GABRIELE CIANFONI
Curriculum Vitae

Part I – General Information

Full Name	GABRIELE CIANFONI
Citizenship	ITALIAN
Spoken Languages	ITALIAN, ENGLISH, FRENCH, SPANISH

Part II – Education

IIA – Academic Education

Type	Year	Institution	Notes (Degree, Experience, …)
PhD	2023	Sapienza - University of Rome, Italian Institute of Technology.	Pharmaceutical Sciences (XXXVI cycle)
Master's degree	2020	Sapienza - University of Rome.	Chemistry (Curriculum Organico e Biomolecolare. Laurea Magistrale – classe LM-54, Ordin. 2010)
Bachelor's degree	2017	Sapienza - University of Rome.	Chemistry (Laurea Triennale – classe L-27, Ordin. 2010)

IIB – Other training course

11-12/09/2025 16-17/09/2025	Centro Nazionale RNA&GeneTherapy	Contamination Lab
29/01/2025 17/12/2025	American Chemical Society	Innovative LC/MS Techniques for Oligonucleotide Analysis Without Ion Pairing Reagents
19-20/02/2024	Gruppo Italiano Discussione Risonanze Magnetiche	Prima scuola di risonanza magnetica nucleare per lo studio di piccole molecole organiche
13/10/2023	WIPO Academy	Introduction to the Patent Cooperation Treaty
29/05/2022- 02/06/2022	University of Cagliari, Santa Margherita di Pula (CA), Italy	1st International Supramolecular Chemistry Summer School
15-24/06/2021	University of Naples, Naples (NA), Italy.	School of Physical Chemistry, 2021.

Part III – Appointments

Start	End	Institution	Position
01/12/2023	30/11/2025	Department of Chemistry and Technology of Drugs, Sapienza - University of Rome	Post-doctoral Fellow. Research topic: Synthesis of polycationic molecules for the development of ferritin bioconjugates

III B – Research Experiences

Start	End	Institution	Position
01/10/2022	15/05/2023	Leibniz University Hannover	Long Term Visiting-PhD at Leibniz University of Hannover (Germany)

Part IV - Society memberships

Year	Title
2021-2025	Member of the Italian Chemical Society (SCI), Division of Organic Chemistry.

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

VA – Funding Information [grants as PI-principal investigator]

Year	Title	Program	Grant value
2024	**PI** in the project: "Progettazione e sintesi di linker policationici per l'incapsulamento ed il delivery di PNA anfifilici con attività antitumorale".	Sapienza – University Research Project 2024 – Progetti Avvio alla Ricerca, Tipo 2	2.515,00 €
2022	**PI** in the project: "Nanotubi di carbonio a parete multipla funzionalizzati con macrocicli a struttura resorc[4]arenica per la costruzione di un immunosensore altamente sensibile per la rilevazione e quantificazione del SARS-CoV-2".	Sapienza – University Research Project 2022 – Progetti Avvio alla Ricerca, Tipo 1	2.000,00 €

VB – Funding Information [grants as I- investigator, participant]

Year	Title	Program	Grant value
2024	**I** in the project: "GREENNAT: making GREENer NATural products research"	Sapienza - University Research Project 2023 – Progetti Medi	9.000,00 €
2023	**I** in the project: "Sintesi di inibitori del recettore Smo a struttura antrachinonica per il trattamento di tumori Hedgehog-dipendenti."	Sapienza - University Research Project 2023 – Progetti Avvio alla Ricerca, Tipo 1	1.500,00 €

2022	**I** in the project: "Drug-like dual action compounds against cancer and neurodegeneration through proteasomal and lysosomal degradation".	Sapienza - University Research Project 2022 – Progetti Grandi	48.000,00 €
2021	**I** in the project: "Progettazione e sintesi di derivati a struttura stilbenica come potenziali inibitori dell'antibiotico-resistenza mediata da ArnT."	Sapienza - University Research Project 2021 – Progetti Avvio alla Ricerca, Tipo 1	1.000,00 €

Part VI – Research Activities

Keywords	Brief Description
Bioconjugate techniques	*Design and synthesis of positively charged linkers for bioconjugate-drug development*. The therapeutic oligonucleotides encapsulation into ferritin nanocages is considered as a promising strategy to increase their stability and delivery to target cells. However, the protein inner cavity features many negatively charged residues making the possibility to encapsulate oligonucleotides very unlikely. In this context, Dr. Cianfoni developed widely accessible and low-cost procedures for the synthesis of linear and branched polyamines endowed with thiol selective functionalities for the chemoselective conjugation of engineered cysteine residues located inside the humanized ferritin cavity. The characterization and the structural elucidation of every synthetic intermediate were carried out by using 1D and 2D Nuclear Magnetic Resonance Spectroscopy (NMR) and High-Resolution Mass Spectrometry (HR-MS) techniques. **Main skills: NMR, UHPLC-UV, UHPLC-MS.**
Natural products	*Total synthesis of pentacaronic acid.* During the 8 months spent in Leibniz Universität Hannover, Dr. Cianfoni focused his research interest on developing a retrosynthetic and synthetic strategies for the total synthesis of pentacaronic acid, a natural compound isolated from the myxobacterium *Sorangium cellulosum*. Pentacaronic acid belongs to the huge class of polyketides, and more specifically to the subgroup of polyenes. The retrosynthetic strategy consisted in the disconnection in two points of the molecule, generating three fragments, namely western, middle, and eastern fragments. For the synthesis of the eastern fragment, a new approach published by Nobel Prize David MacMillan was considered, allowing the formation of the cyclization of the aldehydic and the olefinic portions of the precursor to form 5-membered ring, generating two stereocenters. The reaction reckons on an organo-photoredox catalytic cycle, where the employment of a chiral organocatalyst ensures the stereoselectivity of the reaction. The characterization and the structural elucidation of every synthetic intermediate were carried out by using 1D and 2D Nuclear Magnetic Resonance Spectroscopy (NMR) and High-Resolution Mass Spectrometry (HR-MS) techniques. **Main skills: NMR, HR-MS.**

Macrocycles	*Synthesis of artificial receptors for the functionalization of carbon-based materials for immunosensor development*. In the field of supramolecular chemistry, Dr. Cianfoni research interest is focused on the design and synthesis of artificial receptors of the calixarene family (namely resorcarenes) as an alternative tool for the functionalization of different surfaces to immobilize proteins as biological component of ligand-based biosensor. In the development of immunosensors, the immobilization of the antibody on the sensor surface plays a crucial role, since a good orientation is associated with high sensitivity and selectivity of the device. The employment of resorc[4]arenes endowed with specific functionalities at both upper and lower rims ensures the immobilization of the biorecognition element in a correct orientation on the sensor surface. Accordingly, Dr Cianfoni designed and synthesized two new resorc[4]arene-based linkers in the flattened-cone conformation which were employed for the functionalization of properly modified multi-walled carbon nanotubes (MWCNTs) as a proof of concept for site-oriented immobilization of antibodies. Dr Cianfoni also performed characterization and structural elucidation of synthetic intermediates and final products by means of NMR spectroscopy and HR-MS and he employed the linkers for the functionalization of NH_2-MWCNTs and propargyl-MWCNTS, containing ethylamine and propargyl chains respectively. The resorc[4]arene-based materials were characterized by means of XPS, AFM, and then with CV and DPV in the context of immunosensor fabrication. Immobilization operative concentration and pH of Anti-Spike S1 from SARS-CoV-2 (Ab-SPS1) were evaluated with resorc[4]arene-nanotubes-based glassy carbon electrodes. Deposition of increasing concentrations of Spike S1 protein from SARS-CoV-2 allowed to obtain a calibration curve of the sensor with a sensitivity of 23.64 $\mu AmLng^{-1}cm^{-2}$ and a LOD of 1.01 $ngmL^{-1}$, demonstrating site directed immobilization. **Main skills: NMR, UHPLC-UV, UHPLC-MS.**
UHPLC analyses	*Extraction, identification, and quantitation of phytocannabinoids from Cannabis sativa L.* In the field of extraction of natural compounds from medicinal plants, Dr Cianfoni focused his research interest on the extraction, identification, and quantitation of phytocannabinoids from *Cannabis sativa*. In the context of cannabinoids extraction and quantitation, Dr Cianfoni performed ultrasound-assisted (USA) solid-phase extraction of aerial parts of industrial hemp plant. Purification of the extract by direct phase column chromatography prior to UHPLC analysis allowed to identify CBD and CBC in two distinct fractions, which were isolated through medium pressure reversed phase column chromatography and identified by NMR. In the same research topic, Dr Cianfoni was involved in the determination of enantiomeric ratios of CBC, whose chirality in the plant is associated with the differential expression of CBCA-synthase isoforms and with associated directing proteins with antipodal enantiospecificity. As part of this project, he performed USA solid-extractions of leaves from 10 different strains of fiber hemp, which were collected before and, in one case, during and after anthesis. After HPLC analyses, CBC-enriched fractions were obtained by preparative TLC of the extracts and analyzed by means of chiral direct phase HPLC to determine the enantiomeric ratios of CBC enantiomers, highlighting that CBC occurs in Cannabis (*Cannabis sativa* L.) as a scalemate having a composition that is straindependent in terms of both enantiomeric excess and enantiomeric dominance. **Main skills: USA solid-liquid extraction, NMR, UHPLC-UV, UHPLC-MS**

Part VII – Organization of conferences, workshops and scientific meetings

Dates	Institution/place	Description
23-25/09/2024	Sapienza - University of Rome, Rome, Italy.	AMYC-BIOMED 2024 – Autumn Meeting for Young Chemists in Biomedical Sciences.

Part VIII – Participation to conferences, workshops, and scientific meetings

Dates	Institution/place	Description
18/12/2025	UnitelmaSapienza University of Rome	First National Meeting on the Italian Natural Products Collection
25/10/2025	Federico II – University of Naples, Naples, Italy.	Percorsi Chimici e Produzione
23-25/06/2025	University of Palermo, Italy.	AMYC-BIOMED 2025 – Autumn Meeting for Young Chemists in Biomedical Sciences.
29-30/05/2025	University of Catania, Italy.	Biotechnology And Magnetic Resonance: Connecting Academia And Industry
17-18/02/2025	Federico II – University of Naples, Naples, Italy.	CINMPIS DAYS 2025
23-25/09/2024	Sapienza - University of Rome, Rome, Italy.	AMYC-BIOMED 2024 – Autumn Meeting for Young Chemists in Biomedical Sciences.
27-30/08/2024	Società Chimica Italiana (SCI).	XXVIII Convegno Nazionale Società Chimica Italiana
19-20/02/2024	Gruppo Italiano Discussione Risonanze Magnetiche	Prima scuola di risonanza magnetica nucleare per lo studio di piccole molecole organiche
16-18/10/2023	University of Florence, Florence, Italy.	AMYC-BIOMED 2023 – Autumn Meeting for Young Chemists in Biomedical Sciences.
10-14/09/2023	Società Chimica Italiana (SCI).	XLI Convegno Nazionale della Divisione di Chimica Organica della Società Chimica Italiana
20-23/06/2022	Sapienza - University of Rome, Rome, Italy.	First Symposium for YouNg Chemists: Innovation and Sustainability.
21-22/06/2022	Sapienza - University of Rome, Rome, Italy.	Terzo Workshop sulla Ricerca.
29-30/05/2022 - 01-02/06/2022	University of Cagliari, Italy.	1st International Supramolecular Chemistry Summer School.
15/06/2021 - 24/06/2021	Federico II – University of Naples, Naples, Italy.	School of Physical Chemistry 2021.

05-06/07/2021	International Virtual Mini Symposium	ESOC 2021 - European Symposium on Organic Chemistry.

Part VIII – Oral communications

Dates	Institution/place	Title
23-25/06/2025	AMYC-BIOMED 2025 – Autumn Meeting for Young Chemists in Biomedical Sciences – Summer Edition. University of Palermo, Italy.	Design and synthesis of linear polyamines for the development of highly performing ferritin-conjugates
29-30/05/2025	Biotechnology and Magnetic Resonance: Connecting Academia and Industry. University of Catania, Italy.	Design and synthesis of polyamines as tools for the development of highly performing ferritin nanocages
17-18/02/2025	CINMPIS DAYS 2025. Federico II – University of Naples, Naples, Italy	Design and synthesis of polyamines to develop highly performing ferritin-conjugates
26-30/08/2024	XXVIII Congresso Nazionale della Società Chimica Italiana	Design and synthesis of polyamines as tools to develop highly performing ferritin-conjugates for RNA therapeutics
16-18/10/2023	AMYC-BIOMED 2023 – Autumn Meeting for Young Chemists in Biomedical Sciences. University of Florence, Florence, Italy.	Towards the total synthesis of pentacaronic acid
20-23/06/2022	First Symposium for YouNg Chemists: Innovation and Sustainability. Sapienza - University of Rome, Rome, Italy	Resorc[4]arene-functionalized MWCNTs for the development of new highly sensitive electrochemical immunosensors
21-22/06/2022	Terzo Workshop sulla Ricerca. Department of Chemistry and Technologies of Drug. Sapienza - University of Rome, Rome, Italy	Natural products and artificial receptors: useful scaffolds for anticancer, antibiotics and immunosensors development.
15/06/2021 - 24/06/2021	School of Physical Chemistry 2021. Federico II – University of Naples, Naples, Italy	From Macrocycles to Molecular Shuttles: Exploring the Supramolecular Assembly of Resorc[4]arenes.

Part IX – Poster Presentation

29-30/05/2022 - 01-02/06/2022	1st International Supramolecular Chemistry Summer School. Santa Margherita di Pula (CA), Italy	Title: Resorc[4]arene-functionalized MWCNTs for the development of new highly sensitive electrochemical immunosensors.

05-06/07/2021	ESOC 2021 - European Symposium on Organic Chemistry. Virtual Event.	Title: From Macrocycles to Molecular Shuttles: Exploring the Supramolecular Assembly of Resorc[4]arenes.

Part X – Summary of Scientific Achievements

Product type	Number	Data Base	Start	End
Papers [international]	7	SCOPUS, PubMed	2020	2025
Posters	2	IRIS, Sapienza	2020	2025
Conference oral communications	8		2020	2025

Total Impact factor	24.53
Total Citations	28
Average Citations per Product	4,66
Hirsch (H) index	2
Normalized H index*	0.4

*H index divided by the academic seniority.

Part XI–Publications

For each publication, authors, title, reference data, journal IF (InCites JCR) and number of citations (Scopus) are reported. IF is relative to the year of publication or, if not available, to the year closest to the year of publication.

1	**2025**	Articolo in rivista (accettato ed in attesa di pubblicazione **G. Cianfoni**, L. Pisano, D. M. Varouhaki, G. Centioni, A. Calcaterra, F. Ghirga, C. M. Athanassopoulos, B. Botta, S. Cammarone, P. Baiocco, D. Quaglio. **Tunable Linkers for Dynamic Thiol-Based Bioconjugation Strategies** **BIOMACROMOLECULES** ISSN: 1525-7797 IF (2024) = 5.4 Q1 Organic Chemistry; Citations (Scopus): 0
2	**2025**	Articolo in rivista P.Infante, R. Daniele, M. Bottero, M. Longo, F. Bufalieri, L. Lospinoso Severini, C. Pesce, A. Fragassi, D. Gabbia, S. Navacci, I. Basili, G. Adabbo, S. Cammarone, **G. Cianfoni**, F. Ghirga, ..., S. Salmaso, L. Di Marcotullio. **Functional and therapeutic effects of Glabrescione B delivery by liposomes on Hedgehog-dependent tumors** **DRUG DELIVERY AND TRANSLATIONAL RESEARCH,** 1-17 ISSN: 2190-3948, doi: doi.org/10.1007/s13346-025-02026-0 IF (2024) = 5.5 Q1 Pharmaceutical Science; Citations (Scopus): 0

3	**2025**	Articolo in rivista A. P. Falanga, M. V. Farina, **G. Cianfoni**, L. Barolo, C. Di Meo, G. E. Borsatti, F. Ghirga, B. Botta, L. Pisano, N. Borbone, S. D'Errico, A. Paone, G. Oliviero, D. Quaglio, P. Baiocco. **Evaluation of Peptide Nucleic Acid Encapsulation in Ferritin Nanocages for Gene Silencing Applications.** **BIOMACROMOLECULES**, *26*, 8040-8050 ISSN: 1525-7797, doi: doi.org/10.1021/acs.biomac.5c01489 IF (2024) = 5.4 Q1 Organic Chemistry; Citations (Scopus): 0
4	**2023**	Articolo in rivista A. Calcaterra, **G. Cianfoni**, C. Tortora, S. Manetto, G. Grassi, B. Botta, F. Gasparrini, G. Mazzoccanti, G. Appendino. **Natural Cannabichromene (CBC) Shows Distinct Scalemicity Grades and Enantiomeric Dominance in Cannabis sativa Strains**. **JOURNAL OF NATURAL PRODUCTS**, *86*, 909-914. ISSN: 1520-6025, doi: 10.1021/acs.jnatprod.2c01139 IF (2023) = 3.4 Q1 Organic Chemistry (1999-2022); Citation (Scopus): 15
5	**2023**	Articolo in rivista F. Polli, **G. Cianfoni**, R. Elnahas, L. Mangiardi, F. A. Scaramuzzo, S. Cammarone, D. Quaglio, A. Calcaterra, M. Pierini, F. Mazzei, R. Zanoni, B. Botta, F. Ghirga. **Resorc[4]arene Modifiers for Supramolecular Site-Directed Immobilization of Antibodies on Multi-Walled Carbon Nanotubes**. **CHEMBIOCHEM**, *24*, e2023000. ISSN: 1439-7633 , doi: 10.1002/cbic.202300030 IF (2023) = 2.6 Q1 Organic Chemistry (2002-2022); Citation (Scopus): 1
6	**2023**	Articolo in rivista G. Cimino; S. Sorrenti; M. Murciano; P. Galoppi; F. Ascenzioni; B. Botta; R. Brunelli; L. Cavinato; A. Cerrato; G. Cianfoni *et al.* **Use of elexacaftor/tezacaftor/ivacaftor combination in pregnancy**. **ARCHIVES OF GYNECOLOGY AND OBSTETRICS** ISSN: 1432-0711, doi: 10.1007/s00404-023-06962-5 IF (2023) = 2.1; Citation (PubMed): 3
7	**2021**	Articolo in rivista D. Quaglio, F. Polli, C. Del Plato, **G. Cianfoni**, C. Tortora, F. Mazzei, B. Botta, A. Calcaterra, F. Ghirga. **Calixarene: a versatile scaffold for the development of highly sensitive biosensors**. **SUPRAMOLECULAR CHEMISTRY**, *33*, 345-369. ISSN: 1029-0478, doi: 10.1080/10610278.2021.2011283 IF (2021) = 2.23 ; Q2 Organic Chemistry (2021); Citation (Scopus): 12

Roma 28/12/2025