

- [ACS Style Guide: Citing References \[PDF\]](#)
- [Copyright & Permissions/Rightslink](#)
- [ACS Author & Reviewer Resource Center](#)
- [Subscriptions](#)
- [About the Journal](#)
 - [About the Journal](#)
 - [Editors](#)
 - [Editor Profile](#)
 - [Masthead \[PDF\]](#)
 - [Editorial Advisory Board \[PDF\]](#)
 - [Advertising](#)

[Previous Issue](#) [Next Issue](#)

Table of Contents



[Larger Cover](#)

April 2, 2008
Volume 47, Issue 7
Pages 2109-2454

In this issue:

- [REVIEWS](#)
- [APPLIED CHEMISTRY](#)
- [KINETICS, CATALYSIS, AND REACTION ENGINEERING](#)
- [MATERIALS AND INTERFACES](#)
- [PROCESS DESIGN AND CONTROL](#)
- [SEPARATIONS](#)
- [GENERAL RESEARCH](#)
- [RESEARCH NOTES](#)



ACS AuthorChoice indicates the article is freely available through sponsorship by the author or related funding agency. [More about this program.](#)

Select All For Selected Content:

REVIEWS

[Natural Gas Processing with Membranes: An Overview](#)




Richard W. Baker and Kaaeid Lokhandwala

pp 2109–2121

Publication Date (Web): February 28, 2008 (Review)

DOI: 10.1021/ie071083w

[Abstract](#)

-  [Full Text HTML](#)
-  [Hi-Res PDF](#)[1168K]
-  [PDF w/ Links](#)[552K]

[Review of Packed-Bed Plasma Reactor for Ozone Generation and Air Pollution Control](#)




Hsin Liang Chen, How Ming Lee, Shiaw Huei Chen, and Moo Been Chang

pp 2122–2130

Publication Date (Web): March 06, 2008 (Review)

DOI: 10.1021/ie071411s

[Abstract](#)

-  [Full Text HTML](#)
-  [Hi-Res PDF](#)[162K]
-  [PDF w/ Links](#)[193K]

APPLIED CHEMISTRY

Stoichiometry of Cr(VI) Immobilization Using Nanoscale Zerovalent Iron (nZVI): A Study with High-Resolution X-Ray Photoelectron Spectroscopy (HR-XPS)




Xiao-qin Li, Jiasheng Cao, and Wei-xian Zhang

pp 2131–2139

Publication Date (Web): March 06, 2008 (Article)

DOI: 10.1021/ie061655x

[Abstract](#)

-  [Full Text HTML](#)
-  [Hi-Res PDF](#)[383K]
-  [PDF w/ Links](#)[372K]

Environmentally Benign Route for the Synthesis of Polycarbonate Diols (PCDLs)—Calcined MgAl Hydrotalcites as Heterogeneous Catalysts




Yue Xia Feng, Ning Yin, Qi Feng Li, Jun Wei Wang, Mao Qing Kang, and Xin Kui Wang

pp 2140–2145

Publication Date (Web): March 01, 2008 (Article)

DOI: 10.1021/ie070759k

[Abstract](#)

-  [Full Text HTML](#)
-  [Hi-Res PDF](#)[186K]
-  [PDF w/ Links](#)[201K]

Magnesium Production by the Pidgeon Process Involving

Dolomite Calcination and MgO Silicothermic Reduction: Thermodynamic and Environmental Analyses




M. Halmann, A. Frei, and A. Steinfeld

pp 2146–2154

Publication Date (Web): March 06, 2008 (Article)

DOI: 10.1021/ie071234v

[Abstract](#)

-  [Full Text HTML](#)
-  [Hi-Res PDF](#)[274K]
-  [PDF w/ Links](#)[339K]

New UV-Curable High Refractive Index Oligomers




Ahmet Nebioglu, Joseph A. Leon, and Igor V. Khudyakov

pp 2155–2159

Publication Date (Web): March 06, 2008 (Article)

DOI: 10.1021/ie071443f

[Abstract](#)

-  [Full Text HTML](#)
-  [Hi-Res PDF](#)[98K]
-  [PDF w/ Links](#)[120K]

Flame Retardant Finishing of Nylon/Cotton Blend Fabrics Using a Hydroxy-Functional Organophosphorus Oligomer




Hui Yang and Charles Q. Yang

pp 2160–2165

Publication Date (Web): March 01, 2008 (Article)

DOI: 10.1021/ie071146a

[Abstract](#)

-  [Full Text HTML](#)
-  [Hi-Res PDF](#)[97K]
-  [PDF w/ Links](#)[96K]




[High-Quality Multiwalled Carbon Nanotubes from Catalytic Decomposition of Carbonaceous Materials in Gas–Solid Fluidized Beds](#)

Seung Yong Son, Yoong Lee, Sungho Won, and Dong Hyun Lee Sang Done Kim Su Whan Sung
pp 2166–2175

Publication Date (Web): March 04, 2008 (Article)

DOI: 10.1021/ie0711630

[Abstract](#)

-  [Full Text HTML](#)
-  [Hi-Res PDF](#)[1025K]
-  [PDF w/ Links](#)[529K]

[Metal-Loaded MgAl Oxides for Transesterification of Glyceryl Tributyrates and Palm Oil](#)

T. Tittabut and W. Trakarnpruk
pp 2176–2181

Publication Date (Web): March 07, 2008 (Article)

DOI: 10.1021/ie071257+

[Abstract](#)

-  [Full Text HTML](#)
-  [Hi-Res PDF](#)[187K]

-  [PDF w/ Links](#)[151K]

[Photocatalytic Oxidative Degradation of Poly\(alkyl acrylates\) with NanoTiO₂](#)




A. Marimuthu and Giridhar Madras

pp 2182–2190

Publication Date (Web): March 06, 2008 (Article)

DOI: 10.1021/ie0712939

[Abstract](#)

-  [Full Text HTML](#)
-  [Hi-Res PDF](#)[126K]
-  [PDF w/ Links](#)[160K]

KINETICS, CATALYSIS, AND REACTION ENGINEERING

[Preparation and Characterization of a Tailored Carbon Dioxide Sorbent for Enhanced Hydrogen Synthesis in Biomass Gasifiers](#)




Nicholas H. Florin and Andrew T. Harris

pp 2191–2202

Publication Date (Web): March 07, 2008 (Article)

DOI: 10.1021/ie070980x

[Abstract](#)

-  [Full Text HTML](#)
-  [Hi-Res PDF](#)[698K]
-  [PDF w/ Links](#)[447K]

Multistage Gas–Liquid Electrical Discharge Column Reactor For Advanced Oxidation Processes




Frank Holzer and Bruce R. Locke

pp 2203–2212

Publication Date (Web): March 06, 2008 (Article)

DOI: 10.1021/ie071442n

[Abstract](#)

-  [Full Text HTML](#)
-  [Hi-Res PDF](#)[589K]
-  [PDF w/ Links](#)[298K]

Reaction Kinetics of CO₂ in Aqueous 1-Amino-2-Propanol, 3-Amino-1-Propanol, and Dimethylmonoethanolamine Solutions in the Temperature Range of 298–313 K Using the Stopped-Flow Technique




Amr Henni, Juelin Li, and Paitoon Tontiwachwuthikul

pp 2213–2220

Publication Date (Web): March 04, 2008 (Article)

DOI: 10.1021/ie070587r

[Abstract](#)

-  [Full Text HTML](#)
-  [Hi-Res PDF](#)[123K]
-  [PDF w/ Links](#)[146K]

Reaction Kinetics and Mechanism for the Gas- and Liquid-




Phase Esterification of Acetic Acid with Methanol on Tungstated Zirconia

Dora E. López, Kaewta Suwannakarn, James G. Goodwin, Jr., and David A. Bruce
pp 2221–2230

Publication Date (Web): March 06, 2008 (Article)

DOI: 10.1021/ie070665a

[Abstract](#)

-  [Full Text HTML](#)
-  [Hi-Res PDF](#)[380K]
-  [PDF w/ Links](#)[274K]

Ammonia Production via a Two-Step $\text{Al}_2\text{O}_3/\text{AlN}$




Thermochemical Cycle. 3. Influence of the Carbon Reducing Agent and Cyclability

M. E. Gálvez, I. Hischer, A. Frei, and A. Steinfeld
pp 2231–2237

Publication Date (Web): February 22, 2008 (Article)

DOI: 10.1021/ie071244w

[Abstract](#)

-  [Full Text HTML](#)
-  [Hi-Res PDF](#)[549K]
-  [PDF w/ Links](#)[321K]




Deactivation of a $\text{CuO-ZnO-Al}_2\text{O}_3/\gamma\text{-Al}_2\text{O}_3$ Catalyst in the Synthesis of Dimethyl Ether

Javier Erea, Irene Sierra, Martin Olazar, Ana G. Gayubo, and Andrés T. Aguayo
pp 2238–2247

Publication Date (Web): March 05, 2008 (Article)

DOI: 10.1021/ie071478f

[Abstract](#)

-  [Full Text HTML](#)
-  [Hi-Res PDF](#)[285K]
-  [PDF w/ Links](#)[271K]

High-Pressure H₂S Conversion and SO₂ Production over γ - Al₂O₃/Fe_xS(OH) in Liquid Sulfur




Michael A. Shields and Peter D. Clark

pp 2248–2257

Publication Date (Web): March 07, 2008 (Article)

DOI: 10.1021/ie071560a

[Abstract](#)

-  [Full Text HTML](#)
-  [Hi-Res PDF](#)[455K]
-  [PDF w/ Links](#)[322K]

MATERIALS AND INTERFACES

Polymer–Clay Nanocomposite Iron Traps Based on Intersurface Ion-Imprinting




Muharrem Karabörk, Arzu Ersöz, Adil Denizli, and Rıdvan Say

pp 2258–2264

Publication Date (Web): March 07, 2008 (Article)

DOI: 10.1021/ie070885o

[Abstract](#)

-  [Full Text HTML](#)
-  [Hi-Res PDF](#)[260K]
-  [PDF w/ Links](#)[272K]




[Surface Chemical Analysis of Corroded Alloys in Subcritical and Supercritical Water Oxidation of 2-Chlorophenol in Continuous Anticorrosive Reactor System](#)

Sang-Ha Son, Jae-Hyuk Lee, Sang-Hoon Byeon, and Chang-Ha Lee
pp 2265–2272

Publication Date (Web): March 06, 2008 (Article)

DOI: 10.1021/ie0709281

[Abstract](#)

-  [Full Text HTML](#)
-  [Hi-Res PDF](#)[540K]
-  [PDF w/ Links](#)[382K]

[Photocatalytic Lithography Processing via Poly\(vinyl butyral\)/TiO₂ Photoresists by Ultraviolet \(UV\) Exposure](#)

Leo Chau-Kuang Liao, Wen-Wei Chou, and Rung-Kang Wu
pp 2273–2278

Publication Date (Web): February 27, 2008 (Article)

DOI: 10.1021/ie071331o

[Abstract](#)

-  [Full Text HTML](#)
-  [Hi-Res PDF](#)[593K]

-  [PDF w/ Links](#)[351K]




Management of Chromium Plating Rinsewater Using Electrochemical Ion Exchange

C. Ahmed Basha, K. Ramanathan, R. Rajkumar, M. Mahalakshmi, and P. Senthil Kumar
pp 2279–2286

Publication Date (Web): March 05, 2008 (Article)

DOI: 10.1021/ie070163x

[Abstract](#)

-  [Full Text HTML](#)
-  [Hi-Res PDF](#)[329K]
-  [PDF w/ Links](#)[235K]




Effects of Amount of Si Addition and Annealing Treatment on the Photocatalytic Activities of N- and Si-Codoped Titanias under Visible-Light Irradiation

Hirotaoka Ozaki, Shinji Iwamoto, and Masashi Inoue
pp 2287–2293

Publication Date (Web): March 11, 2008 (Article)

DOI: 10.1021/ie070971o

[Abstract](#) | [Supporting Info](#)

-  [Full Text HTML](#)
-  [Hi-Res PDF](#)[162K]
-  [PDF w/ Links](#)[176K]

Preparation and Characterization of Carbon Nanospheres as Anode Materials in Lithium-Ion Secondary Batteries




Yong Wang, Fabing Su, Colin D. Wood, Jim Yang Lee, and Xiu Song Zhao

pp 2294–2300

Publication Date (Web): March 01, 2008 (Article)

DOI: 10.1021/ie071337d

[Abstract](#)

-  [Full Text HTML](#)
-  [Hi-Res PDF](#)[922K]
-  [PDF w/ Links](#)[429K]

Rapid Synthesis of Titania Nanowires by Microwave-Assisted Hydrothermal Treatments




Chin-Chun Chung, Tsair-Wang Chung, and Thomas C.-K. Yang

pp 2301–2307

Publication Date (Web): March 01, 2008 (Article)

DOI: 10.1021/ie0713644

[Abstract](#)

-  [Full Text HTML](#)
-  [Hi-Res PDF](#)[742K]
-  [PDF w/ Links](#)[385K]

Characterization of TiO₂ Particles Synthesized in Diffusion Flame Reactor




Piyabutr Sunsap, Dong-Joo Kim, and Kyo-Seon Kim

pp 2308–2313

Publication Date (Web): March 11, 2008 (Article)

DOI: 10.1021/ie071438b

[Abstract](#)

-  [Full Text HTML](#)
-  [Hi-Res PDF](#)[537K]
-  [PDF w/ Links](#)[273K]

[Emulsion Catastrophic Inversion from Abnormal to Normal Morphology. 7. Emulsion Evolution Produced by Continuous Stirring To Generate a Very High Internal Phase Ratio Emulsion](#)




Marianna Rondón-González, Véronique Sadtler, Philippe Marchal, Lionel Choplin, and Jean-Louis Salager

pp 2314–2319

Publication Date (Web): February 29, 2008 (Article)

DOI: 10.1021/ie071482r

[Abstract](#)

-  [Full Text HTML](#)
-  [Hi-Res PDF](#)[351K]
-  [PDF w/ Links](#)[220K]

PROCESS DESIGN AND CONTROL

[Nested Tabu Search \(TS\) and Sequential Quadratic Programming \(SQP\) Method, Combined with Adaptive Model Reformulation for Heat Exchanger Network Synthesis \(HENS\)](#)




Xi Chen, Zhaohua Li, Jing Yang, and Zhijiang ShaoLingyu Zhu

pp 2320–2330

Publication Date (Web): March 04, 2008 (Article)

DOI: 10.1021/ie071245o

[Abstract](#)

-  [Full Text HTML](#)
-  [Hi-Res PDF](#)[154K]
-  [PDF w/ Links](#)[166K]

[Anti-Correlation Approach to Model-Based Experiment Design: Application to a Biodiesel Production Process](#)




Gaia Franceschini and Sandro Macchietto

pp 2331–2348

Publication Date (Web): March 11, 2008 (Article)

DOI: 10.1021/ie071053t

[Abstract](#)

-  [Full Text HTML](#)
-  [Hi-Res PDF](#)[811K]
-  [PDF w/ Links](#)[532K]

SEPARATIONS

[The Separation of Cerium\(IV\) from Nitric Acid Solutions Containing Thorium\(IV\) and Lanthanides\(III\) Using Pure \[C₈mim\]PF₆ as Extracting Phase](#)




Yong Zuo, Yu Liu, Ji Chen, and De Q. Li

pp 2349–2355

Publication Date (Web): March 01, 2008 (Article)

DOI: 10.1021/ie071486w

[Abstract](#)

-  [Full Text HTML](#)
-  [Hi-Res PDF](#)[250K]
-  [PDF w/ Links](#)[168K]




[Thiophene Capture with Silica Gel Loading Formaldehyde and Hydrochloric Acid](#)

Shengqiang Wang, Li Zhou, Lei Long, Wei Dai, and Yaping Zhou
pp 2356–2360

Publication Date (Web): February 19, 2008 (Article)

DOI: 10.1021/ie070557o

[Abstract](#)

-  [Full Text HTML](#)
-  [Hi-Res PDF](#)[123K]
-  [PDF w/ Links](#)[136K]




[Application of Membrane Residue Curve Maps to Batch and Continuous Processes](#)

Mark Peters, Shehzaad Kauchali, Diane Hildebrandt, and David Glasser
pp 2361–2376

Publication Date (Web): March 11, 2008 (Article)

DOI: 10.1021/ie071155j

[Abstract](#)

-  [Full Text HTML](#)
-  [Hi-Res PDF](#)[588K]
-  [PDF w/ Links](#)[428K]

Xylene Permeation Transport through Composite Ba-ZSM-5/SS Tubular Membranes: Modeling the Steady-State Permeation




Ana M. Tarditi, Eduardo A. Lombardo, and Adolfo M. Avila

pp 2377–2385

Publication Date (Web): February 29, 2008 (Article)

DOI: 10.1021/ie071296l

[Abstract](#)

-  [Full Text HTML](#)
-  [Hi-Res PDF](#)[173K]
-  [PDF w/ Links](#)[186K]

Measurement of Monobranched Alkane Mobility in the Silicalite Framework in the Presence of Dibranched and Linear Molecules




A.-C. Dubreuil, E. Jolimaitre, M. Tayakout-Fayolle, and A. Méthivier

pp 2386–2390

Publication Date (Web): March 04, 2008 (Article)

DOI: 10.1021/ie071539+

[Abstract](#)

-  [Full Text HTML](#)
-  [Hi-Res PDF](#)[139K]
-  [PDF w/ Links](#)[121K]

GENERAL RESEARCH

Aggregation and Disruption Mechanisms of Nanoparticulate Aggregates. 1. Kinetics of Simultaneous Aggregation and Disruption




I. N. Seekkuarachchi and H. Kumazawa

pp 2391–2400

Publication Date (Web): March 01, 2008 (Article)

DOI: 10.1021/ie061313r

[Abstract](#) | [Supporting Info](#)

-  [Full Text HTML](#)
-  [Hi-Res PDF](#)[251K]
-  [PDF w/ Links](#)[243K]

[Aggregation and Disruption Mechanisms of Nanoparticulate Aggregates. 2. Dispersion of Aggregates Using a Motionless Mixer](#)




I. N. Seekkuarachchi and H. Kumazawa

pp 2401–2413

Publication Date (Web): March 01, 2008 (Article)

DOI: 10.1021/ie0714955

[Abstract](#)

-  [Full Text HTML](#)
-  [Hi-Res PDF](#)[521K]
-  [PDF w/ Links](#)[421K]

[Basic Characteristics of Food Waste and Food Ash on Steam Gasification](#)




Masaaki Tanaka, Hitoshi Ozaki, Akira Ando, Shinji Kambara, and Hiroshi Moritomi

pp 2414–2419

Publication Date (Web): March 06, 2008 (Article)

DOI: 10.1021/ie0612966

[Abstract](#)

-  [Full Text HTML](#)
-  [Hi-Res PDF](#)[198K]
-  [PDF w/ Links](#)[167K]




[Solid Suspension in a Boiling Stirred Tank with Radial Flow Turbines](#)

Yuyun Bao, Zhengming Gao, Zhipeng Li, Ding Bai, John M. Smith, and Rex B. Thorpe
pp 2420–2427

Publication Date (Web): March 01, 2008 (Article)

DOI: 10.1021/ie071209p

[Abstract](#)

-  [Full Text HTML](#)
-  [Hi-Res PDF](#)[258K]
-  [PDF w/ Links](#)[220K]




[Modeling Diamagnetic Susceptibilities of Organic Compounds with a Novel Connectivity Index](#)

Lailong Mu, Changjun Feng, and Hongmei He
pp 2428–2433

Publication Date (Web): March 06, 2008 (Article)

DOI: 10.1021/ie071232a

[Abstract](#) | [Supporting Info](#)

-  [Full Text HTML](#)
-  [Hi-Res PDF](#)[107K]
-  [PDF w/ Links](#)[153K]

Random Copolymers: Their Solution Thermodynamics as Compared with That of the Corresponding Homopolymers




Maria Bercea, John Eckelt, and Bernhard A. Wolf

pp 2434–2441

Publication Date (Web): March 04, 2008 (Article)

DOI: 10.1021/ie0716619

[Abstract](#)

-  [Full Text HTML](#)
-  [Hi-Res PDF](#)[115K]
-  [PDF w/ Links](#)[152K]

RESEARCH NOTES

Thermodynamics of an Aqueous-Alkaline/Carbonate Carbon Fuel Cell




Michael Jerry Antal, Jr. and Gérard C. Nihous

pp 2442–2448

Publication Date (Web): February 28, 2008 (Research Note)

DOI: 10.1021/ie070819m

[Abstract](#)

-  [Full Text HTML](#)
-  [Hi-Res PDF](#)[88K]
-  [PDF w/ Links](#)[120K]

Simultaneous Determination of $\text{SO}_3(\text{g})$ and $\text{SO}_2(\text{g})$ in a Flowing




Gas

Jorge G. Ibanez, Charles F. Batten, and Wayne E. Wentworth
pp 2449–2454

Publication Date (Web): February 28, 2008 (Research Note)

DOI: 10.1021/ie0715198

[Abstract](#)

-  [Full Text HTML](#)
-  [Hi-Res PDF](#)[111K]
-  [PDF w/ Links](#)[155K]

Select All For Selected Content:

[Previous Issue](#) [Next Issue](#)



Browse By Issue

[List of Issues](#)

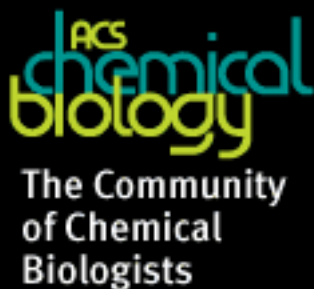
Stay Current

Get your research ASAP.

[e-Alerts](#) | [RSS Feeds](#) 

Advertisements

Community



[Info for Advertisers](#)

Copyright © 2009 American Chemical Society
1155 Sixteenth Street N.W., Washington, DC 20036

[Journals A–Z](#) | [Books](#) | [Authors & Reviewers](#) | [Librarians](#) | [ACS Members](#) | [Help](#)

PORTICO COUNTER  ACS Publications is a partner of:

Technology Partner - [Atypon Systems, Inc.](#)