

PERSONAL INFORMATION **Bruno Botta**POSITION **Rector of UnitelmaSapienza**

WORK EXPERIENCE

- 24/10/2023 – to date **Rector of UnitelmaSapienza**
UnitelmaSapienza University of Rome
- 15/11/ 2014 – 24/10/2023 **Deputy Provost for the International Affairs**
Sapienza - University of Rome
- 2011 – 2020 **Head of the Department of Chemistry and Technology of Drugs**
Sapienza - University of Rome
- 2001 – to date **Full Professor**
Sapienza - University of Rome - Faculty of Pharmacy and Medicine
Sector: Organic Chemistry (CHIM/06)
- 1992 – 2001 **Associate Professor**
Sapienza - University of Rome - Faculty of Pharmacy
Sector: Organic Chemistry (CHIM/06)
- 1981 - 1992 **Assistant Professor**
Catholic University of Rome

EDUCATION AND TRAINING

- August 1998 Visiting professor at University of British Columbia, Vancouver, British Columbia, Canada
- August 1993 Visiting professor at Michigan State University, East Lansing, Michigan
- October – December 1985 Visiting researcher at Universidade Federal de Pernambuco (UFPE), Recife, Brasile.
- 1984 - 1985 **Post-doc**
University of British Columbia (UBC, Vancouver, Canada) - Department of Chemistry
- 1977 - 1979 **Scholarship**
Catholic University of the Sacred Heart, Rome
- 1977 **Master degree in Chemistry**
Sapienza - University of Rome

PERSONAL SKILLS

- Research activity** The main research interest is in the field of molecular recognition and in the field of natural active compounds and their application to problems in organic and biological chemistry.
- Approaches includes:
- Isolation, biotransformation, structure elucidation and synthesis of biologically active compounds from medicinal plants.
 - Synthesis of artificial receptors endowed with suitable chemical and physical properties, which make them applicable in molecular recognition and drug delivery.
 - Discovery and development of small organic molecules and/or natural compounds capable of inhibiting the Hedgehog signaling pathway.

ADDITIONAL INFORMATION

- Projects**
- Progetto PNRR – Centro Nazionale 3 (CN3) – "Potenziamento di strutture di ricerca e creazione di "campioni nazionali" di R&S su alcune Key Enabling Technologies" - "Centro Nazionale di Ricerca "Sviluppo di terapia genica e Farmaci con tecnologia a RNA" - nell'ambito del Piano Nazionale di Ripresa e Resilienza, Missione 4 "Istruzione e Ricerca" Componente 2 Investimento 1.4 finanziato dall'Unione europea – NextGenerationEU - CN00000041 - CUP: B83C22002870006. National Center 3 _ Spoke 2_ Project 8 Sapienza, Development of RNA-based conjugate systems for RNA therapeutics in cancer. 390.180 €. (02/11/2022-30/06/2025). Participant
 - PNRR: Technopole - Ecosistema dell'Innovazione di cui all'Avviso pubblico n. 3277 del 30/12/2021- del Piano Nazionale di Ripresa e Resilienza (PNRR) - Missione 4 "Istruzione e Ricerca" - Componente 2 - "Investimento 1.5", finanziato dall'Unione Europea - Next GenerationEU - CODICE CUP: B83C22002820006 Spoke 3_FP7_Linee5 _ Project 4 Sapienza, Therapeutic and diagnostic innovation: new bio-active antimicrobials, targeted drug delivery and genomic-based approach to monitor the emergence of drug resistance. 173.375 €. (02/11/2022-30/06/2025). Co-PI
 - PRIN "Screening and optimization of nature-inspired ligands to target microbial G-quadruplexes (G4MICRONAT)", 224.926 €. Coordinator and PI (2023-2024)
 - FFC Project (FFC#12/2021). Extension of previous FFC project (FFC#15/2019). Internal Collaborator of Partner 1, "Pharmacological inhibition of colistin resistance in gram-negative cystic fibrosis pathogens." 84.040€. Partner (09/2021-08/2023)
 - FFC Project (FFC#15/2019). External Collaborator of Partner 2, "Pharmacological inhibition of colistin resistance in gram-negative cystic fibrosis pathogens." 65.000€. Partner (09/2019-08/2021)
 - AIRC (Associazione Italiana per la Ricerca sul Cancro) IG#20801 "New multi-targeting approaches in Hedgehog-dependent cancers." 801.000€. Participant (2018–2022)
 - Call 2018 – Under 45_Pasteur Institute - Cenci Bolognetti Foundation group component, "Functional characterization and pharmacological inhibition of colistin resistance in Pseudomonas aeruginosa", 50.000€. Partner (01/2018 12/2019)
 - COST 1407 "Challenging organic syntheses inspired by nature - from natural products chemistry to drug discovery", 657.908 €. Chair of the COST action (2015-2019)
 - Istituto Italiano di Tecnologie (IIT) Center for Life Nano Science (CLNS@SAPIENZA) "Novel strategies for the imaging and treatment of brain tumors through targeting cancer stem cell-specific signaling pathways", 200.000 €. Scientific Coordinator for the Chemistry (2012)
 - Fondazione Roma "Targeting signaling pathways involved in stem cell self-renewal and differentiation: basic and translational aspects", 108.900 €. Coordinator and PI (2009 - 2011)
 - Regione Lazio Riqualficazione e ammodernamento Laboratorio: "Tecnologie avanzate per la produzione dei farmaci", 230.000 €. Coordinator and PI (2007-2010)
 - FIRB FARMCHIMNET "Sintesi, caratterizzazione biologica e farmacologia di nuove molecole organiche, bioorganiche e naturali d'attività antidegenerativa", 70.000 €. Coordinator and PI (2007-2010)
 - FIRST "Individuazione, caratterizzazione e valutazione preliminare dell'efficacia di strategie farmaceutiche innovative", 90.000 €. Coordinator and PI (2007-2010)
 - PRIN "Sviluppo e caratterizzazione di nuovi inibitori di tirosine chinasi cellulari con attività autoproliferativa e antiangiogenica nei confronti di differenti tumori", 30.000

€ . Coordinator and PI (2007-2008)

- British American Tobacco "Surface-Linked Resorc[4]arenes for the Entrapping of Nitrogen Oxides", 256.000 €. Coordinator and PI (2005 -2009)
- Ente Tabacchi Italiano (ETI) "Synthetic models to encapsulate small molecules like NO and CO, and eventually studies of oxidation of CO to CO₂", 77.500 €. Coordinator and PI (2004)
- FIRB, Strategic National Program "Enzymes and catalysers for biotransformation and sustainable chemistry", 150.000 €. Coordinator and PI (2003 -2007)

Memberships

- Editorial board member of "Insights of Stem Cell Research and Therapy ", BioMed Central Ltd, part of Springer Nature
- Editorial board member of Molecules, MDPI
- Editorial board member for- the special issue "The Role of Natural Products in Promoting Well-being: From Foods to Drugs" of Molecules, (ISSN 1420-3049), "Natural Products Chemistry" section (29/07/2020-15/09/2021)
- Project evaluator for Hellenic Foundation for Research & Innovation (H.F.R.I), 01/01/2021-to date
- COST 1407 "Challenging organic syntheses inspired by nature - from natural products chemistry to drug discovery". Chair of the COST action (2015-2019)
- COST CM1106 "Chemical Approaches to Targeting Drug Resistance in Cancer Stem Cells". Management Committee Member (2012-2016)
- Project evaluator for the Seventh Framework Programme, Theme: research potential FP7-REGPOT-2012 -2013-1 (2012-2013)
- Netval Directory Council member (2011-2012)
- COST CM0804 "Chemical Biology with Natural Products". Management Committee Member (2009-2012)
- Spin-off MoliRom srl Sapienza, University of Rome. Scientific Committee (2009-today)
- "Committee Innovative Pharmacology" Member for Presidenza del Consiglio dei Ministri (2008 - 2009)
- COST CM0602 "Inhibitors of angiogenesis: design, synthesis and biological exploitation". Management Committee Member (2007-2011)
- PhD-Thesis Defensor at the Department of Chemistry, University of British Columbia (Vancouver, Canada) and at the Department of Chemistry, University of Lausanne (CH)
- Scientific Committee Technical Secretary of "Consorzio Sapienza Innovazione" (2006 - 2010)
- COST CMST D28 "Natural Products as a Source for Discovery, Synthesis, and Application of New Pharmaceuticals". Management Committee Member (2002-2007)
- Chair of 23rd IUPAC International Symposium on the Chemistry of Natural Products, Florence, Italy, 28/07/2002–02/08/2002
- Research Scientific Committee Member, Sapienza, University of Rome (2000 – 2010)
- "Forbes Medi-Tech Incorporation". Scientific Committee Member (1995)
- "Biotechnology R & D-DGX Projects". Evaluator in the European Commission (1994)

Scientific Production

Coauthor of 214 publications, 8 national and international patents, 6 book chapters and editor of two textbooks of Organic Chemistry for the Italian publishing house Edi-Ermes.

Publications since 2004

1. Nygaard, R., Graham, C. L. B., Belcher Dufriane, M., Colburn, J. D., Pepe, J., Hydorn, M. A., Corradi, S., Brown, C. M., Ashraf, K. U., Vickery, O. N., Briggs, N. S., Deering, J. J., Kloss, B., Botta, B., Clarke, O. B., Columbus, L., Dworkin, J., Stansfeld, P. J., Roper, D. I., Mancia, F., Structural basis of peptidoglycan synthesis by E. coli RodA-PBP2 complex, Nature Communications 2023, 14, 5151.
2. Quaglio, D., Infante, P., Cammarone, S., Lamelza, L., Conenna, M., Ghirga, F., Adabbo, G., Pisano, L., Di Marcotullio, L., Botta, B., Mori M., Exploring the potential of anthraquinone-based hybrids for identifying a novel generation of antagonists for the Smoothed receptor in HH-dependent tumour, Chemistry - A European Journal 2023, e202302237.

3. Salha, M., Adenusi, H., Dupuis, J. H., Bodo E., Botta, B., McKenzie, I. Yada, R. Y., Farrar, D. H., Magolan, J., Tian, K. V., Chass, G. A. Bioactivity of the cannabigerol cannabinoid and its analogues—the role of 3-dimensional conformation, *Org. Biomol. Chem.* 2023, 21 (22), 4683–4693.
4. Polli, F., Cianfoni, G., Elnahas, R., Mangiardi, L., Scaramuzza, F. A., Cammarone, S., Quaglio, D., Calcaterra, A., Pierini, M., Mazzei, F., Zanoni, R., Botta, B., Ghirga, F., Resorc[4]arene Modifiers for Supramolecular Site-Directed Immobilization of Antibodies on Multi-Walled Carbon Nanotubes, *ChemBioChem* 2023, 24 (9), e2023000.
5. Rogati, F., Maioli, C., Lauro, G., Caprioglio, D., Imperio, D., Del Grosso, E., Botta, B., Mannina, L., Bifulco, G., Ingallina, C., Minassi, A., A Classic Photochemical Approach Inducing an Unexpected Rearrangement: Exploring the Photoreactivity of Pentacyclic Triterpenic Acids, *J. Nat. Prod.* 2023, 86 (4), 1025–1032.
6. Calcaterra, A., Cianfoni, G., Tortora, C., Manetto, S., Grassi, G., Botta, B., Gasparrini, F., Mazzocanti, G., Appendino, G., Natural Cannabichromene (CBC) Shows Distinct Scalemicity Grades and Enantiomeric Dominance in Cannabis sativa Strains, *J. Nat. Prod.* 2023, 86 (4), 909–914.
7. Platella, C., Ghirga, F., Musumeci, D., Quaglio, D., Zizza, P., Iachettini, S., D'Angelo, C., Biroccio, A., Botta, B., Mori, M., Montesarchio, D., Selective Targeting of Cancer-Related G-Quadruplex Structures by the Natural Compound Dicentrine, *Int. J. Mol. Sci.* 2023, 24 (4), 4070.
8. Mori, M., Quaglio, D., Calcaterra, A., Ghirga, F., Sorrentino, L., Cammarone, S., Fracella, M., D'Auria, S., Frasca, F., Criscuolo, E., Clementi, N., Mancini, N., Botta, B., Antonelli, G., Pierangeli, A., Scagnolari, C., Natural Flavonoid Derivatives Have Pan-Coronavirus Antiviral Activity, *Microorganisms* 2023, 11 (2), 314.
9. Cimino, G., Sorrenti, S., Murciano, M., Galoppi, P., Ascenzioni, F., Botta, B., Brunelli, R., Cavinato, L., Cerrato, A., Cianfoni, G., D'Ambrosio, V., De Luca, F. Use of elexacaftor/tezacaftor/ivacaftor combination in pregnancy, *Arch Gynecol Obstet.* 2023 Mar 13, doi: 10.1007/s00404-023-06962-5.
10. Calcaterra, A., Polli, F., Lamelza, L., Del Plato, C., Cammarone, S., Ghirga, F., Botta, B., Mazzei, F., Quaglio, D. Resorc[4]arene-Modified Gold-Decorated Magnetic Nanoparticles for Immunosensor Development, *Bioconjug Chem.* 2023, 34 (3), 529–537.
11. Spano, M., Di Matteo, G., Ingallina, C., Sobolev, A. P., Giusti, A. M., Vinci, G., Cammarone, S., Tortora, C., Lamelza, L., Prencipe, S. A., Gobbi, L., Botta, B., Marini, F., Campiglia, E., Mannina, L. Industrial Hemp (*Cannabis sativa* L.) Inflorescences as Novel Food: The Effect of Different Agronomical Practices on Chemical Profile, *Foods* 2022, 11, 3658.
12. Tortora, C., Pisano, L., Vergine V., Ghirga, F., Iazzetti, A., Calcaterra, A., Markovic, V., Botta, B., Quaglio, D. Synthesis, Biosynthesis, and Biological Activity of Diels–Alder Adducts from *Morus* Genus: An Update, *Molecules* 2022, 27, 7580.
13. Soloperto, A., Quaglio, D., Baiocco, P., Romeo, I., Mori, M., Ardini, M., Presutti, C., Sannino I., Ghirga, S., Iazzetti, A., Ippoliti, R., Ruocco, G., Botta, B., Ghirga, F., Di Angelantonio, S., Boffi, A. Rational design and synthesis of a novel BODIPY-based probe for selective imaging of tau tangles in human iPSC-derived cortical neurons, *Scientific Reports* 2022, 12, 5257.
14. 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.
15. Ferrera, L., Cappiello, F., Loffredo, M. R., Puglisi, E., Casciaro, B., Botta, B., Galiotta, L. J. V., Mori, M., Mangoni, M. L. Esc peptides as novel potentiators of defective cystic fibrosis transmembrane conductance regulator: an unprecedented property of antimicrobial peptides. *Cellular and Molecular Life Sciences* 2022, 79 (1), 67.
16. Quaglio, D., Polli, F., Del Plato, C., Cianfoni, G., Tortora, C., Mazzei, F., Botta, B., Calcaterra, A., Ghirga, F. Calixarene: a versatile scaffold for the development of highly sensitive biosensors. *Supramolecular Chemistry* 2021, DOI 10.1080/10610278.2021.2011283, 1-25.
17. Buonsenso, F., Ghirga, F., Romeo, I., Siani, G., Pilato, S., Quaglio, D., Pierini, M., Botta, B., Calcaterra, A. Exploring the Assembly of Resorc[4]arenes for the Construction of Supramolecular Nano-Aggregates. *Int. J.*

Mol. Sci. 2021, 22, 11785.

18. Mangoni, M. L., Bhunia, A., Botta, B., Ghirga F. Editorial: Secondary Metabolites and Peptides as Unique Natural Reservoirs of New Therapeutic Leads for Treatment of Cancer and Microbial Infections. *Front. Chem.* 2021, 9, art. no. 748180.
19. 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 (10), art. no. 1611.
20. Schafroth, M. A., Mazzocanti, G., Reynoso-Moreno, I., Erni, R., Pollastro, F., Caprioglio, D., Botta, B., Allegrone, G., Grassi, G., Chicca, A., Gasparrini, F., Gertsch, J., Carreira, E. M., Appendino, G. Δ^9 -cis-Tetrahydrocannabinol: Natural Occurrence, Chirality, and Pharmacology. *J. Nat. Prod.* 2021, 84 (9), 2502–2510.
21. D'Alessandro, G., Lauro, C., Quaglio, D., Ghirga, F., Botta, B., Trettel, F., Limatola, C. Neuro-Signals from Gut Microbiota: Perspectives for Brain Glioma. *Cancers* 2021, 13 (11), art. no. 2810.
22. 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 Multimethodological Characterization of Cannabis sativa L. Inflorescences from Seven Dioecious Cultivars Grown in Italy: The Effect of Different Harvesting Stages. *Molecules* 2021, 26 (10), art. no. 2912.
23. Zheng, Y., Yang, X.-W., Schols, D., Mori, M., Botta, B., Chevigné, A., Mulinge, M., Steinmetz, A., Schmit, J.-C., Seguin-Devaux C. Active Components from Cassia abbreviata Prevent HIV-1 Entry by Distinct Mechanisms of Action. *Int. J. Mol. Sci.* 2021, 22 (9), art. no. 5052.
24. Bonandi, E., Mori, M., Infante, P., Basili, I., Di Marcotullio, L., Calcaterra, A., Catti, F., Botta, B., Passarella, D. Design and Synthesis of New Withaferin A Inspired Hedgehog Pathway Inhibitors. *Chem. Eur. J.* 2021, 27 (32), pp 8350–8357.
25. Pediconi, N., Ghirga, F., Del Plato, C., Peruzzi, G., Athanassopoulos, C. M., Mori, M., Crestoni, M. E., Corinti, D., Ugozzoli, F., Massera, C., Arcovito, A., Botta, B., Boffi, A., Quaglio, D., Baiocco, P. Design and Synthesis of Piperazine-Based Compounds Conjugated to Humanized Ferritin as Delivery System of siRNA in Cancer Cells. *Bioconjugate Chem.* 2021, 32 (6), pp 1105–1116.
26. 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), pp 996-1025.
27. Infante, P., Malfanti, A., Quaglio, D., Balducci, S., De Martin, S., Bufalieri, F., Mastrotto, F., Basili, I., Garofalo, M., Lospinoso Severini, L., Mori, M., Manni, I., Moretti, M., Nicoletti, C., Piaggio, G., Caliceti, P., Botta, B., Ghirga, F., Salmaso, S., Di Marcotullio, L. Glabrescione B delivery by self-assembling micelles efficiently inhibits tumor growth in preclinical models of Hedgehog-dependent medulloblastoma. *Cancer Letters* 2021, 499, pp. 220-231.
28. Petrović, M. M., Roschger, C., Chaudary, S., Zierer, A., Mladenović, M., Jakovljević, K., Marković, V., Botta, B., Joksović, M.D. Potent human dihydroorotate dehydrogenase inhibitory activity of new quinoline-4-carboxylic acids derived from phenolic aldehydes: Synthesis, cytotoxicity, lipophilicity and molecular docking studies. *Bioorganic Chemistry* 2020, 105, art. no. 104373.
29. Caggiano, C., Guida, E., Todaro, F., Bielli, P., Mori, M., Ghirga, F., Quaglio, D., Botta, B., Moretti, F., Grimaldi, P., Rossi, P., Jannini, E.A., Barchi, M., Dolci, S. Sempervirine inhibits RNA polymerase I transcription independently from p53 in tumor cells. *Cell Death Discovery* 2020, 6 (1), art. no. 111.
30. Montone, C.M., Cerrato, A., Botta, B., Cannazza, G., Capriotti, A.L., Cavaliere, C., Citti, C., Ghirga, F., Piovesana, S., Laganà, A. Improved identification of phytocannabinoids using a dedicated structure-based workflow. *Talanta* 2020, 219, 121310.
31. 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), pp. 10891-10901.
32. Casciaro, B., Mangiardi, L., Cappiello, F., Romeo, I., Loffredo, M.R., Iazzetti, A., Calcaterra, A., Goggiamani, A., Ghirga, F., Mangoni, M.L., Botta, B., Quaglio, D. Naturally-occurring alkaloids of plant origin as potential antimicrobials against antibiotic-resistant infections. *Molecules* 2020, 25 (16), art. no. 3619.
 33. Quaglio, D., Mangiardi, L., Venditti, G., Del Plato, C., Polli, F., Ghirga, F., Favero, G., Pierini, M., Botta, B., Mazzei, F. Site-Directed Antibody Immobilization by Resorc[4]arene-Based Immunosensors. *Chemistry - A European Journal* 2020, 26 (38), pp. 8400-8406.
 34. Cappiello, F., Loffredo, M.R., Plato, C.D., Cammarone, S., Casciaro, B., Quaglio, D., Mangoni, M.L., Botta, B., Ghirga, F. The reevaluation of plant-derived terpenes to fight antibiotic-resistant infections. *Antibiotics* 2020, 9 (6), art. no. 325.
 35. Maj, P., Mori, M., Sobich, J., Markowicz, J., Uram, Ł., Zielinski, Z., Quaglio, D., Calcaterra, A., Cau, Y., Botta, B., Rode, W. Alvaxanthone, a thymidylate synthase inhibitor with nematocidal and tumoricidal activities. *Molecules* 2020, 25 (12), 2894.
 36. Quaglio, D., Corradi, S., Erazo, S., Vergine, V., Berardozi, S., Sciubba, F., Cappiello, F., Crestoni, M.E., Ascenzioni, F., Imperi, F., Delle Monache, F., Mori, M., Loffredo, M.R., Ghirga, F., Casciaro, B., Botta, B., Mangoni, M.L. Structural Elucidation and Antimicrobial Characterization of Novel Diterpenoids from *Fabiana densa* var. *ramulosa*. *ACS Medicinal Chemistry Letters* 2020, 11 (5), pp. 760-765.
 37. Diukendjieva, A., Zaharieva, M.M., Mori, M., Alov, P., Tsakovska, I., Pencheva, T., Najdenski, H., Křen, V., Felici, C., Bufalieri, F., Di Marcotullio, L., Botta, B., Botta, M., Pajeva, I. Dual smo/braf inhibition by flavonolignans from *silybum marianum*. *Antioxidants* 2020, 9 (5), art. no. 384.
 38. Quaglio, D., Infante, P., Di Marcotullio, L., Botta, B., Mori, M. Hedgehog signaling pathway inhibitors: an updated patent review (2015–present). *Expert Opinion on Therapeutic Patents* 2020, 30 (4), pp. 235-250.
 39. Ourabah, A., Atmani-Kilani, D., Debbache-Benaida, N., Kolesova, O., Azib, L., Yous, F., Benloukil, M., Botta, B., Atmani, D., Simonetti, G. Anti-*Candida albicans* biofilm activity of extracts from two selected indigenous Algerian plants: *Clematis flammula* and *Fraxinus angustifolia*. *Journal of Herbal Medicine* 2020, 20, 100319.
 40. Ingallina, C., Sobolev, A.P., Circi, S., Spano, M., Frascchetti, C., Filippi, A., Di Sotto, A., Di Giacomo, S., Mazzocanti, G., Gasparrini, F., Quaglio, D., Campiglia, E., Carradori, S., Locatelli, M., Vinci, G., Rapa, M., Ciano, S., Giusti, A.M., Botta, B., Ghirga, F., Capitani, D., Mannina, L. Cannabis sativa L. inflorescences from monoecious cultivars grown in central Italy: An untargeted chemical characterization from early flowering to ripening. *Molecules* 2020, 25 (8), 1908.
 41. Calcaterra, A., Mangiardi, L., Monache, G.D., Quaglio, D., Balducci, S., Berardozi, S., Iazzetti, A., Franzini, R., Botta, B., Ghirga, F. The pictet-spengler reaction updates its habits. *Molecules* 2020, 25 (2), 414.
 42. Cirigliano, A., Amelina, A., Biferali, B., Macone, A., Mozzetta, C., Bianchi, M.M., Mori, M., Botta, B., Pick, E., Negri, R., Rinaldi, T. Statins interfere with the attachment of *S. cerevisiae* mtDNA to the inner mitochondrial membrane. *Journal of Enzyme Inhibition and Medicinal Chemistry* 2020, 35 (1), pp. 129-137.
 43. Ghirga, F., Stefanelli, R., Cavinato, L., Lo Sciuto, A., Corradi, S., Quaglio, D., Calcaterra, A., Casciaro, B., Loffredo, M.R., Cappiello, F., Morelli, P., Antonelli, A., Rossolini, G.M., Mangoni, M., Mancone, C., Botta, B., Mori, M., Ascenzioni, F., Imperi, F. A novel colistin adjuvant identified by virtual screening for ArnT inhibitors. *Journal of Antimicrobial Chemotherapy* 2020, 75 (9), pp. 2564-2572.
 44. Mori, M., Manetti, F., Botta, B., Tafi, A. In Memory of Maurizio Botta: His Contribution to the Development of Computer-Aided Drug Design. *Journal of Chemical Information and Modeling* 2019, 59 (12), pp. 4961-4967.
 45. D. Corinti; A. Maccelli; M.E. Crestoni; S. Cesa; D. Quaglio; B. Botta; C. Ingallina; L. Mannina; A. Tintaru; B. Chiavarino; S. Fornarini. IR ion spectroscopy in a combined approach with MS/MS and IM-MS to discriminate epimeric anthocyanin glycosides (cyanidin 3-O-glucoside and -galactoside). *International Journal of Mass Spectrometry* 2019, 444, 116179.
 46. L.L. Severini; D. Quaglio; I. Basili; F. Ghirga; F. Bufalieri; M. Caimano; S. Balducci; M. Moretti; I. Romeo; E.

- Loricchio; M. Maroder; B. Botta; M. Mori; P. Infante; L. Di Marcotullio. A Smo/Gli Multitarget Hedgehog Pathway Inhibitor Impairs Tumor Growth. *Cancers* 2019, 11:1518.
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