

John Schlueter - Publications

- 1) Structure of Di[3,4;3'4'-bis(ethylenedithio)-2,2',5,5'-tetrathiafulvalenium] Tetraiodogallate(III), (BEDT-TTF)₂GaI₄
Geiser, U.; Wang, H. H.; Schlueter, J. A.; Hallenbeck, S. L.; Allen, T. J.; Chane, M. Y.; Kao, H.; Carlson, K. D.; Gerdon, L. E.; Williams, J. M. *Acta Cryst.* **1988**, C44, 1544-1547.
- 2) Structure of 3,4-Ethylenedithio-3',4'-propylenedithio-2,2',5,5'-tetrathiafulvalenium Tetraiodoindate(III)
Porter, L. C.; Allen, T. J.; Carlson, K. D.; Chen, M. Y.; Geiser, U.; Kao, H.-C. I.; Kini, A. M.; Schlueter, J. A.; Wang, H. H.; Williams, J. M. *Acta Cryst.* **1988**, C44, 1712-1715.
- 3) Chemical, Structural, and Electrical Property Studies on the Fluorination of the 90 K Superconductor YBa₂Cu₃O_{6.8}
Wang, H. H.; Kini, A. M.; Kao, H.-C. I.; Appelman, E. H.; Thompson, A. R.; Botto, R. E.; Carlson, K. D.; Williams, J. M.; Chen, M. Y.; Schlueter, J. A.; Gates, B. D.; Hallenbeck, S. L.; Despotes, A. M. *Inorg. Chem.* **1988**, 27, 5-8.
- 4) Synthesis, Crystal Structure, Electrical Properties, and Band Electronic Structure of Bis(1,3-propanediyledithio)tetrathiafulvalenium Tetraiodoindate(III), (BPDT-TTF)₃(InI₄)₂
Geiser, U.; Wang, H. H.; Schlueter, J.; Chen, M. Y.; Kini, A. M.; Kao, I. H.; Williams, J. M.; Whangbo, M.-H.; Evain, M. *Inorg. Chem.* **1988**, 27, 4284-4289.
- 5) Recent Progress in BEDT-TTF Based Synthetic Metals
Wang, H. H.; Allen, T. J.; Schlueter, J. A.; Hallenbeck, S. L.; Stupka, D. L.; Chen, M. Y.; Despotes, A. M.; Kao, H.-C. I.; Carlson, K. D.; Geiser, U.; Williams, J. M. *Phosphorus, Sulfur and Related Elements* **1988**, 38, 329-340.
- 6) Thermal Conversion of α -(BEDT-TTF)₂IBr₂ to Superconducting β -(BEDT-TTF)₂IBr₂
Wang, H. H.; Carlson, K. D.; Montgomery, L. K.; Schlueter, J. A.; Cariss, C. S.; Kwok, W. K.; Geiser, U.; Crabtree, G. W.; Williams, J. M. *Solid State Commun.* **1988**, 66, 1113-1116.
- 7) Charge-Transfer Salts Derived From MET: Synthesis, Structure and Properties of (MET)ClO₄, (MET)PF₆ and (MET)₃(ReO₄)₂
Beno, M. A.; Geiser, U.; Kini, A., M.; Wang, H. H.; Carlson, K. D.; Miller, M. M.; Allen, T. J.; Schlueter, J. A.; Proksch, R. B.; Williams, J. M. *Synth. Met.* **1988**, 27, A209-A217.
- 8) Preparation and Characterization of Two Structural Phases of (EPT)₂ICl₂
Schultz, A. J.; Geiser, U.; Kini, A. M.; Wang, H. H.; Schlueter, J. A.; Cariss, C. S.; Williams, J. M. *Synth. Met.* **1988**, 27, A229-A233.
- 9) Synthesis of the New Organic Metal (ET)₂C(CN)₃ and Characterization of Its Metal-Insulator Phase Transition at ~180 K
Beno, M. A.; Wang, H. H.; Soderholm, L.; Carlson, K. D.; Hall, L. N.; Nunez, L.; Rummens, H.; Anderson, B.; Schlueter, J. A.; Williams, J. M.; Whangbo, M.-H.; Evain, M. *Inorg. Chem.* **1989**, 28, 150-154.
- 10) Electron Spin Resonance, Infrared Spectroscopic, and Molecular Packing Studies of the Thermally Induced Conversion of Semiconducting α - to Superconducting α_{r} -(BEDT-TTF)₂I₃
Wang, H. H.; Ferraro, J. R.; Carlson, K. D.; Montgomery, L. K.; Geiser, U.; Williams, J. M.; Whitworth, J. R.; Schlueter, J. A.; Hill, S.; Whangbo, M.-H.; Evain, M.; Novoa, J. J. *Inorg. Chem.* **1989**, 28, 2267-2271.
- 11) Studies on the Extent of Electron Delocalization in β -Nitro Enamines from Dipole Moment Measurements
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- 12) Electrochemistry of Cofacial Phthalocyanine Polymers: What Can We Learn About How Molecular Metal Collective Properties Respond to Wide Variations in Band Filling?
Kellogg, G. E.; Gaudiello, J. G.; Schlueter, J. A.; Tetrick, S. M.; Marks, T. J.; Marcy, H. O.; McCarthy, W. J.; Kannewurf, C. R. *Synth. Met.* **1989**, 29, F15-F24.
- 13) Characterization of a Structural Phase Transition in δ -(ET)₂AuBr₂ at 420 K by ESR and Crystal Packing Studies
Montgomery, L. K.; Wang, H. H.; Schlueter, J. A.; Geiser, U.; Carlson, K. D.; Williams, J. M.; Rubinstein, R. L.; Brennan, T. D.; Stupka, D. L.; Whitworth, J. R. *Mol. Cryst. Liq. Cryst.* **1990**, 181, 197-208.

- 14) Charge Transfer and Optical Properties of the First Highly Conductive One-Dimensional Molecular Metal Containing the Fluoride Counterions: (TSeT)F_{0.25}Cl_{0.50}
 Schlueter, J. A.; Orihashi, Y.; Kanatzidis, M. G.; Liang, W.; Marks, T. J.; DeGroot, D. C.; Marcy, H. O.; McCarthy, W. J.; Kannewurf, C. R.; Inabe, T. *Chem. of Mater.* **1991**, 3, 1013-1015.
- 15) The First Molecular Metal Containing Fluoride Counterions
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- 16) The Central Bond ¹³C= ¹³C Isotope Effect for Superconductivity in High-T_c β*(ET)₂I₃ and Its Implications Regarding the Superconducting Pairing Mechanism
 Carlson, K. D.; Williams, J. M.; Geiser, U.; Kini, A. M.; Wang, H. H.; Klemm, R. A.; Kumar, S. K.; Schlueter, J. A.; Ferraro, J. R.; Lykke, K. R.; Wurz, P.; Parker, D. H.; Sutin, J. D. B.; Schirber, J. E.; Venturini, E. L.; Stout, P. *J. Am. Chem. Soc.* **1992**, 114, 10069-10071.
- 17) Synthesis, Purification, and Characterization of the 1:1 Addition Product of C₆₀ and Anthracene
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- 18) Fullerene Derivatives and Fullerene Superconductors
 Wang, H. H.; Schlueter, J. A.; Cooper, A. C.; Smart, J. L.; Whitten, M. E.; Geiser, U.; Carlson, K. D.; Williams, J. M.; Welp, U.; Dudek, J. D.; Caleca, M. A. *J. Phys. Chem. Solids* **1993**, 54, 1655-1666.
- 19) The Central Bond ¹³C= ¹³C Isotope Effect For Superconductivity in the High-T_c β*(ET)₂I₃ Phase and Its Implications Regarding the Superconducting Pairing Mechanism in TTF-Based Organic Superconductors
 Carlson, K. D.; Williams, J. M.; Geiser, U.; Kini, A. M.; Wang, H. H.; Klemm, R. A.; Kumar, S. K.; Schlueter, J. A.; Ferraro, J. R.; Lykke, K. R.; Wurz, P.; Parker, D. H.; Sutin, J. D. B.; Schirber, J. E.; Venturini, E. L.; Stout, P. *Mol. Cryst. Liq. Cryst.* **1993**, 234, 127-136.
- 20) Do the Intermolecular C=C Stretching Vibrational Modes in ET Mediate Electron-Pairing in κ-(ET)₂X Superconductors
 Kini, A. M.; Dudek, J. D.; Carlson, K. D.; Geiser, U.; Klemm, R. A.; Williams, J. M.; Lykke, K. R.; Schlueter, J. A.; Wang, H. H.; Wurz, P.; Ferraro, J. R.; Yaconi, G. A. *Physica C* **1993**, 204, 399-405.
- 21) ESR Study of the Formation of Superconducting Rb₃C₆₀ from Solution
 Schlueter, J. A.; Wang, H. H.; Lathrop, M. W.; Geiser, U.; Carlson, K. D.; Dudek, J. D.; Yaconi, G. A.; Williams, J. M. *Chem. of Mater.* **1993**, 5, 720-725.
- 22) In Search of an Isotope Effect on T_c in κ-(ET)₂X Superconductors with ³⁴S Isotopic Substitution in the Eight Sulfur Atoms of Bis(ethylenedithio)tetrathiafulvalene (ET)
 Carlson, K. D.; Kini, A. M.; Schlueter, J. A.; Geiser, U.; Klemm, R. A.; Williams, J. M.; Dudek, J. D.; Caleca, M. A.; Lykke, K. R.; Wang, H. H.; Ferraro, J. R.; Stout, P. *Physica C* **1993**, 215, 195-204.
- 23) Synthesis, Superconductivity and ESR characterization of Rb₃C₆₀ Crystals
 Schlueter, J. A.; Welp, U.; Wang, H. H.; Geiser, U.; Williams, J. M.; Bauer, M. J.; Cho, J. M.; Smart, J. L.; Taha, S. A. *Physica C* **1993**, 216, 305-314.
- 24) Structure-Property Relationships in Radical-Cation (Electron-Donor Molecule) And Anion-Based (Including Fullerides) Organic Superconductors and Their Use in the Design of New Materials
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- 25) The Isotope Effect For Superconductivity in High-T_c β*(ET)₂I₃ With ¹³C Isotopic Substitution in the Ring and Central C=C Atoms of Bis(ethylenedithio)tetrathiafulvalene (ET)
 Carlson, K. D.; Kini, A. M.; Schlueter, J. A.; Wang, H. H.; Sutin, J. D. B.; Williams, J. M.; Schirber, J. E.; Venturini, E. L.; Bayless, W. R. *Physica C* **1994**, 227, 10-14.
- 26) Rapid Raman Spectroscopic Determination of the Stoichiometry of Microscopic Quantities of BEDT-TTF-based Organic Conductors and Superconductors
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- 27) The First Organic Cation-radical Salt Superconductor ($T_c=4$ K) with an Organometallic Anion: Superconductivity, Synthesis and Structure of κ -(BEDT-TTF)₂Cu(CF₃)₄·TCE
Schlueter, J. A.; Geiser, U.; Williams, J. M.; Wang, H. H.; Kwok, W. K.; Fendrich, J. A.; Carlson, K. D.; Achenbach, C. A.; Dudek, J. D.; Nauman, D.; Roy, T.; Schirber, J. E.; Bayless, W. R. *J. Chem. Soc., Chem. Commun.* **1994**, 1599-1600.
- 28) A New 9 K Superconducting Organic Salt Composed of the Bis(ethylenedithio)tetrathiafulvalene (ET) Electron-donor Molecule and the Tetrakis(trifluoromethyl)cuprate (III) anion, [Cu(CF₃)₄]⁻
Schlueter, J. A.; Carlson, K. D.; Williams, J. M.; Wang, H. H.; Geiser, U.; Welp, U.; Kwok, W. K.; Fendrich, J. A.; Dudek, J. D.; Achenbach, C. A.; Keane, P.; Komosa, A. S.; Naumann, D.; Roy, T.; Schirber, J. E.; Bayless, W. R. *Physica C* **1994**, 230, 378-384.
- 29) Synthesis, Structure, and Properties of the Organic Conductor (BEDT-TTF)₂Br₂SeCN
Geiser, U.; Wang, H. H.; Schlueter, J. A.; Williams, J. M.; Smart, J. L.; Cooper, A. C.; Kumar, S. K.; Caleca, M.; Dudek, J. D.; Carlson, K. D.; Ren, J.; Whangbo, M. H.; Schirber, J. E.; Bayless, W. R. *Inorg. Chem.* **1994**, 5101-5107.
- 30) Superconductivity up to 11.1 K in Three Solvated Salts Composed of [Ag(CF₃)₄]⁻ and the Organic Electron-Donor Molecule Bis(ethylenedithio)tetrathiafulvalene (ET)
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- 32) A.C. Susceptibility and Critical Current in the Organic Conductor κ -(ET)₂Cu(NCS)₂
Gonzales, M. A.; Velez, M.; Vicent, J. L.; Schlueter, J.; Williams, J. M.; Crabtree, G. W. *Physica C* **1994**, 235-340, 2471-2472.
- 33) Anomalous Vortex Dynamics in κ -[bis(ethylenedithio)tetrathiafulvalene]₂-Cu[N(CN)₂]Br: Evidence for Field Induced Magnetic Order and Unconventional Superconductivity
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- 34) New ET-based Organic Superconductors with the Organometallic Anion Cu(CF₃)₄⁻
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- 35) Synthesis and Characterization of Two New Organic Superconductors, κ_L - and κ_H -[Bis(ethylenedisulfanyl)tetrathiafulvalene]₂Au(CF₃)₄•(1,1,2-Trichloroethane) via Microelectrococrystallization
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Geiser, U.; Schlueter, J. A.; Dudek, J. D.; Williams, J. M.; Naumann, D.; Roy, T. *Acta Cryst.* **1995**, C51, 1779-1782.
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- 39) ESR Characterization of the Organic Superconducting Salts of the BEDT-TTF Donor Molecule with the Novel Organometallilc Anion $[\text{Cu}(\text{CF}_3)_4]^-$ [BEDT-TTF = Bis(ethylenedithio)tetrathiafulvalene]
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- 40) Anomalous Magnetization in Single-Crystal κ -[bis(ethylenedithiotetrathia-fulvalene)]₂Cu[N(CN)₂]Br Superconductors
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- 41) 3,4-Pyrazino-3',4'-ethylenedithio-2,2',5,5'-tetrathiafulvalenium Tetraiodothallate(III) Solvate (3:1) with 1,1,2-Trichloroethane, (PEDT-TTF)₃TlI₄•TCE
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- 45) Isotope Effect Study of κ -(BEDT-TTF)₂Cu(NCS)₂: Labeling in the Anion
 Kini, A. M.; Wang, H. H.; Schlueter, J. A.; Dudek, J. D.; Geiser, U.; Carlson, K. D.; Williams, J. M.; Kelly, M. E.; Stevenson, E.; Komosa, A. S.; Sirchio, S. A. *Mol. Cryst. Liq. Cryst.*, **1996** *284*, 419-425.
- 46) Synthesis, Characterization, and Physical Properties of Two New Magnetic Organic Metals, [BEDT-TTF]₄[C(CN)₂CONH₂]CuX₂ (X = Cl and Br_{0.77}Cl_{0.22})
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- 47) Synthesis, Structure, Raman, and ESR Characterization of a New Organic Charge Transfer Salt, (BEDT-TTF)₂[N(SO₂CF₃)₂]
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- 50) Determination of a Mass Isotope Effect on T_c in an Electron-Donor-Based Organic Superconductor, κ -(ET)₂Cu(NCS)₂, where ET Represents Bis(ethylenedithio)tetrathiafulvalene
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- 54) New Organic Superconductors in the System (ET)₂M(CF₃)₄(Solvent) ($M = Cu, Ag, Au$): Dramatic Effects of Organometallic Anion and Solvent Replacement
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- 56) Superconductivity at 5.2 K in an Electron Donor Radical Salt of Bis(ethylenedithio)tetrathiafulvalene (BEDT-TTF) with the Novel Polyfluorinated Organic Anion SF₅CH₂CF₂SO₃⁻
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- 59) Rational Design of Organic Superconductors Through the Use of the Large, Discrete Molecular Anions M(CF₃)₄⁻ ($M = Cu, Ag, Au$) and SO₃CF₂CH₂SF₅⁻
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