





# Subject Index

#### Acetoxylation

Acetoxylation of (E,E,Z)-1,5,9-cyclododecatriene catalyzed by palladium(II) acetate in the presence of copper(II) acetate and air: A kinetic study (Balbolov, E. (126) 37)

#### Alumina

The role of the metal during  $NO_2$  reduction by  $C_3H_6$  over alumina and silica-supported catalysts (Bamwenda, G.R. (126) 151)

#### Anion stabilization

Strength of liquid acids in solution and on solid supports. The anion stabilization by solvent and its consequences for catalysis (Fărcașiu, D. (126) 141)

#### Bentonite clay

Oligomerization of benzylic alcohols and its mechanism (Cruz-Almanza, R. (126) 161)

#### Benzene

Functional action of Keggin-type mono-vanadium(V)-substituted heteropolymolybdate as a single species on catalytic hydroxylation of benzene in the presence of hydrogen peroxide (Nomiya, K. (126) 43)

### Benzothiophene

Adsorption structure and reaction path of heterocyclic sulfur compounds and the effect of methyl group on their reactivity: Ab initio study (Teraishi, K. (126) 73)

#### Benzylic oligomerization mechanism

Oligomerization of benzylic alcohols and its mechanism (Cruz-Almanza, R. (126) 161)

#### Carbon dioxide hydrogenation

Effect of the addition of chromium- and manganese oxides on structural and catalytic properties of copper/zirconia catalysts for the synthesis of methanol from carbon dioxide (Kilo, M. (126) 169)

## Catalyst characterization

Effect of the addition of chromium- and manganese oxides on structural and catalytic properties of copper/zirconia catalysts for the synthesis of methanol from carbon dioxide (Kilo, M. (126) 169)

#### Catalyst precursor

Functional action of Keggin-type mono-vanadium(V)-substituted heteropolymolybdate as a single species on catalytic hydroxylation of benzene in the presence of hydrogen peroxide (Nomiya, K. (126) 43)

#### Chromium oxide promotion

Effect of the addition of chromium- and manganese oxides on structural and catalytic properties of copper/zirconia catalysts for the synthesis of methanol from carbon dioxide (Kilo, M. (126) 169)

#### Cinnamaldehyde

The metal complex effect on metal clusters in liquid medium (Feng, H. (126) L5)

#### Colloidal platinum clusters

The metal complex effect on metal clusters in liquid medium (Feng, H. (126) L5)

### Copper/zirconia

Effect of the addition of chromium- and manganese oxides on structural and catalytic properties of copper/zirconia catalysts for the synthesis of methanol from carbon dioxide (Kilo, M. (126) 169)

#### Debromination

Complete debromination of polybrominated benzenes at room temperature catalyzed by palladium metallocenyl diphosphine complexes (Wei, B. (126) L83)

#### Diphosphine

Complete debromination of polybrominated benzenes at room temperature catalyzed by palladium metallocenyl diphosphine complexes (Wci, B. (126) L83)

## Disproportionation

Double bond migration, cyclohexadiene disproportionation and alkyne hydration by Dowex 1-RhCl<sub>3</sub> ion pair catalysts (Setty-Fichman, M. (126) 27)

## Dowex<sup>®</sup> 1

Double bond migration, cyclohexadiene disproportionation and alkyne hydration by Dowex  $^{\oplus}$  1-RhCl<sub>3</sub> ion pair catalysts (Setty-Fichman, M. (126) 27)

#### (E, E, Z)-1,5,9-cyclododecatriene

Acetoxylation of (*E,E,Z*)-1,5,9-cyclododecatriene catalyzed by palladium(II) acetate in the presence of copper(II) acetate and air: A kinetic study (Balbolov, E. (126) 37)

### Electrophilic aromatic substitution

Oligomerization of benzylic alcohols and its mechanism (Cruz-Almanza, R. (126) 161)

#### Gas uptake

A detailed study of the hydrogenation of nitrile-butadiene rubber and other substrates catalyzed by Ru(II) complexes (Martin, P. (126) 115)

#### Gold

The role of the metal during  $NO_2$  reduction by  $C_3H_6$  over alumina and silica-supported catalysts (Bamwenda, G.R. (126) 151)

188 Subject Index

#### Heterogeneous catalysis

Oligomerization of benzylic alcohols and its mechanism (Cruz-Almanza, R. (126) 161)

#### Hydration

Cation-exchanged montmorillonite catalyzed hydration of styrene derivatives (Ajjou, A.N. (126) 55)

Double bond migration, cyclohexadiene disproportionation and alkyne hydration by Dowex \* 1-RhCl<sub>3</sub> ion pair catalysts (Setty-Fichman, M. (126) 27)

#### Hydrocarbon conversion

Ab initio calculations on the mechanisms of hydrocarbon conversion in zeolites: Skeletal isomerisation and olefin chemisorption (Rigby, A.M. (126) 61)

#### Hydrodesulfurization

Adsorption structure and reaction path of heterocyclic sulfur compounds and the effect of methyl group on their reactivity: Ab initio study (Teraishi, K. (126) 73)

#### Hydrogenase

Photoinduced hydrogen evolution using water soluble viologen-linked trisulfonatophenylporphyrins (TPPSC<sub>n</sub>V) with hydrogenase (Amao, Y. (126) 21)

#### Hydrogenation

A detailed study of the hydrogenation of nitrile-butadiene rubber and other substrates catalyzed by Ru(II) complexes (Martin, P. (126) 115)

The metal complex effect on metal clusters in liquid medium (Feng, H. (126) L5)

#### Hydroxylation

Functional action of Keggin-type mono-vanadium(V)-substituted heteropolymolybdate as a single species on catalytic hydroxylation of benzene in the presence of hydrogen peroxide (Nomiya, K. (126) 43)

### Immobilized-catalyst

Double bond migration, cyclohexadiene disproportionation and alkyne hydration by Dowex 1-RhCl<sub>3</sub> ion pair catalysts (Setty-Fichman, M. (126) 27)

#### Intramolecular electron transfer

Photoinduced hydrogen evolution using water soluble viologen-linked trisulfonatophenylporphyrins (TPPSC<sub>n</sub>V) with hydrogenase (Amao, Y. (126) 21)

#### Iron-montmorillonite

Cation-exchanged montmorillonite catalyzed hydration of styrene derivatives (Ajjou, A.N. (126) 55)

### Isomerization

Double bond migration, cyclohexadiene disproportionation and alkyne hydration by Dowex 1-RhCl<sub>3</sub> ion pair catalysts (Setty-Fichman, M. (126) 27)

## Keggin-type

Functional action of Keggin-type mono-vanadium(V)-substituted heteropolymolybdate as a single species on catalytic hydroxylation of benzene in the presence of hydrogen peroxide (Nomiya, K. (126) 43)

### Kinetic model

Acetoxylation of (E,E,Z)-1,5,9-cyclododecatriene catalyzed by palladium(II) acetate in the presence of copper(II) acetate and air: A kinetic study (Balbolov, E. (126) 37)

#### Kinetics

A detailed study of the hydrogenation of nitrile-butadiene rubber and other substrates catalyzed by Ru(II) complexes (Martin, P. (126) 115)

#### Layered double hydroxide

Oxidation and photooxidation of sulfur-containing compounds in the presence of immobilized phthalocyanine complexes (Iliev, V. (126) 99)

### Liquid acid

Strength of liquid acids in solution and on solid supports. The anion stabilization by solvent and its consequences for catalysis (Fărcașiu, D. (126) 141)

#### Manganese

Selective epoxidation of unfunctionalized olefins catalyzed by unsymmetric Mn(III)-Schiff base complexes (Du, X.-D. (126) 109)

#### Manganese oxide promotion

Effect of the addition of chromium- and manganese oxides on structural and catalytic properties of copper/zirconia catalysts for the synthesis of methanol from carbon dioxide (Kilo, M. (126) 169)

#### Manganese porphyrin

The oxidation of cyclic alcohols from an aqueous solution by manganese porphyrins embedded in a polydimethylsiloxane membrane (Neys, P.E.F. (126) L9)

#### Mechanism

A detailed study of the hydrogenation of nitrile-butadiene rubber and other substrates catalyzed by Ru(II) complexes (Martin, P. (126) 115)

#### Membranes

The oxidation of cyclic alcohols from an aqueous solution by manganese porphyrins embedded in a polydimethylsiloxane membrane (Neys, P.E.F. (126) L9)

#### Metal complex

The metal complex effect on metal clusters in liquid medium (Feng, H. (126) L5)

## Metallocenyl phosphine

Complete debromination of polybrominated benzenes at room temperature catalyzed by palladium metallocenyl diphosphine complexes (Wei, B. (126) L83)

#### Methanol synthesis

Effect of the addition of chromium- and manganese oxides on structural and catalytic properties of copper/zirconia catalysts for the synthesis of methanol from carbon dioxide (Kilo, M. (126) 169)

## 7-methylbenzothiophene

Adsorption structure and reaction path of heterocyclic sulfur compounds and the effect of methyl group on their reactivity: Ab initio study (Teraishi, K. (126) 73)

#### Molecular catalyst

Prussian White as a highly active molecular catalyst for proton reduction (Abe, T. (126) L89)

#### Molecular orbital

Adsorption structure and reaction path of heterocyclic sulfur compounds and the effect of methyl group on their reactivity: Ab initio study (Teraishi, K. (126) 73)

### Molybdenum sulfide

Adsorption structure and reaction path of heterocyclic sulfur compounds and the effect of methyl group on their reactivity: Ab initio study (Teraishi, K. (126) 73)

### Mono-vanadium(V)-substituted heteropolymolybdate

Functional action of Keggin-type mono-vanadium(V)-substituted heteropolymolybdate as a single species on catalytic Subject Index 189

hydroxylation of benzene in the presence of hydrogen peroxide (Nomiya, K. (126) 43)

### Montmorillonite

Cation-exchanged montmorillonite catalyzed hydration of styrene derivatives (Ajjou, A.N. (126) 55)

#### NaX zeolite

Oxidation and photooxidation of sulfur-containing compounds in the presence of immobilized phthalocyanine complexes (Iliev, V. (126) 99)

#### Nitrile-butadiene rubber

A detailed study of the hydrogenation of nitrile-butadiene rubber and other substrates catalyzed by Ru(II) complexes (Martin, P. (126) 115)

## NO<sub>2</sub> reduction

The role of the metal during  $NO_2$  reduction by  $C_3H_6$  over alumina and silica-supported catalysts (Bamwenda, G.R. (126) 151)

#### Olefin chemisorption

Ab initio calculations on the mechanisms of hydrocarbon conversion in zeolites: Skeletal isomerisation and olefin chemisorption (Rigby, A.M. (126) 61)

#### Olefin epoxidation

Selective epoxidation of unfunctionalized olefins catalyzed by unsymmetric Mn(III)—Schiff base complexes (Du, X.-D. (126) 109)

#### Oxidation

Oxidation and photooxidation of sulfur-containing compounds in the presence of immobilized phthalocyanine complexes (Iliev, V. (126) 99)

The oxidation of cyclic alcohols from an aqueous solution by manganese porphyrins embedded in a polydimethylsiloxane membrane (Neys, P.E.F. (126) L9)

#### Palladium

Complete debromination of polybrominated benzenes at room temperature catalyzed by palladium metallocenyl diphosphine complexes (Wei, B. (126) L83)

#### Pd(OAc)<sub>2</sub>

Acetoxylation of (E, E, Z)-1,5,9-cyclododecatriene catalyzed by palladium(II) acetate in the presence of copper(II) acetate and air: A kinetic study (Balbolov, E. (126) 37)

### Photocatalysis

Oxidation and photooxidation of sulfur-containing compounds in the presence of immobilized phthalocyanine complexes (Iliev, V. (126) 99)

#### Photoexcited electron transfer

Preparation and characterization of water soluble viologen-linked trisulfonatophenylporphyrin (TPPSC<sub>n</sub>V) (Amao, Y. (126) 13)

### Photoinduced hydrogen evolution

Photoinduced hydrogen evolution using water soluble viologen-linked trisulfonatophenylporphyrins (TPPSC<sub>n</sub>V) with hydrogenase (Amao, Y. (126) 21)

## Phthalocyanine complexes

Oxidation and photooxidation of sulfur-containing compounds in the presence of immobilized phthalocyanine complexes (Iliev, V. (126) 99)

#### Platinum

The role of the metal during  $NO_2$  reduction by  $C_3H_6$  over alumina and silica-supported catalysts (Bamwenda, G.R. (126) 151)

#### Polybromobenzenes

Complete debromination of polybrominated benzenes at room temperature catalyzed by palladium metallocenyl diphosphine complexes (Wei, B. (126) L83)

#### Polydimethylsiloxane

The oxidation of cyclic alcohols from an aqueous solution by manganese porphyrins embedded in a polydimethylsiloxanc membrane (Neys, P.E.F. (126) L9)

#### Polymers

A detailed study of the hydrogenation of nitrile-butadiene rubber and other substrates catalyzed by Ru(II) complexes (Martin, P. (126) 115)

#### Propylene

The role of the metal during  $NO_2$  reduction by  $C_3H_6$  over alumina and silica-supported catalysts (Bamwenda, G.R. (126) 151)

#### Proton reduction

Prussian White as a highly active molecular catalyst for proton reduction (Abe, T. (126) L89)

#### Prussian White

Prussian White as a highly active molecular catalyst for proton reduction (Abe, T. (126) L89)

#### Rhodiun

Double bond migration, cyclohexadiene disproportionation and alkyne hydration by Dowex<sup>®</sup> 1-RhCl<sub>3</sub> ion pair catalysts (Setty-Fichman, M. (126) 27)

The role of the metal during  $NO_2$  reduction by  $C_3H_6$  over alumina and silica-supported catalysts (Bamwenda, G.R. (126) 151)

### Ruthenium complexes

A detailed study of the hydrogenation of nitrile-butadiene rubber and other substrates catalyzed by Ru(II) complexes (Martin, P. (126) 115)

#### Schiff base

Selective epoxidation of unfunctionalized olefins catalyzed by unsymmetric Mn(III)-Schiff base complexes (Du, X.-D. (126) 109)

#### Silica supported catalyst

The role of the metal during  $NO_2$  reduction by  $C_3H_6$  over alumina and silica-supported catalysts (Bamwenda, G.R. (126) 151)

## Single species

Functional action of Keggin-type mono-vanadium(V)-substituted heteropolymolybdate as a single species on catalytic hydroxylation of benzene in the presence of hydrogen peroxide (Nomiya, K. (126) 43)

## Skeletal isomerisation

Ab initio calculations on the mechanisms of hydrocarbon conversion in zeolites: Skeletal isomerisation and olefin chemisorption (Rigby, A.M. (126) 61)

#### Solid support

Strength of liquid acids in solution and on solid supports. The anion stabilization by solvent and its consequences for catalysis (Fărcașiu, D. (126) 141)

### Styrene derivatives

Cation-exchanged montmorillonite catalyzed hydration of styrene derivatives (Ajjou, A.N. (126) 55)

#### Thiols

Oxidation and photooxidation of sulfur-containing compounds

190

in the presence of immobilized phthalocyanine complexes (Iliev, V. (126) 99)

#### Thiosulfates

Oxidation and photooxidation of sulfur-containing compounds in the presence of immobilized phthalocyanine complexes (Iliev, V. (126) 99)

#### Transition states

Ab initio calculations on the mechanisms of hydrocarbon conversion in zeolites: Skeletal isomerisation and olefin chemisorption (Rigby, A.M. (126) 61)

### Viologen-linked trisulfonatophenylporphyrin

Photoinduced hydrogen evolution using water soluble violo-

gen-linked trisulfonatophenylporphyrins (TPPSC $_nV$ ) with hydrogenase (Amao, Y. (126) 21)

Preparation and characterization of water soluble viologen-linked trisulfonatophenylporphyrin (TPPSC<sub>n</sub>V) (Amao, Y. (126) 13)

### Zeolite catalysts

Ab initio calculations on the mechanisms of hydrocarbon conversion in zeolites: Skeletal isomerisation and olefin chemisorption (Rigby, A.M. (126) 61)