Curriculum Vitae

Name	:	Mohammad B. Zughul الدكتور محمد بدري الزغول
Place & Date of Birth	:	Ajloun, Jordan, 1948
Nationality	:	Jordanian
Field of Specialization	:	Physical Chemistry / Chemical Physics Laser Photochemical Reaction Dynamics
Academic Rank	:	Professor
Present Address	:	Department of Chemistry, University of Jordan, Amman, Jordan. Tel : 00 (962) 06 53 55 000 / 22150 Fax: 00 (962) 06 53 34 079 E-mail: mbzughul@ju.edu.jo

Education :

B.Sc., Chemistry, University of Jordan, Amman, Jordan, 1969.
M.S. , Chemistry, American University of Beirut, Beirut, Lebanon, 1971.
Ph.D., Physical Chemistry / Chemical Physics,
University of California at Berkeley, Berkeley, California, 1978.
Ph.D. Thesis: " Laser Photochemical Reaction Dynamics of Some Organic Compounds "
Post-Doctoral Work: Department of Aerospace Sciences and Engineering,
Princeton University, Princeton, NJ, USA , 1978-1979

Fellowships and Awards:

National Scholarship, University of Jordan, Amman, Jordan (1965-1969)

Teaching / Research Fellowship, American University of Beirut,
Beirut, Lebanon (1969-1971)

U. S. A.I.D. Scholarship, University of California at Berkeley,
Berkeley, California, USA (1973-1978)

Post Doctoral Research Fellowship, Princeton University,
Princeton, New Jersey (1978-1979)

European Commission Research Fellowship, University of Wales,
Cardiff, UK (1995-1996)

Regional and International Scientific Committees:

International Scientific Advisory Board, *International Cyclodextrin Symposium.*

International Scientific Advisory Board**,** *Scientific Journals International* (SJI).

Editorial Advisory Board and Reviewer, *Scientific Journals International* (SJI).

The Science Advisory Board (SAB), 1997-2007 Bio-Informatics LLC.

Regional Steering Committee, *Quality Management and Accreditation of Higher Education in the Arab World* (2004-Present).

Editorial Board, *Jordan Journal of Chemistry* (2005-2008).

Professional Experience:

University of Jordan, Chemistry Instructor	(1968-1969)
American University of Beirut, Physical Chemistry Instructor	(1969-1971)
University of Jordan, Physical Chemistry Instructor	(1971-1973)
University of California at Berkeley, Physical Chemistry Instructor	(1973-1978)
Princeton University, Post-Doctoral Research Fellowship	(1978-1979)
University of Wales, Cardiff, Research Fellow	(1995-1996)
University of Jordan, Department of Chemistry	(1979- Present)

Teaching and Research Experience:

Physical Chemistry, Quantum Chemistry, General Chemistry, Statistical Thermodynamics, Laser Induced Processes, Laser Spectroscopy, Laser Photochemical reaction Dynamics, Catalysis, Molecular Complexes and Complex Stability Parameters, Solubilization Phenomena, Surface Activity, Nanovehicles for Drug and Gene delivery.

Administrative Experience:

Assistant to Dean, Faculty of Science, University of Jordan (1986-1989)

Chairman, Department of Chemistry, University of Jordan (1989-1991)

Chairman, Department of Chemistry, University of Jordan (1993-1995)

Head of the UNESCO/ROSTAS Program for Development

and Production of Scientific Laboratory Equipment (1985-1995)

Director, Hamdi Mango Center for Scientific Research,
University of Jordan, Amman, Jordan (1999-2008)

Language Proficiency:

English : Excellent, Speaking and Writing
Arabic : Excellent, Speaking and Writing
German : Working Knowledge.

Ph.D. & M.Sc. Students Supervised:

1. **Fakhri Omar Mohammad Yousef**, "Thermodynamics and Synergistic Effects in the Solubilization of Some Water-Insoluble Substrates by Aqueous Cyclodextrin Solutions," *Ph.D. Thesis*, Department of Chemistry, University of Jordan, Amman, Jordan (2004).

2. **Mahmoud M. H. Al-Omari**, "Highly Soluble Multi-Component Cyclodextrin Inclusión Complexes of Pharmaceutical Interest," *Ph.D. Thesis*, Department of Environmental Sciences, Lancaster University, Lancaster, United Kingdom (2003).

3. **Ahmad M. Abdo**, "Parameters Influencing Complexation of Some Acidic Drugs in Aqueous Cyclodextrin Solutions," *Ph.D. Thesis*, Department of Environmental Sciences, Lancaster University, Lancaster, United Kingdom (2003).

4. **Musa Ibrahim El-Barghouthi**, "Experimental and Theoretical Modeling of Intermolecular Interactions Governing the Formation of Some Inclusion Complexes in Aqueous Solutions," *Ph.D. Thesis*, University of Jordan, Amman, Jordan (2000).

5. **Khaldoun A. Al-Sou'od**, "Mechanisms Underlying Inclusion Complex Formation Between Some Aromatic Derivatives and Cyclodextrins in Aqueous Solutions," *Ph.D. Thesis*, Department of Chemistry, University of Jordan, Amman, Jordan (2000).

6. **Niveen O. Abdullah**, "Effect of Cyclic Polysaccharides on the Solubility of Some Water-Insoluble Benzimidazole Drug Derivatives in Aqueous Solution," *M.Sc. Thesis*, Department of Chemistry, University of Jordan, Amman, Jordan (2000).

7. **Mohammed Abed-Alelah F. Gharaibeh**, "Chemical Modification of Jordanian Kaolinite Using Crown Ethers," *M.Sc. Thesis*, Department of Chemistry, University of Jordan, Amman, Jordan (1999).

8. **Fakhri Omar Yousef**, "Phase Solubility Diagrams and Modes of Solubility Enhancement by Aqueous Cyclodextrins," *M.Sc. Thesis*, Department of Chemistry, University of Jordan, Amman, Jordan (1997).

9. **Bassam Ibrahim El-Eswed**, "A Spectroscopic Study of Crown Ether Molecular Complexes," *M.Sc. Thesis*, Department of Chemistry, University of Jordan, Amman, Jordan (1995).

10. **Ahmad M. Abdoh**, "Effect of Some Organic Acids on the Aqueous Solubility of Some Water-Insoluble Compounds of Pharmaceutical Interest," *M.Sc. Thesis*, Department of Chemistry, University of Jordan, Amman, Jordan (1993).

11. **Fayez Fouad Rashed Qawasmi**, "Enhancenment of the Solubility of Poorly-Water Soluble Drugs by β-Cyclodextrin," *M.Sc. Thesis*, Department of Chemistry, University of Jordan, Amman, Jordan (1993).

12. **M. M. Al-Omari**, "Photochemical Stability of Glaphenine towards UV/Visible Radiation," *M.Sc. Thesis*, Department of Chemistry, University of Jordan, Amman, Jordan (1987).

13. **Basemah A. Ali**, "Solubilization of Poorly-Water Soluble Drugs by Aqueous Hydrotropic Agents," *M.Sc. Thesis*, Department of Chemistry, University of Jordan, Amman, Jordan (1987).

14. **Mohammad A. Qtaitat**, "Adsorption of Bromhexine Hydrochloride by Solid Adsorbents Used in Pharmaceutical Formulations," *M.Sc. Thesis*, Department of Chemistry, University of Jordan, Amman, Jordan (1986).

15. **Hatem Rasem Maraqah**, "Kinetics of Decomposition of Some β-Diketones and Their Actinide Complexes with Halates," *M.Sc. Thesis*, Department of Chemistry, University of Jordan, Amman, Jordan (1986).

16. **Juma'a Khalil Abdel-Kareem Al-Kafawein**, "A Physico-chemical Investigation of Polysaccharide Biopolymers and Biocompatible Surfactant Nanomicelles and Nanovesicles for Oral Transcellular Drug and Gene delivery," Ph.D. Graduate in Physical chemistry, Earned his Ph.D. Degree from the Department of Chemistry, University of Jordan in January (2010)**.**

List of Publications:

1. "The role of drug hydrophobicity in β-cyclodextrin complexes," by Al Omari, Mahmoud M.; El-Barghouthi, Musa I.; **Zughul, Mohammad B**.; Davies, J. Eric D.; Badwan, Adnan A. *Journal of Molecular Liquids.* **155**(2-3), 103-108 (2010).

2. "Probing Drug/Cyclodextrin Intermolecular Recognition by Phase Solubility Analysis," by **M. B. Zughul**, Review Article, Chapter 4, in *Cyclodextrins: Chemistry and Physics*, Research Signpost, Transworld Research Network, pp 61-85 (2010).

3. "Free energy perturbation and MM/PBSA studies on inclusion complexes of some structurally related compounds with β-cyclodextrin,**"** El-Barghouthi, M. I.; Jaime, C.; Akielah, R. E.; Al-Sakhen, N. A.; Masoud, N. A.; Issa, A. A.; Badwan, A. A.; **Zughul, M. B**. *Supramolecular Chemistry*, **21**(7), 603-610 (2009).

4. "Novel Inclusion Complex of Ibuprofen Tromethamine with Cyclodextrins: Physico-chemical Characterization," by Mahmoud M. Al Omari, Nidal M. Daraghmeh, Musa I. El-Barghouthi, **Mohammad B. Zughul**, Babur Z. Chowdhry, Stephen A. Leharne, Adnan A. Badwan. *Journal of Pharmaceutical and Biomedical Analysis*. **60**, 449-458 (2009).

5. "A Study of Haloperidol Inclusion Complexes with beta-Cyclodextrin Using Phase Solubility, NMR Spectroscopy and Molecular Modeling Techniques," by Al Omari, M. M., **Zughul, M. B**., Davies, J. Eric D., Badwan, A. A. *Journal of Solution Chemistry*. **38** (6), 669-683 (2009).

6. "Dipyridamole/β-cyclodextrin complexation: effect of buffer species, thermodynamics, and guest-host interactions probed by ^{1}H-NMR and molecular modeling studies," by Al Omari, M. M., **Zughul, M. B**., El-Barghouthi, M. I., Davies, J. Eric D., Badwan, A. A. *Journal of Inclusion Phenomena and Macrocyclic Chemistry.* **64**(3-4), 305-315 (2009).

7. "Astemizole/cyclodextrin inclusion complexes: Phase solubility, physicochemical characterization and molecular modeling studies," by M. M. Al Omari, **M. B. Zughul**, J. Eric D. Davies and A. A. Badwan, *J. Solution Chem*., **37**(6), 875-893 (2008).

8. "Comparative study of the inclusion complexation of pizotifen and ketotifen with native and modified cyclodextrins," by M. M. Al Omari, M. I. El-Barghouthi, **M.**

B. Zughul, J. Eric D. Davies and A. A. Badwan, *J. Solution Chem*., **37** (2), 249-264 (2008).

9. "Molecular Dynamics Simulations and MM-PBSA Calculations of the Cyclodextrin Inclusion Complexes with 1-alkanols, *para*-Substituted Phenols and Substituted Imidazoles," M. I. El-Barghouthi, C. Jaime, N. A. Al-Sakhen, A. A. Issa, A. A. Badwan, **M. B. Zughul**, *Journal of Molecular Structure-THEOCHEM*, 853, 45-52 (2008).

10. "Mapping Experimentally and Rigorously Determined Free Energies of Drug/Cyclodextrin Complexation to Setup a Digital Database for Establishing Reliable QSPR/QSAR Relationships," by **M. B. Zughul**, *Proceedings of The 14th International Cyclodextrin Symposium*, Kyoto, Japan, 8-11 May, 2008.

11. "Complexation of Ambroxol with Natural and Modified Cyclodextrins: Phase Solubility Analysis, Thermodynamics, ^{1}H-NMR and Molecular Mechanical Modeling Studies," by **M. B. Zughul**, F O. M. Yousef, J. K. Kafawein, A. A. Badwan, *Proceedings of The 14th International Cyclodextrin Symposium*, Kyoto, Japan, 8-11 May, 2008.

12. "Glimepiride Complexation with Natural and Modified Cyclodextrins: Phase Solubility Analysis, Thermodynamics, ^{1}H-NMR and Molecular Mechanical Studies," by **M. B. Zughul**, F O. M. Yousef, J. K. Kafawein, Adnan A. Badwan, *Proceedings of The 14th International Cyclodextrin Symposium*, Kyoto, Japan, 8-11 May, 2008.

13. "Sertraline Complexation with Natural and Modified Cyclodextrins: Phase Solubility Analysis, Thermodynamics, DSC, ^{1}H-NMR and Molecular Mechanical Modeling Studies," **M. B. Zughul**, F O. M. Yousef, J. K. Kafawein, Adnan A. Badwan, *Proceedings of The 14th International Cyclodextrin Symposium*, Kyoto, Japan, 8-11 May, 2008.

14. "Ticlopidine Complexation with Natural and Modified Cyclodextrins: Phase Solubility Analysis, Thermodynamics, DSC, ^{1}H-NMR and Molecular Mechanical Modeling Studies," **M. B. Zughul**, F O. M. Yousef, J. K. Kafawein, Adnan A. Badwan, *Proceedings of The 14th International Cyclodextrin Symposium*, Kyoto, Japan, 8-11 May, 2008.

15. "Inclusion Complexation of Ketorolac with α-, β-, γ- And 2-Hydroxypropyl-β-Cyclodextrins: Phase Solubility, Proton NMR and Molecular Modeling Studies," by A. A. Abdoh, M. I. El-Barghouthi, **M. B. Zughul** And A. A. Badwan,

Proceedings of The 14th International Cyclodextrin Symposium, Kyoto, Japan, 8-11 May, 2008.

16. "Ibuprofen Tromethamine/Cyclodextrin Complexation: Phase Solubility and Physicochemical Characterization," by M. M. Al Omari, N. M. Daraghmeh, Z. A. Sara, **M. B. Zughul**, Adnan A. Badwan, *Proceedings of The 14th International Cyclodextrin Symposium*, Kyoto, Japan, 8-11 May, 2008.

17. "Haloperidol/β-Cyclodextrin Complexation: Phase Solubility, Physicochemical Characterization and Molecular Modeling Studies," by M. M. Al Omari, **M. B. Zughul**, J. Eric D. Davies, A. A. Badwan, *Proceedings of The 14th International Cyclodextrin Symposium*, Kyoto, Japan, 8-11 May, 2008.

18. "Dipyridamole/β-Cyclodextrin Complexation: Stability Constants, Thermodynamics, and Guest-Host Interactions Probed By ^{1}H-NMR and Molecular Modeling Studies," by M. M. Al Omari, **M. B. Zughul**, J. Eric D. Davies, A. A. Badwan, *Proceedings of The 14th International Cyclodextrin Symposium*, Kyoto, Japan, 8-11 May, 2008.

19. "Molecular Dynamics Simulations and MM-PBSA Calculations of the Cyclodextrin Inclusion Complexes with 1-alkanols, para Substituted Phenols and Substituted Imidazoles," by M. I. El-Barghouthi, C. Jaime, N. A. Al-Sakhen, A. A. Issa, A. .A. Abdoh, M. M. Al Omari, A. A. Badwan and **M. B. Zughul**, *Proceedings of The 14th International Cyclodextrin Symposium*, Kyoto, Japan, 8-11 May, 2008.

20. "Rigorous Nonlinear Regression Analysis of Phase Solubility Diagrams to Obtain Complex Stoichiometry and True Thermodynamic Drug-Cyclodextrin Complexation Parameters," by **M. B. Zughul**, *Journal of Inclusion Phenomena and Macrocyclic Chemistry*, 57 (1-4), 525-530 (2007).

21. "Cisapride/β-Cyclodextrin Complexation: Stability Constants, Thermodynamics, and Guest-Host Interactions Probed by ^{1}H-NMR and Molecular Modeling Studies," by M. M. Al-Omari, **M. B. Zughul**, J. Eric D. Davies and A. A. Badwan, *Journal of Inclusion Phenomena and Macrocyclic Chemistry*, 57 (1-4), 511-517 (2007).

22. "Changes in the Conformational Structure, Microscopic and Macroscopic pK_as of Meloxicam on Complexation with Natural and Modified Cyclodextrins," by A. A. Abdoh, M. I. El-Barghouthi, **M. B. Zughul**, J.E. Davies, and A. A. Badwan, *Die Pharmazie*, 62(1) 55-59 (2007).

23."Thermodynamic Enthalpy-Entropy Compensation Effects Observed in the Complexation of Basic Drug Substrates with β-Cyclodextrin," by M. M. Al-Omari, **M. B. Zughul**, J. Eric D. Davies and A. A. Badwan, *Journal of Inclusion Phenomena and Macrocyclic Chemistry*, 57(1-4), 379-384 (2007).

24."Comparison of Estimates of Free Energy for Binding of Mono- and Di-Substituted Benzenes with α-Cyclodextrin Obtained by Single-Step Perturbation and Thermodynamic Integration," by M. I. El-Barghouthi, M. Schenk, **M. B. Zughul**, A. A. Badwan And W. F. Van Gunsteren, *Journal of Inclusion Phenomena and Macrocyclic Chemistry*, 57 (1-4), 375-377 (2007).

25."The Modes of Complexation of Benzimidazole with Aqueous β-Cyclodextrin Explored by Phase Solubility, Potentiometric Titration, ^{1}H-NMR and Molecular Modeling Studies," by F. O. Yousef, **M. B. Zughul** and A. A. Badwan, *Journal of Inclusion Phenomena and Macrocyclic Chemistry*, 57 (1-4), 519-523 (2007).

26."Inclusion Complexataion of Diclofenac with Natural and Modified Cyclodextrins Explored through Phase Solubility, ^{1}H-NMR and Molecular Modeling Studies," by A. A. Abdoh, **M. B. Zughul**, J. Eric. D. Davies And A. A. Badwan, *Journal of Inclusion Phenomena and Macrocyclic Chemistry*, 57 (1-4), 503-510 (2007).

27."Inclusion Complexation of Loratadine with Natural and Modified Cyclodextrins: Phase Solubility and Thermodynamic Studies," by L. Omar, M. I. El-Barghouthi, N. A. Masoud, A. A. Abdoh, M. M. Al Omari, **M. B. Zughul** and A. A. Badwan, *J. Solution Chem*. 36, 605-616 (2007).

28."Effect of Buffer Species on the Complexation of Basic drug Terfenadine with β-Cyclodextrins," by M. M. Al Omari, **M. B. Zughul**, J. Eric D. Davies and A. A. Badwan, *Journal of Inclusion Phenomena and Macrocyclic Chemistry*, **58**, 227-235 (2007).

29."Fexofenadine/Cyclodextrin Inclusion Complexation: Phase Solubility, Thermodynamic, Physicochemical and Computational Analysis," by M. M. Al-Omari, A. A. Badwan, J. Eric D. Davies and **M. B. Zughul**, *Drug Development and Industrial Pharmacy*, **33** (11), 1205-1215 (2007).

30."Sildenafil/cyclodextrin complexation: Stability constants, thermodynamics, and guest-host interactions probed by (1)H NMR and molecular modeling studies," by M. M. Al Omari, **M. B. Zughul**, J. Eric. D. Davies, and A. A. Badwan, *J. Pharm. Biomed. Anal*. **41**(3), 857-865 (2006).

31.“Effect of Buffer Species on the Inclusion Complexation of Acidic drug Celecoxib with Cyclodextrins in Solution,” by M. M. Al Omari, **M. B. Zughul**, J. Eric D. Davies and A. A. Badwan, *Journal of Inclusion Phenomena and Macrocyclic Chemistry*, **55**(3-4), 247-254 (2006).

32.“Factors Cotributing to Solubility Synergism of Some Basic Drugs with β-Cyclodextrin in Ternary Molecular Complexes,” by M. M. Al-Omari, **M. B. Zughul**, J. Eric D. Davies and A. A. Badwan, *Journal of Inclusion Phenomena and Macrocyclic Chemistry*, 54, 159-164 (2006).

33."Experimental and Molecular Mechanical studies of Complexation of 2H-and 3H-Indole Derivatives with Aqueous β-Cyclodextrin," by K. A. Al-Sou'od, **M. B. Zughul** and A. A. Badwan, *J. Solution Chem*. 35 (10), 1377-1388 (2006).

34."Rigorous Nonlinear Regression Analysis of Phase Solubility Diagrams to Obtain Complex Stoichiometry and True Thermodynamic Drug-Cyclodextrin Complexation Parameters," by **M. B. Zughul**, *XIII International Cyclodextrin Symposium*, Turin, Italy, 13-17 May, 2006. 7-O1.

35."Combining Molecular Docking Simulations and Comparative Molecular Field Analysis to Probe Drug-β-Cyclodextrin Inclusion Complexes," by **M. B. Zughul**, M. O. Taha, M. M. Al Omari, M. I. El-Barghouthi, A. A. Abdo, K. Al Sou'od, and A. A. Badwan, *XIII International Cyclodextrin Symposium*, Turin, Italy, 13-17 May, 2006. 7-P11.

36."Phase Solubility, ^{1}H-NMR and Molecular Modeling Studies of the Complexation of Etodolac with Natural and modified Cyclodextrins in Aqueous Solutions," by A. A. Abdoh, **M. B. Zughul**, J. Eric. D. Davies and A. A. Badwan, *XIII International Cyclodextrin Symposium, Turin, Italy*, 13-17 May, 2006. 7-P12.

37."Phase solubility, ^{1}H-NMR and Molecular Modeling Studies of the Complexation of Sulfamethoxazole with Neutral and Modified Cyclodextrins in Aqueous Solutions," by A. A. Abdoh, **M. B. Zughul**, J. Eric D. Davies, and A. A. Badwan, *XIII International Cyclodextrin Symposium*, Turin, Italy, 13-17 May, 2006. 7-P13.

38."Comparison of Estimates of Free Energy For Binding of Mono- and Di-Substituted Benzenes with α-Cyclodextrin Obtained By Single-Step Perturbation and Thermodynamic Integration." by M. I. El-Barghouthi, M. Schenk, **M. B. Zughul**, A. A. Badwan, and W. F. Van Gunsteren, *XIII International Cyclodextrin Symposium*, Turin, Italy, 13-17 May, 2006. 7-P14.

39."Molecular Dynamics and Free Energy Perturbation Studies on Inclusion Complexes of Some Structurally Related Compounds with β-Cyclodextrin," by R. E. Akeelh, M. I. El-Barghouthi, N. A. Masoud, A. A. Abdoh, M. M. Al Omari, C. Jaime, **M. B. Zughul**, and A. A. Badwan, *XIII International Cyclodextrin Symposium*, Turin, Italy, 13-17 May, 2006. 7-P15.

40."Trends in the Complexation of Alkyl Benzoates and Alkyl *p*-Hydroxy Benzoates with β-Cyclodextrin in Aqueous Solution," by M. I. El-Barghouthi, **M. B. Zughul**, and A. A. Badwan, *XIII International Cyclodextrin Symposium*, Turin, Italy, 13-17 May, 2006. 7-P16.

41."The Contribution of the Hydrophobic Effect to Complex Stability of Some Basic Drug Substrates with β-Cyclodextrin," by M. M. Al-Omari, **M. B. Zughul**, J. Eric D. Davies, and A. A. Badwan, *XIII International Cyclodextrin Symposium*, Turin, Italy, 13-17 May, 2006. 2-P34.

42."Thermodynamic Enthalpy-Entropy Compensation Effects Observed in the Complexation of Basic Drug Substrates with β-Cyclodextrin," by M. M. Al-Omari, **M. B. Zughul**, J. Eric D. Davies, and A. A. Badwan , *XIII International Cyclodextrin Symposium*, Turin, Italy, 13-17 May, 2006. 2-P35.

43."Phase Solubility and pH-Solubility Profile Studies of Gemfibrozil and Carbamazepine in Aqueous β-Cyclodextrin Solutions**,"** by F. F. Qawasmi, **M. B. Zughul**, and A. A. Badwan, *XIII International Cyclodextrin Symposium*, Turin, Italy, 13-17 May, 2006. 2-P45.

44."Interactions of Some Benzimidazole-Based Fungicides and Anthelmintic Drugs with β-Cyclodextrin Explored by Phase Solubility and Molecular Modeling Techniques," by N. O. Abdullah, **M. B. Zughul**, and A. A. Badwan, *XIII International Cyclodextrin Symposium*, Turin, Italy, 13-17 May, 2006. 3-P60.

45."Phase Solubility Studies of the Complexation of Domperidone and Astemizole with Cyclodextrins in Aqueous Solution," by F. O. Yousef, **M. B. Zughul**, and A. A. Badwan, *XIII International Cyclodextrin Symposium*, Turin, Italy, 13-17 May, 2006. 3-P61.

46."The Modes of Complexation of Benzimidazole with Aqueous β-Cyclodextrin Explored by Phase Solubility, Potentiometric Titration, ^{1}H-NMR and Molecular Modeling Studies," by F. O. Yousef, **M. B. Zughul**, and A. A. Badwan, *XIII International Cyclodextrin Symposium*, Turin, Italy, 13-17 May, 2006. 3-P62.

47."Cisapride/β-Cyclodextrin Complexation: Stability Constants, Thermodynamics, and Guest-Host Interactions Probed by ^{1}H-NMR and Molecular Modeling Studies," by M. M. Al-Omari, **M. B. Zughul**, J. Eric D. Davies, and A. A. Badwan, *XIII International Cyclodextrin Symposium*, *Turin*, Italy, 13-17 May, 2006. 3-P63.

48."Complexataion of Diclofenac with Neutral and Modified Cyclodextrins Explored through Phase Solubility, ^{1}H-NMR and Molecular Modeling Studies," by A. A. Abdoh, **M. B. Zughul**, J. Eric. D. Davies and A. A. Badwan, *XIII International Cyclodextrin Symposium*, Turin, Italy, 13-17 May, 2006. 3-P64.

49."Inclusion Complexation of Loratadine with Natural and Modified Cyclodextrins: Phase Solubility and Thermodynamic Studies," by Lamis Omar, M. I. El-Barghouthi, N. A. Masoud, A. A. Abdoh, M. M. Al-Omari, **M. B. Zughul**, and A. A. Badwan, *XIII International Cyclodextrin Symposium*, Turin, Italy, 13-17 May, 2006. 3-P66.

50."Steering Committee Meeting of The Arab Society for Quality Assurance in Education (INQAAHE)," **M. B. Zughul**, *The 6th International Convention on Higher Education and Training*, Academia Lebanon^{R} 2006, Beirut, Lebanon, February 23-25, 2006.

51."Binary inclusion complex useful for increasing water solubility of drugs comprises an amphoteric drug and a cyclodextrin," by A. A. Badwan, M. M. Al-Omari, **M. B**. **Zughul,** and J. Eric. D. Davies. International Patent Classification: A61K-031/137; A61K-031/445; A61K-047/4. Patent No: EP1570862-A1, (Regional): AL; AT; BE; BG; CH; CY; CZ; DE; DK; EE; ES; FI; FR; GB; GR; HU; IE; IT; LI; LT; LU; LV; MC; MK; NL; PT; RO; SE; SI; SK; TR. Patent written in English. Application: EP004227, 07 Sep 2005.

52."Impact of ICT and Digital Libraries on Quality Education, Scientific Research and Accreditation," by **M. B. Zughul**, *International Conference on Partnering of Knowledge: Policies of Higher Education Reform*, Academia Egypt^{R} 2005, Cairo, Egypt, December 7-9, 2005.

53.The Impact of Information Technology on Improving the Quality of Higher Education, Scientific Research and Accreditation," by **M. B. Zughul**, *The 3rd International Conference on Quality Management and Accreditation of Higher Education in the Arab World*, Academia Egypt^{R} 2004, Cairo, Egypt, November 24-26, 2004.

54.“Highly Soluble Binary Cyclodextrin Inclusion Complexes,” by A. A. Badwan, M. M. Al-Omari, **M. B**. **Zughul,** and J. Eric. D. Davies. Eur. Pat. Appl. (2005), 15 pp. CODEN: EPXXDW EP 1570862 A1 20050907. Designated States R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK. Patent written in English. Application: EP 2004-4227 20040225. AN 2005:975598 (2004).

55.“Host guest interactions of Risperidone with Natural and Modified Cyclodextrins: Phase Solubility, Thermodynamics and Molecular Modeling Studies,” M. I. El-barghouthi, N. A. Masoud, J. K. Al-Kafawein, **M. B. Zughul** and A. A. Badwan, *Journal of Inclusion Phenomena and Macrocyclic Chemistry*, 53 (1) 15-22 (2005).

56."Steering Committee Meeting of The Arab Society for Quality Assurance in Education (INQAAHE)," **M. B. Zughul**, *The 6th International Convention on Higher Education and Training*, Academia Lebanon^{R} 2006, Beirut, Lebanon, February 23-25, 2006.

57.“Trends in the Complexation of Organic Molecules Bearing Two peripheral Benzene Rings with Aqueous β-Cyclodextrin,” by M. I. El-Barghouthi, K. A. Al-Sou’od, **M. B. Zughul** and A. A. Badwan, *Proceedings of the 12th International Cyclodextrin Symposium*, Montpellier, France, May 16-19, 2004.

58.“Drug β-Cyclodextrin Complexes Involving Ambroxol, Diflunisal, Glimepiride, Sertraline and Ticlopididne,” by F. O. Yousef, **M. B. Zughul** and A. A. Badwan, *Proceedings of the 12th International Cyclodextrin Symposium*, Montpellier, France, May 16-19, 2004.

59.“Complexation Equilibria of Meloxicam, Piroxicam and Tenoxicam with α-, β- , HP-β- and γ-Cyclodextrin in Aqueous Solutions,” by A. A. Abdoh, **M. B. Zughul**, J. Eric D. Davies and A. A. Badwan, *Proceedings of the 12th International Cyclodextrin Symposium*, Montpellier, France, May 16-19, 2004.

60."Mathematica in Rigorous Analysis and Scientific Research," by **M. B. Zughu**l, *Mathematica Gulf Conference*, 24-30 January, 2004, Muscat, Oman (2004).

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