

Maroula Kokotou

Curriculum Vitae



Marital status: Married

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Assist. Professor of Instrumental Analysis and Organic Chemistry, Laboratory of General Chemistry, Department of Food Science and Human Nutrition, Agricultural University of Athens, Iera Odos 75, Athens 11855, Greece

Bachelor in Chemistry: Department of Chemistry, National and Kapodistrian University of Athens, Greece, 2008.

M.Sc. in Natural Products: “Isolation and study of bioactive molecules from natural products”, Chemical Laboratories, Department of Sciences, Agricultural University of Athens, 2009.

M.Sc. in Chemistry: “Determination of melamine, ammeline, ammelide and cyanuric acid by hydrophilic interactions liquid chromatography coupled with a UV detector (HILIC-UV) and mass spectrometry (HILIC-MS/MS)” Department of Chemistry, National and Kapodistrian University of Athens, 2010.

PhD in Chemistry: “Development of chromatographic methods of hydrophilic interactions coupled with mass spectrometry” Department of Chemistry, National and Kapodistrian University of Athens, 2014.

Postdoctoral research: 1) “Phospholipases A₂ Kinetics and Lipidomics”, Department of Pharmacology, School of Medicine, University of California San Diego (UCSD), USA, Prof. Edward Dennis, July 2014-August 2014, December 2014-February 2015 and May 2016-July 2016. 2) “Development of innovative phospholipase inhibitors A₂ and study of their action as candidates for new anti-inflammatory drugs using lipidomic methods”, Department of Chemistry, National and Kapodistrian University of Athens, IKY Postdoc fellowship, State Scholarships Foundation (IKY), April 2017- April 2019. 3) “Complementary neuro-protective action of Corinthian raisins as a natural dietary supplement. Integrated innovative framework for highlighting its mechanisms of action using neurodegenerative animal standards (CUREANT), Department of Dietetics - Nutrition Science, Harokopio University, June 2019-January 2020. 4) “High resolution mass spectrometry as a tool for understanding organic reactions mechanisms”, Department of Chemistry, National and Kapodistrian University of Athens, IKY Postdoc fellowships from State Scholarships Foundation (IKY), 2020-28 June 2021.

Awards /Prizes: 1) Hildegard widow “Leonidas Zervas” award, the Academy of Athens 2018. 2) Award from National Council of Greek women 2019. 3) Travel Award, 23rd American Peptide Symposium (APS), 22-27 June 2013, Hawaii, USA. 4) Green Chemistry Hot Articles and “outstanding research to share” at 2018 (Green Chem., 2017, 19, 1291-1298) 5) Editors’ Choice (Current Pharm. Anal., 2020, 16, 513-519), 6) Most downloaded publication the last 6 months (Metabolites, 2021, 11, 46, June 2021), 7) 2021 Chemical Science HOT Article Collection (Chem. Sci., 2021, accepted. (<https://doi.org/10.1039/D1SC02360H>)).

Teaching Activities: 2009-2010, Teaching Assistant, Laboratory courses, Basic Analytic Chemistry, Laboratory of Analytical Chemistry, National and Kapodistrian University of Athens, Greece.
2010-2011, Teaching Assistant, Laboratory courses, Basic Analytic Chemistry, Laboratory of Analytical Chemistry, National and Kapodistrian University of Athens, Greece.
2010-2011, Teaching Assistant, Laboratory courses, Instrumental Analysis II, Laboratory of Analytical Chemistry, National and Kapodistrian University of Athens, Greece.
2016-2017, Adjunct Professor for teaching Chemistry I, Fire Academy of Athens, Greece.
2016-2017, Adjunct Assistant Professor for teaching (ΠΔ 407), Chemical Laboratories, Agricultural University of Athens, Greece.
2017-2018, Adjunct Professor for teaching Chemistry and Explosives, Fire Academy of Athens, Greece.
2017-2018, Adjunct Assistant Professor for teaching (ΠΔ 407), Laboratory of General Chemistry, Agricultural University of Athens, Greece.

2018-2019, academic fellow for teaching Chemistry, Department of Preservation of Antiquities and Works of Art, University of West Attica, Greece.

2018-2019, academic fellow for teaching Instrumental Analysis II and Chemical Instrumentation, Laboratory of Analytical Chemistry, National and Kapodistrian University of Athens, Greece.

2019-2020, Adjunct Assistant Professor for teaching (IIA 407), Laboratory of General Chemistry, Agricultural University of Athens, Greece.

2020-2021, academic fellow for teaching Instrumental Analysis, Laboratory of General Chemistry, Agricultural University of Athens, Greece.

Publications:

- 1) «Behavior and retention models of melamine and its hydrolysis products», M. G. Kokotou and N. S. Thomaidis, *Chromatographia*, 2012, 75 (9-10), 457-467.
- 2) «Artificial sweeteners as emerging pollutants in the environment: analytical methodologies and environmental impact», M. G. Kokotou, A. G. Asimakopoulos and N. S. Thomaidis, *Analytical Methods*, 2012, 4, 3057-3070.
- 3) «Simultaneous determination of eight artificial sweeteners in waste water using hydrophilic interaction liquid chromatography tandem mass spectrometry», M. G. Kokotou and N. S. Thomaidis, *Analytical Methods*, 2013, 5, 3825-3833.
- 4) «Inhibition of Ca²⁺-independent phospholipase A2 (iPLA2 β) ameliorates islet infiltration and incidence of diabetes in NOD Mice», R.N. Bone, Y. Gai, V. Magrioti, M. G. Kokotou, T.r Ali, Xi.Lei, H. M. Tse, G. Kokotos, and S. Ramanadham, *Diabetes*, 2015, 64, 541-554.
- 5) «Development of potent and selective inhibitors for group VIA calcium-independent phospholipase A2 guided by molecular dynamics and structure-activity relationships», V. D. Mouchlis, D. Limnios, M. G. Kokotou, E. Barbayianni, G. Kokotos, J. A. McCammon, E. A. Dennis, *J. Med. Chem.*, 2016, 59, 4403-4414.
- 6) «2-Oxoamide inhibitors of cytosolic group IVA phospholipase A2 with reduced lipophilicity», G. Antonopoulou, V. Magrioti, M. G. Kokotou, A. Nikolaou, E. Barbayianni, V. D. Mouchlis, E. A. Dennis, G. Kokotos, *Bioorg. Med. Chem.*, 2016, 24, 4544-4554.
- 7) «Enantioselective organocatalytic synthesis of 2-oxopiperazines from aldehydes: identification of the elusive epoxy lactone intermediate», N. Kaplaneris, C. Spyropoulos, M. G. Kokotou, C. G. Kokotos, *Org. Lett.*, 2016, 18, 5800–5803.
- 8) «Inhibitors of phospholipase A2 and their therapeutic potentials: an update on patents (2012-2016)», M. G. Kokotou, D. Limnios, A. Nikolaou, A. Psarra, G. Kokotos, *Expert Opin Ther Pat* 2017, 27, 217-225.
- 9) «2-Oxoamides based on dipeptides as selective calcium-independent phospholipase A2 inhibitors», A. Smyrniotou, M. G. Kokotou, V. D. Mouchlis, E. Barbayianni, G. Kokotos, E. A. Dennis, V. Constantinou-Kokotou, *Bioorg. Med. Chem.*, 2017, 25, 926-940.
- 10) «Organocatalytic oxidation of substituted anilines to azoxybenzenes and nitro compounds: Mechanistic studies excluding the involvement of a dioxirane intermediate», E. Voutyritsa, A Theodorou, M. G. Kokotou, C. G. Kokotos, *Green Chem.*, 2017, 19, 1291-1298.
- 11) «Visible light-mediated catalytic hydroacylation of dialkyl azodicarboxylates by graphite flakes», G. Koutoulogenis, M. G. Kokotou, E. Voutyritsa, D. Limnios, C. G. Kokotos, *Org. Lett.*, 2017, 19, 1760-1763.
- 12) «Direct determination of total isothiocyanate content in broccoli using attenuated total reflectance infrared Fourier transform spectroscopy», P.-K. Revelou, M. G. Kokotou, V. Constantinou-Kokotou, C. Pappas, *J. Food Comp. Anal.*, 2017, 61, 47-51.
- 13) «Autotaxin inhibitors: a patent review (2012-2016)», A. Nikolaou, M. G. Kokotou, D. Limnios, A. Psarra, G. Kokotos, *Expert Opin Ther Pat* 2017, 27, 815-829.
- 14) «High resolution mass spectrometry studies of sulforaphane and indole-3-carbinol in broccoli», M. G. Kokotou, P.-K. Revelou, C. Pappas, V. Constantinou-Kokotou, *Food Chemistry*, 2017, 237, 566-573.
- 15) «2-Oxoesters: A novel class of potent and selective inhibitors of cytosolic group IVA phospholipase A2», M. G. Kokotou, G. Galiatsatou, V. Magrioti, G. Koutoulogenis, E. Barbayianni, D. Limnios, V. D. Mouchlis, B. Satpathy, E. A. Dennis, G. Kokotos, *Scientific Reports*, 2017, 7, 7025.
- 16) «Microsomal prostaglandin E2 synthase-1 inhibitors: a patent review», A. Psarra, A. Nikolaou, M. G. Kokotou, D. Limnios, G. Kokotos, *Expert Opin Ther Pat* 2017, 27, 1047-1059.
- 17) «Characterization of the retention of artificial sweeteners by hydrophilic interaction liquid chromatography», M. G. Kokotou and N. S. Thomaidis, *Anal. Lett.*, 2018, 51, 49-72.
- 18) «Photocatalytic Synthesis of γ -lactones from Alkenes: High Resolution Mass Spectrometry as a Tool to Study Photoredox Reactions», I. Triandafillidi, M.G. Kokotou, C. G. Kokotos, *Org. Lett.*, 2018, 20, 36–39.
- 19) «Hydroxamic Acids Constitute a Novel Class of Autotaxin Inhibitors that Exhibit in vivo Efficacy in a

- Pulmonary Fibrosis Model», A. Nikolaou, I. Ninou, M. G. Kokotou, E. Kaffe, A. Afantitis, V. Aidinis, G. Kokotos, *J. Med. Chem.*, 2018, 61, 3697-3711.
- 20) «Highly potent 2-oxoester inhibitors of cytosolic phospholipase A2 (GIVA cPLA2)», A. Psarra, M. G. Kokotou, G. Galiatsatou, V. D. Mouchlis, E. A. Dennis, G. Kokotos, *ACS Omega*, 2018, 3, 8843-8853.
- 21) «Determination of indole-type phytonutrients in cruciferous vegetables», P.-K. Revelou, M. G. Kokotou, V. Constantinou-Kokotou, *Nat. Prod. Res.*, 2018, 17, 1-4.
- 22) «Small-molecule inhibitors as potential therapeutics and as tools to understand the role of phospholipases A2» A. Nikolaou, M. G. Kokotou, S. Vasilakaki, G. Kokotos, *Biochim. Biophys. Acta*, 2019, 1864, 941-956.
- 23) «Asymmetric Synthesis of Saturated Hydroxy Fatty Acids and Fatty Acid Esters of Hydroxy Fatty Acids», O. Mountanea, D. Limnios, M. G. Kokotou, A. Bourboula, G. Kokotos, *Eur. J. Org. Chem.*, 2019, 2010-2019.
- 24) « β -Lactones constitute a novel class of calcium-independent phospholipase A2 (Group VIA iPLA2) inhibitors», C. Dedaki, M. G. Kokotou, V. D. Mouchlis, D. Limnios, X. Lei, C. T. Mu, S. Ramanadham, V. Magrioti, E. A. Dennis, G. Kokotos, *J. Med. Chem.*, 2019, 62, 2916-2927.
- 25) «Enantioselective organocatalysis-based synthesis of 3-hydroxy fatty acids and fatty γ -lactones», A. Bourboula, D. Limnios, M. G. Kokotou, O. Mountanea, G. Kokotos, *Molecules*, 2019, 24, 2081.
- 26) «Identification of auxin metabolites in Brassicaceae by ultra pressure liquid chromatography coupled with high resolution mass spectrometry», P.-K. Revelou, M. G. Kokotou, V. Constantinou-Kokotou, *Molecules*, 2019, 24, 2615.
- 27) «Study of the royal jelly free fatty acids by liquid chromatography-high resolution mass spectrometry (LC-HRMS)», M. G. Kokotou, C. Mantzourani, R. Babaiti, G. Kokotos, *Metabolites*, 2020, 10, 40.
- 28) «2-Oxoester Phospholipase A2 Inhibitors with Enhanced Metabolic Stability», G. S. Koutoulogenis, M. G. Kokotou, D. Hayashi, V. D. Mouchlis, E. A. Dennis, G. Kokotos, *Biomolecules*, 2020, 10, 491.
- 29) «Development of a liquid chromatography-high resolution mass spectrometry method for the determination of free fatty acids in milk», M. G. Kokotou, C. Mantzourani, G. Kokotos, *Molecules*, 2020, 25, 1548.
- 30) «Study of the fragmentation pathways of sulfonamides by High Resolution Mass Spectrometry: Application to their detection in plasma by direct infusion», M.G. Kokotou*, *Current Pharm. Anal.*, 2020, 16, 513-519.
- 31) «Analytical methods for the determination of fatty acid esters of hydroxy fatty acids (FAHFAs) in biological samples, plants and foods», M. G. Kokotou*, *Biomolecules*, 2020, 10, 1092.
- 32) «A liquid chromatography-high resolution mass spectrometry (LC-HRMS) method for the determination of free hydroxy fatty acids in cow and goat milk», M. G. Kokotou, C. Mantzourani, A. Bourboula, O. G. Mountanea, G. Kokotos, *Molecules*, 2020, 25, 3947.
- 33) «Photochemical functionalization of heterocycles with EBX Reagents; C-H Alkynylation versus deconstructive ring cleavage», E. Voutyritsa, M. Garreau, M. G. Kokotou, I. Triandafillidi, J. Waser, C. G. Kokotos, *Chem. Eur. J.*, 2020, 26, 14453-14460.
- 34) «Phenylglyoxylic acid: An efficient Initiator for the Photochemical Hydrogen Atom Transfer (HAT) C-H Functionalization of Heterocycles», G. N. Papadopoulos, M. G. Kokotou, E. Voutyritsa, I. D. Tzaras, N. Kaplaneris, C. G. Kokotos, *ChemSusChem*, 2020, 13, 5934-5944.
- 35) «Changes in the cellular fatty acid profile drive the proteasomal degradation of α -synuclein and enhance neuronal survival», M. Xylaki, I. Boubourea, M. G. Kokotou, T. Marras, G. Papadimitriou, I. Kloukina, V. Magrioti, G. Kokotos, K. Vekrellis, E. Emmanouilidou, *FASEB J.*, 2020, 34, 15123-15145.
- 36) «Saturated hydroxy fatty acids exhibit cell growth inhibitory activity and suppress the cytokine-induced β -Cell apoptosis», M. G. Kokotou, A. D. Kokotos, D. Gkikas, O. G. Mountanea, C. Mantzourani, A. Almutairi, X. Lei, S. Ramanadham, P. K. Politis, G. Kokotos, *J. Med. Chem.*, 2020, 63, 12666-12681.
- 37) «Free Saturated Oxo Fatty Acids (SOFAs) and Ricinoleic Acid in Milk Determined by a Liquid Chromatography-High Resolution Mass Spectrometry (LC-HRMS) Method », M. G. Kokotou, C. S. Batsika, C. Mantzourani, G. Kokotos, *Metabolites*, 2021, 11, 46.
- 38) «Saturated Oxo Fatty Acids (SOFAs): A Previously Unrecognized Class of Endogenous Bioactive Lipids Exhibiting a Cell Growth Inhibitory Activity», C. Batsika, C. Mantzourani, D. Gkikas, M. G. Kokotou, O. Mountanea, C. Kokotos, P. Politis, G. Kokotos, *J. Med. Chem.*, 2021, 64, 5654-5666.
- 39) «Aldehyde-Catalyzed Epoxidation of Unactivated Alkenes with Aqueous Hydrogen Peroxide», I. Triandafillidi, M. G. Kokotou, D. Lotter, C. Sparr, C. G. Kokotos, *Chem. Sci.*, 2021, accepted. (<https://doi.org/10.1039/D1SC02360H>)
- 40) «GC-MS, FTIR and Raman analysis of fatty acids of Pistacia vera (Greek variety “Aegina”) oils from two consecutive harvest periods and their chemometric differentiation», L. Valasi, M. G. Kokotou, C. Pappas, *Food Res. Int.*, 2021, 148, 110590.

41) «Cruciferous vegetables as functional foods: Effects of selenium biofortification», P.-K. Revelou, M. Xagoraris M. G. Kokotou, V. Constantinou-Kokotou, Int. J. Veg. Sci., 2021, accepted.

Book Chapters: 3

- 1) M. G. Kokotou, A. G. Asimakopoulos and N. S. Thomaidis, “Sweeteners” in “Food Analysis by HPLC” by Leo M.L. Nollet (Editor), Third Edition, CRC Press: Boca Raton, FL, 2012, Chapter 13, pp 493-514.
- 2) A. G. Asimakopoulos, M. G. Kokotou and N. S. Thomaidis, “Colorants” in “Food Analysis by HPLC” by Leo M.L. Nollet (Editor), Third Edition, CRC Press: Boca Raton, FL, 2012, Chapter 14, pp 515-528.
- 3) M. G. Kokotou, A. G. Asimakopoulos and N. S. Thomaidis, “Intense Sweeteners” in “Handbook of Food Analysis” by Leo M.L. Nollet (Editor), Third Edition, CRC Press: Boca Raton, FL, 2015, Chapter 11, pp 219-232.

Posters Presentations in Conferences: 57