

CURRICULUM VITAE

Hutaf Mustafa Baker

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* PERSONAL:

Full Name : Hutaf Mustafa Baker

Nationality : Jordanian

Marital Status : Married

* EDUCATION BACKGROUND:

Ph.D. May 2002 The University of Jordan, Amman, Jordan

Major: Analytical/ environmental chemistry.

Thesis: "Complexation of Azraq humic acid with heavy metal ions."

M.Sc. 1993 The University of Jordan, Amman, Jordan

Major: Analytical Chemistry.

Thesis: "Adsorption properties of lead on some Jordanian clay deposits."

B.Sc. 1990 The University of Jordan, Amman, Jordan

Major: Chemistry.

EMPLOYMENT HISTORY:

Al al-Bayt University (Jordan) *Assistant professor* September 2003- February 2010
in analytical chemistry

Al al-Bayt University (Jordan) *Associated professor* March 2010
in analytical chemistry

I) **TEACHING AND COURSE DEVELOPMENT**

1) **TEACHING EXPERIENCE:**

During my presence at Al al-Bayt University, I acquired a good background in teaching **graduate** and **undergraduate** courses dealing with the following topics:

A. Undergraduate Courses:

1. **General Chemistry.**
2. **Practical General Chemistry.**
3. **General Chemistry for Nursing Students.**
4. **General Chemistry for Pharmaceutical students.**
5. **Analytical Chemistry 1.**
6. **Analytical Chemistry 2.**
7. **Instrumental Methods of Analysis.**
8. **Electro-analytical chemistry.**
9. **Environmental analytical chemistry.**
10. **Practical Analytical chemistry.**
11. **Practical Instrumental Methods of Analysis.**
12. **Environmental Science.**

B. Graduate Courses:

1. **Advanced Analytical Chemistry.**
2. **Advanced Chromatography Analysis.**
3. **Special topics in Advanced Analytical Chemistry.**
4. **Advanced Environmental Analytical Chemistry.**

2) **COURSE DEVELOPMENT:**

1. *"Laboratory Manual for Experimental Analytical chemistry I"*, CHEM 233, Hutaf Baker. Al al-Bayt University.
2. *"Laboratory Manual for Experimental Instrumental Analysis"*, CHEM 333, Hutaf Baker. Al al-Bayt University.

II) RESEARCH EXPERIENCE:

During my presence at several various institutions; **University of Jordan, Al al-Bayt University (Jordan)**, and **Ulm University** (Germany) as a researcher, I was involved in various research activities in *experimental analytical chemistry*, involving the following topics:

1. Waste water treatment and the study of the Adsorption and Kinetics properties of heavy metal ions on Jordanian clay minerals.
2. Waste water treatment and the study of the adsorption properties of in-organic and organic pollutants on Jordanian zeolite and natural silicates minerals.
3. The association of toxic metal ions and organic matters with DOM -Humic acid- especially the Jordanian humic acid.
4. Spectroscopic studies of hydrazones with metal ions.
5. Analytical applications for spectroscopic determination by oxidative coupling reactions.
6. Kinetics study of photochemical transformation of some drugs.
7. Analysis of flame- retardants using the HPLC.
8. Non-linear Optical Properties on Metal surfaces.
9. Spectroscopic and Kinetics studies for ninhyrine reactions.

**Please see list of publications for details.*

III) STUDENTS' RESEARCH PROJECTS:

1) M.Sc. STUDENTS (Al al-University)

1. *"Analytical Applications for the Spectrophotometric Determination of Drugs using Oxidative Coupling Reactions"* Mr. Ashraf Abu-Sneneh graduated with M.Sc. degree [2005].
2. *"Spectrophotometric determination of some heavy metal ions in water using some hydrazones derivatives"* Mr. Ahmad Abu-Zreeq graduated with M.Sc. degree [2005].
3. *"The role of natural Jordanian zeolite in the treatment of waste and drinking water by column and batch experiment."* Mr Hammad Ali Younes graduated with M.Sc. degree [2006].
4. *"Kinetics study of photochemical transformation of colchicines."* Ms Mobeen Ahmed Abu-Seif. Graduated with M.Sc. degree [2008].

5. *"Removal of phenol and phenol derivatives from water by modified zeolite: Optimization and Kinetic equilibrium study"* Mr Ahmad Al- Shraah graduated with M.Sc. degree [2008].
6. *"Comparative study of the uptake of ammonium ion by natural Jordanian clay minerals with synthetic ion exchanger from aqueous solution"* Heba Fraig, graduated with M.Sc. degree [2009].
7. *"Study of the drug interaction with polymer surface, the role of internal polymer surface."* Graduate student Amal Fahed Al-Khazalah, graduated with M.Sc. degree [2010].
8. *"Comparative study of the uptake of phosphate ion by natural Jordanian bentonite with bentonite modified with cetyltrimethylammonium bromide from wastewater"* Mousa Al-Mutairy, graduated with M.Sc. degree [2012].
9. *"Spectrophotometric Method for Determination of Ammonia in Industrial Water Using Ninhydrin"* Khairieh AlZboon, graduated with M.Sc. degree [2012].
10. *"Evaluation of Jordanian Clay as Solid Extractants for Fluoride ion from water"* Amaal Al-Tamimi, graduated with M.Sc. degree [2013].
11. *"Spectrophotometric Method for Determination of chromium metal ion in aqueous solution Using Ninhydrin"* Tiba Deyaa Rahooomi, graduated with M.Sc. degree [2015].

IV) ADMINISTRATIVE EXPERIENCE:

1. Head of the chemistry department, Al al-Bayt University, 2009-2011.
2. Acting assistant Dean of students' affairs, Al al-Bayt University, 2004-2005.
3. Chemistry representative in the college of science board.
4. Member of departmental curriculum committee.
5. Academic advisor to chemistry students.
6. Member of library committee.
7. Member of departmental graduate committee.
8. Member of departmental seminar committee.
9. Chairperson of university students' investigation committee.
10. Member of university organization committee of graduation ceremony.
11. Member of the committee for scientific research in the department.
12. Member of the committee for postgraduate education in college.

13. Chairperson of the committee on the issues of students in college.

V) CONFERENCES:

1. The First Symposium of pure and applied chemistry, 1998, Department of chemistry Yarmouk University.

2. The First Arab chemistry conference, 2001, Department of chemistry The applied Science University .

3. The Third Jordanian international conference for chemistry, Department of chemistry, Yarmouk University, 2002.

4. The Third Scientific conference, 2003, Department of chemistry ,Al al-bayt University.

5. The 12th Arab chemistry conference, 2003, Jordanian chemical society.

6. The Second international conference on chemistry and its applications, " *A study of the effect of temperature on the association of Cd(II) and Zn (II) with Azraq humic acid by Schubert's ion exchange method*", 6-9 December, 2003, Department of chemistry, Qatar University.

7. The Second Arab Conference on Chemistry, "*Analysis of the behavior for the removal of Pb(II) from water onto insolubilized humic acid*", 21-23 April 2004, Department of chemistry, Applied Science University (Private).

8. The sixth Jordanian conference of chemistry,(12-12- 2005), Department of chemistry, Hashemite university. *A member in the Organizing Committee.*

9. The seventh Jordanian conference of chemistry,(1-3- 2007), Department of chemistry, Al al-Bayt university. *Coordinator of the conference.*

10. The 8th Jordanian conference of chemistry,(21-4- 2008), Department of chemistry, Al Petra university. *A member in the Organizing Committee.*

11. The Fifth Jordanian International Conference of Chemistry (16-19 June, 2008) *Organized by Chemistry Department Yarmouk University (Irbid- Jordan)*, Jordanian Chemical Society. *A member in the Organizing Committee.*

12. The 59th Annual Meeting of the International Society of Electrochemistry, Electrochemistry Down to the Molecular Level: Interfacial Science for Life and Technology (September 7 to 12, 2008), Seville, Spain. Lucía Avalle (Facultad de Matemática, Astronomía y Física, Córdoba, Argentina), Hutaf M. Baker, M. Abdel-Halim Hamzeh, Harold Jones, Elizabeth Santos Comparative Studies of the Adsorption of Cysteamine, Mercaptopropionic Acid and L-Cysteine on Ag(111).

13. Zing Coordination Chemistry conference. March 15-18, 2009, Department of Chemistry, Colorado state university

14. The 9th Jordanian conference of chemistry, (28 -4- 2009), Department of chemistry, Hashemite university. *A member in the Scientific Committee.*

15. مؤتمر الوطني لتطوير الخطط الدراسية وأساليب التعليم والتعلم والبحث العلمي 2010
16. The First United Arab Emirates Conference on Pure and Applied Chemistry (ECPAC11), March 1-3, 2011, Department of chemistry, American University of Sharjah. "Analysis of treatment of aqueous solutions from phenol by sorption on low cost modified Jordanian natural zeolite. Column and batch experiment".
17. Material Science Conference (Jordan) which held at 2014.
18. The TechWomen Networking Conference which held at 7/2/2013.

19. الحلقة النقاشية الوطنية لوضع التقييم الاقتصادي-الاجتماعي والنوع الاجتماعي للملوثات العضوية الثابتة المنعقدة بتاريخ 2015/2/9 (POPs). رئيس حلقة نقاش وحوار. (مشروع تابع لوزارة البيئة).

20. The 14th Jordanian chemical conference, (8 -4- 2015), Department of chemistry, Al al-Bayt University. Jordanian Chemical Society. *The participation was as*

A member in the Organizing Committee.

Lecture which entitled "Spectrophotometric Method for Determination of Ammonia in Industrial Water Using Ninhydrin" Khairieh AlZboon.

Poster which entitled " Spectrophotometric Method for Determination of chromium metal ion in aqueous solution Using Ninhydrin".

VI) EXTRA-CURRICULUM ACTIVITIES:

1.External examiner for M. Sc. Theses.

2.Referee for the scientific papers submitted for publications in various chemistry journals:

- Journal of Hazardous material
- Chemosphere
- Environmental Chemistry
- International Journal of Applied Chemistry (IJAC)
- Desalination and Water Treatment
- Journal of Environmental Management
- Environmental Technology
- Industrial & Engineering Chemistry Research, ACS publications
- Desalination

- Journal of Environmental Chemistry and Ecotoxicology
- Separation Science and Technology.
- Environmental Science & Technology.
- Chemical Engineering and Processing: Process Intensification.
- Journal of Analytical and Applied Pyrolysis.
- Environmental Engineering and Management Journal.
- American Journal of Analytical Chemistry(AJAC).
- Environmental Science and Pollution Research.
- Arabian Journal of Chemistry.
- Jordan journal of chemistry.
- The Scientific World Journal/**Environmental Chemistry**

3. Member of the editorial board of :-

- 1- International Journal of Chemical Sciences.
- 2- The Scientific World Journal/Environmental Chemistry.

VII) MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS:

1. International Humic Substances Society (IHSS).
2. Jordanian Chemical Society.
3. European Desalination Society.
4. Association of Jordanian Women Academics

VIII) Awards and Certificates

- ELSIVIER-SCOPUS AWARD 2009, (2009), JORDAN.
- Certificate of Chemical Safety and Security Workshop.

IX) PUBLICATIONS:

I) Published Papers:

Publications:

1- Hutaf M. Baker and Fawwaz Khalili." Comparative study of binding strength's and thermodynamic aspects of Cu (II) and Ni (II) with humic acid by Schubert's ion exchange method" *Analytica Chimica Acta*, 497/ 1-2 (2003) 235-248.

2- Y. S. al-degs, M. F. Tutunji and Hutaf M. Baker "Isothermal and kinetic adsorption behavior of Pb²⁺ ions on natural silicate minerals" *Clay Minerals* (2003) 38, 501–509

3- Hutaf M. Baker and Fawwaz Khalili."Analysis of the Adsorption of Lead (II) from water onto Insolubilized Humic Acid: Temperature and pH Dependence". *Analytica Chimica Acta.*, 516 (2004) 179-186..

4- B. F. Ali, R. Abu-Elhalawa, S. F. Kayed and Hutaf M. Baker, M. Qandil, M. AL-Refai, M. Ibrahima, Z. Juddehc and K. H. AL-Obaidia, Synthesis and characterisation of metal 2-pyridine carboxaldehyde-N-methyl-N-2-pyridyl hydrazone complexes, *J. Coord. Chem*, 57, No. 13 (2004) 1139-1149.

5- Hutaf M. Baker, F. Khalili, A study of complexation thermodynamic of humic acid with cadmium (II) and zinc (II) by Schubert's ion-exchange method" *Analytica Chimica Acta*. (2005), Volume 542, Issue 2, 240-248.

6- Hamzeh M. Abdel-Halima, Adnan S. Abu-Surrah, and Hutaf M. Baker " Kinetics of the Oxidation of L-Cysteine by *trans*- and *cis*-Cobalt(III) and Iron(III) Complexes" *Z. Naturforsch.*(2006). 61b, 1346 – 1350.

7- Hutaf M. Baker, and Fawwaz Khalili, " Effects of pH and temperature on the interaction of Pb (II) with Azraq humic acid by Schubert's ion exchange method" *Annals of Environmental Science*, 2007, Vol 1, 35-44.

8- R.Ghanem, Hutaf M. Baker, and F.A.Delmani "Determination of hexbromocyclododecan (HBCD) in Backcoated Textile Preparation" *Asian Journal of Chemistry*, (2007).Vol. 19, No. 2, 921-928.

9- Hutaf M. Baker, Hamzeh M. Abdel-Halim " Removal of Nickel ions from aqueous solutions by using insolubilized humic acid: Effect of pH and temperature" *Asian Journal of Chemistry*, (2007), Vol. 19, No. 1, 233-245.

- 10- **Hutaf M. Baker**” A study of the binding strength and thermodynamic aspects of cadmium and lead ions with natural silicate minerals in aqueous solutions” *Desalination*, 242, (2009), 115-127.
- 11- Raed.Ghanem and **Hutaf M.Baker** "Determination of Decabromodiphenyl Ether in back coated textile preparation" *Hazardous material*, Volume 162, Issue 1, (2009), 249-253.
- 12- **Hutaf M.Baker** “Characterization for the interaction of nickel (II) and copper (II) from aqueous solutions with natural silicate minerals” *Desalination*, 244, (2009), 48-58.
- 13- **Hutaf M. Baker**, Adnan M. Massadeh and Hammad A. Younes “ Natural Jordanian zeolite: Removal of heavy metal ions from water samples using column and batch methods” *Journal of Environmental Monitoring and Assessment*, 157, Issue 1, (2009), 319-330.
- 14- **Hutaf M. Baker** and Raed.Ghanem “Evaluation of treated natural zeolite for the removal of o-chlorophenol from aqueous solution” *Desalination*, Volume 249, Issue 3, 25 December (2009), 1265-1272.
- 15- **Hutaf M. Baker** and Heba Fraij “Principles of interaction of ammonium ion with natural Jordanian deposits: Analysis of uptake studies” *Desalination*, Volume 251, Issues 1-3, February (2010), 41-46.
- 16- Raed Ghanem, **Hutaf M. Baker**, Mobeen Abu Seif, Raed A. Al-Qawasmeh, Abdl-Azizi Mataneh and Samer Ibrahim Al-Gharabli “ Photochemical Transformation of Colchicine: A kinetic Study” *Journal of Solution Chemistry*. 39, (2010), 441-456.
- 17- Hamzeh M. Abdel-Halima, Adnan S. Abu-Surrah, and **Hutaf M. Baker** “ Kinetics of oxidation of L-cysteine by trans- and cis- Co(III) and Fe(III) complexes based on α - and γ -diimine Schiff base ligands” accepted for publication in *ZAAC - Zeitschrift für Anorganische und Allgemeine Chemi.* 636: Issue 5, (2010), 872–877.
- 18- Adnan M. Massadeh, **Hutaf M. Baker**, Mutewekil M. Obeidat, Eyad S. Abu-Nameh, and Bayan A. Obeidat, " Analysis of Lead and Cadmium in Selected Leafy and Non-Leafy Edible Vegetables Using Atomic Absorption Spectrometry " *Soil and Sediment Contamination: An International Journal*. 20: Issue 3, (2011), 306-314.
- 19- Hamzeh M. Abdel-Halima, Adnan S. Abu-Surrah, and **Hutaf M. Baker** ” Kinetics of Oxidation of L-Cysteine by Cobalt(III), Iron(III), and Chromium(III) Complexes of Salicylaldiminato Ligands” *Jordan Journal of Chemistry*. Vol.7, No.1, (2012), 33-40.

- 20- **Hutaf M. Baker**, Raed Ghanem, Ahmad al- Shuraá "Determination of phenol in wastewater by using low cost modified Jordanian natural zeolite. Column and batch experiment". *Eurasian Journal of Analytical Chemistry*, (2012). Vol 7 (3). 134-149.
- 21- **Hutaf M. Baker** "Evaluation of Jordanian treated natural zeolite for the uptake of p-nitrophenol from wastewater by continuous column method" *Desalination and Water Treatment*. (2014), 52, 3290-3300.
22. **Hutaf M. Baker**, Raed Ghanem "Determination of Antimony trioxide from the back coated textile preparation " *Eurasian Journal of Analytical Chemistry*. Accepted for publication. August (2014). (2014). Vol 9, No 1, 8-14.
23. **Hutaf M. Baker**, Raed Ghanem " Study on Removal behavior and separation efficiency of naturally occurring bentonite for Sulfate from water by continuous column and batch methods" *European Journal of Chemistry*. Accepted for publication. October (2014). **Cite this:** *European Journal of Chemistry*. **2015**, 6(1), 12-20.
24. **Hutaf M. Baker** and Khairieh F. Alzboon "Spectrophotometric determination of ammonia using Ninhydrin assay and kinetic studies " *European Journal of Chemistry*. 6(2) (2015) 135-140.
25. **Hutaf M. Baker** "Studies of Oxyanion Removal from aqueous solution using Zeolite and HDTMA-Br Surface Modified Organo-Zeolite" has been accepted for publication in *American Chemical Science Journal* (2015).

II) Manuscripts submitted for publication or under preparation for publication:

1. L.B. Avalle, Hamzeh M.A-H., **Hutaf M. Baker**, H. Jones and E. Santos."Comparative studies of the adsorption of cysteamine, mercaptopropionic acid and L-cysteine on Ag(111)." Under preparation.
2. Hamzeh M.A-H., **Hutaf M. Baker**, L.B. Avalle, H. Jones and E. Santos."Effect of phenyl substitution on second harmonic generation of self-assembled monolayers on Ag(111)." Under preparation.
3. Hamzeh M.A-H., **Hutaf M. Baker**, L.B. Avalle, H. Jones and E. Santos "Second harmonic generation of 4-Amino-4'-Nitrodiphenyl sulfide SAM on Ag(111) surface.". Under preparation.
4. Interaction between Terbutaline and polymer surface. Raed Ghanem **and Hutaf M. Baker**.

