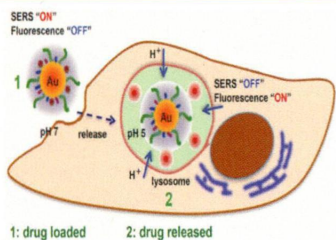


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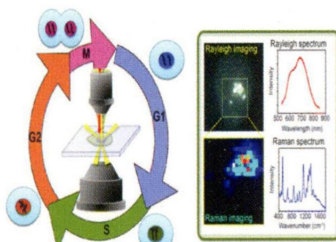
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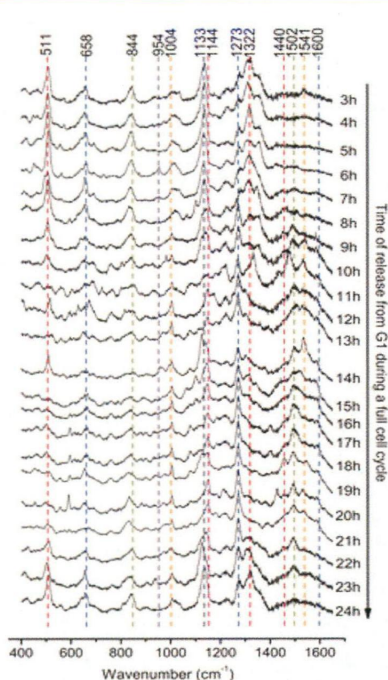
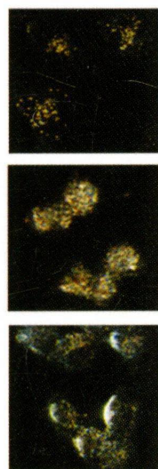
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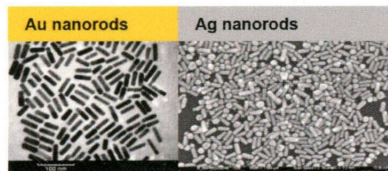
Following Drug Delivery



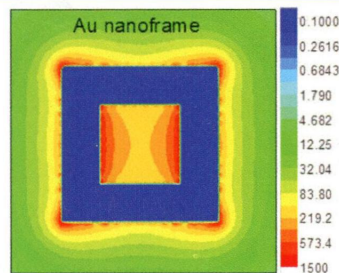
Single Cancer Cell in
Rayleigh and Raman Scattering



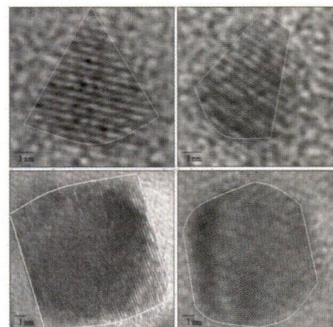
Following Single Cancer Cell
Dynamics during Its Full Cycle



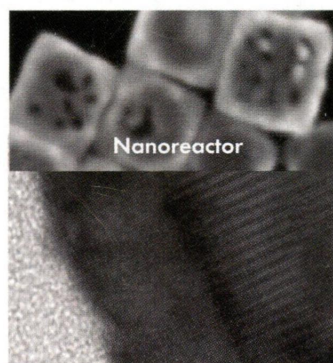
Synthesis of Nanoparticles



Strong Field in
Hollow Nanoparticles



Colloidal Catalysis



Double Shell Nanocatalyst

SPECTROSCOPY
OF NANO- AND
BIOMATERIALS
SYMPOSIUM

Nanotechnology in
Cancer Nanomedicine,
in Nanocatalysis,
and in Nanosensing

BIOPHYSICAL CHEMISTRY, BIOMATERIALS, LIQUIDS, AND SOFT MATTER

ON THE COVER: Top Left (Following Drug Delivery): Kang, B.; Afifi, M. M.; Austin, L. A.; El-Sayed, M. A. Exploiting the Nanoparticle Plasmon Effect: Observing Drug Delivery Dynamics in Single Cells via Raman/Fluorescence Imaging Spectroscopy. *ACS Nano* **2013**, *7* (8), 7420–7427, DOI: 10.1021/nn403351z (<http://pubs.acs.org/doi/abs/10.1021/nn403351z>). Top Center (Following Single Cancer Cell Dynamics during Its Full Cycle) and Left Center (Single Cancer Cell in Raleigh and Raman Scattering): Kang, B.; Austin, L. A.; El-Sayed, M. A. Real-Time Molecular Imaging throughout the Entire Cell Cycle by Targeted Plasmonic-Enhanced Rayleigh/Raman Spectroscopy. *Nano Lett.* **2012**, *12* (10), 5369–5375, DOI: 10.1021/nl3027586 (<http://pubs.acs.org/doi/abs/10.1021/nl3027586>). Top Right [Strong Field in Hollow Nanoparticles (Nanosensors)]: Mahmoud, M. A.; El-Sayed, M. A. Gold Nanoframes: Very High Surface Plasmon Fields and Excellent Near-Infrared Sensors. *J. Am. Chem. Soc.* **2010**, *132* (36), 12704–12710, DOI: 10.1021/ja104532z (<http://pubs.acs.org/doi/abs/10.1021/ja104532z>). Center Right (Colloidal Catalysis): Narayanan, R.; El-Sayed, M. A. Catalysis with Transition Metal Nanoparticles in Colloidal Solution: Nanoparticle Shape Dependence and Stability. *J. Phys. Chem. B* **2005**, *109* (26), 12663–12676, DOI: 10.1021/jp051066p (<http://pubs.acs.org/doi/abs/10.1021/jp051066p>). Bottom Left (Drug Treatment/Cell Death): Aioub, M.; Austin, L. A.; El-Sayed, M. A. Determining Drug Efficacy Using Plasmonically Enhanced Imaging of the Morphological Changes of Cells upon Death. *J. Phys. Chem. Lett.* **2014**, *5*, 3514–3518, DOI: 10.1021/jz501866g (<http://pubs.acs.org/doi/abs/10.1021/jz501866g>). Bottom Center (Synthesis of Nanoparticles): Mahmoud, M. A.; El-Sayed, M. A. Different Plasmon Sensing Behavior of Silver and Gold Nanorods. *J. Phys. Chem. Lett.* **2013**, *4* (9), 1541–1545, DOI: 10.1021/jz4005015 (<http://pubs.acs.org/doi/abs/10.1021/jz4005015>). Bottom Right (Top Panel, Nanoreactor): Mahmoud, M. A.; Narayanan, R.; El-Sayed, M. A. Enhancing Colloidal Metallic Nanocatalysis: Sharp Edges and Corners for Solid Nanoparticles and Cage Effect for Hollow Ones. *Acc. Chem. Res.* **2013**, *46* (8), 1795–1805, DOI: 10.1021/ar3002359 (<http://pubs.acs.org/doi/abs/10.1021/ar3002359>). Bottom Right (Bottom Panel: Double Shell Nanocatalyst): Mahmoud, M. A.; El-Sayed, M. A. Metallic Double Shell Hollow Nanocages: The Challenges of Their Synthetic Techniques. *Langmuir* **2012**, *28* (9), 4051–4059, DOI: 10.1021/la203982h (<http://pubs.acs.org/doi/abs/10.1021/la203982h>). This special section was organized by Guest Editors Christy F. Landes, Stephan Link, Paul H. Wine, and Z. John Zhang.

SPECIAL SECTION: SPECTROSCOPY OF NANO- AND BIOMATERIALS SYMPOSIUM

Guest Editors: Christy F. Landes, Stephan Link, Paul H. Wine, and Z. John Zhang

Special Section Preface

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DOI: 10.1021/jp509740z

2013 Southeastern Regional ACS Meeting. Nanochemistry and Spectroscopy: Symposium Honoring Mostafa El-Sayed
Christy F. Landes,* Stephan Link, Paul H. Wine, and Z. John Zhang

Articles

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DOI: 10.1021/jp502524f

Efficient Optical Trapping of CdTe Quantum Dots by Femtosecond Laser Pulses
Wei-Yi Chiang, Tomoki Okuhata, Anwar Usman,* Naoto Tamai,* and Hiroshi Masuhara*

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DOI: 10.1021/jp502624n

Secondary Structure of Corona Proteins Determines the Cell Surface Receptors Used by Nanoparticles
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- 14027 DOI: 10.1021/jp5038987
Combination of Optical and Electrical Loss Analyses for a Si-Phthalocyanine Dye-Sensitized Solar Cell
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- 14037 DOI: 10.1021/jp504346k
Visible Light Driven Photoelectrochemical Properties of Ti@TiO₂ Nanowire Electrodes Sensitized with Core-Shell Ag@Ag₂S Nanoparticles
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- 14047 DOI: 10.1021/jp504454y
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- 14056 DOI: 10.1021/jp504467j
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- 14062 DOI: 10.1021/jp504703t
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- 14070 DOI: 10.1021/jp5050699
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- 14076 DOI: 10.1021/jp505202k
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- 14085 DOI: 10.1021/jp505204f
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- 14092 DOI: 10.1021/jp505207h
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- 14103  DOI: 10.1021/jp505340c
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- 14110 DOI: 10.1021/jp505384j
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- 14115 DOI: 10.1021/jp505417e
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- 14124 DOI: 10.1021/jp5061182
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- 14132  DOI: 10.1021/jp506328p
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- 14140  DOI: 10.1021/jp5064325
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- 14148  DOI: 10.1021/jp506506p
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- 14157  DOI: 10.1021/jp506508x
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- 14168  DOI: 10.1021/jp5066456
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Interplay of LNA and 2'-O-Methyl RNA in the Structure and Thermodynamics of RNA Hybrid Systems: A Molecular Dynamics Study Using the Revised AMBER Force Field and Comparison with Experimental Results
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DOI: 10.1021/jp5077406

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DOI: 10.1021/jp505889p

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DOI: 10.1021/jp506658x

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Alexander Popp, Ling Wu, Timothy A. Keiderling,* and Karin Hauser*

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DOI: 10.1021/jp507754c

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14267  DOI: 10.1021/jp508779d

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14278  DOI: 10.1021/jp509125b

Kinetics and Thermodynamics of 1-Hydroxyethyl Radical Reaction with Unsaturated Lipids and Prenylflavonoids

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14302  DOI: 10.1021/jp511221c

Catalytic Activity of Human Placental Alkaline Phosphatase (PLAP): Insights from a Computational Study

Gabriela L. Borosky*

14314  DOI: 10.1021/jp509448b

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Yusuke Nakasone, Yuki Kawaguchi, Sam-Geun Kong, Masamitsu Wada, and Masahide Terazima*

14326 DOI: 10.1021/jp510061f

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14336  DOI: 10.1021/jp510368f

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14345  DOI: 10.1021/jp510853r

***In Singulo* Probing of Viral RNA Dynamics by Multichromophore Fluorescence Dequenching**

Virginia M. Smith and Bogdan Dragnea*

Biomaterials, Surfactants, and Membranes

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Effect of Successive Alkylation of *N,N*-Dialkyl Amides on the Complexation Behavior of Uranium and Thorium: Solvent Extraction, Small Angle Neutron Scattering, and Computational Studies
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Derivative Properties from High-Precision Equations of State
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DOI: 10.1021/jp5083714

Hydroxyl-Functionalized 1-(2-Hydroxyethyl)-3-methyl Imidazolium Ionic Liquids: Thermodynamic and Structural Properties using Molecular Dynamics Simulations and ab Initio Calculations
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Low Transition Temperature Mixtures as Innovative and Sustainable CO₂ Capture Solvents
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DOI: 10.1021/jp5092416

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Thermochemistry of Dihalogen-Substituted Benzenes: Data Evaluation Using Experimental and Quantum Chemical Methods

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Simultaneous Measurement of Speed of Sound, Thermal Diffusivity, and Bulk Viscosity of 1-Ethyl-3-methylimidazolium-Based Ionic Liquids Using Laser-Induced Gratings

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Glasses, Colloids, Polymers, and Soft Matter

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Swelling/Deswelling-Induced Reversible Surface Wrinkling on Layer-by-Layer Multilayers

Jing Hou, Qiaoyuan Li, Xue Han, and Conghua Lu*

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Gelation of a Solution of Poly(3-hexylthiophene) Greatly Retards Its Crystallization Rate in the Subsequently Cast Film

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Poroelastic Theory Applied to the Adsorption-Induced Deformation of Vitreous Silica

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Viscoelastic Behavior of a Binary System of Strongly Polar Bent-Core and Rodlike Nematic Liquid Crystals

Srividhya Parthasarathi, D. S. Shankar Rao, K. Fodor Csorba, and S. Krishna Prasad*

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H- and J-Aggregation of Fluorene-Based Chromophores

Yonghong Deng,* Wen Yuan, Zhe Jia, and Gao Liu*

