wardell, S.M.S.V.; Wardell, J.L.; Tiekink, E.R.T. *N'*-[(*E*)-2,6-Dichlorobenzylidene]pyrazine-2-carbohydrazide. *Acta Crystallographica. Section E*, v. 66, p. 178-179, **2010**.
- 25) Da Silva, J.A.F.; De Castro, N.V.; De Jesus, D.P.; Faria, A.F.; De Souza, M.V.N.; De Oliveira, M.A.L. Fast determination of ethambutol in pharmaceutical formulations using capillary electrophoresis with capacitively coupled contactless conductivity detection. *Electrophoresis*, v. 31, p. 570-574, **2010**.
- 26) Carvalho, S.A.; Da Silva, E.F.; De Souza, M.V.N.; Tiekink, E.R.T.; Wardell, J.L.; Wardell, S.M.S.V. (*2E*)-*N'*-Benzoyl-3-(4-nitrophenyl)prop-2-enohydrazide. *Acta Crystallographica. Section E*, v. 66, p. 150-151, **2010**.
- 27) Howie, R.A.; Gonçalves, R.S.; De Souza, M.V.N.; Tiekink, E.R.T.; Wardell, J.L. 2-Bromopyridine-3-carboxylic acid. *Acta Crystallographica. Section E*, v. 66, p. 486-486, **2010**.
- 28) Nogueira, T.C.M.; De Souza, M.V.N.; Wardell, J.L.; Wardell, S.M.S.V.; Tiekink, E.R.T. *N*-(4-Bromophenyl)-2-(2-thienyl)acetamide. *Acta Crystallographica. Section E*, v. 66, p. 177-177, **2010**.
- 29) De Souza, M.V.N.; Howie, R.A.; Tiekink, E.R.T.; Wardell, J.L.; Wardell, S.M.S.V. 7-Chloro-4-[(*E*)-*N'*-(4-fluorobenzylidene)hydrazinyl]quinoline monohydrate. *Acta Crystallographica. Section E*, v. 66, p. 152-153, **2010**.
- 30) Carvalho, S.A.; Da Silva, E.F.; Lourenço, M.C.; De Souza, M.V.N.; Fraga, C.A.M. Antimycobacterial Profile of 5-phenyl-1,3,4-thiadiazole-2-arylhydrazone Derivatives. *Letters in Drug Design & Discovery*, v. 7, p. 606-609, **2010**.
- 31) Pinheiro, A.C.; De Souza, M.V.N.; Tiekink, E.R.T.; Wardell, J.L.; Wardell, S.M.S.V. Benzyl *N*-((*S*)-2-hydroxy-1-{*N'*-[(*E*)-2-methoxybenzylidene]hydrazinecarbonyl}ethyl)carbamate from synchrotron data. *Acta Crystallographica. Section E*, v. 66, p. 1004-1005, **2010**.

- 32) De Souza, M.V.N.; Pinheiro, A.C.; Tiekink, E.R.T., Wardell, S.M.S.V.; Wardell, J.L. Benzyl *N*-[(*S*)-2-hydroxy-1-({[(*E*)-2-hydroxy-4-methoxybenzylidene]hydrazinyl}carbonyl)ethyl]carbamate. *Acta Crystallographica. Section E*, v. 66, p. 3253-3254, **2010**.
- 33) De Souza, M.V.N.; Pinheiro, A.C.; Tiekink, E.R.T.; Wardell, S.M.S.V.; Wardell, J.L. Benzyl *N*-{(1*S*)-2-hydroxy-1-[*N'*-(2-nitrobenzylidene)hydrazinylcarbonyl]ethyl}carbamate. *Acta Crystallographica. Section E*, v. 66, p. 2023-2024, **2010**.
- 34) Pinheiro, A.C.; De Souza, M.V.N.; Wardell, S.M.S.V.; Wardell, J.L.; Tiekink, E.R.T. *t*-Butyl *N*-[(*S*)-1-hydrazinecarbonyl-2-hydroxyethyl]carbamate. *Acta Crystallographica. Section E*, v. 66, p. 994-994, **2010**.
- 35) Howie, R. A.; Lima, C.H.S.; Kaiser, C.R.; De Souza, M.V.N.; Wardell, S.M.S.V. Hydrated (pyrazinecarbonyl)hydrazones of hydroxy and methoxy substituted benzaldehydes. *Zeitschrift für Kristallographie*, v. 225, p. 349-358, **2010**.
- 36) Da Silva, M.M.; Silva, D.O.; Gomes, C.R.B.; De Souza, M.V.N. Nitroimidazoles – a promising class of compounds for the treatment of tuberculosis. *Revista Virtual de Química*, v. 2, p. 105-117, **2010**.
- 37) De Souza, M.V.N.; Facchinetti, V.; Carvalho, D.C.; Gomes, C.R.B. Natural products with Translocase I inhibitors activity, as new lead compounds against tuberculosis. *Boletín Latinoamericano y del Caribe de Plantas Medicinales y Aromáticas*, v. 9, p. 1-12, **2010**.
- 38) Howie, R.A.; Lima, C.H.S.; Kaiser, C.R.; Da Silva, M.M.; De Souza, M.V.N.; Wardell, J.L.; Wardell, S.M.S.V. (Pyrazinecarbonyl)hydrazones of heteroarenealdehydes: crystal structures formed from N–H···O, N–HN, C–H···O hydrogen-bonds, C–H··· $\Pi$  and  $\Pi$ ··· $\Pi$  interactions. *Zeitschrift für Kristallographie*, v. 225, p. 245-252, **2010**.

- 39) Goncalves, R.S.B.; Souza, M.V.N. Recent developments in pleuromutilin derivatives, a promising class against bacterial respiratory disease. *Current Respiratory Medicine Reviews*, v. 6, p. 91-101, **2010**.
- 40) Faria, A.F.; De Souza, M.V.N.; Bruns, R.E.; De Oliveira, M.A.L. Simultaneous determination of first-line anti-tuberculosis drugs by capillary zone electrophoresis using direct UV detection. *Talanta (Oxford)*, p. 333-339, **2010**.
- 41) Howie, R.A., De Souza, M.V.N.; Ferreira, M.L.; Kaiser, C.R.; Wardell, J.L.; Wardell, S.M.S.V. Structures of arylaldehyde 7-chloroquinoline-4-hydrazones: supramolecular arrangements derived from N–H···N, C–H···X (X = N, O, or  $\Pi$ ) and  $\Pi$  ···  $\Pi$  interactions. *Zeitschrift für Kristallographie*, v. 225, p. 440-447, **2010**.
- 42) Howie, R.A.; Lima, C.H.S.; Kaiser, C.R.; De Souza, M.V.N.; Wardell, J.L.; Wardell, S.M.S.V. Structures of (pyrazinecarbonyl)hydrazones of substituted benzaldehydes: different supramolecular arrangements from C–H···X (X = O, N,  $\Pi$ ) hydrogen bonds. *Zeitschrift für Kristallographie*, v. 225, p. 158-166, **2010**.
- 43) Howie, R.A.; Lima, C.H.S.; Kaiser, C.R.; De Souza, M.V.N.; Wardell, J.L.; Wardell, S.M.S.V. Structures of (pyrazinecarbonyl)hydrazones of substituted benzaldehydes: supramolecular arrangements generated by various intermolecular contacts. *Zeitschrift für Kristallographie*, v. 225, p. 19-28, **2010**.
- 44) Gomes, C.R.B.; Da Silva, M.M.; Facchinetti, V.; De Souza, M.V.N.; Vellasco Junior, W.T.; Lourenço, M.C.S.; Cunnico, W. Synthesis and Antimycobacterial Activity of 2-aryl-3-(arylmethyl)-1,3-thiazolidin-4-ones. *Letters in Drug Design & Discovery*, v. 7, p. 353-358, **2010**.
- 45) Ferreira, M.L.; Goncalves, R.S.B.; Cardoso, L.N.F.; Kaiser, C.R.; Candéa, A.L.P.; Henriques, M.G.M.O.; Lourenço, M.C.; Bezerra, F.A.F.M.; De Souza, M.V.N. Synthesis and Antitubercular Activity of Heteroaromatic Isonicotinoyl and 7-Chloro-4-Quinolinylyl Hydrazone Derivatives. *TheScientificWorldJournal*, v. 10,

p. 1347-1355, **2010**.

- 46) Gonçalves, R.S.B.; Kaiser, C.R.; Lourenço, M.C.S.; De Souza, M.V.N.; Wardell, J.L.; Wardell, S.M.S.V.; Da Silva, A.D. Synthesis and antitubercular activity of new mefloquine-oxazolidine derivatives. *European Journal of Medicinal Chemistry*, p. 6095-6100, **2010**.
- 47) Ferreira, M.L.; De Souza, M.V.N.; Wardell, S.M.S.V.; Wardell, J.L.; Vasconcelos, T.R.A.; Ferreira, V.F.; Lourenço, M.C. Synthesis and Antitubercular Evaluation of New Bis-1,2,3-Triazoles Derived from D-Mannitol. *Journal of Carbohydrate Chemistry*, v. 29, p. 265-274, **2010**.
- 48) Saraiva, M.F.; De Souza, M.V.N.; Tran Huu Dau, M.E.; Araújo, D.P.; Carvalho, G.S.G.; De Almeida, M.V. Synthesis and antitubercular evaluation of new fluoroquinolone derivatives coupled with carbohydrates. *Carbohydrate Research (Chicago, Ill.. Print)*, v. 345, p. 761 - 767, **2010**.
- 49) Ferreira, M.L.; Candéa, A.L.P.; Henriques, M.G.M.O.; Kaiser, C.R.; Lima, C.H.S.; De Souza, M.V.N. Synthesis and Cytotoxic Evaluation of Disubstituted N-Acylhydrazones Pyrazinecarbohydrazide Derivatives. *Letters in Drug Design & Discovery*, v. 7, p. 275-280, **2010**.
- 50) Coimbra, E.S.; Carvalhaes, R.; Grazul, R.M.; Machado, P.A.; De Souza, M.V.N.; Da Silva, A.D. Synthesis, Cytotoxicity and Antileishmanial Activity of Some N-(2-(indol-3-yl)ethyl)-7-chloroquinolin-4-amines. *Chemical Biology & Drug Design*, v. 75, p. 628-631, **2010**.
- 51) Lima, C.H.S.; De Souza, M.V.N.; Wardell, S.M.S.V.; Wardell, J.L.; Tiekink, E.R.T. N-(2-Chloroethyl)pyrazine-2-carboxamide. *Acta Crystallographica. Section E*, v. 66, p. 2886-2887, **2010**.
- 52) Ferreira, M.L.; De Souza, M.V.N.; Wardell, S.M.S.V.; Wardell, J.L.; Tiekink, E.R.T. N-(4-Bromophenyl)pyrazine-2-carboxamide. *Acta Crystallographica. Section E*, v. 66, p. 2722-2723, **2010**.

- 53) De Souza, M.V.N.; Howie, R.A.; Tiekink, E.R.T.; Wardell, J.L.; Wardell, S.M.S.V.; Kaiser, C.R. 7-Chloro-4-[(E)-2-(2-methoxybenzylidene)hydrazin-1-yl]quinoline monohydrate. *Acta Crystallographica. Section E*, v. 66, p. 698-699, **2010**.
- 54) Ferreira, M.L.; De Souza, M.V.N.; Howie, R.A.; Tiekink, E.R.T.; Wardell, J.L.; Wardell, S.M.S.V. 7-Chloro-4-[(E)-2-(4-methoxybenzylidene)hydrazin-1-yl]quinoline monohydrate. *Acta Crystallographica. Section E*, v. 66, p. 696 - 697, **2010**.
- 55) De Souza, M.V.N.; Pais, K.C.; Kaiser, C.R.; Peralta, M.A.; Ferreira, M.L.; Lourenço, M.C.S. Synthesis and in vitro antitubercular activity of a series of quinoline derivatives. *Bioorganic & Medicinal Chemistry*, v. 17, p. 1474-1480, **2009**.
- 56) Vergara, F.M.F.; Henriques, M.G.M.O.; Candéa, A.L.P.; Wardell, J.L.; De Souza, M.V.N. Antitubercular activity of  $\alpha$ ,  $\omega$ -diaminoalkanes,  $H_2N(CH_2)_nNH_2$ . *Bioorganic & Medicinal Chemistry Letters*, v. 19, p. 4937-4938, **2009**.
- 57) Kaiser, C.R.; Pais, K.C.; De Souza, M.V.N.; Wardell, J.L.; Wardell, S.M.S.V.; Tiekink, E.R.T. Assessing the persistence of the N-H-N hydrogen bonding leading to supramolecular chains in molecules related to the anti-malarial drug, chloroquine. *CrystEngComm*, v.11, p. 1133-1140, **2009**.
- 58) De Souza, M.V.N. Promising candidates in clinical trials against multidrug-resistant tuberculosis (MDR-TB) based on natural products. *Fitoterapia. Edizione Farmaceutica.*, v. 80, p. 453-460, **2009**.
- 59) Vergara, F.M.F.; Da Silva, C.H.L.; Henriques, M.G.M.O.; Candéa, A.L.P.; Lourenço, M.C.S.; Ferreira, M.L.; Kaiser, C.R.; De Souza, M.V.N. Synthesis and antimycobacterial evaluation of *N*-[(E)-(monosubstituted-benzylidene)]-2-pyrazinecarbohyrazide derivatives. *European Journal of Medicinal Chemistry*, v. 44, p. 4954-4959, **2009**.

- 60) Ferreira, M.L.; Vasconcelos, T.R.A.; De Carvalho, E.M.; Lourenço, M.C.S.; Wardell, S.M.S.V.; Wardell, J.L.; Ferreira, V. F.; De Souza, M.V.N. Synthesis and antitubercular activity of novel Schiff bases derived from D-mannitol. *Carbohydrate Research*, p. 2042-2047, **2009**.
- 61) Candéa, A.L.P.; Ferreira, M.L.; Pais, K.C.; Cardoso, L.N.F.; Kaiser, C.R.; Henriques, M.G.M.O.; Lourenço, M.C.S.; Bezerra, F.A.F.M.; De Souza, M.V.N. Synthesis and antitubercular activity of 7-chloro-4-quinolinyldiazones derivatives. *Bioorganic & Medicinal Chemistry Letters*, v. 19, p. 6272-6274, **2009**.
- 62) Baddeley, T.C.; Howie, R.A.; Da Silva, C.H.L.; Kaiser, C.R.; De Souza, M.V.N.; Wardell, J.L.; Wardell, S.M.S.V. (Pyrazinecarbonyl)hydrazone halobenzaldehydes: supramolecular arrays generated by face to face stacking of ribbons, formed from C-H-O interactions. *Zeitschrift für Kristallographie.*, v. 224, p. 506-514, **2009**.
- 63) Ferreira, M.L.; Tiekink, E.R.T.; Wardell, J.L.; Wardell, S.M.S.V.; De Souza, M.V.N. *N*-(2,6-Dimethylphenyl)-2-(2-thienyl)acetamide. *Acta Crystallographica. Section E*, v. 65, p. 3203-3203, **2009**.
- 64) Ferreira, M.L.; De Souza, M.V.N.; Howie, A.R.; Tiekink, E.R.T.; Wardell, J.L.; Wardell, S.M.S.V. 3-[(*E*)-(7-Chloro-4-quinolyl)hydrazonomethyl] benzonitrile monohydrate. *Acta Crystallographica. Section E*, v. 65, p. 3239-3240, **2009**.
- 65) Tiekink, E.R.T.; Wardell, J.L.; Wardell, S.M.S.V.; De Souza, M.V.N. 4-[(2-Chloroethyl)amino]quinolinium chloride monohydrate. *Acta Crystallographica. Section E*, v. 65, p. 3120-3121, **2009**
- 66) Howie, A.R.; Tiekink, E.R.T.; Wardell, J.L.; Wardell, S.M.S.V.; De Souza, M.V.N. 7-Chloro-4-[(*E*)-(3-chlorobenzylidene)hydrazinyl]-1 $\lambda^4$ -quinolinium 3-chlorobenzoate. *Acta Crystallographica. Section E*, v. 65, p. 3204-3205, **2009**.

- 67) Varotti, F.P.; Botelho, A.C.C.; Andrade, A.A.; De Paula, C.R.; Fagundes, E.M.S.; Valverde, A.L.; Mayer, L.M.U.; Mendonça, J.S.; De Souza, M.V.N.; Boechat, N.; Krettli, A.U. Synthesis, antimalarial activity and intracellular targets of MEFAS, a new hybrid compound derivated from mefloquine and artesunate. *Antimicrobial Agents and Chemotherapy*, v. 52, p. 3868-3874, **2008**.
- 68) Kaiser, C.R.; Pinheiro, A.C.; De Souza, M.V.N.; Wardell, S.M.S.V.; Wardell, J.L. Formation of *N*-acyl-*N,N*-dicyclohexylureas from DCC and arenecarboxylic acids in the presence of hydroxybenzotriazol in CH<sub>2</sub>Cl<sub>2</sub> at room temperature. *Journal of Chemical Research. Synopses*, v. 5, p. 468-472, **2008**.
- 69) Vasconcelos, T.R.A.; Ferreira, M.L.; Gonçalves, R.S.B.; Da Silva, E.T.; De Souza, M.V.N. Lamivudine, an important drug in aids treatment. *Journal of Sulfur Chemistry.*, v. 29, p. 559-571, **2008**.
- 70) Faria, A.F.; De Souza, M.V.N.; Bruns, R.E.; De Oliveira, M.A.L. Optimization of an electrolyte system for analysis of ethambutol in pharmaceutical formulations by capillary zone electrophoresis using complexation with copper(II). *Journal of Chromatography*, v. 1202, p. 222-228, **2008**.
- 71) Wardell, S.M.S.V.; De Souza, M.V.N.; Wardell, J.L.; Vasconcelos, T.A.; Ferreira, M.L.; Low, J.N.; Glidewell, C. Patterns of hydrogen bonding in mono- and disubstituted *N*-arylpyrazinecarboxamides. *Acta Crystallographica. Section B, Structural Science*, v. B, p. 84-100, **2008**.
- 72) De Souza, M.V.N. Compounds containing oxazolidinone, triazole and macrolide groups in the treatment of mycobacterial infections. *Expert Opinion on Therapeutic Patents*, v. 18, p. 1101-1105, **2008**.
- 73) Lourenço, M.C.; Ferreira, M.L.; Souza, M.V.N.; Peralta, M.A.; Vasconcelos, T.A.; Henriques, M.G.M.O. Synthesis and anti-mycobacterial activity of *N*-(*E*)-(monosubstituted-benzylidene)isonicotinohydrazide derivatives. *European Journal of Medicinal Chemistry*, v. 43, p. 1344-1347, **2008**.

- 74) Carvalho, S.A.; Da Silva, E.F.; De Souza, M.V.N.; Lourenço, M.C.S.; Vicente, F.R.C. Synthesis and antimycobacterial evaluation of new trans-cinnamic acid hydrazide derivatives. *Bioorganic & Medicinal Chemistry Letters*, v. 18, p. 538-541, **2008**.
- 75) Costa, J.C.S.; Neves, J.S.; De Souza, M.V.N.; Siqueira, R.A.; Romeiro, N.C.; Boechat, N.; Silva, P.M.; Martins, M.A. Synthesis and antispasmodic activity of lidocaine derivatives endowed with reduced local anesthetic action. *Bioorganic & Medicinal Chemistry Letters*, v. 18, p. 1162-1166, **2008**.
- 76) Ferreira, M.L.; Cardoso, L.N.F.; Goncalves, R.S.B.; Silva, E.T.; Lourenço, M.C.S.; De Souza, M.V.N. Synthesis and Antitubercular Evaluation of *N'*-[(*E*) (hydroxy, methoxy and ethoxy-substituted-phenyl) Methylidene] isonicotinohydrazide Derivatives. *Letters in Drug Design & Discovery*, v. 5, p. 137-140, **2008**.
- 77) De Souza, M.V.N.; Ferreira, M.L.; Pinheiro A.C.; Saraiva, M.F.; Almeida, M.V.; Valle, M.S. Synthesis and Biological Aspects of Mycolic Acids: An Important Target Against Mycobacterium tuberculosis. *The Scientific World Journal*, v. 8, p. 720-751, **2008**.
- 78) De Souza, M.V.N.; Ferreira, M.L.; Nogueira, T.C.M.; Goncalves, R.S.B.; Peralta, M.A.; Lourenço, M.C.S.; Vicente, F.R.C. Synthesis and Biological Evaluation of *N*-(Alkyl)-2-Thiophen-2- Ylacetamides Series as a New Class of Antitubercular Agents. *Letters in Drug Design & Discovery*, v. 5, p. 221-224, **2008**.
- 79) Cardoso, S.H.; Almeida, M.V.; Assis, J.V.; Diniz, R.; Speziali, N.L.; De Souza, M.V.N. Synthesis and characterization of n-hydroxyalkyl and oxazolinyl ethionamide derivatives. *Journal of Sulfur Chemistry*, v. 29, p. 145-149, **2008**.
- 80) De Souza, M.V.N.; Lourenço, M.C.S.; Peralta, M.A.; Goncalves, R.S.B.; Nogueira, T.C.M.; Lima, C.H.S.; Ferreira, M.L.; Da Silva, E.T. Synthesis and Biological Evaluation of *N,N'*-di(thiopheneacetyl)diamines Series as

- Antitubercular Agents. *Phosphorus, Sulfur and Silicon and the Related Elements*, v. 183, p. 2990-2997, **2008**.
- 81) Faria, A. F.; De Souza, M.V.N.; De Oliveira, M.A.L. Validation of Capillary Zone Electrophoresis Method for the Determination of Ciprofloxacin, Gatifloxacin, Moxifloxacin and Ofloxacin in Pharmaceutical Formulation. *Journal of the Brazilian Chemical Society*, v. 19, p. 389-396, **2008**.
- 82) De Pilla Varotti, F.; Botelho, A.C.C.; Andrade, A.A.; De Paula, R.C.; Fagundes, E.M.S.; Valverde, A.; Mayer, L.M.U.; Mendonça, J.S.; De Souza, M.V.N.; Boechat, N.; Krettli, A.U. Synthesis, Antimalarial Activity, and Intracellular Targets of MEFAS, a New Hybrid Compound Derived from Mefloquine and Artesunate. *Antimicrobial Agents and Chemotherapy*, v. 52, p. 3868-3874, **2008**.
- 83) Andrade, A.A.; Freitas, I.O.; De Souza, M.V.N.; Vasconcelos, T.A.; Boechat, N.; Krettli, A.U. Enhanced activity of mefloquine and artesunic acid against *Plasmodium falciparum* in vitro and *P. berghei* in mice by combination with ciprofloxacin. *European Journal of Pharmacology*, v. 558, p. 194-198, **2007**.
- 84) Lourenço, M.C.; De Souza, M.V.N.; Pinheiro, A.C.; Ferreira, M.L.; Goncalves, R.S.B.; Nogueira, T.C.M.; Peralta, M.A. Evaluation of anti-tubercular activity of nicotinic and isoniazid analogues. *ARKIVOC*, v. XV, p. 181-191, **2007**.
- 85) De Souza, M.V.N. Halogen Dance Reaction and its Application in Organic Synthesis. *Current Organic Chemistry*, v. 11, p. 637-646, **2007**.
- 86) Lourenço, M.C.S.; Neves Junior, I.; De Souza, M.V.N. In vitro activity of ciprofloxacin, ofloxacin, levofloxacin, sparfloxacin and gatifloxacin against multidrug-resistant *Mycobacterium tuberculosis* in Rio de Janeiro Brazil. *Médecine et Maladies Infectieuses*, v. 37, p. 295-298, **2007**.
- 87) De Souza, M.V.N.; Wardell, S.M.S.V.; Wardell, J.L.; Low, J.N.; Glidewell, C. *N*-(5-Chloro-2-nitrobenzoyl)-*N'*isonicotinoylhydrazine: a three-dimensional

- framework containing four types of hydrogen bond. *Acta Crystallographica. Section E*, v. E63, p. 230-232, **2007**.
- 88) Wardell, S.M.S.V.; De Souza, M.V.N.; Wardell, J.L.; Low, J.N.; Glidewell, C. Supramolecular structures in *N*-isonicotinoyl arylaldehydehydrazones: multiple hydrogen-bonding modes in series of geometric isomers. *Acta Crystallographica. Section B, Structural Science*, v. B63, p. 879-895, **2007**.
- 89) De Almeida, M.V.; De Souza, M.V.N.; Barbosa, N.; Amarante, G.W.; Cardoso, S.H. Synthesis and Antimicrobial Activity of Pyridine Derivatives Substituted at C-2 and C-6 Positions. *Letters in Drug Design & Discovery*, v. 4, p. 149-153, **2007**.
- 90) De Almeida, M.V.; Saraiva, M.F.; De Souza, M.V.N.; Costa, C.F.; Vicente, F.R.C.; Lourenço, M.C. Synthesis and antitubercular activity of lipophilic moxifloxacin and gatifloxacin derivatives. *Bioorganic & Medicinal Chemistry Letters*, v. 17, p. 5661-5664, **2007**.
- 91) Lourenço, M.C.; Vicente, F.R.C.; Henriques, M.G.M.O.; Candéa, A.L.P.; Gonçalves, R.S.B.; Nogueira, T.C.M.; Ferreira, M.L.; De Souza, M.V.N. Synthesis and biological evaluation of *N*-(aryl)-2-thiophen-2-ylacetamides series as a new class of antitubercular agents. *Bioorganic & Medicinal Chemistry Letters*, v. 17, p. 6895-6898, **2007**.
- 92) Pinheiro, A.C.; Kaiser, C.R.; Lourenço, M.C.S.; De Souza, M.V.N.; Wardell, J.L.; Wardell, S.M.S.V. Synthesis and in vitro activity towards *Mycobacterium tuberculosis* of L-serinyl ester and amino derivatives of pyrazinoic acid. *Journal of Chemical Research. Synopses*, v. 3, p. 182-186, **2007**.
- 93) De Almeida, M.V.; Cardoso, S.H.; Assis, J.V.; De Souza, M.V.N. Synthesis of 2-mercaptobenzothiazole and 2-mercaptobenzimidazole derivatives condensed with carbohydrates as a potential antimicrobial agents. *Journal of Sulfur Chemistry*, v. 28, p. 17-22, **2007**.

- 94) De Almeida, M.V.; Teixeira, F.M.; De Souza, M.V.N.; Amarante, G.W.; Alves, C.C.S.; Cardoso, S.H.; Mattos, A.M.; Ferreira A.P.; Teixeira, H.C. Thalidomide analogs from diamines: synthesis and evaluation as inhibitors of TNF- $\alpha$  production. *Chemical and Pharmaceutical Bulletin*, v. 55, p.223-226, **2007**.
- 95) Wardell, S.M.S.V.; De Souza, M.V.N.; Wardell, J.L.; Low, J.N.; Glidewell, C. Three isomeric 1-(2-chloronicotinoyl)-2-(nitrophenyl)hydrazines, including three polymorphs of 1-(2-chloronicotinoyl)-2-(2-nitrophenyl)hydrazine: hydrogen-bonded supramolecular structures in two and three dimensions. *Acta Crystallographica. Section B, Structural Science*, v. B63, p. 101-110, **2007**.
- 96) Peralta, M.A.; De Souza, M.V.N.; Wardell, S.M.S.V.; Wardell, J.L.; Low, J.N.; Glidewell, C. 2,3-Dimethoxybenzaldehyde isonicotinoylhydrazone chloroform monosolvate, and the mono- and dihydrates of 3,4,5-trimethoxybenzaldehyde isonicotinoylhydrazone: hydrogen-bonded supramolecular structures in one, two and three dimensions. *Acta Crystallographica. Section C, Crystal Structure Communications*, v. C63, p. 68-72, **2007**.
- 97) Wardell, S.M.S.V.; Wardell, J.L.; Low, J.N.; Glidewell, C.; De Souza, M.V.N. 3-Nitrobenzaldehyde isonicotinoylhydrazone monohydrate redetermined at 120 K. *Acta Crystallographica. Section C, Crystal Structure Communications*, v. C63, p. 42-44, **2007**.
- 98) De Souza, M.V.N.; Wardell, S.M.S.V.; Wardell, J.L.; Low, J.N.; Glidewell, C. 4-Cyanobenzaldehyde isonicotinoyl-hydrazone monohydrate: a three-dimensional hydrogen-bonded framework structure. *Acta Crystallographica. Section C, Crystal Structure Communications*, v. C63, p. 166-168, **2007**.
- 99) De Souza, M.V.N.; Boechat, N.; Mendonça, J.S.; Fernandes, E.L.; Pais, K.C.; Costa, J.C.S.; Vasconcelos, T.A. A Simple Reduction of ethyl, isopropyl and benzyl aromatic esters to Alcohols Using Borohydride - Methanol System. *ARKIVOC*, v. 1, p. 128-133, **2006**.

- 100) De Souza, M.V.N.; Wardell, S.M.S.V.; Wardell, J.L.; Vasconcelos, T.A.; Carvalho, E.M. Comparison of the reactivities of 2-mercaptoaniline and 2-hydroxyaniline with 2-chloronicotinoyl chloride. *Journal of Sulfur Chemistry*, v. 27, p. 193-202, **2006**.
- 101) De Souza, M.V.N. Current Status and Future Prospects for New Therapies for Pulmonary Tuberculosis. *Current Opinion in Pulmonary Medicine*, v. 12, p. 167-171, **2006**.
- 102) De Souza, M.V.N.; Vasconcelos, T.A.; Cardoso, S.H.; De Almeida, M.V. Fluoroquinolones: An Important Class of Antibiotics Against Tuberculosis. *Current Medicinal Chemistry*, v. 13, p. 455-463, **2006**.
- 103) De Souza, M.V.N.; Wardell, J.L.; Wardell, S.M.S.V.; Vasconcelos, T.A.; Low, J.N.; Glidewell, C. Four substituted benzohydrazides: hydrogen-bonded structures in one, two and three dimensions. *Acta Crystallographica. Section C, Crystal Structure Communications*, v. C62, p. 618-624, **2006**.
- 104) De Souza, M.V.N.; Fernandes, E.L.; Pais, K.C.; Vasconcelos, T.A.; Wardell, S.M.S.V.; Wardell, J.L. Cyclization studies of 2-chloro-N-(methyl-2-pyridinyl)nicotinamides to methyl 5-oxo-5,6-dihydrodipyrido[1,2-a:3',2'-e]pyrimidin-11-ium chlorides. *Journal of Chemical Research*, p. 93-97, **2006**.
- 105) De Souza, M.V.N.; Vasconcelos, T.A.; Wardell, S.M.S.V.; Wardell, J.L.; Low, J.N.; Glidewell, C. Hydrogen-bonded framework structures in 4-[(4-chloro-3-nitrobenzoyl)-hydrazinocarbonyl]pyridiniumchloride and N-3,5-dinitrobenzoyl-N'-isonicotinoylhydrazine. *Acta Crystallographica. Section C, Crystal Structure Communications*, v. C62, p. 222-226, **2006**.
- 106) De Souza, M.V.N. Marine Natural Products Against Tuberculosis. *The Scientific World Journal*, v. 6, p. 847-861, **2006**.
- 107) De Souza, M.V.N.; Cuffini, S.; Wardell, S.M.S.V.; Wardell, J.L.; Vasconcelos, T.A.; Oliveira, A.G.; Glidewell, C. Nine N-aryl-2-

- chloronicotinamides: supramolecular structures in one, two and three dimensions. *Acta Crystallographica. Section B, Structural Science*, v. B62, p. 651-665, **2006**.
- 108) De Souza, M.V.N.; Wardell, J.L.; Wardell, S.M.S.V.; Low, J.N.; Glidewell, C. *N*-(3,5-Dinitrobenzoyl)-*N'*-phenylhydrazine: sheets built from N—H.....O and C—H.....O hydrogen bonds. *Acta Crystallographica. Section E*, v. E62, p. 2589-2591, **2006**.
- 109) De Souza, M.V.N. Promising Drugs Against Tuberculosis. *Recent Patents on Anti-Infective Drug Discovery*, v. 1, p. 33-45, **2006**.
- 110) De Souza, M.V.N.; Wardell, J.L.; Wardell, S.M.S.V.; Low, J.N.; Glidewell, C. Pyrazine-2-carbohydrazide: a three-dimensional hydrogen-bonded framework structure. *Acta Crystallographica. Section E*, v. E62, p. 3765-3767, **2006**.
- 111) De Souza, M.V.N.; Wardell, J.L.; Low, J.N.; Glidewell, C. Pyrrole-2-carbaldehyde isonicotinoylhydrazone monohydrate redetermined at 120K. *Acta Crystallographica. Section C, Crystal Structure Communications*, v. C62, p. 47-49, **2006**.
- 112) De Souza, M.V.N.; Vasconcelos, T.A. Recent methodologies mediated by sodium borohydride in the reduction of different classes of compounds. *Applied Organometallic Chemistry*, v. 20, p. 798-810, **2006**.
- 113) De Souza, M.V.N.; Vasconcelos, T.A.; Wardell, S.M.S.V.; Wardell, J.L.; Low, J.N.; Glidewell, C. Simple chains in methyl 3,5-dinitrobenzoate, isolated molecules in isopropyl 3,5-dinitrobenzoate and a three-dimensional framework containing double and sextuple helices in benzyl 3,5-dinitrobenzoate. *Acta Crystallographica. Section C, Crystal Structure Communications*, v. C62, p. 26-29, **2006**.
- 114) De Oliveira, M.A.L.; Faria, A.F.; De Almeida, M.V.; De Souza, M.V.N. Simultaneous separation of five fluoroquinolone antibiotics. *Analytica Chimica Acta.*, v. 579, p. 185-192, **2006**.

- 115) De Souza, M.V.N. Stille Reaction: An Important tool in the synthesis of complex natural products. *Current Organic Synthesis*, v. 3, p. 313-326, **2006**.
- 116) De Souza, M.V.N. TEMPO-(2,2,6,6-tetramethylpiperidine-*N*-oxyl) an Important Reagent in Alcohol Oxidation and its Application in Synthesis of Natural Products. *Mini Review in Organic Synthesis*, v. 3, p. 155-165, **2006**.
- 117) De Souza, M.V.N.; Cunnico, W.; Cechinel, C.A.; Bonacorso, H.G.; Martins, M.A.P.; Zanatta, N.; Soares, R.P.P.; Kretlli, A.U. Antimalarial activity of 4-(5-trifluoromethyl-1H-pyrazol-1-yl)-chloroquine analogs. *Bioorganic & Medicinal Chemistry Letters*, v. 16, p. 649-653, **2006**.
- 118) Boechat, N.; Kretlli, A.; De Souza, M.V.N.; Vasconcelos, T.A. Evaluation of antimalarial and fluoroquinolone combinations. *International Journal of Antimicrobial Agents*, v. 28, p. 270-272, **2006**.
- 119) De Souza, M.V.N.; Wardell, S.M.S.V.; Ferreira, M.L.; Wardell, J.L.; Vasconcelos, T.A.; Mascarenhas, Y.P.; Ellena, J.; Silva J.R.F.P. Experimental and theoretical structure characterization of two isoniazid derivatives: 2,4-difluoro-*N'*-isonicotinoylbenzohydrazide and 2,4-dichloro-*N'*-isonicotinoylbenzohydrazide hydrochloride. *Journal of Molecular Structure*, v. 788, p. 63-71, **2006**.
- 120) De Souza, M.V.N.; Neves Junior, I.; Miranda, G.B.P.; Lourenço, M.C.S.; Vasconcelos, T.A.; Pais, K.C. Synthesis and In Vitro Anti-Tubercular Activity of a Series of *N'*-(Disubstitutedbenzoyl)Isoniazid Derivatives. *Letters in Drug Design & Discovery*, v. 3, p. 424-428, **2006**.
- 121) De Souza, M.V.N.; Fernandes, E.L.; Pais, K.C.; Vasconcelos, T.A.; Wardell, S M. S.V.; Wardell, J.L. Cyclization studies of 2-chloro-*N*-(methyl-2-pyridinyl)nicotinamides to methyl 5-oxo-5,6-dihydrodipyrido[1,2-*a*:3',2'-*e*]pyrimidin-11-ium chlorides. *Journal of Chemical Research*, p. 93-97, **2006**.
- 122) De Souza, M.V.N.; Wardell, S.M.S.V.; Wardell, J.L.; Low, J.N.; Glidewell,

- C.; Ferreira, M.L. 2,4-Difluorobenzaldehyde benzoylhydrazone and 2,4-dichlorobenzaldehyde benzoylhydrazone are isostructural at 120 K with  $Z = 2$ : complex sheets built from N-H...O, C-H...O and C-H...Pi(areno) hydrogen bonds. *Acta Crystallographica. Section C, Crystal Structure Communications*, v. C62, p. 118-121, **2006**.
- 123) De Souza, M.V.N.; Low, J.N.; Wardell, S.M.S.V.; Wardell, J.L.; Glidewell, C. 2,4-Dimethylbenzaldehyde isonicotinoylhydrazone trihydrate: a three-dimensional hydrogen-bonded frame-work structure. *Acta Crystallographica. Section C, Crystal Structure Communications*, v. C62, p. 444-446, **2006**.
- 124) De Souza, M.V.N.; Wardell, J.L.; Wardell, S.M.S.V.; Low, J.N.; Glidewell, C. 5-Chloro-2-nitrobenzaldehyde isonicotinoylhydrazone: a three-dimensional framework built from N—H...N and C—H...O hydrogen bonds. *Acta Crystallographica. Section E*, v. E62, p. 3361-3363, **2006**.
- 125) De Souza, M.V.N.; Boechat, N.; Mello, S.C.P.; Costa, J.C.S.; Mendonça, J.S.; Fernandes, E.L.; Pais, K.C. A Simple Reduction of Methyl Heteroaromatic Esters to Alcohols Using Sodium Borohydride - Methanol System. *Synthetic Communication*, v. 35, p. 3187-3190, **2005**.
- 126) De Souza, M.V.N.; Wardell, J.L.; Wardell, S.M.S.V.; Low, J.N. Four nitrobenzaldehyde isonicotinoylhydrazones at 120K: four different supramolecular structures in two and three dimensions. *Acta Crystallographica. Section C, Crystal Structure Communications*, v. C61, p. 683-689, **2005**.
- 127) De Souza, M.V.N. Furanones, Recent synthetic methodologies and your application in synthesis of natural products. *Mini-review in organic synthesis*, v. 2, p. 139-145, **2005**.
- 128) De Souza, M.V.N. New Fluoroquinolones: A Class of Potent Antibiotics. *Mini-Review in Medicinal Chemistry*, v. 5, p.1009-1018, **2005**.

- 129) De Souza, M.V.N.; Wardell, J.L.; Wardell, S.M.S.V.; Ferreira, M.L.; Vasconcelos, T.A.; Low, J.N.; Glidewell, C. Pi- Stacked hydrogen-bonded chains of rings in 2,4-difluorobenzaldehyde isonicotinoylhydrazone and hydrogen-bonded sheets in 2,3-dichlorobenzaldehyde isonicotinoylhydrazone. *Acta Crystallographica Section C*, v. 61, p. 617-620, **2005**.
- 130) De Souza, M.V.N. Plants and Fungal Products with activity against Tuberculosis. *The Scientific World Journal*, v. 5, p. 609-628, **2005**.
- 131) De Souza, M.V.N.; Barreto Jr., A.G.; Estevão, L.R.M.; Biscaia Jr., E.C.; Carvalho, A.S.; Duarte, S.L.; Mendonça, J.S.; Costa, J.C.S.; Silva, J.F.C. Evaluating of the Effect of the Antimonium Pentachloride Feed Rate to Ensure Safe Conditions for the Synthesis of Meglumine Antimoniate. *Industrial & Engineering Chemistry Research*, v. 44, p. 6578-6582, **2005**.
- 132) De Souza, M.V.N.; Vasconcelos, T.A.; Wardell, S.M.S.; Wardell, J.L.; Low, J. N.; Glidewell, C. Supramolecular structures of three isomeric 2-chloro-*N*-(nitrophenyl)nicotinamides. *Acta Crystallographica. Section C, Crystal Structure Communications*, v. C61, p. 204-208, **2005**.
- 133) De Souza, M.V.N.; Vasconcelos, T.A.; Mello, S.C.P.; Wardell, S.M.S.V. ; Peralta, M.A.; Ferreira, B.; Henriques, M.G.M.O.; Neves Junior, I.; Lourenço, M.C.S. Synthesis and anti-mycobacterial activity of *N*'[(*E*)-(disubstituted-phenyl)methylidene]isonicotino-hydrazine derivatives. *Letters in Drug Design & Discovery*, v. 2, p. 563-566, **2005**.
- 134) De Souza, M.V.N. Synthesis and Biological Activity of Natural Thiazoles: An Important Class of Heterocyclic Compounds. *Journal Sulfur Chemistry*, v. 26, p. 429-449, **2005**.
- 135) De Souza, M.V.N.; Wardell, S.M.S.V.; Howie, R.A. 2-chloropyridine-3-carboxylic acid. *Acta Crystallographica Section E*, v. E61, p. 1347-1349, **2005**.

- 136) De Souza, M.V.N.; Vasconcelos, T.A.; Wardell, S.M.S.V.; Wardell, J.L.; Ferreira, M.L.; Howie, R.A. 8-Methyl-5-oxo-5,6-dihydrodipyrido[1,2-a:3',2'-e]-pyrimidin-11-ium chloride trihydrate 120k. *Acta Crystall Structure Section E*, v. E61, p. 3579-3581, **2005**.
- 137) De Souza, M.V.N. (+)-Discodermolide: a Marine Natural Product Against Cancer. *The Scientific World*, v. 4, p. 415-436, **2004**.
- 138) De Souza, M.V.N. Entry Inhibitors: A new class of AIDS drugs. *Letters in Drugs and Discovery Design*, v. 1, p. 184-193, **2004**.
- 139) De Souza, M.V.N.; Mello, S.C.P.; Boechat, N.; Mendonça, J.S.; Costa, J.A. Simple Reduction of Methyl Aromatic Esters to Alcohols Using. *Tetrahedron Letters*, v. 45/31, p. 6021-6022, **2004**.
- 140) De Souza, M.V.N.; Dodd, R.H.; Zao, H. Synthesis of 2,3-dihydrofuro[3,2-c]pyridine-3,4-dicarboxylic acid, a conformationally constrained analogue of the subtype selective NMDA receptor agonist homoquinolinic acid. *Heterocycle*, v. 64, p. 261-275, **2004**.
- 141) De Souza, M.V.N.; Almeida, M.V.; Hyaric, M.L.; Silva, E.T.; Almeida, A.S.M.; Santiago, R.M. Synthesis of 2-Deoxystreptamine Derivatives. *Journal of Carbohydrate Chemistry*, v. 22, n. 7 & 8, p. 733-742, **2003**.
- 142) De Souza, M.V.N.; Almeida, M.V.; Couri, M.R.C.; Silva, A.D. Biological Activity and Synthetic Metodologies for the Preparation of Fluorquinolones, A Class of Potent Antibacterial Agents. *Current Medicinal Chemistry*, v. 10, p. 21-40, **2003**.
- 143) De Souza, M.V.N.; Almeida, M.V.; Oliveira, L.L.C. Synthesis of Platinum Complexes from N-Benzyl-2-Aminoethanethiol Derivatives. *The Scientific World*, v. 3, p. 348-353, **2003**.

- 144) Estiarte, M.A.; De Souza, M.V.N.; Del Rio, X.; Dodd, R.H.; Rubiralta, M.; Diez, A. Synthetic Applications of 3-Amino-5-piperidein-2-ones: Synthesis of Methionine-Derived Peptidomimetics. *Tetrahedron*, v. 55, p. 10173-10186, **1999**.
- 145) De Souza, M.V.N.; Dodd, R.H. Ortho Directed Lithiation Studies of 4-Chloropicolinanilide: Introduction of Functional Groups at C-3 and their Elaboration to Chain Extended Derivatives via Carbon-Carbon Bond Formation. *Heterocycles*, v. 47, n. 2, p. 811-827, **1998**.

### **Chapters of Books**

1. De Souza, M.V.N.; Gonçalves, R.S.B.; Ferreira, M.L.  
Drugs Candidates in Advanced Clinical Trials Against Tuberculosis In: *Frontiers in Anti-Infective Drug Discovery*. 1ed. Pasquitào: Bentham, **2010**, v. 9, p. 176-201.
2. De Souza, M. V. N.  
Promising Current Drug Candidates in Clinical Trials and Natural Products Against Multidrug-Resistant Tuberculosis In: *New Strategies Combating Bacterial Infection* ed. German - Weinheim : Wiley-VCH Verlag GmbH and Co. KGaA, **2008**, v. 3, p. 71-87.

### **Patentes**

Boechat, N., Krettli, A. U., Souza, M. V. N., Valverde A. L.  
**Title:** Compounds Derived From Artesunate, Preparation Process, Pharmaceutical Composition and Use of Respective Medicine  
WO2005100370, 2005

**Title :** C10 Carbonate Substituted Taxanes  
**Application number:** 60/179,684 - 2/2/00

**Title :** C10 Ester Substituted Taxanes  
**Application number:** 60/179,782 - 2/2/00

**Title :** C7 Carbonate Substituted Taxanes  
**Application number:** 60/179,671 - 2/2/00

**Title :** C7 Ester Substituted Taxanes  
**Application number:** 60/179,794 - 2/2/00

**Title :** C7 Formate and Acetate Substituted Taxanes  
**Application number:** 60/179,672 - 2/2/00

**Others informations**

- 1) 58 posters in Scientific congress
- 2) Supervisor of Scientific Initiation (28 students)
- 3) Supervisor of Master (5 students)
- 4) Supervisor of PhD (7 students)
- 5) Pos-Doc (one)

**Names and addresses of references**

Dr. Robert H. DODD  
Institut de Chimie des Substances Naturelles  
Centre National de la Recherche Scientifique, Avenue de la Terrasse  
91198 - Gif-sur-Yvette Cedex - **France**.  
Tel: (33).01.69.82.45.94 / Fax: (33).01.69.07.72.47  
e-mail: Robert.Dodd@icsn.cnrs-gif.fr.

Dr. Josiane THIERRY  
Institut de Chimie des Substances Naturelles  
Centre National de la Recherche Scientifique, Avenue de la Terrasse  
91198 - Gif-sur-Yvette Cedex - **France**.  
Tel: (33).01.69.82.31.26 / Fax: (33).01.69.07.72.47  
e-mail: Josiane.Thierry@icsn.cnrs-gif.fr.

Pr. Anna DIEZ  
Universitat de Barcelona Facultat de Farmacia / Laboratori de Quimica Organica  
Av. de Joan XXIII, s/n - 08028 - Barcelona - **Spain**.  
Tel: (93) 402 45 37 / Fax: (93) 402 18 96  
e-mail: adiez@farmacia.far.ub.es