ALL. B

SILVIA CAMMARONE
Curriculum Vitae

Place Sezze
Date 06/01/2022

Part I – General Information

Full Name	Silvia Cammarone
Citizenship	Italian
Spoken Languages	Italian, English, Spanish

Part II – Education

IIA – Academic Education

Type	Year	Institution	Notes (Degree, Experience,…)
PhD	2022	Sapienza University of Rome	Molecular design and characterization for the promotion of health and well-being: from drug to food (XXXV cycle)
University graduation	2019	Sapienza University of Rome	Pharmacy (Laurea Specialistica a ciclo unico – classe LM-13)

II B – Other training course

14-17/06/2021	Virtual. University of Milan, Gargnano (BS), Italy.	45th International Summer School on Organic Synthesis. A. Corbella.

Part III – Appointments

IIIA – Academic Appointments

Start	End	Institution	Position
11/2019	10/2022	Sapienza University of Rome	PhD student

07/2017	03/2019	Sapienza University of Rome	Undergraduate student

IIIB – Research experiences

08/2021	06/2022	University of British Columbia	Visiting PhD student

Part IV – Teaching experience

Year	Institution	Lecture/Course
10/2022-12/2022	Sapienza University of Rome	Teaching Assistant of Organic Chemistry, degree course in Pharmacy, Sapienza University of Rome (SSD CHIM06).

Part V - Society memberberships, Awards and Honors

Year	Title
2019-2022	Member of Società Chimica Italiana (SCI), division of Organic Chemistry

Part VI - Funding Information [grants as PI-principal investigator or I-investigator]

Year	Title	Program	Grant value
2021	Synthesis of new Smo-antagonists for the treatment of Hedgehog-dependent tumors	Avvio alla Ricerca	€ 1.000,00

Part VII – Research Activities

Keywords	Brief Description
Natural Products	
Chemical Composition of Raw Material	Characterization of the chemical composition of complex matrices (natural extracts and/or crude reaction mixture), by means of Nuclear Magnetic Resonance (NMR), High-Resolution Mass Spectrometry (HRMS) and High-Performance Liquid Chromatography (HPLC). In particular, Dr. Cammarone worked on the characterization of the industrial hemp production chain products, such as raw materials (inflorescences, seeds), through the application of a multidisciplinary analytical protocol, involving targeted and untargeted techniques, in order to assess

	the quality and define both cultivars and cultivation conditions more suitable for Lazio region.
Drug Discovery	Isolation and structural elucidation of novel natural products from natural extracts obtained from medicinal plants in order to create a chemical library. In particular, Dr. Cammarone isolated and elucidated the structure of several natural products by NMR, HRMS, HPLC and provided the incorporation of all components of the library into a virtual one. In addition, through a cheminformatics approach, this in-house library of natural products was clustered based on a combination of fingerprints and substructure search, thus allowing the identification of unexpected new natural scaffolds for the development of therapeutically-relevant molecules in drug discovery. Among the challenging projects on the identification of bioactive natural products, she was involved in the field of target therapy against cancer and antibiotic resistance. In particular, recently, she was involved in the identification of some anthranoids as novel antimicrobial compounds able to inhibit and kill a panel of Gram-positive and Gram-negative bacteria, thus representing a promising scaffold for further development of valuable antimicrobial agents. Indeed, in the field of natural products drug discovery she was involved in designing and synthesizing small focused libraries of natural products and their derivatives for the treatment of specific types of cancers and multi-drug resistant bacterial infections. In this context, her expertise in Organic Chemistry strongly supported the development of cost-effective and efficient synthetic strategies. In recent work, Dr. Cammarone contributed to the rational design and synthesis of small natural products as potential inhibitors of the enzyme responsible for colistin resistance. In this regard, a large variety of diterpene analogues was produced for further SAR studies with the aim of identifying hit and lead compounds against colistin-resistant Pseudomonas aeruginosa infections, thus exploiting the versatility of the diterpene scaffold.
Nucleic Acid Delivery	During a 10 months period of research at the University of British Columbia (Vancouver, Canada), Dr. Cammarone research interest aims to develop, design and synthesize chemical libraries of novel lipids, both natural and unnatural, for nucleic acid delivery. In this regard, such lipids were used for their application into Lipid Nanoparticles (LNPs) which, up to date, represent the most powerful tool for the delivery of nucleic acid payloads including siRNA, mRNA, plasmid and antisense oligonucleotides. During this period, she was also involved in the synthesis and characterization of ALC-0315, the key component of the Pfizer-BioNTech Covid-19 vaccine.
	Main skills: Design, synthesis, isolation, purification and structural elucidation of natural products and lipids by HPLC-UV, LC-MS, NMR.

Part VIII – Participation to conferences, workshops and scientific meetings

Dates	Institution/place	Description

22/09/2020	Meeting online	"La Canapa Industriale: Sviluppo e Valorizzazione di una Nuova Filiera Agroalimentare Ecosostenibile"
13/02/2020	University of Milan	Workshop "Cannabis: Il rigore del controllo in ambito farmaceutico ed agro-alimentare"
5/02/20	Sapienza University of Rome	"Scienza e Fede"
06/05/2020	Sapienza University of Rome	NEW HORIZONS IN CANNABIS RESEARCH: "MEDICAL AND FOOD APPLICATIONS"
21-22/06/2018	Sapienza University of Rome	VI workshop "Applicazioni della risonanza magnetica nucleare nella scienza degli alimenti"

Part IX - Oral Communications

Dates	Institution/place	Description
14-16/07/2022	IQS Barcelona	MedChem 2022 (XI Meeting of the Paul Ehrlich Euro-PhD Network)
14-17/06/2021	Virtual. University of Milan, Gargnano (BS), Italy.	45th International Summer School on Organic Synthesis. A. Corbella.
15/12/2020	Virtual	COST Action 17104 (STRATAGEM) WG2 Meeting and International Online Symposium on "Synthesis and nanodelivery strategies for new therapeutic tools against Multidrug Resistant Tumours"

Part X – Scientific Qualification

11/2011	Qualified Pharmacist at Sapienza - University of Rome

Part XI – Summary of Scientific Achievements

Product type	Number	Data Base	Start	End
Papers [international]	9	SCOPUS	2020	2022

Papers [national]				
Books [scientific]				
Books [teaching]				
Posters	2		2020	2022
Conference oral communications	3		2020	2022

Total Impact factor	47.689
Total Citations	61
Average Citations per Product	6.77
Hirsch (H) index	5
Normalized H index*	1.66

*H index divided by the academic seniority.

Part XII– Selected Publications

List of the publications selected for the evaluation. For each publication report title, authors, reference data, journal IF (if applicable), citations, press/media release (if any).

1	**2022**	Articolo in rivista Spano, M.; Di Matteo, G.; Ingallina, C.; Sobolev, A. P.; Giusti, A. M.; Vinci, G.; **Cammarone**, S.; Tortora, C.; Lamelza, L.; Prencipe, S. A. Industrial Hemp (Cannabis sativa L.) Inflorescences as Novel Food: The Effect of Different Agronomical Practices on Chemical Profile. **FOODS**, 2022, 11 (22), 3658. DOI: 10.3390/foods11223658

		Impact factor (2021)=5.561; Q1 Food Science and Technology; Citazioni (Scopus): 0 Filename (pdf): Spano et al., Foods 2022
2	**2022**	Articolo in rivista Picarazzi, F.; Zuanon, M.; Pasqualetto, G.; **Cammarone**, S.; Romeo, I.; Young, M. T.; Brancale, A.; Bassetto, M.; Mori, M. Identification of small molecular chaperones binding p23h mutant opsin through an in silico structure-based approach. **JOURNAL OF CHEMICAL INFORMATION AND MODELING**, 2022, 62 (22), 5794-5805. DOI: 10.1021/acs.jcim.2c01040 Impact factor (2022)= 6.162; Q1 Chemistry (miscellaneous); Citationi (Scopus): 0 Filename (pdf): Picarazzi et al., Journal of Chemical Information and Modeling 2022
3	**2022**	Articolo in rivista Saadati, F.; **Cammarone**, S.; Ciufolini, M. A. A Route to Lipid ALC-0315: a Key Component of a COVID-19 mRNA Vaccine. **CHEMISTRY – A EUROPEAN JOURNAL**, 2022, 28 (48), e202200906. DOI: 10.1002/chem.202200906 Impact factor (2022)= 5.02; Q1 Organic Chemistry; Citazioni (Scopus): 1 Filename (pdf): Saadati et al., Chemistry-A European Journal 2022
4	**2022**	Articolo in rivista Casciaro, B.; Ghirga, F.; Cappiello, F.; Vergine, V.; Loffredo, M.R.; **Cammarone**, S.; Puglisi, E.; Tortora, C.; Quaglio, D.; Mori, M.; Botta, B.; Mangoni, M.L. The Triprenylated Anthranoid Ferruginin A, a Promising Scaffold for the Development of Novel Antibiotics against Gram-Positive Bacteria. **ANTIBIOTICS**, 2022, 11, 84. DOI: 10.3390/antibiotics11010084 Impact factor (2021)= 5.22; Q1 Pharmacology, Toxicology and Pharmaceutics (miscellaneous); Citazioni (Scopus): 0 Filename (pdf): Casciaro et al., Antibiotics 2022
5	**2021**	Articolo in rivista Platella, C.; Ghirga, F.; Zizza, P.; Pompili, L.; Marzano, S.; Pagano, B.; Quaglio, D.; Vergine, V.; **Cammarone**, S.; Botta, B.; Biroccio, A.; Mori, M.; Montesarchio, D. Identification of Effective Anticancer G-Quadruplex-Targeting Chemotypes through the Exploration of a High Diversity Library of Natural Compounds. **PHARMACEUTICS**, 2021, 13, 1611. DOI: 10.3390/pharmaceutics13101611 Impact factor (2021)= 6.525; Q1 Pharmaceutical Science; Citazioni (Scopus): 7 Filename (pdf): Platella et al., Pharmaceutics 2021
6	**2021**	Articolo in rivista Spano, M.; Di Matteo, G.; Ingallina, C.; Botta, B.; Quaglio, D.; Ghirga, F.; Balducci, S.; **Cammarone**, S.; Campiglia, E.; Giusti, A.M.; Vinci, G.; Rapa, M.; Ciano, S.; Mannina, L.; Sobolev, A.P. A A Multimethodological Characterization of Cannabis sativa L. Inflorescences from Seven Dioecious Cultivars Grown in Italy: The Effect of Different Harvesting Stages. **MOLECULES**, 26(10), 2912. ISSN: 1420-3049, doi:10.3390/molecules26102912 IF (2021)= 4.927; Q2 Organic Chemistry;

		Citation (Scopus): 6 Filename (pdf): Spano et al., Molecules 2021
7	**2020**	Review Ghirga, F.; Quaglio, D.; Mori, M.; **Cammarone**, S.; Iazzetti, A.; Goggiamani, A.; Ingallina, C.; Botta, B.; Calcaterra, A. A unique high-diversity natural product collection as a reservoir of new therapeutic leads. **ORGANIC CHEMISTRY FRONTIERS**, 2021, 8 (5), 996-1025. DOI: 10.1039/D0QO01210F Impact factor (2020)= 5.281; Q1 Organic Chemistry; Citazioni (Scopus): 11 Filename (pdf): Ghirga et al., Organic Chemistry Frontiers 2020
8	**2020**	Articolo in rivista Quaglio, D.; Mangoni, M. L.; Stefanelli, R.; Corradi, S.; Casciaro, B.; Vergine, V.; Lucantoni, F.; Cavinato, L.; **Cammarone**, S.; Loffredo, M. R.; Cappiello, F.; Calcaterra, A.; Erazo, S.; Ghirga, F.; Mori, M.; Imperi, F.; Ascenzioni, F.; Botta, B. ent-Beyerane Diterpenes as a Key Platform for the Development of ArnT-Mediated Colistin Resistance Inhibitors. **JOURNAL OF ORGANIC CHEMISTRY**, 2020, 85 (16), 10891-10901. Impact factor (2020)= 4.354; Q1 Organic Chemistry; Citazioni (Scopus): 11 Filename (pdf): Quaglio et al., The Journal of Organic Chemistry 2020
9	**2020**	Review Cappiello, F.; Loffredo, M. R.; Del Plato, C.; **Cammarone**, S.; Casciaro, B.; Quaglio, D.; Mangoni, M. L.; Botta, B.; Ghirga, F. The revaluation of plant-derived terpenes to fight antibiotic-resistant infections. **ANTIBIOTICS**, 2020, 9 (6), 325. Impact factor (2020)= 4.639; Q1 Pharmacology, Toxicology and Pharmaceutics (miscellaneous); Citazioni (Scopus): 25 Filename (pdf): Cappiello et al., Antibiotics 2020

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