

<b>PERSONAL INFORMATION</b>	
<b>SURNAME</b>	MANOS
<b>NAME</b>	EMMANOUIL (MANOLIS)
<b>DATE OF BIRTH</b>	21/06/1976
<b>PLACE OF RESIDENCE</b>	IOANNINA, GREECE
<b>RESEARCHER ID</b>	F-3442-2014
<b>ORCID</b>	0000-0001-7645-5560
<b>e-mail</b>	emanos@uoi.gr
<b>TEL.</b>	+302651008416
<b>Website</b>	<a href="https://chem.uoi.gr/en/meli-dep/manos-emmanouil/">https://chem.uoi.gr/en/meli-dep/manos-emmanouil/</a> , <a href="http://emano0.wix.com/emanos">http://emano0.wix.com/emanos</a>

<b>CURRENT POSITION</b>	
<b>09.2019- today</b>	Associate Professor, Department of Chemistry, University of Ioannina, Greece

<b>PREVIOUS POSITIONS</b>	
<b>09.2014 - 09.2019</b>	Assistant Professor, Department of Chemistry, University of Ioannina, Greece
<b>09.2012 - 09.2014</b>	Lecturer, Department of Chemistry, University of Ioannina, Greece
<b>12.2008- 09.2012</b>	Postdoctoral Research Associate, Dept. of Chemistry, University of Cyprus, Nicosia, Cyprus
<b>09.2006- 12.2008</b>	Postdoctoral Research Associate, Northwestern University, Dept. of Chemistry, Evanston, Illinois, USA (Prof. M. Kanatzidis' group).
<b>05.2004- 09.2006</b>	Postdoctoral Research Associate, Michigan State University, Dept. of Chemistry, East Lansing, Michigan, USA (Prof. M. Kanatzidis' group).

<b>EDUCATION</b>	
<b>09.2000 - 06.2003</b>	<b>Philosophy of Doctoral (PhD) in Chemistry</b> University of Ioannina, Laboratory of Inorganic Chemistry, Ioannina, Greece Dissertation: "Molybdenum and vanadium polyoxometalates with the sulfite and carbonate anions." Supervisor: Prof. T. Kabanos
<b>09.1998 - 09.2020</b>	<b>Master of Science (MSc) in Bioinorganic Chemistry</b> University of Ioannina, Laboratory of Inorganic Chemistry, Ioannina, Greece Dissertation: "Vanadium(III) in marine ascidians: A possible mechanism of the reduction of V(IV) to V(III)." Supervisor: Prof. T. Kabanos

<b>PUBLICATIONS</b>	
1.	<b>M. J. Manos</b> , A. J. Tasiopoulos, C. Raptopoulou, A. Terzis, J. D. Woollins, A. M. Z. Slawin, A. D. Keramidas, T. A. Kabanos, T.A., «Unexpected reduction of vanadium(IV) to vanadium(III) in the presence of the chelate ligands 2,2'-bipyridine (bpy) and 1,8-hydroxyquinoline (Hquin)», <i>J. Chem. Soc. Dalton Trans.</i> <b>2001</b> , 1556.
2.	<b>M.J. Manos</b> , A. D. Keramidas, J. D.Woollins, A. M. Slawin, T.A. Kabanos, "The first polyoxomolybdenum carbonate compound: Synthesis and crystal structure of $(\text{NH}_4)_5[(\text{Mo}^{\text{V}}_2\text{O}_5)_3(\mu_6-\text{CO}_3)(\mu-\text{CO}_3)_3(\mu-\text{OH})_3] \cdot 0.5\text{CH}_3\text{OH}$ 1", <i>J. Chem. Soc. Dalton Trans.</i> <b>2001</b> , 3419.

3. **M. J. Manos**, J. D. Woollins, A. M. Slawin, T. A. Kabanos, "Polyoxomolybdenum(V)-Sulfite compounds: Synthesis, Structural and Physical Studies", *Angew. Chem. Int. Ed. Engl.* **2002**, *41*, 2801.
4. E. J. Tolis, **M. J. Manos**, A. J. Tasiopoulos, C. Raptopoulou, A. Terzis, M. P. Sigalas, Y. Deligiannakis, T. A. Kabanos, "Monomeric Compounds Containing the cis-[V(=O)(OH)]<sup>+</sup> Core", *Angew. Chem. Int. Ed. Engl.* **2002**, *41*, 2797.
5. **M. J. Manos**, H. Miras, V. Tangoulis, J. D. Woollins, A. M. Slawin, T. A. Kabanos, "Polyoxovanadium(IV)-Sulfite compounds: Synthesis, Structural and Physical Studies", *Angew. Chem. Int. Ed. Engl.* **2003**, *42*, 425.
6. **M.J. Manos**, A. J. Tasiopoulos, E. J. Tolis, N. Lalioti, J. D. Woollins, A. M. Slawin, M. P. Sigalas, T. A. Kabanos "A New Class of Ferromagnetically-Coupled Vanadium Polyoxometalates", *Chem. Eur. J.* **2003**, *9*, 695.
7. E.J. Tolis, **M. J. Manos**, A. Terzis, C. Raptopoulou, T. A. Kabanos, "Mimicking the Oxidized Glutathione-V<sup>IV</sup>O<sub>2</sub><sup>+</sup> Species", *J. Chem. Soc. Dalton Trans.* **2003**, 775.
8. M. Rikkou, **M. J. Manos**, E. J. Tolis, A. J. Keramidas, M. P. Sigalas, T. A. Kabanos, "NMR and theoretical Investigations on the structures and dynamics of octahedral bis(chelate)dichloro V<sup>III</sup> Compounds isolated by an unusual reduction of non-oxo V<sup>IV</sup> species", *Inorg. Chem.* **2003**, *42*, 4640.
9. A. Papaioannou, **M. J. Manos**, S. Karkabounas, R. Liasko, I. Correia, A. Evangelou, J. C. Pessoa, T. A. Kabanos, " Solid state and solution studies of a vanadium(III)-L-cysteine compound and demonstration of its antimetastatic, antioxidant and inhibition of neutral endopeptidase activities", *J. Inorg. Biochem.* **2004**, *98*, 959.
10. G. I. Chilas, H. N. Miras, **M. J. Manos**, J. D. Woollins A. M. Z. Slawin M. Stylianou, A. D. Keramidas, T. A. Kabanos, "Oxovanadium(IV)-sulfite compounds: Synthesis and structural and physical studies", *Pur. Appl. Chem.* **2005**, *9*, 1529.
11. **M. J. Manos**, R. G. Iyer, E. Quarez, J. H. Liao, M. G. Kanatzidis, "{Sn[Zn<sub>4</sub>Sn<sub>4</sub>S<sub>17</sub>]}"<sup>6-</sup>: A robust open framework based on metal-linked penta-supertetrahedral [Zn<sub>4</sub>Sn<sub>4</sub>S<sub>17</sub>]<sup>10-</sup>clusters with ion-exchange properties", *Angew. Chem. Int. Ed. Engl.* **2005**, *44*, 3552.
12. **M. J. Manos**, K. Chrissafis, M. G. Kanatzidis, "Unique pore selectivity for Cs<sup>+</sup> and exceptionally high NH<sub>4</sub><sup>+</sup> exchange capacity of the chalcogenide material K<sub>6</sub>Sn[Zn<sub>4</sub>Sn<sub>4</sub>S<sub>17</sub>]", *J. Am. Chem. Soc.* **2006**, *128*, 8875.
13. **M. J. Manos**, C. Malliakas, M .G. Kanatzidis, "Heavy metal ion capture, ion exchange and exceptional acid stability of the open framework chalcogenide (NH<sub>4</sub>)<sub>4</sub>In<sub>12</sub>Se<sub>20</sub>", *Chem. Eur. J.* **2007**, *13*, 51 (cover article).
14. N. I. Kapakoglou, S. E. Kazianis, C. E. Kosmidis, C. Drouza, **M. J. Manos**,<sup>\*</sup> M. P. Sigalas, A. D. Keramidas, T. A. Kabanos, "Polyoxomolybdenum(V/VI)-sulfite compounds: Synthesis, structural and physical Studies", *Inorg. Chem.* **2007**, *46*, 6002. (\*one of the corresponding authors).
15. **M. J. Manos**, J. I. Jang, J. B. Ketterson, M. G. Kanatzidis, "[Zn(H<sub>2</sub>O)<sub>4</sub>][Zn<sub>2</sub>Sn<sub>3</sub>Se<sub>9</sub>(MeNH<sub>2</sub>)]: A robust open framework chalcogenide with a large non linear optical response", *Chem. Commun.* **2008**, 972.
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17. **M. J. Manos**, V. G. Petkov, M. G. Kanatzidis, "H<sub>2</sub>xMn<sub>x</sub>Sn<sub>3-x</sub>S<sub>6</sub> (x= 0.11-0.25): A novel reusable sorbent for highly specific mercury capture under extreme pH conditions", *Adv. Funct. Mater.* **2009**, *19*, 1087.
18. **M. J. Manos**, M. G. Kanatzidis, "Sequestration of heavy metals from water with layered metal sulphides", *Chem. Eur. J.* **2009**, *15*, 4479.
19. **M. J. Manos**, M. G. Kanatzidis, "Highly efficient and rapid Cs<sup>+</sup> uptake by the layered sulphide K<sub>2</sub>xMn<sub>x</sub>Sn<sub>3-x</sub>S<sub>6</sub> (KMS-1)", *J. Am. Chem. Soc.* **2009**, *131*, 6599.
20. **M. J. Manos**, M. G. Kanatzidis, "Use of hydrazine in the solvothermal synthesis of chalcogenides: the novel framework material [Mn<sub>2</sub>SnS<sub>4</sub>(N<sub>2</sub>H<sub>4</sub>)<sub>2</sub>]" *Inorg. Chem.* **2009**, *48*, 4658.

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26. E. E. Moushi, A. J. Tasiopoulos, **M. J. Manos**, \* "Synthesis and structural characterization of a metal cluster and a coordination polymer based on the  $[Mn_6(\mu_4-O)_2]^{10+}$  unit", *Bioinorganic Chemistry and Applications*, vol. 2010, Article ID 367128, 7 pages, **2010** (a special issue dedicated to Professor Nick Hadjiliadis in recognition of his great contribution for the advancement of Bioinorganic and Inorganic Chemistry, both in Greece and internationally, and for his retirement). (\*one of the corresponding authors).
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29. E. S. Koumousi, **M. J. Manos**, C. Lampropoulos, A. J. Tasiopoulos, W. Wernsdorfer, G. Christou, T. C. Stamatatos,  $\alpha$ -Benzoin oxime in higher oxidation state 3d metal cluster chemistry: Structural and magnetic study of a new  $Mn^{III}9$  complex", *Inorg. Chem.* **2010**, 49, 3077.
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35. **M. J. Manos**, M. S. Markoulides, C. D. Malliakas, G. S. Papaefstathiou, N. Chronakis, M. G. Kanatzidis, P. N. Trikalitis, A. J. Tasiopoulos, "A highly porous interpenetrated metal-organic framework from the use of a novel nanosized organic linker", *Inorg. Chem.* **2011**, *50*, 11297.
36. I. I. Ozturk, N. Kourkoumelis, S. K. Hadjikakou, **M. J. Manos**, A. J. Tasiopoulos, I. S. Butler, J. Balzarini, N. Hadjiliadis, "Interaction of antimony(III) chloride with thiourea, 2-mercaptop-5-methyl-benzimidazole, 3-methyl-2-mercaptopbenzothiazole, 2-mercaptopyrimidine, and 2-mercaptopyridine" *J. Coord. Chem.* **2011**, *64*, 3859.
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40. K. A. Kounavi, **M. J. Manos**, E. E. Moushi, Al. A. Kitos, C. Papatriantafyllopoulou, A. J. Tasiopoulos, V. Nastopoulos, "A systematic evaluation of the interplay of weak and strong supramolecular interactions in a series of Co(II) and Zn(II) Complexes tuned by ligand modification" *Cryst. Growth Des.*, **2012**, *12*, 429.
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45. **M. J. Manos**, E. J. Kyprianidou, G. S. Papaefstathiou, A. J. Tasiopoulos, "Insertion of functional groups into a  $\text{Nd}^{3+}$  metal-organic framework via single-crystal-to-single-crystal coordinating solvent exchange", *Inorg. Chem.* **2012**, *51*, 6308.
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47. K. A. Kounavi, E. E. Moushi, **M. J. Manos**, C. Papatriantafyllopoulou, A. J. Tasiopoulos, V. Nastopoulos, "Supramolecular patterns of cationic and neutral Ni(II) complexes from the interplay of hydrogen-bonding, stacking interactions and metal-coordination motifs", *CrystEngComm* **2012**, *14*, 6492.
48. E. J. Kyprianidou, G. S. Papaassis, **M. J. Manos**,<sup>\*</sup> A. J. Tasiopoulos, "A flexible  $\text{Cd}^{2+}$  metal organic framework with a unique (3,3,6)-connected topology, unprecedented secondary building units and single crystal to single crystal solvent exchange properties", *CrysEngComm* **2012**, *14*, 8368 (\*one of the corresponding authors). (Cover article).

49. **M. J. Manos**, E. E. Moushi, G. S. Papaefstathiou, A. J. Tasiopoulos, "New Zn<sup>2+</sup> metal organic frameworks with unique network topologies from the combination of trimesic acid and amino-alcohols", *Cryst. Growth Des.* **2012**, *12*, 5471.
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110. A. D. Pournara, S. Rapti, T. Lazarides, **M. J. Manos\***, “A dithiocarbamate-functionalized Zr<sup>4+</sup> MOF with exceptional capability for sorption of Pb<sup>2+</sup>in aqueous media”, *J. Environ. Chem. Eng.*, **2021**, 9, 105474.
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115. V. Gouma, A. D. Pournara, **M. J. Manos**, D. L. Giokas, “Fabric phase sorptive extraction and passive sampling of ultraviolet filters from natural waters using a zirconium metal organic framework-cotton composite”, *Journal of Chromatography A*, **2022**, 1670, 462945.
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#### SELECTED CONFERENCES/WORKSHOPS

- **M. J. Manos** et. al., 2022, 9th North America-Greece-Cyprus Workshop on Paramagnetic Materials, Agia Napa, Cyprus, “MOFs and MOF-based composites as superior sorbents for the removal of toxic oxoanions from aqueous media” (oral presentation).
- **M. J. Manos** et. al., 2021, 1st Panhellenic Workshop on Inorganic Chemistry, “Metal Organic Frameworks as superior sorbents for toxic oxoanions”, Patras, Greece (oral presentation).
- **M. J. Manos** et. al., 2019, Beilstein Nanotechnology Symposium- New directions for nanoporous materials, “Highly efficient removal of anionic pollutants from aqueous media using Zr<sup>4+</sup> MOFs”, Ruedesheim, Germany (poster presentation)
- **M. J. Manos** et. al., 2018, 9th International Conference of the Hellenic Crystallographic Association (HECRA), Patras, Greece, “Zr<sup>4+</sup> MOFs with exceptional TcO<sub>4</sub><sup>-</sup> sorption capacity and highly efficient ReO<sub>4</sub><sup>-</sup> luminescence sensing property” (oral presentation).
- **M. J. Manos** et. al., 2018, 8th North America-Greece-Cyprus Workshop on Paramagnetic Materials, Sparta, Greece, “Exceptional TcO<sub>4</sub><sup>-</sup> sorption capacity and highly efficient ReO<sub>4</sub><sup>-</sup> luminescence sensing by Zr<sup>4+</sup> MOFs” (oral presentation).
- **M. J. Manos** et. al., 2017, Seventh North America-Greece-Cyprus Workshop on Paramagnetic Materials, Pafos, Cyprus, “MOFs for ion exchange-sorption applications” (oral presentation).

- **M. J. Manos** et. al., 2015, Sixth North America-Greece-Cyprus Workshop on Paramagnetic Materials, Athens, Greece, “Alkaline earth MOFs” (oral presentation).
- **M. J. Manos** et. al., 2014, International Symposium on Advanced Nanostructured and Nanoporous Materials, Heraclion, Crete “Turn-On Luminescence Sensing and Real-Time Detection of Traces of Water in Organic Solvents by a Flexible Metal–Organic Framework” (oral presentation).
- **M. J. Manos** et. al., 2013, Fifth North America-Greece-Cyprus Workshop on Paramagnetic Materials, Limassol, Cyprus “Single Crystal Coordinating Solvent Exchange as a General Method for the Insertion of Functional Groups into Lanthanide MOFs and Enhancement of Their Photoluminescence Properties” (oral presentation).
- **M. J. Manos**, A. J. Tasiopoulos, 2012, 3rd International Conference on Metal-Organic Frameworks and Open Framework Compounds, Edinburgh, UK, “Highly porous metal-organic frameworks from the use of novel nanosized organic linkers” (poster presentation).
- **M. J. Manos**, A. J. Tasiopoulos, 2012, Molecular Materials Conference, Barcelona, Spain “A highly porous metal-organic framework from the use of a novel nanosized organic linker”(poster presentation).
- **M. J. Manos**, A. J. Tasiopoulos,, 2011, 11o Cyprus-Greece chemistry conference, Limassol, Cyprus, “A flexible Nd<sup>3+</sup> metal-organic framework with extraordinary single crystal to single crystal solvent exchange properties”(oral presentation).
- **M. J. Manos**, A. J. Tasiopoulos, 2011, International Symposium on Metal Organic Frameworks, Dresden, Germany “A highly porous metal-organic framework from the use of a novel nanosized organic linker”(poster presentation).
- **M. J. Manos**, A. J. Tasiopoulos, 2011, Fourth North America-Greece-Cyprus Workshop on Paramagnetic Materials, Patras, Greece “Highly porous metal-organic frameworks from the use of novel elongated organic linkers”(Oral presentation).

## MEMBERSHIPS

- 1998-** Member, Greek Chemical Society  
**2007-** Member, American Chemical Society  
**2018-** Member, Hellenic Crystallographic Association

## TEACHING ACTIVITIES

- 2012** - **TODAY**
- Laboratory course of General and Inorganic Chemistry
  - Laboratory Course of Inorganic Chemistry
  - Laboratory Course of Advanced Inorganic Chemistry
  - Bioinorganic Chemistry Applications
  - Chemistry of Lanthanides and Actinides
  - Synthesis of Advanced Materials (Graduate Course)
  - Synthetic chemistry (Graduate Course)
  - Functional and Catalytic Molecular Materials (Graduate Course)
  - Physicochemical, Spectroscopic and Biochemical Methods in Bioinorganic Chemistry (Graduate course)

## SUPERVISION OF GRADUATE STUDENTS AND POSTDOCTORAL FELLOWS

- 2012** - **TODAY**
- **Seven MSc students and one PhD candidate** successfully concluded their studies.
  - Currently, three MSc students, a PhD candidate and a post-doctoral researcher are under the supervision of Assoc. Prof. M. J. Manos.

## FELLOWSHIPS

- 1998 - 2000** – Graduate program "Bioinorganic Chemistry" funded by the European commission, University of Ioannina, Ioannina, Greece.
- 8/2002** – European Union research program Marie Curie (Title of the project: Synthesis and characterization of metal cross-link networks), University of Cyprus, Cyprus.  
**1/2003**

<b>RESEARCH GRANTS</b>				
<b>Project Title</b>	<b>Funding source</b>	<b>Period</b>	<b>Role</b>	
Novel low cost materials for in-situ treatment of oil drilling wastewater – MOFBAG	“Proof of Concept”- Patras Science Park	10/2019-10/ 2020	Senior Member of the Research Group	
Zr <sup>4+</sup> MOFs with Exceptional Capability for Removal of Toxic Ions from Aqueous Media- IEMOFs	H.F.R.I.	2/2020-2/2023	Principal investigator	
Composite materials based on porous metal organic frameworks and organic polymers for detection and sorption of heavy metal ions	EDBM103, “Support for researchers with emphasis on young investigators”	2/2020-5/2021	Principal investigator	
Development of novel superhydrophobic, anti-bacterial and anti-viral coating on cotton fabrics	Region of Epirus	6/2020-12/2020	Principal investigator	
Metal-organic frameworks (MOFs) for the separation and recovery of critical metals (MOFSORBMET)	Research council of Norway	2021-2024	Member of the Research Group	
Metal-organic frameworks as sorbents for the removal of heavy metal ions from wastewater (HEAVYMOFs)	General Secretariat for Research and Innovation	4/2022-10/2024	Member of the Research Group	

**GRANTED PATENTS**

1. **M. J. Manos**, M. G. Kanatzidis, "Process for the removal of heavy metals using an open framework chalcogenide", Patent Number: **US20080145305**.
2. **M. J. Manos**, N. Ding, M. G. Kanatzidis, "New chalcogenide compound for treatment of wastes with extremely low yet highly toxic mercury concentrations", Patent Number: **WO2009048552-A1; US2009095684-A1; US8070959-B**
3. M. G. Kanatzidis, J. Mertz, **M. J. Manos**, "Chalcogenide compounds for the remediation of nuclear and heavy metal wastes", Patent Number: **US2011290735-A1**.
4. **M. J. Manos**, D. Sarma, M. G. Kanatzidis, "Column Material for the Capture of Heavy Metal and Precious Metal Ions", Patent Number: **US 20150144568 A1; WO 2015080976 A1**.
5. **M. J. Manos**, D. Sarma, M. G. Kanatzidis, "Composite materials containing organic polymer-encapsulated metal organic frameworks", Patent Number: **WO2017083467A1**.
6. **M. J. Manos**, T. Lazarides, S. Rapti, P. Papadopoulos, G. S. Armatas, T. Lazarides, "Sponges modified with superhydrophobic metal oxide and metal-organic nanomaterials with excellent selectivity for sorption of lipophilic pollutants from water", **GR-Patent No. 1009740**.
7. A. D. Pournara, D. Tsoukleris, D. L. Giokas, **M. J. Manos**, "A new method for preparation of superhydrophobic cotton fabrics with antibacterial/antiviral properties", **GR-Patent application No.20210100244**.

**SYNOPTIC PRESENTATION OF THE RESEARCH ACHIEVEMENTS**

Dr. Manolis J. Manos is an Associate Prof. at the Dept. of Chemistry in University of Ioannina. His research interests are focused on the development of new functional inorganic and hybrid inorganic-organic materials. He has a broad research experience in various fields including bioinorganic chemistry, oxometallate clusters, solid state/ hydrothermal synthesis and ion-exchange studies of metal chalcogenide materials as well as synthesis, gas/liquid sorption, single crystal to single crystal transformations, photoluminescence and ion sorption properties of metal organic frameworks and composites. He has also significant expertise in various characterization techniques, such as single crystal and powder X-ray diffraction, thermal analysis, various spectroscopic techniques, electron microscopy etc. The research of Dr. M. J. Manos is reflected in **118 publications** in international scientific journals (including several publications in high impact journals such as *Progr. Mater. Sci.*, *Proc. Nat. Acad. Sci. U.S.A.*, *Angew. Chem. Int. Ed.*, *J. Am. Chem. Soc.*, *Chem. Sci.*, *Adv. Funct. Mater.*, *J. Mater. Chem. A* etc.), a book chapter and **6 patents** (one more pending). He has also given more than 20 presentations in International Conferences and delivered 5 invited lectures in Universities and Research Institutions. His work received a considerable number of hetero-citations (**>4500**) and he has a Hirsch-index of **35**.

**GUEST EDITOR**

One of the guest editors for a Themed Collection of Inorganic Chemistry Frontiers (Royal Society of Chemistry) Journal (Title of the special issue: "*Review Collection of Emergent Inorganic Materials for Energy, Catalysis and Bio-applications*")

**REVIEWER FOR SCIENTIFIC JOURNALS**

- Journal of American Chemical Society, Crystal Growth & Design, Inorganic Chemistry, Industrial &Engineering Research, Chemistry of Materials, Journal of Physical Chemistry, Analytical Chemistry, ACS Applied Materials & Interfaces (ACS)
- Dalton Transactions, Micro & Nano Letters, New Journal of Chemistry, CrystEngComm, Chemical Communications, RSC Advances, Inorganic Chemistry Frontiers (RSC)
- Journal of the Solid State Chemistry, Inorganica Chimica Acta, Polyhedron, Chemical Engineering Journal, Journal of Hazardous Materials, Powder Technology, Colloids and Surfaces A, Progress in Materials Science, Biotechnology Advances, Journal of Environmental Chemical Engineering, Materials Today Sustainability, Dyes and Pigments (Elsevier)
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- Chemistry- A European Journal, European Journal of Inorganic Chemistry, Small, The Chemical Record (Wiley)
- Current Organic Chemistry (Bentham Science)
- Nature Nanotechnology, Nature Communications (Nature Publishing Group)
- Minerals, Molecules, Crystals, Water (MDPI)

## BOOKS

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**M. J. Manos**, M. G. Kanatzidis, J. Ibers, in *The Chemistry of Actinides and Transactinide Elements*, chapter 37 (Actinide Chalcogenide Compounds), fourth edition, vol. 6, edited by L. R. Morss, N. M. Edelstein, J. Fuger, Springer, 2010.

Greek translation of the Book “Inorganic Chemistry” (Authors: Weller Mark, Rourke Jonathan, Overton Tina, Armstrong Fraser), Publisher: BROKEN HILL PUBLISHERS LTD.