

CURRICULUM VITAE



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Academic Rank : Professor of Chemistry (Coordination / Inorganic Chemistry)

Current Position: Professor, Department of Chemistry, Faculty of Science, Hashemite University.

EDUCATION:

- 1970 • High School Certificate, Science Section, Amman, Jordan.
- 1975 • Bachelor of Science (Chemistry), University of Jordan, Amman, Jordan.
- 1977 • Post Graduate Diploma in Chemistry Research Techniques, School of Chemistry, University of New South Wales (NSW), Sydney, AUSTRALIA.
- 1980 • Master of Science, Coordination Chemistry, School of Chemistry, University of NSW, Sydney, AUSTRALIA. Thesis Title: Coordination of Nitrogen Containing Heterocycles
- 1982 • Doctor of Philosophy, Coordination Chemistry, School of Chemistry, University of NSW, Sydney, AUSTRALIA. Thesis Title: Preparation and Study of Coordination Derivatives of Nitrogen Containing Heterocycles.

LANGUAGES: Arabic (Mother Tongue), English (Second Language).

SCHOLARSHIPS & AWARDS:

- Jordan Brewery Company Scholarship (for B.Sc. 1971-1975).
- Australian International Award Scheme Scholarship (for M.Sc. & PhD 1977-1982).
- German Government (DAAD) Research Scholarship 1987.
- United States Government (Fulbright) Research Scholarship 1989.

REFERENCES:

- Professor Ali Al-Karmi, Vice President, Hashemite University, Zarqa, JORDAN. (E-mail: karmi@hu.edu.jo), Tel. 00962 797681700.
- Professor D.H.Busch, Department of Chemistry, Malott Hall, University of Kansas, Lawrence, Kansas 66045, USA. (E-mail: dhbusch@ukans.edu)

- Professor Sami K. Abdel-Hafez, Yarmouk University, Irbid, Jordan, (E-mail: skhafez@yu.edu.jo), Tel. 00962 2 7246575, Mobile: 00962 79 5000417.
- Professor Abdel-Fattah Shehada, Department of Chemistry, Hashemite University, Zarqa, JORDAN. (E-mail: ashihada@hu.edu.jo)
- Professor M.M.El-Abadelah, Department of Chemistry, University of Jordan, Amman, JORDAN. (E-mail: mustelab@ju.edu.jo)
- Professor Marwan Obeidat, Vice President, Hashemite University, Zarqa, JORDAN. (E-mail: marwanobeidat@hotmail.com)

EXPERIENCE:

- 1975-1976: Chemist at the Department of Standards, Ministry of Industry & Trade, Amman, JORDAN.
- 1977-1982: Part-time Tutor, School of Chemistry, University of NSW, Sydney, AUSTRALIA.
Live-in Tutor, International House, University of NSW, Sydney, AUSTRALIA.
- 1982-1984: Scientific Researcher, Industrial Chemistry Department, Royal Scientific Society, Amman, JORDAN.
- 1984-1990: Assistant Professor, Mutah University, Karak, JORDAN.
- 1990-1995: Associate Professor, Mutah University, Karak, JORDAN.
- 1995-1996: Associate Professor, Hashemite University, Zarqa, JORDAN
- 1996-1997: Associate Professor, Applied Science University, Amman, JORDAN.
- 1997-2002: Associate Professor, Hashemite University, Zarqa, JORDAN.
- 2000-2010: Professor, Hashemite University, Zarqa, JORDAN.
- 2010-2013: Professor of Chemistry, College of Medicine, King Saud bin Abdulaziz University for Health Sciences, Jeddah, Saudi Arabia.
- 2013-todate: Professor, Hashemite University, Zarqa, JORDAN.

POSITIONS HELD:

- 1984-1990: Coordinator of the Chemistry Section, Department of Natural Sciences, Mutah University, Karak, JORDAN.
- 1990-1991: Chairman of the Chemistry Department, Mutah University, Karak, Jordan.
- 1991-1992: Chairman, Department of Science, Al-Isra University, Amman, Jordan.
- 1992-1995: Dean of the Faculty of Science, Mutah University, Karak, Jordan. (I held the position for two periods).
- 2002-2003: Deputy Dean of Scientific Research and Graduate Studies, Hashemite University, Zarqa, Jordan.
- 2003-2005: Dean of Scientific Research and Graduate Studies, Hashemite University, Zarqa, Jordan.
- 2005-2006: Dean of the Faculty of Science, Hashemite University, Zarqa, Jordan.
- 2006-2007: Dean of the Faculty of Basic Sciences, Applied Science University, Amman, Jordan. (I was on a Sabbatical leave from the Hashemite University).
- 2007-2008: Assistant to the President of the Hashemite University, Zarqa, Jordan.
- 2008-2010: Dean of the Faculty of Science and Assistant to the President of the Hashemite University, Zarqa, Jordan.
- 2011-2013: Chairman, Dep't of Basic & Medical Sciences, College of Medicine, King Saud Bin Abdulaziz University for Health Sciences, Jeddah, Saudi Arabia.

PROFESSIONAL AFFILIATIONS:

- Graduate Member of the Royal Australian Chemical Institute.
- Associate Member of the Royal Society of Chemistry, England.
- Member of the Jordanian Chemical Society.

TEACHING EXPERIENCE:

I have taught the following courses:

- 1) All kinds of General Chemistry courses (Theoretical & Practical) To Science, Engineering, and Medical students.
- 2) Basic Principles in Inorganic Chemistry (Inorganic I).
- 3) Coordination Chemistry (Inorganic II).
- 4) Advanced topics in Inorganic Chemistry (InorganicIII).
- 5) Practical Inorganic Chemistry.
- 6) Practical Organic Chemistry.
- 7) Principles of Organic Chemistry.
- 8) Special Topics in Inorganic Chemistry
- 9) Bioinorganic Chemistry (M.Sc. Course).
- 9) Practical Inorganic Chemistry (Advanced Course)
- 10) Advanced Inorganic Chemistry (M.Sc. Course).
- 11) Mechanisms of Inorganic Reactions (M.Sc. Course).
- 12) Research Methods in Chemistry (B.Sc., M.Sc. Courses).
- 13) In recent years I taught general chemistry, organic chemistry and their practicals to all medical (health science) students.

PROFESSIONAL COMMITTEES:

- * Member of the Higher Committee for the Equalization of Certificates, Ministry of Higher Education and Scientific Research / Jordan.
- * Member of the Higher Committee for Scientific Research, Ministry of Higher Education and Scientific Research / Jordan.
- * Member of the Committee for the Development of Science Curricula, Ministry of Education /Jordan.
- * Member of the Board of Trustees of Amman Arab University for Graduate Studies (Representative of the Ministry of Higher Education & Scientific Research / Jordan).
- * Regional Editor & Editorial Board Member of "The Open Inorganic Chemistry Journal" Bentham Science Publishers.
- * Member of the Higher Committee for the Recognition of non-Jordanian Higher Educational Institutions/ Ministry of Higher Education and Scientific Research/ Jordan.
- * Member of the Joint Technical Committee, Swedish Institute in Alexandria, Branch of SIDA (Swedish International Development Cooperation Agency), in the MENA region.
- * Judge, "Intel ISEF: International Science and Engineering Fair", Ministry of Education, Amman, Jordan.
- * Coordinator for "University Achievement Exam", Between the Hashemite University and the Ministry of Higher Education and Scientific Research, Jordan.
- * In Saudi Arabia, I am a member in several professional committees in the university and in the ministry of Higher Education.

RESEARCH INTERESTS:

- 1) Synthesis and characterization of novel open-chain multidentate chelating agents based on 1,10-phenanthroline derivatives and the coordination of these with transition metals. The Structural, Spectral and Magnetic properties (the induced spin-state transitions in iron (II)) of the derived coordination compounds are of interest.
- 2) Study of the inorganic raw materials available in Jordan.
- 3) Synthesis and structural characterization of tetraazamacrocyclic complexes.
- 4) Chemistry of oxime ligands derived from 1,2,4-triazin-6-one derivatives.
- 5) Science education.
- 6) Reusability of Sewage Sludge (bio-solids) at Al-Ekeder Dumping Site in Clay Bricks Production.
- 7) *vic*-Dioxime complexes as synthetic models for biosystems.

SCIENTIFIC CONFERENCES / Workshops, (the most recent):

I have attended and participated in so many conferences over the years. The following are in recent years:

- 1) "The 5th Scientific Congress of the Association of Colleges of Pharmacy in the Arab World". Oct. 16-18, 2001, P117, University of Jordan, Amman, Jordan.
- 2) "Quality in Healthcare and Education", 2-4/12/2007, Amman, Jordan.
- 3) "First Arab Chemical and Petrochemical Industries Forum", 28-29/4/2008, Damascus, Syria.
- 4) "Higher Education Development Forum", 11-12/2/2007, King Hussein Bin Talal Convention Center, Dead Sea, Jordan. Coauthor of a presentation.
- 5)- "E-Infrastructure for Research and Education to Promote Development", 7,9/6/2007, Amman, Jordan. Conference Organized by Jordanian University Network (JUN).
- 6) مؤتمر (TEMPUS- MEDA)، الإسكندرية خلال الفترة من 12-15/10/2003، الذي نظمته المجموعة الأوروبية بالتعاون مع وزارة التعليم العالي المصرية.
- 7) المؤتمر الكيميائي العربي الثاني عشر والمؤتمر الكيميائي الأردني الخامس والاجتماع الدوري الثالث والعشرون لاتحاد الكيميائيين العرب، عمان خلال الفترة من 22-24/10/2003، بتنظيم من الجمعية الكيميائية الأردنية والمجلس الأعلى لاتحاد الكيميائيين العرب.
- 8) المؤتمر الأول للبحث العلمي في الأردن، عمان خلال الفترة من 25-26/10/2003، الذي نظمته جمعية أصدقاء البحث العلمي في الجامعة الأردنية.
- 9) ورشة عمل بعنوان "ضبط جودة التعليم العالي في الأردن" عقدت بعمان خلال الفترة من 27-28/10/2003 ونظمتها صندوق الحسين للإبداع والتفوق.
- 10) "التجربة الأردنية في التعليم الخاص" مؤتمر عقد بتاريخ 23/12/2006 في جامعة عمان العربية للدراسات العليا، عمان، الأردن.
- 11) **Blackboard System**, Workshop held at the College of Medicine, King Saud bin Abdulaziz University for Health Sciences during 25-26/10/2010, Jeddah, Saudi Arabia.
- 12) **How to Conduct Professional Teaching**, Workshop held at the College of Medicine, King Saud bin Abdulaziz University for Health Sciences during 1-2/12/2010, Riyadh, Saudi Arabia.
- 13) **Principles of Students Assessment**, Workshop held at the College of Medicine, King Saud bin Abdulaziz University for Health Sciences during 22-23/10/2011, Riyadh, Saudi Arabia.

- 14) **Innovative Concepts in Health Profession Education: Current Trends 2011, An International Workshop in Medical Education**, King Saud bin Abdulaziz University for Health Sciences-Jeddah, College of Medicine, 26-30 /11/2011, Saudi Arabia. This Workshop has been awarded 30 CME hours.
- 15) **Assessment Workshop, An International Workshop in Medical Education Conducted by Professor James Ware / Cambridge**, King Saud bin Abdulaziz University for Health Sciences-Jeddah, College of Medicine, 22nd-23rd May 2012, Saudi Arabia. This Workshop has been awarded 9 CME hours.
- 16) **Problem Based Learning (PBL) Workshop**, Workshop in Medical Education Conducted by: King Saud bin Abdulaziz University for Health Sciences-Jeddah, College of Medicine, 23rd-24rd June 2012, Saudi Arabia. This Workshop has been awarded 5 CME hours.
- 17) **ICCC40: 40th International Conference on Coordination Chemistry, 9th-13th September, 2012, Valencia, Spain.**

PATENTS & TECHNICAL REPORTS

- Thermal Insulating Materials Derived From Inorganic Raw Materials, By Ahmad S. Abushamleh, Royal Scientific Society, Report Submitted in 1984.
- Insulator, Remah 1, Patent Registered at the Ministry of Industry and Trade, Jordan, (Patent No. 1308, April 4th, 1987).
- Insulator, Remah 2, Patent Registered at the Ministry of Industry and Trade, Jordan, (Patent No. 1309, April 4th, 1987).
- Laboratory Manual for Experimental Inorganic Chemistry: Hashemite University Publications, 1997, 2000, 2005, 2013.
- Laboratory Manual for Experimental Organic Chemistry: College of Medicine, King Saud bin Abdulaziz University for Health Sciences-Jeddah, 2011.

PUBLICATIONS: (in peer-reviewed Journals)

Dr. Ahmad S. Abushamleh

1. Coordination of 2,2'-Biimidazole with Iron, Cobalt, Nickel, and Copper. Abushamleh, A. S. and Goodwin, H. A., **Aust. J. Chem.**, 1979, **32**, 513.
2. The Crystal and Molecular Structure of cis-dichlorobis(2,2'-biimidazole) Iron (II) Chloride Monohydrate. Dance, I. G., Abushamleh, A. S. and Goodwin, H. A., **Inorg. Chem. Acta**, 1980, **43**, 217.
3. Metal Complexes of 1,10-Phenanthroline Derivatives XI. Complexes of 1, 10-Phenanthroline-2,9-di(carbaldehydephenylhydrazone), Abushamleh, A. S. and Goodwin, H. A., **Aust. J. Chem.**, 1980, **33**, 2171.
4. Coordination of Multidentate Chelating Agents Derived from 1,10-phenanthroline-2,9-dicarbaldehyde, Abushamleh, A. S. and Goodwin, H. A., **Abstr. 9th Conf. RACI. Div. Coordination and Metal-Organic Chem.**, Sydney, Australia, 1980, P93.
5. Metal Complexes of 1, 10-Phenanthroline Derivatives XII. Complexes of 2-Hydrazino-1,10-Phenanthroline and related Molecules, Abushamleh, A. S. and Goodwin, H. A., **Aust. J. Chem.**, 1981, **34**, 313.

6. The $^5T_2 \rightarrow ^1A_1$, Spin Transition in Bis-2-(3,5-Dimethylpyrazolyl)-1,10-Phenanthroline. Abushamleh, A. S. and Goodwin, H. A., **Abst. 10th. Conf. RACI. Div. Coordination and Metal-Organic Chem.**, Queenstown, New Zealand, 1981, PII-7.
7. Bis 2-Hydrazino-1,10-Phenanthroline Iron (II) Diiodide Hydrate. A. D. Rae, A. S. Abushamleh and H. A. Goodwin, **Cryst. Struct. Comm.**, 1982, **11**, 169.
8. Metal Complexes of 1, 10-Phenanthroline Derivatives XIII. Denitrogenation in Complexes of 2-Hydrazino-1,10-Phenanthroline. Ahmad S. Abushamleh and Harold A. Goodwin, **Aust. J. Chem.**, 1982, **35**, 1053.
9. Metal Complexes of 1,10-Phenanthroline Derivatives XIV. Complexes of 1,10-Phenanthroline-y1(pyridine-2-y1)amine, Ahmad S. Abushamleh, Harold A. Goodwin, Christopher G. Benson and Gary J. Long, **Aust. J. Chem.**, 1984, **37**, 281.
10. Crystal & Molecular Structure of Bis benzaldehyde-2-(1,10-Phenanthrolinyl) hydrazone Nickel (II) Fluoroborate: Ni (C₁₉H₁₄N₄)₂ (BF₄)₂, Ahmad S. Abushamleh, Shamima Choudhury and A. David Rae, **Indian J. Chem.**, 1987, **26A**, 556.
11. Metal Complexes of 1,10-Phenanthroline derivatives XV. Complexes of 2-(3,5-Dimethylpyrazo-1-y1)-10-Phenanthroline, Ahmad S. Abushamleh, and Harold A. Goodwin, **Aust. J. Chem.**, 1988, **41**, 873.
12. Reaction of α , β -Unsaturated Ketones with Acetophenone. Synthesis of New Cyclohexanol Derivatives, Ahmad S. Abushamleh, Salim S. Sabri, Ahmad Q. Hussein and Farouk H. Al-Hajjar, **Journal of the Iraqi Chemical Society**, 1988, **14**, 143.
13. Heterocycles from Nitrile Imines. Part II. Synthesis and Ring-Chain Tautomerism of 1,2,3,4-Tetrahydro-s-Tetrazines, Ahmad Q. Hussein, Mustafa M.El-Abadelah, Khalid Al-Adhami and Ahmad S. Abushamleh, **Heterocycles**, 1989, **29**, 1163.
14. Synthesis and Characterization of Transition Metal Complexes of Bis-homodihydroteraaza(14)annulene, Ahmad S. Abushamleh, **Indian J. Chem.**, 1991, **30A**, 88.
15. Inorganic Thermal Insulating Materials. Part I: Lightweight Block Blockwork and Foam Glass, Ahmad S. Abushamleh, Saleh S. Suradi, **Mu'tah Journal for Research and Studies**, 1990, **5** (1), 25.
16. Inorganic Thermal Insulating Materials. Part II: Lightweight Blocks from Oilshale-ash, Ahmad S. Abushamleh, **Mu'tah Journal for Research and Studies**, 1990, **5**(1), 35.
17. Synthesis and Characterization of the Cobalt Complexes of New BF₂⁺ Bridged Anthracene Substituted Bis(α -Dioxime) Macrocycles, Ahmad S. Abushamleh, P. J. Chmielewski, P. R. Warburton, L. Morales, N. A. Stephenson, and D. H. Busch, **J. Coord. Chem., Section A**, 1991, **23**, 91.

18. Substituent Effect on "Ring-Chain" Tautomerism of 1,2,3,4-Tetrahydro-s-Tetrazines, M. M. El-Abadelah, A. Q. Hussein and A. S. Abushamleh, **J. Prakt. Chem.**, 1991, **333(1)**, 61.
19. Crystal & Molecular Structure of 2-Oxo-1-(4-bromobenzylidene)methylhydrazino)-1-phenylhydrazono Propanal [C₁₇H₁₇N₄OBr], Ahmad S. Abushamleh, **International J. Chem.**, 1992, **3(1)**, 95.
20. عوامل الحرب الكيميائية ، أحمد سعيد أبو شملة ، مجلة الأمن السعودية ، العدد الرابع . حزيران 1991 ص 9-39
21. Crystal Structural Determination of Ring-Chain Tautomers of 1,2,3,4-Tetrahydro-s-Tetrazine, R. Boese, M.M. El-Abadelah and A. Q. Hussein, A. S. Abushamleh, **J. Heterocyclic Chem.**, 1994, **31**, 505.
22. A Thermodynamic Study of the bonding of Dibenzo-18-Crown-6 With Ag⁺, Pb²⁺ and Cd²⁺ cations in Acetonitrile-Water Solvents, M.I.Sway and Ahmad S. Abushamleh , **J. Chem. Soc. Faraday Transactions**, 1995, **91(11)**, 1607.
23. Thermodynamic Parameters for the Complexation of 18-Crown-6 With Ag⁺, Pb²⁺ Cd²⁺, Co²⁺, and Ni²⁺ in Methanol-Water Solvents by Conductometry. M.I. Sway, Ahmad S. Abushamleh, **Arab Gulf J. Scient. Res.**, 1997, **15(2)**, 255.
24. Synthesis and Characterization of the Nickel and Cobalt Complexes of New BF₂⁺ Bridged, 1,2-Benzoquinone Bis (α-Dioxime) Macrocycles, A. S. Abushamleh and M. M. El-Abadelah, **J. Chem. Soc. Pak.**, 2000, **22(4)**, 293.
25. Transition Metal Complexes of Derivatized Chiral Dihydro-1,2,4-triazin-6-ones: **Part I.** Nickel (II) Complex of (D)-3-acetyl-5-benzyl-4,5-dihydro-1,2,4- triazin-6-one Oxime. Ahmad S. Abushamleh, M. M. El-Abadelah, and C. M. Mossmer, **Heterocycles**, 2000, **53(5)**, 1155.
26. Synthesis and Structural Characterization of Palladium Complex with (L) – 3-acetyl-5-benzyl-1-phenyl-4,5-dihydro-1,2,4-triazin-6-one Oxime. **Part II.** A. S. Abushamleh, M.M. El-Abadelah, and C.M. Mossmer, **Heterocycles**, 2000, **53(8)**, 1737.
27. Transition Metal Complexes of Derivatized Chiral Dihydro-1,2,4-triazin-6-ones: **Part III.** X-Ray Structure of N, N'-Bis[1-phenyl-5-isopropyl-4,5-Dihydro-1,2,4-traizin-3-yl-(1-ethylene)]-1", 3"-diaminopopanenickel(II). A. S. Abushamleh, M. M. El-Abadelah, and W.Voelter, **Z. Naturforsch.**, 2000, **55b**, 1074.
28. Synthesis and Structural Characterization of Copper(II) Complex of (L)-5-Benzy1-4,5-dihydro-1,2,4-triazin-6-one Oxime, Abushamleh, A.S. , El-Abadelah, M.M., Mossmer, C.M., and Voelter, W., **The 5th Scientific Congress of the Association of Colleges of Pharmacy in the Arab World & The 2nd International Conference of the Faculty of Pharmacy, University of Jordan, Amman, JORDAN, Oct. 16-18, 2001, P117.**

29. Chiroptical Properties of some (S)-N,N'-Bis[(1-phenyl-5-alkyl-4,5-dihydro-6-oxo-1,2,4-triazin-3-yl)ethylidene]propane-1,3-diamine nickel(II), A. S. Abushamleh, M. M. El-Abadelah, and W. Voelter, **J. Chem. Soc.Pak.**, 2002, **24(1)**, 31.
30. Transition Metal Complexes of Derivatized Chiral Dihydro-1,2,4-triazin-6-ones: **Part IV**. Synthesis and Structural Characterization of Copper(II) Complex of (L)-3-acetyl-5-benzyl-1-phenyl-4,5-dihydro-1,2,4-triazin-6-one Oxime. Ahmad S. Abushamleh, M.M. El-Abadelah, C.M. Mossmer, and W. Voelter, **Z. Naturforsch.**, 2002, **57b**, 547.
31. Factors Affecting the Threading of Axle Molecules Through Macrocycles: Binding Constants for Semirotaxane Formation, Thomas Clifford, Ahmad Abushamleh, and Daryle H. Busch, **Proc Natl Acad Sci USA**, 2002, **99(8)**, 4830.
32. Synthesis, Spectroscopic Studies, and Crystal Structure of 1-Phenyl-3-acetyloxime-4-hydro-1,2,4-triazin-5,6-dione, Ahmad S. Abushamleh, Abdel-Fattah Shihada, and Frank Weller, **Heterocycles**, 2003, **60(9)**, 2123.
33. Crystal Structure and Raman Spectra of cis-[SnCl₄(H₂O)₂].2H₂O and cis-[SnCl₄(H₂O)₂].3H₂O. Abdel-Fattah Shihada, Ahmad S. Abushamleh, and Frank Weller, **Z. Anorg. Allg. Chem.** 2004, **630**, 841.
34. Transition Metal Complexes of Derivatized Chiral Dihydro-1,2,4-triazin-6-ones: **Part V**. Synthesis and Structural Characterization of Nickel(II), Copper(II), and Cobalt(III) Complexes of 3-(1-hydroxyimino-ethyl)-5-(1H-imidazol-2-ylmethyl)-1-aryl-4,5-dihydro-1*H*-[1,2,4]triazin-6-one Ahmad S. Abushamleh and Huthefa I. Al-Maleeh. Under preparation.
35. Transition Metal Complexes of Derivatized Chiral Dihydro-1,2,4-triazin-6-ones: Template Synthesis of Nickel(II) Tetraaza-(4*N*-*M*) Complexes Incorporating the Triazinone Moiety. Ahmad S. Abushamleh, Marwa M. Al-Aqarbeh, and Vector Day, **American Journal of Applied Sciences**, 2008, **5(6)**, 750-754.
- 36) Characterization and Comparative Evaluation of the Jordanian Fired Bricks with National and International Masonry Specifications, Adi Said, Ahmad Abushamleh, Amal Al-Far, Nisreen Al-Hmoud, On going research
- 37) Utilization of Sewage Sludge Wastes in the Manufacturing of Clay Bricks, Adi Said, Ahmad Abushamleh, Amal Al-Far, Nisreen Al-Hmoud, On going research
- 38) Evaluation of the Short-Term Leach Tests for Heavy Metal Release From Mineral Processing Waste: A Comparative Study, Adi Said, Ahmad Abushamleh, Amal Al-Far, Nisreen Al-Hmoud, On going research
- 39) Adi Said, Ahmad Abushamleh, and Amal Al-Far, **Usability of Sewage Sludge in Clay Bricks Production: Practical Application of Sintering Heavy Metals in Masonry Clay Products**, LAP LAMBERT Academic Publishing, 180 pages, (16 Nov., 2011), Germany.

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