Murad A. AlDamen

Professor of Inorganic Chemistry / The University of Jordan

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http://eacademic.ju.edu.jo/maldamen/default.aspx

Professional Interests

X-Ray Crystallography, Crystal Engineering, Magnetism: Inorganic Magnetic clusters and Inorganic molecule-based magnets, Magneto-structural properties, Models in Molecular Magnetism, Theoretical Inorganic Chemistry, Clusters, MOFs, Luminescent Materials, Polyoxometalates Chemistry

Education

2004-2008 PhD in Inorganic Chemistry / University of Valencia/Spain
***Thesis title:** Theoretical Study of Polyoxometalates with Interest in Molecular Magnetism (**Cum Laude**)*
2004-2006 DEA (Diploma de Estudios Avanzados)/University of Valencia/Spain
2002-2004 MSc in Chemistry / University of Jordan/Jordan
***Thesis Title:** Building Synthons in the Structures of 2-Amino-4,6-Dimethylpyridine and 3,5-Dibromo-2-Amino-4,6-Dimethylpyridine with Halides and Metal Halides*
1998-2002 BSc in Chemistry /University of Jerash/Jordan

Academic Ranks

Full Prof. in Inorganic chemistry 9/2017	*The University of Jordan*
Associated Prof. in Inorganic chemistry 9/2013	*The University of Jordan*
Assistant Prof. in Inorganic chemistry 9/2009	*The University of Jordan*

Scientific achievements

TWAS Young Affiliates 2016-2020
IUPAC committee (Inorganic Division) 2022-2023
TWAS Regional Awards in Development of Scientific Educational Material 2019
Executive committee (representative) of TYAN

Academic Positions

Current: Professor of Inorganic Chemistry, The University of Jordan
2020-2022 Head of Chemistry Department in Taibah University / Alula
2018-2020 Vice dean of quality and development in faculty of science and arts at alula.
2012-2013 Assistant to the dean of quality (Faculty of Science / The University of Jordan)
2014-2015 Assistant to the dean of quality (Faculty of Science / The University of Jordan)

Research

ResearcherID: *C-7393-2011*
ORCID: *https://orcid.org/0000-0002-1582-*
RG: *https://www.researchgate.net/profile/Murad_AlDamen/*
GS: *https://scholar.google.com/citations?user=Nn7PZaIAAAAJ&hl=en*
Official website: *http://eacademic.ju.edu.jo/maldamen*
Personal website: *sites.google.com/site/chemistryataldamen*
2811

Scientific organization memberships

Jordan Chemical Society 2008-
Spanish Royal Society of Chemistry 2004-2008, 2015-2016
American Chemical Society (ACS) 2020-

Publications (ISI and Scopus; Last five years only)

Research indicators

	Google scholar
h-index	**19**
Citation	**2454**
No. Publications	**82**

2024	A new paddle wheel type Cu (II) complex with Photoluminescence and Photocatalytic Properties, 112176
2024	High nuclearity heterometallic [Fe7Ln4] neutral coordination clusters with electrocatalytic activity for water oxidation, International Journal of Hydrogen Energy 51, 383-394, 2024
2024	1D Mn coordination polymer derived from sulfanilic acid: Synthesis, structure, adsorption properties and Hirshfeld surfaces analysis, Journal of Molecular Structure 1295, 136581
2024	A Zn-based Zig-Zag 1D chain type coordination polymer for removal of methylene blue dye from an aqueous solution
2024	Photocatalytic degradation of methylene blue dye and electrocatalytic water oxidation over copper (II) complex with mixed ligands, journal of Photochemistry and Photobiology A: Chemistry 446, 115095.
2023	Green Synthesis of Ni/Fe3O4/rGO Nanocomposites for Desulfurization of Fuel, ACS Applied Nano Materials 6 (20), 18905-18917
2023	Exploring electrochemical and magnetic properties of Fe(III) coordination cluster: An efficient electrocatalyst for water oxidation, norganica Chimica Acta 558, 121726
2023	High nuclearity heterometallic [Fe7Ln4] neutral coordination clusters with electrocatalytic activity for water oxidation, *International Journal of Hydrogen Energy 51, 383-394.*
2023	Synthesis, Molecular Docking Study, and Molecular

Dynamics Simulation of New 1,3-Dimethyl-5-methylidenebarbituric Acid Derivatives Prepared by Cyclobutane Cleavage - **Russian Journal of Organic Chemistry**.

2023 Unusual oxygen… oxygen dichalcogen bond in an oxo-centered trinclear iron coordination cluster – **Journal of Molecular Structure**

2022 Synthesis, structures, and magnetic properties of Fe4-Ln2 (Ln= Tb, Ho, and Er) clusters with N, N, N′, N′-tetrakis-(2-hydroxyethyl) ethylenediamine – **Inorganica Chimica Acta**

2022 Heterometallic Decanuclear [Fe6-Ln4] Coordination Clusters with Enzymatic Mimic Activity: Synthesis, Structures, Magnetic Properties and Evaluation of …**Applied Organometallic Chemistry**

2022 A new hexanuclear Fe (III) nanocluster: Synthesis, structure, magnetic properties, and efficient activity as a precatalyst in water oxidation **Dalton Transactions**

2022 A new {Cu 3–Gd 2} cluster as a two-in-one functional material with unique topology acting as a refrigerant and adsorbent for cationic dye **CrysEngComm**

2022 Synthesis, structures, and magnetic properties of Fe4-Ln2 (Ln= Tb, Ho, and Er) clusters with N, N, Ń, Ń-tetrakis-(2-hydroxyethyl) ethylenediamine **Inorg. Chim. Acta**

2022 Inclusion and release of cytisine in mesoporous silicate materials: an agent for smoking cessation J**ournal of Porous Materials**

2021 Butterfly-like Heteronuclear 3d–4f Metal Clusters: Synthesis, Structures, Magnetic Properties, and Magnetocaloric Effect **Crystal Growth & Design**

2021 *Exploring the Role of Intramolecular Interactions in the Suppression of Quantum Tunneling of the Magnetization in a 3d-4f Single-Molecule Magnet* ***Inorganic Chemistry,*** **IF = 5.16**.

2021 Elucidating the contribution of solvent on the catecholase activity in a mononuclear Cu (II) system: an experimental and theoretical approach ***Journal of Molecular Structure***; **IF = 2.46.**

2021 Understanding the Formation of 5-(Diethylammoniothio)-1, 3-dimethylbarbituric Acid: Crystal Structure and DFT Studies ***Journal of Chemical Crystallography;*** **IF = 0.59.**

2021 Structure, DFT studies and evaluation of catechol oxidase (CO) mimic activity of mononuclear Co (II) complexes derived from aminoalcohols: an experimental and theoretical approach. ***Journal of Biomolecular Structure & Dynamics.*** ***IF = 3.3.***

2021 *Cationic dye adsorption and separation at discrete molecular level: first example of an iron cluster with rapid and selective adsorption of methylene blue from aqueous system* ***New Journal of Chemistry****;* ***IF = 3.29***

2020 *A twodimensional Co (II) metal–organic framework with*

	bey topology for excellent dye adsorption and separation: Exploring kinetics and mechanism of adsorption. ***Inorganic Chimica Acta****;* ***IF = 2.05***
2020	*Synthesis, crystal structure, DFT calculations, molecular docking study and Hirshfeld surface analysis of alkoxido-bridged dinuclear iron (III) complex.* ***Research on Chemical Intermediates****;* ***IF = 2.04***
2020	*Heterometallic (3d-4f) Coordination Clusters with Unique Topology: Self-Assembly Synthesis, Structural Features, and Magnetic Properties.* ***Crystal Growth & Design; IF = 4.15***
2020	*Understanding the Formation of 5-(Diethylammoniothio)-1, 3-dimethylbarbituric Acid: Crystal Structure and DFT Studies* ***Journal of Chemical Crystallography; IF = 0.57***
2020	*Structural and DFT Study of 1-(3-Amino-1,4-dioxo-1,4-dihydronaphthalen-2-yl)-3,4-dichloro-1H-pyrrole-2,5-dione: Hypothesis for the Ring Closure;* ***Heterocyclic; IF = 0.67***
2020	*Crystal Structure and Magnetic Properties of a New Wells-Dawson [β-$P_2CoW_{17}O_{62}$]$^{10-}$ Polyoxoanion.* ***Journal of Structural Chemistry; IF = 0.75***
2020	*Design, Synthesis and Characterization of Novel Isoxazole Tagged Indole Hybrid Compounds* ***Open Chemistry; IF = 1.22***
2020	*Synthesis, Characterization and Biological Evaluation of Metal Adamantyl 2-Pyridylhydrazone Complexes* ***Molecules; IF = 3.27***
2020	*Exploring solvent dependent catecholase activity in transition metal complexes: an experimental and theoretical approach* ***New Journal of Chemistry****;* ***IF = 3.29***
2019	*Release Kinetics of Nicotine Loaded onto Mesoporous Silicate Materials for Use in Nicotine Replacement Therapy* ***Current Drug Design;*** **IF = 2.41**
2019	A paddle wheel dinuclear Copper (II) carboxylate: Crystal structure, thermokinetic and magnetic properties. ***Journal of Molecular Structure;*** **IF = 2.10**
2019	The role of hydrogen bonding in π···π stacking interactions in Ni(II) complex derived from triethanolamine: synthesis, crystal structure, antimicrobial, and DFT studies. ***Research on Chemical Intermediates;*** **IF = 2.10**
2019	The crystal structure of 3-(1H-benzo[d]imidazol-2-yl)-7-chloro-1-cyclopropyl-6-fluoro-1,4-dihydroquinolin—dimethylsulfoxide (1/1), $C_{21}H_{19}ClFN_3O_2S$. ***Zeitschrift für Kristallographie-New Crystal Structures;*** **IF = 0.30**
2018	Effect of ligand substitution on the SMM properties of three isostructural families of double-cubane Mn_4Ln_2 coordination clusters. ***Dalton Transactions;*** **IF = 0.30**
2018	Supertetrahedral T2 clusters in 3d-4f {Fe4Ln6}: Synthesis, crystal structure, magnetic and photoluminescent properties. ***Inorg. Chim. Acta;*** **IF = 2.002**

2018 Synthesis, Characterization, Crystal Structure, and DFT Study of a New Square Planar Cu(II) Complex Containing Bulky Adamantane Ligand. ***Molecules***; **IF = 2.861**

2018 Structure-Based Design: Synthesis, X-ray Crystallography, and Biological Evaluation of N-Substituted-4-Hydroxy-2-Quinolone-3-Carboxamides as Potential Cytotoxicity. ***Anti-Cancer Agents in Medicinal Chemistry;*** **IF=2.598**

2018 Synthesis, Characterization, Crystal Structure and Fluorescence of Nanosized Samarium Schiff-base Complex. ***Journal of Structural Chemistry***; **IF=0.581**

2018 Synthesis, Structures and Magnetic Properties of New Lattice System of Heterometallic Decanuclear Ce6Mn4 Aggregate. ***Journal of Structural Chemistry***; **IF=0.581**

2017 Hydrothermal Synthesis, Crystal Structure and Photoluminescent Properties of $Li[UO_2(CH_3COO)_3]_3[Co(H_2O)_6]$. ***Crystallography Reports***; **IF=0.563**

2017 $Na_{14}[((HPO_4)_3PW_6O_{22})_2Co_2Na_2(H_2O)_2]^{18-}$: A new, carbon-free, polyoxometalate (POM) catalyst for oxidation of water. ***J. Cluts. Sci.***; **IF=1.715**

2017 The Crystal Structure of Reduced Ethyl 3-((2-Hydroxybenzyl)amino)benzoate, a Schiff Base***, Z. Kristallogr. NCS***; **IF=0.252**

2017 *Ring opening of cyclobutane in 1,3-dimethyl-5-methylenebarbituric acid dimer by various nucleophiles,* **Zeitschrift für Naturforschung IF=0.757**

2017 *1D cerium (III) coordination polymer with pivalate bridges: Synthesis, structure and magnetic properties,* ***Journal of Molecular Structure IF=2.011.***

2017 *An Azide-Bridged Copper(II) 1D-Chain with Ferromagnetic Interactions: Synthesis, structure and magnetic studies,* ***Transition Metal Chemistry. IF=1.261.***

2017 *Stabilization of Meldrum's Acid Dimer and 1,3-Dimethylbarbituric Acid Trimer- A Theoretical Study,* ***Jordan Journal of Chemistry; SCOPOUS.***

2017 *Alkoxo- and carboxylato-bridged hexanuclear copper(II) complex: Synthesis, structure and magnetic properties,* ***Inorganic Chemistry Communications, IF=1.810.***

2017 *Synthesis, characterization, X-ray structure, computational studies, and bioassay of novel compounds combining thiophene and benzimidazole or 1,2,4-triazole moieties,* ***Chemistry Central Journal, IF=2.284.***

2017 *3D oxalato-bridged lanthanide (III) MOFs with magnetocaloric, magnetic and photoluminescence properties,* ***Dalton Transactions, IF=4.029.***

2017 *Synthesis and characterization of a mixed-valent Mn11–La2 aggregate with benzoate, Monatshefte für Chemie-Chemical Monthly.* ***IF=1.285***

Teaching Experience

The University of Jordan: *Teaching Assistant*
General and Inorganic chemistry courses, Research methods in chemistry, Crystallography and X-Ray Diffraction (Master).

Conferences

2017 1st International Conference of TWAS Young Affiliates Network, Rio de Janero, Brasil (Oral Presentation)
2017 Chemistry and Biological Sciences conference in Al al-Bayt University (PhD student participation)
2016 Sustainability in Food and Water: An Arab Viewpoint (TWAS-ARO) (Participant)
2012 11th Jordanian conference on Chemistry, Mafraq, Jordan (Poster participation)
2011 7th SESAME JORDANIAN WORKSHOP, Amman, Jordan (Speaker)
2010 EuAsC2S-11, Dead sea, Jordan, (Poster)
2010 60th Meeting of Nobel Laureates in Lindau, COMSTECH (Organization of Islamic Conference Standing Committee on Scientific and Technological Cooperation) fellowship
2007 COST meeting D37-DeciQ, Toulouse, France (Oral Presentation)
2005 International Symposium on Nano-structures and Physicochemical Properties of Polyoxometalates, Superclusters and Related Colloid Particles, Lyon, France.
2004 VII Escuela Nacional De Materiales Moleculares, Boí Taull, Spain (Oral Participation)

Training Workshops

As a trainee

- • 1st Molcas workshop by Lund University / Valencia, Spain (20-23/4/2006
- • Gaussian workshop by Gaussia, Inc., SGI and CESCA / Barcelona, Spain (20 hr, 6-9/6/2006
- • 9th intensive European program “Physics and Chemistry of Multifunctional Materials by Genova University and Joseph Fourier Polytechnic University / (Genova, Italy) 35 hr lectures + Practical
- • Training course (Single X-ray Diffraction) by Agilant company / Oxford, England 28/11-2/12/2011

As a trainer
Training more than 300 teachers from KSA to use e-learning tools

Prizes and AWARDS
Researcher Award for 2011 Researcher: Murad A. AlDamen Awarded by: The University of Jordan Year: 2012

Research Award for the best publications in the University of Jordan Research Title: Ligand-Based Assessment of Factor Xa Binding Site Flexibility via Elaborate Pharmacophore Exploration and Genetic Algorithm-Based QSAR Modeling. Authors: Mutasem

O. Taha and Murad A. AlDamen Awarded by: The University of Jordan Year: 2005

TWAS Regional Awards in Development of Scientific Educational Material 2019

Projects

Systematic synthesis, and crystal structure determination of sandwich polyoxometalates with transition metals إعداد منهجي و تعيين البنية البلورية لمركبات جديدة من متعددة أكاسد الفلزات الشطائرية مع فلزات انتقاليDate: 2010-2011 Sponsors: the Deanship of Academic Research (The University of Jordan) Participants: Murad A. AlDamen and Salim F. Haddad
Quantity_Jordanian_Dinar: 18,800 JOD

Systematic synthesis, and crystal structure determination of sandwich polyoxometalates wit lanthanide metals إعداد منهجي و تعيين البنية البلورية لمركبات جديدة من متعددة أكاسد الفلزات الشطائرية مع النثانيدزDate: 2012-2013 Sponsors: the Deanship of Academic Research (The University of Jordan) Participants: Murad A. AlDamen and Salim F. Haddad
Quantity_Jordanian_Dinar: 4,000 JOD