

# Most-Accessed Articles

from a Highly Cited Leader in Biochemistry, Biophysical Chemistry & Molecular Biology

Listed below are the ten most-accessed articles during 2008. Go to the *Biochemistry* homepage at [pubs.acs.org/biochemistry](http://pubs.acs.org/biochemistry) to view lists of most-read and most-cited articles from the journal.

Editor: Richard N. Armstrong, *Vanderbilt University School of Medicine*

**Farnesyl Diphosphate Synthase. Altering the Catalytic Site To Select for Geranyl Diphosphate Activity**  
Suzanne M. Stanley-Fernandez, Brenda A. Kellogg, and C. Dale Poulter  
*(Article)*, 2008, 39 (50), 15316-15321  
DOI: 10.1021/bi80014305

**Free-Energy Landscape of Enzyme Catalysis**  
Stephen I. Benkovic, Gordon G. Hammes, and Sharon Hammes-Schiffer  
*(New Concepts)*, 2008, 47 (11), 3317-3321  
DOI: 10.1021/bi800049y

**The Glycosylphosphatidylinositol Anchor: A Complex Membrane-Anchoring Structure for Proteins**  
Margot C. Paulick and Carolyn R. Bertozzi  
*(Current Topics/Perspectives)*, 2008, 47 (27), 6991-7000  
DOI: 10.1021/bi8006324

**AFM: A Nanotool in Membrane Biology**  
Daniel J. Müller  
*(Current Topics/Perspectives)*, 2008, 47 (31), 7986-7998  
DOI: 10.1021/bi800753x

**DNA Polymerases as Therapeutic Targets**  
Anthony J. Berdis  
*(Current Topics/Perspectives)*, 2008, 47 (32), 8253-8260  
DOI: 10.1021/bi801179f

**Phospholamban Thiols Play a Central Role in Activation of the Cardiac Muscle Sarcoplasmic Reticulum Calcium Pump by Nitroxyl**  
Jeffrey P. Froehlich, James E. Mahaney, Gizem Koceli, Christopher M. Ravios, Russell Goldstein, Abiona I. Redwood, Carlota Sumbilla, Dong I. Lee, Carlo G. Tocchetti, David A. Kass, Nazareno Paolocci, and John P. Tozcano  
*(Rapid Report)*, 2008, 47 (50), 13150-13152  
DOI: 10.1021/bi801925p

**Misfolding of the Cystic Fibrosis Transmembrane Conductance Regulator and Disease**  
Joanne C. Cheung and Charles M. Deber  
*(Current Topics/Perspectives)*, 2008, 47 (6), 1465-1473  
DOI: 10.1021/bi702209t

**Residence Time of Receptor-Ligand Complexes and Its Effect on Biological Function**  
Peter J. Tummino and Robert A. Copeland  
*(Current Topics/Perspectives)*, 2008, 47 (20), 5481-5492  
DOI: 10.1021/bi8002023

**Analysis of Hsp90 Cochaperone Interactions Reveals a Novel Mechanism for IPR Protein Recognition**  
Ahmed Chadli, Elizabeth S. Bruinma, Bridget Stengard, and David Toft  
*(Article)*, 2008, 47 (9), 2850-2857  
DOI: 10.1021/bi702333z

**Revisiting Heme Mechanisms. A Perspective on the Mechanisms of Nitric Oxide Synthase (NOS), Heme Oxygenase (HO), and Cytochrome P450s (CYP450s)**  
Yaoliu Zhu, and Richard B. Silverman  
*(Current Topics/Perspectives)*, 2008, 47 (8), 2231-2243  
DOI: 10.1021/bi7023817

BIOCHEMISTRY



December 9, 2009

JAFCAL 57(23) 11061-11448 (2009) ISSN 0021-8561  
Registered in the U.S. Patent and Trademark Office  
Copyright 2009 by the American Chemical Society

## ANALYTICAL METHODS

- 11061 **Analysis of the Polyphenols Content in Medicinal Plants Based on the Reduction of Cu(II)/Bicinchoninic Complexes**  
*Daniele Cestari Marino, Larissa Zupparò Locerda Sabino, José Armando Jr., Andrea De Andrade Ruggiero, and Horacio Dorigan Moya\**
- 11067 **<sup>1</sup>H NMR-Based Metabonomics for the Classification of Greek Wines According to Variety, Region, and Vintage. Comparison with HPLC Data**  
*Maria Anastasiadi, Athina Zira, Prokopios Magiatis, Serkos A. Haroutounian, Alexios Leandros Skaltsounis, and Emmanuel Mikros\**
- 11075 **Determination of Residues of Cyromazine and Its Metabolite, Melamine, in Animal-Derived Food by Gas Chromatography–Mass Spectrometry with Derivatization**  
*Xinle Zhu,\* Shuhui Wang, Qi Liu, Qian Xu, Shixin Xu, and Hulan Chen*
- 11081 **Analysis of Free Fatty Acids in Beer: Comparison of Solid-Phase Extraction, Solid-Phase Microextraction, and Stir Bar Sorptive Extraction**  
*Tomáš Horák,\* Jiří Čulík, Pavel Čejka, Marie Jurková, Vladimír Kellner, Josef Dvořák, and Danuša Hašková*
- 11085 **Finding the Joker among the Maize Endogenous Reference Genes for Genetically Modified Organism (GMO) Detection**  
*Annalisa Paterò, Ugo Marchesi, Francesco Gatto, Daniela Verginelli, Cinzia Quarchioni, Cristiana Fusco, Alessia Zepparoni, Demetrio Amadeo, and Ilaria Ciabatti\**

## BIOACTIVE CONSTITUENTS

- 11092 **Synthesis of N-Alkyl-β-D-glucosylamines and Their Antimicrobial Activity against *Fusarium proliferatum*, *Salmonella typhimurium*, and *Listeria innocua***  
*T. Muhizi, S. Grelier, and V. Coma\**
- 11100 **Effects of Coffee on Inflammatory Cytokine Gene Expression in Mice Fed High-Fat Diets**  
*Yoichi Fukushima,\* Masato Kusuga, Kazuwa Nakao, Ichiro Shimomura, and Yuji Matsuzawa*
- 11106 **Atheroprotective Effects of Bilberry Extracts in Apo E-Deficient Mice**  
*Aurélien Manray, Dragan Milenkovic, Catherine Besson, Nelly Caccia, Christine Murand, Françoise Michel, Andrzej Mazur, Augustin Scallbert, and Catherine Felgines\**
- 11112 **Indole-Diterpenes and Ergot Alkaloids in *Cynodon dactylon* (Bermuda Grass) Infected with *Claviceps cynodontis* from an Outbreak of Tremors in Cattle**  
*Silvio Uhlir,\* Christo J. Botha, Trude Vrålstad, Elin Rolén, and Christopher O. Miles*
- 11120 **Benghalensin, a Highly Stable Serine Protease from the Latex of Medicinal Plant *Ficus benghalensis***  
*Anurag Sharma, Moni Kumari, and M. V. Jagannadham\**

- 11127 **Repellency of Essential Oils of *Cryptomeria japonica* (Pinaceae) against Adults of the Mosquitoes *Aedes aegypti* and *Aedes albopictus* (Diptera: Culicidae)**  
*Hui-Jing Gu, Sen-Sung Cheng, Chun-Ya Lin, Chin-Gi Huang, Wei-June Chen, and Shang-Tzen Chang\**
- 11134 **Polyacetylene Diversity and Bioactivity in Orange Market and Locally Grown Colored Carrots (*Daucus carota* L.)**  
*Brandon T. Metzger\* and David M. Barnes*
- 11140 **Tentative Characterization of Novel Phenolic Compounds in Extra Virgin Olive Oils by Rapid-Resolution Liquid Chromatography Coupled with Mass Spectrometry**  
*Shaoping Fu, Antonio Segura-Carretero,\* David Arráez-Román, Javier A. Menéndez, A. De La Torre, and Alberto Fernández-Gutiérrez*
- 11148 **Capsaicin Induced the Upregulation of Transcriptional and Translational Expression of Glycolytic Enzymes Related to Energy Metabolism in Human Intestinal Epithelial Cells**  
*Junkyu Han and Hiroko Isoda\**
- 11154 **Antioxidant and Biological Properties of Bioactive Phenolic Compounds from *Quercus suber* L.**  
*Ana Fernandes, Iva Fernandes, Luis Cruz, Nuno Mateus, Miguel Cabral, and Victor de Freitas\**
- 11161 **Synthesis, Biological Evaluation, and Molecular Modeling of Oleuropein and Its Semisynthetic Derivatives as Cyclooxygenase Inhibitors**  
*Antonio Procopio,\* Stefano Alcaro, Monica Nardi, Manuela Oliverio, Francesco Ortuso, Paolo Sacchetta, Damiana Pieragostino, and Giovanni Sindona*
- 11168 **Papyracillic Acid, a Phytotoxic 1,6-Dioxaspiro[4,4]nonene Produced by *Ascochyta agropyrina* Var. *nana*, a Potential Mycoherbicide for *Elytrigia repens* Biocontrol**  
*Antonio Evidente,\* Alexander Brestetskiy, Alessio Cimmino, Angela Tuzi, Stefano Supercchi, Dominique Meick, and Anna Andolfi*
- 11174 **Antioxidant Properties, Phytochemical Composition, and Antiproliferative Activity of Maryland-Grown Soybeans with Colored Seed Coats**  
*Margaret Slavin, William Kenworthy, and Liangli (Lucy) Yi\**
- 11186 **Inhibition by Chestnut Honey of *N*-Acyl-L-homoserine Lactones and Biofilm Formation in *Erwinia carotovora*, *Yersinia enterocolitica*, and *Aeromonas hydrophila***  
*Pilar Truchado, Angel Gil-Izquierdo, Francisco Tomás-Barberán, and Ana Allende\**

## CHEMICAL ASPECTS OF FOOD SAFETY

- 11194 **Survey of Polychlorinated Dibenz-*p*-dioxins, Polychlorinated Dibenzofurans, and Non-ortho-polychlorinated Biphenyls in U.S. Meat and Poultry, 2007–2008: Effect of New Toxic Equivalency Factors on Toxic Equivalency Levels, Patterns, and Temporal Trends**  
*Janice Howe,\* Doritza Pagan-Rodriguez, Naser Abdalnajid, Nelson Clinch, Donald Gordon, James Holterman, Ezzat Zaki, Margaret Lorentzen, and Kerry Dearfield*
- 11201 **Development and Validation of a SYBR-Green I Real-Time PCR Protocol To Detect Hazelnut (*Corylus avellana* L.) in Foods through Calibration via Plasmid Reference Standard**  
*Matteo D'Andrea, Jean Daniel Coisson, Fabiano Travoglia, Cristiano Garino, and Marco Arlorio\**

## CHEMICAL CHANGES INDUCED BY PROCESSING/STORAGE

- 11209 **Influence of Prefermentative Treatments and Fermentation on the Antioxidant and Volatile Profiles of Apple Wines**  
*Pawel Satoru,\* Tomasz Tarko, Aleksandra Duda-Chodak, Pawel Sroka, Tadeusz Toczynski, and Maria Czepielik*
- 11218 **Size Exclusion Chromatography To Gain Insight into the Complex Formation of Carrot Pectin Methyltransferase and Its Inhibitor from Kiwi Fruit As Influenced by Thermal and High-Pressure Processing**  
*Ruben P. Jolie, Thomas Duvetter, Philippe H. C. J. Verlinde, Sandy Van Buggenhout, Ann M. Van Loey, and Marc E. Hendrickx\**

## CHEMICAL COMPOSITION OF FOODS/FEEDS

- 11226 **Quantification of Soyasaponins I and  $\beta$ g in Italian Lentil Seeds by Solid-Phase Extraction (SPE) and High-Performance Liquid Chromatography–Mass Spectrometry (HPLC-MS)**  
*Gianni Sagratini, Yanting Zuo, Giovanni Caprioli, Gloria Cristalli, Dario Giardinà, Filippo Maggi, Laura Molin, Massimo Ricciutielli, Piero Traldi, and Sauro Vittori\**

## CROP AND ANIMAL PROTECTION CHEMISTRY

- 11234 **Development and Evaluation of Granule and Emulsifiable Concentrate Formulations Containing *Derris elliptica* Extract for Crop Pest Control**  
*RuedeeKorn Wivattanapatapee,\* Attawadee Sae-Yun, Jiraporn Petcharat, Chitchamai Ovattarnporn, and Arunporn Itharat*

## ENVIRONMENTAL CHEMISTRY

- 11242 **Solar Photochemical Treatment of Winery Wastewater in a CPC Reactor**  
*Marco S. Lucas,\* Rosa Mosteo, Manuel I. Maldonado, Sixto Malato, and José A. Perex*
- 11249 **Effects of a Municipal Sewage Sludge Amendment on Triasulfuron Soil Sorption and Wheat Growth**  
*Maria Vittoria Pinna, Francesco Giunta, Serenella Nardi, and Alba Pusino\**
- 11254 **Original and Residual Phytotoxicity of Olive Mill Wastewater Revealed by Fractionations before and after Incubation with *Pleurotus ostreatus***  
*Ido Aviani, Michael Raviv, Yitzhak Hadar, Ibrahim Saadi, and Yael Luo\**
- 11261 **Relationship between Dieldrin Uptake in Cucumber and Solvent-Extractable Residue in Soil**  
*Mizuki Sakai, Nobuyasu Seike,\* Hirotatsu Murano, and Takashi Oiani*
- 11267 **Effect of a Compost and Its Water-Soluble Fractions on Key Enzymes of Nitrogen Metabolism in Maize Seedlings**  
*Silvia Vaccaro, Adele Muscolo, Diego Pizzeghello, Riccardo Spaccini, Alessandro Piccolo, and Serenella Nardi\**
- 11277 **Determination of Pesticide Residues in Integrated Pest Management and Nonintegrated Pest Management Samples of Apple (*Malus pumila* Mill.)**  
*Shashi Bala Singh,\* Irani Mukherjee, Jaya Mainsam, Praveen Kumar, Madhuban Gopal, and Gita Kulshrestha*
- 11284 **Simultaneous Removal of Oxytetracycline and Sulfamethazine Antibacterials from Animal Waste by Chemical Oxidation Processes**  
*Merih Ötker Ustu and Işıl Akmehtmet Balcioglu\**
- 11292 **Protonation–Dissociation Reactions of Imazamethabenz-Methyl and Imazamethabenz-Acid in Relation to Their Soil Sorption and Abiotic Degradation**  
*Sara Pintado, Mercedes Ruiz Montoya, and José Miguel Rodríguez Mellado\**

## FLAVORS AND AROMAS/CHEMOSENSORY PERCEPTION

- 11297 **New Factor Characterizing the In-Mouth Release of Odorants (Volatile Thiols): Compositional Changes in Odorants Exhaled from the Human Nose during Drinking**  
*Takafumi Itohe,\* Kenji Kumazawa, and Osamu Nishimura*

## FOOD CHEMISTRY/BIOCHEMISTRY

- 11302 **Characterization of Galactosyl Derivatives Obtained by Transgalactosylation of Lactose and Different Polyols Using Immobilized  $\beta$ -Galactosidase from *Aspergillus oryzae***  
*Gabriela Irazoqui, Cecilia Giacomini, Francisco Batista-Viera, Beatriz M. Brena, Alejandra Cardelle-Cobas, Nieves Corzo,\* and Maria Luisa Jimeno*
- 11308 **Production of Arabinoxylan-oligosaccharides from Flaxseed (*Linum usitatissimum*)**  
*Karine Gaulloux, Isabelle Gaillard, Josiane Courtois, Bernard Courtois, and Emmanuel Petit\**
- 11314 **Combining the Dynamic TNO-Gastrointestinal Tract System with a Caco-2 Cell Culture Model: Application to the Assessment of Lycopene and  $\alpha$ -Tocopherol Bioavailability from a Whole Food**  
*Emmanuelle D  at, St  phanie Blanquet-Diot,\* Jean-Fran  ois Jarrige, Sylvain Denis, Eric Beyssac, and Monique Ahric*
- 11321 **Genotypic and Environmental Effects on Coffee (*Coffea arabica* L.) Bean Fatty Acid Profile: Impact on Variety and Origin Chemometric Determination**  
*Di  ana Villarreal, Andreina Luffargue, Huver Posada, Benoit Bertrand, Philippe Lashermes, and St  phane Dusseri\**
- 11328 **Competitive Indirect ELISA for the Determination of Parvalbumins from Various Fish Species in Food Grade Fish Gelatins and Isinglass with PARV-19 Anti-parvalbumin Antibodies**  
*Patrick Weber, Hans Steinhart, and Angelika Paschke\**
- 11335 **Chain Length Affects Antioxidant Properties of Chlorogenate Esters in Emulsion: The Cutoff Theory Behind the Polar Paradox**  
*Micka  l Laguerre, Luis J. L  pez Giraldo, J  r  me Lecomte, Maria-Cruz Figueroa-Espinoza, Bruno Bar  a, Jochen Weiss, Eric A. Decker, and Pierre Villeneuve\**
- 11343 **Antimicrobial Activity of Aminoreductone against *Helicobacter pylori***  
*Vu Thu Trang, Hiroaki Takeuchi,\* Hayato Kudo, Akitoshi Aoki, Shinya Katsumo, Tomoko Shimamura,\* Tetsuro Sugiura, and Hiroyuki Ubeda*
- 11349 **Stability of Citral in Oil-in-Water Emulsions Prepared with Medium-Chain Triacylglycerols and Triacetin**  
*Seung Jun Choi, Eric Andrew Decker, Lulu Henson, L. Michael Poplewell, and David Julian McClements\**
- 11354 **Characterization of Chinese Liquor Starter, "Daqu", by Flavor Type with <sup>1</sup>H NMR-Based Nontargeted Analysis**  
*Xiao-He Wu, Xiao-Wei Zheng, Bei-Zhong Han,\* Jacques Verroort, and M. J. Robert Nout*
- 11360 **Compositions of Seed, Forage, and Processed Fractions from Insect-Protected Soybean MON 87701 Are Equivalent to Those of Conventional Soybean**  
*Kristina H. Berman,\* George G. Harrigan, Susan G. Riordan, Margaret A. Nemeth, Christy Hanson, Michelle Smith, Roy Sorbet, Eddie Zhu, and William P. Ridley*
- 11370 **Analysis of Phenolic Compounds in Six Norwegian Plum Cultivars (*Prunus domestica* L.)**  
*Rune Slomestad,\* Eivind Vangdal, and Cato Brede*

- 11376 **Two-Step Purification of Pathogenesis-Related Proteins from Grape Juice and Crystallization of Thaumatin-like Proteins**  
*Steven C. Van Shuyter, Matteo Marangon, Samuel D. Swanks, Karlie A. Neilson, Yoji Hayasaka, Paul A. Haynes, R. Ian Menz, and Elizabeth J. Waters\**
- 11383 **Novel Anticancer Activity of the Autocleaved Ovotransferrin against Human Colon and Breast Cancer Cells**  
*Hisham R. Ibrahim\* and Tohru Kiyono*
- 11391 **Tea Catechins Induce the Conversion of Preformed Lysozyme Amyloid Fibrils to Amorphous Aggregates**  
*Jing He, Yan-Fei Xing, Bo Huang, Yi-Zheng Zhang, and Cheng-Ming Zeng\**
- 11397 **Enhanced Antioxidant and Anti-inflammatory Activities of *Monascus pilosus* Fermented Products by Addition of Turmeric to the Medium**  
*Chiu-Feng Kuo,\* Charn-Cherng Chyau, Tsu-Shing Wang, Chien-Ru Li, and Tzu-Jung Hu*

## MOLECULAR NUTRITION

- 11406 **Sesamin Mitigates Inflammation and Oxidative Stress in Endothelial Cells Exposed to Oxidized Low-Density Lipoprotein**  
*Wen-Jame Lee, Hsiu-Chung Ou, Ching-Mei Wu, I-te Lee, Shih-Yi Lin, Li-Yun Lin, Kun-Ling Tsai, Shin-Da Lee, and Wayne Huey-Herng Shea\**
- 11418 **Phenolic Metabolites of Grape Antioxidant Dietary Fiber in Rat Urine**  
*Sonia Tourinho, Elisabet Figueira, Maria Pilar Vinardell, Maria Cascaente, and Josep Lluis Torres\**
- 11427 **Evaluation of the Effect of Dietary Virgin Olive Oil on Blood Pressure and Lipid Composition of Serum and Low-Density Lipoprotein in Elderly Type 2 Diabetic Subjects**  
*Javier Sanchez-Perona, Emilio Montero, Jose Maria S  nchez-Dom  nguez, Juljo Ca  nizares, Maria Garcia, and Valentina Ruiz-Guti  rrez\**

## TOXICOLOGY IN AGRICULTURE AND FOOD

- 11434 **Evidence that Norflurazon Affects Chloroplast Lipid Unsaturation in Soybean Leaves (*Glycine max* L.)**  
*Ouzna Abrous-Belbachir, Rosine De Poeppe, Antoine Tr  molieres, Chantal Mathieu, Fatima Ad, and Ghouzel Benhassaine-Kesri\**
- 11441 **Markers of Pesticide Exposure in Irrigated Rice Cultures**  
*Amanda V. Steckert, Caroline E. Schnack, Jacira Silvano, Felipe Dal-Pizzol, and Vanessa M. Andrade\**

## CORRESPONDENCE/REBUTTAL

- 11446 **Comment on New Reagent for Trace Determination of Protein-Bound Metabolites of Nitrofurans in Shrimp Using Liquid Chromatography with Diode Array Detector**  
*Justin G. Bendall*
- 11448 **Rebuttal to a Comment on New Reagent for Trace Determination of Protein-Bound Metabolites of Nitrofurans in Shrimp Using Liquid Chromatography with Diode Array Detector**  
*Pakawadee Suthivalayakit*

■ Supporting Information is available free of charge via the Internet at <http://pubs.acs.org>.

\* In papers with more than one author, the asterisk indicates the name of the author to whom inquiries about the paper should be addressed.

Visit the Web Current ACS Ethical Guidelines to Publication of Chemical Research and other information for authors and reviewers, including guidelines for manuscript preparation and copyright forms, can be found on the Web at the Author & Reviewer Resource Center at <http://pubs.acs.org/page/4authors/index.html>.