

[journals & magazines](#)
[about the journal](#)
[ethical guidelines](#)
[sample issue](#)
[RSS & E-mail Alerts](#)
[hot articles](#)
[masthead](#)
[supporting info](#)
[author index](#)
[licensing info](#)
[related I&EC titles](#)
[how to subscribe](#)
[ACS Paragon System](#)
[info for authors](#)
[submit manuscript](#)
[info for reviewers](#)
[submit review](#)
[advertising info](#)
[copyright info](#)
[contacts/help](#)
[editorial office](#)
[customer service](#)
[technical support](#)
[e-mail webmaster](#)
[site map](#)
[ACS Pubs / ChemPort](#)
[CAS / chemistry.org](#)
[RSS](#)
[About RSS](#)
[Journal Home](#) | [ASAP Articles](#) | [Search Journals](#)

Table of Contents

Industrial & Engineering Chemistry Research

[ASAP Articles](#)
 Issue: [Previous](#) / [Next](#)

 Select Decade:
 Select Volume:
 Select Issue Number:

For both industrial chemists and chemical engineers, *Industrial & Engineering Chemistry Research* is the reliable and current source of new fundamental research, design methods, process design and development, and product research and development. [[Related I&EC journals](#)]

[Display printer-friendly version](#)


Industrial & Engineering Chemistry Research
 Table of Contents
 Vol. 45, No. 10: May 10, 2006

Citation Management

[Learn More](#)

ISSF

 Select Citatic

Preface: Seventh International Symposium on Supercritical Fluids (ISSF2005)

 J.F. Brennecke, K.P. Johnston, and R.G. Carbonell
 pp 3327 - 3327; **(Editorial)** DOI: [10.1021/ie0680021](https://doi.org/10.1021/ie0680021)

 Full: [HTML](#) / [PDF](#) (5K)

 Select Citatic

Supercritical CO₂ for Making Nanoscale Materials

 Hiroaki Wakayama and Yoshiaki Fukushima
 pp 3328 - 3331; **(Article)** DOI: [10.1021/ie050658r](https://doi.org/10.1021/ie050658r)
[Abstract](#) Full: [HTML](#) / [PDF](#) (467K)

 Select Citatic

CaCO₃/Biopolymer Composite Films Prepared Using Supercritical CO₂

 Hiroaki Wakayama, Simon R. Hall, Yoshiaki Fukushima, and Stephen Mann
 pp 3332 - 3334; **(Article)** DOI: [10.1021/ie050659j](https://doi.org/10.1021/ie050659j)
[Abstract](#) Full: [HTML](#) / [PDF](#) (93K)

 Select Citatic

Modeling the Partitioning of Oligomers in Supercritical CO₂

 Barbara Bonavoglia, Giuseppe Storti, and Massimo Morbidelli
 pp 3335 - 3342; **(Article)** DOI: [10.1021/ie050670j](https://doi.org/10.1021/ie050670j)

[Abstract](#) Full: [HTML](#) / [PDF](#) (90K)

 [Feedback](#) | [Purchase](#) | Select Citation

Preparation of Silver Nanoparticles via Reduction of a Highly CO₂-Soluble Hydrocarbon-Based Metal Precursor

Xin Fan, M. Chandler McLeod, Robert M. Enick, and Christopher B. Roberts
pp 3343 - 3347; **(Article)** DOI: [10.1021/ie050684p](#)

[Abstract](#) Full: [HTML](#) / [PDF](#) (179K)

 [Feedback](#) | [Purchase](#) | Select Citation

Low Temperature Synthesis of Metal Oxides by a Supercritical Seed Enhanced Crystallization (SSEC) Process

Henrik Jensen, Karsten D. Joensen, Steen B. Iversen, and Erik G. Sogaard
pp 3348 - 3353; **(Article)** DOI: [10.1021/ie050694q](#)

[Abstract](#) Full: [HTML](#) / [PDF](#) (274K)

 [Feedback](#) | [Purchase](#) | Select Citation

Cosolvent Effect and Solubility Measurement for Butyl (Meth)acrylate Polymers in Benign Environmental Supercritical Solvents

Hun-Soo Byun and Dong-Hyun Lee
pp 3354 - 3365; **(Article)** DOI: [10.1021/ie050705f](#)

[Abstract](#) Full: [HTML](#) / [PDF](#) (255K)

 [Feedback](#) | [Purchase](#) | Select Citation

Phase Behavior of the Binary and Ternary Mixtures of Biodegradable Poly(ϵ -caprolactone) in Supercritical Fluids

Hun-Soo Byun, Dong-Hyun Lee, Jong-Sung Lim, and Ki-Pung Yoo
pp 3366 - 3372; **(Article)** DOI: [10.1021/ie0507068](#)

[Abstract](#) Full: [HTML](#) / [PDF](#) (140K)

 [Feedback](#) | [Purchase](#) | Select Citation

Phase Behavior of Binary and Ternary Mixtures of Poly(decyl acrylate)-Supercritical Solvents Decyl Acrylate and Poly(decyl methacrylate)-CO₂-Decyl Methacrylate Systems

Hun-Soo Byun and Dong-Hyun Lee
pp 3373 - 3380; **(Article)** DOI: [10.1021/ie0507070](#)

[Abstract](#) Full: [HTML](#) / [PDF](#) (172K)

 [Feedback](#) | [Purchase](#) | Select Citation

Cloud Points of Poly(ϵ -caprolactone), Poly(L-lactide), and Polystyrene in Supercritical Fluids

Ji-Young Park, Soo Young Kim, Hun-Soo Byun, Ki-Pung Yoo, and Jong Sung Lim
pp 3381 - 3387; **(Article)** DOI: [10.1021/ie050710j](#)

[Abstract](#) Full: [HTML](#) / [PDF](#) (112K)

 [Feedback](#) | [Purchase](#) | Select Citation

Recrystallization of Poly(L-lactic acid) into Submicrometer Particles in Supercritical Carbon Dioxide

Mi Yeong Kim, Youn Woo Lee, Hun-Soo Byun, and Jong Sung Lim
pp 3388 - 3392; **(Article)** DOI: [10.1021/ie050711b](#)

[Abstract](#) Full: [HTML](#) / [PDF](#) (544K)

 [Feedback](#) | [Purchase](#) | Select Citation

Demixing of Polypropylene/Polystyrene Blends by Near-Critical Selective Solubilization

Raquel E. Martini, Silvia Barbosa, and Esteban Brignole
pp 3393 - 3399; **(Article)** DOI: [10.1021/ie050715g](#)

[Abstract](#) Full: [HTML](#) / [PDF](#) (179K)

 [Feedback](#) | [Purchase](#) | Select Citation

Applications of Supercritical Fluid in Alloplastic Bone Graft: A Novel Method and in Vitro Test:Ching-Feng Chen, Che-Shoa Chang, Yan-Ping Chen, Tien-Sheng Lin, Cheng-Yao Su, and Sheng-Yang Lee
pp 3400 - 3405; (Article) DOI: [10.1021/ie0507169](https://doi.org/10.1021/ie0507169)[Abstract](#) Full: [HTML](#) / [PDF](#) (263K)[Feedback](#) | [Purchase](#) | Select Citatic**Synthesis and Properties of Fluorinated Ester-Functionalized Polythiophenes in Supercritical Carbon Dioxide**Hullathy Subban Ganapathy, Ha Soo Hwang, and Kwon Taek Lim
pp 3406 - 3411; (Article) DOI: [10.1021/ie050718t](https://doi.org/10.1021/ie050718t)[Abstract](#) Full: [HTML](#) / [PDF](#) (123K)[Feedback](#) | [Purchase](#) | Select Citatic**Surface Chemical Analysis on the Corrosion of Alloys in the Supercritical Water Oxidation of Halogenated Hydrocarbon**Hyeon-Cheol Lee, Sang-Ha Son, Kyung-Yub Hwang, and Chang-Ha Lee
pp 3412 - 3419; (Article) DOI: [10.1021/ie050663v](https://doi.org/10.1021/ie050663v)[Abstract](#) Full: [HTML](#) / [PDF](#) (839K)[Feedback](#) | [Purchase](#) | Select Citatic**Supercritical Fluid Processing of Nanoscale Particles from Biodegradable and Biocompatible Polymers**Mohammed J. Meziani, Pankaj Pathak, Tarang Desai, and Ya-Ping Sun
pp 3420 - 3424; (Article) DOI: [10.1021/ie050704n](https://doi.org/10.1021/ie050704n)[Abstract](#) Full: [HTML](#) / [PDF](#) (417K)[Feedback](#) | [Purchase](#) | Select Citatic**Solubility Measurement and Dyeing Performance Evaluation of Aramid NOMEX Yarn by Dispersed Dyes in Supercritical Carbon Dioxide**Taehyoung Kim, Gwansoo Kim, Ji-Young Park, Jong Sung Lim, and Ki-Pung Yoo
pp 3425 - 3433; (Article) DOI: [10.1021/ie0507171](https://doi.org/10.1021/ie0507171)[Abstract](#) Full: [HTML](#) / [PDF](#) (164K)[Feedback](#) | [Purchase](#) | Select Citatic**Complex Formation of Semifluorinated γ -Cyclodextrin and Surfactants in Liquid Carbon Dioxide**Ha Soo Hwang, Min Young Lee, Yeon Tae Jeong, Seong-Soo Hong, Yeong-Soon Gal, and Kwon Taek Lim
pp 3434 - 3437; (Article) DOI: [10.1021/ie050719l](https://doi.org/10.1021/ie050719l)[Abstract](#) Full: [HTML](#) / [PDF](#) (237K)[Feedback](#) | [Purchase](#) | Select Citatic**Effect of the Transpiring Wall on the Behavior of a Supercritical Water Oxidation Reactor: Modeling and Experimental Results**M. Dolores Bermejo, Fernando Fdez-Polanco, and M. José Cocero
pp 3438 - 3446; (Article) DOI: [10.1021/ie050655e](https://doi.org/10.1021/ie050655e)[Abstract](#) Full: [HTML](#) / [PDF](#) (694K)[Feedback](#) | [Purchase](#) | Select Citatic**The Production of Propene Oxide: Catalytic Processes and Recent Developments**T. Alexander Nijhuis, Michiel Makkee, Jacob A. Moulijn, and Bert M. Weckhuysen
pp 3447 - 3459; (Review) DOI: [10.1021/ie0513090](https://doi.org/10.1021/ie0513090)[Abstract](#) Full: [HTML](#) / [PDF](#) (318K)**APPLIED CHEMISTRY**[Feedback](#) | [Purchase](#) | Select Citatic**Density Functional Theory Study of Methanol Conversion via Cold Plasmas**

You Han, Jian-guo Wang, Dang-guo Cheng, and Chang-jun Liu

pp 3460 - 3467; (Article) DOI: [10.1021/ie060132m](https://doi.org/10.1021/ie060132m)[Abstract](#) Full: [HTML](#) / [PDF](#) (232K)[!\[\]\(dfbd6b3763a6d1d9afaa974f64e2e4b5_img.jpg\) Feedback](#) | [!\[\]\(b89ecf30df3dbaee65fa9f1829524a6e_img.jpg\) Purchase](#) | Select Citatic**Electrochemical Oxidation of Azoic Dyes with Conductive-Diamond Anodes**

P. Cañizares, A. Gadri, J. Lobato, B. Nasr, R. Paz, M. A. Rodrigo, and C. Saez

pp 3468 - 3473; (Article) DOI: [10.1021/ie051427n](https://doi.org/10.1021/ie051427n)[Abstract](#) Full: [HTML](#) / [PDF](#) (102K)[!\[\]\(05be7c7a8995decd503647c99211f7c2_img.jpg\) Feedback](#) | [!\[\]\(16cd6e1a39784ecf52b4db09f4865f40_img.jpg\) Purchase](#) | Select Citatic**Electrochemically Assisted Coagulation of Wastes Polluted with Eriochrome Black T**

P. Cañizares, F. Martínez, J. Lobato, and M. A. Rodrigo

pp 3474 - 3480; (Article) DOI: [10.1021/ie051432r](https://doi.org/10.1021/ie051432r)[Abstract](#) Full: [HTML](#) / [PDF](#) (208K)**KINETICS, CATALYSIS, AND REACTION ENGINEERING**[!\[\]\(a8f9309f944226d1420f5fed22e2b6e6_img.jpg\) Feedback](#) | [!\[\]\(729993f67f08b74df2e570c12c53c92e_img.jpg\) Purchase](#) | Select Citatic**Kinetics of Reductive Isopropylation of Benzene with Acetone over Nano-Copper Chromite-Loaded H-Mordenite**

Sanghamitra Barman, Narayan C. Pradhan, Amitava Acharya, and P. Pramanik

pp 3481 - 3487; (Article) DOI: [10.1021/ie051283c](https://doi.org/10.1021/ie051283c)[Abstract](#) Full: [HTML](#) / [PDF](#) (98K)[!\[\]\(d3e32d099174a7c248ec1f564ee4f69c_img.jpg\) Feedback](#) | [!\[\]\(016eb73bb06245f3d4156a3a5b5af270_img.jpg\) Purchase](#) | Select Citatic**Mechanism of Achieving a Dense Downer: Modeling and Validation**

Hengzhi Chen, Hongzhong Li, and Shiyu Tan

pp 3488 - 3495; (Article) DOI: [10.1021/ie0509488](https://doi.org/10.1021/ie0509488)[Abstract](#) Full: [HTML](#) / [PDF](#) (160K)[!\[\]\(8b0a097b4b9c9c3eeaea0f4289ea77e5_img.jpg\) Feedback](#) | [!\[\]\(87b60107e7fb2186baec8b76a60234e5_img.jpg\) Purchase](#) | Select Citatic**Ethylene and Acetaldehyde Production by Selective Oxidation of Ethanol Using Mesoporous V MCM-41 Catalysts**

Yesim Guçbilmez, Timur Dogu, and Suna Balci

pp 3496 - 3502; (Article) DOI: [10.1021/ie050952j](https://doi.org/10.1021/ie050952j)[Abstract](#) Full: [HTML](#) / [PDF](#) (133K)[!\[\]\(9352cdb2fdfaf3ccfd4037374b35da5d_img.jpg\) Feedback](#) | [!\[\]\(53a575ca812df793f10732a5653a588b_img.jpg\) Purchase](#) | Select Citatic**Photodegradation of Benzoic Acid over Metal-Doped TiO₂**

Jinkai Zhou, Yuxin Zhang, X. S. Zhao, and Ajay K. Ray

pp 3503 - 3511; (Article) DOI: [10.1021/ie051098z](https://doi.org/10.1021/ie051098z)[Abstract](#) Full: [HTML](#) / [PDF](#) (305K)[!\[\]\(8ca028f9e2a49f208b9be4b48bf3bf2f_img.jpg\) Feedback](#) | [!\[\]\(20d863bc5a4a44999429acab5848865c_img.jpg\) Purchase](#) | Select Citatic**Studies of the Flash Carbonization Process. 2. Violent Ignition Behavior of Pressurized Packed Beds of Biomass: A Factorial Study**

Samuel Robert Wade, Tepei Nunoura, and Michael Jerry Antal, Jr.

pp 3512 - 3519; (Article) DOI: [10.1021/ie051374+](https://doi.org/10.1021/ie051374+)[Abstract](#) Full: [HTML](#) / [PDF](#) (213K)[!\[\]\(3765aedc0d88080cfae472fab5ed28ea_img.jpg\) Feedback](#) | [!\[\]\(8d3dfcd271db71983fb8c956dba825df_img.jpg\) Purchase](#) | Select Citatic**Catalytic Oxidation Performance of Wall-Flow versus Flow-Through Monoliths for Diesel Emissions Control**

Christos K. Dardiotis, Onoufrios A. Haralampous, and Grigorios C. Koltsakis

pp 3520 - 3530; (Article) DOI: [10.1021/ie060046m](https://doi.org/10.1021/ie060046m)[Abstract](#) Full: [HTML](#) / [PDF](#) (458K)

 [Feedback](#) |  [Purchase](#) | Select Citation

Methylation of 2-Methylnaphthalene with Methanol to 2,6-Dimethylnaphthalene over ZSM-5 Modified by Zr and Si

Lijun Jin, Haoquan Hu, Xuyan Wang, and Chang Liu
pp 3531 - 3536; (Article) DOI: [10.1021/ie060075x](https://doi.org/10.1021/ie060075x)

[Abstract](#) Full: [HTML](#) / [PDF](#) (205K)

 [Feedback](#) |  [Purchase](#) | Select Citation

Thermal Stability of the Co-Mo-S Structure As Studied by a CVD Technique Using Co(CO)₃NO

Usman, Takeshi Kubota, and Yasuaki Okamoto
pp 3537 - 3543; (Article) DOI: [10.1021/ie060095z](https://doi.org/10.1021/ie060095z)

[Abstract](#) Full: [HTML](#) / [PDF](#) (135K)

 [Feedback](#) |  [Purchase](#) | Select Citation

Determination of Kinetic Constants for Titanium-based Ethylene Trimerization Catalysis

Henk Hagen
pp 3544 - 3551; (Article) DOI: [10.1021/ie060133e](https://doi.org/10.1021/ie060133e)

[Abstract](#) Full: [HTML](#) / [PDF](#) (210K) [Supporting Info](#)

MATERIALS AND INTERFACES

 [Feedback](#) |  [Purchase](#) | Select Citation

Solubilization of Naphthalene by Pure and Mixed Surfactants

Santanu Paria and Pak K. Yuet
pp 3552 - 3558; (Article) DOI: [10.1021/ie051377m](https://doi.org/10.1021/ie051377m)

[Abstract](#) Full: [HTML](#) / [PDF](#) (151K)

 [Feedback](#) |  [Purchase](#) | Select Citation

Effect of Curing Temperature and Silicate Concentration on Fly-Ash-Based Geopolymerization

Sindhunata, J. S. J. van Deventer, G. C. Lukey, and H. Xu
pp 3559 - 3568; (Article) DOI: [10.1021/ie051251p](https://doi.org/10.1021/ie051251p)

[Abstract](#) Full: [HTML](#) / [PDF](#) (824K)

 [Feedback](#) |  [Purchase](#) | Select Citation

Characterization and Photocatalytic Properties of Titanium-Containing Mesoporous SBA-15

G. Li and X. S. Zhao
pp 3569 - 3573; (Article) DOI: [10.1021/ie0514253](https://doi.org/10.1021/ie0514253)

[Abstract](#) Full: [HTML](#) / [PDF](#) (215K)

PROCESS DESIGN AND CONTROL

 [Feedback](#) |  [Purchase](#) | Select Citation

Modeling and Control of a Naphtha Thermal Cracking Pilot Plant

Miresmaeil Masoumi, Mohammad Shahrokhi, Mojtaba Sadrameli, and Jafar Towfighi
pp 3574 - 3582; (Article) DOI: [10.1021/ie050630f](https://doi.org/10.1021/ie050630f)

[Abstract](#) Full: [HTML](#) / [PDF](#) (470K)

 [Feedback](#) |  [Purchase](#) | Select Citation

Optimal Grade Transition in Polymerization Reactors: A Comparative Case Study

Nitin Padhiyar, Sharad Bhartiya, and Ravindra D. Gudi
pp 3583 - 3592; (Article) DOI: [10.1021/ie051169u](https://doi.org/10.1021/ie051169u)

[Abstract](#) Full: [HTML](#) / [PDF](#) (97K)

 [Feedback](#) |  [Purchase](#) | Select Citation

From Data to Nonlinear Predictive Control. 2. Improving Regulatory Performance Using Identified Observers

Meka Srinivasarao, Sachin C. Patwardhan, and Ravindra D. Gudi

pp 3593 - 3603; **(Article)** DOI: [10.1021/ie051285x](https://doi.org/10.1021/ie051285x)

[Abstract](#) Full: [HTML](#) / [PDF](#) (202K)

 [Feedback](#) |  [Purchase](#) | Select Citatic

Enhanced Two-Degrees-of-Freedom Control Strategy for Second-Order Unstable Processes with Time Delay

A. Seshagiri Rao and M. Chidambaram

pp 3604 - 3614; **(Article)** DOI: [10.1021/ie051046+](https://doi.org/10.1021/ie051046+)

[Abstract](#) Full: [HTML](#) / [PDF](#) (195K)

 [Feedback](#) |  [Purchase](#) | Select Citatic

Sensor Location for Stable Nonlinear Dynamic Systems: Multiple Sensor Case

Abhay K. Singh and Juergen Hahn

pp 3615 - 3623; **(Article)** DOI: [10.1021/ie0511175](https://doi.org/10.1021/ie0511175)

[Abstract](#) Full: [HTML](#) / [PDF](#) (309K)

SEPARATIONS