



CURRICULUM VITA

Professor Fawwaz I. Khalili

أستاذ الدكتور فواز عزت الخليلي

Born in 26. 12. 1954 Amman-Jordan.

Status Married with three children, a boy and two girls.

1960-1972 Elementary, preparatory and secondary Education at Derar School and King Hussein College.

1972 General Secondary (High School) Certificate Examination.

1972-1976 Bachelor of Science in Chemistry from the University of Jordan/Amman.

1975 Worked as research assistant on oil shale with Dr. R. Haddadin.

1976 Worked as research assistant in inorganic complexes with Prof. A. Seyam.

June 1976-April 1977 Assistant Manager of the Chemical Division at M. Sukhtian Co.

April 1977 - July 1977 Sales manager at the chemical industry company

July 1977- Sept 1979

Fellowship in Inorganic and Radiochemistry from the **International Atomic Energy Agency** at the Florida State University chemistry department, Tallahassee, Fl. U.S.A.

Sept 1979 PhD Research assistantship from the Florida

- March 1982 State University.

March 1982 PhD : The nature of Inner and Outer Sphere Complexes

Sept 1982 Assistant Professor, University of Jordan/Chemistry Department.

Jan 1989 Promotion to Associate Professor.

Sept 1991-Aug 1992 Sabbatical leave at Florida State University/Chemistry Department with
Professor G. R. Choppin.

Nov 1994 Promotion to Full Professor.

Sept 1996 – Chairman of the Science Department and Prof. of
August 2000 Inorganic Chemistry at Sohar College for
Teachers, Ministry of Higher Education Sohar,
Sultanate of Oman.

Sept 2000 Back at the University of Jordan.

Sept 2005– Chairman of the Chemistry Department/ University
Sept 2007 of Jordan.

Sept 2007- Sept 2011 Back as Professor of Chemistry /Chemistry
Department/ University of Jordan.

2008 – Head of accreditation committee with ministry of higher education (Accreditation
Agency) for the following universities: Al- Hussien University, Al Tafeelah Technical
University, Jerash private University and Israa University.

Sept 2011 – Sept 2013 Vice dean of Science.

Head of

1- Promotion committee

- 2- Tenders committee
- 3- Graduate studies committee
- 4- Teaching plans committee
- 5- Scientific research committee

Sept 2013 - Now Back as Professor of Chemistry /Chemistry
Department/ University of Jordan.

Sept 2013 – 2021 Member of Board of Trustees in Huitien Community College,
Amman – Jordan.

Sept 2015– August 2016 On sabbatical leave at the chemistry department- Al albayt
University, Al mafrag- Jordan.

April 2017- April 2020 Member of the Jordan Journal of Chemistry editorial board.

Specialization :	Inorganic, Nuclear and Environmental Chemistry.
Research interests:	Inorganic Complexes, Solvent Extraction of Radioactive Elements, Humic Acid and its Environmental Behavior, Geopolymers, Nanomaterials and Chelating polymers with metal ions.

Publications

1. Determination of Bromide in Jordanian Table Salt by the Chloramine-T- Method.
Dirasat, 13, 179, 1986.
F. Khalili and M.Fayyad
2. Preparation and Antimicrobial Activity of Glyoximes.
Dirasat, 13, 185, 1986.
F. Khalili and A.Mahasneh.
3. Humic and Fulvic Acids from Several Locations in Jordan.
F. Khalili Dirasat, 14, 151, 1987.
4. X-ray Diffraction studies on Jordanian Humic and Fulvic Acids.
Dirasat, 14, 163, 1987.
F. Khalili and H. Ajjouri
5. The Nature of the Azraq Oasis Humic Acid.
Journal of the Iraqi Chemical Society. 13, 71, 1988
F. Khalili.
6. Preparation and complexation of 3,3'-bis(1,2,4- Δ^2 -oxathiazoline) with some Transition metals.
Synth and React in Inorg and met-Org Chem. 18, 919, 1988.
N. Sayyed and F. Khalili.
7. Nature of U(VI) complexes with halates and haloacetates.
Inorg. Chimica. Acta. 143, 1988.
F. Khalili, G. R. Choppin and E. Rizkalla.
8. Some Features and Antimicrobial activity of humic acid Isolated from Jordanian Soils.
Journal of Biological Sciences Research. 20, 255, 1989.
A.Mahasneh and F. Khalili.
9. Synthesis and Characterisation of some Lanthanide Chloride Complexes of Pyridinaldazine and Pyrrolaldazine Schiff Bases.
Polyhedron. 8, 21, 1989.
M.Dawod, F. Khalili, and A. Seyam.

10. Effect of dichloroglyoxime and dimethylglyoxime on the acellular slime mold *Physarum polycephalum*.
The Arab Gulf Journal of Scientific Research. 7, 129, 1989.
Z. Shraideh and F. Khalili.
11. Effect of humic acid on the oscillatory contractions in protoplasmic strands of *Physarum polycephalum*.
Microbio letters. 42, 73, 1989.
Z. Shraideh and F. Khalili.
12. Preparation of dipotassium 3,3'-bis(1,2,4-oxadiazole-5(4H) onate) and its coordination behaviour with Mn(II), Co(II), Ni(II), and Zn(II).
Synth and React in Inorg and met-Org Chem. 20, 425, 1990.
N. Sayyed and F. Khalili.
13. Isolation and characterization of humic acid from Jordanian Oil Shale.
Fuel. 69 (2): 151, 1990
F. Khalili.
14. Preparation and Characterization of selected metal-humate complexes.
Soil Science. 150 (3), 565, 1990.
F. Khalili.
15. Synthesis and Characterisation of some actinide complexes of pyridin-, pyrrol-, furan- and thiophenealdazine.
Polyhedron. 9 (24), 2987, 1990.
M. Dawod, F. Khalili and A. Seyam.
16. Acute toxicity of dichloroglyoxime
Dirasat, 17, 200, 1990
S. Zmeili and F. Khalili.
17. The nature of calcium and thorium complexation by halate ligands.
J. Coord. Chem. 56, 243, 1992.
G. Choppin, F. Khalili and E. Rizkalla.
18. Effects of dichloroglyoxime on isolated Guinea-Pig smooth muscle and atrium.

- Drug and Chemical Toxicology, 15, (2), 145, 1992.
S. Abdalla and F. Khalili.
19. Preliminary leaching study on the Jordanian oil shale.
Fresenius Envir Bull. 2, 220, 1993
M. Alawi and F. Khalili.
20. Lead (II) complexation by Azraq humic acid.
Mutah Journal for Research and Studies (Jordan). 8, 121, 1993.
F. Khalili.
21. Extraction and spectrophotometric determination of Nd(III), Th(IV) and U(VI) in synthetic brine using Chlorophosphonazo III.
Analytica Chimica Acta. 284, 593, 1994.
J. F. Chen, F. Khalili, A. Mohammed and G. R. Choppin.
22. Determination of trihalomethanes concentration produced through the chlorination of water as a function of its humic acid content.
Archives of Environmental Contamination and Toxicology. 26, 381, 1994.
M.A. Alawi, F. Khalili and I. Sahili.
23. Some oxovanadium (IV) and oxozirconium (IV) complexes of pyridine-, pyrrol-, furan- and thiophenealdazine schiff bases.
Synth and React in Inorg and met-Org Chem. 24, 663, 1994.
M. M. Dawod, F. Khalili and A. M. Seyam.
24. Solubility of Nd in brine.
Presented in Migration 93, Charleston, SC, U.S.A.
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25. Interaction behaviour of Organochlorine pesticides with dissolved Jordanian Humic Acid.
Archives of Environmental Contamination and Toxicology. 28 513, 1995.
F. Khalili, M. Alawi and K. Daas.
26. Thermodynamics of the dissociation of Boric acid and Potassium

hydrogen phthalate in aqueous Acetonitrile mixtures.

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F. Khalili and A. A. Issa.

27. Preparation and characterization of some tetradentate schiff bases and their complexes with Co(II), Ni(II) and Cu(II)
Synth. React. Inorg. Met.-org. Chem. 27(1), 1-16, 1997.
M.H.Attari, M. S. Mubarak and F. Khalili.
28. Chelation properties of poly(8-hydroxyquinoline 5,7-diylmethylene) towards some trivalent lanthanides metal ions
Solvent Extraction and Ion Exchange. 16(2), 637, 1998
K.A. Ebraheem, M.S. Mubarak, Z.J.Yassin and F.Khalili.
29. Solvent extraction of Uranium(VI) by didodecylphosphoric acid
Journal of Science and Technology. 4, 15, 1999
K. Mousa and F. Khalili.
30. Preparation and characterization of new oxadiazole derivatives Complexes of 3,3'-Bis(1,2,4-oxadiazole-5(4H)-one) with some Metal ions.
Journal of Saudi Chemical Society. 4(2), 143, 2000
K.A.Al-Sou'od , F.I.Khalili and M.S.Mubarak.
31. Chelation properties of Poly(8-hydroxyquinoline 5,7- diylmethylene) crosslinked with Bisphenol-A toward Lanthanum(III), Cerium(III), Neodymium(III), Samarium(III), and Gadolinium(III) ions.
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K.A. Ebraheem, M.S. Mubarak, Z.J.Yassin and F. Khalili.
32. Synthesis and Characterization of some Metal complexes of Pyridine-2- aldehyde semicarbazones.
ABHATH AL-Yarmouk. 10(2), 243, 2001.
A.Seyam, A.Abu-Rayan, A.Jarrar and F.Khalili.
33. Chelation Properties of some Mannich- Type Polymers toward Lanthanum(III), Neodymium(III), Samarium(III) and Gadolinium(III) ions.

- Solvent Extraction and Ion Exchange. 21(1), 125, 2003.
A.I. Ismail, K.A. Ebraheem, M.S. Mubarak, and F.Khalili.
34. Comparative study of binding strengths and thermodynamic aspects of Cu(II) and Ni(II) with humic acid by Schubert's ion exchange method.
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H. Baker and F. Khalili.
35. Solvent extraction of Thorium(IV) by didodecylphosphoric acid
Journal of Science and Technology. 8, 107, 2003.
K. Mousa, E. Al-Soudani and F. Khalili.
36. Analysis of the Removal of Lead (II) from Aqueous Solution by Adsorption onto insolubilized Humic Acid: Temperature and pH dependence.
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Solvent Extraction and Ion Exchange. 22(4), 721, 2004.
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38. Characterization of Humic acid isolated by various extractants from Azraq Oasis, Jordan.
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39. A Study of Complexation Thermodynamic of Humic acid with Cadmium (II) and Zinc (II) by Schubert's ion exchange method.
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- Ayman A. Ahmad, Fuad Al- Rimawi, F.Khalili and M.S. Mubarak.
41. Synthesis and Chelation Properties of Mannich Polymers Derived from Piperazine and some hydroxyl Benzaldoximes.
- Shafa-Amry, N. N.; Khalili, F. I.; Ebraheem, Kais A. K.; and Mubarak, M. S. Reactive and Functional Polymers. 66, 789 -794, 2006.
42. Adsorption of Cu(II) and Ni(II) on solid humic acid from the Azraq area, Jordan. Journal of colloid and Interface Science. 299, 497-503, 2006.
- Bassam El-Eswed and Fawwaz Khalili.
43. Effects of pH and temperature on the interaction of Pb(II) with Azraq humic acid studied with Schubert's ion exchange method. Annals of Environmental Science. 1, 35 – 44, 2007.
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44. Chelation Properties of Modified Humic Acids towards Some Trivalent Lanthanide Ions.
- Remah N. Yaghmour, Fawwaz I. Khalili, and Mohammad S. Mubarak
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45. Sorption of Humic acid on Bentonite.
- Mahmoud Salman, Bassam El-Eswed and Fawwaz Khalili
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46. Interaction of Polychlorinated Biphenyls with Dissolved Humic Acid from Azraq (Jordan).
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47. Syntheses and Characterization of Some Lanthanide and Actinide Metal Complexes of Pyridine-2- aldehyde Semicarbazones.

F. M. Za'atreh, A. A. Jarrar, A. M. Seyam, and F. I. Khalili
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18-21 Nov 2007, in press 2008.

48. Preparation and Characterization of Poly(bisphenol A oxalate) and Studying its Chelating Behavior Towards Some Metal Ions.
Sharif T. Al-Hamidi, Bassam A. Sweileh and Fawwaz I. Khalili
Solvent Extraction and Ion exchange. 26: 145–162, 2008.

49. Synthesis, Characterization and Solvent Extraction Properties of New Thiophene Based Trifluoromethyl-Substituted β -Diketones for Thorium (IV) and Uranium (VI) Ions.
F. Khalili, S.A. Al-Taweel, Y. Y. Yousef and S. A. Al-Tarawneh
Journal of Saudi Chemical Society. 12(2): 165-176, 2008.

50. The influence of using Jordanian natural zeolite on the adsorption, physical, and mechanical properties of geopolymers products.
El-Eswed Bassam, Yousef Rushdi I., Alshaaer Mazen, Khalili Fawwaz, Khouri Hani.
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51. Low-cost Solid Geopolymeric Material for Water Purification.
Alshaaer Mazen, El-Eswed Bassam, Yousef Rushdi I. Khalili Fawwaz, Khouri Hani.
Ceramic Transactions, 207(Environmental Issues and Waste Management Technologies in the Materials and Nuclear Industries XII), 265-271. 2009.

52. Alkali solid-state conversion of kaolin and zeolite to effective adsorbents for removal of lead from aqueous solution.
Bassam El-Eswed, Rushdi I. Yousef, Mazen Alshaaer, Fawwaz Khalili, Hani Khoury
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53. The Effect of Ionic Strength On the Extraction of Thorium (IV) from Perchlorate Solution by Didodecylphosphoric Acid”.
- Mohammad A. Bayyari, Mazen K. Nazal, Fawwaz I. Khalili. Arabian Journal of Chemistry 3, 115–119, 2010.
54. Adsorption of Thorium(IV) and Uranium(VI) by Tulul al-Shabba Zeolitic Tuff, Jordan.
- Mona Al-Shaybe and Fawwaz Khalili
- Jordan Journal of Earth and Environmental Sciences 2,108-119, 2009.
55. Effect of Nano Sized oxalate Precursor on the Formation of $REBa_2Cu_3O_{7-\delta}$ (RE= Gd, Sm, Ho) Ceramic Via Coprecipitation Method.
- Imad Hamadneh, Fawwaz Khalili, Mazen Shaaer, Ahmad Mustaza Rosli.
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56. Adsorption of Lead, Zinc, and Cadmium Ions Polyphosphate- modified Kaolinite Clay.
- Mohammad W. Amer, Fawwaz Khalili, and Akl M. Awwad.
- Journal of Environmental Chemistry and Ecotoxicology 2(1) 1-8, 2010.
57. Adsorption of Zn(II), Pb(II), Cr(III) and Mn(II) from water by Jordanian bentonite
- Jameel Sulieman Al – Jariri and Fawwaz Khalili.
- Desalination and Water Treatment. 21, 308-322, 2010.
58. The Effect of Ionic Strength On the Extraction Of Thorium (IV) From Nitrate Solution By Didodecylphosphoric Acid (HDDPA).
- Mohammad A. Bayyari, Mazen K. Nazal, Fawwaz I. Khalili.
- Journal of Saudi Chemical Society 14, 311–315, 2010.

59. A Study on using Date Palm Fibers and Leaf Base of Palm as Adsorbents for Pb(II) from Its Aqueous Solution.
A M Muhsen Al- Haidery, F H Zanganah, S R F Al-Azawi, F I Khalili and A H Al-Dujaili.
Water, Air and Soil Pollution 214,73-82, 2011.
60.
Preparation and Characterization of Poly(2,2-dimethyl-1,3-propylene oxalate) Polymer and Studying its Metal Uptake Behavior Toward Pb(II), Cd(II) and Hg(II) Ions.
Ibrahim F. Abu-Awwad, Fawwaz I. Khalili, Bassam A. Sweileh.
Solvent Extraction and Ion exchange 28(5), 682-705, 2010.
61.
Characteristics of organosulphur compounds adsorption onto jordanian zeolitic tuff from diesel fuel
Faisal Mustafa, Mohammad A. Al-Ghouti, Fawwaz I. Khalili, Yahya S. Al-Degs
Journal of Hazardous Materials.182(1-3), 97-107, 2010.
62.
Minimisation of organosulphur compounds by activated carbon from commercial diesel fuel: mechanistic study"
Mohammad A. Al-Ghouti, Fawwaz I. Khalili, Yahya S. Al-Degs
Chemical Engineering Journal 162, 669-676, 2010.
63.
Adsorption of Ce(III), Gd(III) and Yb(III) Onto Azraq Humic Acid
Nabtiti Tala K. and Khalili Fawwaz
Proceedings of ICCE-2009, Thailand: Special Issue of Research Journal of Chemistry and Environment
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64. 383-390, 2010.
Synthesis and Characterization of Mesomorphic Behaviour of New

Mesogenic Compounds Incorporating Cholesteryl Ester Moiety Connected to 1,3,4-Oxadiazole.

Ivan H. R. Tomi , Maha T. S. Al-Mahdawi , Isam A. Latif, Fawwaz I. Khalili, and Ammar H. Al-Dujaili

65. Journal of Chemistry and Chemical Engineering, 5,946-955, 2011.

A study on Using Date Palm Fibers and Leaf Base of Palm as Adsorbents for Pb(II) ions from its aqueous Solution

A. M.A. Al-Haidary, F.H.H. Zanganah, S.R.F. Al-Azawi, F.I. Khalili and A. H. AL-DUJAILI, Water, Air and Soil Pollution, 214, 73-82. 2011.

66. Removal of Nitrate ions from Water Using Jordanian Lemon Wood and Olive Seeds Charcoal.

Mohammed M. Al-Jboor and Fawwaz I. Khalili

International Journal of Arts and Sciences, 4(19), 283-305, 2011.

67. Adsorption of Thorium (IV) and Uranium (VI) onto Azraq Humic acid, Jordan.

Ahmad K. Mohammad and Fawwaz I. Khalili

The Jordanian Journal of Physics (JJP) at the proceedings of the 2ICMJ, 5, 33-42, 2012.

68. Degree of Reactivity of Two Kaolinitic Minerals in Alkali Solution Using Zeolitic Tuff or Silica Sand Filler.

Rushdi I. Yousef, Bassam El-Eswed, Mazen Alshaaer, Fawwaz

Khalili, Hubert Rahier

Ceramics International 38, 5061–5067, 2012.

69. Development of functional geopolymers for water purification, and construction purposes.

M. Alshaaera, B. El-Eswed, R.I. Yousef, F. Khalili, H. Rahier

Journal of Saudi Chemical Society, 2012.

70. Adsorption of Cu(II), Ni(II), Zn(II), Cd(II) And Pb(II) Onto Kaolin/Zeolite Based- Geopolymers.
Bassam El-Eswed, Mazen Alshaaer, Rushdi Ibrahim Yousef, Imad Hamadneh, Fawwaz Khalili
Advances in Materials Physics and Chemistry, 119-124, 2012.
71. Sorption of Uranium(VI) and Thorium(IV) by Jordanian Bentonite.
Fawwaz I. Khalili, Najla'a H. Salameh, and Mona M. Shaybe
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72. Effect of High Ionic Strength on the Extraction of U(VI) Ions
M. K. Nazal, M. A. Albayyari, and F. I. Khalili
Journal of Saudi Chemical Society, 18, 59-67, 2014.
73. Combustion and Emission Characteristics of Straight Vegetable Oils and Diesel Oil Blends.
Omar Bashir, Fawwaz I. Khalili, Bassam A. Sweileh
Jordan Journal of Chemistry, 9(2), 134-147, 2014.
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Ramia Z. Al Bakain, Rund A. Abu-Zurayk, Imad Hamadneh, Fawwaz I. Khalili, Ammar H. Al-Dujaili
Desalination and Water Treatment, 1-13, 2014.
75. Preparation and characterization of hydroquinone based polyoxalate and its application in the removal of heavy metals from water.
Diya Alsafadi, Bassam A. Sweileh and Fawwaz I. Khalili

- Journal of Advances in Chemistry, 10(8), 3022-3036, 2014.
76. Stabilization/solidification of heavy metals in kaolin/zeolite based geopolymers.
Bassam El-Eswed, Mazen Alshaaer, Rushdi Ibrahim Yousef, Imad Hamadneh, Fawwaz Khalili
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77. Insights into the remediation characterization of modified bentonite in minimizing organosulphur compounds from diesel fuel.
Fawwaz I. Khalili, Mohammed Sultan, Mohammad A. Al-Ghouti, Christian Robl.
Journal of Industrial and Engineering Chemistry, 28, 282–293, 2015.
78. Adsorption of uranium(VI) and thorium(IV) by insolubilized humic acid from Ajloun soil- Jordan.
Fawwaz Khalili and Ghadeer albanna
Journal of Environmental Radioactivity, 146, 16–26, 2015.
79. Kinetic Study on Adsorption of Fatty Hydroxamic Acids by Natural Clays
Basel M. Jafar, Imad Hamadneh, Fawwaz I. Khalili, and Ammar H. Al-Dujaili
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80. Synthesis and Characterization of New Polyamides Containing Symmetrical and Unsymmetrical Thiadiazole Rings.
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81. Sorption of Pb (II) Ions by Modified Kaolinite with Humic Acids
Khansaa Al-Essa and Fawwaz I. Khalili
Journal of Environmental Science and Engineering A. 5, 416-431, 2016.
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82. Removal of uranium(VI) and thorium(IV) by insolubilized humic acid originated from azraq soil in Jordan.
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Journal of Radioanalytical and Nuclear Chemistry. 311(2), 1375-1392, 2017.
DOI 10.1007/s10967-016-5031-y
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Cu(II), Th(IV) and U(VI) in metakaolin based geopolymers.

Bassam I. El-Eswed, Omar M. Aldagag, Fawwaz I. Khalili

Applied Clay Science. 140, 148–156, 2017.

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Mazen. K. Nazal, Mohammed. A. Albayyari , Fawwaz. I. Khalili and Ihsan Al Soudani

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85. Removal of Pb(II), Cd(II) and Zn(II) ions using a new poly(1,3-cyclohexylene oxalate) polymer.

Fawwaz I. Khalili, Faten Alruqub, and Bassam Swieleh

Research Journal of Chemistry and Environment, 21(7), 25-36, 2017.

86. Synthesis of immobilized chitosan/humic acid coupling product for removal of Pb(II), Cd(II) and Cr₂O₇²⁻ from aqueous solutions.

Frezah J. Muhana, Bassam I. El-Eswed, Fawwaz I. Khalili

Desalination and Water Treatment, 87, 292–305, 2017.

87. Removal of U(VI) and Th(IV) from aqueous solutions by organically modified diatomaceous earth: Evaluation of equilibrium, kinetic and thermodynamic data.

Slam I.Y. Salameh, Fawwaz I. Khalili, Ammar H. Al-Dujaili

International Journal of Mineral Processing, 168, 9–18, 2017.

88. Immobilization of toxic inorganic anions (Cr₂O₇²⁻, MnO₄⁻ and Fe(CN)₆³⁻) in metakaolin based geopolymers: A preliminary study

Abdullah Al-Mashqbeh, Salam Abuali, Bassam El-Eswed, Fawwaz I. Khalili

Ceramics International, 44, 5613-5620, 2018

89. Immobilization of organic dyes in geopolymeric cementing material

Abdullah Al-Mashaqbeh, Bassam El-Eswed, Raid Banat, Fawwaz I. Khalili

Environmental Nanotechnology, Monitoring & Management, 10, 351-359, 2018

90. Adsorption of Humic acid onto Jordanian Kaolinite Clay: Effects of Humic acid Concentration, pH, and Temperature.

Khansaa Al-Essa and Fawwaz I. Khalili

Science Journal of Chemistry 6(1), 1-10, 2018

91. Heavy Metals Adsorption from Aqueous Solutions onto Unmodified and Modified Jordanian Kaolinite Clay: Batch and Column Techniques.

Khansaa Al-Essa and Fawwaz I. Khalili

American Journal of Applied Chemistry, 6(1): 25-34, 2018

92. Synthesis and Characterization of Poly(1,4-Benzenedimethylene Phthalate) and the Study of its ability to sorb Pb(II), Cd(II), and Zn(II) ions.

Aisha N Al-Blawi, Fawwaz I Khalili and Bassam A Sweileh

Archives of Organic and Inorganic Chemical Sciences, 1, 1-17, 2018

93. Extraction and characterization of humin from two Jordanian soil

Safa'a Al-Momani and Fawwaz I. Khalili

Jordan Journal of Agricultural Sciences, 14, 189-199, 2018

94. Sorption of Pb(II), Cd(II) and Zn(II) ions from aqueous solution using Jordanian kaolinite modified by the amino acids methionine or cysteine

Fawwaz I. Khalili, Mosab S. Al-Kakah, Mohammad M. Ayoub, Latifa S. Ismail

Desalination and Water Treatment, 151, 280–294, 2019.

95. Salvadora Persica Branches Biomass adsorbent for Removal of Uranium (VI) and Thorium (IV) from Aqueous Solution: Kinetics and Thermodynamics Study

Mazen K. Nazal , Mohammad Al-Bayyari , and Fawwaz I. Khalili

Journal of Radioanalytical and Nuclear Chemistry, 321, 985-996, 2019.

96. Studying competitive retention of phthalate esters by humic acid under multi-variable experimental design optimization: Interaction between experimental factors

Jafar I. Abdelghani, Fawwaz I. Khalili, Yahya S. Al-Degs, Eyad S. Abu-Nameh

Desalination and Water Treatment, 150, 320-330, 2019.

97. Comparison of Jordanian and standard diatomaceous earth as an adsorbent for removal of Sm(III) and Nd(III) from aqueous solution

Imad Hamadneh. Abdulmonem Alatawi, Ruba Zalloum, Rula Albuqain, Shorouq Alsotari,

Fawwaz I. Khalili, Ammar H. Al-Dujaili

Environmental Science and Pollution Research, 26(20), 20969-20980, 2019.

98. Adsorption of Cu(II), Ni(II) and Zn(II) ions by nano kaolinite: Thermodynamics and kinetics studies

Aisha Muthana Alasadi, Fawwaz Izzat Khaili and Akl Mohammad Awwad

Chemistry International 5(4), 258-268, 2019

99. Synthesis, Characterization of Poly(1,4-cyclohexanedimethylene oxalate) and the Study of its Metal Uptake Behavior Towards Pb(II), Zn(II), and Cd(II) Ions

Yousef A. Al-Dalahmeh, Fawwaz I. Khalili, Bassam A. Sweileh

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100. Synthesis, Characterization and Solvent Extraction Properties of New Lipophilic Thiophene-Based Trifluoromethyl-Substituted β -Diketone Ligands for Uranium (VI) and Thorium (IV) Ions. Evidence for synergism

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2- Isolation and characterisation of humic acid isolated from Jordanian Oil Shale was presented at 14th Iraqi Chemical conference Nov. 1989.

3- Characterisation and complexation of some schiff bases with Actinides was presented at the 15th Iraqi Chemical conference, Feb. 1990.

4- Lead (II) complexation by Azraq humic acid was presented at 16th Iraqi Chemical conference, Dec. 1992.

5- Extraction and spectrophotometric determination of Nd(III), Th(IV) and U(VI) in synthetic brine using Chlorophosphonazo(III). Presented at the 1st Jordanian chemical conference. April. 1993.

6- Nd Solubility in Brine was presented at Migration 93. Charleston, South Carolina, U.S.A.

7- Determination of trihalomethanes concentration produced through the chlorination of water as a function of its humic acid content. Presented at 2nd Chemistry in Industry, Bahrain, Oct. 1994.

8- Interaction behaviour of Organochlorine pesticides with dissolved Jordanian Humic Acid. Presented at 35th science week. Syria, 1995.

9- Synthesis and chelation of new Mannich-type polymers towards some trivalent Lanthanides. Presented at 223rd ACS National Meeting. Orlando, FL, USA. April 2002.

10- Comparative study of binding strengths and thermodynamic aspects of Cu(II) and Ni(II) with humic acid by Schubert's ion exchange method.

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11- Preparation of new trifluoromethyl-substituted B-diketones and their extraction behavior of Thorium(IV) and Uranium(VI). Presented at The Fifth Jordanian Conference of Chemistry Amman– Jordan October 24, 2003.

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15- Chelation Properties of Modified Humic Acids towards Some Trivalent Lanthanide Ions. Presented on the Second International Conference on Solid state Science and Technology 2006. Kuala – Terengganu, Malaysia. 4- 6 Sept 2006.

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23-Combustion and Emission Characteristics of Vegetable Oils with Diesel Oil Blends.

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24- Synthesis and characterization of Poly(1,4- cyclohexasimethylene oxalate) and the study of its Metal uptake behavior towards Pb(II), Zn(II) and Cd(II).

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Fawwaz Khalili * Alia'a Khalifa and Ghadeer Al-Banna

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26- Diya Alsafadi, Francesca Paradisi and Fawwaz Khalili.

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3- Nayef M. Ahmad. M.Sc. 1987.

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4-Emad Sahili, M.Sc. 1993.

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5- Kefah Dass. M. Sc. 1993.

Interaction of humic acid isolated from King Talal dam with Pesticides found in the dam water.

6-Iman Abdellah, M.Sc. 1994.

Thermodynamics of the ionization of some Nitrophenols and associated buffers in mixed aqueous media.

7-Majed Attari. M.Sc. 1995.

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8-Faiha Drass. M.Sc. 1995.

Interaction behaviour of Jordanian Volcanic Ash with some Ions.

9-Khaled Abdel-Hadi. M.Sc. 1996.

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15-Ayman Ahmad Mohammad Ahmad. M. Sc 2002.

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25- Mohammed Abed al- Karim al- Bayyari. M. Sc 2006.

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29- Ibraheem Awad. M. Sc 2008.

Preparation and Characterization of poly(neopentyl oxalate) polymer and studying its chelation behaviour towards Pb(II), Cd(II) and

Hg(II) ions.

30- Omar Bashere. M. Sc 2008

Assessment of Used Vegetable Oils Blended with Jordanian Diesel as Bio- Diesel Fuel.

31- Mohammad Sultan M. Sc 2009.

Adsorption of Sulfur compounds in Jordanian Diesel by Jordanian Bentonite.

32- Gameel Jareere M. Sc 2009.

Removal of Pb(II), Mn(II), Zn(II), and Cr(III) from waste Water using Jordanian Bentonite.

33- Mona Al-shaeb M. Sc 2010.

Adsorption of Uranium (VI) and Thorium (IV) by Jordanian Zeolite

34- Faisal Mustafa M. Sc 2010.

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35- Rana Masad M. Sc 2010.

Preparation and Characterization of 4,4'-biphenol-based polyoxalate oligomer and studying its chelation behaviour towards Pb(II), Zn(II), Cu(II) and Sn(II) ions.

36- Najla salama M. Sc 2010.

Adsorption of Uranium (VI) and Thorium (IV) by Jordanian bentonite.

37- Mohammed M. Al-Jboor M. Sc 2010.

Removal of Nitrate ions from Water Using Jordanian Lemon Wood and Olive Seeds Charcoal.

38- Yousef Ali Al-Dalahmeh M. Sc 2010.

Preparation and Characterization Of

1,4-Cyclohexandimethanol Based Polyoxalate Polymer and Studying Its Chelation Behaviour Towards Pb(II), Zn(II) And Cd(II) Ions.

39- Basel M. Sc 2011

Modification of Jordanian clays by using prepared fatty hydroxamic acids (FHAs) from several vegetable oils.

40- Ghadeer A. Al-Banna M. Sc 2011

Adsorption of Uranium (VI) and Thorium (IV) by insolubilized humic acid from Ajloun soil.

41- Alia M. Khaliefeh M. Sc 2011

Removal of uranium(VI) and thorium(IV) by insolubilized humic acid from Azraq soil in Jordan.

42- Mohammad Ayoub M. Sc 2012

Modification of Kaolinite by amino acid and its adsorption of heavy metals.

43- Faten Al- Ruqub M. Sc 2012

Preparation and characterization of poly(1,3-cyclohexylene oxalate) and the study of its uptake characteristics towards Pb(II), Cd(II) and Zn(II) ions.

44- Aisha Nawaf Al Blawi M. Sc 2012

Synthesis And Characterization of Poly(1,4-Benzenedimethylene Phthalate) And The Study of Its Ability To Adsorb Pb(II), Cd(II), and Zn(II) ions

45- Mosab Shehdeh Al-kakah M. Sc 2014

Removal of Pb(II), Cd(II), and Zn(II) ions from aqueous solution using Jordanian kaolinite modified by the amino acid: methionine

46- Faris Atalah Obeid Alhnafat M. Sc 2014

Removal of lead(II), zinc(II) and cadmium(II) by insolubilized humic acid from tafila soil in Jordan

47- Shorouq Al-Sotari M. Sc 2015

Synthesis and characterization of poly(pentamethylene 2,6-pyridinedicarboxylate) and the study of its ability to adsorb Pb(II), Cd(II), and Zn(II) Ions.

48- Tamara Ghrear M. Sc 2015

Synthesis and characterization of poly(hexamethylene-2,6 pyridenedicarboxylate) and poly(1,4-cyclohexylene 2,6-pyridenedicarboxylate) and the study of their adsorption behavior towards Pb²⁺ and Cd²⁺ ions.

49- Slam. I.Y. Salameh M. Sc 2015

Kinetic and thermodynamic studies for the adsorption of U(VI) and Th(IV) ions from aqueous solutions by surfactant-modified Jordanian diatomaceous matter.

50- Omar Mohammad Salman Aldagag M. Sc 2015

Stabilization and solidification of heavy metals-humic acid complexes using inorganic polymers.

51- Faisal Suleiman Mustafa M. Sc 2016

Stability of Rosuvastatin in the presence of some pharmaceutical excipients in solid state.

Supervisor: Dr. Fawwaz Khalili, Prof. and Co. supervisor: Dr. Fadwa M. Odeh

52- Azizah Mohammd Almadhi M. Sc 2016

Synthesis and characterization of zeolite (ZSM-5) for drug delivery applications.

Supervisor: Dr. Fawwaz Khalili, Prof. and Co. supervisor: Dr. Fadwa M. Odeh

53- Abdullah Mafleh Falah Al-Mashaqbeh M. Sc 2016

Stabilization and solidification of organic dyes by using inorganic polymers.

Supervisor: Dr. Fawwaz I. Khalili, Prof. and Co-supervisor: Dr. Bassam El-Eswed

54- Salam Ahmad Abdel-Rahman Abuali M. Sc 2016

Stabilization and solidification of several anions using inorganic polymers.

Supervisor: Dr. Fawwaz I. Khalili, Prof. and Co-supervisor: Dr. Bassam El-Eswed

55- Manal Mahmoud Asa'd Al-Khamaiseh M. Sc 2016

Heavy metals content in Jordanian imported basmati rice grains

56- Bara'a Ibrahim M. Sc 2018

Removal of some metal ions onto insolubilized humic acid from Iraq soil

Supervisor: Dr. Hutaf Baker, Prof. and Co-supervisor: Fawwaz I. Khalili, Prof

57- Mohammed Jaradat M. Sc 2018

Source Rock Quality Characterization of Deeply Buried Oil Shale of MCM Formation within Hamza Field, Azraq Basin - Jordan.

Supervisor: Dr., Prof Abdallah abu Hamad. and Co-supervisor: Dr. Fawwaz I. Khalili, Prof

58- Youmn Othman Ghalawinji M. Sc 2019

Purification and biochemical characterization of polyhydroxyalkanoate (pha) synthase enzyme from haloferax mediterranei: the key enzyme of biodegradable plastic synthesis

Supervisor: Fawwaz I. Khalili, Prof and Co-supervisor: Dr. Diya Amer Alsafadi

59- Aisha Muthana Alasadi M. Sc 2019

Adsorption of Cu(II), Ni(II) and Zn(II) ions by nano kaolinite: Thermodynamics and kinetics studies

Supervisor: Fawwaz I. Khalili, Prof and Co-supervisor: Dr. Akel Awwad, Prof.

60- Akram Ismail Abu Shower M. Sc 2022

Removal of thorium(IV) By Olive Pomace from Madaba in Jordan and Its Modified Forms

Supervisor: Fawwaz I. Khalili

61- Ekhlas Haroun Alosofee M. Sc 2022

Nanokaolinite Extracted From Sweileh Sand Deposits And Its Modified Form As An Efficient Adsorbent For uranium(VI) And thorium(IV) From Aqueous Solutions

Supervisor: Fawwaz I. Khalili

62-Ehab Hamzeh

Removal of uranium(VI) By Olive Pomace From Madaba In Jordan And Its Modified Forms

63- Shrouq Al azeh M. Sc 2023

Study of the Removal of thorium (+4) and uranium (+6) ions from aqueous solutions using lemon charcoal

64- Heba Taher M. Sc 2023

Study of the removal of thorium(IV) and uranium(VI) ions from aqueous solutions using oak charcoal.

65- Aya Aledwan M. Sc 2024

Removal of Methylene blue and Crystal violet from aqueous solution by Jordanian Oak charcoal

66- Bayan Al huniti M. Sc 2024

Study of the removal of thorium (4+) and uranium (6+) ions from aqueous solutions using Nigerian charcoal.

Graduate Students PhD

1- Hutaf Mustafa Baker. PhD. 2002.

Complexation of Azraq Humic Acid with Heavy Metal Ions.

2- Bassam I. El –Eswed PhD 2005.

Adsorption of heavy metals by humic acid from Azraq area.

3-Mahmoud M. Salman PhD 2005.

Adsorption of heavy metals on Azraq humic acid immobilized on Azraq bentonite clay.

4-Ibrahim A. Al-Saraierh. PhD 2005.

Synthesis and characterization of some α -amino- β -keto esters complexes with some transition metals.

5- Ayad Shawabkeh. PhD 2008.

Adsorption of Some Chlorinated Pesticides on Azraq Humic Acid Immobilized on Azraq Bentonite.

6- Safa'a Abdulla Al-Momani PhD 2010.

Adsorption of Heavy Metals by Jordanian Humin.

7- Mohammad nor aldine" Obaid Al-Dweri PhD 2010.

Preparation and characterization of some polyesters and studying their ability to adsorb Pb(II), Cd(II) AND Cu(II) ions

8- Khansa Issa PhD 2011.

Adsorption of heavy metal ions on modified Jordanian kaolin clay by humic acid.

9- Ashraf Al-saudi PhD 2013.

Complexation of Humic acid by heavy metals and their theoretical calculations.

Supervisor: Dr. Fawwaz I. Khalili, Prof. and Co-supervisor: Dr. Murad Al Damen

10- Frezah Jamil Ibrahim Muhana PhD 2015.

Adsorption of selected ions on commercial humic acid and humic acid extracted from Ajloun area modified with chitosan.

Supervisor: Dr. Fawwaz I. Khalili, Prof. and Co-supervisor: Dr. Bassam El-Eswed

11- Amal Ibraheem Alsayaheen PhD 2017.

Effect Of Irrigation With Thermal Water On Tomato And Cauliflower Plants Uptake Of Radium-226, Radium-228 And Potassium-40.

Supervisor: Dr. Fawwaz I. Khalili, Prof. and Co-supervisor: Dr. Jamal Y. Ayad

12- Marwa Mohammed AL-a'qarbeh PhD 2018.

Removal of uranium(VI) and thorium(IV) by superparamagnetic manganese spinel ferrite nanoparticles

Supervisor: Dr. Fawwaz I. Khalili, Prof

13- Faten M. " Abu Orabi Aladwan" PhD 2018.

Biosorption of Uranium(VI), Thorium(IV), Neodymium(III) and Cerium(III) by Hedera Helix leaves.

Supervisor: Dr. Fawwaz I. Khalili, Prof

14- Latifa Saeed Ismail PhD 2019.

Sorption of uranium(VI) and thorium(IV) by modified silica nanoparticles with cysteine or methionine amino acids

Supervisor: Dr. Fawwaz I. Khalili, Prof

15. Eshraq al Jamal PhD 2020

Assessment of Heavy Metals Contamination in Seawater and their Adsorption onto Natural Sediments from the Gulf of Aqaba- Jordan

Supervisor: Dr. Mohammed Rasheed Prof. and Dr. Fawwaz I. Khalili, Prof

16. Jafar Al Jaffreh 2023

Removal of uranium(VI) and thorium(IV) from water by adsorption onto nano-composite MnFe₂O₄ / kaolin.

17. Omar Al nasra 2023

Preparation, characterization and Investigation of nanosilica-cysteine system loaded with arsenic trioxide (SiO₂-Cys/ATO) and applying computational biology tools and machine learning to assess the potential of drug combination for cancer therapy.

18. Diab Al sharafat 2024

Removal of humic acid by nano kaolinite and nano manganese ferrite and then the adsorption of Th(IV) and U(VI) by the modified composite.

19- Khaled Harasheh 2024

Adsorption of uranium(VI) and thorium(IV) from water by nano nickel oxide and its modified forms with humic acid or methionine acid

Courses taught.

For undergraduate students.

- General Chemistry courses for Medical, Nursing, Engineering and Science Students.
- Experimental general chemistry course for non-chemistry major.
- Experimental general chemistry course for chemistry major
- Inorganic Chemistry (1)
- Inorganic Chemistry (2)
- Inorganic Chemistry (3)
- Organometallic chemistry
- Practical inorganic Laboratory
- Nuclear and radiochemistry course for chemistry, biology and medical analysis students.
- Soil Chemistry course for chemistry students.

For graduate students.

- Group theory for master students
- Advanced Inorganic Chemistry for PhD students.
- PhD students graduate seminar.

Positions

1991-1995 Vice president for the Jordanian Chemical Society.

1992-1996 Under Secretary for the Union of Arab Chemist.

July 95-Sept 96 President of the Jordanian Chemical Society.

Sept 1992-1996 Head of the Disposal of Chemical and Nuclear Wastes Committee at the University of Jordan.

Sept 1996 – Chairman of the Science Department and Prof. of

August 2000 Inorganic Chemistry at Sohar Teacher College for

Chairman of the science department, Ministry of Higher Education, Sultanate of Oman.

Member of the International Society for Humic Acid.

Member of the International Congress for Chemistry, India.

Head of the Jordanian student team to the 2nd Arab Chemistry Olympiad Sept 2004.

References

- 1- Prof. Raid Banat. Chemistry Department. Dean of Faculty of Science Al-Albyet university, Mafraq - Jordan.
- 2- Prof. Dia Eddin Arafah. Ex-president of Al-Albyet university. The University of Jordan. Amman - Jordan 11942.
- 3- Prof. Fuad Kettaneh. Mathematics Department. The University of Jordan. Amman - Jordan 11942.