

# SUBJECT INDEX TO VOLUME 44

	Page		Page
<i>a</i> = abstract			
<b>Acetates</b> , ethyl, oxidation, <i>a</i>	87	<b>Carbon Oxides, CO</b> , ( <i>cont.</i> )	
vinyl, hydroformylation, <i>a</i>	44	effect on H <sub>2</sub> permeation, of membranes, <i>a</i>	85
<b>Acetic Acid</b> , by carbonylation of MeOH	89, 94	hydrogenation, to alcohols	3
Cativa™ process	94, 146	living alternating copolymerisation, with allenes, <i>a</i>	139
<b>Acetylenes</b> , hydrogenation, <i>a</i>	138	for NO reduction, on Ir/support, <i>a</i>	138
<b>Acrylates</b> , methyl, for iodobenzene vinylation, <i>a</i>	138	oxidation, on anodic catalysts, for PEFCs, <i>a</i>	89
<b>ADMET</b> , in organic synthesis	168	over Pd <sub>2</sub> Zr <sub>7</sub> , <i>a</i>	87
<b>Alcohols</b> , allyl, hydrogenation, <i>a</i>	181	on Pt/C electrocatalysts, <i>a</i>	139
by CO hydrogenation	3	reaction with NO	3
ethyl, sensor, in beer and wine, <i>a</i>	42	relativistic effects on PGMs	146
methyl, carbonylation, Ir/I catalysed	89, 94	removal from reformate, using Demonox™ unit	108
over Rh/hydrotralcite, <i>a</i>	88	sensor, <i>a</i>	137, 180
oxidation, <i>a</i>	88	in tobacco smoke, oxidation, by PGM catalysts	120
<b>Alfa Aesar</b> , "High Purity Metals" catalogue	55	<b>Carbonylation, MeOH</b>	88, 89, 94
<b>Alkanes</b> , hydrogenolysis	3	<b>Carbonyls</b> , OsCO <sup>+</sup> , Os(CO) <sub>2</sub> , Os(CO) <sub>3</sub> <sup>-</sup> , IR spectra, <i>a</i>	40
<b>Alkenes</b> , epoxidation, <i>a</i>	181	PGM clusters	3
hydrogenation, <i>a</i>	43	Ru <sub>3</sub> (CO) <sub>12</sub> , decomposition, <i>a</i>	87
<b>Alkoxy carbonylation</b> , 4-bromoacetophenone, <i>a</i>	182	RuCO <sup>+</sup> , Ru(CO) <sub>2</sub> , Ru(CO) <sub>3</sub> <sup>-</sup> , IR spectra, <i>a</i>	40
alkynes, as ligands, in [Pt <sub>2</sub> Cu <sub>4</sub> (C≡CPh) <sub>8</sub> ] <sub>2</sub> , <i>a</i>	40	<b>Carboxylic Acids</b> , citrate, effect on PtCl <sub>4</sub> <sup>2-</sup> reduction, <i>a</i>	179
<b>Allenes</b> , copolymerisations, <i>a</i>	139	<b>Casting</b> , lost wax, [Pt <sub>2</sub> Cu <sub>4</sub> (C≡CPh) <sub>8</sub> ] <sub>2</sub> , <i>a</i>	156
Alloys, dental	31	<b>Catalysis</b> , book reviews	15, 56, 167
eutectic	158	combinatorial screening techniques	16
ferritic	158	heterogeneous, <i>a</i>	43, 87–88, 137–138, 181–182
high-temperature	158	time resolved DRIFT studies, <i>a</i>	87
jewellery	56, 156	homogeneous, <i>a</i>	44, 88–89, 138–139, 182
shape memory, <i>a</i>	179	in metathesis	58, 112, 168
<b>Allylbenzenes</b> , by Suzuki coupling, <i>a</i>	88	relativistic phenomena, in chemistry of PGMs	146
<b>Aluminium</b> , Al–Ir, Al–Ni–Ru, Al–Ru, phase diagrams	56	solventless, microwave-assisted, Suzuki coupling, <i>a</i>	182
Al–Ir–Ru, phase diagram	56, 85	in subcritical H <sub>2</sub> O, <i>a</i>	138
Ir–IrAl, Ru–RuAl, formation	158	<b>Catalysts</b> , Adams, <i>a</i>	43
NdRh <sub>4</sub> Al <sub>15.37</sub> , synthesis and structure, <i>a</i>	86	auto-, see <b>Autocatalysts</b>	
Pt–Al–X, for high-temperature use	158	book reviews	15, 56, 167
TiAl–Ru, properties of, <i>a</i>	40	Grubb's	168, 182
<b>Amidation</b> , nitriles, with amines, <i>a</i>	139	model, "nanopits" and "nanotowers", <i>a</i>	138
<b>Amination</b> , 2,(5)-(di)bromothiophenes, <i>a</i>	88	PGM/polymer, book review	15
<b>Amines</b> , from olefins, by hydroaminomethylation, <i>a</i>	44	PGMs, in HotSpot™ reformer	108
reaction with Pd and Pt dithiocarbamates, <i>a</i>	40	to limit tobacco related diseases	120
<b>Ammonia</b> , coupling with CH <sub>4</sub> , HCN synthesis, <i>a</i>	87	recovery, <i>a</i>	41, 88, 138, 139
in hydroaminomethylations, <i>a</i>	44	recycling, <i>a</i>	43, 87, 138, 181, 182
oxidation, in nitric acid manufacture	74	"ship-in-bottle"	3
<b>Antibacterial Agents</b> , Ru(III) complexes, <i>a</i>	140	three-way, see <b>Three-Way Catalysts</b>	
<b>Arenes</b> , vinyl, hydroformylation, <i>a</i>	44	<b>Catalysts, Iridium</b> , Ir <sub>3</sub> Si oxide, Ir <sub>3</sub> Ti oxide	16
<b>Autocatalysts</b> , conferences	31, 67, 71	Ir/γ-Al <sub>2</sub> O <sub>3</sub> , Ir/SiO <sub>2</sub> , Ir/silicalite, NO reduction, <i>a</i>	138
diesel treatment	67	<b>Catalysts, Iridium Complexes</b> , Cativa™ process	94
emission control	22, 31, 56	Ir hydrides, low valent, for nitrite activation, <i>a</i>	139
lean-NOx	67	Ir/I, in MeOH carbonylation	89, 94
selective catalytic reduction	67, 71	[IrCl <sub>3</sub> (1,5-cyclooctadiene)], IrCl <sub>3</sub> , [IrCl <sub>3</sub> (cyclooctene)],	
<b>Benzene</b> , ethyl-, dehydrogenation, <i>a</i>	181	[IrCl <sub>3</sub> (norbornadiene)], IrCl <sub>3</sub> ·3H <sub>2</sub> O, metathesis	58
<b>Benzoic Acid</b> , heteroaryl, synthesis, <i>a</i>	182	Rh/Ir/TPPTS, olefin hydroaminomethylation, <i>a</i>	44
<b>Biphenyl</b> , synthesis, <i>a</i>	87	<b>Catalysts, Osmium</b> , Os <sub>3</sub> Si oxide	16
<b>Bonding</b> , pressure, using Pd–In, <i>a</i>	89	<b>Catalysts, Osmium Complexes</b> , OsCl <sub>3</sub> , metathesis	58, 168
<b>Book Reviews</b> , "Catalysis by Polymer-Immobilized		OsCl <sub>3</sub> (hydrate), OsCl <sub>3</sub> ·3H <sub>2</sub> O, metathesis	58
Metal Complexes"	15	OsHCl(CO)(O <sub>2</sub> )(PR <sub>3</sub> ) <sub>2</sub> , OsHCl(CO)(PR <sub>3</sub> ) <sub>2</sub> ,	
"Catalysis from A to Z"	167	OsHCl(CO)(PPh <sub>3</sub> )(dppp), hydrogenation, <i>a</i>	139
"Metals and the Royal Society"	30	Os(II) naphthalenes, cyclisation reactions, <i>a</i>	139
<i>S. Afr. J. Sci.</i> , Pt in South Africa	56	<b>Catalysts, Palladium</b> , Pd <sub>3</sub> Si oxide	16
<b>Bushveld Complex</b> , geology, Pt and Pd reserves	33, 56	Pd <sub>25</sub> Zr <sub>75</sub> , CO oxidation, <i>a</i>	87
<b>Cancer</b> , drugs	31, 56, 140	Pd–Cu/Dowex 50 W X, nitrate removal from H <sub>2</sub> O, <i>a</i>	84
<b>Capacitors</b> , in electronic equipment	107, 137, 140	Pd–Cu/TiO <sub>2</sub> , Pd–Cu/ZrO <sub>2</sub> , nitrate reduction	83
<b>Carbenes</b> , Pd, fluoroalkylated <i>N</i> -heterocyclic, <i>a</i>	136	Pd–In, Pd–Sn, nitrate reduction	84
Ru, in metathesis	58, 112, 168	Pd–Pt–Ce/Al <sub>2</sub> O <sub>3</sub> , bleach plant effluent treatment, <i>a</i>	43
<b>Carbocycles</b> , synthesis	112, 138	Pd–Sn/TiO <sub>2</sub> , Pd–Sn/ZrO <sub>2</sub> , nitrate reduction	84
<b>Carbon</b> , nanotubes, electroless plating of metals onto, <i>a</i>	42	Pd/γ-Al <sub>2</sub> O <sub>3</sub> , CF <sub>2</sub> Cl <sub>2</sub> hydrogenolysis, <i>a</i>	138
origins and pretreatment of, for Pd/C catalysts, <i>a</i>	181	Pd/Al <sub>2</sub> O <sub>3</sub> , propane oxidation, <i>a</i>	138
Pt/C fibres, H <sub>2</sub> adsorption, <i>a</i>	135	Pd/γ-Al <sub>2</sub> O <sub>3</sub> , trichloroethylene oxidation, <i>a</i>	138
<b>Carbon Oxides</b> , CO <sub>2</sub> , compressed, solvent, <i>a</i>	44	Pd/C, acetylenes hydrogenation, <i>a</i>	138
sc-, solvent, <i>a</i>	136, 180, 182	iodobenzene vinylation, <i>a</i>	138
CO, codeposition with Os and Ru, <i>a</i>	40	olefins hydrogenation, <i>a</i>	138
copolymerisation, with ethene, <i>a</i>	44, 139	origin of C, pretreatment of C surface, <i>a</i>	181
		Pd/C and PEG-400, aryl-aryl coupling, <i>a</i>	87
		Pd/KF/Al <sub>2</sub> O <sub>3</sub> , Suzuki coupling, <i>a</i>	182
		Pd/"Mg-smectite", iodobenzene vinylation, <i>a</i>	138

	Page		Page
<b>Catalysts, Palladium, (cont.)</b>		<b>Catalysts, Ruthenium Complexes, (cont.)</b>	
Pd/SiO <sub>2</sub> , iodobenzene vinylation, <i>a</i>	138	RuCl <sub>2</sub> (=CHCH=CPh <sub>2</sub> )(PR <sub>3</sub> ) <sub>2</sub> , ROMP	168
Pd/SiO <sub>2</sub> , "nanopits", "nanotowers", <i>a</i>	138	RuCl <sub>2</sub> (=CHPh)(PCy <sub>3</sub> ) <sub>2</sub> , metathesis	112, 168
Pd/zeolite-X, methyldecalin hydrocracking, <i>a</i>	181	RuCl <sub>2</sub> [Ph <sub>2</sub> P(CH <sub>2</sub> ) <sub>2</sub> PPh <sub>2</sub> ]/SiO <sub>2</sub> , for <i>N,N</i> -diethyl- formamide synthesis, <i>a</i>	88
PdCl <sub>2</sub> /clay, Suzuki coupling, <i>a</i>	88	RuCl <sub>2</sub> (PPh <sub>3</sub> ) <sub>2</sub> (=CHPh), metathesis	58
<b>Catalysts, Palladium Complexes, π-allylpalladium, <i>a</i></b>	88	RuCl <sub>2</sub> (PPh <sub>3</sub> ) <sub>3</sub> , ROMP	168
(η <sup>3</sup> -C <sub>60</sub> )Pd(PPh <sub>3</sub> ) <sub>2</sub> , theoretical studies, <i>a</i>	88	RuCl <sub>2</sub> (PR <sub>3</sub> ) <sub>2</sub> (=CHC <sub>6</sub> H <sub>4</sub> CH=)RuCl <sub>2</sub> (PR <sub>3</sub> ) <sub>2</sub> , ROMP	58, 168
Pd carbenes, <i>a</i>	136	RuCl <sub>2</sub> (PR <sub>3</sub> ) <sub>2</sub> (=CHCH=CHPh), metathesis	58
Pd + 1,3-C <sub>3</sub> H <sub>8</sub> [P(C <sub>6</sub> H <sub>5</sub> -2-OMe-5-SO <sub>3</sub> Na) <sub>2</sub> ] <sub>2</sub> , <i>a</i>	139	[RuCl <sub>2</sub> (COD)], ROMP	168
Pd-wool, carbonyl hydrogenation, <i>a</i>	87	RuCl <sub>2</sub> , RuCl <sub>2</sub> (hydrate), [RuCl <sub>2</sub> (norbornadiene)], [RuCl <sub>2</sub> (norbornene)], Ru(H <sub>2</sub> O) <sub>6</sub> (tos) <sub>2</sub> , metathesis	58
PdCl <sub>2</sub> /Adogen 464, oxidation of alcohols, <i>a</i>	88	[RuH], RCM, metallocycle synthesis	112
PdCl <sub>2</sub> /polystyrene, preparation, <i>a</i>	86	RuHCl(CO)(PPh <sub>3</sub> ) <sub>3</sub> , ADMET reactions	168
PdCl <sub>2</sub> (PhCN) <sub>2</sub> /PPh <sub>3</sub> , in alkoxyacylation, <i>a</i>	182	Ru(II) porphyrin-resin, alkene epoxidation, <i>a</i>	181
Pd(OAc) <sub>2</sub> , carbocycle synthesis, <i>a</i>	138	<b>Cativa™</b> , acetic acid manufacturing process	94, 146
Pd(OAc) <sub>2</sub> /PBu <sub>3</sub> , dibromothiophenes + diarylamines, <i>a</i>	88	<b>Chemiluminescence</b> , see <b>Luminescence</b>	
Pd(OAc) <sub>2</sub> /P( <i>o</i> -tolyl) <sub>3</sub> , Suzuki coupling, <i>a</i>	182	<b>Chlorobenzenes</b> , in aryl-aryl coupling, <i>a</i>	87
[Pd(P-P)(N-N) <sub>2</sub> ](PF <sub>6</sub> ) <sub>2</sub> , CO + C <sub>2</sub> H <sub>4</sub> copolymerisation, <i>a</i>	44	<b>Chlorofluorocarbons</b> , CF <sub>2</sub> Cl <sub>2</sub> , hydrogenolysis, <i>a</i>	138
Pd(PPh <sub>3</sub> ) <sub>2</sub> Cl <sub>2</sub> , Suzuki coupling, <i>a</i>	182	<b>CHP Systems</b> , using HotSpot™ fuel reformer	108
Pd(PPh <sub>3</sub> ) <sub>4</sub> , in alkoxyacylation, <i>a</i>	182	<b>Clusters</b> , alloy, in MCM-41, in NaY	3
coupling reactions, <i>a</i>	89	Chini, synthesis	3
Suzuki coupling, <i>a</i>	182	PGM carbonyls, in FSM-16, in NaY	3
(R <sub>4</sub> N) <sub>2</sub> PdX <sub>4</sub> , oxidation of alcohols, <i>a</i>	88	[Rh <sub>6</sub> (CO) <sub>12</sub> (COOMe)] <sub>2</sub> , [Ru <sub>6</sub> C(CO) <sub>16</sub> (COOMe)] <sub>2</sub> , <i>a</i>	179
<b>Catalysts, Platinum, Pt<sup>+</sup>, HCN synthesis, <i>a</i></b>	87	transformations to nanoparticles, in micro/mesopores	3
[Pt <sub>6</sub> (CO) <sub>18</sub> ] <sup>2+</sup> /, [Pt <sub>2</sub> (CO) <sub>24</sub> ] <sup>2+</sup> /NaY, [Pt <sub>5</sub> (CO) <sub>30</sub> ] <sup>2+</sup> /[NBu <sub>4</sub> ] <sup>+</sup> /, [Pt <sub>12</sub> (CO) <sub>30</sub> ] <sup>2+</sup> /[NEt <sub>4</sub> ] <sup>+</sup> /FSM-16, Pt nanoparticles/ Pt nanowires/FSM-16, WGS	3	see also <b>Nanoclusters</b>	
Pt, sputtered on gasochromic sol-gel WO <sub>3</sub> films	155	<b>Coatings</b> , Ir oxide, for electrodes	106
Pt-Co/, Pt-Cu/, Pt-Fe/, Pt-Ni/, Pt-Ru/C, Pt/C/Nafion, for DMFC, <i>a</i>	182	for medical implants	106
Pt/, Pt-Ga/, Pt-Pb/, Pt-Sn/, Pt-Sn-Ga/Al <sub>2</sub> O <sub>3</sub> , Al <sub>2</sub> O <sub>3</sub> + K, ZnAl <sub>2</sub> O <sub>4</sub> , propane dehydrogenation, <i>a</i>	181	multilayer, MoRu/Be, <i>a</i>	140
Pt-Rh/Al <sub>2</sub> O <sub>3</sub> -CeO <sub>2</sub> , TWC, <i>a</i>	137	see also <b>Deposition and Electrodeposition</b>	
Pt/γ-Al <sub>2</sub> O <sub>3</sub> , Na-promoted, NO reduction by propene, <i>a</i>	43	<b>Colloids</b> , Au-Pt, Pt-Au, <i>a</i>	136
Pt/γ-Al <sub>2</sub> O <sub>3</sub> , trichloroethylene oxidation, <i>a</i>	138	Au/Pt, Au/Pt/Au	14
Pt/C electrocatalysts, CO oxidation, <i>a</i>	139	Pd, aggregation behaviour, using cryo-imaging	111
Pt/Ce <sub>0.68</sub> Zr <sub>0.32</sub> O <sub>2</sub> , TWC, oxygen storage capacity	124	Pd-Cu, <i>a</i>	135
Pt/poly( <i>N</i> -isopropylacrylamide)-SiO <sub>2</sub> , hydrogenation, <i>a</i>	181	Pt, on poly( <i>N</i> -isopropylacrylamide)-SiO <sub>2</sub> , <i>a</i>	181
Pt/W <sup>6+</sup> -doped TiO <sub>2</sub> , ethyl acetate oxidation, <i>a</i>	87	<b>Combinatorial Chemistry</b> , in heterogeneous catalysis	16
PtCl <sub>4</sub> with Dowex <sup>®</sup> 1, alkene hydrogenation, <i>a</i>	43	<b>Conferences</b> , 14th Santa Fe Symposium, Albuquerque, New Mexico, U.S.A., May, 2000	156
PtO <sub>2</sub> /Al <sub>2</sub> O <sub>3</sub> , PtRuO <sub>x</sub> , colloidal (pre)catalysts, <i>a</i>	43	First Int. Symp. on Iridium, Nashville, Tennessee, U.S.A., March, 2000	106
<b>Catalysts, Rhodium, Pt-Rh/Al<sub>2</sub>O<sub>3</sub>-CeO<sub>2</sub>, TWC, <i>a</i></b>	137	Int. Symp. on Precious Metals, Kunming, China, Sept., 1999	31
Rh <sub>2</sub> Ti oxide, Rh <sub>2</sub> Si oxide, Rh <sub>2</sub> Ti oxide	16	SAE, Detroit, U.S.A., March, 2000	67
Rh nanoparticles/hydrotalcite, MeOH carbonylation, <i>a</i>	88	Second Int. Conf. on Health Effects from Vehicle Emissions, London, U.K., Feb., 2000	71
Rh/ZrO <sub>2</sub> -SiO <sub>2</sub> , CH <sub>4</sub> combustion, <i>a</i>	43	<b>Copper</b> , CuAlPd, shape memory properties, <i>a</i>	179
<b>Catalysts, Rhodium Complexes, chlorotris-</b> (triazaphosphaadamantane)Rh(I), hydrogenation, <i>a</i>	44	electroless deposition, <i>a</i>	42, 180
( <i>R</i> )-BINAP-Rh(I), vinyl acetate hydroformylation, <i>a</i>	44	<b>Coupling Reactions</b> , biphenyl synthesis, <i>a</i>	87
Rh <sub>2</sub> (OAc) <sub>4</sub> , in cyclopropanations, <i>a</i>	139	bis(diarylamino)thiophenes synthesis, <i>a</i>	88
Rh phosphites, hex-1-ene hydroformylation, <i>a</i>	182	C-N, for HCN synthesis, <i>a</i>	87
Rh ( <i>R,S</i> )-H <sup>2</sup> F <sup>®</sup> -BINAPHOS, in hydroformylations, <i>a</i>	44	poly(aryleneethynylene) synthesis, <i>a</i>	89
Rh-MeDuPHOS/PDMS, hydrogenation, <i>a</i>	88	see also <b>Heck Reactions and Suzuki Couplings</b>	
Rh/Ir/TPPTS, olefin hydroaminomethylation, <i>a</i>	44	<b>CRT™</b> , for diesel emission control	67, 71
RhCl <sub>3</sub> , metathesis	58	<b>Crucibles</b> , Ir, for crystal growth	106
[RhCl(COD)] <sub>2</sub> , vitamin E synthesis, <i>a</i>	182	<b>Crystals</b> , RRh <sub>2</sub> Ge <sub>2</sub> (R = Gd, Tb, Dy), magnetism, <i>a</i>	85
Rh(η <sup>3</sup> -CH(Ar')C(C=CHAr')CH <sub>2</sub> C(=CHAr')- CH <sub>2</sub> CH <sub>2</sub> CH=CHAr')CH <sub>2</sub> ](PPh <sub>3</sub> ) <sub>2</sub> , <i>a</i>	139	<b>Cycloolefins</b> , ROMP	58, 168
Rh(PPh <sub>3</sub> ) <sub>2</sub> LCl (L = CO, PPh <sub>3</sub> ), metathesis	58	<b>Cyclopropanation</b> , styrene with diazoindanone, <i>a</i>	139
Wilkinson's catalyst, dehydrocoupling polymerisations	172	<b>Dearomatization</b> , naphthalenes, <i>a</i>	139
<b>Catalysts, Ruthenium, Mo,Ru,Se-(CO)<sub>n</sub>, for PEFC, <i>a</i></b>	89	<b>Decarbonylation</b> , of Ru nitrosonaphthols, <i>a</i>	136
PtRuO <sub>x</sub> , colloidal (pre)catalysts, <i>a</i>	43	<b>Decarboxylation</b> , of allyl carbonates, allyl formates, allyl β-keto carboxylates, <i>a</i>	88
[PW <sub>12</sub> O <sub>36</sub> Ru <sup>II</sup> (DMSO)] <sup>2-</sup> , in oxidations, <i>a</i>	182	<b>Dehydrogenation</b> , hydrocarbons, <i>a</i>	181
Ru, Ti oxide, Ru <sub>2</sub> Si oxide, Ru <sub>2</sub> Ti oxide	16	<b>Demonox™</b> , CO clean-up unit, for HotSpot™ reformer	108
Ru/anyon exchange resin, in H <sub>2</sub> generation, <i>a</i>	140	<b>Dental</b> , alloys, Pd-Ag, Pd-Au	31
Ru/SiO <sub>2</sub> aerogel, for <i>N,N</i> -diethylformamide synthesis, <i>a</i>	88	<b>Deposition</b> , chemical fluid, of Pd, Pt, Rh, <i>a</i>	180
<b>Catalysts, Ruthenium Complexes, dihydridocarbonyl-</b> Ru(PPh <sub>3</sub> ) <sub>3</sub> , poly(silyl ethers) synthesis, <i>a</i>	139	pulsed laser, of Ir thin films, <i>a</i>	42
Grubb's catalyst	168, 182	of SrBi <sub>2</sub> Ta <sub>2</sub> O <sub>6</sub> thin films, <i>a</i>	89
K <sub>2</sub> RuCl <sub>6</sub> , metathesis	58	see also <b>Coatings and Electrodeposition</b>	
poly- <i>cis</i> -[Ru(vbpy) <sub>2</sub> (py) <sub>2</sub> ](PF <sub>6</sub> ) <sub>2</sub> , in electrocatalysis, <i>a</i>	136	<b>Diene</b> s, addition of phenols, <i>a</i>	182
Ru carbenes, metathesis	58, 112, 168	<b>Diesel</b> , emission control	22, 67
Ru hydrides, low valent, for nitrile activation, <i>a</i>	139	particulates, control by CRT™	67, 71
Ru-melanoidin, for H <sub>2</sub> generation, from H <sub>2</sub> O, <i>a</i>	137	<b>β-Diketones</b> , Ir(III) β-diketones	106, 179
Ru(bpy) <sub>3</sub> <sup>3+</sup> + RuO <sub>2</sub> adsorbing Ru-red, H <sub>2</sub> O oxidation, <i>a</i>	44	Ru(III) β-diketones, butadiyne bridged polymer, <i>a</i>	41
RuCl <sub>2</sub> (=CH <sub>2</sub> )(PCy <sub>3</sub> ) <sub>2</sub> , RCM	112	<b>DNA</b> , cleavage, <i>a</i>	179
RuCl <sub>2</sub> (=CHCH=CPh <sub>2</sub> )(PCy <sub>3</sub> ) <sub>2</sub> , RCM	112		

	<i>Page</i>		<i>Page</i>
<b>Effluents</b> , bleach plant, treatment with Pd-Pt-Ce/Al <sub>2</sub> O <sub>3</sub> , <i>a</i>	43	<b>Fuel Cells</b> , ( <i>cont.</i> )	
<b>Electrical Contacts</b> , Pd-Ge ohmic contact, to GaAs, <i>a</i>	44	Demonox™ CO clean-up unit	108
<b>Electrocatalysis</b> , poly- <i>cis</i> -[Ru(vbpy) <sub>2</sub> (py)](PF <sub>6</sub> ) <sub>2</sub> , <i>a</i>	136	DMFC, Pt-Co/, Pt-Cu/, Pt-Fe/, Pt-Ni/, Pt-Ru/C,	
<b>Electrochemistry</b> , <i>a</i>	41, 86	Pt/C/Nafion, electrocatalysts, <i>a</i>	182
Ir oxide films, redox reactions, <i>a</i>	86	H <sub>2</sub> generator, for PEMFC, <i>a</i>	140
Ir(IV) chloro complexes, for insulin determination, <i>a</i>	181	HotSpot™ reformer	108
Pt/Ti electrodes, voltammetric behaviour, <i>a</i>	86	PEFC, CO oxidation, activity of anodic catalysts, <i>a</i>	89
Ru binuclear pyrazines, molecular hysteresis, <i>a</i>	86	Mo,Ru,Se-(CO) <sub>n</sub> electrocatalysts for, <i>a</i>	89
<b>Electrodeposition</b> , of Au/Pt and Au/Pt/Au colloids	14	Pt/C, Ru/C, Pt-Ru/C, anodic catalysts, <i>a</i>	89
Ni/Pd, on Cu, <i>a</i>	86	PEMFC, H <sub>2</sub> generator for, <i>a</i>	140
Pd, for decorative and functional applications	156	Pt   BAM® 407, <i>a</i>	44
platinised Ti, for electrodes, <i>a</i>	86	Pt   Nafion, <i>a</i>	89
Pt, for decorative and functional applications	156	Pt   Nafion® 117, <i>a</i>	44
from alkaline electrolyte, <i>a</i>	180	Pt/C electrocatalysts, EXAFS of CO oxidation, <i>a</i>	139
Pt black, on evaporated Pt electrodes, <i>a</i>	180	PtRuO <sub>x</sub> , colloidal electrocatalysts, <i>a</i>	43
Pt films, onto microelectrodes, <i>a</i>	86	SPFC	108
Pt and W, onto Au, <i>a</i>	42	<b>Fullerenes</b> , (η <sup>2</sup> -C <sub>60</sub> )Pd(PPh <sub>3</sub> ) <sub>2</sub> , catalytic mechanism, <i>a</i>	88
Rh, for decorative and functional applications	156	<b>Gasochromism</b> , in sol-gel Pt (sputtered) WO <sub>3</sub> films	155
Sn, using IrO <sub>2</sub> -Ta <sub>2</sub> O <sub>5</sub> -SnO <sub>2</sub> /Ti electrodes, <i>a</i>	137	<b>Gauzes</b> , Pt-Pd-Rh, Pt-Rh, metal surface composition	74
see also <b>Coatings and Deposition</b>		<b>Geology</b> , South Africa	33, 56, 105
<b>Electrodeposition and Surface Coatings</b> , <i>a</i>	42, 86–87, 137, 180	<b>Germanium</b> , Ru <sub>2</sub> Ge <sub>3</sub> , optical spectra, <i>a</i>	135
<b>Electrodes</b> , gate, Pt-SnO <sub>2</sub> , porous, in CO sensor, <i>a</i>	180	<b>Graphite</b> , layers, for forming Pt nanosheets, <i>a</i>	135
Ir oxide coatings	106	<b>Heck Reactions</b> , iodobenzene with methyl acrylate, <i>a</i>	138
Ir-Ta-O, for SrBi <sub>2</sub> Ta <sub>2</sub> O <sub>7</sub> thin film deposition, <i>a</i>	89	Pd catalysts, without ligands, <i>a</i>	138
Ir-Ta-O/Ta/Si, properties, <i>a</i>	89	<b>Helium</b> , permeability, in Pd-YSZ membranes, <i>a</i>	180
IrO <sub>2</sub> -Ta <sub>2</sub> O <sub>5</sub> -SnO <sub>2</sub> /Ti, for Sn plating, <i>a</i>	137	<b>Heterocycles</b> , in synthesis	112, 168
IrO <sub>x</sub> /glassy C, in insulin sensor, <i>a</i>	181	<b>Hex-1-ene</b> , hydroformylation, <i>a</i>	182
microjet	21	<b>“High Purity Metals”</b> , Alfa Aesar catalogue	55
Os-gel-HRP/XOD/glassy C, biosensor, <i>a</i>	181	<b>High Temperature</b> , alloys	158
PdO, as damage markers, in RAM capacitors	107	<b>History</b> , discovery of the Pt isotopes	173
Pt, micro-, with high surface areas, <i>a</i>	86	Étienne Lenoir	125, 166
tubular, as amperometric detector, <i>a</i>	87	“Metals and the Royal Society”, George Matthey,	
Pt+C+PTFE/C cloth, for Ni electrowinning, <i>a</i>	41	Percival Norton Johnson	30
Pt black on evaporated Pt, preparation, <i>a</i>	180	metric system, kilogramme, metre	125, 166
Pt   WO <sub>3</sub> , EtOH sensor, <i>a</i>	42	<b>HotSpot™ Reformer</b> , fuel processor	108
Pt/Ru/poly-Si, by MOCVD, integration, <i>a</i>	137	<b>Hydration</b> , nitriles, <i>a</i>	139
Pt/Ti, voltammetric behaviour, <i>a</i>	86	<b>Hydroaminomethylation</b> , olefins, <i>a</i>	44
radial flow microring	21	<b>Hydrocarbons</b> , dehydrogenation, <i>a</i>	181
Ru intermetallic compounds, for spark plugs	56	methyldecalin, hydrocracking, <i>a</i>	181
Ru-Rh + poly(1,3-diaminobenzene), H <sub>2</sub> O <sub>2</sub> detection, <i>a</i>	42	traps, in emissions control	67
ultramicro-, Pt disc, Pt ring	21	<b>Hydrocracking</b> , methyldecalin, <i>a</i>	181
<b>Electroless Plating</b> , Cu, <i>a</i>	42, 180	<b>Hydroformylation</b> , vinyl acetate, vinyl arenes, <i>a</i>	44
Pd, onto C nanotubes, using Pd-Sn activator, <i>a</i>	42	hex-1-ene, in sc-CO <sub>2</sub> , <i>a</i>	182
on porous Vycor glass, for membranes, <i>a</i>	137	<b>Hydrogen</b> , adsorption, on Pt/C fibres, <i>a</i>	135
thin films, on composite membrane, <i>a</i>	43	chemisorption, on Pd-Re, <i>a</i>	135
Pd activator, using dielectric barrier discharge, <i>a</i>	180	effects, in Pd films, <i>a</i>	40
Pt activator, from Pt acetylacetonate films, <i>a</i>	42	isotherms of internal oxidation, in Pd <sub>0.90</sub> Rh <sub>0.05</sub> Ni <sub>0.05</sub> , <i>a</i>	135
<b>Electronic Nose</b> , gas emissions, detector	57	permeation, in Pd membranes, <i>a</i>	43, 85
<b>Electrowinning</b> , Ni, using Pt+C+PTFE/C cloth anode, <i>a</i>	41	photoevolution, via Pt-loaded LB films, <i>a</i>	41
<b>Emission Control</b> , motor vehicles 22, 31, 56, 67, 71, 124, 137		production, by HotSpot™ fuel processor	108
<b>Epoxidation</b> , alkenes, <i>a</i>	181	using Ru catalysts, <i>a</i>	137, 140
<b>Esterification</b> , nitriles, with alcohols, <i>a</i>	139	reduction, of PtCl <sub>4</sub> <sup>2-</sup> , <i>a</i>	179
<b>Ethene</b> , with CO, copolymerisation, <i>a</i>	44, 139	sensor, <i>a</i>	40
relativistic effects on PGMs	146	separation, by Pd/α-Al <sub>2</sub> O <sub>3</sub> membranes, <i>a</i>	43
<b>Ethers</b> , crown, synthesis	112	solubility, in PdAg, PdRh, <i>a</i>	179
<b>Ethyl Acetate</b> , oxidation, over Pt/W <sup>6+</sup> -doped TiO <sub>2</sub> , <i>a</i>	87	<b>Hydrogen Cyanide</b> , from CH <sub>4</sub> + NH <sub>3</sub> , Pt <sup>+</sup> mediated, <i>a</i>	87
<b>Extraction</b> , PGMs	31, 33, 56, 105	<b>Hydrogen Peroxide</b> , detection, <i>a</i>	42
<b>Films</b> , by chemical fluid deposition, Pd, Pt, Rh, <i>a</i>	180	<b>Hydrogenation</b> , acetylenes, <i>a</i>	138
gasochromic, sol-gel Pt (sputtered) WO <sub>3</sub>	155	acrylonitrile-butadiene copolymers, <i>a</i>	139
Ir oxide, redox reactions, <i>a</i>	86	alkenes, <i>a</i>	43
Ir-Ta-O, by reactive sputtering, <i>a</i>	89	allyl alcohol, <i>a</i>	181
Langmuir-Blodgett, Pt loaded, porphyrins, <i>a</i>	41	asymmetric, 3-methyl-2-butanone, diacetone alcohol, <i>a</i>	87
Ni/Pd, on Cu, reaction with Sn-Pb, <i>a</i>	86	by PGM/polymer catalysts	15
Pd, stress and resistivity changes, with H <sub>2</sub> , <i>a</i>	40	CO	3
Pt, nanostructured, for microelectrodes, <i>a</i>	86	1-decene, <i>a</i>	43
Pt acetylacetonate, photo-induced decomposition, <i>a</i>	42	methylacetoacetate, <i>a</i>	88
PZT, <i>a</i>	140	olefins, <i>a</i>	138
see also <b>Thin Films</b>		phospholipid liposomes, <i>a</i>	44
<b>Formamides</b> , <i>N,N</i> -diethyl-, synthesis, <i>a</i>	88	<b>Hydrogenolysis</b> , alkanes	3
<b>Fuel Cells</b> , <i>a</i>	44, 89, 139–140, 182	CF <sub>2</sub> Cl <sub>2</sub> , <i>a</i>	138
AFC, Pd-based H <sub>2</sub> diffusion electrodes, <i>a</i>	140	propane, <i>a</i>	138
Pt/C-PTFE electrodes, <i>a</i>	140	<b>Hydrosilylation</b> , in polymerisations, <i>a</i>	139
anode exhaust gas burner, for HotSpot™ system	108	<b>Hypoxanthine</b> , biosensor, <i>a</i>	181

	<i>Page</i>		<i>Page</i>
<b>Insulin</b> , sensor, <i>a</i>	181	<b>Merensky Reef</b> , geology	33, 56
<b>Intermetallics</b> , PGM-based, high-temperature use	158	<b>Metallisation</b> , Pd, Pt, Rh, chemical fluid deposition, <i>a</i>	180
<b>Iodobenzene</b> , vinylation, <i>a</i>	138	<b>Metathesis</b> , acyclic diene	168
<b>Iridium</b> , coatings, for rocket thrusters	106	ring-closing	112
crucibles, crystal growth	106	ring-opening polymerisation	58, 168
in jewellery	106	<b>Methane</b> , combustion, on Rh/ZrO <sub>2</sub> -SiO <sub>2</sub> , <i>a</i>	43
in MOSFETs	57	coupling with NH <sub>3</sub> , HCN synthesis, <i>a</i>	87
refining	106	formation, during MeOH carbonylation, <i>a</i>	89
spark plugs	106	sensor, by SnO <sub>2</sub> /Os thin films, <i>a</i>	87
thermocouples	106	<b>Metric System</b> , history	125, 166
thin films, by pulse laser deposition, <i>a</i>	42	<b>Michael Additions</b> , in Os(II) complexes, <i>a</i>	139
<b>Iridium Alloys</b> , Al-Ir, phase diagram	56	<b>Microwaves</b> , for Suzuki couplings, <i>a</i>	182
Al-Ir-Ru, phase diagram	56, 85	for synthesis, of [PW <sub>11</sub> O <sub>36</sub> Ru <sup>IV</sup> (DMSO)] <sup>5-</sup> , <i>a</i>	182
for high-temperature use	158	<b>Mining</b> , South Africa	33, 56, 105
Ir-IrAl, eutectic, formation	158	<b>MISFETs</b> , sensor, for CO detection, <i>a</i>	180
(Ir,Ru)Al	106	<b>MOCVD</b> , Pt/Ru, electrode structures, on poly-Si, <i>a</i>	137
<b>Iridium Complexes</b> , (η-C <sub>5</sub> H <sub>5</sub> )Ir(CO) <sub>2</sub> , as a ligand, <i>a</i>	41	<b>MOSFETs</b> , in electronic nose	57
Ir β-diketonates	106, 179	<b>Nanoclusters</b> , PGM, synthesis	3, 166
Ir fluoro derivatives	106	<b>Nanoparticles</b> , Au <sub>core</sub> Pt <sub>shell</sub> , Pt <sub>core</sub> Au <sub>shell</sub> , preparation, <i>a</i>	136
Ir(III) bis-terpyridines, pH sensitive luminescence, <i>a</i>	41	FePt, preparation, <i>a</i>	135
Ir(IV) chloro, for insulin determination, <i>a</i>	181	from clusters, in micro/mesopores	3
<b>Iridium Compounds</b> , electrodes, see <b>Electrodes</b>		Pd, quasi 2D, <i>a</i>	85
Ir oxide, coatings, for medical implants	106	Pd(II) hexametallate cartwheel molecules, <i>a</i>	41
hydrous, redox reactions, <i>a</i>	86	Pd <sub>2</sub> Cu <sub>100-<i>x</i></sub> , preparation, <i>a</i>	135
Ir-Ta-O, electrode material, by reactive sputtering, <i>a</i>	89	Pt, from PtCl <sub>4</sub> <sup>2-</sup> , <i>a</i>	179
<b>Iron</b> , Fe-Ru, damping capacity	157	Rh, on hydrotalcite, synthesis, <i>a</i>	88
<b>Isotopes</b> , Pt, discovery of	173	<b>Nanorods</b> , colloids, Au/Pt, Au/Pt/Au	14
<b>Jewellery</b> , electroplating, Pd, Pt, Rh	156	<b>Nanosheets</b> , Pt, between graphite layers, <i>a</i>	135
Ir additions	106	<b>Nanotechnology</b> , model Pd catalysts, <i>a</i>	138
powder metallurgy	156	<b>Nanotubes</b> , C, Ni-, Pd-plated, using Pd-Sn activator, <i>a</i>	42
Pt, Pt alloys	56, 156	<b>Nanowires</b> , Pt, in FSM-16 mesoporous channels	3
Pt-Au composites	56	<b>Naphthalenes</b> , dearomatisation, <i>a</i>	139
14th Santa Fe Symposium, manufacturing technology	156	<b>Neodymium</b> , NdRh <sub>4</sub> Al <sub>15.37</sub> , synthesis and structure, <i>a</i>	86
<b>Johnson Matthey</b> , CRT <sup>TM</sup> , diesel emission control	67, 71	Nd,Ce <sub>1-x</sub> Pt <sub>x</sub> Sb <sub>4</sub> , pressure tuning of	55
Demonox <sup>TM</sup> system	108	<b>Nickel</b> , from NiSO <sub>4</sub> , using Pt+C+PTFE/C cloth anode, <i>a</i>	41
George Matthey	30	<b>Niobium</b> , Nb <sub>50</sub> Ru <sub>50</sub> , shape memory effect, <i>a</i>	85
HotSpot <sup>TM</sup> reformer	108	<b>Nitrates</b> , catalytic removal from H <sub>2</sub> O	43, 84
Percival Norton Johnson	30	<b>Nitric Acid</b> , manufacture, gauze technology	74
"Platinum 2000"	119	<b>Nitriles</b> , -butadiene copolymers, hydrogenation, <i>a</i>	139
selective catalytic reduction unit	67	amidation, esterification, hydration, <i>a</i>	139
<b>Ketones</b> , 4-bromoacetophenone, alkoxycarbonylation, <i>a</i>	182	<b>Nitrogen Oxides</b> , NO, reaction with CO	3
hydrogenation, <i>a</i>	87	reduction, <i>a</i>	43, 138
poly-, synthesis, <i>a</i>	139	<b>NO<sub>x</sub></b> , -traps, for lean-burn gasoline engines	67
α,β-unsaturated, epoxidation, <i>a</i>	181	lean-, catalysts	67
<b>Kondo Insulator</b> , Nd,Ce <sub>1-x</sub> Pt <sub>x</sub> Sb <sub>4</sub> , pressure tuning	55	removal from motor vehicle emissions	22, 67
<b>Langmuir-Blodgett Films</b> , H <sub>2</sub> evolution, <i>a</i>	41	in tobacco smoke, reduction, by PGM catalysts	120
<b>Lasers</b> , KrF excimer, deposition of Ir thin films, <i>a</i>	42	<b>Ohmic Contacts</b> , see <b>Electrical Contacts</b>	
<b>LEDs</b> , organic, from Pt porphyrins	66	<b>Olefins</b> , cyclo-, ROMP	58, 168
<b>Luminescence</b> , chemi-, Rh(bpy) <sub>3</sub> <sup>2+</sup> , dodecahedral sensor, <i>a</i>	137	hydroaminomethylation, <i>a</i>	44
Ir(III) bis-terpyridines, as pH sensors, <i>a</i>	41	hydrogenation, <i>a</i>	138
Nafion membranes, dyed with Ru(II) complexes, <i>a</i>	42	<b>Optical Properties</b> , Ru <sub>2</sub> Ge <sub>3</sub> , Ru <sub>2</sub> Si <sub>3</sub> , <i>a</i>	135
photo-, Pd <sub>3</sub> (acetate) <sub>6</sub> , <i>a</i>	41	<b>Osmium</b> , powders, high purity, synthesis	31
[Rh <sup>III</sup> (phpy) <sub>2</sub> (CN) <sub>2</sub> ] <sup>+</sup> , <i>a</i>	136	with SnO <sub>2</sub> , sensor, for CH <sub>4</sub> , <i>a</i>	87
[Pt <sub>2</sub> Cu <sub>4</sub> (C≡CPh) <sub>8</sub> ] <sub>2</sub> , <i>a</i>	40	<b>Osmium Complexes</b> , Cp(OC) <sub>2</sub> IrOs(CO) <sub>3</sub> (GeCl <sub>3</sub> )(Cl),	
[Ru(bipy) <sub>2</sub> (Sbipy)] <sup>2+</sup> , <i>a</i>	180	Cp(OC) <sub>2</sub> IrOs(CO) <sub>3</sub> (X) <sub>2</sub> , <i>a</i>	41
<b>Magnetism</b> , ferro-, in FePt nanocrystal superlattices, <i>a</i>	135	electrodes, Os-gel-HRP/XOD/glassy C, biosensor, <i>a</i>	181
in Pr <sub>7</sub> RuO <sub>7</sub> , <i>a</i>	179	OsCO <sup>+</sup> , Os(CO) <sub>2</sub> , Os(CO) <sub>3</sub> , IR spectra, <i>a</i>	40
in RPd <sub>3</sub> S <sub>2</sub> (R = Ce, Gd), <i>a</i>	40	<b>Osmosis</b> , in Pd membrane preparation, <i>a</i>	43, 137
in RRh <sub>2</sub> Ge <sub>2</sub> (R = Gd, Tb, Dy), <i>a</i>	85	<b>Oxidation</b> , adamantane, <i>a</i>	182
<b>Medical</b> , implants, Ir oxide coatings	106	alcohols, <i>a</i>	88
Ru complexes, antibacterial agents, <i>a</i>	140	bleach plant effluents, over Pd-Pt-Ce/Al <sub>2</sub> O <sub>3</sub> , <i>a</i>	43
<b>Membranes</b> , Pd composite, for H <sub>2</sub> separation, <i>a</i>	181	CO, <i>a</i>	87, 139
Pd-Ag/γ-Al <sub>2</sub> O <sub>3</sub> , preparation, <i>a</i>	43	in tobacco smoke, by PGM catalysts	120
Pd-modified YSZ, He permeation, <i>a</i>	180	cyclooctene, <i>a</i>	182
Pd/α-Al <sub>2</sub> O <sub>3</sub> , for H <sub>2</sub> separation, <i>a</i>	43	ethyl acetate, <i>a</i>	87
Pd/porous Vycor glass, preparation, <i>a</i>	137	H <sub>2</sub> O, <i>a</i>	44
Pd/stainless steel, H <sub>2</sub> permeation, <i>a</i>	85	high temperature, in Ni-Cr-Al-Y-Cr <sub>3</sub> C <sub>2</sub> alloys, <i>a</i>	40
PDMS, with Rh-MeDuPHOS, <i>a</i>	88	internal, in Pd <sub>90</sub> Rh <sub>10</sub> Ni <sub>0.05</sub> , <i>a</i>	135
<b>Memory</b> , capacitors, Pt/BST/Pt, /Pt/Ru, /RuO <sub>2</sub> , <i>a</i>	140	propane, <i>a</i>	137, 138
ferroelectric, PZT/Pt/TiN/Si and SiO <sub>2</sub> multilayers, <i>a</i>	140	propene, <i>a</i>	137
RAM, with PdO bottom electrode, as damage marker	107	toluene	16
		trichloroethylene, <i>a</i>	138
		VOCs, <i>a</i>	87, 138

	Page		Page
<b>Oxygen, sensors, <i>a</i></b>	42	<b>Platinum, (<i>cont.</i>)</b>	
<b>Ozone, motor vehicle pollution</b>	22	nanosheets, between graphite layers, <i>a</i>	135
<b>Palladium, activator, for electroless Cu plating, <i>a</i></b>	180	powders, submicron	39
colloids, aggregation behaviour, cryo-imaging of	111	Pt, to Ni-Cr-Al-Y-Cr <sub>3</sub> C <sub>2</sub> , effects on oxidation, <i>a</i>	40
Cu/Ni/Pd, interfacial reaction with Sn-Pb, <i>a</i>	86	Pt/C fibres, H <sub>2</sub> adsorption, <i>a</i>	135
H <sub>2</sub> effects on, <i>a</i>	40	Pt/Ru, electrode structures, on poly-Si, by MOCVD, <i>a</i>	137
membranes, <i>a</i>	43, 85, 137, 180, 181	PZT/Pt/TiN/Si and SiO <sub>2</sub> multilayers, <i>a</i>	140
in MOSFETs	57	Schottky diodes, Au/Pt/GaN, properties	157
nanoclusters, Au/Pd, Pd/Au, Pd/Au/Ag	166	thermal decomposition of NaCl on, <i>a</i>	85
nanoparticles, 2D, <i>a</i>	85	thermocouples, thermoelectric behaviour, <i>a</i>	137
with Pd-In, pressure bonding, <i>a</i>	89	<b>Platinum Alloys, CoPt ultrathin films, by sputtering, <i>a</i></b>	40
powders, submicron	39	FePt, nanocrystal superlattices, nanoparticles, <i>a</i>	135
thermocouples, thermoelectric behaviour, <i>a</i>	137	ultrathin films, by sputtering, <i>a</i>	40
<b>Palladium Alloys, CuAlPd, shape memory properties, <i>a</i></b>	179	for high-temperature use	158
membranes, <i>a</i>	43	jewellery	56, 156
nanoparticles, Pd,Cu <sub>100-x</sub> , <i>a</i>	135	Nd,Ce <sub>1-x</sub> Pt <sub>3</sub> Sb <sub>4</sub> , Kondo insulator, pressure tuning	55
Pd <sub>0.90</sub> Rh <sub>0.05</sub> Ni <sub>0.05</sub> , internal oxidation, <i>a</i>	135	Pt-Al-X, for high-temperature use	158
Pd-Ag and Pd-Au, dental	31	<b>Platinum Complexes, cancer drugs</b>	31, 56, 140
Pd-Ge ohmic contact, to GaAs, <i>a</i>	44	organo-Pt(IV) polymers, by H-bonding	118
Pd-In, for pressure bonding, <i>a</i>	89	poly-Pt porphyrins, O <sub>2</sub> sensors, <i>a</i>	42
Pd-Re overlayers and surfaces, H <sub>2</sub> chemisorption, <i>a</i>	135	[Pt <sub>3</sub> Cu <sub>4</sub> (C≡CPh) <sub>6</sub> ] <sub>2</sub> , luminescence, <i>a</i>	40
PdAg, PdRh, H solubility, <i>a</i>	179	[Pt <sub>3</sub> (μ <sub>3</sub> -Te) <sub>2</sub> (dppe) <sub>3</sub> ]Cl <sub>2</sub> , synthesis, <i>a</i>	179
<b>Palladium Complexes, [Pd<sub>2</sub>(μ-Se)<sub>2</sub>(dppe)<sub>2</sub>], synthesis, <i>a</i></b>	179	Pt acetylacetonate, photo-induced decomposition, <i>a</i>	42
Pd <sub>3</sub> (acetate) <sub>6</sub> , photoluminescence, <i>a</i>	41	Pt dithiocarbamates, reactions with amines, <i>a</i>	40
[Pd <sub>3</sub> (μ <sub>3</sub> -Se) <sub>2</sub> (dppe) <sub>3</sub> ]Cl <sub>2</sub> , synthesis, <i>a</i>	179	Pt porphyrins, in organic LEDs	66
Pd acetate, plasma-induced chemical reduction, <i>a</i>	180	<i>trans</i> -[PtCl <sub>2</sub> (1,4-oxatellurane) <sub>2</sub> ], synthesis, <i>a</i>	136
Pd carbenes, fluoroalkylated <i>N</i> -heterocyclic, <i>a</i>	136	PtCl <sub>4</sub> <sup>2-</sup> , reduction by H <sub>2</sub> , <i>a</i>	179
Pd dithiocarbamates, reactions with amines, <i>a</i>	40	Pt(dmg) <sub>2</sub> , 1D, pressure-induced IMI transitions, <i>a</i>	135
Pd olefins, with P ligands, properties, <i>a</i>	85	Pt(II) end-capped ferrocenes with thiophene spacers, <i>a</i>	85
<i>trans</i> -[PdCl <sub>2</sub> (1,4-oxatellurane) <sub>2</sub> ], synthesis, <i>a</i>	136	Pt(II) heterobimetallics, <i>a</i>	85
PdCl <sub>2</sub> /polystyrene, <i>a</i>	86	[PtMe <sub>2</sub> (bu <sub>2</sub> bipy)] + RCH <sub>2</sub> X, in Pt(IV) polymers	118
Pd(II) end-capped ferrocenes with thiophene spacers, <i>a</i>	86	[PtSe <sub>4</sub> (dppe)], synthesis, <i>a</i>	179
Pd(II) heterobimetallics, <i>a</i>	85	Pt(trpy)Cl <sup>+</sup> with pyrene substituent, photoproperties, <i>a</i>	180
Pd(II) hexametallic cartwheel molecules, <i>a</i>	41	<b>Platinum Compounds, Ba<sub>2</sub>CuPt<sub>2</sub>O<sub>9</sub>, superconductors, <i>a</i></b>	89
Pd(II) porphyrins, synthesis of, as DNA cleavers, <i>a</i>	179	Pt-oxide thin films, by reactive sputtering, <i>a</i>	42
Pd(II) with C <sub>6</sub> [3,5-(CH <sub>2</sub> ) <sub>2</sub> C <sub>6</sub> H <sub>3</sub> ] <sub>6</sub> , <i>a</i>	41	PtCl <sub>4</sub> -graphite, by intercalation reaction, <i>a</i>	135
(R <sub>4</sub> N) <sub>2</sub> PdX <sub>4</sub> , ( <i>n</i> -Bu <sub>4</sub> N) <sub>2</sub> PdCl <sub>6</sub> , <i>a</i>	88	Zeise's salt, relativistic effects	146
<b>Palladium Compounds, PdCl<sub>2</sub>-graphite, intercalation, <i>a</i></b>	85	<b>Platinum Group Metals, in HotSpot™ system</b>	108
PdO, damage markers, in RAMs	107	in limitation of tobacco related diseases	120
RPd <sub>3</sub> S <sub>4</sub> (R = Ce, Gd), <i>a</i>	40	intermetallics, for high-temperature use	158
ZrPd <sub>3</sub> Si <sub>3</sub> , synthesis and properties, <i>a</i>	86	relativistic phenomena	146
<b>Patents</b>	45–48, 90–92, 141–144, 183–186	<b>Platreef, geological review</b>	33
<b>pH, sensor system, <i>a</i></b>	41	<b>Pollution Control, bleach plant effluent, <i>a</i></b>	43
<b>Phase Diagrams, Al-Ir, Al-Ni-Ru, Al-Ru</b>	56	motor vehicles	22, 31, 56, 67, 71, 124, 137
Al-Ir-Ru	56, 85	nitrate removal, from water	43, 84
<b>Phenols, addition, to dienes, <i>a</i></b>	182	<b>Polyketones, synthesis, <i>a</i></b>	139
<b>Photocatalysis, Ru-melanoidin, for H<sub>2</sub>, from H<sub>2</sub>O, <i>a</i></b>	137	<b>Polymerisation, co-, <i>a</i></b>	44, 139
<b>Photoconversion, <i>a</i></b>	41–42, 136–137, 180	dehydrocoupling, to silphenylenesiloxanes	172
<b>Photoluminescence, see Luminescence</b>		electro-, of Pt porphyrins, <i>a</i>	42
<b>Photoproperties, nanoparticles, Au<sub>core</sub>Pt<sub>shell</sub>, Pt<sub>core</sub>Au<sub>shell</sub>, <i>a</i></b>	136	hydrosilylation, to poly(silyl ethers), <i>a</i>	139
NO-Ru complexes, with en and ox ion ligands, <i>a</i>	136	ROMP	58, 168
Pd(II) porphyrins, as DNA cleavers, <i>a</i>	179	<b>Polymers, binding Pt complexes to, for cancer drugs</b>	56
Pt(trpy)Cl <sup>+</sup> with pyrene substituent, ILCT character, <i>a</i>	180	nitrile-butadiene, hydrogenation, <i>a</i>	139
[Ru(bipy) <sub>2</sub> (Sbipy)] <sup>2+</sup> , <i>a</i>	180	metallisation of, <i>a</i>	180
Ru(II) polypyridyls, photosensitisers for TiO <sub>2</sub> , <i>a</i>	136	organo-Pt(IV), by H-bonding	118
sol-gel Pt (sputtered) WO <sub>3</sub> films, gasochromism	155	poly(1,3-diaminobenzene) + Ru-Rh electrode, <i>a</i>	42
<b>Photoreactions, H<sub>2</sub> evolution, using Pt LB films, <i>a</i></b>	41	poly(aryleneethynylene), preparation, <i>a</i>	89
[Ru(bipy) <sub>2</sub> (Sbipy)] <sup>2+</sup> , + dissolved O <sub>2</sub> , <i>a</i>	180	polycyclic, synthesis	112
<b>"Platinum 2000"</b>	119	poly( <i>N</i> -isopropylacrylamide)-SiO <sub>2</sub> , Pt colloids on, <i>a</i>	181
<b>Platinum, capacitors, Pt/BST/Pt, /Pt/Ru, /RuO<sub>2</sub>, <i>a</i></b>	140	poly( <i>N</i> -vinyl-2-pyrrolidone), in core/shell nanoclusters	166
colloids, on poly( <i>N</i> -isopropylacrylamide)-SiO <sub>2</sub> , <i>a</i>	181	poly(silyl ethers), synthesis, <i>a</i>	139
electrodeposition, from alkaline electrolyte, <i>a</i>	180	polystyrene, PdCl <sub>2</sub> ; anchorage, <i>a</i>	86
Pt films, on microelectrodes, <i>a</i>	86	Ru(III) β-diketone with butadiyne, <i>a</i>	41
electrodes, see <b>Electrodes</b>		silphenylenesiloxanes, synthesis	172
gates, in SiC MOS capacitors, for gas sensors, <i>a</i>	137	for supported PGM catalysts	15
isotopes, history of the discovery	173	unsaturated, from ROMP of cycloolefins	58
jewellery	56, 156	<b>Powder Metallurgy, in jewellery manufacture</b>	156
kilogramme, metre, definitive standards for the		<b>Powders, Os, Rh, synthesis</b>	31
metric system	125, 166	submicron, Pd and Pt, synthesis	39
mining, in South Africa	33, 56, 105	<b>Pressure Tuning, Nd,Ce<sub>1-x</sub>Pt<sub>3</sub>Sb<sub>4</sub></b>	55
in MOSFETs	57	Pt(dmg) <sub>2</sub> , 1D, IMI transitions, <i>a</i>	135
nanoclusters, Au/Pt, Pt/Ru	166	<b>Propane, dehydrogenation, <i>a</i></b>	181
nanoparticles, Au <sub>core</sub> Pt <sub>shell</sub> , Pt <sub>core</sub> Au <sub>shell</sub> , preparation, <i>a</i>	136	oxidation, <i>a</i>	137, 138
Pt, from PtCl <sub>4</sub> <sup>2-</sup> , <i>a</i>	179	<b>Propene, from propane, <i>a</i></b>	181
		oxidation, <i>a</i>	137

	Page		Page
<b>Propylene</b> , from propane, <i>a</i>	181	<b>Sensors</b> , ( <i>cont.</i> )	
<b>Radioactivity</b> , of Rh isotopes, drug production	50	CO, <i>a</i>	137, 180
<b>Radionuclides</b> , <sup>105</sup> Rh, <sup>106</sup> Ru	50	electronic nose, for VOCs	57
<b>Radiotherapy</b> , isotopically enriched Ir	106	EtOH, <i>a</i>	42
<sup>105</sup> Rh	50	H <sub>2</sub> in Pd, using evanescent microwave probes, <i>a</i>	40
<b>Rare Earths</b> , RRh <sub>2</sub> Ge <sub>2</sub> (R = Gd, Tb, Dy), magnetism, <i>a</i>	85	H <sub>2</sub> O <sub>2</sub> , <i>a</i>	42
<b>RCM</b> , in organic synthesis	112	insulin, <i>a</i>	181
<b>Reactive Hot Isostatic Pressing</b> , RuAl materials	158	liquid chromatography, <i>a</i>	87
<b>Reduction</b> , NO, <i>a</i>	138	O <sub>2</sub> , <i>a</i>	42
of Pd/C catalysts, by H <sub>2</sub> , <i>a</i>	181	pH, <i>a</i>	41
in subcritical H <sub>2</sub> O, <i>a</i>	138	propane, propylene, <i>a</i>	137
<b>Refining</b> , PGMs	31, 106	VOCs	57
<b>Relativistic Effects</b> , on chemistry of PGMs	146	<b>Shape Memory Alloys</b> , CuAlPd, <i>a</i>	179
<b>Rhenium</b> , Pd-Re, H <sub>2</sub> chemisorption, <i>a</i>	135	<b>Shape Memory Effect</b> , Nb <sub>50</sub> Ru <sub>50</sub> , <i>a</i>	85
<b>Rhodium</b> , <sup>105</sup> Rh, production	50	<b>“Ship-in-Bottle” Catalysts</b> , technology	3
nanoclusters, Au/Rh	166	<b>Silicon</b> , PZT/Pt/TiN/Si+SiO <sub>2</sub> , ferroelectric memories, <i>a</i>	140
nanoparticles, on hydrotalcite, synthesis, <i>a</i>	88	Ru <sub>2</sub> Si <sub>3</sub> , optical spectra, <i>a</i>	135
powders, synthesis	31	ZrPd <sub>3</sub> Si <sub>3</sub> , synthesis and properties, <i>a</i>	86
Ru-Rh electrode, + poly(1,3-diaminobenzene), <i>a</i>	42	<b>Silver</b> , PdAg, H solubility, <i>a</i>	179
<b>Rhodium Alloys</b> , Pd <sub>90</sub> Rh <sub>10</sub> Ni <sub>0.05</sub> , internal oxidation, <i>a</i>	135	<b>“Smart” Windows</b> , gasochromic	155
PdRh, H solubility, <i>a</i>	179	<b>Sodium Chloride</b> , decomposition on hot Pt, <i>a</i>	85
<b>Rhodium Complexes</b> , [acac(Rh)(COD)], precursor, <i>a</i>	180	<b>Solar Cells</b> , Graetzel-type, <i>a</i>	136
[Rh <sub>4</sub> (CO) <sub>15</sub> (COOMe)] <sup>+</sup> , mass spectrum, <i>a</i>	179	<b>Solder</b> , Sn-Pb, reaction with Ni/Pd, on Cu, <i>a</i>	86
[Rh <sup>III</sup> (phpy) <sub>2</sub> (CN) <sub>2</sub> ] <sup>+</sup> , photoluminescence, <i>a</i>	136	<b>South Africa</b> , Pt mining	33, 56, 105
Rh(PPh <sub>3</sub> )Cl	146, 172	<b>Spark Plugs</b> , electrodes	56, 106
<b>Rhodium Compounds</b> , NdRh <sub>4</sub> Al <sub>15.37</sub> , synthesis, <i>a</i>	86	<b>Sputtering</b> , CoPt, FePt, thin films, <i>a</i>	40
RRh <sub>2</sub> Ge <sub>2</sub> (R = Gd, Tb, Dy), magnetism, <i>a</i>	85	magnetron, Ir oxide, for medical implants	106
<b>Rockets</b> , thrusters, Ir coatings	106	of MoRu/Be multilayer coatings, <i>a</i>	140
<b>ROMP</b> , in organic synthesis	58, 168	Pd-Ag submicron films, <i>a</i>	43
<b>Ruthenium</b> , additions, to Fe-Cr-Al	158	plasma, of Pt, onto Nafion, <i>a</i>	89
C-Ru xerogel composites, as supercapacitors, <i>a</i>	41	reactive, of Ir-Ta-O films, for electrodes, <i>a</i>	89
MoRu/Be multilayer coatings, <i>a</i>	140	of Pt-oxide thin films, <i>a</i>	42
particles, from decomposition of Ru <sub>3</sub> (CO) <sub>12</sub> , <i>a</i>	87	<b>Styrene</b> , 2-diazo-1-indanone cyclopropanations, <i>a</i>	139
Pt/BST/Pt/Ru capacitors, <i>a</i>	140	by dehydrogenation of ethylbenzene, <i>a</i>	181
Pt/Ru, electrode structures, on poly-Si, by MOCVD, <i>a</i>	137	<b>Superalloys</b> , ‘refractory’, PGM-based	158
<sup>105</sup> Ru, for production of <sup>105</sup> Rh	50	<b>Supercapacitors</b> , C-Ru xerogel composites, <i>a</i>	41
Ru-Rh electrode, + poly(1,3-diaminobenzene), <i>a</i>	42	<b>Superconductivity</b> , Ba <sub>2</sub> CuPt <sub>2</sub> O <sub>9</sub> + F-doped YBCO, <i>a</i>	89
<b>Ruthenium Alloys</b> , Al-Ir-Ru, phase diagram	56, 85	<b>Superlattices</b> , FePt nanocrystal, <i>a</i>	135
Al-Ni-Ru, Al-Ru, phase diagrams	56	<b>Suzuki Couplings</b> , in organic synthesis, <i>a</i>	88, 182
corrosion-resistant	56	<b>Tantalum</b> , Ta <sub>50</sub> Ru <sub>50</sub> , <i>a</i>	85
Fe-Ru, damping capacity	157	<b>Thermocouples</b> , Ir	106
for high-temperature use	158	Pd, Pt, thermoelectric behaviour, <i>a</i>	137
intermetallic, for spark plug electrodes	56	<b>Thin Films</b> , CoPt, FePt, by sputtering, <i>a</i>	40
(Ir,Ru)Al	106	Ir, by pulsed laser deposition, <i>a</i>	42
Nb <sub>50</sub> Ru <sub>50</sub> , shape memory effect, <i>a</i>	85	Pd-Ag, on γ-Al <sub>2</sub> O <sub>3</sub> , <i>a</i>	43
Pt-Ru, for jewellery	156	Pd/α-Al <sub>2</sub> O <sub>3</sub> , by electroless plating and osmosis, <i>a</i>	43
Ru-RuAl, eutectic, formation	158	poly- <i>cis</i> -[Ru(vbpy) <sub>2</sub> (OH <sub>2</sub> ) <sub>2</sub> ](ClO <sub>4</sub> ) <sub>2</sub> , formation, <i>a</i>	136
Ta <sub>50</sub> Ru <sub>50</sub> , <i>a</i>	85	poly- <i>cis</i> -[Ru(vbpy) <sub>2</sub> (py) <sub>2</sub> ](PF <sub>6</sub> ) <sub>2</sub> , electrocatalysis, <i>a</i>	136
TiAl-Ru, properties, <i>a</i>	40	Pt-oxide, by reactive sputtering, XPS study of, <i>a</i>	42
<b>Ruthenium Complexes</b> , Cp(CO) <sub>2</sub> IrRu(CO) <sub>3</sub> (SiCl <sub>3</sub> ) <sub>2</sub> , <i>a</i>	41	RuO <sub>2</sub> , from Ru <sub>3</sub> (CO) <sub>12</sub> , <i>a</i>	87
NO-Ru complexes, with en and ox ion ligands, <i>a</i>	136	SrBi <sub>2</sub> Ta <sub>2</sub> O <sub>9</sub> , <i>a</i>	89
poly- <i>cis</i> -[Ru(vbpy) <sub>2</sub> (py) <sub>2</sub> ](PF <sub>6</sub> ) <sub>2</sub> , electrocatalysis, <i>a</i>	136	see also <b>Films and Membranes</b>	
Rh(bpy) <sub>3</sub> <sup>2+</sup> , chemiluminescence, dodecamorph sensor, <i>a</i>	137	<b>Three-Way Catalysts</b>	31, 124, 137
[Ru <sub>4</sub> C(CO) <sub>16</sub> (COOMe)] <sup>+</sup> , mass spectrum, <i>a</i>	179	<b>Tin</b> , plating, using IrO <sub>2</sub> -Ta <sub>2</sub> O <sub>5</sub> -SnO <sub>2</sub> /Ti anode, <i>a</i>	137
Ru binuclear pyrazines, molecular hysteresis, <i>a</i>	86	<b>Titanium</b> , TiAl-Ru, properties, <i>a</i>	40
Ru nitrosonaphthols, synthesis, <i>a</i>	136	<b>Tobacco</b> , smoke, oxidation, by PGM catalysts	120
Ru-melanoidin, photocatalyst, H <sub>2</sub> O to H <sub>2</sub> , <i>a</i>	137	<b>Trichloroethylene</b> , oxidation, <i>a</i>	138
[Ru(bipy) <sub>2</sub> (Sbipy)] <sup>2+</sup> , photoproperties, <i>a</i>	180	<b>UG-2 Reef</b> , geology, Pt and Pd reserves	33, 105
RuCO <sup>+</sup> , Ru(CO) <sub>2</sub> , Ru(CO) <sub>3</sub> , IR spectra, <i>a</i>	40	<b>Vinyl Acetate</b> , asymmetric hydroformylation, <i>a</i>	44
Ru(dcbpy) <sub>2</sub> (NCS) <sub>2</sub> , as Graetzel standard, <i>a</i>	136	<b>Vinyl Arenes</b> , asymmetric hydroformylation, <i>a</i>	44
Ru(dcbpy) <sub>2</sub> (NCS) <sub>2</sub> , photosensitiser for TiO <sub>2</sub> , <i>a</i>	136	<b>Vinylation</b> , iodobenzene, <i>a</i>	138
[RuHCl(PPR <sup>+</sup> ) <sub>3</sub> ], Grubb’s catalyst intermediate, <i>a</i>	182	<b>Vitamin E</b> , synthesis, <i>a</i>	182
Ru(II) porphyrin-Merrifield’s peptide resin, <i>a</i>	181	<b>VOCs</b> , oxidation, <i>a</i>	87, 138
Ru(III) β-diketone butadiyne polymer, <i>a</i>	41	sensor	57
[Ru(L <sub>3</sub> )] <sup>2+</sup> dyes, for luminescent Nafion membranes, <i>a</i>	42	<b>Water</b> , for H <sub>2</sub> generation, <i>a</i>	137, 140
RuX(EPh <sub>3</sub> ) Schiff base complexes, <i>a</i>	140	nitrate removal	43, 84
<b>Ruthenium Compounds</b> , Pr <sub>3</sub> RuO <sub>7</sub> , magnetism, <i>a</i>	179	oxidation, <i>a</i>	44
Pt/BST/RuO <sub>2</sub> capacitors, <i>a</i>	140	as solvent, for catalytic reactions	138, 168
Ru <sub>2</sub> Ge <sub>3</sub> , Ru <sub>2</sub> Si <sub>3</sub> , optical spectra, <i>a</i>	135	<b>Water Gas Shift Reaction</b> , nanostructured PGM catalysts	3
Ru <sub>3</sub> (CO) <sub>12</sub> , decomposition, Ru particles, RuO <sub>2</sub> films, <i>a</i>	87	<b>Zirconium</b> , ZrPd <sub>3</sub> Si <sub>3</sub> , synthesis and properties, <i>a</i>	86
<b>Schottky Diodes</b> , Au/Pt/GaN, properties	157		
<b>Sensors</b> , bio-, hypoxanthine, <i>a</i>	181		
CH <sub>4</sub> , <i>a</i>	87		