

# CURRICULUM VITAE

*Dr. Mahmoud Shaker Sunjuk*



## ***Personal:***

Date and place of birth : 1/12/1971 Amman – Jordan

Marital Status : Married-five children's

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*Chemistry department, Faculty of science, The Hashemite university, P.O .Box 150459 Zarka, Jordan*

## ***Education***

1. Ph.D. : Inorganic and Polymer Chemistry, 2003, Eberhard-Karls-Univ. Tuebingen, Germany.

*Dissertation Advisor:*

Prof. Ekkehard Lindner, Prof. of Inorganic Chemistry, Eberhard-Karls-Univ. Tuebingen (Germany)

***Dissertation Title: Emulsion Copolymerization of  $\alpha$ -Olefins with Carbon Monoxide Using Water-Soluble Palladium(II) Complexes.***

2. M.Sc.: Analytical Chemistry, 1997, University of Jordan, Jordan.

*Dissertation Advisors:*

Prof. Ghazi Derwish, Prof. of Physical Chemistry, University of Jordan

Prof. Maha Tutunji, Prof. of Analytical Chemistry, University of Jordan

***Dissertation Title : Chemicals Modifications of Jordanian Kaoline and their effects on the Surface Properties of the Mineral.***

3. B.Sc. in Chemistry, 1994, Yarmouk University, Jordan.

## ***Experience :***

1. *Assistant Dean* (Faculty of Science), 2013-
- 2.. *Assistant Professor*: Chemistry Courses of General, Organometallic, Industrial and Inorganic and their laboratories at *Hashemite University*, 2007-
3. *Assistant Professor*: Chemistry Courses of General, Analytical , Instrumental, Organic and Pharmaceutical Organic Chemistry and their laboratories at Al-Zaytoonah Private University Of Jordan 2005-2007.
4. *Study Director*: Analytical method development for analysis of drugs in Plasma using HPLC and GC Chromatography. Pharmaceutical Research Unit / Royal Scientific Society 2004 -2005
5. *Post-doc*: Generation of New Water-Soluble Catalysts for the Emulsion Copolymerization of Different Non-polar and Polar Monomers. Polymer Research Lab , 2003-2004, BASF, Germany.
6. *Teaching assistant*: Chemistry laboratory courses of Inorganic, Organic, Analytical and General Chemistry at Eberhard-Karls-Univ. Tuebingen 2000-2003.
7. *Teacher of Chemistry* in Saudi Arabia for three years 1997-2000.
8. *Teaching assistant*: Chemistry Laboratory Courses of General, Organic and Analytical Chemistry at Univ. of Jordan 1994-1997.

## ***Area of Research Interest:***

1. Chelating complexes of lithium with organophosphonates and Development of analytical methods for extraction of lithium from aqueous solutions.
2. Development of new method for producing aqueous dispersions of carbon monoxide copolymers with olefins in presence of palladium complex catalysts.
3. Bioequivalence Study of the Drug.
4. Development of analytical methods for environmental pollutants.

## ***Publications:***

- 1) Preparation of Aqueous Polyketone Dispersions using Water-Insoluble Pd(II) Catalysts. A. Held, L. Kolb, R. Thomann, S. Mecking, M. Schmid, R. Pietruschka, E. Lindner, **M. Sunjuk**, M. Khanfar. *Macromolecules* 35 (9), 3342-3347 APR 23,2002.
- 2) Urea and Thiourea Jordanian Modified Kaolinite as Adsorbent of Phenolics in Aqueous Solution **Mahmoud Sunjuk**, Salem M. Musleh, Maha Tutanji and Ghazi Derwish.. *Ultra Scientist* (2006), 18(1), 25-38.

3) **PATENT:**

Manufacture of aqueous dispersions of carbon monoxide copolymers with olefins in presence of palladium complex catalysts. Schmid, Markus; Chowdhry, Mubarik; **Sunjuk, Mahmoud**; Kristen, Marc Oliver; Mecking, Stefan; Held, Anke; Lindner, Ekkehard; Wegner, Peter. *PCT Int. Appl.* (2003), 39 pp. CODEN: PIXXD2 WO 0306528 A1 20030123 CAN 138:107166 AN 2003:58146 CAPLUS

4) **PATENT:**

Production of aqueous polymer dispersions Schmid, Markus; Chowdhry, Mubarik Mahmood; **Sunjuk, Mahmoud**; Preishuber-Pfluegl, Peter; Sava, Xavier; Lindner, Ekkehard ; Wegner, Peter. . *PCT Int. Appl.* (2004), 23 pp. CODEN: PIXXD2 WO 2004101632 A1 20041125 CAN 142:7005 AN 2004:1016084 CAPLUS

5) Water-Soluble Palladium(II) Catalysts for the Preparation of Polyketones: from Aqueous to Emulsion Polymerization. **Mahmoud Sunjuk**, Ekkehard Lindner, Bassam El-Eswed Transworld Research Network 37/661 (2), Fort P.O., Trivandrum-695 023, Kerala, India Well-defined Metal Complexes-Catalyzed Polar Polymer Synthesis, 2008: ISBN: 978-81-7895-368-7 Editors: Adnan S. Abu-Surrah and Khalid Ibrahim

6) Synthesis, Structural Characterization, and DFT Investigation of Azoimine- ruthenium Complexes containing Aromatic – Nitrogen ligands. Mousa Al – Noaimi, Mohammad El-Khateeb, Salim F. Haddad, **Mahmoud Sunjuk**, Robert J. Crutchley . *Polyhedron*. 27(2008) 3239-3246

7) Determination of Commercial Colorants in Different Water Bodies Using Partial Least Squares Regression (PLS): A Chemometric Study. Yahya S. Al-Degs, Amjad H. El-Sheikh, Mohammad A. Al-Ghouti, **Mahmoud S. Sunjuk** *Jordan Journal of Chemistry* Vol.3,No.3,2008, PP.321-336

8) A New Route Synthesis of Phosphorus, Arsenic and Antimony 1,3-Dimethyl-2,4,6(1H,3H,5H)-pyrimidinetrione Ylides. Kamal Sweidan, Ahmed Al-Sheikh , Bassam Sweileh , **Mahmoud Sunjuk** and Norbert Kuhn . *Letters in Organic Chemistry*, 2009,6,1-3

9) Synthesis and Characterization of Water-Soluble Palladium(II)-Functionalized Diphosphine Complexes, **Mahmoud Sunjuk**, Mousa Al-Noaimi, Ekkehard Lindner, Bassam El-Eswed, Kamal Sweidan *Polyhedron* 28 (2009) 1393-1398.

10) Higher  $\alpha$ -olefins carbonylation in aqueous media by Pd(II) catalysts modified with substituted diphosphine ligands: aqueous polyketone latices with high solid contents and molecular weights. **Mahmoud Sunjuk**, Mousa Al-Noaimi, Yahya Al-Degs, Tariq Al-Qirim, Ekkehard Lindner, Adnan Abu-Surrah. *Journal of Polymer Science: Part A: Polymer Chemistry* Vol.47, 6715-6725 (2009).

11) A simple and accurate analytical method for determination of three commercial dyes in different water systems using partial least squares regression Yahya S. Al-Degs, Amjad H. El-

Sheikh, Ayman A. Issa, Mohammad A. Al-Ghouti and **Mahmoud Sunjuk**, *Water Science and Technology* (2012), 66(8), 1647-1655.

12) Cis-trans Isomerism in mixed-ligand ruthenium(II) complexes containing bis(phosphine) and azoimine ligands. Al-Noaimi, Mousa; **Sunjuk, Mahmoud**; El-khateeb, Mohammad; Haddad, Salim F.; Haniyeh, Alaa; AlDamen, Murad *Polyhedron* (2012), 42(1), 66-73

13) Selective coupling of carbon dioxide and epoxystyrene via salicylaldimine-, thiophenaldimine-, and quinolinaldimineiron(II), iron(III), chromium(III), and cobalt(III)/Lewis base Catalysts. **Mahmoud Sunjuk**, Adnan S. Abu-Surrah, Esraa Al-Ramahi, Abdussalam K. Qaroush, Abdullah Saleh. *Transition Met. Chem.* (2013), 38: 253–257

14 ) **Mahmoud Sunjuk**, Adnan S. Abu-Surrah, Kayed A. Abu Safieh, Abdussalam K. Qaroush, Feda'a M. Al-Qaisi.  $\gamma$ -Diimine palladium(II) based complexes mediated polymerization of methyl methacrylate *Arabian Journal of Chemistry*. In Press,2013.

15 ) **Mahmoud Sunjuk**, Bassam I. El-Eswed, Jamal Dawoud, Amneh Shtaiwi, Monther Khanfar, Mohammad El-khateeb. Evidences for chelating complexes of lithium with phenylphosphinic and phenylphosphonic acids : a spectroscopic and DFT study. *Phosphorus, Sulfur, and Silicon and the Related Elements*. In Press,2013.

16 ) Jamal A. Sweileh, Karema Y. Misef, Amjad H. El-Sheikh, **Mahmoud S. Sunjuk** Development of a new method for determination of aluminum (Al) in Jordanian foods and drinks: Solid phase extraction and adsorption of  $Al^{3+}$ -D-mannitol on carbon nanotubes *Journal of Food Composition and Analysis*, In Press, 2013.

17 ) YS Al-Degs, A Ghirir, H Khoury, GM Walker, **M Sunjuk**, MA Al-Ghouti.Characterization and utilization of fly ash of heavy fuel oil generated in power stations *Fuel Processing Technology* 123, 41-46, 2014

18 ) E Mallah, K Sweidan, W Abu Dayyih, M Steimann, **M Sunjuk**. Crystal structure of 1, 3-dicyclohexyl-4, 5-dimethyl-1H-imidazol-3-ium-2-carbodithioate chloroform monosolvate. *Acta Crystallographica Section E: Structure Reports Online* 70 (12), o1227-o1228, 2014

19) KAA Safieh, YS Al-Degs, **MS Sunjuk**, Al Saleh, MA Al-Ghouti. Selective removal of dibenzothiophene from commercial diesel using manganese dioxide-modified activated carbon: a kinetic study. *Environmental technology*, 1-8, 2014

20) B El-Eswed, **M Sunjuk**, YS Al-Degs, A Shtaiwi Solvent extraction of  $Li^+$  using organophosphorus ligands in the presence of ammonia. *Separation Science and Technology* 2014

21 ) Poster:

V. Krishnan, I. Warad, M.P. Feth, E. Wendel, M. Bauer, Z.-L. Lu, **M. Sunjuk**, H.A. Mayer, E. Lindner, H. Bertagnolli:

EXAFS Spectroscopic Investigations on the Structure of Ruthenium(II) Complexes in Asymmetric Transfer Hydrogenation Catalysis;

ESRF Workshop “XAS at Third Generation Sources: Highlights and Future Perspectives” vom 19.06.-20.06.2003 in Grenoble (Frankreich).

22) Reports:

- 1) Analytical Method Development and Validation Report For the Determination of Isosorbide Dinitrate in Plasma After a single oral dose (10 mg Isosorbide Dinitrate /Tablet).
- 2) Analytical Method Development and Validation Report For the Determination of Gabapentin in Plasma After a single oral dose (400 mg Gabapentin /Capsules).

### ***Oral Presentations***

1. Emulsion Co- and Terpolymerization of Carbon Monoxide With Different Olefins Using Water- Soluble Palladium (II) Catalysts Kolloquium über Emulsionspolymerisationen ,Tübingen.Germany 31.10.2001
2. Novel Water Soluble Phosphine-Palladium (II) Complexes as Homogeneous and Heterogeneous Catalysts for Emulsion Polymerization of CO with Olefins **BASF** Workshop" Katalytische Emulsionspolymerisation" Ludwigshafen, **BASF**, Germany 04. 02.2002.
3. New Alkyl/Aryl Palladium (II) Catalysts for the Copolymerization of Different Olefins and of Olefins with Carbon Monoxide, Kolloquium über Emulsionspolymerisationen ,Tübingen.Germany 28.8.2002
4. In Search of More Active, Water-Soluble Catalysts for the Emulsion Copolymerization of Different Olefins and of Olefins with Carbon Monoxide, Workshop" Dispersionspolymerisation mit Olefinen" Organisch-Chemisches Institut, Universität Heidelberg, Germany 16.6.2003.
5. Generation of New Water-Soluble Catalysts for the Emulsion Copolymerization of Different Non-polar and Polar Monomers, Workshop on " Catalytic Emulsion Polymerization" Freiburg Materials Research Center. Freiburg Universität Germany 23.10.2003

### **Other Activities**

#### ***Supervision:***

1) *M. Sc. Thesis*

Title of thesis : Complexes of lithium with different binary ligands systems and their applications in synergistic extraction of lithium

*Finished:* Amneh shtaiwi

2) *M. Sc. Thesis*

*Title of thesis* :Azoinime-diphosphine mixed –ligand ruthenium (II) complexes, synthesis, characterization, spectroscopic, redox properties and x-ray structures

*Finished:* Ala'a Haniyeh

***Cosupervision:***

3) *M. Sc. Thesis*

*Title of thesis:* Coupling of Carbon Dioxide and Some Epoxides with Iron(III), Cobalt(III) and Chromium(III) Based Catalysts with Bidentate Salen Ligands

*Finished:* Esraa Al-Ramahi

***Computer Knowledge:***

Handle and current programs

***Skills***

Practice in the following instruments

- 1) HPLC, GC-ECD, GC-MS, GC-FID.
- 2) Gel Permeation Chromatography (GPC)
- 5) FTIR spectroscopy (Bruker IFS 48 FTIR Spectrometer)