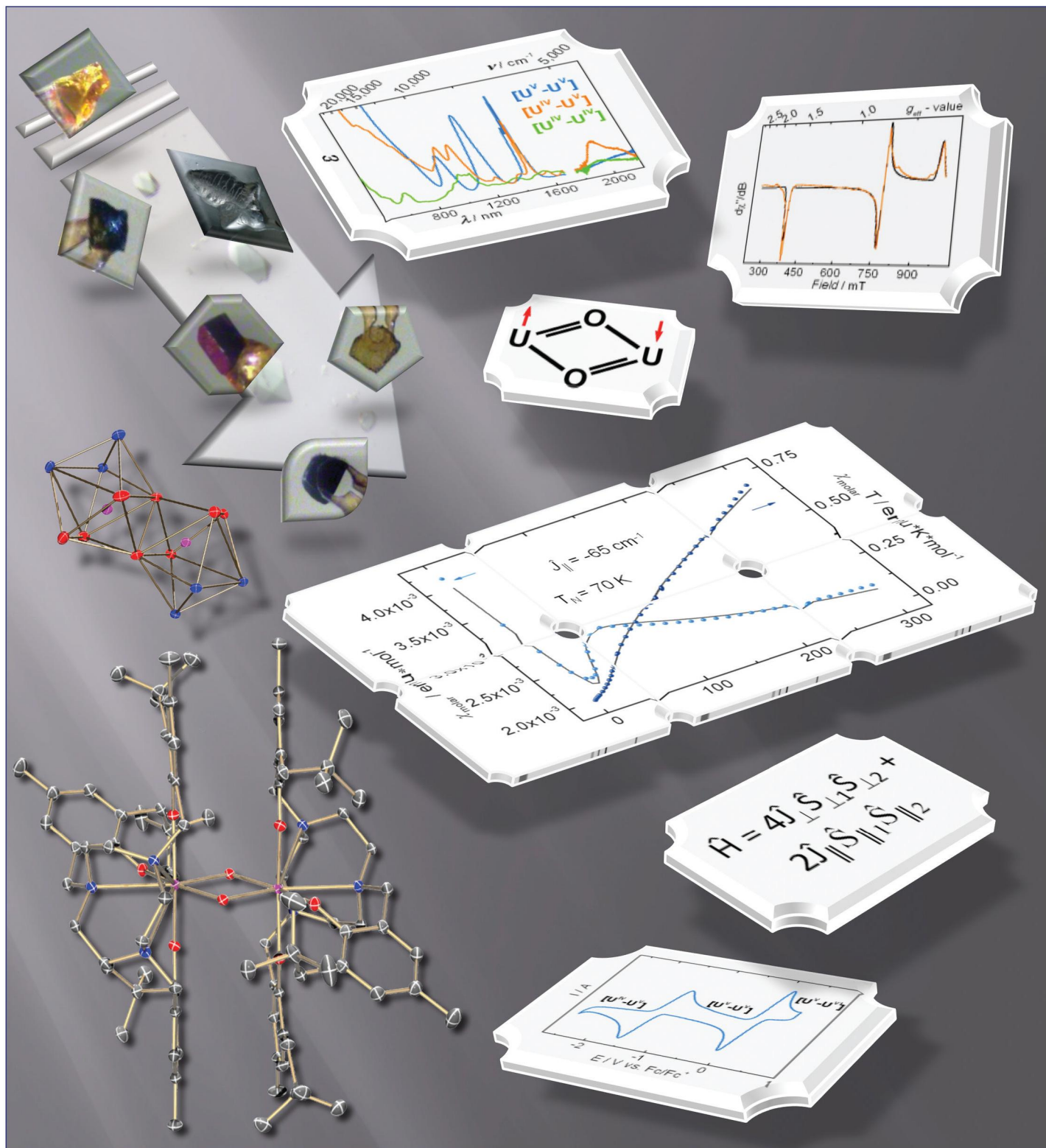


August 27, 2014
 Volume 136
 Number 34
 pubs.acs.org/JACS

J | A | C | S

JOURNAL OF THE AMERICAN CHEMICAL SOCIETY



ACS Publications
 Most Trusted. Most Cited. Most Read.

www.acs.org

Content

1. Spotlights on Recent JACS Publications

ACS Contributing Correspondents

Journal of the American Chemical Society 2014 136 (34), 11851-11852

2. Biology-Oriented Synthesis: Harnessing the Power of Evolution

Hilde van Hattum and Herbert Waldmann

Journal of the American Chemical Society 2014 136 (34), 11853-11859

3. Genetically Encoded Cleavable Protein Photo-Cross-Linker

Shixian Lin, Dan He, Teng Long, Shuai Zhang, Rong Meng, and Peng R. Chen

Journal of the American Chemical Society 2014 136 (34), 11860-11863

4. Stable Histone Adduction by 4-Oxo-2-nonenal: A Potential Link between Oxidative Stress and Epigenetics

James J. Galligan, Kristie L. Rose, William N. Beavers, Salisha Hill, Keri A. Tallman, William P. Tansey, and Lawrence J. Marnett

Journal of the American Chemical Society 2014 136 (34), 11864-11866

5. Ultrahigh-Resolution Total Correlation NMR Spectroscopy

Mohammadali Foroozandeh, Ralph W. Adams, Mathias Nilsson, and Gareth A. Morris

Journal of the American Chemical Society 2014 136 (34), 11867-11869

6. Metal-Free Metathesis Reaction of C-Chiral Allylic Sulfilimines with Aryl Isocyanates: Construction of Chiral Nonracemic Allylic Isocyanates

Rebecca L. Grange and P. Andrew Evans

Journal of the American Chemical Society 2014 136 (34), 11870-11873

7. Nitric Oxide Reactivity of [2Fe-2S] Clusters Leading to H₂S Generation

Camly T. Tran, Paul G. Williard, and Eunsuk Kim

Journal of the American Chemical Society 2014 136 (34), 11874-11877

8. Arylazopyrazoles: Azoheteroarene Photoswitches Offering Quantitative Isomerization and Long Thermal Half-Lives

Claire E. Weston, Robert D. Richardson, Peter R. Haycock, Andrew J. P. White, and Matthew J. Fuchter

Journal of the American Chemical Society 2014 136 (34), 11878-11881

9. Systematic Tuning of Heme Redox Potentials and Its Effects on O₂ Reduction Rates in a Designed Oxidase in Myoglobin

Ambika Bhagi-Damodaran, Igor D. Petrik, Nicholas M. Marshall, Howard Robinson, and Yi Lu

Journal of the American Chemical Society 2014 136 (34), 11882-11885

10. Energy Transfer on Demand: Photoswitch-Directed Behavior of Metal–Porphyrin Frameworks

Derek E. Williams, Joseph A. Rietman, Josef M. Maier, Rui Tan, Andrew B. Greytak, Mark D. Smith, Jeanette A. Krause, and Natalia B. Shustova

Journal of the American Chemical Society 2014 136 (34), 11886-11889

- 11. Hydroxyproline-Derived Pseudoenantiomeric [2.2.1] Bicyclic Phosphines: Asymmetric Synthesis of (+)- and (-)-Pyrrolines**
Christopher E. Henry, Qihai Xu, Yi Chiao Fan, Tioga J. Martin, Lee Belding, Travis Dudding, and Ohyun Kwon
Journal of the American Chemical Society **2014** *136* (34), 11890-11893
- 12. Dihydrogen Tetrametaphosphate, [P4O12H2]2-: Synthesis, Solubilization in Organic Media, Preparation of its Anhydride [P4O11]2- and Acidic Methyl Ester, and Conversion to Tetrametaphosphate Metal Complexes via Protonolysis**
Yanfeng Jiang, Khetpakorn Chakarawet, Andrea Laura Kohout, Matthew Nava, Nadia Marino, and Christopher C. Cummins
Journal of the American Chemical Society **2014** *136* (34), 11894-11897
- 13. Quantification of the Steric Influence of Alkylphosphine–Sulfonate Ligands on Polymerization, Leading to High-Molecular-Weight Copolymers of Ethylene and Polar Monomers**
Yusuke Ota, Shingo Ito, Jun-ichi Kuroda, Yoshikuni Okumura, and Kyoko Nozaki
Journal of the American Chemical Society **2014** *136* (34), 11898-11901
- 14. Alkynes as Allylmetal Equivalents in Redox-Triggered C–C Couplings to Primary Alcohols: (Z)-Homoallylic Alcohols via Ruthenium-Catalyzed Propargyl C–H Oxidative Addition**
Boyoung Y. Park, Khoa D. Nguyen, Mani Raj Chaulagain, Venukrishnan Komanduri, and Michael J. Krische
Journal of the American Chemical Society **2014** *136* (34), 11902-11905
- 15. A Magnetostructural Investigation of an Abrupt Spin Transition for 1-Phenyl-3-trifluoromethyl-1,4-dihydrobenzo[e][1,2,4]triazin-4-yl**
Christos P. Constantinides, Andrey A. Berezin, Georgia A. Zissimou, Maria Manoli, Gregory M. Leitus, Michael Bendikov, Michael R. Probert, Jeremy M. Rawson, and Panayiotis A. Koutentis
Journal of the American Chemical Society **2014** *136* (34), 11906-11909
- 16. Modular o-Quinone Catalyst System for Dehydrogenation of Tetrahydroquinolines under Ambient Conditions**
Alison E. Wendlandt and Shannon S. Stahl
Journal of the American Chemical Society **2014** *136* (34), 11910-11913
- 17. Stereoelectronic Effects Dictate Molecular Conformation and Biological Function of Heterocyclic Amides**
Robert C. Reid, Mei-Kwan Yau, Rane Singh, Junxian Lim, and David P. Fairlie
Journal of the American Chemical Society **2014** *136* (34), 11914-11917
- 18. Formation of Highly Ordered Self-Assembled Monolayers of Alkynes on Au(111) Substrate**
Tomasz Zaba, Agnieszka Noworolska, Carleen Morris Bowers, Benjamin Breiten, George M. Whitesides, and Piotr Cyganik
Journal of the American Chemical Society **2014** *136* (34), 11918-11921
- 19. Gold–Thiolate Ring as a Protecting Motif in the Au20(SR)16 Nanocluster and Implications**
Chenjie Zeng, Chong Liu, Yuxiang Chen, Nathaniel L. Rosi, and Rongchao Jin
Journal of the American Chemical Society **2014** *136* (34), 11922-11925
- 20. On-Surface Solvent-Free Crystal-to-Co-crystal Conversion by Non-Covalent Interactions**
Meital Boterashvili, Michal Lahav, Sreejith Shankar, Antonio Facchetti, and Milko E. van der Boom
Journal of the American Chemical Society **2014** *136* (34), 11926-11929

- 21. A Chromo-Fluorogenic Synthetic “Canary” for CO Detection Based on a Pyrenylvinyl Ruthenium(II) Complex**
-Máñez, Andrew J. P. White,
and James D. E. T. Wilton-Ely
Journal of the American Chemical Society **2014** *136* (34), 11930-11933
- 22. Tetranitroacetimidic Acid: A High Oxygen Oxidizer and Potential Replacement for Ammonium Perchlorate**
Thao T. Vo, Damon A. Parrish, and Jean’ne M. Shreeve
Journal of the American Chemical Society **2014** *136* (34), 11934-11937
- 23. Spectroscopic Analysis of Catalytic Water Oxidation by [RuII(bpy)(tpy)H₂O]₂⁺ Suggests That RuV=O Is Not a Rate-Limiting Intermediate**
Yulia Pushkar, Dooshaye Moonshiram, Vatsal Purohit, Lifen Yan, and Igor Alperovich
Journal of the American Chemical Society **2014** *136* (34), 11938-11945
- 24. Mechanically Tightening a Protein Slipknot into a Trefoil Knot**
Chengzhi He, Guillaume Lamour, Adam Xiao, Joerg Gsponer, and Hongbin Li
Journal of the American Chemical Society **2014** *136* (34), 11946-11955
- 25. Drug Resistance Conferred by Mutations Outside the Active Site through Alterations in the Dynamic and Structural Ensemble of HIV-1 Protease**
Debra A. Ragland, Ellen A. Nalivaika, Madhavi N. L. Nalam, Kristina L. Prachanronarong, Hong Cao, Rajintha M. Bandaranayake, Yufeng Cai, Nese Kurt-Yilmaz, and Celia A. Schiffer
Journal of the American Chemical Society **2014** *136* (34), 11956-11963
- 26. Electronic Structure and Slow Magnetic Relaxation of Low-Coordinate Cyclic Alkyl(amino) Carbene Stabilized Iron(I) Complexes**
Prinson P. Samuel, Kartik Chandra Mondal, Nurul Amin Sk, Herbert W. Roesky, Elena Carl, Roman Neufeld, Dietmar Stalke, Serhiy Demeshko, Franc Meyer, Liviu Ungur, Liviu F. Chibotaru, Jonathan Christian, Vasanth Ramachandran, Johan van Tol, and Naresh S. Dalal
Journal of the American Chemical Society **2014** *136* (34), 11964-11971
- 27. Switchable Water: Microfluidic Investigation of Liquid–Liquid Phase Separation Mediated by Carbon Dioxide**
Gabriella Lestari, Milad Abolhasani, Darla Bennett, Preston Chase, Axel Günther, and Eugenia Kumacheva
Journal of the American Chemical Society **2014** *136* (34), 11972-11979
- 28. Molecular and Electronic Structure of Dinuclear Uranium Bis- μ -Oxo Complexes with Diamond Core Structural Motifs**
Anna-Corina Schmidt, Frank W. Heinemann, Wayne W. Lukens, Jr., and Karsten Meyer
Journal of the American Chemical Society **2014** *136* (34), 11980-11993
- 29. Modulating Short Wavelength Fluorescence with Long Wavelength Light**
Graeme Copley, Jason G. Gillmore, Jeffrey Crisman, Gerdenis Kodis, Christopher L. Gray, Brian R. Cherry, Benjamin D. Sherman, Paul A. Liddell, Michelle M. Paquette, Laimonas Kelbauskas, Natia L. Frank, Ana L. Moore, Thomas A. Moore, and Devens Gust
Journal of the American Chemical Society **2014** *136* (34), 11994-12003
- 30. Extraordinary Stability of Naphthalenediimide Radical Ion and Its Ultra-Electron-Deficient Precursor: Strategic Role of the Phosphonium Group**
Sharvan Kumar, M. R. Ajayakumar, Geeta Hundal, and Pritam Mukhopadhyay
Journal of the American Chemical Society **2014** *136* (34), 12004-12010
- 31. Total Synthesis and Stereochemistry Revision of Mannopeptimycin Aglycone**
Shinichiro Fuse, Hirotsugu Koinuma, Atsushi Kimbara, Miho Izumikawa, Yuto Mifune, Haiyin He, Kazuo Shin-ya, Takashi Takahashi, and Takayuki Doi
Journal of the American Chemical Society **2014** *136* (34), 12011-12017

- 32. Distance Distributions of Photogenerated Charge Pairs in Organic Photovoltaic Cells**
Alex J. Barker, Kai Chen, and Justin M. Hodgkiss
Journal of the American Chemical Society **2014** *136* (34), 12018-12026
- 33. Emergent Ion-Gated Binding of Cationic Host–Guest Complexes within Cationic M12L24 Molecular Flasks**
Carson J. Bruns, Daishi Fujita, Manabu Hoshino, Sota Sato, J. Fraser Stoddart, and Makoto Fujita
Journal of the American Chemical Society **2014** *136* (34), 12027-12034
- 34. Thermoelectric Transport in Cu₇PSe₆ with High Copper Ionic Mobility**
Kai S. Weldert, Wolfgang G. Zeier, Tristan W. Day, Martin Panthöfer, G. Jeffrey Snyder, and Wolfgang Tremel
Journal of the American Chemical Society **2014** *136* (34), 12035-12040
- 35. Periodic Grain Boundaries Formed by Thermal Reconstruction of Polycrystalline Graphene Film**
Bao Yang, Hai Xu, Jiong Lu, and Kian Ping Loh
Journal of the American Chemical Society **2014** *136* (34), 12041-12046
- 36. Decoding the Superlattice and Interface Structure of Truncate PbS Nanocrystal-Assembled Supercrystal and Associated Interaction Forces**
Ruipeng Li, Kaifu Bian, Tobias Hanrath, William A. Bassett, and Zhongwu Wang
Journal of the American Chemical Society **2014** *136* (34), 12047-12055
- 37. Synthesis, Structures, and Solution Dynamics of Tetrasubstituted Nine-Atom Germanium Deltahedral Clusters**
Feng Li and Slavi C. Sevov
Journal of the American Chemical Society **2014** *136* (34), 12056-12063
- 38. Mechanism of the Rhodium-Catalyzed Silylation of Arene C–H Bonds**
Chen Cheng and John F. Hartwig
Journal of the American Chemical Society **2014** *136* (34), 12064-12072
- 39. π -Conjugation in Gd₁₃Fe₁₀C₁₃ and Its Oxycarbide: Unexpected Connections between Complex Carbides and Simple Organic Molecules**
Amelia B. Hadler, Vincent J. Yannello, Wenli Bi, E. Ercan Alp, and Daniel C. Fredrickson
Journal of the American Chemical Society **2014** *136* (34), 12073-12084
- 40. All-Inorganic Networks and Tetramer Based on Tin(II)-Containing Polyoxometalates: Tuning Structural and Spectral Properties with Lone-Pairs**
Chongchao Zhao, Elliot N. Glass, Bryant Chica, Djameladdin G. Musaev, Jordan M. Sumliner, R. Brian Dyer, Tianquan Lian, and Craig L. Hill
Journal of the American Chemical Society **2014** *136* (34), 12085-12091
- 41. Recyclable Catalytic Dendrimer Nanoreactor for Part-Per-Million CuI Catalysis of “Click” Chemistry in Water**
Christophe Deraedt, Noël Pinaud, and Didier Astruc
Journal of the American Chemical Society **2014** *136* (34), 12092-12098
- 42. N–N Bond Cleavage of 1,2-Diarylhydrazines and N–H Bond Formation via H-Atom Transfer in Vanadium Complexes Supported by a Redox-Active Ligand**
Carsten Milsmann, Scott P. Semproni, and Paul J. Chirik
Journal of the American Chemical Society **2014** *136* (34), 12099-12107

- 43. Bis(imino)pyridine Cobalt-Catalyzed Dehydrogenative Silylation of Alkenes: Scope, Mechanism, and Origins of Selective Allylsilane Formation**
Crisita Carmen Hojilla Atienza, Tianning Diao, Keith J. Weller, Susan A. Nye, Kenrick M. Lewis, Johannes G. P. Delis, Julie L. Boyer, Aroop K. Roy, and Paul J. Chirik
Journal of the American Chemical Society **2014** *136* (34), 12108-12118
- 44. M₂(m-dobdc) (M = Mg, Mn, Fe, Co, Ni) Metal–Organic Frameworks Exhibiting Increased Charge Density and Enhanced H₂ Binding at the Open Metal Sites**
Matthew T. Kapelowski, Stephen J. Geier, Matthew R. Hudson, David Stück, Jarad A. Mason, Jocienne N. Nelson, Dianne J. Xiao, Zeric Hulvey, Elizabeth Gilmour, Stephen A. FitzGerald, Martin Head-Gordon, Craig M. Brown, and Jeffrey R. Long
Journal of the American Chemical Society **2014** *136* (34), 12119-12129
- 45. Small-Bandgap Semiconducting Polymers with High Near-Infrared Photoresponse**
Koen H. Hendriks, Weiwei Li, Martijn M. Wienk, and René A. J. Janssen
Journal of the American Chemical Society **2014** *136* (34), 12130-12136
- 46. Total Synthesis of Viridicatumtoxin B and Analogues Thereof: Strategy Evolution, Structural Revision, and Biological Evaluation**
K. C. Nicolaou, Christopher R. H. Hale, Christian Nilewski, Heraklidia A. Ioannidou, Abdelatif ElMarrouni, Lizanne G. Nilewski, Kathryn Beabout, Tim T. Wang, and Yousif Shamoo
Journal of the American Chemical Society **2014** *136* (34), 12137-12160
- 47. Stereoconvergent Arylations and Alkenylations of Unactivated Alkyl Electrophiles: Catalytic Enantioselective Synthesis of Secondary Sulfonamides and Sulfones**
Junwon Choi, Pablo Martín-Gago, and Gregory C. Fu
Journal of the American Chemical Society **2014** *136* (34), 12161-12165
- 48. Mechanism of Alcohol Oxidation Mediated by Copper(II) and Nitroxyl Radicals**
Bradford L. Ryland, Scott D. McCann, Thomas C. Brunold, and Shannon S. Stahl
Journal of the American Chemical Society **2014** *136* (34), 12166-12173
- 49. Diruthenium–Polyyn-diyl–Diruthenium Wires: Electronic Coupling in the Long Distance Regime**
Zhi Cao, Bin Xi, Diane S. Jodoin, Lei Zhang, Steven P. Cummings, Yang Gao, Sarah F. Tyler, Phillip E. Fanwick, Robert J. Crutchley, and Tong Ren
Journal of the American Chemical Society **2014** *136* (34), 12174-12183
- 50. Hydrogen-Bond-Dynamics-Based Switching of Conductivity and Magnetism: A Phase Transition Caused by Deuterium and Electron Transfer in a Hydrogen-Bonded Purely Organic Conductor Crystal**
Akira Ueda, Shota Yamada, Takayuki Isono, Hiromichi Kamo, Akiko Nakao, Reiji Kumai, Hironori Nakao, Youichi Murakami, Kaoru Yamamoto, Yutaka Nishio, and Hatsumi Mori
Journal of the American Chemical Society **2014** *136* (34), 12184-12192