

ARTICLES

PHYSICAL CHEMISTRY OF MATERIALS: FROM NANOPARTICLES TO MACROMOLECULES

NMR Study of Complexation of Crown Ethers with [60]- and [70]Fullerenes

Sumanta Bhattacharya, Anubha Sharma, Sandip K. Nayak, Subrata Chattopadhyay, and Asok K. Mukherjee
pp 4213 - 4217; (**Article**) DOI: [10.1021/jp022157e](https://doi.org/10.1021/jp022157e)

Formation of Stable Platinum Nanoparticles by Laser Ablation in Water

Fumitaka Mafuné, Jun-ya Kohno, Yoshihiro Takeda, and Tamotsu Kondow
pp 4218 - 4223; (**Article**) DOI: [10.1021/jp021580k](https://doi.org/10.1021/jp021580k)

Two-Dimensional ATR-FTIR Spectroscopic Investigation on Water Diffusion in Polypropylene Film: Water Bending Vibration

Yi Shen and Peiyi Wu
pp 4224 - 4226; (**Article**) DOI: [10.1021/jp0269975](https://doi.org/10.1021/jp0269975)

Electric-Field-Induced Reorientation of a Ferroelectric Liquid Crystal Molecule without a Carboxylate Group near the Stereocenter Studied by Time-Resolved Infrared Spectroscopy Combined with Normalized Sample-Sample Two-Dimensional Correlation Spectroscopy

J. G. Zhao, K. Tatani, T. Yoshihara, and Y. Ozaki
pp 4227 - 4236; (**Article**) DOI: [10.1021/jp027295i](https://doi.org/10.1021/jp027295i)

Growth of Graphite Nanofibers from the Iron-Copper Catalyzed Decomposition of CO/H₂ Mixtures

O. C. Carneiro, M. S. Kim, J. B. Yim, N. M. Rodriguez, and R. T. K. Baker
pp 4237 - 4244; (**Article**) DOI: [10.1021/jp022364e](https://doi.org/10.1021/jp022364e)

Charge Transfer between a Gold Substrate and CdS Nanoparticles Assembled in Hybrid Organic-Inorganic Films

A. Samokhvalov, R. W. Gurney, M. Lahav, S. Cohen, H. Cohen, and R. Naaman
pp 4245 - 4252; (**Article**) DOI: [10.1021/jp022215w](https://doi.org/10.1021/jp022215w)

Solar Water Splitting To Generate Hydrogen Fuel: Photothermal Electrochemical Analysis

Stuart Licht
pp 4253 - 4260; (**Article**) DOI: [10.1021/jp026964p](https://doi.org/10.1021/jp026964p)

Topographical Evolution of Lead Zirconate Titanate (PZT) Thin Films Patterned by Micromolding in Capillaries

Christopher R. Martin and Ilhan A. Aksay
pp 4261 - 4268; (**Article**) DOI: [10.1021/jp034055+](https://doi.org/10.1021/jp034055+)

Potentiostatic Oxidation of Polyaniline under Conformational Relaxation Control: Experimental and Theoretical Study

T. F. Otero and I. Boyano
pp 4269 - 4276; (**Article**) DOI: [10.1021/jp0225222](https://doi.org/10.1021/jp0225222)

Adsorption and Dimerization of NO Inside Single-Walled Carbon Nanotubes-An Infrared Spectroscopic Study

O. Byl, P. Kondratyuk, and J. T. Yates, Jr.
pp 4277 - 4279; (**Article**) DOI: [10.1021/jp022565i](https://doi.org/10.1021/jp022565i)

Structural Characterization of Mesoporous Organosilica Films for Ultralow-*k* Dielectrics

Femke K. de Theije, A. Ruud Balkenende, Marcel A. Verheijen, Mikhail R. Baklanov, Konstantin P. Mogilnikov, and Yukiko Furukawa
pp 4280 - 4289; (**Article**) DOI: [10.1021/jp027701y](https://doi.org/10.1021/jp027701y)

Electron Paramagnetic Resonance and Solid-State NMR Study of Cation Distribution in LiGa_yCo_{1-y}O₂ and Effects on the Electrochemical Oxidation

Ekaterina Zhecheva, Radostina Stoyanova, Ricardo Alcántara, and José L. Tirado
pp 4290 - 4295; (**Article**) DOI: [10.1021/jp027807t](https://doi.org/10.1021/jp027807t)

PHYSICAL CHEMISTRY OF SURFACES AND INTERFACES

Photocatalytic Reduction of Se(VI) in Aqueous Solutions in UV/TiO₂ System: Kinetic Modeling and Reaction Mechanism

Timothy T. Y. Tan, Donia Beydoun, and Rose Amal
pp 4296 - 4303; (**Article**) DOI: [10.1021/jp026149+](https://doi.org/10.1021/jp026149+)

Differential Hydration of Phenol and Phenoxy Radical and the Energetics of the Phenol O-H Bond in Solution

R. C. Guedes, K. Coutinho, B. J. Costa Cabral, and S. Canuto
pp 4304 - 4310; (**Article**) DOI: [10.1021/jp0219449](https://doi.org/10.1021/jp0219449)

Surface Sites of Pd/CeO₂/Al₂O₃ Catalysts in the Partial Oxidation of Propane

A. L. Guimarães, L. C. Dieguez, and M. Schmal
pp 4311 - 4319; (**Article**) DOI: [10.1021/jp0270194](https://doi.org/10.1021/jp0270194)

Heteroepitaxial Growth and Nucleation of Iron Oxide Films on Ru(0001)

Guido Ketteler and Wolfgang Ranke
pp 4320 - 4333; (**Article**) DOI: [10.1021/jp027265f](https://doi.org/10.1021/jp027265f)

Correlating Mechanical Strain with Low-Temperature Hydrogenation Activity on Submonolayer Ni/W(110) Surfaces

Neetha A. Khan and Jingguang G. Chen
pp 4334 - 4341; (**Article**) DOI: [10.1021/jp027326+](https://doi.org/10.1021/jp027326+)

A Density Functional Theory Based Approach to Extraframework Aluminum Species in Zeolites

Daniel L. Bhering, Alejandro Ramírez-Solís, and Claudio J. A. Mota
pp 4342 - 4347; (**Article**) DOI: [10.1021/jp022331z](https://doi.org/10.1021/jp022331z)

Thermal Decomposition of Alkylsiloxane Self-Assembled Monolayers in Air

Hee K. Kim, Jae P. Lee, Chan R. Park, Hyon T. Kwak, and M. M. Sung
pp 4348 - 4351; (**Article**) DOI: [10.1021/jp022377s](https://doi.org/10.1021/jp022377s)

Electrocatalytic Enhancement of Methanol Oxidation at Pt-WO_x Nanophase Electrodes and In-Situ Observation of Hydrogen Spillover Using Electrochromism

Kyung-Won Park, Kwang-Soon Ahn, Yoon-Chae Nah, Jong-Ho Choi, and Yung-Eun Sung

pp 4352 - 4355; (**Article**) DOI: [10.1021/jp022515d](https://doi.org/10.1021/jp022515d)

Surface-Binding Forms of Carboxylic Groups on Nanoparticulate TiO₂ Surface Studied by the Interface-Sensitive Transient Triplet-State Molecular Probe

Yu-Xiang Weng, Long Li, Yin Liu, Li Wang, and Guo-Zhen Yang
pp 4356 - 4363; (**Article**) DOI: [10.1021/jp022534n](https://doi.org/10.1021/jp022534n)

Active Sites and Active Oxygen Species for Photocatalytic Epoxidation of Propene by Molecular Oxygen over TiO₂-SiO₂ Binary Oxides

Chizu Murata, Hisao Yoshida, Jun Kumagai, and Tadashi Hattori
pp 4364 - 4373; (**Article**) DOI: [10.1021/jp0277006](https://doi.org/10.1021/jp0277006)

Photocurrent-Determining Processes in Quasi-Solid-State Dye-Sensitized Solar Cells Using Ionic Gel Electrolytes

Wataru Kubo, Shingo Kambe, Shogo Nakade, Takayuki Kitamura, Kenji Hanabusa, Yuji Wada, and Shozo Yanagida
pp 4374 - 4381; (**Article**) DOI: [10.1021/jp034248x](https://doi.org/10.1021/jp034248x)

STATISTICAL MECHANICS AND THERMODYNAMICS OF CONDENSED MATTER

Phenomenological Models for the Generic van der Waals Equation of State and Critical Parameters

Kyunil Rah and Byung Chan Eu
pp 4382 - 4391; (**Article**) DOI: [10.1021/jp0218847](https://doi.org/10.1021/jp0218847)

Chemla Effect in Molten LiCl/KCl and LiF/KF Mixtures

Mauro C. C. Ribeiro
pp 4392 - 4402; (**Article**) DOI: [10.1021/jp027261a](https://doi.org/10.1021/jp027261a)

The Nature and Absolute Hydration Free Energy of the Solvated Electron in Water

Chang-Guo Zhan and David A. Dixon
pp 4403 - 4417; (**Article**) DOI: [10.1021/jp022326v](https://doi.org/10.1021/jp022326v)

On the Low-Temperature Diffusion of Localized Frenkel Excitons in Linear Molecular Aggregates

A. V. Malyshev, V. A. Malyshev, and F. Domínguez-Adame
pp 4418 - 4425; (**Article**) DOI: [10.1021/jp0341218](https://doi.org/10.1021/jp0341218)

Behavior of Water in the Hydrophobic Zeolite Silicalite at Different Temperatures. A Molecular Dynamics Study

Pierfranco Demontis, Giovanna Stara, and Giuseppe B. Suffritti
pp 4426 - 4436; (**Article**) DOI: [10.1021/jp0300849](https://doi.org/10.1021/jp0300849)

BIOPHYSICAL CHEMISTRY

Rates of Catalyzed Processes in Enzymes and Other Cooperative Media

Carlo Canepa
pp 4437 - 4443; (**Article**) DOI: [10.1021/jp0276698](https://doi.org/10.1021/jp0276698)

Control of Electron-Transfer and DNA Binding Properties by the Tolyl Spacer Group in Viologen Linked Acridines

Joshy Joseph, Nadukkudy V. Eldho, and Danaboyina Ramaiah
pp 4444 - 4450; (**Article**) DOI: [10.1021/jp027248q](https://doi.org/10.1021/jp027248q)

Extensions of Counterion Condensation Theory. 2. Cell Model and Osmotic Pressure of DNA

J. Michael Schurr and Bryant S. Fujimoto
pp 4451 - 4458; (**Article**) DOI: [10.1021/jp0223861](https://doi.org/10.1021/jp0223861)

Influence of Structural Fluctuation on Enzyme Reaction Energy Barriers in Combined Quantum Mechanical/Molecular Mechanical Studies

Yingkai Zhang, Jeremy Kua, and J. Andrew McCammon
pp 4459 - 4463; (**Article**) DOI: [10.1021/jp022525e](https://doi.org/10.1021/jp022525e)

GENERAL PHYSICAL CHEMISTRY

Dynamics of Spin-Correlated Radical Pairs in Non-Ionic Surfactant Solutions

Erin E. Chaney and Malcolm D. E. Forbes
pp 4464 - 4469; (**Article**) DOI: [10.1021/jp026601p](https://doi.org/10.1021/jp026601p)

Rate and Mechanisms for Water Exchange around Li⁺(aq) from MD Simulations

Daniel Spångberg, Rossend Rey, James T. Hynes, and Kersti Hermansson
pp 4470 - 4477; (**Article**) DOI: [10.1021/jp027230f](https://doi.org/10.1021/jp027230f)

ADDITIONS AND CORRECTIONS

Cooperative Effects Induced by Adsorbed Polypeptides in Mixed Membranes

P. Schiller, H.-J. Mögel, M. Wahab, and U. Reimer:
pp 4478 - 4478; (**Addition/Correction**) DOI: [10.1021/jp0302764](https://doi.org/10.1021/jp0302764)