

## Subject index

### Acetate

Cyclotrimerization of phenylacetylene and living polymerization of *tert*-butylacetylene by Mo<sub>2</sub>(O<sub>2</sub>CCH<sub>3</sub>)<sub>4</sub>–Lewis acid systems (Matusiak, R. (195) 29)

### Acetylenes

Cyclotrimerization of phenylacetylene and living polymerization of *tert*-butylacetylene by Mo<sub>2</sub>(O<sub>2</sub>CCH<sub>3</sub>)<sub>4</sub>–Lewis acid systems (Matusiak, R. (195) 29)

### Adsorptivity

Molecular structure effects in hydrogenation of allyl and vinyl ethers on platinum and palladium supported catalysts (Kačer, P. (195) 235)

### Alkylidenebutenolide

Palladium-catalyzed 1,6- and 1,5-diyne-carbon monoxide reaction for preparation of alkylidenebutenolides and -butenolides (Sugawara, S. (195) 55)

### Alkylidenebutenone

Palladium-catalyzed 1,6- and 1,5-diyne-carbon monoxide reaction for preparation of alkylidenebutenones and -butenolides (Sugawara, S. (195) 55)

### Alumina

Removal of NO<sub>x</sub> with cobalt phthalocyanine supported on Y-type faujasite and alumina (Hashimoto, K. (195) 275)

### β-Amino alcohols

Pyrrolidine-based amino alcohols: novel ligands for the enantioselective alkylation of benzaldehyde (Rocha Gonsalves, A.M.d.A. (195) 1)

### Aminoalcohol cleavage

Electrocatalytic oxidative cleavage by electrogenerated periodate (Nawaz Khan, F. (195) 139)

### Aniline

CuCl<sub>2</sub> and PdCl<sub>2</sub> catalysts for oxidative carbonylation of aniline with methanol (Chen, B. (195) 37)

### Ansa zirconocene complexes

Dinuclear ansa zirconocene complexes as dual-site catalysts for the polymerization of ethylene (Alt, H.G. (195) 11)

### Aqueous reaction

Transfer hydrogenation of a variety of ketones catalyzed by rhodium complexes in aqueous solution and their application to asymmetric reduction using chiral Schiff base ligands (Himeda, Y. (195) 95)

### Aqueous systems

Rhodium-sulfonated diphosphine catalysts in aqueous hydroformylation of vinyl arenes: high-pressure NMR and IR studies (Aghmiz, A. (195) 113)

### Arene hydrogenation

<sup>31</sup>P NMR and IR characterization of enantioselective olefin and arene hydrogenation catalysts containing a rhodium–chiral phosphine complex tethered on silica (Stanger, K.J. (195) 63)

### Asymmetric catalysis

Rhodium-sulfonated diphosphine catalysts in aqueous hydroformylation of vinyl arenes: high-pressure NMR and IR studies (Aghmiz, A. (195) 113)

### Asymmetric heterogeneous hydrogenation

Heterogeneous asymmetric hydrogenation and deuteration of 2-methyl-2-pentenoic acid over Pd supported catalysts: proton/deuterium exchange (Solladié-Cavallo, A. (195) 181)

### Asymmetric reduction

Transfer hydrogenation of a variety of ketones catalyzed by rhodium complexes in aqueous solution and their application to asymmetric reduction using chiral Schiff base ligands (Himeda, Y. (195) 95)

### Basic zeolite

Competing Michael and Knoevenagel reactions of terpenoids with malononitrile on basic Cs-beta zeolite (Volcho, K.P. (195) 263)

### Benzaldehyde

Pyrrolidine-based amino alcohols: novel ligands for the enantioselective alkylation of benzaldehyde (Rocha Gonsalves, A.M.d'A. (195) 1)

### Bromamine-T

Metallophthalocyanines as potent catalysts for aziridination of olefins (Jain, S.L. (195) 283)

### Bromination

Heteropoly acid cesium salt/cetyltrimethylammonium bromide a catalytic heterogeneous system which highly controls regioselective bromination of aromatic compounds with bromine (Firouzabadi, H. (195) 289)

### 2-Butyne-1,4-diol

Liquid phase hydrogenation of 2-butyne-1,4-diol and 2-butene-1,4-diol isomers over Pd catalysts: roles of solvent, support and proton on activity and products distribution (Musolino, M.G. (195) 147)

### Carbamate synthesis

CuCl<sub>2</sub> and PdCl<sub>2</sub> catalysts for oxidative carbonylation of aniline with methanol (Chen, B. (195) 37)

- Catalysed oxidation of Ch and T by O<sub>2</sub>  
Onium-decavanadate ion-pair complexes as catalysts in the oxidation of hydrocarbons by O<sub>2</sub> (Csányi, L.J. (195) 101)
- Catalysis by halide cluster  
Catalytic isomerization of 1-hexene to 2-hexene by halide clusters of Nb, Mo, Ta and W possessing an octahedral metal core (Kamiguchi, S. (195) 159)
- Catalysis  
Oxidation of monoterpenes with hydrogen peroxide catalysed by Keggin-type tungstoborates (Santos, I.C.M.S. (195) 253)
- Catalyst reusability  
Polymer frameworks as templates for generating size-controlled metal nanoclusters. Active and reusable metal catalysts based on organic resins and on organic/inorganic composites (Kralik, M. (195) 219)
- Catalysts  
Preparation and use of novel molybdenum-containing organic complexes as catalysts in the epoxidation of cyclohexene (Kotov, S.V. (195) 83)
- Catalytic carbonylation  
Synthesis of a new type of amphiphilic and water-soluble tertiary phosphine ligands substituted by an ethoxylated phosphonic acid chain and their palladium complexes (Ma, X. (195) 47)
- Catalytic reduction  
Separate/simultaneous catalytic reduction of sulfur dioxide and/or nitric oxide by carbon monoxide over TiO<sub>2</sub>-promoted cobalt sulfides (Zhaoliang, Z. (195) 189)
- Cetyltrimethylammonium bromide  
Heteropoly acid cesium salt/cetyltrimethylammonium bromide a catalytic heterogeneous system which highly controls regio-selective bromination of aromatic compounds with bromine (Firouzabadi, H. (195) 289)
- Chiral ligand  
Transfer hydrogenation of a variety of ketones catalyzed by rhodium complexes in aqueous solution and their application to asymmetric reduction using chiral Schiff base ligands (Himeda, Y. (195) 95)
- Chloramine-T  
Metallophthalocyanines as potent catalysts for aziridination of olefins (Jain, S.L. (195) 283)
- cis*-2-Butene-1,4-diol  
Liquid phase hydrogenation of 2-butyne-1,4-diol and 2-butene-1,4-diol isomers over Pd catalysts: roles of solvent, support and proton on activity and products distribution (Musolino, M.G. (195) 147)
- CO adsorption  
Preparation and characterization of alumina supported Pd-W and Pd-Mo catalysts photogenerated from group VI metal carbonyls (Sica, A.M. (195) 225)
- CO  
Separate/simultaneous catalytic reduction of sulfur dioxide and/or nitric oxide by carbon monoxide over TiO<sub>2</sub>-promoted cobalt sulfides (Zhaoliang, Z. (195) 189)
- Cobalt sulfide  
Separate/simultaneous catalytic reduction of sulfur dioxide and/or nitric oxide by carbon monoxide over TiO<sub>2</sub>-promoted cobalt sulfides (Zhaoliang, Z. (195) 189)
- Cobalt-phthalocyanine  
Removal of NO<sub>x</sub> with cobalt phthalocyanine supported on Y-type faujasite and alumina (Hashimoto, K. (195) 275)
- Competitive hydrogenation  
Molecular structure effects in hydrogenation of allyl and vinyl ethers on platinum and palladium supported catalysts (Kačer, P. (195) 235)
- Conducting polymers  
Palladium-catalyzed synthesis of oligo(alkylthiophenes) (Hassan, J. (195) 125)
- CuCl<sub>2</sub>-NaI  
CuCl<sub>2</sub> and PdCl<sub>2</sub> catalysts for oxidative carbonylation of aniline with methanol (Chen, B. (195) 37)
- Cyclocarbonylation  
Palladium-catalyzed 1,6- and 1,5-diyne-carbon monoxide reaction for preparation of alkylidenecyclopentenones and -butenolides (Sugawara, S. (195) 55)
- Cyclotrimerization  
Cyclotrimerization of phenylacetylene and living polymerization of *tert*-butylacetylene by Mo<sub>2</sub>(O<sub>2</sub>CCH<sub>3</sub>)<sub>4</sub>-Lewis acid systems (Matusiak, R. (195) 29)
- Density functional theory  
Ab initio density functional study of the structural and electronic properties of an MoS<sub>2</sub> catalyst model: a real size Mo<sub>27</sub>S<sub>54</sub> cluster (Orita, H. (195) 173)
- Diethylzinc  
Pyrrolidine-based amino alcohols: novel ligands for the enantioselective alkylation of benzaldehyde (Rocha Gonsalves, A.M.d'A. (195) 1)
- Dimolybdenum  
Cyclotrimerization of phenylacetylene and living polymerization of *tert*-butylacetylene by Mo<sub>2</sub>(O<sub>2</sub>CCH<sub>3</sub>)<sub>4</sub>-Lewis acid systems (Matusiak, R. (195) 29)
- Dinuclear dissymmetric complexes  
Dinuclear ansa zirconocene complexes as dual-site catalysts for the polymerization of ethylene (Alt, H.G. (195) 11)
- Diphenylphosphinomethyl  
Synthesis of a new type of amphiphilic and water-soluble tertiary phosphine ligands substituted by an ethoxylated phosphonic acid chain and their palladium complexes (Ma, X. (195) 47)
- 1,6-Diyne  
Palladium-catalyzed 1,6- and 1,5-diyne-carbon monoxide reaction for preparation of alkylidenecyclopentenones and -butenolides (Sugawara, S. (195) 55)
- Dual-site catalysts  
Dinuclear ansa zirconocene complexes as dual-site catalysts for the polymerization of ethylene (Alt, H.G. (195) 11)
- Electrocatalysis  
Electrocatalytic oxidative cleavage by electrogenerated periodate (Nawaz Khan, F. (195) 139)
- Electrogenerated reagent  
Electrocatalytic oxidative cleavage by electrogenerated periodate (Nawaz Khan, F. (195) 139)

- Electronic property  
Ab initio density functional study of the structural and electronic properties of an MoS<sub>2</sub> catalyst model: a real size Mo<sub>27</sub>S<sub>54</sub> cluster (Orita, H. (195) 173)
- Enantioselective alkylation  
Pyrrolidine-based amino alcohols: novel ligands for the enantioselective alkylation of benzaldehyde (Rocha Gonsalves, A.M.d'A. (195) 1)
- Enantioselective olefin hydrogenation  
<sup>31</sup>P NMR and IR characterization of enantioselective olefin and arene hydrogenation catalysts containing a rhodium–chiral phosphine complex tethered on silica (Stanger, K.J. (195) 63)
- Encapsulated heteropolyacid  
Heteropolytungstic acid (H<sub>3</sub>PW<sub>12</sub>O<sub>40</sub>)—encapsulated into the titanium-exchanged HY (TiHY) zeolite: a novel photocatalyst for photoreduction of methyl orange (Anandan, S. (195) 201)
- Epoxidation  
Preparation and use of novel molybdenum-containing organic complexes as catalysts in the epoxidation of cyclohexene (Kotov, S.V. (195) 83)
- Ethylene decomposition  
The use of a localized heating protocol in heterogeneous catalysis (Marotta, C.L. (195) 209)
- Glycol cleavage  
Electrocatalytic oxidative cleavage by electrogenerated periodate (Nawaz Khan, F. (195) 139)
- Graphite nanofiber formation  
The use of a localized heating protocol in heterogeneous catalysis (Marotta, C.L. (195) 209)
- Heck-type polymerization  
Palladium-catalyzed synthesis of oligo(alkylthiophenes) (Hasan, J. (195) 125)
- Heterogeneous catalysis  
The use of a localized heating protocol in heterogeneous catalysis (Marotta, C.L. (195) 209)  
Hydrotalcite-like compounds as catalysts in liquid phase organic synthesis. I. Knoevenagel condensation promoted by [Ni<sub>0.73</sub>Al<sub>0.27</sub>(OH)<sub>2</sub>](CO<sub>3</sub>)<sub>0.135</sub> (Costantino, U. (195) 245)  
Heteropoly acid cesium salt/cetyltrimethylammonium bromide a catalytic heterogeneous system which highly controls regioselective bromination of aromatic compounds with bromine (Firouzabadi, H. (195) 289)
- Heterogeneous deuteration  
Heterogeneous asymmetric hydrogenation and deuteration of 2-methyl-2-pentenoic acid over Pd supported catalysts: proton/deuterium exchange (Solladié-Cavallo, A. (195) 181)
- Heterogeneous hydrogenation  
Heterogeneous asymmetric hydrogenation and deuteration of 2-methyl-2-pentenoic acid over Pd supported catalysts: proton/deuterium exchange (Solladié-Cavallo, A. (195) 181)
- Heteropoly acid cesium salt  
Heteropoly acid cesium salt/cetyltrimethylammonium bromide a catalytic heterogeneous system which highly controls regioselective bromination of aromatic compounds with bromine (Firouzabadi, H. (195) 289)
- Homogeneous and heterogeneous ethylene polymerization  
Dinuclear ansa zirconocene complexes as dual-site catalysts for the polymerization of ethylene (Alt, H.G. (195) 11)
- Hydroformylation  
Rhodium-sulfonated diphosphine catalysts in aqueous hydroformylation of vinyl arenes: high-pressure NMR and IR studies (Aghmiz, A. (195) 113)
- Hydrogen peroxide  
Oxidation of monoterpenes with hydrogen peroxide catalysed by Keggin-type tungstoborates (Santos, I.C.M.S. (195) 253)
- Hydrogenation of conjugated acids  
Heterogeneous asymmetric hydrogenation and deuteration of 2-methyl-2-pentenoic acid over Pd supported catalysts: proton/deuterium exchange (Solladié-Cavallo, A. (195) 181)
- Hydrogenation  
Thermoregulated phase-separable phosphine ruthenium complex for hydrogenation catalysis (Wang, Y. (195) 133)  
Liquid phase hydrogenation of 2-butyne-1,4-diol and 2-butene-1,4-diol isomers over Pd catalysts: roles of solvent, support and proton on activity and products distribution (Musolino, M.G. (195) 147)
- Hydrotalcites  
Hydrotalcite-like compounds as catalysts in liquid phase organic synthesis. I. Knoevenagel condensation promoted by [Ni<sub>0.73</sub>Al<sub>0.27</sub>(OH)<sub>2</sub>](CO<sub>3</sub>)<sub>0.135</sub> (Costantino, U. (195) 245)
- Hydroxycarbonate of Ni and Al  
Hydrotalcite-like compounds as catalysts in liquid phase organic synthesis. I. Knoevenagel condensation promoted by [Ni<sub>0.73</sub>Al<sub>0.27</sub>(OH)<sub>2</sub>](CO<sub>3</sub>)<sub>0.135</sub> (Costantino, U. (195) 245)
- 2-Hydroxytetrahydrofuran  
Liquid phase hydrogenation of 2-butyne-1,4-diol and 2-butene-1,4-diol isomers over Pd catalysts: roles of solvent, support and proton on activity and products distribution (Musolino, M.G. (195) 147)
- Immobilized metal catalysts  
<sup>31</sup>P NMR and IR characterization of enantioselective olefin and arene hydrogenation catalysts containing a rhodium–chiral phosphine complex tethered on silica (Stanger, K.J. (195) 63)
- Influence of the reaction products on the oxidation of hydrocarbons  
Onium-decavanadate ion-pair complexes as catalysts in the oxidation of hydrocarbons by O<sub>2</sub> (Csányi, L.J. (195) 101)
- Isomerization of olefin  
Catalytic isomerization of 1-hexene to 2-hexene by halide clusters of Nb, Mo, Ta and W possessing an octahedral metal core (Kamiguchi, S. (195) 159)
- Joule heating  
The use of a localized heating protocol in heterogeneous catalysis (Marotta, C.L. (195) 209)
- Keggin polyoxotungstates  
Oxidation of monoterpenes with hydrogen peroxide catalysed by Keggin-type tungstoborates (Santos, I.C.M.S. (195) 253)
- Ketones  
Transfer hydrogenation of a variety of ketones catalyzed by rhodium complexes in aqueous solution and their application to

- asymmetric reduction using chiral Schiff base ligands (Himeda, Y. (195) 95)
- Knoevenagel condensation  
Hydrocalcite-like compounds as catalysts in liquid phase organic synthesis. I. Knoevenagel condensation promoted by  $[\text{Ni}_{0.73}\text{Al}_{0.27}(\text{OH})_2](\text{CO}_3)_{0.135}$  (Costantino, U. (195) 245)
- Knoevenagel reaction  
Competing Michael and Knoevenagel reactions of terpenoids with malononitrile on basic Cs-beta zeolite (Volcho, K.P. (195) 263)
- Manganese  
Oxidation of monoterpenes with hydrogen peroxide catalysed by Keggin-type tungstoborates (Santos, I.C.M.S. (195) 253)
- Mechanical stability  
Polymer frameworks as templates for generating size-controlled metal nanoclusters. Active and reusable metal catalysts based on organic resins and on organic/inorganic composites (Kralik, M. (195) 219)
- Metalcarbonyls  
Preparation and characterization of alumina supported Pd-W and Pd-Mo catalysts photogenerated from group VI metal carbonyls (Sica, A.M. (195) 225)
- Metallophthalocyanine  
Metallophthalocyanines as potent catalysts for aziridination of olefins (Jain, S.L. (195) 283)
- Methyl orange  
Heteropolytungstic acid ( $\text{H}_3\text{PW}_{12}\text{O}_{40}$ )—encapsulated into the titanium-exchanged HY (TiHY) zeolite: a novel photocatalyst for photoreduction of methyl orange (Anandan, S. (195) 201)
- Methyl-*N*-phenyl carbamate  
 $\text{CuCl}_2$  and  $\text{PdCl}_2$  catalysts for oxidative carbonylation of aniline with methanol (Chen, B. (195) 37)
- Michael reaction  
Competing Michael and Knoevenagel reactions of terpenoids with malononitrile on basic Cs-beta zeolite (Volcho, K.P. (195) 263)
- Molecular modelling  
Molecular structure effects in hydrogenation of allyl and vinyl ethers on platinum and palladium supported catalysts (Kačer, P. (195) 235)
- Molecular structure effects  
Molecular structure effects in hydrogenation of allyl and vinyl ethers on platinum and palladium supported catalysts (Kačer, P. (195) 235)
- Molybdenum-containing complexes  
Preparation and use of novel molybdenum-containing organic complexes as catalysts in the epoxidation of cyclohexene (Kotov, S.V. (195) 83)
- $\text{MoS}_2$  catalyst model  
Ab initio density functional study of the structural and electronic properties of an  $\text{MoS}_2$  catalyst model: a real size  $\text{Mo}_{27}\text{S}_{54}$  cluster (Orita, H. (195) 173)
- Niobium halide  
Catalytic isomerization of 1-hexene to 2-hexene by halide clusters of Nb, Mo, Ta and W possessing an octahedral metal core (Kamiguchi, S. (195) 159)
- Nitrene, [*N*-(*p*-Tolylsulphonyl) imino] phenyliodinane  
Metallophthalocyanines as potent catalysts for aziridination of olefins (Jain, S.L. (195) 283)
- NO adsorption  
Preparation and characterization of alumina supported Pd-W and Pd-Mo catalysts photogenerated from group VI metal carbonyls (Sica, A.M. (195) 225)
- NO  
Separate/simultaneous catalytic reduction of sulfur dioxide and/or nitric oxide by carbon monoxide over  $\text{TiO}_2$ -promoted cobalt sulfides (Zhaoliang, Z. (195) 189)
- Nonionic phosphine ligand  
Thermoregulated phase-separable phosphine ruthenium complex for hydrogenation catalysis (Wang, Y. (195) 133)
- Oligo(alkylthiophenes)  
Palladium-catalyzed synthesis of oligo(alkylthiophenes) (Hassan, J. (195) 125)
- Onium-decavanadate ion-pair complexes as oxidation catalysts  
Onium-decavanadate ion-pair complexes as catalysts in the oxidation of hydrocarbons by  $\text{O}_2$  (Csányi, L.J. (195) 101)
- Optimized structure  
Ab initio density functional study of the structural and electronic properties of an  $\text{MoS}_2$  catalyst model: a real size  $\text{Mo}_{27}\text{S}_{54}$  cluster (Orita, H. (195) 173)
- Oxidation  
Oxidation of monoterpenes with hydrogen peroxide catalysed by Keggin-type tungstoborates (Santos, I.C.M.S. (195) 253)
- Oxidative carbonylation  
 $\text{CuCl}_2$  and  $\text{PdCl}_2$  catalysts for oxidative carbonylation of aniline with methanol (Chen, B. (195) 37)
- Oxidative removal of NO  
Removal of  $\text{NO}_x$  with cobalt phthalocyanine supported on Y-type faujasite and alumina (Hashimoto, K. (195) 275)
- Palladium acetate  
Palladium-catalyzed synthesis of oligo(alkylthiophenes) (Hassan, J. (195) 125)
- Palladium complexes  
Synthesis of a new type of amphiphilic and water-soluble tertiary phosphine ligands substituted by an ethoxylated phosphonic acid chain and their palladium complexes (Ma, X. (195) 47)
- Palladium supported catalysts  
Liquid phase hydrogenation of 2-butyne-1,4-diol and 2-butene-1,4-diol isomers over Pd catalysts: roles of solvent, support and proton on activity and products distribution (Musolino, M.G. (195) 147)
- Palladium  
Palladium-catalyzed 1,6- and 1,5-diyne-carbon monoxide reaction for preparation of alkylidenecyclopentenones and -butenolides (Sugawara, S. (195) 55)  
 $^{31}\text{P}$  NMR and IR characterization of enantioselective olefin and arene hydrogenation catalysts containing a rhodium-chiral phosphine complex tethered on silica (Stanger, K.J. (195) 63)

- Palladium–molybdenum catalyst  
Preparation and characterization of alumina supported Pd-W and Pd-Mo catalysts photogenerated from group VI metal carbonyls (Sica, A.M. (195) 225)
- Palladium–tungsten catalyst  
Preparation and characterization of alumina supported Pd-W and Pd-Mo catalysts photogenerated from group VI metal carbonyls (Sica, A.M. (195) 225)
- Periodate  
Electrocatalytic oxidative cleavage by electrogenerated periodate (Nawaz Khan, F. (195) 139)
- Phenol  
Heteropoly acid cesium salt/cetyltrimethylammonium bromide a catalytic heterogeneous system which highly controls regioselective bromination of aromatic compounds with bromine (Firouzabadi, H. (195) 289)
- Photocatalytic reduction  
Heteropolytungstic acid ( $H_3PW_{12}O_{40}$ )—encapsulated into the titanium-exchanged HY (TiHY) zeolite: a novel photocatalyst for photoreduction of methyl orange (Anandan, S. (195) 201)
- Polymerization  
Cyclotrimerization of phenylacetylene and living polymerization of *tert*-butylacetylene by  $Mo_2(O_2CCH_3)_4$ –Lewis acid systems (Matusiak, R. (195) 29)
- Pyroolidinoalcohols  
Pyroolidine-based amino alcohols: novel ligands for the enantioselective alkylation of benzaldehyde (Rocha Gonsalves, A.M.d'A. (195) 1)
- Real size cluster  
Ab initio density functional study of the structural and electronic properties of an  $MoS_2$  catalyst model: a real size  $Mo_{27}S_{54}$  cluster (Orita, H. (195) 173)
- Resin-supported Pd catalysts  
Polymer frameworks as templates for generating size-controlled metal nanoclusters. Active and reusable metal catalysts based on organic resins and on organic/inorganic composites (Kralik, M. (195) 219)
- Retention of cluster framework  
Catalytic isomerization of 1-hexene to 2-hexene by halide clusters of Nb, Mo, Ta and W possessing an octahedral metal core (Kamiguchi, S. (195) 159)
- Rhodium complex  
Transfer hydrogenation of a variety of ketones catalyzed by rhodium complexes in aqueous solution and their application to asymmetric reduction using chiral Schiff base ligands (Himeda, Y. (195) 95)
- Rhodium  
 $^{31}P$  NMR and IR characterization of enantioselective olefin and arene hydrogenation catalysts containing a rhodium–chiral phosphine complex tethered on silica (Stanger, K.J. (195) 63)
- Rhodium  
Rhodium-sulfonated diphosphine catalysts in aqueous hydroformylation of vinyl arenes: high-pressure NMR and IR studies (Aghmiz, A. (195) 113)
- $Ru_3(CO)_{12}$   
Thermoregulated phase-separable phosphine ruthenium complex for hydrogenation catalysis (Wang, Y. (195) 133)
- Silica  
 $^{31}P$  NMR and IR characterization of enantioselective olefin and arene hydrogenation catalysts containing a rhodium–chiral phosphine complex tethered on silica (Stanger, K.J. (195) 63)
- $SO_2$   
Separate/simultaneous catalytic reduction of sulfur dioxide and/or nitric oxide by carbon monoxide over  $TiO_2$ -promoted cobalt sulfides (Zhaoliang, Z. (195) 189)
- Solid state  $^{31}P$ -NMR  
 $^{31}P$  NMR and IR characterization of enantioselective olefin and arene hydrogenation catalysts containing a rhodium–chiral phosphine complex tethered on silica (Stanger, K.J. (195) 63)
- Solvent-free organic synthesis  
Hydrotalcite-like compounds as catalysts in liquid phase organic synthesis. I. Knoevenagel condensation promoted by  $[Ni_{0.73}Al_{0.27}(OH)_2](CO_3)_{0.135}$  (Costantino, U. (195) 245)
- Squaric acid  
Preparation and use of novel molybdenum-containing organic complexes as catalysts in the epoxidation of cyclohexene (Kotov, S.V. (195) 83)
- Styrene  
Thermoregulated phase-separable phosphine ruthenium complex for hydrogenation catalysis (Wang, Y. (195) 133)
- Substituent effects  
Molecular structure effects in hydrogenation of allyl and vinyl ethers on platinum and palladium supported catalysts (Kačer, P. (195) 235)
- Sulfonated diphosphines  
Rhodium-sulfonated diphosphine catalysts in aqueous hydroformylation of vinyl arenes: high-pressure NMR and IR studies (Aghmiz, A. (195) 113)
- Surface species  
Preparation and characterization of alumina supported Pd-W and Pd-Mo catalysts photogenerated from group VI metal carbonyls (Sica, A.M. (195) 225)
- Synthesis  
Synthesis of a new type of amphiphilic and water-soluble tertiary phosphine ligands substituted by an ethoxylated phosphonic acid chain and their palladium complexes (Ma, X. (195) 47)
- Tandem reactions  
Competing Michael and Knoevenagel reactions of terpenoids with malonitrile on basic Cs-beta zeolite (Volcho, K.P. (195) 263)
- Terpenes  
Oxidation of monoterpenes with hydrogen peroxide catalysed by Keggin-type tungstoborates (Santos, I.C.M.S. (195) 253)
- Terpenoids  
Competing Michael and Knoevenagel reactions of terpenoids with malonitrile on basic Cs-beta zeolite (Volcho, K.P. (195) 263)

## Thermoregulated phase-separable catalysis (TPSC)

Thermoregulated phase-separable phosphine ruthenium complex for hydrogenation catalysis (Wang, Y. (195) 133)

## TiHY

Heteropolytungstic acid ( $H_3PW_{12}O_{40}$ )—encapsulated into the titanium-exchanged HY (TiHY) zeolite: a novel photocatalyst for photoreduction of methyl orange (Anandan, S. (195) 201)

TiO<sub>2</sub>

Separate/simultaneous catalytic reduction of sulfur dioxide and/or nitric oxide by carbon monoxide over TiO<sub>2</sub>-promoted cobalt sulfides (Zhaoliang, Z. (195) 189)

*trans*-2-Butene-1,4-diol

Liquid phase hydrogenation of 2-butyne-1,4-diol and 2-butene-1,4-diol isomers over Pd catalysts: roles of solvent, support and proton on activity and products distribution (Musolino, M.G. (195) 147)

## Transfer hydrogenation

Transfer hydrogenation of a variety of ketones catalyzed by rhodium complexes in aqueous solution and their application to asymmetric reduction using chiral Schiff base ligands (Himeda, Y. (195) 95)

## Tungsten chloride

Catalytic isomerization of 1-hexene to 2-hexene by halide clusters of Nb, Mo, Ta and W possessing an octahedral metal core (Kamiguchi, S. (195) 159)

## Tungstoborates

Oxidation of monoterpenes with hydrogen peroxide catalysed by Keggin-type tungstoborates (Santos, I.C.M.S. (195) 253)

## Water-soluble phosphine ligands

Synthesis of a new type of amphiphilic and water-soluble tertiary phosphine ligands substituted by an ethoxylated phosphonic acid chain and their palladium complexes (Ma, X. (195) 47)

## Y-type faujasite

Removal of NO<sub>x</sub> with cobalt phthalocyanine supported on Y-type faujasite and alumina (Hashimoto, K. (195) 275)

## Zeolite

Heteropolytungstic acid ( $H_3PW_{12}O_{40}$ )—encapsulated into the titanium-exchanged HY (TiHY) zeolite: a novel photocatalyst for photoreduction of methyl orange (Anandan, S. (195) 201)