

Subject index

Activation

Methane activation on Ni and Ru model catalysts (Choudhary, T.V. (163) 9)

Ammonia synthesis

Structure sensitivity of supported ruthenium catalysts for ammonia synthesis (Jacobsen, C.J.H. (163) 19)

Asymmetric catalysis

Transition state analogues — a guide for the rational design of enantioselective heterogeneous hydrogenation catalysts (Baiker, A. (163) 205)

B₅ sites

Structure sensitivity of supported ruthenium catalysts for ammonia synthesis (Jacobsen, C.J.H. (163) 19)

Boudart

In consideration of precursor states, spillover and Boudart's 'collection zone' and of their role in catalytic processes (Bowker, M. (163) 221)

Bulk structure

The effects of synthesis and pretreatment conditions on the bulk structure and surface properties of zirconia (Jung, K.T. (163) 27)

Carbides

Reaction network of pyridine hydrogenation over carbide and sulfide catalysts (Schwartz, V. (163) 269)

Carbon monoxide

Characteristic behavior of chemisorbed oxygen on silver in the reaction with carbon monoxide (Tamaru, K. (163) 3)

Catalysis concept

Surface catalytic reactions assisted by gas phase molecules: activation of reaction intermediates (Shido, T. (163) 67)

Catalysis

In consideration of precursor states, spillover and Boudart's 'collection zone' and of their role in catalytic processes (Bowker, M. (163) 221)

Metastable fcc α -MoC_{1-x} supported on HZSM5: preparation and catalytic performance for the non-oxidative conversion of methane to aromatic compounds (Bouchy, C. (163) 283)

Catalyst design

Transition state analogues — a guide for the rational design of enantioselective heterogeneous hydrogenation catalysts (Baiker, A. (163) 205)

Catalysts

Methane activation on Ni and Ru model catalysts (Choudhary, T.V. (163) 9)

Supported metal cluster catalysts (Gates, B.C. (163) 55)

Catalytic reaction mechanism

Surface catalytic reactions assisted by gas phase molecules: activation of reaction intermediates (Shido, T. (163) 67)

Catalytic reactions

Catalytic reaction rates in thermodynamically non-ideal systems (Madon, R.J. (163) 189)

Catalytic reforming

The turnover frequency of methylcyclohexane dehydrogenation to toluene on a Pt reforming catalyst (Sinfelt, J.H. (163) 123)

Characteristic behavior

Characteristic behavior of chemisorbed oxygen on silver in the reaction with carbon monoxide (Tamaru, K. (163) 3)

Chemisorbed oxygen

Characteristic behavior of chemisorbed oxygen on silver in the reaction with carbon monoxide (Tamaru, K. (163) 3)

Chiral modifiers

Transition state analogues — a guide for the rational design of enantioselective heterogeneous hydrogenation catalysts (Baiker, A. (163) 205)

Citral hydrogenation

Influence of metal–support interactions on the kinetics of liquid-phase citral hydrogenation (Singh, U.K. (163) 233)

Co/Al₂O₃

Surface catalytic reactions assisted by gas phase molecules: activation of reaction intermediates (Shido, T. (163) 67)

Co/SiO₂

Surface catalytic reactions assisted by gas phase molecules: activation of reaction intermediates (Shido, T. (163) 67)

Co/TiO₂

Surface catalytic reactions assisted by gas phase molecules: activation of reaction intermediates (Shido, T. (163) 67)

Collection zone

In consideration of precursor states, spillover and Boudart's 'collection zone' and of their role in catalytic processes (Bowker, M. (163) 221)

Cyclohexene hydrogenation

Catalytic reaction rates in thermodynamically non-ideal systems (Madon, R.J. (163) 189)

Cyclohexene

SFG-surface vibrational spectroscopy studies of structure sensitivity and insensitivity in catalytic reactions: cyclohexene dehydrogenation and ethylene hydrogenation on Pt (1 1 1) and Pt (1 0 0) crystal surfaces (McCrea, K.R. (163) 43)

De Donder

Ethane hydrogenolysis over platinum. Selection and estimation of kinetic parameters (Cortright, R.D. (163) 91)

Dehydrogenation

SFG-surface vibrational spectroscopy studies of structure sensitivity and insensitivity in catalytic reactions: cyclohexene dehydrogenation and ethylene hydrogenation on Pt (1 1 1) and Pt (1 0 0) crystal surfaces (McCrea, K.R. (163) 43)

Density functional calculations

Molecular aspects of the H₂ activation on MoS₂ based catalysts — the role of dynamic surface arrangements (Byсков, L.S. (163) 117)

Density functional theory

Oxametallacycle formation via ring-opening of 1-epoxy-3-butene on Ag(1 1 0): a combined experimental/theoretical approach (Medlin, J. Will (163) 129)

DFT

Ethane hydrogenolysis over platinum. Selection and estimation of kinetic parameters (Cortright, R.D. (163) 91)

 β -elimination

Push-pull mechanism of hydrodenitrogenation over carbide and sulfide catalysts (Schwartz, V. (163) 251)

1-Epoxy-3-butene (EpB)

Oxametallacycle formation via ring-opening of 1-epoxy-3-butene on Ag(1 1 0): a combined experimental/theoretical approach (Medlin, J. Will (163) 129)

Enantioselective hydrogenation

Transition state analogues — a guide for the rational design of enantioselective heterogeneous hydrogenation catalysts (Baiker, A. (163) 205)

Ethane hydrogenolysis

Ethane hydrogenolysis over platinum. Selection and estimation of kinetic parameters (Cortright, R.D. (163) 91)

Ethanol dehydrogenation

Surface catalytic reactions assisted by gas phase molecules: activation of reaction intermediates (Shido, T. (163) 67)

Ethyl- and methylpyruvate

Transition state analogues — a guide for the rational design of enantioselective heterogeneous hydrogenation catalysts (Baiker, A. (163) 205)

Ethylene

SFG-surface vibrational spectroscopy studies of structure sensitivity and insensitivity in catalytic reactions: cyclohexene dehydrogenation and ethylene hydrogenation on Pt (1 1 1) and Pt (1 0 0) crystal surfaces (McCrea, K.R. (163) 43)

Fischer-tropsch synthesis

Catalytic reaction rates in thermodynamically non-ideal systems (Madon, R.J. (163) 189)

FT-IR, EXAFS

Surface catalytic reactions assisted by gas phase molecules: activation of reaction intermediates (Shido, T. (163) 67)

Heterogeneous catalysis

Transient kinetics in heterogeneous catalysis by metals (Frennet, A. (163) 163)

High-pressure

SFG-surface vibrational spectroscopy studies of structure sensitivity and insensitivity in catalytic reactions: cyclohexene dehydrogenation and ethylene hydrogenation on Pt (1 1 1) and Pt (1 0 0) crystal surfaces (McCrea, K.R. (163) 43)

Homologation

Methane activation on Ni and Ru model catalysts (Choudhary, T.V. (163) 9)

HpHHP

The effects of synthesis and pretreatment conditions on the bulk structure and surface properties of zirconia (Jung, K.T. (163) 27)

HpHLP

The effects of synthesis and pretreatment conditions on the bulk structure and surface properties of zirconia (Jung, K.T. (163) 27)

HpHUT

The effects of synthesis and pretreatment conditions on the bulk structure and surface properties of zirconia (Jung, K.T. (163) 27)

HREELS

Oxametallacycle formation via ring-opening of 1-epoxy-3-butene on Ag(1 1 0): a combined experimental/theoretical approach (Medlin, J. Will (163) 129)

Hydrodesulfurization

Molecular aspects of the H₂ activation on MoS₂ based catalysts — the role of dynamic surface arrangements (Byсков, L.S. (163) 117)

Hydrogen adsorption

Molecular aspects of the H₂ activation on MoS₂ based catalysts — the role of dynamic surface arrangements (Byсков, L.S. (163) 117)

Hydrogenation

SFG-surface vibrational spectroscopy studies of structure sensitivity and insensitivity in catalytic reactions: cyclohexene dehydrogenation and ethylene hydrogenation on Pt (1 1 1) and Pt (1 0 0) crystal surfaces (McCrea, K.R. (163) 43)

Hydrotreating carbides

Push-pull mechanism of hydrodenitrogenation over carbide and sulfide catalysts (Schwartz, V. (163) 251)

Isocyanides

Nitric oxide interaction with Rh metal: kinetics of elemental steps and reaction with carbon monoxide (Kruse, N. (163) 79)

 α -ketoesters

Transition state analogues — a guide for the rational design of enantioselective heterogeneous hydrogenation catalysts (Baiker, A. (163) 205)

Kinetic analysis

Ethane hydrogenolysis over platinum. Selection and estimation of kinetic parameters (Cortright, R.D. (163) 91)

Kinetics

Reaction kinetics and scale-up of catalytic processes (Rostrup-Nielsen, J. (163) 157)

LpHLP

The effects of synthesis and pretreatment conditions on the bulk structure and surface properties of zirconia (Jung, K.T. (163) 27)

Mechanism

Transition state analogues — a guide for the rational design of enantioselective heterogeneous hydrogenation catalysts (Baiker, A. (163) 205)

Metal clusters

Supported metal cluster catalysts (Gates, B.C. (163) 55)

Metal–support interactions

Influence of metal–support interactions on the kinetics of liquid-phase citral hydrogenation (Singh, U.K. (163) 233)

Metals

Transient kinetics in heterogeneous catalysis by metals (Frennet, A. (163) 163)

Methane activation

Methane activation on Ni and Ru model catalysts (Choudhary, T.V. (163) 9)

Metastable fcc α -MoC_{1-x} supported on HZSM5: preparation and catalytic performance for the non-oxidative conversion of methane to aromatic compounds (Bouchy, C. (163) 283)

Methane upgrading

Metastable fcc α -MoC_{1-x} supported on HZSM5: preparation and catalytic performance for the non-oxidative conversion of methane to aromatic compounds (Bouchy, C. (163) 283)

Methylcyclohexane

The turnover frequency of methylcyclohexane dehydrogenation to toluene on a Pt reforming catalyst (Sinfelt, J.H. (163) 123)

MgO

Surface catalytic reactions assisted by gas phase molecules: activation of reaction intermediates (Shido, T. (163) 67)

Model catalysts

Methane activation on Ni and Ru model catalysts (Choudhary, T.V. (163) 9)

Modeling

Transition state analogues — a guide for the rational design of enantioselective heterogeneous hydrogenation catalysts (Baiker, A. (163) 205)

Molybdenum carbide

Metastable fcc α -MoC_{1-x} supported on HZSM5: preparation and catalytic performance for the non-oxidative conversion of methane to aromatic compounds (Bouchy, C. (163) 283)

Molybdenum sulfide

Molecular aspects of the H₂ activation on MoS₂ based catalysts — the role of dynamic surface arrangements (Byskov, L.S. (163) 117)

Nanoparticles

In consideration of precursor states, spillover and Boudart's 'collection zone' and of their role in catalytic processes (Bowker, M. (163) 221)

Nb/SiO₂

Surface catalytic reactions assisted by gas phase molecules: activation of reaction intermediates (Shido, T. (163) 67)

Ni and Ru

Methane activation on Ni and Ru model catalysts (Choudhary, T.V. (163) 9)

Nitric oxide

Nitric oxide interaction with Rh metal: kinetics of elemental steps and reaction with carbon monoxide (Kruse, N. (163) 79)

NO reduction

Surface catalytic reactions assisted by gas phase molecules: activation of reaction intermediates (Shido, T. (163) 67)

Non-ideal systems

Catalytic reaction rates in thermodynamically non-ideal systems (Madon, R.J. (163) 189)

Oxametallacycle

Oxametallacycle formation via ring-opening of 1-epoxy-3-butene on Ag(1 1 0): a combined experimental/theoretical approach (Medlin, J. Will (163) 129)

Oxygen storage

In consideration of precursor states, spillover and Boudart's 'collection zone' and of their role in catalytic processes (Bowker, M. (163) 221)

Partial oxidation

Methane activation on Ni and Ru model catalysts (Choudhary, T.V. (163) 9)

Pentylamine hydrodenitrogenation

Push–pull mechanism of hydrodenitrogenation over carbide and sulfide catalysts (Schwartz, V. (163) 251)

Platinum

Ethane hydrogenolysis over platinum. Selection and estimation of kinetic parameters (Cortright, R.D. (163) 91)

Transition state analogues — a guide for the rational design of enantioselective heterogeneous hydrogenation catalysts (Baiker, A. (163) 205)

Promotion by reaction kinetics

Kinetic analysis of ammonia synthesis catalyzed by barium-promoted ruthenium supported on zeolite X (McClaine, B.C. (163) 105)

Pt (1 0 0)

SFG-surface vibrational spectroscopy studies of structure sensitivity and insensitivity in catalytic reactions: cyclohexene dehydrogenation and ethylene hydrogenation on Pt (1 1 1) and Pt (1 0 0) crystal surfaces (McCrea, K.R. (163) 43)

Pt (1 1 1)

SFG-surface vibrational spectroscopy studies of structure sensitivity and insensitivity in catalytic reactions: cyclohexene dehydrogenation and ethylene hydrogenation on Pt (1 1 1) and Pt (1 0 0) crystal surfaces (McCrea, K.R. (163) 43)

Pt/TiO₂-LTR

Influence of metal–support interactions on the kinetics of liquid-phase citral hydrogenation (Singh, U.K. (163) 233)

Push–pull mechanism

Push–pull mechanism of hydrodenitrogenation over carbide and sulfide catalysts (Schwartz, V. (163) 251)

Pyridine hydrodenitrogenation

Reaction network of pyridine hydrodenitrogenation over carbide and sulfide catalysts (Schwartz, V. (163) 269)

Rate constants

Reaction network of pyridine hydrodenitrogenation over carbide and sulfide catalysts (Schwartz, V. (163) 269)

Reactor design

Reaction kinetics and scale-up of catalytic processes (Rostrup-Nielsen, J. (163) 157)

Reconstructions

Molecular aspects of the H₂ activation on MoS₂ based catalysts — the role of dynamic surface arrangements (Byskov, L.S. (163) 117)

Rh.CeO

Surface catalytic reactions assisted by gas phase molecules: activation of reaction intermediates (Shido, T. (163) 67)

Rhodium

Nitric oxide interaction with Rh metal: kinetics of elemental steps and reaction with carbon monoxide (Kruse, N. (163) 79)

Ruthenium ammonia

Kinetic analysis of ammonia synthesis catalyzed by barium-promoted ruthenium supported on zeolite X (McClaine, B.C. (163) 105)

Ruthenium

Structure sensitivity of supported ruthenium catalysts for ammonia synthesis (Jacobsen, C.J.H. (163) 19)

Scale-up

Reaction kinetics and scale-up of catalytic processes (Rostrup-Nielsen, J. (163) 157)

Selectivity

Reaction network of pyridine hydrodenitrogenation over carbide and sulfide catalysts (Schwartz, V. (163) 269)

SFG

SFG-surface vibrational spectroscopy studies of structure sensitivity and insensitivity in catalytic reactions: cyclohexene dehydrogenation and ethylene hydrogenation on Pt (1 1 1) and Pt (1 0 0) crystal surfaces (McCrea, K.R. (163) 43)

SMSI

In consideration of precursor states, spillover and Boudart's 'collection zone' and of their role in catalytic processes (Bowker, M. (163) 221)

Spillover

In consideration of precursor states, spillover and Boudart's 'collection zone' and of their role in catalytic processes (Bowker, M. (163) 221)

Steam reforming

Reaction kinetics and scale-up of catalytic processes (Rostrup-Nielsen, J. (163) 157)

Steam- and CO₂-reforming (kinetics, coke formation, simulation)

Production of synthesis gas by steam- and CO₂-reforming of natural gas (Froment, G.F. (163) 147)

STM

In consideration of precursor states, spillover and Boudart's 'collection zone' and of their role in catalytic processes (Bowker, M. (163) 221)

Structure insensitivity

SFG-surface vibrational spectroscopy studies of structure sensitivity and insensitivity in catalytic reactions: cyclohexene dehydrogenation and ethylene hydrogenation on Pt (1 1 1) and Pt (1 0 0) crystal surfaces (McCrea, K.R. (163) 43)

Structure sensitivity

Structure sensitivity of supported ruthenium catalysts for ammonia synthesis (Jacobsen, C.J.H. (163) 19)
SFG-surface vibrational spectroscopy studies of structure sensitivity and insensitivity in catalytic reactions: cyclohexene

dehydrogenation and ethylene hydrogenation on Pt (1 1 1) and Pt (1 0 0) crystal surfaces (McCrea, K.R. (163) 43)

Sulfides

Push-pull mechanism of hydrodenitrogenation over carbide and sulfide catalysts (Schwartz, V. (163) 251)

Sulfides

Reaction network of pyridine hydrodenitrogenation over carbide and sulfide catalysts (Schwartz, V. (163) 269)

Surface reactions

Nitric oxide interaction with Rh metal: kinetics of elemental steps and reaction with carbon monoxide (Kruse, N. (163) 79)

Synthesis gas

Production of synthesis gas by steam- and CO₂-reforming of natural gas (Froment, G.F. (163) 147)

Synthesis of zeolite X barium

Kinetic analysis of ammonia synthesis catalyzed by barium-promoted ruthenium supported on zeolite X (McClaine, B.C. (163) 105)

Thermal desorption kinetics

Nitric oxide interaction with Rh metal: kinetics of elemental steps and reaction with carbon monoxide (Kruse, N. (163) 79)

Toluene

The turnover frequency of methylcyclohexane dehydrogenation to toluene on a Pt reforming catalyst (Sinfelt, J.H. (163) 123)

TPD

Oxametallacycle formation via ring-opening of 1-epoxy-3-butene on Ag(1 1 0): a combined experimental/theoretical approach (Medlin, J. Will (163) 129)

Transient kinetics

Transient kinetics in heterogeneous catalysis by metals (Frennet, A. (163) 163)

Transition metal carbides

Metastable fcc α -MoC_{1-x} supported on HZSM5: preparation and catalytic performance for the non-oxidative conversion of methane to aromatic compounds (Bouchy, C. (163) 283)

Transition state analogues

Transition state analogues — a guide for the rational design of enantioselective heterogeneous hydrogenation catalysts (Baiker, A. (163) 205)

Transition state theory

Catalytic reaction rates in thermodynamically non-ideal systems (Madon, R.J. (163) 189)

Transmission electron microscopy

Supported metal cluster catalysts (Gates, B.C. (163) 55)

Water gas shift reaction

Surface catalytic reactions assisted by gas phase molecules: activation of reaction intermediates (Shido, T. (163) 67)

Zeolite catalysis

Catalytic reaction rates in thermodynamically non-ideal systems (Madon, R.J. (163) 189)

Zeolites

Metastable fcc α -MoC_{1-x} supported on HZSM5: preparation and catalytic performance for the non-oxidative conversion of methane to aromatic compounds (Bouchy, C. (163) 283)

Zero-order kinetics

Influence of metal–support interactions on the kinetics of liquid-phase citral hydrogenation (Singh, U.K. (163) 233)

ZnO

Surface catalytic reactions assisted by gas phase molecules: activation of reaction intermediates (Shido, T. (163) 67)

ZrO₂

The effects of synthesis and pretreatment conditions on the bulk structure and surface properties of zirconia (Jung, K.T. (163) 27)