

**FORMATO EUROPEO
PER IL CURRICULUM
VITAE**



Curriculum Vitae Lara Massai

Dichiarazione sostitutiva di certificazione e dichiarazione sostitutiva dell'atto di notorietà ai sensi del D.P.R. 445/28.12.2000

La sottoscritta LARA MASSAI

consapevole delle responsabilità penali cui può andare incontro, in caso di dichiarazioni mendaci, ai sensi e per gli effetti di cui all'art. 76 del D.P.R. 445/2000 e consapevole che, ai sensi dell'art. 13, del Regolamento UE 2016/679 (GDPR), la presente dichiarazione sarà pubblicata sul sito web dell'amministrazione in apposita sezione di Amministrazione Trasparente, sotto la propria responsabilità

dichiara

ai sensi degli artt. 46 e 47 del DPR 445/2000

Personal information

Name LARA MASSAI

Address

E-mail

Citizenship

Date of Birth

Publications =79 (2012- today)

H-Index = 23 (Scopus 22/05/2024)

Bibliographic data:

Citations = 1587 (Scopus 22/05/2024)

EDUCATION

Feb 05.2015: PhD in CHEMICAL SCIENCES at the University of Florence.

PhD Thesis: "Gold compounds as anticancer agents: a systemic study of gold-protein metalation". Supervisor: Prof. Luigi Messori

Dec 16.2008: Master's Degree PHARMACEUTICAL CHEMISTRY AND TECHNOLOGY (Laurea Specialistica a ciclo unico IN CHIMICA E TECNOLOGIE FARMACEUTICHE- (14S- CLASSE DELLE LAUREE SPECIALISTICHE in Farmacia e Farmacia Industriale di cui al D.M. 28/11/2000), University of Florence, Italy.

Thesis: "Antibodies as biomarkers in multiple sclerosis: the role of Myelin Oligodendrocyte Glycoprotein as an antigenic probe in enzyme immunoassays". Supervisor Prof. Paolo Rovero

OTHER PROFESSIONAL QUALIFICATIONS

Aug 2018 Italian National Habilitation as Associate Professor (SSD CHIM03/B1- Fascia II_ code:78046 – validity 07.08.2018/07.08.2027).

May 20.2015: General and Inorganic Chemistry Expert (Cultore della Materia SSD CHIM/03).

CURRENT POSITION

Jan 2010: State Certification Exam, Valid for a license to practice as a pharmacist.

Sep 01.2023: Ricercatore Legge 240/10 a tempo determinato_ Department of Chemistry 'Ugo Schiff', University of Florence.

**RESERACH
EXPERINCES/PROF
SSIONAL
APPOINTMENTS**

Dec 02.2022 – Aug. 31.2023: Postdoctoral fellowship (BORSA di RICERCA), Laboratory of Metals in Medicine (MET MED), Department of Chemistry 'Ugo Schiff', University of Florence. Research project: "Analysis of the biological samples via LC-MS/ MS for simultaneous protein identification and quantification in Human Primary Osteosarcoma Cells". (SSD CHIM/03). Supervisor: Prof. L. Messori

Dec 09.2020 – Dec. 01.2022: Postdoctoral fellowship (BORSA di RICERCA), Laboratory of Metals in Medicine (MET MED), Department of Chemistry 'Ugo Schiff', University of Florence. Research project: "Proteomics studies and analysis of interaction between proteins and metallodrugs by advanced mass spectrometric methodologies applied to cancer research". (SSD CHIM/03). Supervisor: Prof. L. Messori

Dec 01.2018 – Dec. 08.2020: Postdoctoral fellowship (ASSEGNO di RICERCA), Laboratory of Metals in Medicine (MET MED), Department of Chemistry 'Ugo Schiff', University of Florence. Research project: " Proteomic analysis by advanced mass spectrometric methodologies applied to cancer research". (SSD CHIM/03). Supervisor: Prof. Luigi Messori.

Sept 01.2018 – Nov. 30.2018: Postdoctoral fellowship (ASSEGNO di RICERCA), Laboratory of Metals in Medicine (MET MED), Department of Chemistry 'Ugo Schiff', University of Florence. Research project: "Studies on the mode of action of cytotoxic gold complexes". (SSD CHIM/03). Supervisor: Prof. Luigi Messori.

Nov 01.2017 - Aug 30.2018: Fellowship Postdoctoral fellowship (BORSA di RICERCA), , Laboratory of Metals in Medicine (MET MED), Department of Chemistry 'Ugo Schiff', University of Florence. Research project: "Studies on the mode of action of cytotoxic gold complexes". (SSD CHIM/03). tutor: Prof. Luigi Messori.

Mar 1.2017- May 31.2017: Parental leave

Sep 30.2016 – Feb 28.2017: Maternity leave: two children.

Mar 01. 2016 – Oct. 31.2017: Postdoctoral fellowship (ASSEGNO di RICERCA), Laboratory of Metals in Medicine (MET MED), Department of Chemistry 'Ugo Schiff', University of Florence. Research project: "Studies on interactions between proteins and cytotoxic gold compounds to identify their mode of action". (SSD CHIM/03). Supervisor: Prof. Luigi Messori.

Mar 01.2015- Feb 29.2016: Postdoctoral fellowship (ASSEGNO di RICERCA), Laboratory of Metals in Medicine (MET MED), Department of Chemistry 'Ugo Schiff', University of Florence. Research project: "Studies on interactions between proteins and cytotoxic gold compounds to identify their mode of action". (SSD CHIM/03). Supervisor: Prof. Luigi Messori.

Jan 01.2012 – Dec. 31.2014: PhD student in Chemical Sciences at the University of Florence. Research project: "Studies on the mechanism of action of cytotoxic gold compounds".

Mar 01.2014 - Feb 28.2015: Fellowship (BORSA di RICERCA), Laboratory of Metals in Medicine

(MET MED), Department of Chemistry 'Ugo Schiff', University of Florence. Research project: "Studies on mode of action on cytotoxic gold compounds". (SSD CHIM/03). Supervisor: Prof. Luigi Messori.

Mar 01.2013 - Feb 28.2014: Fellowship, (BORSA di STUDIO) Laboratory of Metals in Medicine (MET MED), Department of Chemistry 'Ugo Schiff', University of Florence. Research project: "Studies on mode of action on cytotoxic gold compounds". (SSD CHIM/03). Supervisor: Prof. Luigi Messori.

Mar 01.2012- Feb 28.2013: Fellowship (BORSA di STUDIO) Laboratory of Metals in Medicine (MET MED), Department of Chemistry 'Ugo Schiff', University of Florence. Research project: "Studies on mode of action on cytotoxic gold compounds". (SSD CHIM/03). Supervisor: Prof. Luigi Messori.

Sept. 01.2009 – Dec. 31.2011: HACCP advisor. External advisor at Silliker Italia S.p.a Prato. MN company that operates in the field of feed, with the following functions:

- Drafting of self-control HACCP textbook
- Withdrawal of food products and surface swabs, at food stores in general and food companies bearing authorization and approval number EC.
- Organization and subsequent implementation of training courses on health and hygiene in accordance with the European legislation, national, applicable to companies

Feb 01.2009 - May 31.2009: Scholarship holder at Espikem funded by FSE (European Social Fund). Laboratory of Chemistry and Biology of Peptides and Proteins, (University of Florence). Studies of a new biological and chemical methods to obtained semi-synthetic human MOG (Myelin Oligodendrocyte Glycoprotein) selectively and specifically changed. Supervisor: Paolo Rovero.

Dec 01.2007- Dec 15.2008: Internship in Molecular Biology. Department of Pharmaceutical Science (University of Florence). Project: "Expression and purification of human MOG (Myelin Oligodendrocyte Glycoprotein) by bacterial cells (*E.Coli*) in order to test the protein with ELISA , Enzyme-linked immunosorbent assay, as potential probe to diagnose Multiple Sclerosis." Supervisor: Prof. Paolo Rovero.

**EXPERIENCES
ABROAD**

Oct. 01.2013 – Jan 30.2014: Exchange Visitor at Prof. Maria Contel's group, Department of Chemistry - Brooklyn College – City University of New York (CUNY). Participation in the project "Gold-based potential chemotherapeutics"- supported by the National Cancer Institute (NCI) (1SC1CA182844), Supervisor: Prof Maria Contel – Research: synthesis and characterization of a new class of bioactive molecules: heterometallic ruthenium-gold derivatives.

AWARDS

Travel grant: XIX Scuola Nazionale di Chimica Inorganica – Pisa – October 22-24, 2014. Awarding Body: Società Chimica Italiana_Divisione di Chimica Inorganica

Special mention for the PhD Thesis: "Gold compounds as anticancer agents: a systemic study of gold-protein metalation" – Awarding Body: Firenze University Press – Tesi Dottorato – Edizione 2015

**Contributions
to national and**

Oral Communications (author)

international congresses

XLVIII Congresso Nazionale di Chimica Inorganica , An ESI-MS Study to Gain an Insights on Interactions between a Synthetic C-Terminal Peptide hTrxR(488-499) and Gold(I) Complexes
Pisa, Italia, Settembre 6-9, 2022, **(National)**

16th European Biological Inorganic Chemistry Conference (EuroBIC) - Internalization of Anticancer Gold(I) Complexes in Human H Ferritin to Improve Drug Selectivity - Grenoble, Francia, Luglio 17-21, 2022, **(International)**

8th International Symposium on Metallomics –2022, Gold(I) complexes: a promising class of SARS-CoV-2 MPro inhibitors - Online - Kanazawa, Giappone, Luglio 11-14, **(International)**

EORTC PAMM Pharmacology and Molecular Mechanism– “Strategies for Understanding the Mode of Action of Anticancer Gold Complexes”, Virtual Meeting, April 21-22, 2022 **(International)**

BioMet22 - XXI Whorkshop on PharmacoBioMetallics – Ferritin-based anticancer gold(I) complexes delivery system - Virtual Meeting - April 28-29, 2022 **(National)**

BioMet21 - XX Whorkshop on PharmacoBioMetallics XVII PharmacoBioMetallics –Virtual Meeting, April 15-16, 2021 “Protein metalation by cytotoxic gold complexes: an ESI MS study” **(National)**

BioMet20 - XIV Whorkshop on PharmacoBioMetallics XVII PharmacoBioMetallics – Ancona– February 20-21, 2020 “Strategies for Understanding the Mode of Action of Anticancer Gold Complexes” **(National)**

BioMet19 - XVIII Whorkshop on PharmacoBioMetallics XVII PharmacoBioMetallics – Arezzo– February 22-23, 2019 “A general outlook on the biomolecular targets for anticancer gold complexes” **(National)**

BioMet18 - XVII Whorkshop on PharmacoBioMetallics XVII PharmacoBioMetallics – Napoli – February 16-17, 2018. “Chemistry, Molecular Mechanisms and Preclinical Studies of Gold Complexes for Ovarian Cancer Treatment” **(National)**

BioMet14 - XIV PharmacoBioMetallics – Pisa – October 24-25, 2014. “New Heterodimetallic Gold(I)-Platinum(II) Compound as Potential Anticancer Agents” **(National)**

2nd International Symposium on Functional Metal Complexes that Bind to Biomolecules – Zurich – Switzerland – August 22-23, 2014. “New Heterodimetallic Complexes as potential anticancer agents” **(International)**

BIOMET12 - XII PharmacoBioMetallics- Padova, October 26-28, 2012. “Studies of cytotoxic gold compounds: interactions with model proteins and with the copper chaperone Atox-1” **(National)**

Poster presentations (author)

BioMet15 - XV PharmacoBioMetallics – Bari – October 23-24, 2015. “Gold compounds as anticancer agents: a systematic study of gold-biomolecules interactions” [Lara Massai](#), Federica Scaletti, Tiziano Marzo, Elena Michelucci, Luigi Messori. **(National)**

Metallomics – Oviedo – Spain July 8-11, 2013. “Studies on protein metalation by selected gold compounds as prospective anticancer agents”. [Lara Massai](#), Federica Scaletti, Tiziano Marzo, Chiara Gabbiani, Elena Michelucci, Luigi Messori. **(International)**

40 International Conference on Coordination Chemistry- ICC40 Valencia conference centre-

	<p>Spain – September 9-13, 2012. “Gold compounds: new anticancer drug candidates” Lara Massaj, Federica Scaletti, Chiara Gabbiani, Luigi Messori (International)</p>
<p>PARTICIPATION TO SCHOOLS AND CONFERENCES</p>	<p>10th Annual Scientific Conference of the Istituto Toscano Tumori (ITT) - Pisa - July 3, 2015. (National)</p> <p>1° MS PHARMA SCHOOL: scuola pratica di Spettrometria di Massa in ambito farmaceutico – c/o Angelini S.Palomba (Roma) - March, 3-4, 2015. (National)</p> <p>XIX Scuola Nazionale di Chimica Inorganica – Pisa – October 22-24, 2014. (National)</p> <p>18° Corso Spettrometria di Massa – Siena- April 7-11, 2014. (National)</p>
<p>TECHNICAL SKILLS AND COMPETENCES</p>	<p>Inorganic synthesis of metal complexes (especially gold and ruthenium) also with Schlenk technique and their characterization by UV-vis spectrophotometry, ESI-Q-TOF MS spectrometry, NMR spectroscopy. Studies of interaction of metal compounds and biomolecules (<i>i.e.</i> HSA, hCA I, Lysozyme, RNasi, Atox1, Human Ferritin, DNA quadruplex) through UV-vis spectrophotometry, circular dichroism spectroscopy and ICP-OES spectroscopy. Proteomics measurements for the detection of biological alterations in the cell through MS spectrometry.</p> <p>Skills in the use of the common programs employed in chemistry (Excel, PowerPoint, Origin, Topspin, MestreNova, ChemBioDraw). Biochemical skills like DNA extraction, Western Blot, immunoenzymatic assay (ELISA). Expression and purification (with column chromatography and dialysis techniques) of human proteins in bacterial cells. Insertion of plasmids in bacterial cells and growth of bacterial cell cultures.</p> <p>Proficient skills in ESI-MS spectrometry, specifically, in the characterization of molecular adducts between metal-drugs and a wide range of high molecular weight proteins of biological interest.</p>
<p>TEACHING EXPERIENCES</p>	<p>-) Courses for the Academic Year 2023-2024</p> <p>Bachelor's Degree (DM 270/04) in Natural Sciences (B033)</p> <p>Course: B029067 - GENERAL AND INORGANIC CHEMISTRY</p> <p>Module: B029067 - GENERAL AND INORGANIC CHEMISTRY (Fictitious Component A)</p> <p>Module: B029067 - GENERAL AND INORGANIC CHEMISTRY (Fictitious Component B)</p> <p>Bachelor's Degree (DM 270/04) in Biological Sciences (B005)</p> <p>Course: B016095 - CHEMISTRY LABORATORY FOR BIOLOGY</p> <p>Module: B016095 - CHEMISTRY LABORATORY FOR BIOLOGY (Last names M-Z)</p> <p>-) From November to July 2022-2023: Chemistry Tutor for "Fundamentals of General Chemistry", Degree in Design, Textile and Fashion, School of Architecture. Exam committee member.</p> <p>July 2021: PhD Course Lecturer “Metal Complexes as Drugs and Chemotherapeutic Agents” (8 hours) Doctorate in Chemical Sciences (UniFi)</p>

	<p>May. 2020: PhD Course Lecturer “Metal Complexes as Drugs and Chemotherapeutic Agents” (8 hours) Doctorate in Chemical Sciences (UniFi)</p> <p>Sept. 2019: PhD Course Lecturer “Gold complexes in cancer chemotherapy” (8 hours) Doctorate in Chemical Sciences (UniFi)</p> <p>-) Supervisor of 2 (two) PhD students in Chemical Sciences</p> <p>-) Supervisor of 1 Bachelor's thesis in Biotechnology.</p> <p>-) Since 2012, Dr. Lara Massai has been co-supervisor and has followed and coordinated the experimental activity and the writing of the thesis of 14 graduates enrolled in Bachelor's/Master's degree programs in Chemistry, Biotechnology and Biology.</p> <p>Here is a more detailed translation:</p>
SCIENTIFIC PARTICIPATION IN INTERNATIONAL AND NATIONAL RESEARCH PROJECTS ADMITTED TO FINANCING ON THE BASIS OF COMPETITIVE CALLS (PEER REVIEW)	<p>AIRC Project IG26169 (Call2021). PI: Prof. L. Messori (UNIFI), title “A multi-Omics approach to establish the molecular mechanisms of Anticancer Gold Compounds in the Systems Biology Era.” Scientific/administrative coordinator and member of the research team.</p> <p>-AIRC-ECRF 19650 (Call 2016). P.I. Prof. L. Messori. Title "Advanced mass spectrometry tools for cancer research: novel applications in proteomics, metabolomics and nanomedicine". Member of the research team.</p> <p>-AIRC Project IG16049 (Call2014). PI: Prof. L. Messori (UNIFI), title: “The mode of action of antiproliferative gold compounds in A2780 human ovarian carcinoma cells.” Scientific/administrative coordinator and member of the research team.</p> <p>- National Cancer Institute (NCI) 1SC1CA182844; P.I.: Prof. Maria Contel (Brooklyn College – CUNY), title: “Gold-based potential chemotherapeutics”. Exchange visitor.</p> <p>-AIRC Project IG12085 (Call2011). PI: Prof. L. Messori (UNIFI), title “Unravelling the mechanisms of action of gold compounds through innovative proteomic investigations”. Scientific/administrative coordinator and member of the research team.</p>
SCIENCE POPULARIZATION	<p>July 13-14, 2022: OpenLab Project (centro servizi per l’educazione e la divulgazione scientifica). Scienze estate 2022- Guided tours in the labs of the Centri di Ricerca e ai Dipartimenti del Campus Scientifico e Tecnologico di Sesto Fiorentino -</p>
EDITORIAL AND PEER-REVIEW ACTIVITIES	<ul style="list-style-type: none"> • MDPI Review Editor: Inorganics, International Journal of Molecular Sciences, Biomolecules, Molecules, Pharmaceuticals, Pharmaceutics, Antioxidants • Frontiers in Chemistry: Review Editor in Inorganic Chemistry • Frontiers in Chemistry: Guest Associate Editor in Inorganic Chemistry • Guest Associate Editor in Frontiers Research Topic: “The Golden Future in Medicinal Chemistry: Perspectives and Resources from Old and New Gold-Based Drug Candidates” (2020) – Medicinal and Pharmaceutical Chemistry (Frontiers in Chemistry) • Guest Associate Editor in Frontiers Research Topic: “Women in Inorganic Chemistry” (2022) – Inorganic Chemistry (Frontiers in Chemistry)
LIST OF PUBLICATIONS	<p>¥: co-first; *: corresponding</p>

79. Vitali V, Massai L, Messori L.

Strategies for the design of analogs of auranofin endowed with anticancer potential.

Expert Opin Drug Discov. (2024) 27:1-13.

DOI: 10.1080/17460441.2024.2355329.

78. Ferraro G, Lyčková T, Massai L, Štarha P, Messori L, Merlino A.

Picoplatin binding to proteins: X-ray structures and mass spectrometry data on the adducts with lysozyme and ribonuclease A.

Dalton Trans. (2024) 53(20):8535-8540.

doi: 10.1039/d4dt00773e. PMID: 38727007.

77. Geri A, Zineddu S, Massai L*, Ronga L, Lobinski R, Gailer J, Messori L.

Mercury binding to proteins disclosed by ESI MS experiments: The case of three organomercurials. J Inorg Biochem. (2024) 252:112479.

DOI:10.1016/j.jinorgbio.2024.112479.

76. Troisi R, Tito G, Ferraro G, Sica F, Massai L, Geri A, Cirri D, Messori L, Merlino A.

On the mechanism of action of arsenoplatins: arsenoplatin-1 binding to a B-DNA dodecamer.

Dalton Trans. (2024) 53(8):3476-3483.

DOI: 10.1039/d3dt04302a.

75. Caligiuri R, Massai L, Geri A, Ricciardi L, Godbert N, Facchetti G, Lupo MG, Rossi I, Coffetti G, Moraschi M, Sicilia E, Vigna V, Messori L, Ferri N, Mazzone G, Aiello I, Rimoldi I.

Cytotoxic Pt(II) complexes containing alizarin: a selective carrier for DNA metalation.

Dalton Trans. (2024) 53(6):2602-2618.

DOI: 10.1039/d3dt03889k.

74. Geri A, Massai L*, Novinec M, Turel I, Messori L.

Reactions of Medicinal Gold Compounds with Cathepsin B Explored through Electrospray Mass Spectrometry Measurements.

Chempluschem. (2024) 89(2):e202300321.

DOI: 10.1002/cplu.202300321.

73. Vitali V, Torricella F, Massai L, Messori L, Banci L.

Enlarging the scenario of site directed ¹⁹F labeling for NMR spectroscopy of biomolecules.

Sci Rep. (2023) 13(1):22017.

DOI: 10.1038/s41598-023-49247-2.

72. Ghini V, Mannelli M, Massai L, Geri A, Zineddu S, Gamberi T, Messori L, Turano P.

The effects of two cytotoxic gold(i) carbene compounds on the metabolism of A2780 ovarian cancer cells: mechanistic inferences through NMR analysis.

RSC Adv. 2023 Jul 19;13(31):21629-21632.

DOI: 10.1039/d3ra04032a.

71. Geri A, Massai L*, Messori L.

Protein Metalation by Medicinal Gold Compounds: Identification of the Main Features of the Metalation Process through ESI MS Experiments.

Molecules. 2023 Jul 4;28(13):5196.

DOI: 10.3390/molecules28135196.

70. Cosottini L, Zineddu S, Massai L, Ghini V, Turano P.

¹⁹F: A small probe for a giant protein.

J Inorg Biochem. (2023) 244:112236.

DOI:10.1016/j.jinorgbio.2023.112236.

69 Simonini Steiner YT, Romano GM, Massai L, Lippi M, Paoli P, Rossi P, Savastano M, Bencini A.

Pyrene-Containing Polyamines as Fluorescent Receptors for Recognition of PFOA in Aqueous Media.

Molecules. (2023) 28(11):4552.

DOI: 10.3390/molecules28114552.

68. Tito G, Troisi R, Ferraro G, Geri A, Massai L, Messori L, Sica F, Merlino A.

Dirhodium tetraacetate binding to a B-DNA double helical dodecamer probed by X-ray crystallography and mass spectrometry.

Dalton Trans. (2023) 52(21):6992-6996.

DOI: 10.1039/d3dt00320e.

67. Cirri D, Geri A, Massai L, Mannelli M, Gamberi T, Magherini F, Becatti M, Gabbiani C, Pratesi A, Messori L.

Chemical Modification of Auranofin Yields a New Family of Anticancer Drug Candidates: The Gold(I) Phosphite Analogues.

Molecules. (2023) Jan 20;28(3):1050.

DOI: 10.3390/molecules28031050.

66. Licciardi G, Rizzo D, Salobehaj M, Massai L, Geri A, Messori L, Ravera E, Fragai M, Parigi G. Large Protein Assemblies for High-Relaxivity Contrast Agents: The Case of Gadolinium-Labeled

Asparaginase.

Bioconjug Chem. (2022) 33(12):2411-2419.

DOI: 10.1021/acs.bioconjchem.2c00506.

65. Massai L, Grifagni D, De Santis A, Geri A, Cantini F, Calderone V, Banci L, Messori L.

Gold-Based Metal Drugs as Inhibitors of Coronavirus Proteins: The Inhibition of SARS-CoV-2 Main Protease by Auranofin and Its Analogs.

Biomolecules. (2022) 12(11):1675.

DOI: 10.3390/biom12111675.

64. Massai L, Scattolin T, Tarchi M, Visentin F, Messori L.

Reactions of proteins with a few organopalladium compounds of medicinal interest.

RSC Adv. (2022) 12(41):26680-26685.

DOI: 10.1039/d2ra05332b.

63. Cirri D, Massai L, Giacomelli C, Trincavelli ML, Guerri A, Gabbiani C, Messori L, Pratesi A. Synthesis, chemical characterization, and biological evaluation of a novel auranofin derivative as an anticancer agent.

(2022) Dalton Trans;51(35):13527-13539.

DOI: 10.1039/d2dt00836j.

62. Ghini, V., Magherini, F., Massai, L., Messori, L., Turano, P.

Comparative NMR metabolomics of the responses of A2780 human ovarian cancer cells to clinically established Pt-based drugs

(2022) Dalton Transactions, 2022, 51(33), pp. 12512–12523

DOI: 10.1039/d2dt02068h

61. Massai, L., Messori, L., Carpentieri, A., Amoresano, A., Melchiorre, C., Fiaschi, T., Modesti, A., Gamberi, T., Magherini, F.

The effects of two gold-N-heterocyclic carbene (NHC) complexes in ovarian cancer cells: a redox proteomic study

(2022) Cancer Chemotherapy and Pharmacology

DOI: 10.1007/s00280-022-04438-y

60. Tolbatov, I., Cirri, D., Tarchi, M., Marzo, T., Coletti, C., Marrone, A., Messori, L., Re, N., **Massai, L.**

Reactions of Arsenoplatin-1 with Protein Targets: A Combined Experimental and Theoretical Study (2022) Inorganic Chemistry, 61 (7), pp. 3240-3248.

DOI: 10.1021/acs.inorgchem.1c03732

59. Massai, L., Cirri, D., Marzo, T., Messori, L.

Auranofin and its analogues as prospective agents for the treatment of colorectal cancer

(2022) Cancer Drug Resistance, 5, pp 1-14.

DOI: 10.20517/cdr.2021.71

58. Lamarche, J., Alcoceba Álvarez, E., Cordeau, E., Enjalbal, C., Massai, L., Messori, L., Lobinski, R., Ronga, L.

Comparative reactivity of medicinal gold(i) compounds with the cyclic peptide vasopressin and its diselenide analogue

(2021) Dalton Transactions, 50 (47), pp. 17487-17490.

DOI: 10.1039/d1dt03470g

57. Massai, L. (✉), Ciambellotti, S., Cosottini, L., Messori, L., Turano, P., Pratesi, A.

Direct detection of iron clusters in L ferritins through ESI-MS experiments

(2021) Dalton Transactions, 50 (45), pp. 16464-16467.

DOI: 10.1039/d1dt03106f

56. Mazzei, L., Massai, L., Cianci, M., Messori, L., Ciurli, S.

Medicinal Au(i) compounds targeting urease as prospective antimicrobial agents: unveiling the structural basis for enzyme inhibition

(2021) Dalton Transactions, 50 (40), pp. 14444-14452.

DOI: 10.1039/d1dt02488d

55. Sacco, F., Tarchi, M., Ferraro, G., Merlino, A., Facchetti, G., Rimoldi, I., Messori, L., **Massai, L.**

Reactions with proteins of three novel anticancer platinum(II) complexes bearing N-heterocyclic ligands

(2021) International Journal of Molecular Sciences, 22 (19), art. no. 10551,

DOI: 10.3390/ijms221910551

54. Bartoli, F., Conti, L., Romano, G.M., Massai, L., Paoli, P., Rossi, P., Pietraperzia, G., Gellini, C., Bencini, A.

Protonation of cyclen-based chelating agents containing fluorescent moieties

(2021) New Journal of Chemistry, 45 (36), pp. 16926-16938.

DOI: 10.1039/d1nj03539h

53. Gorini, G., Magherini, F., Fiaschi, T., Massai, L., Becatti, M., Modesti, A., Messori, L., Gamberi, T.

Au₂phen and auoxo6, two dinuclear oxo-bridged gold(III) compounds, induce apoptotic signaling in human ovarian a2780 cancer cells

(2021) Biomedicines, 9 (8), art. no. 871.

DOI: 10.3390/biomedicines9080871

52. Menconi, A., Marzo, T., Massai, L., Pratesi, A., Severi, M., Petroni, G., Antonuzzo, L., Messori, L., Pillozzi, S., Cirri, D.

Anticancer effects against colorectal cancer models of chloro(triethylphosphine)gold(I) encapsulated in PLGA-PEG nanoparticles

(2021) BioMetals, 34 (4), pp. 867-879.

DOI: 10.1007/s10534-021-00313-0

51. Gamberi, T., Pratesi, A., Messori, L., **Massai, L.***

Proteomics as a tool to disclose the cellular and molecular mechanisms of selected anticancer gold compounds

(2021) *Coordination Chemistry Reviews*, 438, art. no. 213905.

DOI: 10.1016/j.ccr.2021.213905

50. Zoppi, C., **Massai, L.***, Cirri, D., Gabbiani, C., Pratesi, A., Messori, L.

Protein metalation by two structurally related gold(I) carbene complexes: An ESI MS study

(2021) *Inorganica Chimica Acta*, 520, art. no. 120297.

DOI: 10.1016/j.ica.2021.120297

49. Ghini, V., Senzacqua, T., Massai, L., Gamberi, T., Messori, L., Turano, P.

NMR reveals the metabolic changes induced by auranofin in A2780 cancer cells: Evidence for glutathione dysregulation

(2021) *Dalton Transactions*, 50 (18), pp. 6349-6355.

DOI: 10.1039/d1dt00750e

48. Cirri, D., Landini, I., Massai, L., Mini, E., Maestrelli, F., Messori, L.

Cyclodextrin inclusion complexes of auranofin and its iodido analog: A chemical and biological study

(2021) *Pharmaceutics*, 13 (5), art. no. 727,

DOI: 10.3390/pharmaceutics13050727

47. **Massai, L.**, Grguric-Sipka, S., Liu, W., Bertrand, B., Pratesi, A.

Editorial: The Golden Future in Medicinal Chemistry: Perspectives and Resources From Old and New Gold-Based Drug Candidates

(2021) *Frontiers in Chemistry*, 9, art. no. 665244.

DOI: 10.3389/fchem.2021.665244

46. Cirri, D., Schirmeister, T., Seo, E.-J., Efferth, T., Massai, L., Messori, L., Micale, N.

Antiproliferative properties of a few auranofin-related Gold(I) and Silver(I) complexes in leukemia cells and their interferences with the ubiquitin proteasome system

(2020) *Molecules*, 25 (19), art. no. 4454,

DOI: 10.3390/molecules25194454

45. Landini, I., **Massai, L. (✉)**, Cirri, D., Gamberi, T., Paoli, P., Messori, L., Mini, E., Nobili, S.

Structure-activity relationships in a series of auranofin analogues showing remarkable antiproliferative properties

(2020) *Journal of Inorganic Biochemistry*, 208, art. no. 111079,

DOI: 10.1016/j.jinorgbio.2020.111079

44. **Massai, L.**, Zoppi, C., Cirri, D., Pratesi, A., Messori, L.

Reactions of medicinal gold(III) compounds with proteins and peptides explored by electrospray ionization mass spectrometry and complementary biophysical methods

(2020) *Frontiers in Chemistry*, 8, art. no. 581648, pp. 1-14.

DOI: 10.3389/fchem.2020.581648

ISSN: 22962646

43. Bondžić, A.M., Leskovac, A.R., Petrović, S.Ž., Anićijević, D.D.V., Luce, M., Massai, L., Generosi, A., Paci, B., Cricenti, A., Messori, L., Vasić, V.M.

Conjugates of gold nanoparticles and antitumor gold(III) complexes as a tool for their AFM and SERS detection in biological tissue

(2019) *International Journal of Molecular Sciences*, 20 (24), art. no. 6306.

DOI: 10.3390/ijms20246306

42. Cirri, D., Fabbrini, M.G., Massai, L., Pillozzi, S., Guerri, A., Menconi, A., Messori, L., Marzo, T., Pratesi, A.

Correction to: Structural and solution chemistry, antiproliferative effects, and serum albumin binding of three pseudohalide derivatives of auranofin (*BioMetals*, (2019), 32, 6, (939-948), 10.1007/s10534-019-00224-1)

(2019) *BioMetals*, 32 (6), p. 949.

DOI: 10.1007/s10534-019-00227-y

41. Cirri, D., Fabbrini, M.G., Pratesi, A., Ciofi, L., Massai, L., Marzo, T., Messori, L.

The leading established metal-based drugs: a revisit of their relevant physico-chemical data

(2019) *BioMetals*, 32 (5), pp. 813-817.

DOI: 10.1007/s10534-019-00210-7

40. Massai, L., Pratesi, A., Gailer, J., Marzo, T., Messori, L.

The cisplatin/serum albumin system: A reappraisal

(2019) *Inorganica Chimica Acta*, 495, art. no. 118983.

DOI: 10.1016/j.ica.2019.118983

39. Kupiec, M., Ziółkowski, R., Massai, L., Messori, L., Pawlak, K.

The electrochemical profiles of Auranofin and Aubipyc, two representative medicinal gold compounds: A comparative study

(2019) *Journal of Inorganic Biochemistry*, 198, art. no. 110714.

DOI: 10.1016/j.jinorgbio.2019.110714

38. Marzo, T., Massai, L. (✉), Pratesi, A., Stefanini, M., Cirri, D., Magherini, F., Becatti, M., Landini, I., Nobili, S., Mini, E., Crociani, O., Arcangeli, A., Pillozzi, S., Gamberi, T., Messori, L.

Replacement of the Thiosugar of Auranofin with Iodide Enhances the Anticancer Potency in a Mouse Model of Ovarian Cancer

(2019) *ACS Medicinal Chemistry Letters*, 10 (4), pp. 656-660.

DOI: 10.1021/acsmchemlett.9b00007

37. Savić, A., Marzo, T., Scaletti, F., Massai, L., Bartoli, G., Hoogenboom, R., Messori, L., Van Deun, R., Van Hecke, K.

New platinum(II) and palladium(II) complexes with substituted terpyridine ligands: synthesis and characterization, cytotoxicity and reactivity towards biomolecules

(2019) *BioMetals*, 32 (1), pp. 33-47.

DOI: 10.1007/s10534-018-0155-x

36. Magherini, F., Fiaschi, T., Valocchia, E., Becatti, M., Pratesi, A., Marzo, T., Massai, L., Gabbiani, C., Landini, I., Nobili, S., Mini, E., Messori, L., Modesti, A., Gamberi, T.

Antiproliferative effects of two gold(I)-N-heterocyclic carbene complexes in A2780 human ovarian cancer cells: A comparative proteomic study

(2018) *Oncotarget*, 9 (46), pp. 28042-28068.

DOI: 10.18632/oncotarget.25556

35. Papi, F., Bazzicalupi, C., Ferraroni, M., Massai, L., Bertrand, B., Gratteri, P., Colangelo, D., Messori, L.

[Au(9-methylcaffeine-8-ylidene)₂]⁺/DNA Tel23 System: Solution, Computational, and Biological Studies

(2017) *Chemistry - A European Journal*, 23 (55), pp. 13784-13791.

DOI: 10.1002/chem.201702854

34. Massai, L., Messori, L., Micale, N., Schirmeister, T., Maes, L., Fregona, D., Cinellu, M.A., Gabbiani, C.

Gold compounds as cysteine protease inhibitors: perspectives for pharmaceutical application as antiparasitic agents

(2017) *BioMetals*, 30 (2), pp. 313-320.

DOI: 10.1007/s10534-017-0007-0

33. Nardon, C., Boscutti, G., Gabbiani, C., Massai, L., Pettenuzzo, N., Fassina, A., Messori, L., Fregona, D.

Cell and Cell-Free Mechanistic Studies on Two Gold(III) Complexes with Proven Antitumor Properties

(2017) *European Journal of Inorganic Chemistry*, 2017 (12), pp. 1737-1744.

DOI: 10.1002/ejic.201601215

32. Bondžić, A.M., Janjić, G.V., Dramićanin, M.D., Messori, L., Massai, L., Parac Vogt, T.N., Vasić, V.M.

Na/K-ATPase as a target for anticancer metal based drugs: insights into molecular interactions with selected gold(III) complexes

(2017) *Metallomics : integrated biometal science*, 9 (3), pp. 292-300.

DOI: 10.1039/c7mt00017k

31. Landini, I., Lapucci, A., Pratesi, A., Massai, L., Napoli, C., Perrone, G., Pinzani, P., Messori, L., Mini, E., Nobili, S.

Selection and characterization of a human ovarian cancer cell line resistant to auranofin

(2017) *Oncotarget*, 8 (56), pp. 96062-96078.

DOI: 10.18632/oncotarget.21708

30. Massai, L., Pratesi, A., Bogojeski, J., Banchini, M., Pillozzi, S., Messori, L., Bugarčić, Ž.D.

Antiproliferative properties and biomolecular interactions of three Pd(II) and Pt(II) complexes

(2016) *Journal of Inorganic Biochemistry*, 165, pp. 1-6.

DOI: 10.1016/j.jinorgbio.2016.09.016

29. Massai, L.*, Cirri, D., Michelucci, E., Bartoli, G., Guerri, A., Cinellu, M.A., Cocco, F., Gabbiani,

C., Messori, L.

Organogold(III) compounds as experimental anticancer agents: chemical and biological profiles
(2016) *BioMetals*, 29 (5), pp. 863-872.

DOI: 10.1007/s10534-016-9957-x

28. Mügge, C., Musumeci, D., Michelucci, E., Porru, F., Marzo, T., Massai, L., Messori, L., Weigand, W., Montesarchio, D.

Elucidating the reactivity of Pt(II) complexes with (O,S) bidentate ligands towards DNA model systems

(2016) *Journal of Inorganic Biochemistry*, 160, pp. 198-209.

DOI: 10.1016/j.jinorgbio.2016.02.013

27. Bazzicalupi, C., Ferraroni, M., Papi, F., Massai, L., Bertrand, B., Messori, L., Gratteri, P., Casini, A.

Determinants for Tight and Selective Binding of a Medicinal Dicarbene Gold(I) Complex to a Telomeric DNA G-Quadruplex: A Joint ESI MS and XRD Investigation

(2016) *Angewandte Chemie - International Edition*, 55 (13), pp. 4256-4259.

DOI: 10.1002/anie.201511999

26. Musumeci, D., Platella, C., Riccardi, C., Merlino, A., Marzo, T., Massai, L., Messori, L., Montesarchio, D.

A first-in-class and a fished out anticancer platinum compound: Cis -[PtCl₂(NH₃)₂] and cis - [PtI₂(NH₃)₂] compared for their reactivity towards DNA model systems

(2016) *Dalton Transactions*, 45 (20), pp. 8587-8600.

DOI: 10.1039/c6dt00294c

25. Serratrice, M., Maggiore, L., Zucca, A., Stoccoro, S., Landini, I., Mini, E., Massai, L., Ferraro, G., Merlino, A., Messori, L., Cinellu, M.A.

Cytotoxic properties of a new organometallic platinum(II) complex and its gold(i) heterobimetallic derivatives

(2016) *Dalton Transactions*, 45 (2), pp. 579-590.

DOI: 10.1039/c5dt02714d

24. Marzo, T., Scaletti, F., Michelucci, E., Gabbiani, C., Pescitelli, G., Messori, L., **Massai, L.***

Interactions of the organogold(III) compound Aubipyc with the copper chaperone Atox1: A joint mass spectrometry and circular dichroism investigation

(2015) *BioMetals*, 28 (6), pp. 1079-1085.

DOI: 10.1007/s10534-015-9887-z

23. Mügge, C., Marzo, T., Massai, L., Hildebrandt, J., Ferraro, G., Rivera-Fuentes, P., Metzler-Nolte, N., Merlino, A., Messori, L., Weigand, W.

Platinum(II) Complexes with O,S Bidentate Ligands: Biophysical Characterization, Antiproliferative Activity, and Crystallographic Evidence of Protein Binding

(2015) *Inorganic Chemistry*, 54 (17), pp. 8560-8570.

DOI: 10.1021/acs.inorgchem.5b01238

22. Ferraro, G., Massai, L., Messori, L., Cinellu, M.A., Merlino, A.

Structural evidences for a secondary gold binding site in the hydrophobic box of lysozyme
(2015) *BioMetals*, 28 (4), pp. 745-754.

DOI: 10.1007/s10534-015-9863-7

21. Massai, L. (✉), Fernández-Gallardo, J., Guerri, A., Arcangeli, A., Pillozzi, S., Contel, M., Messori, L.

Design, synthesis and characterisation of new chimeric ruthenium(ii)-gold(i) complexes as improved cytotoxic agents

(2015) *Dalton Transactions*, 44 (24), pp. 11067-11076.

DOI: 10.1039/c5dt01614b

20. Musumeci, D., Rozza, L., Merlino, A., Paduano, L., Marzo, T., Massai, L., Messori, L., Montesarchio, D.

Interaction of anticancer Ru(III) complexes with single stranded and duplex DNA model systems

(2015) *Dalton Transactions*, 44 (31), pp. 13914-13925.

DOI: 10.1039/c5dt01105a

19. Darabi, F., Marzo, T., Massai, L., Scaletti, F., Michelucci, E., Messori, L.

Reactions of model proteins with aurothiomalate, a clinically established gold(I) drug: The comparison with auranofin

(2015) *Journal of Inorganic Biochemistry*, 149, pp. 102-107.

DOI: 10.1016/j.jinorgbio.2015.03.013

18. Ferraro, G., Massai, L., Messori, L., Merlino, A.

Cisplatin binding to human serum albumin: A structural study

(2015) *Chemical Communications*, 51 (46), pp. 9436-9439.

DOI: 10.1039/c5cc01751c

17. Gamberi, T., Fiaschi, T., Modesti, A., Massai, L., Messori, L., Balzi, M., Magherini, F.

Evidence that the antiproliferative effects of auranofin in *Saccharomyces cerevisiae* arise from inhibition of mitochondrial respiration

(2015) *International Journal of Biochemistry and Cell Biology*, 65, pp. 61-71.

DOI: 10.1016/j.biocel.2015.05.016

16. Gamberi, T., Magherini, F., Fiaschi, T., Landini, I., Massai, L., Valocchia, E., Bianchi, L., Bini, L., Gabbiani, C., Nobili, S., Mini, E., Messori, L., Modesti, A.

Proteomic analysis of the cytotoxic effects induced by the organogold(iii) complex Aubipyc in cisplatin-resistant A2780 ovarian cancer cells: further evidence for the glycolytic pathway implication

(2015) *Molecular BioSystems*, 11 (6), pp. 1653-1667.

DOI: 10.1039/c5mb00008d

15. Marzo, T., Savić, A., Massai, L., Michelucci, E., Sabo, T.J., Grguric-Šipka, S., Messori, L.

Reactions of cytotoxic metallodrugs with lysozyme in pure DMSO explored through UV-Vis absorption spectroscopy and ESI MS

(2015) *BioMetals*, 28 (2), pp. 425-430.

DOI: 10.1007/s10534-015-9839-7

14. Gratteri, P., Massai, L., Michelucci, E., Rigo, R., Messori, L., Cinellu, M.A., Musetti, C., Sissi, C., Bazzicalupi, C.

Interactions of selected gold(III) complexes with DNA G quadruplexes

(2015) Dalton Transactions, 44 (8), pp. 3633-3639.

DOI: 10.1039/c4dt02698e

13. Tatini, F., Landini, I., Scaletti, F., Massai, L., Centi, S., Ratto, F., Nobili, S., Romano, G., Fusi, F., Messori, L., Mini, E., Pini, R.

Size dependent biological profiles of PEGylated gold nanorods

(2014) Journal of Materials Chemistry B, 2 (36), pp. 6072-6080.

DOI: 10.1039/c4tb00991f

12. Petrović, V., Petrović, S., Joksić, G., Savić, J., Čolović, M., Cinellu, M.A., Massai, L., Messori, L., Vasić, V.

Inhibition of Na⁺/K⁺-ATPase and cytotoxicity of a few selected gold(III) complexes

(2014) Journal of Inorganic Biochemistry, 140, pp. 228-235..

DOI: 10.1016/j.jinorgbio.2014.07.015

11. Gamberi, T., Massai, L., Magherini, F., Landini, I., Fiaschi, T., Scaletti, F., Gabbiani, C., Bianchi, L., Bini, L., Nobili, S., Perrone, G., Mini, E., Messori, L., Modesti, A.

Proteomic analysis of A2780/S ovarian cancer cell response to the cytotoxic organogold(III) compound Aubipyc

(2014) Journal of Proteomics, 103, pp. 103-120.

DOI: 10.1016/j.jprot.2014.03.032

10. Tamasi, G., Bernini, C., Corbini, G., Owens, N.F., Messori, L., Scaletti, F., Massai, L., Giudice, P.L., Cini, R.

Synthesis, spectroscopic and DFT structural characterization of two novel ruthenium(III) oxidic complexes. in vivo evaluation of anti-inflammatory and gastric damaging activities

(2014) Journal of Inorganic Biochemistry, 134, pp. 25-35

DOI: 10.1016/j.jinorgbio.2014.01.011

9. Messori, L., Marchetti, L., Massai, L., Scaletti, F., Guerri, A., Landini, I., Nobili, S., Perrone, G., Mini, E., Leoni, P., Pasquali, M., Gabbiani, C.

Chemistry and biology of two novel gold(I) carbene complexes as prospective anticancer agents

(2014) Inorganic Chemistry, 53 (5), pp. 2396-2403.

DOI: 10.1021/ic401731a

8. Messori, L., Scaletti, F., Massai, L., Cinellu, M.A., Russo Krauss, I., Di Martino, G., Vergara, A., Paduano, L., Merlino, A.

Interactions of gold-based drugs with proteins: Crystal structure of the adduct formed between ribonuclease A and a cytotoxic gold(III) compound

(2014) Metallomics, 6 (2), pp. 233-236

DOI: 10.1039/c3mt00265a

7. Micale, N., Schirmeister, T., Ettari, R., Cinellu, M.A., Maiore, L., Serratrice, M., Gabbiani, C.,

Massai, L., Messori, L.

Selected cytotoxic gold compounds cause significant inhibition of 20S proteasome catalytic activities

(2014) *Journal of Inorganic Biochemistry*, 141, pp. 79-82.

DOI: 10.1016/j.jinorgbio.2014.08.001

6. Sadafi, F.-Z., Massai, L., Bartolommei, G., Moncelli, M.R., Messori, L., Tadini-Buoninsegni, F.

Anticancer ruthenium(III) complex KP1019 interferes with ATP-dependent Ca²⁺ translocation by sarco-endoplasmic reticulum Ca²⁺-ATPase (SERCA)

(2014) *ChemMedChem*, 9 (8), pp. 1660-1664.

DOI: 10.1002/cmdc.201402128

5. Messori, L., Scaletti, F., Massai, L., Cinellu, M.A., Gabbiani, C., Vergara, A., Merlino, A.

The mode of action of anticancer gold-based drugs: A structural perspective

(2013) *Chemical Communications*, 49 (86), pp. 10100-10102.

DOI: 10.1039/c3cc46400h

4. Gabbiani, C., Massai, L., Scaletti, F., Michelucci, E., Maiore, L., Cinellu, M.A., Messori, L.

Protein metalation by metal-based drugs: Reactions of cytotoxic gold compounds with cytochrome c and lysozyme

(2012) *Journal of Biological Inorganic Chemistry*, 17 (8), pp. 1293-1302.

DOI: 10.1007/s00775-012-0952-6

3. Gabbiani, C., Cinellu, M.A., Maiore, L., Massai, L., Scaletti, F., Messori, L.

Chemistry and biology of three representative gold(III) compounds as prospective anticancer agents

(2012) *Inorganica Chimica Acta*, 393, pp. 115-124.

DOI: 10.1016/j.ica.2012.07.016

2. Gabbiani, C., Scaletti, F., Massai, L., Michelucci, E., Cinellu, M.A., Messori, L.

Medicinal gold compounds form tight adducts with the copper chaperone Atox-1: Biological and pharmacological implications

(2012) *Chemical Communications*, 48 (95), pp. 11623-11625.

DOI: 10.1039/c2cc36610j

1. Gori, F., Mulinacci, B., Massai, L., Avolio, C., Caragnano, M., Peroni, E., Lori, S., Chelli, M., Papini, A.M., Rovero, P., Lolli, F.

IgG and IgM antibodies to the refolded MOG1-125 extracellular domain in humans

(2011) *Journal of Neuroimmunology*, 233 (1-2), pp. 216-220.

DOI: 10.1016/j.jneuroim.2010.11.011

NARRATIVE BIOSKETC

Over the past ten years, corresponding to the beginning of my PhD, my commitment to cancer research has been almost exclusive. I have dedicated my research to the study of anticancer metallodrugs, with a specific attention for experimental gold complexes. In fact, over my PhD and in the first years of my postdoc I

addressed my interests on the synthesis of metal compounds and on the study of the interactions between anticancer metal compounds and biomolecular targets through ESI-MS. The final goals were and are to elucidate the mode of action of potential anticancer metal-based drugs and to translate these metal compounds from the laboratory to preclinical/clinical studies. Some metal complexes, subject of my studies have already achieved good results. Moreover, in the second year of my PhD, I spent four months in the laboratory of Prof. M. Contel, in Brooklyn College, New York, to improve my knowledge on the synthesis of anticancer metal-compounds. My goal was to obtain cytotoxic heterometal (Au/Ru) complexes to enhance their pharmacological activity as antitumor agents by improving affinity and specificity towards biomolecular targets.

In the last few years, I have extended my research area to the proteomic studies: my skills and efforts are well evidenced by several papers and reviews. I was able to strengthen my expertise in the field of mass spectrometry thanks to the grant of the Multi-user Equipment Program 2016 (19650) which allowed our group to install a MicroLC and a powerful ESI-Q-TOF-Mass spectrometer (i.e. Sciex M3 Micro LC Bundle High Flow and AB Sciex with the High Resolution Sciex TripleTOF 5600+) in our lab. In recent years, I supervised the mass spectrometer instrument to collect and to analyse all necessary data to carry out several projects. In this framework, I kept friendly relationship and collaborations with numerous research groups, and I oversaw undergraduate and PhD students. Until today, I took care of various projects: experimental organization, project writing, data analysis and funds administration; Through all these years, I had the opportunity to work in a multidisciplinary network in collaboration with other national and international groups operating in different fields, ranging from chemical synthesis to advanced pharmacological testing, in this way I was able to broaden my knowledge in these areas.

Autorizzo il trattamento dei miei dati personali ai sensi del D.Lgs. 196/2003

Sesto Fiorentino 29/05/24

Lara Massai

**Firma autografa sostituita a mezzo stampa, ai sensi dell'art. 3, comma 2, del D.Lgs.n. 39/1993.
L'originale della presente dichiarazione è conservato presso il Dipartimento di Chimica "Ugo Schiff".**