



## Curriculum Vitae et Studiorum Nadia Marino, Ph.D.

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### PERSONAL DATA

Surname, Name: Marino, Nadia  
Address: Riviera Paleocapa 76 (int. 25), 35100 Padova (PD)  
Residence: Via Puglia 24, 87030 Carolei (CS)  
Nationality: Italian  
Date/Place of birth: 17 Feb 1982 / Cariatì (CS)

### POST-DOCTORAL APPOINTMENTS & TRAININGS

- 01/01/2016 – present (in maternity leave 18/02/2016-19/10/2016) Dipartimento di Scienze Chimiche, Università di Padova  
**Post-doc “Senior”** – Awarded a two-year Postdoctoral “Senior” research grant  
Project Title: Vanadium-based molecular catalysts for more sustainable processes and artificial photosynthesis  
Supervisor: Prof. Marcella Bonchio
- 01/09/2015 – 30/11/2015 Dipartimento di Chimica Industriale “Toso Montanari”, Università di Bologna  
**Post-doc**  
Research subject: Sustainable technologies for the production of monomers from biomasses.  
Supervisor: Prof. Fabrizio Cavani
- 01/09/2014 – 31/10/2015 Istituto per la Tecnologia delle Membrane, ITM-CNR (Cosenza), Italia  
**Post-doc**  
Research subject: Structural characterization of zeolites and zeolite materials.  
Supervisor: Dr. Adalgisa Tavolaro
- 01/09/2011 – 31/08/2014 Dipartimento di Chimica, Università della Calabria  
**Postdoctoral Fellow** – Awarded a three-year Postdoctoral research grant (Call: POR Calabria FSE 2007/2013)  
Supervisor: Prof. Giovanni De Munno  
Research carried out: Synthesis and structural characterization of, mainly: 1. transition metal ions complexes featuring biomolecules as ligand (among others: vitamin B6, cytidine monophosphate, cytidine); 2. Vanadium complexes with (poly)phosphate ligands and palladium(II) complexes with oxamate-type ligands for catalytic applications; 3. Coordination complexes with tailored magnetic properties, also single-molecule magnets (SMM) and single-ion magnets (SIM). Contributed administering the X-ray lab.
- 26/09/2011 – 14/12/2012  
Visiting Post-doc al Department of Chemistry, Syracuse University, Syracuse NY, USA. Host: Prof. Robert P. Doyle  
Research carried out: Synthesis and characterization of vanadium-pyrophosphate complexes for catalytic applications. Conducted in-house catalysis tests under air or inert atmosphere using liquid substrates and reflux-Schlenk techniques. Handled several projects involving crystallization of challenging species (including vitamin B<sub>12</sub> derivatives, organic molecules, coenzyme Q10) for materials or biomedical applications, and their analysis through PXRD and/or XRD.

01/05/2012 – 20/05/2012

Visiting Researcher at Massachusetts Institute of Technology, Department of Chemistry, MA, USA. Host: Dr Peter Mueller, director X-ray Facilities.

Worked on the refinement of highly disordered crystal structures using SHELXL. Syracuse University, Syracuse NY, USA

01/02/2009 – 3/08/2011

#### **Postdoctoral Research Associate**

Supervisor: Prof. Robert P. Doyle

Research carried out: Designed, synthesized and characterized metal-pyrophosphate coordination complexes for various applications (cancer research; magnetism; photophysics etc). Characterization techniques include IR and electronic absorption spectroscopy; NMR spectroscopy; TGA; MALDI and electrospray mass spectrometry, SEM-TEM microscopy, PXRD, XRD. Cultured mammalian cell lines utilizing sterile techniques (growth and in-vitro drug screening). Visiting researcher at Yale University (Sept 2010) and Rensselaer Polytechnic Institute, Troy, NY (Jun 2011) in the occasion of scientific collaborations.

### || POST-DOCTORAL TRAININGS/WORKSHOPS

- Jun 10-13, 2014 • International EXPO/SIR workshop, Institute of Crystallography-CNR of Bari
- Sept 04-08, 2013 • 1<sup>st</sup> joint SIMP-AIC International School, Camerino (Italy)
- Feb 16, 2013 • Non-merohedral twins workshop, XVII Bruker-AXS/MIT Symposium, Massachusetts Institute of Technology, Cambridge MA, USA
- Jul 28, 2012 • Olex2 workshop, ACA 2012, Boston, MA, USA
- Feb 18, 2012 • Refinement of Solvent Disorder workshop, XVI Bruker-AXS/MIT Symposium, Massachusetts Institute of Technology, Cambridge MA, USA

### || EDUCATION

Jan 19, 2009 Dipartimento di Chimica, Università della Calabria

#### **Ph.D. in Inorganic Chemical Methodologies**

**Thesis title:** *Nuovi Composti di Coordinazione di Cu(II): Sintesi, Struttura, Caratteristiche supramolecolari e Proprietà magnetiche.*

Advisor: Prof. G. De Munno

Research carried out: Synthesized and characterized novel coordination complexes of paramagnetic ions for structural-magnetic correlation and/or host-guest interactions studies. Developed systems include metal complexes of Cu(II), Co(II), Ni(II), Zn(II), Re(IV) in combination with various ligands, such as 2,2'-bipyrimidine (bpm); bpm/oxalate; bpm/hydroxo; bpm/halogens; bpm/pyrophosphate; pyrazines; pyrazolates; tricyanomethanide; polyaromatic nitrogen ligands; nucleobases; the nucleoside cytidine. Experienced with various crystallization techniques. Extensively used single-crystal X-ray diffraction for sample characterization (crystal mounting, data collection, structure solution and refinement). Research partially conducted in the laboratory of Prof. Julve at the Molecular Science Institute in Valencia, Spain, to gain experience with magnetic susceptibility measurements and magnetic data interpretation.

Oct 07, 2005 Dipartimento di Chimica, Università della Calabria

#### **'Laurea Magistrale' in Chemistry (MS equivalent) - Summa Cum Laude**

**Thesis title:** *Sintesi e caratterizzazione strutturale di complessi di Cu(II) con 2,2'-bipirimidina).*

Advisor: Prof. G. De Munno

Research carried out: Synthesized and structurally characterized Cu(II) complexes with the 2,2'-bipyrimidine ligand for magnetic investigations. Studied, in particular, the effect of different counter-ions on the crystal structure and the magnetic properties of the produced complexes (structure-function correlation).

Jul 21, 2003 Dipartimento di Chimica, Università della Calabria  
**'Laurea' in Chemistry** (BS equivalent) - *Summa Cum Laude*  
**Thesis title:** *Uno studio dell'orientazione di soluti modello in mezzi uniassiali mediante spettroscopia  $^2\text{H}$  NMR.*  
Advisor: Prof. M. Longeri  
Research carried out: Studied the effect of different nematic liquid crystals solutions on the orientation of model molecules such as cyclohexane and benzene via temperature-dependent  $^2\text{H}$ -NMR experiments to obtain deuteron quadrupolar splitting.

## PRE-DOCTORAL TRAININGS/WORKSHOPS

- May 16-20, 2007 • Theoretical Biophysics Symposium 2007: International Conference and Summer School, Cetraro (CS)
- Nov 26-30, 2006 • Chimica dei materiali inorganici, Università della Calabria, Arcavacata (CS)
- Sep 03-08, 2006 • Composite Materials: From Molecular Science To Nanotechnology, Torino.

## HONOURS, AWARDS

- "Mario Nardelli" Prize of the Italian Crystallographic Association, 2016
- Project PI, Senior research grant, Università di Padova, 2016-2018
- Appointed Research Assistant Professor, Syracuse University, USA, 2011-2014
- Project PI, POR Calabria-European Social Funding Fellowship, 2011-2014
- Winner of a *CrystEngComm poster prize* at the congress Past, Present and Future of Crystallography @ Politecnico di Milano, Milano, Italy (2013)

## INVITED SEMINARS

- **N. Marino**, *Pyro without Fire: Synthesis, Structure, and Reactivity of a Dimeric Vanadyl Pyrophosphate Coordination Complex*, Dipartimento di Chimica Industriale «Toso Montanari», Università di Bologna, Bologna, Italy, May 16, 2013 (Host: Prof. Prof. Fabrizio Cavani)
- **N. Marino**, *Catalytic activity of vanadium-pyrophosphate coordination complexes*, Rensselaer Polytechnic Institute (RPI), Troy, NY, USA, Jun 24, 2011 (Host: Dr. K. V. Lakshimi)
- **N. Marino**, *Coordination complexes incorporating pyrophosphate: structural analysis and magnetic properties*, Clark University, Worcester, MA, USA, Sept 08, 2010 (Host: Prof. Mark M. Turnbull)

## ORAL CONTRIBUTIONS IN SCIENTIFIC CONFERENCES

- **N. Marino**, *When the chemist meets the crystallographer*, IV Meeting of the Italian and Spanish Crystallographic Associations, Tenerife, Spain, 2016 (**INVITED, AIC Nardelli Prize winner**)
- **N. Marino**, G. Cruciani, J. Velasquez Ochoa, F. Cavani, R. P. Doyle, G. De Munno. *Vanadium-based molecular assemblies as efficient catalytic systems for relevant oxidation processes*, XXV Congresso Nazionale della Società Chimica Italiana, Rende, Italia, 2014
- **N. Marino**, G. Cruciani, J. Velasquez Ochoa, F. Cavani, R. P. Doyle, G. De Munno. *Vanadium-based molecular assemblies as efficient catalytic systems for relevant oxidation processes*, 9th International Vanadium Symposium, Padova, Italia, 2014
- **N. Marino**, G. De Munno, R. P. Doyle, *Bridging the gap between solid state and molecular chemistry: synthesis and study of 'VPO' (vanadium-phosphorous-oxide) -type coordination complexes*, XVII National Congress of Catalysis GIC 2013 and XI National Congress of Zeolites Science and Technology, Riccione, Italia, 2013
- **N. Marino**, R. P. Doyle, *Facile synthesis, structure and fundamental catalytic activity of a vanadium-pyrophosphate coordination complex: a molecular 'VPO' assembly*, ACS Fall 2012 National Meeting & Exposition, Philadelphia, PA, USA, 2012
- **N. Marino**, R. P. Doyle, *Exploring the diverse structural, magnetic, catalytic and biological properties of Pyrophosphate-containing coordination complexes*, ACS 37<sup>th</sup> Northeast Regional Meeting (NERM), Potsdam, NY, USA, 2010 (**INVITED**)

## POSTER CONTRIBUTIONS IN SCIENTIFIC CONFERENCES

- **N. Marino**, D. Armentano, G. De Munno, *Copper(II) bio-polymers based on a RNA constituent: a rare example of systematic self-assembling in chiral 1D helical motifs*, Meeting of the Italian, Spanish and Swiss Crystallographic Associations (MISSCA), Como, Italy, Sept 09-12, 2013
- **N. Marino**, D. Armentano, G. De Munno, R. P. Doyle, *A Voyage In The B Vitamins World: B<sub>6</sub> As Novel Ligand In Cluster Chemistry And New Discoveries In The Field Of B<sub>12</sub> Crystallography*, Past, Present and Future of Crystallography @ Politecnico di Milano, Milano, Italy, Jun 06-07, 2013
- **N. Marino**, R. P. Doyle, *Facile Crystallization at Low pH of Vitamin B<sub>12</sub>: Insights into the Influence of Crystal Packing Forces in Cyanocobalamin Structures*, Meeting of the American Crystallographic Association, Boston, MA, USA, Jul 28-Aug 01, 2012
- **N. Marino**, R. P. Doyle, *A molecular 'VPO' assembly: facile synthesis, structure and fundamental catalytic activity*, XVI Bruker-AXS/MIT Symposium, MIT, Boston, MA, USA, Feb 17-18, 2012
- **N. Marino**, N. Hazari, R. P. Doyle, *Polymorphism and unusual bonding properties of dimeric Pt<sup>II</sup>-pyrophosphato coordination complexes*, XXIV Congresso Nazionale della Società Chimica Italiana, Lecce, Italy, Nov 11-16, 2011
- **N. Marino**, R. P. Doyle, *Vitamin B<sub>12</sub> crystallography: new thoughts on an old field*, 2<sup>nd</sup> Annual Yale-Rigaku Symposium on X-ray Diffraction, Yale University, New Haven, CT, USA, Jun 18, 2010
- **N. Marino**, O. F. Ikotun, R. P. Doyle, *Pyrophosphate-bridged complexes with picomolar toxicity*, ACS Fall 2009 National Meeting & Exposition, Washington, DC, USA, Aug 16-20, 2009
- **N. Marino**, T. F. Mastropietro, D. Armentano, G. De Munno, R. P. Doyle, F. Lloret, M. Julve, *Spin Canting in an Unprecedented Three-Dimensional Pyrophosphate- and 2,2'-Bipyrimidine-Bridged Cobalt(II) Framework*, The 11<sup>st</sup> International Conference on Molecule-based Magnets (ICMM 2008), Firenze, Italy, Sept 21-24, 2008
- **N. Marino**, D. Armentano, G. De Munno, *2,2'-bipyrimidine and halides Cu(II) complexes: a systematic investigation*, 1<sup>st</sup> Meeting of the Italian and Spanish Crystallographic Associations (MISCA 2007), Copanello di Staletti (CZ), Italy, Sept 24-28, 2007
- **N. Marino**, D. Armentano, G. De Munno, *New layered compounds designed by oxalate and 2-2'-bipyrimidine*, XXII Congresso Nazionale della Società Chimica Italiana (SCI 2006), Firenze, Italy, Sept 10-15, 2006

## PEER REVIEWED PUBLICATIONS (2006-PRESENT)

43. T. Mastropietro, **N. Marino**, G. De Munno, F. Lloret, M. Julve, E. Pardo\*, D. Armentano\*, *Selective Guest Inclusion in Oxalate-Based Iron(III) Magnetic Coordination Polymers*, *Inorg. Chem.* 2016, DOI: 10.1021/acs.inorgchem.6b01769
42. I. Castro\*, W. P. Barros, M. L. Calatayud, F. Lloret, **N. Marino\***, G. De Munno, H. O. Stumpf, R. Ruiz-García, M. Julve\*, *Dicopper(II) pyrazolenophanes: ligand effects on their structures and magnetic properties*, *Coord. Chem. Rev.* 2016, 315, 135.
41. **N. Marino**, D. Armentano, G. De Munno\*, *Cytosine and 1-Methylcytosine Mg(II) complexes: structural insights on the reactivity of magnesium(II) toward nucleic acid constituents*, *Inorg. Chim. Acta* 2016, 452, 229.
40. F. R. Fortea-Pérez, **N. Marino**, G. De Munno, D. Armentano\*, M. Julve, S.-E. Stiriba\*, *Intermolecular interactions in dictating the self-assembly of halogen derivatives of bis-(N-substituted oxamato)palladate(II) complexes*, *RSC Adv.* 2016, 6, 6164.
39. W. P. Barros, M. L. Calatayud, F. Lloret, M. Julve, **N. Marino\***, G. De Munno, H. O. Stumpf, R. Ruiz-García, I. Castro\*, *Self-assembly, binding ability and magnetic properties of dicopper(II) pyrazolenophanes*, *CrystEngComm* 2016, 18, 437.
38. R. Mancuso\*, D. S. Raut, **N. Marino**, G. De Luca, C. Giordano, S. Catalano, I. Barone, S. Andò, B. Gabriele\*, *A Palladium-Catalyzed Carbonylation Approach to 8-Membered Lactam Derivatives with Anti-Tumor Activity*, *Chem. Eur. J.* 2016, 22, 3053.
37. M.G. Alexandru\*, D. Visinescu, **N. Marino\***, G. De Munno, F. Lloret, M. Julve\*, *{Co<sup>III</sup>Mn<sup>III</sup>}<sub>n</sub> corrugated chains based on heteroleptic cyanido metalloligands*, *RSC Adv.* 2015, 5, 95410.
36. F. R. Fortea-Pérez, B. L. Rothenpieler, N. Marino, D. Armentano\*, G. De Munno, M. Julve\*, S.-E. Stiriba\*, *Bis(N-substituted oxamate)palladate(II) complexes as effective catalysts for sustainable Heck carbon-carbon coupling reactions in n-Bu<sub>4</sub>NBr as the solvent*, *Inorg. Chem. Front.* 2015, 2, 1029.
35. T. J. Greenfield, A. E. Hoffman, **N. Marino**, A. G. Goos, F. Lloret, M. Julve\*, R. P. Doyle\*, *Ferromagnetic Coupling in 'Double-Bridged' Dihydrogenpyrophosphate Complexes of Cobalt (II) and Nickel (II)*, *Inorg. Chem.* 2015, 54, 6537.

34. N. Marino, D. Armentano, G. De Munno\*, F. Lloret, J. Cano, M. Julve\*, *Toward a better understanding of honeycomb alternating magnetic networks*, *Dalton Trans.* 2015, 44, 11040.
33. N. Marino, D. Armentano\*, E. Pardo\*, J. Vallejo, F. Neve, L. Di Donna, G. De Munno, *Homochiral Self-Assembly of Biocoordination Polymers: Anion-Triggered Helicity and Absolute Configuration Inversion*, *Chem. Sci.* 2015, 6, 4300.
32. M.G. Alexandru, D. Visinescu, M. Andruh\*, N. Marino, D. Armentano\*, J. Vallejo, F. Lloret, M. Julve\*, *Heterotrimetallic coordination polymers: {Cu<sup>II</sup>Ln<sup>III</sup>Fe<sup>III</sup>} chains and {Ni<sup>II</sup>Ln<sup>III</sup>Fe<sup>III</sup>} layers. Synthesis, crystal structure and magnetic properties*, *Chem. Eur. J.* 2015, 21, 5429.
31. S. Liu, J. Zhao, L. Kaminsky, R. Wilson, N. Marino, D. A. Clark\*, *Ethylene Transposition: Ruthenium Hydride Catalyzed Intramolecular trans-Silylvinylation of Internal Alkynes*, *Org. Lett.* 2014, 16 (17), 4456.
30. Y. Jiang, K. Chakarawet, A. L. Kohout, M. J. Nava, N. Marino, C. C. Cummins\*, *Dihydrogen Tetrametaphosphate, [P<sub>4</sub>O<sub>12</sub>H<sub>2</sub>]<sup>2-</sup>: Synthesis, Solubilization in Organic Media, Preparation of its Anhydride [P<sub>4</sub>O<sub>11</sub>]<sup>2-</sup> and Acidic Methyl Ester, and Conversion to Tetrametaphosphate Metal Complexes via Protonolysis*, *JACS* 2014, 136 (34), 11894.
29. N. Marino, D. Armentano\*, C. Zanchini, G. De Munno, *Ca<sup>2+</sup> metal ion adducts with cytosine, cytidine and cytidine 5'-monophosphate. A comprehensive study of calcium reactivity towards building units of nucleic acids*, *CrystEngComm* 2014, 16, 8286 (From themed collection *International Year of Crystallography Celebration: Europe and South Africa*).
28. F. R. Fortea-Pérez, N. Marino\*, M. Julve, D. Armentano, S.-E. Stiriba\*, *Solid-state cis-trans isomerism in bis(oxamato)palladium(II) complexes: synthesis, structural studies and catalytic activity*, *CrystEngComm* 2014, 16 (30), 6971.
27. I. Castro\*, M. L. Calatayud, F. Lloret, W. P. Barros, N. Marino\*, J. Carranza, G. De Munno, *Ligand effects on the structure and magnetic properties of alternating copper(II) chains with bipyrimidine and polymethyl-substituted pyrazolate as bridging ligands*, *Inorg. Chem.* 2014, 53, 5759.
26. M.G. Alexandru\*, D. Visinescu, N. Marino\*, G. De Munno, J. Vallejo, Francesc. Lloret, M. Julve\*, *Cyanido-Bearing Co(II/III) Metalloligands: Synthesis, Crystal Structure and Magnetic Properties*, *Eur. J. Inorg. Chem.* 2014, 27, 4564.
25. R. Mancuso\*, I. Zicarelli, D. Armentano, N. Marino, S. V. Giofrè, B. Gabriele\*, *Divergent Palladium Iodide-Catalyzed Carbonylative Approaches to Functionalized Isoindolinone and Isobenzofuranimine Derivatives*, *J. Org. Chem.* 2014, 79 (8), 3506.
24. N. Marino, D. Armentano, T. F. Mastropietro, M. Julve, G. De Munno\*, J. Martínez-Lillo\*, *Cubane-type Cu<sup>II</sup><sub>4</sub> and Mn<sup>II</sup><sub>2</sub>Mn<sup>III</sup><sub>2</sub> complexes based on pyridoxine (vitamin B<sub>6</sub>): a versatile ligand for metal assembling*, *Inorg. Chem.* 2013, 52, 11934.
23. S. Liu, J. Zhao, N. Marino, D. A. Clark\*, *Regio- and stereoselective trans-silylvinylation of internal alkynes catalyzed by RuHCl(CO)(PCy<sub>3</sub>)<sub>2</sub>*, *Chem. Sci.* 2013, 4, 1547.
22. T. F. Mastropietro†, N. Marino†, D. Armentano\*, G. De Munno, C. Yuste, F. Lloret, M. Julve, *Anion-directed self-assembly of unusual discrete and one-dimensional copper(II) complexes of 3,6-bis(2'-pyridyl)pyridazine*, *Cryst. Growth Design* 2013, 13 (1), 270 († joint first authors).
21. N. Marino\*, S. K. Hanson, P. Müller, R. P. Doyle\*, *Pyro without Fire: Synthesis, Structure and Reactivity of a dimeric Vanadyl-Pyrophosphate coordination complex*, *Inorg. Chem.* 2012, 51 (19), 10077.
20. N. Marino, D. Armentano, G. De Munno\*, J. Cano, F. Lloret, M. Julve\*, *Synthesis, Structure and Magnetic Properties of Regular Alternating μ-bpm/di-μ-X Copper(II) Chains (bpm = 2,2'-bipyrimidine; X = OH, F)*, *Inorg. Chem.* 2012, 51 (7), 4323.
19. A. E. Hoffman, N. Marino\*, F. Lloret, M. Julve, R. P. Doyle\*, *Synthesis, structural, thermal, and magnetic investigations of Co(II), Ni(II), and Mn(II) pyrophosphate chains*, *Inorg. Chim. Acta* 2012, 389, 151.
18. N. Marino\*, F. Lloret, M. Julve\*, R. P. Doyle\*, *Synthetically persistent, self-assembled [V<sup>IV</sup><sub>2</sub>V<sup>V</sup><sub>4</sub>] polyoxovanadates: Facile synthesis, structure and magnetic analysis*, *Dalton Trans.* 2011, 40, 12248 (Special Issue on 'Self-assembly in Inorganic Chemistry').
17. N. Marino, C. H. Fazen, J. D. Blakemore, C. D. Incarvito, N. Hazari\*, R. P. Doyle\*, *Isostructural Pd(II) and Pt(II) pyrophosphate complexes: polymorphism and unusual bond character in d<sup>8</sup>-d<sup>8</sup> systems*, *Inorg. Chem.* 2011, 50, 2507.
16. N. Marino, A. E. Rabideau, R. P. Doyle\*, *TFA-assisted crystallization of vitamin B<sub>12</sub> results in protonation of the phosphate group of the nucleotide loop: insight into the influence of crystal packing forces on vitamin B<sub>12</sub> structures*, *Inorg. Chem.* 2011, 50, 220.

15. **N. Marino**, O. F. Ikotun, M. Julve\*, F. Lloret, J. Cano, R. P. Doyle\*, *Pyrophosphate-mediated magnetic interaction in Cu(II) coordination complexes*, *Inorg. Chem.* 2011, 50, 378.
14. **N. Marino**, A. R. Vortherms, A. E. Hoffman, R. P. Doyle\*, *Expanding Monomeric Pyrophosphate Complexes beyond Platinum*, *Inorg. Chem.* 2010, 49, 6790.
13. O. F. Ikotun, **N. Marino\***, P. E. Kruger, M. Julve, R. P. Doyle\*, *Coordination Complexes incorporating Pyrophosphate: Structural Overview and Exploration of their Diverse Magnetic, Catalytic and Biological Properties*, *Coord. Chem. Rev.* 2010, 254, 890.
12. C. Yuste, J. Ferrando-Soria, D. Cangussu, O. Fabelo, C. Ruiz-Pérez, **N. Marino**, G. De Munno, S.-E. Stiriba, R. Ruiz-García, J. Cano, F. Lloret and M. Julve\*, *Topological control of the spin coupling in dinuclear copper(II) complexes with meta- and para-phenylenediamine bridging ligands*, *Inorg. Chim. Acta* 2010, 363, 1984.
11. **N. Marino**, D. Armentano, T. F. Mastropietro, M. Julve, G. De Munno\*, *A Copper(II)-Cytidine Complex as a Building Unit for the Construction of an Unusual Three-Dimensional Coordination Polymer*, *Cryst. Grow. Des.* 2010, 10, 1757.
10. M. Viciano-Chumillas, **N. Marino**, I. Sorribes, C. Vicent, F. Lloret, M. Julve\*, *[Cr(dmbipy)(ox)<sub>2</sub>]<sup>-</sup>: a new bis-oxalato building block for metal assembling. Crystal structures and magnetic properties of XPh<sub>4</sub>[Cr(dmbipy)(ox)<sub>2</sub>]<sub>n</sub>·5H<sub>2</sub>O (X = P and As), {Ba(H<sub>2</sub>O)<sub>2</sub>[Cr(dmbipy)(ox)<sub>2</sub>]<sub>n</sub>·17/2nH<sub>2</sub>O and {Ag(H<sub>2</sub>O)[Cr(dmbipy)(ox)<sub>2</sub>]<sub>n</sub>·3nH<sub>2</sub>O*, *CrystEngComm* 2010, 12, 122.
9. C. Yuste, A. Bentama, **N. Marino**, D. Armentano, F. Seti, S. Triki, F. Lloret, M. Julve\*, *Copper(II) complexes with 2,5-bis(2-pyridyl)pyrazine and 1,1,3,3-tetracyano-2-ethoxypropenide anion: Synthesis, crystal structures and magnetic properties*, *Polyhedron* 2009, 28, 1287.
8. D. Armentano, **N. Marino**, T. F. Mastropietro, J. Martínez-Lillo, J. Cano, M. Julve, F. Lloret, G. De Munno\*, *Self-assembly of a chiral carbonate- and cytidine-containing dodecanuclear Cu<sup>II</sup> complex: a multi-arms-supplied globular capsule*, *Inorg. Chem.* 2008, 47, 10229.
7. **N. Marino**, T. F. Mastropietro, D. Armentano, G. De Munno\*, R. P. Doyle, F. Lloret, M. Julve\*, *Spin Canting in an Unprecedented Three-Dimensional Pyrophosphate- and 2,2'-Bipyrimidine-Bridged Cobalt(II) Framework*, *Dalton Trans.* 2008, 38, 5152 (selected as one of Dalton Transactions' most highly rated articles).
6. J. Martínez-Lillo, D. Armentano, G. De Munno\*, **N. Marino**, F. Lloret, M. Julve\*, J. Faus, *A Self-assembled Tetrameric Water Cluster stabilized by the Hexachlororhenate(IV) Anion and Diprotonated 2,2'-Biimidazole: X-ray Structure and Magnetic Properties*, *CrystEngComm* 2008, 10, 1284.
5. J. Martínez-Lillo, D. Armentano, **N. Marino**, L. Arizaga, R. Chiozzzone, R. González, C. Kremer, J. Faus, *Pentachloro(pyrazine)rhenate(IV) Complex as Precursor of heterobimetallic pyrazine-containing Re<sup>IV</sup><sub>2</sub>M<sup>II</sup> (M = Ni, Cu) Species: Synthesis, Crystal Structures and Magnetic Properties*, *Dalton Trans.* 2008, 34, 4585.
4. C. Yuste, D. Armentano, **N. Marino**, C. Ruiz-Pérez, D. P. Rillema, F. Lloret, M. Julve\*, *Synthesis, crystal structures and magnetic properties of tricyanomethanide-containing polynuclear copper(II) complexes*, *Dalton Trans.* 2008, 12, 1583.
3. T. F. Mastropietro, D. Armentano, **N. Marino**, G. De Munno\*, *Metal-nucleobase interactions in magnesium(II) and manganese(II) complexes with adenine: Influence of the anion on the non-covalent stabilization of 7H-adenine tautomer*, *Polyhedron* 2007, 26, 4945.
2. T. F. Mastropietro, D. Armentano, **N. Marino**, G. De Munno\*, J. Anastassopoulou, T. Theophanides, *Supramolecular Assemblies of Nucleobase Derivative 1-Mecyt with Mg(II) and Ni(II) and Solid-State Transformation of Ni(II) Phase: A Comprehensive Evidence of Their Different Reactivity Towards 1-Mecyt [1-Mecyt = 1-Methylcytosine]*, *Crystal Growth & Design* 2007, 7(4), 609.
1. G. Bruno\*, A. Rotondo, G. Brancatelli, F. Nicolò, **N. Marino**, *2,5-Dicarboxyanilinium chloride monohydrate*, *Acta Cryst.* 2006, C62, o587.

## QUALIFICATIONS

### LABORATORY TECHNIQUES

- Experienced in the design and synthesis of coordination compounds of first through third row transition metals (ex. V(IV), Co(II), Ni(II), Cu(II), Re(IV), Pd(II), Pt(II)) in aqueous or organic media.
- Skilled in crystallization techniques (focus on coordination compounds, coordination polymers, organic molecules, cobalamins).
- Extensive use of characterization techniques such as IR and 1D NMR spectroscopy, electron absorption spectroscopy, thermogravimetric analysis (TGA), electrospray (ESI) and MALDI-ToF mass spectrometry.
- Expert level knowledge of small-molecule single-crystal crystallography: crystal mounting, data collection, structure solution and refinement; structure determinations of organic molecules, coordination complexes, metallo-cryptands, cobalamins. Experience with merohedral and non-merohedral twins; highly disordered structures (molecular disorder, solvent disorder).
- Use of powder X-ray diffraction (PXRD) for analytical purposes (investigation of bulk phases, detection of impurities, detection of polymorphs). Use of SEM and TEM microscopy; HPLC purification methods.
- Cultured mammalian cell lines utilizing sterile techniques (growth and *in-vitro* drug screening).
- Experienced in catalytic testing of liquid substrates using Schlenk techniques.

### LANGUAGES

- Fluent in Italian (mother tongue)
- Fluent in English
- Good knowledge of Spanish (understanding and speaking)

31/10/2016  
Nadia Marino