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CURRICULUM VITAE

PERSONAL DATA

Birth Date June 18, 1957.
Family Julia Chang, married August 22, 1996.
Kayla Glaser, b. Oct. 7, 1997, Columbia, Missouri.
James Glaser, b. Aug. 12, 2001, Columbia, Missouri.
Interests Reading, Astronomy, Cognition, Travel, Badminton, Swimming.
Languages Bilingual in English and German. Read French, some Spanish.
Honors Fellow of the American Association for the Advancement of Science.
Fellow of the Royal Society of Chemistry.

PROFESSIONAL INTERESTS & PROJECTS

Professional Interest Chemistry of and in Anisotropic Media.
Current Projects Theoretical, Organic, and Materials Chemistry. Chemistry Education.
1. Polar Order in Crystalline Organic Molecular Materials
2. DNA Base Deamination and Cross-Link Formation
3. Electronic Structure Theory: Potential Energy Surfaces and Dynamics
4. Structural Studies of Biopolymers: Deaminated DNA, ADA, and PMM/PGM
5. Astrochemistry: Nucleobase Synthesis in Interstellar Space
6. Nucleophilic Additions to Heterocumulenes
7. *Chemistry is in the News*: Chemistry & Society

CURRENT POSITION & EMPLOYMENT HISTORY

2003- Full Professor, Department of Chemistry, University of Missouri-Columbia.
1995-2003 Associate Professor, Department of Chemistry, Univ. of Missouri-Columbia.
1989-95 Assistant Professor, Department of Chemistry, Univ. of Missouri-Columbia.
1987-89 Postdoctoral Research Associate, Department of Chemistry, Yale University.
Adviser: Professor Kenneth B. Wiberg.

EDUCATION

- 1984-87** Ph.D. Program, Department of Chemistry, University of California, Berkeley. Chemistry Ph.D., 1987. Adviser: Professor Andrew Streitwieser, Jr.
- 1983-84** Eberhard-Karls-Universität Tübingen, Germany. Chemistry Diplom, 1984.
- 1982-83** University of California, Berkeley, College of Chemistry and Lawrence Berkeley Laboratory (LBL), Mol. and Mat. Research Division. Adviser: Professor Andrew Streitwieser, Jr. Chemistry Masters of Science, 1983.
- 1977-82** Eberhard-Karls-Universität Tübingen, Germany. Chemistry Vordiplom, 1980. Physics Zwischenprüfung, 1979.
- 1976-77** Military Service, Deutsche Bundeswehr.
- 1967-76** Kepler-Gymnasium, Freudenstadt, Germany. Abitur with highest honors and Chemistry Prize, 1976.

SERVICE

- 2011-** Editorial Board Member, *Life*
- 2009-** Editorial Board Member, *Astrobiology*
- 2009-** Editorial Board Member, *The Icfai University Journal of Chemistry*
- 2008-11** Faculty Development Advisory Committee.
- 2008-9** Faculty Council, AAUP Representative.
- 2008-9** Campus Committee on Tenure (Alternate).
- 2007-10** MU Honorary Degrees Committee.
- 2005-8** UM Research Computing Advisory Group (RCAG).
- 2003-6** MU College of Arts & Science, Promotion & Tenure Committee. Chair '04-'06.
- 2000-3** MU Academic Grievance Panel.
- 1999-2003** MU Faculty Advisory Council, Educational Technologies at MU.
- 1999-2002** MU Academic Assessment Committee.
- 1998-2002** Advisory Board, *Journal of Organic Chemistry*.
- 1996-9** MU Study Abroad Advisory Council.
- 1995-9** MU Task Force for Research Computing.
- 1992-** Boards of Review for 15 Funding Agencies (>110 reviews).
- 1987-** Boards of Review for 56 Journals (>600 reviews).

FUNDING SOURCES

National Institutes of Health (NIGMS), National Science Foundation (DUE), Petroleum Research Fund of the American Chemical Society (G, AC, SE), The Camille & Henry Dreyfus Foundation, NATO Collaborative Research Grant, Japan Society for the Promotion of Science.

PROFESSIONAL ORGANIZATIONS

Gesellschaft Deutscher Chemiker, since 1980.

Liebig-Vereinigung für Organische Chemie, since 1995.

Wöhler-Vereinigung für Anorganische Chemie, since 1995.

American Chemical Society, since 1982.

University of Missouri ACS Local Section, 1995-7, Secretary-Treasurer.

Division of Organic Chemistry, since 1982. Division of Physical Chemistry, since 1993.

Theoretical Chemistry Subdivision, since 1993. Division of Chemical Toxicology, since 2001.

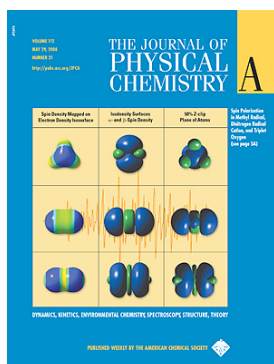
Division of Chemical Education, since 2001.

American Association for the Advancement of Science, since 1988. Elected Fellow 2004.

World Association of Theoretically Oriented Chemists, WATOC, since 1997.

A. Publications (150 published or accepted, 35 involved collaborations, Publication Spiegel, Citation Spiegel) | B. Patents (1) | C. Books (2)

Items are numbered chronologically and listed in reverse chronological order. The online version (<http://web.missouri.edu/~glaserr>) contains direct links to online visualization materials and provides information on dissertations (20), invited conference presentations (50), departmental colloquia and seminars (108), contributed lectures (109), contributed poster, video & internet presentations (107), and media appearances (118).



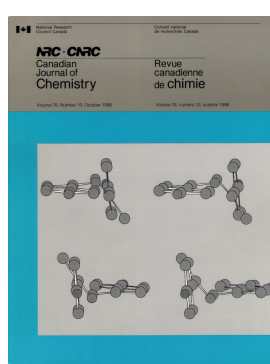
Publ. 144, May 2008.



Publ. 139, Jan. 2007.



Ref. 137, July 2004.



Ref. 71, Oct. 1998.



Ref. 64, Aug. 1997.

A. Publications

150. Asymmetric Imine *N*-Inversion in 3-Methyl-4-Pyrimidinimine. Molecular Dipole Analysis of Solvation Effect. Stephanie Coyle and Rainer Glaser. *Article, J. Org. Chem.* **2011**, 76, xxx-xxx. Publication Date (Web): April xx, 2011.
149. Asymmetry in the *N*-Inversion of Heteroarene Imines: Pyrimidin-4(3*H*)-Imine, Pyridin-2(1*H*)-Imine, and 1*H*-Purine-6(9*H*)-Imine. Rainer Glaser, Jian Yin, and Stephanie Miller. *Article, J. Org. Chem.* **2010**, 75, 1132-1142. Publication Date (Web): January 28, 2010.
148. Synthesis, Crystal Structure and Rotational Energy Profile of 3-Cyclopropyl-1,2,4-benzotriazine 1,4-di-*N*-oxide. Ujjal Sarkar, Rainer Glaser, Zack D. Parsons, Charles L. Barnes, and Kent S. Gates. *Article, J. Chem. Crystallography* **2010**, 40, 624-629.
147. AMPAC 9. Semichem, 12456 W, 62nd Terrace, Suite D, Shawnee, KS 66216.

- www.semichem.com. See Web site for pricing information. Rainer Glaser. *Computer Software Review, J. Am. Chem. Soc.* **2009**, *131*, 13564.
146. *Chemistry Is in the News: Assessing Intra-Group Peer Review.* Kathleen M. Carson and Rainer E. Glaser. *Article, Assessment and Evaluation in Higher Education* **2009**, *34*, 69-81. (July 24, 2009).
 145. *Chemistry Is in the News: The Why and Wherefore of Integrating Popular News Media into the Chemistry Classroom.* Kathleen M. Carson, Deborah L. Hume, Yongqiang Sui, Susan Schelble, and Rainer E. Glaser. Chapter X in the *Chemists' Guide to Effective Teaching*, Vol. 2, Thomas J. Greenbowe, Melanie M. Cooper, and Norbert J. Pienta, Editors. Prentice Hall Series in Educational Innovation, Prentice Hall: Upper Saddle River, NJ, **2008**.
 144. **COVER OF THE MAY ISSUE.** Electronic Structures and Spin Topologies of γ -Picoliniumyl Radicals. A Study of the Homolysis of *N*-Methyl- γ -Picolinium and of Benzo-, Dibenzo-, and Naphthoannulated Analogs. Rainer Glaser, Yongqiang Sui, Ujjal Sarkar, and Kent Gates. *J. Phys. Chem. A* **2008**, *112*, 4800-4814. PDF. Supporting Information.
 143. *Ammonia Elimination from Protonated Nucleobases and Related Synthetic Substrates.* Ming Qian, Shuo Yang, Hong Wu, Papiya Majumdar, Nathan Leigh, and Rainer Glaser. *Article, J. Am. Soc. Mass Spectrometry (JAMAS)* **2007**, *18*, 2040-2057. PDF. Supporting Information.
 142. *Adenine Synthesis in Interstellar Space: Mechanisms of Prebiotic Pyrimidine Ring-Formation in Monocyclic HCN-Pentamers.* Rainer Glaser, Brian Hodgen, Dean Farrelly, and Elliot McKee. *Article, Astrobiology* **2007**, *7*, 455-470. PDF. Online Visualization: Chime Displays and Reaction Animations.
 141. *Stabilities and Spin Density Distributions of Benzannulated Benzyl Radicals.* Yongqiang Sui, Rainer Glaser, Ujjal Sarkar, and Kent Gates. *Article, J. Chem. Theory Comput.* **2007**, *3*, 1091-1099. PDF.
 140. *Helically Annelated and Cross-Conjugated β -Oligothiophenes: An FT-Raman Spectroscopic and Quantum Chemical DFT Study.* Reyes Malavé Osuna, Rocío Ponce Ortiz, Victor Hernández, Juan Teodomiro López Navarrete, Makoto Miyasaka, Suchada Rajca, Andrzej Rajca, and Rainer Glaser, *Article, J. Phys. Chem. C* **2007**, *1*, 4854-4860. Online Visualization: Strong Raman Modes of beta-Oligothiophenes.
 139. **COVER OF THE JANUARY ISSUE.** *Polar Order By Rational Design: Crystal Engineering With Parallel Beloamphiphile Monolayers.* Rainer Glaser. *Review, Acc. Chem. Res.* **2007**, *40*, 9-17.
 138. *What's in a name? "Schall und Rauch" versus "Claim and Brand."* Rainer Glaser and Richard F. Murphy, *Letter, CrystEngComm*, **2006**, *8*, 948-951.
 137. **COVER OF THE JULY ISSUE.** *Teaching Dissent and Persuasion.* Kathleen M. Carson, Brian Hodgen, and Rainer E. Glaser. *Review, Educ. Res. Rev.* **2006**, *1*, 115-120.
 136. *Multifurcated halogen bonding involving Ph-Cl---H-CPh=N-R' interactions and its relation to idioteloamphiphile layer architecture.* Rainer Glaser, Richard F. Murphy, Yong-qiang Sui, Charles L. Barnes, and Sung Hoon Kim. *Communication, CrystEngComm* **2006**, *8*, 372-376.
 135. *Perfect polar stacking of parallel beloamphiphile layers. Synthesis, structure, and solid-state optical properties of the unsymmetrical acetophenone azine DCA.* Rainer Glaser, Nathan Knotts, Ping Yu, Linghui Li, Meera Chandrasekhar, Christopher Martin, and Charles L. Barnes. *Invited Article, Dalton Trans.* **2006**, 2891-2899. Special issue: *Dalton Discussion 9: Functional Molecular Assemblies*.

134. *Embedding 1,6-Diphenyl-1,2-Dihydronaphthalene (DHN) in 1,4-Distyrylbenzene (DSB): Arene-Arene Interactions in a "Crossed Bis-Diarene."* Yongqiang Sui and Rainer Glaser. *Article, Cryst. Growth Des.* **2006**, 6, 1014-1021. Online Visualization: [Molecules, Pairs, Layers and Crystals.](#)
133. *1-Methyl-1,3,6-triphenyl-7-(2-phenylpropenyl)-1,2-dihydronaphthalene.* Yongqiang Sui, Charles L. Barnes, and Rainer Glaser. *Communication, Acta Cryst. C* **2006**, 62, 98-100.
132. *Dipole Parallel-Alignment in the Crystal Structure of a Polar Biphenyl: 4'-Acetyl-4-Methoxybiphenyl (AMB).* Rainer Glaser, Nathan Knotts, Zhengyu Wu, and Charles Barnes. *Article, Cryst. Growth Des.* **2006**, 6, 235-240. Online Visualization: [Molecular and Crystal Structures.](#)
131. *Coordinate Covalent Ph-to-B Bonding in Phenylborates and Latent Formation of Phenyl Anions from Phenylboronic Acid.* Rainer Glaser and Nathan Knotts. *Article, J. Phys. Chem. A* **2005**, 109, 1295-1304. Invited contribution to a Festschrift dedicated to Prof. William Hase on the occasion of his 60th birthday.
130. *Chemical Carcinogens in Non-Enzymatic Cytosine Deamination: 3-Isocyanatoacrylo-nitrile.* Rainer Glaser, Hong Wu, and Francisca von Saint Paul. *Article, J. Mol. Model.* **2005**, 11, 731-737. Contribution to a Festschrift dedicated to Prof. Paul Schleyer on the occasion of his 75th birthday.
129. *Chemistry Is in the News. Assessment of Student Attitudes toward Authentic News Media Based Learning Activities.* Deborah L. Hume, Kathleen M. Carson, Brian Hodgen, and Rainer E. Glaser. *Article, J. Chem. Educ.* **2006**, 83, 662-667.
128. *Oxanosine is a Substrate of Adenosine Deaminase. Implications for the Quest for a Toxicological Marker for Nitrosation Activity.* Papiya Majumdar, Hong Wu, Peter Tipton, and Rainer Glaser. *Article, Chem. Res. Toxicol.* **2005**, 18, 1830-1841.
127. *Nitrosation Chemistry of Pyrroline, 2-Imidazoline, and 2-Oxazoline: Theoretical Curtin-Hammett Analysis of Retro-Ene and C-X Cleavage Reactions of alpha-Hydroxy-N-nitrosamines.* Hong Wu, Richard N. Loeppky, and Rainer Glaser. *Article, J. Org. Chem.* **2005**, 70, 6790-6801.
126. *Nitrosative Cytosine Deamination. An Exploration of the Chemistry Emanating from Deamination with Pyrimidine Ring-Opening.* Sundeep Rayat, Ming Qian, and Rainer Glaser. *Article, Chem. Res. Toxicol.* **2005**, 18, 1211-1218.
125. *Cytosine Catalysis of Nitrosative Guanine Deamination and Interstrand Cross-Link Formation.* Rainer Glaser, Hong Wu, and Michael Lewis. *Article, J. Am. Chem. Soc.* **2005**, 127, 7346-7358.
124. *Additivity Schemes in Conformational Analysis. Concept and Demonstration.* Zhengyu Wu and Rainer Glaser. *Article, J. Theo. & Comput. Chem. (JTCC)* **2005**, 4, 373-381.
123. *Amino-Effect on the Protonation of β -Aminoacrylonitrile.* Hong Wu and Rainer Glaser. *Communication, Chem. Res. Toxicol.* **2005**, 18, 111-114.
122. *Demonstration of an Alternative Mechanism for G-to-G Cross-Link Formation.* Ming Qian and Rainer Glaser. *J. Am. Chem. Soc.* **2005**, 127, 880-887.
121. *Chemistry Is in the News. Taxonomy of Authentic News Media Based Learning Activities.* Rainer E. Glaser and Kathleen M. Carson. *Int. J. Sci. Educ.* **2005**, 27, 1083-1098.

120. *Structure of the Nitrosoguanidine Complexes of Nickel(II) and Copper(II) by X-ray Crystallography and Computational Analysis.* R. Kent Murmann, Rainer Glaser, and Charles Barnes. *J. Coord. Chem.* **2005**, 58, 279-294.
119. *Structures of Nitro- and Nitrosoguanidine. X-ray Crystallography and Computational Analysis.* R. Kent Murmann, Rainer Glaser, and Charles Barnes. *J. Chem. Cryst.* **2005**, 35, 321-329.
118. *Software for the Synergistic Integration of Science with ICT Education.* Zhengyu Wu and Rainer E. Glaser. *J. Inform. Tech. Educ. (JITE)* **2004**, 3, 325-339.
117. *Nitrosative Guanine Deamination. Ab Initio Study of Deglycation of N-Protonated 5-Cyanoimino-4-Oxomethylene-4,5-Dihydroimidazoles.* Sundeep Rayat, Zhengyu Wu, and Rainer Glaser. *Chem. Res. Tox.* **2004**, 17, 1157-1169. Visualization: [Substrates, Products, Pre- & Post-Coordination Complexes, & Reaction Transition State Structures.](#)
116. *5-Cyanoimino-4-oxomethylene-4,5-dihydroimidazole and 5-Cyanoamino-4-imidazolecarboxylic Acid Intermediates in Nitrosative Guanosine Deamination. Evidence from ¹⁸O-Labeling Experiments.* Sundeep Rayat, Papiya Majumdar, Peter Tipton, and Rainer Glaser. *J. Am. Chem. Soc.* **2004**, 126, 9960-9969.
115. *Ab Initio Study of the S_N1Ar and S_N2Ar Reactions of Benzenediazonium Ion with Water. On the Conception of "Unimolecular Dediazonation" in Solvolysis Reactions.* Zhengyu Wu and Rainer Glaser. *J. Am. Chem. Soc.* **2004**, 126, 10632-10639. Online Visualization: [Molecular Structures and Transition Mode Animation.](#)
114. *5-Cyanoimino-4-Oxomethylene-4,5-dihydroimidazole and Nitrosative Guanine Deamination. A Theoretical Study of Geometries, Electronic Structures and N-Protonation.* Sundeep Rayat and Rainer Glaser. *J. Org. Chem.* **2003**, 68, 9882-9892. Online Visualization: [Structures.](#)
113. *¹³C-NMR Study of Halogen Bonding of Haloarenes. Measurement of Solvent Effects and Theoretical Analysis.* Rainer Glaser, Naijun Chen, Hong Wu, Nathan Knotts, and Martin Kaupp. *J. Am. Chem. Soc.*, 126, 4412-4419. Online Visualization: [Structures and Animations of Molecular Vibrations.](#)
112. *Nitrosative Adenine Deamination: Facile Pyrimidine Ring-Opening in the Dediazonation of Adeninediazonium Ion.* Brian Hodgen, Sundeep Rayat, and Rainer Glaser. *Communication, Org. Lett.* **2003**, 5, 4077-4080. Online Visualization: [MP2 Structures.](#)
111. *Polar Order in Crystalline Molecular Organic Materials by Rational Design.* Rainer Glaser, Nathan Knotts, and Hong Wu. *Review, Chemtracts* **2003**, 16, 443-452.
110. *The Heterolytic Dissociation of Neutral and Protonated Nitrous Acid.* Hong Wu and Rainer Glaser. *J. Phys. Chem. A* **2003**, 107, 11112-11119.
109. *5-Cyanoamino-4-Imidazolecarboxamide and Nitrosative Guanine Deamination: Experimental Evidence for Pyrimidine Ring-Opening During Deamination.* Ming Qian and Rainer Glaser. *Communication, J. Am. Chem. Soc.* **2004**, 126, 2274-2275.
108. *Science Communication For All.* Rainer Glaser, *Feature, Chem. Internatl.* **2003**, 25, 3-6.
107. *Ab Initio and Crystal Structures of (E,E)-1,4-Diphenylbuta-diene: A New Type of Arene-Arene Double T-Contact and an Interesting Inter-Layer Cooperation Involving Diastereoisomeric Contacts.* Rainer Glaser, Laxma R. Dendi, Nathan Knotts, Charles L. Barnes. *Cryst*

- Growth Des.* **2003**, 3, 291-300. Online Visualization: Ab Initio and Crystal Structures of 1,4-Diphenylbutadiene.
106. *Synergism of Catalysis and Reaction Center Rehybridization. A Novel Mode of Catalysis in the Hydrolysis of Carbon Dioxide.* Michael Lewis and Rainer Glaser. *J. Phys. Chem. A* **2003**, 107, 6814-6818.
 105. *The Azine Bridge as a Conjugation Stopper: An NMR Spectroscopic Study of Electron Delocalization in Acetophenone Azines.* Michael Lewis and Rainer Glaser. *J. Org. Chem.* **2002**, 67, 1441-1447. Addition/Correction, *J. Org. Chem.* **2002**, 67, 7168.
 104. *Theoretical Study of the Quadrupolarity of Carbodiimide.* Rainer Glaser, Michael Lewis, and Zhengyu Wu. *J. Phys. Chem. A* **2002**, 106, 7950-7957.
 103. *Synergism of Catalysis and Reaction Center Rehybridization in Nucleophilic Additions to Cumulenes: The One-, Two- and Three-Water Hydrolyses of Carbodiimide and Methyleneimine.* Michael Lewis and Rainer Glaser. *Chem. Eur. J.* **2002**, 8, 1934-1944. Online Visualization: Reaction Paths of Three-Water Hydrolysis of Carbodiimide.
 102. *Arene-Arene Double T-Contacts. Lateral Synthons in the Engineering of Highly Anisotropic Organic Crystals.* Michael Lewis, Zhengyu Wu, and Rainer Glaser. Chapter 7 in *Anisotropic Organic Materials - Approaches to Polar Order.* Rainer Glaser and Piotr Kaszynski, Editors. ACS Symp. Ser., Vol. 798, Am. Chem. Soc.: Washington, D.C., **2001**, p. 97-111.
 101. *Nonlinear dye research leads to patent.* Rainer Glaser. Newspaper Article, *The Missourian*, Columbia, Missouri, February 15, **2001**.
 100. *Aspirin. An Ab Initio Quantum-Mechanical Study of Conformational Preferences and of Neighboring Group Interactions.* Rainer Glaser. *J. Org. Chem.* **2001**, 66, 771-779. Online Visualization: Structures of Aspirin, Benzoic Acid and Phenyl Acetate.
 99. *Lattice Sum Calculations for 1/rp Interactions via Multipole Expansions and Euler Summations.* Don Steiger and Rainer Glaser. *J. Comp. Chem.* **2001**, 22, 208-215.
 98. *Tuning Intermolecular Interactions: A Study of the Structural and Vibrational Properties of p-Hexaphenyl under Pressure.* S. Guha, W. Graupner, R. Resel, M. Chandrasekhar, H. R. Chandrasekhar, R. Glaser, and G. Leising. *J. Phys. Chem. A* **2001**, 105, 6203-6211.
 97. Web Content: The Prentice-Hall Online Companion Website to *Organic Chemistry*, 4/e, Wade, **2001**.
Local Version: <http://www.missouri.edu/~chemrg/wade4e>
 96. Web Content: The Prentice-Hall Online Companion Website to *Organic Chemistry*, 3/e, Bruice, **2001**.
Published Version: <http://www.prenhall.com/bruice>
Local Version: <http://www.missouri.edu/~chemrg/bruice3e>
 95. *Near-Perfect Dipole Parallel-Alignment in the Highly Anisotropic Crystal Structure of 4-Iodoacetophenone-(4-methoxyphenylethylidene) Hydrazone.* Michael Lewis, Charles Barnes, and Rainer Glaser. *Communication, J. Chem. Crystallogr.* **2000**, 30, 489-496.
 94. *Polarizabilities of Carbon Dioxide and Carbodiimide. Assessment of Theoretical Model Dependencies on Dipole Polarizabilities and Dipole Polarizability Anisotropies.* Michael Lewis, Zhengyu Wu, and Rainer Glaser. *J. Phys. Chem. A* **2000**, 104, 11355-11361.

93. *A Higher Level ab Initio Quantum-Mechanical Study of the Quadrupole Moment Tensor Components of Carbon Dioxide.* Rainer Glaser, Zhengyu Wu and Michael Lewis. *J. Mol. Struct.* **2000**, 556, 131-141. Contribution to a special issue in honor of Prof. Norman Allinger.
92. *Conformational Effects On The Quadrupolarity of Azines. An ab Initio Quantum-Mechanical Study Of A Lateral Synthon.* Rainer Glaser, Michael Lewis and Zhengye Wu. *J. Mol. Model.* **2000**, 6, 86-98. Online Visualization: [Optimized Structures.](#)
91. *Conformational Preferences and Pathways for Enantiomerization and Diastereomerization of Benzyl Alcohol. Data Mining and Ab Initio Quantum-Mechanical Study.* Rainer Glaser and G. Richard Nichols. *J. Org. Chem.* **2000**, 65, 755-766. Online Visualization: [MP2/6-31G* structures of benzyl alcohols and gallery of X-ray structures.](#)
90. *Electronic Excitations in Homopolyatomic Bismuth Cations. Spectroscopic Measurements in Molten Salts and Ab Initio CI-Singles Study.* Graeme Day, Rainer Glaser, Noriyuki Shimomura, Atsushi Takamuku, and Kazuhiko Ichikawa. *Chem. Eur. J.* **2000**, 6, 1078-1086. Online Visualization: [VR Visualization of MOs and Electron Densities.](#)
89. *4-Chloroacetophenone-(4-methoxyphenylethylidene) hydrazone.* Michael Lewis, Charles Barnes, and Rainer Glaser. *Communication, Acta Cryst. C* **2000**, 56, 393-396.
88. *The Crystal Structure of 4-Iodoacetophenone Azine.* Michael Lewis, Charles Barnes and Rainer Glaser. *Communication, J. Chem. Crystallogr.* **1999**, 29, 1043-1048.
87. *Organic Chemistry Online: Building Collaborative Learning Communities Through Electronic Communication Tools.* Rainer E. Glaser and Melissa J. Poole. *J. Chem. Educ.* **1999**, 76, 699-703.
86. *Single- and Double-Proton-Transfer in the Aggregate Between Cytosine and Guanine-diazonium Ion.* Rainer Glaser and Michael Lewis. *Communication, Org. Lett.* **1999**, 1, 273-276.
85. *An ab Initio Quantum-Mechanical Study of the Stability of Cyclic α -Acetoxy-N-nitros-amines: Amine N-to-NO Dative Bonding in α -Hydroxy-N-nitrosamines versus N-to-Carbocation Dative Bonding in N-nitrosiminium Ions.* Rainer Glaser. *J. Am. Chem. Soc.* **1999**, 121, 5170-5175.
84. *Ab Initio Study of DNA Base Diazonium Ions and of Their Linear, Unimolecular Dediazotiation Paths.* Rainer Glaser, Sundeep Rayat, Michael Lewis, Man-Shick Son, and Sarah Meyer. *J. Am. Chem. Soc.* **1999**, 121, 6108-6119.
83. *4-Methoxybenzaldehyde-(pentafluorophenylmethylidene) hydrazone.* Michael Lewis, Charles Barnes, Bruce A. Hathaway, and Rainer Glaser. *Communication, Acta Cryst. C* **1999**, 55, 975-978.
82. *Sigma-Dative and Pi-Backdative Phenyl Cation-Dinitrogen Interactions and Opposing Sign Reaction Constants in Dual Substituent Parameter Relations.* Rainer Glaser, Christopher J. Hora, Michael Lewis, and Heinrich Zollinger. *J. Org. Chem.* **1999**, 64, 902-913.
81. *High Pressure Studies on the Planarity of para Hexaphenyl.* S. Guha, W. Graupner, R. Resel, M. Chandrasekhar, H. R. Chandrasekhar, R. Glaser, and G. Leising. *Communication, Synthetic Metals* **1999**, 101, 180-181.

80. *On the Planarity of para Hexaphenyl*. S. Guha, W. Graupner, R. Resel, M. Chandrasekhar, H. R. Chandrasekhar, R. Glaser, and G. Leising. *Communication, Phys. Rev. Lett.* **1999**, 82, 3625.
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Published Version: <http://cw.prenhall.com/bookbind/pubbooks/wade>
Local Version: <http://www.missouri.edu/~chemrg/wade>
78. **CD-ROM Content**: Presentation Manager 3.0, *Organic Matter*, Wade 4/e, **1999**. ISBN 0-13-974072-4.
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Published Version: <http://www.prenhall.com/bruice>
Local Version: <http://www.missouri.edu/~chemrg/bruice>
76. **CD-ROM Content**: Presentation Manager, Organic Chemistry, Bruice, 2/e, **1999**. ISBN 0-13-919283-2.
75. *Seleno- and Tellurocarbenium Ions*. Hansjörg Grützmacher, Grace S. Chen, Dietmar Ohlmann, Christina M. Marchand, Rainer Glaser. *Phosphorus, Sulfur Silicon Relat. Elem.* **1998**, 136-138, 287-290.
74. **Book Review**. *Dicoordinated Carbocations*. Zvi Rappoport and Peter J. Stang, Editors, Wiley, Chichester 1997. *Angew. Chem. Int. Ed. Engl.* **1998**, 37, 2738-39. *Angew. Chem.* **1999**, 111, 2610-2611.
73. **Book Review**. *The Chemistry of the hydrazo, azo, and azoxy groups*. Vol. 2. Paul Patai, Editor, Wiley, Chichester 1997. *Angew. Chem. Int. Ed. Engl.* **1998**, 37, 3189-90. *Angew. Chem.* **1998**, 110, 3067-68.
73. *Synthesis, Structure, Electrostatic Properties and Spectroscopy of 3-Methyl-4,5,6,7-Tetrafluoro-1H-Indazole. An Experimental and ab Initio Computational Study*. Bruce Hatha-way, Graeme Day, Michael Lewis, and Rainer Glaser. *Perkin Trans. 2* **1998**, 2713-2720.
71. **COVER OF THE OCTOBER ISSUE**. *The supramolecular architecture of 4-aminoacetophen-one (1-(4-fluorophenyl) ethylidene)hydrazone hydrate. Double T-Contacts and Extremely Low-Density Water Layers in a Mixed Azine*. Michael Lewis, Charles L. Barnes, and Rainer Glaser. *Can. J. Chem.* **1998**, 76, 1371-1378.
70. *Synergism of Catalysis and Reaction Center Rehybridization. An ab Initio Study of the Hydrolysis of the Parent Carbodiimide*. Michael Lewis and Rainer Glaser. *Communication, J. Am. Chem. Soc.* **1998**, 120, 8541-8542. Dedicated to Ernst Glaser on the occasion of his 65th birthday.
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B. Patents

Dipole Aligned Molecular Materials with Nonlinear Optical Properties. Rainer Ernst Glaser and Grace Shiahuy Chen, Inventors. Patent filed December 4, **1995**, with the U.S. Patent and Trademark Office, and issued May 8, **2001**, as Patent Nr. 6229047.

C. Books

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