

## *Curriculum Vitae*

### **PETRICCI ELENA**

*Appointment*                      Università degli Studi di Siena  
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*Date/Place of Birth:*              9 Dec 1975 / Siena (IT)

*Citizenship:*                        Italian

#### **Education**

2004 - 2006      Postdoctoral associate  
*Advisor:* Prof. Federico Corelli  
University of Siena, Italy

2000-2004      Ph.D. Graduate Student in Pharmaceutical Sciences  
*Advisor:* Prof. Maurizio Botta  
University of Siena, Italy

2001              Qualification for the profession of Pharmacist.  
Marks: 248/250

2000              Graduation Degree in Chemistry and Pharmaceutical Technologies (Medicinal Chemistry).  
Marks: 110/110 cum laude.  
University of Siena, Italy

1994              Scientific High School Degree  
Marks: 60/60  
Liceo Scientifico Statale “G. Galilei”, Siena, Italy

## Present Position

From March 2006     Researcher in Organic Chemistry, University of Siena – Italy.

## Research Activity

1999 - 2000                     Solid phase organic synthesis of small molecules and synthesis of solid supported reagents for amines acylation.

2000 - 2004                     Microwave assisted Solid Phase and Solution Phase Organic Synthesis of nucleosides as new anti-HIV agents.

2002                                 Stage at the EPFL of Lausanne (CH) in the Laboratories of Prof. Pierre Vögel. Studies on synthesis of enantiomerically pure azanorbornones as inhibitors of  $\beta$ -glycosidase and important synthetic intermediates.

2004 - 2006                     Synthesis of small molecules as anti-HIV agents.

From 2006                         Microwave assisted synthesis with gas reagents, stereoselective hydroformilation, microwave assisted tandem hydroformilation and Pictet-Spengler reaction for the synthesis of indole alkaloids. Synthesis of cyclopamine. Microwave assisted intramolecular Huisgen's reaction.

2009- 2010                     Total synthesis of Herquile A and B; Synthesis of stephacidine derivatives.

From January 2010             Iron catalyzed aminocarbonylation and hydroformylation of alkynes and alkenes.

Synthesis of new mirine derivatives and inhibitors of MRN complex.

Synthesis of new Smo antagonists.

Microwave-assisted synthesis of small peptides.

## Collaborations

- The Scripps Research Institute, CA (Tainer's group).

- Northumbria University, New castle, EN (Dr. Daniele Castagnolo)
- CNRS, Gif sur Yvette, FR (Prof. Martial Rouat).

### **Foreign Languages**

English (level: advanced)

French (level advanced)

Spanish (spoken)

### **Professional Skills**

- Combinatorial chemistry (using solution and solid phase synthesis)
- Microwave assisted organic synthesis
- Microwave assisted synthesis of peptides
- Microwave assisted reactions with gas reagents
- Iron catalysis
- Stereoselective synthesis of enantiomerically pure compounds
- Chemoenzymatic reactions
- Synthesis of nucleoside analogues
- Natural products synthesis
- Good knowledge of methods for characterisation and structure elucidation of organic compounds; use of the principal analytical techniques (NMR, IR, GC, MS, HPLC).
- Good knowledge of word processing and scientific software applications in PC and Macintosh environment (e.g. Windows 98, Windows 2000, Windows XP, Microsoft Word, Microsoft Excel, Word for Macintosh, ChemDraw, Chem Sketch, Microsoft PowerPoint)

### **Other Informations**

- 2000-2011 Supervision of final-year undergraduate students during their thesis in medicinal chemistry.

- 2003-2011 Responsible for the organization of national and international schools and conferences at the University of Siena;
- a.a. 20012-2013 Professor (“Professore Aggregato”) of Organic Chemistry (Faculty of Pharmacy).
- a.a. 2009-2010 Professor (“Professore Aggregato”) of Advanced Bioorganic Chemistry (Faculty of Chemistry).
- a.a. 2007-2008 Professor (“Professore Aggregato”) of Laboratory of Organic Chemistry undergraduate (Faculty of Chemistry).
- a.a. 2007-2008 Professor (“Professore Aggregato”) of Bioorganic Chemistry (Faculty of Pharmacy).
- a.a. 2006-2007 Professor (“Professore Aggregato”) of Laboratory of Organic Chemistry (Faculty of Chemistry).
- Full, clean driving licence since 1994;
- Second level rescuer since 1999;
- Hobbies: travelling, reading, music, theatre, cinema, bricolage.

## Publications

- E. Petricci, M. Renzulli, M. Radi, F. Corelli, M. Botta, “Solid-phase synthesis (SPS) of substituted uracils via Oxone® cleavage methodology” (2002) *Tetrahedron Lett.*, **43**, 9667-9670.
- M. Botta, F. Corelli, E. Petricci, C. Seri, “New solid-supported reagents (SSRs) for selective acylation of amines” (2002) *Heterocycles*, **56**, 369-377.
- E. Petricci, M. Botta, F. Corelli, C. Mugnaini, “An improved synthesis of solid-supported reagents (SSRs) for selective acylation of amines by microwave irradiation” (2002) *Tetrahedron Lett.*, **43**, 6507-6509.
- E. Petricci, M. Radi, F. Corelli, M. Botta, “Microwave-Enhanced Sonogashira Coupling Reaction of Substituted Pyrimidinones and Pyrimidine Nucleosides” (2003) *Tetrahedron Lett.*, **44**, 9181-9184.
- L. Paolini, E. Petricci, F. Corelli, M. Botta, “Microwave-assisted C-5 iodination of substituted pyrimidinones and pyrimidine nucleosides” (2003) *Synthesis*, 1039-1042.
- A. Moreno-Vargas, E. Petricci, P. Vogel, “New Polyfunctional Proline Derivatives.” (2003) W0300299.
- A. Moreno-Vargas, I. Robina, E. Petricci, P. Vogel, “Synthesis of D- and L-2,3-trans-3,4-cis-4,5-trans-3,4-Dihydroxy-5-hydroxymethylproline and Tripeptides Containing Them” (2004) *J. Org. Chem.*, **69**, 4487-4491.
- E. Petricci, C. Mugnaini, M. Radi, F. Corelli, M. Botta, “Microwave-assisted acylation of amines, alcohols

and phenols by the use of solid-supported reagents (SSRs).” (2004) *J. Org. Chem.*, **69**, 7880-7887.

- M. Radi, E. Petricci, F. Corelli, M. Botta, “Parallel solution phase synthesis of 4-dialkylamino-2-methylsulfonyl-6-vinylpyrimidines” (2005) *J. Comb. Chem.*, **7**, 117-122.
- M. Botta, F. Corelli, E. Petricci, M. Radi, G. Maga, “Derivati 6-vinil pirimidinici e pirimidinonici, e loro uso.” (2005) A000512.
- M. Radi, C. Mugnaini, E. Petricci, F. Corelli, M. Botta, “Synthesis of Reactive Cytidine Derivatives as Building Blocks for Cross-Linking Oligonucleotides” (2005) *Tetrahedron Lett.*, **46**, 4361-4364.
- F. Manetti, J. A. Este, I. Clotet-Codina, M. Armand-Ugon, G. Maga, E. Crespan, R. Cancio, C. Mugnaini, C. Bernardini, A. Togninelli, C. Carmi, M. Alongi, E. Petricci, S. Massa, F. Corelli, M. Botta, “Parallel Solution-phase and Microwave-assisted Synthesis of New S-DABO Derivatives Endowed with Subnanomolar Anti-HIV-1 Activity” (2005) *J. Med. Chem.*, **48**, 8000-8008.
- C. Mugnaini, E. Petricci, F. Corelli, M. Botta, “Combinatorial chemistry as a tool for targeting different stages of the replicative HIV-1 cycle” (2005) *Comb. Chem. & High Through. Screen.*, **8**, 387-401.
- A. Mann, E. Petricci, A. Rota, Schoenfelder, M. Taddei, “Microwaves make hydroformylation a rapid and easy process” (2006) *Org. Lett.*, **8**, 3725-3727.
- E. Petricci, C. Mugnaini, M. Radi, A. Togninelli, C. Bernardini, F. Manetti, M. C. Parlato, M. L. Renzulli, M. Alongi, C. Falciani, F. Corelli, M. Botta, “Towards new methodologies for the synthesis of biologically interesting 6-substituted pyrimidines and 4(3H)-pyrimidinones” (2006) *Arkivoc*, **vii**, 452-478.
- A. Togninelli, C. Carmi, E. Petricci, C. Mugnaini, S. Massa, F. Corelli, M. Botta, “Solution-phase parallel synthesis of S-DABO analogues” (2006) *Tetrahedron Lett.*, **47**, 65-67.
- C. Mugnaini, E. Petricci, M. Botta, F. Corelli, P. Mastromarino, G. Giorgi, “Synthesis and biological evaluation of 4-alkylamino-6-(2-hydroxyethyl)-2-methylthiopyrimidines as new rubella virus inhibitors” (2007) *Eur. J. Med. Chem.*, **42**, 256-262.
- M. Radi, E. Petricci, F. Corelli, M. Botta, “Stereoselective synthesis of N1-6-methyluridine and related 2-substituted analogues.” (2007) *Heterocycles*, **72**, 79-83.
- M. Botta, F. Corelli, E. Petricci, M. Radi, G. Maga, J. Este'a, A. Mai, “Preparation of pyrimidine and pyrimidinone derivatives and their use for the treatment of HIV infections.” (2007) PIXXD2 WO 2007043094 A2 20070419.
- E. Petricci, M. Taddei, “Microwave assisted reactions with gas reagents” (2007) *Chem. Today*, **25**, 40-45.
- E. Petricci, J. Salvadori, A. Mann, M. Taddei, “Microwave assisted hydroaminomethylation of alkenes.” (2007) *Tetrahedron Lett.*, **48**, 8501-8504.

- M. Radi, C. Falciani, L. Contemori, E. Petricci, G. Maga, A. Samuele, S. Zanoli, M. Terrazas, M. Castria, A. Togninelli, J. A. Esté, I. Clotet-Codina, M. Armand-Ugon, M. Botta, “A Multidisciplinary Approach for the Identification of Novel HIV-1 Non-Nucleoside Reverse Transcriptase Inhibitors: S-DABOCs and DAVPs” (2007) *ChemMedChem*, **2**, 1-22.
- F. Cardullo, D. Donati, G. Merlo, A. Paio, E. Petricci, M. Taddei, “Microwave-assisted aminocarbonylation of aryl bromides at low carbon monoxide pressure” (2009) *Synlett*, 47-50.
- E. Petricci, J. Salvadori, E. Balducci, S. Zaza, M. Taddei, “Microwave-assisted carbonylation and cyclocarbonylation of aryl iodides under ligand free heterogeneous catalysis” (2009) *Adv. Synth. Cat.*, Submitted.
- M. Irfan, E. Petricci, T. N. Glasnov, M. Taddei, C. O. Kappe “Continuous Flow Hydrogenation of Functionalized Pyridines” (2009) *Eur. J. Org. Chem.*, 1327-1334.
- E. Balducci; L. Bellucci; E. Petricci; M. Taddei, A. Tafi, “Microwave-Assisted Intramolecular Huisgen Cycloaddition of Azido Alkynes Derived from  $\alpha$ -Amino Acids”(2009) *J. Org. Chem.*, **74**, 1314-1321.
- B. D. Hafensteiner, M. Escribano, E. Petricci, P. S. Baran, “An improved synthesis of  $\alpha,\beta$ -unsaturated nitrones relevant to the stephacidins and analogs thereof” (2009) *Bioorg. Med. Chem. Lett.*, **19**, 3808-3810.
- J. Salvadori, E. Balducci, S. Zaza, E. Petricci, M. Taddei “Microwave-Assisted Carbonylation and Cyclocarbonylation of Aryl Iodides under Ligand Free Heterogeneous Catalysis” (2010) *J. Org. Chem.*, **75**,1841–1847.
- E. Airiau; C. Chemin; N. Girard; G. Lonzi; A. Mann; E. Petricci; J. Salvadori; M. Taddei “Microwave-assisted domino hydroformylation/cyclization reactions: scope and limitations” (2010) *Synthesis*, 2901-2914.
- M. Pizzetti; A. Russo; E. Petricci “Microwave-Assisted Aminocarbonylation of Ynamides by Using Catalytic  $[\text{Fe}_3(\text{CO})_{12}]$  at Low Pressures of Carbon Monoxide” (2011) *Chemistry--A European Journal*, **17**, 4523-4528.
- M. Pizzetti; E. De Luca; E. Petricci; A. Porcheddu; M.Taddei “A General Approach to Substituted Benzimidazoles and Benzoxazoles *via* Heterogeneous Palladium-Catalyzed Hydrogen-Transfer with Primary Amines“ (2012) *Adv. Synth. Catal.* **354**, 2453-2464.
- T.Gorojankina, L. Hoch, H.Faure, H. Roudaut, E. Traiffort, A. Schoenfelder, N. Girard, A. Mann, F.Manetti, A. Solinas, E.Petricci, M. Taddei, M. Ruat “Discovery, Molecular and Pharmacological Characterization of GSA-10, a Novel Small-Molecule Positive Modulator of Smoothed” (2013) *J. Mol Pharmacol* **83**,1020–1029.

## Referees

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