

Journal of Molecular Catalysis A: Chemical 100 (1995) 209-318



# Cumultive Subject Index Volumes 80-100

# A

# Accessibility

Microporous poly-*N*,*N*-dimethylacrylamide-*p*-styrylsulfonatemethylene bis(acrylamide): a promising support for metal catalysis 97 (1995) 145

# Acetal

Hydroformylation of acrolein acetal 96 (1995) 25

### acetalization

Organic carbonate activation: aldehyde acetalization study using  $Sn[Co(CO)_4]_4$  as catalyst in the activation of propylene carbonate 85 (1993) 279

### Acetate ligand

Multidentate N-heterocyclic podand ligand. Efficient oxygenation of phenols catalyzed by novel cobalt complex 95 (1995) 1

### acetic acid

Acylation of phenol with acetic acid over a HZSM5 zeolite, reaction scheme 93 (1994) 169

On the rhodium catalyzed formation of acetic acid from methyl formate – comparison with the rhodium catalyzed formation of acetic acid by direct carbonylation of methanol 95 (1995) 45

Synthesis of acetic acid from methanol alone by homogeneous metal complex catalyst. Part II<sup>-1</sup>. Mechanistic study on methyl acetate formation from methanol alone by  $[(\eta^5-C_5H_5)(PPh_3)_2RuX]$ (X = Cl, SnF<sub>3</sub>) complex catalyst 97 (1995) 35

### acetic anhydride

Carbonylation of methyl acetate to acetic anhydride using homogeneous nickel complex catalyst 80 (1993) 21

#### acetone

Electronic structure of bis(triphenylphosphine)acetone-(ethene)rhodium hexafluorophosphate 84 (1993) 261

Study of the Meerwein-Pondorff-Verley reaction between ethanol and acetone on various metal oxides 91 (1994) 45

Bifunctional catalysts from pillared clays: vapour phase conversion of propene to acetone catalyzed by iron and ruthenium containing aluminum pillared bentonites. 92 (1994) 201

Effect of the reduction temperature on the selectivity of the high temperature reaction of acetone and hydrogen over alumina and titania supported nickel and cobalt catalysts 94 (1994) 347

### acetone deuteration

Adsorption and deuteration of acetone- $d_6$  on Pt/ZnO catalysts: an IR study of the effects of sample pretreatment 81 (1993) 373

#### Acetonitrile

Gas phase hydrogenation of acetonitrile on Raney nickel catalysts: reactive hydrogen 95 (1995) 165

The cocyclotrimerization of alkynes and acetonitrile with CpCoCOD as catalyst 99 (1995) 71

# acetoxylation

Acetoxylation of toluene catalyzed by supported Pd-Sn catalysts 87 (1994) 311

Pd/Sn catalyst for toluene acetoxylation 90 (1994) 267

Chiral Pd-, Cu- and Ni-chelates and their utilities as catalysts in allylic acetoxylation of alkenes 91 (1994) 319

### Acetylacetonate complexes

Infrared observation of the chemical consequences of cobalt catalyst produced in mixed solutions of  $Al(Et)_3$  and  $Co(acac)_2$  93 (1994) 289

#### acetylene

Hydrogenation of acetylene on palladium 89 (1994) 211

#### acetylenes

On the reactivity of acetylenes coordinated to cobalt. Part  $8^1$ : Carbonylation of acetylenes with bulky substituents 84 (1993) 7

#### acid-base catalysis

Bifunctional acid-base catalysis by imidazole groups in enzyme mimics 91 (1994) 161

### acid catalysis

Alkylation, isomerization and cracking activity of a novel solid acid,  $AlCl_2(SG)_n$  89 (1994) 317

# acid catalyst

Comparing homogeneous and heterogeneous acid catalysts by a density-functional based sensitivity analysis of their interaction with carbenium ions 83 (1993) 135

### Acid catalysts

Physicochemical properties of  $TiO_2$ -SiO<sub>2</sub> unmodified and modified with  $H_2SO_4$  and activity for acid catalysis 93 (1994) 149

Methylamine synthesis over solid acid catalysts: reaction kinetic measurements 93 (1994) 337

#### acid centres

Cluster models for Brønsted acid centres in faujasites 82 (1993) 347

# acidic properties

Comparison of the surface properties of the metal-oxygen cluster compounds, 12-tungstophosphoric acid and ammonium 12-tungstophosphate from the sorption of benzene, nitrogen and pyridine 80 (1993) 75

Acidic and basic properties of zirconia-alumina and zirconia-titania mixed oxides 84 (1993) 283

A comparative study of acidic properties of SAPO-5, -11, -34 and -37 molecular sieves 88 (1994) 249

Influence of hydrogen sulfide adsorption on the catalytic properties of metal oxides 97 (1995) 49

### Acidic zeolites

Cracking of neopentane over acidic zeolites: influence of isobutane and isobutene admission 95 (1995) 269

### acidity

FT-IR study of hydrocarbon conversion on dealuminated HY zeolites in working conditions 86 (1994) 401

Acidity studies of Eaton's catalyst, methanesulfonic acid-phosphorus pentoxide 87 (1994) 215

Effect of acidity and copper surface area of the  $Cu/Al_2O_3$  catalyst prepared by electroless plating procedure on dehydrogenation reactions 94 (1994) 233

Effect of the synthesis conditions on the crystallinity and surface acidity of SAPO-11 98 (1995) 35

### Acidity effects

Catalytic conversion of oxygen containing cyclic compounds. Part

I. Cyclohexanol conversion over H[A1]ZSM-5 and H[B]ZSM-5 94 (1994) 117

#### acid properties

Simulation of topography and acid properties of silicon substituted AIPO<sub>4</sub>-11 framework 84 (1993) 299

## acid strength

Effect of pore diameter and acid strength in ethanol dehydration on molecular sieves 83 (1993) 145

#### Acrolein

Hydroformylation of acrolein acetal 96 (1995) 25

### acrylate

Hydroformylation of ethyl acrylate catalyzed by Rh(acac)(CO)<sub>2</sub>phosphorus ligand systems 81 (1993) 255

### acrylic resins

Regioselective hydrogenation of 3-phenylpropenal and of *trans*-2hexenal to saturated aldehydes catalysed by ultrafine rhodium particles dispersed on acrylic resins 80 (1993) L5

# activated carbon

Mo-promoted Fe/activated carbon catalysts for carbon monoxide hydrogenation 90 (1994) 291

Hydrogenation of carbon oxides by Ru/activated carbon catalysts obtained from  $Ru_3(CO)_{12}$ : effect of pretreatment on their dispersion, composition and activity 95 (1995) 223

# activated hydrogen

Low temperature reduction of gallium in a  $Ga_2O_3/HZSM-5$  catalyst 83 (1993) 379

### Activation

Homogeneous catalytic hydrogenation of olefins by use of  $RhH_2(Ph_2N_3)(PPh_3)_2$  in dimethyl sulfoxide 92 (1994) 257

Electronic structure of organobis(dimethylglyoximato)triphenylphosphinerhodium(III) complexes 95 (1995) 141

#### Activation energy

Catalytic oxidation of erythrosine by cobalt phthalocyanines 93 (1994) 253

### active catalytic species

Oxidation of organic substrates catalysed by mixed ligand  $Ru^{II}$  complexes. Investigation of active catalytic species and termination pathway 80 (1993) 1

# Active site number

Comparison of methane hydroxylation activity with intact cells and cell-free extracts of *Methylosinus trichosporium* OB3b 97 (1995) 135

#### active sites

Hydrogenation of olefins on a  $MoS_2/\gamma - Al_2O_3$  catalyst. Role of P, F and alkaline cation additives 81 (1993) 301

211

Use of the methanol decomposition reaction for identifying surface species in Cu/Co-based catalysts 91 (1994) 369

# Active sites concentration

Active sites concentration in ethylene homo- and co-polymerization with 1-hexene using the highly active  $TiCl_4/MgH_2$ -AlEt<sub>3</sub> catalyst system 98 (1995) 135

# active titanium complexes

Model for the formation of active titanium complexes on  $MgCl_2$ ethyl benzoate-TiCl<sub>4</sub> catalysts for propylene polymerization 84 (1993) 109

#### activity

Activity and selectivity of supported Rh complex catalyst in carbonylation of nitrobenzene 91 (1994) 195

Poisoning of iron catalyst by COS in syngas for Fischer-Tropsch synthesis 94 (1994) 255

#### activity assay

Purification of Fd-glutamate synthase from *Monoraphidium braunii* and characterization of a light-dependent activity assay 89 (1994) 257

### Activity optimization

Lactose hydrolysis in milk by immobilized  $\beta$ -galactosidase 93 (1994) 233

### Acylation

Acylation of phenol with acetic acid over a HZSM5 zeolite, reaction scheme 93 (1994) 169

#### acylative cleavage

Regioselective acylative cleavage of cyclic ethers catalyzed by rare earth compounds 87 (1994) 357

### adamantane

Chromium(VI)-catalyzed oxidation of adamantane by *tert*-butyl hydroperoxide 84 (1993) 15

Catalysis of  $Sm^{3+}$  for the oxidation of alkanes with  $O_2$  in the liquid phase 95 (1995) 115

#### Addition

Addition of tetrachloromethane to *cis*-cycloalkenes in the presence of transition metal complexes 92 (1994) 269

### adiponitrile

Structural characteristics and catalytic performance of nickel catalysts for selective hydrogenation of 1,6-hexanedinitrile 81 (1993) 363

### adiponitrile hydrogenation

Characterization of potassium-doped nickel catalysts and activity for selective hydrogenation of 1,6-hexanedinitrile 81 (1993) 387

#### adsorbate-adsorbate interactions

Finite supercluster model of vanadium oxide catalysts. Part II. Adsorbate-adsorbate interactions 80 (1993) 341

#### adsorbates

Ligands on clusters – adsorbates on surfaces 82 (1993) 195

### Adsorbed water

Phosphorus-31 NMR spin lattice relaxation times as an indirect probe of adsorbed water in supported aqueous phase catalysts 94 (1994) 157

#### adsorption

Semiempirical study of carbon monoxide, oxygen and carbon adsorption on a modelled CoSi(100) surface 80 (1993) 307

Adsorption and reaction of molecules on surfaces of metal-metal oxide systems 82 (1993) 143

Theoretical investigations on adsorption at ion crystal surfaces 82 (1993) 171

Adsorption of toluene on vanadium pentoxide surfaces. Quantum chemical study 82 (1993) 457

Simulation of heterogeneous catalytic surfaces 85 (1993) 57

Carbon dioxide in Y and ZSM-20 zeolites: adsorption and infrared studies 85 (1993) 295

Pyridine adsorption on a  $MoS_2$  modelled surface ( $Mo_3S_8$ ). A CNDO molecular orbital study 85 (1993) 345

FTIR studies of CO chemisorption and reactivity on  $Rh/SiO_2$  catalysts promoted by niobium oxide 92 (1994) 217

### aerobic oxidation

Aerobic oxidation of ethers and alkenes catalyzed by a novel palladium complex 88 (1994) 151

### $[AlEt_3]$

Active sites concentration in ethylene homo- and co-polymerization with 1-hexene using the highly active  $TiCl_4/MgH_2$ -AlEt<sub>3</sub> catalyst system 98 (1995) 135

#### Affinity membrane

Human placental alkaline phosphatase covalently immobilized on a cross-flow microfiltration polyvinylidene difluoride membrane. Part I. Physicochemical effectors 93 (1994) 85

Human placental alkaline phosphatase covalently immobilised on a cross-flow microfiltration polyvinylidene difluoride membrane Part II. Activity vs. [substrate] kinetic behaviour 93 (1994) 105

# 109Ag NMR

Effect of particle size upon catalytic and electronic properties of supported Ag catalysts: combined catalytic, <sup>109</sup>Ag NMR and quantum chemistry studies 96 (1995) 175

#### alaninamide

Resolution of racemic mixtures by synthesis reactions catalyzed by immobilized derivatives of the enzyme penicillin G acylase 84 (1993) 365

### alcohol

Substituent effects on the rate of dehydrogenation of primary and secondary alcohols 87 (1994) 47

### alcohol carbonylation

Carbonylation of alcohols to alkyl formates promoted by an alkyne/ phosphine system 83 (1993) 83

# alcohol dehydrogenase

Oxidation of halogenated propanes with Methylosinus trichosporium (OB3b) 83 (1993) 5

### alcoholic function

Comparison of the relative efficiency of peroxomolybdenum complexes as oxidants of the alcoholic function 83 (1993) 95

### alcohol oxidation

Competitive oxidation of alcohols in aqueous phase using Pd/C catalyst 83 (1993) 75

### alcohols

Nitrous acid-catalysed oxidation of alcohols by oxygen in strongly acidic aqueous solutions 88 (1994) 121

Liquid-phase oxidation of alcohols by dioxygen using oxide-supported platinum catalysts 91 (1994) 139

Aerobic oxidation of aldehydes, ketones, sulfides, alcohols and alkanes catalysed by polymerizable  $\beta$ -ketoesterate complexes of iron(III), nickel(II) and cobalt(II) 94 (1994) 27

### Alcohol synthesis

Mechanistic aspects of the higher alcohol synthesis over unpromoted ZnCrO: 1-propanol flow microreactor study 94 (1994) 335

### aldehydes

Catalytic reactions of formate: Part 2. Aldehyde hydrogenation using chromium hexacarbonyl 80 (1993) 165

Aerobic oxidation of aldehydes, ketones, sulfides, alcohols and alkanes catalysed by polymerizable  $\beta$ -ketoesterate complexes of iron(III), nickel(II) and cobalt(II) 94 (1994) 27

### aldohexoses

Heptamolybdate-ion catalyzed C(2) epimerization of D-mannose to D-glucose in acetonitrile-water mixtures; a kinetic study 89 (1994) 247

### Aliquat 336

Further observations on RhCl<sub>3</sub>-Aliquat  $336^{\oplus}$  catalyzed carbonylation of aromatic diynes under phase transfer conditions 90 (1994) 231

#### Alkali addition

Mechanistic aspects of the higher alcohol synthesis over unpromoted ZnCrO: 1-propanol flow microreactor study 94 (1994) 335

#### alkali metal hydrides

Highly active alkali metal hydrides: their catalytic syntheses and properties 84 (1993) 211

#### alkali metal naphthalenes

Highly active alkali metal hydrides; their catalytic syntheses and properties 84 (1993) 211

### alkali-metal surface

Dipped adcluster model and SAC-CI method applied to harpooning, chemiluminescence and electron emission in halogen chemisorption on alkali metal surface 82 (1993) 211

#### alkaline carbon

Alkaline carbons as base catalysts: Alkylation of imidazole with alkyl halides 85 (1993) 253

#### Alkaline hydrolysis

Microgels with trialkylammonio side chains function as catalysts for the alkaline hydrolysis of substituted phenyl laurate esters 99 (1995) 41

#### **Alkaline** oxidation

Global kinetics of the alkaline oxidative degradations of lactose 93 (1994) 317

#### Alkaline phosphatase

Human placental alkaline phosphatase covalently immobilized on a cross-flow microfiltration polyvinylidene difluoride membrane. Part I. Physicochemical effectors 93 (1994) 85

Human placental alkaline phosphatase covalently immobilised on a cross-flow microfiltration polyvinylidene difluoride membrane Part II. Activity vs. [substrate] kinetic behaviour 93 (1994) 105

# alkali ZSM-5

Propene aromatization over alkali-exchanged ZSM-5 zeolites 81 (1993) 37

# alkane activation

Recent developments in the surface and catalytic chemistry of supported organoactinides 86 (1994) 23

#### alkane cracking

Cracking of *n*-hexane and *n*-butane over SAPO5, MgAPO5 and CoAPO5 87 (1994) 263

#### Alkanes

Catalysis of  $Sm^{3\,+}$  for the oxidation of alkanes with  $O_2$  in the liquid phase  $-95\ (1995)\ 115$ 

Catalytic and structural properties of ruthenium bimetallic catalysts: kinetics of hydrogenolysis of lower alkanes on variously pretreated Ru/Al<sub>2</sub>O<sub>3</sub> catalysts 98 (1995) 81

#### alkanol

New alkoxycarbonyl complexes of palladium(II) and their role in carbonylation reactions carried out in the presence of an alkanol 84 (1993) 165

#### alkanones

Mode of enantioface-differentiation in the hydrogenation of 2-alka-

none over an asymmetrically modified nickel catalyst 87 (1994) 333

Enantioface-differentiating hydrogenation of the C=O double bond using a modified Raney nickel: role of the carboxylic acid added to the reaction system 93 (1994) 211

#### alkene

Catalysis of alkene hydrogenation and oxidation by nickel-saloph complex; a novel bifunctional catalyst 84 (1993) 1

Aerobic oxidation of ethers and alkenes catalyzed by a novel palladium complex 88 (1994) 151

Polymer-supported Pd(II) Wacker-type catalysts. Part III<sup>4</sup>. Isomerisation of alkene double bond 94 (1994) 7

Synthesis and catalytic activity of silica supported iron(III) 95 (1995) 27

### alkene isomerization

Palladium clusters: stoichiometric and catalytic reactions 86 (1994) 71

### alkenes

Synthesis of a new chiral porphyrin ligand and its Mn(III) complex as catalyst in asymmetric alkene epoxidation 80 (1993) 395

Why do not 7-co-ordinated diperoxo molybdenum complexes oxidize alkenes? A theoretical analysis 87 (1994) 5

Iron pentacarbonyl-catalysed aminomethylation of alkenes: some intriguing observations 87 (1994) 223

Synthesis of binuclear amide complexes of Ru(III) and study of their catalytic activity in epoxidation of alkenes 88 (1994) 287

Dimerization and isomerization of 2-methyl-1-alkenes over  $Re_2O_7$ -Al $_2O_3$  catalyst 90 (1994) 1

Chiral Pd-, Cu- and Ni-chelates and their utilities as catalysts in allylic acetoxylation of alkenes 91 (1994) 319

Is metallic palladium formed in Wacker oxidation of alkenes? 91 (1994) 343

Use of rhodium on carbon and 1,3-bis(diphenylphosphino)propane to catalyze the regioselective hydroformylation of alkenes with formic acid as the hydrogen source 92 (1994) 35

Comparison of reactivity of alkene epoxidation with intact cells and cell-free extracts of *Methylosinus trichosporium* OB3b 93 (1994) 119

Sepiolites as supports for Pd catalysts used in organic reduction processes 94 (1994) 131

Formation and reactivity toward hydrocarbons of oxomanganese porphyrins in the presence of anionic bases 97 (1995) 79 Rhodium catalysed hydroformylation of higher alkenes using amphiphilic ligands 98 (1995) 69

Ruthenium(II) 2-(phenylazo)pyridine complexes as epoxidation catalysts 98 (1995) 143

# alkoxides

Alkoxides as ancillary ligands in organolanthanide chemistry: synthesis, reactivity,  $\alpha$ -olefin and diene polymerization by  $[Y(C_5Me_5)(OC_6H_3^{t}Bu_2) (\mu-H)]_2 = 90 (1994) 177$ 

#### alkoxyalanate

Ziegler systems as hydrogenation catalysts. Part 2<sup>1</sup>. Dependence of the hydrogenation activity of  $CoBr_2/Li[AIH_n(O-R)_{4-n}]$  systems from the concentration of the reducing agent 84 (1993) 33

### alkoxyalanates

Ziegler systems as hydrogenation catalysts. Part 1.  $CoBr_2/Li[AlH(O-t-butyl)_3]_3$  system as a catalyst for the hydrogenation of anthracene 81 (1993) 195

#### alkoxycarbonyl complexes

New alkoxycarbonyl complexes of palladium(II) and their role in carbonylation reactions carried out in the presence of an alkanol 84 (1993) 165

### alkoxylated derivatives

Immobilization of alkoxylated phosphine ligands and their Rh complexes to a silica surface coated with an organic mono- or multilayer 90 (1994) 303

### alkyl aromatics

Ruthenium-catalyzed oxidation of alkylaromatics by monopersulfate with preferential oxidative fission of the benzene ring 84 (1993) 59

# Alkyl aryl ethers

Thermolysis of alkyl aryl ethers catalysed by HZSM-5, P-HZSM-5, H-Theta-1, H-Y and H-Mordenite zeolites 92 (1994) 51

#### alkylation

Scope of the N-alkylation of amides and the C-alkylation of malonates by methyl formate and dimethyl carbonate 84 (1993) 131

Alkaline carbons as base catalysts: Alkylation of imidazole with alkyl halides 85 (1993) 253

Synthesis of diisopropylbenzene over dealuminated zeolite beta 88 (1994) 85

Montmorillonite and vanadia-montmorillonite catalysts for aniline alkylation 88 (1994) 271

Alkylation, isomerization and cracking activity of a novel solid acid,  $AlCl_2(SG)_n$  89 (1994) 317

[CpMo(CO)<sub>3</sub>]<sub>2</sub> as a catalyst for olefin metathesis 90 (1994) 11

Alkylation of isobutane with 2-butene using 1-butyl-3-methylimidazolium chloride-aluminium chloride molten salts as catalysts 92 (1994) 155

An in situ <sup>13</sup>C MAS NMR study of benzene isopropylation over H-ZSM-11: cumene formation and side-reactions 95 (1995) 243

Characterization and aniline alkylation activity of vanadia and silica-supported vanadia catalysts 96 (1995) 57

Benzylation of aromatics on ion-exchanged clays 98 (1995) 101

### alkylbenzenes

Oxygenation of alkylbenzenes, catalyzed by 10-methylacridinium ion via photoinduced electron transfer under visible light irradiation 90 (1994) 225

Mechanistic aspects of benzylic bromide formation and oxidation during the cobalt acetate bromide catalyzed oxidation of alkylbenzenes in carboxylic acids 99 (1995) 1

### alkyl-chain benzimidazole ligands

Esterolysis of long-chain *p*-nitrophenyl picolinates by hydrophobic  $Zn^{2+}$  complexes in the presence of a cationic surfactant 85 (1993) 45

### alkyl formates

Novel catalytic procedure for selective homologation of primary alcohols 80 (1993) L1

#### Alkylguanidines

Alkylguanidines as catalysts for the transesterification of rapeseed oil 99 (1995) 65

### alkylperoxo complexes

Role of alkylperoxo complexes of cobalt(III) in catalytic oxidation of cyclohexane by cumene hydroperoxide in the presence of bis(acetylacetonato)cobalt(II) 81 (1993) 215

Role of vanadium alkylperoxo complexes in epoxidation of cyclohexene and oxidation of cyclohexane by organic hydroperoxides in the presence of bis(acetylacetonato)vanadyl 81 (1993) 235

New possibilities of NMR in mechanistic studies of homogeneous and heterogeneous catalysis 82 (1993) 275

Characterization with <sup>95</sup>Mo, <sup>17</sup>O, <sup>1</sup>H NMR and EPR of alkylperoxo, alkoxo, peroxo and diolo molybdenum(VI) complexes formed in the course of catalytic epoxidation of cyclohexene with organic hydroperoxides 83 (1993) 329

### alkyl reactions

Molecular approach to the study of the mechanisms of alkyl reactions on metal surfaces 86 (1994) 221

### Alkyistyrene

The regioselective hydrocarboalkoxylation of 4-methylstyrene catalyzed by palladium complexes 95 (1995) 11

#### alkylthiolation

Liquid-phase alkylthiolation reaction of phenol by dimethyldisulfide over zeolites 89 (1994) 383

# alkyl thiophenes

A new and convenient method for the synthesis of 3-alkyl thiophenes 80 (1993) 201

### alkyltitanocene complex catalyst

From ring-opening metathesis polymerization to Ziegler-Natta polymerization: a method for obtaining polynorbornene-polyethylene block copolymers 82 (1993) 103

# Alkyl-vinylidene polyphenylacetylene

Metathetical polymerization of substituted phenylacetylenes using in situ generated (arene) $M(CO)_3$  complexes (arene = toluene, oxylene or mesitylene, M=Cr, Mo or W) as catalysts 99 (1995) 47

### Alkyne

The cocyclotrimerization of alkynes and acetonitrile with CpCoCOD as catalyst 99 (1995) 71

#### 1-Alkyne

Further studies of the Pt(II) catalyzed hydromethoxycarbonylation of 1-alkynes 96 (1995) 223

#### alkynes

Pt(II)–SnCl<sub>2</sub> catalyzed hydromethoxycarbonylation of 1-alkynes: a remarkable example of regioselectivity control 84 (1993) 141

Homogeneous and biphasic oligomerization of terminal alkynes by some water soluble rhodium catalysts 85 (1993) 153

Palladium-catalyzed hydroesterification of alkynes in the presence of *p*-toluenesulfonic acid under a normal pressure of carbon monoxide 89 (1994) 151

Study of the reactivity of ClCo(PPh<sub>3</sub>)<sub>3</sub> 92 (1994) 41

Reactions of  $W(CCMe_3)(OCMe_3)_3$  with terminal alkynes: metathesis and polymerization 96 (1995) 95

Regioselective palladium(II) catalyzed hydroesterification of alkynes and alkynols using formate esters 96 (1995) 197

#### Alkynols

Regioselective palladium(II) catalyzed hydroesterification of alkynes and alkynols using formate esters 96 (1995) 197

#### $\alpha$ -alkynyl metallacyclopentadiene

Pallada- and platinacycles. Part IV. The palladium- and platinumcatalyzed selective cyclisation of dipropargyl acetylenedicarboxylate – the reaction of an  $\alpha$ -alkynyl metallacyclopentadiene 81 (1993) 313

#### all-equatorial arrangement

Carbohydrate phosphinites as chiral ligands for asymmetric syntheses catalyzed by complexes. Part X.<sup>1</sup> Importance of all-equatorial arrangement in vicinal bisphosphinite hexapyranoside ligands for rhodium catalyzed asymmetric hydrogenation 84 (1993) 223

# Alloys

The interaction of carbon monoxide with nickel-iron alloys. A comparison between single crystal surfaces and supported catalysts 92 (1994) 299

#### Allyl

Complex catalysis. Part XLVI<sup>1</sup>. The mechanism of mol mass regulation in the allyl nickel complex catalyzed 1,4-*cis* polymerization of butadiene 97 (1995) 21

### allyl alcohol

Hydroformylation of allyl alcohol catalysed by  $(Rh(PPh_3)_3)^+/$ montmorillonite: a kinetic study 91 (1994) 187

#### allylamido complexes

Catalytic oxidation and ammoxidation of propylene. Modelling studies on well-defined molybdenum complexes 86 (1994) 267

#### allyl chloride

Ruthenium complex-catalyzed hydrosilylation of allyl chloride with trimethoxysilane 81 (1993) 207

Catalytic activities of nickel(II) complexes of a salen analog, [Ni(babp)], in epoxidation of olefins 87 (1994) 195

#### allyl complexes

Recent developments in the surface and catalytic chemistry of supported organoactinides 86 (1994) 23

### $\eta^3$ -allyl complexes

Nucleophilic attack on the central allyl carbon of  $\eta^3$ -allyl complexes of Pd and Pt. Synthesis of cyclopropanes from allylic electrophiles and silyl enolates 84 (1993) 239

### allyl derivatives

Isomerization of 3-functional substituted propenes in the presence of ruthenium (III) 1,3-diketonates 89 (1994) 303

Metathetical activity of allylsubstituted silanes in the presence of ruthenium catalyst 90 (1994) 125

#### allylic derivatives

Chiral Pd-, Cu- and Ni-chelates and their utilities as catalysts in allylic acetoxylation of alkenes 91 (1994) 319

### allylic oxidation

Allylic oxidation of olefins catalyzed by cobalt chloride. The beneficial effect of N-methylpyrrolidinone 84 (1993) 87

### allyloxo complexes

Catalytic oxidation and ammoxidation of propylene. Modelling studies on well-defined molybdenum complexes 86 (1994) 267

# **AlPO**₄

Metal-support interaction effects in the liquid-phase selective hydrogenation of 1,4-butynediol with nickel catalysts supported on AIPO<sub>4</sub> and on other conventional non-reducible compounds 85 (1993) 305

# ALPO₄-5 supported vanadium

Oxidative dehydrogenation of propane on VAPO-5,  $V_2O_5/ALPO_4$ -5 and  $V_2O_5/MgO$  catalysts. Nature of selective sites 97 (1995) 173

### Alternative ligand systems

Early transition metal catalyzed-hydroboration of alkenes 95 (1995) 121

#### alumina

 $\label{eq:characterization of chromium oxide supported on Al_2O_3, ZrO_2, TiO_2, and SiO_2 under dehydrated conditions $80 (1993) 209$ 

Raman characterization of alumina supported Mo-V-Fe catalysts: influence of calcination temperature 81 (1993) 63

Catalytic properties of 0.3% Pt/Al<sub>2</sub>O<sub>3</sub> (EUROPT-3) and of 0.3% Pt-0.3% Re/Al<sub>2</sub>O<sub>3</sub> (EUROPT-4) 81 (1993) 99

Catalytic behaviour for skeletal rearrangement of hydrocarbons and surface structures of silica and alumina supported Pt-Mo catalysts 85 (1993) 75

Methanation with  $[Re(CO)_3OH]_4/Al_2O_3$ . Evidence for spillover species 86 (1994) 121

Application of computer modeling to surface organometallic chemistry 86 (1994) 479

Interaction of CO with  $Ni^0$  in zeolites and on alumina studied by isotopic exchange 87 (1994) 343

Homogeneous and alumina supported rhodium complex catalyzed hydrogenation 88 (1994) 13

Catalytic activities of electroless plated Cu/alumina catalysts for the dehydrogenation of cyclohexanol 88 (1994) 223

Paraffin dehydrocyclization. Part 8. Conversion of *n*-octane with mono and bifunctional  $Pt-Al_2O_3$  catalysts at 100 psig 88 (1994) 325

Studies on ruthenium catalysts. Part 4: Hydrogenolysis of *n*-butane on  $Ru/Al_2O_3$  catalysts-dependence of reaction kinetics on particle size and on pretreatment 89 (1994) 221

Styrene hydrogenation on supported Pd, Fe and Pd-Fe/ $\gamma$ -Al<sub>2</sub>O<sub>3</sub> catalysts 89 (1994) 267

Dimerization and isomerization of 2-methyl-1-alkenes over  $Re_2O_7$ -Al<sub>2</sub>O<sub>3</sub> catalyst 90 (1994) 1

Catalytic and structural properties of ruthenium bimetallic catalysts: preparation and characterization 92 (1994) 107

Iridium(I) and phase-transfer catalyzed hydrogen-transfer reduction of ketones using potassium fluoride on alumina as a base 92 (1994) 149

Promoter effect of niobia on  $Pt/Al_2O_3$  catalysts. Part II<sup>1</sup>. Effect of chlorine and  $Nb_2O_5$  content on the structure and reactivity in  $CH_3OH/D_2$  exchange 92 (1994) 167

Methylamine synthesis over solid acid catalysts: reaction kinetic measurements 93 (1994) 337

Effect of the reduction temperature on the selectivity of the high temperature reaction of acetone and hydrogen over alumina and titania supported nickel and cobalt catalysts 94 (1994) 347

Kinetic study of the hydrogen sulfide effect in the conversion of thiophene on supported Co-Mo catalysts 94 (1994) 369

<sup>31</sup>P MAS NMR study of the hydrolysis of *O*,*S*-diethyl phenylphosphonothioate on reactive sorbents 99 (1995) 175

### Aluminate

High temperature treated Pt/Sn-ZnAl<sub>2</sub>O<sub>4</sub> catalysts 93 (1994) 67

### aluminium

Vapour phase propene hydroformylation catalyzed by the Rh/Al system on silica 80 (1993) 105

Characterization of CrO<sub>3</sub>/Al<sub>2</sub>O<sub>3</sub> catalysis under ambient conditions: influence of coverage and calcination temperature 84 (1993) 193

Simulation of topography and acid properties of silicon substituted AIPO<sub>4</sub>-11 framework 84 (1993) 299

Paired interacting orbitals (PIO) study on the formation of the active site in Ziegler catalyst system 87 (1994) 243

Alkylation, isomerization and cracking activity of a novel solid acid, AlCl<sub>2</sub>(SG)<sub>n</sub> 89 (1994) 317

Bifunctional catalysts from pillared clays: vapour phase conversion of propene to acetone catalyzed by iron and ruthenium containing aluminum pillared bentonites. 92 (1994) 201

The electronic states and Lewis acidity of surface aluminum atoms in  $\gamma$ -Al<sub>2</sub>O<sub>3</sub> model cluster: An *ab initio* MO study 96 (1995) 277

Vapour phase deep oxidation of chlorinated hydrocarbons catalyzed by pillared bentonites 97 (1995) 139

### aluminium NMR spectroscopy

Characterization of alumoxanes by <sup>27</sup>Al-NMR spectra 82 (1993) 93

### aluminophosphate

A comparative study of acidic properties of SAPO-5, -11, -34 and -37 molecular sieves 88 (1994) 249

Effect of the synthesis conditions on the crystallinity and surface acidity of SAPO-11 98 (1995) 35

### aluminoxane

Behaviour of  $[Ti_2(OEt)_8Cl]_2Mg_2(\mu-Cl)_2$  as catalyst component in the Ziegler-Natta polymerization of  $\alpha$ -olefins and diolefins 82 (1993) 45

### aluminum

Influence of ligands and cocatalyst on the activity in ethylene polymerization of soluble titanium complexes 89 (1994) 41

### Alumoxane

The influence of cyclopentadienyl ring substituent steric and electronic effects on the ethylene- $\alpha$ -olefin copolymerisation behaviour of (CpR)<sub>2</sub>ZrCl<sub>2</sub>/ethylalumoxane catalysts 96 (1995) 181

### alumoxane characterization

Characterization of alumoxanes by <sup>27</sup>Al-NMR spectra 82 (1993) 93

### Ambient conditions

Epoxidation of cyclohexene catalyzed by copper(II) complexes under Mukaiyama's conditions 96 (1995) 9

### amides

Scope of the N-alkylation of amides and the C-alkylation of malonates by methyl formate and dimethyl carbonate 84 (1993) 131

Synthesis of binuclear amide complexes of Ru(III) and study of their catalytic activity in epoxidation of alkenes 88 (1994) 287

### amidine

Ruthenium complex-catalyzed selective deoxygenation of amidoximes to amidines and its application to the facile synthesis of pyrimidines 80 (1993) 383

### amidoxime

Ruthenium complex-catalyzed selective deoxygenation of amidoximes to amidines and its application to the facile synthesis of pyrimidines 80 (1993) 383

### aminated polystyrene

Chemoselective reduction of nitro groups in the presence of olefinic, ester, and halogeno functions using a reducing agent of CO and  $H_2O$  catalyzed by Rh carbonyl clusters 88 (1994) 267

#### amination

Role of the support of the nickel catalyst in the synthesis of morpholine from diethylene glycol and ammonia 88 (1994) 193

Catalytic conversion of oxygen containing cyclic compounds. Part II. Cyclohexanone conversion on HZSM-5 zeolites 94 (1994) 243

### Amine complexes

Cu<sup>II</sup>-diamine complex catalyzed hydrolysis of phosphate triesters adsorbed on strong-base ion exchange resins. <sup>31</sup>P NMR relaxation measurements 93 (1994) 221

#### amines

Oxidation	of	primary	benzylic	amines	by
$M_0(O)(O_2)_2(H_2O)(HMPA)$			83 (1993) 311		

### amine synthesis

Syngas reactions part XV. Primary amine syntheses from olefins, syngas and ammonia 81 (1993) 27

### amino acids

Carbohydrate phosphinites as chiral ligands for asymmetric syntheses catalyzed by complexes. Part X.<sup>1</sup> Importance of all-equatorial arrangement in vicinal bisphosphinite hexapyranoside ligands for rhodium catalyzed asymmetric hydrogenation 84 (1993) 223

### aminoarenes

Synthesis of aminoarenes in homogeneously catalyzed nitroarene – methyl formate reactions 91 (1994) 149

### 6-aminohexanenitrile

Structural characteristics and catalytic performance of nickel catalystsforselectivehydrogenationof1,6-hexanedinitrile81 (1993) 363

Characterization of potassium-doped nickel catalysts and activity for selective hydrogenation of 1,6-hexanedinitrile 81 (1993) 387

#### aminolysis

Aminolysis of phenyl esters by microgel and dendrimer molecules possessing primary amines 85 (1993) 21

#### aminomethylation

Iron pentacarbonyl-catalysed aminomethylation of alkenes: some intriguing observations 87 (1994) 223

### ammonia

Syngas reactions part XV. Primary amine syntheses from olefins, syngas and ammonia 81 (1993) 27

Ammonia and sulfur poisoning effects on hydrogenation of phenylacetylene over Pd supported catalysts 94 (1994) 409

### ammonia oxidation

Quantum chemical study of the reaction of ammonia with transient oxygen species 82 (1993) 353

## ammonium 12-tungstophosphate

Comparison of the surface properties of the metal-oxygen cluster compounds, 12-tungstophosphoric acid and ammonium 12-tungstophosphate from the sorption of benzene, nitrogen and pyridine 80 (1993) 75

# ammoxidation

DRIFT study of the oxidation and the ammoxidation of toluene over a  $TiO_2(B)$ -supported vanadia catalyst 81 (1993) 51

Catalytic oxidation and ammoxidation of propylene. Modelling studies on well-defined molybdenum complexes 86 (1994) 267

# $\beta$ -amylase

Thiolation and reversible immobilization of sweet potato  $\beta$ -amylase on thiolsulfonate-agarose 84 (1993) 381

### analytic cluster model

Extension of the range of applications of classic-phenomenological

laws to the field of matter in a highly dispersed state 82 (1993) 361

### aniline

Palladium-catalyzed N,N'-diphenylurea synthesis from nitrobenzene, aniline, and carbon monoxide: Part 4. Ligand effects 81 (1993) 17

Carbonylative reduction of aromatic nitroderivatives to arylamines catalyzed by sulfur compounds 88 (1994) 177

Montmorillonite and vanadia-montmorillonite catalysts for aniline alkylation 88 (1994) 271

New catalytic system for oxidative carbonylation of aniline 91 (1994) 155

Synthesis of methyl N-phenyl carbamate by methoxycarbonylation of aniline with dimethyl carbonate using Pb compounds as catalysts 91 (1994) 399

Characterization and aniline alkylation activity of vanadia and silicasupported vanadia catalysts 96 (1995) 57

# Anionic bases

Formation and reactivity toward hydrocarbons of oxomanganese porphyrins in the presence of anionic bases 97 (1995) 79

#### Anisole

Thermolysis of alkyl aryl ethers catalysed by HZSM-5, P-HZSM-5, H-Theta-1, H-Y and H-Mordenite zeolites 92 (1994) 51

### anthracene

Ziegler systems as hydrogenation catalysts. Part 1. CoBr<sub>2</sub>/ Li[AlH(*O*-*t*-butyl)<sub>3</sub>]<sub>3</sub> system as a catalyst for the hydrogenation of anthracene 81 (1993) 195

#### Anthraquinone derivatives

Hydrogenation of the aromatic rings of 2-ethylanthraquinone on palladium catalyst 94 (1994) 37

### antiinflammatory drugs

Enantiospecific hydrolysis of esters of nonsteroidal antiinflammatory drugs using lipase of *Candida cylindracea* 84 (1993) 399

A systematic analysis of the variables that control a highly stereoselective resolution of racemic non-steroidal antiinflammatory drugs using immobilized lipase from *Candida cylindracea* 98 (1995) 171

# Antimony

CO oxidation over Pd/FeSbO4 catalyst 95 (1995) 211

# apatites

Strontium hydroxyapatites: catalytic properties in the oxidative dehydrogenation of methane to carbon oxides and hydrogen 92 (1994) 81

#### Aqueous conditions

Palladium-catalyzed, arylation of ethylene (the Heck reaction) under aqueous conditions 97 (1995) 73

#### aqueous medium

 $\beta$ -Cyclodextrin as inverse phase-transfer catalyst in oxidations of isoborneol, borneol and menthol by calcium hypochlorite in aqueous solution 88 (1994) 117

# aqueous phase

Aqueous phase rhodium hydroformylation of octene-1 with trisulfonated tris( $\omega$ -phenyl)alkylphosphines and trisulfonated triphenyl phosphine. Reaction selectivity as an indication of rhodium-phosphine complex chemistry 88 (1994) 43

Phosphorus-31 NMR spin lattice relaxation times as an indirect probe of adsorbed water in supported aqueous phase catalysts 94 (1994) 157

Spectator cations and catalysis with sulfonated phosphines. The role of cations in determining reaction selectivity in the aqueous phase hydroformylation of olefins 99 (1995) 131

### aqueous solutions

The effect of phosphonium salt formation on the kinetics of homogeneous hydrogenations in water utilizing a rhodium *meta*-sulfonatophenyl-diphenylphosphine complex 84 (1993) 157

<sup>51</sup>V-NMR investigation on the formation of peroxo vanadium complexes in aqueous solution: some novel observations 94 (1994) 323

### arene complexes

Hydrogenation of conjugated dienes catalysed by  $\eta^{\circ}$ -arenetricarbonylchromium complexes 88 (1994) 31

# (Arene)M(CO)<sub>3</sub> complexes

Metathetical polymerization of substituted phenylacetylenes using in situ generated (arene) $M(CO)_3$  complexes (arene=toluene, oxylene or mesitylene, M=Cr, Mo or W) as catalysts 99 (1995) 47

#### Arene oxide

Oxidation of methoxybenzenes to *p*-benzoquinones catalyzed by methyltrioxorhenium(VII) 97 (1995) 15

#### arenes

Recent developments in the surface and catalytic chemistry of supported organoactinides 86 (1994) 23

#### **1arene ligands**

Palladium-catalyzed carbon–carbon bond formation from ( $\eta^6$ -chloroarene)Cr(CO)<sub>3</sub> complexes: an example of bimetallic activation in homogeneous catalysis 81 (1993) 1

### arenethiosulphonic acid esters

Desulfonylation and desulfonylative carbonylation of arenethiosulfonic acid esters in the presence of PdCl<sub>2</sub> and LiCl 83 (1993) 125

#### Aromatic compounds

Hectorite-supported ruthenium: a hydrogenation catalyst with molecular-sieve properties 92 (1994) 123

#### aromatics

Hydroxylation of aromatics with hydrogen peroxide catalyzed by vanadium(V) peroxocomplexes 83 (1993) 107

Stoichiometric reaction of benzene with  $\alpha$ -form of oxygen on FeZSM-5 zeolites. Mechanism of aromatics hydroxylation by N<sub>2</sub>O 84 (1993) 117

Stereoselective reduction of disubstituted aromatics on colloidal rhodium 87 (1994) 107

Electrophilic halogenation of aromatics and heteroaromatics with *N*halosuccinimides in a solid/liquid system using an H<sup>+</sup> ion exchanger or ultrasonic irradiation 88 (1994) 377

Hydrogenation of the aromatic rings of 2-ethylanthraquinone on palladium catalyst 94 (1994) 37

Benzylation of aromatics on ion-exchanged clays 98 (1995) 101

# aromatic tertiary amines

Factors affecting cytochrome P-450 and horseradish peroxidase-catalyzed oxidative *N*-dealkylation of aromatic tertiary amines. A multivariate approach 85 (1993) 97

### aromatization

Propene aromatization over alkali-exchanged ZSM-5 zeolites 81 (1993) 37

Ring enlargement and aromatization of propylcyclobutane over silica-supported Pt, Pd and Rh in hydrogen atmosphere 91 (1994) 61

Synthesis of a *trans*-benzo-[f]-heterodecalin by catalytic hydrogenation. The important parameters for high stereo- and chemoselectivity 95 (1995) 155

#### artificial nuclease

Lanthanide metal complexes for the hydrolysis of linear DNAs 84 (1993) 21

### arylacetylenes

A convenient route to 1,3,5-trisubstituted benzenes via rhodium catalyzed polymerization of arylacetylenes 85 (1993) 163

#### arylamines

Carbonylative reduction of aromatic nitroderivatives to arylamines catalyzed by sulfur compounds 88 (1994) 177

### Arylation

Palladium-catalyzed, arylation of ethylene (the Heck reaction) under aqueous conditions 97 (1995) 73

#### Aryl derivatives

Hydrovinylation of styrene derivatives to 3-aryl-1-butenes catalysed by nickel complexes 92 (1994) 127

#### **Arylpropionic acids**

Hydrolysis of (R,S)2-aryl propionic esters by pure lipase B from Candida cylindracea 96 (1995) 317

### Aspergillus niger

Study of the new electron transfer mediators in glucose oxidase catalysis 91 (1994) 407

### asymmetric catalysis

Thioethers: potential ligands for asymmetric catalysis? 85 (1993) 131

### asymmetric epoxidation

Synthesis of a new chiral porphyrin ligand and its Mn(III) complex as catalyst in asymmetric alkene epoxidation 80 (1993) 395

### asymmetric hydrogenation

Synthesis of an optically active pheniramine by enantioselective hydrogenation catalysed by BINAP-ruthenium(II) complexes 83 (1993) 1

Carbohydrate phosphinites as chiral ligands for asymmetric syntheses catalyzed by complexes. Part X.<sup>1</sup> Importance of all-equatorial arrangement in vicinal bisphosphinite hexapyranoside ligands for rhodium catalyzed asymmetric hydrogenation 84 (1993) 223

#### asymmetric modification

Mode of enantioface-differentiation in the hydrogenation of 2-alkanone over an asymmetrically modified nickel catalyst 87 (1994) 333

# **Asymmetric reaction**

New hydroformylation rhodium catalysts with dithiolate chiral ligands 94 (1994) 149

#### Auger line shape analysis

High resolution Auger electron spectroscopic study of the chemisorption and decomposition of benzene, cyclohexene and cyclohexane on a clean and carbided Fe(110) surface 93 (1994) 181

### autooxidation

Rate enhancement of the autooxidation of 3,5-di-*tert*-butylcatechol in micellized copper(II) solutions 81 (1993) L1

Autooxidation of catechols in solutions of copper(II) surfactants and hydrated metal ions in sodium dodecyl sulphate 85 (1993) 173

Effects of sodium dodecyl sulphate concentration on the autooxidation of 3,5-di-*tert*-butylcatechol in solutions of hydrated transition metal ions 97 (1995) 1

### autoxidation

Effects of complexation of oppositely charged water-soluble cobaltphthalocyanines on the catalytic mercaptoethanol autoxidation 87 (1994) 161

Effects of solvents on the cobalt phthalocyanine-catalyzed oxidation of hydrophobic thiols 97 (1995) 7

### azodicarboxamide

Catalytic oxidation of hydrazodicarboxamide to azodicarboxamide by oxygen 80 (1993) L13

### **Bacillus schlegelii**

Thermostability and electron transfer activity of the ferredoxin from

a thermophilic hydrogen oxidizing bacterium, Bacillus schlegelii 95 (1995) 173

# Β

### bacterial oxidation

Oxidation of halogenated propanes with *Methylosinus trichosporium* (OB3b) 83 (1993) 5

# **Baeyer-Villiger reaction**

Multiple bonds between main-group elements and transition metals. Part 133<sup>1</sup>. Methyltrioxorhenium as a catalyst of the Baeyer-Villiger oxidation 94 (1994) 213

#### base

Carbonylative reduction of aromatic nitroderivatives to arylamines catalyzed by sulfur compounds 88 (1994) 177

New catalytic system for oxidative carbonylation of aniline 91 (1994) 155

#### base effects

Palladium catalyzed vinylation of 4-bromo-4'-hydroxybiphenyl 88 (1994) 113

# basicity

Alkaline carbons as base catalysts: Alkylation of imidazole with alkyl halides 85 (1993) 253

Validity of using isopropanol decomposition as a test-reaction for the characterization of metal oxides basicity; comparison with results obtained from methylbutynol decomposition 87 (1994) 329

The effect of different ZnO precursors on the catalytic decomposition of ethanol 98 (1995) 63

### basic properties

Acidic and basic properties of zirconia-alumina and zirconia-titania mixed oxides 84 (1993) 283

### **Bäyer-Villiger reaction**

Aerobic oxidation of aldehydes, ketones, sulfides, alcohols and alkanes catalysed by polymerizable  $\beta$ -ketoesterate complexes of iron(III), nickel(II) and cobalt(II) 94 (1994) 27

### Bentonite

Vapour phase deep oxidation of chlorinated hydrocarbons catalyzed by pillared bentonites 97 (1995) 139

#### Bentonites

Bifunctional catalysts from pillared clays: vapour phase conversion of propene to acetone catalyzed by iron and ruthenium containing aluminum pillared bentonites. 92 (1994) 201

#### benzene

Stoichiometric reaction of benzene with  $\alpha$ -form of oxygen on

FeZSM-5 zeolites. Mechanism of aromatics hydroxylation by  $N_2O \;\; 84 \; (1993) \; 117$ 

Intermolecular methyl group transfers in the xylene and xylenebenzene systems by means of anhydrous HF 88 (1994) 205

An in situ <sup>13</sup>C MAS NMR study of benzene isopropylation over H-ZSM-11: cumene formation and side-reactions 95 (1995) 243

### benzene ring

Ruthenium-catalyzed oxidation of alkylaromatics by monopersulfate with preferential oxidative fission of the benzene ring 84 (1993) 59

### **Benzimidazole derivatives**

Cleavage of active esters by functional thiol compounds: acceleration and time-dependent effects induced by cationic surfactants 94 (1994) 263

#### **Benzoyl chloride**

Kinetics of the reaction of benzoyl chloride and sodium carboxylate under inverse phase-transfer catalysis 99 (1995) 153

### benzyl alcohol

Electronic and kinetic isotope effects on the electrooxidation of benzyl alcohols by a monoxo ruthenium(V) complex of tetramethylcyclam 89 (1994) 57

Benzylation of aromatics on ion-exchanged clays 98 (1995) 101

### **Benzyl chloride**

Benzylation of aromatics on ion-exchanged clays 98 (1995) 101

#### benzylic alcohols

A new and convenient method for the synthesis of 3-alkyl thiophenes 80 (1993) 201

#### benzylic amines

Oxidation of primary benzylic amines by  $M_0(O_1(O_2)_2(H_2O)(HMPA) 83 (1993) 311$ 

### **Benzylic bromides**

Mechanistic aspects of benzylic bromide formation and oxidation during the cobalt acetate bromide catalyzed oxidation of alkylbenzenes in carboxylic acids 99 (1995) 1

#### Benzylic compounds

Highly efficient oxygen transfer from *tert*-butyl hydroperoxide to benzylic carbons catalyzed by chromium(VI) oxide under high substrate/hydroperoxide ratios 92 (1994) 277

### benzylic oxidation

Vanadium site in VAPO-5: characterization and catalytic properties in liquid-phase alkene epoxidation and benzylic oxidation 81 (1993) 77

#### **Benzylic peroxides**

Chromium-catalyzed homolytic scission of organic peroxides with

t-butyl hydroperoxide and its relation to benzylic oxidation 92 (1994) 141

#### benzylidyne

Hydroformylation catalysis explored by cylindrical internal reflectance spectroscopy. Spectroscopic evidence for the fragmentation of the benzylidyne cluster  $PhCCo_3(CO)_9$  88 (1994) 133

### benzylpyruvic acid

Double vs. mono carbonylation of phenethyl bromide catalyzed by cobalt complexes: effect of hydrophobic or water-soluble phosphines on the rate and selectivity of the reaction 88 (1994) 295

### Beta zeolite

Base catalysis on zeolites in the formaldehyde-dimethylamine transformations 98 (1995) 57

### bifunctional catalyst

Catalysis of alkene hydrogenation and oxidation by nickel-saloph complex; a novel bifunctional catalyst 84 (1993) 1

### **Bifunctional catalysts**

Bifunctional catalysts from pillared clays: vapour phase conversion of propene to acetone catalyzed by iron and ruthenium containing aluminum pillared bentonites. 92 (1994) 201

### Bile salt inhibition

Lamb pregastric lipase catalysed hydrolysis of 1,2,3-tri[(cis)-9-octadecenoyl]glycerol: temperature, pH and solvent isotope effects 96 (1995) 77

# bile salt stimulated enzyme

Bile-salt-stimulated human milk lipase catalysed hydrolysis of 1,2,3-tri[(cis)-9-octadecenoyl]glycerol:solventisotopeeffect91 (1994) 303

#### Bilirubin

On the molecular weight of bilirubin oxidase from *Penicillium jan*thinellum 97 (1995) 3

# **Bilirubin oxidase**

Abnormal effect of mercury ions on bilirubin oxidase activity 96 (1995) 11

On the molecular weight of bilirubin oxidase from *Penicillium jan*thinellum 97 (1995) 3

### Biliverdin

On the molecular weight of bilirubin oxidase from *Penicillium jan*thinellum 97 (1995) 3

### bimetallic catalysts

Bimetallic Ru–Cu/SiO<sub>2</sub> catalysts: effect of total surface area on the catalytic properties 83 (1993) 237

Platinum supported on coprecipitated Sn-ZnAl<sub>2</sub>O<sub>4</sub> 84 (1993) 177

Liquid phase hydrogenation of cinnamaldehyde over supported ruthenium catalysts: influence of particle size, bimetallics and nature of support 85 (1993) 215 Surface organometallic chemistry on metals: a novel and effective route to custom-designed bimetallic catalysts 86 (1994) 179

Homogeneous Ru–Co bimetallic catalysis in CO<sub>2</sub> hydrogenation: the formation of ethanol 89 (1994) 51

Preparation and characterization of copper based bimetallic catalysts 91 (1994) 107

Polyol conversion into furanic derivatives on bimetallic catalysts; nature of the catalytic sites 91 (1994) 119

Catalytic and structural properties of ruthenium bimetallic catalysts: preparation and characterization 92 (1994) 107

Catalytic and structural properties of ruthenium bimetallic catalysts: kinetics of 2,2,3,3-tetramethylbutane hydrogenolysis 96 (1995) 35

Catalytic and structural properties of ruthenium monometallic and bimetallic catalysts: characterization by EXAFS and XRD 96 (1995) 65

Catalytic and structural properties of ruthenium bimetallic catalysts: kinetics of hydrogenolysis of lower alkanes on variously pretreated Ru/Al<sub>2</sub>O<sub>3</sub> catalysts 98 (1995) 81

# bimetallic chloroalkoxide

Behaviour of  $[Ti_2(OEt)_8Cl]_2Mg_2(\mu-Cl)_2$  as catalyst component in the Ziegler-Natta polymerization of  $\alpha$ -olefins and diolefins 82 (1993) 45

#### **Bimetallic particles**

Hydroisomerization probe of the catalytic and structural behavior of iron-rhodium particles supported on refractory oxide supports 94 (1994) 97

### bimetallic systems

Polymer- and micelle-protected gold/platinum bimetallic systems. Preparation, application to catalysis for visible-light-induced hydrogen evolution, and analysis of formation process with optical methods 83 (1993) 167

### bimolecular reaction

Kinetics of the bimolecular reaction NO +  $H_2$  on Pt = 84 (1993) 267

#### **BINAS-Na**

Water-soluble metal complexes and catalysts. Part 7<sup>1</sup>. New efficient water-soluble catalysts for two-phase olefin hydroformylation: BINAS-Na, a superlative in propene hydroformylation 97 (1995) 65

# binding energy

Size effects on the binding energy calculation of atoms and molecules on magnetic transition metal clusters 83 (1993) 367

#### binuclear complexes

Ethene polymerization by binuclear nickel-ylide complexes 88 (1994) 141 Synthesis of binuclear amide complexes of Ru(III) and study of their catalytic activity in epoxidation of alkenes 88 (1994) 287

#### biocatalysis

Syntheses of pharmaceutical oligosaccharides catalyzed by immobilized-stabilized derivatives of different  $\beta$ -galactosidases 84 (1993) 373

# **Biochemical degradation**

Effect of Fe-ZSM-5 zeolite on the photochemical and biochemical degradation of 4-nitrophenol 95 (1995) 61

### **Biomimetic catalyst**

Study of catalytic activity of nitro substituted ironporphyrins 97 (1995) 41

#### biphasic media

Catalytic hydrogenation reactions by  $[cis-[Ru(6,6'-Cl_2bpy)_2(OH_2)_2]$  (CF<sub>3</sub>SO<sub>3</sub>)<sub>2</sub> in biphasic [media (6,6'-Cl\_2bpy=6,6'-dichloro-2,2'-bipyridine) 84 (1993) 39

### biphenyl

Palladium catalyzed vinylation of 4-bromo-4'-hydroxybiphenyl 88 (1994) 113

# 2,2'-bipyridine

Hydroformylation of olefins catalysed by supported  $Ru_3(CO)_{12}$  with 2,2'-bipyridine or with other heterocyclic nitrogen base 84 (1993) 145

#### 5,6:11,12-bis(dithio)tetracene

Study of the new electron transfer mediators in glucose oxidase catalysis 91 (1994) 407

#### bis-2-ethylhexylphthalate

Role of electron donor in propylene polymerization using magne-<br/>siumchloride-supportedtitaniumtetrachloridecatalyst82 (1993) 11

### bismuth

Molecular orbital study of the gas phase reaction of  $Na_xBi_4$  clusters with HCl (x = 1,2) 92 (1994) 95

Effect of pH in the Pt-catalyzed oxidation of D-glucose to D-gluconic acid 97 (1995) 111

### bonds (C-S)

Breaking C-S bonds with transition metal complexes. A review of molecular approaches to the study of the mechanisms of the hydrodesulfurization reaction 86 (1994) 287

# **Bond strength**

Transition metal oxides as catalysts for the selective reduction of nitrobenzene 93 (1994) 305

#### borneol

 $\beta$ -Cyclodextrin as inverse phase-transfer catalyst in oxidations of isoborneol, borneol and menthol by calcium hypochlorite in aqueous solution 88 (1994) 117

### bound rhodium catalyst

Poly(trimethylolpropane)trimethacrylate-bound Rh-phosphine complexes as catalysts in continuous gas-phase hydroformylation of propene 81 (1993) 333

# bovine serum albumin

Tryptophan 2,3-dioxygenase-like activity of manganese(III) porphyrin bound to bovine serum albumin modified with poly(ethylene glycol) 81 (1993) L13

### **Bromide oxidation**

Oxidation of bromide by chlorate catalysed by Mo 99 (1995) 143

### **Brønsted** acids

Lewis acid vs. Brønsted acid as catalysts in solution. The quantitative comparison of reactivities of carbonyl compounds in the triethylsilyl perchlorate- and perchloric acid-catalyzed hydrosilylation in acetonitrile 85 (1993) 143

### butadiene

Homopolymerization and copolymerization of butadiene with a neodymium catalyst 82 (1993) 83

Metathetic incorporation of preformed defined *p*-phenylenevinylene sequences into commercially available neodymium butadiene rubber 90 (1994) 29

Complex catalysis. Part XLVI<sup>1</sup>. The mechanism of mol mass regulation in the allyl nickel complex catalyzed 1,4-*cis* polymerization of butadiene 97 (1995) 21

Palladium catalyzed telomerization of butadiene with water in a two phase system: drastic effect of the amine structure on the rate and selectivity 97 (1995) 29

### butane

Studies on ruthenium catalysts. Part 4: Hydrogenolysis of *n*-butane on  $Ru/Al_2O_3$  catalysts-dependence of reaction kinetics on particle size and on pretreatment 89 (1994) 221

#### Butene

Hydrovinylation of styrene derivatives to 3-aryl-1-butenes catalysed by nickel complexes 92 (1994) 127

### 1-butene

Time conditions for chemical reactions at the mesoscopic level in the elementary catalytic system 1-butene on ZnO 82 (1993) 327

# Butenes

Alkylation of isobutane with 2-butene using 1-butyl-3-methylimidazolium chloride-aluminium chloride molten salts as catalysts 92 (1994) 155

### butylethylmagnesium alkylating agent

A useful method for the synthesis of neodymocene homogeneous catalysts for ethylene polymerization 82 (1993) 75

### t-Butylhydroperoxide

Chromium-catalyzed homolytic scission of organic peroxides with

t-butyl hydroperoxide and its relation to benzylic oxidation 92 (1994) 141

### 1,4-butynediol

# C<sub>60</sub>

Studies on a new catalyst for the hydroformylation of alkenes using  $C_{50}$  as a ligand 89 (1994) 113

#### Caesium

Multinuclear NMR studies of V2O5-Cs2S2O7 melts 99 (1995) 123

#### calcination temperature

Characterization of CrO<sub>3</sub>/Al<sub>2</sub>O<sub>3</sub> catalysts under ambient conditions: influence of coverage and calcination temperature 84 (1993) 193

# calcination temperatures

Raman characterization of alumina supported Mo-V-Fe catalysts: influence of calcination temperature 81 (1993) 63

### Calorimetry

Linear low density polyethylene: catalyst system effect on polymer microstructure 98 (1995) 123

Transformation of carbon compounds on graphimet catalysts. Part V. The effect of pretreatment on the structure and activity of Pt-graphimet catalyst 99 (1995) 115

#### Candida cylindracea

Enantiospecific hydrolysis of esters of nonsteroidal antiinflammatory drugs using lipase of *Candida cylindracea* 84 (1993) 399

Hydrolysis of (R,S)2-aryl propionic esters by pure lipase B from Candida cylindracea 96 (1995) 317

Activity decay and conformational change of lipase in presence of organic solvents. A fluorescence study of *Candida rugosa* lipase 97 (1995) 119

Alteration of the activity and selectivity of immobilized lipases by the effect of the amount of water in the organic medium 97 (1995) 195

A systematic analysis of the variables that control a highly stereoselective resolution of racemic non-steroidal antiinflammatory drugs using immobilized lipase from *Candida cylindracea* 98 (1995) 171

#### Candida rugosa

Immobilisation/stabilisation on different hydroxilic supports of lipase from *Candida rugosa* 83 (1993) 261 Activity decay and conformational change of lipase in presence of organic solvents. A fluorescence study of *Candida rugosa* lipase 97 (1995) 119

#### Candida rugosa lipase

Kinetic behaviour and reaction mechanism of the hydrolysis of *p*nitrophenyl palmitate in mixed micelles with Triton X-100 catalyzed by lipase from **Candida rugosa** 93 (1994) 37

### carbamate derivatives

Synthesis of methyl N-phenyl carbamate by methoxycarbonylation of aniline with dimethyl carbonate using Pb compounds as catalysts 91 (1994) 399

#### carbene

Ring-opening copolymerization of [2.2]paracyclophane-1,9-diene (PCPDE) and cyclooctene (COE); a route to soluble products with *p*-phenylenevinylene sequences 90 (1994) 15

### carbene-palladium cluster

Palladium clusters: stoichiometric and catalytic reactions 86 (1994) 71

## carbenes

Synthesis of oligo- and poly(1,4-phenylenevinylene) by metathetic polycondensation of 1,4-divinylbenzene 90 (1994) 69

Molecular mechanical studies on olefin metathesis reaction. Part 2: Modelling of  $\{W[\overline{C(CH_2)_3CH_2}](OCH_2-t-Bu)_2Br_2\}_2$  and  $W[\overline{C(CH_2)_3CH_2}](OCH_2-t-Bu)_2Br_2\cdot GaBr_3 = 90$  (1994) 157

#### carbenium ions

Comparing homogeneous and heterogeneous acid catalysts by a density-functional based sensitivity analysis of their interaction with carbenium ions 83 (1993) 135

### Carbided surface

High resolution Auger electron spectroscopic study of the chemisorption and decomposition of benzene, cyclohexene and cyclohexane on a clean and carbided Fe(110) surface 93 (1994) 181

#### carbohydrate oxidation

Oxidation of methyl- and octyl- $\alpha$ -D-glucopyranoside, catalyzed by high-valent ruthenium species; RuO<sub>4</sub>, RuO<sub>4</sub><sup>-</sup> and RuO<sub>4</sub><sup>2-</sup>. 89 (1994) 63

### carbohydrate phosphinites

Carbohydrate phosphinites as chiral ligands for asymmetric syntheses catalyzed by complexes. Part X.<sup>1</sup> Importance of all-equatorial arrangement in vicinal bisphosphinite hexapyranoside ligands for rhodium catalyzed asymmetric hydrogenation 84 (1993) 223

# carbohydrates

Electrocatalytic activity of  $[(bpy)_2(H_2O)Ru^{III}ORu^{III}(H_2O)(bpy)_2]^{4+}$  towards sugar oxidation 89 (1994) 101

#### carbon

Semiempirical study of carbon monoxide, oxygen and carbon

adsorption on a modelled CoSi(100) surface 80 (1993) 307

Carbon catalyzed polymethylbenzene dealkylation 85 (1993) 229

Thiophene desulfurization by Co/carbon catalysts synthesized by reaction of  $Co(C_5H_5)_2$  and the carbon support 91 (1994) 91

Use of rhodium on carbon and 1,3-bis(diphenylphosphino)propane to catalyze the regioselective hydroformylation of alkenes with formic acid as the hydrogen source 92 (1994) 35

Selectivity in hydrodehalogenation of polychloro- and polybromobenzenes under multiphase conditions 96 (1995) 301

### carbon-carbon bond formation

Palladium-catalyzed carbon–carbon bond formation from ( $\eta^6$ -chloroarene)Cr(CO)<sub>3</sub> complexes: an example of bimetallic activation in homogeneous catalysis 81 (1993) 1

#### carbon-carbon bond formation

Metal-catalysed carbon–carbon bond formation in the reaction of  $\beta$ dicarbonyls with nitriles 81 (1993) 133

# carbon dioxide

Carbon dioxide in Y and ZSM-20 zeolites: adsorption and infrared studies 85 (1993) 295

Enantioselectivity and reactivity of immobilized lipase in supercritical carbon dioxide 89 (1994) 11

Homogeneous Ru–Co bimetallic catalysis in CO<sub>2</sub> hydrogenation: the formation of ethanol 89 (1994) 51

Fast and slow methanation pathways in hydrogenation of carbon dioxide on Fe-Mn oxide catalysts 91 (1994) 353

Dark catalytic reduction of  $CO_2$  over Prussian blue-deposited  $TiO_2$ and the photo-reactivation of the catalyst 93 (1994) 269

#### carbon dioxide insertion

Palladium clusters: stoichiometric and catalytic reactions 86 (1994) 71

#### carbon monoxide

Interaction of CO with platinum species in zeolites. Evidence for platinum carbonyls in partially reduced zeolite PtNaX 80 (1993) 95

Semiempirical study of carbon monoxide, oxygen and carbon adsorption on a modelled CoSi(100) surface 80 (1993) 307

Regiochemical synthesis of straight chain acids by the palladium(II) catalyzed hydrocarboxylation of olefins with oxalic acid 80 (1993) 377

Palladium-catalyzed N,N'-diphenylurea synthesis from nitrobenzene, aniline, and carbon monoxide: Part 4. Ligand effects 81 (1993) 17 Spontaneous formation of  $Fe(CO)_5$  from CO and the steel walls of an FTIR cell 83 (1993) 391

CO oxidation over Pd/SnO<sub>2</sub> catalyst 87 (1994) 297

Interaction of CO with Ni<sup>0</sup> in zeolites and on alumina studied by isotopic exchange 87 (1994) 343

Carbonylative reduction of aromatic nitroderivatives to arylamines catalyzed by sulfur compounds 88 (1994) 177

Effect of the method of preparing  $Ru-Mo/SiO_2$  catalysts in their behaviour in CO hydrogenation 88 (1994) 213

Synthesis of  $\gamma$ -keto-carboxylic acids via reduction of  $\gamma$ -keto- $\alpha$ -hydroxycarboxylic acids with carbon monoxide catalyzed by a Pd-HCl system 89 (1994) 93

Triruthenium dodecacarbonyl-catalyzed reductive carbonylation of nitroarenes: cyclization, carbon monoxide insertion and reduction. An overview 89 (1994) 121

Palladium-catalyzed hydroesterification of alkynes in the presence of *p*-toluenesulfonic acid under a normal pressure of carbon monoxide 89 (1994) 151

Mo-promoted Fe/activated carbon catalysts for carbon monoxide hydrogenation 90 (1994) 291

New catalytic system for oxidative carbonylation of aniline 91 (1994) 155

Role of readsorption during CO hydrogenation over cobalt model catalysts 91 (1994) 387

Promoter effect of niobia on  $Pt/Al_2O_3$  catalysts. Part II<sup>1</sup>. Effect of chlorine and  $Nb_2O_5$  content on the structure and reactivity in  $CH_3OH/D_2$  exchange 92 (1994) 167

FTIR studies of CO chemisorption and reactivity on Rh/SiO<sub>2</sub> catalysts promoted by niobium oxide 92 (1994) 217

The interaction of carbon monoxide with nickel-iron alloys. A comparison between single crystal surfaces and supported catalysts 92 (1994) 299

CO oxidation over Pd/FeSbO<sub>4</sub> catalyst 95 (1995) 211

The CO-oxidation on Pd-rich surfaces of PdCu(110): hysteresis in reaction rates 96 (1995) 271

Ozone decomposition and CO oxidation on CeO<sub>2</sub> 98 (1995) 9

Catalytic methanol decomposition to carbon monoxide and hydrogen over Ni/SiO<sub>2</sub> of high nickel content 99 (1995) 183

### carbon monoxide adsorption

Infrared study of carbon monoxide adsorption and hydrogenation over Pd-Fe catalysts 83 (1993) 157

Structural alterations of highly dispersed  $Rh/TiO_2$  catalyst upon CO adsorption and desorption investigated by infrared spectroscopy 89 (1994) 229

#### carbon monoxide hydrogenation

Infrared study of carbon monoxide adsorption and hydrogenation over Pd–Fe catalysts 83 (1993) 157

### carbon oxides

Strontium hydroxyapatites: catalytic properties in the oxidative dehydrogenation of methane to carbon oxides and hydrogen 92 (1994) 81

Hydrogenation of carbon oxides by Ru/activated carbon catalysts obtained from  $Ru_3(CO)_{12}$ : effect of pretreatment on their dispersion, composition and activity 95 (1995) 223

#### carbonylation

Dicarbonylation of 1,4-diacetoxy-but-2-ene in hex-3-ene dioate catalyzed by  $PdCl_2$  in the presence of  $PBu_4Cl = 80$  (1993) L9

Palladium-catalyzed carbon–carbon bond formation from ( $\eta^6$ -chloroarene)Cr(CO)<sub>3</sub> complexes: an example of bimetallic activation in homogeneous catalysis 81 (1993) 1

Desulfonylation and desulfonylative carbonylation of arenethiosulfonic acid esters in the presence of PdCl<sub>2</sub> and LiCl 83 (1993) 125

New alkoxycarbonyl complexes of palladium(II) and their role in carbonylation reactions carried out in the presence of an alkanol 84 (1993) 165

An efficient ruthenium complex catalyst for the carbonylation of methanol to methyl formate 85 (1993) 109

A new double carbonylation reaction 85 (1993) 117

Palladium and phase transfer catalyzed carbonylation of propargyl derivatives 85 (1993) 287

Synthesis of heterocycles via palladium-catalyzed carbonylation of ortho-substituted organic nitro compounds in relatively mild conditions 87 (1994) 203

An efficient heterogenised palladium catalytic system for the reductive carbonylation of nitrobenzene to methyl *N*-phenylcarbamate 88 (1994) 23

Double vs. mono carbonylation of phenethyl bromide catalyzed by cobalt complexes: effect of hydrophobic or water-soluble phosphines on the rate and selectivity of the reaction 88 (1994) 295

Triruthenium dodecacarbonyl-catalyzed reductive carbonylation of nitroarenes: cyclization, carbon monoxide insertion and reduction. An overview 89 (1994) 121

Further observations on RhCl<sub>3</sub>-Aliquat  $336^{\oplus}$  catalyzed carbonylation of aromatic diynes under phase transfer conditions 90 (1994) 231

Orthometalated ruthenium-complex-catalysed reductive carbonylation of nitroaromatics 91 (1994) 19

Ruthenium catalyzed ethylene-methyl formate reactions. Synthesis of propanol and ketones 91 (1994) 31

Activity and selectivity of supported Rh complex catalyst in carbonylation of nitrobenzene 91 (1994) 195

NMR at elevated gas pressures and its application to homogeneous catalysis 92 (1994) 285

Recent contributions of carbonylation reaction to the synthesis of fluorinated pharmaceutical compounds 93 (1994) 1

On the rhodium catalyzed formation of acetic acid from methyl formate – comparison with the rhodium catalyzed formation of acetic acid by direct carbonylation of methanol 95 (1995) 45

Cobalt catalysed carbonylation of reactive chlorides into esters by methyl formate without carbon monoxide and methanol added 96 (1995) 15

Further studies of the Pt(II) catalyzed hydromethoxycarbonylation of 1-alkynes 96 (1995) 223

### carbonylative reduction

Carbonylative reduction of aromatic nitroderivatives to arylamines catalyzed by sulfur compounds 88 (1994) 177

### carbonyl cluster synthesis

Synthesis and decarbonylation of platinum carbonyl cluster anions in zeolite NaY made basic by treatment with CsOH 80 (1993) 49

#### carbonyl complexes

Catalytic reactions of formate: Part 1. Photocatalytic hydrogen production from formate with chromium hexacarbonyl 80 (1993) 151

Catalytic reactions of formate: Part 2. Aldehyde hydrogenation using chromium hexacarbonyl 80 (1993) 165

Ruthenium complex-catalyzed hydrosilylation of allyl chloride with trimethoxysilane 81 (1993) 207

Effect of water on tributylphosphine modified cobalt carbonyl catalysts for the hydroformylation of olefins 85 (1993) 121

Organic carbonate activation: aldehyde acetalization study using  $Sn[Co(CO)_4]_4$  as catalyst in the activation of propylene carbonate 85 (1993) 279

Iron pentacarbonyl-catalysed aminomethylation of alkenes: some intriguing observations 87 (1994) 223

Hydrogenation of conjugated dienes catalysed by  $\eta^6$ -arenetricarbonylchromium complexes 88 (1994) 31 Hydroformylation catalysis explored by cylindrical internal reflectance spectroscopy. Spectroscopic evidence for the fragmentation of the benzylidyne cluster  $PhCCo_3(CO)_9$  88 (1994) 133

Cylindrical internal reflectance (CIR) evidence for the facile fragmentation of  $PhCCo_3(CO)_7(cis-Ph_2PCH=CHPPh_2)$  during the hydroformylation of 1-pentene 88 (1994) 159

Chemoselective reduction of nitro groups in the presence of olefinic, ester, and halogcno functions using a reducing agent of CO and  $H_2O$ catalyzed by Rh carbonyl clusters 88 (1994) 267

Reactivity of ruthenium carbonyl carboxylates under hydroformylation conditions 89 (1994) 77

 $[CpMo(CO)_3]_2$  as a catalyst for olefin metathesis 90 (1994) 11

 $Ru_3(CO)_{12}/2,2'$ -bipyridine supported on inorganic carriers as 1hexene hydroformylation catalysts 91 (1994) 335

Homogeneous catalytic synthesis of formaldehyde using the tungsten carbonyl complex  $[(CO)_5WCl]^-$  in the presence of sodium methoxide 93 (1994) 125

Effect of ligand donor-acceptor properties on selectivity of catalytic olefin isomerization reaction 99 (1995) 23

# carbonyl compounds

Syngas reactions part XV. Primary amine syntheses from olefins, syngas and ammonia 81 (1993) 27

Lewis acid vs. Brønsted acid as catalysts in solution. The quantitative comparison of reactivities of carbonyl compounds in the triethylsilyl perchlorate- and perchloric acid-catalyzed hydrosilylation in acetonitrile 85 (1993) 143

Nitrous acid-catalysed oxidation of alcohols by oxygen in strongly acidic aqueous solutions 88 (1994) 121

Study of the reactivity of ClCo(PPh<sub>3</sub>)<sub>3</sub> 92 (1994) 41

# $\beta$ -Carbonylenolate complexes

Epoxidation of cyclohexene catalyzed by copper(II) complexes under Mukaiyama's conditions 96 (1995) 9

### $\beta$ -carbonylenolato complexes

Metal-catalysed carbon–carbon bond formation in the reaction of  $\beta$ dicarbonyls with nitriles 81 (1993) 133

### carbonyls

Rare earth trifluoromethanesulphonates as catalysts in some Meerwein-Ponndorf-Verley type reductions 85 (1993) 65

#### carbonyl sulfide

New catalytic system for oxidative carbonylation of aniline 91 (1994) 155

#### Carboxylate ion effect

Kinetics of the reaction of benzoyl chloride and sodium carboxylate under inverse phase-transfer catalysis 99 (1995) 153

### carboxylates

Reactivity of ruthenium carbonyl carboxylates under hydroformylation conditions 89 (1994) 77

### carboxylic acids

Effect of carboxylic acids on the yield and selectivity of the hydroformylation of hex-1-ene catalyzed by [Rh(acac)(CO)(PPh<sub>3</sub>)] 80 (1993) 189

Regiochemical synthesis of straight chain acids by the palladium(II) catalyzed hydrocarboxylation of olefins with oxalic acid 80 (1993) 377

Effects of complexation of oppositely charged water-soluble cobaltphthalocyanines on the catalytic mercaptoethanol autoxidation 87 (1994) 161

Synthesis of  $\gamma$ -ketocarboxylic acids via reduction of  $\gamma$ -keto- $\alpha$ -hydroxycarboxylic acids with carbon monoxide catalyzed by a Pd-HCl system 89 (1994) 93

Cometathesis of dicyclopentadiene with esters of unsaturated carboxylic acids by high valent tungsten chlorides as unicomponent catalysts 90 (1994) 135

### carboxyl-palladium cluster

Palladium clusters: stoichiometric and catalytic reactions 86 (1994) 71

### **Carbyne complexes**

Reactions of  $W(CCMe_3)$  (OCMe<sub>3</sub>)<sub>3</sub> with terminal alkynes: metathesis and polymerization 96 (1995) 95

#### catalysis

The beneficial effects of introducing sulphur substituents into hydroformylation substrates 83 (1993) 11

Alkylrhenium oxides as homogeneous epoxidation catalysts: activity, selectivity, stability, deactivation 86 (1994) 243

Heteropolyanions in catalysis 86 (1994) 319

#### catalyst

Non-metallocene group 4 organometallic complexes as catalysts for olefin polymerization: synthesis and catalytic activity of the cationic complex  $[Zr(CH_2Ph)_3]^+ [B(CH_2Ph)(C_6F_5)_3]$  82 (1993) 57

#### catalytic aromatic hydroxylation

Hydroxylation of aromatics with hydrogen peroxide catalyzed by vanadium(V) peroxocomplexes 83 (1993) 107

### catalytic reactivity

Stoichiometric and catalytic reactivity of organometallic fragments supported on inorganic oxides 86 (1994) 5

#### Catechol

Oxidation of catechol with KMnO<sub>4</sub> by using crown ethers as phase transfer catalysts 93 (1994) 195

### catechol derivatives

Rate enhancement of the autooxidation of 3,5-di-*tert*-butylcatechol in micellized copper(II) solutions 81 (1993) L1

### catechols

Autooxidation of catechols in solutions of copper(II) surfactants and hydrated metal ions in sodium dodecyl sulphate 85 (1993) 173

Synthetic mimics of tyrosinase: catechols from *ortho-, meta-* and *para-substituted* phenols and copper(I) complexes 97 (1995) 187

Stoichiometric and catalytic oxidation by a dinuclear copper(I) dioxygen complex and a dinuclear copper(II) complex of a macrocyclic ligand derived from the 2:2 condensation of pyridine-2,6-dicarboxaldehyde and 1,4,7-triazaheptane 99 (1995) 101

### cation exchange resins

 $^{31}$ P spin lattice relaxation time measurements of the amphiphilic ligands [Ph<sub>2</sub>P(CH<sub>2</sub>)<sub>n</sub>PMe<sub>3</sub>]<sup>+</sup> in solution and tethered to a solid cationic exchange resin via the tetra-alkylphosphonium groups 80 (1993) 43

#### cationic complex

Non-metallocene group 4 organometallic complexes as catalysts for olefin polymerization: synthesis and catalytic activity of the cationic complex  $[Zr(CH_2Ph)_3]^+ [B(CH_2Ph)(C_6F_5)_3]$  82 (1993) 57

#### **Cationic ironporphyrin**

Cationic ironporphyrins as catalyst in comparative oxidation of hydrocarbons: homogeneous and supported on inorganic matrices systems 99 (1995) 187

#### **Cationic surfactant**

Microgels with trialkylammonio side chains function as catalysts for the alkaline hydrolysis of substituted phenyl laurate esters 99 (1995) 41

### C-C bond formation/cleavage

An approach to the mechanisms of C-C bond formation and cleavage on metal surfaces using model elementary reaction steps of organometallic chemistry 86 (1994) 205

# ceria

Study of the CO–CeO<sub>2</sub> interaction in presence of highly dispersed rhodium 89 (1994) 391

# **Cerium dioxide**

Ozone decomposition and CO oxidation on CeO<sub>2</sub> 98 (1995) 9

### cerium(III) complex

Lanthanide metal complexes for the hydrolysis of linear DNAs 84 (1993) 21

### chain transfer

Kinetics of chain transfer during ethylene polymerization with chromium oxide/silica catalyst 91 (1994) 237

# characterization

Structural characteristics and catalytic performance of nickel catalysts for selective hydrogenation of 1,6-hexanedinitrile 81 (1993) 363

The effect of different ZnO precursors on the catalytic decomposition of ethanol 98 (1995) 63

### charcoal support

Catalytic oxidation of mercaptans by charcoal-supported sterically hindered cobalt(II)-phthalocyanines 85 (1993) 269

### charge sensitivity analysis

Charge sensitivity analysis of oxide catalysts: oxidation-state dependence of the normal-mode description of  $V_2O_5$  surface clusters 82 (1993) 383

Charge sensitivity analysis of oxide catalysts:  $TiO_2(110)$  and (100) surface model clusters and  $H_2O$  adsorption 82 (1993) 407

### charge stability

Qualitative charge stability and Fukui function analysis of a model system with implications for chemical reactivity 82 (1993) 371

#### **C-H bond activation**

Aerobic oxidation of aldehydes, ketones, sulfides, alcohols and alkanes catalysed by polymerizable  $\beta$ -ketoesterate complexes of iron(III), nickel(II) and cobalt(II) 94 (1994) 27

#### Chelate control

Chelate control in the nickel-complex catalyzed homogeneous oligomerization of ethylene 92 (1994) 21

# **Chemical modification**

Base catalysis on zeolites in the formaldehyde-dimethylamine transformations 98 (1995) 57

### chemical reactivity

Theoretical studies in the realm of chemical reactivity: Noncatalytic and catalytic reactions 82 (1993) 265

Qualitative charge stability and Fukui function analysis of a model system with implications for chemical reactivity 82 (1993) 371

### chemiluminescence

Dipped adcluster model and SAC-CI method applied to harpooning, chemiluminescence and electron emission in halogen chemisorption on alkali metal surface 82 (1993) 211

#### chemisorption

Interaction of CO with platinum species in zeolites. Evidence for platinum carbonyls in partially reduced zeolite PtNaX 80 (1993) 95

Adsorption and deuteration of acetone- $d_6$  on Pt/ZnO catalysts: an IR study of the effects of sample pretreatment 81 (1993) 373

Dissociative chemisorption of perfluoropolyethers above reactive sites on nickel surfaces: a theoretical contribution 85 (1993) 183

Promoter effect of niobia on  $Pt/Al_2O_3$  catalysts. Part II<sup>1</sup>. Effect of chlorine and Nb<sub>2</sub>O<sub>5</sub> content on the structure and reactivity in CH<sub>3</sub>OH/D<sub>2</sub> exchange 92 (1994) 167

227

High resolution Auger electron spectroscopic study of the chemisorption and decomposition of benzene, cyclohexene and cyclohexane on a clean and carbided Fe(110) surface 93 (1994) 181

Cluster quantum-chemical study of the chemisorption of methane on zinc oxide surface 99 (1995) 35

Cluster quantum-chemical study of the chemisorption of methane on a lithium-promoted magnesium oxide doped by zinc oxide 99 (1995) 139

#### chemoselectivity

Thioethers: potential ligands for asymmetric catalysis? 85 (1993) 131

#### Chevrel phase catalyst

Studies of the mechanism of thiophene hydrodesulfurization: <sup>2</sup>H NMR and mass spectral analysis of 1,3-butadiene produced in the deuterodesulfurization (DDS) of thiophene over PbMo<sub>6</sub>S<sub>8</sub> catalyst 96 (1995) 283

#### chiral antihistaminic agents

Synthesis of an optically active pheniramine by enantioselective hydrogenation catalysed by BINAP-ruthenium(II) complexes 83 (1993) 1

#### chiral chelates

Chiral Pd-, Cu- and Ni-chelates and their utilities as catalysts in allylic acetoxylation of alkenes 91 (1994) 319

#### chiral complexes

Enantioselective and photocatalytic oxidation of 1,1'-bi-2-naphthol with a chiral ruthenium complex which includes molecular helicity 88 (1994) 1

Stereoselective oxidation of enantiomeric amines by a monoamine oxidase model of chiral iron(III) porphyrins 91 (1994) 7

#### chiral epoxidation catalysts

Brominated and chlorinated manganese chiral Schiff base complexes as epoxidation catalysts 85 (1993) 13

### chiral induction

Synthesis of a new chiral porphyrin ligand and its Mn(III) complex as catalyst in asymmetric alkene epoxidation 80 (1993) 395

### chiral ligands

Carbohydrate phosphinites as chiral ligands for asymmetric syntheses catalyzed by complexes. Part X.<sup>1</sup> Importance of all-equatorial arrangement in vicinal bisphosphinite hexapyranoside ligands for rhodium catalyzed asymmetric hydrogenation 84 (1993) 223

New hydroformylation rhodium catalysts with dithiolate chiral ligands 94 (1994) 149

### chiral photosensitizers

Stereoselective molecular recognition of enantiomeric cobalt(III) complexes by novel photosensitizers of helical ruthenium(II) complexes 89 (1994) 5

### chiral zirconocenes

Highly isotactic polypropene prepared with rac-dimethylsilyl-bis(2methyl-4-*t*-butyl-cyclopentadienyl)zirconiumdichloride: an NMR investigation of the polymer microstructure 82 (1993) 67

### Chlorate

Oxidation of bromide by chlorate catalysed by Mo 99 (1995) 143

# Chloride

Role of surface chlorine species in the oxidative coupling of methane in the presence of tetrachloromethane on magnesium phosphate and sulphate 93 (1994) 53

Effect of tetrachloromethane as a gas-phase additive on the oxidative dehydrogenation of ethane over magnesium phosphate 95 (1995) 35

### chloride ligands

Reactivity of interstitial  $[NiCl_4]^{2-}$  complex anions in a Mg-Al hydrotalcite-like clay towards alkyl bromides in the liquid phase 81 (1993) 397

### Chlorides

Cobalt catalysed carbonylation of reactive chlorides into esters by methyl formate without carbon monoxide and methanol added 96 (1995) 15

### **Chlorinated hydrocarbons**

Vapour phase deep oxidation of chlorinated hydrocarbons catalyzed by pillared bentonites 97 (1995) 139

### **Chlorinated organic polymers**

Chlorinated organic polymers as supports for Ziegler-Natta catalysts 99 (1995) 167

### Chlorine

Promoter effect of niobia on  $Pt/Al_2O_3$  catalysts. Part II<sup>1</sup>. Effect of chlorine and  $Nb_2O_5$  content on the structure and reactivity in  $CH_3OH/D_2$  exchange 92 (1994) 167

### chlorobenzene

Fe<sup>3+</sup>-Montmorillonite catalyst for selective nitration of chlorobenzene 87 (1994) 33

# 2-Chloroethanol

Oxidation of olefins by palladium(II). Part XIV <sup>1</sup>. Product distribution and kinetics of the oxidation of ethene by  $PdCl_3(pyridine)^$ in aqueous solution in the presence and absence of  $CuCl_2$ : a modified Wacker catalyst with altered reactivity 99 (1995) 77

#### Chlorophenols

Photocatalytic degradation of chlorophenols to  $CO_2$  and HCl with polyoxotungstates in aqueous solution 92 (1994) 261

### chromic acid

Micellar-catalysis: effect of sodium lauryl sulphate in the oxidation of lactic acid by chromic acid 81 (1993) 349

# chromic oxide

Characterization of unsupported copper-chromium catalysts for ethanol dehydrogenation 89 (1994) 179

### chromium

Catalytic reactions of formate: Part 1. Photocatalytic hydrogen production from formate with chromium hexacarbonyl 80 (1993) 151

Catalytic reactions of formate: Part 2. Aldehyde hydrogenation using chromium hexacarbonyl 80 (1993) 165

Characterization of chromium oxide supported on Al<sub>2</sub>O<sub>3</sub>, ZrO<sub>2</sub>, TiO<sub>2</sub>, and SiO<sub>2</sub> under dehydrated conditions 80 (1993) 209

Characterization of  $CrO_3/Al_2O_3$  catalysts under ambient conditions: influence of coverage and calcination temperature 84 (1993) 193

Hydrogenation of conjugated dienes catalysed by  $\eta^6$ -arenetricarbonylchromium complexes 88 (1994) 31

Characterisation of modified Cr-silica catalysts 90 (1994) 81

Kinetics of chain transfer during ethylene polymerization with chromium oxide/silica catalyst 91 (1994) 237

Chromium-catalyzed homolytic scission of organic peroxides with *t*-butyl hydroperoxide and its relation to benzylic oxidation 92 (1994) 141

Mechanistic aspects of the higher alcohol synthesis over unpromoted ZnCrO: 1-propanol flow microreactor study 94 (1994) 335

Vapour phase deep oxidation of chlorinated hydrocarbons catalyzed by pillared bentonites 97 (1995) 139

### chromium ions

Cr<sup>2+</sup> ions grafted to silica and silicalite surfaces: FTIR characterization and ethylene polymerization activity 86 (1994) 423

#### Chromium oxide

Highly efficient oxygen transfer from *tert*-butyl hydroperoxide to benzylic carbons catalyzed by chromium(VI) oxide under high substrate/hydroperoxide ratios 92 (1994) 277

### Chromium-zinc ferrite

Oxidative dehydrogenation of *n*-butane on zinc-chromium ferrite catalysts 92 (1994) 325

### $\alpha$ -chymotrypsin

Influence of the modification procedure of support materials on the microenvironment of immobilized  $\alpha$ -chymotrypsin 80 (1993) 127

Effect of lyophilization and subsequent rehydration of immobilized  $\alpha$ -chymotrypsin derivatives 89 (1994) 397

### cinnamaldehyde

Liquid phase hydrogenation of cinnamaldehyde over supported ruthenium catalysts: influence of particle size, bimetallics and nature of support 85 (1993) 215

# 1,4-Cis polymerization

Complex catalysis. Part XLVI <sup>1</sup>. The mechanism of mol mass regulation in the allyl nickel complex catalyzed 1,4-*cis* polymerization of butadiene 97 (1995) 21

# cluster compounds

Characterization of the compounds formed from the interaction of divalent cations with inorganic molecular metal-oxygen cluster compounds 80 (1993) 59

#### cluster modelling

Cluster models for Brønsted acid centres in faujasites 82 (1993) 347

# cluster model studies

Hydrogen adsorption and OH desorption at vanadium pentoxide surfaces: *ab initio* cluster model studies 81 (1993) 279

### clusters

Ligands on clusters - adsorbates on surfaces 82 (1993) 195

Subnanometer nickel clusters in complex reducing agents 93 (1994) 79

# **CNDO** molecular orbital study

Pyridine adsorption on a  $MoS_2$  modelled surface ( $Mo_3S_8$ ). A CNDO molecular orbital study 85 (1993) 345

### <sup>13</sup>C NMR analysis

Linear low density polyethylene: catalyst system effect on polymer microstructure 98 (1995) 123

# <sup>13</sup>-C-NMR metathesis polymerization

From ring-opening metathesis polymerization to Ziegler-Natta polymerization: a method for obtaining polynorbornene-polyethylene block copolymers 82 (1993) 103

# со

Hydrogenolysis of formic esters with homogeneous and heterogeneous rhenium catalysts 95 (1995) 19

# **CO** adsorption

Study of the CO–CeO<sub>2</sub> interaction in presence of highly dispersed rhodium 89(1994) 391

### CoAPO5

Cracking of *n*-hexane and *n*-butane over SAPO5, MgAPO5 and CoAPO5 87 (1994) 263

# cobalt

Role of aliphatic diamine ligands in hydrogen peroxide decomposition with Dowex-50W resin as transition metal complex ions 80 (1993) 11 Influence of substituents and ligands of various cobalt(II) porphyrin derivatives coordinately bonded to silica on the oxidation of mercaptan 80 (1993) 253

229

Syngas reactions part XV. Primary amine syntheses from olefins, syngas and ammonia 81 (1993) 27

Ziegler systems as hydrogenation catalysts. Part 1.  $CoBr_2/Li[AlH(O-t-butyl)_3]_3$  system as a catalyst for the hydrogenation of anthracene 81 (1993) 195

Role of alkylperoxo complexes of cobalt(III) in catalytic oxidation of cyclohexane by cumene hydroperoxide in the presence of bis(acetylacetonato)cobalt(II) 81 (1993) 215

New possibilities of NMR in mechanistic studies of homogeneous and heterogeneous catalysis 82 (1993) 275

Structural effect of cobalt Schiff base complex catalyst on its catalytic activity in dioxygenolysis of 3-methylindole 83 (1993) 117

Ziegler systems as hydrogenation catalysts. Part  $2^1$ . Dependence of the hydrogenation activity of  $CoBr_2/Li[AIH_n(O-R)_{4-n}]$  systems from the concentration of the reducing agent 84 (1993) 33

Codimerization of 2,5-norbornadiene with ethylene using soluble cobalt and nickel catalysts 84 (1993) 77

Effect of water on tributylphosphine modified cobalt carbonyl catalysts for the hydroformylation of olefins 85 (1993) 121

Catalytic oxidation of mercaptans by charcoal-supported sterically hindered cobalt(II)-phthalocyanines 85 (1993) 269

Organic carbonate activation: aldehyde acetalization study using  $Sn[Co(CO)_4]_4$  as catalyst in the activation of propylene carbonate 85 (1993) 279

The catalytic effect of some transition metal hexamethylenetetramine complexes in hydrogen peroxide decomposition 87 (1994) 25

Effects of complexation of oppositely charged water-soluble cobaltphthalocyanines on the catalytic mercaptoethanol autoxidation 87 (1994) 161

Hydroformylation catalysis explored by cylindrical internal reflectance spectroscopy. Spectroscopic evidence for the fragmentation of the benzylidyne cluster  $PhCCo_3(CO)_9$  88 (1994) 133

Cylindrical internal reflectance (CIR) evidence for the facile fragmentation of  $PhCCo_3(CO)_7(cis-Ph_2PCH=CHPPh_2)$  during the hydroformylation of 1-pentene 88 (1994) 159

Double vs. mono carbonylation of phenethyl bromide catalyzed by cobalt complexes: effect of hydrophobic or water-soluble phosphines on the rate and selectivity of the reaction 88 (1994) 295

Homogeneous Ru-Co bimetallic catalysis in CO<sub>2</sub> hydrogenation: the formation of ethanol 89 (1994) 51

Deuterium exchange of pyrrolidine, diethylamine and triethylamine over catalysts of Group VIII transition metals 89 (1994) 365

Quantum-chemical study of the four-electron catalytic oxidation of water to dioxygen in the presence of dinuclear and tetranuclear hydroxide complexes of cobalt(III) and iron(III): intermediates of the catalytic cycle and their relative energies 91 (1994) 71

Selective olefin oxidation with cobalt phthalocyanine encapsulated in Y-zeolite 91 (1994) 251

Use of the methanol decomposition reaction for identifying surface species in Cu/Co-based catalysts 91 (1994) 369

Role of readsorption during CO hydrogenation over cobalt model catalysts 91 (1994) 387

Study of cobalt complexes as catalysts in the decomposition of hydrogen peroxide 92 (1994) 9

Study of the reactivity of ClCo(PPh<sub>3</sub>)<sub>3</sub> 92 (1994) 41

Infrared observation of the chemical consequences of cobalt catalyst produced in mixed solutions of  $Al(Et)_3$  and  $Co(acac)_2$  93 (1994) 289

Aerobic epoxidation of olefins catalyzed by polymerizable  $\beta$ -ketoesterate complexes of iron(III), nickel(II) and cobalt(II) 94 (1994) 19

Aerobic oxidation of aldehydes, ketones, sulfides, alcohols and alkanes catalysed by polymerizable  $\beta$ -ketoesterate complexes of iron(III), nickel(II) and cobalt(II) 94 (1994) 27

Dehydrogenation of isopropyl alcohol over Co-Ni/Mg oxide catalysts 94 (1994) 191

Effect of the reduction temperature on the selectivity of the high temperature reaction of acetone and hydrogen over alumina and titania supported nickel and cobalt catalysts 94 (1994) 347

Kinetic study of the hydrogen sulfide effect in the conversion of thiophene on supported Co-Mo catalysts 94 (1994) 369

Multidentate N-heterocyclic podand ligand. Efficient oxygenation of phenols catalyzed by novel cobalt complex 95 (1995) 1

Catalytic activity of monomeric and polymeric cobalt(II)-phthalocyanines in sulfide ion oxidation 95 (1995) 197

The role of promoter metals in the hydrocarbonylation of methanol over active carbon supported cobalt catalysts 95 (1995) 259

Cobalt catalysed carbonylation of reactive chlorides into esters by methyl formate without carbon monoxide and methanol added 96 (1995) 15

Chemistry of dicobalt octacarbonyl on zinc oxide. Homonuclear ionpairing surface species related to catalytic activity in ethylene hydroformylation 96 (1995) 49 The cocyclotrimerization of alkynes and acetonitrile with CpCoCOD as catalyst 99 (1995) 71

### Cobalt acetate bromide

Mechanistic aspects of benzylic bromide formation and oxidation during the cobalt acetate bromide catalyzed oxidation of alkylbenzenes in carboxylic acids 99 (1995) 1

### cobalt carbonyl

Hydroformylation of  $\alpha$ - and  $\beta$ -pinene catalyzed by rhodium and cobalt carbonyls 83 (1993) 51

### cobait carbonyls

On the reactivity of acetylenes coordinated to cobalt. Part 8<sup>1</sup>: Carbonylation of acetylenes with bulky substituents 84 (1993) 7

# cobalt chloride

Allylic oxidation of olefins catalyzed by cobalt chloride. The beneficial effect of N-methylpyrrolidinone 84 (1993) 87

### Cobalt(II)

Effects of solvents on the cobalt phthalocyanine-catalyzed oxidation of hydrophobic thiols 97 (1995) 7

# Cobaltocene

Thiophene desulfurization by Co/carbon catalysts synthesized by reaction of  $Co(C_5H_5)_2$  and the carbon support 91 (1994) 91

### cobalt phthalocyanine

Synthesis and characterization of cobalt phthalocyanines covalently attached to silica 83 (1993) 1

### cobalt silicide

Semiempirical study of carbon monoxide, oxygen and carbon adsorption on a modelled CoSi(100) surface 80 (1993) 307

#### Cocyclotrimerization

The cocyclotrimerization of alkynes and acetonitrile with CpCoCOD as catalyst 99 (1995) 71

### codimerization

Codimerization of 2,5-norbornadiene with ethylene using soluble cobalt and nickel catalysts 84 (1993) 77

### **Cofactor regeneration**

Selective oxidation: stabilisation by multipoint attachment of ferredoxin NADP<sup>+</sup> reductase, an interesting cofactor recycling enzyme 98 (1995) 161

### **Coke sensitivity**

XPS of carbon on Pt-black and EUROPT-1. Is methylcyclopentane ring opening a 'coke sensitive' reaction? 94 (1994) 225

### Coking

Use of NMR techniques for studying deactivation of zeolites by coking 96 (1995) 123

### **Colloidal catalyst**

Colloidal rhodium catalyzed photo transfer hydrogenation of 1,5cyclooctadiene 98 (1995) 157

### colloidal metals

Stereoselective reduction of disubstituted aromatics on colloidal rhodium 87 (1994) 107

#### **Commercial catalyst**

Poisoning of iron catalyst by COS in syngas for Fischer–Tropsch synthesis 94 (1994) 255

#### **Compensation effect**

Eyring transition-state theory and kinetics in catalysis 96 (1995) 1

#### **Complexing agent**

The effect of preparation methods on the properties of zirconia/ silicas 94 (1994) 85

#### complexing-agents

Effect of the type of preparation on the properties of titania/silicas 91 (1994) 277

### complex oxide

Catalytic hydrogenation activities of characteristic copper-lanthanide complex oxide of  $Cu_oO_8Ln(NO_3)$  88 (1994) 103

#### **Complex reducing agents**

Subnanometer nickel clusters in complex reducing agents 93 (1994) 79

# computer modeling

Application of computer modeling to surface organometallic chemistry 86 (1994) 479

### Conductivity

Metathetical polymerization of substituted phenylacetylenes using in situ generated (arene) $M(CO)_3$  complexes (arene = toluene, oxylene or mesitylene, M = Cr, Mo or W) as catalysts 99 (1995) 47

#### conjugated dienes

Hydrogenation of conjugated dienes catalysed by  $\eta^6$ -arenetricarbonylchromium complexes 88 (1994) 31

# <sup>59</sup>Co NMR spectroscopy

Role of alkylperoxo complexes of cobalt(III) in catalytic oxidation of cyclohexane by cumene hydroperoxide in the presence of bis(acetylacetonato)cobalt(II) 81 (1993) 215

### Controlled porosity glass

Immobilization of laccase from *Phlebia radiata* on controlled porosity glass 95 (1995) 99

### Copolymerisation

The influence of cyclopentadienyl ring substituent steric and electronic effects on the ethylene– $\alpha$ -olefin copolymerisation behaviour of (CpR)<sub>2</sub>ZrCl<sub>2</sub>/ethylalumoxane catalysts 96 (1995) 181

#### copolymerization

Homopolymerization and copolymerization of butadiene with a neodymium catalyst 82 (1993) 83

Ring-opening metathesis copolymerization of cyclopentene and [2.2] paracyclophane-1,9-diene: UV-Vis-spectroscopic determina-

tion of sequence-length distribution of *p*-phenylenevinylene units 84 (1993) 253

231

Active sites concentration in ethylene homo- and co-polymerization with 1-hexene using the highly active  $TiCl_4/MgH_2$ -AlEt<sub>3</sub> catalyst system 98 (1995) 135

### copper

Role of aliphatic diamine ligands in hydrogen peroxide decomposition with Dowex-50W resin as transition metal complex ions 80 (1993) 11

Rate enhancement of the autooxidation of 3,5-di-*tert*-butylcatechol in micellized copper(II) solutions 81 (1993) L1

Bimetallic Ru–Cu/SiO<sub>2</sub> catalysts: effect of total surface area on the catalytic properties 83 (1993) 237

The catalytic effect of some transition metal hexamethylenetetramine complexes in hydrogen peroxide decomposition 87 (1994) 25

Polymer-supported catalysis: oxidation of catecholamines by Fe(III) and Cu(II) complexes immobilized to chitosan 87 (1994) 177

Catalytic hydrogenation activities of characteristic copper-lanthanide complex oxide of  $Cu_6O_8Ln(NO_3)$  88 (1994) 103

Catalytic activities of electroless plated Cu/alumina catalysts for the dehydrogenation of cyclohexanol 88 (1994) 223

Characterization of unsupported copper-chromium catalysts for ethanol dehydrogenation 89 (1994) 179

Preparation and characterization of copper based bimetallic catalysts 91 (1994) 107

Use of the methanol decomposition reaction for identifying surface species in Cu/Co-based catalysts 91 (1994) 369

Cu<sup>II</sup>-diamine complex catalyzed hydrolysis of phosphate triesters adsorbed on strong-base ion exchange resins. <sup>31</sup>P NMR relaxation measurements 93 (1994) 221

Effect of acidity and copper surface area of the  $Cu/Al_2O_3$  catalyst prepared by electroless plating procedure on dehydrogenation reactions 94 (1994) 233

Poisoning of iron catalyst by COS in syngas for Fischer-Tropsch synthesis 94 (1994) 255

Enantioselective cyclopropanation of styrene with optically active nitrogen ligands based on the pyridine framework 95 (1995) 7

The CO-oxidation on Pd-rich surfaces of PdCu(110): hysteresis in reaction rates 96 (1995) 271

A copper/silica catalyst prepared from a monolayer film of copper 2,2'-bipyridine dimer on Cab-O-Sil 97 (1995) 85

Copper(I) and copper(II) dinuclear complexes of a macrocyclic ligand derived from the 2:2 condensation of pyridine-2,6-dicarbox-aldehyde and 1,4,7-triazaheptane 99 (1995) 87

Stoichiometric and catalytic oxidation by a dinuclear copper(I) dioxygen complex and a dinuclear copper(II) complex of a macrocyclic ligand derived from the 2:2 condensation of pyridine-2,6dicarboxaldehyde and 1,4,7-triazaheptane 99 (1995) 101

#### copper chromite

Synthesis of secondary amines by reductive alkylation using copper chromite catalyst: steric effect of carbonyl compounds 84 (1993) 125

### **Copper complexes**

Synthetic mimics of tyrosinase: catechols from *ortho-*, *meta-* and *para-*substituted phenols and copper(I) complexes 97 (1995) 187

# Copper(II)

Epoxidation of cyclohexene catalyzed by copper(II) complexes under Mukaiyama's conditions 96 (1995) 9

# Copper(II) chloride

Oxidation of olefins by palladium(II). Part XIV <sup>1</sup>. Product distribution and kinetics of the oxidation of ethene by  $PdCl_3(pyridine)^-$  in aqueous solution in the presence and absence of  $CuCl_2$ : a modified Wacker catalyst with altered reactivity 99 (1995) 77

### copper(II) chloroaluminate

Comparison of acidic against redox properties of the  $CuAl_2Cl_8$  complex during the isomerization of alkanes at ambient temperature 83 (1993) 323

### copper(II) micelles / SDS

Autooxidation of catechols in solutions of copper(II) surfactants and hydrated metal ions in sodium dodecyl sulphate 85 (1993) 173

# corn cob

Immobilization of nucleases on corn cob 84 (1993) 391

### Corrodability

The effects of differing degrees of thermal activation of  $RuO_2 \cdot xH_2O$ on its corrodability and oxygen catalytic activity 94 (1994) 71

# **COS** poisoning

Poisoning of iron catalyst by COS in syngas for Fischer-Tropsch synthesis 94 (1994) 255

### counter ion effect

Gas phase hydroformylation of propene catalyzed by a polymer bound rhodium(I) complex 80 (1993) 365

### **Coupling reactions**

Selective reductive dimerization of phenylacetaldehyde to 2,4diphenylbutanal catalysed by novel dirhodium complexes 96 (1995) 107

### coverage

Characterization of CrO<sub>3</sub>/Al<sub>2</sub>O<sub>3</sub> catalysts under ambient conditions: influence of coverage and calcination temperature 84 (1993) 193

# CpCoCOD

The cocyclotrimerization of alkynes and acetonitrile with CpCoCOD as catalyst 99 (1995) 71

# **CPDOR NMR**

Stacked phthalocyanines in VPI-5 pores as evidenced by CPDOR  $^{1}H^{-27}AI NMR = 97 (1995) 183$ 

#### cracking

Alkylation, isomerization and cracking activity of a novel solid acid, AlCl<sub>2</sub>(SG)<sub>n</sub> 89 (1994) 317

Cracking of neopentane over acidic zeolites: influence of isobutane and isobutene admission 95 (1995) 269

### cross-linked polymer

Catalytic activity of Pd(AcO)<sub>2</sub> coordinated to cross-linked polymeric isocyanides 81 (1993) 167

# cross-linking

Polyethyleneimine derivatives as catalysts: dye-binding capacity and reactivity are not diminished on extensive internal cross-linking of the polymers 85 (1993) 33

Lactose hydrolysis in milk by immobilized  $\beta$ -galactosidase 93 (1994) 233

#### **Crown ether**

Oxidation of catechol with  $KMnO_4$  by using crown ethers as phase transfer catalysts 93 (1994) 195

### crown ethers

Crown ether phase-transfer catalysts for polymerization of phenylacetylene 89 (1994) 29

Iridium(I) and phase-transfer catalyzed hydrogen-transfer reduction of ketones using potassium fluoride on alumina as a base 92 (1994) 149

#### Crystallinity

Effect of the synthesis conditions on the crystallinity and surface acidity of SAPO-11 98 (1995) 35

### **Crystallite distribution**

Microporous poly-N,N-dimethylacrylamide-p-styrylsulfonatemethylene bis(acrylamide): a promising support for metal catalysis 97 (1995) 145

# crystallochemical active site model

Dynamic description of the oxidation of *n*-butane on various faces of  $(VO)_2P_2O_7$  in terms of the crystallochemical model of active sites 84 (1993) 307

### crystal surface

Theoretical investigations on adsorption at ion crystal surfaces 82 (1993) 171

The interaction of carbon monoxide with nickel-iron alloys. A comparison between single crystal surfaces and supported catalysts 92 (1994) 299

# CS<sub>2</sub>

New catalytic system for oxidative carbonylation of aniline 91 (1994) 155

#### Cumene

An in situ <sup>13</sup>C MAS NMR study of benzene isopropylation over H-ZSM-11: cumene formation and side-reactions 95 (1995) 243

### cumene hydroperoxide

Role of alkylperoxo complexes of cobalt(III) in catalytic oxidation of cyclohexane by cumene hydroperoxide in the presence of bis(acetylacetonato)cobalt(II) 81 (1993) 215

#### custom design

Surface organometallic chemistry on metals: a novel and effective route to custom-designed bimetallic catalysts 86 (1994) 179

#### cyanide

A new double carbonylation reaction 85 (1993) 117

#### cyclic ethers

Regioselective acylative cleavage of cyclic ethers catalyzed by rare earth compounds 87 (1994) 357

#### Cyclic hydrocarbons

High resolution Auger electron spectroscopic study of the chemisorption and decomposition of benzene, cyclohexene and cyclohexane on a clean and carbided Fe(110) surface 93 (1994) 181

#### cyclic voltammetry

Polymer-supported catalysis: oxidation of catecholamines by Fe(III) and Cu(II) complexes immobilized to chitosan 87 (1994) 177

#### cyclization

Pallada- and platinacycles. Part IV. The palladium- and platinumcatalyzed selective cyclisation of dipropargyl acetylenedicarboxylate – the reaction of an  $\alpha$ -alkynyl metallacyclopentadiene 81 (1993) 313

Triruthenium dodecacarbonyl-catalyzed reductive carbonylation of nitroarenes: cyclization, carbon monoxide insertion and reduction. An overview 89 (1994) 121

#### cycloalkene oxidation

Oxidation of cycloalkenes and methylenecycloalkanes by palladium(II) complexes. Part I. NMR study on the mechanism of the formation of ring-contracted and ring-opened products in the oxidation of 1-methylcyclobutene 83 (1993) 287

Oxidation of cycloalkenes and methylenecycloalkanes by palladium(II) complexes. Part 2. NMR study on the mechanism of the ring expansion of methylenecyclobutane 83 (1993) 301

#### Cycloalkenes

Addition of tetrachloromethane to *cis*-cycloalkenes in the presence of transition metal complexes 92 (1994) 269

### cyclocarbonylation

On the reactivity of acetylenes coordinated to cobalt. Part 8<sup>1</sup>: Carbonylation of acetylenes with bulky substituents 84 (1993) 7

233

### $\beta$ -cyclodextrin

 $\beta$ -Cyclodextrin as inverse phase-transfer catalyst in oxidations of isoborneol, borneol and menthol by calcium hypochlorite in aqueous solution 88 (1994) 117

#### β-Cyclodextrin

Stereoselective reduction of menthone with sodium dithionite in the presence of  $\beta$ -cyclodextrin 93 (1994) 247

Bifunctional acid-base catalysis by imidazole groups in enzyme mimics 91 (1994) 161

### cyclodextrins

Catalytic hydrogenation of aromatic ketones in the presence of cyclodextrins 91 (1994) 313

### cyclohexane

Comparison of acidic against redox properties of the CuAl<sub>2</sub>Cl<sub>8</sub> complex during the isomerization of alkanes at ambient temperature 83 (1993) 323

Meso-aryl substituted metalloporphyrins supported on imidazole propyl gel (IPG). Catalytic activity in the oxidation of cyclohexane and characterization of iron porphyrin–IPG systems 88 (1994) 167

Catalysis of  $Sm^{3+}$  for the oxidation of alkanes with  $O_2$  in the liquid phase 95 (1995) 115

Study of catalytic activity of nitro substituted ironporphyrins 97 (1995) 41

### cyclohexane oxidation

Cyclohexane oxidation with dioxygen catalyzed by samarium(III) 83 (1993) 15

### cyclohexanol

Catalytic activities of electroless plated Cu/alumina catalysts for the dehydrogenation of cyclohexanol 88 (1994) 223

Catalytic conversion of oxygen containing cyclic compounds. Part I. Cyclohexanol conversion over H[AI]ZSM-5 and H[B]ZSM-5 94 (1994) 117

Effect of acidity and copper surface area of the  $Cu/Al_2O_3$  catalyst prepared by electroless plating procedure on dehydrogenation reactions 94 (1994) 233

### cyclohexanone

Kinetic and spectroscopic study of the hydrogen-transfer reaction from 2-propanol to cyclohexanone catalyzed by  $[IrH_2(pz)(Hpz)(PPh_3)_2]$  (Hpz=pyrazole) 87 (1994) 151

Transformation of cyclohexanone on PtHZSM5 catalysts - reaction scheme 92 (1994) 67

Catalytic conversion of oxygen containing cyclic compounds. Part II. Cyclohexanone conversion on HZSM-5 zeolites 94 (1994) 243

### cyclohexene

<sup>17</sup>O, <sup>95</sup>Mo and <sup>1</sup>H NMR study of the mechanism of epoxidation of alkenes with hydrogen peroxide in the presence of molybdenum complexes 83 (1993) 347

Is metallic palladium formed in Wacker oxidation of alkenes? 91 (1994) 343

Catalytic conversion of oxygen containing cyclic compounds. Part I. Cyclohexanol conversion over H[A1]ZSM-5 and H[B]ZSM-5 94 (1994) 117

Study of the competition between disproportionation and oxidation of cyclohexene in the liquid phase over solid catalysts 94 (1994) 181

Transformation of carbon compounds on graphimet catalysts. Part V. The effect of pretreatment on the structure and activity of Pt-graphimet catalyst 99 (1995) 115

#### cyclohexene conversion

FT-IR study of hydrocarbon conversion on dealuminated HY zeolites in working conditions 86 (1994) 401

## cyclohexene derivatives

Correlation between the single turnover (STO) site densities and the rates of 4-*tert*-butyl-1-methylcyclohexene hydrogenation over silica supported palladium catalysts 80 (1993) 277

#### cyclohexene hydrogenation

Hydrogenation of cyclohexene using polymer-supported ruthenium (III) complexes as catalysts 83 (1993) 67

### cyclohexylamine

Stoichiometric and catalytic oxidation of cyclohexylamine by  $M_0(O)(O_2)_2(H_2O)(HMPA) = 84 (1993) 137$ 

### Cyclooctadiene

Colloidal rhodium catalyzed photo transfer hydrogenation of 1,5cyclooctadiene 98 (1995) 157

# cyclooctene

Ring-opening copolymerization of [2.2] paracyclophane-1,9-diene (PCPDE) and cyclooctene (COE); a route to soluble products with *p*-phenylenevinylene sequences 90 (1994) 15

### cycloolefins

Ring-opening polymerization of cycloolefin induced by tungsten porphyrinates 90 (1994) 101

# cyclopentadiene

Cometathesis of dicyclopentadiene with esters of unsaturated carboxylic acids by high valent tungsten chlorides as unicomponent catalysts 90 (1994) 135

#### cyclopentadienyl complexes

 $[CpMo(CO)_3]_2$  as a catalyst for olefin metathesis 90 (1994) 11

Surface compounds of transition metals. Part XXXIX<sup>1</sup>. Redox deactivation of Phillips catalysts: from olefins to cyclopentadienyl complexes 90 (1994) 75

The influence of cyclopentadienyl ring substituent steric and electronic effects on the ethylene– $\alpha$ -olefin copolymerisation behaviour of (CpR)<sub>2</sub>ZrCl<sub>2</sub>/ethylalumoxane catalysts 96 (1995) 181

The cocyclotrimerization of alkynes and acetonitrile with CpCoCOD as catalyst 99 (1995) 71

#### cyclopentadienylneodymium complex synthesis

A useful method for the synthesis of neodymocene homogeneous catalysts for ethylene polymerization 82 (1993) 75

#### Cyclopentane

XPS of carbon on Pt-black and EUROPT-1. Is methylcyclopentane ring opening a 'coke sensitive' reaction? 94 (1994) 225

### cyclopentene

Ring-opening metathesis copolymerization of cyclopentene and [2.2]paracyclophane-1,9-diene: UV-Vis-spectroscopic determination of sequence-length distribution of *p*-phenylenevinylene units 84 (1993) 253

### Cyclopropanation

Enantioselective cyclopropanation of styrene with optically active nitrogen ligands based on the pyridine framework 95 (1995) 7

#### cyclopropane

Deactivation mechanism of photoreduced and cyclopropane-treated molybdena/silica catalysts for olefin metathesis 90 (1994) 61

### cyclopropanes

Nucleophilic attack on the central allyl carbon of  $\eta^3$ -allyl complexes of Pd and Pt. Synthesis of cyclopropanes from allylic electrophiles and silyl enolates 84 (1993) 239

### cylindrical internal reflectance

Cylindrical internal reflectance (CIR) evidence for the facile fragmentation of  $PhCCo_3(CO)_7(cis-Ph_2PCH=CHPPh_2)$  during the hydroformylation of 1-pentene 88 (1994) 159

### cylindrical internal reflectance spectroscopy

Hydroformylation catalysis explored by cylindrical internal reflectance spectroscopy. Spectroscopic evidence for the fragmentation of the benzylidyne cluster  $PhCCo_3(CO)_9$  88 (1994) 133

#### cysteine autoxidation

Synthesis and characterization of cobalt phthalocyanines covalently attached to silica 83 (1993) 1

#### Cytochrome c

Photoreduction of cytochrome c with zinc protoporphyrin reconstituted myoglobin (ZnPP-Mb) 95 (1995) 193

#### cytochrome P-450

Factors affecting cytochrome P-450 and horseradish peroxidase-cat-

alyzed oxidative N-dealkylation of aromatic tertiary amines. A multivariate approach 85 (1993) 97

Designing zeolite catalysts for size and shape selective reactions 86 (1994) 343

Pyridiniumporphyrin covalently bound to polystyrene: an efficient model of cytochrome P-450 reactivity 96 (1995) 311

#### Cytochrome P-450 model

Study of catalytic activity of nitro substituted ironporphyrins 97 (1995) 41

### cyclohexane

Role of alkylperoxo complexes of cobalt(III) in catalytic oxidation of cyclohexane by cumene hydroperoxide in the presence of bis(acetylacetonato)cobalt(II) 81 (1993) 215

# D

# deactivation

Gas phase hydroformylation of propene catalyzed by a polymer bound rhodium(I) complex 80 (1993) 365

Mechanism of deactivation and reactivation of Ziegler-Natta catalysts for propene polymerization 82 (1993) 29

Deactivation mechanism of photoreduced and cyclopropane-treated molybdena/silica catalysts for olefin metathesis 90 (1994) 61

Ammonia and sulfur poisoning effects on hydrogenation of phenylacetylene over Pd supported catalysts 94 (1994) 409

Use of NMR techniques for studying deactivation of zeolites by coking 96 (1995) 123

### dealkylation

Carbon catalyzed polymethylbenzene dealkylation 85 (1993) 229

Nickel-on-alumina catalyzed polymethylbenzene dealkylation 85 (1993) 237

# dealuminated HY zeolites

FT-IR study of hydrocarbon conversion on dealuminated HY zeolites in working conditions 86 (1994) 401

### dealumination

Synthesis of diisopropylbenzene over dealuminated zeolite beta 88 (1994) 85

### decarbonylation

Synthesis and decarbonylation of platinum carbonyl cluster anions in zeolite NaY made basic by treatment with CsOH 80 (1993) 49

### decomposition

Use of the methanol decomposition reaction for identifying surface species in Cu/Co-based catalysts 91 (1994) 369

Study of cobalt complexes as catalysts in the decomposition of hydrogen peroxide 92 (1994) 9

Ozone decomposition and CO oxidation on CeO<sub>2</sub> 98 (1995) 9

Catalytic methanol decomposition to carbon monoxide and hydrogen over  $Ni/SiO_2$  of high nickel content 99 (1995) 183

### **Deep oxidation**

Vapour phase deep oxidation of chlorinated hydrocarbons catalyzed by pillared bentonites 97 (1995) 139

### Degradation

Photocatalytic degradation of chlorophenols to  $CO_2$  and HCl with polyoxotungstates in aqueous solution 92 (1994) 261

Effect of Fe-ZSM-5 zeolite on the photochemical and biochemical degradation of 4-nitrophenol 95 (1995) 61

### Dehalogenation

Synthesis of a *trans*-benzo-[f]-heterodecalin by catalytic hydrogenation. The important parameters for high stereo- and chemoselectivity 95 (1995) 155

#### dehydration

Palladium clusters: stoichiometric and catalytic reactions 86 (1994) 71

Zeolite catalysts for pinacol rearrangement 87 (1994) 39

### dehydrocyclization

Paraffin dehydrocyclization. Part 8. Conversion of *n*-octane with mono and bifunctional  $Pt-Al_2O_3$  catalysts at 100 psig 88 (1994) 325

Paraffin dehydrocyclization. Part 9. Conversion of *n*-octane with Pt-Sn catalysts at atmospheric pressure 88 (1994) 343

Paraffin dehydrocyclization. Part 10. Conversion of *n*-octane with supported Pt-Sn catalysts at 100 psig 88 (1994) 359

### dehydrogenation

Substituent effects on the rate of dehydrogenation of primary and secondary alcohols 87 (1994) 47

Catalytic activities of electroless plated Cu/alumina catalysts for the dehydrogenation of cyclohexanol 88 (1994) 223

Photocatalytic dehydrogenation of methanol using  $[IrH(SnCl_3)_5]^{3-}$  complex 89 (1994) 143

Characterization of unsupported copper-chromium catalysts for ethanol dehydrogenation 89 (1994) 179

Oxidative dehydrogenation of isobutyraldehyde to methacrolein over iron phosphate catalyst 89 (1994) 371

Role of hydride phases in the catalytic activity of  $Zr_2Ni$  for the dehydrogenation of methanol 91 (1994) 223

Catalysis of phosphine-coordinated rhodium(I) complexes for 2propanol dehydrogenation 92 (1994) 1

Strontium hydroxyapatites: catalytic properties in the oxidative dehydrogenation of methane to carbon oxides and hydrogen 92 (1994) 81

High temperature treated Pt/Sn-ZnAl<sub>2</sub>O<sub>4</sub> catalysts 93 (1994) 67

Dehydrogenation of isopropyl alcohol over Co-Ni/Mg oxide catalysts 94 (1994) 191

Effect of acidity and copper surface area of the  $Cu/Al_2O_3$  catalyst prepared by electroless plating procedure on dehydrogenation reactions 94 (1994) 233

Oxidative dehydrogenation of propane on VAPO-5,  $V_2O_5$ /ALPO<sub>4</sub>-5 and  $V_2O_5$ /MgO catalysts. Nature of selective sites 97 (1995) 173

### dendrimer molecules

Aminolysis of phenyl esters by microgel and dendrimer molecules possessing primary amines 85 (1993) 21

#### density functionals

The importance of sulphur–sulphur bonding in the hydrodesulphurization process of thiophene, using transition metal sulphide catalysts 91 (1994) 207

#### density functional theory

Density functional theory and quantum chemistry: metals and metal oxides 82 (1993) 117

Theoretical study of the reactivity of  $(PPh_3)_2Pt(\eta^2 - O_2)$  with acids 82 (1993) 131

### density of states

Semiempirical study of carbon monoxide, oxygen and carbon adsorption on a modelled CoSi(100) surface 80 (1993) 307

#### deoxygenation

Ruthenium complex-catalyzed selective deoxygenation of amidoximes to amidines and its application to the facile synthesis of pyrimidines 80 (1993) 383

### depth profiling

Olefin metathesis catalyst. Part I. Angle-resolved and depth profiling XPS study of tungsten oxide on silica 90 (1994) 43

#### Desulfovibrio vulgaris

Purification and properties of intact hydrogenase from *Desulfovibrio* vulgaris (Miyazaki) 95 (1995) 93

Effect of Hg(II) on hydrogenase activity from *Desulfovibrio vulgaris* (Miyazaki) 96 (1995) 329

#### desulphonation

Desulfonylation and desulfonylative carbonylation of arenethiosulfonic acid esters in the presence of  $PdCl_2$  and LiCl = 83 (1993) 125

### Desulphurization

Thiophene desulfurization by Co/carbon catalysts synthesized by reaction of  $Co(C_5H_5)_2$  and the carbon support 91 (1994) 91

### deuterium

Mobility of transient olefinic intermediates during exchange reactions of paraffins with deuterium on metal catalysts 89 (1994) 19

Mechanism of but-1-yne hydrogenation on platinum catalysts: deuterium tracer study. 91 (1994) 259

#### deuterium exchange

Deuterium exchange of pyrrolidine, diethylamine and triethylamine over catalysts of Group VIII transition metals 89 (1994) 365

### **Deuterium labelling**

Studies of the mechanism of thiophene hydrodesulfurization: <sup>2</sup>H NMR and mass spectral analysis of 1,3-butadiene produced in the deuterodesulfurization (DDS) of thiophene over  $PbMo_6S_8$  catalyst 96 (1995) 283

#### diacetoxybutene

Dicarbonylation of 1.4-diacetoxy-but-2-ene in hex-3-ene dioate catalyzed by  $PdCl_2$  in the presence of  $PBu_4Cl = 80$  (1993) L9

### diamine ligands

Role of aliphatic diamine ligands in hydrogen peroxide decomposition with Dowex-50W resin as transition metal complex ions 80 (1993) 11

#### **Diastereoselective hydrogenation**

Synthesis of a *trans*-benzo-[f]-heterodecalin by catalytic hydrogenation. The important parameters for high stereo- and chemoselectivity 95 (1995) 155

### $\beta$ -dicarbonyls

Metal-catalysed carbon-carbon bond formation in the reaction of  $\beta$ dicarbonyls with nitriles 81 (1993) 133

# 6,6'-dichloro-2,2'-bipyridine

Catalytic hydrogenation reactions by  $[cis-[Ru(6,6'-Cl_2bpy)_2(OH_2)_2]$  (CF<sub>3</sub>SO<sub>3</sub>)<sub>2</sub> in biphasic [media (6,6'-Cl\_2bpy=6,6'-dichloro-2,2'-bipyridine) 84 (1993) 39

#### dichromate

The indirect anodic oxidation of 2-methylnaphthalene Part II.\* Oxidation in presence of dichromates 83 (1993) 251

#### **Diels-Alder reactions**

Heterogeneous catalysis of asymmetric Diels-Alder reactions 89 (1994) 159

#### dienes

Alkoxides as ancillary ligands in organolanthanide chemistry: synthesis, reactivity,  $\alpha$ -olefin and diene polymerization by  $[Y(C_5Me_5)(OC_6H_3'Bu_2)(\mu-H)]_2 = 90$  (1994) 177

#### diethylamine

Deuterium exchange of pyrrolidine, diethylamine and triethylamine

over catalysts of Group VIII transition metals 89 (1994) 365

# Differential scanning calorimetry analysis

Linear low density polyethylene: catalyst system effect on polymer microstructure 98 (1995) 123

### diffuse-reflectance UV-Vis spectroscopy

Spectroscopic study of the nature of vanadium-oxo species adsorbed on anatase 81 (1993) L25

# $\eta^2$ -dihydrogen complex

Catalytic hydrogenation reactions by  $[cis-[Ru(6,6'-Cl_2bpy)_2(OH_2)_2]$  (CF<sub>3</sub>SO<sub>3</sub>)<sub>2</sub> in biphasic [media (6,6'-Cl\_2bpy=6,6'-dichloro-2,2'-bipyridine) 84 (1993) 39

#### diisopropylbenzene

Synthesis of diisopropylbenzene over dealuminated zeolite beta 88 (1994) 85

# 1,3-diketonates

Isomerization of 3-functional substituted propenes in the presence of ruthenium (III) 1,3-diketonates 89 (1994) 303

### dimerization

Dimerization of methyl acrylate by homogeneous transition-metal catalysis. Part I. Activation of hydrido(carbonyl)chloro-[bis(triisopropylphosphane)]ruthenium by  $CF_3SO_3Ag = 85$  (1993) 149

Dimerization and isomerization of 2-methyl-1-alkenes over  $Re_2O_7$ -Al<sub>2</sub>O<sub>3</sub> catalyst 90 (1994) 1

 $[CpMo(CO)_3]_2$  as a catalyst for olefin metathesis 90 (1994) 11

Ethene dimerization using a Nafion<sup>\*</sup> supported  $\sigma$ -arylnickel(II) species 90 (1994) 245

Nafion\* supported cationic palladium complexes as catalysts (II) 94 (1994) 163

Selective reductive dimerization of phenylacetaldehyde to 2,4diphenylbutanal catalysed by novel dirhodium complexes 96 (1995) 107

### dimethyl carbonate

Scope of the N-alkylation of amides and the C-alkylation of malonates by methyl formate and dimethyl carbonate 84 (1993) 131

### dimethyldisulphide

Liquid-phase alkylthiolation reaction of phenol by dimethyldisulfide over zeolites 89 (1994) 383

# Dimethylglyoxime

Electronic structure of organobis(dimethylglyoximato)triphenylphosphinerhodium(III) complexes 95 (1995) 141

# dimethyl methylphosphonate

Characterization of the molecular exchange process observed for

dimethyl methylphosphonate adsorbed on a sorptive/reactive resin mixture by <sup>31</sup>P magnetization-transfer and 2-D exchange MAS NMR 83 (1993) 183

# Dimethyl sulfoxide

Homogeneous catalytic hydrogenation of olefins by use of  $RhH_2(Ph_2N_3)(PPh_3)_2$  in dimethyl sulfoxide 92 (1994) 257

### dinitrobenzenes

Carbonylative reduction of aromatic nitroderivatives to arylamines catalyzed by sulfur compounds 88 (1994) 177

# 2,4-Dinitrotoluene

Mechanism of 2,4-dinitrotoluene hydrogenation over Pd/ C 95 (1995) 235

### dinuclear complexes

Electrocatalytic activity of  $[(bpy)_2(H_2O)Ru^{III}ORu^{III}(H_2O)(bpy)_2]^{4+}$  towards sugar oxidation 89 (1994) 101

Photocatalytic reduction of coordinated dinitrogen to ammonia – mononuclear versus dinuclear ethylenediaminetetraacetato ruthenium complexes 93 (1994) 23

Copper(1) and copper(11) dinuclear complexes of a macrocyclic ligand derived from the 2:2 condensation of pyridine- 2,6-dicarbox-aldehyde and 1,4,7-triazaheptane 99 (1995) 87

### Dinuclear Cu(I) dioxygen complex

Stoichiometric and catalytic oxidation by a dinuclear copper(1) dioxygen complex and a dinuclear copper(11) complex of a macrocyclic ligand derived from the 2:2 condensation of pyridine-2,6-dicarboxaldehyde and 1,4,7-triazaheptane 99 (1995) 101

### Dinuclear Cu(II) macrocyclic complex

Stoichiometric and catalytic oxidation by a dinuclear copper(I) dioxygen complex and a dinuclear copper(II) complex of a macrocyclic ligand derived from the 2:2 condensation of pyridine-2,6-dicarboxaldehyde and 1,4,7-triazaheptane 99 (1995) 101

### dioxygen

Theoretical study of the reactivity of  $(PPh_3)_2Pt(\eta^2 \cdot O_2)$  with acids 82 (1993) 131

Epoxidation of cyclohexene catalyzed by copper(II) complexes under Mukaiyama's conditions 96 (1995) 9

### dioxygenase reaction model

Structural effect of cobalt Schiff base complex catalyst on its catalytic activity in dioxygenolysis of 3-methylindole 83 (1993) 117

# Dioxygen complexes

Stoichiometric and catalytic oxidation by a dinuclear copper(I) dioxygen complex and a dinuclear copper(II) complex of a macrocyclic ligand derived from the 2:2 condensation of pyridine-2,6-dicarboxaldehyde and 1,4,7-triazaheptane 99 (1995) 101

#### Dioxygen copper(I) complex

Copper(I) and copper(II) dinuclear complexes of a macrocyclic

ligand derived from the 2:2 condensation of pyridine- 2,6-dicarboxaldehyde and 1,4,7-triazaheptane 99 (1995) 87

### diperoxo complexes

Why do not 7-co-ordinated diperoxo molybdenum complexes oxidize alkenes? A theoretical analysis 87 (1994) 5

# diphenylurea

Palladium-catalyzed N,N'-diphenylurea synthesis from nitrobenzene, aniline, and carbon monoxide: Part 4. Ligand effects 81 (1993) 17

#### **Dirhodium complexes**

Selective reductive dimerization of phenylacetaldehyde to 2,4diphenylbutanal catalysed by novel dirhodium complexes 96 (1995) 107

#### Disaccharide

Hydrolysis of sucrose by dealuminated Y-zeolites 94 (1994) 283

#### **Dispersion effect**

Ammonia and sulfur poisoning effects on hydrogenation of phenylacetylene over Pd supported catalysts 94 (1994) 409

Colloidal rhodium catalyzed photo transfer hydrogenation of 1,5cyclooctadiene 98 (1995) 157

### Disproportionation

Study of the competition between disproportionation and oxidation of cyclohexene in the liquid phase over solid catalysts 94 (1994) 181

### 3,5-di-tert-Butylcatechol

Effects of sodium dodecyl sulphate concentration on the autooxidation of 3,5-di-*tert*-butylcatechol in solutions of hydrated transition metal ions 97 (1995) 1

#### 1,6-dithiapyrene

Study of the new electron transfer mediators in glucose oxidase catalysis 91 (1994) 407

#### Dithiolate

New hydroformylation rhodium catalysts with dithiolate chiral ligands 94 (1994) 149

### divalent cations

Characterization of the compounds formed from the interaction of divalent cations with inorganic molecular metal-oxygen cluster compounds 80 (1993) 59

### 1,4-divinylbenzene

Synthesis of oligo- and poly(1,4-phenylenevinylene) by metathetic polycondensation of 1,4-divinylbenzene 90 (1994) 69

### diynes

Further observations on  $RhCl_3$ -Aliquat 336<sup>®</sup> catalyzed carbonylation of aromatic diynes under phase transfer conditions 90 (1994) 231

### dipropargyl acetylenedicarboxylate

Pallada- and platinacycles. Part IV. The palladium- and platinumcatalyzed selective cyclisation of dipropargyl acetylenedicarboxylate – the reaction of an  $\alpha$ -alkynyl metallacyclopentadiene 81 (1993) 313

#### **DNA hydrolysis**

Lanthanide metal complexes for the hydrolysis of linear DNAs 84 (1993) 21

### **1-Dodecanethiol**

Effects of solvents on the cobalt phthalocyanine-catalyzed oxidation of hydrophobic thiols 97 (1995) 7

#### double salts

Photophysics and photosensitization behavior of microcrystalline  $[Pt(bpy)_2]_2[Pt_2(pop)_4] \cdot nH_2O = 80 (1993) 327$ 

### Dowex-50W resin

Role of aliphatic diamine ligands in hydrogen peroxide decomposition with Dowex-50W resin as transition metal complex ions 80 (1993) 11

# **DRIFT** study

DRIFT study of the oxidation and the ammoxidation of toluene over a  $TiO_2(B)$ -supported vanadia catalyst 81 (1993) 51

# dye-binding capacity

Polyethyleneimine derivatives as catalysts: dye-binding capacity and reactivity are not diminished on extensive internal cross-linking of the polymers 85 (1993) 33

E

# Early transition metals

Early transition metal catalyzed-hydroboration of alkenes 95 (1995) 121

# Eaton's catalyst

Acidity studies of Eaton's catalyst, methanesulfonic acid-phosphorus pentoxide 87 (1994) 215

#### **EDTA decomposition**

Some possibilities and problems regarding photochemical water oxidation 88 (1994) 185

#### Effect of support

Heterogeneous catalysis in organic chemistry. Part 10<sup>1</sup>. Effect of the catalyst support on the regiochemistry of the heck arylation reaction 95 (1995) 277

#### Effectors

Human placental alkaline phosphatase covalently immobilized on a cross-flow microfiltration polyvinylidene difluoride membrane. Part I. Physicochemical effectors 93 (1994) 85

### electrocatalysis

Electrocatalytic functionalization of alkanes using aqueous platinum salts 87 (1994) 11

Electrocatalytic hydrogenation on  $poly[Rh^{III}(L)_2(Cl)_2]^+$ (L = pyrrole-substituted 2,2'-bipyridine or 1,10-phenanthroline) films electrodes 99 (1995) 13

### electrocatalytic hydrogenation

Electrocatalytic hydrogenation on a rhodium complex-polypyrrole film electrode: effect of the polymeric environment on the selectivity of the catalyst 81 (1993) L19

### electroless copper plating

Catalytic activities of electroless plated Cu/alumina catalysts for the dehydrogenation of cyclohexanol 88 (1994) 223

#### Electroless plating

Effect of acidity and copper surface area of the  $Cu/Al_2O_3$  catalyst prepared by electroless plating procedure on dehydrogenation reactions 94 (1994) 233

### electron donor

Role of electron donor in propylene polymerization using magnesium chloride-supported titanium tetrachloride catalyst 82 (1993) 11

#### electronegativity equalization

Comparing homogeneous and heterogeneous acid catalysts by a density-functional based sensitivity analysis of their interaction with carbenium ions 83 (1993) 135

# electron emission

Dipped adcluster model and SAC-CI method applied to harpooning, chemiluminescence and electron emission in halogen chemisorption on alkali metal surface 82 (1993) 211

#### electronic processes

Quantum theory of scanning tunneling microscopy and spectroscopy and its application to surface electronic processes 82 (1993) 253

### **Electronic states**

The electronic states and Lewis acidity of surface aluminum atoms in  $\gamma$ -Al<sub>2</sub>O<sub>3</sub> model cluster: An *ab initio* MO study 96 (1995) 277

### electronic structure

Electronic structure of bis(triphenylphosphine)acetone-(ethene)rhodium hexafluorophosphate 84 (1993) 261

Electronic structure of organobis(dimethylglyoximato)triphenylphosphinerhodium(III) complexes 95 (1995) 141

# electronic structure calculations

The importance of sulphur-sulphur bonding in the hydrodesulphurization process of thiophene, using transition metal sulphide catalysts 91 (1994) 207

#### electron spectroscopy: oxide surfaces

Adsorption and reaction of molecules on surfaces of metal-metal oxide systems 82 (1993) 143

#### electron transfer

Electron transfer reactions at Nafion and clay adsorbed  $Ru(bpy)_{3}^{2+}$  coated electrodes 84 (1993) 187

Oxygenation of alkylbenzenes, catalyzed by 10-methylacridinium ion via photoinduced electron transfer under visible light irradiation 90 (1994) 225

Study of the new electron transfer mediators in glucose oxidase catalysis 91 (1994) 407

Catalytic oxidation of erythrosine by cobalt phthalocyanines 93 (1994) 253

Photoreduction of cytochrome c with zinc protoporphyrin reconstituted myoglobin (ZnPP-Mb) 95 (1995) 193

## electrooxidation

The indirect anodic oxidation of 2-methylnaphthalene Part II.\* Oxidation in presence of dichromates 83 (1993) 251

Electronic and kinetic isotope effects on the electrooxidation of benzyl alcohols by a monoxo ruthenium(V) complex of tetramethylcyclam 89 (1994) 57

### electrophilicity

Electrophilicity of titanium atoms supported on magnesium chloride 82 (1993) 3

Intermolecular transalkylation of methylanilines 89 (1994) 191

### embedding theory

Embedded-cluster techniques for the quantum-mechanical study of surface reactivity 82 (1993) 229

# **Enantio-differentiating hydrogenation**

Enantioface-differentiating hydrogenation of the C=O double bond using a modified Raney nickel: role of the carboxylic acid added to the reaction system 93 (1994) 211

#### enantioface-differentiation

Mode of enantioface-differentiation in the hydrogenation of 2-alkanone over an asymmetrically modified nickel catalyst 87 (1994) 333

### Enantioselective hydrolysis

A systematic analysis of the variables that control a highly stereoselective resolution of racemic non-steroidal antiinflammatory drugs using immobilized lipase from *Candida cylindracea* 98 (1995) 171

### **Enantioselective processes**

Homogeneous catalysis by osmium complexes. A review 96 (1995) 231

#### enantioselective reduction

Thioethers: potential ligands for asymmetric catalysis? 85 (1993) 131

#### enantioselectivity

Effect of water-mimicking additives on the synthetic activity and enantioselectivity in organic solvents of a *Candida cylindracea* lipase 84 (1993) 27

Enantioselective and photocatalytic oxidation of 1,1'-bi-2-naphthol with a chiral ruthenium complex which includes molecular helicity 88 (1994) 1

Enantioselective cyclopropanation of styrene with optically active nitrogen ligands based on the pyridine framework 95 (1995) 7

Enantioselective catalytic epoxidation of styrenes by iodosylbenzene using chiral ruthenium(II) Schiff base complexes 96 (1995) 117

Hydrolysis of (R,S)2-aryl propionic esters by pure lipase B from Candida cylindracea 96 (1995) 317

Alteration of the activity and selectivity of immobilized lipases by the effect of the amount of water in the organic medium 97 (1995) 195

#### enantiospecific hydrolysis

Enantiospecific hydrolysis of esters of nonsteroidal antiinflammatory drugs using lipase of *Candida cylindracea* 84 (1993) 399

#### encapsulation

Selective olefin oxidation with cobalt phthalocyanine encapsulated in Y-zeolite 91 (1994) 251

First report on highly efficient alkene hydrogenation catalysed by Ni(salen) complex encapsulated in zeolite 92 (1994) 235

Stacked phthalocyanines in VPI-5 pores as evidenced by CPDOR  $^{1}H^{-27}AINMR = 97$  (1995) 183

#### energy barrier

Theoretical studies in the realm of chemical reactivity: Noncatalytic and catalytic reactions 82 (1993) 265

### enolization

Bifunctional acid-base catalysis by imidazole groups in enzyme mimics 91 (1994) 161

# enzymatic synthesis

Resolution of racemic mixtures by synthesis reactions catalyzed by immobilized derivatives of the enzyme penicillin G acylase 84 (1993) 365

#### enzyme activation

Influence of the chemical and textural properties of the support in the immobilization of penicillin G-acylase from *Kluyvena citrophila* on inorganic supports 80 (1993) 269

#### enzyme activity

Changes in activity of soluble and immobilized peroxidases after treatment by various proteases and some metal ions 80 (1993) 117

### enzyme immobilization

Immobilisation/stabilisation on different hydroxilic supports of lipase from *Candida rugosa* 83 (1993) 261

Immobilization of nucleases on corn cob 84 (1993) 391

### enzyme immobilization-stabilization

Syntheses of pharmaceutical oligosaccharides catalyzed by immobilized-stabilized derivatives of different  $\beta$ -galactosidases 84 (1993) 373

#### enzyme kinetics

Kinetic analysis of a Michaelis–Menten mechanism with an unstable substrate 83 (1993) 273

Kinetic behaviour and reaction mechanism of the hydrolysis of *p*nitrophenyl palmitate in mixed micelles with Triton X-100 catalyzed by lipase from *Candida rugosa* 93 (1994) 37

#### **Enzyme purification**

Purification and properties of intact hydrogenase from *Desulfovibrio* vulgaris (Miyazaki) 95 (1995) 93

#### enzymes

Syntheses of pharmaceutical oligosaccharides catalyzed by immobilized-stabilized derivatives of different  $\beta$ -galactosidases 84 (1993) 373

Enantioselectivity and reactivity of immobilized lipase in supercritical carbon dioxide 89 (1994) 11

Immobilization of laccase from *Phlebia radiata* on controlled porosity glass 95 (1995) 99

#### **Enzyme stabilization**

Selective oxidation: stabilisation by multipoint attachment of ferredoxin NADP<sup>+</sup> reductase, an interesting cofactor recycling enzyme 98 (1995) 161

#### enzymic catalysis

Bile-salt-stimulated human milk lipase catalysed hydrolysis of 1,2,3tri [ (*cis*)-9-octadecenoyl ] glycerol: solvent isotope effect 91 (1994) 303

Lamb pregastric lipase catalysed hydrolysis of 1,2,3-tri[(*cis*)-9-octadecenoyl]glycerol: temperature, pH and solvent isotope effects 96 (1995) 77

#### **Enzymic oxidation**

Selective oxidation: stabilisation by multipoint attachment of ferredoxin NADP<sup>+</sup> reductase, an interesting cofactor recycling enzyme 98 (1995) 161

#### epimerization

Heptamolybdate-ion catalyzed C(2) epimerization of D-mannose to D-glucose in acetonitrile-water mixtures; a kinetic study 89 (1994) 247

#### epoxidation

Vanadium site in VAPO-5: characterization and catalytic properties

in liquid-phase alkene epoxidation and benzylic oxidation 81 (1993) 77

Characterization with <sup>95</sup>Mo, <sup>17</sup>O, <sup>1</sup>H NMR and EPR of alkylperoxo, alkoxo, peroxo and diolo molybdenum(VI) complexes formed in the course of catalytic epoxidation of cyclohexene with organic hydroperoxides 83 (1993) 329

<sup>17</sup>O, <sup>95</sup>Mo and <sup>1</sup>H NMR study of the mechanism of epoxidation of alkenes with hydrogen peroxide in the presence of molybdenum complexes 83 (1993) 347

Brominated and chlorinated manganese chiral Schiff base complexes as epoxidation catalysts 85 (1993) 13

Catalytic activities of nickel(II) complexes of a salen analog, [Ni(babp)], in epoxidation of olefins 87 (1994) 195

Synthesis of binuclear amide complexes of Ru(III) and study of their catalytic activity in epoxidation of alkenes 88 (1994) 287

Selective olefin oxidation with cobalt phthalocyanine encapsulated in Y-zeolite 91 (1994) 251

Comparison of reactivity of alkene epoxidation with intact cells and cell-free extracts of *Methylosinus trichosporium* OB3b 93 (1994) 119

Aerobic epoxidation of olefins catalyzed by polymerizable  $\beta$ -ketoesterate complexes of iron(III), nickel(II) and cobalt(II) 94 (1994) 19

Epoxidation of cyclohexene catalyzed by copper(II) complexes under Mukaiyama's conditions 96 (1995) 9

Enantioselective catalytic epoxidation of styrenes by iodosylbenzene using chiral ruthenium(II) Schiff base complexes 96 (1995) 117

Pyridiniumporphyrin covalently bound to polystyrene: an efficient model of cytochrome P-450 reactivity 96 (1995) 311

Formation and reactivity toward hydrocarbons of oxomanganese porphyrins in the presence of anionic bases 97 (1995) 79

Ruthenium(II) 2-(phenylazo)pyridine complexes as epoxidation catalysts 98 (1995) 143

Cationic ironporphyrins as catalyst in comparative oxidation of hydrocarbons: homogeneous and supported on inorganic matrices systems 99 (1995) 187

### epoxidation mechanisms

Role of vanadium alkylperoxo complexes in epoxidation of cyclohexene and oxidation of cyclohexane by organic hydroperoxides in the presence of bis(acetylacetonato)vanadyl 81 (1993) 235

### epoxide reduction

Transfer hydrogenation of simple epoxides 89 (1994) 1

### EPR

Characterization with <sup>95</sup>Mo, <sup>17</sup>O, <sup>1</sup>H NMR and EPR of alkylperoxo, alkoxo, peroxo and diolo molybdenum(VI) complexes formed in the course of catalytic epoxidation of cyclohexene with organic hydroperoxides 83 (1993) 329

### EPR spectroscopy

Polymer-supported catalysis: oxidation of catecholamines by Fe(III)and Cu(II) complexes immobilized to chitosan 87 (1994) 177

### equations of electron emission

Extension of the range of applications of classic-phenomenological laws to the field of matter in a highly dispersed state 82 (1993) 361

### Erythrosine

Catalytic oxidation of erythrosine by cobalt phthalocyanines 93 (1994) 253

# ESR

Microporous poly-*N*,*N*-dimethylacrylamide-*p*-styrylsulfonatemethylene bis(acrylamide): a promising support for metal catalysis 97 (1995) 145

#### esterase activity

Esterase activity of catalytic IgG and IgM antibodies for the hydrolysis of *p*-nitrophenyl acetate 90 (1994) 355

### Esterification

Alteration of the activity and selectivity of immobilized lipases by the effect of the amount of water in the organic medium 97 (1995) 195

### Esterolysis

Cleavage of active esters by functional thiol compounds: acceleration and time-dependent effects induced by cationic surfactants 94 (1994) 263

### esterolysis rate

Esterolysis of long-chain *p*-nitrophenyl picolinates by hydrophobic  $Zn^{2+}$  complexes in the presence of a cationic surfactant 85 (1993) 45

### esters

Cometathesis of dicyclopentadiene with esters of unsaturated carboxylic acids by high valent tungsten chlorides as unicomponent catalysts 90 (1994) 135

Metathesis of unsaturated fatty acid esters and fatty oils 90 (1994) 185

Ester fission catalysed by microgels possessing hydroxamic acid groups: structure-reactivity studies 95 (1995) 83

Cobalt catalysed carbonylation of reactive chlorides into esters by methyl formate without carbon monoxide and methanol added 96 (1995) 15

### Ethane

Effect of tetrachloromethane as a gas-phase additive on the oxidative

dehydrogenation of ethane over magnesium phosphate 95 (1995) 35

Oxidative coupling of methane over natural manganese oxide 98 (1995) 25

### ethanol

Homogeneous Ru-Co bimetallic catalysis in CO<sub>2</sub> hydrogenation: the formation of ethanol 89 (1994) 51

Characterization of unsupported copper-chromium catalysts for ethanol dehydrogenation 89 (1994) 179

Catalytic conversion of ethyl alcohol on polyaniline protonated with 12-tungstosilicic acid 89 (1994) 329

Study of the Meerwein-Pondorff-Verley reaction between ethanol and acetone on various metal oxides 91 (1994) 45

The effect of different ZnO precursors on the catalytic decomposition of ethanol 98 (1995) 63

### ethanol dehydration

Effect of pore diameter and acid strength in ethanol dehydration on molecular sieves 83 (1993) 145

# ethene

Electronic structure of bis(triphenylphosphine)acetone-(ethene)rhodium hexafluorophosphate 84 (1993) 261

Catalytic hydrogenation activities of characteristic copper-lanthanide complex oxide of  $Cu_6O_8Ln(NO_3)$  88 (1994) 103

Ethene polymerization by binuclear nickel-ylide complexes 88 (1994) 141

Characterisation of modified Cr-silica catalysts 90 (1994) 81

Ethene dimerization using a Nafion<sup> $\oplus$ </sup> supported  $\sigma$ -arylnickel (II) species 90 (1994) 245

Nafion<sup>®</sup> supported cationic palladium complexes as catalysts (II) 94 (1994) 163

Oxidation of olefins by palladium(II). Part XIV <sup>1</sup>. Product distribution and kinetics of the oxidation of ethene by  $PdCl_3(pyridine)^-$  in aqueous solution in the presence and absence of  $CuCl_2$ : a modified Wacker catalyst with altered reactivity 99 (1995) 77

#### ethenolysis

Metathesis of unsaturated fatty acid esters and fatty oils 90 (1994) 185

# ether

Aerobic oxidation of ethers and alkenes catalyzed by a novel palladium complex 88 (1994) 151

# ethyl benzoate

Model for the formation of active titanium complexes on MgCl2-

ethyl benzoate-TiCl<sub>4</sub> catalysts for propylene polymerization 84 (1993) 109

Molecular orbital studies in the  $MgCl_2$ -ethyl benzoate-TiCl<sub>4</sub> system 87 (1994) 137

#### ethylene

Codimerization of 2,5-norbornadiene with ethylene using soluble cobalt and nickel catalysts 84 (1993) 77

 $Cr^{2+}$  ions grafted to silica and silicalite surfaces: FTIR characterization and ethylene polymerization activity 86 (1994) 423

Influence of ligands and cocatalyst on the activity in ethylene polymerization of soluble titanium complexes 89 (1994) 41

Studies on methylaluminoxane and ethylene polymerization 90 (1994) 201

Ruthenium catalyzed ethylene-methyl formate reactions. Synthesis of propanol and ketones 91 (1994) 31

Kinetics of chain transfer during ethylene polymerization with chromium oxide/silica catalyst 91 (1994) 237

Chemistry of dicobalt octacarbonyl on zinc oxide. Homonuclear ionpairing surface species related to catalytic activity in ethylene hydroformylation 96 (1995) 49

Palladium-catalyzed, arylation of ethylene (the Heck reaction) under aqueous conditions 97 (1995) 73

Active sites concentration in ethylene homo- and co-polymerization with 1-hexene using the highly active  $TiCl_4/MgH_2$ -AlEt<sub>3</sub> catalyst system 98 (1995) 135

Chlorinated organic polymers as supports for Ziegler-Natta catalysts 99 (1995) 167

#### ethylene polymerization

Characterization of supported bimetallic catalysts for ethylene polymerization: the effect of external Lewis bases 82 (1993) 17

# ethylene polymerization catalyst

A useful method for the synthesis of neodymocene homogeneous catalysts for ethylene polymerization 82 (1993) 75

### 5-ethylidene-2-norbornene

Codimerization of 2,5-norbornadiene with ethylene using soluble cobalt and nickel catalysts 84 (1993) 77

#### ethyl lactate

Liquid-phase oxidation of ethyl lactate to pyruvate over suspended oxide catalysts 83 (1993) 207

### ethyl pyruvate

Liquid-phase oxidation of ethyl lactate to pyruvate over suspended oxide catalysts 83 (1993) 207

# Europium

Catalytic properties of low-valent europium introduced into Y-zeolite 98 (1995) 49

### **EUROPT-1**

XPS of carbon on Pt-black and EUROPT-1. Is methylcyclopentane ring opening a 'coke sensitive' reaction? 94 (1994) 225

#### EUROPT-3

Catalytic properties of 0.3%  $Pt/Al_2O_3$  (EUROPT-3) and of 0.3% Pt-0.3% Re/Al\_2O\_3 (EUROPT-4) 81 (1993) 99

### **EUROPT-4**

Catalytic properties of 0.3%  $Pt/Al_2O_3$  (EUROPT-3) and of 0.3% Pt-0.3% Re/Al\_2O\_3 (EUROPT-4) 81 (1993) 99

#### EXAFS

Structural study of Ti<sup>IV</sup> exchanged K10-montmorillonite by XRD, EXAFS and XANES 92 (1994) 311

# **Exchanged** clays

Benzylation of aromatics on ion-exchanged clays 98 (1995) 101

# excited state

Theoretical studies in the realm of chemical reactivity: Noncatalytic and catalytic reactions 82 (1993) 265

### extended Hückel calculation

Paired interacting orbitals (PIO) study on the formation of the active site in Ziegler catalyst system 87 (1994) 243

#### extended Hückel calculations

Molecular orbital studies in the  $MgCl_2$ -ethyl benzoate-TiCl<sub>4</sub> system 87 (1994) 137

# Eyring transition-state theory

Eyring transition-state theory and kinetics in catalysis 96 (1995) 1

# F

# **Face-capping ligand**

Hydrogenation of 1-hexene by a triruthenium cluster stabilized with a face-capping 1,3-dithiacyclohexane ligand 99 (1995) 29

#### fatty acids

Co-metathesis reaction of methyl linoleate with ethene over  $WCl_6$  catalyst 89 (1994) 357

Metathesis of unsaturated fatty acid esters and fatty oils 90 (1994) 185

#### Fe(110)

High resolution Auger electron spectroscopic study of the chemisorption and decomposition of benzene, cyclohexene and cyclohexane on a clean and carbided Fe(110) surface 93 (1994) 181

### Fenske-Hall method

Effect of ligand donor-acceptor properties on selectivity of catalytic olefin isomerization reaction 99 (1995) 23

243

# ferredoxin

Purification of Fd-glutamate synthase from *Monoraphidium braunii* and characterization of a light-dependent activity assay 89 (1994) 257

Thermostability and electron transfer activity of the ferredoxin from a thermophilic hydrogen oxidizing bacterium, *Bacillus schlegelii* 95 (1995) 173

# Ferredoxin-NADP<sup>+</sup> reductase

Selective oxidation: stabilisation by multipoint attachment of ferredoxin NADP<sup>+</sup> reductase, an interesting cofactor recycling enzyme 98 (1995) 161

#### Fe-zeolite

Effect of Fe-ZSM-5 zeolite on the photochemical and biochemical degradation of 4-nitrophenol 95 (1995) 61

# FeZSM-5

Stoichiometric reaction of benzene with  $\alpha$ -form of oxygen on FeZSM-5 zeolites. Mechanism of aromatics hydroxylation by N<sub>2</sub>O 84 (1993) 117

# Film electrodes

Electrocatalytic hydrogenation on  $poly[Rh^{II}(L)_2(Cl)_2]^+$ (L=pyrrole-substituted 2,2'-bipyridine or 1,10-phenanthroline) films electrodes 99 (1995) 13

#### finite supercluster model

Finite supercluster model of vanadium oxide catalysts. Part II. Adsorbate-adsorbate interactions 80 (1993) 341

#### **Fischer-Tropsch synthesis**

An approach to the mechanisms of C-C bond formation and cleavage on metal surfaces using model elementary reaction steps of organometallic chemistry 86 (1994) 205

Poisoning of iron catalyst by COS in syngas for Fischer-Tropsch synthesis 94 (1994) 255

#### Fission

Ester fission catalysed by microgels possessing hydroxamic acid groups: structure-reactivity studies 95 (1995) 83

### Flash photolysis

Photoreduction of cytochrome c with zinc protoporphyrin reconstituted myoglobin (ZnPP-Mb) 95 (1995) 193

The effect of chemical modification of zinc myoglobin on the photoinduced electron transfer with methyl viologen 96 (1995) 87

#### flavin-mediated assay

Purification of Fd-glutamate synthase from *Monoraphidium braunii* and characterization of a light-dependent activity assay 89 (1994) 257

#### Fluorescence

Activity decay and conformational change of lipase in presence of organic solvents. A fluorescence study of *Candida rugosa* lipase 97 (1995) 119

# Fluorination

Recent contributions of carbonylation reaction to the synthesis of fluorinated pharmaceutical compounds 93 (1994) 1

### Force field calculations

Synthetic mimics of tyrosinase: catechols from *ortho-, meta-* and *para-substituted* phenols and copper(I) complexes 97 (1995) 187

# Formaldehyde

Homogeneous catalytic synthesis of formaldehyde using the tungsten carbonyl complex  $[(CO)_5WCl]^-$  in the presence of sodium methoxide 93 (1994) 125

Base catalysis on zeolites in the formaldehyde–dimethylamine transformations 98 (1995) 57

### formate

Catalytic reactions of formate: Part 1. Photocatalytic hydrogen production from formate with chromium hexacarbonyl 80 (1993) 151

Catalytic reactions of formate: Part 2. Aldehyde hydrogenation using chromium hexacarbonyl 80 (1993) 165

Cobalt catalysed carbonylation of reactive chlorides into esters by methyl formate without carbon monoxide and methanol added 96 (1995) 15

#### **Formate esters**

Regioselective palladium(II) catalyzed hydroesterification of alkynes and alkynols using formate esters 96 (1995) 197

### formates

Carbonylation of alcohols to alkyl formates promoted by an alkyne/ phosphine system 83 (1993) 83

### formic acid

Influence of light intensity and membrane properties on the photocatalytic degradation of formic acid over  $TiO_2$  ceramic membranes 89 (1994) 165

Use of rhodium on carbon and 1,3-bis(diphenylphosphino)propane to catalyze the regioselective hydroformylation of alkenes with formic acid as the hydrogen source 92 (1994) 35

### formic acid decomposition

Decomposition of formic acid catalyzed by hydrido(phosphonite)cobalt(1) under photoirradiation 80 (1993) 145

# **Formic esters**

Hydrogenolysis of formic esters with homogeneous and heterogeneous rhenium catalysts 95 (1995) 19

#### formylpinenes

Hydroformylation of  $\alpha$ - and  $\beta$ -pinene catalyzed by rhodium and cobalt carbonyls 83 (1993) 51

# Fourier-transform infrared spectroscopy

Adsorption and deuteration of acetone- $d_6$  on Pt/ZnO catalysts: an IR study of the effects of sample pretreatment 81 (1993) 373

### Fourier transform NMR spectroscopy

New possibilities of NMR in mechanistic studies of homogeneous and heterogeneous catalysis 82 (1993) 275

### Fractionation

Linear low density polyethylene: catalyst system effect on polymer microstructure 98 (1995) 123

### fragmentation

Hydroformylation catalysis explored by cylindrical internal reflectance spectroscopy. Spectroscopic evidence for the fragmentation of the benzylidyne cluster  $PhCCo_3(CO)_9$  88 (1994) 133

Cylindrical internal reflectance (CIR) evidence for the facile fragmentation of  $PhCCo_3(CO)_7(cis-Ph_2PCH=CHPPh_2)$  during the hydroformylation of 1-pentene 88 (1994) 159

# framework

Framework and non-framework gallium in pentasil-like zeolite as studied in the reaction of propane 81 (1993) 293

# free radicals

Carbon catalyzed polymethylbenzene dealkylation 85 (1993) 229

#### fructose

Hydrogenation and transfer hydrogenation of *D*-fructose catalyzed by dichlorotris(triphenylphosphine)ruthenium(II) 81 (1993) 185

### FTIR

Structural alterations of highly dispersed  $Rh/TiO_2$  catalyst upon CO adsorption and desorption investigated by infrared spectroscopy 89 (1994) 229

FTIR studies of CO chemisorption and reactivity on  $Rh/SiO_2$  catalysts promoted by niobium oxide 92 (1994) 217

#### FTIR spectroscopy

Spontaneous formation of  $Fe(CO)_5$  from CO and the steel walls of an FTIR cell 83 (1993) 391

Infrared observation of the chemical consequences of cobalt catalyst produced in mixed solutions of  $Al(Et)_3$  and  $Co(acac)_2$  93 (1994) 289

#### Fukui function analysis

Qualitative charge stability and Fukui function analysis of a model system with implications for chemical reactivity 82 (1993) 371

### Functionalized silica gel

Cationic ironporphyrins as catalyst in comparative oxidation of

hydrocarbons: homogeneous and supported on inorganic matrices systems 99 (1995) 187

### **Furan derivatives**

Polyol conversion into furanic derivatives on bimetallic catalysts; nature of the catalytic sites 91 (1994) 119

#### 2,5-furandicarboxylic acid

Oxydation catalytique du HMF en acide 2,5-furane dicarboxylique 85 (1993) 327

# G

### gadolinium cuprate

Role of oxygen vacancies in the decomposition of  $N_2O$  over  $YBa_2Cu_3O_{7-\delta}$  and  $Gd_2CuO_4$  oxide systems 87 (1994) 287

### β-Galactosidase

Lactose hydrolysis in milk by immobilized  $\beta$ -galactosidase 93 (1994) 233

#### $\beta$ -galactosidases

Syntheses of pharmaceutical oligosaccharides catalyzed by immobilized-stabilized derivatives of different  $\beta$ -galactosidases 84 (1993) 373

### gallium

Framework and non-framework gallium in pentasil-like zeolite as studied in the reaction of propane 81 (1993) 293

Thermodynamic and mechanistic studies of initial stages in propane aromatisation over Ga-modified H-ZSM-5 catalysts 86 (1994) 371

### gallium oxidation state

Low temperature reduction of gallium in a  $Ga_2O_3/HZSM$ -5 catalyst 83 (1993) 379

### Gamma rays

Microporous poly-*N*,*N*-dimethylacrylamide-*p*-styrylsulfonatemethylene bis(acrylamide): a promising support for metal catalysis 97 (1995) 145

# gas phase

Theoretical aspects of methane dissociation and hydroxylation on metal oxide diatomics in the gas phase 82 (1993) 425

Molecular orbital study of the gas phase reaction of  $Na_xBi_4$  clusters with HCl (x = 1,2) 92 (1994) 95

Probing Ru-Pd/SiO<sub>2</sub> catalysts by gas phase o-xylene hydrogenation 96 (1995) 155

### GC-MS

Olefin metathesis catalyst. Part II. Activation and characteristics of a 'molecular' tungsten unit on silica 95 (1995) 75

#### Germanium

Surface organometallic chemistry on zeolites: control of the pore opening of mordenite by grafting of thermally stable  $-GeBu_3$  fragments 92 (1994) 239

### **Giant clusters**

Scanning tunneling microscopy observation of giant palladium-561 clusters 95 (1995) 109

#### D-Glucose

Effect of pH in the Pt-catalyzed oxidation of D-glucose to D-gluconic acid 97 (1995) 111

### glucopyranoside

Oxidation of methyl- and octyl- $\alpha$ -D-glucopyranoside, catalyzed by high-valent ruthenium species; RuO<sub>4</sub>, RuO<sub>4</sub><sup>-</sup> and RuO<sub>4</sub><sup>2-</sup>. 89 (1994) 63

#### **D-Gluconic acid**

Effect of pH in the Pt-catalyzed oxidation of D-glucose to D-gluconic acid 97 (1995) 111

### glucose oxidase

Study of the new electron transfer mediators in glucose oxidase catalysis 91 (1994) 407

#### glutamate synthase

Purification of Fd-glutamate synthase from *Monoraphidium braunii* and characterization of a light-dependent activity assay 89 (1994) 257

### gold

Polymer- and micelle-protected gold/platinum bimetallic systems. Preparation, application to catalysis for visible-light-induced hydrogen evolution, and analysis of formation process with optical methods 83 (1993) 167

Preparation and characterization of copper based bimetallic catalysts 91 (1994) 107

Polyol conversion into furanic derivatives on bimetallic catalysts; nature of the catalytic sites 91 (1994) 119

#### Grafting

Surface organometallic chemistry on zeolites: control of the pore opening of mordenite by grafting of thermally stable  $-GeBu_3$  fragments 92 (1994) 239

### graphics

Some zeolites equilibrate all six dimethylanilines by 1,2-methyl shifts 89 (1994) 201

### **Graphite substrate**

Scanning tunneling microscopy observation of giant palladium-561 clusters 95 (1995) 109

#### green algae

Purification of Fd-glutamate synthase from Monoraphidium braunii

and characterization of a light-dependent activity assay 89 (1994) 257

#### **Grignard reaction**

A new and convenient method for the synthesis of 3-alkyl thiophenes 80 (1993) 201

A useful method for the synthesis of neodymocene homogeneous catalysts for ethylene polymerization 82 (1993) 75

# Η

### H<sub>2</sub>S adsorption

Influence of hydrogen sulfide adsorption on the catalytic properties of metal oxides 97 (1995) 49

# haemoglobin

Designing zeolite catalysts for size and shape selective reactions 86 (1994) 343

### hafnium

Models of surface-confined metallocene derivatives 86 (1994) 309

### hafnium/titanium

Characterization of supported bimetallic catalysts for ethylene polymerization: the effect of external Lewis bases 82 (1993) 17

### halide exchange

Reactivity of interstitial  $[NiCl_4]^{2-}$  complex anions in a Mg–Al hydrotalcite-like clay towards alkyl bromides in the liquid phase 81 (1993) 397

### haloalkane oxidation

Oxidation of halogenated propanes with Methylosinus trichosporium (OB3b) 83 (1993) 5

### halogenated Schiff base complexes

Brominated and chlorinated manganese chiral Schiff base complexes as epoxidation catalysts 85 (1993) 13

### halogenation

Electrophilic halogenation of aromatics and heteroaromatics with *N*halosuccinimides in a solid/liquid system using an H<sup>+</sup> ion exchanger or ultrasonic irradiation 88 (1994) 377

### halogen chemisorption

Dipped adcluster model and SAC-CI method applied to harpooning, chemiluminescence and electron emission in halogen chemisorption on alkali metal surface 82 (1993) 211

### Hansch's $\pi$ parameter

Importance of Hansch's  $\pi$  parameter in the catalytic action of microgel-immobilised subtilisin dissolved in tetrahydrofuran solvent 80 (1993) 137

#### harpooning

Dipped adcluster model and SAC-CI method applied to harpooning, chemiluminescence and electron emission in halogen chemisorption on alkali metal surface 82 (1993) 211

### Hartree-Fock

Embedded-cluster techniques for the quantum-mechanical study of surface reactivity 82 (1993) 229

### Hartree-Fock calculations

Theoretical study of the reactivity of  $(PPh_3)_2Pt(\eta^2-O_2)$  with acids 82 (1993) 131

### HAS

Mechanistic aspects of the higher alcohol synthesis over unpromoted ZnCrO: 1-propanol flow microreactor study 94 (1994) 335

#### 2-(3H)benzofuranone derivatives

Pallada- and platinacycles. Part IV. The palladium- and platinumcatalyzed selective cyclisation of dipropargyl acetylenedicarboxylate – the reaction of an  $\alpha$ -alkynyl metallacyclopentadiene 81 (1993) 313

#### **Heck arylation**

Heterogeneous catalysis in organic chemistry. Part 10<sup>1</sup>. Effect of the catalyst support on the regiochemistry of the heck arylation reaction 95 (1995) 277

### **Heck reaction**

Palladium catalyzed vinylation of 4-bromo-4'-hydroxybiphenyl 88 (1994) 113

Palladium-catalyzed, arylation of ethylene (the Heck reaction) under aqueous conditions 97 (1995) 73

### Hectorite

Hectorite-supported ruthenium: a hydrogenation catalyst with molecular-sieve properties 92 (1994) 123

### helicity

Enantioselective and photocatalytic oxidation of 1,1'-bi-2-naphthol with a chiral ruthenium complex which includes molecular helicity 88 (1994) 1

Stereoselective molecular recognition of enantiomeric cobalt(III) complexes by novel photosensitizers of helical ruthenium(II) complexes 89 (1994) 5

#### heteroaromatics

Electrophilic halogenation of aromatics and heteroaromatics with *N*halosuccinimides in a solid/liquid system using an H<sup>+</sup> ion exchanger or ultrasonic irradiation 88 (1994) 377

#### heteroatom rings

On the hydrogenolysis of five membered heteroatom rings over  $MoS_2 = 89 (1994) 345$ 

#### Heterocycle

Synthesis of a trans-benzo-[f]-heterodecalin by catalytic hydrogen-

ation. The important parameters for high stereo- and chemoselectivity 95 (1995) 155

### heterocycles

Synthesis of heterocycles via palladium-catalyzed carbonylation of ortho-substituted organic nitro compounds in relatively mild conditions 87 (1994) 203

### heterocyclic nitrogen bases

Hydroformylation of olefins catalysed by supported  $Ru_3(CO)_{12}$  with 2,2'-bipyridine or with other heterocyclic nitrogen base 84 (1993) 145

#### heterodifunctional chelating ligands

Homogeneous hydrogenation of olefins catalyzed by rhodium(I) complexes of new heterodifunctional phosphorus–nitrogen chelating ligands 91 (1994) 175

#### heterogeneous catalysis

New possibilities of NMR in mechanistic studies of homogeneous and heterogeneous catalysis 82 (1993) 275

Comparing homogeneous and heterogeneous acid catalysts by a density-functional based sensitivity analysis of their interaction with carbenium ions 83 (1993) 135

Simulation of heterogeneous catalytic surfaces 85 (1993) 57

Recent developments in the surface and catalytic chemistry of supported organoactinides 86 (1994) 23

Removal of low concentration nitrogen oxides through photoassisted heterogeneous catalysis 88 (1994) 93

#### heterogeneous decomposition

Kinetics of heterogeneous decomposition of hydrogen peroxide with some transition metal complexes supported on silica-alumina in aqueous medium 84 (1993) 67

### **Heterogeneous** oxidation

Effect of pH in the Pt-catalyzed oxidation of D-glucose to D-gluconic acid 97 (1995) 111

# heterogeneous Ziegler-Natta catalyst

Electrophilicity of titanium atoms supported on magnesium chloride 82 (1993) 3

### heteropolyacids

Catalytic oxidation of hydrazodicarboxamide to azodicarboxamide by oxygen 80 (1993) L13

Spectroscopic and structural properties of some molybdenum and tungsten polyoxoperoxo complexes. A comparison with mononuclear complexes 89 (1994) 295

 $^{1}H,~^{31}P$  NMR MAS, infrared and catalytic studies of heteropolyacid  $H_{3}PW_{12}O_{40}$  supported on  $MgF_{2}-95$  (1995) 135

### heteropolyanion

Oxidation of alkylaromatic compounds with hydrogen peroxide cat-

alyzed by mixed addenda Keggin heteropolyanions 84 (1993) 93

Synthesis of  $[PW_9O_{37}{Fe_{3-x}Ni_x(OAc)_3}]^{(9+x)-}$ (x = predominantly 1) and oxidation catalysis by the catalyst precursor 88 (1994) 125

#### heteropolyanions

Heteropolyanions in catalysis 86 (1994) 319

### heteropoly oxometalates

Characterization of the compounds formed from the interaction of divalent cations with inorganic molecular metal-oxygen cluster compounds 80 (1993) 59

Comparison of the surface properties of the metal-oxygen cluster compounds, 12-tungstophosphoric acid and ammonium 12-tungstophosphate from the sorption of benzene, nitrogen and pyridine 80 (1993) 75

### hexamethylenetetramine complexes

The catalytic effect of some transition metal hexamethylenetetramine complexes in hydrogen peroxide decomposition 87 (1994) 25

### Hexane

Catalysis of  $Sm^{3+}$  for the oxidation of alkanes with  $O_2$  in the liquid phase 95 (1995) 115

### hexanes

Catalytic behaviour for skeletal rearrangement of hydrocarbons and surface structures of silica and alumina supported Pt-Mo catalysts 85 (1993) 75

### hexenal

Regioselective hydrogenation of 3-phenylpropenal and of *trans*-2hexenal to saturated aldehydes catalysed by ultrafine rhodium particles dispersed on acrylic resins 80 (1993) L5

### hexene

Effect of carboxylic acids on the yield and selectivity of the hydroformylation of hex-1-ene catalyzed by [Rh(acac)(CO)(PPh<sub>3</sub>)] 80 (1993) 189

Investigation of the catalytic activity of poly(siloxane)-supported tetra(4-pyridyl)porphyrinatomanganese(III) in olefin oxidation reactions 81 (1993) 157

 $Ru_3(CO)_{12}/2,2'$ -bipyridine supported on inorganic carriers as 1hexene hydroformylation catalysts 91 (1994) 335

Spectator cations and catalysis with sulfonated phosphines. The role of cations in determining reaction selectivity in the aqueous phase hydroformylation of olefins 99 (1995) 131

### 1-Hexene

Active sites concentration in ethylene homo- and co-polymerization with 1-hexene using the highly active  $TiCl_4/MgH_2$ -AlEt<sub>3</sub> catalyst system 98 (1995) 135

Hydrogenation of 1-hexene by a triruthenium cluster stabilized with a face-capping 1,3-dithiacyclohexane ligand 99 (1995) 29

### hexenes

Isomerization and oxidation of linear hexenes with methanolic Pd(II) 88 (1994) 301

### Hexynes

Supported platinum atoms derived catalysts in the hydrosilylation of unsaturated substrates 91 (1994) 83

### **High dispersion**

Liquid-phase oxidation of alcohols by dioxygen using oxide-supported platinum catalysts 91 (1994) 139

### highly dispersed matter

Extension of the range of applications of classic-phenomenological laws to the field of matter in a highly dispersed state 82 (1993) 361

### Highly oriented pyrolytic graphite (HOPG)

Scanning tunneling microscopy observation of giant palladium-561 clusters 95 (1995) 109

### **High pressure**

NMR at elevated gas pressures and its application to homogeneous catalysis 92 (1994) 285

### **High-resolution NMR**

 $^{1}$ H,  $^{31}$ P NMR MAS, infrared and catalytic studies of heteropolyacid H<sub>3</sub>PW<sub>12</sub>O<sub>40</sub> supported on MgF<sub>2</sub> 95 (1995) 135

### high-resolution solid-state NMR spectroscopy

Surface complexes formed in V<sub>2</sub>O<sub>5</sub>-TiO<sub>2</sub>-SiO<sub>2</sub> catalysts according to <sup>51</sup>V and <sup>1</sup>H high-resolution solid-state NMR data 87 (1994) 57

### high T<sub>c</sub> oxide

Role of oxygen vacancies in the decomposition of  $N_2O$  over  $YBa_2Cu_3O_{7-\delta}$  and  $Gd_2CuO_4$  oxide systems 87 (1994) 287

#### High temperature treatment

High temperature treated Pt/Sn-ZnAl<sub>2</sub>O<sub>4</sub> catalysts 93 (1994) 67

### high-valent species

Oxidation of methyl- and octyl- $\alpha$ -D-glucopyranoside, catalyzed by high-valent ruthenium species; RuO<sub>4</sub>, RuO<sub>4</sub><sup>-</sup> and RuO<sub>4</sub><sup>2-</sup>. 89 (1994) 63

### H<sup>+</sup> ion exchange

Electrophilic halogenation of aromatics and heteroaromatics with *N*halosuccinimides in a solid/liquid system using an H<sup>+</sup> ion exchanger or ultrasonic irradiation 88 (1994) 377

### <sup>1</sup>H NMR

Characterization with <sup>95</sup>Mo, <sup>17</sup>O, <sup>1</sup>H NMR and EPR of alkylperoxo, alkoxo, peroxo and diolo molybdenum(VI) complexes formed in the course of catalytic epoxidation of cyclohexene with organic hydroperoxides 83 (1993) 329

 $^{1}$ H,  $^{31}$ P NMR MAS, infrared and catalytic studies of heteropolyacid H<sub>3</sub>PW<sub>12</sub>O<sub>40</sub> supported on MgF<sub>2</sub> 95 (1995) 135

### <sup>1</sup>H NMR spectroscopy

<sup>17</sup>O, <sup>95</sup>Mo and <sup>1</sup>H NMR study of the mechanism of epoxidation of

alkenes with hydrogen peroxide in the presence of molybdenum complexes 83 (1993) 347

### Homogeneous

Hydrogenation of 1-hexene by a triruthenium cluster stabilized with a face-capping 1,3-dithiacyclohexane ligand 99 (1995) 29

#### homogeneous catalysis

Ruthenium complex-catalyzed selective deoxygenation of amidoximes to amidines and its application to the facile synthesis of pyrimidines 80 (1993) 383

Palladium-catalyzed carbon–carbon bond formation from  $(\eta^{\circ}$ -chloroarene)Cr(CO)<sub>3</sub> complexes: an example of bimetallic activation in homogeneous catalysis 81 (1993) 1

New possibilities of NMR in mechanistic studies of homogeneous and heterogeneous catalysis 82 (1993) 275

Oxidation of methyl- and octyl- $\alpha$ -D-glucopyranoside, catalyzed by high-valent ruthenium species; RuO<sub>4</sub>, RuO<sub>4</sub><sup>-</sup> and RuO<sub>4</sub><sup>2-</sup>. 89 (1994) 63

Electrocatalytic activity of  $[(bpy)_2(H_2O)Ru^{III}ORu^{III}(H_2O)(bpy)_2]^{4+}$  towards sugar oxidation 89 (1994) 101

Synthesis of aminoarenes in homogeneously catalyzed nitroarene – methyl formate reactions 91 (1994) 149

Early transition metal catalyzed-hydroboration of alkenes 95 (1995) 121

Homogeneous catalysis by osmium complexes. A review 96 (1995) 231

#### homogeneous catalyst

Behaviour of  $[Ti_2(OEt)_8Cl]_2Mg_2(\mu-Cl)_2$  as catalyst component in the Ziegler-Natta polymerization of  $\alpha$ -olefins and diolefins 82 (1993) 45

### homogeneous catalysts

Carbonylation of methyl acetate to acetic anhydride using homogeneous nickel complex catalyst 80 (1993) 21

Cross-metathesis of some functionalized olefins with cyclo- and bicycloolefins catalyzed by  $WCl_6$ -silicon-containing co-catalyst systems 90 (1994) 21

#### homogeneous catalysis

Comparing homogeneous and heterogeneous acid catalysts by a density-functional based sensitivity analysis of their interaction with carbenium ions 83 (1993) 135

### homologation

Novel catalytic procedure for selective homologation of primary alcohols 80 (1993) L1

### **Homolytic scission**

Chromium-catalyzed homolytic scission of organic peroxides with

*t*-butyl hydroperoxide and its relation to benzylic oxidation 92 (1994) 141

### Homopolyethylene

Active sites concentration in ethylene homo- and co-polymerization with 1-hexene using the highly active  $TiCl_4/MgH_2-AlEt_3$  catalyst system 98 (1995) 135

#### homopolymerization

Homopolymerization and copolymerization of butadiene with a neodymium catalyst 82 (1993) 83

#### horseradish peroxidase

Factors affecting cytochrome P-450 and horseradish peroxidase-catalyzed oxidative *N*-dealkylation of aromatic tertiary amines. A multivariate approach 85 (1993) 97

Formation of compound I of horseradish peroxidase in AOT reverse micelles as studied by pulse radiolysis and stopped-flow methods 98 (1995) 1

#### **HRTEM** images

Origin of agglomerates observed in high resolution transmission electron microscopy (HRTEM) micrographs of a catalyst containing platinum(II) complexes anchored on phosphinated SiO<sub>2</sub>: computer simulation of HRTEM images 87 (1994) 231

#### Human phosphatase

Human placental alkaline phosphatase covalently immobilized on a cross-flow microfiltration polyvinylidene difluoride membrane. Part I. Physicochemical effectors 93 (1994) 85

Human placental alkaline phosphatase covalently immobilised on a cross-flow microfiltration polyvinylidene difluoride membrane Part II. Activity vs. [substrate] kinetic behaviour 93 (1994) 105

### Hydrated oxide

The effects of differing degrees of thermal activation of  $RuO_2 \cdot xH_2O$ on its corrodability and oxygen catalytic activity 94 (1994) 71

### hydrazodicarboxamide

Catalytic oxidation of hydrazodicarboxamide to azodicarboxamide by oxygen 80 (1993) L13

#### hydride phase

Role of hydride phases in the catalytic activity of  $Zr_2Ni$  for the dehydrogenation of methanol 91 (1994) 223

#### hydrido cobalt(I)

Deco	mposition	of	formic	acid	catalyzed	by
hydrido(phosphonite)cobalt(I)			under	photoir	radia-	
tion	80 (1993)	145				

# hydrido(phosphonite)cobalt(I)

Decomposition of formic acid catalyzed by hydrido(phosphonite)cobalt(I) under photoirradiation 80 (1993) 145

### Hydroboration

Early transition metal catalyzed-hydroboration of alkenes 95 (1995) 121

#### Hydrocarboalkoxylation

The regioselective hydrocarboalkoxylation of 4-methylstyrene catalyzed by palladium complexes 95 (1995) 11

### hydrocarbon oxidation

Hydrogen adsorption and OH desorption at vanadium pentoxide surfaces: *ab initio* cluster model studies 81 (1993) 279

#### hydrocarbons

Effects of water and onium ion phase-transfer catalyst on the rate of liquid-phase oxidation of hydrocarbons 80 (1993) 353

Formation and reactivity toward hydrocarbons of oxomanganese porphyrins in the presence of anionic bases 97 (1995) 79

### hydrocarbon transformations

Catalytic properties of 0.3%  $Pt/Al_2O_3$  (EUROPT-3) and of 0.3% Pt-0.3% Re/Al<sub>2</sub>O<sub>3</sub> (EUROPT-4) 81 (1993) 99

### Hydrocarbonylation

The role of promoter metals in the hydrocarbonylation of methanol over active carbon supported cobalt catalysts 95 (1995) 259

### hydrochloric acid

Synthesis of  $\gamma$ -keto-arboxylic acids via reduction of  $\gamma$ -keto- $\alpha$ -hydroxycarboxylic acids with carbon monoxide catalyzed by a Pd-HCl system 89 (1994) 93

# Hydrodehalogenation

Selectivity in hydrodehalogenation of polychloro- and polybromobenzenes under multiphase conditions 96 (1995) 301

### hydrodenitrogenation

Pyridine adsorption on a  $MoS_2$  modelled surface ( $Mo_3S_8$ ). A CNDO molecular orbital study 85 (1993) 345

### Hydrodesulfurization

Kinetic study of the hydrogen sulfide effect in the conversion of thiophene on supported Co–Mo catalysts 94 (1994) 369

### hydrodesulphurization

A molecular orbital picture of thiophene hydrodesulfurization. Part 2. Thiophene adsorption 83 (1993) 219

Breaking C–S bonds with transition metal complexes. A review of molecular approaches to the study of the mechanisms of the hydrodesulfurization reaction 86 (1994) 287

The importance of sulphur-sulphur bonding in the hydrodesulphurization process of thiophene, using transition metal sulphide catalysts 91 (1994) 207

Studies of the mechanism of thiophene hydrodesulfurization: <sup>2</sup>H NMR and mass spectral analysis of 1,3-butadiene produced in the deuterodesulfurization (DDS) of thiophene over PbMo<sub>6</sub>S<sub>8</sub> catalyst 96 (1995) 283

### hydroesterification

Palladium-catalyzed hydroesterification of alkynes in the presence

of p-toluenesulfonic acid under a normal pressure of carbon monoxide 89 (1994) 151

Regioselective palladium(II) catalyzed hydroesterification of alkynes and alkynols using formate esters 96 (1995) 197

#### hydrofluoric acid

Intermolecular methyl group transfers in the xylene and xylenebenzene systems by means of anhydrous HF 88 (1994) 205

### hydroformylation

Vapour phase propene hydroformylation catalyzed by the Rh/Al system on silica 80 (1993) 105

Effect of carboxylic acids on the yield and selectivity of the hydroformylation of hex-1-ene catalyzed by [Rh(acac)(CO)(PPh<sub>3</sub>)] 80 (1993) 189

Gas phase hydroformylation of propene catalyzed by a polymer bound rhodium(1) complex 80 (1993) 365

Hydroformylation of ethyl acrylate catalyzed by  $Rh(acac)(CO)_{2}$ -phosphorus ligand systems 81 (1993) 255

Poly(trimethylolpropane)trimethacrylate-bound Rh-phosphine complexes as catalysts in continuous gas-phase hydroformylation of propene 81 (1993) 333

The beneficial effects of introducing sulphur substituents into hydroformylation substrates 83 (1993) 11

Fine tuning of bulky-phosphite modified rhodium catalysts by binding them to copolymers 83 (1993) 17

Stable silica-grafted polymer-bound bulky-phosphite modified rhodium hydroformylation catalysts 83 (1993) 37

Hydroformylation of  $\alpha$ - and  $\beta$ -pinene catalyzed by rhodium and cobalt carbonyls 83 (1993) 51

Hydroformylation of olefins catalysed by supported  $Ru_3(CO)_{12}$  with 2,2'-bipyridine or with other heterocyclic nitrogen base 84 (1993) 145

Effect of water on tributylphosphine modified cobalt carbonyl catalysts for the hydroformylation of olefins 85 (1993) 121

Influence of (P—N) bidentate ligand on rhodium-catalyzed hydroformylation of olefins 85 (1993) 275

Aqueous phase rhodium hydroformylation of octene-1 with trisulfonated tris( $\omega$ -phenyl)alkylphosphines and trisulfonated triphenyl phosphine. Reaction selectivity as an indication of rhodium-phosphine complex chemistry 88 (1994) 43

Hydroformylation catalysis explored by cylindrical internal reflectance spectroscopy. Spectroscopic evidence for the fragmentation of the benzylidyne cluster  $PhCCo_3(CO)_9$  88 (1994) 133 Cylindrical internal reflectance (CIR) evidence for the facile fragmentation of  $PhCCo_3(CO)_7(cis-Ph_2PCH=CHPPh_2)$  during the hydroformylation of 1-pentene 88 (1994) 159

Hydroformylation of olefins catalyzed by (1,5-cyclooctadiene) salicylaldoximatorhodium under atmospheric pressure 88 (1994) 277

Reactivity of ruthenium carbonyl carboxylates under hydroformylation conditions 89 (1994) 77

Studies on a new catalyst for the hydroformylation of alkenes using  $C_{60}$  as a ligand 89 (1994) 113

Immobilization of alkoxylated phosphine ligands and their Rh complexes to a silica surface coated with an organic mono- or multilayer 90 (1994) 303

Selectivity in hydroformylation of 1-decene by homogeneous catalysis 91 (1994) 1

Hydroformylation of allyl alcohol catalysed by  $(Rh(PPh_3)_3)^+/$ montmorillonite: a kinetic study 91 (1994) 187

 $Ru_3(CO)_{12}/2,2'$ -bipyridine supported on inorganic carriers as 1hexene hydroformylation catalysts 91 (1994) 335

Use of rhodium on carbon and 1,3-bis(diphenylphosphino)propane to catalyze the regioselective hydroformylation of alkenes with formic acid as the hydrogen source 92 (1994) 35

Hydroformylation of 1-aryl-1-(2-pyridyl)ethenes catalyzed by rhodium complexes 93 (1994) 279

New hydroformylation rhodium catalysts with dithiolate chiral ligands 94 (1994) 149

Hydroformylation of acrolein acetal 96 (1995) 25

Chemistry of dicobalt octacarbonyl on zinc oxide. Homonuclear ionpairing surface species related to catalytic activity in ethylene hydroformylation 96 (1995) 49

Water-soluble metal complexes and catalysts. Part 7<sup>1</sup>. New efficient water-soluble catalysts for two-phase olefin hydroformylation: BINAS-Na, a superlative in propene hydroformylation 97 (1995) 65

Rhodium catalysed hydroformylation of higher alkenes using amphiphilic ligands 98 (1995) 69

Spectator cations and catalysis with sulfonated phosphines. The role of cations in determining reaction selectivity in the aqueous phase hydroformylation of olefins 99 (1995) 131

### hydrogen

Catalytic reactions of formate: Part 1. Photocatalytic hydrogen production from formate with chromium hexacarbonyl 80 (1993) 151 Effects of hydrogen on the polymerization of propylene with a magnesium chloride supported Ziegler-Natta catalyst 82 (1993) 37

Kinetics of the bimolecular reaction NO +  $H_2$  on Pt 84 (1993) 267

Transformation of cyclohexanone on PtHZSM5 catalysts - reaction scheme 92 (1994) 67

Highly selective palladium catalyzed hydrogen transfer from H<sub>2</sub>O– CO to the C=C double bond of  $\beta$ -benzoylacrylic acid 94 (1994) 173

Gas phase hydrogenation of acetonitrile on Raney nickel catalysts: reactive hydrogen 95 (1995) 165

Reduction of ketones by dihydrogen or hydrogen transfer catalysed by a ruthenium complex of the hydridotris(3,5-dimethyl)pyrazolyl borate ligand 98 (1995) 5

Catalytic methanol decomposition to carbon monoxide and hydrogen over Ni/SiO<sub>2</sub> of high nickel content 99 (1995) 183

### hydrogen adsorption

Hydrogen adsorption and OH desorption at vanadium pentoxide surfaces: *ab initio* cluster model studies 81 (1993) 279

#### Hydrogenase

Purification and properties of intact hydrogenase from *Desulfovibrio* vulgaris (Miyazaki) 95 (1995) 93

Effect of Hg(II) on hydrogenase activity from *Desulfovibrio vul*garis (Miyazaki) 96 (1995) 329

#### hydrogenation

Regioselective hydrogenation of 3-phenylpropenal and of *trans*-2hexenal to saturated aldehydes catalysed by ultrafine rhodium particles dispersed on acrylic resins 80 (1993) L5

Catalytic reactions of formate: Part 2. Aldehyde hydrogenation using chromium hexacarbonyl 80 (1993) 165

Correlation between the single turnover (STO) site densities and the rates of 4-*tert*-butyl-1-methylcyclohexene hydrogenation over silica supported palladium catalysts 80 (1993) 277

 $Pt/SiO_2$  catalysts: a comparison of the impregnation and the sol-gel methods 80 (1993) 299

Catalytic activity of Pd(AcO)<sub>2</sub> coordinated to cross-linked polymeric isocyanides 81 (1993) 167

Hydrogenation and transfer hydrogenation of *D*-fructose catalyzed by dichloro-

tris(triphenylphosphine)ruthenium(II) 81 (1993) 185

Ziegler systems as hydrogenation catalysts. Part 1.  $CoBr_2/Li[AlH(O-t-butyl)_3]_3$  system as a catalyst for the hydrogenation of anthracene 81 (1993) 195

Hydrogenation of olefins on a  $MOS_2/\gamma - Al_2O_3$  catalyst. Role of P, F and alkaline cation additives 81 (1993) 301

Structural characteristics and catalytic performance of nickel catalysts for selective hydrogenation of 1,6-hexanedinitrile 81 (1993) 363

Hydroformylation of  $\alpha$ - and  $\beta$ -pinene catalyzed by rhodium and cobalt carbonyls 83 (1993) 51

Catalysis of alkene hydrogenation and oxidation by nickel-saloph complex; a novel bifunctional catalyst 84 (1993) 1

Ziegler systems as hydrogenation catalysts. Part 2<sup>1</sup>. Dependence of the hydrogenation activity of  $CoBr_2/Li[AIH_n(O-R)_{4-n}]$  systems from the concentration of the reducing agent 84 (1993) 33

Catalytic hydrogenation reactions by  $[cis-[Ru(6,6'-Cl_2bpy)_2(OH_2)_2]$  (CF<sub>3</sub>SO<sub>3</sub>)<sub>2</sub> in biphasic [media (6,6'-Cl\_2bpy=6,6'-dichloro-2,2'-bipyridine) 84 (1993) 39

The effect of phosphonium salt formation on the kinetics of homogeneous hydrogenations in water utilizing a rhodium *meta*-sulfonatophenyl-diphenylphosphine complex 84 (1993) 157

Highly active alkali metal hydrides; their catalytic syntheses and properties 84 (1993) 211

Liquid phase hydrogenation of cinnamaldehyde over supported ruthenium catalysts: influence of particle size, bimetallics and nature of support 85 (1993) 215

Metal-support interaction effects in the liquid-phase selective hydrogenation of 1,4-butynediol with nickel catalysts supported on AIPO<sub>4</sub> and on other conventional non-reducible compounds 85 (1993) 305

Recent developments in the surface and catalytic chemistry of supported organoactinides 86 (1994) 23

Catalytic hydrogenation of polyaromatics in the presence of  $\mu_3$ -oxotrirhodium acetate and its silica supported analogue 87 (1994) 75

Heterogeneous catalysis in organic synthesis. Part 9. Specific site solvent effects in catalytic hydrogenations 87 (1994) 95

Hydrogenation of propyne to propene over platinum/silica 87 (1994) 275

Mode of enantioface-differentiation in the hydrogenation of 2-alkanone over an asymmetrically modified nickel catalyst 87 (1994) 333

Homogeneous and alumina supported rhodium complex catalyzed hydrogenation 88 (1994) 13

Hydrogenation of conjugated dienes catalysed by  $\eta^6$ -arenetricarbonylchromium complexes 88 (1994) 31 Dihydrogen reduction of organic substrates using orthometallated ruthenium(II) complex catalysts 88 (1994) 57

Catalytic hydrogenation activities of characteristic copper-lanthanide complex oxide of  $Cu_6O_8Ln(NO_3)$  88 (1994) 103

Effect of the method of preparing  $Ru-Mo/SiO_2$  catalysts in their behaviour in CO hydrogenation 88 (1994) 213

Homogeneous Ru–Co bimetallic catalysis in CO<sub>2</sub> hydrogenation: the formation of ethanol 89 (1994) 51

Hydrogenation of acetylene on palladium 89 (1994) 211

Styrene hydrogenation on supported Pd, Fe and Pd-Fe/ $\gamma$ -Al<sub>2</sub>O<sub>3</sub> catalysts 89 (1994) 267

Mo-promoted Fe/activated carbon catalysts for carbon monoxide hydrogenation 90 (1994) 291

Homogeneous hydrogenation of olefins catalyzed by rhodium(I) complexes of new heterodifunctional phosphorus-nitrogen chelating ligands 91 (1994) 175

Mechanism of but-1-yne hydrogenation on platinum catalysts: deuterium tracer study. 91 (1994) 259

Catalytic hydrogenation of aromatic ketones in the presence of cyclodextrins 91 (1994) 313

Role of readsorption during CO hydrogenation over cobalt model catalysts 91 (1994) 387

Hectorite-supported ruthenium: a hydrogenation catalyst with molecular-sieve properties 92 (1994) 123

Room-temperature hydrogen transfer from liquid methanol or 2propanol to diphenylacetylene over Group VIII metal/TiO<sub>2</sub> photocatalysts 92 (1994) 187

FTIR studies of CO chemisorption and reactivity on  $Rh/SiO_2$  catalysts promoted by niobium oxide 92 (1994) 217

First report on highly efficient alkene hydrogenation catalysed by Ni(salen) complex encapsulated in zeolite 92 (1994) 235

Homogeneous catalytic hydrogenation of olefins by use of  $RhH_2(Ph_2N_3)(PPh_3)_2$  in dimethyl sulfoxide 92 (1994) 257

NMR at elevated gas pressures and its application to homogeneous catalysis 92 (1994) 285

Enantioface-differentiating hydrogenation of the C=O double bond using a modified Raney nickel: role of the carboxylic acid added to the reaction system 93 (1994) 211

Hydrogenation of the aromatic rings of 2-ethylanthraquinone on palladium catalyst 94 (1994) 37

Propene hydrogenation on low-temperature reduced  $Pt/TiO_2$ . Effects of TiO<sub>2</sub> phases and H<sub>2</sub> treatment on specific catalytic activity 94 (1994) 299

Ammonia and sulfur poisoning effects on hydrogenation of phenylacetylene over Pd supported catalysts 94 (1994) 409

Hydrogenolysis of formic esters with homogeneous and heterogeneous rhenium catalysts 95 (1995) 19

Synthesis and catalytic activity of silica supported iron(III) 95 (1995) 27

Gas phase hydrogenation of acetonitrile on Raney nickel catalysts: reactive hydrogen 95 (1995) 165

Hydrogenation of carbon oxides by Ru/activated carbon catalysts obtained from  $Ru_3(CO)_{12}$ : effect of pretreatment on their dispersion, composition and activity 95 (1995) 223

Mechanism of 2,4-dinitrotoluene hydrogenation over Pd/ C 95 (1995) 235

Probing Ru-Pd/SiO<sub>2</sub> catalysts by gas phase *o*-xylene hydrogenation 96 (1995) 155

Homogeneous catalysis by osmium complexes. A review 96 (1995) 231

Microporous poly-N,N-dimethylacrylamide-p-styrylsulfonatemethylene bis(acrylamide): a promising support for metal catalysis 97 (1995) 145

Colloidal rhodium catalyzed photo transfer hydrogenation of 1,5cyclooctadiene 98 (1995) 157

Electrocatalytic hydrogenation on  $poly[Rh^{III}(L)_2(Cl)_2]^+$ (L=pyrrole-substituted 2,2'-bipyridine or 1,10-phenanthroline) films electrodes 99 (1995) 13

Hydrogenation of 1-hexene by a triruthenium cluster stabilized with a face-capping 1,3-dithiacyclohexane ligand 99 (1995) 29

Kinetic and mechanistic investigation of the sequential hydrogenation of phenylacetylene catalyzed by rhodium(I) phosphine complexes of the type  $[Rh(\eta^2-O_2Z)(PR_3)_2]$  99 (1995) 55

Transformation of carbon compounds on graphimet catalysts. Part V. The effect of pretreatment on the structure and activity of Pt-graphimet catalyst 99 (1995) 115

### hydrogen chloride

Molecular orbital study of the gas phase reaction of  $Na_xBi_4$  clusters with HCl (x = 1,2) 92 (1994) 95

### hydrogen evolution

Photophysics and photosensitization behavior of microcrystalline  $[Pt(bpy)_2]_2[Pt_2(pop)_4] \cdot nH_2O = 80 (1993) 327$ 

Polymer- and micelle-protected gold/platinum bimetallic systems. Preparation, application to catalysis for visible-light-induced hydrogen evolution, and analysis of formation process with optical methods 83 (1993) 167

### hydrogenolysis

Bimetallic Ru–Cu/SiO<sub>2</sub> catalysts: effect of total surface area on the catalytic properties 83 (1993) 237

Studies on ruthenium catalysts. Part 4: Hydrogenolysis of *n*-butane on  $Ru/Al_2O_3$  catalysts-dependence of reaction kinetics on particle size and on pretreatment 89 (1994) 221

On the hydrogenolysis of five membered heteroatom rings over  $MoS_2 \ 89 \ (1994) \ 345$ 

Catalytic and structural properties of ruthenium bimetallic catalysts: kinetics of 2,2,3,3-tetramethylbutane hydrogenolysis 96 (1995) 35

Catalytic and structural properties of ruthenium bimetallic catalysts: kinetics of hydrogenolysis of lower alkanes on variously pretreated Ru/Al<sub>2</sub>O<sub>3</sub> catalysts 98 (1995) 81

### hydrogen peroxide

Role of aliphatic diamine ligands in hydrogen peroxide decomposition with Dowex-50W resin as transition metal complex ions 80 (1993) 11

<sup>17</sup>O, <sup>95</sup>Mo and <sup>1</sup>H NMR study of the mechanism of epoxidation of alkenes with hydrogen peroxide in the presence of molybdenum complexes 83 (1993) 347

Kinetics of heterogeneous decomposition of hydrogen peroxide with some transition metal complexes supported on silica-alumina in aqueous medium 84 (1993) 67

Oxidation of alkylaromatic compounds with hydrogen peroxide catalyzed by mixed addenda Keggin heteropolyanions 84 (1993) 93

Study of cobalt complexes as catalysts in the decomposition of hydrogen peroxide 92 (1994) 9

Catalytic oxidation of erythrosine by cobalt phthalocyanines 93 (1994) 253

Oxidation of methoxybenzenes to *p*-benzoquinones catalyzed by methyltrioxorhenium(VII) 97 (1995) 15

### hydrogen peroxide decomposition

The catalytic effect of some transition metal hexamethylenetetramine complexes in hydrogen peroxide decomposition 87 (1994) 25

### Hydrogen pressure

Synthesis of a *trans*-benzo-[f]-heterodecalin by catalytic hydrogenation. The important parameters for high stereo- and chemoselectivity 95 (1995) 155

### hydrogen transfer

Kinetic and spectroscopic study of the hydrogen-transfer reaction

from 2-propanol to cyclohexanone catalyzed by  $[IrH_2(pz)(Hpz)(PPh_3)_2]$  (Hpz=pyrazole) 87 (1994) 151

253

Iridium(1) and phase-transfer catalyzed hydrogen-transfer reduction of ketones using potassium fluoride on alumina as a base 92 (1994) 149

#### Hydroisomerization

Hydroisomerization probe of the catalytic and structural behavior of iron-rhodium particles supported on refractory oxide supports 94 (1994) 97

### hydrolysis

Phthalic acid esters hydrolysis under inverse phase-transfer catalysis conditions 85 (1993) 265

Homogeneous and heterogeneous esterolytic catalyses of imidazolecontaining polymers prepared by molecular imprinting of a transition state analogue 87 (1994) 21

Determination of the rates of formation and hydrolysis of the Schiff bases formed by pyridoxal and poly-*L*-lysine 87 (1994) 361

Esterase activity of catalytic IgG and IgM antibodies for the hydrolysis of *p*-nitrophenyl acetate 90 (1994) 355

Bifunctional acid-base catalysis by imidazole groups in enzyme mimics 91 (1994) 161

Bile-salt-stimulated human milk lipase catalysed hydrolysis of 1,2,3-tri[(cis)-9-octadecenoyl]glycerol: solvent isotopeeffect91 (1994) 303

Homogeneous esterolytic catalysis of a polymer prepared by molecular imprinting of a transition state analogue 93 (1994) 189

Cu<sup>II</sup>-diamine complex catalyzed hydrolysis of phosphate triesters adsorbed on strong-base ion exchange resins. <sup>31</sup>P NMR relaxation measurements 93 (1994) 221

Hydrolysis of sucrose by dealuminated Y-zeolites 94 (1994) 283

Effect of temperature on hydrolysis of triolein by lipase 94 (1994) 291

Hydrolysis of (R,S)2-aryl propionic esters by pure lipase B from Candida cylindracea 96 (1995) 317

A systematic analysis of the variables that control a highly stereoselective resolution of racemic non-steroidal antiinflammatory drugs using immobilized lipase from *Candida cylindracea* 98 (1995) 171

<sup>31</sup>P MAS NMR study of the hydrolysis of *O*,S-diethyl phenylphosphonothioate on reactive sorbents 99 (1995) 175

#### Hydrolysis of triolein

Lamb pregastric lipase catalysed hydrolysis of 1,2,3-tri[(cis)-9-

octadecenoyl]glycerol: temperature, pH and solvent isotope effects 96 (1995) 77

### hydroperoxides

Theoretical study of the reactivity of  $(PPh_3)_2Pt(\eta^2 - O_2)$  with acids 82 (1993) 131

Characterization with <sup>95</sup>Mo, <sup>17</sup>O, <sup>1</sup>H NMR and EPR of alkylperoxo, alkoxo, peroxo and diolo molybdenum(VI) complexes formed in the course of catalytic epoxidation of cyclohexene with organic hydroperoxides 83 (1993) 329

### hydrophobic zinc(II) complexes

Esterolysis of long-chain *p*-nitrophenyl picolinates by hydrophobic  $Zn^{2+}$  complexes in the presence of a cationic surfactant 85 (1993) 45

### hydrosilylation

Ruthenium complex-catalyzed hydrosilylation of allyl chloride with trimethoxysilane 81 (1993) 207

Lewis acid vs. Brønsted acid as catalysts in solution. The quantitative comparison of reactivities of carbonyl compounds in the triethylsilyl perchlorate- and perchloric acid-catalyzed hydrosilylation in acetonitrile 85 (1993) 143

Supported platinum atoms derived catalysts in the hydrosilylation of unsaturated substrates 91 (1994) 83

Selective formation of *cis*-PhCH=CH(SiEt<sub>3</sub>) by reaction of PhC=CH with the stoichiometric amount of  $HSiEt_3$ , in the presence of ruthenium catalysts 96 (1995) 21

Homogeneous catalysis by osmium complexes. A review 96 (1995) 231

### Hydrosoluble phosphine

Palladium catalyzed telomerization of butadiene with water in a two phase system: drastic effect of the amine structure on the rate and selectivity 97 (1995) 29

### hydrotriorganoborates

Preparation, characterization, and application of fine metal particles and metal colloids using hydrotriorganoborates 86 (1994) 129

### Hydrovinylation

Hydrovinylation of styrene derivatives to 3-aryl-1-butenes catalysed by nickel complexes 92 (1994) 127

#### Hydroxamic acid groups

Ester fission catalysed by microgels possessing hydroxamic acid groups: structure-reactivity studies 95 (1995) 83

#### Hydroxo complexes

Quantum-chemical study of the four-electron catalytic oxidation of water to dioxygen in the presence of dinuclear and tetranuclear hydroxide complexes of cobalt(III) and iron(III): intermediates of the catalytic cycle and their relative energies 91 (1994) 71

#### hydroxycarbonylation

Pt(II)-SnCl<sub>2</sub> catalyzed hydromethoxycarbonylation of 1-alkynes: a remarkable example of regioselectivity control 84 (1993) 141

### hydroxylation

Theoretical aspects of methane dissociation and hydroxylation on metal oxide diatomics in the gas phase 82 (1993) 425

Hydroxylation of aromatics with hydrogen peroxide catalyzed by vanadium(V) peroxocomplexes 83 (1993) 107

Stoichiometric reaction of benzene with  $\alpha$ -form of oxygen on FeZSM-5 zeolites. Mechanism of aromatics hydroxylation by N<sub>2</sub>O 84 (1993) 117

Electrocatalytic functionalization of alkanes using aqueous platinum salts 87 (1994) 11

Homogeneous catalysis by osmium complexes. A review 96 (1995) 231

Comparison of methane hydroxylation activity with intact cells and cell-free extracts of *Methylosinus trichosporium* OB3b 97 (1995) 135

Cationic ironporphyrins as catalyst in comparative oxidation of hydrocarbons: homogeneous and supported on inorganic matrices systems 99 (1995) 187

#### hydroxyl desorption

Hydrogen adsorption and OH desorption at vanadium pentoxide surfaces: *ab initio* cluster model studies 81 (1993) 279

#### hydroxymethyl furfural

Oxydation catalytique du HMF en acide 2,5-furane dicarboxylique 85 (1993) 327

#### Hysteresis

The CO-oxidation on Pd-rich surfaces of PdCu(110): hysteresis in reaction rates 96 (1995) 271

### H-ZSM-11

An in situ <sup>13</sup>C MAS NMR study of benzene isopropylation over H-ZSM-11: cumene formation and side-reactions 95 (1995) 243

#### H-ZSM-5

Thermodynamic and mechanistic studies of initial stages in propane aromatisation over Ga-modified H-ZSM-5 catalysts 86 (1994) 371

Transformation of cyclohexanone on PtHZSM5 catalysts – reaction scheme 92 (1994) 67

Acylation of phenol with acetic acid over a HZSM5 zeolite, reaction scheme 93 (1994) 169

Catalytic conversion of oxygen containing cyclic compounds. Part II. Cyclohexanone conversion on HZSM-5 zeolites 94 (1994) 243 Ι

### Ibuprofen

Alteration of the activity and selectivity of immobilized lipases by the effect of the amount of water in the organic medium 97 (1995) 195

## identification

Use of the methanol decomposition reaction for identifying surface species in Cu/Co-based catalysts 91 (1994) 369

### imidazole

Alkaline carbons as base catalysts: Alkylation of imidazole with alkyl halides 85 (1993) 253

#### imidazole groups

Bifunctional acid-base catalysis by imidazole groups in enzyme mimics 91 (1994) 161

#### imidazole propyl gel

Meso-aryl substituted metalloporphyrins supported on imidazole propyl gel (IPG). Catalytic activity in the oxidation of cyclohexane and characterization of iron porphyrin–IPG systems 88 (1994) 167

### $\beta$ -iminoenolato complexes

Metal-catalysed carbon–carbon bond formation in the reaction of  $\beta$ dicarbonyls with nitriles 81 (1993) 133

### immobilised enzyme

Specificity to leaving group in transesterification of substituted phenyl esters in organic solvents catalysed by subtilisin-microgel sols 81 (1993) 119

### immobilization

 $^{31}$ P spin lattice relaxation time measurements of the amphiphilic ligands [Ph<sub>2</sub>P(CH<sub>2</sub>),PMe<sub>3</sub>]<sup>+</sup> in solution and tethered to a solid cationic exchange resin via the tetra-alkylphosphonium groups 80 (1993) 43

Lactose hydrolysis in milk by immobilized  $\beta$ -galactosidase 93 (1994) 233

Immobilization of laccase from *Phlebia radiata* on controlled porosity glass 95 (1995) 99

### Immobilization of enzymes

Selective oxidation: stabilisation by multipoint attachment of ferredoxin NADP<sup>+</sup> reductase, an interesting cofactor recycling enzyme 98 (1995) 161

### immobilized biocatalysts

Thiolation and reversible immobilization of sweet potato  $\beta$ -amylase on thiolsulfonate-agarose 84 (1993) 381

#### immobilized catalysts

Ethene dimerization using a Nafion<sup> $\oplus$ </sup> supported  $\sigma$ -arylnickel(II) species 90 (1994) 245

Immobilization of alkoxylated phosphine ligands and their Rh complexes to a silica surface coated with an organic mono- or multilayer 90 (1994) 303

Nafion<sup>®</sup> supported cationic palladium complexes as catalysts (II) 94 (1994) 163

#### immobilized enzymes

Influence of the modification procedure of support materials on the microenvironment of immobilized  $\alpha$ -chymotrypsin 80 (1993) 127

Importance of Hansch's  $\pi$  parameter in the catalytic action of microgel-immobilised subtilisin dissolved in tetrahydrofuran solvent 80 (1993) 137

Influence of the chemical and textural properties of the support in the immobilization of penicillin G-acylase from *Kluyvena citrophila* on inorganic supports 80 (1993) 269

Effect of lyophilization and subsequent rehydration of immobilized  $\alpha$ -chymotrypsin derivatives 89 (1994) 397

Human placental alkaline phosphatase covalently immobilized on a cross-flow microfiltration polyvinylidene difluoride membrane. Part I. Physicochemical effectors 93 (1994) 85

Human placental alkaline phosphatase covalently immobilised on a cross-flow microfiltration polyvinylidene difluoride membrane Part II. Activity vs. [substrate] kinetic behaviour 93 (1994) 105

Immobilization of lipase from *Candida cylindracea* on inorganic supports 93 (1994) 357

Alteration of the activity and selectivity of immobilized lipases by the effect of the amount of water in the organic medium 97 (1995) 195

#### **Immobilized lipase**

A systematic analysis of the variables that control a highly stereoselective resolution of racemic non-steroidal antiinflammatory drugs using immobilized lipase from *Candida cylindracea* 98 (1995) 171

#### immunoglobulins

Esterase activity of catalytic IgG and IgM antibodies for the hydrolysis of *p*-nitrophenyl acetate 90 (1994) 355

# impregnation

 $Pt/SiO_2$  catalysts: a comparison of the impregnation and the sol-gel methods 80 (1993) 299

### incipient metal-support interaction

Detection by CO-FTIR of incipient metal-support interaction in  $Rh/SiO_2$  and  $Pd/TiO_2$  81 (1993) 267

#### indole oxidation

Structural effect of cobalt Schiff base complex catalyst on its catalytic activity in dioxygenolysis of 3-methylindole 83 (1993) 117

### Inelastic neutron scattering

Gas phase hydrogenation of acetonitrile on Raney nickel catalysts: reactive hydrogen 95 (1995) 165

### infrared spectroscopy

Interaction of CO with platinum species in zeolites. Evidence for platinum carbonyls in partially reduced zeolite PtNaX 80 (1993) 95

Spectroscopic study of the nature of vanadium-oxo species adsorbed on anatase 81 (1993) L25

#### inhibition

Hydroformylation of allyl alcohol catalysed by  $(Rh(PPh_3)_3)^+/montmorillonite: a kinetic study 91 (1994) 187$ 

Effect of Hg(II) on hydrogenase activity from *Desulfovibrio vulgaris* (Miyazaki) 96 (1995) 329

# Inhibitors

Immobilization of laccase from *Phlebia radiata* on controlled porosity glass 95 (1995) 99

### inorganic oxides

Stoichiometric and catalytic reactivity of organometallic fragments supported on inorganic oxides 86 (1994) 5

### **Inorganic support**

Immobilization of lipase from *Candida cylindracea* on inorganic supports 93 (1994) 357

### inorganic supports

Influence of the chemical and textural properties of the support in the immobilization of penicillin G-acylase from *Kluyvena citrophila* on inorganic supports 80 (1993) 269

### in situ reduction

Low temperature reduction of gallium in a  $Ga_2O_3/HZSM-5$  catalyst 83 (1993) 379

### intercalation

```
Hydroformylation of allyl alcohol catalysed by (Rh(PPh_3)_3)^+/
montmorillonite: a kinetic study 91 (1994) 187
```

#### Interfaces

Photocatalyzed mineralization of nitrogen-containing compounds at  $TiO_2/H_2O$  interfaces 95 (1995) 53

#### intermediates

Mobility of transient olefinic intermediates during exchange reactions of paraffins with deuterium on metal catalysts 89 (1994) 19

#### intermetallic compounds

Role of hydride phases in the catalytic activity of  $Zr_2Ni$  for the dehydrogenation of methanol 91 (1994) 223

#### intermolecular shifts

Intermolecular transalkylation of methylanilines 89 (1994) 191

#### intramolecular 1,2-shifts

Some zeolites equilibrate all six dimethylanilines by 1,2-methyl shifts 89 (1994) 201

### inverse phase-transfer catalysis

Phthalic acid esters hydrolysis under inverse phase-transfer catalysis conditions 85 (1993) 265

### Inverse phase-transfer catalysis (IPTC)

Kinetics of the reaction of benzoyl chloride and sodium carboxylate under inverse phase-transfer catalysis 99 (1995) 153

### inverse phase-transfer catalyst

 $\beta$ -Cyclodextrin as inverse phase-transfer catalyst in oxidations of isoborneol, borneol and menthol by calcium hypochlorite in aqueous solution 88 (1994) 117

### iodosylbenzene

Transition-metal phthalocyanine catalyzed oxidation of sulfides by iodosylbenzene 88 (1994) 7

### 2,4-Ionene

Effects of solvents on the cobalt phthalocyanine-catalyzed oxidation of hydrophobic thiols 97 (1995) 7

### Ion exchange

Cu<sup>II</sup>-diamine complex catalyzed hydrolysis of phosphate triesters adsorbed on strong-base ion exchange resins. <sup>31</sup>P NMR relaxation measurements 93 (1994) 221

### ion-exchange resin

Characterization of the molecular exchange process observed for dimethyl methylphosphonate adsorbed on a sorptive/reactive resin mixture by <sup>31</sup>P magnetization-transfer and 2-D exchange MAS NMR 83 (1993) 183

<sup>31</sup>P MAS NMR study of the hydrolysis of *O*,*S*-diethyl phenylphosphonothioate on reactive sorbents 99 (1995) 175

### ionic crystal

Theoretical investigations on adsorption at ion crystal surfaces 82 (1993) 171

### Ionic strength

Spectator cations and catalysis with sulfonated phosphines. The role of cations in determining reaction selectivity in the aqueous phase hydroformylation of olefins 99 (1995) 131

# IR

The effect of different ZnO precursors on the catalytic decomposition of ethanol 98 (1995) 63

## iridium

Kinetic and spectroscopic study of the hydrogen-transfer reaction from 2-propanol to cyclohexanone catalyzed by  $[IrH_2(pz)(Hpz)(PPh_3)_2]$  (Hpz=pyrazole) 87 (1994) 151

Photocatalytic dehydrogenation of methanol using [IrH(SnCl<sub>3</sub>)<sub>5</sub>]<sup>3-</sup> complex 89 (1994) 143

Iridium(I) and phase-transfer catalyzed hydrogen-transfer reduction of ketones using potassium fluoride on alumina as a base 92 (1994) 149

### iron

Role of aliphatic diamine ligands in hydrogen peroxide decomposition with Dowex-50W resin as transition metal complex ions 80 (1993) 11

On the nature of superactive centers in H-ZSM-5 zeolites: quantum chemical calculations 80 (1993) 243

Fe<sup>3+</sup>-Montmorillonite catalyst for selective nitration of chlorobenzene 87 (1994) 33

Heterogeneous photocatalytic oxidation of nitrite over iron-doped TiO<sub>2</sub> samples 87 (1994) 67

Polymer-supported catalysis: oxidation of catecholamines by Fe(III) and Cu(II) complexes immobilized to chitosan 87 (1994) 177

Iron pentacarbonyl-catalysed aminomethylation of alkenes: some intriguing observations 87 (1994) 223

Meso-aryl substituted metalloporphyrins supported on imidazole propyl gel (IPG). Catalytic activity in the oxidation of cyclohexane and characterization of iron porphyrin–IPG systems 88 (1994) 167

Styrene hydrogenation on supported Pd, Fe and Pd-Fe/ $\gamma\text{-}Al_2O_3$  catalysts 89~(1994)~267

Deuterium exchange of pyrrolidine, diethylamine and triethylamine over catalysts of Group VIII transition metals 89 (1994) 365

Oxidative dehydrogenation of isobutyraldehyde to methacrolein over iron phosphate catalyst 89 (1994) 371

Mo-promoted Fe/activated carbon catalysts for carbon monoxide hydrogenation 90 (1994) 291

Stereoselective oxidation of enantiomeric amines by a monoamine oxidase model of chiral iron(III) porphyrins 91 (1994) 7

Quantum-chemical study of the four-electron catalytic oxidation of water to dioxygen in the presence of dinuclear and tetranuclear hydroxide complexes of cobalt(III) and iron(III): intermediates of the catalytic cycle and their relative energies 91 (1994) 71

Fast and slow methanation pathways in hydrogenation of carbon dioxide on Fe-Mn oxide catalysts 91 (1994) 353

Bifunctional catalysts from pillared clays: vapour phase conversion of propene to acetone catalyzed by iron and ruthenium containing aluminum pillared bentonites. 92 (1994) 201

The interaction of carbon monoxide with nickel-iron alloys. A comparison between single crystal surfaces and supported catalysts 92 (1994) 299 High resolution Auger electron spectroscopic study of the chemisorption and decomposition of benzene, cyclohexene and cyclohexane on a clean and carbided Fe(110) surface 93 (1994) 181

257

Aerobic epoxidation of olefins catalyzed by polymerizable  $\beta$ -ketoesterate complexes of iron(III), nickel(II) and cobalt(II) 94 (1994) 19

Aerobic oxidation of aldehydes, ketones, sulfides, alcohols and alkanes catalysed by polymerizable  $\beta$ -ketoesterate complexes of iron(III), nickel(II) and cobalt(II) 94 (1994) 27

Hydroisomerization probe of the catalytic and structural behavior of iron-rhodium particles supported on refractory oxide supports 94 (1994) 97

Poisoning of iron catalyst by COS in syngas for Fischer-Tropsch synthesis 94 (1994) 255

CO oxidation over Pd/FeSbO<sub>4</sub> catalyst 95 (1995) 211

### Iron(III)

Synthesis and catalytic activity of silica supported iron(III) 95 (1995) 27

#### iron oxide

Raman characterization of alumina supported Mo-V-Fe catalysts: influence of calcination temperature 81 (1993) 63

#### iron pentacarbonyl

Spontaneous formation of  $Fe(CO)_5$  from CO and the steel walls of an FTIR cell 83 (1993) 391

#### Ironporphyrin

Study of catalytic activity of nitro substituted ironporphyrins 97 (1995) 41

#### Iron-sulphur cluster

Thermostability and electron transfer activity of the ferredoxin from a thermophilic hydrogen oxidizing bacterium, *Bacillus schlegelii* 95 (1995) 173

### iron-sulphur protein analogues

Designing zeolite catalysts for size and shape selective reactions 86 (1994) 343

#### IR spectroscopy

Infrared study of carbon monoxide adsorption and hydrogenation over Pd–Fe catalysts 83 (1993) 157

FT-IR study of hydrocarbon conversion on dealuminated HY zeolites in working conditions 86 (1994) 401

Oxidative coupling of methane over natural manganese oxide 98 (1995) 25

### isoborneol

 $\beta$ -Cyclodextrin as inverse phase-transfer catalyst in oxidations of

isoborneol, borneol and menthol by calcium hypochlorite in aqueous solution 88 (1994) 117

### Isobutane

Alkylation of isobutane with 2-butene using 1-butyl-3-methylimidazolium chloride-aluminium chloride molten salts as catalysts 92 (1994) 155

### isobutane dehydrogenation

Platinum supported on coprecipitated Sn-ZnAl<sub>2</sub>O<sub>4</sub> 84 (1993) 177

### isobutyraldehyde

Oxidative dehydrogenation of isobutyraldehyde to methacrolein over iron phosphate catalyst 89 (1994) 371

#### isocyanide polymers

Catalytic activity of Pd(AcO)<sub>2</sub> coordinated to cross-linked polymeric isocyanides 81 (1993) 167

### isomerization

Catalytic activity of  $Pd(AcO)_2$  coordinated to cross-linked polymeric isocyanides 81 (1993) 167

Time conditions for chemical reactions at the mesoscopic level in the elementary catalytic system 1-butene on ZnO 82 (1993) 327

Comparison of acidic against redox properties of the  $CuAl_2Cl_8$  complex during the isomerization of alkanes at ambient temperature 83 (1993) 323

Isomerization of methyl formate to acetic acid catalyzed by the Ru(II)-Sn(II) heteronuclear cluster complex  $[Ru(SnCl_3)_5(PPh_3)]$  84 (1993) 51

Isomerization and oxidation of linear hexenes with methanolic Pd(II) 88 (1994) 301

Isomerization of 3-functional substituted propenes in the presence of ruthenium (III) 1,3-diketonates 89 (1994) 303

Alkylation, isomerization and cracking activity of a novel solid acid, AlCl<sub>2</sub>(SG)<sub>n</sub> 89 (1994) 317

Dimerization and isomerization of 2-methyl-1-alkenes over  $Re_2O_7$ -Al<sub>2</sub>O<sub>3</sub> catalyst 90 (1994) 1

Polymer-supported Pd(II) Wacker-type catalysts. Part III<sup>1</sup>. Isomerisation of alkene double bond 94 (1994) 7

An in situ <sup>13</sup>C MAS NMR study of benzene isopropylation over H-ZSM-11: cumene formation and side-reactions 95 (1995) 243

Komplexkatalytische Isomerisierung von 4-Methyl-1-penten. Kinetische Untersuchungen. 96 (1995) 111

Catalytic properties of low-valent europium introduced into Y-zeolite 98 (1995) 49

### isomorphic ligand exchange

Reactivity of interstitial [NiCl<sub>4</sub>]<sup>2-</sup> complex anions in a Mg-Al

hydrotalcite-like clay towards alkyl bromides in the liquid phase 81 (1993) 397

### Isopolyoxometallate

Single crystals of isopolyoxometallate(VI) salts as catalysts for the ring-opening polymerization of norbornene 96 (1995) 31

#### Isoprene

Supported platinum atoms derived catalysts in the hydrosilylation of unsaturated substrates 91 (1994) 83

### isopropanol

Validity of using isopropanol decomposition as a test-reaction for the characterization of metal oxides basicity; comparison with results obtained from methylbutynol decomposition 87 (1994) 329

Effect of acidity and copper surface area of the  $Cu/Al_2O_3$  catalyst prepared by electroless plating procedure on dehydrogenation reactions 94 (1994) 233

### **Isopropyl alcohol**

Dehydrogenation of isopropyl alcohol over Co-Ni/Mg oxide catalysts 94 (1994) 191

### isotactic polypropene

Highly isotactic polypropene prepared with rac-dimethylsilyl-bis(2methyl-4-*t*-butyl-cyclopentadienyl)zirconiumdichloride: an NMR investigation of the polymer microstructure 82 (1993) 67

### isotope exchange

Interaction of CO with  $Ni^0$  in zeolites and on alumina studied by isotopic exchange 87 (1994) 343

#### **Isotopic methane**

Oxidative coupling of methane over natural manganese oxide 98 (1995) 25

# K

#### **Keggin-type polyanion**

Synthesis of  $[PW_9O_{37}{Fe_{3-x}Ni_x(OAc)_3}]^{(9+x)-}$ (x=predominantly 1) and oxidation catalysis by the catalyst precursor 88 (1994) 125

#### $\beta$ -Ketoesterate complexes

Aerobic epoxidation of olefins catalyzed by polymerizable  $\beta$ -ketoesterate complexes of iron(III), nickel(II) and cobalt(II) 94 (1994) 19

Aerobic oxidation of aldehydes, ketones, sulfides, alcohols and alkanes catalysed by polymerizable  $\beta$ -ketoesterate complexes of iron(III), nickel(II) and cobalt(II) 94 (1994) 27

#### Ketoesters

Enantioface-differentiating hydrogenation of the C=O double bond

using a modified Raney nickel: role of the carboxylic acid added to the reaction system 93 (1994) 211

#### ketones

Formation of ketones from lower olefins and water on ultrastable Ytype zeolite catalyst 80 (1993) 229

Ruthenium catalyzed ethylene-methyl formate reactions. Synthesis of propanol and ketones 91 (1994) 31

Aerobic oxidation of aldehydes, ketones, sulfides, alcohols and alkanes catalysed by polymerizable  $\beta$ -ketoesterate complexes of iron(III), nickel(II) and cobalt(II) 94 (1994) 27

Reduction of ketones by dihydrogen or hydrogen transfer catalysed by a ruthenium complex of the hydridotris(3,5-dimethyl)pyrazolyl borate ligand 98 (1995) 5

### 2-Keto-D-gluconic acid

Effect of pH in the Pt-catalyzed oxidation of D-glucose to D-gluconic acid 97 (1995) 111

### kinetic data

Kinetic analysis of a Michaelis–Menten mechanism with an unstable substrate 83 (1993) 273

### Kinetic insensitivity

Surface nonuniformity and kinetic insensitivity on heterogeneous catalysts 94 (1994) 47

#### Kinetic modelling

Kinetic study of the hydrogen sulfide effect in the conversion of thiophene on supported Co-Mo catalysts 94 (1994) 369

#### kinetics

Kinetics of heterogeneous decomposition of hydrogen peroxide with some transition metal complexes supported on silica-alumina in aqueous medium 84 (1993) 67

Kinetics of the bimolecular reaction NO +  $H_2$  on Pt 84 (1993) 267

Carbon catalyzed polymethylbenzene dealkylation 85 (1993) 229

Nickel-on-alumina catalyzed polymethylbenzene dealkylation 85 (1993) 237

Kinetic and spectroscopic study of the hydrogen-transfer reaction from 2-propanol to cyclohexanone catalyzed by  $[IrH_2(pz)(Hpz)(PPh_3)_2]$  (Hpz=pyrazole) 87 (1994) 151

Polymer-supported catalysis: oxidation of catecholamines by Fe(III) and Cu(II) complexes immobilized to chitosan 87 (1994) 177

Electronic and kinetic isotope effects on the electrooxidation of benzyl alcohols by a monoxo ruthenium(V) complex of tetramethylcyclam 89 (1994) 57

Intermolecular transalkylation of methylanilines 89 (1994) 191

Some zeolites equilibrate all six dimethylanilines by 1,2-methyl shifts 89 (1994) 201

Ring opening metathesis polymerization of bicyclo [2.2.1] hept-2ene (2-norbornene) and *exo,exo*-5,6-bis(methoxycarbonyl)-7-oxabicyclo [2.2.1] hept-2-ene using Ru(II) and Ru(III) complexes: Polymerization kinetics and ruthenium content in polymers 90 (1994) 143

Hydroformylation of allyl alcohol catalysed by  $(Rh(PPh_3)_3)^+/montmorillonite: a kinetic study 91 (1994) 187$ 

Kinetics of chain transfer during ethylene polymerization with chromium oxide/silica catalyst 91 (1994) 237

Human placental alkaline phosphatase covalently immobilized on a cross-flow microfiltration polyvinylidene difluoride membrane. Part I. Physicochemical effectors 93 (1994) 85

Human placental alkaline phosphatase covalently immobilised on a cross-flow microfiltration polyvinylidene difluoride membrane Part II. Activity vs. [substrate] kinetic behaviour 93 (1994) 105

Global kinetics of the alkaline oxidative degradations of lactose 93 (1994) 317

Methylamine synthesis over solid acid catalysts: reaction kinetic measurements 93 (1994) 337

Immobilization of laccase from *Phlebia radiata* on controlled porosity glass 95 (1995) 99

Eyring transition-state theory and kinetics in catalysis 96 (1995) 1

Catalytic and structural properties of ruthenium bimetallic catalysts: kinetics of 2,2,3,3-tetramethylbutane hydrogenolysis 96 (1995) 35

Komplexkatalytische Isomerisierung von 4-Methyl-1-penten. Kinetische Untersuchungen. 96 (1995) 111

Catalytic and structural properties of ruthenium bimetallic catalysts: kinetics of hydrogenolysis of lower alkanes on variously pretreated Ru/Al<sub>2</sub>O<sub>3</sub> catalysts 98 (1995) 81

Kinetic and mechanistic investigation of the sequential hydrogenation of phenylacetylene catalyzed by rhodium(I) phosphine complexes of the type  $[Rh(\eta^2-O_2Z)(PR_3)_2] = 99 (1995) 55$ 

Kinetics of the reaction of benzoyl chloride and sodium carboxylatc under inverse phase-transfer catalysis 99 (1995) 153

#### kinetics primary alcohol

Substituent effects on the rate of dehydrogenation of primary and secondary alcohols 87 (1994) 47

#### KMnO₄

Oxidation of catechol with  $KMnO_4$  by using crown ethers as phase transfer catalysts 93 (1994) 195

260 Cumulative Subject Index Volumes 80–100 (1995) / Journal of Molecular Catalysis A: Chemical 100 (1995) 209–318

### **Knoevenagel condensation**

Alkaline carbons as base catalysts: Alkylation of imidazole with alkyl halides 85 (1993) 253

L

### Laccase

Immobilization of laccase from *Phlebia radiata* on controlled porosity glass 95 (1995) 99

#### Lactate

An alloy phase of  $Pd_3Pb$  and the activity of Pb/Pd/C catalysts in the liquid-phase oxidation of sodium lactate to pyruvate 91 (1994) 129

### lactic acid

Micellar-catalysis: effect of sodium lauryl sulphate in the oxidation of lactic acid by chromic acid 81 (1993) 349

### Lactones

Multiple bonds between main-group elements and transition metals. Part 133<sup>1</sup>. Methyltrioxorhenium as a catalyst of the Baeyer-Villiger oxidation 94 (1994) 213

### Lactose

Global kinetics of the alkaline oxidative degradations of lactose 93 (1994) 317

### Lactose hydrolysis

Lactose hydrolysis in milk by immobilized  $\beta$ -galactosidase 93 (1994) 233

### Ladder polymer

Metathetical polymerization of substituted phenylacetylenes using in situ generated (arene) $M(CO)_3$  complexes (arene=toluene, oxylene or mesitylene, M=Cr, Mo or W) as catalysts 99 (1995) 47

#### Lamb pregastric lipase

Lamb pregastric lipase catalysed hydrolysis of 1,2,3-tri[(cis)-9-octadecenoyl]glycerol: temperature, pH and solvent isotope effects 96 (1995) 77

### lanthanide chemistry

Alkoxides as ancillary ligands in organolanthanide chemistry: synthesis, reactivity,  $\alpha$ -olefin and diene polymerization by  $[Y(C_5Me_5)(OC_6H_3^{+}Bu_2) (\mu-H)]_2 90 (1994) 177$ 

#### lanthanide(III) complex

Lanthanide metal complexes for the hydrolysis of linear DNAs 84 (1993) 21

### lanthanides

Catalytic hydrogenation activities of characteristic copper-lanthanide complex oxide of  $Cu_6O_8Ln(NO_3)$  88 (1994) 103

#### lanthanocene alkyl preparation

A useful method for the synthesis of neodymocene homogeneous catalysts for ethylene polymerization 82 (1993) 75

#### lanthanum

Fast and slow methanation pathways in hydrogenation of carbon dioxide on Fe-Mn oxide catalysts 91 (1994) 353

### lanthanum(III) complex

Lanthanide metal complexes for the hydrolysis of linear DNAs 84 (1993) 21

### Laser flash photolysis

Photoreduction of cytochrome c with zinc protoporphyrin reconstituted myoglobin (ZnPP-Mb) 95 (1995) 193

The effect of chemical modification of zinc myoglobin on the photoinduced electron transfer with methyl viologen 96 (1995) 87

#### leaching

Hydroformylation of allyl alcohol catalysed by  $(Rh(PPh_3)_3)^+/montmorillonite: a kinetic study 91 (1994) 187$ 

#### lead

Oxydation catalytique du HMF en acide 2,5-furane dicarboxylique 85 (1993) 327

An alloy phase of  $Pd_3Pb$  and the activity of Pb/Pd/C catalysts in the liquid-phase oxidation of sodium lactate to pyruvate 91 (1994) 129

Synthesis of methyl N-phenyl carbamate by methoxycarbonylation of aniline with dimethyl carbonate using Pb compounds as catalysts 91 (1994) 399

#### lethal agent decontamination

Characterization of the molecular exchange process observed for dimethyl methylphosphonate adsorbed on a sorptive/reactive resin mixture by <sup>31</sup>P magnetization-transfer and 2-D exchange MAS NMR 83 (1993) 183

<sup>31</sup>P MAS NMR study of the hydrolysis of *O*,*S*-diethyl phenylphosphonothioate on reactive sorbents 99 (1995) 175

### Lewis acidity

The electronic states and Lewis acidity of surface aluminum atoms in  $\gamma$ -Al<sub>2</sub>O<sub>3</sub> model cluster: An *ab initio* MO study 96 (1995) 277

Benzylation of aromatics on ion-exchanged clays 98 (1995) 101

#### Lewis acids

Lewis acid vs. Brønsted acid as catalysts in solution. The quantitative comparison of reactivities of carbonyl compounds in the triethylsilyl perchlorate- and perchloric acid-catalyzed hydrosilylation in acetonitrile 85 (1993) 143

#### Lewis base

Characterization of supported bimetallic catalysts for ethylene polymerization: the effect of external Lewis bases 82 (1993) 17

### Ligand

Scanning tunneling microscopy observation of giant palladium-561 clusters 95 (1995) 109

### Ligand effect

Catalytic activity of anchored vanadyl complexes 93 (1994) 29

### ligand effects

Palladium-catalyzed N,N'-diphenylurea synthesis from nitrobenzene, aniline, and carbon monoxide: Part 4. Ligand effects 81 (1993) 17

### ligands

Ligands on clusters - adsorbates on surfaces 82 (1993) 195

### light intensity

Influence of light intensity and membrane properties on the photocatalytic degradation of formic acid over  $TiO_2$  ceramic membranes 89 (1994) 165

#### Linear low density polyethylene

Linear low density polyethylene: catalyst system effect on polymer microstructure 98 (1995) 123

#### lipase

Immobilisation/stabilisation on different hydroxilic supports of lipase from *Candida rugosa* 83 (1993) 261

Effect of water-mimicking additives on the synthetic activity and enantioselectivity in organic solvents of a *Candida cylindracea* lipase 84 (1993) 27

Enantiospecific hydrolysis of esters of nonsteroidal antiinflammatory drugs using lipase of *Candida cylindracea* 84 (1993) 399

Enantioselectivity and reactivity of immobilized lipase in supercritical carbon dioxide 89 (1994) 11

Bile-salt-stimulated human milk lipase catalysed hydrolysis of 1,2,3tri[(*cis*)-9-octadecenoyl] glycerol: solvent isotope effect 91 (1994) 303

Effect of temperature on hydrolysis of triolein by lipase 94 (1994) 291

Hydrolysis of (R,S)2-aryl propionic esters by pure lipase B from Candida cylindracea 96 (1995) 317

Activity decay and conformational change of lipase in presence of organic solvents. A fluorescence study of *Candida rugosa* lipase 97 (1995) 119

#### Lipases

Kinetic behaviour and reaction mechanism of the hydrolysis of *p*nitrophenyl palmitate in mixed micelles with Triton X-100 catalyzed by lipase from *Candida rugosa* 93 (1994) 37

Immobilization of lipase from *Candida cylindracea* on inorganic supports 93 (1994) 357

Alteration of the activity and selectivity of immobilized lipases by the effect of the amount of water in the organic medium 97 (1995) 195

#### Lipidic esters

Kinetic behaviour and reaction mechanism of the hydrolysis of *p*nitrophenyl palmitate in mixed micelles with Triton X-100 catalyzed by lipase from *Candida rugosa* 93 (1994) 37

### Liquid phase

An alloy phase of  $Pd_3Pb$  and the activity of Pb/Pd/C catalysts in the liquid-phase oxidation of sodium lactate to pyruvate 91 (1994) 129

Is metallic palladium formed in Wacker oxidation of alkenes? 91 (1994) 343

Study of the competition between disproportionation and oxidation of cyclohexene in the liquid phase over solid catalysts 94 (1994) 181

#### liquid-phase oxidation

Competitive oxidation of alcohols in aqueous phase using Pd/C catalyst 83 (1993) 75

Liquid-phase oxidation of ethyl lactate to pyruvate over suspended oxide catalysts 83 (1993) 207

### lithium

Ziegler systems as hydrogenation catalysts. Part 2<sup>1</sup>. Dependence of the hydrogenation activity of  $CoBr_2/Li[AlH_n(O-R)_{4-n}]$  systems from the concentration of the reducing agent 84 (1993) 33

Li/MgO sol-gel catalysts 88 (1994) 71

# lithium chloride

Desulfonylation and desulfonylative carbonylation of arenethiosulfonic acid esters in the presence of  $PdCl_2$  and LiCl = 83 (1993) 125

### lithium fluoride

Embedded-cluster techniques for the quantum-mechanical study of surface reactivity 82 (1993) 229

### Lithium-promoted magnesium oxide

Cluster quantum-chemical study of the chemisorption of methane on a lithium-promoted magnesium oxide doped by zinc oxide 99 (1995) 139

#### local density functional calculation

Quantum theory of scanning tunneling microscopy and spectroscopy and its application to surface electronic processes 82 (1993) 253

# localization

Spectroscopic study of the nature of vanadium-oxo species adsorbed on anatase 81 (1993) L25

### long-chain picolinates

Esterolysis of long-chain *p*-nitrophenyl picolinates by hydrophobic  $Zn^{2+}$  complexes in the presence of a cationic surfactant 85 (1993) 45

### low temperature water gas shift

Interaction of CO with platinum species in zeolites. Evidence for

platinun	n carbonyls	in	partially	reduced	zeolite
PtNaX	80 (1993) 95				

### Low valence

Liquid-phase oxidation of alcohols by dioxygen using oxide-supported platinum catalysts 91 (1994) 139

### lyophilization

Effect of lyophilization and subsequent rehydration of immobilized  $\alpha$ -chymotrypsin derivatives 89 (1994) 397

# Μ

### Macrocyclic complex

Stoichiometric and catalytic oxidation by a dinuclear copper(I) dioxygen complex and a dinuclear copper(II) complex of a macrocyclic ligand derived from the 2:2 condensation of pyridine-2,6-dicarboxaldehyde and 1,4,7-triazaheptane 99 (1995) 101

### Macrocyclic copper(II) complex

Copper(I) and copper(II) dinuclear complexes of a macrocyclic ligand derived from the 2:2 condensation of pyridine-2,6-dicarbox-aldehyde and 1,4,7-triazaheptane 99 (1995) 87

### Magic angle spinning

Characterization of MoO<sub>3</sub>/TiO<sub>2</sub> catalysts by <sup>1</sup>H magic-angle-spinning NMR spectroscopy 96 (1995) 5

### magic-angle spinning NMR

Characterization of the molecular exchange process observed for dimethyl methylphosphonate adsorbed on a sorptive/reactive resin mixture by <sup>31</sup>P magnetization-transfer and 2-D exchange MAS NMR 83 (1993) 183

<sup>31</sup>P MAS NMR study of the hydrolysis of *O*,*S*-diethyl phenylphosphonothioate on reactive sorbents 99 (1995) 175

### magnesia

Application of computer modeling to surface organometallic chemistry 86 (1994) 479

Li/MgO sol-gel catalysts 88 (1994) 71

#### magnesium

Model for the formation of active titanium complexes on  $MgCl_{2}$ ethyl benzoate-TiCl<sub>4</sub> catalysts for propylene polymerization 84 (1993) 109

Molecular orbital studies in the  $MgCl_2$ -ethyl benzoate-TiCl<sub>4</sub> system 87 (1994) 137

Studies on methylaluminoxane and ethylene polymerization 90 (1994) 201

Role of surface chlorine species in the oxidative coupling of methane in the presence of tetrachloromethane on magnesium phosphate and sulphate 93 (1994) 53 Dehydrogenation of isopropyl alcohol over Co-Ni/Mg oxide catalysts 94 (1994) 191

Effect of tetrachloromethane as a gas-phase additive on the oxidative dehydrogenation of ethane over magnesium phosphate 95 (1995) 35

#### magnesium chloride

Electrophilicity of titanium atoms supported on magnesium chloride 82 (1993) 3

Effects of hydrogen on the polymerization of propylene with a magnesium chloride supported Ziegler-Natta catalyst 82 (1993) 37

### magnesium chloride support

Role of electron donor in propylene polymerization using magnesium chloride-supported titanium tetrachloride catalyst 82 (1993) 11

#### **Magnesium fluoride**

 $^{1}H,~^{31}P$  NMR MAS, infrared and catalytic studies of heteropolyacid  $H_{3}PW_{12}O_{40}$  supported on MgF\_2  $\,$  95 (1995) 135

## magnesium oxide

Theoretical investigations on adsorption at ion crystal surfaces 82 (1993) 171

Oxidative dehydrogenation of propane on VAPO-5,  $V_2O_5/ALPO_4$ -5 and  $V_2O_5/MgO$  catalysts. Nature of selective sites 97 (1995) 173

Cluster quantum-chemical study of the chemisorption of methane on a lithium-promoted magnesium oxide doped by zinc oxide 99 (1995) 139

#### magnetic susceptibility

Study of the CO–CeO<sub>2</sub> interaction in presence of highly dispersed rhodium 89(1994) 391

### magnetic transition

Size effects on the binding energy calculation of atoms and molecules on magnetic transition metal clusters 83 (1993) 367

#### malonates

Scope of the N-alkylation of amides and the C-alkylation of malonates by methyl formate and dimethyl carbonate 84 (1993) 131

#### manganese

Synthesis of a new chiral porphyrin ligand and its Mn(III) complex as catalyst in asymmetric alkene epoxidation 80 (1993) 395

Tryptophan 2,3-dioxygenase-like activity of manganese(III) porphyrin bound to bovine serum albumin modified with poly(ethylene glycol) 81 (1993) L13

Investigation of the catalytic activity of poly(siloxane)-supported tetra(4-pyridyl)porphyrinatomanganese(III) in olefin oxidation reactions 81 (1993) 157

Brominated and chlorinated manganese chiral Schiff base complexes as epoxidation catalysts 85 (1993) 13

The catalytic effect of some transition metal hexamethylenetetramine complexes in hydrogen peroxide decomposition 87 (1994) 25

Fast and slow methanation pathways in hydrogenation of carbon dioxide on Fe-Mn oxide catalysts 91 (1994) 353

Formation and reactivity toward hydrocarbons of oxomanganese porphyrins in the presence of anionic bases 97 (1995) 79

#### **Manganese** catalysts

Oxidative coupling of methane over natural manganese oxide 98 (1995) 25

### manganese complexes

Water oxidation catalyzed by heterogeneous Schiff base manganese complex 81 (1993) L7

#### MAS NMR

Thermodynamic and mechanistic studies of initial stages in propane aromatisation over Ga-modified H-ZSM-5 catalysts 86 (1994) 371

An in situ <sup>13</sup>C MAS NMR study of benzene isopropylation over H-ZSM-11: cumene formation and side-reactions 95 (1995) 243

#### mechanism

Thermodynamic and mechanistic studies of initial stages in propane aromatisation over Ga-modified H-ZSM-5 catalysts 86 (1994) 371

Metathesis polymerization of 1,7,7-trimethylbicyclo[2.2.1]hept-2ene using a well defined molybdenum initiator 90 (1994) 87

Mechanism of but-1-yne hydrogenation on platinum catalysts: deuterium tracer study. 91 (1994) 259

Addition of tetrachloromethane to *cis*-cycloalkenes in the presence of transition metal complexes 92 (1994) 269

Human placental alkaline phosphatase covalently immobilised on a cross-flow microfiltration polyvinylidene difluoride membrane Part II. Activity vs. [substrate] kinetic behaviour 93 (1994) 105

Mechanistic aspects of the higher alcohol synthesis over unpromoted ZnCrO: 1-propanol flow microreactor study 94 (1994) 335

An in situ <sup>13</sup>C MAS NMR study of benzene isopropylation over H-ZSM-11: cumene formation and side-reactions 95 (1995) 243

Kinetic and mechanistic investigation of the sequential hydrogenation of phenylacetylene catalyzed by rhodium(I) phosphine complexes of the type  $[Rh(\eta^2-O_2Z)(PR_3)_2]$  99 (1995) 55

#### mechanisms

Breaking C-S bonds with transition metal complexes. A review of

molecular approaches to the study of the mechanisms of the hydrodesulfurization reaction 86 (1994) 287

263

Studies of the mechanism of thiophene hydrodesulfurization: <sup>2</sup>H NMR and mass spectral analysis of 1,3-butadiene produced in the deuterodesulfurization (DDS) of thiophene over  $PbMo_6S_8$  catalyst 96 (1995) 283

#### mechanistic studies

New possibilities of NMR in mechanistic studies of homogeneous and heterogeneous catalysis 82 (1993) 275

#### Medium temperature pretreatment

Transformation of carbon compounds on graphimet catalysts. Part V. The effect of pretreatment on the structure and activity of Pt-graphimet catalyst 99 (1995) 115

### Meerwein-Pondorff-Verley reaction

Study of the Meerwein–Pondorff–Verley reaction between ethanol and acetone on various metal oxides 91 (1994) 45

#### Meldola's blue

Study of the new electron transfer mediators in glucose oxidase catalysis 91 (1994) 407

### membranes

Influence of light intensity and membrane properties on the photocatalytic degradation of formic acid over  $TiO_2$  ceramic membranes 89 (1994) 165

#### menthol

 $\beta$ -Cyclodextrin as inverse phase-transfer catalyst in oxidations of isoborneol, borneol and menthol by calcium hypochlorite in aqueous solution 88 (1994) 117

Stereoselective reduction of menthone with sodium dithionite in the presence of  $\beta$ -cyclodextrin 93 (1994) 247

# menthol derivatives

Heterogeneous catalysis of asymmetric Diels-Alder reactions 89 (1994) 159

### Menthone

Stereoselective reduction of menthone with sodium dithionite in the presence of  $\beta$ -cyclodextrin 93 (1994) 247

#### mercaptan

Influence of substituents and ligands of various cobalt(II) porphyrin derivatives coordinately bonded to silica on the oxidation of mercaptan 80 (1993) 253

#### mercaptans

Catalytic oxidation of mercaptans by charcoal-supported sterically hindered cobalt(II)-phthalocyanines 85 (1993) 269

#### Mercury ion

Abnormal effect of mercury ions on bilirubin oxidase activity 96 (1995) 11 Effect of Hg(II) on hydrogenase activity from *Desulfovibrio vul*garis (Miyazaki) 96 (1995) 329

#### mesoscopic scale reaction

Time conditions for chemical reactions at the mesoscopic level in the elementary catalytic system 1-butene on ZnO 82 (1993) 327

### metal catalysis

Metal-catalysed carbon–carbon bond formation in the reaction of  $\beta$ dicarbonyls with nitriles 81 (1993) 133

### metal cluster

Polymer- and micelle-protected gold/platinum bimetallic systems. Preparation, application to catalysis for visible-light-induced hydrogen evolution, and analysis of formation process with optical methods 83 (1993) 167

### metal clusters

Size effects on the binding energy calculation of atoms and molecules on magnetic transition metal clusters 83 (1993) 367

Surface-mediated synthesis of metal clusters 86 (1994) 95

### metal colloid

Polymer- and micelle-protected gold/platinum bimetallic systems. Preparation, application to catalysis for visible-light-induced hydrogen evolution, and analysis of formation process with optical methods 83 (1993) 167

#### metal colloids

Preparation, characterization, and application of fine metal particles and metal colloids using hydrotriorganoborates 86 (1994) 129

#### Metal complexes

Addition of tetrachloromethane to *cis*-cycloalkenes in the presence of transition metal complexes 92 (1994) 269

### metal ions

Changes in activity of soluble and immobilized peroxidases after treatment by various proteases and some metal ions 80 (1993) 117

The influence of dissolved metal ions on the photocatalytic degradation of phenol in aqueous  $TiO_2$  suspensions 98 (1995) 109

### metallic catalysts

Molecular clusters as models of metallic catalysts 86 (1994) 51

### metallocenes

Models of surface-confined metallocene derivatives 86 (1994) 309

# metalloporphyrins

Meso-aryl substituted metalloporphyrins supported on imidazole propyl gel (IPG). Catalytic activity in the oxidation of cyclohexane and characterization of iron porphyrin–IPG systems 88 (1994) 167

### Metallosilicates

Catalytic conversion of oxygen containing cyclic compounds. Part

I. Cyclohexanol conversion over H[A1]ZSM-5 and H[B]ZSM-5 94 (1994) 117

### Metal modifiers

Study of the competition between disproportionation and oxidation of cyclohexene in the liquid phase over solid catalysts 94 (1994) 181

#### Metal oxide

Study of the Meerwein–Pondorff–Verley reaction between ethanol and acetone on various metal oxides 91 (1994) 45

#### metal oxide diatomics

Theoretical aspects of methane dissociation and hydroxylation on metal oxide diatomics in the gas phase 82 (1993) 425

#### metal oxides

Validity of using isopropanol decomposition as a test-reaction for the characterization of metal oxides basicity; comparison with results obtained from methylbutynol decomposition 87 (1994) 329

Influence of hydrogen sulfide adsorption on the catalytic properties of metal oxides 97 (1995) 49

### Metal-oxygen bond

Transition metal oxides as catalysts for the selective reduction of nitrobenzene 93 (1994) 305

### metal-oxygen cluster compounds

Comparison of the surface properties of the metal-oxygen cluster compounds, 12-tungstophosphoric acid and ammonium 12-tungstophosphate from the sorption of benzene, nitrogen and pyridine 80 (1993) 75

### metal particles

Preparation, characterization, and application of fine metal particles and metal colloids using hydrotriorganoborates 86 (1994) 129

#### metal-support interaction

Detection by CO-FTIR of incipient metal-support interaction in  $Rh/SiO_2$  and  $Pd/TiO_2$  81 (1993) 267

### Metal-support interactions

Propene hydrogenation on low-temperature reduced  $Pt/TiO_2$ . Effects of TiO<sub>2</sub> phases and H<sub>2</sub> treatment on specific catalytic activity 94 (1994) 299

#### metal surfaces

An approach to the mechanisms of C-C bond formation and cleavage on metal surfaces using model elementary reaction steps of organometallic chemistry 86 (1994) 205

Molecular approach to the study of the mechanisms of alkyl reactions on metal surfaces 86 (1994) 221

#### metathesis

Ring-opening metathesis copolymerization of cyclopentene and [2.2]paracyclophane-1.9-diene: UV-Vis-spectroscopic determina-

tion of sequence-length distribution of *p*-phenylenevinylene units 84 (1993) 253

Co-metathesis reaction of methyl linoleate with ethene over  $WCl_6$  catalyst 89 (1994) 357

Cross-metathesis of some functionalized olefins with cyclo- and bicycloolefins catalyzed by  $WCl_6$ -silicon-containing co-catalyst systems 90 (1994) 21

Metathetic incorporation of preformed defined *p*-phenylenevinylene sequences into commercially available neodymium butadiene rubber 90 (1994) 29

Synthesis of perfect rubber using ring-opening metathesis polymerization of 1-methylcyclobutene 90 (1994) 39

Optically active polymers via ring-opening metathesis polymerization: Polymerization of enantiomerically pure (-)endo-2-norbornenyl acetate 90 (1994) 53

Deactivation mechanism of photoreduced and cyclopropane-treated molybdena/silica catalysts for olefin metathesis 90 (1994) 61

Synthesis of oligo- and poly(1,4-phenylenevinylene) by metathetic polycondensation of 1,4-divinylbenzene 90 (1994) 69

Metathesis polymerization of 1,7,7-trimethylbicyclo[2.2.1]hept-2ene using a well defined molybdenum initiator 90 (1994) 87

Synthesis of monoene pheromone components having a double bond in positions 6–11 using cometathesis of cycloolefins with  $\alpha$ -olefins 90 (1994) 111

Stereoselectivity of cycloolefin polymerization with WCl<sub>6</sub>-based catalytic systems 90 (1994) 117

Metathetical activity of allylsubstituted silanes in the presence of ruthenium catalyst 90 (1994) 125

Cometathesis of dicyclopentadiene with esters of unsaturated carboxylic acids by high valent tungsten chlorides as unicomponent catalysts 90 (1994) 135

Ring opening metathesis polymerization of bicyclo [2.2.1]hept-2ene (2-norbornene) and *exo,exo*-5,6-bis(methoxycarbonyl)-7-oxabicyclo [2.2.1]hept-2-ene using Ru(II) and Ru(III) complexes: Polymerization kinetics and ruthenium content in polymers 90 (1994) 143

Metathesis of unsaturated fatty acid esters and fatty oils 90 (1994) 185

Metathesis of vinylsubstituted silanes in the presence of ruthenium complexes 90 (1994) 213

Olefin metathesis catalyst. Part II. Activation and characteristics of a 'molecular' tungsten unit on silica 95 (1995) 75

Reactions of propene on supported molybdenum and tungsten oxides 95 (1995) 147

265

Single crystals of isopolyoxometallate(VI) salts as catalysts for the ring-opening polymerization of norbornene 96 (1995) 31

Reactions of  $W(CCMe_3)$  (OCMe<sub>3</sub>)<sub>3</sub> with terminal alkynes: metathesis and polymerization 96 (1995) 95

Metathetical polymerization of substituted phenylacetylenes using in situ generated (arene) $M(CO)_3$  complexes (arene = toluene, *o*xylene or mesitylene, M = Cr, Mo or W) as catalysts 99 (1995) 47

### methacrolein

Oxidative dehydrogenation of isobutyraldehyde to methacrolein over iron phosphate catalyst 89 (1994) 371

### methanation

Methanation with  $[Re(CO)_3OH]_4/Al_2O_3$ . Evidence for spillover species 86 (1994) 121

Fast and slow methanation pathways in hydrogenation of carbon dioxide on Fe-Mn oxide catalysts 91 (1994) 353

### methane

Strontium hydroxyapatites: catalytic properties in the oxidative dehydrogenation of methane to carbon oxides and hydrogen 92 (1994) 81

Role of surface chlorine species in the oxidative coupling of methane in the presence of tetrachloromethane on magnesium phosphate and sulphate 93 (1994) 53

Oxidative coupling of methane over natural manganese oxide 98 (1995) 25

Cluster quantum-chemical study of the chemisorption of methane on zinc oxide surface 99 (1995) 35

Cluster quantum-chemical study of the chemisorption of methane on a lithium-promoted magnesium oxide doped by zinc oxide 99 (1995) 139

### methane activation

Theoretical aspects of methane dissociation and hydroxylation on metal oxide diatomics in the gas phase 82 (1993) 425

### Methane hydroxylation

Comparison of methane hydroxylation activity with intact cells and cell-free extracts of *Methylosinus trichosporium* OB3b 97 (1995) 135

#### methane monooxy-genase

Oxidation of halogenated propanes with Methylosinus trichosporium (OB3b) 83 (1993) 5

Comparison of reactivity of alkene epoxidation with intact cells and cell-free extracts of *Methylosinus trichosporium* OB3b 93 (1994) 119 Comparison of methane hydroxylation activity with intact cells and cell-free extracts of *Methylosinus trichosporium* OB3b 97 (1995) 135

### methanesulphonic acid

Acidity studies of Eaton's catalyst, methanesulfonic acid-phosphorus pentoxide 87 (1994) 215

### methanol

An efficient ruthenium complex catalyst for the carbonylation of methanol to methyl formate 85 (1993) 109

Isomerization and oxidation of linear hexenes with methanolic Pd(II) 88 (1994) 301

Photocatalytic dehydrogenation of methanol using  $[IrH(SnCl_3)_5]^{3-}$  complex 89 (1994) 143

New catalytic system for oxidative carbonylation of aniline 91 (1994) 155

Role of hydride phases in the catalytic activity of  $Zr_2Ni$  for the dehydrogenation of methanol 91 (1994) 223

Use of the methanol decomposition reaction for identifying surface species in Cu/Co-based catalysts 91 (1994) 369

On the rhodium catalyzed formation of acetic acid from methyl formate – comparison with the rhodium catalyzed formation of acetic acid by direct carbonylation of methanol 95 (1995) 45

The role of promoter metals in the hydrocarbonylation of methanol over active carbon supported cobalt catalysts 95 (1995) 259

Cobalt catalysed carbonylation of reactive chlorides into esters by methyl formate without carbon monoxide and methanol added 96 (1995) 15

Synthesis of acetic acid from methanol alone by homogeneous metal complex catalyst. Part II <sup>1</sup>. Mechanistic study on methyl acetate formation from methanol alone by  $[(\pi^5-C_5H_5)(PPh_3)_2RuX]$ (X = Cl, SnF<sub>3</sub>) complex catalyst 97 (1995) 35

Catalytic methanol decomposition to carbon monoxide and hydrogen over  $Ni/SiO_2$  of high nickel content 99 (1995) 183

#### Methanol exchange

Promoter effect of niobia on  $Pt/Al_2O_3$  catalysts. Part II<sup>1</sup>. Effect of chlorine and  $Nb_2O_5$  content on the structure and reactivity in  $CH_3OH/D_2$  exchange 92 (1994) 167

### methanol oxidation

Molecular design of supported metal oxide catalysts: an initial step to theoretical models 82 (1993) 443

#### Methanol synthesis

Mechanistic aspects of the higher alcohol synthesis over unpromoted ZnCrO: 1-propanol flow microreactor study 94 (1994) 335

### methoxycarbonylation

Synthesis of methyl N-phenyl carbamate by methoxycarbonylation of aniline with dimethyl carbonate using Pb compounds as catalysts 91 (1994) 399

### 4-Methyl-1-pentene

Komplexkatalytische Isomerisierung von 4-Methyl-1-penten. Kinetische Untersuchungen. 96 (1995) 111

#### methyl acetate

Carbonylation of methyl acetate to acetic anhydride using homogeneous nickel complex catalyst 80 (1993) 21

Isomerization of methyl formate to acetic acid catalyzed by the Ru(II)-Sn(II) heteronuclear cluster complex  $[Ru(SnCl_3)_5(PPh_3)]$  84 (1993) 51

Synthesis of acetic acid from methanol alone by homogeneous metal complex catalyst. Part II <sup>1</sup>. Mechanistic study on methyl acetate formation from methanol alone by  $[(\eta^5-C_5H_5)(PPh_3)_2RuX]$ (X = Cl, SnF<sub>3</sub>) complex catalyst 97 (1995) 35

### 10-methylacridinium ion

Oxygenation of alkylbenzenes, catalyzed by 10-methylacridinium ion via photoinduced electron transfer under visible light irradiation 90 (1994) 225

#### methyl acrylate

Dimerization of methyl acrylate by homogeneous transition-metal catalysis. Part I. Activation of hydrido(carbonyl)chloro-[bis(triisopropylphosphane)]ruthenium by CF<sub>3</sub>SO<sub>3</sub>Ag 85 (1993) 149

### methylaluminoxane

Studies on methylaluminoxane and ethylene polymerization 90 (1994) 201

### methylalumoxane

Influence of ligands and cocatalyst on the activity in ethylene polymerization of soluble titanium complexes 89 (1994) 41

#### Methylamine

Methylamine synthesis over solid acid catalysts: reaction kinetic measurements 93 (1994) 337

#### Methylamines

Base catalysis on zeolites in the formaldehyde-dimethylamine transformations 98 (1995) 57

#### methylanilines

Intermolecular transalkylation of methylanilines 89 (1994) 191

Some zeolites equilibrate all six dimethylanilines by 1,2-methyl shifts 89 (1994) 201

### Methylation

Catalytic conversion of oxygen containing cyclic compounds. Part II. Cyclohexanone conversion on HZSM-5 zeolites 94 (1994) 243

#### methylbenzenes

Carbon catalyzed polymethylbenzene dealkylation 85 (1993) 229

Nickel-on-alumina catalyzed polymethylbenzene dealkylation 85 (1993) 237

#### methylbutynol

Validity of using isopropanol decomposition as a test-reaction for the characterization of metal oxides basicity; comparison with results obtained from methylbutynol decomposition 87 (1994) 329

### methylcyclobutene

Oxidation of cycloalkenes and methylenecycloalkanes by palladium(II) complexes. Part I. NMR study on the mechanism of the formation of ring-contracted and ring-opened products in the oxidation of 1-methylcyclobutene 83 (1993) 287

Synthesis of perfect rubber using ring-opening metathesis polymerization of 1-methylcyclobutene 90 (1994) 39

### methylcyclopentane

Comparison of acidic against redox properties of the  $CuAl_2Cl_8$  complex during the isomerization of alkanes at ambient temperature 83 (1993) 323

### methylene blue

Study of the new electron transfer mediators in glucose oxidase catalysis 91 (1994) 407

### methylenecycloalkanes

Oxidation of cycloalkenes and methylenecycloalkanes by palladium(11) complexes. Part I. NMR study on the mechanism of the formation of ring-contracted and ring-opened products in the oxidation of 1-methylcyclobutene 83 (1993) 287

### methylenecyclobutane

Oxidation of cycloalkenes and methylenecycloalkanes by palladium(II) complexes. Part 2. NMR study on the mechanism of the ring expansion of methylenecyclobutane 83 (1993) 301

### methylene green

Study of the new electron transfer mediators in glucose oxidase catalysis 91 (1994) 407

### methyl formate

Isomerization of methyl formate to acetic acid catalyzed by the Ru(II)-Sn(II) heteronuclear cluster complex  $[Ru(SnCl_3)_5(PPh_3)]$  84 (1993) 51

Scope of the N-alkylation of amides and the C-alkylation of malonates by methyl formate and dimethyl carbonate 84 (1993) 131

An efficient ruthenium complex catalyst for the carbonylation of methanol to methyl formate 85 (1993) 109

Ruthenium catalyzed ethylene-methyl formate reactions. Synthesis of propanol and ketones 91 (1994) 31

Synthesis of aminoarenes in homogeneously catalyzed nitroarene – methyl formate reactions 91 (1994) 149

On the rhodium catalyzed formation of acetic acid from methyl formate – comparison with the rhodium catalyzed formation of acetic acid by direct carbonylation of methanol 95 (1995) 45

Synthesis of malonic esters by the catalytic addition of methyl formate to  $\alpha,\beta$ -unsaturated esters 95 (1995) 129

### methyl group transfer

Intermolecular methyl group transfers in the xylene and xylenebenzene systems by means of anhydrous HF 88 (1994) 205

### methyl hydroperoxide

Why do not 7-co-ordinated diperoxo molybdenum complexes oxidize alkenes? A theoretical analysis 87 (1994) 5

### 2-methylnaphthalene

The indirect anodic oxidation of 2-methylnaphthalene Part II.\* Oxidation in presence of dichromates 83 (1993) 251

#### 2-methyl-napththoquinone

The indirect anodic oxidation of 2-methylnaphthalene Part II.\* Oxidation in presence of dichromates 83 (1993) 251

### methyl N-phenylcarbamate

An efficient heterogenised palladium catalytic system for the reductive carbonylation of nitrobenzene to methyl *N*-phenylcarbamate 88 (1994) 23

Carbonylative reduction of aromatic nitroderivatives to arylamines catalyzed by sulfur compounds 88 (1994) 177

New catalytic system for oxidative carbonylation of aniline 91 (1994) 155

### methyl orange

Photobleaching of methyl orange in titanium dioxide suspended in aqueous solution 85 (1993) 201

#### Methylosinus trichosporium

Oxidation of halogenated propanes with *Methylosinus trichosporium* (OB3b) 83 (1993) 5

Comparison of reactivity of alkene epoxidation with intact cells and cell-free extracts of *Methylosinus trichosporium* OB3b 93 (1994) 119

### Methylosinus trichosporium OB3b

Comparison of methane hydroxylation activity with intact cells and cell-free extracts of *Methylosinus trichosporium* OB3b 97 (1995) 135

### Methylsulphone

Catalytic activity of anchored vanadyl complexes 93 (1994) 29

### Methyltrioxorhenium

Oxidation of methoxybenzenes to *p*-benzoquinones catalyzed by methyltrioxorhenium(VII) 97 (1995) 15

#### MFI

Thermodynamic and mechanistic studies of initial stages in propane

aromatisation over Ga-modified H-ZSM-5 catalysts 86 (1994) 371

# Mg-Al hydrotalcite-like clay

Reactivity of interstitial  $[NiCl_4]^{2-}$  complex anions in a Mg-Al hydrotalcite-like clay towards alkyl bromides in the liquid phase 81 (1993) 397

# MgAPO5

Cracking of *n*-hexane and *n*-butane over SAPO5, MgAPO5 and CoAPO5 87 (1994) 263

### micellar catalysis

Micellar-catalysis: effect of sodium lauryl sulphate in the oxidation of lactic acid by chromic acid 81 (1993) 349

### micellar medium

Esterolysis of long-chain *p*-nitrophenyl picolinates by hydrophobic  $Zn^{2+}$  complexes in the presence of a cationic surfactant 85 (1993) 45

Cleavage of active esters by functional thiol compounds: acceleration and time-dependent effects induced by cationic surfactants 94 (1994) 263

### Micelle

Palladium catalyzed telomerization of butadiene with water in a two phase system: drastic effect of the amine structure on the rate and selectivity 97 (1995) 29

### micelle-protected bimetallic clusters

Polymer- and micelle-protected gold/platinum bimetallic systems. Preparation, application to catalysis for visible-light-induced hydrogen evolution, and analysis of formation process with optical methods 83 (1993) 167

### micellized solutions

Rate enhancement of the autooxidation of 3,5-di-*tert*-butylcatechol in micellized copper(II) solutions 81 (1993) L1

#### **Michael reaction**

Catalytic properties of low-valent europium introduced into Y-zeolite 98 (1995) 49

#### microgel

Importance of Hansch's  $\pi$  parameter in the catalytic action of microgel-immobilised subtilisin dissolved in tetrahydrofuran solvent 80 (1993) 137

#### microgels

Specificity to leaving group in transesterification of substituted phenyl esters in organic solvents catalysed by subtilisin-microgel sols 81 (1993) 119

Aminolysis of phenyl esters by microgel and dendrimer molecules possessing primary amines 85 (1993) 21

Ester fission catalysed by microgels possessing hydroxamic acid groups: structure-reactivity studies 95 (1995) 83

Microgels with trialkylammonio side chains function as catalysts for the alkaline hydrolysis of substituted phenyl laurate esters 99 (1995) 41

### **Microporous materials**

Structure-activity relationship in zeolites 96 (1995) 245

### microwave spectroscopy

Mechanism of but-1-yne hydrogenation on platinum catalysts: deuterium tracer study. 91 (1994) 259

# mineralization

Photodegradation of surfactants. Part XII: Photocatalyzed mineralization of phosphorus-containing surfactants at  $TiO_2/H_2O$  interfaces 88 (1994) 239

Photocatalyzed mineralization of nitrogen-containing compounds at  $TiO_2/H_2O$  interfaces 95 (1995) 53

### mixed metal clusters

Hydroformylation of  $\alpha$ - and  $\beta$ -pinene catalyzed by rhodium and cobalt carbonyls 83 (1993) 51

### Mixed micelles

Kinetic behaviour and reaction mechanism of the hydrolysis of *p*nitrophenyl palmitate in mixed micelles with Triton X-100 catalyzed by lipase from *Candida rugosa* 93 (1994) 37

### mixed oxides / zirconia-alumina

Acidic and basic properties of zirconia-alumina and zirconia-titania mixed oxides 84 (1993) 283

#### MNDO energetics

Simulation of topography and acid properties of silicon substituted AIPO<sub>4</sub>-11 framework 84 (1993) 299

#### Modified catalyst

Enantioface-differentiating hydrogenation of the C=O double bond using a modified Raney nickel: role of the carboxylic acid added to the reaction system 93 (1994) 211

Oxidation of olefins by palladium(II). Part XIV <sup>1</sup>. Product distribution and kinetics of the oxidation of ethene by  $PdCl_3(pyridine)^-$  in aqueous solution in the presence and absence of  $CuCl_2$ : a modified Wacker catalyst with altered reactivity 99 (1995) 77

#### modified catalysts

Characterisation of modified Cr-silica catalysts 90 (1994) 81

Physicochemical properties of  $TiO_2$ -SiO<sub>2</sub> unmodified and modified with  $H_2SO_4$  and activity for acid catalysis 93 (1994) 149

Mechanistic aspects of the higher alcohol synthesis over unpromoted ZnCrO: 1-propanol flow microreactor study 94 (1994) 335

### modified electrodes

Electron transfer reactions at Nafion and clay adsorbed  $Ru(bpy)_{3}^{2+}$  coated electrodes 84 (1993) 187

#### molecular beam catalysis

Theoretical studies in the realm of chemical reactivity: Noncatalytic and catalytic reactions 82 (1993) 265

#### molecular cluster

Electrophilicity of titanium atoms supported on magnesium chloride 82 (1993) 3

#### molecular clusters

Molecular clusters as models of metallic catalysts 86 (1994) 51

### molecular exchange

Characterization of the molecular exchange process observed for dimethyl methylphosphonate adsorbed on a sorptive/reactive resin mixture by <sup>31</sup>P magnetization-transfer and 2-D exchange MAS NMR 83 (1993) 183

#### molecular imprinting

Homogeneous and heterogeneous esterolytic catalyses of imidazolecontaining polymers prepared by molecular imprinting of a transition state analogue 87 (1994) 21

Homogeneous esterolytic catalysis of a polymer prepared by molecular imprinting of a transition state analogue 93 (1994) 189

### molecularity

Heteropolyanions in catalysis 86 (1994) 319

### molecular mechanics

### molecular orbital calculations

A molecular orbital picture of thiophene hydrodesulfurization. Part 2. Thiophene adsorption 83 (1993) 219

#### molecular orbital study

Molecular orbital study of the gas phase reaction of  $Na_xBi_4$  clusters with HCl (x = 1,2) 92 (1994) 95

The electronic states and Lewis acidity of surface aluminum atoms in  $\gamma$ -Al<sub>2</sub>O<sub>3</sub> model cluster: An *ab initio* MO study 96 (1995) 277

#### molecular sieves

Effect of pore diameter and acid strength in ethanol dehydration on molecular sieves 83 (1993) 145

A comparative study of acidic properties of SAPO-5, -11, -34 and -37 molecular sieves 88 (1994) 249

#### Mol mass regulation

Complex catalysis. Part XLVI<sup>1</sup>. The mechanism of mol mass regulation in the allyl nickel complex catalyzed 1,4-*cis* polymerization of butadiene 97 (1995) 21

#### Molten salts

Alkylation of isobutane with 2-butene using 1-butyl-3-methylimi-

dazolium chloride-aluminium chloride molten salts as catalysts 92 (1994) 155

#### molybdena

Deactivation mechanism of photoreduced and cyclopropane-treated molybdena/silica catalysts for olefin metathesis 90 (1994) 61

### molybdenum

Catalytic oxidation of hydrazodicarboxamide to azodicarboxamide by oxygen 80 (1993) L13

New possibilities of NMR in mechanistic studies of homogeneous and heterogeneous catalysis 82 (1993) 275

Oxidation of primary benzylic amines by  $M_0(O)(O_2)_2(H_2O)(HMPA) = 83 (1993) 311$ 

Characterization with <sup>95</sup>Mo, <sup>17</sup>O, <sup>1</sup>H NMR and EPR of alkylperoxo, alkoxo, peroxo and diolo molybdenum(VI) complexes formed in the course of catalytic epoxidation of cyclohexene with organic hydroperoxides 83 (1993) 329

<sup>17</sup>O, <sup>95</sup>Mo and <sup>1</sup>H NMR study of the mechanism of epoxidation of alkenes with hydrogen peroxide in the presence of molybdenum complexes 83 (1993) 347

Oxidation of alkylaromatic compounds with hydrogen peroxide catalyzed by mixed addenda Keggin heteropolyanions 84 (1993) 93

Stoichiometric and catalytic oxidation of cyclohexylamine by  $M_0(O)(O_2)_2(H_2O)(HMPA) = 84$  (1993) 137

Catalytic behaviour for skeletal rearrangement of hydrocarbons and surface structures of silica and alumina supported Pt-Mo catalysts 85 (1993) 75

Pyridine adsorption on a  $MoS_2$  modelled surface ( $Mo_3S_8$ ). A CNDO molecular orbital study 85 (1993) 345

Catalytic oxidation and ammoxidation of propylene. Modelling studies on well-defined molybdenum complexes 86 (1994) 267

Why do not 7-co-ordinated diperoxo molybdenum complexes oxidize alkenes? A theoretical analysis 87 (1994) 5

Effect of the method of preparing  $Ru-Mo/SiO_2$  catalysts in their behaviour in CO hydrogenation 88 (1994) 213

Heptamolybdate-ion catalyzed C(2) epimerization of *D*-mannose to *D*-glucose in acetonitrile-water mixtures; a kinetic study 89 (1994) 247

Spectroscopic and structural properties of some molybdenum and tungsten polyoxoperoxo complexes. A comparison with mononuclear complexes 89 (1994) 295

On the hydrogenolysis of five membered heteroatom rings over  $MoS_2 = 89 (1994) 345$ 

[CpMo(CO)<sub>3</sub>]<sub>2</sub> as a catalyst for olefin metathesis 90 (1994) 11

Optically active polymers via ring-opening metathesis polymerization: Polymerization of enantiomerically pure (-)-endo-2-norbornenyl acetate 90 (1994) 53

Metathesis polymerization of 1,7,7-trimethylbicyclo[2.2.1]hept-2ene using a well defined molybdenum initiator 90 (1994) 87

Metathesis of unsaturated fatty acid esters and fatty oils 90 (1994) 185

Mo-promoted Fe/activated carbon catalysts for carbon monoxide hydrogenation 90 (1994) 291

Kinetic study of the hydrogen sulfide effect in the conversion of thiophene on supported Co-Mo catalysts 94 (1994) 369

Characterization of MoO<sub>3</sub>/TiO<sub>2</sub> catalysts by <sup>1</sup>H magic-angle-spinning NMR spectroscopy 96 (1995) 5

Single crystals of isopolyoxometallate (VI) salts as catalysts for the ring-opening polymerization of norbornene 96 (1995) 31

Oxidation of bromide by chlorate catalysed by Mo 99 (1995) 143

#### molybdenum disulphide

Hydrogenation of olefins on a  $MoS_2/\gamma$ -Al<sub>2</sub>O<sub>3</sub> catalyst. Role of P, F and alkaline cation additives 81 (1993) 301

A molecular orbital picture of thiophene hydrodesulfurization. Part 2. Thiophene adsorption 83 (1993) 219

### molybdenum oxide

Raman characterization of alumina supported Mo-V-Fe catalysts: influence of calcination temperature 81 (1993) 63

Reactions of propene on supported molybdenum and tungsten oxides 95 (1995) 147

### 12-molybdophosphoric acid

Characterization of the compounds formed from the interaction of divalent cations with inorganic molecular metal-oxygen cluster compounds 80 (1993) 59

# <sup>95</sup>Mo NMR

Characterization with <sup>95</sup>Mo, <sup>17</sup>O, <sup>1</sup>H NMR and EPR of alkylperoxo, alkoxo, peroxo and diolo molybdenum(VI) complexes formed in the course of catalytic epoxidation of cyclohexene with organic hydroperoxides 83 (1993) 329

# <sup>95</sup>Mo NMR spectroscopy

<sup>17</sup>O, <sup>95</sup>Mo and <sup>1</sup>H NMR study of the mechanism of epoxidation of alkenes with hydrogen peroxide in the presence of molybdenum complexes 83 (1993) 347

### Monoamine oxidase

Stereoselective oxidation of enantiomeric amines by a monoamine oxidase model of chiral iron(III) porphyrins 91 (1994) 7

#### monoene

Synthesis of monoene pheromone components having a double bond in positions 6–11 using cometathesis of cycloolefins with  $\alpha$ -olefins 90 (1994) 111

### Monometallic catalysts

Catalytic and structural properties of ruthenium monometallic and bimetallic catalysts: characterization by EXAFS and XRD 96 (1995) 65

### mononuclear complexes

Spectroscopic and structural properties of some molybdenum and tungsten polyoxoperoxo complexes. A comparison with mononuclear complexes 89 (1994) 295

Photocatalytic reduction of coordinated dinitrogen to ammonia – mononuclear versus dinuclear ethylenediaminetetraacetato ruthenium complexes 93 (1994) 23

## monopersulphate

Ruthenium-catalyzed oxidation of alkylaromatics by monopersulfate with preferential oxidative fission of the benzene ring 84 (1993) 59

#### Monoraphidium braunii

Purification of Fd-glutamate synthase from *Monoraphidium braunii* and characterization of a light-dependent activity assay 89 (1994) 257

### **Monte Carlo methods**

Simulation of heterogeneous catalytic surfaces 85 (1993) 57

### montmorillonite

Fe<sup>3+</sup>-Montmorillonite catalyst for selective nitration of chlorobenzene 87 (1994) 33

An efficient heterogenised palladium catalytic system for the reductive carbonylation of nitrobenzene to methyl *N*-phenylcarbamate 88 (1994) 23

Montmorillonite and vanadia-montmorillonite catalysts for aniline alkylation 88 (1994) 271

Hydroformylation of allyl alcohol catalysed by  $(Rh(PPh_3)_3)^+/montmorillonite: a kinetic study 91 (1994) 187$ 

### montmorillonite clay

Electron transfer reactions at Nafion and clay adsorbed  $Ru(bpy)_{3}^{2+}$  coated electrodes 84 (1993) 187

### montmorillonite clays

Heterogeneous catalysis of asymmetric Diels-Alder reactions 89 (1994) 159

#### Montmorillonites

Structural study of Ti<sup>IV</sup> exchanged K10-montmorillonite by XRD, EXAFS and XANES 92 (1994) 311

### Mordenite

Surface organometallic chemistry on zeolites: control of the pore

opening of mordenite by grafting of thermally stable –GeBu<sub>3</sub> fragments 92 (1994) 239

### morpholine

Role of the support of the nickel catalyst in the synthesis of morpholine from diethylene glycol and ammonia 88 (1994) 193

### morphology of Ni/Al<sub>2</sub>O<sub>3</sub>

Effect of alumina on the reduction of surface nickel oxide; morphology of the surfaces of the surfaces of Ni/Al<sub>2</sub>O<sub>3</sub> catalysts 83 (1993) 197

#### Mössbauer effect

CO oxidation over Pd/FeSbO<sub>4</sub> catalyst 95 (1995) 211

#### Mössbauer spectroscopy

Polymer-supported catalysis: oxidation of catecholamines by Fe(III)and Cu(II) complexes immobilized to chitosan 87 (1994) 177

Oxidative dehydrogenation of *n*-butane on zinc-chromium ferrite catalysts 92 (1994) 325

#### Mukaiyama's conditions

Epoxidation of cyclohexene catalyzed by copper(II) complexes under Mukaiyama's conditions 96 (1995) 9

### Mulliken population analysis

Electrophilicity of titanium atoms supported on magnesium chloride 82 (1993) 3

### Multidentate podand ligand

Multidentate N-heterocyclic podand ligand. Efficient oxygenation of phenols catalyzed by novel cobalt complex 95 (1995) 1

### Multinuclear NMR studies

Multinuclear NMR studies of V<sub>2</sub>O<sub>5</sub>-Cs<sub>2</sub>S<sub>2</sub>O<sub>7</sub> melts 99 (1995) 123

### Multiphase system

Selectivity in hydrodehalogenation of polychloro- and polybromobenzenes under multiphase conditions 96 (1995) 301

### Myoglobin

Photoreduction of cytochrome *c* with zinc protoporphyrin reconstituted myoglobin (ZnPP-Mb) 95 (1995) 193

The effect of chemical modification of zinc myoglobin on the photoinduced electron transfer with methyl viologen 96 (1995) 87

# N

### NaBH<sub>4</sub>

Microporous poly-*N*,*N*-dimethylacrylamide-*p*-styrylsulfonatemethylene bis(acrylamide): a promising support for metal catalysis 97 (1995) 145

### Nation

In situ spectrocyclic voltammetric studies on Ru-red and Ru-brown

complexes for water oxidation catalyst in homogeneous aqueous solution and in heterogeneous Nafion membrane 81 (1993) 319

Electron transfer reactions at Nafion and clay adsorbed Ru(bpy)<sub>3</sub><sup>2+</sup> coated electrodes 84 (1993) 187

Ethene dimerization using a Nafion<sup>®</sup> supported  $\sigma$ -arylnickel (II) species 90 (1994) 245

Nafion<sup>®</sup> supported cationic palladium complexes as catalysts (II) 94 (1994) 163

### naphthalene

The indirect anodic oxidation of 2-methylnaphthalene Part II.\* Oxidation in presence of dichromates 83 (1993) 251

### naphthol derivatives

Enantioselective and photocatalytic oxidation of 1,1'-bi-2-naphthol with a chiral ruthenium complex which includes molecular helicity 88 (1994) 1

#### *n*-butane

Dynamic description of the oxidation of *n*-butane on various faces of  $(VO)_2P_2O_7$  in terms of the crystallochemical model of active sites 84 (1993) 307

Cracking of *n*-hexane and *n*-butane over SAPO5, MgAPO5 and CoAPO5 87 (1994) 263

### neodymium

Metathetic incorporation of preformed defined *p*-phenylenevinylene sequences into commercially available neodymium butadiene rubber 90 (1994) 29

### neodymium catalyst

Homopolymerization and copolymerization of butadiene with a neodymium catalyst 82 (1993) 83

#### neodymocene

A useful method for the synthesis of neodymocene homogeneous catalysts for ethylene polymerization 82 (1993) 75

#### Neomenthol

Stereoselective reduction of menthone with sodium dithionite in the presence of  $\beta$ -cyclodextrin 93 (1994) 247

### Neopentane

Cracking of neopentane over acidic zeolites: influence of isobutane and isobutene admission 95 (1995) 269

#### *n*-heptane conversion

Platinum supported on coprecipitated Sn-ZnAl<sub>2</sub>O<sub>4</sub> 84 (1993) 177

#### N-Heterocyclic ligand

Multidentate N-heterocyclic podand ligand. Efficient oxygenation of phenols catalyzed by novel cobalt complex 95 (1995) 1

#### n-hexane

Cracking of n-hexane and n-butane over SAPO5, MgAPO5 and CoAPO5 87 (1994) 263

### n-hexane cracking

FT-IR study of hydrocarbon conversion on dealuminated HY zeolites in working conditions 86 (1994) 401

### nickel

Propadiene oligomerization catalyzed by nickel(0) phosphine complexes immobilized on phosphinated poly(styrene-divinylbenzene) support 80 (1993) 181

Structural characteristics and catalytic performance of nickel catalysts for selective hydrogenation of 1,6-hexanedinitrile 81 (1993) 363

Characterization of potassium-doped nickel catalysts and activity for selective hydrogenation of 1,6-hexanedinitrile 81 (1993) 387

Catalysis of alkene hydrogenation and oxidation by nickel-saloph complex; a novel bifunctional catalyst 84 (1993) 1

Codimerization of 2,5-norbornadiene with ethylene using soluble cobalt and nickel catalysts 84 (1993) 77

A new double carbonylation reaction 85 (1993) 117

Dissociative chemisorption of perfluoropolyethers above reactive sites on nickel surfaces: a theoretical contribution 85 (1993) 183

Nickel-on-alumina catalyzed polymethylbenzene dealkylation 85 (1993) 237

Metal-support interaction effects in the liquid-phase selective hydrogenation of 1,4-butynediol with nickel catalysts supported on  $AIPO_4$ and on other conventional non-reducible compounds 85 (1993) 305

The catalytic effect of some transition metal hexamethylenetetramine complexes in hydrogen peroxide decomposition 87 (1994) 25

Catalytic olefin oligomerisation activity of a series of trialkyl- and triphenylphosphine derivatives of the nickel(II) complexes of 4-thioxo-2-pentanoate and 2,4-pentanedithionate 87 (1994) 117

Mode of enantioface-differentiation in the hydrogenation of 2-alkanone over an asymmetrically modified nickel catalyst 87 (1994) 333

Interaction of CO with  $Ni^0$  in zeolites and on alumina studied by isotopic exchange 87 (1994) 343

Ethene polymerization by binuclear nickel-ylide complexes 88 (1994) 141

Role of the support of the nickel catalyst in the synthesis of morpholine from diethylene glycol and ammonia 88 (1994) 193

Deuterium exchange of pyrrolidine, diethylamine and triethylamine over catalysts of Group VIII transition metals 89 (1994) 365

Ethene dimerization using a Nafion<sup>®</sup> supported  $\sigma$ -arylnickel(II) species 90 (1994) 245

Role of hydride phases in the catalytic activity of  $Zr_2Ni$  for the dehydrogenation of methanol 91 (1994) 223

Chelate control in the nickel-complex catalyzed homogeneous oligomerization of ethylene 92 (1994) 21

Hydrovinylation of styrene derivatives to 3-aryl-1-butenes catalysed by nickel complexes 92 (1994) 127

Room-temperature hydrogen transfer from liquid methanol or 2propanol to diphenylacetylene over Group VIII metal/ $TiO_2$  photocatalysts 92 (1994) 187

First report on highly efficient alkene hydrogenation catalysed by Ni(salen) complex encapsulated in zeolite 92 (1994) 235

The interaction of carbon monoxide with nickel-iron alloys. A comparison between single crystal surfaces and supported catalysts 92 (1994) 299

Subnanometer nickel clusters in complex reducing agents 93 (1994) 79

Enantioface-differentiating hydrogenation of the C=O double bond using a modified Raney nickel: role of the carboxylic acid added to the reaction system 93 (1994) 211

Aerobic epoxidation of olefins catalyzed by polymerizable  $\beta$ -ketoesterate complexes of iron(III), nickel(II) and cobalt(II) 94 (1994) 19

Dehydrogenation of isopropyl alcohol over Co-Ni/Mg oxide catalysts 94 (1994) 191

Effect of the reduction temperature on the selectivity of the high temperature reaction of acetone and hydrogen over alumina and titania supported nickel and cobalt catalysts 94 (1994) 347

Komplexkatalytische Isomerisierung von 4-Methyl-1-penten. Kinetische Untersuchungen. 96 (1995) 111

Complex catalysis. Part XLVI<sup>1</sup>. The mechanism of mol mass regulation in the allyl nickel complex catalyzed 1,4-*cis* polymerization of butadiene 97 (1995) 21

Catalytic methanol decomposition to carbon monoxide and hydrogen over Ni/SiO<sub>2</sub> of high nickel content 99 (1995) 183

### nickel catalysis

Catalytic activities of nickel(II) complexes of a salen analog, [Ni(babp)], in epoxidation of olefins 87 (1994) 195

### nickel catalyst

Characterization of potassium-doped nickel catalysts and activity for selective hydrogenation of 1,6-hexanedinitrile 81 (1993) 387

#### nickel complexes

Carbonylation of methyl acetate to acetic anhydride using homogeneous nickel complex catalyst 80 (1993) 21

### nickelocene

Study of the new electron transfer mediators in glucose oxidase catalysis 91 (1994) 407

### Niobia

Promoter effect of niobia on  $Pt/Al_2O_3$  catalysts. Part II<sup>1</sup>. Effect of chlorine and  $Nb_2O_5$  content on the structure and reactivity in  $CH_3OH/D_2$  exchange 92 (1994) 167

### Niobium oxide

FTIR studies of CO chemisorption and reactivity on Rh/SiO<sub>2</sub> catalysts promoted by niobium oxide 92 (1994) 217

#### Ni-Raney

Selectivity in hydrodehalogenation of polychloro- and polybromobenzenes under multiphase conditions 96 (1995) 301

#### nitration

Fe<sup>3+</sup>-Montmorillonite catalyst for selective nitration of chlorobenzene 87 (1994) 33

#### nitric oxide

Kinetics of the bimolecular reaction NO +  $H_2$  on Pt 84 (1993) 267

#### nitriles

Metal-catalysed carbon–carbon bond formation in the reaction of  $\beta$ dicarbonyls with nitriles 81 (1993) 133

#### nitrite

Heterogeneous photocatalytic oxidation of nitrite over iron-doped TiO<sub>2</sub> samples 87 (1994) 67

### Nitrite reactions

Synthesis and application of organophilic polystyrene-montmorillonite supported onium salts in organic reactions 94 (1994) 311

#### nitroanilines

Carbonylative reduction of aromatic nitroderivatives to arylamines catalyzed by sulfur compounds 88 (1994) 177

### nitroarenes

Triruthenium dodecacarbonyl-catalyzed reductive carbonylation of nitroarenes: cyclization, carbon monoxide insertion and reduction. An overview 89 (1994) 121

#### Nitroaromatics

Orthometalated ruthenium-complex-catalysed reductive carbonylation of nitroaromatics 91 (1994) 19

### nitrobenzene

Palladium-catalyzed N,N'-diphenylurea synthesis from nitrobenzene, aniline, and carbon monoxide: Part 4. Ligand effects 81 (1993) 17

Carbonylative reduction of aromatic nitroderivatives to arylamines catalyzed by sulfur compounds 88 (1994) 177

Activity and selectivity of supported Rh complex catalyst in carbonylation of nitrobenzene 91 (1994) 195 Transition metal oxides as catalysts for the selective reduction of nitrobenzene 93 (1994) 305

273

#### nitrogen

Characterization of the compounds formed from the interaction of divalent cations with inorganic molecular metal-oxygen cluster compounds 80 (1993) 59

Photocatalytic reduction of coordinated dinitrogen to ammonia – mononuclear versus dinuclear ethylenediaminetetraacetato ruthenium complexes 93 (1994) 23

#### Nitrogen-containing compounds

Photocatalyzed mineralization of nitrogen-containing compounds at  $TiO_2/H_2O$  interfaces 95 (1995) 53

#### Nitrogen ligands

Ruthenium(II) 2-(phenylazo)pyridine complexes as epoxidation catalysts 98 (1995) 143

#### nitrogen oxides

Removal of low concentration nitrogen oxides through photoassisted heterogeneous catalysis 88 (1994) 93

### nitro groups

Chemoselective reduction of nitro groups in the presence of olefinic, ester, and halogeno functions using a reducing agent of CO and  $H_2O$ catalyzed by Rh carbonyl clusters 88 (1994) 267

#### 4-Nitrophenol

Effect of Fe-ZSM-5 zeolite on the photochemical and biochemical degradation of 4-nitrophenol 95 (1995) 61

#### Nitro substituted ironporphyrin

Study of catalytic activity of nitro substituted ironporphyrins 97 (1995) 41

### nitrous acid

Nitrous acid-catalysed oxidation of alcohols by oxygen in strongly acidic aqueous solutions 88 (1994) 121

#### nitrous oxide

Stoichiometric reaction of benzene with  $\alpha$ -form of oxygen on FeZSM-5 zeolites. Mechanism of aromatics hydroxylation by N<sub>2</sub>O 84 (1993) 117

#### nitrous oxide decomposition

Role of oxygen vacancies in the decomposition of  $N_2O$  over  $YBa_2Cu_3O_{7-\delta}$  and  $Gd_2CuO_4$  oxide systems 87 (1994) 287

### NMR

Vanadium site in VAPO-5: characterization and catalytic properties in liquid-phase alkene epoxidation and benzylic oxidation 81 (1993) 77

### NMR characterization

Stacked phthalocyanines in VPI-5 pores as evidenced by CPDOR  $^1H\mathchar`{-}^{27}Al\ NMR \quad 97\ (1995)\ 183$ 

#### NMR spectroscopy

 $^{31}$ P spin lattice relaxation time measurements of the amphiphilic ligands [Ph<sub>2</sub>P(CH<sub>2</sub>)<sub>n</sub>PMe<sub>3</sub>]<sup>+</sup> in solution and tethered to a solid cationic exchange resin via the tetra-alkylphosphonium groups 80 (1993) 43

Kinetic and spectroscopic study of the hydrogen-transfer reaction from 2-propanol to cyclohexanone catalyzed by  $[IrH_2(pz)(Hpz)(PPh_3)_2]$  (Hpz = pyrazole) 87 (1994) 151

Homogeneous and alumina supported rhodium complex catalyzed hydrogenation 88 (1994) 13

Spectroscopic and structural properties of some molybdenum and tungsten polyoxoperoxo complexes. A comparison with mononuclear complexes 89 (1994) 295

 $^{51}$ V NMR and EPR study of the mechanistic details of oxidation with VO(O<sub>2</sub>)(Pic)(H<sub>2</sub>O)<sub>2</sub> 92 (1994) 245

NMR at elevated gas pressures and its application to homogeneous catalysis 92 (1994) 285

<sup>51</sup>V-NMR investigation on the formation of peroxo vanadium complexes in aqueous solution: some novel observations 94 (1994) 323

Use of NMR techniques for studying deactivation of zeolites by coking 96 (1995) 123

Effect of the synthesis conditions on the crystallinity and surface acidity of SAPO-11 98 (1995) 35

### NMR studies

 $Multinuclear\,NMR\,studies\,of\,V_2O_5-Cs_2S_2O_7\,melts-99\ (\,1995\,)\ 123$ 

### N,N'-diphenylurea

Carbonylative reduction of aromatic nitroderivatives to arylamines catalyzed by sulfur compounds 88 (1994) 177

New catalytic system for oxidative carbonylation of aniline 91 (1994) 155

#### N,N-Dimethylformamide

Base catalysis on zeolites in the formaldehyde-dimethylamine transformations 98 (1995) 57

### NO decomposition

A copper/silica catalyst prepared from a monolayer film of copper 2,2'-bipyridine dimer on Cab-O-Sil 97 (1995) 85

### Non-uniformity

Surface nonuniformity and kinetic insensitivity on heterogeneous catalysts 94 (1994) 47

### 2,5-norbornadiene

Codimerization of 2,5-norbornadiene with ethylene using soluble cobalt and nickel catalysts 84 (1993) 77

#### norbornene

Ring opening metathesis polymerization of bicyclo [2.2.1] hept-2ene (2-norbornene) and *exo,exo*-5,6-bis(methoxycarbonyl)-7-oxabicyclo [2.2.1] hept-2-ene using Ru(II) and Ru(III) complexes: Polymerization kinetics and ruthenium content in polymers 90 (1994) 143

Single crystals of isopolyoxometallate(VI) salts as catalysts for the ring-opening polymerization of norbornene 96 (1995) 31

### norbornene derivatives

Optically active polymers via ring-opening metathesis polymerization: Polymerization of enantiomerically pure (-)-endo-2-norbornenyl acetate 90 (1994) 53

### N-phenylformamide

New catalytic system for oxidative carbonylation of aniline 91 (1994) 155

#### nuclear magnetic resonance

Solid-state NMR studies of supported organometallics 86 (1994) 447

Effect of particle size upon catalytic and electronic properties of supported Ag catalysts: combined catalytic, <sup>109</sup>Ag NMR and quantum chemistry studies 96 (1995) 175

### nuclear magnetic resonance studies

<sup>1</sup>H and <sup>51</sup>V high-resolution solid state nuclear magnetic resonance studies of supported V<sub>2</sub>O<sub>5</sub>/TiO<sub>2</sub> catalysts 88 (1994) 311

nucleases Immobilization of nucleases on corn cob 84 (1993) 391

#### numerical integration

Kinetic analysis of a Michaelis-Menten mechanism with an unstable substrate 83 (1993) 273

ſ	٦
L	J

# O<sub>2</sub>-H<sub>2</sub> titration

Transformation of carbon compounds on graphimet catalysts. Part V. The effect of pretreatment on the structure and activity of Pt-graphimet catalyst 99 (1995) 115

#### Octaaza macrocycle

Copper(I) and copper(II) dinuclear complexes of a macrocyclic ligand derived from the 2:2 condensation of pyridine-2,6-dicarbox-aldehyde and 1,4,7-triazaheptane 99 (1995) 87

Stoichiometric and catalytic oxidation by a dinuclear copper(I) dioxygen complex and a dinuclear copper(II) complex of a macrocyclic ligand derived from the 2:2 condensation of pyridine-2,6dicarboxaldehyde and 1,4,7-triazaheptane 99 (1995) 101

#### Octacarbonyl cobalt complex

Chemistry of dicobalt octacarbonyl on zinc oxide. Homonuclear ion-

pairing surface species related to catalytic activity in ethylene hydroformylation 96 (1995) 49

## Octadienol

Palladium catalyzed telomerization of butadiene with water in a two phase system: drastic effect of the amine structure on the rate and selectivity 97 (1995) 29

#### octahedral environment

*Trans*-effect and *trans*-influence series for phosphanes in octahedral environment: a guide for design of new catalysts 90 (1994) 257

#### octane

Paraffin dehydrocyclization. Part 8. Conversion of *n*-octane with mono and bifunctional  $Pt-Al_2O_3$  catalysts at 100 psig 88 (1994) 325

Paraffin dehydrocyclization. Part 10. Conversion of *n*-octane with supported Pt-Sn catalysts at 100 psig 88 (1994) 359

#### octanes

Paraffin dehydrocyclization. Part 9. Conversion of *n*-octane with Pt-Sn catalysts at atmospheric pressure 88 (1994) 343

### octene

Aqueous phase rhodium hydroformylation of octene-1 with trisulfonated tris( $\omega$ -phenyl)alkylphosphines and trisulfonated triphenyl phosphine. Reaction selectivity as an indication of rhodium-phosphine complex chemistry 88 (1994) 43

### oils

Metathesis of unsaturated fatty acid esters and fatty oils 90 (1994) 185

### olefin

Non-metallocene group 4 organometallic complexes as catalysts for olefin polymerization: synthesis and catalytic activity of the cationic complex  $[Zr(CH_2Ph)_3]^+ [B(CH_2Ph)(C_6F_5)_3] = 82 (1993) 57$ 

Catalytic olefin oligomerisation activity of a series of trialkyl- and triphenylphosphine derivatives of the nickel(II) complexes of 4-thioxo-2-pentanoate and 2,4-pentanedithionate 87 (1994) 117

### olefinic acids

The effect of phosphonium salt formation on the kinetics of homogeneous hydrogenations in water utilizing a rhodium *meta*-sulfonatophenyl-diphenylphosphine complex 84 (1993) 157

### **Olefin isomerization**

Effect of ligand donor-acceptor properties on selectivity of catalytic olefin isomerization reaction 99 (1995) 23

### olefin oxidation

Oxidation of primary benzylic amines by  $Mo(O)(O_2)_2(H_2O)(HMPA)$  83 (1993) 311

### olefin polymerization

Behaviour of  $[Ti_2(OEt)_8Cl]_2Mg_2(\mu-Cl)_2$  as catalyst component in

the Ziegler-Natta polymerization of  $\alpha$ -olefins and diolefins 82 (1993) 45

275

### olefins

Formation of ketones from lower olefins and water on ultrastable Ytype zeolite catalyst 80 (1993) 229

Regiochemical synthesis of straight chain acids by the palladium(II) catalyzed hydrocarboxylation of olefins with oxalic acid 80 (1993) 377

Syngas reactions part XV. Primary amine syntheses from olefins, syngas and ammonia 81 (1993) 27

Hydrogenation of olefins on a  $MoS_2/\gamma$ -Al<sub>2</sub>O<sub>3</sub> catalyst. Role of P, F and alkaline cation additives 81 (1993) 301

Allylic oxidation of olefins catalyzed by cobalt chloride. The beneficial effect of *N*-methylpyrrolidinone 84 (1993) 87

Hydroformylation of olefins catalysed by supported  $Ru_3(CO)_{12}$  with 2,2'-bipyridine or with other heterocyclic nitrogen base 84 (1993) 145

Effect of water on tributylphosphine modified cobalt carbonyl catalysts for the hydroformylation of olefins 85 (1993) 121

Influence of (P—N) bidentate ligand on rhodium-catalyzed hydroformylation of olefins 85 (1993) 275

Alkylrhenium oxides as homogeneous epoxidation catalysts: activity, selectivity, stability, deactivation 86 (1994) 243

Hydroformylation of olefins catalyzed by (1,5-cyclooctadiene) salicylaldoximatorhodium under atmospheric pressure 88 (1994) 277

Mobility of transient olefinic intermediates during exchange reactions of paraffins with deuterium on metal catalysts 89 (1994) 19

Reactivity of ruthenium carbonyl carboxylates under hydroformylation conditions 89 (1994) 77

Co-metathesis reaction of methyl linoleate with ethene over  $WCl_6$  catalyst 89 (1994) 357

[CpMo(CO)<sub>3</sub>]<sub>2</sub> as a catalyst for olefin metathesis 90 (1994) 11

Cross-metathesis of some functionalized olefins with cyclo- and bicycloolefins catalyzed by  $WCl_{s}$ -silicon-containing co-catalyst systems 90 (1994) 21

Deactivation mechanism of photoreduced and cyclopropane-treated molybdena/silica catalysts for olefin metathesis 90 (1994) 61

Surface compounds of transition metals. Part XXXIX<sup>1</sup>. Redox deactivation of Phillips catalysts: from olefins to cyclopentadienyl complexes 90 (1994) 75 Ring-opening polymerization of cycloolefin induced by tungsten porphyrinates 90 (1994) 101

Synthesis of monoene pheromone components having a double bond in positions 6–11 using cometathesis of cycloolefins with  $\alpha$ -olefins 90 (1994) 111

Stereoselectivity of cycloolefin polymerization with  $WCl_6$ -based catalytic systems 90 (1994) 117

Alkoxides as ancillary ligands in organolanthanide chemistry: synthesis, reactivity,  $\alpha$ -olefin and diene polymerization by  $[Y(C_5Me_5)(OC_6H_3^1Bu_2) (\mu-H)]_2 = 90 (1994) 177$ 

Studies on methylaluminoxane and ethylene polymerization 90 (1994) 201

Metathesis of vinylsubstituted silanes in the presence of ruthenium complexes 90 (1994) 213

Selectivity in hydroformylation of 1-decene by homogeneous catalysis 91 (1994) 1

Homogeneous hydrogenation of olefins catalyzed by rhodium(I) complexes of new heterodifunctional phosphorus-nitrogen chelating ligands 91 (1994) 175

Selective olefin oxidation with cobalt phthalocyanine encapsulated in Y-zeolite 91 (1994) 251

Chelate control in the nickel-complex catalyzed homogeneous oligomerization of ethylene 92 (1994) 21

First report on highly efficient alkene hydrogenation catalysed by Ni(salen) complex encapsulated in zeolite 92 (1994) 235

Homogeneous catalytic hydrogenation of olefins by use of  $RhH_2(Ph_2N_3)(PPh_3)_2$  in dimethyl sulfoxide 92 (1994) 257

Highly selective palladium catalyzed hydrogen transfer from  $H_2O-CO$  to the C=C double bond of  $\beta$ -benzoylacrylic acid 94 (1994) 173

Olefin metathesis catalyst. Part II. Activation and characteristics of a 'molecular' tungsten unit on silica 95 (1995) 75

Water-soluble metal complexes and catalysts. Part 7<sup>1</sup>. New efficient water-soluble catalysts for two-phase olefin hydroformylation: BINAS-Na, a superlative in propene hydroformylation 97 (1995) 65

Palladium-catalyzed, arylation of ethylene (the Heck reaction) under aqueous conditions 97 (1995) 73

### oligomerisation

Catalytic olefin oligomerisation activity of a series of trialkyl- and triphenylphosphine derivatives of the nickel(II) complexes of 4-thioxo-2-pentanoate and 2,4-pentanedithionate 87 (1994) 117

#### oligomerization

Propadiene oligomerization catalyzed by nickel(0) phosphine complexes immobilized on phosphinated poly(styrene-divinylbenzene) support 80 (1993) 181

Homogeneous and biphasic oligomerization of terminal alkynes by some water soluble rhodium catalysts 85 (1993) 153

Chelate control in the nickel-complex catalyzed homogeneous oligomerization of ethylene 92 (1994) 21

Study of the reactivity of ClCo(PPh<sub>3</sub>)<sub>3</sub> 92 (1994) 41

#### oligosaccharides

Syntheses of pharmaceutical oligosaccharides catalyzed by immobilized-stabilized derivatives of different  $\beta$ -galactosidases 84 (1993) 373

#### onium ion

Effects of water and onium ion phase-transfer catalyst on the rate of liquid-phase oxidation of hydrocarbons 80 (1993) 353

### **Onium salt**

Selectivity in hydrodehalogenation of polychloro- and polybromobenzenes under multiphase conditions 96 (1995) 301

# 17**O NMR**

Characterization with <sup>95</sup>Mo, <sup>17</sup>O, <sup>1</sup>H NMR and EPR of alkylperoxo, alkoxo, peroxo and diolo molybdenum(VI) complexes formed in the course of catalytic epoxidation of cyclohexene with organic hydroperoxides 83 (1993) 329

# 17O NMR spectroscopy

<sup>17</sup>O, <sup>95</sup>Mo and <sup>1</sup>H NMR study of the mechanism of epoxidation of alkenes with hydrogen peroxide in the presence of molybdenum complexes 83 (1993) 347

### o-Phenylene-bis-salicylimine complexes

Catalytic activity of anchored vanadyl complexes 93 (1994) 29

#### organic carbonates

Organic carbonate activation: aldehyde acetalization study using  $Sn[Co(CO)_4]_4$  as catalyst in the activation of propylene carbonate 85 (1993) 279

### organic layer coating

Immobilization of alkoxylated phosphine ligands and their Rh complexes to a silica surface coated with an organic mono- or multilayer 90 (1994) 303

### **Organic media**

Activity decay and conformational change of lipase in presence of organic solvents. A fluorescence study of *Candida rugosa* lipase 97 (1995) 119

### organic solvent

Effect of water-mimicking additives on the synthetic activity and enantioselectivity in organic solvents of a *Candida cylindracea* lipase 84 (1993) 27

### organic solvent effect

Heptamolybdate-ion catalyzed C(2) epimerization of *D*-mannose to *D*-glucose in acetonitrile-water mixtures; a kinetic study 89 (1994) 247

### organic solvents

Specificity to leaving group in transesterification of substituted phenyl esters in organic solvents catalysed by subtilisin-microgel sols 81 (1993) 119

Immobilization of laccase from *Phlebia radiata* on controlled porosity glass 95 (1995) 99

#### organic synthesis

Syntheses of pharmaceutical oligosaccharides catalyzed by immobilized-stabilized derivatives of different  $\beta$ -galactosidases 84 (1993) 373

#### Organochloroaluminates

Alkylation of isobutane with 2-butene using 1-butyl-3-methylimidazolium chloride-aluminium chloride molten salts as catalysts 92 (1994) 155

### Organofluorine compounds

Recent contributions of carbonylation reaction to the synthesis of fluorinated pharmaceutical compounds 93 (1994) 1

### Organometallic

Chemistry of dicobalt octacarbonyl on zinc oxide. Homonuclear ionpairing surface species related to catalytic activity in ethylene hydroformylation 96 (1995) 49

#### organometallic fragments

Stoichiometric and catalytic reactivity of organometallic fragments supported on inorganic oxides 86 (1994) 5

#### organometallics

Solid-state NMR studies of supported organometallics 86 (1994) 447

Surface organometallic chemistry on zeolites: A tool for modifying the sorption properties of zeolites 86 (1994) 501

### orthometallated catalysts

Dihydrogen reduction of organic substrates using orthometallated ruthenium(II) complex catalysts 88 (1994) 57

### **Orthometallated complexes**

Orthometalated ruthenium-complex-catalysed reductive carbonylation of nitroaromatics 91 (1994) 19

### ortho-substituted organic nitro compounds

Synthesis of heterocycles via palladium-catalyzed carbonylation of ortho-substituted organic nitro compounds in relatively mild conditions 87 (1994) 203

### **O,S-diethyl phenyl phosphonothioate**

<sup>31</sup>P MAS NMR study of the hydrolysis of *O*,*S*-diethyl phenylphosphonothioate on reactive sorbents 99 (1995) 175

#### osmium

Application of computer modeling to surface organometallic chemistry 86 (1994) 479

277

Homogeneous catalysis by osmium complexes. A review 96 (1995) 231

### osmium trichloride

Surface organometallic chemistry: reductive carbonylation of OsCl<sub>3</sub>•3H<sub>2</sub>O supported on silica 86 (1994) 109

### oxalic acid

Regiochemical synthesis of straight chain acids by the palladium(II) catalyzed hydrocarboxylation of olefins with oxalic acid 80 (1993) 377

#### oxidation

Catalytic oxidation of hydrazodicarboxamide to azodicarboxamide by oxygen 80 (1993) L13

Oxidation of organic substrates catalysed by mixed ligand  $Ru^{II}$  complexes. Investigation of active catalytic species and termination pathway 80 (1993) 1

Palladium-catalyzed oxidation of triphenylphosphine 80 (1993) 31

Influence of substituents and ligands of various cobalt(II) porphyrin derivatives coordinately bonded to silica on the oxidation of mercaptan 80 (1993) 253

Effects of water and onium ion phase-transfer catalyst on the rate of liquid-phase oxidation of hydrocarbons 80 (1993) 353

DRIFT study of the oxidation and the ammoxidation of toluene over a  $TiO_2(B)$ -supported vanadia catalyst 81 (1993) 51

Investigation of the catalytic activity of poly(siloxane)-supported tetra(4-pyridyl)porphyrinatomanganese(III) in olefin oxidation reactions 81 (1993) 157

Micellar-catalysis: effect of sodium lauryl sulphate in the oxidation of lactic acid by chromic acid 81 (1993) 349

Comparison of the relative efficiency of peroxomolybdenum complexes as oxidants of the alcoholic function 83 (1993) 95

The indirect anodic oxidation of 2-methylnaphthalene Part II.\* Oxidation in presence of dichromates 83 (1993) 251

Oxidation of cycloalkenes and methylenecycloalkanes by palladium(II) complexes. Part I. NMR study on the mechanism of the formation of ring-contracted and ring-opened products in the oxidation of 1-methylcyclobutene 83 (1993) 287

Oxidation of cycloalkenes and methylenecycloalkanes by palladium(II) complexes. Part 2. NMR study on the mechanism of the ring expansion of methylenecyclobutane 83 (1993) 301

Chromium(VI)-catalyzed oxidation of adamantane by *tert*-butyl hydroperoxide 84 (1993) 15

Oxidation of alkylaromatic compounds with hydrogen peroxide catalyzed by mixed addenda Keggin heteropolyanions 84 (1993) 93

Stoichiometric reaction of benzene with  $\alpha$ -form of oxygen on FeZSM-5 zeolites. Mechanism of aromatics hydroxylation by N<sub>2</sub>O 84 (1993) 117

Stoichiometric and catalytic oxidation of cyclohexylamine by  $M_0(O_1(O_2)_2(H_2O)(HMPA) = 84 (1993) 137$ 

Oxydation catalytique du HMF en acide 2,5-furane dicarboxylique 85 (1993) 327

Palladium clusters: stoichiometric and catalytic reactions 86 (1994) 71

Alkylrhenium oxides as homogeneous epoxidation catalysts: activity, selectivity, stability, deactivation 86 (1994) 243

Catalytic oxidation and ammoxidation of propylene. Modelling studies on well-defined molybdenum complexes 86 (1994) 267

Heterogeneous photocatalytic oxidation of nitrite over iron-doped TiO<sub>2</sub> samples 87 (1994) 67

Polymer-supported catalysis: oxidation of catecholamines by Fe(III) and Cu(II) complexes immobilized to chitosan 87 (1994) 177

CO oxidation over Pd/SnO<sub>2</sub> catalyst 87 (1994) 297

Enantioselective and photocatalytic oxidation of 1,1'-bi-2-naphthol with a chiral ruthenium complex which includes molecular helicity 88 (1994) 1

Transition-metal phthalocyanine catalyzed oxidation of sulfides by iodosylbenzene 88 (1994) 7

 $\beta$ -Cyclodextrin as inverse phase-transfer catalyst in oxidations of isoborneol, borneol and menthol by calcium hypochlorite in aqueous solution 88 (1994) 117

Nitrous acid-catalysed oxidation of alcohols by oxygen in strongly acidic aqueous solutions 88 (1994) 121

Meso-aryl substituted metalloporphyrins supported on imidazole propyl gel (IPG). Catalytic activity in the oxidation of cyclohexane and characterization of iron porphyrin–IPG systems 88 (1994) 167

Some possibilities and problems regarding photochemical water oxidation 88 (1994) 185

Isomerization and oxidation of linear hexenes with methanolic Pd(II) 88 (1994) 301

Electrocatalytic activity of  $[(bpy)_2(H_2O)Ru^{III}ORu^{III}(H_2O)(bpy)_2]^{4+}$  towards sugar oxidation 89 (1994) 101

Oxidative dehydrogenation of isobutyraldehyde to methacrolein over iron phosphate catalyst 89 (1994) 371

Stereoselective oxidation of enantiomeric amines by a monoamine oxidase model of chiral iron(III) porphyrins 91 (1994) 7

Quantum-chemical study of the four-electron catalytic oxidation of water to dioxygen in the presence of dinuclear and tetranuclear hydroxide complexes of cobalt(III) and iron(III): intermediates of the catalytic cycle and their relative energies 91 (1994) 71

Liquid-phase oxidation of alcohols by dioxygen using oxide-supported platinum catalysts 91 (1994) 139

Selective olefin oxidation with cobalt phthalocyanine encapsulated in Y-zeolite 91 (1994) 251

Is metallic palladium formed in Wacker oxidation of alkenes? 91 (1994) 343

 $^{51}V$  NMR and EPR study of the mechanistic details of oxidation with VO(O<sub>2</sub>)(Pic)(H<sub>2</sub>O)<sub>2</sub> 92 (1994) 245

Highly efficient oxygen transfer from *tert*-butyl hydroperoxide to benzylic carbons catalyzed by chromium(VI) oxide under high substrate/hydroperoxide ratios 92 (1994) 277

Oxidation of catechol with KMnO<sub>4</sub> by using crown ethers as phase transfer catalysts 93 (1994) 195

Catalytic oxidation of erythrosine by cobalt phthalocyanines 93 (1994) 253

Polymer-supported Pd(II) Wacker-type catalysts. Part III<sup>1</sup>. Isomerisation of alkene double bond 94 (1994) 7

Aerobic oxidation of aldehydes, ketones, sulfides, alcohols and alkanes catalysed by polymerizable  $\beta$ -ketoesterate complexes of iron(III), nickel(II) and cobalt(II) 94 (1994) 27

The effects of differing degrees of thermal activation of  $RuO_2 \cdot xH_2O$ on its corrodability and oxygen catalytic activity 94 (1994) 71

Study of the competition between disproportionation and oxidation of cyclohexene in the liquid phase over solid catalysts 94 (1994) 181

Multiple bonds between main-group elements and transition metals. Part 133<sup>1</sup>. Methyltrioxorhenium as a catalyst of the Baeyer-Villiger oxidation 94 (1994) 213

Effect of tetrachloromethane as a gas-phase additive on the oxidative dehydrogenation of ethane over magnesium phosphate 95 (1995) 35 Catalytic activity of monomeric and polymeric cobalt(II)-phthalocyanines in sulfide ion oxidation 95 (1995) 197

CO oxidation over Pd/FeSbO<sub>4</sub> catalyst 95 (1995) 211

The CO-oxidation on Pd-rich surfaces of PdCu(110): hysteresis in reaction rates 96 (1995) 271

Oxidation of methoxybenzenes to *p*-benzoquinones catalyzed by methyltrioxorhenium(VII) 97(1995) 15

Study of catalytic activity of nitro substituted ironporphyrins 97 (1995) 41

Formation and reactivity toward hydrocarbons of oxomanganese porphyrins in the presence of anionic bases 97 (1995) 79

Vapour phase deep oxidation of chlorinated hydrocarbons catalyzed by pillared bentonites 97 (1995) 139

The influence of dissolved metal ions on the photocatalytic degradation of phenol in aqueous  $TiO_2$  suspensions 98 (1995) 109

Mechanistic aspects of benzylic bromide formation and oxidation during the cobalt acetate bromide catalyzed oxidation of alkylbenzenes in carboxylic acids 99 (1995) 1

Oxidation of olefins by palladium(II). Part XIV <sup>1</sup>. Product distribution and kinetics of the oxidation of ethene by  $PdCl_3(pyridine)^-$  in aqueous solution in the presence and absence of  $CuCl_2$ : a modified Wacker catalyst with altered reactivity 99 (1995) 77

Stoichiometric and catalytic oxidation by a dinuclear copper(1) dioxygen complex and a dinuclear copper(II) complex of a macrocyclic ligand derived from the 2:2 condensation of pyridine-2,6-dicarboxaldehyde and 1,4,7-triazaheptane 99 (1995) 101

#### oxidation mechanisms

Role of alkylperoxo complexes of cobalt(III) in catalytic oxidation of cyclohexane by cumene hydroperoxide in the presence of bis(acetylacetonato)cobalt(II) 81 (1993) 215

# oxidative carbonylation

New catalytic system for oxidative carbonylation of aniline 91 (1994) 155

#### **Oxidative coupling**

Role of surface chlorine species in the oxidative coupling of methane in the presence of tetrachloromethane on magnesium phosphate and sulphate 93 (1994) 53

Oxidative coupling of methane over natural manganese oxide 98 (1995) 25

### **Oxidative degeneration**

Global kinetics of the alkaline oxidative degradations of lactose 93 (1994) 317

### **Oxidative dehydrogenation**

Oxidative dehydrogenation of *n*-butane on zinc-chromium ferrite catalysts 92 (1994) 325

Oxidative dehydrogenation of propane on VAPO-5,  $V_2O_5/ALPO_4$ -5 and  $V_2O_5/MgO$  catalysts. Nature of selective sites 97 (1995) 173

### oxidative N-dealkylation

Factors affecting cytochrome P-450 and horseradish peroxidase-catalyzed oxidative N-dealkylation of aromatic tertiary amines. A multivariate approach 85 (1993) 97

### oxide catalyst

Liquid-phase oxidation of ethyl lactate to pyruvate over suspended oxide catalysts 83 (1993) 207

Fast and slow methanation pathways in hydrogenation of carbon dioxide on Fe-Mn oxide catalysts 91 (1994) 353

#### oxide catalysts

Charge sensitivity analysis of oxide catalysts: oxidation-state dependence of the normal-mode description of  $V_2O_5$  surface clusters 82 (1993) 383

### **Oxide surface**

Cluster quantum-chemical study of the chemisorption of methane on zinc oxide surface 99 (1995) 35

### Oxosulphatovanadates(V)

 $Multinuclear\,NMR\,studies\,of\,V_2O_5\text{--}Cs_2S_2O_7\,melts\quad 99\ (1995)\ 123$ 

### oxygen

Catalytic oxidation of hydrazodicarboxamide to azodicarboxamide by oxygen 80 (1993) L13

Semiempirical study of carbon monoxide, oxygen and carbon adsorption on a modelled CoSi(100) surface 80 (1993) 307

New catalytic system for oxidative carbonylation of aniline 91 (1994) 155

Catalytic oxidation of erythrosine by cobalt phthalocyanines 93 (1994) 253

Aerobic epoxidation of olefins catalyzed by polymerizable  $\beta$ -ketoesterate complexes of iron(III), nickel(II) and cobalt(II) 94 (1994) 19

### Oxygenases

Comparison of reactivity of alkene epoxidation with intact cells and cell-free extracts of *Methylosinus trichosporium* OB3b 93 (1994) 119

#### oxygenation

Structural effect of cobalt Schiff base complex catalyst on its catalytic activity in dioxygenolysis of 3-methylindole 83 (1993) 117

Synthesis of  $[PW_9O_{37}{Fe_{3-x}Ni_x(OAC)_3}]^{(9+x)-}$ (x = predominantly 1) and oxidation catalysis by the catalyst precursor 88 (1994) 125

Oxygenation of alkylbenzenes, catalyzed by 10-methylacridinium ion via photoinduced electron transfer under visible light irradiation 90 (1994) 225

Multidentate N-heterocyclic podand ligand. Efficient oxygenation of phenols catalyzed by novel cobalt complex 95 (1995) 1

Catalysis of  $Sm^{3+}$  for the oxidation of alkanes with  $O_2$  in the liquid phase 95 (1995) 115

### oxygen transient species

Quantum chemical study of the reaction of ammonia with transient oxygen species 82 (1993) 353

### oxygen vacancy

Role of oxygen vacancies in the decomposition of  $N_2O$  over  $YBa_2Cu_3O_{7-\delta}$  and  $Gd_2CuO_4$  oxide systems 87 (1994) 287

#### o-Xylene

Probing Ru-Pd/SiO<sub>2</sub> catalysts by gas phase o-xylene hydrogenation 96 (1995) 155

### Ozone

Ozone decomposition and CO oxidation on CeO<sub>2</sub> 98 (1995) 9

Ρ

### paired interacting orbitals

Paired interacting orbitals (PIO) study on the formation of the active site in Ziegler catalyst system 87 (1994) 243

#### palladacycles

Pallada- and platinacycles. Part IV. The palladium- and platinumcatalyzed selective cyclisation of dipropargyl acetylenedicarboxylate – the reaction of an  $\alpha$ -alkynyl metallacyclopentadiene 81 (1993) 313

### palladium

Dicarbonylation of 1,4-diacetoxy-but-2-ene in hex-3-ene dioate catalyzed by  $PdCl_2$  in the presence of  $PBu_4Cl = 80$  (1993) L9

Palladi	um-catalyzed	oxidation	of	triphenylphos-
phine	80 (1993) 31			

Correlation between the single turnover (STO) site densities and the rates of 4-*tert*-butyl-1-methylcyclohexene hydrogenation over silica supported palladium catalysts 80 (1993) 277

Regiochemical synthesis of straight chain acids by the palladium(II) catalyzed hydrocarboxylation of olefins with oxalic acid 80 (1993) 377

Palladium-catalyzed carbon–carbon bond formation from  $(\eta^6$ -chloroarene)Cr(CO)<sub>3</sub> complexes: an example of bimetallic activation in homogeneous catalysis 81 (1993) 1

Palladium-catalyzed N,N'-diphenylurea synthesis from nitrobenzene, aniline, and carbon monoxide: Part 4. Ligand effects 81 (1993) 17

Detection by CO-FTIR of incipient metal-support interaction in Rh/ SiO<sub>2</sub> and Pd/TiO<sub>2</sub> 81 (1993) 267

Desulfonylation and desulfonylative carbonylation of arenethiosulfonic acid esters in the presence of  $PdCl_2$  and LiCl = 83 (1993) 125

Oxidation of cycloalkenes and methylenecycloalkanes by palladium(II) complexes. Part I. NMR study on the mechanism of the formation of ring-contracted and ring-opened products in the oxidation of 1-methylcyclobutene 83 (1993) 287

Oxidation of cycloalkenes and methylenecycloalkanes by palladium(11) complexes. Part 2. NMR study on the mechanism of the ring expansion of methylenecyclobutane 83 (1993) 301

New alkoxycarbonyl complexes of palladium(II) and their role in carbonylation reactions carried out in the presence of an alkanol 84 (1993) 165

Nucleophilic attack on the central allyl carbon of  $\eta^3$ -allyl complexes of Pd and Pt. Synthesis of cyclopropanes from allylic electrophiles and silyl enolates 84 (1993) 239

Thioethers: potential ligands for asymmetric catalysis? 85 (1993) 131

Palladium and phase transfer catalyzed carbonylation of propargyl derivatives 85 (1993) 287

Synthesis of heterocycles via palladium-catalyzed carbonylation of ortho-substituted organic nitro compounds in relatively mild conditions 87 (1994) 203

CO oxidation over Pd/SnO<sub>2</sub> catalyst 87 (1994) 297

Acetoxylation of toluene catalyzed by supported Pd-Sn catalysts 87 (1994) 311

An efficient heterogenised palladium catalytic system for the reductive carbonylation of nitrobenzene to methyl *N*-phenylcarbamate 88 (1994) 23

Aerobic oxidation of ethers and alkenes catalyzed by a novel palladium complex 88 (1994) 151

Isomerization and oxidation of linear hexenes with methanolic Pd(II) 88 (1994) 301

Synthesis of  $\gamma$ -keto-arboxylic acids via reduction of  $\gamma$ -keto-ahydroxycarboxylic acids with carbon monoxide catalyzed by a Pd-HCl system 89 (1994) 93 Palladium-catalyzed hydroesterification of alkynes in the presence of *p*-toluenesulfonic acid under a normal pressure of carbon monoxide 89 (1994) 151

Hydrogenation of acetylene on palladium 89 (1994) 211

Styrene hydrogenation on supported Pd, Fe and Pd-Fe/ $\gamma$ -Al<sub>2</sub>O<sub>3</sub> catalysts 89 (1994) 267

Deuterium exchange of pyrrolidine, diethylamine and triethylamine over catalysts of Group VIII transition metals 89 (1994) 365

Pd/Sn catalyst for toluene acetoxylation 90 (1994) 267

Ruthenium catalyzed ethylene-methyl formate reactions. Synthesis of propanol and ketones 91 (1994) 31

Ring enlargement and aromatization of propylcyclobutane over silica-supported Pt, Pd and Rh in hydrogen atmosphere 91 (1994) 61

Polyol conversion into furanic derivatives on bimetallic catalysts; nature of the catalytic sites 91 (1994) 119

An alloy phase of  $Pd_3Pb$  and the activity of Pb/Pd/C catalysts in the liquid-phase oxidation of sodium lactate to pyruvate 91 (1994) 129

Chiral Pd-, Cu- and Ni-chelates and their utilities as catalysts in allylic acetoxylation of alkenes 91 (1994) 319

Is metallic palladium formed in Wacker oxidation of alkenes? 91 (1994) 343

Room-temperature hydrogen transfer from liquid methanol or 2propanol to diphenylacetylene over Group VIII metal/TiO<sub>2</sub> photocatalysts 92 (1994) 187

Polymer-supported Pd(II) Wacker-type catalysts. Part III<sup>1</sup>. Isomerisation of alkene double bond 94 (1994) 7

Hydrogenation of the aromatic rings of 2-ethylanthraquinone on palladium catalyst 94 (1994) 37

Sepiolites as supports for Pd catalysts used in organic reduction processes 94 (1994) 131

Nafion \* supported cationic palladium complexes as catalysts (II) 94 (1994) 163

Highly selective palladium catalyzed hydrogen transfer from  $H_2O-CO$  to the C=C double bond of  $\beta$ -benzoylacrylic acid 94 (1994) 173

Study of the competition between disproportionation and oxidation of cyclohexene in the liquid phase over solid catalysts 94 (1994) 181

Ammonia and sulfur poisoning effects on hydrogenation of phenylacetylene over Pd supported catalysts 94 (1994) 409 Synthesis of a *trans*-benzo-[f]-heterodecalin by catalytic hydrogenation. The important parameters for high stereo- and chemoselectivity 95 (1995) 155

281

Mechanism of 2,4-dinitrotoluene hydrogenation over Pd/ C 95 (1995) 235

Heterogeneous catalysis in organic chemistry. Part 10<sup>1</sup>. Effect of the catalyst support on the regiochemistry of the heck arylation reaction 95 (1995) 277

Probing  $Ru-Pd/SiO_2$  catalysts by gas phase *o*-xylene hydrogenation 96 (1995) 155

Regioselective palladium(II) catalyzed hydroesterification of alkynes and alkynols using formate esters 96 (1995) 197

The CO-oxidation on Pd-rich surfaces of PdCu(110): hysteresis in reaction rates 96 (1995) 271

Selectivity in hydrodehalogenation of polychloro- and polybromobenzenes under multiphase conditions 96 (1995) 301

Palladium catalyzed telomerization of butadiene with water in a two phase system: drastic effect of the amine structure on the rate and selectivity 97 (1995) 29

## Palladium-561 clusters

Scanning tunneling microscopy observation of giant palladium-561 clusters 95 (1995) 109

#### palladium acetate

Catalytic activity of Pd(AcO)<sub>2</sub> coordinated to cross-linked polymeric isocyanides 81 (1993) 167

#### palladium-carbon catalyst

Competitive oxidation of alcohols in aqueous phase using Pd/C catalyst 83 (1993) 75

## palladium catalyst

Palladium catalyzed vinylation of 4-bromo-4'-hydroxybiphenyl 88 (1994) 113

#### Palladium catalysts

Microporous poly-*N*,*N*-dimethylacrylamide-*p*-styrylsulfonatemethylene bis(acrylamide): a promising support for metal catalysis 97 (1995) 145

## palladium cluster catalysis

Palladium clusters: stoichiometric and catalytic reactions 86 (1994) 71

## **Palladium complex**

The regioselective hydrocarboalkoxylation of 4-methylstyrene catalyzed by palladium complexes 95 (1995) 11

## Palladium(II)

Oxidation of olefins by palladium(II). Part XIV <sup>1</sup>. Product distribution and kinetics of the oxidation of ethene by  $PdCl_3(pyridine)^-$ 

in aqueous solution in the presence and absence of CuCl<sub>2</sub>: a modified Wacker catalyst with altered reactivity 99 (1995) 77

## palladium reduction

A new and convenient method for the synthesis of 3-alkyl thiophenes 80 (1993) 201

## [2.2]paracyclophane-1,9-diene

Ring-opening metathesis copolymerization of cyclopentene and [2.2] paracyclophane-1,9-diene: UV-Vis-spectroscopic determination of sequence-length distribution of *p*-phenyleneviny-lene units 84 (1993) 253

## paracyclophanediene

Ring-opening copolymerization of [2.2] paracyclophane-1,9-diene (PCPDE) and cyclooctene (COE); a route to soluble products with *p*-phenylenevinylene sequences 90 (1994) 15

#### paraffin

Paraffin dehydrocyclization. Part 8. Conversion of *n*-octane with mono and bifunctional  $Pt-Al_2O_3$  catalysts at 100 psig 88 (1994) 325

Paraffin dehydrocyclization. Part 10. Conversion of *n*-octane with supported Pt-Sn catalysts at 100 psig 88 (1994) 359

## paraffins

Mobility of transient olefinic intermediates during exchange reactions of paraffins with deuterium on metal catalysts 89 (1994) 19

#### parallel oxidation

Comparison of acidic against redox properties of the  $CuAl_2Cl_8$  complex during the isomerization of alkanes at ambient temperature 83 (1993) 323

## p-Benzoquinone

Oxidation of methoxybenzenes to *p*-benzoquinones catalyzed by methyltrioxorhenium(VII) 97 (1995) 15

## Pd/C Selectivity

Selectivity in hydrodehalogenation of polychloro- and polybromobenzenes under multiphase conditions 96 (1995) 301

#### Pd catalysts

Infrared study of carbon monoxide adsorption and hydrogenation over Pd–Fe catalysts 83 (1993) 157

#### Pd-Fe catalysts

Infrared study of carbon monoxide adsorption and hydrogenation over Pd-Fe catalysts 83 (1993) 157

#### penicillin acylase

Resolution of racemic mixtures by synthesis reactions catalyzed by immobilized derivatives of the enzyme penicillin G acylase 84 (1993) 365

## penicillin G-acylase

Influence of the chemical and textural properties of the support in

the immobilization of penicillin G-acylase from Kluyvena citrophila on inorganic supports 80 (1993) 269

## Penicillium janthinellum

Abnormal effect of mercury ions on bilirubin oxidase activity 96 (1995) 11

## pentanedithionate

Catalytic olefin oligomerisation activity of a series of trialkyl- and triphenylphosphine derivatives of the nickel(II) complexes of 4-thioxo-2-pentanoate and 2,4-pentanedithionate 87 (1994) 117

#### pentasil-like zeolites

Framework and non-framework gallium in pentasil-like zeolite as studied in the reaction of propane 81 (1993) 293

#### pentene

Cylindrical internal reflectance (CIR) evidence for the facile fragmentation of  $PhCCo_3(CO)_7(cis-Ph_2PCH=CHPPh_2)$  during the hydroformylation of 1-pentene 88 (1994) 159

## perchloric acid

Lewis acid vs. Brønsted acid as catalysts in solution. The quantitative comparison of reactivities of carbonyl compounds in the triethylsilyl perchlorate- and perchloric acid-catalyzed hydrosilylation in acetonitrile 85 (1993) 143

## perfluoropolyethers

Dissociative chemisorption of perfluoropolyethers above reactive sites on nickel surfaces: a theoretical contribution 85 (1993) 183

#### peroxidases

Changes in activity of soluble and immobilized peroxidases after treatment by various proteases and some metal ions 80 (1993) 117

## peroxo acetic acid

Why do not 7-co-ordinated diperoxo molybdenum complexes oxidize alkenes? A theoretical analysis 87 (1994) 5

#### Peroxo complex

Oxidation of methoxybenzenes to *p*-benzoquinones catalyzed by methyltrioxorhenium(VII) 97 (1995) 15

#### peroxocomplexes

Hydroxylation of aromatics with hydrogen peroxide catalyzed by vanadium(V) peroxocomplexes 83 (1993) 107

<sup>17</sup>O, <sup>95</sup>Mo and <sup>1</sup>H NMR study of the mechanism of epoxidation of alkenes with hydrogen peroxide in the presence of molybdenum complexes 83 (1993) 347

Stoichiometric and catalytic oxidation of cyclohexylamine by  $M_0(O)(O_2)_2(H_2O)(HMPA) = 84 (1993) 137$ 

 $^{51}$ V NMR and EPR study of the mechanistic details of oxidation with VO(O<sub>2</sub>) (Pic) (H<sub>2</sub>O)<sub>2</sub> 92 (1994) 245

<sup>51</sup>V-NMR investigation on the formation of peroxo vanadium complexes in aqueous solution: some novel observations 94 (1994) 323

## peroxomolybdenum complexes

Comparison of the relative efficiency of peroxomolybdenum complexes as oxidants of the alcoholic function 83 (1993) 95

## peroxymolybdenum complexes

Oxidation of primary benzylic amines by  $M_0(O)(O_2)_2(H_2O)(HMPA) = 83 (1993) 311$ 

## **Pharmaceuticals**

Recent contributions of carbonylation reaction to the synthesis of fluorinated pharmaceutical compounds 93 (1994) 1

#### Phase transfer

Iridium(1) and phase-transfer catalyzed hydrogen-transfer reduction of ketones using potassium fluoride on alumina as a base 92 (1994) 149

Oxidation of catechol with KMnO<sub>4</sub> by using crown ethers as phase transfer catalysts 93 (1994) 195

#### phase transfer catalysis

Palladium and phase transfer catalyzed carbonylation of propargyl derivatives 85 (1993) 287

## phase transfer catalyst

Effects of water and onium ion phase-transfer catalyst on the rate of liquid-phase oxidation of hydrocarbons 80 (1993) 353

#### phase transfer catalysts

A new double carbonylation reaction 85 (1993) 117

Crown ether phase-transfer catalysts for polymerization of phenylacetylene 89 (1994) 29

## phase transfer conditions

Further observations on RhCl<sub>3</sub>-Aliquat 336<sup>th</sup> catalyzed carbonylation of aromatic diynes under phase transfer conditions 90 (1994) 231

## Phenanthroline

Electrocatalytic hydrogenation on poly $[Rh^{III}(L)_2(CI)_2]^+$ (L = pyrrole-substituted 2,2'-bipyridine or 1,10-phenanthroline) films electrodes 99 (1995) 13

## phenethyl bromide

Double vs. mono carbonylation of phenethyl bromide catalyzed by cobalt complexes: effect of hydrophobic or water-soluble phosphines on the rate and selectivity of the reaction 88 (1994) 295

## Phenetole

Thermolysis of alkyl aryl ethers catalysed by HZSM-5, P-HZSM-5, H-Theta-1, H-Y and H-Mordenite zeolites 92 (1994) 51

## Phenol

The influence of dissolved metal ions on the photocatalytic degradation of phenol in aqueous  $TiO_2$  suspensions 98 (1995) 109

## Phenols

Multidentate N-heterocyclic podand ligand. Efficient oxygenation of phenols catalyzed by novel cobalt complex 95 (1995) 1

Stoichiometric and catalytic oxidation by a dinuclear copper(1) dioxygen complex and a dinuclear copper(II) complex of a macrocyclic ligand derived from the 2:2 condensation of pyridine-2,6-dicarboxaldehyde and 1,4,7-triazaheptane 99 (1995) 101

### Phenylacetaldehyde

Selective reductive dimerization of phenylacetaldehyde to 2,4diphenylbutanal catalysed by novel dirhodium complexes 96 (1995) 107

#### phenylacetylene

 $Pt/SiO_2$  catalysts: a comparison of the impregnation and the sol-gel methods 80 (1993) 299

Polymerization of phenylacetylene by Lewis acid activated tungsten carbonyl complexes 93 (1994) 137

Ammonia and sulfur poisoning effects on hydrogenation of phenylacetylene over Pd supported catalysts 94 (1994) 409

Reactions of  $W(CCMe_3)(OCMe_3)_3$  with terminal alkynes: metathesis and polymerization 96 (1995) 95

Kinetic and mechanistic investigation of the sequential hydrogenation of phenylacetylene catalyzed by rhodium(I) phosphine complexes of the type  $[Rh(\eta^2-O_2Z)(PR_3)_2] = 99 (1995) 55$ 

## **Phenylacetylene derivatives**

Metathetical polymerization of substituted phenylacetylenes using in situ generated (arene) $M(CO)_3$  complexes (arene=toluene, oxylene or mesitylene, M=Cr, Mo or W) as catalysts 99 (1995) 47

## phenylenediamines

Carbonylative reduction of aromatic nitroderivatives to arylamines catalyzed by sulfur compounds 88 (1994) 177

## phenylenevinylenes

Metathetic incorporation of preformed defined *p*-phenylenevinylene sequences into commercially available neodymium butadiene rubber 90 (1994) 29

#### phenylenevinylene units

Synthesis of oligo- and poly(1,4-phenylenevinylene) by metathetic polycondensation of 1,4-divinylbenzene 90 (1994) 69

#### phenyl esters

Specificity to leaving group in transesterification of substituted phenyl esters in organic solvents catalysed by subtilisin-microgel sols 81 (1993) 119

Aminolysis of phenyl esters by microgel and dendrimer molecules possessing primary amines 85 (1993) 21

Microgels with trialkylammonio side chains function as catalysts for the alkaline hydrolysis of substituted phenyl laurate esters 99 (1995) 41

## phenylformamide

Carbonylative reduction of aromatic nitroderivatives to arylamines catalyzed by sulfur compounds 88 (1994) 177

## phenylpropenal

Regioselective hydrogenation of 3-phenylpropenal and of *trans*-2hexenal to saturated aldehydes catalysed by ultrafine rhodium particles dispersed on acrylic resins 80 (1993) L5

## Phenylsulphone

Catalytic activity of anchored vanadyl complexes 93 (1994) 29

## phenyl triethoxy silane

Role of electron donor in propylene polymerization using magnesium chloride-supported titanium tetrachloride catalyst 82 (1993) 11

## pheromone components

Synthesis of monoene pheromone components having a double bond in positions 6–11 using cometathesis of cycloolefins with  $\alpha$ -olefins 90 (1994) 111

#### phenomenological laws

Extension of the range of applications of classic-phenomenological laws to the field of matter in a highly dispersed state 82 (1993) 361

## **Phillips catalysts**

Surface compounds of transition metals. Part XXXIX<sup>1</sup>. Redox deactivation of Phillips catalysts: from olefins to cyclopentadienyl complexes 90 (1994) 75

## Phlebia radiata

Immobilization of laccase from *Phlebia radiata* on controlled porosity glass 95 (1995) 99

## phoshine complexes

Aqueous phase rhodium hydroformylation of octene-1 with trisulfonated tris( $\omega$ -phenyl)alkylphosphines and trisulfonated triphenyl phosphine. Reaction selectivity as an indication of rhodium-phosphine complex chemistry 88 (1994) 43

## phosphanes

Trans-effect and trans-influence series for phosphanes in octahedral environment: a guide for design of new catalysts 90 (1994) 257

## phosphate

Oxidative dehydrogenation of isobutyraldehyde to methacrolein over iron phosphate catalyst 89 (1994) 371

Role of surface chlorine species in the oxidative coupling of methane in the presence of tetrachloromethane on magnesium phosphate and sulphate 93 (1994) 53

Effect of tetrachloromethane as a gas-phase additive on the oxidative dehydrogenation of ethane over magnesium phosphate 95 (1995) 35

## phosphate esters

Bifunctional acid-base catalysis by imidazole groups in enzyme mimics 91 (1994) 161

## **Phosphate triesters**

Cu<sup>II</sup>-diamine complex catalyzed hydrolysis of phosphate triesters

adsorbed on strong-base ion exchange resins. <sup>31</sup>P NMR relaxation measurements 93 (1994) 221

#### Phosphine

Hydroformylation of acrolein acetal 96 (1995) 25

#### phosphine-alkyne catalyst

Carbonylation of alcohols to alkyl formates promoted by an alkyne/ phosphine system 83 (1993) 83

## phosphine complexes

Catalysis of phosphine-coordinated rhodium(I) complexes for 2propanol dehydrogenation 92 (1994) 1

Study of the reactivity of ClCo(PPh<sub>3</sub>)<sub>3</sub> 92 (1994) 41

Effect of ligand donor-acceptor properties on selectivity of catalytic olefin isomerization reaction 99 (1995) 23

Kinetic and mechanistic investigation of the sequential hydrogenation of phenylacetylene catalyzed by rhodium(I) phosphine complexes of the type [Rh( $\eta^2$ -O<sub>2</sub>Z)(PR<sub>3</sub>)<sub>2</sub>] 99 (1995) 55

## phosphine-containing graft copolymer

Poly(trimethylolpropane)trimethacrylate-bound Rh-phosphine complexes as catalysts in continuous gas-phase hydroformylation of propene 81 (1993) 333

#### phosphine derivatives

Dicarbonylation of 1,4-diacetoxy-but-2-ene in hex-3-ene dioate catalyzed by  $PdCl_2$  in the presence of  $PBu_4Cl = 80$  (1993) L9

Catalytic olefin oligomerisation activity of a series of trialkyl- and triphenylphosphine derivatives of the nickel(II) complexes of 4-thioxo-2-pentanoate and 2,4-pentanedithionate 87 (1994) 117

Use of rhodium on carbon and 1,3-bis(diphenylphosphino)propane to catalyze the regioselective hydroformylation of alkenes with formic acid as the hydrogen source 92 (1994) 35

Rhodium catalysed hydroformylation of higher alkenes using amphiphilic ligands 98 (1995) 69

## phosphine ligand

Palladium catalyzed vinylation of 4-bromo-4'-hydroxybiphenyl 88 (1994) 113

#### phosphine ligands

Propadiene oligomerization catalyzed by nickel(0) phosphine complexes immobilized on phosphinated poly(styrene-divinylbenzene) support 80 (1993) 181

Syngas reactions part XV. Primary amine syntheses from olefins, syngas and ammonia 81 (1993) 27

Hydrogenation and transfer hydrogenation of D-fructose catalyzed by dichlorotris(triphenylphosphine)ruthenium(II) 81 (1993) 185 Hydroformylation of olefins catalyzed by (1,5-cyclooctadiene) salicylaldoximatorhodium under atmospheric pressure 88 (1994) 277

Immobilization of alkoxylated phosphine ligands and their Rh complexes to a silica surface coated with an organic mono- or multilayer 90 (1994) 303

#### phosphines

 $^{31}$ P spin lattice relaxation time measurements of the amphiphilic ligands [Ph<sub>2</sub>P(CH<sub>2</sub>), PMe<sub>3</sub>]<sup>+</sup> in solution and tethered to a solid cationic exchange resin via the tetra-alkylphosphonium groups 80 (1993) 43

Regiochemical synthesis of straight chain acids by the palladium(II) catalyzed hydrocarboxylation of olefins with oxalic acid 80 (1993) 377

Hydroformylation of  $\alpha$ - and  $\beta$ -pinene catalyzed by rhodium and cobalt carbonyls 83 (1993) 51

Double vs. mono carbonylation of phenethyl bromide catalyzed by cobalt complexes: effect of hydrophobic or water-soluble phosphines on the rate and selectivity of the reaction 88 (1994) 295

## phosphites

Fine tuning of bulky-phosphite modified rhodium catalysts by binding them to copolymers 83 (1993) 17

Stable silica-grafted polymer-bound bulky-phosphite modified rhodium hydroformylation catalysts 83 (1993) 37

Hydroformylation of  $\alpha$ - and  $\beta$ -pinene catalyzed by rhodium and cobalt carbonyls 83 (1993) 51

## phosphonium salts

The effect of phosphonium salt formation on the kinetics of homogeneous hydrogenations in water utilizing a rhodium *meta*-sulfonatophenyl-diphenylphosphine complex 84 (1993) 157

Synthesis and application of organophilic polystyrene-montmorillonite supported onium salts in organic reactions 94 (1994) 311

## **Phosphonothioate derivatives**

<sup>31</sup>P MAS NMR study of the hydrolysis of *O*,*S*-diethyl phenylphosphonothioate on reactive sorbents 99 (1995) 175

## Phosphorus(III) ligands

Komplexkatalytische Isomerisierung von 4-Methyl-1-penten. Kinetische Untersuchungen. 96 (1995) 111

## phosphorus-nitrogen ligands

Homogeneous hydrogenation of olefins catalyzed by rhodium(1) complexes of new heterodifunctional phosphorus-nitrogen chelating ligands 91 (1994) 175

## phosphorus pentoxide

Acidity studies of Eaton's catalyst, methanesulfonic acid-phosphorus pentoxide 87 (1994) 215

## photoassisted catalysis

Removal of low concentration nitrogen oxides through photoassisted heterogeneous catalysis 88 (1994) 93

285

## photobleaching

Photobleaching of methyl orange in titanium dioxide suspended in aqueous solution 85 (1993) 201

#### photocatalysis

Catalytic reactions of formate: Part 1. Photocatalytic hydrogen production from formate with chromium hexacarbonyl 80 (1993) 151

Heterogeneous photocatalytic oxidation of nitrite over iron-doped  $TiO_2$  samples 87 (1994) 67

Enantioselective and photocatalytic oxidation of 1,1'-bi-2-naphthol with a chiral ruthenium complex which includes molecular helicity 88 (1994) 1

Photocatalytic dehydrogenation of methanol using  $[IrH(SnCl_3)_5]^{3-}$  complex 89 (1994) 143

Influence of light intensity and membrane properties on the photocatalytic degradation of formic acid over TiO<sub>2</sub> ceramic membranes 89 (1994) 165

Photocatalytic degradation of chlorophenols to  $CO_2$  and HCl with polyoxotungstates in aqueous solution 92 (1994) 261

Photocatalytic reduction of coordinated dinitrogen to ammonia – mononuclear versus dinuclear ethylenediaminetetraacetato ruthenium complexes 93 (1994) 23

Effect of Fe-ZSM-5 zeolite on the photochemical and biochemical degradation of 4-nitrophenol 95 (1995) 61

The influence of dissolved metal ions on the photocatalytic degradation of phenol in aqueous TiO<sub>2</sub> suspensions 98 (1995) 109

#### Photocatalyst

Colloidal rhodium catalyzed photo transfer hydrogenation of 1,5cyclooctadiene 98 (1995) 157

## **Photocatalysts**

Room-temperature hydrogen transfer from liquid methanol or 2propanol to diphenylacetylene over Group VIII metal/ $TiO_2$  photocatalysts 92 (1994) 187

#### photodegradation

Photodegradation of surfactants. Part XII: Photocatalyzed mineralization of phosphorus-containing surfactants at  $TiO_2/H_2O$  interfaces 88 (1994) 239

Photocatalyzed mineralization of nitrogen-containing compounds at  $TiO_2/H_2O$  interfaces 95 (1995) 53

## Photoinduced electron transfer

Photoreduction of cytochrome c with zinc protoporphyrin reconstituted myoglobin (ZnPP–Mb) 95 (1995) 193

The effect of chemical modification of zinc myoglobin on the photoinduced electron transfer with methyl viologen 96 (1995) 87

## photoinduction

Oxygenation of alkylbenzenes, catalyzed by 10-methylacridinium ion via photoinduced electron transfer under visible light irradiation 90 (1994) 225

## photolysis

Some possibilities and problems regarding photochemical water oxidation 88 (1994) 185

#### photophysics

Photophysics and photosensitization behavior of microcrystalline  $[Pt(bpy)_2]_2[Pt_2(pop)_4] \cdot nH_2O = 80 (1993) 327$ 

## Photoreactivation

Dark catalytic reduction of  $CO_2$  over Prussian blue-deposited  $TiO_2$ and the photo-reactivation of the catalyst 93 (1994) 269

#### photoreduction

Deactivation mechanism of photoreduced and cyclopropane-treated molybdena/silica catalysts for olefin metathesis 90 (1994) 61

## photosensitization

Photophysics and photosensitization behavior of microcrystalline  $[Pt(bpy)_2]_2[Pt_2(pop)_4] \cdot nH_2O = 80 (1993) 327$ 

## photocatalytic reaction

Decompos	ition	of	formic	acid	catalyzed	by
hydrido(phosphonite)cobalt(I)				under	photoirradia-	
tion 80 (	1993) 14	15				

## phthalic acid esters

Phthalic acid esters hydrolysis under inverse phase-transfer catalysis conditions 85 (1993) 265

## phthalocyanine

Selective olefin oxidation with cobalt phthalocyanine encapsulated in Y-zeolite 91 (1994) 251

Catalytic oxidation of erythrosine by cobalt phthalocyanines 93 (1994) 253

Stacked phthalocyanines in VPI-5 pores as evidenced by CPDOR  ${}^{1}H{-}^{27}A1NMR$  97 (1995) 183

## phthalocyanine complexes

Effects of complexation of oppositely charged water-soluble cobaltphthalocyanines on the catalytic mercaptoethanol autoxidation 87 (1994) 161

## **Phthalocyanine derivatives**

Effects of solvents on the cobalt phthalocyanine-catalyzed oxidation of hydrophobic thiols 97 (1995) 7

## phthalocyanines

Catalytic oxidation of mercaptans by charcoal-supported sterically hindered cobalt(II)-phthalocyanines 85 (1993) 269

Transition-metal phthalocyanine catalyzed oxidation of sulfides by iodosylbenzene 88 (1994) 7

Catalytic activity of monomeric and polymeric cobalt(II)-phthalocyanines in sulfide ion oxidation 95 (1995) 197

## **Physicochemical properties**

Physicochemical properties of  $TiO_2$ -SiO<sub>2</sub> unmodified and modified with  $H_2SO_4$  and activity for acid catalysis 93 (1994) 149

## **Pillared** clays

Bifunctional catalysts from pillared clays: vapour phase conversion of propene to acetone catalyzed by iron and ruthenium containing aluminum pillared bentonites. 92 (1994) 201

#### pinacol

Zeolite catalysts for pinacol rearrangement 87 (1994) 39

#### pinenes

Hydroformylation of  $\alpha$ - and  $\beta$ -pinene catalyzed by rhodium and cobalt carbonyls 83 (1993) 51

#### piperidine

Iron pentacarbonyl-catalysed aminomethylation of alkenes: some intriguing observations 87 (1994) 223

## Placental alkaline phosphatase

Human placental alkaline phosphatase covalently immobilized on a cross-flow microfiltration polyvinylidene difluoride membrane. Part I. Physicochemical effectors 93 (1994) 85

Human placental alkaline phosphatase covalently immobilised on a cross-flow microfiltration polyvinylidene difluoride membrane Part II. Activity vs. [substrate] kinetic behaviour 93 (1994) 105

#### platinacycles

Pallada- and platinacycles. Part IV. The palladium- and platinumcatalyzed selective cyclisation of dipropargyl acetylenedicarboxylate – the reaction of an  $\alpha$ -alkynyl metallacyclopentadiene 81 (1993) 313

#### platinum

Synthesis and decarbonylation of platinum carbonyl cluster anions in zeolite NaY made basic by treatment with CsOH 80 (1993) 49

Pt/SiO<sub>2</sub> catalysts: a comparison of the impregnation and the sol-gel methods 80 (1993) 299

Catalytic properties of 0.3% Pt/Al<sub>2</sub>O<sub>3</sub> (EUROPT-3) and of 0.3% Pt-0.3% Re/Al<sub>2</sub>O<sub>3</sub> (EUROPT-4) 81 (1993) 99

Theoretical study of the reactivity of  $(PPh_3)_2Pt(\eta^2 \cdot O_2)$  with acids 82 (1993) 131

Polymer- and micelle-protected gold/platinum bimetallic systems. Preparation, application to catalysis for visible-light-induced hydrogen evolution, and analysis of formation process with optical methods 83 (1993) 167 Pt(II)–SnCl<sub>2</sub> catalyzed hydromethoxycarbonylation of 1-alkynes: a remarkable example of regioselectivity control 84 (1993) 141

Nucleophilic attack on the central allyl carbon of  $\eta^3$ -allyl complexes of Pd and Pt. Synthesis of cyclopropanes from allylic electrophiles and silyl enolates 84 (1993) 239

Kinetics of the bimolecular reaction NO +  $H_2$  on Pt = 84 (1993) 267

Catalytic behaviour for skeletal rearrangement of hydrocarbons and surface structures of silica and alumina supported Pt-Mo catalysts 85 (1993) 75

Oxydation catalytique du HMF en acide 2,5-furane dicarboxy-lique 85 (1993) 327

Electrocatalytic functionalization of alkanes using aqueous platinum salts 87 (1994) 11

Heterogeneous catalysis in organic synthesis. Part 9. Specific site solvent effects in catalytic hydrogenations 87 (1994) 95

Origin of agglomerates observed in high resolution transmission electron microscopy (HRTEM) micrographs of a catalyst containing platinum(II) complexes anchored on phosphinated SiO<sub>2</sub>: computer simulation of HRTEM images 87 (1994) 231

Hydrogenation of propyne to propene over platinum/silica 87 (1994) 275

Paraffin dehydrocyclization. Part 8. Conversion of *n*-octane with mono and bifunctional  $Pt-Al_2O_3$  catalysts at 100 psig 88 (1994) 325

Paraffin dehydrocyclization. Part 9. Conversion of *n*-octane with Pt-Sn catalysts at atmospheric pressure 88 (1994) 343

Paraffin dehydrocyclization. Part 10. Conversion of *n*-octane with supported Pt–Sn catalysts at 100 psig 88 (1994) 359

Mobility of transient olefinic intermediates during exchange reactions of paraffins with deuterium on metal catalysts 89 (1994) 19

Deuterium exchange of pyrrolidine, diethylamine and triethylamine over catalysts of Group VIII transition metals 89 (1994) 365

Ring enlargement and aromatization of propylcyclobutane over silica-supported Pt, Pd and Rh in hydrogen atmosphere 91 (1994) 61

Supported platinum atoms derived catalysts in the hydrosilylation of unsaturated substrates 91 (1994) 83

Preparation and characterization of copper based bimetallic catalysts 91 (1994) 107

Polyol conversion into furanic derivatives on bimetallic catalysts; nature of the catalytic sites 91 (1994) 119

Liquid-phase oxidation of alcohols by dioxygen using oxide-supported platinum catalysts 91 (1994) 139 Mechanism of but-1-yne hydrogenation on platinum catalysts: deuterium tracer study. 91 (1994) 259

Transformation of cyclohexanone on PtHZSM5 catalysts – reaction scheme 92 (1994) 67

Promoter effect of niobia on  $Pt/Al_2O_3$  catalysts. Part II<sup>1</sup>. Effect of chlorine and  $Nb_2O_5$  content on the structure and reactivity in  $CH_3OH/D_2$  exchange 92 (1994) 167

Room-temperature hydrogen transfer from liquid methanol or 2propanol to diphenylacetylene over Group VIII metal/TiO<sub>2</sub> photocatalysts 92 (1994) 187

High temperature treated Pt/Sn-ZnAl<sub>2</sub>O<sub>4</sub> catalysts 93 (1994) 67

XPS of carbon on Pt-black and EUROPT-1. Is methylcyclopentane ring opening a 'coke sensitive' reaction? 94 (1994) 225

Propene hydrogenation on low-temperature reduced  $Pt/TiO_2$ . Effects of TiO<sub>2</sub> phases and H<sub>2</sub> treatment on specific catalytic activity 94 (1994) 299

Further studies of the Pt(II) catalyzed hydromethoxycarbonylation of 1-alkynes 96 (1995) 223

## platinum carbonyl complexes

Interaction of CO with platinum species in zeolites. Evidence for platinum carbonyls in partially reduced zeolite PtNaX 80 (1993) 95

## platinum complexes

Photophysics and photosensitization behavior of microcrystalline  $[Pt(bpy)_2]_2[Pt_2(pop)_4] \cdot nH_2O = 80 (1993) 327$ 

## platinum-zinc oxide catalyst

Adsorption and deuteration of acetone- $d_6$  on Pt/ZnO catalysts: an IR study of the effects of sample pretreatment 81 (1993) 373

## PM3 level

Theoretical aspects of methane dissociation and hydroxylation on metal oxide diatomics in the gas phase 82 (1993) 425

## P-N bidentate ligand

Influence of (P---N) bidentate ligand on rhodium-catalyzed hydroformylation of olefins 85 (1993) 275

## p-nitrophenyl acetate

Esterase activity of catalytic IgG and IgM antibodies for the hydrolysis of *p*-nitrophenyl acetate 90 (1994) 355

## *p*-Nitrophenyl esters

Kinetic behaviour and reaction mechanism of the hydrolysis of *p*nitrophenyl palmitate in mixed micelles with Triton X-100 catalyzed by lipase from *Candida rugosa* 93 (1994) 37

Cleavage of active esters by functional thiol compounds: acceleration and time-dependent effects induced by cationic surfactants 94 (1994) 263

## <sup>31</sup>P NMR

Characterization of the molecular exchange process observed for dimethyl methylphosphonate adsorbed on a sorptive/reactive resin mixture by <sup>31</sup>P magnetization-transfer and 2-D exchange MAS NMR 83 (1993) 183

 $^{1}$ H,  $^{31}$ P NMR MAS, infrared and catalytic studies of heteropolyacid H<sub>3</sub>PW<sub>12</sub>O<sub>40</sub> supported on MgF<sub>2</sub> 95 (1995) 135

<sup>31</sup>P MAS NMR study of the hydrolysis of *O*,*S*-diethyl phenylphosphonothioate on reactive sorbents 99 (1995) 175

## <sup>31</sup>P NMR spectroscopy

Phosphorus-31 NMR spin lattice relaxation times as an indirect probe of adsorbed water in supported aqueous phase catalysts 94 (1994) 157

#### Poisoning

Ammonia and sulfur poisoning effects on hydrogenation of phenylacetylene over Pd supported catalysts 94 (1994) 409

Hydrogenolysis of formic esters with homogeneous and heterogeneous rhenium catalysts 95 (1995) 19

## polyaniline

Catalytic conversion of ethyl alcohol on polyaniline protonated with 12-tungstosilicic acid 89 (1994) 329

## polyaromatics

Catalytic hydrogenation of polyaromatics in the presence of  $\mu_3$ -oxotrirhodium acetate and its silica supported analogue 87 (1994) 75

#### polycondensation

Synthesis of oligo- and poly(1,4-phenylenevinylene) by metathetic polycondensation of 1,4-divinylbenzene 90 (1994) 69

# Poly-dimethylacrylamide-*p*-styrylsulfonate-methylene bis(acrylamide)

Microporous poly-*N*,*N*-dimethylacrylamide-*p*-styrylsulfonatemethylene bis(acrylamide): a promising support for metal catalysis 97 (1995) 145

#### Polyethylene

Linear low density polyethylene: catalyst system effect on polymer microstructure 98 (1995) 123

## poly(ethylene glycol)

Tryptophan 2,3-dioxygenase-like activity of manganese(III) porphyrin bound to bovine serum albumin modified with poly(ethylene glycol) 81 (1993) L13

#### polyethyleneimine

Polyethyleneimine derivatives as catalysts: dye-binding capacity and reactivity are not diminished on extensive internal cross-linking of the polymers 85 (1993) 33

## poly-L-lysine

Determination of the rates of formation and hydrolysis of the Schiff bases formed by pyridoxal and poly-*L*-lysine 87 (1994) 361

#### Polymer

Polymer-supported Pd(11) Wacker-type catalysts. Part III<sup>1</sup>. Isomerisation of alkene double bond 94 (1994) 7

## polymer bound

Gas phase hydroformylation of propene catalyzed by a polymer bound rhodium(I) complex 80 (1993) 365

## polymer-bound catalysts

Fine tuning of bulky-phosphite modified rhodium catalysts by binding them to copolymers 83 (1993) 17

Stable silica-grafted polymer-bound bulky-phosphite modified rhodium hydroformylation catalysts 83 (1993) 37

## polymer catalyst

Homogeneous and heterogeneous esterolytic catalyses of imidazolecontaining polymers prepared by molecular imprinting of a transition state analogue 87 (1994) 21

Homogeneous esterolytic catalysis of a polymer prepared by molecular imprinting of a transition state analogue 93 (1994) 189

## polymerization

Effects of hydrogen on the polymerization of propylene with a magnesium chloride supported Ziegler-Natta catalyst 82 (1993) 37

Non-metallocene group 4 organometallic complexes as catalysts for olefin polymerization: synthesis and catalytic activity of the cationic complex  $[Zr(CH_2Ph)_3]^+ [B(CH_2Ph)(C_6F_5)_3]$  82 (1993) 57

Model for the formation of active titanium complexes on  $MgCl_{2}$ ethyl benzoate-TiCl<sub>4</sub> catalysts for propylene polymerization 84 (1993) 109

A convenient route to 1,3,5-trisubstituted benzenes via rhodium catalyzed polymerization of arylacetylenes 85 (1993) 163

Cr<sup>2+</sup> ions grafted to silica and silicalite surfaces: FTIR characterization and ethylene polymerization activity 86 (1994) 423

Ethene polymerization by binuclear nickel-ylide complexes 88 (1994) 141

Influence of ligands and cocatalyst on the activity in ethylene polymerization of soluble titanium complexes 89 (1994) 41

Ring-opening copolymerization of [2.2] paracyclophane-1,9-diene (PCPDE) and cyclooctene (COE); a route to soluble products with p-phenylenevinylene sequences 90 (1994) 15

Synthesis of perfect rubber using ring-opening metathesis polymerization of 1-methylcyclobutene 90 (1994) 39

Optically active polymers via ring-opening metathesis polymerization: Polymerization of enantiomerically pure (-)endo-2-norbornenyl acetate 90 (1994) 53

Characterisation of modified Cr-silica catalysts 90 (1994) 81

Metathesis polymerization of 1,7,7-trimethylbicyclo[2.2.1]hept-2ene using a well defined molybdenum initiator 90 (1994) 87

Stereoselectivity of cycloolefin polymerization with WCl<sub>6</sub>-based catalytic systems 90 (1994) 117

Ring opening metathesis polymerization of bicyclo [2.2.1] hept-2ene (2-norbornene) and *exo*,*exo*-5,6-bis(methoxycarbonyl)-7-oxabicyclo [2.2.1] hept-2-ene using Ru(II) and Ru(III) complexes: Polymerization kinetics and ruthenium content in polymers 90 (1994) 143

Alkoxides as ancillary ligands in organolanthanide chemistry: synthesis, reactivity,  $\alpha$ -olefin and diene polymerization by  $[Y(C_5Me_5)(OC_0H_3'Bu_2) (\mu-H)]_2 = 90 (1994) 177$ 

Studies on methylaluminoxane and ethylene polymerization 90 (1994) 201

Kinetics of chain transfer during ethylene polymerization with chromium oxide/silica catalyst 91 (1994) 237

Polymerization of phenylacetylene by Lewis acid activated tungsten carbonyl complexes 93 (1994) 137

Single crystals of isopolyoxometallate(VI) salts as catalysts for the ring-opening polymerization of norbornene 96 (1995) 31

Reactions of  $W(CCMe_3)(OCMe_3)_3$  with terminal alkynes: metathesis and polymerization 96 (1995) 95

Metathetical polymerization of substituted phenylacetylenes using in situ generated (arene) $M(CO)_3$  complexes (arene = toluene, oxylene or mesitylene, M = Cr, Mo or W) as catalysts 99 (1995) 47

Chlorinated organic polymers as supports for Ziegler-Natta catalysts 99 (1995) 167

## polymerization of phenylacetylene

Crown ether phase-transfer catalysts for polymerization of phenylacetylene 89 (1994) 29

#### polymerizations

Molecular orbital studies in the  $MgCl_2$ -ethyl benzoate-TiCl<sub>4</sub> system 87 (1994) 137

## **Polymerization time**

Active sites concentration in ethylene homo- and co-polymerization with 1-hexene using the highly active  $TiCl_4/MgH_2-AlEt_3$  catalyst system 98 (1995) 135

#### **Polymer microstructure**

Linear low density polyethylene: catalyst system effect on polymer microstructure 98 (1995) 123

## polymer-protected bimetallic clusters

Polymer- and micelle-protected gold/platinum bimetallic systems. Preparation, application to catalysis for visible-light-induced hydrogen evolution, and analysis of formation process with optical methods 83 (1993) 167

## polymer-supported catalyst

Hydrogenation of cyclohexene using polymer-supported ruthenium (III) complexes as catalysts 83 (1993) 67

## polynorbornene-polyethylene block copolymer

From ring-opening metathesis polymerization to Ziegler-Natta polymerization: a method for obtaining polynorbornene-polyethylene block copolymers 82 (1993) 103

#### Polynuclear copper complex

A copper/silica catalyst prepared from a monolayer film of copper 2,2'-bipyridine dimer on Cab-O-Sil 97 (1995) 85

#### Polyol

Preparation and characterization of copper based bimetallic catalysts 91 (1994) 107

#### Polyols

Polyol conversion into furanic derivatives on bimetallic catalysts; nature of the catalytic sites 91 (1994) 119

#### Polyoxocations

Vapour phase deep oxidation of chlorinated hydrocarbons catalyzed by pillared bentonites 97 (1995) 139

#### polyoxometalates

Oxidation of alkylaromatic compounds with hydrogen peroxide catalyzed by mixed addenda Keggin heteropolyanions 84 (1993) 93

#### polyoxoperoxo complexes

Spectroscopic and structural properties of some molybdenum and tungsten polyoxoperoxo complexes. A comparison with mononuclear complexes 89 (1994) 295

## Polyoxotungstates

Photocatalytic degradation of chlorophenols to  $CO_2$  and HCl with polyoxotungstates in aqueous solution 92 (1994) 261

#### polypyrrole film electrode

Electrocatalytic hydrogenation on a rhodium complex-polypyrrole film electrode: effect of the polymeric environment on the selectivity of the catalyst 81 (1993) L19

#### Poly(quaternary ammonium)salt

Effects of solvents on the cobalt phthalocyanine-catalyzed oxidation of hydrophobic thiols 97 (1995) 7

### Polysoap

Microgels with trialkylammonio side chains function as catalysts for the alkaline hydrolysis of substituted phenyl laurate esters 99 (1995) 41

## Polystyrene-montmorillonite

Synthesis and application of organophilic polystyrene-montmorillonite supported onium salts in organic reactions 94 (1994) 311

## poly(trimethylolpropane)trimethacrylate

Poly(trimethylolpropane)trimethacrylate-bound Rh-phosphine complexes as catalysts in continuous gas-phase hydroformylation of propene 81 (1993) 333

## Polyvinylidene difluoride

Human placental alkaline phosphatase covalently immobilized on a cross-flow microfiltration polyvinylidene difluoride membrane. Part I. Physicochemical effectors 93 (1994) 85

Human placental alkaline phosphatase covalently immobilised on a cross-flow microfiltration polyvinylidene difluoride membrane Part II. Activity vs. [substrate] kinetic behaviour 93 (1994) 105

## pore diameter

Effect of pore diameter and acid strength in ethanol dehydration on molecular sieves 83 (1993) 145

## **Pore opening**

Surface organometallic chemistry on zeolites: control of the pore opening of mordenite by grafting of thermally stable  $-GeBu_3$  fragments 92 (1994) 239

## porphyrin

Tryptophan 2,3-dioxygenase-like activity of manganese(III) porphyrin bound to bovine serum albumin modified with poly(ethylene glycol) 81 (1993) L13

Investigation of the catalytic activity of poly(siloxane)-supported tetra(4-pyridyl)porphyrinatomanganese(III) in olefin oxidation reactions 81 (1993) 157

Meso-aryl substituted metalloporphyrins supported on imidazole propyl gel (IPG). Catalytic activity in the oxidation of cyclohexane and characterization of iron porphyrin-IPG systems 88 (1994) 167

Pyridiniumporphyrin covalently bound to polystyrene: an efficient model of cytochrome P-450 reactivity 96 (1995) 311

Cationic ironporphyrins as catalyst in comparative oxidation of hydrocarbons: homogeneous and supported on inorganic matrices systems 99 (1995) 187

## porphyrinates

Ring-opening polymerization of cycloolefin induced by tungsten porphyrinates 90 (1994) 101

## **Porphyrin complexes**

Stereoselective oxidation of enantiomeric amines by a monoamine oxidase model of chiral iron(III) porphyrins 91 (1994) 7

## porphyrin derivatives

Influence of substituents and ligands of various cobalt(II) porphyrin derivatives coordinately bonded to silica on the oxidation of mercaptan 80 (1993) 253

#### porphyrin ligands

Synthesis of a new chiral porphyrin ligand and its Mn(III) complex

as catalyst in asymmetric alkene epoxidation 80 (1993) 395

#### Porphyrins

Formation and reactivity toward hydrocarbons of oxomanganese porphyrins in the presence of anionic bases 97 (1995) 79

#### Potassium

Poisoning of iron catalyst by COS in syngas for Fischer-Tropsch synthesis 94 (1994) 255

## potassium doped

Characterization of potassium-doped nickel catalysts and activity for selective hydrogenation of 1,6-hexanedinitrile 81 (1993) 387

## **Potassium doping**

Mechanistic aspects of the higher alcohol synthesis over unpromoted ZnCrO: 1-propanol flow microreactor study 94 (1994) 335

## **Potassium fluoride**

Iridium(I) and phase-transfer catalyzed hydrogen-transfer reduction of ketones using potassium fluoride on alumina as a base 92 (1994) 149

## p-phenylenediamine derivatives

Study of the new electron transfer mediators in glucose oxidase catalysis 91 (1994) 407

#### preferential oxidative fission

Ruthenium-catalyzed oxidation of alkylaromatics by monopersulfate with preferential oxidative fission of the benzene ring 84 (1993) 59

#### Pretreated catalysts

Catalytic and structural properties of ruthenium bimetallic catalysts: kinetics of hydrogenolysis of lower alkanes on variously pretreated Ru/Al<sub>2</sub>O<sub>3</sub> catalysts 98 (1995) 81

#### primary alcohols

Novel catalytic procedure for selective homologation of primary alcohols 80 (1993) L1

#### primary amines

Aminolysis of phenyl esters by microgel and dendrimer molecules possessing primary amines 85 (1993) 21

#### Product distribution

Poisoning of iron catalyst by COS in syngas for Fischer-Tropsch synthesis 94 (1994) 255

## promoter

Characterization of unsupported copper-chromium catalysts for ethanol dehydrogenation 89 (1994) 179

Promoter effect of niobia on  $Pt/Al_2O_3$  catalysts. Part II<sup>1</sup>. Effect of chlorine and  $Nb_2O_5$  content on the structure and reactivity in  $CH_3OH/D_2$  exchange 92 (1994) 167

FTIR studies of CO chemisorption and reactivity on Rh/SiO<sub>2</sub> catalysts promoted by niobium oxide 92 (1994) 217

## Promoters

The regioselective hydrocarboalkoxylation of 4-methylstyrene catalyzed by palladium complexes 95 (1995) 11

## propadiene

Propadiene oligomerization catalyzed by nickel(0) phosphine complexes immobilized on phosphinated poly(styrene-divinylbenzene) support 80 (1993) 181

#### propane

Framework and non-framework gallium in pentasil-like zeolite as studied in the reaction of propane 81 (1993) 293

Oxidative dehydrogenation of propane on VAPO-5,  $V_2O_5/ALPO_4$ -5 and  $V_2O_5/MgO$  catalysts. Nature of selective sites 97 (1995) 173

## propane aromatisation

Thermodynamic and mechanistic studies of initial stages in propane aromatisation over Ga-modified H-ZSM-5 catalysts 86 (1994) 371

## propanol

Catalysis of phosphine-coordinated rhodium(1) complexes for 2propanol dehydrogenation 92 (1994) 1

#### 2-propanol

Kinetic and spectroscopic study of the hydrogen-transfer reaction from 2-propanol to cyclohexanone catalyzed by  $[IrH_2(pz)(Hpz)(PPh_3)_2]$  (Hpz=pyrazole) 87 (1994) 151

## propargyl derivatives

Palladium and phase transfer catalyzed carbonylation of propargyl derivatives 85 (1993) 287

#### propene

Vapour phase propene hydroformylation catalyzed by the Rh/Al system on silica 80 (1993) 105

Gas phase hydroformylation of propene catalyzed by a polymer bound rhodium(1) complex 80 (1993) 365

Propene aromatization over alkali-exchanged ZSM-5 zeolites 81 (1993) 37

Hydrogenation of propyne to propene over platinum/silica 87 (1994) 275

Propene hydrogenation on low-temperature reduced  $Pt/TiO_2$ . Effects of  $TiO_2$  phases and  $H_2$  treatment on specific catalytic activity 94 (1994) 299

An in situ <sup>13</sup>C MAS NMR study of benzene isopropylation over H-ZSM-11: cumene formation and side-reactions 95 (1995) 243

Water-soluble metal complexes and catalysts. Part 7<sup>1</sup>. New efficient water-soluble catalysts for two-phase olefin hydroformylation: BINAS-Na, a superlative in propene hydroformylation 97 (1995) 65

#### propene polymerization

Mechanism of deactivation and reactivation of Ziegler-Natta catalysts for propene polymerization 82 (1993) 29

## **Propene reactions**

Reactions of propene on supported molybdenum and tungsten oxides 95 (1995) 147

#### propenes

Isomerization of 3-functional substituted propenes in the presence of ruthenium (III) 1,3-diketonates 89 (1994) 303

#### **Propionic acids**

Hydrolysis of (R,S)2-aryl propionic esters by pure lipase B from Candida cylindracea 96 (1995) 317

## Propylcyclobutane

Ring enlargement and aromatization of propylcyclobutane over silica-supported Pt, Pd and Rh in hydrogen atmosphere 91 (1994) 61

#### propylene

Effects of hydrogen on the polymerization of propylene with a magnesium chloride supported Ziegler-Natta catalyst 82 (1993) 37

Model for the formation of active titanium complexes on  $MgCl_{2}$ ethyl benzoate-TiCl<sub>4</sub> catalysts for propylene polymerization 84 (1993) 109

Catalytic oxidation and ammoxidation of propylene. Modelling studies on well-defined molybdenum complexes 86 (1994) 267

#### propylene carbonate

Organic carbonate activation: aldehyde acetalization study using  $Sn[Co(CO)_4]_4$  as catalyst in the activation of propylene carbonate 85 (1993) 279

## propylene polymerization

Role of electron donor in propylene polymerization using magnesium chloride-supported titanium tetrachloride catalyst 82 (1993) 11

## propyne

Hydrogenation of propyne to propene over platinum/silica 87 (1994) 275

#### proteases

Changes in activity of soluble and immobilized peroxidases after treatment by various proteases and some metalions 80 (1993) 117

## **Protein purification**

Immobilization of laccase from *Phlebia radiata* on controlled porosity glass 95 (1995) 99

#### Protoporphyrin

Photoreduction of cytochrome c with zinc protoporphyrin reconstituted myoglobin (ZnPP-Mb) 95 (1995) 193

#### **Prussian blue**

Dark catalytic reduction of  $CO_2$  over Prussian blue-deposited  $TiO_2$ and the photo-reactivation of the catalyst 93 (1994) 269

## Pt/C catalyst

Effect of pH in the Pt-catalyzed oxidation of D-glucose to D-gluconic acid 97 (1995) 111

## **Pt-graphimet**

Transformation of carbon compounds on graphimet catalysts. Part V. The effect of pretreatment on the structure and activity of Pt-graphimet catalyst 99 (1995) 115

## **Pulse radiolysis**

Formation of compound I of horseradish peroxidase in AOT reverse micelles as studied by pulse radiolysis and stopped-flow methods 98 (1995) 1

## purification

Purification of Fd-glutamate synthase from *Monoraphidium braunii* and characterization of a light-dependent activity assay 89 (1994) 257

Hydrolysis of (R,S)2-aryl propionic esters by pure lipase B from Candida cylindracea 96 (1995) 317

## pyrazole

Kinetic and spectroscopic study of the hydrogen-transfer reaction from 2-propanol to cyclohexanone catalyzed by  $[IrH_2(pz)(Hpz)(PPh_3)_2]$  (Hpz = pyrazole) 87 (1994) 151

## **Pyrazolyl derivative**

Reduction of ketones by dihydrogen or hydrogen transfer catalysed by a ruthenium complex of the hydridotris(3,5-dimethyl)pyrazolyl borate ligand 98 (1995) 5

## pyridine

Pyridine adsorption on a  $MoS_2$  modelled surface ( $Mo_3S_8$ ). A CNDO molecular orbital study 85 (1993) 345

An efficient heterogenised palladium catalytic system for the reductive carbonylation of nitrobenzene to methyl *N*-phenylcarbamate 88 (1994) 23

## pyridine complex

Electron transfer reactions at Nafion and clay adsorbed Ru(bpy)<sub>3</sub><sup>+</sup> coated electrodes 84 (1993) 187

## **Pyridine complexes**

Hydroformylation of 1-aryl-1-(2-pyridyl)ethenes catalyzed by rhodium complexes 93 (1994) 279

## pyridine derivatives

Investigation of the catalytic activity of poly(siloxane)-supported tetra(4-pyridyl)porphyrinatomanganese(III) in olefin oxidation reactions 81 (1993) 157

Stereoselective molecular recognition of enantiomeric cobalt(III) complexes by novel photosensitizers of helical ruthenium(II) complexes 89 (1994) 5

Electrocatalytic hydrogenation on  $poly[Rh^{III}(L)_2(Cl)_2]^+$ (L=pyrrole-substituted 2,2'-bipyridine or 1,10-phenanthroline) films electrodes 99 (1995) 13 The cocyclotrimerization of alkynes and acetonitrile with CpCoCOD as catalyst 99 (1995) 71

## pyridine ligands

Photophysics and photosensitization behavior of microcrystalline  $[Pt(bpy)_2]_2[Pt_2(pop)_4] \cdot nH_2O = 80 (1993) 327$ 

## pyridines

 $Ru_3(CO)_{12}/2,2'$ -bipyridine supported on inorganic carriers as 1hexene hydroformylation catalysts 91 (1994) 335

## pyridoxal

Determination of the rates of formation and hydrolysis of the Schiff bases formed by pyridoxal and poly-*L*-lysine 87 (1994) 361

## Pyridylethenes

Hydroformylation of 1-aryl-1-(2-pyridyl)ethenes catalyzed by rhodium complexes 93 (1994) 279

## pyrimidine

Ruthenium complex-catalyzed selective deoxygenation of amidoximes to amidines and its application to the facile synthesis of pyrimidines 80 (1993) 383

## pyrophosphate ligands

Photophysics and photosensitization behavior of microcrystalline  $[Pt(bpy)_2]_2[Pt_2(pop)_4] \cdot nH_2O = 80 (1993) 327$ 

## Pyrrole-substituted derivatives

Electrocatalytic hydrogenation on  $poly[Rh^{III}(L)_2(Cl)_2]^+$ (L=pyrrole-substituted 2,2'-bipyridine or 1,10-phenanthroline) films electrodes 99 (1995) 13

## pyrrolidine

Deuterium exchange of pyrrolidine, diethylamine and triethylamine over catalysts of Group VIII transition metals 89 (1994) 365

#### Pyruvate

An alloy phase of  $Pd_3Pb$  and the activity of Pb/Pd/C catalysts in the liquid-phase oxidation of sodium lactate to pyruvate 91 (1994) 129

Q

## quantum chemical calculations

On the nature of superactive centers in H-ZSM-5 zeolites: quantum chemical calculations 80 (1993) 243

Quantum-chemical study of the four-electron catalytic oxidation of water to dioxygen in the presence of dinuclear and tetranuclear hydroxide complexes of cobalt(III) and iron(III): intermediates of the catalytic cycle and their relative energies 91 (1994) 71

## quantum chemical study

Adsorption of toluene on vanadium pentoxide surfaces. Quantum chemical study 82 (1993) 457

Cluster quantum-chemical study of the chemisorption of methane on zinc oxide surface 99 (1995) 35

Cluster quantum-chemical study of the chemisorption of methane on a lithium-promoted magnesium oxide doped by zinc oxide 99 (1995) 139

## quantum chemistry

Density functional theory and quantum chemistry: metals and metal oxides 82 (1993) 117

Quantum chemical study of the reaction of ammonia with transient oxygen species 82 (1993) 353

## quantum chemistry of zeolites

Cluster models for Brønsted acid centres in faujasites 82 (1993) 347

## quantum-mechanical calculation

Electrophilicity of titanium atoms supported on magnesium chloride 82 (1993) 3

## quantum theory

Quantum theory of scanning tunneling microscopy and spectroscopy and its application to surface electronic processes 82 (1993) 253

## quantum yield

Influence of light intensity and membrane properties on the photocatalytic degradation of formic acid over  $TiO_2$  ceramic membranes 89 (1994) 165

#### Quinones

Multidentate N-heterocyclic podand ligand. Efficient oxygenation of phenols catalyzed by novel cobalt complex 95 (1995) 1

## R

## racemic resolution

Resolution of racemic mixtures by synthesis reactions catalyzed by immobilized derivatives of the enzyme penicillin G acylase 84 (1993) 365

## radical ion

Theoretical studies in the realm of chemical reactivity: Noncatalytic and catalytic reactions 82 (1993) 265

## Raman spectroscopy

Molecular design of supported metal oxide catalysts: an initial step to theoretical models 82 (1993) 443

## Raman spectroscopy

Raman characterization of alumina supported Mo-V-Fe catalysts: influence of calcination temperature 81 (1993) 63

#### **Random copolymers**

Propene-co-butene random copolymers synthesized with superactive Ziegler-Natta catalyst 99 (1995) 161

## Raney nickel

Gas phase hydrogenation of acetonitrile on Raney nickel catalysts: reactive hydrogen 95 (1995) 165

293

#### rare earth compounds

Regioselective acylative cleavage of cyclic ethers catalyzed by rare earth compounds 87 (1994) 357

## rare earths

Rare earth trifluoromethanesulphonates as catalysts in some Meerwein-Ponndorf-Verley type reductions 85 (1993) 65

#### reaction dynamics

Time conditions for chemical reactions at the mesoscopic level in the elementary catalytic system 1-butene on ZnO 82 (1993) 327

## reaction kinetics

Studies on ruthenium catalysts. Part 4: Hydrogenolysis of *n*-butane on  $Ru/Al_2O_3$  catalysts-dependence of reaction kinetics on particle size and on pretreatment 89 (1994) 221

## reaction pathways

Fast and slow methanation pathways in hydrogenation of carbon dioxide on Fe-Mn oxide catalysts 91 (1994) 353

#### **Reaction rate**

Catalytic oxidation of erythrosine by cobalt phthalocyanines 93 (1994) 253

## **Reaction rates**

The CO-oxidation on Pd-rich surfaces of PdCu(110): hysteresis in reaction rates 96 (1995) 271

## reactivation

Mechanism of deactivation and reactivation of Ziegler-Natta catalysts for propene polymerization 82 (1993) 29

## reactive sites

Dissociative chemisorption of perfluoropolyethers above reactive sites on nickel surfaces: a theoretical contribution 85 (1993) 183

#### reactivity

Molecular design of supported metal oxide catalysts: an initial step to theoretical models 82 (1993) 443

Polyethyleneimine derivatives as catalysts: dye-binding capacity and reactivity are not diminished on extensive internal cross-linking of the polymers 85 (1993) 33

Ester fission catalysed by microgels possessing hydroxamic acid groups: structure-reactivity studies 95 (1995) 83

## readsorption

Role of readsorption during CO hydrogenation over cobalt model catalysts 91 (1994) 387

#### **Recyclable catalyst**

Liquid-phase oxidation of alcohols by dioxygen using oxide-supported platinum catalysts 91 (1994) 139

#### redox molecular sieves

Vanadium site in VAPO-5: characterization and catalytic properties in liquid-phase alkene epoxidation and benzylic oxidation 81 (1993) 77

## **Reducing agent**

Microporous poly-*N*,*N*-dimethylacrylamide-*p*-styrylsulfonatemethylene bis(acrylamide): a promising support for metal catalysis 97 (1995) 145

#### Reductase

Selective oxidation: stabilisation by multipoint attachment of ferredoxin NADP<sup>+</sup> reductase, an interesting cofactor recycling enzyme 98 (1995) 161

#### reduction

Stereoselective reduction of disubstituted aromatics on colloidal rhodium 87 (1994) 107

An efficient heterogenised palladium catalytic system for the reductive carbonylation of nitrobenzene to methyl *N*-phenylcarbamate 88 (1994) 23

Dihydrogen reduction of organic substrates using orthometallated ruthenium(II) complex catalysts 88 (1994) 57

Role of the support of the nickel catalyst in the synthesis of morpholine from diethylene glycol and ammonia 88 (1994) 193

Chemoselective reduction of nitro groups in the presence of olefinic, ester, and halogeno functions using a reducing agent of CO and  $H_2O$  catalyzed by Rh carbonyl clusters 88 (1994) 267

Synthesis of  $\gamma$ -ketocarboxylic acids via reduction of  $\gamma$ -keto- $\alpha$ -hydroxycarboxylic acids with carbon monoxide catalyzed by a Pd-HCl system 89 (1994) 93

Orthometalated ruthenium-complex-catalysed reductive carbonylation of nitroaromatics 91 (1994) 19

Synthesis of aminoarenes in homogeneously catalyzed nitroarene – methyl formate reactions 91 (1994) 149

Study of the reactivity of ClCo(PPh<sub>3</sub>)<sub>3</sub> 92 (1994) 41

Iridium(I) and phase-transfer catalyzed hydrogen-transfer reduction of ketones using potassium fluoride on alumina as a base 92 (1994) 149

Photocatalytic reduction of coordinated dinitrogen to ammonia – mononuclear versus dinuclear ethylenediaminetetraacetato ruthenium complexes 93 (1994) 23

Subnanometer nickel clusters in complex reducing agents 93 (1994) 79

Stereoselective reduction of menthone with sodium dithionite in the presence of  $\beta$ -cyclodextrin 93 (1994) 247

Dark catalytic reduction of  $CO_2$  over Prussian blue-deposited  $TiO_2$ and the photo-reactivation of the catalyst 93 (1994) 269

Infrared observation of the chemical consequences of cobalt catalyst produced in mixed solutions of  $Al(Et)_3$  and  $Co(acac)_2$  93 (1994) 289

Sepiolites as supports for Pd catalysts used in organic reduction processes 94 (1994) 131

Highly selective palladium catalyzed hydrogen transfer from  $H_2O-CO$  to the C=C double bond of  $\beta$ -benzoylacrylic acid 94 (1994) 173

Effect of the reduction temperature on the selectivity of the high temperature reaction of acetone and hydrogen over alumina and titania supported nickel and cobalt catalysts 94 (1994) 347

Selective reductive dimerization of phenylacetaldehyde to 2,4diphenylbutanal catalysed by novel dirhodium complexes 96 (1995) 107

Reduction of ketones by dihydrogen or hydrogen transfer catalysed by a ruthenium complex of the hydridotris(3,5-dimethyl)pyrazolyl borate ligand 98 (1995) 5

#### reductions

Rare earth trifluoromethanesulphonates as catalysts in some Meerwein-Ponndorf-Verley type reductions 85 (1993) 65

#### reductive alkylation

Synthesis of secondary amines by reductive alkylation using copper chromite catalyst: steric effect of carbonyl compounds 84 (1993) 125

#### reductive carbonylation

Surface organometallic chemistry: reductive carbonylation of  $OsCl_3 \cdot 3H_2O$  supported on silica 86 (1994) 109

## reductively activated oxygen

Cyclohexane oxidation with dioxygen catalyzed by samarium(III) 83 (1993) 15

## **Refractory oxide supports**

Hydroisomerization probe of the catalytic and structural behavior of iron-rhodium particles supported on refractory oxide supports 94 (1994) 97

## regioselective acylative cleavage

Regioselective acylative cleavage of cyclic ethers catalyzed by rare earth compounds 87 (1994) 357

#### regioselectivity

On the reactivity of acetylenes coordinated to cobalt. Part 8<sup>1</sup>: Carbonylation of acetylenes with bulky substituents 84 (1993) 7

Syntheses of pharmaceutical oligosaccharides catalyzed by immobilized-stabilized derivatives of different  $\beta$ -galactosidases 84 (1993) 373 Use of rhodium on carbon and 1,3-bis(diphenylphosphino)propane to catalyze the regioselective hydroformylation of alkenes with formic acid as the hydrogen source 92 (1994) 35

Addition of tetrachloromethane to *cis*-cycloalkenes in the presence of transition metal complexes 92 (1994) 269

Regioselective palladium(II) catalyzed hydroesterification of alkynes and alkynols using formate esters 96 (1995) 197

## regioselectivity control

Pt(II)–SnCl<sub>2</sub> catalyzed hydromethoxycarbonylation of 1-alkynes: a remarkable example of regioselectivity control 84 (1993) 141

## Regioselectivty

The regioselective hydrocarboalkoxylation of 4-methylstyrene catalyzed by palladium complexes 95 (1995) 11

#### rehydration

Effect of lyophilization and subsequent rehydration of immobilized  $\alpha$ -chymotrypsin derivatives 89 (1994) 397

## **Relaxation measurements**

Cu<sup>II</sup>-diamine complex catalyzed hydrolysis of phosphate triesters adsorbed on strong-base ion exchange resins. <sup>31</sup>P NMR relaxation measurements 93 (1994) 221

## **Remote control**

Kinetic study of the hydrogen sulfide effect in the conversion of thiophene on supported Co-Mo catalysts 94 (1994) 369

#### Resins

Cu<sup>11</sup>-diamine complex catalyzed hydrolysis of phosphate triesters adsorbed on strong-base ion exchange resins. <sup>31</sup>P NMR relaxation measurements 93 (1994) 221

## **Reversed micelles**

Effect of temperature on hydrolysis of triolein by lipase 94 (1994) 291

#### **Reverse micelles**

Formation of compound I of horseradish peroxidase in AOT reverse micelles as studied by pulse radiolysis and stopped-flow methods 98 (1995) 1

## reversible immobilization

Thiolation and reversible immobilization of sweet potato  $\beta$ -amylase on thiolsulfonate-agarose 84 (1993) 381

#### review

Metal-catalysed carbon–carbon bond formation in the reaction of  $\beta$ -dicarbonyls with nitriles 81 (1993) 133

Homogeneous catalysis by osmium complexes. A review 96 (1995) 231

## rhenium

Catalytic properties of 0.3%  $Pt/Al_2O_3$  (EUROPT-3) and of 0.3% Pt-0.3%  $Re/Al_2O_3$  (EUROPT-4)  $\phantom{1}81$  (1993) 99

Methanation with  $[Re(CO)_3OH]_4/Al_2O_3$ . Evidence for spillover species 86 (1994) 121

Alkylrhenium oxides as homogeneous epoxidation catalysts: activity, selectivity, stability, deactivation 86 (1994) 243

Dimerization and isomerization of 2-methyl-1-alkenes over  $Re_2O_7$ - $Al_2O_3$  catalyst 90 (1994) 1

Multiple bonds between main-group elements and transition metals. Part 133<sup>1</sup>. Methyltrioxorhenium as a catalyst of the Baeyer-Villiger oxidation 94 (1994) 213

Hydrogenolysis of formic esters with homogeneous and heterogeneous rhenium catalysts 95 (1995) 19

## rhodium

Regioselective hydrogenation of 3-phenylpropenal and of *trans*-2hexenal to saturated aldehydes catalysed by ultrafine rhodium particles dispersed on acrylic resins 80 (1993) L5

Vapour phase propene hydroformylation catalyzed by the Rh/Al system on silica 80 (1993) 105

Gas phase hydroformylation of propene catalyzed by a polymer bound rhodium(1) complex 80 (1993) 365

Electrocatalytic hydrogenation on a rhodium complex–polypyrrole film electrode: effect of the polymeric environment on the selectivity of the catalyst 81 (1993) L19

Hydroformylation of ethyl acrylate catalyzed by Rh(acac)(CO)<sub>2</sub>phosphorus ligand systems 81 (1993) 255

Detection by CO-FTIR of incipient metal-support interaction in Rh/ SiO<sub>2</sub> and Pd/TiO<sub>2</sub> 81 (1993) 267

The beneficial effects of introducing sulphur substituents into hydroformylation substrates 83 (1993) 11

Fine tuning of bulky-phosphite modified rhodium catalysts by binding them to copolymers 83 (1993) 17

Stable silica-grafted polymer-bound bulky-phosphite modified rhodium hydroformylation catalysts 83 (1993) 37

Carbohydrate phosphinites as chiral ligands for asymmetric syntheses catalyzed by complexes. Part X.<sup>1</sup> Importance of all-equatorial arrangement in vicinal bisphosphinite hexapyranoside ligands for rhodium catalyzed asymmetric hydrogenation 84 (1993) 223

Electronic structure of bis(triphenylphosphine)acetone-(ethene)rhodium hexafluorophosphate 84 (1993) 261

Homogeneous and biphasic oligomerization of terminal alkynes by some water soluble rhodium catalysts 85 (1993) 153

A convenient route to 1,3,5-trisubstituted benzenes via rhodium catalyzed polymerization of arylacetylenes 85 (1993) 163 Influence of (P—N) bidentate ligand on rhodium-catalyzed hydroformylation of olefins 85 (1993) 275

Application of computer modeling to surface organometallic chemistry 86 (1994) 479

Catalytic hydrogenation of polyaromatics in the presence of  $\mu_3$ -oxotrirhodium acetate and its silica supported analogue 87 (1994) 75

Stereoselective reduction of disubstituted aromatics on colloidal rhodium 87 (1994) 107

Homogeneous and alumina supported rhodium complex catalyzed hydrogenation 88 (1994) 13

Aqueous phase rhodium hydroformylation of octene-1 with trisulfonated tris( $\omega$ -phenyl)alkylphosphines and trisulfonated triphenyl phosphine. Reaction selectivity as an indication of rhodium-phosphine complex chemistry 88 (1994) 43

Chemoselective reduction of nitro groups in the presence of olefinic, ester, and halogeno functions using a reducing agent of CO and  $H_2O$ catalyzed by Rh carbonyl clusters 88 (1994) 267

Hydroformylation of olefins catalyzed by (1,5-cyclooctadiene) salicylaldoximatorhodium under atmospheric pressure 88 (1994) 277

Studies on a new catalyst for the hydroformylation of alkenes using  $C_{60}$  as a ligand 89 (1994) 113

Structural alterations of highly dispersed Rh/TiO<sub>2</sub> catalyst upon CO adsorption and desorption investigated by infrared spectroscopy 89 (1994) 229

Deuterium exchange of pyrrolidine, diethylamine and triethylamine over catalysts of Group VIII transition metals 89 (1994) 365

Study of the CO–CeO<sub>2</sub> interaction in presence of highly dispersed rhodium 89(1994) 391

Further observations on RhCl<sub>3</sub>-Aliquat 336<sup>®</sup> catalyzed carbonylation of aromatic diynes under phase transfer conditions 90 (1994) 231

Immobilization of alkoxylated phosphine ligands and their Rh complexes to a silica surface coated with an organic mono- or multilayer 90 (1994) 303

Ring enlargement and aromatization of propylcyclobutane over silica-supported Pt, Pd and Rh in hydrogen atmosphere 91 (1994) 61

Homogeneous hydrogenation of olefins catalyzed by rhodium(1) complexes of new heterodifunctional phosphorus-nitrogen chelating ligands 91 (1994) 175

Hydroformylation of allyl alcohol catalysed by  $(Rh(PPh_3)_3)^+/montmorillonite: a kinetic study 91 (1994) 187$ 

Activity and selectivity of supported Rh complex catalyst in carbonylation of nitrobenzene 91 (1994) 195

Fast and slow methanation pathways in hydrogenation of carbon dioxide on Fe-Mn oxide catalysts 91 (1994) 353

Catalysis of phosphine-coordinated rhodium(I) complexes for 2propanol dehydrogenation 92 (1994) 1

Use of rhodium on carbon and 1,3-bis(diphenylphosphino)propane to catalyze the regioselective hydroformylation of alkenes with formic acid as the hydrogen source 92 (1994) 35

Room-temperature hydrogen transfer from liquid methanol or 2propanol to diphenylacetylene over Group VIII metal/ $TiO_2$  photocatalysts 92 (1994) 187

FTIR studies of CO chemisorption and reactivity on  $Rh/SiO_2$  catalysts promoted by niobium oxide 92 (1994) 217

Homogeneous catalytic hydrogenation of olefins by use of  $RhH_2(Ph_2N_3)(PPh_3)_2$  in dimethyl sulfoxide 92 (1994) 257

Hydroformylation of 1-aryl-1-(2-pyridyl)ethenes catalyzed by rhodium complexes 93 (1994) 279

Hydroisomerization probe of the catalytic and structural behavior of iron-rhodium particles supported on refractory oxide supports 94 (1994) 97

New hydroformylation rhodium catalysts with dithiolate chiral ligands 94 (1994) 149

Phosphorus-31 NMR spin lattice relaxation times as an indirect probe of adsorbed water in supported aqueous phase catalysts 94 (1994) 157

On the rhodium catalyzed formation of acetic acid from methyl formate – comparison with the rhodium catalyzed formation of acetic acid by direct carbonylation of methanol 95 (1995) 45

 Electronic
 structure
 of
 organobis(dimethylglyoximato)triphenylphosphinerhodium(III)

 complexes
 95 (1995) 141
 complexes
 95 (1995) 141

Hydroformylation of acrolein acetal 96 (1995) 25

Selective reductive dimerization of phenylacetaldehyde to 2,4diphenylbutanal catalysed by novel dirhodium complexes 96 (1995) 107

Rhodium catalysed hydroformylation of higher alkenes using amphiphilic ligands 98 (1995) 69

Colloidal rhodium catalyzed photo transfer hydrogenation of 1,5cyclooctadiene 98 (1995) 157

Effect of ligand donor-acceptor properties on selectivity of catalytic olefin isomerization reaction 99 (1995) 23

Kinetic and mechanistic investigation of the sequential hydrogenation of phenylacetylene catalyzed by rhodium(I) phosphine complexes of the type  $[Rh(\eta^2-O_2Z)(PR_3)_2] = 99 (1995) 55$ 

Spectator cations and catalysis with sulfonated phosphines. The role of cations in determining reaction selectivity in the aqueous phase hydroformylation of olefins 99 (1995) 131

## rhodium carbonyl

Hydroformylation of  $\alpha$ - and  $\beta$ -pinene catalyzed by rhodium and cobalt carbonyls 83 (1993) 51

## rhodium complexes

Effect of carboxylic acids on the yield and selectivity of the hydroformylation of hex-1-ene catalyzed by [Rh(acac)(CO)(PPh<sub>3</sub>)] 80 (1993) 189

## rhodium phosphine complexes

The effect of phosphonium salt formation on the kinetics of homogeneous hydrogenations in water utilizing a rhodium *meta*-sulfonatophenyl-diphenylphosphine complex 84 (1993) 157

#### ribonuclease A mimics

Bifunctional acid-base catalysis by imidazole groups in enzyme mimics 91 (1994) 161

#### **Ring enlargement**

Ring enlargement and aromatization of propylcyclobutane over silica-supported Pt, Pd and Rh in hydrogen atmosphere 91 (1994) 61

## ring-opening

From ring-opening metathesis polymerization to Ziegler–Natta polymerization: a method for obtaining polynorbornene–polyethylene block copolymers 82 (1993) 103

Ring-opening metathesis copolymerization of cyclopentene and [2.2]paracyclophane-1.9-diene: UV-Vis-spectroscopic determination of sequence-length distribution of *p*-phenylenevinylene units 84 (1993) 253

Ring-opening copolymerization of [2.2]paracyclophane-1,9-diene (PCPDE) and cyclooctene (COE); a route to soluble products with *p*-phenylenevinylene sequences 90 (1994) 15

Synthesis of perfect rubber using ring-opening metathesis polymerization of 1-methylcyclobutene 90 (1994) 39

Optically active polymers via ring-opening metathesis polymerization: Polymerization of enantiomerically pure (-)endo-2-norbornenyl acetate 90 (1994) 53

Ring-opening polymerization of cycloolefin induced by tungsten porphyrinates 90 (1994) 101

 $Stereoselectivity of cycloolefin polymerization with WCl_6-based catalytic systems -90 (1994) 117$ 

Cometathesis of dicyclopentadiene with esters of unsaturated carboxylic acids by high valent tungsten chlorides as unicomponent catalysts 90 (1994) 135 Ring opening metathesis polymerization of bicyclo [2.2.1]hept-2ene (2-norbornene) and *exo,exo-5*,6-bis(methoxycarbonyl)-7-oxabicyclo [2.2.1]hept-2-ene using Ru(II) and Ru(III) complexes: Polymerization kinetics and ruthenium content in polymers 90 (1994) 143

XPS of carbon on Pt-black and EUROPT-1. Is methylcyclopentane ring opening a 'coke sensitive' reaction? 94 (1994) 225

Single crystals of isopolyoxometallate(VI) salts as catalysts for the ring-opening polymerization of norbornene 96 (1995) 31

#### Ring size

Chelate control in the nickel-complex catalyzed homogeneous oligomerization of ethylene 92 (1994) 21

## $(\mathbf{R})(-)$ -pheniramine

Synthesis of an optically active pheniramine by enantioselective hydrogenation catalysed by BINAP-ruthenium(II) complexes 83 (1993) 1

## rubber

Metathetic incorporation of preformed defined *p*-phenylenevinylene sequences into commercially available neodymium butadiene rubber 90 (1994) 29

## **Ru-brown** complex

In situ spectrocyclic voltammetric studies on Ru-red and Ru-brown complexes for water oxidation catalyst in homogeneous aqueous solution and in heterogeneous Nafion membrane 81 (1993) 319

## **Ru-red** complex

In situ spectrocyclic voltammetric studies on Ru-red and Ru-brown complexes for water oxidation catalyst in homogeneous aqueous solution and in heterogeneous Nafion membrane 81 (1993) 319

#### ruthenium

Novel catalytic procedure for selective homologation of primary alcohols 80 (1993) L1

Oxidation of organic substrates catalysed by mixed ligand  $Ru^{III}$  complexes. Investigation of active catalytic species and termination pathway 80 (1993) 1

Ruthenium complex-catalyzed selective deoxygenation of amidoximes to amidines and its application to the facile synthesis of pyrimidines 80 (1993) 383

Hydrogenation and transfer hydrogenation of D-fructose catalyzed by dichlorotris(triphenylphosphine)ruthenium(II) 81 (1993) 185

Bimetallic Ru–Cu/SiO<sub>2</sub> catalysts: effect of total surface area on the catalytic properties 83 (1993) 237

Catalytic hydrogenation reactions by  $[cis-[Ru(6,6'-Cl_2bpy)_2(OH_2)_2]$  (CF<sub>3</sub>SO<sub>3</sub>)<sub>2</sub> in biphasic [media (6,6'-Cl\_2bpy=6,6'-dichloro-2,2'-bipyridine) 84 (1993) 39

Ruthenium-catalyzed oxidation of alkylaromatics by monopersulfate with preferential oxidative fission of the benzene ring 84 (1993) 59

Hydroformylation of olefins catalysed by supported  $Ru_3(CO)_{12}$  with 2,2'-bipyridine or with other heterocyclic nitrogen base 84 (1993) 145

Electron transfer reactions at Nafion and clay adsorbed Ru(bpy)<sub>3</sub><sup>+</sup> coated electrodes 84 (1993) 187

An efficient ruthenium complex catalyst for the carbonylation of methanol to methyl formate 85 (1993) 109

Dimerization of methyl acrylate by homogeneous transition-metal catalysis. Part I. Activation of hydrido(carbonyl)chloro-[bis(triisopropylphosphane)]ruthenium by CF<sub>3</sub>SO<sub>3</sub>Ag 85 (1993) 149

An approach to the mechanisms of C-C bond formation and cleavage on metal surfaces using model elementary reaction steps of organometallic chemistry 86 (1994) 205

Enantioselective and photocatalytic oxidation of 1,1'-bi-2-naphthol with a chiral ruthenium complex which includes molecular helicity 88 (1994) 1

Dihydrogen reduction of organic substrates using orthometallated ruthenium(II) complex catalysts 88 (1994) 57

Effect of the method of preparing  $Ru-Mo/SiO_2$  catalysts in their behaviour in CO hydrogenation 88 (1994) 213

Synthesis of binuclear amide complexes of Ru(III) and study of their catalytic activity in epoxidation of alkenes 88 (1994) 287

Stereoselective molecular recognition of enantiomeric cobalt(III) complexes by novel photosensitizers of helical ruthenium(II) complexes 89 (1994) 5

Homogeneous Ru-Co bimetallic catalysis in CO<sub>2</sub> hydrogenation: the formation of ethanol 89 (1994) 51

Electronic and kinetic isotope effects on the electrooxidation of benzyl alcohols by a monoxo ruthenium(V) complex of tetramethylcyclam 89 (1994) 57

Oxidation of methyl- and octyl- $\alpha$ -D-glucopyranoside, catalyzed by high-valent ruthenium species; RuO<sub>4</sub>, RuO<sub>4</sub><sup>-</sup> and RuO<sub>4</sub><sup>2-</sup>. 89 (1994) 63

Reactivity of ruthenium carbonyl carboxylates under hydroformylation conditions 89 (1994) 77

Electrocatalytic activity of  $[(bpy)_2(H_2O)Ru^{III}ORu^{III}(H_2O)(bpy)_2]^{4+}$  towards sugar oxidation 89 (1994) 101

Triruthenium dodecacarbonyl-catalyzed reductive carbonylation of nitroarenes: cyclization, carbon monoxide insertion and reduction. An overview 89 (1994) 121

Studies on ruthenium catalysts. Part 4: Hydrogenolysis of *n*-butane on  $Ru/Al_2O_3$  catalysts-dependence of reaction kinetics on particle size and on pretreatment 89 (1994) 221

Isomerization of 3-functional substituted propenes in the presence of ruthenium (III) 1,3-diketonates 89 (1994) 303

Metathetical activity of allylsubstituted silanes in the presence of ruthenium catalyst 90 (1994) 125

Ring opening metathesis polymerization of bicyclo [2.2.1] hept-2ene (2-norbornene) and *exo*,*exo*-5,6-bis(methoxycarbonyl)-7-oxabicyclo [2.2.1] hept-2-ene using Ru(II) and Ru(III) complexes: Polymerization kinetics and ruthenium content in polymers 90 (1994) 143

Metathesis of vinylsubstituted silanes in the presence of ruthenium complexes 90 (1994) 213

Trans-effect and trans-influence series for phosphanes in octahedral environment: a guide for design of new catalysts 90 (1994) 257

Orthometalated ruthenium-complex-catalysed reductive carbonylation of nitroaromatics 91 (1994) 19

Ruthenium catalyzed ethylene-methyl formate reactions. Synthesis of propanol and ketones 91 (1994) 31

Preparation and characterization of copper based bimetallic catalysts 91 (1994) 107

Polyol conversion into furanic derivatives on bimetallic catalysts; nature of the catalytic sites 91 (1994) 119

Synthesis of aminoarenes in homogeneously catalyzed nitroarene – methyl formate reactions 91 (1994) 149

 $Ru_3(CO)_{12}/2,2'$ -bipyridine supported on inorganic carriers as 1hexene hydroformylation catalysts 91 (1994) 335

Catalytic and structural properties of ruthenium bimetallic catalysts: preparation and characterization 92 (1994) 107

Hectorite-supported ruthenium: a hydrogenation catalyst with molecular-sieve properties 92 (1994) 123

Bifunctional catalysts from pillared clays: vapour phase conversion of propene to acetone catalyzed by iron and ruthenium containing aluminum pillared bentonites. 92 (1994) 201

Photocatalytic reduction of coordinated dinitrogen to ammonia – mononuclear versus dinuclear ethylenediaminetetraacetato ruthenium complexes 93 (1994) 23

The effects of differing degrees of thermal activation of  $RuO_2 \cdot xH_2O$ on its corrodability and oxygen catalytic activity 94 (1994) 71 Synthesis of malonic esters by the catalytic addition of methyl formate to  $\alpha,\beta$ -unsaturated esters 95 (1995) 129

Hydrogenation of carbon oxides by Ru/activated carbon catalysts obtained from  $Ru_3(CO)_{12}$ : effect of pretreatment on their dispersion, composition and activity 95 (1995) 223

The role of promoter metals in the hydrocarbonylation of methanol over active carbon supported cobalt catalysts 95 (1995) 259

Selective formation of *cis*-PhCH=CH(SiEt<sub>3</sub>) by reaction of PhC=CH with the stoichiometric amount of HSiEt<sub>3</sub>, in the presence of ruthenium catalysts 96 (1995) 21

Catalytic and structural properties of ruthenium bimetallic catalysts: kinetics of 2,2,3,3-tetramethylbutane hydrogenolysis 96 (1995) 35

Catalytic and structural properties of ruthenium monometallic and bimetallic catalysts: characterization by EXAFS and XRD 96 (1995) 65

Enantioselective catalytic epoxidation of styrenes by iodosylbenzene using chiral ruthenium(II) Schiff base complexes 96 (1995) 117

Probing Ru-Pd/SiO<sub>2</sub> catalysts by gas phase o-xylene hydrogenation 96 (1995) 155

Reduction of ketones by dihydrogen or hydrogen transfer catalysed by a ruthenium complex of the hydridotris(3,5-dimethyl)pyrazolyl borate ligand 98 (1995) 5

Catalytic and structural properties of ruthenium bimetallic catalysts: kinetics of hydrogenolysis of lower alkanes on variously pretreated Ru/Al<sub>2</sub>O<sub>3</sub> catalysts 98 (1995) 81

Ruthenium(11) 2-(phenylazo)pyridine complexes as epoxidation catalysts 98 (1995) 143

Hydrogenation of 1-hexene by a triruthenium cluster stabilized with a face-capping 1,3-dithiacyclohexane ligand 99 (1995) 29

## ruthenium carbonyl

Hydroformylation of  $\alpha$ - and  $\beta$ -pinene catalyzed by rhodium and cobalt carbonyls 83 (1993) 51

## ruthenium chloride

The indirect anodic oxidation of 2-methylnaphthalene Part II.\* Oxidation in presence of dichromates 83 (1993) 251

## ruthenium complex

Isomerization of methyl formate to acetic acid catalyzed by the Ru(II)-Sn(II) heteronuclear cluster complex [ $Ru(SnCl_3)_5(PPh_3)$ ] 84 (1993) 51

Synthesis of acetic acid from methanol alone by homogeneous metal complex catalyst. Part II<sup>-1</sup>. Mechanistic study on methyl acetate formation from methanol alone by  $[(\eta^5-C_5H_5)(PPh_3)_2RuX]$ (X = Cl, SnF<sub>3</sub>) complex catalyst 97 (1995) 35

#### ruthenium(III)

Hydrogenation of cyclohexene using polymer-supported ruthenium (III) complexes as catalysts 83 (1993) 67

## ruthenium-tin cluster

Isomerization of methyl formate to acetic acid catalyzed by the Ru(II)-Sn(II) heteronuclear cluster complex [Ru(SnCl<sub>3</sub>)<sub>5</sub>(PPh<sub>3</sub>)] 84 (1993) 51

## Salen

First report on highly efficient alkene hydrogenation catalysed by Ni(salen) complex encapsulated in zeolite 92 (1994) 235

## salen analog

Catalytic activities of nickel(II) complexes of a salen analog, [Ni(babp)], in epoxidation of olefins 87 (1994) 195

## salicylaldoximato ligand

Hydroformylation of olefins catalyzed by (1,5-cyclooctadiene) salicylaldoximatorhodium under atmospheric pressure 88 (1994) 277

#### Salicylaldoxime complexes

Catalytic activity of anchored vanadyl complexes 93 (1994) 29

## saloph

Catalysis of alkene hydrogenation and oxidation by nickel-saloph complex; a novel bifunctional catalyst 84 (1993) 1

## Samarium

Catalysis of  $Sm^{3+}$  for the oxidation of alkanes with  $O_2$  in the liquid phase 95 (1995) 115

## samarium(III)

Cyclohexane oxidation with dioxygen catalyzed by samarium(III) 83 (1993) 15

## SAPO-11

Effect of the synthesis conditions on the crystallinity and surface acidity of SAPO-11 98 (1995) 35

## SAPO5

Cracking of n-hexane and n-butane over SAPO5, MgAPO5 and CoAPO5 87 (1994) 263

## SAPO (FT-OR)

A comparative study of acidic properties of SAPO-5, -11, -34 and -37 molecular sieves 88 (1994) 249

#### SAPO molecular sieves

A comparative study of acidic properties of SAPO-5, -11, -34 and -37 molecular sieves 88 (1994) 249

## SAPO (XPS)

A comparative study of acidic properties of SAPO-5, -11, -34 and -37 molecular sieves 88 (1994) 249

## saturation kinetics

Polymer-supported catalysis: oxidation of catecholamines by Fe(III) and Cu(II) complexes immobilized to chitosan 87 (1994) 177

#### SBET

The effect of different ZnO precursors on the catalytic decomposition of ethanol 98 (1995) 63

## scandium

Rare earth trifluoromethanesulphonates as catalysts in some Meerwein-Ponndorf-Verley type reductions 85 (1993) 65

## scanning tunneling microscopy

Quantum theory of scanning tunneling microscopy and spectroscopy and its application to surface electronic processes 82 (1993) 253

Scanning tunneling microscopy observation of giant palladium-561 clusters 95 (1995) 109

## Schiff base

Determination of the rates of formation and hydrolysis of the Schiff bases formed by pyridoxal and poly-*L*-lysine 87 (1994) 361

## Schiff base complexes

Water oxidation catalyzed by heterogeneous Schiff base manganese complex 81 (1993) L7

Structural effect of cobalt Schiff base complex catalyst on its catalytic activity in dioxygenolysis of 3-methylindole 83 (1993) 117

#### Schiff base macrocycle

Copper(1) and copper(11) dinuclear complexes of a macrocyclic ligand derived from the 2:2 condensation of pyridine-2,6-dicarbox-aldehyde and 1,4,7-triazaheptane 99 (1995) 87

Stoichiometric and catalytic oxidation by a dinuclear copper(I) dioxygen complex and a dinuclear copper(II) complex of a macrocyclic ligand derived from the 2:2 condensation of pyridine-2,6dicarboxaldehyde and 1,4,7-triazaheptane 99 (1995) 101

## Schiff bases

Brominated and chlorinated manganese chiral Schiff base complexes as epoxidation catalysts 85 (1993) 13

Enantioselective catalytic epoxidation of styrenes by iodosylbenzene using chiral ruthenium(II) Schiff base complexes 96 (1995) 117

## SDS

Effects of sodium dodecyl sulphate concentration on the autooxidation of 3,5-di-*tert*-butylcatechol in solutions of hydrated transition metal ions 97 (1995) 1

## secondary alcohol

Substituent effects on the rate of dehydrogenation of primary and secondary alcohols 87 (1994) 47

#### secondary amines

Synthesis of secondary amines by reductive alkylation using copper

chromite catalyst: steric effect of carbonyl compounds 84 (1993) 125

#### Selective hydrogenation

Colloidal rhodium catalyzed photo transfer hydrogenation of 1,5cyclooctadiene 98 (1995) 157

## selective oxidation

Electrocatalytic functionalization of alkanes using aqueous platinum salts 87 (1994) 11

## selective oxygenation

Cyclohexane oxidation with dioxygen catalyzed by samarium(III) 83 (1993) 15

#### Selective reduction

Transition metal oxides as catalysts for the selective reduction of nitrobenzene 93 (1994) 305

#### selectivity

Effect of carboxylic acids on the yield and selectivity of the hydroformylation of hex-1-ene catalyzed by [Rh(acac)(CO)(PPh<sub>3</sub>)] 80 (1993) 189

Electrocatalytic hydrogenation on a rhodium complex-polypyrrole film electrode: effect of the polymeric environment on the selectivity of the catalyst 81 (1993) L19

Liquid phase hydrogenation of cinnamaldehyde over supported ruthenium catalysts: influence of particle size, bimetallics and nature of support 85 (1993) 215

Aqueous phase rhodium hydroformylation of octene-1 with trisulfonated tris( $\omega$ -phenyl)alkylphosphines and trisulfonated triphenyl phosphine. Reaction selectivity as an indication of rhodium-phosphine complex chemistry 88 (1994) 43

Selectivity in hydroformylation of 1-decene by homogeneous catalysis 91 (1994) 1

Activity and selectivity of supported Rh complex catalyst in carbonylation of nitrobenzene 91 (1994) 195

Mechanism of but-1-yne hydrogenation on platinum catalysts: deuterium tracer study. 91 (1994) 259

Catalytic hydrogenation of aromatic ketones in the presence of cyclodextrins 91 (1994) 313

Sepiolites as supports for Pd catalysts used in organic reduction processes 94 (1994) 131

Highly selective palladium catalyzed hydrogen transfer from H<sub>2</sub>O-CO to the C=C double bond of  $\beta$ -benzoylacrylic acid 94 (1994) 173

Poisoning of iron catalyst by COS in syngas for Fischer-Tropsch synthesis 94 (1994) 255

Effect of the reduction temperature on the selectivity of the high temperature reaction of acetone and hydrogen over alumina and titania supported nickel and cobalt catalysts 94 (1994) 347

Effect of ligand donor-acceptor properties on selectivity of catalytic olefin isomerization reaction 99 (1995) 23

Spectator cations and catalysis with sulfonated phosphines. The role of cations in determining reaction selectivity in the aqueous phase hydroformylation of olefins 99 (1995) 131

## semi-hydrogenation

Mechanism of but-1-yne hydrogenation on platinum catalysts: deuterium tracer study. 91 (1994) 259

## semiempirical study

Semiempirical study of carbon monoxide, oxygen and carbon adsorption on a modelled CoSi(100) surface 80 (1993) 307

## sensitivity analysis

Comparing homogeneous and heterogeneous acid catalysts by a density-functional based sensitivity analysis of their interaction with carbonium ions 83 (1993) 135

#### sepharose

Influence of the modification procedure of support materials on the microenvironment of immobilized  $\alpha$ -chymotrypsin 80 (1993) 127

#### Sepiolites

Sepiolites as supports for Pd catalysts used in organic reduction processes 94 (1994) 131

#### shape-selective reactions

Designing zeolite catalysts for size and shape selective reactions 86 (1994) 343

#### Shape selectivity

Hectorite-supported ruthenium: a hydrogenation catalyst with molecular-sieve properties 92 (1994) 123

## silane coupling agent

Ruthenium complex-catalyzed hydrosilylation of allyl chloride with trimethoxysilane 81 (1993) 207

#### silanes

Metathetical activity of allylsubstituted silanes in the presence of ruthenium catalyst 90 (1994) 125

Metathesis of vinylsubstituted silanes in the presence of ruthenium complexes 90 (1994) 213

## silica

Vapour phase propene hydroformylation catalyzed by the Rh/Al system on silica 80 (1993) 105

 $\label{eq:characterization of chromium oxide supported on Al_2O_3, ZrO_2, TiO_2, and SiO_2 under dehydrated conditions $80 (1993) 209$ 

Influence of substituents and ligands of various cobalt(II) porphyrin derivatives coordinately bonded to silica on the oxidation of mercaptan 80 (1993) 253

Correlation between the single turnover (STO) site densities and the rates of 4-*tert*-butyl-1-methylcyclohexene hydrogenation over silica supported palladium catalysts 80 (1993) 277

Pt/SiO<sub>2</sub> catalysts: a comparison of the impregnation and the sol-gel methods 80 (1993) 299

Detection by CO-FTIR of incipient metal-support interaction in Rh/ SiO<sub>2</sub> and Pd/TiO<sub>2</sub> 81 (1993) 267

Catalytic behaviour for skeletal rearrangement of hydrocarbons and surface structures of silica and alumina supported Pt-Mo catalysts 85 (1993) 75

Surface organometallic chemistry: reductive carbonylation of  $OsCl_3 \cdot 3H_2O$  supported on silica 86 (1994) 109

An approach to the mechanisms of C-C bond formation and cleavage on metal surfaces using model elementary reaction steps of organometallic chemistry 86 (1994) 205

Cr<sup>2+</sup> ions grafted to silica and silicalite surfaces: FTIR characterization and ethylene polymerization activity 86 (1994) 423

Application of computer modeling to surface organometallic chemistry 86 (1994) 479

Surface complexes formed in V<sub>2</sub>O<sub>5</sub>--TiO<sub>2</sub>-SiO<sub>2</sub> catalysts according to <sup>51</sup>V and <sup>1</sup>H high-resolution solid-state NMR data 87 (1994) 57

Hydrogenation of propyne to propene over platinum/silica 87 (1994) 275

Effect of the method of preparing  $Ru-Mo/SiO_2$  catalysts in their behaviour in CO hydrogenation 88 (1994) 213

Olefin metathesis catalyst. Part I. Angle-resolved and depth profiling XPS study of tungsten oxide on silica 90 (1994) 43

Deactivation mechanism of photoreduced and cyclopropane-treated molybdena/silica catalysts for olefin metathesis 90 (1994) 61

Characterisation of modified Cr-silica catalysts 90 (1994) 81

Pd/Sn catalyst for toluene acetoxylation 90 (1994) 267

Immobilization of alkoxylated phosphine ligands and their Rh complexes to a silica surface coated with an organic mono- or multilayer 90 (1994) 303

Ring enlargement and aromatization of propylcyclobutane over silica-supported Pt, Pd and Rh in hydrogen atmosphere 91 (1994) 61

Kinetics of chain transfer during ethylene polymerization with chromium oxide/silica catalyst 91 (1994) 237 Effect of the type of preparation on the properties of titania/silicas 91 (1994) 277

FTIR studies of CO chemisorption and reactivity on Rh/SiO<sub>2</sub> catalysts promoted by niobium oxide 92 (1994) 217

Physicochemical properties of  $TiO_2$ -SiO<sub>2</sub> unmodified and modified with  $H_2SO_4$  and activity for acid catalysis 93 (1994) 149

Methylamine synthesis over solid acid catalysts: reaction kinetic measurements 93 (1994) 337

Synthesis and catalytic activity of silica supported iron(III) 95 (1995) 27

Olefin metathesis catalyst. Part II. Activation and characteristics of a 'molecular' tungsten unit on silica 95 (1995) 75

Characterization and aniline alkylation activity of vanadia and silicasupported vanadia catalysts 96 (1995) 57

Probing Ru–Pd/SiO<sub>2</sub> catalysts by gas phase o-xylene hydrogenation 96 (1995) 155

A copper/silica catalyst prepared from a monolayer film of copper 2,2'-bipyridine dimer on Cab-O-Sil 97 (1995) 85

Catalytic methanol decomposition to carbon monoxide and hydrogen over Ni/SiO<sub>2</sub> of high nickel content 99 (1995) 183

## silica-alumina

Kinetics of heterogeneous decomposition of hydrogen peroxide with some transition metal complexes supported on silica-alumina in aqueous medium 84 (1993) 67

## silica-anchored complexes

Origin of agglomerates observed in high resolution transmission electron microscopy (HRTEM) micrographs of a catalyst containing platinum(II) complexes anchored on phosphinated SiO<sub>2</sub>: computer simulation of HRTEM images 87 (1994) 231

## silicalite

Cr<sup>2+</sup> ions grafted to silica and silicalite surfaces: FTIR characterization and ethylene polymerization activity 86 (1994) 423

#### silica support

Synthesis and characterization of cobalt phthalocyanines covalently attached to silica 83 (1993) 1

#### silica supported catalyst

Catalytic hydrogenation of polyaromatics in the presence of  $\mu_3$ -oxotrirhodium acetate and its silica supported analogue 87 (1994) 75

## silicon

Embedded-cluster techniques for the quantum-mechanical study of surface reactivity 82 (1993) 229

#### silicon-containing catalysts

Cross-metathesis of some functionalized olefins with cyclo- and

bicycloolefins catalyzed by WCl<sub>6</sub>-silicon-containing co-catalyst systems 90 (1994) 21

## silicon substituted AIPO<sub>4</sub>-11 framework

Simulation of topography and acid properties of silicon substituted AIPO<sub>4</sub>-11 framework 84 (1993) 299

## siloxane polymer

Investigation of the catalytic activity of poly(siloxane)-supported tetra(4-pyridyl)porphyrinatomanganese(III) in olefin oxidation reactions 81 (1993) 157

#### silsesquioxane

Models of surface-confined metallocene derivatives 86 (1994) 309

## Silver

Effect of particle size upon catalytic and electronic properties of supported Ag catalysts: combined catalytic, <sup>109</sup>Ag NMR and quantum chemistry studies 96 (1995) 175

#### silyl enolates

Nucleophilic attack on the central allyl carbon of  $\eta^3$ -allyl complexes of Pd and Pt. Synthesis of cyclopropanes from allylic electrophiles and silyl enolates 84 (1993) 239

## simulation

Origin of agglomerates observed in high resolution transmission electron microscopy (HRTEM) micrographs of a catalyst containing platinum(II) complexes anchored on phosphinated SiO<sub>2</sub>: computer simulation of HRTEM images 87 (1994) 231

#### Single-route reactions

Surface nonuniformity and kinetic insensitivity on heterogeneous catalysts 94 (1994) 47

#### single turnovers

Correlation between the single turnover (STO) site densities and the rates of 4-*tert*-butyl-1-methylcyclohexene hydrogenation over silica supported palladium catalysts 80 (1993) 277

## <sup>29</sup>Si NMR spectroscopy

A comparative study of acidic properties of SAPO-5, -11, -34 and -37 molecular sieves 88 (1994) 249

## size dependent behaviour

Extension of the range of applications of classic-phenomenological laws to the field of matter in a highly dispersed state 82 (1993) 361

#### size effects

Size effects on the binding energy calculation of atoms and molecules on magnetic transition metal clusters 83 (1993) 367

#### Size exclusion chromatography analysis

Linear low density polyethylene: catalyst system effect on polymer microstructure 98 (1995) 123

## size-selective reactions

Designing zeolite catalysts for size and shape selective reactions 86 (1994) 343

## skeletal rearrangements

Catalytic behaviour for skeletal rearrangement of hydrocarbons and surface structures of silica and alumina supported Pt-Mo catalysts 85 (1993) 75

#### Small angle X-ray scattering

Transformation of carbon compounds on graphimet catalysts. Part V. The effect of pretreatment on the structure and activity of Pt-graphimet catalyst 99 (1995) 115

#### Small metal particles

Effect of particle size upon catalytic and electronic properties of supported Ag catalysts: combined catalytic, <sup>109</sup>Ag NMR and quantum chemistry studies 96 (1995) 175

#### sodium

Molecular orbital study of the gas phase reaction of  $Na_xBi_4$  clusters with HCl (x = 1,2) 92 (1994) 95

## sodium chloride

Theoretical investigations on adsorption at ion crystal surfaces 82 (1993) 171

## sodium lauryl sulphate

Micellar-catalysis: effect of sodium lauryl sulphate in the oxidation of lactic acid by chromic acid 81 (1993) 349

#### Sodium methoxide

Homogeneous catalytic synthesis of formaldehyde using the tungsten carbonyl complex  $[(CO)_5WCl]^-$  in the presence of sodium methoxide 93 (1994) 125

#### sol-gel

Effect of the type of preparation on the properties of titania/silicas 91 (1994) 277

The effect of preparation methods on the properties of zirconia/ silicas 94 (1994) 85

#### sol-gel catalysts

Li/MgO sol-gel catalysts 88 (1994) 71

## sol-gel preparation

Pt/SiO<sub>2</sub> catalysts: a comparison of the impregnation and the sol-gel methods 80 (1993) 299

## solid acid

Alkylation, isomerization and cracking activity of a novel solid acid,  $AlCl_2(SG)_n = 89 (1994) 317$ 

Methylamine synthesis over solid acid catalysts: reaction kinetic measurements 93 (1994) 337

## solid state

 $^1H$  and  $^{51}V$  high-resolution solid state nuclear magnetic resonance studies of supported V2O5/TiO2 catalysts  $\phantom{1}88~(1994)~311$ 

## Solid-state NMR

<sup>1</sup>H, <sup>31</sup>P NMR MAS, infrared and catalytic studies of heteropolyacid  $H_3PW_{12}O_{40}$  supported on MgF<sub>2</sub> 95 (1995) 135

## solvent effects

Heterogeneous catalysis in organic synthesis. Part 9. Specific site solvent effects in catalytic hydrogenations 87 (1994) 95

Heptamolybdate-ion catalyzed C(2) epimerization of *D*-mannose to *D*-glucose in acetonitrile-water mixtures; a kinetic study 89 (1994) 247

## solvent isotope effect

Bile-salt-stimulated human milk lipase catalysed hydrolysis of 1,2,3tri[(*cis*)-9-octadecenoyl] glycerol: solvent isotope effect 91 (1994) 303

#### Solvent isotope effects

Lamb pregastric lipase catalysed hydrolysis of 1,2,3-tri[(*cis*)-9-octadecenoyl]glycerol: temperature, pH and solvent isotope effects 96 (1995) 77

#### sorption

Comparison of the surface properties of the metal-oxygen cluster compounds, 12-tungstophosphoric acid and ammonium 12-tungstophosphate from the sorption of benzene, nitrogen and pyridine 80 (1993) 75

Hydrogen adsorption and OH desorption at vanadium pentoxide surfaces: *ab initio* cluster model studies 81 (1993) 279

#### Sorption microcalorimetry

Transformation of carbon compounds on graphimet catalysts. Part V. The effect of pretreatment on the structure and activity of Pt-graphimet catalyst 99 (1995) 115

#### sorption properties

Surface organometallic chemistry on zeolites: A tool for modifying the sorption properties of zeolites 86 (1994) 501

#### specificity

Specificity to leaving group in transesterification of substituted phenyl esters in organic solvents catalysed by subtilisin-microgel sols 81 (1993) 119

## spectrocyclic voltammetry

In situ spectrocyclic voltammetric studies on Ru-red and Ru-brown complexes for water oxidation catalyst in homogeneous aqueous solution and in heterogeneous Nafion membrane 81 (1993) 319

#### spillover species

Methanation with  $[Re(CO)_3OH]_4/Al_2O_3$ . Evidence for spillover species 86 (1994) 121

#### spin lattice relaxation

 ${}^{31}$ P spin lattice relaxation time measurements of the amphiphilic ligands [Ph<sub>2</sub>P(CH<sub>2</sub>)<sub>n</sub>PMe<sub>3</sub>]<sup>+</sup> in solution and tethered to a solid cationic exchange resin via the tetra-alkylphosphonium groups 80 (1993) 43

## spin traps

 $^{51}$ V NMR and EPR study of the mechanistic details of oxidation with VO(O<sub>2</sub>)(Pic)(H<sub>2</sub>O)<sub>2</sub> 92 (1994) 245

#### square-planar complex

Catalytic activities of nickel(II) complexes of a salen analog, [Ni(babp)], in epoxidation of olefins 87 (1994) 195

## SQUID

A copper/silica catalyst prepared from a monolayer film of copper 2,2'-bipyridine dimer on Cab-O-Sil 97 (1995) 85

#### Stability

Activity decay and conformational change of lipase in presence of organic solvents. A fluorescence study of *Candida rugosa* lipase 97 (1995) 119

## stabilization

Synthesis of diisopropylbenzene over dealuminated zeolite beta 88 (1994) 85

## stannia

CO oxidation over Pd/SnO<sub>2</sub> catalyst 87 (1994) 297

## Statistical design

The influence of cyclopentadienyl ring substituent steric and electronic effects on the ethylene– $\alpha$ -olefin copolymerisation behaviour of (CpR)<sub>2</sub>ZrCl<sub>2</sub>/ethylalumoxane catalysts 96 (1995) 181

#### **Steady-state kinetics**

Surface nonuniformity and kinetic insensitivity on heterogeneous catalysts 94 (1994) 47

## steel-walled cells

Spontaneous formation of  $Fe(CO)_5$  from CO and the steel walls of an FTIR cell 83 (1993) 391

## stereoselective quenching

Stereoselective molecular recognition of enantiomeric cobalt(III) complexes by novel photosensitizers of helical ruthenium(II) complexes 89 (1994) 5

#### stereoselectivity

Stereoselective reduction of disubstituted aromatics on colloidal rhodium 87 (1994) 107

Stereoselectivity of cycloolefin polymerization with WCl<sub>6</sub>-based catalytic systems 90 (1994) 117

Stereoselective oxidation of enantiomeric amines by a monoamine oxidase model of chiral iron(III) porphyrins 91 (1994) 7

Addition of tetrachloromethane to *cis*-cycloalkenes in the presence of transition metal complexes 92 (1994) 269

Stereoselective reduction of menthone with sodium dithionite in the presence of  $\beta$ -cyclodextrin 93 (1994) 247

#### stereospecific catalysis

Role of electron donor in propylene polymerization using magne-

sium chloride-supported titanium tetrachloride catalyst 82 (1993) 11

## stereospecific olefin polymerization

Highly isotactic polypropene prepared with rac-dimethylsilyl-bis(2methyl-4-*t*-butyl-cyclopentadienyl)zirconiumdichloride: an NMR investigation of the polymer microstructure 82 (1993) 67

#### stereospecific sites

Molecular orbital studies in the  $MgCl_2$ -ethyl benzoate-TiCl<sub>4</sub> system 87 (1994) 137

#### steric effects.

Synthesis of secondary amines by reductive alkylation using copper chromite catalyst: steric effect of carbonyl compounds 84 (1993) 125

#### Stilbene

Room-temperature hydrogen transfer from liquid methanol or 2propanol to diphenylacetylene over Group VIII metal/TiO<sub>2</sub> photocatalysts 92 (1994) 187

## Stopped-flow

Formation of compound I of horseradish peroxidase in AOT reverse micelles as studied by pulse radiolysis and stopped-flow methods 98 (1995) 1

## strong acids

Nitrous acid-catalysed oxidation of alcohols by oxygen in strongly acidic aqueous solutions 88 (1994) 121

## strong metal-support interaction

Detection by CO-FTIR of incipient metal-support interaction in Rh/ SiO<sub>2</sub> and Pd/TiO<sub>2</sub> 81 (1993) 267

#### strontium

Strontium hydroxyapatites: catalytic properties in the oxidative dehydrogenation of methane to carbon oxides and hydrogen 92 (1994) 81

## structural properties

Spectroscopic and structural properties of some molybdenum and tungsten polyoxoperoxo complexes. A comparison with mononuclear complexes 89 (1994) 295

Catalytic and structural properties of ruthenium monometallic and bimetallic catalysts: characterization by EXAFS and XRD 96 (1995) 65

#### structure

Molecular design of supported metal oxide catalysts: an initial step to theoretical models 82 (1993) 443

Structural study of Ti<sup>IV</sup> exchanged K10-montmorillonite by XRD, EXAFS and XANES 92 (1994) 311

Ester fission catalysed by microgels possessing hydroxamic acid groups: structure-reactivity studies 95 (1995) 83

## Structure-activity relationship

Structure-activity relationship in zeolites 96 (1995) 245

## styrene

Styrene hydrogenation on supported Pd, Fe and Pd-Fe/ $\gamma$ -Al<sub>2</sub>O<sub>3</sub> catalysts 89 (1994) 267

Enantioselective cyclopropanation of styrene with optically active nitrogen ligands based on the pyridine framework 95 (1995) 7

Enantioselective catalytic epoxidation of styrenes by iodosylbenzene using chiral ruthenium(II) Schiff base complexes 96 (1995) 117

## Styrene derivatives

Hydrovinylation of styrene derivatives to 3-aryl-1-butenes catalysed by nickel complexes 92 (1994) 127

## Substituted cyclopentadienyl rings

The influence of cyclopentadienyl ring substituent steric and electronic effects on the ethylene– $\alpha$ -olefin copolymerisation behaviour of (CpR)<sub>2</sub>ZrCl<sub>2</sub>/ethylalumoxane catalysts 96 (1995) 181

## Substituted malonate

Synthesis of malonic esters by the catalytic addition of methyl formate to  $\alpha,\beta$ -unsaturated esters 95 (1995) 129

## subtilisin

Importance of Hansch's  $\pi$  parameter in the catalytic action of microgel-immobilised subtilisin dissolved in tetrahydrofuran solvent 80 (1993) 137

Specificity to leaving group in transesterification of substituted phenyl esters in organic solvents catalysed by subtilisin-microgel sols 81 (1993) 119

## Succinaldehyde

Hydroformylation of acrolein acetal 96 (1995) 25

## succinimides

Electrophilic halogenation of aromatics and heteroaromatics with *N*halosuccinimides in a solid/liquid system using an H<sup>+</sup> ion exchanger or ultrasonic irradiation 88 (1994) 377

## Sucrose

Hydrolysis of sucrose by dealuminated Y-zeolites 94 (1994) 283

## Sulfide ion

Catalytic activity of monomeric and polymeric cobalt(II)-phthalocyanines in sulfide ion oxidation 95 (1995) 197

## Sulfides

Aerobic oxidation of aldehydes, ketones, sulfides, alcohols and alkanes catalysed by polymerizable  $\beta$ -ketoesterate complexes of iron(III), nickel(II) and cobalt(II) 94 (1994) 27

## sulfonated phosphines

The effect of phosphonium salt formation on the kinetics of homo-

geneous hydrogenations in water utilizing a rhodium meta-sulfonatophenyl-diphenylphosphine complex 84 (1993) 157

305

#### sulfur

New catalytic system for oxidative carbonylation of aniline 91 (1994) 155

Ammonia and sulfur poisoning effects on hydrogenation of phenylacetylene over Pd supported catalysts 94 (1994) 409

#### Sulphate

Role of surface chlorine species in the oxidative coupling of methane in the presence of tetrachloromethane on magnesium phosphate and sulphate 93 (1994) 53

#### sulphide

Pyridine adsorption on a MoS<sub>2</sub> modelled surface (Mo<sub>3</sub>S<sub>8</sub>). A CNDO molecular orbital study 85 (1993) 345

On the hydrogenolysis of five membered heteroatom rings over  $MoS_2 = 89 (1994) 345$ 

#### sulphide catalysts

The importance of sulphur-sulphur bonding in the hydrodesulphurization process of thiophene, using transition metal sulphide catalysts 91 (1994) 207

#### sulphonated phosphines

Aqueous phase rhodium hydroformylation of octene-1 with trisulfonated tris( $\omega$ -phenyl)alkylphosphines and trisulfonated triphenyl phosphine. Reaction selectivity as an indication of rhodium-phosphine complex chemistry 88 (1994) 43

## Sulphonated triphenyl phosphine salt

Phosphorus-31 NMR spin lattice relaxation times as an indirect probe of adsorbed water in supported aqueous phase catalysts 94 (1994) 157

#### sulphur

The beneficial effects of introducing sulphur substituents into hydroformylation substrate 83 (1993) 11

## sulphur derivatives

Carbonylative reduction of aromatic nitroderivatives to arylamines catalyzed by sulfur compounds 88 (1994) 177

#### Sulphuric acid

Physicochemical properties of  $TiO_2$ -SiO<sub>2</sub> unmodified and modified with  $H_2SO_4$  and activity for acid catalysis 93 (1994) 149

## sulphur-sulphur bonding

The importance of sulphur-sulphur bonding in the hydrodesulphurization process of thiophene, using transition metal sulphide catalysts 91 (1994) 207

## superactive centres

On the nature of superactive centers in H-ZSM-5 zeolites: quantum chemical calculations 80 (1993) 243

#### supercritical fluids

Enantioselectivity and reactivity of immobilized lipase in supercritical carbon dioxide 89 (1994) 11

#### supported bimetallic catalyst

Characterization of supported bimetallic catalysts for ethylene polymerization: the effect of external Lewis bases 82 (1993) 17

## supported catalyst

DRIFT study of the oxidation and the ammoxidation of toluene over a  $TiO_2(B)$ -supported vanadia catalyst 81 (1993) 51

Effects of hydrogen on the polymerization of propylene with a magnesium chloride supported Ziegler-Natta catalyst 82 (1993) 37

Hydroformylation of olefins catalysed by supported  $Ru_3(CO)_{12}$  with 2,2'-bipyridine or with other heterocyclic nitrogen base 84 (1993) 145

Hydrogenation of propyne to propene over platinum/silica 87 (1994) 275

CO oxidation over Pd/SnO<sub>2</sub> catalyst 87 (1994) 297

Role of the support of the nickel catalyst in the synthesis of morpholine from diethylene glycol and ammonia 88 (1994) 193

Catalytic activities of electroless plated Cu/alumina catalysts for the dehydrogenation of cyclohexanol 88 (1994) 223

Cationic ironporphyrins as catalyst in comparative oxidation of hydrocarbons: homogeneous and supported on inorganic matrices systems 99 (1995) 187

## supported catalysts

Regioselective hydrogenation of 3-phenylpropenal and of *trans*-2hexenal to saturated aldehydes catalysed by ultrafine rhodium particles dispersed on acrylic resins 80 (1993) L5

Propadiene oligomerization catalyzed by nickel(0) phosphine complexes immobilized on phosphinated poly(styrene-divinylbenzene) support 80 (1993) 181

 $\label{eq:characterization of chromium oxide supported on Al_2O_3, ZrO_2, TiO_2, and SiO_2 under dehydrated conditions $80 (1993) 209$ 

Influence of substituents and ligands of various cobalt(II) porphyrin derivatives coordinately bonded to silica on the oxidation of mercaptan 80 (1993) 253

Correlation between the single turnover (STO) site densities and the rates of 4-*tert*-butyl-1-methylcyclohexene hydrogenation over silica supported palladium catalysts 80 (1993) 277

Raman characterization of alumina supported Mo-V-Fe catalysts: influence of calcination temperature 81 (1993) 63

Catalytic properties of 0.3%  $Pt/Al_2O_3$  (EUROPT-3) and of 0.3% Pt-0.3% Re/Al\_2O\_3 (EUROPT-4) 81 (1993) 99

Molecular orbital studies in the MgCl<sub>2</sub>-ethyl benzoate-TiCl<sub>4</sub> system 87 (1994) 137

Meso-aryl substituted metalloporphyrins supported on imidazole propyl gel (IPG). Catalytic activity in the oxidation of cyclohexane and characterization of iron porphyrin-IPG systems 88 (1994) 167

Studies on ruthenium catalysts. Part 4: Hydrogenolysis of *n*-butane on  $Ru/Al_2O_3$  catalysts-dependence of reaction kinetics on particle size and on pretreatment 89 (1994) 221

Styrene hydrogenation on supported Pd, Fe and Pd-Fe/ $\gamma$ -Al<sub>2</sub>O<sub>3</sub> catalysts 89 (1994) 267

Pd/Sn catalyst for toluene acetoxylation 90 (1994) 267

Ring enlargement and aromatization of propylcyclobutane over silica-supported Pt, Pd and Rh in hydrogen atmosphere 91 (1994) 61

Supported platinum atoms derived catalysts in the hydrosilylation of unsaturated substrates 91 (1994) 83

Thiophene desulfurization by Co/carbon catalysts synthesized by reaction of  $Co(C_5H_5)_2$  and the carbon support 91 (1994) 91

Liquid-phase oxidation of alcohols by dioxygen using oxide-supported platinum catalysts 91 (1994) 139

Activity and selectivity of supported Rh complex catalyst in carbonylation of nitrobenzene 91 (1994) 195

 $Ru_3(CO)_{12}/2,2'$ -bipyridine supported on inorganic carriers as 1hexene hydroformylation catalysts 91 (1994) 335

Catalytic and structural properties of ruthenium bimetallic catalysts: preparation and characterization 92 (1994) 107

Hectorite-supported ruthenium: a hydrogenation catalyst with molecular-sieve properties 92 (1994) 123

Iridium(I) and phase-transfer catalyzed hydrogen-transfer reduction of ketones using potassium fluoride on alumina as a base 92 (1994) 149

FTIR studies of CO chemisorption and reactivity on  $Rh/SiO_2$  catalysts promoted by niobium oxide 92 (1994) 217

The interaction of carbon monoxide with nickel-iron alloys. A comparison between single crystal surfaces and supported catalysts 92 (1994) 299

Polymer-supported Pd(II) Wacker-type catalysts. Part III<sup>1</sup>. Isomerisation of alkene double bond 94 (1994) 7

Hydroisomerization probe of the catalytic and structural behavior of iron-rhodium particles supported on refractory oxide supports 94 (1994) 97 Sepiolites as supports for Pd catalysts used in organic reduction processes 94 (1994) 131

Dehydrogenation of isopropyl alcohol over Co-Ni/Mg oxide catalysts 94 (1994) 191

Propene hydrogenation on low-temperature reduced  $Pt/TiO_2$ . Effects of TiO<sub>2</sub> phases and H<sub>2</sub> treatment on specific catalytic activity 94 (1994) 299

Synthesis and application of organophilic polystyrene-montmorillonite supported onium salts in organic reactions 94 (1994) 311

Effect of the reduction temperature on the selectivity of the high temperature reaction of acetone and hydrogen over alumina and titania supported nickel and cobalt catalysts 94 (1994) 347

Ammonia and sulfur poisoning effects on hydrogenation of phenylacetylene over Pd supported catalysts 94 (1994) 409

Synthesis and catalytic activity of silica supported iron(III) 95 (1995) 27

Olefin metathesis catalyst. Part II. Activation and characteristics of a 'molecular' tungsten unit on silica 95 (1995) 75

 $^{1}$ H,  $^{31}$ P NMR MAS, infrared and catalytic studies of heteropolyacid  $H_{3}PW_{12}O_{40}$  supported on MgF\_  $_{2}$  -95 (1995) 135

Hydrogenation of carbon oxides by Ru/activated carbon catalysts obtained from  $Ru_3(CO)_{12}$ : effect of pretreatment on their dispersion, composition and activity 95 (1995) 223

The role of promoter metals in the hydrocarbonylation of methanol over active carbon supported cobalt catalysts 95 (1995) 259

Heterogeneous catalysis in organic chemistry. Part 10<sup>4</sup>. Effect of the catalyst support on the regiochemistry of the heck arylation reaction 95 (1995) 277

Characterization of MoO<sub>3</sub>/TiO<sub>2</sub> catalysts by <sup>1</sup>H magic-angle-spinning NMR spectroscopy 96 (1995) 5

Catalytic and structural properties of ruthenium bimetallic catalysts: kinetics of 2,2,3,3-tetramethylbutane hydrogenolysis 96 (1995) 35

Characterization and aniline alkylation activity of vanadia and silicasupported vanadia catalysts 96 (1995) 57

Probing  $Ru-Pd/SiO_2$  catalysts by gas phase *o*-xylene hydrogenation 96 (1995) 155

A copper/silica catalyst prepared from a monolayer film of copper 2,2'-bipyridine dimer on Cab-O-Sil 97 (1995) 85

Oxidative dehydrogenation of propane on VAPO-5,  $V_2O_5/ALPO_{a-5}$ and  $V_2O_5/MgO$  catalysts. Nature of selective sites 97 (1995) 173 Chlorinated organic polymers as supports for Ziegler-Natta catalysts 99 (1995) 167

Catalytic methanol decomposition to carbon monoxide and hydrogen over  $Ni/SiO_2$  of high nickel content 99 (1995) 183

## supported ligands

 $^{31}$ P spin lattice relaxation time measurements of the amphiphilic ligands [Ph<sub>2</sub>P(CH<sub>2</sub>)<sub>*n*</sub>PMe<sub>3</sub>]<sup>+</sup> in solution and tethered to a solid cationic exchange resin via the tetra-alkylphosphonium groups 80 (1993) 43

#### supported metal complexes

Polymer-supported catalysis: oxidation of catecholamines by Fe(III) and Cu(II) complexes immobilized to chitosan 87 (1994) 177

## supported metal oxides

Molecular design of supported metal oxide catalysts: an initial step to theoretical models 82 (1993) 443

#### support surface chemistry

Application of computer modeling to surface organometallic chemistry 86 (1994) 479

#### supported catalyst

Investigation of the catalytic activity of poly(siloxane)-supported tetra(4-pyridyl)porphyrinatomanganese(III) in olefin oxidation reactions 81 (1993) 157

#### Surface

The electronic states and Lewis acidity of surface aluminum atoms in  $\gamma$ -Al<sub>2</sub>O<sub>3</sub> model cluster: An *ab initio* MO study 96 (1995) 277

#### surface area

Bimetallic Ru–Cu/SiO<sub>2</sub> catalysts: effect of total surface area on the catalytic properties 83 (1993) 237

Effect of acidity and copper surface area of the  $Cu/Al_2O_3$  catalyst prepared by electroless plating procedure on dehydrogenation reactions 94 (1994) 233

## surface characterization

Olefin metathesis catalyst. Part I. Angle-resolved and depth profiling XPS study of tungsten oxide on silica 90 (1994) 43

#### surface chemistry

Stoichiometric and catalytic reactivity of organometallic fragments supported on inorganic oxides 86 (1994) 5

Molecular approach to the study of the mechanisms of alkyl reactions on metal surfaces 86 (1994) 221

Solid-state NMR studies of supported organometallics 86 (1994) 447

Surface organometallic chemistry on zeolites: A tool for modifying the sorption properties of zeolites 86 (1994) 501

Surface organometallic chemistry on zeolites: control of the pore opening of mordenite by grafting of thermally stable  $-GeBu_3$  fragments 92 (1994) 239

Olefin metathesis catalyst. Part II. Activation and characteristics of a 'molecular' tungsten unit on silica 95 (1995) 75

Chemistry of dicobalt octacarbonyl on zinc oxide. Homonuclear ionpairing surface species related to catalytic activity in ethylene hydroformylation 96 (1995) 49

#### surface complexes

Surface complexes formed in V<sub>2</sub>O<sub>5</sub>-TiO<sub>2</sub>-SiO<sub>2</sub> catalysts according to <sup>51</sup>V and <sup>1</sup>H high-resolution solid-state NMR data 87 (1994) 57

#### surface compounds

Surface compounds of transition metals. Part XXXIX<sup>1</sup>. Redox deactivation of Phillips catalysts: from olefins to cyclopentadienyl complexes 90 (1994) 75

## surface-confined metallocene derivatives

Models of surface-confined metallocene derivatives 86 (1994) 309

## Surface electronic structure

Effect of particle size upon catalytic and electronic properties of supported Ag catalysts: combined catalytic, <sup>109</sup>Ag NMR and quantum chemistry studies 96 (1995) 175

#### surface-mediated synthesis

Surface-mediated synthesis of metal clusters 86 (1994) 95

## surface nickel oxide

Effect of alumina on the reduction of surface nickel oxide; morphology of the surfaces of the surfaces of  $Ni/Al_2O_3$  catalysts 83 (1993) 197

## surface organometallic chemistry

Surface organometallic chemistry on metals: a novel and effective route to custom-designed bimetallic catalysts 86 (1994) 179

#### surface oxygen

Stoichiometric reaction of benzene with  $\alpha$ -form of oxygen on FeZSM-5 zeolites. Mechanism of aromatics hydroxylation by N<sub>2</sub>O 84 (1993) 117

#### surface properties

Comparison of the surface properties of the metal-oxygen cluster compounds, 12-tungstophosphoric acid and ammonium 12-tungstophosphate from the sorption of benzene, nitrogen and pyridine 80 (1993) 75

#### surfaces

Ligands on clusters - adsorbates on surfaces 82 (1993) 195

Simulation of heterogeneous catalytic surfaces 85 (1993) 57

Surface nonuniformity and kinetic insensitivity on heterogeneous catalysts 94 (1994) 47

The CO-oxidation on Pd-rich surfaces of PdCu(110): hysteresis in reaction rates 96 (1995) 271

## surface simulation

Theoretical investigations on adsorption at ion crystal surfaces 82 (1993) 171

## surface species

Use of the methanol decomposition reaction for identifying surface species in Cu/Co-based catalysts 91 (1994) 369

#### surface structures

Catalytic behaviour for skeletal rearrangement of hydrocarbons and surface structures of silica and alumina supported Pt-Mo catalysts 85 (1993) 75

## surface systems

Quantum theory of scanning tunneling microscopy and spectroscopy and its application to surface electronic processes 82 (1993) 253

#### surface V<sub>2</sub>O<sub>5</sub> clusters

Charge sensitivity analysis of oxide catalysts: oxidation-state dependence of the normal-mode description of  $V_2O_5$  surface clusters 82 (1993) 383

## surfactant

Micellar-catalysis: effect of sodium lauryl sulphate in the oxidation of lactic acid by chromic acid 81 (1993) 349

#### surfactants

Photodegradation of surfactants. Part XII: Photocatalyzed mineralization of phosphorus-containing surfactants at  $TiO_2/H_2O$  interfaces 88 (1994) 239

#### Swellability

Microporous poly-*N*,*N*-dimethylacrylamide-*p*-styrylsulfonatemethylene bis(acrylamide): a promising support for metal catalysis 97 (1995) 145

#### syngas

Syngas reactions part XV. Primary amine syntheses from olefins, syngas and ammonia 81 (1993) 27

## Synthesis

Effect of the synthesis conditions on the crystallinity and surface acidity of SAPO-11 98 (1995) 35

#### synthetic activity

Effect of water-mimicking additives on the synthetic activity and enantioselectivity in organic solvents of a *Candida cylindracea* lipase 84 (1993) 27

## Т

## telomerization

Catalytic activity of Pd(AcO)<sub>2</sub> coordinated to cross-linked polymeric isocyanides 81 (1993) 167 Palladium catalyzed telomerization of butadiene with water in a two phase system: drastic effect of the amine structure on the rate and selectivity 97 (1995) 29

## TEM

Promoter effect of niobia on  $Pt/Al_2O_3$  catalysts. Part II<sup>1</sup>. Effect of chlorine and  $Nb_2O_5$  content on the structure and reactivity in  $CH_3OH/D_2$  exchange 92 (1994) 167

## temperature-programmed reduction

Effect of alumina on the reduction of surface nickel oxide; morphology of the surfaces of the surfaces of  $Ni/Al_2O_3$  catalysts 83 (1993) 197

## **Temperature rising elution fractionation**

Propene-co-butene random copolymers synthesized with superactive Ziegler–Natta catalyst 99 (1995) 161

#### template effect

On the reactivity of acetylenes coordinated to cobalt. Part 8<sup>1</sup>: Carbonylation of acetylenes with bulky substituents 84 (1993) 7

#### termination pathway

Oxidation of organic substrates catalysed by mixed ligand Ru<sup>II</sup> complexes. Investigation of active catalytic species and termination pathway 80 (1993) 1

## tert-butyl hydroperoxide

Chromium(VI)-catalyzed oxidation of adamantane by *tert*-butyl hydroperoxide 84 (1993) 15

Highly efficient oxygen transfer from *tert*-butyl hydroperoxide to benzylic carbons catalyzed by chromium(VI) oxide under high substrate/hydroperoxide ratios 92 (1994) 277

Catalytic activity of anchored vanadyl complexes 93 (1994) 29

## Tetrachloromethane

Role of surface chlorine species in the oxidative coupling of methane in the presence of tetrachloromethane on magnesium phosphate and sulphate 93 (1994) 53

Effect of tetrachloromethane as a gas-phase additive on the oxidative dehydrogenation of ethane over magnesium phosphate 95 (1995) 35

## tetrahalogen nickel(II) complex anion

Reactivity of interstitial  $[NiCl_4]^{2-}$  complex anions in a Mg-Al hydrotalcite-like clay towards alkyl bromides in the liquid phase 81 (1993) 397

## Tetramethylbutane

Catalytic and structural properties of ruthenium bimetallic catalysts: kinetics of 2,2,3,3-tetramethylbutane hydrogenolysis 96 (1995) 35

## Tetraphenylphosphonium peroxomonosulfate

Formation and reactivity toward hydrocarbons of oxomanganese porphyrins in the presence of anionic bases 97 (1995) 79

## tetrasodium sulphonate ligand

Effects of complexation of oppositely charged water-soluble cobaltphthalocyanines on the catalytic mercaptoethanol autoxidation 87 (1994) 161

## tetrathiafulvalene

Study of the new electron transfer mediators in glucose oxidase catalysis 91(1994)407

## tetra(trimethylammonium) iodide ligand

Effects of complexation of oppositely charged water-soluble cobaltphthalocyanines on the catalytic mercaptoethanol autoxidation 87 (1994) 161

## Thenoyl-1,1,1-trifluoroacetone complexes

Catalytic activity of anchored vanadyl complexes 93 (1994) 29

#### theoretical study

Theoretical studies in the realm of chemical reactivity: Noncatalytic and catalytic reactions 82 (1993) 265

## Thermal activation

The effects of differing degrees of thermal activation of  $RuO_2 \cdot xH_2O$ on its corrodability and oxygen catalytic activity 94 (1994) 71

## Thermal analyses

The effect of different ZnO precursors on the catalytic decomposition of ethanol 98 (1995) 63

## Thermal fractionated crystallization

Linear low density polyethylene: catalyst system effect on polymer microstructure 98 (1995) 123

#### thermal stability

Studies on a new catalyst for the hydroformylation of alkenes using  $C_{60}$  as a ligand 89 (1994) 113

Homogeneous catalysis by osmium complexes. A review 96 (1995) 231

## Thermodesorption

Gas phase hydrogenation of acetonitrile on Raney nickel catalysts: reactive hydrogen 95 (1995) 165

#### thermodynamics

Thermodynamic and mechanistic studies of initial stages in propane aromatisation over Ga-modified H-ZSM-5 catalysts 86 (1994) 371

## Thermolyses

Thermolysis of alkyl aryl ethers catalysed by HZSM-5, P-HZSM-5, H-Theta-1, H-Y and H-Mordenite zeolites 92 (1994) 51

#### thermolysis

Palladium clusters: stoichiometric and catalytic reactions 86 (1994) 71

## thioalkenes

The beneficial effects of introducing sulphur substituents into hydroformylation substrates 83 (1993) 11

#### **Thiocyanate reactions**

Synthesis and application of organophilic polystyrene-montmorillonite supported onium salts in organic reactions 94 (1994) 311

#### Thioether

Hydrogenation of 1-hexene by a triruthenium cluster stabilized with a face-capping 1,3-dithiacyclohexane ligand 99 (1995) 29

#### thiolation

Thiolation and reversible immobilization of sweet potato  $\beta$ -amylase on thiolsulfonate-agarose 84 (1993) 381

## **Thiol derivatives**

Cleavage of active esters by functional thiol compounds: acceleration and time-dependent effects induced by cationic surfactants 94 (1994) 263

## thiols

Effects of complexation of oppositely charged water-soluble cobaltphthalocyanines on the catalytic mercaptoethanol autoxidation 87 (1994) 161

#### thiolsulfonate-agarose

Thiolation and reversible immobilization of sweet potato  $\beta$ -amylase on thiolsulfonate-agarose 84 (1993) 381

#### thiophene

On the hydrogenolysis of five membered heteroatom rings over  $MoS_2$  89 (1994) 345

Thiophene desulfurization by Co/carbon catalysts synthesized by reaction of  $Co(C_5H_5)_2$  and the carbon support 91 (1994) 91

Kinetic study of the hydrogen sulfide effect in the conversion of thiophene on supported Co-Mo catalysts 94 (1994) 369

Studies of the mechanism of thiophene hydrodesulfurization: <sup>2</sup>H NMR and mass spectral analysis of 1,3-butadiene produced in the deuterodesulfurization (DDS) of thiophene over  $PbMo_6S_8$  catalyst 96 (1995) 283

#### thiophenols

Liquid-phase alkylthiolation reaction of phenol by dimethyldisulfide over zeolites 89 (1994) 383

#### thioxopentanoate complexes

Catalytic olefin oligomerisation activity of a series of trialkyl- and triphenylphosphine derivatives of the nickel(II) complexes of 4-thioxo-2-pentanoate and 2,4-pentanedithionate 87 (1994) 117

#### thiophene adsorption

A molecular orbital picture of thiophene hydrodesulfurization. Part 2. Thiophene adsorption 83 (1993) 219

#### thorium

Recent developments in the surface and catalytic chemistry of supported organoactinides 86 (1994) 23

#### time course

Time conditions for chemical reactions at the mesoscopic level in

the elementary catalytic system 1-butene on ZnO 82 (1993) 327

#### tin

Pt(II)-SnCl<sub>2</sub> catalyzed hydromethoxycarbonylation of 1-alkynes: a remarkable example of regioselectivity control 84 (1993) 141

Organic carbonate activation: aldehyde acetalization study using  $Sn[Co(CO)_4]_4$  as catalyst in the activation of propylene carbonate 85 (1993) 279

Acetoxylation of toluene catalyzed by supported Pd-Sn catalysts 87 (1994) 311

Paraffin dehydrocyclization. Part 9. Conversion of *n*-octane with Pt-Sn catalysts at atmospheric pressure 88 (1994) 343

Pd/Sn catalyst for toluene acetoxylation 90 (1994) 267

High temperature treated Pt/Sn-ZnAl<sub>2</sub>O<sub>4</sub> catalysts 93 (1994) 67

#### tin(II)-coordinated complexes

Photocatalytic dehydrogenation of methanol using  $[IrH(SnCl_3)_5]^{3-}$  complex 89 (1994) 143

## tin-zinc aluminate

Platinum supported on coprecipitated Sn-ZnAl<sub>2</sub>O<sub>4</sub> 84 (1993) 177

#### titanacyclobutane

From ring-opening metathesis polymerization to Ziegler-Natta polymerization: a method for obtaining polynorbornene-polyethylene block copolymers 82 (1993) 103

#### titania

 $\label{eq:characterization of chromium oxide supported on Al_2O_3, ZrO_2, TiO_2, and SiO_2 under dehydrated conditions 80 (1993) 209$ 

DRIFT study of the oxidation and the ammoxidation of toluene over a  $TiO_2(B)$ -supported vanadia catalyst 81 (1993) 51

Detection by CO-FTIR of incipient metal-support interaction in Rh/ SiO<sub>2</sub> and Pd/TiO<sub>2</sub> 81 (1993) 267

Surface complexes formed in V<sub>2</sub>O<sub>5</sub>-TiO<sub>2</sub>-SiO<sub>2</sub> catalysts according to <sup>51</sup>V and <sup>1</sup>H high-resolution solid-state NMR data 87 (1994) 57

Heterogeneous photocatalytic oxidation of nitrite over iron-doped TiO<sub>2</sub> samples 87 (1994) 67

 $^1H$  and  $^{51}V$  high-resolution solid state nuclear magnetic resonance studies of supported V2O5/TiO2 catalysts 88~(1994)~311

Structural alterations of highly dispersed  $Rh/TiO_2$  catalyst upon CO adsorption and desorption investigated by infrared spectroscopy 89 (1994) 229

Effect of the type of preparation on the properties of titania/silicas 91 (1994) 277

Room-temperature hydrogen transfer from liquid methanol or 2propanol to diphenylacetylene over Group VIII metal/TiO<sub>2</sub> photocatalysts 92 (1994) 187

Physicochemical properties of  $TiO_2$ -SiO<sub>2</sub> unmodified and modified with  $H_2SO_4$  and activity for acid catalysis 93 (1994) 149

Dark catalytic reduction of  $CO_2$  over Prussian blue-deposited  $TiO_2$ and the photo-reactivation of the catalyst 93 (1994) 269

Propene hydrogenation on low-temperature reduced  $Pt/TiO_2$ . Effects of  $TiO_2$  phases and  $H_2$  treatment on specific catalytic activity 94 (1994) 299

Effect of the reduction temperature on the selectivity of the high temperature reaction of acetone and hydrogen over alumina and titania supported nickel and cobalt catalysts 94 (1994) 347

Photocatalyzed mineralization of nitrogen-containing compounds at  $TiO_2/H_2O$  interfaces 95 (1995) 53

Characterization of MoO<sub>3</sub>/TiO<sub>2</sub> catalysts by <sup>1</sup>H magic-angle-spinning NMR spectroscopy 96 (1995) 5

## titania/water interfaces

Photodegradation of surfactants. Part XII: Photocatalyzed mineralization of phosphorus-containing surfactants at  $TiO_2/H_2O$  interfaces 88 (1994) 239

## titanium

Model for the formation of active titanium complexes on  $MgCl_{2}$ ethyl benzoate-TiCl<sub>4</sub> catalysts for propylene polymerization 84 (1993) 109

Models of surface-confined metallocene derivatives 86 (1994) 309

Molecular orbital studies in the  $MgCl_2$ -ethyl benzoate-TiCl<sub>4</sub> system 87 (1994) 137

Paired interacting orbitals (PIO) study on the formation of the active site in Ziegler catalyst system 87 (1994) 243

Influence of ligands and cocatalyst on the activity in ethylene polymerization of soluble titanium complexes 89 (1994) 41

Structural study of Ti<sup>IV</sup> exchanged K10-montmorillonite by XRD, EXAFS and XANES 92 (1994) 311

## titanium catalyst

Highly active alkali metal hydrides; their catalytic syntheses and properties 84 (1993) 211

## titanium chloride

Electrophilicity of titanium atoms supported on magnesium chloride 82 (1993) 3

## titanium dioxide

Photobleaching of methyl orange in titanium dioxide suspended in aqueous solution 85 (1993) 201

The influence of dissolved metal ions on the photocatalytic degradation of phenol in aqueous TiO<sub>2</sub> suspensions 98 (1995) 109

#### titanium oxide

Theoretical investigations on adsorption at ion crystal surfaces 82 (1993) 171

#### titanium oxide surface

Charge sensitivity analysis of oxide catalysts:  $TiO_2(110)$  and (100) surface model clusters and  $H_2O$  adsorption 82 (1993) 407

## titanium tetrachloride

Role of electron donor in propylene polymerization using magnesium chloride-supported titanium tetrachloride catalyst 82 (1993) 11

## titanium tetraethoxide

Behaviour of  $[Ti_2(OEt)_8Cl]_2Mg_2(\mu-Cl)_2$  as catalyst component in the Ziegler-Natta polymerization of  $\alpha$ -olefins and diolefins 82 (1993) 45

#### Tolane

Room-temperature hydrogen transfer from liquid methanol or 2propanol to diphenylacetylene over Group VIII metal/TiO<sub>2</sub> photocatalysts 92 (1994) 187

#### toluene

DRIFT study of the oxidation and the ammoxidation of toluene over a  $TiO_2(B)$ -supported vanadia catalyst 81 (1993) 51

Adsorption of toluene on vanadium pentoxide surfaces. Quantum chemical study 82 (1993) 457

Acetoxylation of toluene catalyzed by supported Pd-Sn catalysts 87 (1994) 311

Pd/Sn catalyst for toluene acetoxylation 90 (1994) 267

## topography simulation

Simulation of topography and acid properties of silicon substituted AlPO<sub>4</sub>-11 framework 84 (1993) 299

## tosylated sepharose

Influence of the modification procedure of support materials on the microenvironment of immobilized  $\alpha$ -chymotrypsin 80 (1993) 127

## TPPTS

Spectator cations and catalysis with sulfonated phosphines. The role of cations in determining reaction selectivity in the aqueous phase hydroformylation of olefins 99 (1995) 131

## TPR

Promoter effect of niobia on  $Pt/Al_2O_3$  catalysts. Part II<sup>1</sup>. Effect of chlorine and  $Nb_2O_5$  content on the structure and reactivity in  $CH_3OH/D_2$  exchange 92 (1994) 167

## tracer studies

Mechanism of but-1-yne hydrogenation on platinum catalysts: deuterium tracer study. 91 (1994) 259

## transalkylation

Intermolecular transalkylation of methylanilines 89 (1994) 191

#### trans-Benzo-[f]-heterodecalins

Synthesis of a *trans*-benzo-[f]-heterodecalin by catalytic hydrogenation. The important parameters for high stereo- and chemoselectivity 95 (1995) 155

## transesterification

Specificity to leaving group in transesterification of substituted phenyl esters in organic solvents catalysed by subtilisin-microgel sols 81 (1993) 119

Alkylguanidines as catalysts for the transesterification of rapeseed oil 99 (1995) 65

#### transfer hydrogenation

Hydrogenation and transfer hydrogenation of *D*-fructose catalyzed by dichlorotris(triphenylphosphine)ruthenium(II) 81 (1993) 185

Transfer hydrogenation of simple epoxides 89 (1994) 1

Colloidal rhodium catalyzed photo transfer hydrogenation of 1,5cyclooctadiene 98 (1995) 157

#### transient phase

Kinetic analysis of a Michaelis–Menten mechanism with an unstable substrate 83 (1993) 273

#### **Trans Influence**

Electronicstructureoforganobisnobis(dimethylglyoximato)triphenylphosphinerhodium(III)complexes95 (1995) 141

#### transition metal complexes

Breaking C–S bonds with transition metal complexes. A review of molecular approaches to the study of the mechanisms of the hydrodesulfurization reaction 86 (1994) 287

#### **Transition metal ions**

Effects of sodium dodecyl sulphate concentration on the autooxidation of 3,5-di-*tert*-butylcatechol in solutions of hydrated transition metal ions 97 (1995) 1

## transition-metal oxides

Density functional theory and quantum chemistry: metals and metal oxides 82 (1993) 117

Transition metal oxides as catalysts for the selective reduction of nitrobenzene 93 (1994) 305

Dehydrogenation of isopropyl alcohol over Co-Ni/Mg oxide catalysts 94 (1994) 191

#### transition state analogue

Homogeneous and heterogeneous esterolytic catalyses of imidazolecontaining polymers prepared by molecular imprinting of a transition state analogue 87 (1994) 21 Homogeneous esterolytic catalysis of a polymer prepared by molecular imprinting of a transition state analogue 93 (1994) 189

## Transmission electron microscopy

Transformation of carbon compounds on graphimet catalysts. Part V. The effect of pretreatment on the structure and activity of Pt-graphimet catalyst 99 (1995) 115

## trialkyl

Influence of ligands and cocatalyst on the activity in ethylene polymerization of soluble titanium complexes 89 (1994) 41

## Trialkylamine

Palladium catalyzed telomerization of butadiene with water in a two phase system: drastic effect of the amine structure on the rate and selectivity 97 (1995) 29

#### Tribromide

Oxidation of bromide by chlorate catalysed by Mo 99 (1995) 143

## **Tributylgermanium fragments**

Surface organometallic chemistry on zeolites: control of the pore opening of mordenite by grafting of thermally stable  $-GeBu_3$  fragments 92 (1994) 239

## tributylphosphine

Effect of water on tributylphosphine modified cobalt carbonyl catalysts for the hydroformylation of olefins 85 (1993) 121

## tricarbonylchromium

Palladium-catalyzed carbon-carbon bond formation from ( $\eta^6$ -chloroarene)Cr(CO)<sub>3</sub> complexes: an example of bimetallic activation in homogeneous catalysis 81 (1993) 1

## Triethylaluminium

Infrared observation of the chemical consequences of cobalt catalyst produced in mixed solutions of  $Al(Et)_3$  and  $Co(acac)_2$  93 (1994) 289

## triethylamine

Deuterium exchange of pyrrolidine, diethylamine and triethylamine over catalysts of Group VIII transition metals 89 (1994) 365

#### trifluoromethanesulphonates

Rare earth trifluoromethanesulphonates as catalysts in some Meerwein-Ponndorf-Verley type reductions 85 (1993) 65

#### trimethoxysilane

Ruthenium complex-catalyzed hydrosilylation of allyl chloride with trimethoxysilane 81 (1993) 207

## 1,3,5-Trimethylhexahydro-1,3,5-triazine

Base catalysis on zeolites in the formaldehyde-dimethylamine transformations 98 (1995) 57

#### triolein

Bile-salt-stimulated human milk lipase catalysed hydrolysis of 1,2,3tri[(*cis*)-9-octadecenoyl] glycerol: solvent isotope effect 91 (1994) 303 Effect of temperature on hydrolysis of triolein by lipase 94 (1994) 291

## triphenylphosphine.

Palladium-catalyzed oxidation of triphenylphosphine 80 (1993) 31

#### **Triruthenium cluster**

Hydrogenation of 1-hexene by a triruthenium cluster stabilized with a face-capping 1,3-dithiacyclohexane ligand 99 (1995) 29

## trisubstituted benzenes

A convenient route to 1,3,5-trisubstituted benzenes via rhodium catalyzed polymerization of arylacetylenes 85 (1993) 163

## tri-transition-metal complex

Synthesis of  $[PW_9O_{37}{Fe_{3-x}Ni_x(OAc)_3}]^{(9+x)-}$ (x = predominantly 1) and oxidation catalysis by the catalyst precursor 88 (1994) 125

## tryptophan 2,3-dioxygenase

Tryptophan 2,3-dioxygenase-like activity of manganese(III) porphyrin bound to bovine serum albumin modified with poly(ethylene glycol) 81 (1993) L13

#### tungsten

Spectroscopic and structural properties of some molybdenum and tungsten polyoxoperoxo complexes. A comparison with mononuclear complexes 89 (1994) 295

Co-metathesis reaction of methyl linoleate with ethene over  $WCl_6$  catalyst 89 (1994) 357

Ring-opening copolymerization of [2.2] paracyclophane-1,9-diene (PCPDE) and cyclooctene (COE); a route to soluble products with *p*-phenylenevinylene sequences 90 (1994) 15

Cross-metathesis of some functionalized olefins with cyclo- and bicycloolefins catalyzed by  $WCl_6$ -silicon-containing co-catalyst systems 90 (1994) 21

Olefin metathesis catalyst. Part I. Angle-resolved and depth profiling XPS study of tungsten oxide on silica 90 (1994) 43

Synthesis of oligo- and poly(1,4-phenylenevinylene) by metathetic polycondensation of 1,4-divinylbenzene 90 (1994) 69

Ring-opening polymerization of cycloolefin induced by tungsten porphyrinates 90 (1994) 101

Stereoselectivity of cycloolefin polymerization with  $WCl_6$ -based catalytic systems 90 (1994) 117

Cometathesis of dicyclopentadiene with esters of unsaturated carboxylic acids by high valent tungsten chlorides as unicomponent catalysts 90 (1994) 135 313

Photocatalytic degradation of chlorophenols to  $CO_2$  and HCl with polyoxotungstates in aqueous solution 92 (1994) 261

Homogeneous catalytic synthesis of formaldehyde using the tungsten carbonyl complex  $[(CO)_5WCl]^-$  in the presence of sodium methoxide 93 (1994) 125

Polymerization of phenylacetylene by Lewis acid activated tungsten carbonyl complexes 93 (1994) 137

Olefin metathesis catalyst. Part II. Activation and characteristics of a 'molecular' tungsten unit on silica 95 (1995) 75

Single crystals of isopolyoxometallate(VI) salts as catalysts for the ring-opening polymerization of norbornene 96 (1995) 31

Reactions of  $W(CCMe_3)(OCMe_3)_3$  with terminal alkynes: metathesis and polymerization 96 (1995) 95

#### Tungsten oxide

Reactions of propene on supported molybdenum and tungsten oxides 95 (1995) 147

#### 12-tungstophosphoric acid

Characterization of the compounds formed from the interaction of divalent cations with inorganic molecular metal-oxygen cluster compounds 80 (1993) 59

Comparison of the surface properties of the metal-oxygen cluster compounds, 12-tungstophosphoric acid and ammonium 12-tungstophosphate from the sorption of benzene, nitrogen and pyridine 80 (1993) 75

#### tungstosilicic acid

Catalytic conversion of ethyl alcohol on polyaniline protonated with 12-tungstosilicic acid 89 (1994) 329

## **Turnover number**

Comparison of methane hydroxylation activity with intact cells and cell-free extracts of *Methylosinus trichosporium* OB3b 97 (1995) 135

#### two-phase oxidations

Hydroxylation of aromatics with hydrogen peroxide catalyzed by vanadium(V) peroxocomplexes 83 (1993) 107

## Tyrosinase

Synthetic mimics of tyrosinase: catechols from *ortho-*, *meta-* and *para-*substituted phenols and copper(I) complexes 97 (1995) 187

## U

#### ultrafine particles

Regioselective hydrogenation of 3-phenylpropenal and of *trans*-2hexenal to saturated aldehydes catalysed by ultrafine rhodium particles dispersed on acrylic resins 80 (1993) L5

## ultrasonic irradiation

Electrophilic halogenation of aromatics and heteroaromatics with *N*halosuccinimides in a solid/liquid system using an H<sup>+</sup> ion exchanger or ultrasonic irradiation 88 (1994) 377

## ultrasound

Transition-metal phthalocyanine catalyzed oxidation of sulfides by iodosylbenzene 88 (1994) 7

## ultrastable

Formation of ketones from lower olefins and water on ultrastable Ytype zeolite catalyst 80 (1993) 229

## unicomponent catalysts

Cometathesis of dicyclopentadiene with esters of unsaturated carboxylic acids by high valent tungsten chlorides as unicomponent catalysts 90 (1994) 135

## $\alpha,\beta$ -Unsaturated methyl esters

Synthesis of malonic esters by the catalytic addition of methyl formate to  $\alpha,\beta$ -unsaturated esters 95 (1995) 129

## unstable substrate

Kinetic analysis of a Michaelis-Menten mechanism with an unstable substrate 83 (1993) 273

#### Unsymmetric acid anhydride

Kinetics of the reaction of benzoyl chloride and sodium carboxylate under inverse phase-transfer catalysis 99 (1995) 153

## UV spectroscopy

Spectroscopic and structural properties of some molybdenum and tungsten polyoxoperoxo complexes. A comparison with mononuclear complexes 89 (1994) 295

## **UV–Vis spectroscopy**

Ring-opening metathesis copolymerization of cyclopentene and [2.2] paracyclophane-1,9-diene: UV-Vis-spectroscopic determination of sequence-length distribution of *p*-phenylenevinylene units 84 (1993) 253

## V

## vanadia

Hydrogen adsorption and OH desorption at vanadium pentoxide surfaces: *ab initio* cluster model studies 81 (1993) 279

Surface complexes formed in  $V_2O_5$ -Ti $O_2$ -Si $O_2$  catalysts according to <sup>51</sup>V and <sup>1</sup>H high-resolution solid-state NMR data 87 (1994) 57

Montmorillonite and vanadia-montmorillonite catalysts for aniline alkylation 88 (1994) 271

<sup>1</sup>H and <sup>51</sup>V high-resolution solid state nuclear magnetic resonance studies of supported  $V_2O_5/TiO_2$  catalysts 88 (1994) 311

Characterization and aniline alkylation activity of vanadia and silicasupported vanadia catalysts 96 (1995) 57

Multinuclear NMR studies of V<sub>2</sub>O<sub>5</sub>-Cs<sub>2</sub>S<sub>2</sub>O<sub>7</sub> melts 99 (1995) 123

#### vanadia catalyst

DRIFT study of the oxidation and the ammoxidation of toluene over a  $TiO_2(B)$ -supported vanadia catalyst 81 (1993) 51

Charge sensitivity analysis of oxide catalysts: oxidation-state dependence of the normal-mode description of  $V_2O_5$  surface clusters 82 (1993) 383

## vanadium

Catalytic oxidation of hydrazodicarboxamide to azodicarboxamide by oxygen 80 (1993) L13

Vanadium site in VAPO-5: characterization and catalytic properties in liquid-phase alkene epoxidation and benzylic oxidation 81 (1993) 77

Role of vanadium alkylperoxo complexes in epoxidation of cyclohexene and oxidation of cyclohexane by organic hydroperoxides in the presence of bis(acetylacetonato)vanadyl 81 (1993) 235

New possibilities of NMR in mechanistic studies of homogeneous and heterogeneous catalysis 82 (1993) 275

Allylic oxidation of olefins catalyzed by cobalt chloride. The beneficial effect of *N*-methylpyrrolidinone 84 (1993) 87

Oxidation of alkylaromatic compounds with hydrogen peroxide catalyzed by mixed addenda Keggin heteropolyanions 84 (1993) 93

Carbonylative reduction of aromatic nitroderivatives to arylamines catalyzed by sulfur compounds 88 (1994) 177

 $^{51}$ V NMR and EPR study of the mechanistic details of oxidation with VO(O<sub>2</sub>)(Pic)(H<sub>2</sub>O)<sub>2</sub> 92 (1994) 245

Catalytic activity of anchored vanadyl complexes 93 (1994) 29

<sup>51</sup>V-NMR investigation on the formation of peroxo vanadium complexes in aqueous solution: some novel observations 94 (1994) 323

Oxidative dehydrogenation of propane on VAPO-5,  $V_2O_5/ALPO_4$ -5 and  $V_2O_5/MgO$  catalysts. Nature of selective sites 97 (1995) 173

## vanadium oxide

Finite supercluster model of vanadium oxide catalysts. Part II. Adsorbate-adsorbate interactions 80 (1993) 341

Raman characterization of alumina supported Mo-V-Fe catalysts: influence of calcination temperature 81 (1993) 63

#### vanadium pentoxide

Adsorption of toluene on vanadium pentoxide surfaces. Quantum chemical study 82 (1993) 457

## vanadium peroxocomplexes

Hydroxylation of aromatics with hydrogen peroxide catalyzed by vanadium(V) peroxocomplexes 83 (1993) 107

## vanadium(V)

New catalytic system for oxidative carbonylation of aniline 91 (1994) 155

## VAPO-5

Vanadium site in VAPO-5: characterization and catalytic properties in liquid-phase alkene epoxidation and benzylic oxidation 81 (1993) 77

Oxidative dehydrogenation of propane on VAPO-5,  $V_2O_5/ALPO_4$ -5 and  $V_2O_5/MgO$  catalysts. Nature of selective sites 97 (1995) 173

#### Vapour phase conversion

Bifunctional catalysts from pillared clays: vapour phase conversion of propene to acetone catalyzed by iron and ruthenium containing aluminum pillared bentonites. 92 (1994) 201

#### Vegetable oils

Alkylguanidines as catalysts for the transesterification of rapeseed oil 99 (1995) 65

## 5-vinyl-2-norbornene

Codimerization of 2,5-norbornadiene with ethylene using soluble cobalt and nickel catalysts 84 (1993) 77

#### vinylation

Palladium catalyzed vinylation of 4-bromo-4'-hydroxybiphenyl 88 (1994) 113

#### Vinylidene derivatives

Metathetical polymerization of substituted phenylacetylenes using in situ generated (arene) $M(CO)_3$  complexes (arene = toluene, oxylene or mesitylene, M = Cr, Mo or W) as catalysts 99 (1995) 47

## vinylsubstituted silanes

Metathesis of vinylsubstituted silanes in the presence of ruthenium complexes 90 (1994) 213

## 3-vinyltricyclene

Codimerization of 2,5-norbornadiene with ethylene using soluble cobalt and nickel catalysts 84 (1993) 77

## <sup>61</sup>V NMR

Role of vanadium alkylperoxo complexes in epoxidation of cycloh-

exene and oxidation of cyclohexane by organic hydroperoxides in the presence of bis(acetylacetonato)vanadyl 81 (1993) 235

## $(VO)_2P_2O_7$

Dynamic description of the oxidation of *n*-butane on various faces of  $(VO)_2P_2O_7$  in terms of the crystallochemical model of active sites 84 (1993) 307

## $VO_x$ on adsorbed anatase

Spectroscopic study of the nature of vanadium-oxo species adsorbed on anatase 81 (1993) L25

#### VPI-5

Stacked phthalocyanines in VPI-5 pores as evidenced by CPDOR  $^{1}H^{-27}Al NMR = 97 (1995) 183$ 

W

## Wacker catalyst

Oxidation of olefins by palladium(II). Part XIV<sup>1</sup>. Product distribution and kinetics of the oxidation of ethene by PdCl<sub>3</sub>(pyridine)<sup>-</sup> in aqueous solution in the presence and absence of CuCl<sub>2</sub>: a modified Wacker catalyst with altered reactivity 99 (1995) 77

#### Wacker oxidation

Polymer-supported Pd(II) Wacker-type catalysts. Part III<sup>1</sup>. Isomerisation of alkene double bond 94 (1994) 7

#### water

Formation of ketones from lower olefins and water on ultrastable Ytype zeolite catalyst 80 (1993) 229

Effect of water on tributylphosphine modified cobalt carbonyl catalysts for the hydroformylation of olefins 85 (1993) 121

Carbonylative reduction of aromatic nitroderivatives to arylamines catalyzed by sulfur compounds 88 (1994) 177

Some possibilities and problems regarding photochemical water oxidation 88 (1994) 185

Quantum-chemical study of the four-electron catalytic oxidation of water to dioxygen in the presence of dinuclear and tetranuclear hydroxide complexes of cobalt(III) and iron(III): intermediates of the catalytic cycle and their relative energies 91 (1994) 71

Photocatalyzed mineralization of nitrogen-containing compounds at  $TiO_2/H_2O$  interfaces 95 (1995) 53

#### water adsorption

Charge sensitivity analysis of oxide catalysts:  $TiO_2(110)$  and (100) surface model clusters and  $H_2O$  adsorption 82 (1993) 407

#### water catalysis

Effects of water and onium ion phase-transfer catalyst on the rate of liquid-phase oxidation of hydrocarbons 80 (1993) 353

#### water-mimicking compounds

Effect of water-mimicking additives on the synthetic activity and enantioselectivity in organic solvents of a *Candida cylindracea* lipase 84 (1993) 27

## water oxidation

Water oxidation catalyzed by heterogeneous Schiff base manganese complex 81 (1993) L7

In situ spectrocyclic voltammetric studies on Ru-red and Ru-brown complexes for water oxidation catalyst in homogeneous aqueous solution and in heterogeneous Nafion membrane 81 (1993) 319

## Water-soluble catalysts

Water-soluble metal complexes and catalysts. Part 7<sup>1</sup>. New efficient water-soluble catalysts for two-phase olefin hydroformylation: BINAS-Na, a superlative in propene hydroformylation 97 (1995) 65

#### Water-soluble triarylphosphines

Rhodium catalysed hydroformylation of higher alkenes using amphiphilic ligands 98 (1995) 69

## Х

## XANES

Structural study of Ti<sup>IV</sup> exchanged K10-montmorillonite by XRD, EXAFS and XANES 92 (1994) 311

#### XPS

Olefin metathesis catalyst. Part I. Angle-resolved and depth profiling XPS study of tungsten oxide on silica 90 (1994) 43

Promoter effect of niobia on  $Pt/Al_2O_3$  catalysts. Part II<sup>1</sup>. Effect of chlorine and Nb<sub>2</sub>O<sub>5</sub> content on the structure and reactivity in CH<sub>3</sub>OH/D<sub>2</sub> exchange 92 (1994) 167

XPS of carbon on Pt-black and EUROPT-1. Is methylcyclopentane ring opening a 'coke sensitive' reaction? 94 (1994) 225

Olefin metathesis catalyst. Part II. Activation and characteristics of a 'molecular' tungsten unit on silica 95 (1995) 75

## **XPS** measurements

Low temperature reduction of gallium in a  $Ga_2O_3/HZSM$ -5 catalyst 83 (1993) 379

## X-ray crystallography

#### **X-ray diffraction**

Platinum supported on coprecipitated Sn-ZnAl<sub>2</sub>O<sub>4</sub> 84 (1993) 177

An alloy phase of  $Pd_3Pb$  and the activity of Pb/Pd/C catalysts in the liquid-phase oxidation of sodium lactate to pyruvate 91 (1994) 129

Oxidative dehydrogenation of *n*-butane on zinc-chromium ferrite catalysts 92 (1994) 325

## X-ray photoelectron spectroscopy

An alloy phase of  $Pd_3Pb$  and the activity of Pb/Pd/C catalysts in the liquid-phase oxidation of sodium lactate to pyruvate 91 (1994) 129

#### XRD

Promoter effect of niobia on  $Pt/Al_2O_3$  catalysts. Part II<sup>1</sup>. Effect of chlorine and  $Nb_2O_5$  content on the structure and reactivity in  $CH_3OH/D_2$  exchange 92 (1994) 167

Structural study of Ti<sup>IV</sup> exchanged K10-montmorillonite by XRD, EXAFS and XANES 92 (1994) 311

Olefin metathesis catalyst. Part II. Activation and characteristics of a 'molecular' tungsten unit on silica 95 (1995) 75

CO oxidation over Pd/FeSbO<sub>4</sub> catalyst 95 (1995) 211

Catalytic and structural properties of ruthenium monometallic and bimetallic catalysts: characterization by EXAFS and XRD 96 (1995) 65

The effect of different ZnO precursors on the catalytic decomposition of ethanol 98 (1995) 63

## xylene

Intermolecular methyl group transfers in the xylene and xylenebenzene systems by means of anhydrous HF 88 (1994) 205

## Y

## ylide complexes

Ethene polymerization by binuclear nickel-ylide complexes 88 (1994) 141

#### ytterbium-barium cuprate

Role of oxygen vacancies in the decomposition of  $N_2O$  over  $YBa_2Cu_3O_{7-\delta}$  and  $Gd_2CuO_4$  oxide systems 87 (1994) 287

## **Y-zeolite**

Catalytic properties of low-valent europium introduced into Y-zeolite 98 (1995) 49

# Ζ

## zeolite

Synthesis and decarbonylation of platinum carbonyl cluster anions in zeolite NaY made basic by treatment with CsOH 80 (1993) 49

Thermodynamic and mechanistic studies of initial stages in propane aromatisation over Ga-modified H-ZSM-5 catalysts 86 (1994) 371

First report on highly efficient alkene hydrogenation catalysed by Ni(salen) complex encapsulated in zeolite 92 (1994) 235

Acylation of phenol with acetic acid over a HZSM5 zeolite, reaction scheme 93 (1994) 169

Hydrolysis of sucrose by dealuminated Y-zeolites 94 (1994) 283

Effect of Fe-ZSM-5 zeolite on the photochemical and biochemical degradation of 4-nitrophenol 95 (1995) 61

An in situ <sup>13</sup>C MAS NMR study of benzene isopropylation over H-ZSM-11: cumene formation and side-reactions 95 (1995) 243

## zeolite beta

Synthesis of diisopropylbenzene over dealuminated zeolite beta 88 (1994) 85

#### zeolite catalyst

Zeolite catalysts for pinacol rearrangement 87 (1994) 39

## zeolites

Interaction of CO with platinum species in zeolites. Evidence for platinum carbonyls in partially reduced zeolite PtNaX 80 (1993) 95

Formation of ketones from lower olefins and water on ultrastable Ytype zeolite catalyst 80 (1993) 229

On the nature of superactive centers in H-ZSM-5 zeolites: quantum chemical calculations 80 (1993) 243

Framework and non-framework gallium in pentasil-like zeolite as studied in the reaction of propane 81 (1993) 293

Cluster models for Brønsted acid centres in faujasites 82 (1993) 347

Spontaneous formation of  $Fe(CO)_5$  from CO and the steel walls of an FTIR cell 83 (1993) 391

Stoichiometric reaction of benzene with  $\alpha$ -form of oxygen on FeZSM-5 zeolites. Mechanism of aromatics hydroxylation by N<sub>2</sub>O 84 (1993) 117

Carbon dioxide in Y and ZSM-20 zeolites: adsorption and infrared studies  $\,\,85\,\,(1993)\,\,295$ 

Designing zeolite catalysts for size and shape selective reactions 86 (1994) 343

Surface organometallic chemistry on zeolites: A tool for modifying the sorption properties of zeolites 86 (1994) 501

Interaction of CO with Ni<sup>0</sup> in zeolites and on alumina studied by isotopic exchange 87 (1994) 343

Intermolecular transalkylation of methylanilines 89 (1994) 191

Some zeolites equilibrate all six dimethylanilines by 1,2-methyl shifts 89 (1994) 201

Liquid-phase alkylthiolation reaction of phenol by dimethyldisulfide over zeolites 89 (1994) 383

Thermolysis of alkyl aryl ethers catalysed by HZSM-5, P-HZSM-5, H-Theta-1, H-Y and H-Mordenite zeolites 92 (1994) 51

Surface organometallic chemistry on zeolites: control of the pore opening of mordenite by grafting of thermally stable  $-GeBu_3$  fragments 92 (1994) 239

Methylamine synthesis over solid acid catalysts: reaction kinetic measurements 93 (1994) 337

Cracking of neopentane over acidic zeolites: influence of isobutane and isobutene admission 95 (1995) 269

Use of NMR techniques for studying deactivation of zeolites by coking 96 (1995) 123

Structure-activity relationship in zeolites 96 (1995) 245

#### Ziegler catalyst

Active sites concentration in ethylene homo- and co-polymerization with 1-hexene using the highly active  $TiCl_4/MgH_2$ -AlEt<sub>3</sub> catalyst system 98 (1995) 135

## Ziegler-Natta catalyst

Mechanism of deactivation and reactivation of Ziegler-Natta catalysts for propene polymerization 82 (1993) 29

Behaviour of  $[Ti_2(OEt)_8Cl]_2Mg_2(\mu-Cl)_2$  as catalyst component in the Ziegler-Natta polymerization of  $\alpha$ -olefins and diolefins 82 (1993) 45

Paired interacting orbitals (PIO) study on the formation of the active site in Ziegler catalyst system 87 (1994) 243

Propene-co-butene random copolymers synthesized with superactive Ziegler-Natta catalyst 99 (1995) 161

## **Ziegler-Natta catalysts**

Molecular orbital studies in the  $MgCl_2$ -ethyl benzoate-Ti $Cl_4$  system 87 (1994) 137

Chlorinated organic polymers as supports for Ziegler-Natta catalysts 99 (1995) 167

## **Ziegler-Natta polymerization**

From ring-opening metathesis polymerization to Ziegler-Natta polymerization: a method for obtaining polynorbornene-polyethylene block copolymers 82 (1993) 103

#### Ziegler systems

Ziegler systems as hydrogenation catalysts. Part 1.  $CoBr_2/Li[AlH(O-t-butyl)_3]_3$  system as a catalyst for the hydrogenation of anthracene 81 (1993) 195

Ziegler systems as hydrogenation catalysts. Part 2<sup>1</sup>. Dependence of the hydrogenation activity of  $CoBr_2/Li[AlH_n(O-R)_{4-n}]$  systems from the concentration of the reducing agent 84 (1993) 33

## Ziegler-Natta catalyst

Effects of hydrogen on the polymerization of propylene with a magnesium chloride supported Ziegler-Natta catalyst 82 (1993) 37

## zinc

Heterogeneous catalysis of asymmetric Diels-Alder reactions 89 (1994) 159

High temperature treated Pt/Sn-ZnAl<sub>2</sub>O<sub>4</sub> catalysts 93 (1994) 67

Mechanistic aspects of the higher alcohol synthesis over unpromoted ZnCrO: 1-propanol flow microreactor study 94 (1994) 335

Photoreduction of cytochrome c with zinc protoporphyrin reconstituted myoglobin (ZnPP-Mb) 95 (1995) 193

The effect of chemical modification of zinc myoglobin on the photoinduced electron transfer with methyl viologen 96 (1995) 87

Cluster quantum-chemical study of the chemisorption of methane on zinc oxide surface 99 (1995) 35

## zinc aluminate

Platinum supported on coprecipitated Sn-ZnAl<sub>2</sub>O<sub>4</sub> 84 (1993) 177

#### zinc oxide

Time conditions for chemical reactions at the mesoscopic level in the elementary catalytic system 1-butene on ZnO 82 (1993) 327

Chemistry of dicobalt octacarbonyl on zinc oxide. Homonuclear ionpairing surface species related to catalytic activity in ethylene hydroformylation 96 (1995) 49 Cluster quantum-chemical study of the chemisorption of methane on a lithium-promoted magnesium oxide doped by zinc oxide 99 (1995) 139

#### zinc oxide-chromium oxide catalyst

Substituent effects on the rate of dehydrogenation of primary and secondary alcohols 87 (1994) 47

#### zirconia

Characterization of chromium oxide supported on Al<sub>2</sub>O<sub>3</sub>, ZrO<sub>2</sub>, TiO<sub>2</sub>, and SiO<sub>2</sub> under dehydrated conditions 80 (1993) 209

## Zirconia/silica

The effect of preparation methods on the properties of zirconia/ silicas 94 (1994) 85

## zirconia-titania

Acidic and basic properties of zirconia-alumina and zirconia-titania mixed oxides 84 (1993) 283

## zirconium

Models of surface-confined metallocene derivatives 86 (1994) 309

Role of hydride phases in the catalytic activity of  $Zr_2Ni$  for the dehydrogenation of methanol 91 (1994) 223

## Zirconocene

The influence of cyclopentadienyl ring substituent steric and electronic effects on the ethylene– $\alpha$ -olefin copolymerisation behaviour of (CpR)<sub>2</sub>ZrCl<sub>2</sub>/ethylalumoxane catalysts 96 (1995) 181

#### **ZnO precursors**

The effect of different ZnO precursors on the catalytic decomposition of ethanol 98 (1995) 63

#### ZSM-5 zeolite

Base catalysis on zeolites in the formaldehyde-dimethylamine transformations 98 (1995) 57

Effect of ligand donor-acceptor properties on selectivity of catalytic olefin isomerization reaction 99 (1995) 23