

Publication list of Dr. Andreas Kaltzoglou

1. Academic Theses

1. Ph.D. Thesis: '[Synthesis, Characterization and Physical Properties of Semiconducting Clathrate Compounds](#)', Chemistry Department, Technical University of Munich, Germany, 2009.
2. M. Sc. Thesis: '[Synthesis and Study of Complex Compounds of Copper and Silver with Heterocyclic Thiones and Rigid Diphosphines](#)', Chemistry Department, Aristotle University of Thessaloniki, Greece, 2005.
3. B. Sc. Thesis: '[Synthesis and Spectroscopic Study of Mixed Ligand Complexes of Cu\(II\), Co\(II\), Ni\(II\) with tris\(2-aminoethyl\)amine and \$\beta\$ -diketones. Intramolecular Schiff-base formation](#)', Chemistry Department, Aristotle University of Thessaloniki, Greece, 2003.

2. Publications in peer-reviewed journals

1. A. Kaltzoglou, P. Cox, P. Aslanidis, Copper(I) bromide complexes from 1,2-bis(diphenylphosphano)benzene and some heterocyclic thiones, *Inorg. Chim. Acta* 2005, 358, 3048 – 3056.
2. P. Cox, A. Kaltzoglou, P. Aslanidis, Copper(I) halide chelates of the wide bite angle diphosphane xantphos. Crystal structures of [CuBr(xantphos)(dmpymtH)] and [CuI(xantphos)(imdtH₂)].CH₃CN, *Inorg. Chim. Acta* 2006, 359, 3183 – 3190.
3. P. Aslanidis, P. Cox, A. Kaltzoglou, A. Tshipis, An experimental and theoretical (DFT) investigation of the coordination mode of 2,4-dithiouracil (2,4-dtuch₂) in copper(I) complexes with 1,2-bis(diphenyl-phosphanyl)benzene (dppbz): The crystal structures of [Cu(μ -Br)(dppbz)]₂ and [CuBr(dppbz)(2,4-dtuch₂)], *Eur. J. Inorg. Chem.* 2006, 334 – 344.
4. A. Kaltzoglou, P. Cox, P. Aslanidis, Silver(I) bromide complexes of the rigid diphosphanes 1,2-bis(diphenylphosphano)-benzene (dppbz) and 4,5-bis(diphenylphosphano)-9,9-dimethyl-xanthene (xantphos). Crystal structures of [Ag(μ -Br)(dppbz)]₂, [AgBr(xantphos)] and [AgBr(xantphos)(py2SH)], *Polyhedron* 2007, 26, 1634 – 1642.
5. A. Kaltzoglou, S. Hoffmann, T. Fässler, Order-disorder phase transition in type-I clathrate Cs₈Sn₄₄, *Eur. J. Inorg. Chem.* 2007, 4162 – 4167.
6. A. Kaltzoglou, S. Ponou, T. Fässler, Synthesis and crystal structure of the mercury substituted type-I clathrates A₈Hg₄Sn₄₂ (A = K, Rb, Cs), *Eur. J. Inorg. Chem.* 2008, 538 – 542.
7. A. Kaltzoglou, T. Fässler, P. Aslanidis, A luminescent copper(I) bromide complex chelated with 4,5-bis(diphenyl-phosphano)-9,9-dimethyl-xanthene, *J. Coord. Chem.* 2008, 61, 1774 – 1781.
8. A. Kaltzoglou, S. Ponou, T. Fässler, A₄Ge₉ (A = K and Rb) as precursors for Hg-substituted clathrate-I synthesis: crystal structure of A₈Hg₃Ge₄₃, *Eur. J. Inorg. Chem.* 2008, 4507 – 4510.
9. H. Shimizu, T. Imai, T. Kume, S. Sasaki, A. Kaltzoglou, T. Fässler, Raman spectroscopy study of type-I clathrates A₈Sn₄₄ (A = Rb, Cs) and Rb₈Hg₄Sn₄₂, *Chem. Phys. Lett.* 2008, 464, 54 – 57.

10. A. Kaltzoglou, T. Fässler, M. Christensen, S. Johnsen, B. Iversen, I. Presniakov, A. Sobolev, A. Shevelkov, Effects of the order-disorder phase transition on the physical properties of A_8Sn_{44} ($A = Rb, Cs$), *J. Mater. Chem.* 2008, 18, 5630 – 5637.
11. A. Kaltzoglou, T. Fässler, C. Gold, E.-W. Scheidt, W. Scherer, T. Kume, H. Shimizu, Investigation of substitution effects and the phase transition in type-I clathrates $Rb_xCs_{8-x}Sn_{44}$ ($1.3 \leq x \leq 2.1$) using single-crystal X-ray diffraction, Raman spectroscopy, heat capacity and electrical resistivity measurements, *J. Solid State Chem.* 2009, 182, 2924 – 2929.
12. T. Imai, T. Kume, S. Sasaki, H. Shimizu, A. Kaltzoglou, T. Fässler, Structural stability of tin clathrates under high pressure, *J. Phys. Chem. Sol.* 2010, 71, 587 – 589.
13. A. Powell, A. Kaltzoglou, P. Vaqueiro, G. Min, J. Garcia-Cañadas, R. K. Stobart, J. Li, G. Dong, A. Wijewardane, Thermoelectric exhaust-gas energy recovery: an integrated approach, *AIP Conf. Proc.* 2012, 1449, 505 – 508
14. A. Kaltzoglou, P. Vaqueiro, A. Powell, Synthesis and thermoelectric properties of the new skutterudites $Yb_xFe_2Ni_2Sb_{12}$ ($0 \leq x \leq 0.4$), *AIP Conf. Proc.* 2012, 1449, 251 – 254
15. A. Kaltzoglou, P. Vaqueiro, K. S. Knight, A. V. Powell, Synthesis, characterisation and physical properties of the skutterudites $Yb_xFe_2Ni_2Sb_{12}$ ($0 \leq x \leq 0.4$), *J. Solid State Chem.* 2012, 193, 36 – 41.
16. J. Garcia-Canadas, A. V. Powell, A. Kaltzoglou, P. Vaqueiro, G. Min, Fabrication and evaluation of a skutterudite-based thermoelectric module for high-temperature applications *J. Elec. Mat.* 2013, 42, 1369 – 1374.
17. A. Kaltzoglou, A. V. Powell, K. S. Knight, P. Vaqueiro, High-temperature order-disorder transitions in the skutterudites $CoGe_{1.5}Q_{1.5}$ ($Q = S, Te$), *J. Solid State Chem.* 2013, 198, 525 – 531.
18. S. Christensen, L. Bjerg, A. Kaltzoglou, F. Juranyi, T. Fässler, T. Unruh, M. Christensen, Guest host interaction and low energy host structure dynamics in tin clathrates, *J. Appl. Phys.* 2013, 113, 084902.
19. A. Kaltzoglou, P. Vaqueiro, T. Barbier, E. Guilmeau, A. Powell, Ordered-defect sulphides as thermoelectric materials, *J. Elec. Mat.* 2014, 43, 2029 – 2034.
20. T. Barbier, P. Lemoine, S. Gascoin, O. I. Lebedev, A. Kaltzoglou, P. Vaqueiro, A. V. Powell, R. I. Smith, E. Guilmeau, Structural stability of the synthetic thermoelectric ternary and nickel-substituted tetrahedrite phases, *J. Alloys Compds.* 2015, 634, 253 – 262.
21. A. Kaltzoglou, M. Antoniadou, D. Perganti, E. Siranidi, V. Raptis, K. Trohidou, V. Psycharis, A. G. Kontos, P. Falaras, Mixed-halide $Cs_2SnI_3Br_3$ perovskite as low resistance hole-transporting material in dye-sensitized solar cells, *Electrochim. Acta* 2015, 184, 466 – 474.
22. T. Barbier, S. Rollin-Martinet, P. Lemoine, F. Gascoin, A. Kaltzoglou, P. Vaqueiro, A. V. Powell, E. Guilmeau, Thermoelectric materials: a new rapid synthesis process for nontoxic and high-performance tetrahedrite compounds, *J. Am. Ceram. Soc.* 2016, 99, 51 – 56.
23. R. G. Niemann, A. G. Kontos, D. Palles, E. I. Kamitsos, A. Kaltzoglou, F. Brivio, P. Falaras, P. J. Cameron, Halogen effects on ordering and bonding of $CH_3NH_3^+$ in $CH_3NH_3PbX_3$ ($X = Cl, Br, I$) hybrid perovskites: A vibrational spectroscopic study, *J. Phys. Chem. C* 2016, 120, 2509 – 2519.
24. A. Kaltzoglou, M. Antoniadou, A. G. Kontos, C. C. Stoumpos, D. Perganti, E. Siranidi, V. Raptis, K. Trohidou, V. Psycharis, M. G. Kanatzidis, P. Falaras, Optical-vibrational

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 26. A. Kaltzoglou, D. Perganti, M. Antoniadou, A. G. Kontos, P. Falaras, Stress tests on dye-sensitized solar cells with the Cs_2SnI_6 defect perovskite as hole-transporting material, *Energy Procedia* 2016, 102, 49 – 55.
 27. A. G. Kontos, A. Kaltzoglou, E. Siranidi, D. Palles, G. K. Angeli, M. K. Arfanis, V. Psycharis, Y. S. Raptis, E. I. Kamitsos, P. N. Trikalitis, C. C. Stoumpos, M. G. Kanatzidis, P. Falaras, Structural stability, vibrational properties, and photoluminescence in CsSnI_3 perovskite upon the addition of SnF_2 , *Inorg. Chem.* 2017, 56, 84 – 91.
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 29. A. Kaltzoglou, C. C. Stoumpos, A. G. Kontos, G. K. Manolis, K. Papadopoulos, K. G. Papadokostaki, V. Psycharis, C. C. Tang, Y.-K. Jung, A. Walsh, M. G. Kanatzidis, P. Falaras, Trimethylsulfonium lead triiodide: an air-stable hybrid halide perovskite, *Inorg. Chem.* 2017, 56, 6302 – 6309.
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 31. E. Polydorou, M. A. Botzakaki, I. Sakellis, A. Soultati, A. Kaltzoglou, T. A. Papadopoulos, J. Briscoe, C. Drivas, K. Seintis, M. Fakis, L. C. Palilis, S. N. Georga, C. A. Krontiras, S. Kennou, P. Falaras, N. Boukos, D. Davazoglou, P. Argitis, M. Vasilopoulou, Improved stability of polymer solar cells in ambient air via atomic layer deposition of ultra-thin dielectric layers, *Adv. Materials Interf.* 2017, 1700231(12).
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 35. M. Tountas, A. Verykios, E. Polydorou, A. Soultati, A. Kaltzoglou, N. Balis, P. A. Angaridis, M. Papadakis, V. Nikolaou, F. Auras, L. C. Palilis, D. Tsikritzis, E. K. Evangelou, S. Gardelis, M. Koutsourelis, G. Papaioannou, P. Falaras, D. Davazoglou, P. Argitis, S. Kennou, A. G. Coutsolelos, M. Vasilopoulou, Triazine-Functionalized Zinc-Porphyrin of High Dipole Moment as Effective Cathode Interfacial Modifier for High-

- Performance, Air-Stable, Solution-Processable Polymers Solar Cells, *ACS Appl. Mater. Interfaces* 2018, 10, 20728 – 20739.
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 37. E. Polydorou, M. Botzakaki, C. Drivas, K. Seintis, I. Sakelis, A. Soultati, A. Kaltzoglou, T. Speliotis, M. Fakis, L. C. Palilis, S. Kennou, A. Fakharuddin, L. Schmidt-Mende, D. Davazoglou, P. Falaras, P. Argitis, C. A. Krontiras, S. N. Georga, M. Vasilopoulou, Insights into the passivation effect of atomic layer deposited hafnium oxide for efficiency and stability enhancement in organic solar cells, *J. Mater. Chem. C*, 2018, 6, 8051 – 8059.
 38. G. Bounos, M. Karnachoriti, A. G. Kontos, C. C. Stoumpos, L. Tsetseris, A. Kaltzoglou, X. Guo, X. Lü, Y. S. Raptis, M. G. Kanatzidis, P. Falaras, Defect Perovskites Under Pressure: Structural Evolution of Cs₂SnX₆ (X = Cl, Br, I), *J. Phys. Chem. C*, 2018, 122, 24004 – 24013.
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 40. A. G. Kontos, A. Kaltzoglou, M. Afranis, K. M. McCall, C. C. Stoumpos, B. W. Wessels, P. Falaras, M. G. Kanatzidis, Dynamic disorder, band gap widening and persistent near-IR photoluminescence up to at least 523 Kelvin in ASnI₃ perovskites (A = Cs⁺, CH₃NH₃⁺ and NH₂-CH=NH₂⁺), *J. Phys. Chem. C*, 2018, 122, 26353 – 26361.
 41. C. Athanasekou, I. Katris, E. Savopoulou, K. Beltsios, T. Tsoufis, A. Kaltzoglou, P. Falaras, I. Bounos, M. Antoniou, P. Boutikos, G. Romanos, Mixed matrix PVDF/Graphene and Composite-Skin PVDF/Graphene Oxide Membranes applied in Membrane Distillation, *Polymer Engineering & Science*, 2019, E272 – E278.
 42. I. Ibrahim, C. Athanasekou, A. Kaltzoglou, F. Katsaros, E. Devlin, A. G. Kontos, P. Falaras, Photocatalysis as an advanced reduction process-technology (ARPART): the reduction of 4-nitrophenol using titania nanotubes-ferrite nanocomposites, *J. Hazard. Materials*, 2019, 372, 37 – 44.
 43. A. Soultati, A. Fakharuddin, E. Polydorou, C. Drivas, A. Kaltzoglou, M. I. Haider, F. Kournoutas, M. Fakis, L. C. Palilis, S. Kennou, D. Davazoglou, P. Falaras, P. Argitis, S. Gardelis, A. Kordatos, A. Chroneos, L. Schmidt-Mende, M. Vasilopoulou, Lithium doping of ZnO for high efficiency and stability fullerene and non-fullerene organic solar cells, *ACS Appl. Energy Mater.*, 2019, 2, 1663 – 1675.
 44. A. Kaltzoglou, G. K. Manolis, M. M. Elsenety, I. Koutselas, V. Psycharis, A. G. Kontos, P. Falaras, Synthesis and characterization of lead-free (CH₃)₃SSnI₃ 1-D perovskite, *Journal of Electronic Materials*, 2019, 48, 7533 – 7538, Impact Factor: 1.58
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48. M. M. Elsenety, M. Antoniadou, A. Kaltzoglou, A. G. Kontos, A. I. Philippopoulos, C. A. Mitsopoulou, P. Falaras, Synthesis, characterization of ((CH₃)₃S)₂SnI_{6-x}Cl_x and ((CH₃)₃S)₂SnI_{6-x}Br_x (x = 1, 2) perovskites and use in dye-sensitized solar cells, *Materials Chemistry and Physics*, 2020, 239, 122310.
49. K. Gkini, A. Verykios, N. Balis, A. Kaltzoglou, M. Papadakis, K. S. Adamis, K. Armadorou, A. Soultati, C. Drivas, S. Gardelis, I. D. Petsalakis, L. C. Palilis, A. Fakharuddin, M. Haider, X. Bao, S. Kennou, P. Argitis, L. Schmidt-Mende, A. G. Coutsolelos, P. Falaras, M. Vasilopoulou, A zinc porphyrin-triazine-bodipy donor- π spacer-acceptor triad as a universal electron transfer mediator for efficient organic and perovskite solar cells with long-term stability, *ACS Appl. Mater. Interfaces*, 2020, 12, 1120 – 1131.
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51. A. G. Kontos, G. K. Manolis, A. Kaltzoglou, D. Palles, E. I. Kamitsos, M. G. Kanatzidis, P. Falaras, Halogen-NH₂⁺ interaction, temperature induced phase transitions and ordering in (NH₂CHNH₂)PbX₃ (X = Cl, Br, I) hybrid perovskites, *J. Phys. Chem. C*, 2020, 124, 8479 – 8487.
52. A. A. Zaky, N. Balis, K. Gkini, C. Athanasekou, A. Kaltzoglou, T. Stergiopoulos, P. Falaras, Dye engineered perovskite solar cells under accelerated thermal stress and prolonged light exposure, *Chemistry Select*, 2020, 5, 4454 – 4462.
53. A. A. Soultati, A. Verykios, K. Armadorou, I. Haider, A. Kaltzoglou, C. Drivas, A. Fakharuddin, X. Bao, C. Yang, A. R. M. Yusoff, E. K. Evangelou, I. Petsalakis, S. Kennou, P. Falaras, G. Pistolis, P. Argitis, M. Vasilopoulou, Suppressing the photocatalytic activity of zinc oxide electron transport layer in non-fullerene organic solar cells with a pyrene-bodipy interlayer, *ACS Appl. Mater. Interfaces*, 2020, 12, 21961 – 21973.

3. Book Chapter

1. A. Kaltzoglou, A. G. Kontos, P. Falaras, Role of Nanospectroscopy in the Development of 3rd Generation Photovoltaics, de Gruyter Publisher, to be published.