

Contents of Volume 36

Vol. 36, No. 1

Copper, Silver and Gold in Catalysis

Guest Editors: Masatake Haruta and Yoshie Souma

Preface	1
Catalytic synthesis of methanol, higher alcohols and ethers K. Klier, A. Beretta, Q. Sun, O.C. Feeley and R.G. Herman	3
Hydrogenation of CO and CO ₂ toward methanol, alcohols and hydrocarbons on promoted copper–rare earth oxides catalysts R. Kieffer, M. Fujiwara, L. Udron and Y. Souma	15
Structure and function of Cu-based composite catalysts for highly effective synthesis of methanol by hydrogenation of CO ₂ and CO T. Inui, H. Hara, T. Takeguchi and J.-B. Kim	25
Liquid phase methanol synthesis from CO ₂ utilizing liquid–liquid separation K. Hagihara, H. Mabuse, T. Watanabe and M. Saito	33
A theoretical study for methanol synthesis by CO ₂ hydrogenation T. Kakumoto and T. Watanabe	39
Steam reforming and dehydrogenation of methanol: Difference in the catalytic functions of copper and group VIII metals N. Takezawa and N. Iwasa	45
The effect of pretreatments on different copper exchanged ZSM-5 for the decomposition of NO T. Curtin, P. Grange and B. Delmon	57
Comparative studies of TPD and TPR of the adsorbed NO ₃ species formed on copper oxide and ion-exchanged copper mordenite from nitrogen dioxide M. Shimokawabe, K. Itoh and N. Takezawa	65
Copper–zirconia catalysts for NO–CO reactions Y. Okamoto and H. Gotoh	71
Copper(II) bis((trifluoromethyl) sulfonyl) amide. A novel Lewis acid catalyst in Diels–Alder reactions of cyclopentadiene with methyl vinyl ketone J. Nie, H. Kobayashi and T. Sonoda	81
Copper(II) catalyzed reaction of gaseous alkanes with amine <i>N</i> -oxides Y. Taniguchi, T. Kitamura, Y. Fujiwara, S. Horie and K. Takaki	85
Synthesis of <i>tert</i> .-Alkanoic acid catalyzed by Cu(CO) _n ⁺ and Ag(CO) ₂ ⁺ under atmospheric pressure Y. Souma and H. Kawasaki	91
Polycarbonyl cations of Cu(I), Ag(I), and Au(I):[M(CO) _n] ⁺ J.J. Rack and S.H. Strauss	99
The development and functions of silver in water purification and disease control R.L. Davies and S.F. Etris	107

Adsorption of CO on gold supported on TiO ₂ Y. Iizuka, H. Fujiki, N. Yamauchi, T. Chijiwa, S. Arai, S. Tsubota and M. Haruta	115
Cobalt promotion of Au/TiO ₂ catalysts for the reaction of carbon monoxide with oxygen and nitrogen oxides N.W. Cant and N.J. Ossipoff	125
Combined effects of small gold particles on the optical gas sensing by transition metal oxide films M. Ando, T. Kobayashi and M. Haruta	135
Molecular dynamics simulation for ultrafine gold particles deposited on metal oxides M. Kubo, A. Stirling, R. Miura, R. Yamauchi and A. Miyamoto	143
Size- and support-dependency in the catalysis of gold M. Haruta	153
Previous issues of <i>Catalysis Today</i>	A1

Vol. 36, No. 2

Temperature Programmed Reactors

B.W. Wojciechowski

The temperature scanning reactor I: Reactor types and modes of operation B.W. Wojciechowski	167
The temperature scanning reactor II: Theory of operation N.M. Rice and B.W. Wojciechowski	191
The temperature scanning reactor III: Experimental procedures and data processing S.P. Asprey, N.M. Rice and B.W. Wojciechowski	209

Vol. 36, No. 3

Syngas Conversion to Higher Value Chemicals

Guest Editors: James J. Spivey and Makarand R. Gogate

Molybdenum catalyzed carbonylation of ethylene to propionic acid and anhydride J.R. Zoeller, E.M. Blakely, R.M. Moncier and T.J. Dickson	227
Synthesis of methyl methacrylate by vapor phase condensation of formaldehyde with propionate derivatives M.R. Gogate, J.J. Spivey and J.R. Zoeller	243
Alcohol synthesis in a high-temperature slurry reactor G.W. Roberts, M.A. Márquez and M.S. McCutchen	255
Ceramic membrane reactor for converting methane to syngas U. Balachandran, J.T. Dusek, P.S. Maiya, B. Ma, R.L. Mieville, M.S. Kleefisch and C.A. Udovich	265
Supported phosphonate-phosphane complexes for vapour-phase carbonylation S. Bischoff, A. Weigt, M. Kant, U. Schülke and B. Lücke	273
Conversion of syngas to light olefins over silicalite-1 supported iron and cobalt catalysts: Effect of manganese addition D. Das, G. Ravichandran and D.K. Chakrabarty	285
Supercritical-phase process for selective synthesis of wax from syngas: Catalyst and process development L. Fan, K. Yoshii, S. Yan, J. Zhou and K. Fujimoto	295
Primary amine syntheses from syngas, olefins and ammonia J.F. Knifton	305
Oxygenates from syngas over highly dispersed cobalt catalysts T. Matsuzaki, T.-a. Hanaoka, K. Takeuchi, H. Arakawa, Y. Sugi, K. Wei, T. Dong and M. Reinikainen	311
Activity and selectivity of precipitated iron Fischer-Tropsch catalysts R.J. O'Brien, L. Xu, R.L. Spicer, S. Bao, D.R. Milburn and B.H. Davis	325

Fischer–Tropsch synthesis over iron-based catalysts in a slurry reactor. Reaction rates, selectivities and implications for improving hydrocarbon productivity A.P. Raje and B.H. Davis	335
Role of CO ₂ in the initiation of chain growth and alcohol formation during the Fischer–Tropsch synthesis L. Xu, S. Bao, D.J. Hout, S.H. Lambert and B.H. Davis	347
Hydroformylation catalyzed by immobilized rhodium complex to polymer support N. Yoneda, Y. Nakagawa and T. Mimami	357

Vol. 36, No. 4

Interaction of Industrial and Fundamental Research in Catalysis Papers presented at the International Symposium on Interaction of Industrial and Fundamental Research in Catalysis, Beer-Sheva, 30–31 October 1995

Guest Editors: M. Herskowitz and M.V. Landau

Preface M. Herskowitz and M.V. Landau	365
Catalytic process development: A process designer's point of view A. Bisio	367
Hydrotreating catalysts, an old story with new challenges P. Grange and X. Vanhaeren	375
Deep hydrotreating of middle distillates from crude and shale oils M.V. Landau	393
Some aspects that affect the selective oxidation of paraffins F. Cavani and F. Trifirò	431
Preparation of bulk and supported heteropolyacid salts S. Soled, S. Miseo, G. McVicker, W.E. Gates, A. Gutierrez and J. Paes	441
The development of an environmental friendly catalytic system for the conversion of olefins L.R. Martens, J.P. Verduijn and G.M. Mathys	451
Dynamics of catalytic reactions and reactors M. Sheintuch	461
Deactivation by coking of zeolite catalysts. Prevention of deactivation. Optimal conditions for regeneration M. Guisnet and P. Magnoux	477
New strategy of creation of local catalytic sites in definite electronic and coordination states A.A. Slinkin and A.V. Kuchеров	485
Selectivity in heterogeneous catalytic processes M.V. Landau, S.B. Kogan, D. Tavor, M. Herskowitz and J.E. Koresh	497
Author Index Volume 36	511
Subject Index Volume 36	515
Contents Volume 36	521
Previous Issues of <i>Catalysis Today</i>	A1