# CURRICULUM VITAE Prof.ssa FRANCESCA MARINI

Dipartimento di Scienze Farmaceutiche,
Università degli Studi di Perugia – Via del Liceo, 1 Perugia -06126, Italy
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## Educazione e prime attività di ricerca

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| Marzo 1990 | **Laurea in Chimica e Tecnologia Farmaceutiche (110/110 e lode),** Università di Perugia |
| Maggio-Ottobre 1990 | **Borsa di studio Mediolanum Farmaceutici S.p.A**. "Sintesi di derivati eterociclici di interesse biologico", supervisore Prof. A. Fravolini. |
| Giugno 1994 | **Ph.D in Scienze Chimiche** con una tesi dal titolo: "Ciclizzazioni promosse da composti selenorganici. Nuove sintesi di composti eterociclici." Supervisore Prof. M. Tiecco |

## Posizione accademica

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| Novembre 1994 – Ottobre 2006 | **Ricercatore** Facoltà di Farmacia, Università di Perugia |
| Novembre 2006-ad oggi | **Professore Associato** Dipartimento di Scienze Farmaceutiche, Università di Perugia |

## Attività di insegnamento e formazione

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| aa 2009/2010 – ad oggi | **Chimica Organica I** (9 CFU), CdLM in Chimica e Tecnologia Farmaceutiche |
| aa 2013/2014 – ad oggi | **"Chimica Bioorganica"** (6 CFU), CdLM in Biotecnologie Farmaceutiche |
| aa 2012/2013 | **Chimica delle sostanze organiche naturali** (6 CFU), CdLM in Farmacia |
| aa 2005/2006- 2008/2009 | **"Stereochimica ed elementi di sintesi asimmetrica"** (modulo di corso integrato, 3 CFU), CdLM in Biotecnologie Farmaceutiche |
| aa 2001/2002-2008/2009 | "**Chimica Organica"** (10 CFU), CdL tiennale in Controllo di qualità nel settore industriale, farmaceutico ed alimentare – CQSIFA |
| aa 1998/1999-2000/2001 | **"Chimica dei composti eterociclici",** CdLM in Chimica e Tecnologia Farmaceutiche |
| novembre 1994-ottobre 2005 | |
| a.a. 1997/1998 - present | Supervisore o co-supervisore di più di 50 tesi sperimentali<br>Supervisore/co-supervisore of 5 studenti di dottorato |

Supervisore di 1 assegnista di ricerca

## Attività di coordinamento

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| Marzo 2013-Ottobre 2019 | Rappresentante di Ateneo nel consorzio interuniversitario CINMPIS (Consorzio Interuniversitario Nazionale di ricerca in Metodologie e Processi Innovativi di Sintesi) |
| Giugno 2017-Ottobre 2022 | Vice-coordinatore del corso di Dottorato in Scienze Farmaceutiche. |
| a.a. 2022-2023 ad oggi | Membro Assicurazione Qualità del Dottorato in Scienze Farmaceutiche |

## Membership

Società Chimica Italiana (SCI)

International Network for Multidisciplinary Research on Selenium Sulfur and other Redox Catalyst (SeS Redox and Catalysis)

**Attività Scientifica** L'attività scientifica della Prof.ssa Marini è principalmente focalizzata sullo sviluppo di nuove metodologie sintetiche promosse o catalizzate da reagenti organici contenenti selenio, anche applicate alla sintesi di molecole di interesse biologico.
Le ricerche riguardano processi domino, processi organocatalizzati asimmetrici, metodologie chemo e stereo selettive e sintesi ecosostenibili. La prof.ssa Marini è coautore di 96 articoli pubblicati su riviste internazionali, 3 capitoli o monografie, e numerose comunicazioni a conferenze e meeting nazionali ed internazionali. È stata membro di progetti di ricerca nazionali e ha collaborato con numerosi gruppi di ricerca nazionali ed internazionali anche all'interno dell' International Network for Multidisciplinary Research on Selenium Sulfur and other Redox Catalysts (SeS Redox and Catalysis). La Prof.ssa Marini ha svolto funzioni di revisore di progetti di ricerca per il MIUR. Svolge funzioni di referee per numerose riviste internazionali fra le quali Advanced Synthesis & Catalysis, European Journal of Organic Chemistry, Organic and Biomolecular Chemistry, RSC Advances, Catalysis Science & Technology, Synthesis, Molecules, etc.

**Attività editoriale.** Fa parte del Section Editorial Board della rivista Molecules (Sezione di Chimica Organica) ed è editor di tre Special Issue nello stessa rivista.

## Premi e citazioni

(vedi lista delle pubblicazioni)

Citazione in Synfacts "Highlights in Current Synthetic Organic Chemistry" 2011, 12, 1349.

Citazione in Synfacts "Highlights in Current Synthetic Organic Chemistry" 2008, 7, 728.

Citazione in Organic Chemistry Highlights-Organic Chemistry Portal, February, 8, 2010, www.organic-chemistry.org/Highlights.

Tetrahedron Asymmetry: Most Cited Paper 2004-2007.

**Indicatori bibliometrici** (ad Ottobre 2024)

Number of indexed publications: 106 in Scopus; 108 in WOS.
Total number of citations: 3215 (Scopus); 3116 (WOS).
H-index: 34 (Scopus) ); 34 (WOS).

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**Lista delle pubblicazioni**

106) M. Palomba, A. Angeli, R. Galdini, A. J. Hughineata, G. Perin, E. J. Lenardão, F. Marini, C. Santi, C. T. Supuran, L. Bagnoli. Iodine/Oxone® oxidative system for the synthesis of selenylindoles bearing a benzenesulfonamide moiety as carbonic anhydrase I, II, IX, and XII inhibitors *Org. Biomol. Chem*., **2024**, *22, 6532-6542*. https://doi.org/10.1039/D4OB00826J
105) L. Bagnoli, O. Rosati, F. Marini, C. Santi, L. Sancineto. Selenosulfones, a Meetup of Chalcogens: A Journey Into Their Recent Chemistry. *Eur. J. Org. Chem*. **2024**, *27*, e202400169. https://doi.org/10.1002/ejoc.202400169
104) I. F. C. Dias, G. Allegrini, E. Wielgus, J. Drabowicz, E. J. Lenardão, L. Bagnoli, C. Santi, F. Marini* Cyclopropanation of Aryl and Styryl Acetonitriles With Selenium-Based Dielectrophiles *Eur. J. Org. Chem*. **2024**, 27, e202400187. https://doi.org/10.1002/ejoc.202400187 Articolo su invito, Special Issue: New-Generation Methodologies in Organic Chemistry: A Focus on Italy.
103) B. G. Singh, K. P. Prasanthkumar, F. Mangiavacchi, F. Marini, C. Santi. Reactivity of oxidants towards phenyl and benzyl substituted 5-selanylpentanoic acids: radiolytic and theoretical insights. *New Journal of Chemistry* **2024**, *48*, 36. https://doi.org/10.1039/D3NJ04487D.
102) Benedetto Tiz D., Bagnoli L., Rosati O., Marini F., Sancineto L., Santi C. Top Selling (2026) Small Molecule Orphan Drugs: A Journey into Their Chemistry. *Int J Mol Sci.* **2023**, 24, 930. doi: 10.3390/ijms24020930.
101) Palomba, M., Dias, I.F.C.; Cocchioni, M.; Santi, C.; Marini, F:; Bagnoli, L.
Vinylation of N-Heteroarenes through Addition/Elimination Reactions of Vinyl Selenones
Molecules, 2023, 28(16), 6026
100) Benedetto Tiz, D.; Bagnoli, L.; Rosati, O.; Marini, F.; Sancineto, L.; Santi, C.
New Halogen-Containing Drugs Approved by FDA in 2021: An Overview on Their Syntheses and Pharmaceutical Use.
*Molecules* **2022***, 27*, 1643. https://doi.org/10.3390/molecules27051643.
99) Mangiavacchi,F; Mazzeo, G.; Graziani, M. C.; Marini, F.; Drabowicz, J.; Wielgus, E.; Sancineto, L.; Longhi, G.; Vivani, R.; Abbate, S.; Santi, C. A Vibrational and Electronic Circular Dichroism Study of Chiral Seleno Compounds Prepared from a Novel Naphthol based Diselenide.
*Eur. J. Org. Chem*. **2022**, e202200282. https://doi.org/10.1002/ejoc.202200282.
98) Mangiavacchi, F., Botwina, P., Menichetti, E., Bagnoli, L.; Rosati, O.; Marini, F.; Fonseca; S. F.; Abenante, L.; Alves, D.; Dabrowska, A.; Kula-Pacurar, A.; Ortega-Alarcon, D.; Jimenez-Alesanco, A.; Ceballos-Laita, L.; Vega, S.; Rizzuti, B.; Abian, O.; Lenardão, E. J.; Velazquez-Campoy, A.; Pyrc, K.; Sancineto, L., Santi, C.
Seleno-Functionalization of Quercetin Improves the Non-Covalent Inhibition of Mpro and Its Antiviral Activity in Cells against SARS-CoV-2 *International Journal of Molecular Sciences*, **2021**, 22(13), 704895.
97) Palomba, M.; Franco Coelho Dias, I.; Rosati, O.; Marini, F.
Modern Synthetic Strategies with Organoselenium Reagents: A Focus on Vinyl Selenones.
*Molecules* **2021**, 26, 3148.
96) Palomba, M.; De Monte, E.; Mambrini, A.; Bagnoli, L.; Santi, C.; Marini, F.
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95) Marini, F. Exploring Selenones for Heterocycle Synthesis Targets in Heterocycle Systems, 2021, 25, 365. https://www.soc.chim.it/sites/default/files/ths/25/chapter_16.pdf.
94) Mangiavacchi, F.; Dias, I. F. C.; Di Lorenzo, I.; Grzes, P.; Palomba, M.; Rosati, O.; Bagnoli, L.; Marini, F.; Santi, C.; Lenardao, E. J.; Sancineto, L.
Sweet Selenium: Synthesis and Properties of Selenium-Containing Sugars and Derivatives. *Pharmaceuticals* **2020**, *13* (9), 1–28. Scopus: 2-s2.0-85089847460; WOS:000580239200001. https://www.mdpi.com/1424-8247/13/9/211
93) Mangiavacchi, F.; Crociani, L.; Sancineto, L.; Marini, F.; Santi, C.
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92) Nascimento, V.; Cordeiro, P. S.; Arca, M.; Marini, F.; Sancineto, L.; Braga, A. L.; Lippolis, V.; Iwaoka, M.; Santi, C.
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*New Journal of Chemistry* **2020**, 44 (22), 9444–9451.
WOS:000540929200036. https://pubs.rsc.org/en/content/articlelanding/2020/nj/d0nj01605e86)
91) M. Palomba, E. Scarcella, L. Sancineto, L. Bagnoli, C. Santi, F. Marini.* Synthesis of Spirooxindole Oxetanes via a Domino Reaction of 3-Hydroxyoxindoles and Phenyl Vinyl Selenone. *Eur. J. Org. Chem*. **2019**, 5396–5401. https://doi.org/10.1002/ejoc.201900499. Articolo su invito, Special Issue: Heterocyclic Chemistry .
90) V. Mimini, F. Ianni, F. Marini, H. Hettegger, R. Sardella, W. Lindner. Electrostatic attraction-repulsion model with Cinchona alkaloid-based zwitterionic chiral stationary phases exemplified for zwitterionic analytes. *Anal. Chim. Acta*, **2019**, *1078*, 212-220.
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89) M. Palomba, F. Mangiavacchi, F. Marini.* Recent advances in selenium promoted or catalyzed electrophilic aminations of alkenes and alkynes. *Arkivoc* **2019**, part ii, 114-143. https://doi.org/10.24820/ark.5550190.p011.075.
88) M. Palomba, F. Trappetti, L. Bagnoli, C. Santi, F. Marini.* Oxone mediated oxidation of vinyl selenides in water. Eur. J. Org. Chem. 2018, 3914–3919. https://doi.org/10.1002/ejoc.201800498.
87) M. Palomba, L. Sancineto, F. Marini. C. Santi, L. Bagnoli. A domino approach to pyrazino-indoles and pyrroles using vinyl selenones. *Tetrahedron* **2018**, 74, 7156-7163, https://doi.org/10.1016/j.tet.2018.10.044.
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85) M. Palomba, F. Trappetti, L. Bagnoli, C. Santi, F. Marini.
Oxone mediated oxidation of vinyl selenides in water.
*Eur. J. Org. Chem*., **2018**,
84) L. Sancineto, F. Mangiavacchi, C. Tidei, L. Bagnoli, F. Marini, A. Gioiello, J. Scianowski, C. Santi
Selenium-Catalyzed Oxacyclization of Alkenoic Acids and Alkenols
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83) G. Mazzeo, G. Longhi, S. Abbate, M. Palomba, L. Bagnoli, F. Marini, C. Santi, J.L. Han, V.A. Soloshonok, E. Di Crescenzo, R. Ruzziconi
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82) E. J. Lenardão,, E. L. Borges , G. Stach, L. K. Soares , D. Alves, R. F. Schumacher, L. Bagnoli, F. Marini, G. Perin
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81) B. Monti, C. Santi, L. Bagnoli, F. Marini, L. Sancineto
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*Curr. Green Chem*., **2017**, *3*, 68 - 75 (Thematic Issue: Organochalcogens in Green Chemistry).

80) C. Tomassini, F. Di Sarra, B. Monti, L. Sancineto, L. Bagnoli, F. Marini, C. Santi
Kinetic resolution of 2-carbomethoxy-3-alkenols through a stereoselective cyclofunctionalization promoted by an enantiomerically pure electrophilic selenium reagent
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79) G. Perin, A. M. Barcellos, T. J. Peglow, P. C. Nobre, R. Cargnelutti, E. J. Lenardao, F. Marini, C. Santi Tellurium-promoted stereoselective hydrodebromination of 1,1-dibromoalkenes: synthesis of (E)-bromoalkenes
*RSC Adv.* **2016**, *6*, 103657-103661.
78) M. Palomba, E. Vinti, F. Marini, C. Santi, L. Bagnoli Synthesis of oxazino[4,3-a]indoles by domino addition-cyclization reactions of (1H-indol-2-yl)methanols and vinyl selenones in the

presence of 18-crown-6
*Tetrahedron,* **2016**, *72*, 7059-7064.

77) G. Bellino, M. Scisciani, J. P. Vargas, L. Sancineto, L. Bagnoli, F. Marini, D. S. Ludtke, E. . J Lenardao, C. Santi
Reaction of Acyl Chlorides with In Situ Formed Zinc Selenolates: Synthesis of Selenoesters versus Ring-Opening Reaction of Tetrahydrofuran
*Journal of chemistry*, **2016**, DOI: 10.1155/2016/284914

76) M. Palomba, L. Rossi, L. Sancineto, E. Tramontano, A. Corona, L. Bagnoli, C. Santi, C. Pannecouque, O. Tabarrini, F. Marini*
A New Vinyl Selenone-Based Domino Approach to Spirocyclopropyl Oxindoles Endowed with Anti-HIV RT Activity
*Organic & Biomolecular Chemistry*, **2016**, *14*, 2015-2024.

75) L. Sancineto, C. Tidei, L. Bagnoli, F. Marini, V. Lippolis, M. Arca, E. J. Lenardão, C. Santi
Synthesis of Thiol Esters Using PhSZnBr as Sulfenylating Agent: A DFT-Guided Optimization of Reaction Conditions
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74) L. Sancineto, M. Palomba, L. Bagnoli, F. Marini, C. Santi
Advances in Electrophilic Organochalcogen Reagents
*Curr. Org. Chem*. **2016**, 20, 122-135.

73) M. Palomba, L. Bagnoli, F. Marini C. Santi, L. Sancineto
Recent Advances in the Chemistry of Vinyl Chalcogenides
*Phosphorus Sulfur Silicon & rel. el*. **2016,** 191, Issue 2, 235-244.

72) L. Sancineto, A. Mariotti, L. Bagnoli, F. Marini, J. Desantis, N. Iraci, C. Santi, C. Pannecouque, Oriana Tabarrini
Design and Synthesis of DiselenoBisBenzamides (DISeBAs) as Nucleocapsid Protein 7 (NCp7) Inhibitors with anti-HIV Activity
*J. Med. Chem.*, **2015**, 58, 9601-9614.

71) L. Sancineto, C. Tidei, L. Bagnoli, F. Marini, E. J Lenardão, C. Santi
Selenium Catalyzed Oxidation of Aldehydes: Green Synthesis of Carboxylic Acids and Esters
*Molecules*, **2015**, 20 (6), 10496-10510.

70) C. Tidei, L. Sancineto, L. Bagnoli, B. Battistelli, F. Marini, C. Santi
A Recyclable Biphasic System for Stereoselective and Easily Handled Hydrochalcogenations
*Eur. J. Org. Chem.,* **2014**, 5968–5975.

69) R. Sardella, F. Ianni, A. Lisanti , S. Scorzoni, F. Marini, S. Sternativo, B. Natalini
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*Amino Acids* **2014***, 46*, 1235–1242

68) S. Sternativo, B. Battistelli, L. Bagnoli, C. Santi, L. Testaferri, F. Marini*
Synthesis of γ-Lactams via a Domino Michael Addition/Cyclization Reaction of Vinyl Selenone with Substituted Amides
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67) S. Propersi, C. Tidei, L. Bagnoli, F. Marini, L. Testaferri, C. Santi
On Water Thiolysis of Epoxides Promoted by PhSZnBr
*Journal of Sulfur Chemistry,* **2013**, 34, 671-676.

66) L. Bagnoli, S. Casini, F. Marini, C. Santi, L. Testaferri
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*Tetrahedron* **2013**, *69*, 481-486

65) F. Marini,* S. Sternativo
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*Synlett.* **2013**, *24*, 11-19 (invited Account).

64) S. Sternativo, O. Walczak, B. Battistelli, L. Testaferri, F. Marini*
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63) S. Sternativo, A. Calandriello, F. Costantino, L. Testaferri, M. Tiecco, F. Marini*
A Highly Enantioselective One-pot Synthesis of Spirolactones by an Organocatalyzed Michael Addition/Cyclization Sequence.

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62) V. Marcos, J. Aleman,* J. L. Garcia Ruano, F. Marini,* M. Tiecco
Asymmetric Synthesis of α-Alkyl α-Seleno Carbonyl Compounds Catalyzed by Bifuntional Organocatalysts.
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61) S. Sternativo, F. Marini,* F. Del Verme, A. Calandriello, L. Testaferri, M. Tiecco
One-pot synthesis of aziridines from vinyl selenones and variously functionalized primary amines
*Tetrahedron* **2010***, 66*, 6851-6857.

60) F. Marini,* S. Sternativo, F. Del Verme, L. Testaferri, M. Tiecco
A New Stereoselective Synthesis of Cyclopropanes Containing Quaternary Stereocentres via Organocatalytic Michael Addition to Vinyl Selenones**.**
*Adv. Synth. Catal.* **2009**, *351*, 1801-1806.

59) O. A. Attanasi, L. De Crescentini, F. Mantellini, F. Marini, S. Nicolini, S. Sternativo, M. Tiecco.
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58) F. Marini,* S. Sternativo, F. Del Verme, L. Testaferri, M. Tiecco
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57) M. Tiecco, L. Testaferri, F. Marini,* S. Sternativo, F. Del Verme, C. Santi, L. Bagnoli, A. Temperini
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56) M. Tiecco, L. Testaferri, L. Bagnoli, C. Scarponi, A. Temperini, F. Marini, C. Santi
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55) M. Tiecco, L. Testaferri, C. Santi, C. Tomassini, S. Santoro, F. Marini, L. Bagnoli, A. Temperini.
Synthesis of Enantiomerically Pure β-Azidoselenides Starting from Natural Terpenes.
*Tetrahedron*, **2007** 12373-12378.

54) M. Tiecco, L. Testaferri, A. Temperini, R. Terlizzi, L. Bagnoli, F. Marini, C. Santi.
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*Org. Biomol. Chem.,* **2007** *5*, 3510-3519.

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*Tetrahedron Lett*. **2007**. *48*, 4343-4345.

51) M. Tiecco.,* L. Testaferri, F. Marini,* S. Sternativo, C. Santi, L. Bagnoli, A. Temperini
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50) M. Tiecco, L. Testaferri, L. Bagnoli, C. Scarponi, A. Temperini, F. Marini, C. Santi
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Synthesis of γ- and δ-Lactones from Alkynols.

*Synlett,* **2006**, 587-590.

47) M. Tiecco,L. Testaferri, L. Bagnoli, F. Marini, C. Santi, A. Temperini, C. Scarponi, S. Sternativo R. Terlizzi and C. Tomassini
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Kinetic Resolution of Allylic Alcohols Promoted by Electrophilic Selenium Reagents.
*Phosphorus, Sulphur and Silicon,* **2005***, 180*, 1071-1075.

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Asymmetric Syntheses Promoted by Organoselenium Reagents
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Synthesis of enantiomerically pure perhydro furo[2,3-b]furans.
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Synthesis of selenoxides by oxidation of selenides with superoxide radical anions and 2-nitrobenzensulfonyl chloride
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