

**1 Research Associate Professor (2000-2020) Dr. habil. Werner Kaminsky**



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## 2 Biographical Sketch

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University of Washington

Birthdate: October 22, 1959

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### 2.1 Professional Preparation

1986, M.S.; Inst. for Crystallography, Univ. Cologne, *Farady effect in cubic crystals*, Research Advisor: Prof. Siegfried Haussuehl

1990, PhD., Inst. for Crystallography, Univ. Cologne, *Variation des Farady-Effekts bei Phasenumwandlungen und photochromatischen Prozessen*, Graduate Research Advisor: Prof. Siegfried Haussuehl

1999, Habilitate (2nd PhD) Inst. for Crystallography, Univ. Cologne, *Beitraege zur Untersuchung chiraler Eigenschaften von Kristallen*, Advisor Prof. Ladislav Bohaty

### 2.2 Academic Honors

DFG-Scholar, Deutsche Forschungsgemeinschaft, 1994-1996

2000, Habilitation (2<sup>nd</sup> PhD.) Inst. for Crystallography, Univ. Cologne

2004, Top 10 most innovative scientists of the University of Washington

### 2.3 Prizes

Poster price DGKK-meeting Stuttgart, Germany, 1994

British Philips Physical Crystallography Prize, April Cardiff, UK, 1995

Poster prize Annual National Meeting of the ACA, Chicago, USA, 2004

Poster prize Annual Meeting of the FACSS, Portland, USA, 2004

### 2.4 Appointments (Primary Professional Positions)

Research Associate Professor of Chemistry, University of Washington (2000-2020)

Departmental Crystallographer, University of Washington (1999-)

Privat Dozent, University of Cologne (2000-2011)

Expert Witness for the High Court of Singapore, (2018-2023)

### 2.5 Representative Recent Advisory and Review Panel Service

Univ. Washington, Chair, FCET: Faculty Council on Educational Technology, 2004-2009

Univ. Washington, UTAC: University Technology Advisory Committee, 2005-2008

Univ. Washington, Faculty Senate 2005-2009

Univ. Washington, Senate Executive Committee 2005-2009

Reviewer, Veterans Affairs Merit Review Subcommittee for Neurobiology-D 2004-2009

Reviewer, The National Center of Science and Technology Evaluation (NCSTE) of Kazakhstan 2017-2018

Secretary, German Language School for Children, 2003-2006

Session chair, 'Symmetry 2006' in Budapest, Hungary

Session chair, IUCr meeting Osaka, Japan 2008

Board member of the COD (Crystallographic open Database) 2017-

## **2.6 Past Primary Professional Positions**

Private Doцент, University of Cologne, 2000-2011

Dep. Lecturer, Clarendon Laboratory, Univ. of Oxford, UK 1997-1999

Research Fellow, University of Cologne, 1990-1996

## **2.7 Subjects of investigation**

The research is aiming at the correlation between atomic structure and observed optical properties.

A new light mode was recently discovered along directions of optical isotropy in the presence of anomalous birefringence.

New chiral substances are synthesized as models for structure-feature studies, for example from adding chiral ligands to isothiocyanates. These new substances crystallize well and allow a multitude of variations of their chemistry while being strongly structurally related.

Similarly, structural phase-transitions cause variations in structures which are the cause of sometimes strong changes of the optical properties.

New optical measurement techniques are developed to collect data on chiroptical properties like optical rotation, Faraday Effect, circular dichroism, the electro-optic effect, and electrogyration. Such new methods are:

- 1) the 'tilter - method' that allows to measure optical rotation in any transparent crystal
- 2) an imaging polarized microscope which allows simultaneous precision measurement of linear dichroism, retardation and extinction angles of heterogeneous samples (Metripol, Rotopol)
- 3) a microscope which is designed to image circular extinction in solids (U-pol)
- 4) millipol, a microscope to measure time-dependent changes of the optical indicatrix in solids on a millisecond timescale.

Semi-empirical models are developed to be applied to the visible spectral range of light which allow calculating electrogyration, the electro-optic effect, and the d-coefficients for frequency doubling, using the atomic structure and empirical polarizability volumes for the individual atoms.

Crystal growth from aqueous or other solutions and their crystallographic characterization (forms, structure, and basic physical properties) assist the research. The aim is to provide large samples of interesting chemical composition in the size-range of cube-centimeters.

X-ray structure determination and chemical analysis as part of the duties for the Department of Chemistry in Seattle complement these studies.

I devote some of my time to the development of software packages to aid the teaching of physical crystallography. This resulted in one program for the presentation of tensorial features in form of representation surfaces (WinTensor for Windows) another program for the presentation of crystal morphology as virtual reality models (WinXMorph for Windows) and a remote presentation / remote PC application, 'REMSEM', to allow teaching from a distance. More

recently I devoted some time on export routines for preparing 3D-printable file formats for WinXMorph and Wintensor and completed this program series with a crystal structure rendering package, Cif2VRML, which produces images and 3D printable models directly from structural data.

## **2.8 Special Achievements (in chronological order)**

1. *Periodic table of Verdet constants of Ions.* The Faraday rotation of over 250 cubic crystals was studied, and the first and so far only comprehensive compilation (almost complete periodic table) of specific Verdet constants of elements in different valence states was derived, including temperature dependence. Publication No. 1.
2. The first to measure *complete Verdet tensors* in non-cubic crystals, including triclinic symmetry. Publications No.1, 5-8.
3. *The tilter method.* A method was developed to measure the optical rotation of birefringent solids ca. 1000 times faster than competing methods. Publication No. 11, 22, 23, 24, 26, 29, 31, 37, 39, 40, 44, 49, 50, 60.
4. *Algorithm* to invert numerically a sinusoidally varying signal with smoothly changing amplitude. Publications No. 15, 16.
5. The first to measure *optical rotation topographs* in birefringent solids. Publications No.12, 15, 18.
6. *The DES-model.* A theory and software was developed to calculate the electro-optic tensor, the d-coefficients, and the electro-gyration tensors in crystals of any symmetry from the x-ray structure and empirical polarizability volumes of the atoms. Publication No. 18
7. Solving the over *100-years old problem* of Pasteur's findings of optical rotation in solutions versus crystals of Tartaric Acid. Publication No. 16.
8. Developing an *imaging system* to unfold images of birefringence, eigenrays and transmittance. Publication No. 13.
9. Solution to the problem of *ambiguity* of birefringence measurements. Publication No 21.
10. Discovery of *anomalous azimuthal rotation* in dyed crystals (AAR). Publication No. 38.
11. First to measure *circular dichroism images* with a new device, U-pol, (US patent 7292389). Publications No. 30, 33, 38, 39, 47, 48, 51, 57, 62.
12. Discovery of AAR related anomalous circular extinction in dyed crystals (*ACE-effect*). Publication No. 38.
13. Development of a system to unfold images of birefringence, eigen rays and transmittance on a *millisecond timescale*. (US Patent 7522278), invention licensed to Emerald Biosystems: DeCode Genetics, Publications No. 48, 56.
14. Two educational software packages, *WinTensor* to study tensorial properties and *WinXMorph* to study crystal morphologies are licensed through the University of Washington. Disclosures UW TechTr. 7045D, UW TechTr. 7038D; abstracts 22, 31; Publication No. 45, 52.
15. Peer-to-peer remote-PC software (REMSEM) to give remote lectures licensed through the University, UW TechTransfer Ref. UW TEchTr. 4109 Reg 0001.
16. Prism technology for Millipol approach UW TechTr. 7619D, Publication No. 48.
17. The crystal structure of Herapathite (SCIENCE), Publication No. 58.
18. Discovery of a novel light mode along optic axis in presence of anomalous birefringence, Publication No. 60.
19. Correction and exact determination of the absolute structures of humulone and its derivatives, Publication No. 67.
20. Software to transform structure information collected in cif-files into 3-D printer formats Publications No. 72, 78, 79, 80, 81, 85, 91, 94, 96.
21. Structure of quantum dots, Publication No. 348.

## 3 Publication List

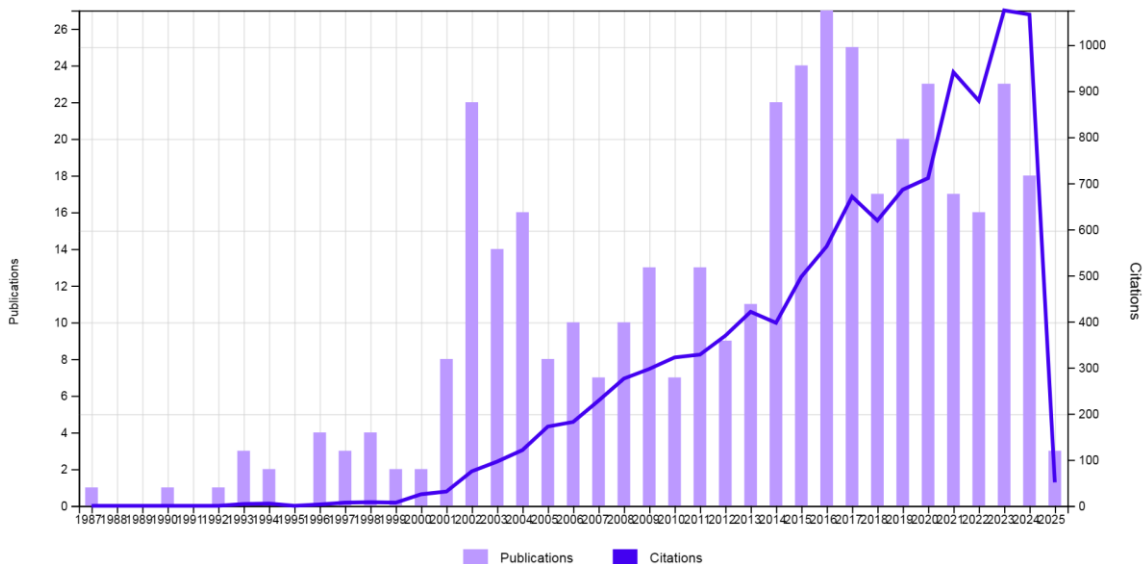
### 3.1 Overview

408 refereed publications, *of which*, 2 US Patents, 1 book report, 5 book chapters.

h-index 54 (58 according to Google Scholar) i10-index 257

91 poster abstracts

60 invited Talks

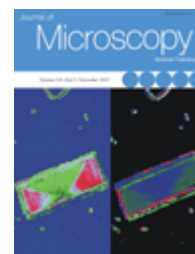


### 3.2 Publications not related to X-ray service for the Department

1. S. Haussühl, W. Effgen: Faraday effect in cubic crystals. Z. Kristallogr. 183 (1988) 153-174.
2. W. Kaminsky, S. Haussühl: Faraday effect and birefringence in orthorhombic  $\text{Li}_2\text{Ge}_7\text{O}_{15}$  near the ferroelectric phase transition. Ferroelectrics letters 11 (1990) 63-67.
3. E. Gomez, H.W. Schrötter, E. Claus, S. Haussühl, W. Effgen: Dispersion angular fononica de un cristal triclinico. Superficies y Vacio 3 (1991) 6-11.
4. W. Kaminsky, A. Fahnenstich, S. Haussühl: Magneto-electrogyration in cubic  $\text{Sr}(\text{NO}_3)_2$ ,  $\text{Ba}(\text{NO}_3)_2$ , and  $\text{Pb}(\text{NO}_3)_2$ . Ann.Physik 1 (1992) 92-97.
5. W. Kaminsky, S. Haussühl: Anisotropy of the Faraday effect in non-cubic crystals. Z. Kristallogr. 203 (1993) 79-91.
6. W. Kaminsky, E. Hartmann: Anisotropy of optical activity and Faraday effect in  $\text{TeO}_2$ . Z. Phys.B 90 (1993) 47-50.
7. W. Kaminsky, U. Bismayer: The Faraday effect near the ferroelastic phase transition of lead phosphate,  $\text{Pb}_3(\text{PO}_4)_2$ . Phase Transitions 46 (1993) 41-46.
8. W. Kaminsky, S. Haussühl, A. Brandstaedter, C. Balarew: Physical properties and phase transition in tetragonal  $\text{X}_2\text{CuT}_4.2\text{Q}_2\text{O}$ , X=K, Rb,  $\text{NH}_4$ ,  $\text{ND}_4$ , T=Cl, Br, Q=H, D. Z. Kristallogr. 209 (1994) 395-399.
9. G. Witt-Eickschen, W. Kaminsky, B. Harte, H. Seck: Trace element concentrations in amphibole and/or clinopyroxene from composite mantle xenoliths of the West Eifel (Germany): an ion-microprobe study. Mineralogical Magazine 58A (1994) 981-982.
10. W. Kaminsky: Reinvestigation of electrogyration in triglycine sulphate. Phase Transitions 52 (1994) 235-259.
11. W. Kaminsky, A. M. Glazer: Measurement of optical rotation in crystals. Ferroelectrics 183 (1996) 133-141.
12. W. Kaminsky: Reinvestigation of optical activity in the course of the ferroelastic phase transition in cadmium-langbeinite,  $\text{K}_2\text{Cd}_2(\text{SO}_4)_3$ . Phase Transitions 59 (1996) 121-133.
13. A. M. Glazer, J. G. Lewis & W. Kaminsky: A new optical imaging system for birefringent media. J. Royal Soc.London A452 (1996) 2751-2765.

14. W. Kaminsky, A. M. Glazer: Crystal optics of Mannitol, C<sub>6</sub>H<sub>14</sub>O<sub>6</sub>: Crystal growth, structure, basic physical properties, birefringence, optical activity, Faraday effect, electro-optic related effect and model calculations. *Z. Kristallogr.* 212 (1997) 283-296.
15. W. Kaminsky: Topographies of linear and chiral optical properties in FeBO<sub>3</sub>, using a novel polarimeter, the 'tilter'. *Ferroelectrics* 204 (1997) 233-246.
16. D. Mucha K. Stadnicka, W. Kaminsky and A. M. Glazer: Determination of optical activity in monoclinic tartaric acid, (2R, 3R)-(+)-C<sub>4</sub>H<sub>6</sub>O<sub>6</sub>, using the 'tilter'-method. *J. Phys.C: Condens. Matter* 9 (1997) 10829-10842.
17. W. Kaminsky, A. J. Fitzmaurice & A. M. Glazer: Measurement and calculation of second-harmonic generation in single-crystal spheres: Application to d-coefficients of D-mannitol, C<sub>6</sub>H<sub>14</sub>O<sub>6</sub>. *J. Physics D* 31 (1998) 767-775.
18. W. Kaminsky, A. M. Glazer: Comparison of experimental optical properties of TGS with calculations using the DES model. *Phase Transitions* 66 (1998) 1-21.
19. G. Witt-Eickschen, W. Kaminsky, U. Kramm and B. Harte: The nature of young metasomatism in the lithosphere of the West Eifel, Germany: geochemical and isotopic constraints from amphibole and clinopyroxene in composite mantle xenoliths from the Meerfelder Maar (Germany). *J. Petrology* 39 (1998) 155-185.
20. D. L. Corker, A. M. Glazer, W. Kaminsky, R. W. Whatmore, J. Dec, K. Roleder: Investigation into the crystal structure of the perovskite lead hafnate, PbHfO<sub>3</sub>. *Acta Crystallogr. B* 54 (1998) 18-28.
21. M. A. Geday, W. Kaminsky, J. G. Lewis, A.M. Glazer: Images of absolute retardance L×Dn, using the rotating polariser method. *J. of Microscopy* 198 (2000) 1-9.
22. W. Kaminsky: Experimental and phenomenological aspects of circular birefringence and related properties in transparent crystals. **REVIEW** *Rep. Prog. Phys.* 63 (2000) 1575-1640.
23. M. Kurimoto, L. D. Bastin, D. Fredrickson, P. N. Gustafson, S.-H Jang, W. Kaminsky, S. Lovell, C. A. Mitchell, J. Chmielewski, B. Kahr. Intrasectoral zoning of proteins and nucleotides in simple crystalline hosts, in: *Morphology and dynamics of crystal surfaces in complex molecular systems*, eds. J.J. De Yoreo, W.H. Casey, A.J. Malkin, E. Vlieg, and M.D. Ward. Materials Research Society, Pittsburgh 2001, 620, M9.8.1-M9.8.10.
24. D.Y. Kim, W. Kaminsky and A.M. Glazer. A low-temperature tilter system and its application to the measurement of the anisotropy of optical rotation in K<sub>2</sub>ZnCl<sub>4</sub> in the vicinity of the phase transition at 145K. *Phase Transitions* 73 (2001) 533-563.
25. W. Kaminsky and B. Kahr: *Crystal Optics and the Symmetry Principle: An Update*. *Symmetry* 2000, I. Hargittai and L. Torvard, eds. Portland Press, Lond. Part 1 2002, 307-316.
26. W. Kaminsky, E. Haussuehl, L. Bastin, J.A. Subramony, S. Lovell, B. Kahr. Correlation of Chiral KH<sub>2</sub>PO<sub>4</sub> Growth Hillocks with the Absolute Configuration of the Crystallographic Faces. *J. Crystal Growth* 234 (2002) 523-528.
27. M. Kurimoto, B. Mueller, L-W. Jin, W. Kaminsky, B. Kahr: Dyeing Crystals to Dyeing Tissues: Congo Red in anisotropic media. in: *Molecular Crystals and Liquid Crystals Mol. Cryst. Liq. Cryst.* 389 (2002) 1-9.
28. K.Claborn, B. Kahr, W. Kaminsky: Calculation of optical properties of the tetraphenyl-X family of isomorphous crystals (X=C, Si, Ge, Sn, Pb). *Cryst. Eng. Comm.* 4 (2002) 252-256.
29. W. Kaminsky, P.A. Thomas, A.M. Glazer: Optical rotation in RbTiOAsO<sub>4</sub> (PG mm<sup>2</sup>). *Z. Kristallogr.* 217 (2002) 1-7.
30. Kacey Claborn, Eileen Faucher, Werner Kaminsky, Bart Kahr: Circular Dichroism Imaging Microscopy: Application to enantiomorphous twinning in biaxial crystals of 1,8-dihydroxyanthraquinone. *J Am Chem Soc.* 125 (2003): 14825-14831
31. Kaminsky, W, Geday, A.M, Herreros-Cedres, J., Kahr, B: Optical rotatory and Circular dichroic scattering. *J. Phys. Chem. A* 107 (2003) 2800-2807.
32. Carlson, Brenden; Phelan, Gregory D.; Jiang, Xuezhong; Kaminsky, Werner; Jen, Alex K. Y.; Dalton, Larry R.: Organic light emitting devices based upon divalent osmium complexes: Part 1: design, synthesis, and characterization of osmium complexes. *Proceedings of the SPIE, Volume 4800*, p. 93-104 (2003).
33. Werner Kaminsky, Bart Kahr: A chirality microscope?. *Symmetry: Culture and Science* 2003-2004, 14-15, 271-280.
34. Jin, L-W.; Claborn, K.; Kurimoto, M.; Kaminsky, W.; Geday, M.; Maezawa, I.; Estrada, M.; Kahr, B.: Imaging linear birefringence and dichroism in cerebral amyloid pathologies. *Proc Nation. Acad. of Scie. USA.* 100 (2003) 15294-15298.
35. Bart Kahr, Miki Kurimoto, Werner Kaminsky, Sei-Hum Jang, Jason Benedict: Optical Consequences of Chemistry at Growing Crystal interfaces. In: 'From Solid-Fluid Interface to Nanostructural Engineering' J. De Yoreo, X. Y. Liu, eds. Plenum/Kluwer Academic Publisher (2004) 83-107
36. Jason B. Benedict, Werner Kaminsky, Christopher J. Tonzola: 2,2'-bis(4-phenylquinoline)-3,3'-didecyl-2,2'-bithienylene. *Acta Crystallogr. E*60 (2004) o530-o531.
37. Bart Kahr, Werner Kaminsky, Kacey Claborn; Why biphenyl configuration still matters. *J. Phys. Org. Chem.* 17 (2004) 735-739.
38. Werner Kaminsky, Javier Herreros-Cedres, Morten A. Geday, Bart Kahr.: Dispersion of anomalous optical rotatory and circular dichroic signals in dyed K<sub>2</sub>SO<sub>4</sub> crystals. *Chirality* 15 (2004) 855-S61.

39. Werner Kaminsky, Kacey Claborn, Bart Kahr: Polarimetric Imaging of Crystals. *Chem. Rev. Soc.* 33 (2004) 514-525.
40. J. Anand Subramony, Scott Lovell, Werner Kaminsky, Bart Kahr: Structure of a High Temperature Phase of Potassium Dideuteriophosphate (KDDP). *Solid State Commun.* 132 (2004) 827-830
41. Jason B. Benedict, Theresa Bullard, Werner Kaminsky and Bart Kahr: Potassium salt of phthalic acid hydrate dimer, monobasic: New structure and correction to literature. *Acta Crystallogr. C60* (2004) m551-m553.
42. Bart Kahr, Werner Kaminsky, Kacey Claborn, Miki Kurimoto, Lee-Way Jin: Status of congo red stained amyloid in polarized light. *Amyloid and Amyloidosis*, G Grateau, RA Kyle, M Skinner, eds CRC Press, Boca Raton (2005) pp 12-14.
43. Kacey Claborn, An-Shyang Chu, Sei-Hum Jang, Fengyu Su, Werner Kaminsky, Bart Kahr: Circular extinction imaging: Determination of the absolute orientation of embedded chromophores in enantiomorphously twinned s LiKSO<sub>4</sub> crystal. *J Cryst. Growth and Design* 5 (2005) 2117-2123
44. Javier Herreros Cedres, Cecilio Hernandez-Rodriguez and Werner Kaminsky: Absolute optical rotation of CsLiB<sub>6</sub>O<sub>10</sub>. *J. Appl. Crystallogr.* 38 (2005) 544-554.
45. W. Kaminsky: WinXMorph: a computer program to draw crystal morphology, growth sectors and cross-sections with export files in VRML V2.0 utf8-virtual reality format. *J. Appl. Crystallogr.* 38 (2005) 566-567.
46. Maliha Asma, Werner Kaminsky, Amin Badsha: Trans-Dichloro(orthochloroaniline) (triphenylphosphine)palladium(II) dichloromethane solvate. *Acta Crystallogr. E61* (2005) m1797-1798.
47. Werner Kaminsky, Lee-Way Jin, Steven Powell, Izumi Maezawa, Kacey Claborn, and Bart Kahr: Polarimetric Imaging of Amyloid. *Micron* 37 (2006) 324-338.
48. Erica Gunn, Ryan Sours, Jason Benedict, Werner Kaminsky, Bart Kahr: Mesoscale Chiroptics of Rhythmic Precipitates. *JACS* 128 (2006) 14234-14235.
49. Kacey Claborn, Werner Kaminsky, Javier Herreros-Cedres, Ekhart Weckert, Bart Kahr: Optical rotation of Achiral Pentaerythritol. *JACS* 128 (2006) 14746-14747.
50. W. Kaminsky, E. Weckert, H. Kutzke, M. A. Glazer, H. Klapper. Non-linear optical properties and absolute structure of metastable 4-methylbenzophenone. *Z. Kristallogr.* 221 (2006) 294-299.
51. W. Kaminsky, B. Kahr: Circular extinction contrast imaging microscope. Nov. 2007: **US Patent 7292389**
52. W. Kaminsky: From \*.cif to virtual morphology: new aspects of predicting crystal shapes as part of the WinXMorph program. *J. Appl. Cryst.*, 40 (2007) 382-385.
53. W. Kaminsky, E. Gunn, R. Sours, B. Kahr: Simultaneous false-color imaging of birefringence, extinction, and transmittance at camera speed. *J Microscopy.* 228 (2007) 153-164. (**Journal Cover**)
54. Claborn, K., Isborn, C., Kaminsky, W., Kahr, B.: Optical rotation of achiral compounds. *Angewandte Chemie* 47 (2008) 5706-5717.
55. Andrew Rohl, Massimo Moret, Werner Kaminsky, Kacey Claborn, Bart Kahr: Hirshfeld Surfaces Identify Errors in Computations of Intermolecular Interactions in Crystals: Pentamorphic 1,8-Dihydroxyanthraquinone. *Crystal Growth & Design* 8 (2008) 4517-4525.
56. W. Kaminsky: Real-time linear-birefringence-detecting polarization microscope. April 21<sup>st</sup> 2009, **US Patent 7522278**.
57. Bart Kahr, Yonghong Bing, Werner Kaminsky and Davide Viterbo: Turinese Stereochemistry: Eligio Perucca's Enantioselectivity and Primo Levi's Asymmetry. *Angewandte Chemie* 121 (2009) 3798 (German edition) 48 (2009) 3744 (International Edition)
58. Bart Kahr, John Freudenthal, Shane Phillips, Werner Kaminsky: Herapathite. **SCIENCE** 324 (2009) 1407.
59. Singh, K. S., Kaminsky, W., Rodrigues, C., Naik, C. G.: Structural studies and antimicrobial properties of norcembrane diterpenoid from an Indian soft coral *Sinularia inelegrans* Tixier-Durivault. *J Chem. Sciences* 121 (2009) 1041-1046.
60. Werner Kaminsky, Steven Steininger, Javier Herreros-Cedres, A.M. Glazer: Evidence of a circular polarized light mode along the optic axis in c-cut NH<sub>4</sub>H<sub>2</sub>PO<sub>4</sub>, induced by circular differential reflection and anomalous birefringence. *J Phys.: Condens. Matter* 22 (2010) 095902
61. W. Kaminsky, Donald Responde, Dan Daranciang, Jose B Gallegos, Bao-Chau NgocTran, Tram-Anh Pham: Structure, morphology and optical properties of chiral N-(4-X-phenyl)-N-[1(S)-1-phenylethyl]thiourea, X= Cl, Br, and NO<sub>2</sub> *Molecules* 2010, 15, 554-569
62. Yonghong Bing, David Selassie, Ruthanne H. Paradise, Christine Isborn, Nicholas Kramer, Martin Sadilek, Werner Kaminsky, Bart Kahr: Circular Dichroism Tensor of a Triarylmethyl Propeller in Sodium Chlorate Crystals. *JACS* 132 (2010) 7454-7465
63. Keisham Sarjit Singh, Werner Kaminsky: Synthesis, spectral and structural studies of water soluble arene ruthenium (II) complexes containing 2,2'-dipyridyl-N-alkyl imine ligand: *Inorganic Chimica Acta* 365 (2011) 487-491.



64. John Freudenthal, Werner Kaminsky, Bart Kahr: Chiroptical imaging of crystals (Book Chapter). *Advances in Chiroptics* (N. Berova, P. Polavarapu, L. Nafie, eds.) Wiley VCH Vol. 1, 2011, 325-345
65. Keisham S. Singh and Werner Kaminsky: Isolation and X-ray structure of deoxycholic acid from the sponge *Iricinia* sp. *Nat. Prod. Comm.* 6 (2011) 1237-1238.
66. Ewa M. Spiesz, Werner Kaminsky and Philippe K. Zysset: A quantitative collagen fibers orientation assessment using birefringence measurements: calibration and application to human osteons. *Journal of Biomechanics* 176 (2011) 302-306.
67. Thammavongsy, Zachary; Seda, Takele; Zakharov, Lev; Kaminsky, Werner; Gilbertson, John: Ligand-based reduction of CO<sub>2</sub> and release of CO on iron(II). *Inorganic Chemistry* 51 (2012) 9168-9170.
68. Jan Urban, Clinton Dahlberg, Brian Carroll, Werner Kaminsky: Absolute configuration of beer's bitter compounds. *Angewandte Chemie* 52 (2013) 1553-1555. 
69. Ewa M. Spiesz, Andreas G. Reisinger, Werner Kaminsky, Paul Roschger, Dieter H Pahr, Philippe K. Zysset: Computational and experimental methodology for site-matched investigations of the influence of mineral mass fraction and collagen orientation on the axial indentation modulus of lamellar bone. *Journal of the mechanical behavior of biomedical materials* 28C (2013) 195-205.
70. Sagarika Pasayat, Subhashree P. Dash, Satabdi Roy, Rupam Dinda, Sarita Dhaka, Mannar. R. Maurya, Werner Kaminsky, Yogesh P. Patil and M. Nethaji and Surajit Das: Synthesis, structural studies, catalytic and biological activity of dioxomolybdenum(VI) complexes with aroylhydrazones of naphthol-derivative. *Polyhedron* 67 (2014) 1-10.
71. Keisham S. Singh, Werner Kaminsky. Arene ruthenium (II) azido complexes incorporating N<sup>∞</sup>O chelate ligands: Synthesis, spectral studies and 1,3-dipolar-cycloaddition to a coordinated azide in ruthenium (II) compounds, *Polyhedron*, 68 (2014) 279-286.
72. Moeck, P., Kaminsky, W., and Snyder, T. J., "Presentation and answers to a few questions about 3D printing of crystallographic models", *IUCr Newsletter* 22 (2014) 7-9.
73. Dash, Subhashree; Panda, Alok; Pasayat, Sagarika; Dinda, Rupam; Biswas, Ashis; Tiekink, Edward; Patil, Yogesh; Nethaji, Munirathinam; Kaminsky, Werner; Mukhopadhyay, Subhadip; Bhutia, Sujit: Syntheses and structural investigation of some alkali metal ion-mediated LVVO<sub>2</sub>- (L<sub>2</sub>- = Tridentate ONO ligands) species: DNA binding, photo-induced DNA cleavage and cytotoxic activities. *Dalton Transactions*, 43 (2014) 10139-10156.
74. Senthil G Kumar; Satheshkumar Rajendran; Werner Kaminsky; James Platts, K. J. R. Prasad: A facile regioselective 1,3-dipolar cycloaddition protocol for the synthesis of new class quinolinyl dispiro heterocycles. *Tetrahedron Letters*, 55 (2014) 5475-5480.
75. Werner Kaminsky: Bookreport, 'Symmetry of Crystals & Molecules'. *Angew. Chem. Int. Ed.* 2014, 53, 9989.
76. Anthony M. Recidoro, Amanda C. Roof, Michael Schmitt, Timothy Petrie, Nicholas Strand, Brandon J. Ausk, Sundar Srinivasan, Edith M. Gardiner, Werner Kaminsky, Steven D. Bain, Christopher H. Allan, Ted S. Gross I, Ronald Y. Kwon: Botulinum Toxin Induces Muscle Paralysis and Inhibits Bone Regeneration in Zebrafish. *JBMR*, 29 (2014) 2346-2356.
77. Keisham S. Singh, Werner Kaminsky. Iridium (III) and Rhodium (III) triazoles by 1,3-dipolar cycloadditions to a coordinated azide in Iridium (III) and Rhodium (III) compounds. *Journal of Coordination Chemistry*, 67 (2014) 3252-3269.
78. Peter Moeck, Jennifer Stone-Sundberg, Trevor J. Snyder, Werner Kaminsky: Enlivening a 300 level general education class on nanoscience and nanotechnology with 3D printed crystallographic models. *J of Materials Education*, 36 (2014) 77-96.
79. Trevor Snyder, Mark Weislogel, Peter Moeck, Jennifer Stone - Sundberg, Derek Birkes, Madeline Paige Hoffert, Adam Lindeman, Jeff Morrill, Ondrej Fercak, Sasha Friedman, Jeff Gunderson, Anh Ha, Jack McCollister, Yongkang Chen, John Geile, Andrew Wollman, Babak Attari, Nathan Botnen, Vasant Vuppuluri, Jennifer Shim, Werner Kaminsky, Dustin Adams, and John Graft: 3D Systems' Technology Overview and New Applications in Manufacturing, Engineering, Science, and Education. *3D Printing And Additive Manufacturing VOL. 1*, (2014) 169 - 176.
80. Peter Moeck, Jennifer Stone-Sundberg, Trevor J. Snyder, and Werner Kaminsky: Open Access Resources for Crystallography Education in Interdisciplinary College Courses: Crystallographic Databases and 3D Printed Models, *MRS Proceedings* 1716 (2014) mrs14-1716-fff03-09
81. Werner Kaminsky, Trevor Snyder, Jennifer Stone-Sundberg, Peter Moeck: One-click preparation of 3D print files (\*.stl, \*.wrl) from \*.cif (crystallographic information framework) data using Cif2VRML. *Powder Diffraction*, 29 (2014) S42 - S47.
82. Subhashree P. Dash, Alok K. Panda, Sagarika Pasayat, Sudarshana Majumder, Ashis Biswas, Werner Kaminsky, Subhadip Mukhopadhyay, Sujit K. Bhutia, Rupam Dinda: Evaluation of the cell cytotoxicity and DNA/BSA binding and cleavage activity of some dioxidovanadium(V) complexes containing aroylhydrazones *Journal of Inorganic Biochemistry* 144 (2015) 1 - 12.

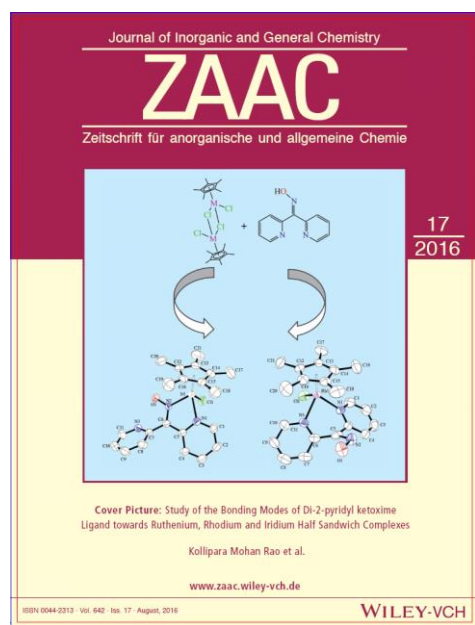


83. W. Kaminsky, R. E. Stenkamp, H. Skubatz: Crystal and molecular structure of the analgesic tetrapeptide, L-Phe-L-Leu-L-Pro-L-Ser. *Biopolymers* 104 (2015) 84-90
84. Keisham S. Singha, Sneha G. Sawant, Prabha Devi, Werner Kaminsky: Stigmasterol from *Eichhornia crassipes* (water hyacinth): Isolation and X-ray structure. *Asian J. Chem.*, 27 (2015) 3028-3030.
85. Jennifer Stone-Sundberg, Werner Kaminsky, Trevor Snyder, and Peter Moeck: 3D printed models of small and large molecules, structures and morphologies of crystals, as well as their anisotropic physical properties. *Crystal research and technology* 50 (2015) 432-441.
86. Subhashree P. Dash, Alok K. Panda, Sagarika Pasayat, Rupam Dinda, Ashis Biswas, Subhadip Mukhopadhyay, Sujit K. Bhutia, Edward R. T. Tiekink, Werner Kaminsky, Ekkehard Sinn: Oxidovanadium(V) complexes of aroylhydrazones incorporating heterocycles: Synthesis, characterization and study of DNA binding, photo-induced DNA cleavage and cytotoxic activities. *RSC Advances* 5 (2015) 51852 – 51867.
87. Gopal Senthil Kumar, Werner Kaminsky, Karnam Jayarampillai Rajendra Prasad: InCl<sub>3</sub> promoted Synthesis of pyrazolyl substituted quinolines in green media. *Synthetic Communications* 45 (2015) 1751-1760.
88. O. F. Goebel, J. E. T. Elshof, W. Kaminsky, M. Lutz: Optical anomaly in artificial pseudocubic hieratite, K<sub>2</sub>[SiF<sub>6</sub>]. *J. Acta. Cryst. B71* (2015) 328-333.
89. Vignesh Arumugam, Mani Alagesan, Werner Kaminsky and Nallasamy Dharmaraj: Palladium(II) complexes containing ONO tridentate hydrazone for Suzuki- Miyaura coupling of aryl chlorides in aqueous-organic media.. *RSC Advances*. 5 (2015) 59428-59436.
90. Ghodrat Mahmoudi, Vladimir Stilinovic, Masoumeh Servati Gargari, Antonio Bauzá, Guillermo Zaragoza, Werner Kaminsky, Vincent Lynch, Duane Choquesillo-Lazarte, K. Sivakumar, Ali Akbar Khandar and Antonio Frontera: From Monomers to Polymers: Steric and Supramolecular Effects on Dimensionality of Coordination Architectures in Heteroleptic Mercury(II) Halogenide – Tetradentate Schiff Base Complexes. *CrystEngComm* 17 (2015) 3493-3502.
91. Peter Moeck, Andrew Maas, Jennifer Stone-Sundberg, Bryant York, Trevor Snyder, Werner Kaminsky, and Nigel Browning: Applications of Bicrystallography: Revealing Generic Similarities in Coincidence Site Lattice Boundaries of all Holohedral Cubic Materials and Facilitating the Design of 3D Printed Models of such Grain Boundaries. *Microsc. Microanal.* 21 (Suppl 3) 2015 1453-1454.
92. Keisham S. Singh, Prabha Devi and Werner Kaminsky: Arene ruthenium (II) Complexes with 2-Acetamidothiazole derived ligands: Synthesis, characterization and Antifouling properties. *Polyhedron* 100 (2015) 321-325.
93. Rajendran Satheshkumar, Werner Kaminsky, Hazel A. Sparkes, Karnam Jayarampillai Rajendra Prasad: An efficient protocol for synthesis of pyrazolo[3,4-a]acridines. *Synthetic communications* 45 (2015) 2203–2215.
94. Werner Kaminsky, Trevor Snyder, Jennifer Stone-Sundberg, Peter Moeck: 3D printing of representation surfaces from tensor data of KH<sub>2</sub>PO<sub>4</sub> and low-quartz utilizing the WinTensor software. *Z. Kristallogr.* 230 (2015) 651-656.
95. Arumugam, Vignesh; Kaminsky, Werner; Nallasamy, Dharmaraj: ONO Pincer type Pd(II) complexes: Synthesis, crystal structure and catalytic activity towards C-2 arylation of quinoline scaffolds. *RSC Advances* 5 (2015) 77948-77957.
96. Saulius Grazulis, Amy Alexis Sarjeant, Peter Moeck, Jennifer Stone-Sundberg, Trevor J. Snyder, Werner Kaminsky, Allen G. Oliver, Charlotte L. Stern, Louise N. Dawe, Denis A. Rychkov, Evgeniy A. Losev, Elena Boldyreva, Joseph Tanski, Joel Bernstein, Wael M. Rabeh and Katherine A. Kantardjieff: Crystallographic Education in the 21st Century. *J Appl. Cryst.*, 48 (2015) 1964-1975.
97. Patrick Secor, Johanna Sweere, Lia Michaels, Andrey Malkovskiy, Jayakumar Rajadas, Daniel Lazzareschi, Ethan Katznelson, Allison Arrigoni, Kathleen Braun, Stephen Evanko, Werner Kaminsky, Pradeep Singh, William Parks, Paul Bollyky: Filamentous bacteriophage promote biofilm organization, adhesion, and antibiotic resistance. *Cell Host and Microbe*, 18 (2015) 549-559.
98. Sangilipandi S; Nagarajaprakash R; Nagarajaprakash R; Sutradhar D; Werner Kaminsky; Asit. K. Chandra; Synthesis, molecular structural studies and DFT calculations of tricarbonylrhenium(I) metal complexes containing nitrogen based N∩N donor polypyridyl ligands. *Inorganica Chimica Acta*, 437 (2015) 177-187.
99. Ghodrat Mahmoudi, Antonio Bauzá, Antonio Rodríguez-Diéguez, Antonio Frontera, Piotr Garczarek, and Werner Kaminsky: Synthesis, X-ray Characterization, DFT Calculations and Hirshfeld Surface Analysis Studies of carbohydrazone based on Zn(II) complexes. *Cryst. Eng. Comm.* 18 (2016) 102 – 112.
100. Rajendran Satheshkumar, Werner Kaminsky, Karnam Jayarampillai Rajendra Prasad: Dabco prompted tandem and multicomponent syntehetic protocol of pyrano[2,3-a]acridines. *Indian Journal of Chemistry* 55B (2016) 220-230.
101. Sangilipandi S; Sutradhar Dipankar; Kaushik Bhattacharjee; Werner Kaminsky; S. R. Joshi; Asit K. Chandra; Mohan Raho Kollipara: Synthesis, structure, antibacterial studies and DFT calculations of arene ruthenium, Cp\*Rh, Cp\*Ir and tricarbonylrhenium metal complexes containing 2-chloro-3-(3-(2-pyridyl)pyrazolyl)quinoxaline ligand. *Inorg. Chim. Acta*, 441 (2016) 95-108.

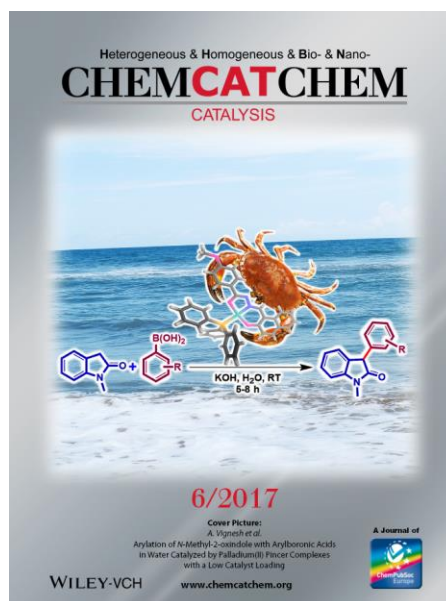
AMScore



102. Marjan Abedi, Okan Zafer Yesilel, Masoumeh Servati Gargari, Antonio Bauzá, Samuel E. Lofland, Yusuf Yerli, Werner Kaminsky, Piotr Garczarek, Jan K. Zaręba, Andrea Ienco, Antonio Frontera, and Ghodrat Mahmoud: Tetranuclear Manganese(II) Complexes of Hydrazone and Carbohydrazone Ligands: Synthesis, Crystal Structures, Magnetic Properties, Hirshfeld surface analysis and DFT calculations. *Inorg. Chim. Acta.* 443 (2016) 101-109.
103. Rajendran Satheeshkumar, Ramasamy Shankar, Werner Kaminsky, Sivalingam Kalaiselvi, Viswanatha Vijaya Padma: Theoretical and experimental investigations on molecular structure of 7-Chloro-9-phenyl-2,3-dihydroacridin-4(1H)-one with cytotoxic studies. *J Mol. Struct.* 1109 (2016) 247-257.
104. Naëmi Waesermann, J. Michael Brown, Ross J. Angel, Nancy Ross, Jing Zhao and Werner Kaminsky: The elastic tensor of monoclinic alkali feldspars. *American Mineralogist Letters* 101 (2016) 1228-1231.
105. Sangilipandi S; Sutradhar Dipankar; Werner Kaminsky; Asit K Chandra; Mohan Raho Kollipara: Synthesis, molecular structure and DFT studies of tricarbonylrhenium(I) complexes containing nitrogen based bis, tris, tetrakis-(di-2-pyridylaminomethyl)benzene ligands. *J Mol. Str.* 1115 (2016) 8-16.
106. Sagarika Pasayat, Michael Böhme, Sarita Dhaka, Subhashree P. Dash, Sudarshana Majumder, Mannar R. Maurya, Winfried Plass, Werner Kaminsky and Rupam Dinda: Synthesis, Theoretical Study and Catalytic Application of Oxidometal (Mo or V) Complexes: Unexpected Coordination Due to Ligand Rearrangement through Metal-Mediated C–C Bond Formation *Eur. J. Inorg. Chem.* 10 (2016) 1604–1618.
107. Vignesh Arumugam, Werner Kaminsky and Dharmaraj Nallasamy: Pd(II) pincer type complex catalyzed tandem C-H and N-H activation of acetanilide in aqueous media: A concise access to functionalized carbazoles in a single step. *Green Chemistry*, 18 (2016) 3295-3301.
108. A. Basava Punna Rao A; Narasinga Rao Palepu; Debojit Kumar Deb; Uma A; Chiranjeevi T; Biplab Sarkar; Werner Kaminsky; Mohan Raho Kollipara. Synthesis, structural, DFT studies and antibacterial evaluation of Cp\*rhodium and Cp\*iridium complexes using hydrazide based dipyriddy ketone ligand. *Inorg. Chim. Acta*, 443 (2016) 126-135.
109. P Moeck, W Kaminsky, L Fuentes-Cobas, J-C Baloche, D Chateigner: 3D Printed models of materials tensor representations and the crystal morphology of alpha quartz. *Symmetry: Culture and Science* 27 (2016) 319-330.
110. Sanjay Adhikari; Narasinga Rao Palepu; Dipankar Sutradhar; Samantha L Shepherd; Roger Phillips; Werner Kaminsky; Asit K Chandra; Mohan Raho Kollipara. Neutral and cationic half-sandwich arene ruthenium, Cp\*Rh and Cp\*Ir oximate and oxime complexes: Synthesis, structural, DFT and biological studies. *J Organomet. Chem.* 820 (2016) 70-81.
111. Sanja Adhikari, Werner Kaminsky, Kollipara Mohan Rao: Study of the bonding modes of di-2-pyridyl ketoxime ligand towards ruthenium, rhodium and iridium half sandwich complexes. *Zeitschrift für anorganische und allgemeine Chemie* 642 (2016) 641-946. **(Journal Cover)**
112. Vignesh Arumugam, Werner Kaminsky, Dharmaraj Nallasamy: Palladium complexes catalyzed regioselective arylation of 2-oxindole via in situ C(sp<sup>2</sup>)-OH activation mediated by PyBroP, *J Organomet. Chem.*, 824 (2016) 7-14.
113. Basava Punna Rao A; Uma A; Chiranjeevi T; Murali S Bethu; Venkateswara Rao J; Debojit Kumar Deb; Biplab Sarkar; Werner Kaminsky, Mohan Rao Kollipara: The in vitro antitumor activity of oligonuclear polypyridyl rhodium and iridium complexes against cancer cells and human pathogens. *J Organomet. Chem.* 824 (2016) 131-139.
114. Vignesh Arumugam, Werner Kaminsky, and Dharmaraj Nallasamy: Expedient assembly of fluorenones through domino reactions of benzoyl chlorides with arylboronic acids catalyzed by ONO pincer like palladium(II) complexes. *ChemCatChem* 8 (2016) 3207-3212.
115. Rajendran Satheeshkumar, Ramasamy Shankar, Werner Kaminsky, Karnam Jayarampillai Rajendra Prasad: Novel synthetic and mechanistic approach of trifluoroacetic acid catalyzed Friedländer synthesis of 2-acylquinolines from symmetrical and unsymmetrical 1,2-diketones with o-aminoarylketones. *ChemistrySelect* 1 (2016) 6823-6829.
116. Palepu, Narasinga Rao; Adhikari, Sanjay ; J, Premkumar; Verma, Akalesh Verma; Shepherdd, Samantha; Phillips, Roger ; Kaminsky, Werner; Kollipara, Mohan Rao: Half sandwich ruthenium, rhodium and iridium complexes featuring oxime ligands: Structural studies and preliminary investigation of in vitro and in vivo antitumor activities. *Appl. Organomet. Chem.*, 31 (2016) e3640.
117. Rajendran Satheeshkumar, Koray Sayin, Werner Kaminsky, Karnam Jayarampillai Rajendra Prasad: Synthesis, spectral analysis and quantum chemical studies on molecular geometry, chemical reactivity of 7-chloro-9-(2'-chlorophenyl)-2,3-



- dihydro acridin-4(1H)-one and 7-chloro-9-(2'-fluorophenyl)-2,3-dihydroacridin-4(1H)-one. *J Mol. Struct.* 1128 (2017) 279-289.
118. Kacem Klai; Kamel Kaabi; Werner Kaminsky; Christian Jelsch; Frederic Lefebvre; Cherif Ben Nasr: A Hirshfeld Surface Analysis, Crystal Structure and Physicochemical studies of a New Cd(II) complex with the 2-amino-4-methylpyrimidine ligand. *J Molec. Str.* 1128 (2017) 378-384.
  119. Ghodrat Mahmoudi; Werner Kaminsky; Ennio Zangrando; Piotr Garczarek; Antonio Frontera: Solvent dependent nuclearity of manganese complexes with a polydentate hydrazone-based ligand and thiocyanate anions. *Inorg. Chem. Acta* 455 (2017) 204-212.
  120. Rajendran Satheshkumar, Werner Kaminsky, Karnam Jayarampillai Rajendra Prasad: Efficient novel synthesis of pyrano[3,2-a]- and pyrazolo[4,3-a]-acridines. *Synthetic Communications* 47 (2017) 245-255.
  121. Narasinga Rao Palepu, Werner Kaminsky, Mohan Rao Kollipara: Synthesis and structural studies of Cp\* rhodium and Cp\* iridium complexes of picolinic hydrazine ligand. *Korean Chem. Soc.* 38 (2017) 99-106.
  122. Sanjay Adhikari; Werner Kaminsky; Mohan Raho Kollipara: Pyridyl azine Schiff-base ligands exhibiting unexpected bonding modes towards ruthenium, rhodium and iridium half-sandwich complexes: Synthesis and structural studies. *J Org. Chem.* 836-837 (2017) 8-16.
  123. Idris Essid, Karima Lahbib, Werner Kaminsky, Cherif Ben Nasr, Soufiane Touil: 5-phosphonato-3,4-dihydropyrimidin-2(1H)-ones: Zinc triflate catalyzed one-pot multi-component synthesis, X-ray crystal structure and anti-inflammatory activity. *J Mol. Struct.* 1142 (2017) 130-138.
  124. Vignesh Arumugam, Werner Kaminsky, Dharmaraj Nallasamy: Arylation of N-methyl-2-oxindole with arylboronic acids in water catalyzed by Pd(II) pincer complexes with low catalyst loading. *ChemCatChem.*, 9 (2017) 910-914. (**Journal Cover**)
  125. Basava Punna Rao A.; Khushboo Gulati; Nidhi Joshi; Debojit Kumar Deb; Rambabu D.; Werner Kaminsky; Krishna M Poluri; Mohan Raho Kollipara: Synthesis and biological studies of ruthenium, rhodium and iridium metal complexes with pyrazole-based ligands displaying unpredicted bonding modes. *Inorg. Chim. Acta* 462 (2017) 223-235.
  126. Idris Essid; Sarra Soudani; Frederic Lefebvre; Werner Kaminsky; Wataru Fujita; Soufiane Touil, Cherif Ben Nasr: A Hirshfeld Surface Analysis, Crystal and geometry-optimized structure, and Solid State NMR studies of two novel  $\alpha$ -hydroxyphosphonates C17H21O4P (I) and C19H25O4P(II). *J Molec. Str.* 1149 (2017) 99-111.
  127. Sanjay Adhikari, Werner Kaminsky, Mohan Rao Kollipara: Investigation of the coordination chemistry of multidentate azine Schiff-base ligands towards d6 half-sandwich metal complexes. *J Organom. Chem.* 848 (2017) 95-103.
  128. Rajendran Satheshkumar, Koray Sayin, Werner Kaminsky & Karnam Jayarampillai Rajendra Prasad: Indium triflate and ionic liquid mediated Friedländer synthesis of 2-acylquinolines. *Synthetic Communications* 47 (2017) 1940-1954
  129. Basava Punna Rao Aradhya, Werner Kaminsky; Mohan Raho Kollipara: Half-sandwich d6 metal complexes with bis(pyridine carboxamide)benzene ligand: Synthesis and spectral analysis, *J Mol. Str.* 1149 (2017) 162-170.
  130. Majumder, Sudarshana; Pasayat, Sagarika; Panda, Alok; Dash, Subhashree; Roy, Satabdi; Biswas, Ashis; Varma, Mokshada; Joshi, Bimba; Garribba, Eugenio; Kaminsky, Werner; Crochet, Aurelien; Dinda, Rupam: Monomeric and Dimeric Oxidomolybdenum(V and VI) Complexes, Cytotoxicity, and DNA Interaction Studies: Molybdenum Assisted C=N Bond Cleavage of Salophen Ligands. *Inorg. Chemistry* 56 (2017) 11190-11210.
  131. Khalil Beyki, Werner Kaminsky, Reza Heydari, Malek Taher Maghsoodlou: Synthesis, Characterization and Crystal Structure of 1,4,5,8-Tetrakis(Perfluoropyridin-4-yloxy) Naphthalene. *Structural Chemistry & Crystallography Communication* 3 (2017) No. 1:2
  132. Mohan Rao Kollipara; Narasinga Rao Palepu; Werner Kaminsky: Synthesis and structural studies of half-sandwich Cp\* rhodium and Cp\* iridium complexes featuring mono, bi and tetradentate nitrogen and oxygen donor ligands. *J Chem. Sciences*, 129 (2017) 561-571
  133. Rajendran Satheshkumar, Koray Sayin, Werner Kaminsky, Karnam Jayarampillai Rajendra Prasad: Synthesis, spectroscopic, in vitro cytotoxicity and crystal structures of novel fluorinated dispiroheterocycles: DFT approach. *Monatshfte fuer Chemie* 149 (2018) 141-147.
  134. Kailasam Saravana Mani, Subramaniam Parameshwaran Rajendran, Werner Kaminsky: A facile atom economic one pot multicomponent synthesis of bioactive spiro-indenoquinoline pyrrolizines as potent antioxidants and anti-cancer agents. *New J. Chem.* 42 (2018) 301-310.



135. Marjan Abedi, Ghodrat Mahmoudi, Alexander M. Kirillov Werner Kaminsky: Self-assembled 3D heterometallic Zn(II)/K(I) metal–organic framework with the fluorite topology. *Polyhedron* 142 (2018) 110–114.
136. Saswati Bhakat; Satabdi Roy; Subhashree P Dash; Rama Acharyya; Werner Kaminsky; Valeria Ugone; Eugenio Garribba; Cragin Harris; Jared M Lowe, Rupam Dinda: Chemistry of Oxidomolybdenum(IV) and -(VI) Complexes with ONS Donor Ligands: Synthesis, Computational Evaluation and Oxo-Transfer Reactions. *Polyhedron* 141 (2018) 322-336.
137. Sanjay Adhikari, Omar Hussain, Roger M. Phillips, Werner Kaminsky, Mohan Rao Kollipara: Synthesis, structural and chemosensitivity studies of arene d6 metal complexes having N-phenyl-N'-(pyridyl/pyrimidyl)thiourea derivatives. *Applied Organometallic Chemistry* 32 (6) (2018) e4362.
138. Basava Punna Rao Aradhyula, Ibaniewkor Mawnai, Werner Kaminsky, Mohan Rao Kollipara: Synthesis and spectral studies of sterically hindered half-sandwich d6 metal complexes containing quinoxaline based electron rich heterocyclic pyrazoles. *Inorganica Chimica Acta* 476 (2018) 101-109.
139. Roy, Satabdi; Böhme, Michael; Dash, Subhashree; Mohanty, Monalisa; Buchholz, Axel; Plass, Winfried; Kulanthaivel, Senthilguru; Banerjee, Indranil; Reuter, Hans; Kaminsky, Werner; Dinda, Rupam: Anionic Dinuclear Oxidovanadium(IV) Complexes with Azo Functionalized Tridentate Ligands and  $\mu$ -Ethoxido Bridge Leading to an Unsymmetric Twisted Arrangement: Synthesis, X-ray structure, Magnetic Property and Cytotoxicity. *Inorg. Chemistry*, 57 (2018) 5767-5781.
140. Ibaniewkor L. Mawnai, Sanjay Adhikari, Werner Kaminsky, Mohan Rao Kollipara: Synthesis of strained complexes of arene d6 metals with benzoylthiourea and their spectral studies. *J Organom. Chem.*, 869 (2018) 26-36.
141. C. Shalini, Arumugam Vignesh, Werner Kaminsky, Dharmaraj Nallasamy: Mixed valent/geometry, linear tetranuclear nickel complex bearing ONO pincer ligand exhibiting hitherto unknown ligation mode. *Polyhedron* 143 (2018) 157-164.
142. Saswati Roy, Satabdi Dash, Subhashree P Acharyya, Rama Kaminsky, Werner Ugone, Valeria Garribba, Eugenio Harris, Cragin Lowe, Jared M Dinda, Rupam: Chemistry of Oxidomolybdenum(IV) and -(VI) Complexes with ONS Donor Ligands: Synthesis, Theoretical Evaluation and Oxo-Transfer Reactions. *Polyhedron* 141 (2018) 322-336.
143. Lamia Khedhiri, Ahmed Hamdi; Sarra Soudani; Werner kaminsky; Frederic Lefebvre; Christian Jelsch; Maciej Wojtas; Cherif Ben Nasr: Crystal Structure, Hirshfeld Surface Analysis, Thermal Analysis and Spectroscopic Investigations of a New Organic Cyclohexaphosphate, (C10H15N2)4(Li)2(P6O18)(H2O)6. *J Mol. Structure* 1171 (2018) 429-437.
144. Sanjay Adhikari, Omar Hussain, Roger M. Phillips, Werner Kaminsky, Mohan Rao Kollipara: Neutral and cationic half-sandwich arene d6 metal complexes containing pyridyl and pyrimidyl thiourea ligands with interesting bonding modes: Synthesis, structural and anti-cancer studies. *Applied Organometallic Chemistry* e4476 (2018) 1-13.
145. K S Singh, Lahiri Sawant, Kaminsky: Regioselective synthesis of pyrrole and indole-fused isocoumarins catalysed by N<sup>+</sup>O chelate ruthenium(II) complex. *Journal of Chemical Sciences* 130 (9), (2018) 120.
146. Kailasam Saravana Mani, Werner Kaminsky, Subramaniam Parameswaran Rajendran: Enantioselective approach towards the synthesis of spiro-indeno [1,2-b] quinoxaline pyrrolothiazoles as antioxidant and antiproliferative *Tetrahedron Lett.* 59 (2018) 2921-2929.
147. Marwa Hermi; Sarra Soudani; Werner Kaminsky; Cherif Ben Nasr; Soufiane Touil, Pr.: X-ray crystal structure, Hirshfeld surface analysis and DFT study of some cis-5-hydroxy-2-phosphono-2,5-dihydrofurans. *Chemical Data Collections*, 17-18 (2018) 95-110.
148. L Shadap, N Joshi, KM Poluri, MR Kollipara, W Kaminsky: Synthesis and structural characterization of arene d6 metal complexes of sulfonohydrazone and triazolo ligands: High potency of triazolo derivatives towards DNA binding. *Polyhedron* 155 (2018) 302-312.
149. Evan Abramson, J. Brown, Olivier Bollengier, Baptiste Journaux, Werner Kaminsky, and Anna Pakhomova: Carbonic Acid Monohydrate. *Am. Mineralogist*, 103 (9) (2018) 1468-1472.
150. S Adhikari, O Hussain, RM Phillips, W Kaminsky, MR Kollipara: Synthesis, structural and chemosensitivity studies of half-sandwich d6 metal complexes containing N-phenyl-N'-(pyridyl/pyrimidyl)thiourea derivatives". *ChemistrySelect*, *Applied Organometallic Chemistry* 32 (6) (2018) e4362.
151. Marwa Hermi, Werner Kaminsky, Cherif Ben Nasr, Soufiane Touil.: An Operationally Simple One-Step Chemo- and Diastereoselective Synthesis of cis-5-hydroxy-2-phosphono-2,5-dihydrofurans. *Org. Prep. & Procedures Int.* 50 (2018) 432-440.
152. Wijdene Nbili, Kamel kaabi, Frederic Lefebvre, Werner Kaminsky, Cherif Ben Nasr: A Hirshfeld Surface Analysis, Crystal Structure and Physicochemical studies of a Cd(II) complex with the 4,4'-dimethyl-2,2'-dipyridyl ligand. *Chemical Data Collections*, 17-18 (2018) 345-355.
153. Lathewdeipor Shadap, Siewdorlang Diamai, Venkanna Banothu, D.P.S. Negi, Uma Adepally, Werner Kaminsky, Mohan Rao Kollipara: Half sandwich platinum group metal complexes of thiourea derivative ligands with benzothiazole moiety possessing anti-bacterial activity and colorimetric sensing: Synthesis and characterization. *J Organom. Chem.* 884 (2019) 44-54.

154. A Lapasam, O Hussain, RM Phillips, W Kaminsky, MR Kollipara: Synthesis, characterization and chemosensitivity studies of half-sandwich ruthenium, rhodium and iridium complexes containing  $\kappa 1$  (S) and  $\kappa 2$  (N, S) aroylthiourea ligands. *J of Organom. Chem.* 880 (2019) 272-280.
155. Lincoln Dkhar; Krishna Mohan Poluri; Werner Kaminsky, Mohan Raho Kollipara: Versatile coordination modes of benzothiazole hydrazone derivatives towards Ru(II), Rh(III) and Ir(III) complexes and their reactivity studies with azides and activated alkynes, *J Organom. Chem.*, 891 (2019) 54-63
156. Parvaneh Dastoorani, Mohammad A. Khalilzadeh, Fatemeh Khaleghi, Malek Taher Maghsoodlou, Werner Kaminsky Ali Shokuhi Rad: Experimental and Computational Studies of the Diastereoselective Natural Based Meldrum Spiro Dibenzofuran Derivatives Synthesis. *New Journal of Chemistry, New J. Chem.*, 43 (2019) 6615-6621.
157. Ali Harchani, Werner Kaminsky, Amor Haddad: Structure, Hirshfeld surface and theoretical study of a new inorganic organic arsenate compound  $\text{NaH}_2\text{AsO}_4 \cdot (\text{C}_{12}\text{H}_8\text{N}_2) \cdot 1.5\text{H}_2\text{O}$ . *J of Mol. Struct.* 1186 (2019) 60-67.
158. Kacem Klai, Sarra Soudani, Christian Jelsch, Frederic Lefebvre, Werner Kaminsky, Wataru Fujita, Cherif Ben Ben Nasr, Kamel Kaabi: Crystal structure, Hirshfeld surface analysis, and physicochemical studies of a new Cu(II) complex with 2-amino-4-methylpyrimidine. *J Molec. Str.*, 1194 (2019) 297-304.
159. Atanu Banerjee, Subhashree P. Dash, Monalisa Mohanty, Daniele Sanna, Giuseppe Sciortino, Valeria Ugone, Eugenio Garribba, Hans Reuter, Werner Kaminsky, and Rupam Dinda: Chemistry of mixed-ligand oxidovanadium(IV) complexes of aroylhydrazones incorporating quinoline derivatives: Study of solution behavior, theoretical evaluation and protein interaction. *J Inorg. Biochem.*, 199 (2019) 110786-1107801.
160. Saulius Gražulis, Andrius Merkys, Antanas Vaitkus, Daniel Chateigner, Luca Lutterotti, Peter Moeck, Miguel Quiros, Robert T. Downs, Werner Kaminsky, Arnel Le Bail: Crystallography Open Database: history, development, perspectives. Book chapter, *Materials Informatics: Methods, Tools and Applications*, Wiley-VCA Verlag GMBH & Co. KGaA; (2019) 1-39.
161. Lathewdeipor Shadap; Siewdorlang Diamai; D. P. S. Negi; Krishna Mohan Poluri; Jaya Lakshmi Tyagi; Werner Kaminsky, Mohan Raho Kollipara: Synthesis, biological evaluation and colorimetric sensing studies of platinum group metal complexes comprising pyrazine based thiourea derivatives. *Journal of Organometallic Chemistry*, 897 (2019) 207-216.
162. C Elamathi, A Madankumar, Werner Kaminsky, R Prabhakaran: Synthesis, spectroscopic studies and biological evaluations of copper (I)/(II) metallates containing nitrogen heterocycles. *Inorg. Chim. Acta* 496 (2019) 119039-47.
163. Agreeeda Lapasam, Emma Pinder, Roger M Phillips, Werner Kaminsky, Mohan Rao Kollipara: Synthesis, structure and bonding modes of pyrazine based ligands of  $\text{Cp}^* \text{Rh}$  and  $\text{Cp}^* \text{Ir}$  complexes: The study of in-vitro cytotoxicity against human cell lines. *J. Organomet. Chem.* 899 (2019) 120887-95.
164. Ali Harchani, Werner Kaminsky, and Amor Haddad: Synthesis of Organic Chloride Nitrate  $(\text{C}_6\text{H}_8\text{N})_2\text{ClNO}_3$ , MolecularStructure, and Impact of Anion Disorder on Theoretical Studies. *Z. Anorg. Allg. Chem.* 645 (2019) 1171-1175.
165. Arumugam Vignesh, Chinnuswamy Shalini, Nallasamy Dharmaraj, Werner Kaminsky, and Ramasamy Karvembu: Delineating the role of substituents on the coordination behavior of aroylhydrazone ligands in Pd(II) complexes and their influence on the Suzuki-Miyaura coupling of sterically hindered substrates in aqueous media. *Europ. J. Inorganic Chemistry*, 34 (2019) 3869-3882.
166. Sudhir Lima, Atanu Banerjee, Monalisa Mohanty, Gurunath Sahu, Werner Kaminsky and Rupam Dinda: Synthesis, structure and biological evaluation of mixed ligand oxidovanadium(IV) complexes incorporating 2-(arylazo) phenolates. *New J. of Chemistry*, 43 (2019) 17711-17725.
167. Peter Moeck, Paul DeStefano, Werner Kaminsky, and Trevor Snyder: 3D printing in the context of Science, Technology, Engineering, and Mathematics education at the college/university level. *Physics Education (physics.ed-ph)*, (2019) <https://arxiv.org/abs/2001.04267>.
168. Lathewdeipor Shadap, Jaya Lakshmi Tyagi, Krishna Mohan Poluri, Emma Pinder, Roger M Phillips, Werner Kaminsky, Mohan Rao Kollipara: Synthesis, structural and in-vitro functional studies of half-sandwich platinum group metal complexes having various bonding modes of benzhydrazone derivative ligands. *Polyhedron* 176 (2020) 114293-114303.
169. Rim Boubakrine, Christian Jelsch, Frederic Lefebvre, Werner Kaminsky, Cherif Ben Nasr, Kamel Kaabi: Crystal Structure, Hirshfeld Surface Analysis and Physicochemical studies of a new Cu(II) complex with the 2-amino-6-methylpyrimidin-4-(1H)-one ligand. *Inorg. Chimica Acta* 502 (2020) 119289-119301.
170. Agreeeda Lapasam, Ibaniewkor L. Mawnai, Venkanna Banothu, Werner Kaminsky, Mohan Rao Kollipara: Ruthenium, rhodium and iridium complexes containing pyrimidine based thienyl pyrazoles: Synthesis and antibacterial studies. *J Organom. Chem.* 911 (2020) 121155-62.
171. Rim Boubakri, Christian Jelsch, Christine Lucas, Frédéric Lefebvre, Werner Kaminsky, Cherif Ben Nasr, Kamel Kaabi: A new 1D Zn (II) coordination polymer containing 2-amino-4, 6-dimethoxypyrimidine ligand: crystal structure, Hirshfeld surface analysis, and physicochemical studies. *Journal of Molecular Structure* 1216 (2020) 128309.
172. Tharmalingam, Balamurugan; Mathivanan, Moorthy; Saravana Mani, Kailasam; Kaminsky, Werner; Raghunath, Azhwar; Perumal, Ekambaram; Murugesapandian, Balasubramanian: Selective Detection of Pyrophosphate anion by

- Zinc Ensemble of C3-Symmetric Triaminoguanidine-Pyrrole Conjugate and its biosensing applications. *Analytica Chimica Acta* 1103 (2020) 192-201.
173. Lincoln Dkhar; Venkanna Banothu; Krishna Mohan Poluri; Werner Kaminsky, Mohan Rao Kollipara: Platinum group complexes containing salicylaldehyde based thiosemicarbazone ligands: Their synthesis, characterization, bonding modes, antibacterial and antioxidant studies. *Journal of Organometallic Chemistry* 919 (2020) 121298.
  174. Lincoln Dkhara, Venkanna Banothub, Emma Pinder, Roger M. Phillips, Werner Kaminsky, Mohan Rao Kollipara: Ru, Rh and Ir metal complexes of pyridyl chalcone derivatives: Their potent antibacterial activity, comparable cytotoxicity potency and selectivity to cisplatin. *Polyhedron* 185 (2020) 114606-114617.
  175. Mohan Rao Kollipara, Lathewdeipor Shadap; Venkanna Banothu; Nipanshu Agarwal; Krishna Mohan Poluri; Werner Kaminsky: Fluorenone Schiff base derivative complexes of ruthenium, rhodium and iridium exhibiting efficient antibacterial activity and DNA-binding affinity. *Journal of Organometallic Chemistry* 915 (2020) 121246.
  176. Lincoln Dkhar; Venkanna Banothu; Werner Kaminsky, Mohan Rao Kollipara: Synthesis of half sandwich platinum group metal complexes containing pyridyl benzothiazole hydrazones: Study of bonding modes and antimicrobial activity. *Journal of Organometallic Chemistry* 914 (2020) 121225.
  177. Lincoln Dkhar, Merrily Sawkmie, Agustine Lamin Ka-Ot, Santa Ram Joshi, Werner Kaminsky, Mohan Rao Kollipara: Cp and indenyl ruthenium complexes containing dithione derivatives: Synthesis, antibacterial and antifungal study. *Journal of Organometallic Chemistry* 923 (2020) 121418-121427.
  178. Satabdi Roy, Atanu Banerjee, Sudhir Lima, Adolfo Horn Jr., Raquel M. S. N. Sampaio, Nádia Ribeiro, Isabel Correia, Fernando Avecilla, M. Fernanda N. N. Carvalho, Maxim L. Kuznetsov, João Costa Pessoa\* Werner Kaminsky and Rupam Dinda: Unusual Chemistry of Cu(II) Salan Complexes: Synthesis, Characterization and Superoxide Dismutase Activity. *New Journal of Chemistry* 44 (2020) 11457-11470.
  179. Ghodrati Mahmoudi, Farhad Akbari Afkhami, Ennio Zangrando, Werner Kaminsky, Antonio Frontera, Damir A. Safin: A supramolecular 3D structure constructed from a new metal chelate self-assembled from Sn(NCS) 2 and phenyl(pyridin-2-yl)methylenepicolinohydrazide. *J Mol. Struct.* 1224 (2020) 129188-129195.
  180. Shadap, L; Banothu, V; Pinder, E; Phillips, RM; Kaminsky, W; Kollipara, MR: In vitro biological evaluation of half-sandwich platinum-group metal complexes containing benzothiazole moiety. *J Coordin. Chem.* 73 (2020) 1538-1553.
  181. Mohan Rao Kollipara, Agreed Lapasam, Werner Kaminsky: Crystal structure of 1, 2, 3, 4-tetrahydrohexakis(carbomethoxy)benzene ( $\eta$  5-pentamethylcyclopentadienyl) rhodium complex. *Journal of Chemical Crystallography*, (2020) 1-5.
  182. Satabdi Roy, Monalisa Mohanty, Reece G. Miller, Sushree Aradhana Patra, Nils Metzler-Nolte, Ekkhard Sinn, Werner Kaminsky, Rupam Dinda: Probing CO Generation through Metal-Assisted Alcohol Dehydrogenation in Metal-2-(aryloxy)phenol Complexes Using Isotopic Labeling (Metal = Ru, Ir): Synthesis, Characterization, and Cytotoxicity Studies. *Inorg. Chem.* 59 (2020) 15526-15540.
  183. Kamel kaabi; Kacem Klai; Christian Jelsch; Christine Lucas; Frédéric Lefebvre; Werner Kaminsky; Cherif Ben Nasr: A Hirshfeld surface analysis, crystal structure and physicochemical studies of a new Zn(II) complex with the guaninium ligand. *J Coord. Chem.* 73 (2020) 3307-3321.
  184. Banerjee, Atanu ; Dash, Subhashree; Mohanty, Monalisa; Sahu, Gurunath ; Sciortino, Giuseppe; Garribba, Eugenio; Carvalho, M. Fernanda; Marques, Fernanda; Pessoa, João; Kaminsky, Werner; Brzezinski, Krzysztof; Dinda, Rupam: New V<sup>IV</sup>, V<sup>IV</sup>O, V<sup>V</sup>O and V<sup>V</sup>O<sup>2</sup> Systems: Exploring their Interconversion in Solution, Protein Interactions and Cytotoxicity. *Inorg. Chem.* 59 (2020) 14042-14057.
  185. Chaima Gharbi, Wataru Fujita, Frédéric Lefebvre, Werner Kaminsky, Christian Jelsch, Chérif Ben Nasr, Lamia Khedhiri: Synthesis, crystal structure, computational studies and spectroscopic characterization of a hybrid material self-assembly from tetra(isothiocyanate)cobalt(II) anion and 1-(4-methoxyphenyl)piperazinium. *J Mol. Str.* 1230 (2021) 129929-129931.
  186. Rajendran Satheshkumar, Rodrigo Montecinos, Ariesny Vera, Karnam Jayarampillai Rajendra Prasad, Werner Kaminsky, Cristian O Salas: Experimental and theoretical physicochemical study of a new dispirocompound: 4'-(4-fluorophenyl)-2', 7-dimethyl-1, 4-dihydro-3H-dispiro [cyclopent [b] indol-2, 5'-[1, 2] oxazinan-6', 3'-indolin]-2', 3-dione. *J. Mol. Str.* 1227 (2021) 129431-129440.
  187. Lathewdeipor Shadap, Nipanshu Agarwal, Vivek Chetry, Krishna Mohan Poluri, Werner Kaminsky, Mohan Rao Kollipara: Arene ruthenium, rhodium and iridium complexes containing benzamide derivative ligands: Study of interesting bonding modes, antibacterial, antioxidant and DNA binding studies. *J Organometall. Chem.* 937 (2021) 121731-121714.
  188. Satabdi Roy, Sudhir Lima, Nádia Ribeiro, Isabel Correia, Fernando Avecilla, Maxim L Kuznetsov, João Costa Pessoa, Werner Kaminsky, Rupam Dinda: Synthesis, Characterization and DFT studies of Novel-CH<sub>2</sub>-Capped and Non-capped Salan Complexes. *Inorg. Chim. Acta* 519 (2021) 120265-120273.
  189. G Kalaiarasi, S Dharani, S Rex Jeya Rajkumar, Werner Kaminsky, R Prabhakaran: Synthesis, spectroscopic/electrochemical characterization, DNA/Protein binding studies and bioactivity assays of Ru(II) carbonyl complexes of 4-oxo-4H-chromene-3-carbaldehyde thiosemicarbazones. *Inorg. Chim. Acta* 525 (2021) 120470-120481.

190. Carley Giffert L Nongpiur, Lincoln Dkhar, Deepak Kumar Tripathi, Krishna Mohan Poluri, Werner Kaminsky, Mohan Rao Kollipara: Half-sandwich platinum group metal complexes containing coumarin-N-acylhydrazone hybrid ligands: Synthesis and biological evaluation studies. *Inorg. Chim. Acta* 525 (2021) 120459-120469.
191. Agreeeda Lapasam, Lathewdeipor Shadap, Deepak Kumar Tripathi, Krishna Mohan Poluri, Werner Kaminsky & Mohan Rao Kollipara: Arene ruthenium, rhodium and iridium complexes containing N/O chelating ligands: synthesis, antibacterial and antioxidant studies. *J Coordin. Chem.* 2021 (online) 1-15.
192. Balamurugan Tharmalingam, Moorthy Mathivanan, Ottoor Anitha, Werner Kaminsky, Balasubramanian Murugesapandian: Nitrogen rich triaminoguanidine-pyrrole conjugate as supramolecular synthon for the construction of charge-assisted hydrogen bonded network with various carboxylic acids. *J. of Solid State Chem.* 305 (2022) 122637-122650.
193. Carley Giffert L Nongpiur, Mayur Mohan Ghate, Deepak Kumar Tripathi, Krishna Mohan Poluri, Werner Kaminsky, Mohan Rao Kollipara: Study of versatile coordination modes, antibacterial and radical scavenging activities of arene ruthenium, rhodium and iridium complexes containing fluorenone based thiosemicarbazones. *J Organomet. Chem.* 957 (2022) 122148-122161.
194. Carley Giffert L Nongpiur, Lincoln Dkhar, Deepak Kumar Tripathi, Krishna Mohan Poluri, Werner Kaminsky, Mohan Rao Kollipara: Half-sandwich platinum group metal complexes containing coumarin-N-acylhydrazone hybrid ligands: Synthesis and biological evaluation studies. *Inorg. Chimica Acta* 525 (2021) 120459-120469.
195. Souhir Bel Haj Salah, Sabrine Hermi, Abdullah A. Alotaibi, Khalid M. Alotaibi, Frédéric Lefebvre, Werner Kaminsky, Cherif Ben Nasr, Mohamed Habib Mrad: Stabilization of hexachloride net with mixed Sn(IV) metal complex and 2,3- dimethylanilinium organic cation: elaboration, optical, spectroscopic, computational studies and thermal analysis. *Chemical Papers* (2022) <https://doi.org/10.1007/s11696-021-01974-4>
196. Chaima Ayari, Abdullah A. Alotaibi, Khalid M. Alotaibi, Valeria Ferretti, Werner Kaminsky, Frédéric Lefebvre, Cherif Ben Nasr, Mohamed Habib Mrad: A new Hg(II) hybrid compound (C<sub>6</sub>H<sub>9</sub>N<sub>2</sub>)[Hg<sub>6</sub>Cl<sub>13</sub>]·H<sub>2</sub>O elaboration, crystal structure, spectroscopic, thermal, and DFT theoretical calculations. *Chemical Papers* 76 (2022) 2327-2340.
197. Lincoln Dkhar, Akalesh Kumar Verma, Venkanna Banothu, Werner Kaminsky, Mohan Rao Kollipara: Ruthenium, rhodium, and iridium complexes featuring coumarin hydrazone derivatives: Synthesis, characterization, and preliminary investigation of their anticancer and antibacterial activity. *Appl. Org. Chem.* 36 (2022) e6589. <https://doi.org/10.1002/aoc.6589>
198. Chaima Gharbi, Baya Toumi, Sarra Soudani, Frédéric Lefebvre, Werner Kaminsky, Christian Jelsch, Chérif Ben Nasr, Lamia Khedhiri: Synthesis, structural characterization, antibacterial activity, DFT computational studies and thermal analysis of two new thiocyanate compounds based on 1-phenylpiperazine. *J. Mol. Struct.* 1257 (2022) 132620-132639.
199. Carley Giffert L Nongpiur, Danny F Diengdoh, Nupur Nagar, Krishna Mohan Poluri, Paige M Gannon, Werner Kaminsky, Mohan Rao Kollipara: Mono and dinuclear ruthenium, rhodium and iridium metal complexes containing N-acylhydrazone moiety: Synthesis and in vitro biological studies. *Polyhedron* (2022) 115855-115865.
200. Gurunath Sahu, Sushree Aradhana Patra, Monalisa Mohanty, Sudhir Lima, Pratikshya Das Pattanayak, Werner Kaminsky, Rupam Dinda: Dithiocarbazate based oxidomethoxido vanadium (V) and mixed-ligand oxidovanadium (IV) complexes: Study of solution behavior, DNA binding, and anticancer activity. *J Inorg. Biochem.* (2022) 111844-111860.
201. Rajendran Satheshkumar, Kolandaivel Prabha, Kailasam Natesan Vennila, Koray Sayin, Elif Güney, Werner Kaminsky, Roberto Acevedo: Spectroscopic (FT-IR, NMR, single crystal XRD) and DFT studies including FMO, Mulliken charges, and Hirshfeld surface analysis, molecular docking and ADME analyses of 2-amino-4'-fluorobenzophenone (FAB). *J Molecul. Str.* 1267 (2022) 133552-133568.
202. Satabdi Roy, Michael Böhme, Sudhir Lima, Monalisa Mohanty, Atanu Banerjee, Axel Buchholz, Winfried Plass, Sharan Rathnam, Indranil Banerjee, Werner Kaminsky, Rupam Dinda: Methoxido-Bridged Lacunary Heterocubane Oxidovanadium (IV) Cluster with Azo Ligands: Synthesis, X-ray Structure, Magnetic Properties, and Antiproliferative Activity. *Europ. J Inorg. Chem.* 21 (2022) e202200109.
203. C Soh, MR Kollipara, DF Diengdoh, V Banothu, W Kaminsky, EK Rymmai: Cyclopentadienyl and indenyl ruthenium (II) complexes containing pyridyl/pyrimidyl based thiourea derivative ligands: Syntheses, antibacterial and antioxidant studies. *J Mol. Str.* 1269 (2022) 133751-133760.
204. C Soh, MR Kollipara, V Banothu, DF Diengdoh, W Kaminsky, EK Rymmai: Synthesis and molecular structure of arene ruthenium (II) complexes containing benzhydrazone derivative ligands with antibacterial and antioxidant properties. *J Mol. Str.* 1269 (2022) 133775-133787.
205. Dkhar, L; Gupta, H; Poluri, KM; Gannon, PM; Kaminsky, W; Kollipara, MR: Influence of counterions on the formation of supramolecular platinum group metal complexes containing pyridyl thioamide derivatives: antioxidant and antimicrobial studies. *New J of Chem.* 46 (2022) 19241-19253.
206. Emna Jaziri, Hitler Louis, Chaima Gharbi, Frédéric Lefebvre, Werner Kaminsky, Ernest C Agwamba, ThankGod C Egemonye, Tomsmith O Unimuke, J Ikenyirimba Onyinye, Gideon E Mathias, Chérif Ben Nasr, Lamia Khedhiri: Investigation of crystal structures, spectral (FT-IR and NMR) analysis, DFT, and molecular docking studies of novel piperazine derivatives as antineurotic drugs. *J Mol. Str.* 1278 (2023) 134937-134951.

207. Abdullah A Alotaibi, Sabrine Hermi, Fouzia Perveen, Abdelhak Othmani, Hamdy A Hassan, Werner Kaminsky, Cherif Ben Nasr, Mohamed Habib Mrad: New Hybrid Material's Structure, Electric-Dielectric Properties, Spectroscopic Analysis, DNA Interactions, and Antibacterial Application of Bis-(5-nitrobenzimidazolium) Tetrachlorozincate Monohydrate. *J Clust Sci* (2023) 1-14.
208. Aiborlang Thongni, Pynskhemborlang T Phanrang, Chayan Pandya, Danny F Diengdoh, Paige M Gannon, Werner Kaminsky, Ridahunlang Nongkhlaw, Jyothi Kumari, D Sriram, Akella Sivaramakrishna, Rishanlang Nongkhlaw: Werner Kaminsky: Ultrasound assisted synthesis of spirooxindole analogs catalyzed by Fe<sub>3</sub>O<sub>4</sub>@ PPCA NPs: Experimental, theoretical and in vitro biological studies. *J Mol. Str.*1284 (2023) 135363-135371.
209. Werner Kaminsky, Max Kaganyuk: Enantiopure (S)-butan-2-yl N-(4-x-phenyl) thiocarbamates, x= NO<sub>2</sub>, OCH<sub>3</sub>, F, and Cl. *Acta Crystallographica Section E: Crystallographic Communications* 79 (2023) 386-391.
210. Carley Giffert L Nongpiur, Akalesh Kumar Verma, Rohit Kumar Singh, Mayur Mohan Ghate, Krishna Mohan Poluri, Werner Kaminsky, Mohan Rao Kollipara: Half-sandwich ruthenium (II), rhodium (III) and iridium (III) fluorescent metal complexes containing pyrazoline based ligands: DNA binding, cytotoxicity and antibacterial activities. *J Inorg. Biochem.* 238 (2023) 112059 – 112062.
211. Carley Giffert L Nongpiur, Akalesh Kumar Verma, Mayur Mohan Ghate, Krishna Mohan Poluri, Werner Kaminsky, Mohan Rao Kollipara: Synthesis, cytotoxicity and antibacterial activities of ruthenium, rhodium and iridium metal complexes containing diazafluorene functionalized ligands. *J Mol. Str.*1285 (2023) 135474-135485.
212. Suman Adhikari, Afzal Hussain Sheikh, Nabajyoti Baildya, Ghodrat Mahmoudi, Nurul Alam Choudhury, Obinna Okpareke, Tanushree Sen, Akalesh Kumar Verma, Rohit Kumar Singh, Surajit Pathak, Werner Kaminsky: Antiproliferative Evaluation and Supramolecular Properties of a Pd (II) complex Harvested from Benzil bis (pyridyl hydrazone) Ligand: Combined Experimental and Theoretical Studies: Antiproliferative Evaluation and Supramolecular Properties of a Pd (II) complex Harvested from Benzil bis (pyridyl hydrazone) Ligand: Combined Experimental and Theoretical Studies. *Inorg. Chem. Comm.* 152 (2023) 110646-110658.
213. Suman Adhikari, Afzal Hussain Sheikh, Sevgi Kansız, Necmi Dege, Nabajyoti Baildya, Ghodrat Mahmoudi, Nurul Alam Choudhury, Raymond J Butcher, Werner Kaminsky, Savannah Talledo, Eric M Lopato, Stefan Bernhard, Julia Klak: Supramolecular Co (II) Complexes Based on Dithiolate and Dicarboxylate Ligands: Crystal structures, Theoretical studies, Magnetic Properties, and Catalytic Activity Studies in Photocatalytic Hydrogen Evolution. *J Mol. Str.*12xx (2023) 135481-13548x.
214. Carley Giffert L Nongpiur, Danny F Diengdoh, Venkanna Banothu, Paige M Gannon, Werner Kaminsky, Mohan Rao Kollipara: Variable coordination behavior of rhodium metal complexes towards thiourea derivative ligands in comparison to its ruthenium and iridium analogs: Synthesis and biological studies. *J Organm. Chem.* 999 (2023) 122823-122835.
215. Merrily Sawkmie, Venkanna Banothu, Akalesh Kumar Verma, Anirban Kumar Paul, Sebastian Krajewski, Werner Kaminsky, Mohan Rao Kollipara: Cyclopentadienyl and indenyl ruthenium (II) complexes containing diazafluorenone derivative ligands: Syntheses, characterization, antibacterial and cytotoxicity studies. *J Organm. Chem.* 1001 (2023) 122876-1228xx.
216. Keisham Sarjit Singh, Ramila R. Goankar, Kushal Banerjee, Werner Kaminsky: Synthesis of pyrazolo[5,1-a]isoquinolines via C–H/N–H annulation of pyrazoles and alkynes with ruthenium(II) catalysts. *Monatsh Chem.* 154 (2023) 905-914.
217. Carley Giffert L Nongpiur, Charlestine Soh, Danny F Diengdoh, Akalesh Kumar Verma, Renu Gogoi, Venkanna Banothu, Werner Kaminsky, Mohan Rao Kollipara: 3-acetyl-coumarin-substituted thiosemicarbazones and their ruthenium, rhodium and iridium metal complexes: An investigation of the antibacterial, antioxidant and cytotoxicity activities. *J Organm. Chem.* 998 (2023) 122788-12279x.
218. Merrily Sawkmie, Mayuri Bhattacharyya, Venkanna Banothu, Werner Kaminsky, Paige M Gannon, Suktilang Majaw, Mohan Rao Kollipara: Ruthenium, rhodium, and iridium complexes featuring fluorenyl benzohydrazone derivatives: Synthesis and preliminary investigation of their anticancer and antibacterial activity. *J Mol. Str.*1291 (2023) 135994-135xxx.
219. Mouna Harzallah, Mouna Medimagh, Nouredine Issaoui, Werner Kaminsky, Brahim Ayed: An original zero-dimensional material: 1, (2-aminoethyl) piperazinium) tetrabromidomercurate (II) monohydrate, characterization and molecular docking. *Struct. Chem.* 35 (2024) 421-436.
220. Keisham S. Singh<sup>1</sup>, Prabha Devi, Ramila R. Gaonkar, Werner Kaminsky: Half-sandwich iridium(III) and rhodium(III) complexes: Synthesis, characterization and antifouling property. *J Coord. Chem.* 76 (2023) 960-972.
221. G Sahu, SA Patra, PD Pattanayak, W Kaminsky, R Dinda: LVVO-Ethyl Maltol-Based Metallo-drugs (L<sub>2</sub>– = Tridentate ONO Ligands): Hydrophobicity, Hydrolytic Stability, and Cytotoxicity via ROS-Mediated Apoptosis. *Inorg. Chemi.* 62 (2023) 6722-6739.
222. Merrily Sawkmie, Venkanna Banothu, Werner Kaminsky, Mohan Rao Kollipara: Antimicrobial study of ruthenium and iridium half-sandwich complexes containing fluorenyl hydrazone-thiazole derivative ligands. *J Coord. Chem* 76 (2023) 1650-1665.



223. Chaima Gharbi, Hitler Louis, Badiia Essghaier, Chioma B Ubah, Innocent Benjamin, Werner Kaminsky, Cherif Ben Nasr, Lamia Khedhiri: Single crystal X-ray diffraction analysis, spectroscopic measurement, quantum chemical studies, antimicrobial potency and molecular docking of a new [Co (NCS) 4] 2 (C<sub>6</sub>H<sub>17</sub>N<sub>3</sub>) 2 · 4H<sub>2</sub>O coordination compound based on piperazine-thiocyanate as co-ligand. *J Molec. Str.* 1298 (2024) 136997-136xxx.
224. Abdullah A Alotaibi, Sabrine Hermi, Fouzia Perveen, Abdelhak Othmani, Hamdy A Hassan, Werner Kaminsky, Cherif Ben Nasr, Mohamed Habib Mrad: New Hybrid Material's Structure, Electric-Dielectric Properties, Spectroscopic Analysis, DNA Interactions, and Antibacterial Application of Bis-(5-nitrobenzimidazolium) Tetrachlorozincate Monohydrate. *Journal of Cluster Science* 34 (2023) 2711-2724.
225. B Justeena Rose, M Ranjani, P Kalaivani, G Prabusankar, Werner Kaminsky, R Prabhakaran: Novel 5-(2-chloroquinolin-3-yl)-[1, 3, 4] thiadiazol-2-ylamines and their copper (II) metallates: Preparation, spectroscopy, X-ray crystallography, nucleic acid/albumin binding, DNA cleavage and in vitro cytotoxicity. *Inorg. Chim. Acta* 570 (2024) 122170-
226. Merrily Sawkmie, Lincoln Dkhar, Mayuri Bhattacharyya, Aakanksha Pathak, Krishna Mohan Poluri, Paige Gannon, Werner Kaminsky, Suktilang Majaw, Mohan Rao Kollipara: In vitro biological studies of neutral and cationic ruthenium, rhodium and iridium metal complexes of benzothiazolyl hydrazone ligands containing pendant polyaromatic hydrocarbons (PAHs). *J Org. Chem.* 1015 (2024) 123224-
227. Chaima Gharbi, Ömer Tamer, Badiia Essghaier, Sibel Demir Kanmazalp, Necmi Dege, Werner Kaminsky, Chérif Ben Nasr, Lamia Khedhiri: Experimental study, theoretical calculations, investigation on the molecular docking, spectroscopic insights and antimicrobial appraisal of a new Co (II) complex. *Polyhedron* 257 (2024) 117025-
228. Carley Giffert L Nongpiur, Harshi Saxena, Krishna Mohan Poluri, Werner Kaminsky, Mohan Rao Kollipara: Investigation of half-sandwich platinum group metal complexes featuring benzamide derived ligands and their diazido derivatives: Synthesis, molecular structures and biological studies. *Inorg. Chim. Acta* 569 (2024) 122127-
229. Atash V Gurbanov, Fateme Firoozbakht, Nafiseh Pourshirband, Paria Sharafi-Badr, Payam Hayati, Bagher Souri, Fazlolah Eshghi, Werner Kaminsky, Ghodrath Mahmoudi, Francis Verpoort, Zohreh Mehrabadi: A new 1D Mn (II) coordination polymer: Synthesis, crystal structure, hirshfeld surface analysis and molecular docking studies. *Helvion* 10 (2024) E29565.
230. Aiborlang Thongni, Rishanlang Nongkhlaw, Chayan Pandya, Akella Sivaramakrishna, Paige M Gannon, Werner Kaminsky: Microwave-assisted synthesis of benzo [4, 5] imidazo [1, 2-a] pyrimidines and pyrano [4, 3-b] pyrans catalyzed by L-glutamine functionalized magnetic nanoparticles in water: ethanol mixture. *J of Heterocyclic Chem.* 61 (2024) 581-599.
231. Charlestine Soh, Mohan Rao Kollipara, Pynskhemborlang T Phanrang, Paige M Gannon, Mayur Mohan Ghate, Krishna Mohan Poluri, Werner Kaminsky, EK Rymmai: Arene ruthenium (II) complexes with 3-acetyl coumarin derivatives bearing a 3-hydroxy-2-naphthoic hydrazide moiety: Synthesis, DFT calculations and antioxidant studies. *J Mol. Str.* 1317 (2024) 139101-
232. Sourav Nath, Tanushree Sen, Sourav Roy, Nabajyoti Baildya, Pranab Borah, Werner Kaminsky, Masoumeh Servati Gargari, Akalesh Kumar Verma, Sibel Demir Kanmazalp, Suman Adhikari, Indrajit Saha: Supramolecular Co (II) Complex Fabricated From Adenine Derivative: Synthesis, Crystal Structure, Hirshfeld Surface, DFT Optimization, Anticancer, and Molecular Docking Studies. *Applied Organometallic Chemistry* (2024) e7846.
233. M Sawkmie, C Soh, ARW Sangma, SR Joshi, W Kaminsky, MR Kollipara: Potent Antimicrobial, Antifungal, and Antioxidant Properties of Ruthenium, Rhodium, and Iridium Complexes with Hydrazinyl-Thiazolyl Coumarin Derivatives Targeting *Klebsiella pneumoniae*, *Candida albicans*, and *Fusarium solani*. *J Mol. Str.* 1317 (2024) 139101.
234. Carley Giffert L Nongpiur, Yogita Basumatary, Sanjay Adhikari, Harshi Saxena, Krishna Mohan Poluri, Werner Kaminsky, Mohan Rao Kollipara: Effect of azide co-ligand on the crystal structures of rhodium and iridium metal complexes featuring pyridine-based thiourea derivatives: Characterization and in vitro biological studies. *Inorg. Chem Comm.* 172 (2025) 113707.
235. Monalisa Mohanty, Sanchita Das, Pratikshya Das Pattanayak, Sudhir Lima, Werner Kaminsky, Rupam Dinda: RuIII–Morpholine–Derived Thiosemicarbazone-Based Metallodrugs: Lysosome-Targeted Anticancer Agents. *ACS Applied Bio Materials* xxx (2015) xxx.
236. Ahmad Mosen Harzandi, Seyed Parsa Amouzesh, Jiayi Xu, Taha Baghban-Ronaghi, Sahar Shadman, Fiona Collins, Gayoon Kim, Werner Kaminsky, Larry A Curtiss, Cong Liu, Mohammad Asadi: Electrosynthesis of high purity ethylene using high-index facet Cu<sub>2</sub>O nanocrystals electrocatalyst. *Applied Catalysis B: Environment and Energy* 366 (2025) 125053.
237. Yogita Basumatary, Mohan Rao Kollipara, Pranab Borah, Nishchay Verma, Sebastian Krajewski, Akalesh Kumar Verma, Krishna Mohan Poluri, Werner Kaminsky, EK Rymmai: Syntheses, Characterization and Bioactivity of Half-sandwich Complexes of Ruthenium, Rhodium, and Iridium Containing Coumarin Pyrazole Benzhydrazone Ligands. *J. Mol. Str.* 1329 (2025) 141360.
238. Deepika Mohapatra, Pratikshya Das Pattanayak, Souvik Chatterjee, Werner Kaminsky, Takahiro Sasamori, Takashi Nakamura, Rupam Dinda: Unsymmetrical salen-based oxido VIV: Synthesis, characterization, biomolecular interactions, and anticancer activity. *J Inorg. Biochem.* 264 (2025) 112818.

### 3.3 Publications as collaborator providing X-ray structures to the Department

239. T. J. Crevier, B. K. Bennett, J. D. Soper, J. A. Bowman, A. Dehestani, D. Hrovat, S. Lovell, W. Kaminsky, J. M. Mayer: C-N bond formation on addition of aryl carbanions to the electrophilic nitrido ligand  $\text{TpOs}(\text{N})\text{Cl}_2$ . *J. Am. Chem. Soc.* 123 (2001) 1059-1071.
240. Shearer J, Kung IY, Lovell S, Kaminsky W, Kovacs JA . Why is there an "Inert" metal center in the active site of nitrile hydratase? Reactivity and ligand dissociation from a five-coordinate Co(III) nitrile hydratase model. *J. Am. Chem. Soc.* 123 (2001) 463-468.
241. J.Valdez-Martinez, S. Hernandez-Ortega, G. Espinosa-Perez, C.A. Presto, A.K. Hermetet, K.D. Haslow, L.J. Ackerman, L.F. Szczepura, K.I. Goldberg, W. Kaminsky, D.X. West. Structural, Spectral and Thermal Studies of Substituted N-(2-pyridyl)-N'-phenylthioureas. *J. Mol. Struct.* 608 (2002) 77-87.
242. W. Kaminsky, J.P. Jasinski, R. Woudenberg, K.I. Goldberg, D.X. West. Structural study of two N(4)-substituted thiosemicabazones prepared from 1-phenyl-1,2-propanedione-2-oxime and their binuclear nickel(II) complexes. *J. Molecular Structure* 608 (2002) 135-141.
243. U. Fekl, W. Kaminsky, K.I. Goldberg. A stable Five- Coordinate platinum(IV) alkyl complex. *J Am. Chem. Soc.* 123 (2001) 6423-6424.
244. W. Kaminsky, K.I. Goldberg, D.X. West. Synthethis and structures of two N,N'-bis(2-pyridinyl)thioureas and N-(2-pyridinyl)-N'-(benzoyl)thiourea *J. Mol. Struct.* 605 (2002) 9-15.
245. J.D. Soper, W. Kaminsky, J.M. Mayer. Activation of an Anilido Ligand for Nucleophilic Aromatic Substitution by an Oxidizing Os(IV) Center. *J Am. Chem. Soc.* 123 (2001) 5594-5595.
246. J.K. Swearing, W. Kaminsky and D.X. West: Structural and spectral studies of di-2-pyridyl ketone 3-piperidyl- and hexamethyleneiminylthiosemicarbazone and their cobalt(II), nickel(II) and copper(II) complexes. *Transition Met. Chem.* 27 (2002) 724-731.
247. A. K. Hermetet, L. J. Ackerman, K. K. Eilts, T. K. Johnson, J. K. Swearingen, J. M. Giesen, K. I. Goldberg, W. Kaminsky, and D. X. West. Structural, spectral and thermal studies of N-2-(4,6-lutidyl)-N'- chlorophenylthioureas. *J. Mol. Struct.* 605 (2002) 241-7.
248. Shearer, J.; Nehring, J.; S. Lovell, Kaminsky, W.; Kovacs, J. A. "Modeling the Reactivity of Superoxide Reducing Metalloenzymes With a Nitrogen and Sulfur Coordinated Iron Complex.." *Inorg. Chem.* 2001, 40, 5483-5484.
249. B.K Bennett, S. Pitteri, L. Pilobello, S. Lovell, W. Kaminsky, J. M. Mayer. Osmium(IV) complexes  $\text{TpOs}(\text{X})\text{Cl}_2$  and their Os(III) counterparts: Oxidizing compounds with an unusual resistance to ligand substitution. *J Chem Soc DALTON* 23 (2001) 3489-3497.
250. E. Labisbal, A. Sousa-Pedrares, W. Kaminsky and D. X. West: Structure of N-methylisatin N(4)-dimethylthiosemicarbazone and its Electrochemically Synthesized 6-Coordinate Cadmium(II) Complex, *Z. Naturforsch, B* 57 (2002) 908-913.
251. C. A. Brown, W. Kaminsky, K. A. Claborn, K. I. Goldberg and D. X. West: Structural Studies of 2,6-diacetyl- and 2,6-diformylpyridine bis(thiosemicarbazones). *J. Brazilian Chem. Soc.* 13 (2002) 10-18.
252. A. K. Hermetet, L. J. Ackerman, J. K. Swearingen, C. A. Presto, D. R. Kelman, J. M. Giesen, K. I. Goldberg, W. Kaminsky, D. X. West. Structural studies of N-2-(6-picoly)-N'-tolylthioureas, *J. Chem. Cryst.*, 32 (2002) 17-25.
253. J. Valdés-Martínez, S. Hernández-Ortega A. K. Hermetet, L. J. Ackerman, C. A. Presto, J. K. Swearingen, D. R. Kelman, K. I. Goldberg, W. Kaminsky, D. X. West. Structural studies of representative N-2-(3-picoly)- and N-2-(4-picoly)-N'-tolylthioureas. *J. Chem. Cryst.* 32 (2002) 431-438.
254. L. F. Szczepura, D. R. Kelman, A. K. Hermetet, L. J. Ackerman, K. I. Goldberg, K. A. Claborn, W. Kaminsky, and D. X. West: Structural, spectral and thermal studies of N-2-(picoly)-N'-4-chlorophenylthioureas. *J. Mol. Struct.* 608 (2002) 245-251.
255. D. R. Kelman, L. F. Szczepura, K. I. Goldberg, W. Kaminsky, A. K. Hermetet, L. J. Ackerman, J. K. Swearingen, and D. X. West, Structural, spectral and thermal studies of N-2-(pyridyl)- and N-2-(4-picoly)-N'- (2-chlorophenyl)thioureas and N-2-(6-picoly)-N'-(2-bromophenyl)thiourea. *J. Mol. Struct.* 610 (2002) 143-150.

256. Shearer J, Jackson HL, Schweitzer D, Leary TM, Kaminsky W, Scarrow R, Kovacs JA: Examining the influence of thiolate sulfurs on the reactivity properties of cysteine-ligated non-heme iron active sites. *J. of Inorg. Biochem.* 86 (2001) 64-64.
257. Werner Kaminsky\*, Diantha R. Kelman, James M. Giesen, Karen I. Goldberg, Kacey A. Claborn, Lisa F. Szczepura, and Douglas X. West: Structural and spectral studies of N-2-(pyridyl)-, N-2-(3-,4-, 5-, and 6-picolyl)- and N-2-(4,6-lutidyl)- N'-2-thiomethoxyphenylthioureas . *J. Mol Struct.* 616 (2002) 79-89.
258. Diantha R. Kelman, Kacey A. Claborn, Werner Kaminsky, Karen I. Goldberg, and Douglas X. West: Structural and thermal studies of N-2-(pyridyl)- and N-2-(picolyl)-N'-(3-chlorophenyl)thioureas. *J. Mol. Struct.* 642 (2002) 119-127.
259. Diantha R. Kelman, Kacey A. Claborn, Werner Kaminsky, Karen I. Goldberg, Dung T. Li, and Douglas X West: Structural Studies of N-2-(6-aminopyridine)-N'-arylthioureas. *J. Mol. Struct.* 654 (2003) 145-152.
260. J. M. Giesen, K. A. Claborn, K. I. Goldberg, W. Kaminsky and D. X. West, Structural, thermal and spectral studies of N-2-pyridyl-, N-2-picolyl- and N-2-(4,6-lutidyl)-N'-(3-methoxyphenyl)thioureas, *J. Mol. Struct.* 613 (2002) 223-233.
261. Bennett, B. K.; Saganic, E.; Lovell, S.; Kaminsky, W.; Samuel, A.; Mayer, J.M.: Osmium-phosphinimato complexes: synthesis, protonation, structure, and redox-coupled hydrolytic scission of N-P bonds. *Inorganic Chemistry* 42 : 4127-4134 2003.
262. Brenden Carlson, Gregory D. Phelan, Werner Kaminsky, Larry Dalton, Xuezhong Jiang, Sen Liu, Alex K-Y. Jen: Divalent Osmium Complexes: Synthesis, Characterization, Strong Red Phosphorescence and Electrophosphorescence. *J Am Chem Soc* 124 (2002) 14162-14172
263. El-Said, F.A., El-Asmy, A.A., Kaminsky, W., West, D.X.: Spectral and structural studies of cobalt(II,II), nickel(II), and copper(III) complexes of dehydroacetic N4-dialkyl- and 3-azacyclothiosemicarbazones. *Transition Met. Chem.*, 28 (2003) 954-960.
264. Dehestani, A.; Kaminsky, W.; Mayer, J.M.: Tuning the properties of the osmium nitrido group in TpOs(N)X<sub>2</sub> by changing the ancillary ligand. *Inorg. Chem.* 42 (2003) 605-611.
265. Christopher J. Tonzola, Maksudul M. Alam, Werner Kaminsky, Samson A. Jenekhe: New n-Type Organic Semiconductors: Synthesis, Single Crystal Structures, Cyclic Voltammetry, Photophysics, Electron Transport and Electroluminescence of a Series of Diphenylanthrazolines. *J Am Chem Soc* 125 (2003) 13548-13558.
266. DiPasquale, A.G.; Kaminsky, W.; Mayer, J.M.: Oxygen-Oxygen bond homolysis in a novel titanium(IV) alkylperoxide complex, Cp<sub>2</sub>Ti(OOtBu)Cl. *J. Am. Chem. Soc.* 124 (2002) 14534-14535.
267. Douglas X. West, Lisa F. Szczepura, James Giesen, Joyce Kelley, Werner Kaminsky, Karen I. Goldberg: Oxidation of heterocyclic thioureas to form benzothiazoles and copper(II) complexes. *J. Mol. Struct.* 646 (2003) 95-102.
268. Ulrich Fekl, Werner Kaminsky, Karen Goldberg: beta-Diiminate platinum complexes for alkane dehydrogenation *J Am Chem Soc* 125 (2003)15286-15287
269. Shearer J, Jackson HL, Schweitzer D, Rittenberg DK, Leavy TM, Kaminsky W, Scarrow RC, Kovacs JA: The first example of a nitrile hydratase model complex that reversibly binds nitriles. *J. Am. Chem. Soc.* 124 (38): 11417-11428 SEP 25 2002.
270. Jason Shearer, Sarah B. Fitch, Werner Kaminsky, Robert C. Scarrow, Julie A Kovacs. How does Cyanide inhibit superoxide reductase? Insight from synthetic (FeN<sub>4</sub>S)-N-III model complexes. *Proc Nation. Acad. of Scie. USA.*100: 3671-3676 2003
271. Shearer J, Kaminsky W, Kovacs JA. A chloride ion contained in a cobalt 'claw': [Co-3(DADIT)(3)]Cl(PF<sub>6</sub>)(2) *Acta Crystallogr. C* 59: M379-M380 Part 9 2003
272. Jake D. Soper, Erik Saganic, David Weinberg, David A. Hrovat, Jason Benedict, Werner Kaminsky, James Mayer: Nucleophilic Aromatic Substitution on Aryl-Amido Ligands Promoted by Oxidizing Os (IV) Centers. *Inorganic Chemistry* 43 (2004) 5804-5815
273. Brenden Carlson, Gregory D. Phelan, Jason Benedict, Werner Kaminsky, Larry Dalton.: Crystallography and Luminescence of Divalent Osmium Complexes Green Osmium Emitters for OLED and Possible Evidence for d-orbital Backbonding *Inorg. Chemica Acta* 357 (2004) 3967-3974..
274. Y. Liao, B. E. Eichinger, K. A. Firestone, M. Haller, J. Luo, W. Kaminsky, J. B. Benedict, P. J. Reid, A. K. Jen, L. R. Dalton, B. H. Robinson, "Systematic Study of the Structure-Property Relationship of a Series of Ferrocenyl Nonlinear Optical Chromophores," *JACS*, 127 (2005) 2758-2766.
275. J. Valdés-Martínez, S. Hernández-Ortega, M.I Rubio, D. T. Li, J. K. Swearingen, W. Kaminsky, D. R. Kelman, D. X. West, Study of the sulfur atom as hydrogen bond acceptor in N(2)-pyridylmethyl-N-arylthioureas. *J. Chem. Cryst.* 34, 533-40 (2004).
276. Theisen, R. M. ; Shearer, J.; Kaminsky W.; \*Kovacs, J. A. "Steric and Electronic Control Over the Reactivity of a Thiolate-Ligated Fe(II) Complex with Dioxygen and Superoxide. Reversible mu -oxo Dimer Formation " *Inorg. Chem.* 43 (2004) 7682-7690.
277. J. Valdés-Martínez, D. T. Li, J., J. K. Swearingen, W. Kaminsky, D. R. Kelman, D. X. West, Crystal and Molecular Structure of N-2-Pyridylethyl-N'-3-Tolylthiourea. *Rev. Soc. Quim. Mex.* 48 (2004) 235-238.

278. Brenden Carlsson, Gregory D. Phelan, Jason Benedict, Werner Kaminsky, Larry Dalton: Crystal structures and luminescence properties of osmium complexes of cis-1,2-vinylenebis(diphenylarsine) and pyridyl ligands. Possible evidence for metal d, ligand d backbonding. *Inorganic Chimica Acta* 359 (2006) 1093-1102
279. Priscilla Lugo-Mas, Dey, A., Liang Xu, Steven D. Davin, Jason Benedict, Werner Kaminsky, Julie A. Kovacs: How does single oxygen addition affect the properties of an Fe-nitrile hydratase analogue? The compensatory role of the unmodified thiolate. *JACS* 128 (2006) 11211-11221
280. Adam Wu, Ahmad Dehestani, Erik Saganic, Thomas J. Crevier, Werner Kaminsky, Dawn E. Cohen, James M. Mayer: Reactions of Tp-Os nitrido complexes with the nucleophiles hydroxide and thiosulfate. *Inorganica Chimica Acta* 359 (2006) 2842-2849
281. Sei-Hum Jang, J. Luo, N.M. Tucker, A. Leclercq, E. Zojer, M.A. Haller, T-D Kim, J-W Kang, K. Firestone, D. Bale, D. Lao, J.B. Benedict, D. Cohen, W. Kaminsky, B. Kahr, J-L. Bredas, P. Rheid, L.R. Dalton, A.K.-Y Jen: Pyrroline Chromophores for Electro-Optics. *Chemistry of Materials* 18 (2006) 2982-2988
282. Kitagawa, Terutaka, Dey, Abhishek, Lugo-Mas, Priscilla, Benedict, Jason B., Kaminsky, Werner, Solomon, Edward, Kovacs, Julie: A functional model for the cysteinylated non-heme iron enzyme superoxide reductase (SOR). *JACS* 128 (2006) 14448-14449
283. Christopher J. Tonzola, Angela P. Gifford, Abhishek P. Kulkarni, Werner Kaminsky, Samson A. Jenekhe: Blue-Light-Emitting Oligoquinolines: Synthesis, Properties, and High-Efficiency Blue-Light-Emitting Diodes and High-Efficiency Blue-Light-Emitting Diodes. *Advanced Functional Materials* 17 (2007) 863-874.
284. Brines, L. M.; Shearer, J.; Fender, J. K.; Schweitzer, D.; Shoner, S. C.; Barnhart, D.; Kaminsky, W.; Lovell, S.; Kovacs, J. A. "Periodic trends within a Series of Five Coordinate Thiolate-Ligated [M(II)(SN4(tren))] + (M = Mn, Fe, Co, Ni, Cu, Zn) Complexes, including a rare example of a stable CuII-thiolate", *Inorg. Chem* 46 (2007) 9267-9277.
285. Wu A., Masland, J., Swartz, R. D., Kaminsky, W., Mayer, J. M.: Synthesis and characterization of ruthenium bis(beta-diketonato) pyridine-imidazole complexes for hydrogen atom transfer. *Inorganic Chemistry* 46 (2007) 11190-11201.
286. Brines, L. M.; Villar-Acevedo, G.; Kitagawa, T.; Swartz, R. D.; Lugo-Mas, P.; Kaminsky, W.; Benedict, J. B.; Kovacs, J. A. " Comparison of structurally-related alkoxide, amine, and thiolate-ligated M-II (M = Fe, Co) complexes: the influence of thiolates on the properties of biologically relevant metal complexes.," *Inorganica Chimica Acta* (2008) 1070-1078.
287. Carlson, B., Eichinger, B. E., Kaminsky, W., Phelan, G. D.: Complexes of Osmium with the 2-[(diphenylphosphanyl)-methyl]-pyridine ligand. *J of Phys. Chem. C* 112 (2008) 7858-7865.
288. Akeleitis, A. J. P., Olbricht, B. C., Sullivan, P. A., Liao, Y., Lee, S. K., Bale, D. H., Lao, D. B., Kaminsky, W., Eichinger, B. E., Choi, D. H., Reid, P. J., Dalton, L. R.: Synthesis and electro-optic properties of amino-phenyl-thienyl donor chromophores. *Optical Materials* 30 (2008) 1504-1513.
289. Hebden, T. J., Denney, M. C., Pons, V., Piccoly, P. M. B., Koetzle, T. F., Schultz, A. J., Kaminsky, W., Goldberg, K. I., Heinekey, D. M.: Sigma-borane complexes of iridium: Synthesis and structural characterization. *JACS* 130 (2008) 10812-10820
290. Williams, D.B., Kaminsky, W., Mayer, J.M., Goldberg, K.I.: Reactions of Iridium hydride pincer complexes with dioxygen: new complexes and reversible O-2 binding. *Chemical Communications* 35 (2008) 4195-4197
291. Brayton, D.F., Goldberg, K.I., Kaminsky, W., Heinekey, D.M.: A convenient one-pot synthesis of di-t-butylphosphinic chloride. *Phosphorous Sulfur and Silicon and the related Elements* 183 (2008) 2534-2540
292. Carlson, B., Eichinger, B. E., Kaminsky, W., Bullock, J. P., Phelan, G. D.: Photophysical properties, X-ray structures, electrochemistry, and DFT computational chemistry of osmium complexes. *Inorganica Chimica Acta* 362 (2009) 1611-1618.
293. Steve Bowles; Brynn Dooley; Kaminsky; Jason Benedict; Natia Frank: The Competing Roles of Topology and Spin Density in the Magnetic Behavior of Spin Delocalized Radicals: Donor-Acceptor Annelated Nitronyl Nitroxides. *Polyhedron* 28 (2009) 1704-1709.
294. Lugo-Mas, Priscilla, Taylor, Wendy, Schweitzer, Dirk, Theisen, Rosalyn M., Xu, Liang, Shearer, Jason, Swartz, Rodney D., Gleaves, Morgan C., DiPasquale, Antonio, Kaminsky, Werner, Kovacs, Julie: Properties of Square-Pyramidal Alkyl-Thiolate Fe-III Complexes, including an analogue of the Unmodified Form of Nitrile Hydratase. *Inorganic Chemistry*, 47 (2008) 11228-11236.
295. Waidmann, C.R., Zhou, X., Tsai, E.A., Kaminsky, W., Hrovat, D.A., Borden, W.T., Mayer, J.M.: Slow hydrogen transfer reactions of oxo- and hydroxo- vanadium compounds: the importance of intrinsic barriers. *JACS* 131 (2009) 4729-4743.
296. Achmad Dehestani, Adam Wu, Rebecca Hayoun, Werner Kaminsky, James M. Mayer: Dihydroxylation of Alkenes using a Tp-Osmium Complex. *Inorganica Chimica Acta* 362 (2009) 4534-4538.
297. Park-Gehrke LS, Freudenthal J, Kaminsky, W, Dipasquale AG, Mayer JM.: Synthesis and oxidation of Cp\*Ir-III compounds: functionalization of a Cp\* methyl group. *DALTON TRANSACTIONS* 11 (2009) 1972-1983.

298. A. Barbon, E. D. Bott, M. Brustolon, M. Fabris, B. Kahr, W. Kaminsky, P. J. Reid, S. M. Wong, K. L. Wustholz, R. Zanre: Triplet States of the Nonlinear Optical Chromophore DCM in Single Crystals of Potassium Hydrogen Phthalate and their Relationship to Single Molecule Dark States. *JACS* 131 (2009) 11548-11557.
299. X. Deng, R. Gujjar, F. El Mazouni, W. Kaminsky, N. A. Malmquist, E. J. Goldsmith, P. K. Rathod, M. A. Phillips: Structural plasticity of malaria dihydroorotate dehydrogenase allows selective binding of diverse chemical scaffolds. *J Biol. Chem.* 284 (2009) 26999-27009.
300. Michael P. Lanci, Matthew S. Remy, Werner Kaminsky, James M. Mayer, Melanie S. Sanford: Oxidatively Induced Reductive Elimination of Ethane from PdII Me<sub>2</sub>(4,4'-tBu<sub>2</sub>bpy) *JACS* 131 (2009) 15618-15620
301. Meredith, Joseph A., Goldberg, Karen I., Kaminsky, Werner, Heinekey, D. Michael: Dinuclear Iridium Complexes Containing Cp\* and Carbonyl Ligands: Synthesis, Structure, and Reactivity. *Organometallics* 28 (2009) 3546-3551.
302. B. Carlson, B.E. Eichinger, W. Kaminsky, Gregory D. Phelan: Organometallic osmium and iridium complexes as phosphorescent dye in barometric sensitive coatings. *Sensors & Actuators: B.* 145 (2010) 278-284.
303. Margaret L. Scheuermann, Ulrich Fekl, Werner Kaminsky, and Karen I. Goldberg: Metal-Ligand Cooperativity in O<sub>2</sub> Activation: Observation of a "Pt-O-O-C" Peroxo Intermediate. *Organometallics* 29 (2010) 4749-4751.
304. D. G. Patel, M.M. Paquette, R.A. Kopelman, O. V. Sarycheva, J. B. Benedict, W. Kaminsky, M. J. Ferguson, and N. L. Frank: A Solution- and Solid-State Investigation of Medium Effects on Charge Separation in Metastable Photomerocyanines. *JACS* 132 (2010) 12568-12586.
305. T. J. Hebden, A. J. St. John, D. G. Gusev, W. Kaminsky, K. I. Goldberg, D. M. Heinekey: Preparation of a Dihydrogen Complex of Cobalt. *Angewandte Chemie int. ed* 50 (2011) 1873-1876
306. S. D. Tran, T. A. Tronic, W. Kaminsky, D. M. Heinekey, J. M. Mayer: Metal-free carbon dioxide reduction and acidic C-H activations using a frustrated Lewis pair. *Inorg. Chim. Acta* 369 (2011) 126-132.
307. Villar-Acevedo, Gloria; Nam, Elaine; Fitch, Sarah; Benedict, Jason; Freudenthal, John; Kaminsky, Werner; Kovacs, Julie: Influence of Thiolate Ligands on Reductive N–O Bond Activation. Oxidative Addition of NO to a Biomimetic SOR Analogue, and its Proton-Dependent Reduction of Nitrite. *JACS* 133 (2011) 1419-1427.
308. Kyle A. Grice, Werner Kaminsky, and Karen I. Goldberg: C–H Activation of Benzene by Platinum(II) Complexes with Cyclometalated Phosphine Ligands. *Inorganica Chimica Acta* 369 (2011) 76-81.
309. R. Swartz, M Coggins, W. Kaminsky, J Kovacs: Nitrile Hydration by Thiolate– and Alkoxide–Ligated Co–NHase Analogues. Isolation of Co(III)-Amidate and Co(III)–Iminol Intermediates. *JACS* 133 (2011) 3954-3963.
310. Abby R. O’Connor, Werner Kaminsky, D. Michael Heinekey, and Karen I. Goldberg: Synthesis, Characterization, and Reactivity of Arene-Stabilized Rhodium Complexes. *Organometallics* 30 (2011) 2105-2116.
311. Gregory R. Fulmer, Werner Kaminsky, Richard A. Kemp, and Karen I. Goldberg: Syntheses and Characterization of Palladium Complexes with Hemilabile “PCO” Pincer Ligand. *Organometallics* 30 (2011) 1627-1636.
312. Tristan A. Tronic, Mary Rakowski-DuBois, Werner Kaminsky, Michael K. Coggins, Tianbiao Lui, and James M. Mayer: Dioxygen Activation by a Ruthenium(II) Complex Promoted by Protonation in the Second Coordination Sphere. *Angewandte Chemie* 50 (2011) 10936-10939.
313. Fulmer, Gregory; Herndon, Alexandra; Kaminsky, Werner; Kemp, Richard; Goldberg, Karen: Hydrogenolysis of Palladium(II) Hydroxide, Phenoxide, and Alkoxide Complexes. *JACS* 133 (2011) 17713-17726.
314. J. M. Meredith, R. Robinson, K. I. Goldberg, W. Kaminsky, D. M. Heinekey: C-H Bond Activation by Cationic NHC Iridium (III) Complexes: A Combined Experimental and Theoretical Study. *Organometallics* 31 (2012) 1879-1887
315. Caroline T. Saouma, Werner Kaminsky, James M. Mayer: Protonation and Concerted Proton-Electron Transfer Reactivity of a Bis-Benzimidazolate Ligated [2Fe-2S] Model for Rieske Clusters. *JACS* 134 (2012) 7293-7296
316. Michael K. Coggins, Santiago Toledo, Erika Shaffer, Werner Kaminsky, Jason Shearer, and Julie A. Kovacs: Characterization and Dioxygen Reactivity of a New Series of Coordinatively Unsaturated Thiolate-Ligated Manganese(II) Complexes. *Inorg. Chem.*, 2012, 51 (12), 6633–6644
317. Z. Shi, S.-H. Jang, J. Davies, W. Kaminsky, A.K.-Y. Jen: Aggregation Induced Emission (AIE) of Trifluoromethyl Substituted Distyrylbenzenes. *Chem. Comm.*, 48 (2012) 7880-7882.
318. Todd F. Markle, Tristan A. Tronic, Antonio DiPasquale, Werner Kaminsky, James M. Mayer: Effect of Basic Site Substituents on Concerted Proton-Electron Transfer in Hydrogen Bonded-Pyridyl Phenols. *J Phys. Chem.* 50 (2012) 12249-12259.
319. Tristan A. Tronic, Werner Kaminsky, Michael K. Coggins, and James M. Mayer: Synthesis, Protonation, and Reduction of Ru(II)-O<sub>2</sub> Complexes with Pendent Nitrogen Bases. *Inorganic Chemistry* 52 (2012) 10916-10928.
320. Samantha J. Connelly, Amanda C. Zimmerman, Werner Kaminsky, and D. Michael Heinekey: Synthesis, Structure, and Reactivity of a Nickel Dihydrogen Complex. *Chemistry-A European Journal* 18 (2012) 15932-15934
321. Joseph M. Meredith, Karen I. Goldberg, Werner Kaminsky, D. Michael Heinekey. η<sup>6</sup>-Tetramethylfulvene and μ-η<sup>3</sup>:η<sup>3</sup>-Benzene Complexes of Iridium. *Organometallics* 31 (2012) 8459-8462.

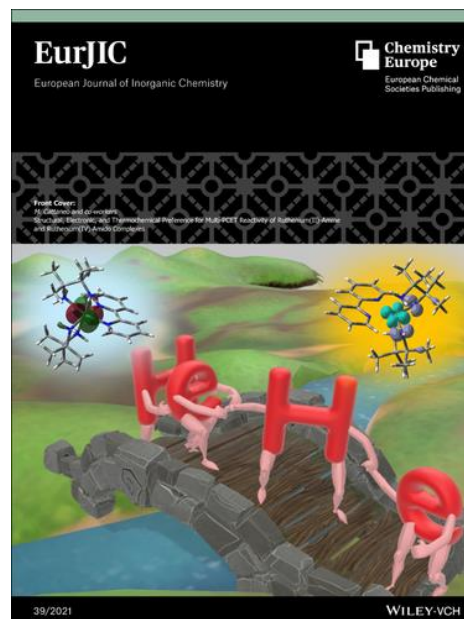
322. Eirin Langseth, Margaret L. Scheuermann, David Balcells, Werner Kaminsky, Karen I. Goldberg, Odile Eisenstein, Richard H. Heyn and Mats Tilset. Generation and structural characterization of a gold(III) alkene complex. *Angewandte Chemie* 52 (2013) 1660-1663.
323. Caroline T. Saouma, Werner Kaminsky, and James M. Mayer: Decomposition of a Mixed-Valence [2Fe-2S] Cluster to Linear Tetra-Ferric and Ferrous Clusters. *Polyhedron* 58 S1 (2013) 60-64.
324. Erin A. Riley, Chelsea M. Hess, Jan Rey Pioquinto, Werner Kaminsky, Bart Kahr, and Philip J. Reid: Proton transfer and photoluminescence intermittency of single emitters in dyed crystals. *Journal of physical chemistry B*. 117 (2013) 4313-4324.
325. O'Connor, Abby; Kaminsky, Werner; Chan, Benny; Goldberg, Karen; Heinekey, D. Michael: Synthesis and Characterization of Iridium(I) and Iridium(III) Complexes Containing Dialkylbiphenylphosphines. *Organometallics*, 32 (2013) 4016-4019.
326. Scheuermann, Margaret; Avery, Luedtke; Hanson, Susan; Fekl, Ulrich; Kaminsky, Werner; Goldberg, Karen: Reactions of five-coordinate Pt(IV) complexes with molecular oxygen. *Organometallics*, 32 (2013) 4752-4758.
327. Ingalls, Erica; Sibbald, Paul; Kaminsky, Werner; Michael, Forrest: Enantioselective Palladium-Catalyzed Diamination of Alkenes Using N-Fluorobenzenesulfonimide. *JACS* 135 (2013) 8854-8856.
328. Jessica M. Wittman, Rebecca Hayoun, Werner Kaminsky, Michael K. Coggins, James M. Mayer. A C–C Bonded Phenoxy Radical Dimer with a Zero Bond Dissociation Free Energy. *JACS* 135 (2013) 12956-12959.
329. S. Conelly, W. Kaminsky, M. Heinekey: Structure and Solution Reactivity of (Triethylsilylium)Triethylsilane Cations. *Organometallics* 32 (2013) 7478-7481.
330. Miller, Alexander; Kaminsky, Werner; Goldberg, Karen: Arene Activation at Iridium Facilitates C–O Bond Cleavage of Aryl Ethers. *Organometallics* 33 (2014) 1245-1252.
331. Bailey, Wilson; Kaminsky, Werner; Kemp, Richard; Goldberg, Karen: Synthesis and Characterization of Anionic, Neutral and Cationic PNP Pincer PdII and PtII Hydrides. *Organometallics*, 33 (2014) 2503-2509.
332. Margaret L. Scheuermann, David W. Boyce, Kyle A. Grice, Werner Kaminsky, Stefan Stoll, William B. Tolman, Ole Swang, Karen I. Goldberg: Oxygen-Promoted C–H Bond Activation at Pd. *Angewandte Chemie* 52 (2014) 6492-6495.
333. Jason D. Prantner, Werner Kaminsky and Karen I. Goldberg: Methylplatinum(II) and Molecular Oxygen: Oxidation to Methylplatinum(IV) in Competition with Methyl Group Transfer To Form Dimethylplatinum(IV). *Organometallics* 33 (2014) 3227-3230.
334. Margaret L. Scheuermann, Kyle A. Grice, Matthew J. Ruppel, Marta Rosello-Merino, Werner Kaminsky, and Karen I. Goldberg: Hemilability of P(X)N-type ligands (X = O, N–H): rollover cyclometallation and benzene C–H activation from (P(X)N)PtMe<sub>2</sub> complexes. *Dalton transactions*, 43 (2014) 12018-12025.
335. Johanna M. Blacquiere, Michael L. Pegis, Simone Raugè, Werner Kaminsky, Amélie Forget, Sarah A. Cook, Taketo Taguchi, James M. Mayer: Synthesis and Reactivity of Tripodal Complexes Containing Pendant Bases. *Inorganic Chemistry*, 53 (2014) 9242-9253.
336. Thomas R. Porter, Werner Kaminsky, James M. Mayer: Preparation, Structural Characterization and Thermochemistry of an Isolable 4-Aryl Phenoxy Radical. *J. Org. Chem.*, 79 (2014) 9451-9454.
337. Xiaoyi Deng, Sreekanth Kokkonda, Farah El Mazouni, John White, Jeremy N. Burrows, Werner Kaminsky, Susan A. Charman, David Matthews, Pradipsinh K. Rathod and Margaret A. Phillips: Fluorine modulates species selectivity in the triazolopyrimidine class of Plasmodium falciparum dihydroorotate dehydrogenase inhibitors. *J Med Chem*, 26 (2014) 5381-5394.
338. Marie L. Clement, Kyle Grice, Avery T. Luedtke, Werner Kaminsky, Karen I. Goldberg: Platinum(II) olefin hydroarylation catalysts: tuning selectivity for the anti-Markovnikov product. *Angewandte Chemie, ChemEurJ*, 20 (2014) 17287-17291
339. Meghana Rawal, Kerry Garrett, Andreas F. Tillack, Werner Kaminsky, Evgheni Jucov, David P. Shelton, Tatiana V. Timofeeva, Bruce E. Eichinger, Bruce H. Robinson, Larry R. Dalton: Cross-conjugation as a Motif for Organic Non-Linear Optical Molecules, *MRS proceedings* 1698 (2014) mrs14-1698-jj01-01.
340. Samantha J. Connelly, Andrew G. Chanez, Werner Kaminsky, D. Michael Heinekey: Characterization of a Palladium Dihydrogen Complex. *Angewandte Chemie* 54 (2015) 1-5.
341. Brenden Carlson, Sarah Flowers, Werner Kaminsky, Gregory D. Phelan: Properties and structure of two fluorinated 1,10-phenanthrolines. *Journal of Fluorine Chemistry* **173** (2015) 63-68.
342. Carolyn F Rosewall, Erica L Ingalls, Werner Kaminsky, Forrest E Michael: Chelation-driven rearrangement of primary alkyl aminopalladation products to stable trisubstituted alkyl-palladium complexes. *Angew Chem Int Ed Engl*. **54** (2015) 4557-60.
343. Brines, Lisa; Coggins, Michael; Poon, Penny; Toledo, Santiago; Kaminsky, Werner; Kirk, Martin; Kovacs, Julie: A Water-Soluble Fe(II)-H<sub>2</sub>O Complex with a Weak O–H Bond Transfers a Hydrogen Atom via an Observable Monomeric Fe(III)-OH. *JACS* 137 (2015) 2253-2264

344. Goldberg, Jonathan; Wong, Gene; Brastow, Kenzie; Kaminsky, Werner; Goldberg, Karen; Heinekey, D. Michael: The Importance of Steric Factors in Iridium Pincer Complexes. *Organometallics* 34 (2015) 753-762.
345. Suess, Alison; Uehling, Mycah; Kaminsky, Werner; Lalic, Gojko: Mechanism of Copper-Catalyzed Hydroalkylation of Alkynes: An Unexpected Role of Dimeric Copper Complexes. *JACS* 137 (2015) 7747-7753.
346. Wilson D. Bailey, Lapo Luconi, Andrea Rossin, Dmitry Yakharov, Sarah E. Flowers, Werner Kaminsky, Richard A. Kemp, Giuliano Giambastiani\*, and Karen I. Goldberg: Pyrazole-based PCN pincer complexes of PdII: Mono- and dinuclear hydroxide complexes and ligand rollover C-H activation. *Organometallics* 34 (2015) 3998-4010.
347. Brenden Carlson, Werner Kaminsky, Linyue Tong, Gregory D Phelan: Structure and phase transition of 4,7-bis-(4'-cyano-biphenyl-4-yl)-[1,10]phenanthroline. *J Chemical Cryst*, 45 (2015) 453-460.
348. D. C. Gary, S. E. Flowers, W. Kaminsky, A. Petrone, X. Li, and B. M. Cossairt: Single Crystal and Electronic Structure of a 1.3 nm Indium Phosphide Nanocluster. *JACS*, 138 (2016) 1510-1513.
349. Ellen C. Hayes, Thomas R. Porter†, Charles J. Barrows, Werner Kaminsky, James M. Mayer, Stefan Stoll: Electronic Structure of a Cu-II-Alkoxide Complex Modeling In-intermediates in Copper-Catalyzed Alcohol Oxidations. *JACS*, 138 (2016) 4132-4145.
350. Henckel, Danielle; Lin, Yuting; McCormick, Theresa; Kaminsky, Werner; Cossairt, Brandi: A Doubly Deprotonated Diimine Dioximate Metalloligand as a Synthone for Multimetallic Complex Assembly. *Dalton Transactions*. 45 (2016) 10068-10075.
351. Wenwei Jin, Peter V. Johnston, Delwin L. Elder, Karl T. Manner, Kerry E. Garrett, Werner Kaminsky, Ruimin Xua, Bruce H. Robinson and Larry R. Dalton: Structure-function relationship exploration for enhanced thermal stability and electro-optic activity in monolithic organic NLO chromophores. *Journal of Materials Chemistry C* 4 (2016) 3119-3124.
352. Thomas R. Porter, Dany Capitaio, Werner Kaminsky, Zhaoshen Qian and James M Mayer: Synthesis, Radical Reactivity and Thermochemistry of Monomeric Cu(II) Alkoxide Complexes Relevant to Cu/Radical Alcohol Oxidation Catalysis. *Inorg. Chemistry* 55 (3016) 5467-5475.
353. Sreekanth Kokkonda, Xiaoyi Deng, Karen White, Jose M. Coteron, Maria Marco, Laura de las Heras, John White, Farah El Mazouni, Diana R. Tomchick, Krishne Manjulanagara, Kakali Rani Rudra, Gong Chen, Julia Morizzi, Eileen Ryan, Werner Kaminsky, Didier Leroy, Maria Santos Martínez-Martínez, Maria Belen Jimenez-Diaz, Santiago Ferrer Bazaga, Iñigo Angulo-Barturen, David Waterson, Jeremy N. Burrows, Dave Matthews, Susan A. Charman, Margaret A. Phillips and Pradipsinh K. Rathod: Tetrahydro-2-naphthyl and 2-indanyl triazolopyrimidines targeting Plasmodium falciparum dihydroorotate dehydrogenase display potent and selective antimalarial activity. *Journal of Medicinal Chemistry* 59 (2016) 5416-5431.
354. Goldberg, Jonathan; Cherry, Sophia; Guard, Louise; Kaminsky, Werner; Goldberg, Karen; Heinekey, D. Michael: Hydrogen Addition to (pincer)Ir<sup>I</sup>(CO) Complexes: The Importance of Steric and Electronic Factors. *Organometallics* 35 (2016) 3546-3556.
355. Cherry, Sophia; Kaminsky, Werner; Heinekey, D. Michael: Structure of a Novel Rhodium-Phosphinite Compound: Agostic Interactions as a Model for an Oxidative Addition Intermediate. *Organometallics* 35 (2016) 2165-2169.
356. M Rawal, K E Garrett, L E Johnson, W Kaminsky, E Jucov, D P Shelton, T Timofeeva, B E Eichinger, A F Tillack, B H Robinson, D L Elder, L R Dalton: Alternative Bridging Architectures in Organic Nonlinear Optical Materials: Comparison of  $\pi$  and  $\chi$  type structures, *JOSA* 33 (2016) E160-E170.
357. Margaret A. Phillips, Karen L. White, Sreekanth Kokkonda, Xiaoyi Deng, John White, Farah El Mazouni, Kennan Marsh, Diana R. Tomchick, Krishne Manjulanagara, Kakali Rani Rudra, Grennady Wirjanata, Rintis Noviyanti, Ric N Price, Jutta Marfurt, Maria Belen Jimenez-Diaz, Santiago Ferrer Bazaga, Iñigo Angulo-Barturen, Werner Kaminsky, Sergio Wittlin, Kigbafori Silue, Anna-Marie Zeeman, Clemens Kocken, Didier Leroy, Benjamin Blasco, Dave Matthews, Jeremy N. Burrows, David Waterson, Michael J. Palmer, Pradipsinh K. Rathod and Susan A. Charman: A triazolopyrimidine-based dihydroorotate dehydrogenase inhibitor with improved drug-like properties for treatment and prevention of malaria, *ACS Infectious Diseases*, 2 (2016) 57-69
358. Ingalls, Erica; Holtzen, G.; Kaminsky, Werner; Michael, Forrest: Synthesis and Structural Characterization of Palladium(II) Complexes of Chiral Bidentate N-Heterocyclic Carbene-Quinoline Ligands. *J Organomet. Chem.*, 832 (2017) 9-11.
359. Villar-Acevedo, Gloria; Lugo-Mas, Priscilla; Blakely, Maiké; Ganas, Abbie; Hanada, Erin; Kaminsky, Werner; Kovacs, Julie: Metal-Assisted Oxygen Atom Addition to an Fe(III)-Thiolate. *JACS* 139 (2017) 119-129.
360. Smoll, Karena; Kaminsky, Werner; Goldberg, Karen: Photolysis of Pincer Ligated PdII-Me Complexes in the Presence of Molecular Oxygen. *Organometallics* 36 (2017) 1213-1216.
361. Jonathan M. Goldberg, Janna L. Berman, Werner Kaminsky, Karen I. Goldberg, D. Michael Heinekey: Oxidative addition of iodine to ((tBu)<sub>4</sub>(POCOP)Ir(CO) complexes Dedicated to Gerard van Koten on the occasion of his 75th birthday. *Organometallics*, 36 (2017) 171-176.
362. Mitchell Lee, Mary Nguyen, Chance Brandt, Werner Kaminsky, Gojko Lali: Catalytic Hydroalkylation of Allenes. *Angew. Chemie int. Ed*, 56 (2017) 15703-15707.

363. Porter, Thomas; Kaminsky, Werner; Mayer, James: Sterically Directed Nitronate Complexes of 2,6-Di-tert-Butyl-4-Nitrophenoxide with Cu(II) and Zn(II) and Their H-atom Transfer Reactivity. *Dalton Transactions*, 46 (2017) 2551-2558.
364. Leipzig, Benjamin; Rees, Julian; Kowalska, Joanna; Theisen, Roslyn; Kavcic, Matjaz; Kaminsky, Werner; DeBeer, Serena; Bill, Eckhard; Kovacs, Julie. How Do Ring Size and  $\pi$ -Donating Thiolate Ligands Affect Redox-Active,  $\alpha$ -Imino-N-heterocycle Ligand Activation? *Inorg. Chem.* 57 (2018) 1935-1949.
365. Zeitler, Hannah; Kaminsky, Werner; Goldberg, Karen: Insertion of molecular oxygen into the metal–methyl bonds of platinum(II) and palladium(II) 1,3-bis(2-pyridylimino)isoindolate complexes. *Organometallics*, 37 (2018) 3644-3648.
366. Caroline T. Saouma, Chih-Chin Tsou, Sarah R. Richard, Rob Ameloot, Frederik Vermoortele, Simon Smolders, Bart Bueken, Antonio DiPasquale, Werner Kaminsky, Carolyn N. Valdez, Dirk E. De Vos, James M. Mayer: Sodium-Coupled Electron Transfer Reactivity of Metal-Organic Frameworks Containing Titanium Clusters: The Importance of Cations in Redox Chemistry. *Chemical Science*, 10 (2019) 1322-1331.
367. Johnson, Lewis; Kingsbury, Jason; Elder, Delwin; Cattolico, Rose Ann; Latimer, Luke; Hardin, William; De Meulenaere, Evelien; Deodato, Chloe; Depotter, Griet; Madabushi, Sowmya; Bigelow, Nicholas; Smolarski, Brittany; Hougen, Trevor; Kaminsky, Werner; Clays, Koen; Robinson, Bruce: Gram-Scale Synthesis and Characterization of DANPY (Dimethylaminonaphthylpyridinium): A Versatile, Tunable, Low-toxicity, Cationic Fluorophore with Large Hyperpolarizability. *Organic & Biomolecular Chemistry*, 17 (2019) 3765-3780.
368. Jeremiah J. Scepaniak, Michael John, Werner Kaminsky, Sebastian Dechert, and Franc Meyer: Non-Macrocyclic Schiff Base Complexes of Iron(II) as ParaCEST Agents for MRI. *Europ. J Inorg. Chem.* 19 (2019) 2402-2411.
369. Wilson D. Bailey, Alexander S. Phearman, Lapo Luconi, Andrea Rossin\*, Dmitry Yakhvarov, Lucia D'Accolti, Sarah E. Flowers, Werner Kaminsky, Richard A. Kemp, Giuliano Giambastiani, and Karen I. Goldberg: Hydrogenolysis of dinuclear PCNR ligated PdII hydroxides and their mononuclear PdII hydroxide analogues. *ChemEurJ*, 25 (2019) 9920-9929.
370. Dedushko, Maksym; Schweitzer, Dirk; Blakely, Maike; Swartz, Rodney; Kaminsky, Werner; Kovacs, Julie: Comparison of Structurally Analogous Thiolate-Ligated Binuclear Peroxo-Bridged Cobalt(III) and Manganese(III) Complexes. *J Biol. Inorg. Chem.* 24 (2019) 919-929
371. Brian J. Cook, Samantha I. Johnson, Geoffrey M. Chambers; Werner Kaminsky, R. Morris Bullock: Triple Hydrogen Atom Abstraction from Mn-NH<sub>3</sub> Complexes Results in Cyclophosphazanium Cations. *Chem. Commun.* 55 (2019) 14058-14061.
372. Kephart, Jonathan; Mitchell, Benjamin; Chirila, Andrei; Anderton, Kevin; Rogers, Dylan; Kaminsky, Werner; Velian, Alexandra: Atomically Defined Nanopropeller Fe<sub>3</sub>Co<sub>6</sub>Se<sub>8</sub>(Ph(2)PNTol)(6): Functional Model for the Electronic Metal-Support Interaction Effect, and High Catalytic Activity for Carbodiimide Formation. *JACS*, 141 (2019) 19605-19610.
373. Yunping Huang, Yun Liu, Parker J. W. Sommerville, Werner Kaminsky, David S. Ginger, Christine K. Luscombe: Theobromine and Direct Arylation: A Sustainable and Scalable Solution to Minimize Aggregation Caused Quenching. *Green Chemistry*, *Green Chemistry* 21 (2020) 6600-6605.
374. Peter L. Dunn, Samantha I. Johnson, Werner Kaminsky, and R. Morris Bullock: Diversion of Catalytic C–N Bond Formation to Catalytic Oxidation of NH<sub>3</sub> through Modification of the Hydrogen Atom Abstractor. *Journal of the American Chemical Society* 142 (2020) 3361-3365.
375. Michael K. Coggins, Alexandra N. Downing, Werner Kaminsky and Julie A. Kovacs: Comparison of two Mn<sup>IV</sup>Mn<sup>IV</sup>-bis- $\eta$ -oxo complexes {[Mn<sup>IV</sup>(N<sub>4</sub>(6-Me-DPEN))]<sub>2</sub>([ $\mu$ ]-O)<sub>2</sub>}<sup>2+</sup> and {[Mn<sup>IV</sup>(N<sub>4</sub>(6-Me-DPPN))]<sub>2</sub>([ $\mu$ ]-O)<sub>2</sub>}<sup>2+</sup>. *Acta Cryst. E* 76 (2020) 1042-1046.
376. Goldberg, Jonathan; Guard, Louise; Wong, Gene; Brayton, Daniel; Kaminsky, Werner; Goldberg, Karen; Heinekey, D. Michael: Preparation and Reactivity of Bimetallic (pincer)Ir Complexes. *Organometallics* 39 (2020) 3323-3334.
377. F Lin, K Jiang, W Kaminsky, Z Zhu, AKY Jen: A Non-fullerene Acceptor with Enhanced Intermolecular  $\pi$ -Core Interaction for High-Performance Organic Solar Cells. *JACS* 142 (2020) 15246-15251.
378. JA Kephart, AC Boggiano, W Kaminsky, A Velian: Inorganic clusters as metalloligands: ligand effects on the synthesis and properties of ternary nanopropeller clusters. *Dalton Transactions* 49 (2020) 16464-16473.
379. Kephart, Jonathan; Romero, Catherine; Tseng, Chun-Chih; Anderton, Kevin; Yankowitz, Matthew; Kaminsky, Werner; Velian, Alexandra: Hierarchical Nanosheets Built from Superatomic Clusters: Properties, Exfoliation and Single-Crystal-to-Single-Crystal Intercalation. *J Chem. Science* 11 (2020) 10744-10751
380. Santiago Toledo, Penny Chau Yan Poon, Morgan Gleaves, Julian Rees, Dylan M Rogers, Werner Kaminsky, Julie A Kovacs: Increasing reactivity by incorporating  $\pi$ -acceptor ligands into coordinatively unsaturated thiolate-ligated iron (II) complexes. *Inorg. Chim. Acta* 524 (2021) 120422.
381. My M Do, Dylan D Rogers, Werner W Kaminsky, Dianne J DJ Xiao: Robust Synthetic Route toward Anisotropic Metal-Organic Cages with Tunable Surface Chemistry. *Inorg. Chem.* 60 (2021) 7602-7606.



382. Teng-Wei Wang, Pin-Ruei Huang, Jayme L Chow, Werner Kaminsky, Matthew R Golder: A Cyclic Ruthenium Benzylidene Initiator Platform Enhances Reactivity for Ring-Expansion Metathesis Polymerization. *JACS* 143 (2021) 7314-7319.
383. Benjamin S Mitchell, Werner Kaminsky, Alexandra Velian: Tuning the Electronic Structure of Atomically Precise Sn/Co/Se Nanoclusters via Redox Matching of Tin (IV) Surface Sites. *Inorg. Chem.* 60 (2021) 6135-6139.
384. M Cecilia Johnson, Dylan Rogers, Werner Kaminsky, Brandi M Cossairt: CO<sub>2</sub> Hydrogenation Catalyzed by a Ruthenium Protic N-Heterocyclic Carbene Complex. *Inorg. Chem.* 60 (2021) 5996-6003.
385. Mauricio Cattaneo, Giovanni A. Parada, Adam L. Tenderholt, Werner Kaminsky, and James M. Mayer: Structural, Electronic, and Thermochemical Preference for Multi-PCET Reactivity of Ruthenium(II)-Amine and Ruthenium(IV)-Amido Complexes. *Eur. J. of Inorg. Chem.* 39 (**Journal Cover**) (2021) 4066-4073.
386. Feng Qi, Leighton O Jones, Kui Jiang, Sei-Hum Jang, Werner Kaminsky, Jiyeon Oh, Hongna Zhang, Zongwei Cai, Changduk Yang, Kevin L Kohlstedt, George C Schatz, Francis R Lin, Tobin J Marks, Alex K-Y Jen: Regiospecific N-alkyl substitution tunes the molecular packing of high-performance non-fullerene acceptors. *Materials Horizons* 9 (2022) 403-410.
387. Jonathan Kephart, Benjamin Mitchell, Werner Kaminsky, Alexandra Velian: Multi-active Site Dynamics on a Molecular Cr/Co/Se Cluster Catalyst. *JACS* 144 (2022) 9206-9211.
388. Wei Gao, Feng Qi, Zhengxing Peng, Francis R Lin, Kui Jiang, Cheng Zhong, Werner Kaminsky, Zhiqiang Guan, Chun-Sing Lee, Tobin J Marks, Harald Ade, Alex K-Y Jen: Achieving 19% Power Conversion Efficiency in Planar-Mixed Heterojunction Organic Solar Cells Using a Pseudo-Symmetric Electron Acceptor. *Adv. Mater.* 2022, 2202089-2202100.
389. Benjamin S Mitchell, Sebastian M Krajewski, Jonathan A Kephart, Dylan Rogers, Werner Kaminsky, Alexandra Velian: Redox-Switchable Allosteric Effects in Molecular Clusters. *JACS Au* 2 (2021) 92-96.
390. Benjamin S Mitchell, Andrei Chirila, Jonathan A Kephart, Andrew C Boggiano, Sebastian M Krajewski, Dylan Rogers, Werner Kaminsky, Alexandra Velian: Metal-support interactions in molecular single-site cluster catalysts. *JACS* 144 (2022) 18459-18469.
391. Kui Jiang, Jie Zhang, Cheng Zhong, Francis R Lin, Feng Qi, Qian Li, Zhengxing Peng, Werner Kaminsky, Sei-Hum Jang, Jianwei Yu, Xiang Deng, Huawei Hu, Dong Shen, Feng Gao, Harald Ade, Min Xiao, Chunfeng Zhang, Alex K-Y Jen: Suppressed recombination loss in organic photovoltaics adopting a planar-mixed heterojunction architecture. *Nature – Energy* 7 (2022) 1076-1086.
392. Baobing Fan, Wei Gao, Rui Zhang, Werner Kaminsky, Francis R Lin, Xinxin Xia, Qunping Fan, Yanxun Li, Yidan An, Yue Wu, Ming Liu, Xinhui Lu, Wen Jung Li, Hin-Lap Yip, Feng Gao, Alex K-Y Jen: Correlation of Local Isomerization Induced Lateral and Terminal Torsions with Performance and Stability of Organic Photovoltaics. *JACS* 145 (2023) 5909-5919.
393. BS Mitchell, A Chirila, K Anderton, W Kaminsky, A Velian: Probing Edge/Support Electronic Cooperativity in Single Edge Fe/Co<sub>6</sub>Se<sub>8</sub> Clusters. *Inorg. Chem.* 62 (2023) 10497-10503.
394. Ashlyn A Kamin, Ian P Moseley, Jeewhan Oh, EJ Brannan, Paige M Gannon, Werner Kaminsky, Joseph M Zadrozny, Dianne J Xiao: Geometry-dependent valence tautomerism, magnetism, and electrical conductivity in 1D iron-tetraoxolene chains. *Chem. Sci.* 14 (2023) 4083-4090.
395. BS Mitchell, A Chirila, KJ Anderton, W Kaminsky, A Velian: Probing Edge/Support Electronic Cooperativity in Single Edge Fe/Co<sub>6</sub>Se<sub>8</sub> Clusters. *Inorganic Chemistry* 62 (2023) 10497-10503.
396. Ashlyn A Kamin, Tara D Clayton, Claire E Otteson, Paige M Gannon, Sebastian Krajewski, Werner Kaminsky, Ramesh Jasti, Dianne J Xiao: Synthesis and metalation of polycatechol nano hoops derived from fluorocycloparaphenylenes. *Chem. Sci.* 14 (2023) 9724-9732.
397. Robert D Robinson Jr, Werner Kaminsky, Jeremiah J Scepaniak: Cyclopentadienyl Complexes of Ir(III) for Attempted C-D Bond Activation. *Eur. J. of Inorg. Chem.* 26 (2023) e202300369.



398. Baobing Fan, Wei Gao, Rui Zhang, Werner Kaminsky, Lingxiao Tang, Francis R Lin, Yiwen Wang, Qunping Fan, Wei Ma, Feng Gao, Alex K-Y Jen: Correlation of Broad Absorption Band with Small Singlet-Triplet Energy Gap in Organic Photovoltaics. *Angew. Chem.* 62 (2023) e202311559.
399. Alexie W Clover, Adam P Jones, Robert F Berger, Werner Kaminsky, Gregory W O'Neil: Regioselective Fluorohydrin Synthesis from Allylsilanes and Evidence for a Silicon-Fluorine Gauche Effect. *J of Org. Chem.* 89 (2024) 4309-4318.
400. Jonathan A Kephart, Daniel Y Zhou, Jason Sandwisch, Nathalia Cajiao, Sebastian M Krajewski, Paul Malinowski, Jiun-Haw Chu, Michael L Neidig, Werner Kaminsky, Alexandra Velian: Caught in the Act of Substitution: Interadsorbate Effects on an Atomically Precise Fe/Co/Se Nanocluster. *ACS Cent. Sci.* (2024) 1276-1282.
401. SF Sandeno, SM Krajewski, RA Beck, W Kaminsky, X Li, BM Cossairt: Synthesis and Single Crystal X-ray Diffraction Structure of an Indium Arsenide Nanocluster. *ACS Central Science* 10 (2024) 744-751.
402. Soren F Sandeno, Kyle J Schnitzenbaumer, Sebastian M Krajewski, Ryan A Beck, Dylan M Ladd, Kelsey R Levine, Damara Dayton, Michael F Toney, Werner Kaminsky, Xiaosong Li, Brandi M Cossairt: Ligand Steric Profile Tunes the Reactivity of Indium Phosphide Clusters. *JACS* 146 (2024) 3102-3113.
403. Maike Lundahl, Maria B Greiner, Marc C Piquette, Paige M Gannon, Werner Kaminsky, Julie A Kovacs: Exploring the Influence of H-Bonding and Ligand Constraints on Thiolate Ligated Non-Heme Iron Mediated Dioxygen Activation. *Chemical Science* 15 (32), 12710-12720.
404. Sarah M. West, Duyen K. Tran, Werner Kaminsky, Samson A. Jenekhe: Conjugated Ladder Poly(thienobenzothiazine): Synthesis, Electronic Structure, Optical Properties, and Electrical Conductivity of a Narrow Bandgap p-Type Semiconducting Polymer. *Macromolecules* 57 (2024) 8176-8186.
405. Connor W Dalton, Paige M Gannon, Werner Kaminsky, Douglas A Reed: Leveraging ordered voids in microporous perovskites for intercalation and post-synthetic modification. *Chemical Science* (2024).
406. Ashlyn A Kamin, EJ Brannan, Kathleen M Snook, Sebastian Krajewski, Paige M Gannon, Werner Kaminsky, Dianne J Xiao: Solvation and oxidation effects on the crystal structure and morphology of tetraoxolene-based materials. *CrystEngComm* (2024).
407. Sebastian M Krajewski, Robert J Love Jr, Jonathan A Kephart, Andrew C Boggiano, Henry S La Pierre, Werner Kaminsky, Alexandra Velian: Exploring Charge Redistribution at the Cu/Co<sub>6</sub>Se<sub>8</sub> Interface. *Inorg. Chem.* 63 (2024) 20388-20397.
408. Daniel Y Zhou, Kelsey S Zimmerman, Paige M Gannon, Sebastian M Krajewski, Werner Kaminsky, Benjamin S Mitchell, Alexandra Velian: Synthesis and Reactivity of Iron and Cobalt Bis (amidophosphine selenide) Complexes. *Organometall.* 44, (2025) 335-339.

### 3.4 Seminars, Talks, and international Lectures

- 5.6.1992, invited by Prof L. Bohatý (Inst. f. Krist. & Min. of Univ.Munich, *Germany*): Der Faraday-Effekt in kubischen Kristallen.
- 7.7.1992, invited by Prof. U. Bismayer (Inst.f.Min. of Univ.Hannover, *Germany* and SFB 173): Faraday-Effekt in Kristallen mit Phasenumwandlungen.
- 8.10.1992, invited by Prof.Haussühl (Inst.Krist of Univ.Cologne, *Germany*): Beobachtung von Phasenumwandlungen mit Hilfe des Faraday-Effekts.
- 21.1.1993, invited by Prof.M.Schenk (Inst.f.Krist. & Materialforschung, Humboldt-Univ. Berlin, *Germany*): Faraday-Effekt in Kristallen mit Phasenumwandlungen.
- 28.1.1993, invited by S.Bauer (ISI II, KFA-Juelich, *Germany*): Faraday-Effekt in Kristallen mit Phasenumwandlungen.
- 4.2.1993, invited by Prof.J.Chr.Buhl (Inst.f.Min.of Univ.Münster, *Germany*): Faraday-Effekt in Kristallen mit Phasenumwandlungen.
- 14.5.1993, invited by Prof.H.J.Weber (Fachbereich Phys.EII of Univ.Dortmund, *Germany*): Faraday-Effekt in Kristallen mit Phasenumwandlungen.
- 10.11.1994, invited by Dr.A.M. Glazer (Clarendon Laboratory Oxford, *United Kingdom*): Gyro-optical investigations of phase transitions.

9. 29.3.1995, invited by P. F. Fewster (Philips, BCA-BACG spring meeting (1995) Cardiff, *United Kingdom*): Presentation of **Philips Physical Crystallography Award**.
10. 28.4.1995, invited by Marylise Lecointe (Groupe Matière Condensée Et Matériaux, Rennes, *France*): Correlations of gyro-optical properties and fluctuating symmetry in TGS.
11. 20.12.1995, invited by Dr. Malcolm McMahon (IOP-meeting (1995) Liverpool, *United Kingdom*): To tilt or not to tilt: Gyro-optics.
12. 9.2.1996, invited by Prof. W. Depmeier (Institut für Mineralogie der Univ. Kiel, *Germany*): Gyro-optische Untersuchungen an azentrischen Kristallphasen.
13. 8.3.1996, invited by Prof. H. Schmid (Dep. de Chimie Mineral, Analytique et Appliquée, Université Genève, *Switzerland*): Measurement of gyro-optical effects with the 'tilter'.
14. W. Kaminsky: Topographies of linear and chiral optical properties in FeBO<sub>3</sub>, derived by a novel polarimeter, the 'tilter'. 3rd international conference on magnetoelectric interaction phenomena in crystals (1996) Novgorod, *Russia*.
15. 2.6.1997, invited by Prof. H. Klapper (Mineralogisch-Petrographisches Institut Der Universität Bonn, *Germany*): Kristalloptisches Kaleidoskop (Abriß über optische Phänomene mit Vorführungen).
16. W. Kaminsky, G. Witt-Eickschen: Programm zur Berechnung diffusionskontrollierter Spurenelement-Verteilungen in Gesteinen im Kontakt zu Gängen nach dem Modell von Bodinier. Meeting of the German Min. Soc. (1997) Cologne, *Germany*. Beih. z. Eur. J. Mineral 9 (1997) 178.
17. 5.5.1998, invited by Prof. G. Heger (Institut für Kristallographie der RWTH Aachen, *Germany*): Chirale optische Eigenschaften von Kristallen.
18. 22.5.1998, invited by Dr. J. Schreuer (Laboratorium F. Kristallographie, ETH Zürich, *Switzerland*): The calculation of optical properties in crystals.
19. 21.9.1998, invited by Prof. B. Kahr (Department of Chemistry, Univ. of Washington, *USA*): The measurement of chiral optical and associated properties.
20. 5.11.1998, invited by Prof. L. Bohaty (Institut für Kristallographie der Universität Köln, *Germany*): Chirale optische Eigenschaften.
21. W. Kaminsky, A.M. Glazer: Experiences with the low-temperature tilter to measure optical properties. DGK-meeting (1999) Leipzig, *Germany*. Z. Kristallogr. Suppl. 16 (1999) 107.
22. 14.5.1999, invited by Prof. B. Kahr (Department of Chemistry, Univ. of Washington, *USA*): The calculation of chiral optical and associated properties.
23. 21.10.1999, invited by the Math.Naturwiss. Faculty of the University Cologne, *Germany* (Habilitation examination talk): Flüssigkristallanzeigen.
24. 29.11.2000, invited by the Math.Naturwiss. Faculty of the University Cologne, *Germany* (Antrittsvorlesung): Gefärbte Kristalle.
25. 13.8.2001-24.8.2001 (Institut für Kristallographie der Universität Köln, *Germany*): 10 lectures on "Gyrooptische Eigenschaften in Kristallen".
26. 5.4.2002, invited by Cecilio Hernandez-Rodriguez (Departamento de Física Básica, Universidad de La Laguna, Tenerife, *Spain*): 3 lectures (1h each) on "Non-linear optical tensors", "NLO in mannitol", and "Optical rotation imaging".
27. 1.7.2002-5.7.2002 (Institut für Kristallographie der Universität Köln, *Germany*): 5 \* 2-hours - lectures on "Kristallographische Aspekte von Phasenumwandlungen".
28. W. Kaminsky: A fast microscope for unfolded images of birefringence, extinction, and transmission. 4 - 7 November 2002 CPAC Fall 2002 Sponsor Meeting, Seattle, *USA*
29. W. Kaminsky, B. Kahr: A chirality microscope?. 16 - 21 August 2003 international Symmetry 2003 festival Budapest, *Hungary*.
30. W. Kaminsky: A fast microscope to measure birefringence and eigenray directions. 4 - 8 May 2003 CPAC Spring 2003 Sponsor Meeting, Seattle, *USA*
31. 15.12.2003 - 20.12.2003 (Institut für Kristallographie der Universität Köln, *Germany*): 5 \* 2-hours - lectures on "3-D Darstellung und 'virtual reality' Programmierung kristallographischer Objekte".
32. 17.12.2003, invited by Prof. L. Bohaty (Institut für Kristallographie der Universität Köln, *Germany*): Forschen unter Amerikanischen Bedingungen
33. W. Kaminsky: Search for applications for 'Millipol', a fast quantitative polarimetric imaging technique. 2 - 6 May 2004 CPAC Spring 2004 Sponsor Meeting, Seattle, *USA*
34. 6.1.2004, invited by Prof. L. Keller (Institut für Chemie, Univ. Dortmund, *Germany*): Forschen unter Amerikanischen Bedingungen.
35. 22.10.2004, invited by Alvin Kwiram, Univ. Washington., Seattle: "New developments in optical microscopy".

36. 27.10.2004, invited by Alex Jen, Univ. Washington, Seattle: "New microscopic tools to study linear and nonlinear optical properties of materials: new ways to measure EO activity of materials "
37. 15.11.2004 - 19.11.2004 (Institut für Kristallographie der Universität Köln, Germany): 5 \* 2-hours - lectures on "3-D Darstellung und 'virtual reality' Programmierung kristallographischer Objekte".
38. 16.11.2004: invited by Dr. Gerhild Beneke (Institut für Kristallographie der RWTH Aachen, *Germany*): "Abbildung kristalliner Eigenschaften".
39. "Electro-optic imaging". STC Retreat, Feb. 2005, Georgia Tech, Atlanta.
40. 24.8.2005, 20th Congress of the IUCr, Florence, invited by Reiko Kuroda, (Univ. of Tokyo, Japan): "Optical topographies of chiral structures". Acta Cryst. A 61 (2005) C11.
41. 29.11.2005, invited by Ana de Bettencourt-Diaz, (Chemistry Department, Syracuse University, New York): "Optical topographies of chiral structures".
42. W. Kaminsky: From \*.cif to virtual morphology: new aspects of predicting crystal shapes as part of the free WinXMorph program. 12 - 18 August 2006 international Symmetry 2006 festival Budapest, *Hungary*.
43. 13.8.2006: invited by Peter Nollert (Emerald Biosystems, Bainbridge Island, Washington, USA) W. Kaminsky: Search for applications for 'Millipol', a fast quantitative polarimetric imaging technique.
44. 29.11.2006, invited by Dr. Morten Geday (Universidad Polytechnica Madrid, Spain): "Optical topographies of chiral structures".
45. 26.7.2007: Werner Kaminsky. "Virtual Reality in PowerPoint Presentations with Objects Created with WinXMorph and WinTensor". Annual meeting of the ACA, Salt Lake City, Utah.
46. Feb. 11<sup>th</sup>, 2008, invited by Peter Moek (Department of Physics, Portland State University) "New optical microscopies".
47. June 4<sup>th</sup>, 2008: Werner Kaminsky, D. Responde, D. Daranciang, J. Gallegos. "Synthesis, Structures, Morphologies and Optical properties of some new chiral thiocarbamates and thioureas." Annual meeting of the ACA, Knoxville, Tennessee.
48. January 26<sup>th</sup>, 2009 on invitation by Kenneth Carlin (Dep. Chemistry, Johns Hopkins University, Baltimore) " Chiro-optics of crystals and molecules".
49. March 31<sup>st</sup>, 2009: (invited by Antonello DeMartino) "Real-time Birefringence Measurements and other Optical Properties", 1st European Workshop "Polarization-based optical techniques applied to biology and medicine 2009", Massy (Paris) France.
50. April 30<sup>th</sup>, 2010: (Invited by Steve Jaques (Oregon Health Sciences University, Portland) "real-time Microscopic Imaging of Birefringence in Biological tissue".
51. May 22<sup>nd</sup>, 2010: Cichy E, Kaminsky, W and Zysset, PK Bone collagen fibers orientation assessment using birefringence measurements. Northwest Biomechanics Symposium, Seattle.
52. September 23<sup>rd</sup> 2010 on invitation by Mark Hollingsworth (Dep. Chemistry, Kansas State University, Manhattan, Kansas): "Real-time birefringence imaging".
53. April 13<sup>th</sup>, 2011, on invitation by Philippe Zysset (Institute of Lightweight Design and Structural Biomechanics (ILSB) Vienna University of Technology, Austria): "Real-time birefringence imaging".
54. April 8<sup>th</sup>, 2013, on invitation of KCTS/Seattle Science Center, Kirkland, Washington, USA: "Beer, Hops, Humulone, & Health".
55. May 21<sup>st</sup>, 2014, on Invitation of Deok-Ho Kim, Bio Engineering, Univ. Washington, USA: "Real-time imaging of Birefringence".
56. October 13<sup>th</sup>, 2014, on invitation by Peter Pauzaskie (Material Science and Engineering, Univ. Washington, USA: "Beer, Hops, Humulone, & Health".
57. May 7<sup>th</sup>, 2015, on invitation of the MoIES department, Univ. Washington, USA: "Beer, Hops, Humulone, & Health".
58. October 3<sup>rd</sup>, 2016, on invitation of Zuo-Guang Ye, 13th International Symposium on Ferroic Domains & Micro- to Nano-scopic Structures (ISFD-13), Vancouver, BC, Canada: "Automated Microscope add-ons to quantify birefringence images".
59. March 5<sup>th</sup>, 2018, on invitation by Peter Moek (Department of Physics, Portland State University, Portland, Oregon): "Great X (-ray) expectations".
60. March 8<sup>th</sup>, 2018, on invitation by Paul Neubert (Molecular Engineering & Sciences Institute, UW, Seattle, Washington): "Great X (-ray) expectations".
61. June 17<sup>th</sup>, 2021, on invitation by Kraig Wheeler (Whitworth University, Gonzaga, Spokane, Washington): "From Beer to Quantum dot, cancer to malaria, sea-urchins to barnacles, dog wee to MOF, catalyst to chromophore: service crystallography".

### 3.5 Poster abstracts

1. S.Haussühl, W.Effgen: Beobachtung von Phasenumwandlungen mit Hilfe des Faraday-Effekts. 26.AGKR-meeting (1987) Berlin, Germany. Z.Krist 178 (1987) 86-88.
2. W.Kaminsky, S.Haussühl: Verlauf des Faraday-Effekts und der Brechwerte bei der ferroelastischen Phasenumwandlung in  $\text{Li}_2\text{Ge}_7\text{O}_{14}$ . 28.AGKR-meeting (1989) Hannover, Germany. Z.Krist 186 (1989) 155-157.
3. W.Kaminsky, Th.Woike, W.Kirchner, S.Haussühl: Einwirkung des Magnetfeldes auf die metastabilen Zustände in  $\text{Na}_2[\text{Fe}(\text{CN})_5\text{NO}]\cdot 2\text{H}_2\text{O}$ . DPG-meeting (1990) Regensburg, Germany. Verhandlungen der Deutschen Physikalischen Gesellschaft (VI) 25 (1990) (1042).
4. W.Kaminsky, A.Fahnenstich, S.Haussühl: Magneto-Elektrogyration in kubischem  $\text{Pb}(\text{NO}_3)_2$ . 29.AGKR-meeting (1991) Munich, Germany. Z. Krist.Supplement 3 (1991) 146.
5. W. Kaminsky, A. Brandstaedter, C. Balarew, S. Haussühl: Physikalische Eigenschaften von  $\text{A}_2\text{CuB}_4\cdot 2\text{H}_2\text{O}$ ; A=K,Rb,NH<sub>4</sub>,ND<sub>4</sub>; B=Cl,Br. 1.DGK-meeting (1992) Mainz, Germany. Z. Kristallogr. Suppl. 6 (1992) 125.
6. W.Kaminsky, E.Hartmann: Richtungsabhängigkeit der optischen Aktivität in  $\text{TeO}_2$ . 1.DGK-meeting (1992) Mainz, Germany. Z. Kristallogr. Suppl. 6 (1992) 126.
7. W.Kaminsky, U.Bismayer: Faraday-Effekt und Indikatrix bei der ferroelastischen Phasenumwandlung in  $\text{Pb}_3(\text{PO}_4)_2$ . 2.DGK-meeting (1993) Bochum, Germany. Z. Kristallogr. Suppl. 7 (1993) 95.
8. R.Schwesig, P.Dvoran, W.Kaminsky, S.Haussühl: Cotton-Mouton-Effekt in Alkalihalogeniden. 2.DGK-meeting (1993) Bochum, Germany. Z. Kristallogr. Suppl. 7 (1993) 185.
9. E.Günther, W.Kaminsky, S.Haussühl: Magneto-Elektrogyration in Alkalihalogeniden. 2.DGK-meeting (1993) Bochum, Germany. Z. Kristallogr. Suppl. 7 (1993) 65.
10. W.Kaminsky: Kristallzüchtung und optische Eigenschaften von D-Mannitol,  $\text{C}_6\text{H}_{14}\text{O}_6$ . DGKK-meeting (1994) Stuttgart, Germany. **(Awarded with poster prize)**.
11. W.Kaminsky: Separation of birefringence, gyration and electro-optic effects near the phase transition in triglycine sulfate by polarimetry. ECM-15 (1994) Dresden, Germany. Z. Kristallogr. Suppl. 8 (1994) 541.
12. G. Witt-Eickschen, W. Kaminsky, B.Harte, H.A.Seck: Trace element concentrations in amphibole and/or clinopyroxene from composite mantle xenoliths of the West Eifel (Germany): an ion-microprobe study. (1994) Edinburgh, UK.
13. G.Witt-Eickschen, W.Kaminsky: Spurenelementkonzentrationen in Amphibolen und/oder Klinopyroxenen von 'composite' Mantelxenolithen der Westeifel. (1994), Germany.
14. Werner Kaminsky, Gudrun Witt-Eickschen: Programm zur Berechnung diffusionskontrollierter Spurenelement-Verteilungen in Gesteinen im Kontakt zu Gaengen nach dem Modell von Bodinier. Tagung der Deutschen Min. Ges., Koeln, Deutschland, 15.9.-19.9.1999 in Koeln.
15. A.J. Fitzmaurice, W. Kaminsky: Phase matchability of second harmonic generation in orthorhombic D-Mannitol,  $\text{C}_6\text{H}_{14}\text{O}_6$ . DGK-meeting (1995) Darmstadt, Germany. Z. Kristallogr. Suppl. 9 (1995) 264.
16. W. Kaminsky: Gyro-optical properties and structural relations of large D-Mannitol single crystals. BCA-BACG-meeting (1995) Cardiff, UK.
17. J. G. Lewis, W. Kaminsky, A.M. Glazer: Topographic studies of optical properties in crystals. BCA Spring Meeting (1996) Cambridge, UK.
18. W. Kaminsky: The calculation of high-rank optical tensor-properties and the aspects of science fiction. BCA Spring Meeting (1996) Cambridge, UK.
19. A.M. Glazer, W. Kaminsky: The 'Tilter': A novel polarimeter for fast optical activity measurements in birefringent crystal sections. IUCr XVII Congress and General Assembly Seattle (1996) Washington, USA. Acta Crystallogr. A52 (1996) C-39.
20. W. Kaminsky, U. Bismayer: Optical activity and ferroelastic phase transition in Cd-langbeinite. DGK-meeting (1997) Hamburg, Germany. Z. Kristallogr. Suppl. 12 (1997) 69.
21. W.Kaminsky: Berechnung höherer optischer Tensoren mit dem DES-Modell. DGK-meeting (1997) Hamburg, Germany. Z. Kristallogr. Suppl. 12 (1997) 182.
22. W.Kaminsky: Graphische Darstellung von Tensoren: unverzichtbar in der Kristallphysik. DGK-meeting (1997) Hamburg, Germany. Z. Kristallogr. Suppl. 12 (1997) 183.
23. W. Kaminsky: Topographies of linear and chiral optical properties in  $\text{FeBO}_3$ , using the 'tilter'. DGK-meeting (1997) Hamburg, Germany. Z. Kristallogr. Suppl. 12 (1997) 191.
24. W. Kaminsky, D. Corker, E.L. Belokoneva, A.M. Glazer: Absolute structure and optical rotation in  $\text{LaBGeO}_5$ . BCA-BACG-meeting (1997) Leeds, UK.
25. W. Kaminsky, P.A. Thomas, A.M. Glazer: Measurement of optical rotation in  $\text{RbTiOAsO}_4$  (PG mm<sup>2</sup>), using the tilter. DGK-meeting (1998) Karlsruhe. Z. Germany. Z. Kristallogr. Suppl. 15 (1998) .
26. M. A. Geday, W. Kaminsky and A.M Glazer "Measurements of birefringence in nonhomogenous samples" XVIIIth IUCr. Congress & General Assembly (1999) Glasgow, UK Collected abstracts p 541.

27. W. Kaminsky, M.A. Geday, A.M. Glazer: Images of absolute retardation  $L \times D_n$ , using the rotating polarizer method. DGK-meeting (1999) Leipzig, Germany. Z. Kristallogr. Suppl. 16 (1999) 106.
28. W. Kaminsky, A. M. Glazer: Experiments with the low-temperature tilter to measure optical properties. DGK-meeting (1999) Leipzig, Germany. Z. Kristallogr. Suppl. 16 (1999) 107.
29. Kim, D.Y. and Kaminsky, W. (1999). Optical rotation in the low temperature phase of  $K_2ZnCl_4$ . Acta Cryst. A, P05.10.003.
30. W. Kaminsky, A. Sodt, B. Kahr: The old problem of optical rotation in  $Na(Cl,Br)O_3$  - mixed crystals. DGK-meeting (2000) Aachen, Germany. Z. Kristallogr. Suppl. 17
31. W.Kaminsky: Wintensor: ein WIN95/98/NT Programm zum darstellen tensorieller Eigenschaften. DGK-meeting (2000) Aachen, Germany. Z. Kristallogr. Suppl. 17 (2000) 51
32. U. Fekl, W. Kaminsky, K. Goldberg: The first stable five-coordinate platinum (IV) alkyl complex. Gordon Research Conference on Inorganic Reaction Mechanisms. (2001) Ventura, CA, USA.
33. K. Claborn, W. Kaminsky, B. Kahr: Predicting optical rotation in organic compounds. 4th annual University of Washington Undergraduate Research Symposium. (2001) Seattle, WA, USA.
34. Bart Kahr, Werner Kaminsky, Miki Kurimoto, Sei-Hum Jang, and Kacey Claborn: Dyeing Crystals and Tissues: New Methods of the Optical Analysis of Heterogeneous Substances. 2001 Northwest Regional Meeting of the American Chemical Society (2001) Seattle, WA, USA
35. B Kahr, W Kaminsky, M Geday, A Sodt, K Claborn and M Kurimoto Washington University, USA: Optical Rotation in Engineering Crystals. CrystEngComm Discussion 1 Innovation in Crystal Engineering 29 June - 1 July 2002 University of Bristol, UK
36. Shearer J, Jackson HL, Schweitzer D, Leary TM, Kaminsky W, Scarrow R, Kovacs JA: Modeling the reactivity properties of cysteinylated non-heme iron enzymes. Abstr. of Papers J Am. Chem Soc. 223 (2002) 227-INOR Part 2.
37. Carlson B, Kim JH, Kaminsky W, Jen AKY, Dalton LR: Novel divalent osmium complexes: Design, synthesis, and use in organic light-emitting diodes. Abstr. Pap. OF J. Am. Chem. Soc. 225: 613-INOR Part 2 MAR 2003
38. Phelan GD, Carlson B, Purvis L, Kaminsky W, Dalton LR.: Synthesis and characterization of novel lanthanide metal complexes. Abstr. Pap. OF J. Am. Chem. Soc. 225: 616-INOR Part 2 MAR 2003.
39. Saad Akbar, Vassar College '05, and Werner Kaminsky, Bart E. Kahr, Department of Chemistry, University of Washington. Construction of the Circular Dichroism Tensor of Horse Oxyhemoglobin. Undergraduate Research Summer Institute Symposium. Vassar College, September 17, 2003
40. Kacey Claborn, Werner Kaminsky, Bart Kahr: In search of the Structural Determinants of Optical Activity. Annual National Meeting of the American Crystallographic Association, ACA Chicago (USA) 7/17 - 7/22/2004 (**Awarded with poster prize**).
41. **Carlson B, Phelan** GD, Kaminsky W, Benedict JB, Dalton LR: Crystallographic results of several novel 4,7-bis(aryl)-1,10-phenanthroline containing divalent osmium complexes. Abstr. Pap. OF J. Am. Chem. Soc. 227: U1546-U1546 901-INOR Part 1, MAR 28<sup>th</sup>, 2004
42. Carlson B, Phelan GD, Benedict JB, Kaminsky W, Dalton LR: Crystallography and luminescence of divalent osmium complexes. Abstr. Pap. OF J. Am. Chem. Soc. 228: U801-U801 157-INOR Part 1, AUG 22<sup>nd</sup>, 2004
43. Phelan GD, Carlson B, Benedict JB, Kaminsky W, Dalton LR: Possible structural evidence for participation of phosphine (3D) and osmium (5D) orbital backbonding. Abstr. Pap. OF J. Am. Chem. Soc. 228: U821-U821 279-INOR Part 1, AUG 22<sup>nd</sup>, 2004
44. Kovacs JA, Theisen R, Kitagawa T, Lugo-Mas P, Shearer J, Kaminsky W, Scarrow R: Understanding the mechanism of superoxide reduction by the cysteinylated non-heme iron enzyme superoxide reductase (SOR). Abstr. Pap. OF J. Am. Chem. Soc. 227: U1432-U1432 421-INOR Part 1, MAR 28<sup>th</sup>, 2004
45. Xu L, Shearer J, Kaminsky W, Kovacs J: Square pyramidal thiolateamide-ligated iron complex structurally analogous to the active site of nitrile hydratase: What's missing? Abstr. Pap. OF J. Am. Chem. Soc. U1510-U1511 682-INOR Part 1, MAR 28<sup>th</sup>, 2004
46. Fletcher Kimura, Werner Kaminsky, Gamal Khalil, James Callis: Two-dimensional, high resolution shear measurements from temperature sensitive paint and imaging polarimetry. FACSS 2004 (**Awarded with poster prize**).
47. Fletcher Kimura, Werner Kaminsky, Gamal Khalil, James Riley, James Callis: High resolution, 2-dimensional shear stress measurements from imaging polarimetry. 57<sup>th</sup> Annual Meeting of the Fluid Dynamics / American Physical Society Nov. 2004.
48. Carlson B, Phelan GD, Benedict, JB, Kaminsky W: Synthesis, characterization, and structural analysis of divalent osmium complexes. Abstr. Pap. OF J. Am. Chem. Soc. 229: U1091-U1092 832-INOR Part 1 March 13<sup>th</sup>, 2005
49. Van Dyke, AR, Benedict, LB, Kaminsky, W, Salter, EA, Wierzbicki, A, Spyridis, GT: Crystallographic and quantum mechanical studies of 1,3-disubstituted azulenes. Abstr. Pap. OF J. Am. Chem. Soc. 229 U396-U396 440-ORGN Part 2 March 2005
50. W. Kaminsky. Optical polarimetric imaging. CPAC Spring meeting, 2.-6. May 2005.

51. Donald Responde, Crystal Chang, Werner Kaminsky: Crystallographic studies of aryl isothiocyanates. 8th annual University of Washington Undergraduate Research Symposium. (2005) Seattle, WA, USA.
52. Bao-Chau Ngoc Tran, Tram Anh Pham, Werner Kaminsky: Non-linear optical property - structure relationship of N-(4-nitrophenyl)-N'-[(1S)-1-phenyl]thiourea. 9th annual University of Washington Undergraduate Research Symposium. (2006) Seattle, WA, USA.
53. Terutaka Kitagawa, A. Dey, P. Lugo-Mas, J Benedict, W. Kaminsky, E. Solomon, J. A. Kovacs. A biomimetic model for the cysteine-ligated non-heme iron enzyme superoxide reductase (SOR). 61st ACS Northwest Regional Meeting, Reno Nevada, June 26th 2006, Reno, Nevada
54. P. Nollert, Y. Xia, W. Kaminsky, L. Ward, N. Duncan and M. Mixon. Enhanced protein crystal diagnostic imaging with the DETECT-X microscope. ACA 2007 Salt Lake City.
55. P. Nollert, Y. Xia, W. Kaminsky, L. Ward, N. Duncan and M. Mixon. Enhanced protein crystal diagnostic imaging with the DETECT-X microscope. 24th European Crystallographic Meeting Marrakech, Morocco, 22-27 August 2007 *Acta Cryst.* (2007). A63, s21
56. Peter Nollert, Bob Reed, Werner Kaminsky, Mark Mixon. Enhanced Protein Crystal Diagnostic Imaging with the DETECT-X Microscope. *LRIG New England - 2007 Hyatt Cambridge, MA.*
57. Peter Nollert, Mike Owens, Cory Gerds, Werner Kaminsky, Mark Mixon ADVANCED PROTEIN CRYSTAL IMAGING WITH THE DETECT-X MICROSCOPE. Protein Structure Initiative "Bottlenecks" Workshop, April 14-16, 2008, Natcher Conference Center, Bethesda, Maryland
58. Werner Kaminsky, Sandy Moy, David Masuda, Eftthimis Efthimiadis, Linda Martin-Morris: Plagiarism-avoidance tools for writers. Annual Symposium on Teaching and Learning, May 6th, 2008, Univ. Washington.
59. P. Nollert, M. Owens, W. Kaminsky, T. Vincent, M. Mixon: Preparation and imaging of lipidic cubic phase based protein crystallization experiments. *Acta Cryst. A* 64 (2008) C200.
60. M. Mixon, P. Nollert, M Owens, W. Kaminsky, T. Vincent: Imaging with the Detect-X microscope. Labautomation January 27<sup>th</sup>, 2009, Palm Springs, California.
61. Joseph M. Meredith, Karen I. Goldberg, Werner Kaminsky and D. Michael Heinekey: Syntheses of Dinuclear Iridium Complexes Containing Cp\* and Carbonyl Ligands. 64th ACS Northwest Regional Meeting, June 28<sup>th</sup> – July 1<sup>st</sup>, 2009, Tacoma, Washington.
62. Rodney Dale Swartz II, Werner Kaminsky, Julie A Kovacs: Structure, properties, and kinetics of formation of a novel N45-Co(III) amide species. *Abstr. Pap. OF J. Am. Chem. Soc. Vol 237 (2009) 613-INOR*
63. Peter Nollert, Werner Kaminsky, Timothy Vincent, Chad Warren, Mark Mixon, Lance Stewart: Protein Crystal Imaging With The Detect-X Microscope. ACA 2009 Toronto, Canada.
64. K.M. Schultz, W. Kaminsky, K.I. Goldberg, M. Heinekey: Synthesis and reactivity of Ir-III CCC-NHC pincer complexes. *Abstr. Pap. OF J. Am. Chem. Soc. Vol. 240*
65. Ewa M Spiesz, Werner Kaminsky, Philippe K. Zysset: Quatitative assessment of bone collagen fiber orientations using birefringence measurements. ISB 2011, Brussels, Belgium. XXIIIth Proceedings of ISB XXIIIth Congress of the International Society of Biomechanics.
66. Joseph M. Meredith, Karen I. Goldberg, Werner Kaminsky, Michael D. Heinekey: (eta(5)-C(5)Me(5))Ir(III) (N-heterocyclic carbene) complexes for catalytic alkane oxidation. *Abstr. Pap. OF J. Am. Chem. Soc. Vol 241 (2011) 245-INOR*
67. Max Kaganyuk, Meghana Rawal, Werner Kaminsky: Optical Characterization of newly synthesized chiral compounds. SACNAS National Conference 2011 San Jose, California.
68. Heather Dillon, Nick Stelzenmuller, Jaeger Dill, Ann Mescher, Ashley Emery, Werner Kaminsky: thermal effects during aspect ratio hollow polymer fiber drawing. 20<sup>th</sup> international conference on plastic optical fibers 2011, Bilbao, Spain.
69. Max Kaganyuk, Meghana Rawal, Werner Kaminsky: Optical Characterization of newly synthesized chiral compounds. Annual Meeting of the American Crystallographic Association, ACA, Boston, 7/28-8/1/2012.
70. Jan Urban, Clinton Dahlberg, Brian Carroll, Neile Grayson, Matthew Tripp, Jeffrey Bland, Werner Kaminsky: Beer's Bitter Structural Chirality (solved). III International Humulus Symposium, Zatec, Czech Republic, 9/9/2012-14/2012.
71. Guo-Shi Li, Kenneth Low, Liang Chen, Fletcher Kimora, James B. Callis, Werner Kaminsky, Dana Dabiri and Gamal E. Khalil: High Resolution Shear Stress Measurements from Imaging Polarimetry. *Int. Symp on Appl. Laser Techniques to Fluid Mechanics*, Lisbon 7/9/-7/12/2012.
72. Thammavongsy, Z; Seda, T; Kaminsky, W; Zakharov, L; Gilbertson, J; Breuhaus, A: Production of CO gas from CO2 on redox-active iron(II) complexes. *ABSTRACTS OF PAPERS OF THE AMERICAN CHEMICAL SOCIETY Volume: 245 (2013) 880-INOR*
73. Ingalls, E. L., Sibbald, P.A., Kaminsky, W., Michael, F. E.: Enantioselective palladium-catalyzed deamination of alkenes using N-fluorobenzenesulfonimide. *New Orleans 4/7-11/2013; JACS 242, 729-ORGN 2013.*
74. Naemi Waesermann, Mike Brown, Ross Angel, Nancy Ross, Werner Kaminsky: Elastic properties of monoclinic alkali-feldspars, San Francisco, 12/9-13/2013.

75. Peter Moeck, Trevor J. Snyder, Werner Kaminsky, Daniel Chateigner, Xiaolong Chen, Marco Ciriotti, Robert T. Downs, Saulius Grazulis, Armel Le Bail, Luca Lutterotti, Yoshitaka Matsushita, Miguel Quiros Olozabal, Hareesh Rajan, Alexandre F.T. Yokochi: Crystallography Open Database: educational subsets and their usage in interdisciplinary college education at Portland State University. Proc. 2013 National Educators Workshop, Materials in Enabling Technologies: Defining the Future/Tulsa Oklahoma 11/3-5/2013
76. International Advisory Board of the Crystallography Open Database and Trevor J. Snyder: Putting 3D print files of crystallographic models into open access. Grand Opening Ceremony of the International UNESCO/IUCr Year of Crystallography, January 20-21, 2014, UNESCO Building, Place de Fontenoy, Paris / France
77. P. Moeck, T. Snyder, and W. Kaminsky: Educational offsprings of the Crystallography Open Database and their usage in interdisciplinary college education. Proc. Spring 2014 Meeting of the Materials Research Society, April 21-25, 2014, San Francisco, CA
78. Meghana Rawal, Kerry Garrett, Werner Kaminsky, Evgheni V Jucov, David P Shelton, Tatiana V Timofeeva, Bruce E Eichinger, Bruce Robinson, Larry R Dalton: Cross-Conjugation as a Novel Motif for Non-Linear Optical Molecules. Proc. Spring 2014 Meeting of the Materials Research Society, April 21-25, 2014, San Francisco, CA
79. J. Stone-Sundberg, G. Gledhill, T. J. Snyder, W. Kaminsky, and P. Moeck, On demand 3D printing of crystallographic models leveraging the Open Access Crystallography project infrastructure. Proc. Advances in Structural and Chemical Imaging, May 27-28, 2014, Seattle, WA
80. A. Recidoro, W. Kaminsky, R. Kwon: Bone mineralization in the regenerating zebrafish fin. 11<sup>th</sup> Intern. Conf. on Zebrafish Development and Genetics. June 24<sup>th</sup> – 28<sup>th</sup>, 2014, Madison, Wisconsin
81. S. Bhakat, R. Acharyya, S. P. Subhashree, S. Pasayat, W. Kaminsky, M. R. Hardikar, B. N. Joshi, R. Dinda: Synthesis, characterization and study of cytotoxic activity of oxidovanadium and oxidomolybdenum complexes of thiosemicarbazone: potential antitumor agents. ICC-41, International Conference on Coordination Chemistry, Singapore, July 21<sup>st</sup> -25<sup>th</sup>, 2014.
82. P. Moeck, T. Snyder, W. Kaminsky, and all members of the International Advisory Board of the Crystallography Open Database: 3D printing of crystallographic models from STL files at open access databases, Proc. 2014 Biennial Conference on Chemical Education, August 3-4, 2014, Grand Valley State University, MI
83. Werner Kaminsky, Trevor Snyder, Peter Moeck: 3D printing of crystallographic models and educational offsprings of the Crystallography Open Database, 23rd Congress and General Assembly of the International Union of Crystallography, 5-12th August 2014, Montreal, Canada
84. P. Moeck, W. Kaminsky, and T. Snyder, Open access to 3D printing files of crystallographic models in support of interdisciplinary college education, 23rd Congress and General Assembly of the International Union of Crystallography, August 5-12, 2014, Montreal, Canada; Acta Cryst. A70, C1379
85. Recidoro AM, Roof AC, Schmitt M, Worton LE, Petrie T, Strand N, Ausk BJ, Srinivasan S, Moon RT, Gardiner EM, Kaminsky W, Bain SD, Allan CH, Gross TS, Kwon RY: Neuromuscular Regulation of Bone Regeneration in Zebrafish. 12<sup>th</sup> In. Bone Fluid Flow Workshop, 10-11<sup>th</sup> September 2015, Houston, Texas.
86. Peter Moeck, Andrew Maas, Jennifer Stone-Sundberg, Bryant York, Trevor Snyder, Werner Kaminsky, and Nigel Browning: Applications of Bicrystallography: Revealing Generic Similarities in Coincidence Site Lattice Boundaries of all Holohedral Cubic Materials and Facilitating the Design of 3D Printed Models of such Grain Boundaries. Advances in Combining Simulation and Experiment for Materials Design (M&M 2015), August 2-6, 2015, Portland, Oregon.
87. Claire Watson, Edith Gardiner, Werner Kaminsky, Ronald Kwon: High-content in vivo imaging of zebrafish bone regeneration reveals dynamic NADH events during osteoblast dedifferentiation. ASBMR 2016 Annual Meeting, September 16-19, 2016, Atlanta, Georgia, USA.
88. Kailasam Saravana Mani, Werner Kaminsky, Subramanian Parameswaran Rajendran: A facile synthesis of Quinoline grafted spiro-indenoquinoxaline pyrrolizines through [3+2]-cycloaddition reactions and its biological evaluation. International Conference on Organic Synthesis (ICOS-21), December 11th - 16<sup>th</sup>, 2016, Indian Institute of Technology- Mumbai, India
89. P. DeStefano, P. Moeck, W. Kaminsky, T. Snyder: Straightforward Routes from CIFs to 3D Printed Crystallography Models. IUCr 2017, August 21 – 28, Hyderabad, India. · Acta Cryst. A: Foundations and Advances 73(a2) (2017) C1132
90. Maïke Blakely, Gloria Villar-Acevedo, Maksym Dedushko, Werner Kaminsky, Julie Kovacs: Metal-Assisted oxygen addition to an Fe (III)-thiolate. Abstr. Oof Papers Am. Chem. Soc. 253 (2017).
91. Hannah Zeitler, Werner Kaminsky, Karen Goldberg: Reactions of palladium and platinum methyl complexes with molecular oxygen. Abstr. Oof Papers Am. Chem. Soc. 254 (2017).



### **3.6 Video Publications**

Inside Science TV (W. Kaminsky et al.): Cheers to your Health, Copyright 2013 American Institute of Physics (<https://youtu.be/-VK2MwLBUwo>).

### **3.7 Periodic Reviewer**

Advanced Materials, American Mineralogist, Angewandte Chemie, Applied Physics, Arabian Journal of Chemistry, Chemical Data Collections, Chemical Communications, Chemistry, Chirality, Crystal Growth & Design, Crystals, Journal of the American Chemical Society, Journal of Applied Crystallography, Journal of Agricultural and Food Chemistry, Journal of Coordination Chemistry, Journal of Inorganic Biochemistry, Journal of Molecules, Journal of Molecular Structure, Journal of Optics A Pure and Applied Optics, Journal Organometallic Chemistry, Journal of Physics A General Physics, Journal of Physics B Atomic and Molecular Physics, Journal of Physics Condensed Matter, Green Chemistry, Holzforschung - International Journal of the biology, chemistry, physics, and technology of wood, Inorganic Chemistry Communications, New Journal of Physics, Physical Chemistry Chemical Physics, Physics Letters A, Physical Review, Optics Communications, Pure and Applied Chemistry, Synthetic Communications, Talanta, Zeitschrift für Kristallographie,

## 4 Grant Activities

### C.1 Proposals Awarded

Agency	title	PI and Co-PI's	amount	period
DFG (Germany)	Chiro-optical properties	W. Kaminsky	\$60,000 direct	1994 – 1996
EPSRC (UK)	Novel Experiments on Optical Crystals	A.M.Glazer, W. Kaminsky	\$40,000 direct	1997 – 1998
PRF	Interpretation of Gyration Tensors	W. Kaminsky, Bart Kahr	\$60,000 direct	2000 – 2002
RRF	Novel Microscope	W. Kaminsky	\$28,000 direct	2003 – 2004
UW, OT&T	U-pol patent application	W. Kaminsky, B. Kahr	\$12,000	2004
WRF (Gift)	Millipol Prism	W. Kaminsky	\$22,000 direct	2005
NSF (GOLI)	Stochastic Behavior in Polymer Optical Fiber Drawing	A. Emery A. Mescher, P. Nollert, Kaminsky	\$440,451 total (4%)	2007-2013
Emerald Biosystems	License of Millipol Technology Patent application and consultancy	W. Kaminsky	\$100,000 direct (ca.)	2006 – 2010
RRF	HAUP-Microscope	W. Kaminsky	\$26,000 direct	2007 – 2009
PRF	Beyond specific rotations	B. Kahr, W. Kaminsky	\$100,000 direct	2008 - 2009
Private (Gift)	Milliview for milli-second imaging	W Kaminsky	\$10,000 direct	2012
Kindex (Gift)	Beer's Bitter structural chirality	W Kaminsky	\$ 3,000 direct	2012-2013
NIH (Benaroya Res.Institute)	Birefringence Detection in Biological Samples	W Kaminsky	\$10,330 direct	2013

### C.2 Proposal applications pending

Agency	title	PI and Co-PI's

### C.3 Proposals Applied for

Agency	title	PI and Co-PI's
DOD	A Nanopatterned 3D Cell Sheet Engineering Approach to Enhance Tendon Repair	Deok-Ho et al.
NIH	Multiscale Biomimetic 3D Tendon Tissue Engineering	Deok-Ho, W. Kaminsky et al.
AFOSR	Simultaneous, Global & Real-Time Measurements of Shear Stress and Pressure on a Two-Dimensional Surface.	D.Dabiri, J. West, W. Kaminsky
NSF	Dynamic Effects on Molecular Ordering and Refractive Index in Polymer Optical Fibers	A. Emery, A. Mescher, W Kaminsky
RRF	Optical properties from X-ray structures	W Kaminsky
NSF-Instrumentation	Instrumentation for structural fingerprinting of nanocrystals and electron crystallography for the Pacific Northwest Region	Peter Moeck et al. Temporary Proposal 6929248
NIH	Circular Dichroism Imaging of Neuropathologies	B. Kahr, W. Kaminsky, Lee-Way Jin
Packard Foundation	Imaging chirality in complex diseased tissues	B. Kahr, W. Kaminsky, Lee-Way Jin
NASA	The SETH cigar (polarimeter for Mars-mission)	A. MacDermott, W. Kaminsky
RRF	Investigation into low-temperature structures	W. Kaminsky
CPAC	A fast microscope to measure birefringence and eigenray directions	W. Kaminsky
PRF	Imaging of optical rotatory properties	W. Kaminsky
NASA	SEXSOH: the Search for EXtra-SOLar Homochirality	A.J.MacDermott, W. Kaminsky
CPAC	Search for applications for 'millipol', a fast quantitative polarimetric imaging technique	W. Kaminsky

TGIF	Commercialization of 'Millipol', a fast automated imaging technique for birefringence.	W. Kaminsky
NASA (Director's discretionary fund proposal)	Shear Sensitive Paint and Methods of Measurement	J. Bell, J. Callis, M. Gouterman, W. Kaminsky, G. Khalil, G. Phelan
NASA	SEXSOH: the Search for EXtra-SOLar Homochirality	A.J. MacDermott, W. Kaminsky
NSF	Full-field real time shear stress sensor	James B Callis, Dana Dabiri, Werner Kaminsky, Gamal Khalil, James Riley
PRF	Dyeing Spherulites	Bart Kahr, W. Kaminsky
Philip Morris Award	Abbilden komplexer Stoffe	W. Kaminsky

## 5 Visitors

Dr. Eiken Haussuehl From Technische Universitaet Vienna, Austria

Dr. Morton Geday From Clarendon Laboratory, Oxford, England

Prof. Hans-Lothar Keller From Institute for Physics, Dortmund, Germany

Prof. Hans-Josef Weber From Institute for Physics, Dortmund, Germany

Dr. Ewa Cichy From Technische Universitaet Vienna, Austria

Greg Spyridis From Northwest University, Kirkland, Washington

## 6 Teaching

### 6.1 Teaching (Seattle)

CHEM 190 Early Fall 2011, 5-credits: "Diving Deep" - X-ray Crystallography and the inside of crystals

BSTR 519 WINTER 2002/2003; 2003/2004; 2004/2005; 2005/2006; 2006/2007, 2007/2008, 2008/2009, 1-credit, extension to BSTR 515: "Computer Laboratory Experience in the Chemistry X-ray Laboratory"

GEN ST 197 V # 9678 AUTUMN 2002, 1-credit, Freshman Seminar: " Diving Deep: X-ray structure determination"

GEN ST 391 Spring 2001, 3-credits, "Crystal structure determination"

GEN ST 391 Summer 2001, 3-credits, "Mathematical tools and crystallographic computing"

GEN ST 391 Fall 2001, 3-credits, "Physical properties of crystals"

#### *Supervised Undergraduates*

Thao Tan Tran, 2004

Ken Anderson, 2004-2005

Donald Responte, 2004-2005

Dan Daranciang, 2005 (REU)

Crystal Chang, 2005

Bao-Chau Ngoc Tran, 2005-2006

Tram-Anh Pham, 2005-2006

Andrea Joseph, 2006 (REU)

Joey B. Gallegos, 2007 (REU)

Steven Steininger, 2009 (REU)

Joel Zazueta 2010 (REU)

Max Kaganyuk 2011 (REU)

Viktoria Pakhnyuk 2012 (REU)

Michael Thompson (with Ann Mescher) 2012/13

#### *Supervised High School Students*

Kevin M. Kim, 2013, 2014

#### *Doctoral supervisory committee / Supervisor*

Lloyd Bastian

Kahr

Eileen Puklin-Faucher

Kahr

Kacey Claborn

Kahr

Fletcher Kimura

Danibi

John Freudentahl

Kahr

Elizabeth Thompson

Dabiri

Satabdi Roy

Dinda (NIT Rourkela, India)

Hyok Yoo

Pollak

Zheng Li

Pollak

Shalini C.

Kaveri (Bharatahiar Univ. Combatore, India)

## **6.2 Teaching (Cologne, Germany, before joining the Department)**

TA in experimental physics (1983-1984), TA for geometrical crystallography, microscopy with polarized light, physical crystallography (1985-1995).

## **6.3 Teaching (Oxford, UK, before joining the Department)**

Tutor of Jesus College in Mechanics (freshmen), Solid State Physics (4th Year Undergrad) (1996-1997).

## **6.4 Teaching (Cologne, after joining the Chemistry Department)**

13.8.2001-24.8.2001 (Institut für Kristallographie der Universität Köln, Germany): 10 lectures on "Gyroskopische Eigenschaften in Kristallen".

1.7.2002-5.7.2002 (Institut für Kristallographie der Universität Köln, Germany): 5 \* 2-hours - lectures on "Kristallographische Aspekte von Phasenumwandlungen".

15.12.2003 - 19.12.2003 (Institut für Kristallographie der Universität Köln, Germany): 5 \* 2-hours - lectures on "3-D Darstellung und 'virtual reality' Programmierung kristallographischer Objekte".

15.11.2004 - 19.11.2004 (Institut für Kristallographie der Universität Köln, Germany): 5 \* 2-hours - lectures on "3-D Darstellung und 'virtual reality' Programmierung kristallographischer Objekte".

29.8.2005-2.9.2005 (Institut für Kristallographie der Universität Köln, Germany): 5 \* 2-hours - lectures on "Chirale optische Eigenschaften".

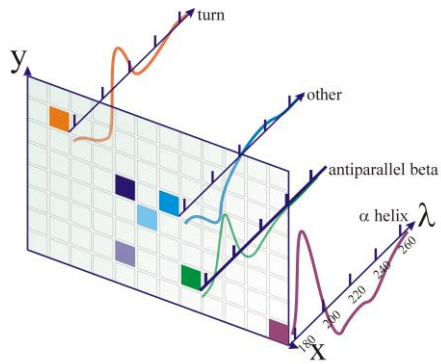
Winter 2006/7 (Institut für Kristallographie der Universität Köln, Germany): 5 \* 2-hours - lectures on "3-D Darstellung und 'virtual reality' Programmierung kristallographischer Objekte" (remote lectures).

## **7 Invention Disclosures and Patents**

### **7.1 U-pol (OTL Ref: 3091-3878DL) , US patent 7292389 (Werner Kaminsky, Bart Kahr).**

'U-pol' stands for the development of a technology that measures images with circular extinction as contrast. Potential application of this prototype, which right now works in the visible spectral range, is mainly within biological research. However, if extended into the infrared, this method can be a valuable device for the drug industry to determine the absolute hand or polymorph of solid drugs (crystals or amorphous aggregates).

If extended down to a wavelength of 180nm, the contrast would enable the user to distinguish between different tissue components. Circular dichroism is the differential absorption (circular extinction) of left- and right-circularly polarized light traversing a sample and reveals the dissymmetry of a molecule's chromophores. Despite its widespread use in structure determination circular dichroism spectroscopy is woefully under-utilized, especially in the analysis of organized media that exhibit linear anisotropies.



Distinguishing components of organic tissue from images where each pixel of a bitmap contains the spectral dependence allowing the separation into typical spectra characteristic for specific compositions.

This invention was developed under NSF Grant # CHE-0092617, "Optical Probes of Crystal Growth Mechanisms". And through support of the Center for Nanotechnology.

## **7.2 Millipol (Werner Kaminsky) (UW TechTransfer Ref. 7011D) US patent 7522278**

Transparent solids and liquid crystals can be characterized by the anisotropy of the refractive index. Sample size as well as composition, internal and external pressure, electric fields, and wavelength impact the degree of anisotropy and the directions of eigenrays. A device was constructed that produces simultaneously microscopic images of birefringence, extinction angle (eigenrays), and absorption on a sub-second timescale. Such polarimetric features can be used to study fiber quality, tension in transparent solids, orientation of micro fibrils, thickness of birefringent objects, speed of crystal nucleation, texture of textiles, chemical processes in biological cells – alive or dead, and many more.

### ***Commercial evaluation:***

The software was licensed to Emerald Biosystems 2006-2010.

More information can be obtained from Laura Dorsey:

Laura Dorsey  
 Software Technology Manager  
 UW TechTransfer Digital Ventures  
 4311 Eleventh Ave NE, Ste. 500  
 Seattle, WA 98105-4608  
 VM: 206-616-3451 Fax: 206-616-3322  
<http://depts.washington.edu/ventures/>

US patent 7522278 obtained: Real-time linear-birefringence-detection polarizing microscope  
 Febr. 2006. PI: W. Kaminsky

### 7.3 Rotopol (UW TechTr. Ref. 46502)

A technology is presented that extends the range of application of any existing optical microscope to measure quantitatively and simultaneously Birefringence, Extinction, and Transmission images. It consists of two parts:

- a) The camera-rotating polarizer unit
- b) a circular polarizer

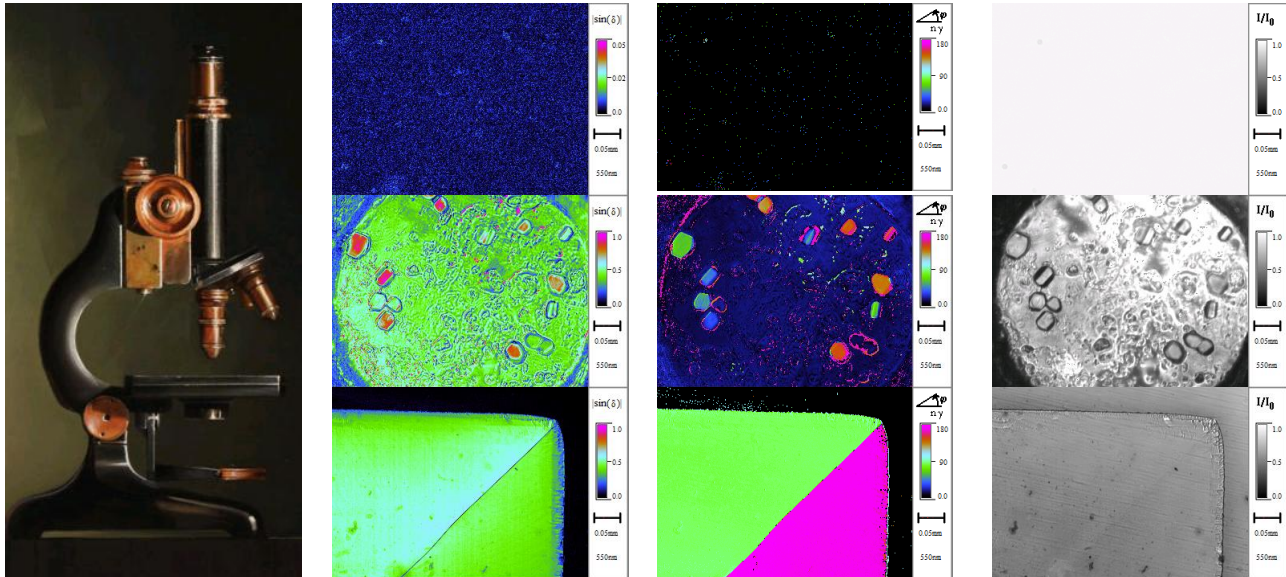
#### Description of unit a)

A rotating polarizer is placed in front of a camera with integrated optical components. The unit can be placed on any microscope replacing a standard ocular or on a C-mount that allows insertion of an ocular. The polarizer is computer controlled through the USB connection and the images of the digital camera are received also via a standard USB port on a Microsoft Windows operating computer.



Below is an examples of measurements performed with a 1915 vintage Bausch & Lomb optical microscope. The ROTOPOL device replaced the brass ocular piece on the top. A simple green-filter polarizer plus two quarter wave compensators (one with its slow axis aligned with the polarizer, the other at 45 degrees, which allows calibration to exact quarter wavelength retardation) was fastened underneath the sample table.

The first row of images shows next to the microscope the background which removes all dust and other imperfections on all following images. The second row shows a 'well' from a crystallization plate with crystals. The third row exhibits the birefringence of a thin birefringent crystal plate.



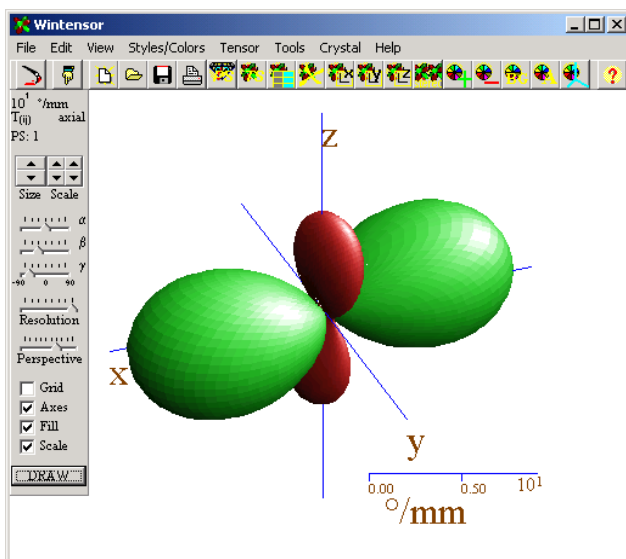
Old microscope used for ROTOPOL measurements with a crystal growth well as sample (see text).

### 7.4 Optical measurement of flow-strain (UW TechTr. Ref. 7027D)

In cooperation with the Research team around Jim Callis we worked out an application of millipol that led to another disclosure on how a liquid crystal film changes birefringence in proportion to the air-flow over its surface. Furthering the subject with Dana Dabiri and Gamal Khalil let to a provisional patent application **US 61/843/786**.

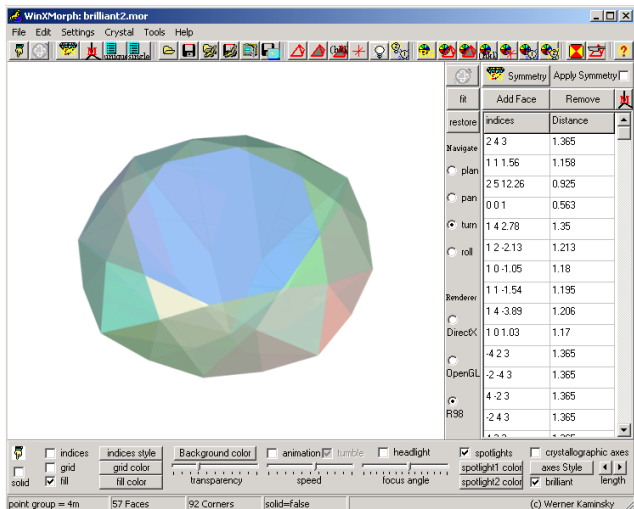
## 7.5 WinTensor (UW TechTr. 7045D)

Tensorial properties like the electro-optic effect as an example depend on the symmetry of the material they are connected with. The tensorial symmetry is at least that of the material. With the degree of complexity, the tensorial effects are difficult to visualize. A closed surface, drawn so that the distance of a point on the surface to the origin is scaled by the strength of the effect, can help to understand the processes leading to a technical device. A program was written and distributed through UW TechTransfer Digital Ventures that makes such representation surfaces. Below, the screen-dump of the program.



## 7.6 WinXMorph (UW TechTr. 7038D)

This Program was started during my vacation over the holidays in Cologne, Germany, winter 2003/2004. As such, it did not waste salary or other funding while working on this program and I



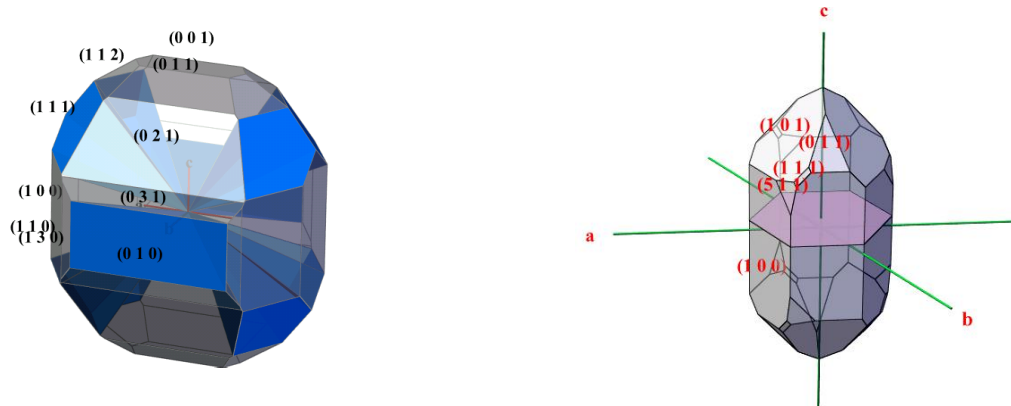
want to share my pleasure of writing and using WinXMorph with members of educational institutions and friends of crystal in general.

My reason of writing a program to generate \*.wrl files of crystal morphologies is simple: there are almost no such files on the internet (August.2004). This will most likely change soon, and the beauty of crystal shapes will, so I hope, attract many.

WinXMorph is licensed through UW TechTransfer Digital Ventures. Below the screendump.



Other than visualizing crystal morphologies it allows to investigate growth sectors and sample preparation in simulating cut-sections and morphology predictions.



### **7.7 Osmium-based oxygen sensor and pressure-sensitive paint**

**Larry Dalton, Greg Phelan, Brenden Carlson, Werner Kaminsky, Jason Benedict --**  
Provisional Patent Application Filed 2/16/2005  
"Osmium-based oxygen sensor and pressure-sensitive paint"

This disclosure is related to work on several crystal structures done for Brenden Carlson and Greg Phelan.

### **7.8 REMSEM: Software for giving remote Seminars (UW TEchTr. 4109 Reg 0001)**

Giving talks remotely with available software was unsatisfactory. A new program was designed to allow to give a presentation remotely with the presentation running on the side of the audience, giving remote access to the speaker, and having bilateral sound and video access.

The program can also be used as a remote PC application or as video conferencing software.

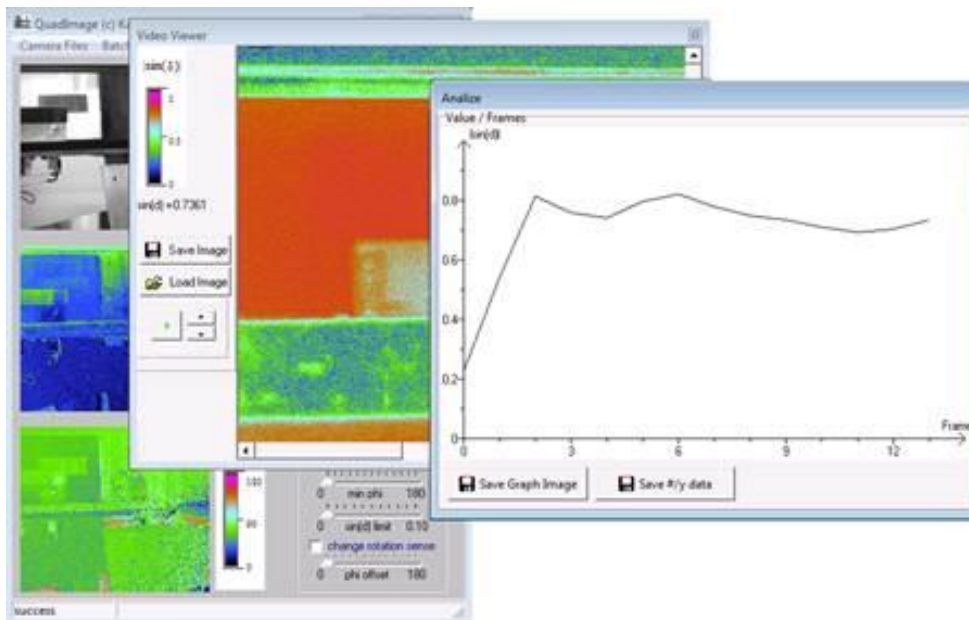
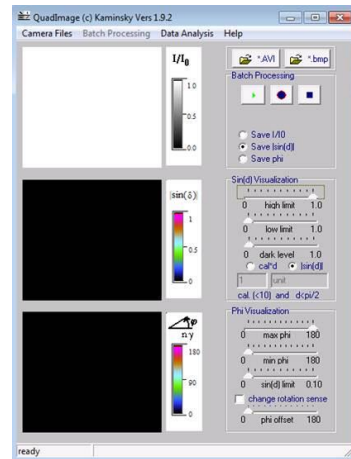
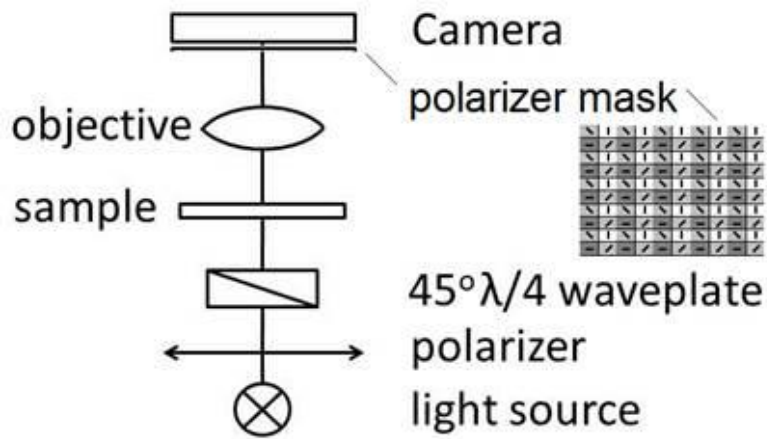
<http://cad4.cpac.washington.edu/REMSEMhome/REMSEM.htm>

### **7.9 Prism for Millipol (UW TEchTr. 7619D)**

A problem with a commercial image multiplexer used in the millipol device is its price. An alternative device was developed replacing the image multiplexer and expensive camera at 5 % of the involved costs still creating a usable device.

## 7.10 Quadimage

Similar set-up as for Rotopol or Milliview, but with a static multipolarizer masked camera and no moving parts, intended for time resolved measurements at camera speed.



## 8 X-ray Website

An internet-database has been created which has been well accepted by the department. Original data is easily accessed and users of the lab are invited to compare their results with other research groups inside the department.

### Data backup accessibly through http:

URL: <http://cad4.cpac.washington.edu/structures>

A structure can be studied interactively through the internet. The model can be turned and bond-distances as well as angles can be measured directly on this page. All data is accessed through this portal allowing paper free dissemination of structural reports.

When a structure is running, the laboratory, server screens, current samples, and the crystallographer's office can be seen through the internet. This helps to monitor a data collection and is instructional for students who are interested in crystallography.

UNIVERSITY OF WASHINGTON **Chemistry Department X-ray Laboratory**

Chemistry Library Building 125 - tel. (206) 543 0210 / (206) 543 7585

Res. Assoc. Prof. Werner Kaminsky

Device: Nonius Kappa CCD  
Status: operational (Mo-tube) accepting samples

Device: Bruker APEX II  
Status: operational (Mo-tube) accepting samples

We try to do structures on a 60 hours basis (2 1/2 days), that is the time it takes from receiving a sample to returning a final, publishable report and all documentary information. We accept applications from outside campus and offer confidentiality or can arrange for a non-disclosure agreement.

X-ray LabCam public since 1.1.2005 APEXII Screen

Office refresh in 3 seconds CCD

support through NSF Grant 0840520