

TPCI (IOPX) 2023

1. Publications in Refereed Journals

1. “Effective local potentials for density and density-matrix functional approximations with non-negative screening density”,
T. C. Pitts, S. Bousiadi, N. N. Lathiotakis,
J. Chem. Phys. **2023**, *158*, 184105.
DOI: [10.1063/5.0143757](https://doi.org/10.1063/5.0143757)
2. “Tuning the photoluminescence and Raman response of single-layer WS₂ crystals using biaxial strain”,
A. Michail, D. Anastopoulos, N. Delikoukos, S. Grammatikopoulos, S. A. Tsirkas, N. N. Lathiotakis, O. Frank, K. Filintoglou, J. Parthenios, K. Papagelis,
J. Phys. Chem. C **2023**, *127*, 3506.
DOI: [10.1021/acs.jpcc.2c06933](https://doi.org/10.1021/acs.jpcc.2c06933)
3. “Hybrid copper halide material with perovskite like structure with tetrahedral units; synthesis, characterization and optical properties”,
A. Ioannou, G. C. Anyfantis, K. Milinakou-Koufoudaki, G. Danezis, C. A. Georgiou, V. Psycharis, C.P. Raptopoulou, C. Collia, N. Kelaidis, N. N. Lathiotakis, G. A. Mousdis,
Polyhedron **2023**, *231*, 116247.
DOI: [10.1016/j.poly.2022.116247](https://doi.org/10.1016/j.poly.2022.116247)
4. “A generalized nomenclature scheme for graphene pores, flakes, and edges, and an algorithm for their generation and numbering”,
Z. G. Fthenakis,
Nanomaterials **2023**, *13*, 2343.
DOI: [10.3390/nano13162343](https://doi.org/10.3390/nano13162343)
5. “Highly porous thin-layer g-C₃N₄ nanosheets with enhanced adsorption capacity”,
S. Stefa, M. Griniezaki, M. Dimitropoulos, G. Paterakis, C. Galiotis, G. Kiriakidis, E. Klontzas, M. Konsolakis, V. Binas,
ACS Appl. Nano Mater. **2023**, *6*, 1732.
DOI: [10.1021/acsanm.2c04632](https://doi.org/10.1021/acsanm.2c04632)
6. “Water-stable etb-MOFs for methane and carbon dioxide storage”,
C. Tsangarakis, A. Azmy, C. Tampaxis, N. Zibouche, E. Klontzas, E. Tylianakis, G. E. Froudakis, T. Steriotis, I. Spanopoulos, P. N. Trikalitis,
Inorg. Chem. **2023**, *62*, 5496.
DOI: [10.1021/acs.inorgchem.2c04483](https://doi.org/10.1021/acs.inorgchem.2c04483)
7. “On the optical properties of diamino-pillared graphene architectures”,
E. Papasouli, N. Otero, J. Desmarais, H. Denawi, D. Xenides, E. Klontzas, E. N. Koukaras, P. Karamanis,
J. Phys. Chem. C **2023**, *127*, 6959.
DOI: [10.1021/acs.jpcc.3c00553](https://doi.org/10.1021/acs.jpcc.3c00553)
8. “Recent advances in strongly-resonant and gradient all-dielectric metasurfaces”,
D. C. Zografopoulos, O. Tsilipakos,
Mater. Adv. **2023**, *4*, 11.
DOI: [10.1039/D2MA00910B](https://doi.org/10.1039/D2MA00910B)

9. “Multimode non-Hermitian framework for third-order nonlinear photonic systems comprising two-dimensional materials”,
T. Christopoulos, E. E. Kriezis, O. Tsilipakos,
Phys. Rev. B **2023**, *107*, 035413.
DOI: [10.1103/PhysRevB.107.035413](https://doi.org/10.1103/PhysRevB.107.035413)
10. “Multiresonant metasurfaces for arbitrarily broad bandwidth pulse chirping and dispersion compensation”,
O. Tsilipakos, T. Koschny,
Phys. Rev. B **2023**, *107*, 165408.
DOI: [10.1103/PhysRevB.107.165408](https://doi.org/10.1103/PhysRevB.107.165408)
11. “Meta-atoms with toroidal topology for strongly resonant responses”,
O. Tsilipakos, Z. Viskadourakis, A. C. Tasolamprou, D. C. Zografopoulos, M. Kafesaki, G. Kenanakis, E. N. Economou,
Micromachines **2023**, *14*, 468.
DOI: [10.3390/mi14020468](https://doi.org/10.3390/mi14020468)
12. “Impact of plasmonic modes on the formation of self-organised nano-patterns in thin films”,
P. Lingos, G. Perrakis, O. Tsilipakos, G. D. Tsibidis, E. Stratakis,
Optics Laser Technol. **2023**, *163*, 109415.
DOI: [j.optlastec.2023.109415](https://doi.org/j.optlastec.2023.109415)
13. “Integrated lasers with transition metal dichalcogenide heterostructures: analysis and design utilizing coupled-mode theory for two-dimensional materials”,
G. Nousios, T. Christopoulos, O. Tsilipakos, E. Kriezis,
Phys. Rev. Appl. **2023**, *19*, 064027.
DOI: [10.1103/PhysRevApplied.19.064027](https://doi.org/10.1103/PhysRevApplied.19.064027)
14. “Refractive index measurement of IP-S and IP-Dip photoresists at THz frequencies and validation via 3D photonic metamaterials made by direct laser writing”,
E. Mavrona, A. Theodosi, K. Mackosz, E. Perivolari, I. Utke, J. Michler, J. Schwiedrzik, M. Kafesaki, O. Tsilipakos, A. Xomalis,
Optical Mater. Express **2023**, *13*, 3355.
DOI: [10.1364/OME.500287](https://doi.org/10.1364/OME.500287)
15. “Fabrication of mm-scale complementary split ring resonators, for potential application as water pollution sensors”,
Z. Viskadourakis, G. Fanourakis, E. Tamiolakis, A. Theodosi, K. Katsara, N. R. Vrithias, O. Tsilipakos, G. Kenanakis,
Materials **2023**, *16*, 5290.
DOI: [10.3390/ma16155290](https://doi.org/10.3390/ma16155290)
16. “Photo-elasticity of silk fibroin harnessing whispering gallery modes”,
N. Korakas, D. Vurro, O. Tsilipakos, T. Vasileiadis, B. Graczykowski, A. Cucinotta, S. Selleri, G. Fytas, S. Iannota, S. Pissadakis,
Sci. Rep. **2023**, *13*, 9750.
DOI: [10.1038/s41598-023-36400-0](https://doi.org/10.1038/s41598-023-36400-0)
17. “On the mobility effect in UAV-mounted absorbing metasurfaces: a theoretical and experimental study”,
A. Ptilakis, D. Tyrovolas, P.-V. Mekikis, S. A. Tegos, A. Papadopoulos, A. Tsioliaridou, O. Tsilipakos, D. Manassis, S. Ioannidis, N. V. Kantartzis, I. F. Akyildiz, C. K. Liaskos,

IEEE Access **2023**, *11*, 79777.

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18. “Self-assembly of phenylalanine-leucine leucine-phenylalanine and cyclo(-leucine-phenylalanine) dipeptides through simulations and experiments”,
P. Divanach, E. Fanouraki, A. Mitraki, V. Harmandaris, A. N. Rissanou,
J. Phys. Chem. B **2023**, *127*, 4208.
DOI: [10.1021/acs.jpcc.2c08576](https://doi.org/10.1021/acs.jpcc.2c08576)
19. “Morphology and dynamics in hydrated graphene oxide/branched poly(ethyleneimine) nanocomposites: an in silico investigation”,
A. Rissanou, A. Konstantinou, K. Karatasos,
Nanomaterials **2023**, *13*, 1865.
DOI: [10.3390/nano13121865](https://doi.org/10.3390/nano13121865)
20. “Structure of amino acid sequence-reversed wtRop protein: insights from atomistic molecular dynamics simulations”,
M. Arnittali, A. N. Rissanou, A. Kefala, M. Kokkinidis, V. Harmandaris,
J. Biomol. Struct. Dynamics **2023**, *1*.
DOI: [10.1080/07391102.2023.2252903](https://doi.org/10.1080/07391102.2023.2252903)
21. “Investigating the complexation propensity of self-assembling dipeptides with the anticancer peptide-drug bortezomib: a computational study”
P. Divanach, E. Fanouraki, A. Mitraki, V. Harmandaris, A. N. Rissanou,
Soft Matter **2023**, *19*, 8684.
DOI: [10.1039/D3SM00930K](https://doi.org/10.1039/D3SM00930K)
22. “Structure assignment, conformational properties and discovery of potential targets of the Ugi cinnamic adduct NGI25”,
N. Georgiou, N. Gouleni, E. Chontzopoulou, G. S. Skoufas, A. Gkionis, D. Tzeli, S. Vassiliou, T. Mavromoustakos,
J. Biomol. Struct. Dynamics **2023**, *41*, 1253.
DOI: [10.1080/07391102.2021.2017356](https://doi.org/10.1080/07391102.2021.2017356)
23. “Evaluation of Crocin as green corrosion inhibitor for aluminum in NaCl solution”,
P. Pantazopoulou, S. Kalogeropoulou, S. Theohari, E. Papamichalis, D. Tzeli,
Chem. Eng. Commun. **2023**, *210*, 1756.
DOI: [10.1080/00986445.2022.2147834](https://doi.org/10.1080/00986445.2022.2147834)
24. “Magnetic anisotropy and structural flexibility in the field-induced single ion magnets [Co{(OPPh₂)(EPh₂)N}₂], E = S, Se, explored by experimental and computational methods”,
E. Ferentinos, D. Tzeli, S. Sottini, E. J. J. Groenen, M. Ozerov, G. Poneti, K. Kaniewska-Laskowska, J. Krzystek, P. Kyritsis,
Dalton Trans. **2023**, *52*, 2036.
DOI: [10.1039/d2dt03335f](https://doi.org/10.1039/d2dt03335f)
25. “Thiocarbohydrazone and chalcone-derived 3,4-dihydropyrimidine-thione as lipid peroxidation and soybean lipoxygenase inhibitors”,
N. Georgiou, E. Chontzopoulou, A. Cheilari, A. Katsogiannou, D. Karta, K. Vavougyiou, D. Hadjipavlou-Litina, U. Javornik, J. Plavec, D. Tzeli, S. Vassiliou, T. Mavromoustakos,
ACS Omega **2023**, *8*, 11966.
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26. "An efficient light-mediated protocol for the direct amide bond formation via a novel carboxylic acid photoactivation mode by pyridine-CBr₄", O. G. Mountanea, D. Psathopoulou, C. Mantzourani, M. G. Kokotou, E. A. Routsis, D. Tzeli, C. G. Kokotos, G. Kokotos, *Chem. Eur. J.* **2023**, *29*, e202300556.
DOI: [10.1002/chem.202300556](https://doi.org/10.1002/chem.202300556)
27. "Metallocene-naphthalimide derivatives: The effect of geometry, DFT methodology, and transition metals on absorption spectra", C. E. Tzeliou, D. Tzeli, *Molecules* **2023**, *28*, 3565.
DOI: [10.3390/molecules28083565](https://doi.org/10.3390/molecules28083565)
28. "Many-body expansion for light nuclear systems", T. Depastas, G. A. Souliotis, D. Tzeli, S. S. Xantheas, *Phys. Rev. C.* **2023**, *107*, 04404.
DOI: [10.1103/PhysRevC.107.044004](https://doi.org/10.1103/PhysRevC.107.044004)
29. "Photoswitchable molecular units with tunable non-linear optical activity: A theoretical investigation", A. Avramopoulos, H. Reis, D. Tzeli, R. Zalesny, M. G. Papadopoulos, *Molecules* **2023**, *28*, 5646.
DOI: [10.3390/molecules28155646](https://doi.org/10.3390/molecules28155646)
30. "Microwave assisted, copper-catalyzed domino O-H/C-H arylation reaction towards the synthesis of oxygen-doped polyaromatic molecules", E. Kaplanai, E. Tonis, M. Drymona, Y. Zagranyarski, D. Tzeli, G. C. Vougioukalakis, *J. Org. Chem.* **2023**, *88*, 11552.
DOI: [10.1021/acs.joc.3c00830](https://doi.org/10.1021/acs.joc.3c00830)
31. "Computational and Spectroscopic analysis of the Quercetin encapsulation in (2HP-β-CD)₂ and (2,6Me-β-CD)₂ complexes", G. Leonis, V. Vakali, N. Zoupanou, N. Georgiou, D. Tzeli, D. A. Diamantis, A. G. Tzacos, T. Mauromoustakos, *J Mol Structure* **2023**, *1294*, 136430.
DOI: [10.1016/j.molstruc.2023.136430](https://doi.org/10.1016/j.molstruc.2023.136430)
32. "Electronic structure of low-lying states of triatomic MoS₂ molecule. The building block of 2D MoS₂", M. A. Mermigki, I. Karapetsas, D. Tzeli, *ChemPhysChem* **2023**, *24*, e202300365.
DOI: [10.1002/cphc.202300365](https://doi.org/10.1002/cphc.202300365)
33. "Hydration structure and dynamics, ultraviolet-visible and fluorescence spectra of caffeine in ambient liquid water. A combined classical molecular dynamics and quantum chemical study", I. Skarmoutsos, D. Tzeli, I. D. Petsalakis, *J. Mol. Liquids* **2023**, *391*, 123220.
DOI: [10.1016/j.molliq.123.123220](https://doi.org/10.1016/j.molliq.123.123220)
34. "Electronic structure and chemical bonding of the 1st, 2nd, and 3rd row transition metal monoborides. Formation of quadruple bonds in RhB, RuB and TcB", C. Demetriou, C. E. Tzeliou, A. Androutsopoulos, D. Tzeli, *Molecules* **2023**, *28*, 8016.

DOI: [10.3390/molecules28248016](https://doi.org/10.3390/molecules28248016)

35. “Cobalt porphyrin / molybdenum disulfide nanoensembles for light-assisted electrocatalytic water oxidation and selective hydrogen peroxide production”,
D. K. Perivoliotis, C. Stangel, Y. Sato, K. Suenaga, N. Tagmatarchis,
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36. “Molybdenum diselenide and tungsten diselenide interfacing cobalt-porphyrin for electrocatalytic hydrogen evolution in alkaline and acidic media”,
A. Kagkoura, C. Stangel, R. Arenal, N. Tagmatarchis,
Nanomaterials **2023**, *13*, 35.
DOI: [10.3390/nano13010035](https://doi.org/10.3390/nano13010035)
37. “Decatungstate-photocatalyzed acylation of single-walled carbon nanotubes”,
R. Canton-Vitoria, M. Quintana, N. G. Malliaros, N. Tagmatarchis,
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38. “Step-by-step characterization of a series of polyamidoamine dendrimers on carbon nanohorn surface”,
H. Nakajima, K. Kobashi, C. Stangel, T. Morimoto, M. Zhang, N. Tagmatarchis, T. Okazaki,
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DOI: [10.1016/j.apsusc.2023.157077](https://doi.org/10.1016/j.apsusc.2023.157077)
39. “Long spin coherence times on C₅₉N-C₆₀ heterodimer radicals entrapped in cycloparaphenylene rings”,
Y. Tanuma, T. Knafllic, B. Anezo, C. Stangel, J. Volkmann, N. Tagmatarchis, H. A. Wegner, D. Arcon, C. P. Ewels,
J. Phys. Chem. C **2023**, *127*, 6552.
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40. “Tungsten disulfide interfacing nickel-porphyrin for photo-enhanced electrocatalytic water oxidation”,
M. P. Minadakis, R. Canton-Vitoria, C. Stangel, E. Klontzas, R. Arenal, J. Hernandez-Ferrer, A. M. Benito, W. Maser, N. Tagmatarchis,
ChemSusChem **2023**, *16*, e202202322.
DOI: [10.1002/cssc.202202322](https://doi.org/10.1002/cssc.202202322)
41. “Bifunctional nanostructured palladium/MoS_x electrocatalyst for cathode hydrogen evolution reaction PEM water electrolysis and oxygen reduction reaction”,
A. Kagkoura, N. Karamoschos, D. K. Perivoliotis, A. Pineiro Garcia, E. Gracia-Espino, D. Tasis, N. Tagmatarchis,
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42. “Localized excitons in Zn-porphyrin covalently functionalized MoS₂ and WS₂”,
R. Canton-Vitoria, T. Hotta, Y. Tanuma, I. K. Sideri, N. Tagmatarchis, C. Ewels, R. Kitaura,
J. Phys. Chem. C **2023**, *127*, 10699.
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43. “Carbon dots strongly immobilized onto carbon nanohorns as non-metal heterostructure with high electrocatalytic activity towards protons reduction in hydrogen evolution reaction”,
A. Kagkoura, H. J. Ojeda-Galvan, M. Quintana, N. Tagmatarchis,
Small **2023**, *19*, 2208285.
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44. “Covalently modified MoS₂ bearing a Hamilton-type receptor for recognizing a redox-active ferrocene-barbiturate guest via multiple H-bonds”,
I. K. Sideri, C. Stangel, A. Stergiou, A. Liapi, H. J. Ojeda-Galvan, M. Quintana, N. Tagmatarchis,
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45. “Kevlar and Nomex modification via 2,4-dihydroxybenzophenone anchoring improves water repellency and induces antibacterial and UV protection properties”,
E. Tonis, E. Frousiou, N. S. Heliopoulos, A. Kagkoura, C. Stangel, R. Canton-Vitoria, S. Vasilakos, D. Siamidis, A. Galeou, K. Stamatakis, A. Prombona, N. Boukos, N. Tagmatarchis, G. C. Vougioukalakis,
Mater. Today Chem. **2023**, *33*, 101695.
DOI: [10.1016/j.mtchem.2023.101695](https://doi.org/10.1016/j.mtchem.2023.101695)
46. “Covalently modified Kevlar fabric incorporating graphene oxide with enhanced antibacterial properties and preserved strength”,
R. Canton-Vitoria, N. Heliopoulos, N. Boukos, S. Vasilakos, D. Siamidis, K. Stamatakis, N. Tagmatarchis,
Chem. Eur. J. **2023**, *29*, e202301400.
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47. “Exfoliated transition metal dichalcogenide-based electrocatalysts for oxygen evolution reaction”,
M. P. Minadakis, N. Tagmatarchis,
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48. “VAR fabric modification: Inducing antibacterial properties, altering wettability/water repellence, and understanding reactivity at the molecular level”,
E. Tonis, E. Frousiou, N. S. Heliopoulos, A. Kagkoura, C. Stangel, D. Siamidis, A. Galeou, A. Prombona, K. Stamatakis, N. Boukos, N. Tagmatarchis, G. C. Vougioukalakis,
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49. “Preclinical evaluation of modified carbon nanohorns and their complexation with insulin”,
C. Stangel, A. Kagkoura, N. Pippa, D. Stellas, M. Zhang, T. Okazaki, C. Demetzos, N. Tagmatarchis,
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50. “Noncontact layer stabilization of azafullerene radicals: Route toward high-spin-density surfaces”,

- Y. Tanuma, G. Kladnik, L. Schio, M. van Midden Mavric, B. Anezo, E. Zupanic, G. Bavdek, R. Canton-Vitoria, L. Floreano, N. Tagmatarchis, H. A. Wegner, A. Morgante, C. P. Ewels, D. Cvetko, D. Arcon, *ACS Nano* **2023**, *17*, 25301.
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51. “Kevlar[®], Nomex[®], and VAR modification by small organic molecules anchoring: transfusing antibacterial properties and improving water repellency”, E. Frousiou, E. Tonis, G. Rotas, A. Pantelia, S. G. Chalkidis, N. S. Heliopoulos, A. Kagkoura, D. Siamidis, A. Galeou, A. Prombona, K. Stamatakis, N. Boukos, G. C. Vougioukalakis, *Molecules* **2023**, *28*, 5465.
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52. “Production of nanoparticles from resistant starch via a simple three-step physical treatment”, E. Apostolidis, A. Stergiou, D. Kioupis, A. Sadeghbour, P. Paximada, G. Kakali, I. Mandala, *Food Hydrocol.* **2023**, *137*, 108412.
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53. “Field-effect transistor antigen/antibody-TMDs sensors for the detection of COVID-19 samples”, R. Canton-Vitoria, K. Sato, Y. Motooka, S. Toyokuni, Z. Liu, R. Kitaura, *Nanoscale* **2023**, *15*, 4570.
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54. “Three-dimensional nucleic acid nanostructures based on self-assembled polymer-oligonucleotide conjugates of comblike and coil-comb chain architectures”, E. Dimitrov, N. Toncheva-Moncheva, J. A. Doumanov, K. Mladenova, S. Petrova, S. Pispas, S. Rangelov, *Biomacromolecules* **2023**, *24*, 2213.
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DOI: [10.1016/j.ijpharm.2022.122440](https://doi.org/10.1016/j.ijpharm.2022.122440)
58. “Effects of subphase pH and temperature on the interfacial behavior of double hydrophilic diblock copolymer PDEGMA-b-PDIPAEMA”,

- J. Li, G. Wen, D. Selianitis, S. Pispas, Y. Zhang, H. Li,
J. Appl. Polym. Sci. **2023**, e54898.
DOI: [10.1002/app.54898](https://doi.org/10.1002/app.54898)
59. “Random cationic copolymers as nanocarriers for ovalbumin”,
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DOI: [10.1016/j.jddst.2023.104177](https://doi.org/10.1016/j.jddst.2023.104177)
60. “Self-aggregation in aqueous media of amphiphilic diblock and random block copolymers composed of monomers with long side chains”,
S. Rappoport, V. Chrysostomou, M. Kafetzi, S. Pispas, Y. Talmon,
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DOI: [10.1021/acs.langmuir.2c03294](https://doi.org/10.1021/acs.langmuir.2c03294)
61. “Hyperbranched polyelectrolyte copolymers as novel candidate delivery systems for bio-relevant compounds”,
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M. Chountoulesi, D. Selianitis, S. Pispas, N. Pippa,
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6. “Stimulus-responsive liposomes as smart nanocarriers for drug delivery applications”,
D. Selianitis, T. Sentoukas, A. Skandalis, A. Balafouti, N. Pippa, S. Pispas,
Novel Platforms for Drug Delivery Applications, Eds: Sangita Das, Sabu Thomas, Partha Pratim Das, Elsevier, 2023, Chapter 9, pp. 177-215. ISBN: 978-0-323-91378-2 (online). DOI: [10.1016/B978-0-323-91376-8.00013-6](https://doi.org/10.1016/B978-0-323-91376-8.00013-6)

4. Books

5. Dissertations

a. PhD theses

1. “Development of theoretical methods for the calculation of the electronic structure in the frameworks of density and density-matrix functional theories and applications to the description of spectral properties of molecules”,
S. Bousiadi,
Supervisor: Dr. N. N. Lathiotakis,
Department of Physics, National and Kapodistrian University of Athens (09.2023).
2. “Transition metal dichalcogenide and carbon nanostructure-based hybrid materials for electrocatalytic applications, managing charge-transfer phenomena and molecular recognition”,
I. K. Sideri,
Supervisor: Dr. N. Tagmatarchis,
Department of Chemistry, University of Crete (06.2023).
3. “Thermoresponsive block copolymers of different architectures. Synthesis, characterization, properties”,
D. Giaouzi,
Supervisor: Dr. S. Pispas,
Department of Chemistry, National and Kapodistrian University of Athens (06.2023).
4. “Block copolymers with random distribution of monomeric segments in one block. Synthesis, characterization, properties”,
M. Kafetzi,
Supervisor: Dr. S. Pispas,
Department of Chemistry, National and Kapodistrian University of Athens (11.2023).

b. MSc theses

1. “Computational and experimental study of photochemical properties and processes of dyes and pigments dyes-PMMA”,
C. Kolokytha,
Supervisors: Dr. C. Riziotis, Dr. N. N. Lathiotakis, Dr. D. Tzeli,
Department of Chemistry, National and Kapodistrian University of Athens (10.2023).
2. “An ab initio investigation of the electronic structure of the diatomic species MoX, where X = Li, Be, B, C, N, O, F”,
A. Androutsopoulos,
Supervisor: Dr. D. Tzeli,
Department of Chemistry, National and Kapodistrian University of Athens (10.2023).
3. “Synthesis, characterization and assessment of hybrid materials composed by two-dimensional molybdenum disulfide, block copolymers and a photoactive porphyrin”,
G. Karantanais,
Supervisor: Dr. N. Tagmatarchis,
Department of Chemistry, National and Kapodistrian University of Athens (02.2023).
4. “Hybrid block copolymer-porphyrin nanostructures via electrostatic interactions in aqueous solutions”,

D. Koufi,
Supervisor: Dr. S. Pispas,
Department of Chemistry, National and Kapodistrian University of Athens
(07.2023).

5. “Complexes of chemically modified chitosan with nucleic acids”,
I. D. Zervas,
Supervisor: Dr. S. Pispas,
Department of Chemistry, National and Kapodistrian University of Athens
(07.2023).
6. “Chemically modified zinc oxide nanoparticles in lipid nanoparticles: Design,
development and stability studies”,
A. Kontoliou,
Supervisor: Dr. S. Pispas,
Faculties of Medicine and Pharmacy, National and Kapodistrian University of
Athens (09.2023).
7. “Zinc oxide nanoparticles loaded on polymers”,
K. Karachalios,
Supervisor: Dr. S. Pispas,
Faculties of Medicine and Pharmacy, National and Kapodistrian University of
Athens (09.2023).
8. “Triply hydrophilic statistical copolymers by RAFT polymerization: synthesis and
solution properties”,
D. Vagenas,
Supervisor: Dr. S. Pispas,
Department of Chemistry, National and Kapodistrian University of Athens
(02.2023).

c. Diploma theses

1. “Laser scribing of transparent electrodes”,
M. Koufopoulou,
Supervisor: Dr. M. Kandyla,
School of Applied Mathematical and Physical Sciences, National Technical
University of Athens, (02.2023).

d. Internships

1. “Comparison and evaluation of explicit and implicit solvent models in molecular
systems”
G. Savvakis
Supervisor: Dr. A. Rissanou
Department of Physics, University of Ioannina (07-08.2023).
2. “Data analysis of molecular simulations in nanocomposite systems of biological
molecules”
M. Athanasiou
Supervisor: Dr. A. Rissanou
School of Mechanical Engineering, National Technical University of Athens
(07-08.2023).
3. “Electromagnetic metasurfaces for absorption, polarization and wavefront control”,

- Z. Foufas
Supervisor: Dr. O. Tsilipakos
School of Electrical and Computer Engineering, National Technical University of Athens (08-09.2023).
4. “Computational study of transition metal complexes”,
C. E. Tzeliou,
Supervisor: Dr. D. Tzeli,
Department of Chemistry, National and Kapodistrian University of Athens (10.2023-04.2024).
 5. “The use of TADF (thermally activated delayed fluorescence” process on OLEDs (organic light emitted diodes)”
George Grapsas
Supervisor: Dr. I. D. Petsalakis, Dr. N. Lathiotakis
School of Mechanical Engineering, National Technical University of Athens (7-8.2023).
 6. “Preparation and characterization of DSPC:DOPC:copolymer hybrid membranes”,
K. Mpardaki,
Supervisor: Dr. S. Pispas,
School of Applied Mathematical and Physical Sciences, National Technical University of Athens (07.2023).
 7. “Encapsulation of TiO₂-SiO₂ nanocomposite in polymeric (PNIPAM, PNIPAM-b-POEGA) carriers and characterization of the hybrid materials”,
E. N. Stefanou,
Supervisor: Dr. S. Pispas,
Department of Chemical Engineering, National Technical University of Athens (10.2023).
 8. “Study of rheological properties in biopolymer solutions”,
G. Stavromitrou,
Supervisor: Dr. A. Papagiannopoulos,
School of Applied Mathematical and Physical Sciences, National Technical University of Athens (07.2023).
 9. “Infrared characterization of kaolinite group minerals”,
A. Garcia-Vicente,
Supervisor: Dr. G. D. Chryssikos,
Department of Geology, University of Salamanca, Spain (09-12.2023).
 10. “Characterization and study of organic-inorganic hybrid materials”
S. Amarantos,
Supervisor: Dr. G. A. Mousdis, Dr. A. Pispas
Department of Materials Science and Engineering, University of Ioannina (09.2023).
 11. “Study of fiber optic sensors”,
I. A. Postos,
Supervisor: Dr. C. Riziotis,
Department of Electronics, Telecommunications and Information Technology, Technical University of Cluj-Napoca, Cluj Napoca Romania, ERASMUS+ Internship (07-09.2023).

12. "Direct laser micromachining and writing",
A. Bobos,
Supervisor: Dr. C. Riziotis,
Department of Electronics, Telecommunications and Information Technology,
Technical University of Cluj-Napoca, Cluj Napoca Romania, ERASMUS +
Internship (07-09.2023).
13. "Direct laser writing of polymers",
N. Kissoudi,
Supervisor: Dr. C. Riziotis,
Department of Physics, University of Ioannina (07-08.2023).

6. Conference Presentations

1. "Atomistic force field for 2D hexagonal boron nitride membranes derived from first principles' calculations",
M. Arapchatzis*, A. P. Sgouros, G. Kalosakas, N. N. Lathiotakis, K. Papagelis,
XXXVII Panhellenic Conference on Solid State Physics and Materials Science,
Thessaloniki, Greece, 17-20 September 2023 (oral).
2. "A nomenclature scheme for pores, flakes and edges of honeycomb lattices and an algorithm for their generation and numbering",
Z. G. Fthenakis,
XXXVII Panhellenic Conference on Solid State Physics and Materials Science,
Thessaloniki, Greece, September 17-20, 2023 (oral).
3. "Atomistic simulation studies of polymer / silica nanocomposites",
A. Rissanou*, A. F. Behbahani, A. J. Power, P. Polinska, C. Burkhart, V.
Harmandaris,
American Physical Society (APS) March Meeting 2023, Las Vegas, USA, March
5-10, 2023 (oral).
4. "Effects of the structure of lipid-based agents in their complexation with a single
stranded mRNA fragment as studied by molecular dynamics simulations",
A. Rissanou*, K. Karatasos,
American Physical Society (APS) March Meeting 2023, Las Vegas, USA, March 5-
10, 2023 (poster).
5. "Systematic coarse-grained simulations of polybutadiene copolymers",
A. Rissanou*, A. Chazirakis, V. Harmandaris,
Nanomech Workshop, The Cyprus Institute, Nicosia, Cyprus, March 20-21, 2023
(oral).
6. "A computational study of the complexation of single stranded RNA with lipid-
based agents",
A. Rissanou*, K. Karatasos,
European Conference of Computational and Theoretical Chemistry 2023,
EuChemS CompChem 2023 "Exploring Molecular Space", Thessaloniki, Greece,
August 27-31, 2023 (oral).
7. "Oxidized graphene nanosheets in polymer hydrated mixtures",
A. Rissanou*, K. Karatasos,
14th Hellenic Polymer Society International Conference (POLYCONF14),
Thessaloniki, Greece, November 22-25, 2023 (invited talk).

8. “Self-assembly of phenylalanine-leucine, leucine-phenylalanine and cyclo(-leucine-phenylalanine) dipeptides through simulations and experiments”,
P. Divanach, E. Fanouraki, A. Mitraki, V. Harmandaris, A. N. Rissanou*,
14th Hellenic Polymer Society International Conference (POLYCONF14),
Thessaloniki, Greece, November 22-25, 2023 (poster).
9. “A quasi-normal mode framework for non-Hermitian systems comprising 2D materials”,
T. Christopoulos*, E. E. Kriezis, O. Tsilipakos,
AMPD 2023: 15th Annual Meeting Photonic Devices, Berlin, Germany, March 29-31, 2023 (oral).
10. “Ultra-thin metasurfaces fabricated by two-photon polymerization”,
G. Zyla*, S. Papamakarios, O. Tsilipakos, D. Zografopoulos, M. Kafesaki, M. Farsari, C. Soukoulis, G. Zyla, S. Papamakarios, O. Tsilipakos, D. Zografopoulos, M. Kafesaki, M. Farsari, C. Soukoulis,
2023 Conference on Lasers and Electro-Optics Europe & European Quantum Electronics Conference (CLEO/Europe-EQEC), Munich, Germany, June 26-30, 2023 (oral).
11. “Tailoring the optical response of 3D-printed photonic crystals using aluminum zinc oxide”,
D. Ladika*, A. Theodosi, O. Tsilipakos, A. Klini, P. Loukakos, M. Kafesaki, M. Farsari, D. Gray,
2023 Conference on Lasers and Electro-Optics Europe & European Quantum Electronics Conference (CLEO/Europe-EQEC), Munich, Germany, June 26-30, 2023 (oral).
12. “Arbitrarily-broadband dispersion compensation with ultrathin multiresonant metasurfaces”,
O. Tsilipakos*, T. Koschny,
META 2023: 13th International Conference on Metamaterials, Photonic Crystals and Plasmonics, Paris, France, July 18-21, 2023 (oral).
13. “Integrated Q-switched lasing element in the NIR with transition metal dichalcogenide gain and graphene saturable absorption”,
G. Nousios, T. Christopoulos*, O. Tsilipakos, E. Kriezis,
META 2023: 13th International Conference on Metamaterials, Photonic Crystals and Plasmonics, Paris, France, July 18-21, 2023 (poster).
14. “A multimode quasi-normal mode framework for nonlinear harmonic generation with 2D materials”,
T. Christopoulos, E. Kriezis, O. Tsilipakos*,
META 2023: 13th International Conference on Metamaterials, Photonic Crystals and Plasmonics, Paris, France, July 18-21, 2023 (invited talk).
15. “Holographic metasurfaces for wireless communications and extended reality”,
A. Pitolakis*, O. Tsilipakos, A. Tasolamprou, A. Tsioliariidou, T. Yioultsis, N. Kantartzis, D. Manassis, G. Kenanakis, S. Ioannidis, M. Kafesaki, C. Liaskos,
META 2023: 13th International Conference on Metamaterials, Photonic Crystals and Plasmonics, Paris, France, July 18-21, 2023 (invited talk).
16. “Metasurfaces and 2D materials for photonic applications”,
O. Tsilipakos,
MicroNano 2023: 10th International Conference on Micro-Nanoelectronics,

Nanotechnology and MEMS, Athens, Greece, November 2-5, 2023 (oral).

17. “Integrated passive Q-switched and mode-locked lasers utilizing TMD gain and graphene saturable absorption”,
G. Nousios*, D. Chatzidimitriou, T. Christopoulos, O. Tsilipakos, E. E. Kriezis,
MicroNano 2023: 10th International Conference on Micro-Nanoelectronics,
Nanotechnology and MEMS, Athens, Greece, November 2-5, 2023 (oral).
18. “Coated 3D-printed photonic metamaterials for Near-IR and THz applications”,
A. Theodosi*, D. Ladika, E. Mavrona, E. Perivolari, M. Farsari, A. Xomalis, O.
Tsilipakos, M. Kafesaki,
37th Panhellenic Conference on Solid State Physics and Materials Science,
Thessaloniki, Greece, September 17-20, 2023 (oral).
19. “Conformational properties and biological targets of thiocarbohydrazone and
chalcone-derived 3,4-dihydropyrimidine thione”,
N. Georgiou*, E. Chontzopoulou, A. Cheilari, A. Katsogiannou, D. Karta, K.
Vavougyiou, D. Hadjipavlou-Litina, U. Javornik, J. Plavec, D. Tzeli, S. Vassiliou,
T. Mavromoustakos,
19th Hellenic Symposium on Medicinal Chemistry, University of Patras, Patra,
Greece, March 9-11, 2023 (poster).
20. “Theoretically study of the photophysical properties of the Zinc-N-Confused
Tetraphenylporphyrin adsorbed or chemically linked on 2D-MoS₂ surface”,
E. Papamichalis*, N. N. Lathiotakis, D. Tzeli,
7th International conference on Nanoscience and Nanotechnology ICONN-2023,
SRM University, Tamil Nadu, India, March 27-29, 2023 (poster).
21. “Theoretical study of the adsorption, capture and decomposition of N₂O molecule
on 2D-MoS₂ surface with and without S-vacancies”,
(Kawazoe Prize for the Best Poster in ACCMS Symposium on Computational
Materials, Methods and Numerical Techniques)
C. E. Tzeliou*, N. N. Lathiotakis, D. Tzeli,
7th International conference on Nanoscience and Nanotechnology ICONN-2023,
SRM University, Tamil Nadu, India, March 27-29, 2023 (poster).
22. “Computational study on the role of sulfur vacancy in 2D-MoS₂ surface: adsorption
and reactions of the N₂O molecules on a 2D-MoS₂ surface”,
C. E. Tzeliou*, N. N. Lathiotakis, D. Tzeli,
2nd Symposium of Graduate Students of the Chemistry Department
National and Kapodistrian University of Athens, Athens, Greece, June 8-9, 2023
(poster).
23. “Spectroscopic and computational studies on the formation of halogen-bonded
complexes between tertiary amines and halomethanes in solution”,
E. A. Routsis*, O. G. Mountanea, C. Mantzourani, C. G. Kokotos, D. Tzeli, G.
Kokotos,
2nd Symposium of Graduate Students of the Chemistry Department
National and Kapodistrian University of Athens, Athens, Greece, June 8-9, 2023
(oral).
24. “Photoorganocatalytic N-O bond cleavage of O-benzyl hydroxamic acids”,
A.-D. Gerogiannopoulou*, E. A. Routsis, D. Tzeli, C. G. Kokotos, G. Kokotos,
2nd Symposium of Graduate Students of the Chemistry Department

- National and Kapodistrian University of Athens, Athens, Greece, June 8-9, 2023 (oral).
25. “Cu complexes with remote N-heterocyclic carbene ligands: A theoretical and experimental mating”,
K. P. Zois*, E. Papangelis, N. Tsoureas, L. Karmazin, P. Braunstein, A. Danopoulos, D. Tzeli,
2nd Symposium of Graduate Students of the Chemistry Department
National and Kapodistrian University of Athens, Athens, Greece, June 8-9, 2023 (oral).
 26. “Synthesis and characterization of a series of 3d-metal complexes supported by a bis-aryloxide ligand”,
I. Vagiakos*, D. Tzeli, N. Tsoureas,
2nd Symposium of Graduate Students of the Chemistry Department
National and Kapodistrian University of Athens, Athens, Greece, June 8-9, 2023 (oral).
 27. “Computational study of Curcumin photosensitizer for photodynamic therapy”,
E. Dimou*, D. Tzeli,
2nd Symposium of Graduate Students of the Chemistry Department
National and Kapodistrian University of Athens, Athens, Greece, June 8-9, 2023 (poster).
 28. “Computational and experimental study of photochemical processes of dyes and pigments dyes-PMMA”,
C. Kolokytha*, A. Sinani, T. Manouras, E. Angelakos, N. N. Lathiotakis, C. Riziotis, D. Tzeli,
2nd Symposium of Graduate Students of the Chemistry Department
National and Kapodistrian University of Athens, Athens, Greece, June 8-9, 2023 (poster).
 29. “In silico study and synthesis of statins and novel magnetic nanocarriers for targeting vascular therapies”,
K. Moschovou*, D. E. Prokopiou, A. Stavropoulou, N. Georgiou, D. Tzeli, P. Neofytou, E. Efthimiadou, T. Mavromoustakos,
2nd Symposium of Graduate Students of the Chemistry Department
National and Kapodistrian University of Athens, Athens, Greece, June 8-9, 2023 (poster).
 30. “Electronic structure and bonding properties of iron-sulfur model complexes”,
D. Tzeli*, C. Mejuto-Zaera, D. Williams-Young, N. M. Tubman, M. Matoušek, J. Brabec, P. Golub, L. Veis, S. Raugei, S. S. Xantheas, W. A. de Jong,
17th International congress of Quantum Chemistry, ICQC 2023, Bratislava, Slovakia, June 26 – July 1, 2023 (invited talk).
 31. “Theoretical study of adsorption and chemisorption of N₂O molecules on a 2D-MoS₂ surface: the effect of S-vacancies”,
C. E. Tzeliou*, N. N. Lathiotakis, D. Tzeli,
MD-GAS Training school: Theory and modelling of dynamics of molecules and clusters in the gas phase, Gdańsk, Poland, July 3-7, 2023 (poster).
 32. “UV-VIS, NMR and DFT studies on the formation of halogen-bond between tertiary amines and CBr₄ in solution”,
E. A. Routsis*, O. G. Mountanea, D. Tzeli, C. G. Kokotos, G. Kokotos,

MD-GAS Training school: Theory and modelling of dynamics of molecules and clusters in the gas phase, Gdańsk, Poland, July 3-7, 2023 (poster).

33. “Electronic Structure and Chemical Bonding in systems containing of transition metals”,
D. Tzeli,
EuChemS CompChem: European Chemical Society Division of Computational and Theoretical Chemistry, Thessaloniki, August 27-31, 2023 (invited talk).
34. “A preliminary ab initio study of thermoluminescence properties in beryllium oxide: Theoretical investigation on the electronic states of BeO: Mg²⁺, Si⁴⁺ and BeO: Cr³⁺, Mg²⁺”,
E. Tsoutsoumanos*, D. Tzeli, A. Avramopoulos, P. G. Konstantinidis, N. Laskaris, N. Lathiotakis, G. Kitis, G. S. Polymeris, T. Karakasidis,
SSD20 - 20th International Conference on Solid State Dosimetry, Viareggio, Italy, September 17-22, 2023 (poster).
35. “Investigating thermoluminescence signal replication in BeO:Mg²⁺, Si⁴⁺ via first principles computational analysis”,
E. Tsoutsoumanos*, D. Tzeli, A. Avramopoulos, P.G. Konstantinidis, N. Laskaris, N. Lathiotakis, G. Kitis, G.S. Polymeris, T. Karakasidis,
XXXVII Panhellenic Conference on Solid State Physics and Materials Science, Thessaloniki, Greece, September 17-20, 2023 (poster).
36. “Theoretical study of Fe_xS_y and MoS_y molecular systems”,
D. Tzeli*, M. A. Mermigki,
4th MD-GAS General Meeting, Dubrovnik, Croatia, September 25-27, 2023 (poster).
37. “Computational study on the thermochemistry and chemical bonding of the HN₃, H₂N₄, HNC₂²⁻ and H₂N₂C₂²⁻ species”,
G. A. Tsekouras*, D. Tzeli,
4th MD-GAS General Meeting, Dubrovnik, Croatia, September 25-27, 2023 (poster).
38. “Theoretical kinetic study of Criegee intermediates with N₂O”,
C. E. Tzeliou*, E. Erdmann, D. Tzeli, M. Łabuda,
4th MD-GAS General Meeting, Dubrovnik, Croatia, September 25-27, 2023 (oral).
39. “Theoretical and experimental perspectives on Cu complexes bearing remote N-heterocyclic carbene ligands (rNHC’s)”,
K.P. Zois*, E. Papangelis, P. Braunstein, L. Karmazin, N. Tsoureas, A. Danopoulos, D. Tzeli,
2nd Panhellenic Workshop on Inorganic Chemistry, Chemistry Department, NKUA, Athens, Greece, September 28-30, 2023 (poster).
40. “A 4-hydroxy-2-quinolinone-triazole hybrid as potential anti-inflammatory agent”,
N. Georgiou*, A. Tzani, I. Kostopoulou, M.-A. Karadendrou, K. Vavougyiou, P. Sket, J. Plavec, D. Tzeli, A. Detsi, Th. Mavromoustakos,
9th International BAU Drug Design Congress 2023, Constantinoupolis, Turkey, November 29 – December 2, 2023 (poster).
41. “Photocatalyzed acylation of single-walled carbon nanotubes with tetrabutyl ammonium decatungstate”,
R. Canton-Vitoria*, N. Tagmatarchis,

Advances and Applications in Carbon Related Nanomaterials: From pure to doped structures including heteroatom layers – HeteroNanoCarb 2023, Benasque, Spain, January 9-13, 2023 (oral).

42. “Covalently modified MoS₂ with zinc phthalocyanine for managing photoinduced charge-transfer phenomena”,
R. Canton-Vitoria*, H. B. Gobeze, Y. Jang, F. D’Souza, V. M. Blas-Fernando, J. Ortiz, F. Fernandez-Lazaro, A. Sastre-Santos, N. Tagmatarchis,
Advances and Applications in Carbon Related Nanomaterials: From pure to doped structures including heteroatom layers – HeteroNanoCarb 2023, Benasque, Spain, January 9-13, 2023 (poster).
43. “Hybridization of fabric fibers with functionalized carbon nanomaterial-carriers of enhanced qualities against critical operational conditions”,
I. K. Sideri*, A. Kagkoura, C. Stangel, S. Vasilakos, D. Siamidis, P. Perimenis, N. S. Heliopoulos, N. Tagmatarchis,
International Winterschool on Electronic Properties of Novel Materials – IWEPNM, Kirchberg, Austria, March 18–24, 2023 (poster).
44. “Chemical modification of carbon nanostructures with enhanced qualities for fabrics performing under critical operating conditions”,
A. Kagkoura*, C. Stangel, S. Vasilakos, D. Siamidis, P. Perimenis, N. S. Heliopoulos, N. Tagmatarchis,
International Winterschool on Electronic Properties of Novel Materials – IWEPNM, Kirchberg, Austria, March 18–24, 2023 (poster).
45. “Covalent functionalization of Kevlar fabric with graphene nanosheets”,
I. K. Sideri*, R. Canton-Vitoria, S. Vasilakos, D. Siamidis, N. Tagmatarchis,
243rd ECS Meeting, Boston, USA, May 28 – June 2, 2023 (poster).
46. “Decatungstate photocatalyzed acylation of 2D transition metal dichalcogenides”,
I. K. Sideri*, R. Canton-Vitoria, N. Tagmatarchis,
243rd ECS Meeting, Boston, USA, May 28 – June 2, 2023 (oral).
47. “Covalent modification of MoS₂ with a Hamilton-type receptor for multiple H-bond recognition of photo/redox active barbiturate-like guests”,
I. K. Sideri*, A. Liapi, C. Stangel, A. Stergiou, N. Tagmatarchis,
Carbon, Cancun, Mexico, July 16–21, 2023 (oral).
48. “Kevlar fabric covalently modified with graphene nanosheets”,
I. K. Sideri*, R. Canton-Vitoria, S. Vasilakos, D. Siamidis, N. Tagmatarchis,
Carbon, Cancun, Mexico, July 16–21, 2023 (poster).
49. “Spectroscopic characterization of (C₆₉N)₂ isomers”,
R. Canton-Vitoria*, C. Kramberger, I. Maniatis, T. Pichler, N. Tagmatarchis,
NanoteC23, Brighton, UK, August 29 – September 1, 2023 (poster).
50. “Carbon nanohorn-carbon dot with electrocatalytic activity for hydrogen evolution reaction”,
E. Nikoli*, A. Kagkoura, H. J. Ojeda-Galvan, M. Quintana, N. Tagmatarchis,
NanoteC23, Brighton, UK, August 29 – September 1, 2023 (poster).
51. “Spatial distribution of functional groups on carbon nanohorns revealed by energy-dispersive X-ray spectroscopy”,
I. K. Sideri*, H. Nakajima, T. Morimoto, K. Kobayashi, M. Zhang, N. Tagmatarchis, T. Okazaki,

NanoteC23, Brighton, UK, August 29 – September 1, 2023 (poster).

52. “Photoinduced charge transfer process in graphene functionalized with porphyrin-boron azadipyromethene dyads”,
R. Canton-Vitoria*, M. B. Thomas, A. Z. Alsaleh, G. Rotas, Y. Nakanishi, H. Shinohara, F. D’ Souza, N. Tagmatarchis,
International Conference on Materials and Systems for Sustainability - ICMaSS, Nagoya, Japan, December 1–3, 2023 (oral).
53. “Nanoparticles based on chitosan biopolymer for agricultural use: biophysical approaches for properties determination”,
S. Pispas*, M. Karayianni, D. Selianitis, A. Chroni, A. Papagiannopoulos, D. Tsiriva, L. Laskaridis,
The 15th International Conference on Biology, Biophysics and Biomedical Engineering-BBBE 2023, Nea Makri, Greece, June 1-3, 2023 (invited talk).
54. “Macromolecular Nanostructures”,
S. Pispas,
iNEXT 2nd Regional Structural Biology Meeting: Opportunities & Challenges, Athens, Greece, December 7, 2023 (invited talk).
55. “Synthesis and solution properties of soluble zwitterionic derivatives of gellan gum”,
M.-A. Trofin*, M. Karayianni, S. Racovita, S. Vasiliu, S. Pispas, M. Mihai,
37th European Colloid and Interface Society Conference-ECIS2023, Naples, Italy, September 3-8, 2023 (poster).
56. “Nanostructural characterization of complexes of DNA with a diblock copolymer of positively charged and neutral blocks, and their stability in the presence of blood serum albumin”,
S. Rappoport*, V. Chrysostomou, S. Pispas, Y. Talmon,
37th European Colloid and Interface Society Conference-ECIS2023, Naples, Italy, September 3-8, 2023 (oral).
57. “Biochemical and biophysical characterization of Lipoxxygenase isoforms from soybean”,
I. Gerogianni*, I. Matis, M. Zoumpantioti, M. Karayianni, S. Pispas, T. Mavromoustakos, E. D. Chrysina,
11th International Conference of the Hellenic Crystallographic Association (HeCrA), Larissa, Greece, October 20-22, 2023 (poster).
58. “Potential use of chitosan-based nanoparticles in crop protection”,
T. Margaritopoulou*, A. Akriovou, S. Foutadakis, M. Karayianni, S. Pispas, M. Samiotaki, D. Tsiriva, P. Madesis, E. Markellou,
12th International Congress of Plant Pathology, Lyon, France, August 20-25, 2023 (oral).
59. “Exploring the remarkable properties of water soluble chitosans”,
L.-M. Petrila*, M.-M. Zaharia, F. Bucatariu, M. Mihai, S. Pispas,
Progress in Organic and Macromolecular Compounds, 29th Edition-Macro-Iasi 2023, Iasi, Romania, October 4-6, 2023 (oral).
60. “Electrostatic complexes of chitosan and poly(N-isopropylacrylamide) with carboxylate end group”,
M. Karayianni*, E.-D. Lotos, A.-L. Vasiliu, M. Mihai, S. Pispas,

Progress in Organic and Macromolecular Compounds, 29th Edition-Macro-Iasi 2023, Iasi, Romania, October 4-6, 2023 (oral).

61. “Novel copolymers of methacrylic acid and lauryl methacrylate as potential delivery nanoplatforms for biorelevant compounds”,
A. Balafouti*, A. M. Gerardos, S. Pispas,
10th International Conference on Micro-Nanoelectronics, Nanotechnology and MEMS-Micro Nano 2023, Athens, Greece, November 2-5, 2023 (poster).
62. “Nanoparticles from hydrophobic hyperbranched PLMA homopolymers with -COOH end groups as effective nanocarriers for bioimaging applications”,
A. M. Gerardos*, S. Pispas,
10th International Conference on Micro-Nanoelectronics, Nanotechnology and MEMS-Micro Nano 2023, Athens, Greece, November 2-5, 2023 (poster).
63. “Electrostatically cross-linked chitosan nanoparticles intended for agricultural use”,
M. Karayianni*, S. Pispas, D. Tsiriva, L. Laskaridis, E. Haladjova, S. Rangelov,
7th International Symposium Frontiers in Polymer Science (FPS2023), Goteborg, Sweden, May 29-June 1, 2023 (poster).
64. “Design and development of Poloxamer 407/Tween 80/methyl- β -cyclodextrin loaded with ropinirole hydrochloride for nose-to-brain delivery”,
E. M. Saitani*, P. Papakyriakopoulou, N. Pippa, S. Pispas, G. Valsami,
6th EMJMD NANOMED Workshop Nanomedicines in the post mRNA-Vaccine Era, Rio-Patras, Greece, July 10-12, 2023 (poster).
65. “Dual-responsive DSPC:DOPC:P(OEGMA950-DIPAEMA) nanostructures: evaluating the design parameters affecting their performance”,
E. Triantafyllopoulou*, D. Selianitis, N. Pippa, G. Valsami, S. Pispas,
6th EMJMD NANOMED Workshop Nanomedicines in the post mRNA-Vaccine Era, Rio-Patras, Greece, July 10-12, 2023 (poster).
66. “Development of a hybrid nanosystems for delivery of anticancer active compounds and in vitro nanotoxicity studies”,
O. Kontogiannis*, N. Pippa, S. Pispas, M. Gazouli,
1st Panhellenic Conference on Physical Sciences for Health, Athens, Greece, September 22-23, 2023 (oral).
67. “Hyperbranched amphiphilic copolymers P(MAA-co-LMA): Synthesis, self-assembly and utilization as carriers for bioactive compounds”,
A. Balafouti*, S. Pispas,
1st Panhellenic Conference on Physical Sciences for Health, Athens, Greece, September 22-23, 2023 (poster).
68. “Polymeric nanogels: versatile platforms for complexation of therapeutic proteins”,
A. Vardaxi*, S. Pispas,
1st Panhellenic Conference on Physical Sciences for Health, Athens, Greece, September 22-23, 2023 (poster).
69. “Nanoscale complexes of lysozyme with star PMAA polyelectrolytes”,
M. Karayianni*, D. Fotaki, S. Pispas,
1st Panhellenic Conference on Physical Sciences for Health, Athens, Greece, September 22-23, 2023 (poster).
70. “Structural studies of Soybean lipoxygenase 1 using integrated approaches”,
I. Gerogianni*, I. Matis, M. Zoumpantioti, S. Pispas, T. Mavromoustakos, E. D.

- Chrysina,
2nd Symposium for Graduate Students, Chemistry Department, NKUA, Athens, Greece, June 8-9, 2023 (poster).
71. “Integrative aspects of glycogen phosphorylase function as molecular target for the treatment of type 2 diabetes disease”,
P. Karakousi*, M. Karayianni, S. Pispas, G. Katsoubogeras, T. Gimisis, E. D. Chrysina,
2nd Symposium for Graduate Students, Chemistry Department, NKUA, Athens, Greece, June 8-9, 2023 (poster).
72. “Hybrid nanocomposites from random polyelectrolytes and carbon dots”,
S. Theodoropoulou*, A. Vardaxi, A. Kagkoura, N. Tagmatarchis, S. Pispas,
2nd Symposium for Graduate Students, Chemistry Department, NKUA, Athens, Greece, June 8-9, 2023 (poster).
73. “Block and random copolymers containing two cationogenic segments: Synthesis and self-assembly in aqueous media”,
K. Makri*, D. Selianitis, S. Pispas,
2nd Symposium for Graduate Students, Chemistry Department, NKUA, Athens, Greece, June 8-9, 2023 (poster).
74. “Wine distillery effluents valorization to produce bacterial cellulose and effect of phenolic compounds on the fermentation efficiency”,
G. Sarris, S. Pilafidis, A. Papagiannopoulos, S. Pispas, M. Dimopoulou, D. Sarris, E. Tsouko*,
International Sustainable Resource Recovery Strategies Toward Zero Waste - FULLRECO4US, Istanbul, Turkey, September 13-15, 2023 (poster).
75. “Sulfobetaine functionalized gellan gum: synthesis, solution and gel properties”,
M.-A. Trofin*, M. Karayianni, S. Vasiliu, S. Racoviță, M. Mihai, S. Pispas,
5th Edition of the Exploratory Workshop NeXT-Chem: Innovative cross-sectoral technologies, Bucharest, Romania, May 22-23, 2023 (oral).
76. “Interaction between water-soluble chitosan and thermos-responsive poly(N-isopropylacrylamide)”,
E.-D. Lotos*, M. Karayianni, A.-L. Vasiliu, L.-M. Petrila, M. Mihai, S. Pispas, B. C. Simionescu,
ICMPP – Open door to the future: Scientific communications of young researchers-MacroYouth 2023, 4th Edition, Iasi, Romania, November 17, 2023 (poster).
77. “Polysaccharide based nanogels for the food sector”,
A. Fanova*, A. Radulescu, A. Papagiannopoulos, K. Sotiropoulos,
International Soft Matter Conference, Osaka, Japan, September 4-8, 2023 (poster).
78. “Hemoglobin-based nanogels by electrostatic complexation with chondroitin sulfate and thermal treatment”,
A. Papagiannopoulos*, A. Sklapani,
INASE Conference, Nea Makri, Athens, Greece, June 1-3, 2023 (oral).
79. “Development of a novel rotary disk bioreactor for sustainable bacterial cellulose production using waste derived from the food industry”,
S. Pilafidis*, T. Poultourtzidis, A. Papagiannopoulos, S. Pispas, M. Dimopoulou, D. Sarris, E. Tsouko,
International Sustainable Resource Recovery Strategies Towards Zero Waste

- (FULLRECO4US), Istanbul, Turkey, September 13–15, 2023 (poster).
80. “Production of sustainable exopolysaccharides from *Schizophyllum commune* using brewery spent grain and physicochemical and rheological characterization”, S. Pilafidis*, E. Tsouko, P. Diamantopoulou, K. Gkatzionis, A. Papagiannopoulos, D. Sarris, 18th International Conference on Environmental Science and Technology (CEST23), Athens, Greece, August 30-September 02, 2023 (oral).
 81. “Lamellarity transformations in protein-loaded nanovesicles tuned by a polysaccharide”, A. Papagiannopoulos*, A. Sklapani, A. Len, A. Radulescu, E. Pavlova, M. Slouf, 11th Conference of the Hellenic Crystallographic Association, Larissa, Greece, October 20-22, 2023 (oral).
 82. “Preparation and biophysical characterization of beta-lactoglobulin/chondroitin sulfate/tween 80 hybrid nanoparticles”, I. Pispas*, A. Papagiannopoulos, 11th Conference of the Hellenic Crystallographic Association, Larissa, Greece, October 20-22, 2023 (poster).
 83. “Hemoglobin-based nanoparticles via electrostatic crosslinking with chondroitin sulfate and heat treatment”, A. Papagiannopoulos, 1st Panhellenic Conference of Natural Sciences in Health: Innovations and Perspectives, Athens, Greece, September 22-23, 2023 (oral).
 84. “Protein/polysaccharide nanoparticles: preparation, physicochemical characterization and interaction with surfactant”, I. Pispas*, A. Papagiannopoulos, 1st Panhellenic Conference of Natural Sciences in Health: Innovations and Perspectives, Athens, Greece, September 22-23, 2023 (poster).
 85. “Application of biophysical methods for the investigation of protein-based nanostructures study”, A. Papagiannopoulos, Inspired-RIS Structural Biology Conference, Athens, Greece, March 13-15, 2023 (oral).
 86. “Vibrational study of the deintercalation of kaolinite”, E. Siranidi*, F. T. Andreou, G. D. Chryssikos, M. Szczerba, A. Derkowski, 2023 Euroclay International Conference, Bari, July 24-27, 2023 (oral).
 87. “Intercalation capacity of Halloysite - (7Å) for NMF”, A. A. Kouser*, L. Renaudat, E. Siranidi, G. D. Chryssikos, S. Hillier, 2023 Euroclay International Conference, Bari, July 24-27, 2023 (poster).
 88. “Effect of H₂O on the intercalation of kaolinite by amide”, G. D. Chryssikos*, F. T. Andreou, E. Siranidi, A. Derkowski, 2023 Euroclay International Conference, Bari, July 24-27, 2023 (oral).
 89. “Disorder in kaolinite: XRD-IR systematics”, A. García-Vicente*, E. Siranidi, E. García-Romero, M. Suárez, G. D. Chryssikos Jornada Científica de la Sociedad Española de Arcillas, Madrid, Spain, November 17, 2023 (poster).

90. “Design of a novel photocatalytic reactor with immobilized photocatalysts on micropatterned surfaces”,
Christophoridis*, D. Iossifidis, E. Bizani, M. Touloupi, S-K. Zervou A. Hiskia, T. Triantis, T. Giannakis, G. A. Mousdis, M. Kandyla
8th Environmental Macedonian Conference, Thessaloniki, Greece, October 6-8, 2023 (poster).
91. “Low-dimensional organic-inorganic hybrid materials”
G. A. Mousdis*, V. Psycharis, C. P. Raptopoulou
2nd Panhellenic Workshop on Inorganic Chemistry, Athens, Greece, September 28-30, 2023 (oral).
92. “On the feasibility to fabricate BaZrS₃ chalcogenide perovskite solar cells”,
T. Stergiopoulos*, P. Dallas, L. Givalou, M. Konstantakou, A. Kaltzoglou, P. Falaras,
International Conference on Hybrid and Organic Photovoltaics, 2023, London, United Kingdom, June 12-14, 2023 (poster).
93. “A vibrational spectroscopy study on the [(CH₂)₂NH]PbBr₃ and [(CH₃)₃S]PbBr₃ perovskite compounds for photovoltaic applications”,
N. Tagiara*, A. Kaltzoglou,
European Materials Research Society, Fall Meeting 2023, Warsaw, Poland, September 18-21, 2023 (poster).
94. “Crystallography of semiconducting clathrates: Past, present and future of a class of inclusion compounds for thermoelectric applications”,
A. Kaltzoglou,
11th International Conference of the Hellenic Crystallographic Association, Larisa, Greece, October 20-22, 2023 (oral).
95. “Glass structure and ion dynamics”,
E. I. Kamitsos,
ICG-TC3 Meeting: From Structure to Thermodynamics, a Strategy for the Next Steps, Prague, Czech Republic, February 1-3, 2023 (invited talk).
96. “Infrared reflectance spectroscopy”,
E. I. Kamitsos,
Department of Materials Science and Engineering, Iowa State University of Science and Technology, USA, February 9, 2023 (invited talk).
97. “Structure of borate glasses: borate speciation and metal ion – site interactions by vibrational spectroscopy”,
E. I. Kamitsos,
10th International Conference on Borate Glasses, Crystals and Melts and the 3rd International Conference on Phosphate Materials, Corning, USA, July 17-21, 2023 (plenary talk – Borate X Honoree).
98. “Efstratios “Stratos” Kamitsos: World leader of vibrational studies of borates”,
S. Feller*, D. Möncke, G. D. Chryssikos,
10th International Conference on Borate Glasses, Crystals and Melts and the 3rd International Conference on Phosphate Materials; Corning, USA, July 17-21, 2023 (oral).
99. “Structure of lithium borate glasses”,
K. I. Chatzipanagis*, N. S. Tagiara, E. I. Kamitsos,

- 10th International Conference on Borate Glasses, Crystals and Melts and the 3rd International Conference on Phosphate Materials; Corning, USA, July 17-21, 2023 (oral).
100. “A review of the fraction of four-coordinated boron in modified borate glasses”,
S. Feller*, E. I. Kamitsos, A. C. Hannon, L. Rocha, P. Boggs, N. S. Tagiara, S. John, I. Slagle, M. Wagner, R. M. Wilson, S. W. Martin,
10th International Conference on Borate Glasses, Crystals and Melts and the 3rd International Conference on Phosphate Materials; Corning, USA, July 17-21, 2023 (oral).
101. “Structural aspects of lead borate glasses prepared in platinum and alumina crucibles”,
E. M. Tsekrekas*, N. S. Tagiara, R. E. Youngman, E. I. Kamitsos, A. Clare,
10th International Conference on Borate Glasses, Crystals and Melts and the 3rd International Conference on Phosphate Materials; Corning, USA, July 17-21, 2023 (oral).
102. “Raman study of a large assemblage of post-Byzantine glass: Raw materials and matrix classification”,
E. Palamara*, D. Palles, E. I. Kamitsos, N. Zacharias,
RAA2023 – International Conference on the Application of Raman Spectroscopy in Art and Archaeology; National Gallery-Alexandros Soutzos Museum, Athens, Greece, September 4-5, 2023 (oral).
103. “Structure and properties of lead borate and lead alumino-borate glasses”,
E. Tsekrekas*, N. S. Tagiara, R. Youngman, E. I. Kamitsos, A. Clare,
MS&T23: Materials Science & Technology - Glasses and Optical Materials: Current Issues and Functional Applications; Columbus, USA, October 3-4, 2023 (poster).
104. “Compositional and Raman Study of High-Pressure Minerals in Shocked L6 Chondrite NorthWest Africa 12841”,
I. Baziotis*, L. Ferrière, C. Ma, J. Hu, D. Palles, E. Kamitsos, P. D. Asimow,
54th Lunar and Planetary Science Conference (LPSC), hybrid conference March 13–17, 2023 (poster).
105. “Re-classification, shock stage determination and high-pressure polymorphs in the Slobodka ordinary chondrite”,
M. Simopoulou*, I. Baziotis, L. Ferrière, C. Sanchez-Valle, D. Palles, P. N. Gamaletsos, P. D. Asimow,
86th Annual Meeting of the Meteoritical Society, UCLA, Los Angeles, USA, hybrid conference, August 14–17, 2023 (poster).
106. “The complementary use of Raman, FTIR spectroscopy and chemometrics for investigating the deterioration of parchment”,
E. Malea*, D. Palles, S. Boyatzis,
International Conference on the Application of Raman Spectroscopy in Art and Archaeology (RAA 2023-11th edition), Athens, September 6-9, 2023 (oral).
107. “Advanced materials synthesis for photovoltaic and thermoelectric applications”
invited talk
A. Kaltzoglou,
University of Crete, Greece, March 10, 2023 (oral).

108. "Continuous breathing rare-earth MOFs based on hexanuclear clusters with gas trapping properties."
G. K. Angeli*, E. Loukopoulos, K. Kouvidis, A. Bosveli, C. Tsangarakis, E. Tylianakis, G. Froudakis, P. N. Trikalitis
1st Mediterranean Conference on Porous Materials, MEDPORE23
Crete, Greece May 17-19, 2023 (oral).
109. "Flexible rare-earth metal organic frameworks with gas trapping properties"
E. Loukopoulos*, G. K. Angeli, K. Kouvidis, A. Bosveli, C. Tsangarakis, E. Tylianakis, G. Froudakis, P. N. Trikalitis
European Conference on Metal Organic Frameworks and Porous Polymers (EuroMOF), Young Investigator Symposium, Granada, Spain, September 24, 2023 (poster).
110. "Metal-organic frameworks (MOFs)-based pesticide nano-formulations for sustainable agriculture and reduction of environmental risk"
M. Kotzampasaki*, G. K. Angeli, C. Maraveas, T. Bartzanas
4th Symposium on Circular Economy and Sustainability
Heraklion, Greece, 19-21 June 2023 (oral).
111. "Sol-gel synthesis of TiO₂ thin films for photocatalytic applications",
T. Giannakis*, G. A. Mousdis, S.-K. Zervou, A. Hiskia, T. Triantis, C. Christophoridis, E. Bizani, D. Iossifidis, M. Kandyla,
37th Panhellenic Conference on Solid-State Physics and Materials Science, Thessaloniki, Greece, September 17-20, 2023 (poster).
112. "Trap stiffness calibration of optical tweezers using the equipartition method",
T. Giannakis*, M. Kandyla,
37th Panhellenic Conference on Solid-State Physics and Materials Science, Thessaloniki, Greece, September 17-20, 2023 (poster).
113. "Design and fabrication challenges of integrated optical circuits for quantum computing applications",
S. I. Tsintzos, K. Tsimvrakidis, A. Sinani, A. Bogris, J. C. Gates, P. G. R. Smith, A. W. Elshaari, V. Zwiller, C. Riziotis*,
23rd International Conference of Transparent Optical Networks, Bucharest, Romania, July 2-6, 2023 (invited talk).
114. "Multiphoton laser ablation using methacrylic polymer thin films doped with silver nanoparticles",
K. Karachousos-Spiliotakopoulos*, V. Tangoulis, A. Sinani, C. Riziotis, T. Manouras, E. Angelakos,
XXXVII Panhellenic Conference on Solid State Physics and Materials Science, Thessaloniki, Greece, September 17-20, 2023 (poster).
115. "Multiphoton laser ablation using methacrylic polymer thin films doped with iron oxide magnetic nanoparticles and perylene molecules",
K. Karachousos-Spiliotakopoulos*, V. Tangoulis, A. Sinani, C. Riziotis, T. Manouras, E. Angelakos,
XXXVII Panhellenic Conference on Solid State Physics and Materials Science, Thessaloniki, Greece, September 17-20, 2023 (poster).
116. "Dynamic modulation of nonlinearly generated light polarization with nanostructured graphene",
N. Matthaiaakis*, S. Droulias, G. Kakarantzas,

XXXVII Panhellenic Conference on Solid State Physics and Materials Science, Thessaloniki, Greece, September 17-20, 2023 (oral).

7. Wider Public Dissemination

1. “Metasurfaces for advanced wavefront control”,
O. Tsilipakos,
Invited talk in “IESL Science Days 2023”, Foundation for Research and Technology Hellas, December 19, 2023.
2. “Molecular logic gates”,
D. Tzeli, *J. Chem. Tech. App.* **2023**, 6, 136.
DOI: [10.35841/aacta-6.2.136](https://doi.org/10.35841/aacta-6.2.136)
3. “Electronic structure and chemical bonding of transition metal monoborides”
C. Demetriou, C. E. Tzeliou, A. Androutsopoulos, D. Tzeli,
Online encyclopedia: [encyclopedia.pub/entry/52548].
4. “Chemically modified two-dimensional nanomaterials for managing charge-transfer phenomena for energy conversion applications”
I. K. Sideri, E. Nikoli, R. Canton-Vitoria, N. Tagmatarchis,
Thessaloniki International Trade Fair Exhibition, Thessaloniki, Greece, September 09-17, 2023.
5. “From photon to electron: Nanomaterials for energy conversion applications”,
I. K. Sideri, E. Nikoli, R. Canton-Vitoria, N. Tagmatarchis,
Researchers Night, NTUA, Athens, Greece, September 29, 2023.
6. “Chemical Warfare”
G. A. Mousdis,
Science in Society Lectures, NHRF, Athens, Greece, December 12, 2023.
7. “Sensors: Building blocks of automation technology”,
G. A. Mousdis,
Physics Enchants, University of Western Attica, Athens, Greece, December 8-10, 2023.
8. “Photovoltaics: Existing and future technology, the most reliable source of renewable energy”,
G. A. Mousdis,
Summer School of Aegina, Union of Greek Physicists, Greece, June 28-30, 2023.
9. “Third generation solar cells”,
A. Kaltzoglou,
The future of photovoltaic, NHRF, Athens, Greece, June 7, 2023.
10. “New materials for photovoltaic and thermoelectric devices”,
A. Kaltzoglou,
Thessaloniki International Trade Fair Exhibition, Thessaloniki, Greece, September 9-17, 2023.

8. Patents Applications

1. “Light coupling between nanowire and optical waveguide by microsphere photonic nanojet”
Dr. C. Riziotis
Hellenic Industrial Property Organization, OBI Application Number: 20230100588,

Filing Date: 17.07.2023.

2. “Light coupling between nanowire and optical waveguide by microsphere photonic nanojet”,
Dr. C. Riziotis,
European Patent Office, Patent Application, EP23386114.5, Filing Date:
09.11.2023.