



## Preeminent Researcher, Preeminent Journal.

Carolyn R. Bertozzi, the T.Z. and Irmgard Chu Distinguished Professor of Chemistry and Professor of Molecular and Cell Biology at UC Berkeley, an investigator of the Howard Hughes Medical Institute, and a member of the National Academy of Sciences, has published several articles in *JACS* including "Rapid Cu-Free Click Chemistry with Readily Synthesized Biarylazacyclooctynones" as featured in the March 24, 2010 issue of the journal.

[pubs.acs.org/JACS](http://pubs.acs.org/JACS)



Your Research. Your Journal. The *Journal of the American Chemical Society*.



**ACS Publications**  
MOST TRUSTED. MOST CITED. MOST READ.

# JOURNAL OF AGRICULTURAL AND FOOD CHEMISTRY

June 23, 2010

JAFCAU 58(12):7109-7488 (2010) ISSN 0021-8561  
Registered in the U.S. Patent and Trademark Office  
Copyright 2010 by the American Chemical Society

## ANALYTICAL METHODS

- 7109 **HP/LC Determination and MS Confirmation of Malachite Green, Gentian Violet, and Their Leuco Metabolite Residues in Channel Catfish Muscle**  
*Guoying Chen\* and Shui Miao*
- 7115 **Measurement of the Isotope Ratio of Acetic Acid in Vinegar by HS-SPME-GC-TC/C-IRMS**  
*Ryota Hattori,\* Keita Yamada, Hiroki Shibata, Satoshi Hirano, Osamu Tajima, and Naohiro Yoshida*
- 7119 **LC-MS Method for the Simultaneous Quantitation of the Anti-inflammatory Constituents in Oregano (*Origanum* Species)**  
*Dianlian Shen, Min-Hsiung Pan, Qing-Li Wu, Chung-Heon Park, H. Rodolfo Juliani, Chi-Tang Ho, and James E. Simon\**
- 7126 **Laser-Induced Breakdown Spectroscopy and Chemometrics: A Novel Potential Method to Analyze Wheat Grains**  
*Milena R. Martelli, François Brygo, Abdelkrim Sadouli, Philippe Delaporte, and Cécile Barron\**
- 7135 **Rapid Detection of Enterotoxigenic *Clostridium perfringens* in Meat Samples Using Immunomagnetic Separation Polymerase Chain Reaction (IMS-PCR)**  
*Zheng-You Yang, Won-Bo Shim, Kyeong-Yeol Kim, and Duck-Hwa Chung\**
- 7141 **An Integrated Amperometric Biosensor for the Determination of Lactose in Milk and Dairy Products**  
*F. Cuzuelo, M. Gamella, S. Campuzano, M. A. Ruiz, A. J. Reviejo, and J. M. Pingarrón\**

## BIOACTIVE CONSTITUENTS

- 7149 **Inhibitory Effects of Whisky Congeners on IgE-Mediated Degranulation in Rat Basophilic Leukemia RBL-2H3 Cells and Passive Cutaneous Anaphylaxis Reaction in Mice**  
*Tomohiro Itoh,\* Mariko Tsukane, Minako Koike, Chizu Nakamura, Kenji Ohguchi, Masafumi Ito, Yukihiko Akao, Seiichi Koshimizu, Yoshinori Nozawa, Toshiyuki Wakimoto, Haruo Nakaya, and Yoshitide Suwa*
- 7158 **EPR Studies of O<sub>2</sub><sup>-•</sup>, OH, and <sup>1</sup>O<sub>2</sub> Scavenging and Prevention of Glutathione Depletion in Fibroblast Cells by Cyanidin-3-rhamnoglucoside Isolated from Fig (*Ficus carica* L.) Fruits**  
*Anat Solomon, Sara Golubowicz, Zeev Yablowicz, Margalit Bergman, Shlomo Grossman,\* Arie Alimón, Zohar Kerem, and Moshe A. Flatschman*
- 7166 **Isolation of an Antihypertensive Peptide from Alcalase Digest of *Spirulina platensis***  
*Jin Lu, Di-Feng Ren, You-Lin Xue, Yuriko Sawano, Takuya Miyakawa, and Masaru Tanokura\**

- 7172 **In Vitro and in Vivo Effects of Apple Peel Polyphenols against *Helicobacter pylori***  
Edgar Pastene,\* Hernán Speisky, Apolinar García, Jessica Moreno,  
Miriam Troncoso, and Guillermo Figueroa
- 7180 **Dietary Carotenoids Inhibit Oral Sensitization and the Development of Food Allergy**  
Yuji Sato, Hiroshi Akiyama,\* Hideki Matsuoka, Kozue Sakata, Rika Nakamura,  
Shingo Ishikawa, Takahiro Inakuma, Mamoru Totsuka, Yoshiko Sugita-Konishi,  
Motohiro Ebisawa, and Reiko Teshima
- 7187 **Physical Properties and Bioactive Constituents of Powdered Mixtures and Drinks Prepared with Cocoa and Various Sweeteners**  
Ana Belšćak-Crihanović, Maja Benković, Draženka Komes,\* Ingrid Bauman,  
Dunja Horžić, Filip Dujmić, and Matea Matijasec
- 7196 **Cloning of a Novel O-Methyltransferase from *Camellia sinensis* and Synthesis of O-Methylated EGCG and Evaluation of their Bioactivity**  
Masanobu Kirita,\* Daiki Homma, Yoshihisa Tanaka, Shinya Usui, Toshihiko Shoji,  
Manabu Sami, Toyokazu Yokota, Motoyuki Tagashira, Atsuya Muranaka,  
Masanobu Uchiyama, Tomomasa Kanda, and Mari Maeda-Yamamoto
- 7202 **Purnergic Effects of a Hydroalcoholic *Agaricus brasiliensis* (*A. blazei*) Extract on Liver Functions**  
Andrea L. de Oliveira, G. Jacklin Eler, Adelar Brachi,\* and Rosane M. Peralta
- 7211 **Flavone C-Glycosides from Seeds of Fenugreek, *Trigonella foenum-graecum* L.**  
Saleh Rayyan, Torgils Fossen, and Gyrrind M. Andersen\*
- 7218 **Antioxidant/Lipoxygenase Inhibitory Activities and Chemical Compositions of Selected Essential Oils**  
Alfreda Wei and Takayuki Shibamoto\*
- 7226 **Exogenous Gibberellic Acid Reprograms Soybean to Higher Growth and Salt Stress Tolerance**  
Muhammad Hamayun, Samera Afzal Khan, Abdul Latif Khan, Joe-Ho Shin,  
Bashir Ahmad, Dong-Hyun Shin, and In-Jung Lee\*

## BIOFUELS AND BIOPRODUCTS CHEMISTRY

- 7233 **Effects of Lignin-Metal Complexation on Enzymatic Hydrolysis of Cellulose**  
H. Liu, J. Y. Zhu,\* and S. Y. Fu

## CHEMICAL ASPECTS OF BIOTECHNOLOGY/MOLECULAR BIOLOGY

- 7239 **Proteome from Lemon Fruit Flavedo Reveals That This Tissue Produces High Amounts of the Cit s1 Germin-like Isoforms**  
Vittorio Pignataro, Cristina Canton, Antonia Spadafora, and Silvia Mazzuca\*
- 7245 **Expression of *G-Ry* Derived from the Potato (*Solanum tuberosum* L.) Increases PVY<sup>o</sup> Resistance**  
Changsu Lee, Jaeyoung Park, Indeok Hwang, Yoonkyung Park, and Hyeonsook Cheong\*
- 7252 **Quercetin Aglycone Is Bioavailable in Murine Pancreas and Pancreatic Xenografts**  
Lifeng Zhang, Eliane Angst, Jenny L. Park, Aune Moro, David W. Dawson,  
Howard A. Reber, Guido Eibl, O. Joe Hines, Vay-Liang W. Go, and Qing-Yi Lu\*

## CHEMICAL ASPECTS OF FOOD SAFETY

- 7258 **Transfer of Sulfamethazine from Contaminated Beeswax to Honey**  
Wim Reybroeck,\* Frans J. Jacobs, Hubert F. De Brabander, and Els Daeseleire
- 7266 **Effect of Storage Conditions on the Microbial Ecology and Biochemical Stability of Cell Wall Components in Brewers' Spent Grain**  
James A. Robertson,\* Kerry J. A. I'Anson, Tim F. Brockiehurst, Craig B. Faulds, and Keith W. Waldron
- 7273 **Identification of a Sotolon Pathway in Dry White Wines**  
Alexandre Pons,\* Valérie Lavigne, Yannick Landais, Philippe Darriet, and Denis Dubourdeu
- 7280 **Influence of Juice Pressing Conditions on Polyphenols, Antioxidants, and Varietal Aroma of Sauvignon blanc Microferments**  
Parimal Patel, Mandy Herbst-Johnstone, Soon A. Lee, Richard C. Gardner,  
Randy Weaver, Laura Nicolau, and Paul A. Kilmartin\*
- 7289 **Antioxidant Properties of Du-zhong (*Eucommia ulmoides* Oliv.) Extracts and Their Effects on Color Stability and Lipid Oxidation of Raw Pork Patties**  
Zhongsheng Xu, Mengtian Tang, Yuan Li, Fangfang Liu, Xingmin Li, and Ruitong Dai\*
- 7297 **Sodium Bicarbonate Induces Crystalline Wax Generation, Activates Host-Resistance, and Increases Imazalil Level in Rind Wounds of Oranges, Improving the Control of Green Mold During Storage**  
Antonio Dore, Maria Giovanna Molinu, Tullio Venditti, and Guy D'Hallevin\*

## CHEMICAL COMPOSITION OF FOODS/FEEDS

- 7305 **Composition and Physicochemical Properties of Dietary Fiber Extracted from Residues of 10 Varieties of Sweet Potato by a Sieving Method**  
Xin Mei, Tai-Hua Mu,\* and Jun-Juan Han
- 7311 **Links between Purchase Location and Stable Isotope Ratios of Bottled Water, Soda, and Beer in the United States**  
Lesley A. Chesson,\* Luciano O. Valenzuela, Shannon P. O'Grady, Thure E. Cerling,  
and James R. Ehleringer
- 7317 **Carbohydrate Composition of High-Fructose Corn Syrups (HFCS) Used for Bee Feeding: Effect on Honey Composition**  
Ana Isabel Ruiz-Matute, Milagra Weiss, Diana Sammataro, Jennifer Finely, and Maria Luz Sanz\*
- 7323 **Maize 27 kDa  $\gamma$ -Zein Is a Potential Allergen for Early Weaned Pigs**  
Hari B. Krishnan,\* Monty S. Kerley, Gary L. Allee, Sungchan Jang, Won-Seok Kim,  
and Chunjiang J. Fu
- 7329 **Polyphenol Content of Modern and Old Varieties of *Triticum aestivum* L. and *T. durum* Desf. Grains in Two Years of Production**  
Daniela Heimler,\* Pamela Vignolini, Laura Isolani, Paola Arfaio, Lisetta Ghiselli,  
and Annalisa Romani

CROP AND ANIMAL PROTECTION CHEMISTRY	
7335	<b>Bases for Interactions between Saffluenacil and Glyphosate in Plants</b> <i>Janshid Ashigh and J. Christopher Hall*</i>
ENVIRONMENTAL CHEMISTRY	
7344	<b>Properties of Wheat Gluten/Poly(lactic acid) Laminates</b> <i>Sung-Woo Cho, Mikael Gällstedt, and Mikael S. Hedenqvist*</i>
FLAVORS AND AROMAS/CHEMOSENSORY PERCEPTION	
7351	<b>Characterization and Differentiation of Monovarietal Grape Marc Distillates on the Basis of Varietal Aroma Compound Composition</b> <i>Igor Lukić*, Borislav Miličević, Mara Banović, Srećko Tomas, Sanja Radeka, and Đorđano Peršurić</i>
7351	<b>Ultraviolet-B and Photosynthetically Active Radiation Interactively Affect Yield and Pattern of Monoterpenes in Leaves of Peppermint (<i>Mentha × piperita</i> L.)</b> <i>Helen Behn, Andreas Albert*, Friedhelm Marx, Georg Noga, and Andreas Ulbrich</i>
7368	<b>Identification of Novel Aroma-Active Thiols in Pan-Roasted White Sesame Seeds</b> <i>Hitoshi Tamura*, Akira Fujita, Martin Steinhaus, Eisuke Takahisa, Hiroyuki Watanabe, and Peter Schieberle</i>
FOOD CHEMISTRY/BIOCHEMISTRY	
7376	<b>Curcumin Nanoparticles Improve the Physicochemical Properties of Curcumin and Effectively Enhance Its Antioxidant and Antitumor Activities</b> <i>Feng-Lin Yen, Tzu-Hui Wu, Cheng-Wei Tzeng, Liang-Tzung Lin, and Chun-Ching Lin*</i>
7383	<b>C-Type Starch from High-Amylose Rice Resistant Starch Granules Modified by Antisense RNA Inhibition of Starch Branching Enzyme</b> <i>Cunxu Wei, Bin Yu, Fengling Qin, Huaguang Yu, Chong Chen, Xiangfen Meng, Lijia Zhu, Youping Wang, Minghong Gu,*, and Qiaoquan Liu*</i>
7389	<b>Selenium Supplementation and Increased Muscle Glutathione Concentration Do Not Improve the Color Stability of Lamb Meat</b> <i>Cameron G. Jose*, Robin H. Jacob, Graham E. Gardner, David W. Pethick, and Shimin M. Liu</i>
7394	<b>Structurability: A Collective Measure of the Structural Differences in Vodkas</b> <i>Naiping Hu, Dan Wu, Kelly Cross, Sergey Burikov, Tatiana Dolenko, Svetlana Patsaeva, and Dale W. Schaefer*</i>
7402	<b>Simple Extraction Method of Non-allergenic Intact Soybean Oil Bodies That Are Thermally Stable in an Aqueous Medium</b> <i>Yeming Chen* and Tomotada Ono</i>
7408	<b>Proteome Changes in Bovine Longissimus Thoracis Muscle during the First 48 h Postmortem: Shifts in Energy Status and Myofibrillar Stability</b> <i>Stefania Guðrún Bjarnadóttir, Kristín Hollung, Ellen Mosleth Fergestad, and Eva Veiseth-Kent*</i>
7415	<b>Talaromyces emersonii Thermostable Enzyme Systems and Their Applications in Wheat Baking Systems</b> <i>Deborah M. Waters*, Patrick G. Murray, Liam A. Ryan, Elke K. Arendt, and Maria G. Taohy</i>

7423	<b>Contribution of Galloylation and Polymerization to the Antioxidant Activity of Polyphenols in Fish Lipid Systems</b> <i>Jacobo Iglesias*, Manuel Pazos, Salomé Lois, and Isabel Medina</i>
7432	<b>Novel Angiotensin-Converting Enzyme (ACE) Inhibitory Peptides Derived from Boneless Chicken Leg Meat</b> <i>Masaaki Terashima*, Takako Baba, Narumi Ikemoto, Midori Katayama, Tomoko Morimoto, and Saki Matsumura</i>
7437	<b>Proteomic Quantification of Disulfide-Linked Polymers in Raw and Heated Bovine Milk</b> <i>François Chevalier* and Alan L. Kelly</i>
7445	<b>Analgesic Effects and the Mechanisms of Anti-inflammation of Ergostatrien-3<math>\beta</math>-ol from <i>Antrodia camphorata</i> Submerged Whole Broth in Mice</b> <i>Guo-Jiang Huang, Shyh-Shyun Huang, Shiang-Shiou Lin, Yi-Yuan Shao, Chin-Chu Chen, Wen-Chi Hou, and Yueh-Hsiung Kuo*</i>
7453	<b>Gal d 6 Is the Second Allergen Characterized from Egg Yolk</b> <i>Alvaro Amo, Rosa Rodríguez-Pérez, Juan Blanco, Julian Villota, Sonsoles Juste, Ignacio Moneo, and María Luisa Caballero*</i>
7458	<b>Characterization of Anthocyanins and Proanthocyanidins in Wild and Domesticated Mexican Blackberries (<i>Rubus</i> spp.)</b> <i>Edith O. Cuevas-Rodríguez, Gad G. Yousef, Pedro A. García-Saucedo, José López-Medina, Octavio Paredes-López, and Mary Ann Lila*</i>

## MOLECULAR NUTRITION

7465	<b>Polyphenolic Compounds from <i>Salvia</i> Species Protect Cellular DNA from Oxidation and Stimulate DNA Repair in Cultured Human Cells</b> <i>Alice A. Ramos, Amaya Azqueta, Cristina Pereira-Wilson*, and Andrew R. Collins</i>
7472	<b>Determination of Dihydroresveratrol in Rat Plasma by HPLC</b> <i>M. Emilia Juan*, Irene Alfaro, and Joana M. Planas</i>

## TOXICOLOGY IN AGRICULTURE AND FOOD

7476	<b>Translocation of Sphingoid Bases and Their 1-Phosphates, but Not Fumonisin, from Roots to Aerial Tissues of Maize Seedlings Watered with Fumonisin</b> <i>Nicholas C. Zitomer*, Samantha Jones, Charles Bacon, Anthony E. Glenn, Thomas Baldwin, and Ronald T. Riley</i>
7482	<b>Analysis of Daphnane Orthoesters in Poisonous Australian <i>Pimelea</i> Species by Liquid Chromatography–Tandem Mass Spectrometry</b> <i>Sharon Chow, Mary T. Fletcher*, and Ross A. McKenzie</i>

## ADDITIONS AND CORRECTIONS

7488	<b>Evaluating Precision and Accuracy When Quantifying Different Endogenous Control Reference Genes in Maize Using Real-Time PCR</b> <i>Tandace A. Schulberg, Tim D. Norden, Daishia D. Nelson, and G. Ronald Jenkins*</i>
------	--

■ 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/4urthos/index.html>.