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School of Life and Health Sciences
Department of Health Sciences
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Research interests

- Oxidation and anticancer activity of phenol complexes with transition metals and chelation activity of prenylated chalcones.
- Biomimetic radical chemistry – Biomolecular electron transfer.
- Complexation of flavonoids analogues with Vanadium and Cobalt and Zinc for use as anticancer drugs.
- Computer-aided synthesis of natural products and biological active ligands as anticancer agents.
- Synthesis and anticancer properties of Vanadium-tocopherol / xanthohumol conjugated molecules.
- Synthesis of fluorinated derivatives as probes for drug monitoring with ¹⁹FNMR.
- Characterization of biomimetic models of transition metals and investigation of their electron transfer activity.
- Molecular and biomolecular Spectroscopy and Computational Chemistry of mixed inorganic-organic metal complexes with medicinal applications.
- Identification and qualitative determination of biopolymers and macromolecules in food matrixes and in biomimetic models using advanced NMR techniques.
- Computer-aided drug design and discovery.
- Zinc binding and distribution with transport proteins and interactions of zinc-drug complexes with DNA.

Qualifications

PhD, Chemistry, University of Cyprus

Employment

Assistant Professor

School of Life and Health Sciences
9 Sep 2019 → present

Department of Health Sciences

School of Life and Health Sciences
16 Jan 2023 → present

Editor

BMC Chemistry
United Kingdom

Reviewer

Journal of Molecular Structure
Netherlands

Research and Development Scientist

M.N.K.E. CHEMICAL SERVICES
Cyprus

Reviewer

Molecular Simulation
United Kingdom

Reviewer RSC Advances

Royal Society of Chemistry
United Kingdom

Member

Royal Society of Chemistry
United Kingdom

Reviewer Journal of Molecular Modeling

Springer Nature
United Kingdom

Reviewer Board

Symmetry MDPI
Switzerland

Research outputs

Dft studies and molecular dynamics of the molecular and electronic structure of cu (ii) and zn (ii) complexes with the symmetric ligand (z)-2-((3,5-dimethyl-2h-pyrrol-2-yl) methylene)-3,5-dimethyl-2h-pyrrole

Vlasiou, M. & Pafiti, K. S., 15 Oct 2022, In: Biointerface Research in Applied Chemistry. 12, 5, p. 5953-5968 16 p.

Binuclear V^{IV/V}, Mo^{VI} and Zn^{II} - hydroquinonate complexes: Synthesis, stability, oxidative activity and anticancer properties

Loizou, M., Papaphilippou, P., Vlasiou, M., Spilia, M., Peschos, D., Simos, Y. V., Keramidas, A. D. & Drouza, C., Oct 2022, In: Journal of Inorganic Biochemistry. 235, 111911.

Ligand and Structure-Based Virtual Screening in Combination, to Evaluate Small Organic Molecules as Inhibitors for the XIAP Anti-Apoptotic Protein: The Xanthohumol Hypothesis

Mavra, A., Petrou, C. C. & Vlasiou, M. C., Aug 2022, In: Molecules. 27, 15, 4825.

Novel Zinc and Vanadium (V) Hydroquinonate Complexes: Synthesis and Biological Solution Evaluation

Ioannou, K., Eleftheriou, C., Drouza, C., Pafiti, K. S., Panayi, T., Keramidas, A. D., Zacharia, L. C. & Vlasiou, M. C., 5 Jun 2022, In: Journal of Molecular Structure. 1257, 132582.

Synthesis and biological evaluation of a new chalconate Co (II/III) complex with cytotoxic activity

Vlasiou, M. C., Ioannou, K., Eleftheriou, C., Pafiti, K. S., Zacharia, L. C. & El-Shazly, M., 5 Feb 2022, In: Journal of Molecular Structure. 1249, 131567.

NGIWY-Amide: A Bioinspired Ultrashort Self-Assembled Peptide Gelator for Local Drug Delivery Applications

Theodoroula, N. F., Karavasili, C., Vlasiou, M. C., Primikyri, A., Nicolaou, C., Chatzikonstantinou, A. V., Chatzitaki, A. T., Petrou, C., Bouropoulos, N., Zacharis, C. K., Galatou, E., Sarigiannis, Y., Fatouros, D. G. & Vizirianakis, I. S., Jan 2022, In: Pharmaceutics. 14, 1, 133.

Metal-based complexes against SARS-CoV-2

Ioannou, K. & Vlasiou, M. C., 2022, (Accepted/In press) In: BioMetals.

Eugenol emulsions stabilized by a natural-derived nonionic palmitate surfactant/polyacrylic acid complex

Pafiti, K. S., Kourtis, K. I., Sarigiannis, Y., Petrou, C. C. & Vlasiou, M. C., 5 Dec 2021, In: Colloids and Surfaces A: Physicochemical and Engineering Aspects. 630, 127559.

Cell arrest and apoptosis induced by the next generation of vanadium based drugs: Action mechanism to structure relation and future perspectives

Vlasiou, M. C. & Pafiti, K. S., Nov 2021, In: Anti-Cancer Agents in Medicinal Chemistry. 21, 16, p. 2111-2116 6 p.

Molecular docking, dft studies and admet simulations for evaluating already approved fda drugs as inhibitors for sars-cov-2 ma-dependent polymerase

Vlasiou, M. C., Ioannou, K. I. & Pafiti, K. S., Jul 2021, In: Letters in Drug Design and Discovery. 18, 7, p. 674-685 12 p.

Density functional theory studies and molecular docking on xanthohumol, 8-prenylnaringenin and their symmetric substitute diethanolamine derivatives as inhibitors for colon cancer-related proteins

Vlasiou, M. C., Petrou, C. C., Sarigiannis, Y. & Pafiti, K. S., Jun 2021, In: Symmetry. 13, 6, 948.

Spectroscopic evaluation of chalcone derivatives and their zinc metal complexes: A combined experimental and computational approach studying the interactions of the complexes with the serum albumin

Vlasiou, M. C. & Hatahta, A. A., 15 May 2021, In: Journal of Molecular Structure. 1232, 130052.

Screening possible drug molecules for Covid-19. The example of vanadium (III/IV/V) complex molecules with computational chemistry and molecular docking

Vlasiou, M. C. & Pafiti, K. S., May 2021, In: Computational Toxicology. 18, 100157.

In Search of Antiviral Metal-Based Drugs

Vlasiou, M., 2021, In: Open Medicinal Chemistry Journal. 15, p. 30-31 2 p.

Oligo(ethylene imine)-grafted glycidyl methacrylate linear and star homopolymers: Odd–even correlated transfection efficiency

Pafiti, K. S., Kepola, E. J., Vlasiou, M. C., Yamasaki, E. N., Patrickios, C. S., Mastrogiannopoulos, N. P., Phylactou, L. A. & Théato, P., 2021, (Accepted/In press) In: Journal of Polymer Science.

Structural characterization of two novel, biological active chalcone derivatives, using density functional theory studies

Vlasiou, M. C., 2021, In: Biointerface Research in Applied Chemistry. 11, 6, p. 15051-15057 7 p.

Spectroscopic evaluation of Zn (II) complexes with drug analogues: Interactions with BSA and the pH effect on the drug-Zn (II) system

Vlasiou, M. C. & Pafiti, K. S., 5 Nov 2020, In: Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy. 241, 118641.

Synthesis of vitamin E and aliphatic lipid vanadium(IV) and (V) complexes, and their cytotoxic properties

Hadjiadamou, I., Vlasiou, M., Spanou, S., Simos, Y., Papanastasiou, G., Kontargiris, E., Dhima, I., Ragos, V., Karkabounas, S., Drouza, C. & Keramidas, A. D., Jul 2020, In: Journal of Inorganic Biochemistry. 208, 111074.

Chromium coordination compounds with antimicrobial activity: Synthetic routes, structural characteristics, and antibacterial activity

Vlasiou, M. C. & Pafiti, K. S., 1 Jan 2020, In: Open Medicinal Chemistry Journal. 14, p. 1-25 25 p.

Geographical discrimination of pine and fir honeys using multivariate analyses of major and minor honey components identified by ¹H NMR and HPLC along with physicochemical data

Karabagias, I. K., Vlasiou, M., Kontakos, S., Drouza, C., Kontominas, M. G. & Keramidas, A. D., 1 Jul 2018, In: European Food Research and Technology. 244, 7, p. 1249-1259 11 p.

Donor atom electrochemical contribution to redox potentials of square pyramidal vanadyl complexes

Vlasiou, M., Drouza, C., Kabanos, T. A. & Keramidas, A. D., 14 Jun 2015, In: Journal of Inorganic Biochemistry. 147, p. 39-43 5 p.

¹⁹F NMR for the speciation and quantification of the OH-molecules in complex matrices

Vlasiou, M. & Drouza, C., 7 May 2015, In: Analytical Methods. 7, 9, p. 3680-3684 5 p.

Oxidovanadium(IV/V) complexes as new redox mediators in dye-sensitized solar cells: A combined experimental and theoretical study

Apostolopoulou, A., Vlasiou, M., Tziouris, P. A., Tsiafoulis, C., Tsipis, A. C., Rehder, D., Kabanos, T. A., Keramidas, A. D. & Stathatos, E., 20 Apr 2015, In: *Inorganic Chemistry*. 54, 8, p. 3979-3988 10 p.

Interaction of Chromium(III) with a N, N'-disubstituted hydroxylamine-(diamido) ligand: A combined experimental and theoretical study

Tziouris, P. A., Tsiafoulis, C. G., Vlasiou, M., Miras, H. N., Sigalas, M. P., Keramidas, A. D. & Kabanos, T. A., 3 Nov 2014, In: *Inorganic Chemistry*. 53, 21, p. 11404-11414 11 p.

Synthesis, characterization of dinuclear vanadium(III) hydroquinonate- iminodiacetate complexes

Drouza, C., Vlasiou, M. & Keramidas, A. D., 24 Aug 2014, In: *Inorganica Chimica Acta*. 420, p. 103-111 9 p.

Vanadium(IV)-p-dioxolene temperature induced electron transfer associated with ligation/deligation of solvent molecules

Drouza, C., Vlasiou, M. & Keramidas, A. D., 2013, In: *Dalton Transactions*. 42, 33, p. 11831-11840 10 p.

Projects

CADD: Computer-aided Drug Discovery

Vlasiou, M.

20/07/19 → ...

Medicinal Inorganic Chemistry

Vlasiou, M.

9/03/19 → ...