

December 29, 2010 Volume 132, Issue 51 Pages 17977-18430

Content

1. **Accumulative Charge Separation Inspired by Photosynthesis**
Susanne Karlsson, Julien Boixel, Yann Pellegrin, Errol Blart, Hans-Christian Becker, Fabrice Odobel, Leif Hammarström
Journal of the American Chemical Society **2010** 132 (51), 17977-17979
2. **Direct Assembly of Polyarenes via C–C Coupling Using PIFA/BF₃·Et₂O**
Enrico Faggi, Rosa M. Sebastián, Roser Pleixats, Adelina Vallribera, Alexandr Shafir, Alejandra Rodríguez-Gimeno, Carmen Ramírez de Arellano
Journal of the American Chemical Society **2010** 132 (51), 17980-17982
3. **A Remarkably Bent Diiron(III)-μ-Hydroxo Bisporphyrin: Unusual Stabilization of Two Spin States of Iron in a Single Molecular Framework**
Sudip Kumar Ghosh, Sankar Prasad Rath
Journal of the American Chemical Society **2010** 132 (51), 17983-17985
4. **QM/MM Studies of Monozinc β-Lactamase CphA Suggest That the Crystal Structure of an Enzyme–Intermediate Complex Represents a Minor Pathway**
Shanshan Wu, Dingguo Xu, Hua Guo
Journal of the American Chemical Society **2010** 132 (51), 17986-17988
5. **Framework-Substituted Lanthanide MCM-22 Zeolite: Synthesis and Characterization**
Yajing Wu, Jun Wang, Ping Liu, Wei Zhang, Jing Gu, Xiaojun Wang
Journal of the American Chemical Society **2010** 132 (51), 17989-17991
6. **Nanopore Detection of 8-Oxo-7,8-dihydro-2'-deoxyguanosine in Immobilized Single-Stranded DNA via Adduct Formation to the DNA Damage Site**
Anna E. P. Schibel, Na An, Qian Jin, Aaron M. Fleming, Cynthia J. Burrows, Henry S. White
Journal of the American Chemical Society **2010** 132 (51), 17992-17995
7. **A Porous Metal–Organic Replica of α-PbO₂ for Capture of Nerve Agent Surrogate**
Ruqiang Zou, Ruiqin Zhong, Songbai Han, Hongwu Xu, Anthony K. Burrell, Neil Henson, Jonathan L. Cape, Donald D. Hickmott, Tatiana V. Timofeeva, Toti E. Larson, Yusheng Zhao
Journal of the American Chemical Society **2010** 132 (51), 17996-17999
8. **Sequence-Specific Random Coil Chemical Shifts of Intrinsically Disordered Proteins**
Kamil Tamiola, Burçin Acar, Frans A. A. Mulder
Journal of the American Chemical Society **2010** 132 (51), 18000-18003
9. **Cation-Mediated Energy Transfer in G-Quadruplexes Revealed by an Internal Fluorescent Probe**
Anaïs Dumas, Nathan W. Luedtke
Journal of the American Chemical Society **2010** 132 (51), 18004-18007
10. **Detecting the “Afterglow” of ¹³C NMR in Proteins Using Multiple Receivers**
Eriks Kupče, Lewis E. Kay, Ray Freeman
Journal of the American Chemical Society **2010** 132 (51), 18008-18011
11. **Label-Free Biosensors Based on Aptamer-Modified Graphene Field-Effect Transistors**
Yasuhide Ohno, Kenzo Maehashi, Kazuhiko Matsumoto
Journal of the American Chemical Society **2010** 132 (51), 18012-18013
12. **Diamagnetic Group 6 Tetrakis(di-tert-butylketimido)metal(IV) Complexes**
Rosanna A. D. Soriaga, Jennifer M. Nguyen, Thomas A. Albright, David M. Hoffman
Journal of the American Chemical Society **2010** 132 (51), 18014-18016
13. **Ion Diffusion and Electrochemical Capacitance in Aligned and Packed Single-Walled Carbon Nanotubes**
Ali Izadi-Najafabadi, Don N. Futaba, Sumio Iijima, Kenji Hata
Journal of the American Chemical Society **2010** 132 (51), 18017-18019
14. **Orthogonal Spin Arrangement in Quasi-Two-Dimensional La₂Co₂O₃Se₂**

- Yayoi Fuwa, Takashi Endo, Makoto Wakeshima, Yukio Hinatsu, Kenji Ohoyama
Journal of the American Chemical Society **2010** 132 (51), 18020-18022
15. **Substrate-Independent Dip-Pen Nanolithography Based on Reactive Coatings**
Hsien-Yeh Chen, Michael Hirtz, Xiaopei Deng, Thomas Laue, Harald Fuchs, Joerg Lahann
Journal of the American Chemical Society **2010** 132 (51), 18023-18025
16. **Stereo- and Regioselective Gold-Catalyzed Hydroamination of Internal Alkynes with Dialkylamines**
Kevin D. Hesp, Mark Stradiotto
Journal of the American Chemical Society **2010** 132 (51), 18026-18029
17. **Structural Evolution of Zeolitic Imidazolate Framework-8**
Surendar R. Venna, Jacek B. Jasinski, Moises A. Carreon
Journal of the American Chemical Society **2010** 132 (51), 18030-18033
18. **Monitoring the Electrochemistry of Single Molecules by Surface-Enhanced Raman Spectroscopy**
Emiliano Cortés, Pablo G. Etchegoin, Eric C. Le Ru, Alejandro Fainstein, María E. Vela, Roberto C. Salvarezza
Journal of the American Chemical Society **2010** 132 (51), 18034-18037
19. **From Metal–Organic Squares to Porous Zeolite-like Supramolecular Assemblies**
Shuang Wang, Tingting Zhao, Guanghua Li, Lukasz Wojtas, Qisheng Huo, Mohamed Eddaoudi, Yunling Liu
Journal of the American Chemical Society **2010** 132 (51), 18038-18041
20. **Direct Reduction of Nitrite to N₂ on a Pt(100) Electrode in Alkaline Media**
Matteo Duca, Mar Oroval Cucarella, Paramaconi Rodriguez, Marc T. M. Koper
Journal of the American Chemical Society **2010** 132 (51), 18042-18044
21. **Doped Soap Membranes Selectively Permeate a Chiral Isomer**
Tinakorn Kanyanee, Jaroon Jakmunee, Kate Grudpan, Purnendu K. Dasgupta
Journal of the American Chemical Society **2010** 132 (51), 18045-18047
22. **Resonance Stabilization Energy of 1,2-Azaborines: A Quantitative Experimental Study by Reaction Calorimetry**
Patrick G. Campbell, Eric R. Abbey, Doinita Neiner, Daniel J. Grant, David A. Dixon, Shih-Yuan Liu
Journal of the American Chemical Society **2010** 132 (51), 18048-18050
23. **Enantiospecific Wetting**
Michael Rapp, William A. Ducker
Journal of the American Chemical Society **2010** 132 (51), 18051-18053
24. **DNA-Templated Covalent Coupling of G₄ PAMAM Dendrimers**
Huajie Liu, Thomas Tørring, Mingdong Dong, Christian B. Rosen, Flemming Besenbacher, Kurt V. Gothelf
Journal of the American Chemical Society **2010** 132 (51), 18054-18056
25. **Structural Characterization of a High Affinity Mononuclear Site in the Copper(II)- α -Synuclein Complex**
Marco Bortolus, Marco Bisaglia, Alfonso Zoleo, Maria Fittipaldi, Maurizio Benfatto, Luigi Bubacco, Anna Lisa Maniero
Journal of the American Chemical Society **2010** 132 (51), 18057-18066
26. **Proton Transfer from the Inactive Gas-Phase Nicotine Structure to the Bioactive Aqueous-Phase Structure**
Marie-Pierre Gageot, Alvaro Cimas, Mahamadou Seydou, Ju-Young Kim, Sungyul Lee, Jean-Pierre Schermann
Journal of the American Chemical Society **2010** 132 (51), 18067-18077
27. **Alternative Mechanistic Explanation for Ligand-Dependent Selectivities in Copper-Catalyzed N- and O-Arylation Reactions**
Hai-Zhu Yu, Yuan-Ye Jiang, Yao Fu, Lei Liu
Journal of the American Chemical Society **2010** 132 (51), 18078-18091
28. **Electronic Properties and Desolvation Penalties of Metal Ions Plus Protein Electrostatics Dictate the Metal Binding Affinity and Selectivity in the Copper Efflux Regulator**
Li Rao, Qiang Cui, Xin Xu
Journal of the American Chemical Society **2010** 132 (51), 18092-18102

29. **Gold Nano-Popcorn-Based Targeted Diagnosis, Nanotherapy Treatment, and In Situ Monitoring of Photothermal Therapy Response of Prostate Cancer Cells Using Surface-Enhanced Raman Spectroscopy**
Wentong Lu, Anant Kumar Singh, Sadia Afrin Khan, Dulal Senapati, Hongtao Yu, Paresh Chandra Ray
Journal of the American Chemical Society **2010** 132 (51), 18103-18114
30. **Slow Magnetic Relaxation in a Family of Trigonal Pyramidal Iron(II) Pyrrolide Complexes**
W. Hill Harman, T. David Harris, Danna E. Freedman, Henry Fong, Alicia Chang, Jeffrey D. Rinehart, Andrew Ozarowski, Moulay T. Sougrati, Fernande Grandjean, Gary J. Long, Jeffrey R. Long, Christopher J. Chang
Journal of the American Chemical Society **2010** 132 (51), 18115-18126
31. **Stereomutation of Pentavalent Compounds: Validating the Berry Pseudorotation, Redressing Ugi's Turnstile Rotation, and Revealing the Two- and Three-Arm Turnstiles**
Erik P. A. Couzijn, J. Chris Slootweg, Andreas W. Ehlers, Koop Lammertsma
Journal of the American Chemical Society **2010** 132 (51), 18127-18140
32. **Discriminative Response of Surface-Confined Metalloporphyrin Molecules to Carbon and Nitrogen Monoxide**
Knud Seufert, Willi Auwärter, Johannes V. Barth
Journal of the American Chemical Society **2010** 132 (51), 18141-18146
33. **Surface Chemistry of InP Quantum Dots: A Comprehensive Study**
Arnaud Cros-Gagneux, Fabien Delpech, Céline Nayral, Alfonso Cornejo, Yannick Coppel, Bruno Chaudret
Journal of the American Chemical Society **2010** 132 (51), 18147-18157
34. **Delivery and Subcellular Targeting of Dendrimer-Based Fluorescent pH Sensors in Living Cells**
Lorenzo Albertazzi, Barbara Storti, Laura Marchetti, Fabio Beltram
Journal of the American Chemical Society **2010** 132 (51), 18158-18167
35. **Characterization of Iron Dinitrosyl Species Formed in the Reaction of Nitric Oxide with a Biological Rieske Center**
Christine E. Tinberg, Zachary J. Tonzetich, Hongxin Wang, Loi H. Do, Yoshitaka Yoda, Stephen P. Cramer, Stephen J. Lippard
Journal of the American Chemical Society **2010** 132 (51), 18168-18176
36. **Self-Assembled Quantum Dot-Sensitized Multivalent DNA Photonic Wires**
Kelly Boeneman, Duane E. Prasuhn, Juan B. Blanco-Canosa, Philip E. Dawson, Joseph S. Melinger, Mario Ancona, Michael H. Stewart, Kimihiro Susumu, Alan Huston, Igor L. Medintz
Journal of the American Chemical Society **2010** 132 (51), 18177-18190
37. **Creation of a Type 1 Blue Copper Site within a de Novo Coiled-Coil Protein Scaffold**
Daigo Shiga, Daisuke Nakane, Tomohiko Inomata, Yasuhiro Funahashi, Hideki Masuda, Akihiro Kikuchi, Masayuki Oda, Masanori Noda, Susumu Uchiyama, Kiichi Fukui, Kenji Kanaori, Kunihiro Tajima, Yu Takano, Haruki Nakamura, Toshiki Tanaka
Journal of the American Chemical Society **2010** 132 (51), 18191-18198
38. **Discovery of 4-tert-Butyl-2,6-dimethylphenylsulfur Trifluoride as a Deoxofluorinating Agent with High Thermal Stability as Well as Unusual Resistance to Aqueous Hydrolysis, and Its Diverse Fluorination Capabilities Including Deoxofluoro-Arylsulfinylation with High Stereoselectivity**
Teruo Umemoto, Rajendra P. Singh, Yong Xu, Norimichi Saito
Journal of the American Chemical Society **2010** 132 (51), 18199-18205
39. **Precursor Conversion Kinetics and the Nucleation of Cadmium Selenide Nanocrystals**
Jonathan S. Owen, Emory M. Chan, Haitao Liu, A. Paul Alivisatos
Journal of the American Chemical Society **2010** 132 (51), 18206-18213
40. **Mechanism and Tafel Lines of Electro-Oxidation of Water to Oxygen on RuO₂(110)**
Ya-Hui Fang, Zhi-Pan Liu
Journal of the American Chemical Society **2010** 132 (51), 18214-18222
41. **Mechanistic Studies of Peptide Self-Assembly: Transient α -Helices to Stable β -Sheets**
Gai Liu, Anabathula Prabhakar, Darryl Aucoin, Miranda Simon, Samuel Sparks, Kevin J. Robbins, Andrew Sheen, Sarah A. Petty, Noel D. Lazo

- Journal of the American Chemical Society* **2010** 132 (51), 18223-18232
42. **Rhenium Hydride/Boron Lewis Acid Cocatalysis of Alkene Hydrogenations: Activities Comparable to Those of Precious Metal Systems**
Yanfeng Jiang, Jeannine Hess, Thomas Fox, Heinz Berke
Journal of the American Chemical Society **2010** 132 (51), 18233-18247
43. **Covalent Modification of Gaseous Peptide Ions with N-Hydroxysuccinimide Ester Reagent Ions**
Marija Mentinova, Scott A. McLuckey
Journal of the American Chemical Society **2010** 132 (51), 18248-18257
44. **Synthesis of Nanocrystals with Variable High-Index Pd Facets through the Controlled Heteroepitaxial Growth of Trisoctahedral Au Templates**
Yue Yu, Qingbo Zhang, Bo Liu, Jim Yang Lee
Journal of the American Chemical Society **2010** 132 (51), 18258-18265
45. **How Do Sterols Determine the Antifungal Activity of Amphotericin B? Free Energy of Binding between the Drug and Its Membrane Targets**
Anna Neumann, Maciej Baginski, Jacek Czub
Journal of the American Chemical Society **2010** 132 (51), 18266-18272
46. **Carbon Monoxide-Releasing Micelles for Immunotherapy**
Urara Hasegawa, Andr  J. van der Vlies, Eleonora Simeoni, Christine Wandrey, Jeffrey A. Hubbell
Journal of the American Chemical Society **2010** 132 (51), 18273-18280
47. **Self-Accumulation of Aromatics at the Oil–Water Interface through Weak Hydrogen Bonding**
Makoto Kunieda, Kennichi Nakaoka, Yunfeng Liang, Caetano R. Miranda, Akira Ueda, Satoru Takahashi, Hiroshi Okabe, Toshifumi Matsuoka
Journal of the American Chemical Society **2010** 132 (51), 18281-18286
48. **Origin of the Diverse Melting Behaviors of Intermediate-Size Nanoclusters: Theoretical Study of AlN (N = 51–58, 64)**
Joongoo Kang, Su-Huai Wei, Yong-Hyun Kim
Journal of the American Chemical Society **2010** 132 (51), 18287-18291
49. **Conformational Remodeling of Femtomolar Inhibitor–Acetylcholinesterase Complexes in the Crystalline State**
Yves Bourne, Zoran Radi , Palmer Taylor, Pascale Marchot
Journal of the American Chemical Society **2010** 132 (51), 18292-18300
50. **Solid-State 91Zr NMR Spectroscopy Studies of Zirconocene Olefin Polymerization Catalyst Precursors**
Aaron J. Rossini, Ivan Hung, Samuel A. Johnson, Carla Slebodnick, Mike Mensch, Paul A. Deck, Robert W. Schurko
Journal of the American Chemical Society **2010** 132 (51), 18301-18317
51. **Fundamentals of Melt Infiltration for the Preparation of Supported Metal Catalysts. The Case of Co/SiO2 for Fischer–Tropsch Synthesis**
Tamara M. Eggenhuisen, Johan P. den Breejen, Dirkjan Verdoes, Petra E. de Jongh, Krijn P. de Jong
Journal of the American Chemical Society **2010** 132 (51), 18318-18325
52. **Rhodium(III)-Catalyzed Arene and Alkene C–H Bond Functionalization Leading to Indoles and Pyrroles**
David R. Stuart, Pamela Alsabeh, Michelle Kuhn, Keith Fagnou
Journal of the American Chemical Society **2010** 132 (51), 18326-18339
53. **Alanine Methyl Groups as NMR Probes of Molecular Structure and Dynamics in High-Molecular-Weight Proteins**
Raquel Godoy-Ruiz, Chenyun Guo, Vitali Tugarinov
Journal of the American Chemical Society **2010** 132 (51), 18340-18350
54. **Cleavable Biotin Probes for Labeling of Biomolecules via Azide–Alkyne Cycloaddition**
Janek Szychowski, Alborz Mahdavi, Jennifer J. L. Hodas, John D. Bagert, John T. Ngo, Peter Landgraf, Daniela C. Dieterich, Erin M. Schuman, David A. Tirrell
Journal of the American Chemical Society **2010** 132 (51), 18351-18360
55. **Light-Driven Reversible Handedness Inversion in Self-Organized Helical Superstructures**

- Manoj Mathews, Rafael S. Zola, Shawn Hurley, Deng-Ke Yang, Timothy J. White, Timothy J. Bunning, Quan Li
Journal of the American Chemical Society **2010** 132 (51), 18361-18366
- 56. Dynamics of a Myoglobin Mutant Enzyme: 2D IR Vibrational Echo Experiments and Simulations**
 Sayan Bagchi, Benjamin T. Nebgen, Roger F. Loring, M. D. Fayer
Journal of the American Chemical Society **2010** 132 (51), 18367-18376
- 57. Theoretical Elucidation of the Competitive Electro-oxidation Mechanisms of Formic Acid on Pt(111)**
 Wang Gao, John A. Keith, Josef Anton, Timo Jacob
Journal of the American Chemical Society **2010** 132 (51), 18377-18385
- 58. Mechanism of Rectification in Tunneling Junctions Based on Molecules with Asymmetric Potential Drops**
 Christian A. Nijhuis, William F. Reus, George M. Whitesides
Journal of the American Chemical Society **2010** 132 (51), 18386-18401
- 59. Electrostatic and Electrochemical Nature of Liquid-Gated Electric-Double-Layer Transistors Based on Oxide Semiconductors**
 Hongtao Yuan, Hidekazu Shimotani, Jianting Ye, Sungjae Yoon, Hasniah Aliah, Atsushi Tsukazaki, Masashi Kawasaki, Yoshihiro Iwasa
Journal of the American Chemical Society **2010** 132 (51), 18402-18407
- 60. Experimental and Computational Investigation of C–N Bond Activation in Ruthenium N-Heterocyclic Carbene Complexes**
 L. Jonas L. Häller, Michael J. Page, Stefan Erhardt, Stuart A. Macgregor, Mary F. Mahon, M. Abu Naser, Andrea Velez, Michael K. Whittlesey
Journal of the American Chemical Society **2010** 132 (51), 18408-18416
- 61. Structure, Interactions, and Antibacterial Activities of MSI-594 Derived Mutant Peptide MSI-594F5A in Lipopolysaccharide Micelles: Role of the Helical Hairpin Conformation in Outer-Membrane Permeabilization**
 Perna N Domadia, Anirban Bhunia, Ayyalusamy Ramamoorthy, Surajit Bhattacharjya
Journal of the American Chemical Society **2010** 132 (51), 18417-18428
- 62. Ruthenium-Catalyzed Domino Redox Bicycloisomerization. An Atom-Economical Synthesis of [3.1.0]- and [4.1.0]Carbo- and Heterocycles**
 Barry M. Trost, Adam W. Franz
Journal of the American Chemical Society **2010** 132 (51), 18429-18429
- 63. ‘Carbene Radicals’ in Coll(por)-Catalyzed Olefin Cyclopropanation**
 Wojciech I. Dzik, Xue Xu, X. Peter Zhang, Joost N. H. Reek, Bas de Bruin
Journal of the American Chemical Society **2010** 132 (51), 18429-18429
- 64. Heat Capacities: Liquids, Solutions and Vapours**
Journal of the American Chemical Society **2010** 132 (51), 18430-18430
- 65. Steroid Analysis, 2nd ed.**
Journal of the American Chemical Society **2010** 132 (51), 18430-18430