

	<i>Page</i>		<i>Page</i>		<i>Page</i>		<i>Page</i>
White, C.	105	Worley, S. D.	55	Yamazoe, N.	53	Zalavutdinov,	
White, J. M.	52	Wu, R.	165	Yan, X.	224	R. Kh.	114
White, P.	79, 184	Wu, T. -H.	58	Yang, N. Y. C.	103	Zamakhchari,	
Wieckowski, A.	106	Xing, X.	51	Yeager, E.	51	M. A.	51
Wiley, J. S.	59	Xu, D.	170	Yermakov, A. V.	146	Zelenin, L. P.	49
Wilkins, J.	166	Xu, L.	55	Yokoyama, Y.	165	Zhang, X. -L.	170
Wilkinson, D. A.	106	Xu, Q.	59, 228	Yoshida, M.	97, 105	Zhang, Y.	59
Willcox, C. R.	224	Xu, W. -C.	170	Younathan, J.	107	Zhang, Z.	55
Williams, R. S.	227	Xu, Y. -F.	109	Youssef, A. M.	54	Zheng, L.	171
Wilson, G. S.	59			Youssef, N. A.	54	Zheng, L. R.	115
Wilson, M. S.	114, 145	Yablonovitch, E.	115	Yuan, H.	227	Zhenkui, R.	228
Wilson, S. A.	115	Yacynych, A. M.	108	Yun, S. W.	225	Zhil'tsova, O. A.	114
Windawi, H.	185	Yakerson, V. I.	169, 228	Yunoki, K.	230	Zhu, J.	113
Winterbottom, J. M.	112	Yakimenko, L. M.	114	Yunusov, S. M.	112, 229	Zhu, X. -Y.	52
Wittig, J. E.	48	Yakovleva, A. A.	106	Yushin, S. V.	51, 55	Zhu, Y.	115
Wolf, G. K.	149	Yamada, H.	230	Yusu, K.	165	Ziessel, R.	52
Wolf, M.	166	Yamada, T.	104	Yvon, K.	105	Zimmermann, H.	48
Wong, K.-Y.	105, 167	Yamaguchi, H.	230	Zaikovskii, V. I.	110	Zink, J. I.	227
Worl, L.	107	Yamamoto, K.	169	Zaitsev, A. V.	56	Ziolkowski, J.	230
		Yamane, H.	104			Ztichner, H.	104

SUBJECT INDEX TO VOLUME 36

	<i>Page</i>		<i>Page</i>		<i>Page</i>
<i>a=abstract</i>					
Acetaldehyde , synthesis, <i>a</i>	55, 231	Amines (contd.)			
Acetals , silyl, synthesis, <i>a</i>	169	for synthesis of N,N'-disubstituted ureas, <i>a</i>	55		
Acetylenes , amine addition, <i>a</i>	57	Amino Acids , chemiluminescence reaction detector, <i>a</i>	110		
Acylation , amines, <i>a</i>	113	Ammonia , catalyses, <i>a</i>	110		
N-Acyldehydrophenylalanine , hydrogenation, <i>a</i>	56	detector, <i>a</i>	137		
Adsorption , anions, on Pt(111) defects, <i>a</i>	48	synthesis, <i>a</i>	112, 169, 229		
chlorophyll, adsorption on Pt electrode, <i>a</i>	51	used in Pd/SiO ₂ preparation, <i>a</i>	112		
CO, on Pd/CeO ₂ , <i>a</i>	229	Aniline , synthesis, <i>a</i>	230		
ethylene, on Pt(111), <i>a</i>	48	Arenes , hydrogenation, in trickle-bed reactor, <i>a</i>	56		
H ₂ on Co/Pt(110), <i>a</i>	48	Aromatisation , C-C, alkanes, over Pt/BaKL zeolite, <i>a</i>	228		
N ₂ O and CO, photo-, on Pt(111), <i>a</i>	52	hexane, <i>n</i> -, by Pt/molecular sieves, <i>a</i>	110		
nitroethane, on skeletal Rh-Ru, <i>a</i>	52	methane, by Pt/pentasil catalysts, <i>a</i>	228		
O ₂ , on Pd(111), <i>a</i>	166	propane, on Pt-Ir-La-Re/ZSM-5, <i>a</i>	54		
trimethylamine, on Ru/TiO ₂ , <i>a</i>	112	Aryl Chlorides , vinylation, <i>a</i>	230		
Alcohols , alkynemono-ols, isomerisation, <i>a</i>	169	Arylboronic Acids , coupling with haloarenes, <i>a</i>	169		
ethyl, sensor, <i>a</i>	227	Azobenzene , selective hydrogenation, <i>a</i>	55		
fuelled vehicles, exhaust control		Benzaldehyde , one-pot synthesis from olefins, <i>a</i>	166		
methyl electro-oxidation, on Pt, <i>a</i>	185	Benzene , hydrogenation, <i>a</i>	111, 112, 169		
on Rh-, Pt-, Ir-Sn oxides, <i>a</i>	166, 226	Biaryls , sterically hindered, synthesis, <i>a</i>	169		
photooxidation, by Pd/TiO ₂ , <i>a</i>	225	Biphenyl , hydrogenation, <i>a</i>	111		
synthesis, by modified Pd catalysts, <i>a</i>	227	Bismuth , catalyst modifier, <i>a</i>	111		
from syngas, <i>a</i>	111	Bonding , diffusion, Pd to ZrO ₂ , <i>a</i>	165		
oxidation, by Ru complexes, <i>a</i>	56	wafer, for Pd/GaAs, <i>a</i>	115		
oxidation by K ₂ PtCl ₆ , Pt/O ₂ , <i>a</i>	114	Book Reviews , Carbonylation: Direct Synthesis of			
photoproduction, <i>a</i>	229	Carbonyl Compounds	39		
propan-2-ol, for imine hydrogenation, <i>a</i>	107	Catalysis Volume 9: a Specialist Periodical Report	85		
propynyl, for trimethyl aconitate synthesis, <i>a</i>	230	Chemistry of the Platinum Group Metals	34		
Aldehydes , synthesis, <i>a</i>	57, 113	"Platinum 1992"	150		
Alkanes , C-C, aromatisation, <i>a</i>	228	The Ayrton Metals Platinum Yearbook 1992	89		
C ₆ , reactions with H ₂ , on Pt/Al ₂ O ₃ , <i>a</i>	228	Brazing , ceramic-metal, by Pd alloys, <i>a</i>	110		
<i>n</i> -, hydrocracking, <i>a</i>	230	p-Bromotoluene, hydrodehalogenation, <i>a</i>	169		
oxidation by K ₂ PtCl ₆ , Pt/O ₂ , <i>a</i>	229	Butadienes , for disubstituted aldehyde synthesis, <i>a</i>	57		
photooxidation to alcohols, <i>a</i>	107	<i>n</i> -Butenes, hydroformylation, <i>a</i>	113		
Alkenes , hydrogenation, by anchored Rh complexes, <i>a</i>	112	Cancer , Pt complexes, synthesis, characterisation, <i>a</i>	59		
Alkyl Carbamates , production, <i>a</i>	111	Pt compounds, effect on tumour cells, <i>a</i>	59		
Alkylamines , oxidative carbonylation, <i>a</i>	111	Pt drugs, <i>a</i>	178, 231		
sensor, <i>a</i>	168	Carbenoid Reaction , Rh(II) ligand change effects, <i>a</i>	113		
Alkylidene-γ-Butyrolactone , hydrogenation, <i>a</i>	113	Carbocyclisation , tetraene, by Pd(OAc) ₂ , <i>a</i>	113		
C-Alkylimidazole , synthesis, using Pt/Al ₂ O ₃ , <i>a</i>	228	Carbon , composites, ZrPt, coated	201		
N-Allyloxy carbonyl , reactions, <i>a</i>	113	Carbon Oxides , CO,			
Amides , synthesis, <i>a</i>	113	electroreduction in water on TiO ₂ /RuO _x	226		
Amines , acylation, by Pd(OAc) ₂ , <i>a</i>	113	for formic acid synthesis, <i>a</i>	169		
addition to acetylenes, <i>a</i>	57	photoreduction to HCOOH and HCHO, <i>a</i>	53		
alkynyl-, for cyclic imine synthesis, <i>a</i>	57	CO ₂ adsorption ability of Pd/CeO ₂ , <i>a</i>	229		
catalyses, <i>a</i>	110	atmospheric, global trends	126		
detection system, <i>a</i>	110				

	Page	Page
Carbon Oxides, CO, (contd.)		
binding to [Rh(TMPP)(CO)] ⁻ in glass, <i>a</i>	225	
copolymerisation with olefins, <i>a</i>	57	
cyclohexane carboxylation, <i>a</i>	57	
formation on methane oxidation, <i>a</i>	228	
hydrogenation, by Pd/SiO _x -modified catalysts, <i>a</i>	111	
for liquid hydrocarbon synthesis, <i>a</i>	168	
oxidation, catalytic, <i>a</i>	54, 110	
photo-coadsorption with N ₂ O, on Pt(111), <i>a</i>	52	
sensors	79, 184	
Carbonylation , book review	39, 79, 184	
methyleacetate, by [PPh ₃ Pt] _n , <i>a</i>	57	
nitrobenzene, <i>a</i>	170	
oxidative, alkylamines, <i>a</i>	111	
propynyl alcohol, for trimethyl aconitate, <i>a</i>	229	
triarylbismuthines, <i>a</i>	113	
Carboplatin	178	
Carboxylation , cyclohexane, <i>a</i>	57	
Carboxylic Acids , C-H bond hydroxylation, <i>a</i>	57	
derivatives, photodecomposition to H ₂ , <i>a</i>	107	
Catalysis , 10th Int. Congress 1992	202	
heterogeneous, <i>a</i>	54-56, 110-112, 168-169, 228-229	
homogeneous, <i>a</i>	56-58, 112-114, 169-170, 229-231	
transition metal and enzymes, review, <i>a</i>	110	
Catalysts , automotive, in lean burn engines	2	
three-way, model catalyst, <i>a</i>	104	
emission control, SAE 1992 Int. Congr.	86	
Iridium , Ir, peroxidicarbonate electrosynthesis, <i>a</i>	106	
Ir-In/Al ₂ O ₃ , paraffin dehydrogenation, <i>a</i>	56	
Ir/Al ₂ O _x , characterisation	98	
Ir/Al ₂ O _x /TiO _x /Al ₂ O _x -TiO _x , TPR	98	
Ir/Cr ₂ O _x , Ir/MoO _x , alcohol synthesis, <i>a</i>	56	
Iridium Complexes , Ir pentamethylcyclopentadienyl, water gas shift reaction, <i>a</i>	52	
for non-gasoline powered engines	185	
Osmium , K ₂ [Os(CO) ₆]/C, NH ₃ synthesis, <i>a</i>	229	
OsO ₄ +N-methylmorpholine-N-oxide, sulphide oxidation, <i>a</i>	56	
Osmium Complexes , K ₂ [Os(CO) ₆]+K/C, for NH ₃ synthesis, <i>a</i>	112	
for olefin asymmetric dihydroxylation, <i>a</i>	170	
Palladium , in membrane reactors, <i>see Membranes</i> , <i>see also Reactors</i>		
Pd/TiO _x , for enhanced photooxidation, <i>a</i>	227	
Pd single crystals, for cyclisations, <i>a</i>	111	
Pd-Co/Al ₂ O _x , for hydrocarbon synthesis, <i>a</i>	168	
Pd-Ni/Al ₂ O _x , preparation, adsorption, <i>a</i>	55	
Pd-Pt/Al ₂ O _x , valence study, <i>a</i>	168	
wash-coat treatment, for oxidation, <i>a</i>	54	
Pd-Ru-graphite-H ₃ PO ₄ , acetaldehyde synthesis, <i>a</i>	55	
Pd/Al ₂ O _x , for CO oxidation, <i>a</i>	110	
for methane oxidation, <i>a</i>	111, 228	
Pd/Al ₂ O _x /Pd/SiO _x -Al ₂ O _x , S poisoning, <i>a</i>	111	
Pd/C+Pb,Bi,Te, for propylene glycol oxidation, <i>a</i>	111	
Pd/C, for liquid-phase hydrogenation, <i>a</i>	229	
Pd/CeO ₂ , CO adsorption ability, <i>a</i>	229	
Pd/La ₂ O ₃ -SnO ₂ , for EtOH sensor, <i>a</i>	227	
Pd/SiO ₂ +Cu ²⁺ , naphthalene oxidation, <i>a</i>	112	
Pd/SiO ₂ , preparation by ion exchange, <i>a</i>	112	
Pd/SiO ₂ -metal oxide modified, for CO hydrogenation, <i>a</i>	111	
Pd/TiO _x , doped, hydrogenation activity, <i>a</i>	111	
Pd/Cu/NaY zeolite, Cu leaching, <i>a</i>	55	
PdO-MoO ₃ /γ-Al ₂ O _x , preparation, <i>a</i>	112	
Pd(OAc) ₂ , bipyridine/montmorillonite, for urea syntheses, <i>a</i>	55	
Pd(OAc) ₂ /bipyridine-carboxyl copolymer, for azo, nitro group reductions, <i>a</i>	55	
Pd,Rh,Ru/C+NaI, for alkyl carbamate synthesis, <i>a</i>	111	
preparation from solvated solutions	80	
Palladium Alloys , in membrane reactors, <i>see Membranes</i> , <i>see also Reactors</i>		
Pd-Ag, Pd-Y, for ethylene hydrogenation, <i>a</i>	112	
Pd-Ru membranes, for dehydrolinalool hydrogenation, <i>a</i>	106	
Catalysts, Palladium Alloys, (contd.)		
Pd-Zr, Pd-Zr/Al ₂ O _x , amorphous, hydrogenations, <i>a</i>	169	
Palladium Complexes , Pd(dba),CHCl ₂ ,CHCl ₂ ,+diols, for ketone synthesis, <i>a</i>	169	
Pd(acac) ₂ -Ph ₃ P, substituted aldehyde synthesis, <i>a</i>	57	
PdCl ₂ (MeCN) ₂ , for cyclic imines, <i>a</i>	57	
PdCl ₂ (PPh ₃) ₂ +NaI, for alkyl carbamates, <i>a</i>	111	
PdCl ₂ (PPh ₃) ₂ +OP(<i>n</i> -Bu)+KBr, for <i>N</i> -phenylcarbamate, <i>a</i>	229	
PdCl ₂ (PPh ₃) ₂ +SnCl ₄ , for nitrostyrene heterocyclisation, <i>a</i>	229	
PdI ₂ +KI or Pd/C-KI/[Pd(thiourea)],I, for trimethyl aconitate synthesis, <i>a</i>	229	
Pd(II)+Ph ₃ P(CH ₂) ₂ PPh ₃ , for CO+olefins copolymerisation, <i>a</i>	57	
Pd(II) chelates+tridentate salicylaldimines, synthesis, <i>a</i>	57	
Pd(OAc) ₂ +dippb ligand, for aryl chloride vinylation, <i>a</i>	230	
Pd(OAc) ₂ , for amine acylation, <i>a</i>	113	
CN insertion in oligosilane Si-Si bonds, <i>a</i>	57	
for cyclohexane carboxylation, <i>a</i>	57	
Pd(PPh ₃) ₂ +Ba(OH) ₂ , for biaryls synthesis, <i>a</i>	169	
Pd(PPh ₃) ₂ , for amide, peptide synthesis, <i>a</i>	113	
Platinum , preparation from solvated solutions	80	
Pt, peroxidicarbonate electrosynthesis, <i>a</i>	106	
Pt black, for Np from radioactive waste, <i>a</i>	228	
Pt-CdS+RuO _x -K[Ru(H-EDTA)Cl].2H ₂ O, for CO, photoreduction to HCOOH and HCHO, <i>a</i>	53	
Pt-Rh/CeO ₂ /Al ₂ O _x , for propane oxidation, <i>a</i>	168	
Pt-Sn/Al ₂ O _x , reforming	81, 151	
Pt-Sn/poly(3-methyl)thiophene, for MeOH electro-oxidation, <i>a</i>	226	
Pt/Al ₂ O _x +pentasil zeolite, gasoline reforming, <i>a</i>	168	
Pt/Al ₂ O _x , for C-alkylimidazole synthesis, <i>a</i>	228	
for choroacetonitrile oxidation, <i>a</i>	110	
for CO oxidation, <i>a</i>	110	
γ-irradiated, textural changes, <i>a</i>	54	
in Pd membrane reactor, <i>a</i>	170	
pretreatment effects for C ₂ -alkane reactions, <i>a</i>	228	
Sn modified, coking resistance, <i>a</i>	110	
Pt/Al ₂ O _x /TiO _x /Al ₂ O _x -TiO _x , TPR	98	
Pt/BaKL zeolite, C ₂ -C ₄ aromatisation, <i>a</i>	228	
Pt/C fibres, preparation, properties, <i>a</i>	51	
Pt/C/Nafion, in PEM fuel cells, <i>a</i>	114	
Pt/CdS+W ₂ O ₈ , for H ₂ photoproduction, <i>a</i>	52	
Pt/La ₂ O ₃ -SnO ₂ , for EtOH sensor, <i>a</i>	227	
Pt/molecular sieves, properties, <i>a</i>	110	
Pt/O _x , in aqueous media, for ethers, alcohols, esters, alkanes, oxidation, <i>a</i>	229	
Pt/pentasil,+Cr,Zn, catalysts, properties, <i>a</i>	228	
Pt/SiO _x , surface hydroxyl effects, <i>a</i>	54	
Pt/TiO _x , doped, hydrogenation activity, <i>a</i>	111	
H ₂ photoevolution from carboxylic acid, <i>a</i>	107	
Pt/zeolite+diphenyldiethoxysilane, for nonene hydrogenation, <i>a</i>	228	
Pt/zeolite, for decane isomerisation, <i>a</i>	54	
Platinum Alloys , Pt-Ir/Al ₂ O _x /Al ₂ O _x -TiO _x , TPR	98	
Pt-Ir/PS-DVB, for CO sensor	79	
Pt-Ir-La ₂ O ₃ /Re/ZSM-5, for propane aromatisation, <i>a</i>	54	
Pt-Rh(100) 3-way model, for NO reduction, <i>a</i>	104	
Platinum Complexes , H ₂ PtCl ₆ +PVA, for water photoreduction, <i>a</i>	107	
K ₂ PtCl ₆ , for alcohols, alkane, ester, ether oxidation, <i>a</i>	229	
(L ₂ Pt(CO) ₂ X), asymmetric hydroformylation, <i>a</i>	56	
[PPh ₃ Pt] _n in RCOOR', for ester isomerisation, carbonylation, <i>a</i>	57	
[Pt(CO) ₄] ²⁻ in NaY zeolite, photocatalyst for water gas shift reaction, <i>a</i>	226	
Pt metal halogenides, alkane, photooxidation, <i>a</i>	107	
PtCl ₆ (CH ₂ CN) ₂ in BF ₃ /clay, for arene hydrogenation, <i>a</i>	56	
Pt(II) ions, in water, for carboxylic acid C-H bond hydroxylation, <i>a</i>	57	

<i>Page</i>	<i>Page</i>
Catalysts, Platinum Complexes, (contd.)	
Pt(<i>P</i> (<i>m</i> -C ₆ H ₅ SO ₃ Na), ₂ Cl ₂ /pore glass, for hydroformylations, <i>a</i>	112
Platinum Group Metals, characterisation by TPR/TPD	98
reactivation, regeneration, book review	85
Rhodium, K₃[Ru(CO)₄]·C, for gas phase NH₃ synthesis, <i>a</i>	229
Rh(111), for HCHO, HCOOH, HREELS study, <i>a</i>	55
[Rh ₂ O ₂ C ₆ H ₅] ₂]-y-aminopropyl silicate gel, hydrodehalogenation of bromotoluene, <i>a</i>	169
Rh, peroxidicarbonate electrosynthesis, <i>a</i>	106
Rh complexes/USP-zeolites, support effects, <i>a</i>	56
Rh ultrafine/polymer, support effect on selectivity, <i>a</i>	56
Rh-Ru, skeletal, for nitroethane adsorption, <i>a</i>	52
Rh/Al ₂ O ₃ , for CO oxidation, <i>a</i>	110
Rh/Al ₂ O ₃ films, H/D reactions on, <i>a</i>	55
Rh/SiO ₂ , for chloroethanes hydrodechlorination, <i>a</i>	229
Rh/TiO ₂ , doped, hydrogenation activity, <i>a</i>	111
[RhCl(COD)L], [RhCl(CO) ₂ L], [Rh(PPh ₃) ₂ SiO ₂], Y-zeolite, activity, <i>a</i>	112
Rh(II) complexes/polymers, structure, activity, <i>a</i>	169
Rhodium Complexes, [Rh(cod)Cl₂]-Ph₃P(CH₃)₂PPh₃, for formic acid synthesis, <i>a</i>	169
[(C ₂ Me ₅) ₂ RhCl ₂] _n , for chloroaromatic conversion, <i>a</i>	170
di-Rh(II), effects of ligand changes, <i>a</i>	113
[PPN][MRh ₂ (CO) ₄] M=O, Ru, +bipy for nitrobenzene carbonylation, <i>a</i>	170
[Rh(μ-S(CH ₃) ₂ NMe ₂)(cycloocta-1,5-diene)], for hydroformylation, <i>a</i>	170
Rh(CO) ₂ , butene reactions, <i>a</i>	113
[Rh(CO) ₂] _n , nitrobenzene carbonylation, <i>a</i>	170
Rh phosphite, polymer bound, hydroformylation, <i>a</i>	113
[Rh(acac)(CO)(PPh ₃) ₂], hexene reactions, <i>a</i>	230
RhCl ₃ ·3H ₂ O, water gas shift reaction, <i>a</i>	58
RhCl ₃ ·4H ₂ O, formaldehyde hydroformylation, <i>a</i>	170
[RhCl(CO) ₂] _n , RhCl ₃ ·3H ₂ O, for triarylbismuthine carbonylation, <i>a</i>	113
[RhCl(PPh ₃) ₂] _n , dimethyl muconate hydrosilylation, <i>a</i>	169
formaldehyde hydroformylation, <i>a</i>	169
[Rh(CO) ₂] _n , nitrobenzene carbonylation, <i>a</i>	170
Ruthenium, Ru+promoter/MgO+support, for NH₃ synthesis	169
Ru-Co/Al ₂ O ₃ , for hydrocarbon synthesis, <i>a</i>	168
Ru/Al ₂ O ₃ , for NH ₃ synthesis, <i>a</i>	169
Ru/TiO ₂ , doped, hydrogenation activity, <i>a</i>	111
trimethylamine adsorption, oxidative interaction, <i>a</i>	112
Ruthenium Complexes, BINAP-Ru(II), for asymmetric hydrogenation, <i>a</i>	113
Bu ₄ N[Ru(CO) ₂ I] ₂ +NaI, for alkyl carbamates, <i>a</i>	111
K ₃ [Ru(CO) ₄] _n +K/C, for NH ₃ synthesis, <i>a</i>	112
K[Ru(H-EDTA)Cl] ₂ ·2H ₂ O+Pt-CdS-RuO _x , for CO photoreduction, <i>a</i>	53
Ru ₂ (CO) ₁₀ · <i>i</i> -Bu ₃ AlH, for alkane hydrocracking, <i>a</i>	230
Ru ₂ (CO) ₁₀ , cyclooctadiene, cyclooctatriene, for coal liquefaction, <i>a</i>	230
Ru ₂ (CO) ₁₀ -PS, molecular size control, <i>a</i>	230
Ru(bpy) ₃ ²⁺ , for photo-induced pigment pattern formation, <i>a</i>	227
RuCl ₃ (PPh ₃) ₂ , imine transfer hydrogenation, <i>a</i>	230
[RuH ₂ (PPh ₃) ₂] _n , for nitriles conversions, <i>a</i>	170
[Ru ^m Cl ₃ (PPh ₃) ₂] _n , for alcohol oxidation, <i>a</i>	114
[Ru ^m Cl ₃ (AsPh ₃) ₂ (8-hq)] _n , for alcohol oxidation, <i>a</i>	114
[Ru(salen)(NO)(H ₂ O)]SbF ₆ , for Diels-Alder reaction, <i>a</i>	230
RuSiW ₂ O ₉ ²⁻ , for double bond cleavage, <i>a</i>	166
Catalytic Etching, Pt/Rh, <i>a</i>	168
Cathodic Protection, ships in sea water, <i>a</i>	58
Cells, photobioelectrochemical, <i>a</i>	107
photoelectrochemical, anodes in, <i>a</i>	108
rechargeable, characteristics, <i>a</i>	52
Ceramics, ceramic/Pt sintered compacts, <i>a</i>	224
Chemical Production, by electrogenerative means	202
Chemical Vapour Deposition, organometallic, Rh, Ir films, <i>a</i>	227
Pt from Pt bihexafluoroacetylacetone, <i>a</i>	53
Rh on glass, <i>a</i>	108
Rh on Si(111), TiO ₂ /Si(111), <i>a</i>	167
see also Coatings; Electrodeposition; Plating	
Chemotherapy, see Cancer	
Chlorate, formation, from NaCl, <i>a</i>	166
Chloroacetonitrile, oxidation, <i>a</i>	110
Chloroaromatics, hydrodechlorination, <i>a</i>	170
Chlorophyll, adsorption, on amalgamated Pt electrode, <i>a</i>	51
Chloroplasts, platinised, in photobioelectrochemical cells, <i>a</i>	107
Chromium, catalyst promoter, <i>a</i>	56
in Pt-NiCr/glass, properties, <i>a</i>	224
Cisplatin	171, 178
Coal, liquefaction catalysts, <i>a</i>	230
Coatings, for gas turbine blades	89
Ir/Re, for rocket thrusters	103
organometallic, by various deposition techniques	26
Os-Ru, on W cathodes	33
Pd, thin layers, on less noble metals, <i>a</i>	104
Pt/Ti, for seawater, <i>a</i>	114
Ru/Ti mixed oxides/Si, on anodes, <i>a</i>	108
ZrPt, for high temperature C composites	201
see also Chemical Vapour Deposition; Electrodeposition; Plating	
Cobalt	
in Co/Pd multilayer films, magnetic properties, <i>a</i>	224
in Co/Pt superlattices, atomic interdiffusion, <i>a</i>	224
in magneto-optic films, <i>a</i>	58, 104, 165
see also Palladium, Co/Pd; Platinum, Co/Pt	
Coking, resistance of Pt/Al₂O₃, <i>a</i>	110
Cold Fusion, <i>a</i>	49, 114
Colloids, from solvated atom solution	80
Pt/Au, Pd/Au, ligand stabilised, <i>a</i>	50
Colombia, Pt history	40
Composites, C-C, ZrPt, coatings	201
RuO ₂ -glass, AC complex impedance spectra, <i>a</i>	59
Conductivity, detectors, for chlorinated hydrocarbons, <i>a</i>	108
Conferences, 10th Int. Congr. on Catalysis, 19-24 June 1992, Paris	202
1992 SAE Int. Congr.	86
5th Int. on Chemistry of PGMs, St. Andrews, July, 1993	149
7th Int. Symp. on Temperature Measurement, Toronto, Spring, 1992	135
9th World Hydrogen Energy, June, Paris	196
Int. Symp. on Metal-Hydrogen Systems, 1992 biennial, June, Uppsala	196
Copper, electroless plating, on Pd/Si, <i>a</i>	115
Corrosion, ICCS, for steel in sea water, <i>a</i>	58
platinised Ti, in sea water, <i>a</i>	114
prevention of Ta, by Pt ion implantation	149
protection, Pd coatings on less noble metals, <i>a</i>	104
resistance, of Pd ions in Ti-Si, <i>a</i>	114
of TbFeCo+Pt/Nb, magneto-optical films, <i>a</i>	104
Crucibles, periclase, to melt Ir	146
Pt, for Bi-Sr-Ca-Cu-O glass production, <i>a</i>	53, 231
for crystal growth, <i>a</i>	54
Crystals, bulk single, from Pt wire in Pt crucible, <i>a</i>	54
Cs ₂ [IrO ₄], structure, <i>a</i>	225
Czochralski, quasicrystal growth, Al ₇₀ Pd ₂₀ Mn ₁₀ , <i>a</i>	165
decagonal quasi, in Pd-Al-Mn, <i>a</i>	49
single-quasi, Al ₇₀ Pd ₂₀ Mn ₁₀ , <i>a</i>	165
SrBaNb, Rh doped, photorefraction, <i>a</i>	225
ThRu ₂ P ₂ , URu ₂ P ₂ , <i>a</i>	225
Cyanides, insertion in Si-Si bonds, Pd catalysed, <i>a</i>	57
Cyclisation, ethyne, <i>a</i>	111
Cyclohexane, carboxylation, <i>a</i>	57
conversions, by catalytic membrane systems	70
dehydrogenation, on irradiated Pt/Al ₂ O ₃ , <i>a</i>	54

<i>Page</i>	<i>Page</i>
Cyclohexane (contd.)	
in membrane reactors, <i>a</i>	55, 111, 170
on Pd catalysts, <i>a</i>	111
Cyclohexanecarboxylic Acid , synthesis, <i>a</i>	57
Cyclooctenes , reactions, <i>a</i>	107, 113
Cyclopentanones , synthesis, <i>a</i>	113
Decane , isomerisation, <i>a</i>	54
Dehydrogenation , <i>n</i> -paraffins, on Ir-In/Al ₂ O ₃ , <i>a</i>	56
Dehydrolinalool , hydrogenation, by Pd-Ru membranes, <i>a</i>	106
Detectors , <i>a</i>	53-54, 108-110, 167-168, 227-228
alkylamines, <i>a</i>	168
amino acids, chemiluminescent reaction, <i>a</i>	110
CO	79, 184, 225
conductivity of chlorinated hydrocarbons, <i>a</i>	108
DNA unwinding monitor, <i>a</i>	171
electrochemical catalyst probe, <i>a</i>	55
EPIC, for H isotope separation, <i>a</i>	167
ethylene oxidation, <i>a</i>	55
EtOH vapour in air, <i>a</i>	227
gas, Pt thin film, micro-, <i>a</i>	108
glucamate, <i>in vivo</i> , <i>a</i>	171
glucose, <i>a</i>	53, 59, 106, 108, 227
glucose measurement, <i>a</i>	171
H ₂ , <i>a</i>	109, 184
IR, <i>a</i>	55, 58, 231
NADH, <i>a</i>	168
NH ₃ , <i>a</i>	137
nitrite, <i>a</i>	54, 109, 168
O ₂ in myoglobin, <i>a</i>	59
oxalate, <i>a</i>	168
pH, <i>a</i>	109, 168
polymer electroactivity, <i>a</i>	108
strain gauges, <i>a</i>	228
tryptophan, <i>a</i>	52
tunable internal photoemission, <i>a</i>	167
Deuterium, <i>a</i>	55, 114, 226, 231
Dialysis, electrode, <i>a</i>	171
Diazirine, adsorbed on Pd(110), study, <i>a</i>	166
1,2-Dichloroethane, hydrodechlorination, <i>a</i>	229
2,2-Dichloropropionate, photooxidation, <i>a</i>	227
Diels-Alder Reaction, <i>a</i>	230
Diesel Engines, emission control catalysts	2, 185
Diffusion, D, in Pd, <i>a</i>	226, 231
interatomic, in Co/Pt superlattices, <i>a</i>	224
membranes, Pd alloys	12, 70, 90, 112, 224
Pd, in (001) Pt, <i>a</i>	224
Pt in Si, <i>a</i>	48
Re through Ir, in rocket thrusters	103
Dihydroxylation, asymmetric, olefins, <i>a</i>	170
1,2-Diketones, for water photoreduction, <i>a</i>	107
Dimethyl Muconates, hydrosilylation, <i>a</i>	169
Dimethylformamide, formation, <i>a</i>	112
DNA, <i>a</i>	108, 171, 231
Dopants, W ⁶⁺ , Ta ⁵⁺ , for catalysts, <i>a</i>	111
<i>see also</i> <i>Modifiers; Promoters</i>	
Electrical Conductivity , Ba _x KRuO _y , BaRuO _y , <i>a</i>	50
in Pd amorphous ultrathin films, <i>a</i>	224
Electrical Contacts , Al-Si-Pd-Nb+Mo, bilayered, <i>a</i>	171
ohmic, Ge/Pd/InP, <i>a</i>	115
Pd/AuGe/Ag/GaAs, <i>a</i>	115, 171
Pd/Ge, for GaAs epitaxial lift-off, <i>a</i>	115
Pt, by CVD, <i>a</i>	53
with Pt/Ti, <i>a</i>	114
Si/Pd/n-GaAs, <i>a</i>	171
using Pd/GaAs, <i>a</i>	115
Pt/Ti on binary, ternary semiconductors, <i>a</i>	114
RuO _x /Au, Ag, for superconductors	97
Electrical Resistivity , in U-Ru-Rh-Ir compounds, <i>a</i>	225
Electrochemical Cells , for glucose detection, <i>a</i>	53
Electrochemistry , <i>a</i>	51, 106, 166, 225-226
Electrodeposition , <i>a</i>	108, 167, 227
<i>see also</i> <i>Chemical Vapour Deposition; Coatings; Plating</i>	
Electrodes , anodes, Pd/Nafion-coated glassy C, for HCOOH oxidation, <i>a</i>	226
Pt clad Nb, for ICCP system, <i>a</i>	58
Pt foil, for cathodic protection of ships, <i>a</i>	58
Ru/Ti mixed oxides/Si, in photoelectrochemical cells, <i>a</i>	108
RuO _x TiO _y , for NaCl electrolysis, <i>a</i>	166
C paste+[Ru(bpy) ₃ (PVP) ₂ Cl] ₂ Cl, for nitrite determination, <i>a</i>	168
cathodes, W, Os-Ru coatings on Ir+RuO _x /Ti, surface studies, <i>a</i>	106
Ir-Sn oxides, for MeOH oxidation, <i>a</i>	225
IrO _x in pH detectors, <i>a</i>	109, 168
LaF/Pt, in hydrocarbon sensor, <i>a</i>	108
modified with [Ru(bpy) ₃ (PVP) ₂] ₂ Cl, nitrite detection, <i>a</i>	54
[Os(bipy) ₃ (PVP) ₂] ₂ Cl/glassy C, in nitrite sensor, <i>a</i>	109
OsX, X=S,Se,Te disks, for H ₂ O oxidation, <i>a</i>	226
Pd-Pt, preparation, for H ₂ evolution, <i>a</i>	106
platinised C fibres, in biosensors, <i>a</i>	108
Pt+phenol, for glucose oxidase immobilisation, <i>a</i>	106
Pt, amalgamated, irreversible chlorophyll adsorption, <i>a</i>	51
dual layer, in SPE fuel cell, <i>a</i>	230
in electrogenerative systems	202
for glucose oxidation, <i>a</i>	51, 106
in glucose sensor, <i>a</i>	227
H ₂ , O ₂ , adsorption states, review, <i>a</i>	51
in MeOH/air fuel cells, <i>a</i>	230
perovskite modified/graphite, MeOH oxidation, <i>a</i>	166
in polymer electroactivity sensor, <i>a</i>	108
Pt wire, Teflon coated, glutamate measurement, <i>a</i>	171
Pt-glucose oxidase, for glucose detection, <i>a</i>	53
Pt-graphite sheet, for dissolved SO ₂ oxidation, <i>a</i>	51
Pt-Sn oxides, for MeOH oxidation, <i>a</i>	225
Pt/C+Nafion/electrolyte, thin film,	
in PEM fuel cells	145
Pt/Nafion, for O ₂ reduction, in SPE fuel cell, <i>a</i>	51, 166
Pt/SPE membrane, for HCOOH oxidation, <i>a</i>	225
Pt/YSZ, in fuel cell, <i>a</i>	170
Rh-Si oxides, for MeOH oxidation, <i>a</i>	225
Ru-Ti,Pb, for O ₂ reduction, <i>a</i>	106
Ru-Ir oxide, for H ₂ , O ₂ evolution, <i>a</i>	226
TiO ₂ /RuO _x rotating disks, CO ₂ reduction in H ₂ O, H ₂ evolution, <i>a</i>	226
Electrogenerative Systems	202
Electroless Deposition , Cu on Pd,Si, <i>a</i>	115
Pd films, <i>a</i>	227
Electrolysis , NaCl, by RuO _x TiO _y anode, <i>a</i>	166
Electronics , organometallic compounds for	26
Emission Control , automotive, legislation	126
NO _x from lean burn engines	2
SAE 1992 Int. Congr.	86
of vehicles powered by non-gasoline fuel	185
Ene-Lactams , synthesis, <i>a</i>	170
Energy , conferences	196
conversion, in photoelectrochemical cells, <i>a</i>	108
transfer in polymers, <i>a</i>	107
Engines , diesel, <i>see Diesel Engines</i>	
gas turbine, protective coatings	89
jet, intermetallic compounds for	138
Environment , vehicle exhaust pollution	126
Epoxidation , cyclooctene, stilbene, styrene, <i>a</i>	107
Esters , oxidation by Pt, <i>a</i>	229
Etching , catalytic, Pt/Rh gauzes, <i>a</i>	168
plasma, RuO _x thin films, <i>a</i>	166
Ethers , oxidation, <i>a</i>	229
Ethylene , reactions, <i>a</i>	48, 55, 112, 231
Ethylene Glycol , oxidation, <i>a</i>	51
Ethyne , cyclisation, <i>a</i>	111
Flue Gas , clean up from coal powered plants, electrogeneratively	202
Fluorine , in U-PGM-F phase diagrams, <i>a</i>	48
Formaldehyde , reactions, <i>a</i>	53, 55, 170
Formate , species, formation, <i>a</i>	112
Formic Acid , oxidation	

<i>Page</i>	<i>Page</i>
Formic Acid (<i>contd.</i>)	
at Pd/Nafion-coated glassy C anode, <i>a</i>	226
at Pt/SPE membrane electrodes, <i>a</i>	225
photoproduction from CO ₂ , <i>a</i>	53
reactions on Rh(111), <i>a</i>	55
synthesis from H ₂ +CO ₂ , <i>a</i>	169
Fuel Cells, <i>a</i>	114, 170, 230
MeOH	184, 230
PEM	51, 114, 145, 166
SPE, <i>a</i>	230
Gas Turbine Engines, protective coatings	89
Gauzes, Pt/Rh, catalytic etching, <i>a</i>	168
Glass, phosphate, Pt, DVS-Pt, corrosion in preparation in Pt crucibles, <i>a</i>	14
Pt used for	231
pyrex, supporting Pt+NiCr, properties, <i>a</i>	14
RuO _x -glass, composites, impedance spectra, <i>a</i>	224
substrates, for Pt, Rh deposition, <i>a</i>	59
Glasses, metallic, bulk, Pd-Ni-P, <i>a</i>	108
Pd loaded, photochromism, <i>a</i>	109
Glucal Derivatives, hydroformylation, <i>a</i>	109
Glucose, detectors, <i>a</i>	170
Glucose Oxidase, <i>a</i>	53, 59, 106, 108, 171, 227
Glutamate, <i>in vivo</i> monitoring, <i>a</i>	171
Glycol Aldehyde, synthesis, <i>a</i>	170
Haloarenes, coupling with arylboronic acids, <i>a</i>	169
Heterocyclisation, nitrostyrene, <i>a</i>	229
n-Hexane, catalytic reactions, <i>a</i>	110
Hexenes, hydroformylation, isomerisation, <i>a</i>	112, 230
History, 18th century purification of Pt in Colombia	40
Sophus Mads Jorgensen	217
Hydration, nitriles, <i>a</i>	170
Hydrazobenzene, synthesis, <i>a</i>	55
Hydrocarbons, atmospheric, global trends	126
liquid, synthesis, <i>a</i>	168
sensor, <i>a</i>	108
Hydrocracking, n-alkanes, <i>a</i>	230
Hydrodechlorination, <i>a</i>	170, 229
Hydrodehalogenation, p-bromotoluene, <i>a</i>	170
Hydroformylation, asymmetric, by (L_nPt(CO)X), <i>a</i>	169
n-butenes, <i>a</i>	56
catalyst, Rh phosphite preparation, <i>a</i>	113
formaldehyde, <i>a</i>	113
glucal derivatives, <i>a</i>	170
hexenes, <i>a</i>	112, 230
Hydrogen, adsorption at Pt/acid electrode, review, <i>a</i>	51
adsorption on Co/Pt(110), <i>a</i>	48
in catalytic membrane reactors	70, 170
<i>see also Membranes</i>	
conference	196
detectors	109, 184
diffusion, in Pd, Pd alloys, <i>a</i>	104, 112, 224
evolution, on coated Ru-Ir oxide electrodes, <i>a</i>	226
from NaOH, H ₂ SO ₄ , <i>a</i>	226
from propane oxidation, <i>a</i>	168
from water, on TiO _x /RuO _x electrode, <i>a</i>	226
for formic acid synthesis, <i>a</i>	169
for gas sensitivity of Schottky barrier, <i>a</i>	167
in He, sensor, humidity effect, <i>a</i>	109
implanted in Pd-Rh, structure, properties, <i>a</i>	49
induced ordering in Pd-Mn, <i>a</i>	49
isotope separation, <i>a</i>	167
for liquid hydrocarbon synthesis, <i>a</i>	168
in Pd, cold fusion, <i>a</i>	49, 114
in Pd/[(Li ₂ O)(B ₂ O ₃) _x][WO ₄] _y -glass, coloration, <i>a</i>	109
photoproduction, <i>a</i>	52, 107
pure, production, membrane technology	12, 90, 224
reactions on Rh/Al ₂ O ₃ films, <i>a</i>	55
sorption at Pd-Pt alloy electrodes, <i>a</i>	106
storage in formic acid, <i>a</i>	169
Hydrogenation	
alkylidene-butyrolactone, by BINAP-Ru(II), <i>a</i>	113
Hydrogenation (<i>contd.</i>)	
arenes, by Pt, in trickle-bed reactor, <i>a</i>	56
aromatic compounds, on Pt,Pd,Rh,Ru/TiO _x , <i>a</i>	111
benzene,biphenyl,naphthalene, on Pt,Pd,Rh,Ru/TiO _x , <i>a</i>	111
benzenes, on Pd catalysts, <i>a</i>	55, 112, 169
CO, by Pd/SiO ₂ -modified catalysts, <i>a</i>	111
dehydrolinalool, by Pd-Ru membranes, <i>a</i>	106
dinitrotoluene, liquid-phase, <i>a</i>	229
ethylene, <i>a</i>	112
imines, by propan-2-ol, <i>a</i>	230
methylcyclopropane, on Pt/molecular sieves, SAPO, <i>a</i>	110
N-acyldehydrophenylalanine, on Rh/USP-zeolite, <i>a</i>	56
nitrobenzene, by Pd(II)+tridentate salicylaldimines, <i>a</i>	57
nonenes, by Pt/zeolite+diphenyldiethoxysilane, <i>a</i>	228
olefins, by Rh catalysts, <i>a</i>	56, 112
Hydrosilylation, dimethyl muconates, <i>a</i>	169
Hydroxylamine, electrogenerative production	202
Hydroxylation, reactions, <i>a</i>	54, 57
Hypochlorite, formation, from NaCl, <i>a</i>	166
Imines, hydrogenation,synthesis, <i>a</i>	57, 230
Impressed Current Systems, for steel, ships,	
in sea water, <i>a</i>	58
Indoles, derivatives, synthesis, <i>a</i>	229
Infra Red, detectors, <i>a</i>	55, 58, 231
Integrated Circuits, Pd lead finishes, <i>a</i>	59
Ion Exchange, for Pd/SiO₂, preparation, <i>a</i>	112
Iridium, compounds, HfIr_x, for high temperature C composites	
IrNb, high temperature structural use	201
IrO _x , SIROFs, as pH detectors, <i>a</i>	138
U,Ir, superconductivity, <i>a</i>	109
electrodes <i>see Electrodes</i>	225
in IR Schottky diode detectors, <i>a</i>	146
Ir/Re coatings for rocket thrusters	231
secondary refining	103
thin films, by organometallic CVD, <i>a</i>	138
Iridium Alloys, Ir-U, electrical/magnetic properties, <i>a</i>	227
Ir-W, high temperature strength	13
Ir-W-Th-Al, intermetallic layers with Mo, <i>a</i>	105
Iridium Complexes, Cs_n[IrO₄], crystal structure, <i>a</i>	225
Iridium Oxide, in detectors <i>see Detectors</i>	
Iridium Silicides, in Schottky IR detectors, <i>a</i>	231
Isomerisation, reactions, <i>a</i>	54, 57, 169, 230
Isomerism, linkage, in [(bpy)_nRu(HPTN)]ⁿ⁺, <i>a</i>	167
Johnson Matthey, new South African autocatalyst, chemical salt and noble metals plant	
"Platinum 1992"	164
Jorgensen, Sophus Mads, history	150
	217
Ketones, photoproduction, synthesis, <i>a</i>	
	57, 107, 169
Lactic Acid, oxidation, on Pd/C+Pb,Bi,Te, <i>a</i>	
Leaching, oxidative, Cu from, PdCu/NaY zeolite, <i>a</i>	111
Lead, catalyst modifier, <i>a</i>	
for modifying Ru electrode, <i>a</i>	111
Lean Burn Engines, emission control catalysts	106
Liquefaction, coal, <i>a</i>	
Luminescence, dicyano(tetraazamacrocyclo)Rh(III) complexes, <i>a</i>	
photo, [OsN(NH ₃) ₆] ²⁺ , <i>a</i>	230
Ru(bpy) ₃ ²⁺ /Nafion film, for oxalate, alkylamines, NADH, sensor, <i>a</i>	227
Ru(bpy) ₃ ²⁺ , for amino acid sensor, <i>a</i>	167
in silk fibroin membrane, <i>a</i>	110
	107
Magnetism, in Co/Pd multilayered films, <i>a</i>	
ferro, in Rh, Ru overlayers on Ag(001), <i>a</i>	58, 104, 224
in Gd/Pd, Gd/Pd _x , <i>a</i>	165
in Pd-Cu alloys, on ordering, <i>a</i>	104
in Pt/Co multilayer films, <i>a</i>	49
structure after solidification, in Pt-Co-B, <i>a</i>	48, 58, 104, 165
TbFeCo doped with Pt, Nb, <i>a</i>	48
	104

	Page		Page
Magnetism (contd.)		Oxidation (contd.)	
in U-Ru, -Rh, -Ir compounds, <i>a</i>	225	ethylene glycol, on Pt single crystals, <i>a</i>	51
U(Ru, _x Rh, _y)Si _x phases, <i>a</i>	50	Fe-Cr-Pd/Ru/Mo-Pd, high temperature, surface, <i>a</i>	105
Magneto-Optics , for data storage, <i>a</i>	58, 104, 165	glucose, at Pt electrode, <i>a</i>	51
<i>see also Cobalt; Magnetism</i>		HCOOH, at Pt/SPE membrane electrodes, <i>a</i>	225
Medical , <i>a</i>	59, 171, 231	on Pd/Nafion-coated glassy C anode, <i>a</i>	226
Membrane Reactors	54, 55, 70, 111, 170, 231	MeOH _n on perovskite modified Pt electrodes, <i>a</i>	166
Membranes , M/H ₂ PO ₄ /M ⁺ , C ₂ H ₅ oxidation		on Pt-Sn/poly(3-methyl)thiophene, <i>a</i>	226
catalyst probe, <i>a</i>	55	on Rh-Pt, Ir-Sn oxide electrodes, <i>a</i>	225
Pd, Pd alloys, composites, progress	216	methane, for Pd-Pt/Al ₂ O ₃ , valence study, <i>a</i>	168
Pd alloys, in catalytic reactors	54, 55, 70, 111	on Pd/Al ₂ O ₃ , <i>a</i>	111, 228
Pd-Ag, Pd-Y, for ethylene hydrogenation, <i>a</i>	112	naphthalene, by Pd/SiO ₂ +Cu ²⁺ /Cu ⁺ , <i>a</i>	112
Pd-Ru, for dehydrogenation of alcohols, <i>a</i>	106	propane, on Pt-Rh/CeO ₂ /Al ₂ O ₃ , <i>a</i>	168
for pure industrial H ₂ production	12, 90, 224	propylene glycol, lactic acid, on Pd/C+Pb,Bi,Te, <i>a</i>	111
Pd/Al ₂ O ₃ in reactors, <i>a</i>	170	SO ₂ , dissolved, at Pt-graphite sheet electrode, <i>a</i>	51
Pd/Zr, for D diffusion, <i>a</i>	231	sulphides to sulphones, <i>a</i>	56
PEM, Pt/Nafion, <i>a</i>	114	xylene isomers, propene, CO, on Pd+Pt/Al ₂ O ₃ , <i>a</i>	54
<i>see also Diffusion</i>		Oxygen , adsorption at Pt/acid electrode, review, <i>a</i>	51
Metal Organic Vapour Phase Epitaxy , H, for	12	adsorption on Pd(111), study, <i>a</i>	166
Metallisation , Cu of Pd/Si, <i>a</i>	115	electroreduction, at Pt/Nafion electrodes, <i>a</i>	51, 166
Pd acetate, by e-beam, <i>a</i>	115	on Ru-Tl, Pb, <i>a</i>	106
Methane , aromatisation, by Pt/pentasil, <i>a</i>	228	evolution, at RuO _x /TiO ₂ anode, <i>a</i>	166
oxidation, <i>a</i>	111, 168, 228	at OsS _x electrode, from H ₂ O, <i>a</i>	226
Methanol , <i>see Alcohols, methyl</i>		at Ru-Ir oxide electrodes, <i>a</i>	226
Methyl Ethyl Ketone , electrogenerative production	202	photo, from H ₂ O, with carbonates, <i>a</i>	107
Methyl Phenylcarbamate , synthesis, <i>a</i>	170		
Methylacetate , carbonylation, by [PPh ₃ Pt] ₂ , <i>a</i>	57		
Methylcyclopropane , hydrogenation, <i>a</i>			
Pt/molecular sieves, <i>a</i>	110		
Methylformate , isomerisation, by [PPh ₃ Pt] ₂ , <i>a</i>	57		
Modifiers , metal oxides, for Pd/SiO ₂ , <i>a</i>	111		
Pb,Bi,Te, for Pd/C, <i>a</i>	111		
<i>see also Dopants; Promoters</i>			
Molybdenum , catalyst promoter, <i>a</i>	56		
intermetallic layers with Ir-W-Th-Al, <i>a</i>	105		
Myoglobin , O ₂ saturation detector, <i>a</i>	59		
NADH , sensor, <i>a</i>	168		
Naphtha , reforming, by Pt-Sn/Al ₂ O ₃ catalyst	151		
Naphthalene , reactions, <i>a</i>	111, 112		
Natural Gas , fuelled vehicles, exhaust control	185		
Neptunium, extraction from radioactive waste, <i>a</i>	228		
Nickel , in Pt+NiCr/glass, properties, <i>a</i>	224		
Niobium , magneto-optics, superconductivity, <i>a</i>	104, 225		
Nitriles, hydration, <i>a</i>	170		
Nitrite, detectors, <i>a</i>	54, 109, 168		
Nitrobenzene, reactions, <i>a</i>	57, 170, 229, 230		
Nitroethane, adsorption, on skeletal Rh-Ru, <i>a</i>	52		
Nitrogen Oxides , atmospheric, global trends			
emission control from lean burn engines	126		
N ₂ O, reactions on Pt(111), <i>a</i>	2		
NO, electrogenerative reduction			
reduction on model Pt-Rh(100), <i>a</i>	52		
Nitrostilbene, for phenylindole synthesis, <i>a</i>	202		
Nitrostyrene, for indole synthesis, <i>a</i>	104		
dinitrotoluene, liquid-phase hydrogenation, <i>a</i>	229		
Nonenes, hydrogenation, <i>a</i>	229		
Nuclear Fuel Reprocessing , Ru deposition, <i>a</i>	228		
Olefins , reactions, <i>a</i>	114		
Oligosilanes, CN insertion in Si-Si, <i>a</i>	56, 57, 112, 166, 170		
Organometallics , for electronics	57		
Osmium, electrodes <i>see Electrodes</i>	26		
Osmium Complexes , Os polypyridyl in polymer, for energy transfer, <i>a</i>	107		
[Os(bipy) ₃ (PVP) ₂ Cl]Cl, in nitrite sensor, <i>a</i>	109		
[Os ²⁺ (salen)(OPr) ₂] ⁺ , synthesis, <i>a</i>	105		
[OsN(NH ₂) ₆] ²⁺ , photoredox properties, <i>a</i>	167		
tetrabidentate dianionic chelating ligands, <i>a</i>	105		
Oxalate , sensor, <i>a</i>	168		
Oxidation , alcohols, by Ru complexes, <i>a</i>	114		
chloroacetonitrile, on Pt/Al ₂ O ₃ , <i>a</i>	110		
CO on Pt/Al ₂ O ₃ , <i>a</i>	110		
ethers, alcohols, esters, alkanes, by Pt, <i>a</i>	229		
ethylene, partial, on Pd-Ru-graphite-H ₂ PO ₄ , <i>a</i>	55		
Palladium Alloys , conference			196
Fe-Cr-Pd/Mo-Pd, high temp. oxidation, <i>a</i>			104, 105
Pd-Ag diffusion membranes			12, 90
<i>see also Membranes</i>			
Pd-Ag-Au-Y-Ru-Pt-Al, for H ₂ production			90
Pd-Ag/Ru/Rh/rare earth membrane catalysis			216
Pd-Ag/Y, for ethylbenzene oxidation, <i>a</i>			112
Pd-Al-Mn, decolorization, <i>a</i>			49
Pd-Au-Ni, for H ₂ production, ceramic, <i>a</i>			110
Pd-Cu, electrical, magnetic properties, <i>a</i>			49
Pd-Mn, rapidly quenched, H induced ordering, <i>a</i>			49
Pd-Mo, rapidly solidified, structure, <i>a</i>			49
Pd-Nb, thermodynamic stability, <i>a</i>			49

<i>Page</i>	<i>Page</i>
Palladium Alloys (contd.)	
Pd-Ni, pure H ₂ production	90
Pd-Ni-P glass, preparation, <i>a</i>	109
Pd-Pt, electrodes, preparation, <i>a</i>	106
Pd-Rh, structure, property on H addition, <i>a</i>	49
Pd-Si, mechanical alloying, <i>a</i> <i>see also Palladium Silicides</i>	49
Pd-Ti-Co-Ni, phase diagram, <i>a</i>	224
Pd-Y(Gd)-Ag, H ₂ diffusion in, <i>a</i>	224
Palladium Complexes, β-[CH₂N][Pd(dmit)₂]_n	105
paramagnetic, <i>a</i>	52
Pd porphyrin, O ₂ in myoglobin sensor, <i>a</i>	59
Pd(NH ₃) ₂ Br ₂ , Pd(NH ₃) ₂ (NO ₂) ₂ , in plating baths, <i>a</i>	167
tetrakis(triphenyl)Pd(0), synthesis, <i>a</i>	105
Palladium Silicides , Cu electroless plating on, <i>a</i>	115
n-Paraffins , dehydrogenation, on Ir-Al ₂ O ₃ , <i>a</i>	56
Patents 60-68, 116-124, 172-176, 232-236	113
Peptides , production, by Pd(PPh ₃), <i>a</i>	113
Permeability <i>see Diffusion</i>	
H ₂ , in thin Pd coatings, <i>a</i>	104
Petroleum , reforming, <i>a</i>	168
pH , sensors, <i>a</i>	109, 168
Phase Diagrams , Pd-Mo alloys, <i>a</i>	49
Pd-Ti-Co-Ni at 800°C, <i>a</i>	224
U-PMGs, thermodynamics, <i>a</i>	48
Phenol , hydrogenation, by membrane systems	70
Phenylcarbamate , formation, <i>a</i>	229
Phosgene , photodissociation, <i>a</i>	52
Phosphorescence , in Pd porphyrin, <i>a</i>	59
Photoanation , in [(bpy) ₂ Ru(HPTN)] ⁺ , <i>a</i>	167
Photocatalysis , <i>a</i> 52-53, 107, 166-167, 226	
Photoconversion , in solar cells	38
Photodissociation , DNA, <i>a</i>	108
N ₂ O, <i>a</i>	52
C ₂ , <i>a</i>	166
phosgene, <i>a</i>	52
Photoelectrochemical Cells , <i>a</i>	108
Photolysis , reactions, <i>a</i>	167, 227
Plasma Etching , RuO _x thin films, <i>a</i>	166
Plating , baths, Pd complexes, <i>a</i>	167
electroless, involving Pd, <i>a</i>	115, 227
<i>see also Chemical Vapour Deposition; Coatings; Electrodeposition</i>	
"Platinum 1992"	150
Platinum , aluminide coatings, for gas turbine blades	89
chloroplasts, in photobioelectrochemical cells, <i>a</i>	107
Co/Pt, <i>a</i> 48, 58, 104, 165, 224	
colloids, Pt/Au, <i>a</i>	50
compounds, (C ₆ H ₅) ₂ Pt(N ₃) ₂ , photochemistry, <i>a</i>	226
effect on tumour cells, <i>a</i>	59
ZrPt, for C coated composites	201
crucibles, <i>a</i>	53, 54, 231
in detectors, <i>see Detectors</i>	
diffusion profiles in Si, <i>a</i>	
in electrical contacts, <i>see Electrical Contacts</i>	
electrodeposition, <i>see Electrodeposition</i>	
electrodes, <i>see Electrodes</i>	
in fuel cells, <i>see Fuel Cells</i>	
in glass making	
in high temperature superconductors	
ion implantation of Ta	
market influences in 1991, book review	
Pt(111), anion adsorption on defects, <i>a</i>	
ethylene adsorption, reactions on, <i>a</i>	
N ₂ O, CO, photo-co-adsorption on, <i>a</i>	
N ₂ O photochemistry on adsorption, <i>a</i>	52
Pt in TbFeCo magneto-optical films, <i>a</i>	104
Pt-NiCr/pyrex glass, dealloying, <i>a</i>	224
Pt/Rh gauzes, catalytic etching, <i>a</i>	168
Pt/Si/ErSi ₃ , for internal photoemission sensor, <i>a</i>	167
Pt(hkl) surfaces, ethylene glycol oxidation, <i>a</i>	51
purification, 18th century	40
resistance thermometers, <i>see Resistance Thermometers</i>	
in Schottky devices, <i>see Schottky</i>	
in sintered ceramics, <i>a</i>	224
Platinum (contd.)	
solvated atoms, precursors to colloids, <i>a</i>	
films, catalysts	80
thick films for low temperature measurement, <i>a</i>	231
Platinum Alloys , Pt-Co-B, magnetism, structure	
after solidification, <i>a</i>	48
Pt-Ir wire, in glucose sensor, <i>a</i>	59
in traction MeOH fuel cells	184
Platinum Complexes , anti-cancer drugs	59, 178, 231
[NEt ₂] ₂ Pt ₂ (CO) ₆ /graphite, STM, <i>a</i>	165
[Pt(P ₂ O ₇ H ₂ O) ₂] ²⁻ , DNA photocleavage, <i>a</i>	108
tetrakis(triphenyl)Pd(0), synthesis, <i>a</i>	105
for unwinding DNA, <i>a</i>	171
Platinum Silicides , in Schottky devices, <i>see Schottky</i>	
Poisoning , CO, on MeOH electro-oxidation, <i>a</i>	166
S, effects in Pd/Al ₂ O ₃ , Pd/SiO ₂ , Al ₂ O ₃ , <i>a</i>	111
thiophene, on Pt/Al ₂ O ₃ , effects, <i>a</i>	228
Pollution Control , book review	85
by electrogenerative systems	202
by motor vehicles	126
in lean burn engines	2
in vehicles powered by non-gasoline fuel	185
Polymerisation , CO+olefins, <i>a</i>	57
Polymers , electroactivity in cell, monitor, <i>a</i>	108
[Rh(TMPP) ₂ (CO)] ⁺ , for binding CO, <i>a</i>	225
[Ru(bpy) ₃ (PVP) ₂ Cl]Cl, <i>a</i>	168
Ru, Os-containing, for energy transfer, <i>a</i>	107
Potassium , catalyst promoter, <i>a</i>	55
Powders , bimetallic, ultra-fine, Pt, Pd, Au, preparation	80
Promoters , alkali metal, for NH ₃ synthesis, <i>a</i>	169
Cr, Mo, V, to Ir catalysts, <i>a</i>	56
K, for Pd-Ni/Al ₂ O ₃ , <i>a</i>	55
Nal, catalyst, <i>a</i>	111
<i>see also Dopants; Modifiers</i>	
Propane , fuelled vehicles, exhaust control	185
reactions, <i>a</i>	54, 168
Propene , oxidation, <i>a</i>	54
Propylene Glycol , oxidation, <i>a</i>	111
Quasicrystals , growth, Czochalski, <i>a</i>	165
Radioactivity , Np, extraction, <i>a</i>	228
Reactors , catalytic membrane, <i>see Membrane Reactors</i>	
continuous-flow stirred, for water gas shift reaction, <i>a</i>	
fixed bed, <i>a</i>	110
trickle-bed, <i>a</i>	56
Recording Film , <i>see Magneto-Optics</i>	
Reforming , naphtha, book review	85
Pt-Sn/Al ₂ O ₃ catalyst	151
pyrolysis gasoline, <i>a</i>	168
steam, for H ₂ formation, <i>a</i>	168
Resistance Thermometers	11, 59, 135
Rhenium , in rocket thrusters	103
Rhodium , compounds, Cl ₂ Rh(CO)(PPh ₃) ₂	
photochemical behaviour, <i>a</i>	227
Mg ₂ RhH ₃ , Mg ₂ Rh, synthesis, <i>a</i>	105
Rh(CO) ₂ (C ₆ H ₅ O ₂) ₂ , thermal deposition, <i>a</i>	167
deposition by CVD, strips, thin films, <i>a</i>	108, 167, 227
doped SrBaNb crystals, photorefraction, <i>a</i>	225
ferromagnetism in Rh/Ag, <i>a</i>	165
in high temperature superconductors	97
Pt/Rh gauzes, catalytic etching, <i>a</i>	168
in resistance thermometry	11
U-Rh, electrical/magnetic properties, <i>a</i>	225
W/Rh/C multilayers, X-ray mirrors, <i>a</i>	50
Rhodium Alloys , Rh-Pd, changes on H addition, <i>a</i>	49
Rhodium Complexes , dicyano(tetraazamacrocyclo)	
Rh(III), photoproperties, <i>a</i>	227
Rh(CO) ₂ thd, Rh(CO)hfa, CVD, <i>a</i>	108
[Rh(<i>n</i> -C ₆ H ₅ Ph) ₂ Br] ₂ (1,3- <i>t</i> 1,5-C ₆ H ₃), <i>a</i>	105
[Rh(TMPP) ₂ (CO)] ⁺ , to bind CO, <i>a</i>	225
Rockets , thrusters, coated with Ir	103
Ruthenium , compounds, AlRu, RuSc, RuTa, high temp. structural use	138
Ba ₂ Ru ₃ Ta ₂ O ₉ Br, synthesis, <i>a</i>	166

Page	Page
Ruthenium (contd.)	
BaRuO _x , Ba _x K _{1-x} RuO ₃ , electrical conductivity, <i>a</i>	50
oxides, doped Pb phthalocyanine detector, for H ₂	184
ThRu ₂ P ₂ , URu ₂ P ₂ , properties, <i>a</i>	225
U-Ru, electrical/magnetic properties, <i>a</i>	225
U(Ru _{1-x} Rh _x) ₂ Si ₃ , magnetism, <i>a</i>	50
deposition on stainless steel, nuclear reprocessing, <i>a</i>	114
in detectors, <i>see Detectors</i>	
electrodes, <i>see Electrodes</i>	
ferromagnetism in Ru/Ag, <i>a</i>	165
in <i>n</i> -GaAs Schottky contacts, <i>a</i>	231
Ru(III)-EDTA-ascorbate-H ₂ O ₂ , hydrocarbon epoxidation, <i>a</i>	107
in Schottky diodes, <i>a</i>	115
Ruthenium Alloys , Ce(Ru _{1-x} Cu _x) ₂ Si ₃ , resistivity, thermopower, <i>a</i>	165
Fe-Cr-Ru, high temperature oxidation, <i>a</i>	105
Ru-Os coatings, on W cathodes	33
Ruthenium Complexes , in glucose analysis, <i>a</i>	
[Ru ₃ N(CO) ₁₂] ⁺ , synthesis, <i>a</i>	165
Ru polypyridyl, for energy transfer, <i>a</i>	107
[Ru(bpy) ₃ (PVP) ₂ Cl]Cl, nitrite detection, <i>a</i>	168
[Ru(bpy) ₃ (PVP)] ²⁺ , nitrite detection, <i>a</i>	168
Ru(bpy) ₃ /Nafion, chemiluminescence detector, <i>a</i>	107
Ru(bpy) ₃ ²⁺ , in fibroin membrane, luminescence, <i>a</i>	53
tryptophan detection, <i>a</i>	53
Ru(dpphen) ₃ ²⁺ , photexcited, quenching, <i>a</i>	53
Ru(II) pyridyltriazole, photoreactions, <i>a</i>	167
Ru ₂ (μ-CN)Ru(CN)L ₂ ²⁺ , in solar cells	38
[RuMn(μ-H)(μ-PPh ₃)(η ⁵ -C ₅ H ₅)(CO)] ²⁻ , synthesis, reactions, <i>a</i>	105
[Ru(PPPh ₃) ₂ (TCNQ)] ²⁻ , structure, <i>a</i>	50
Ruthenium Oxides , RuO _x thin films, plasma etching, <i>a</i>	
RuO _x /glass, composites, impedance spectra, <i>a</i>	59
RuO/Au, Ag, superconductor contacts	97
SAE , 1992 Int. Congr.	86
Schottky Barrier Detectors , IR	58
Schottky Barrier Diodes , laser CVD Pt deposition, <i>a</i>	53
Pd/ <i>n</i> -GaAs, fabrication, annealing, <i>a</i>	58
Pt/GaAs, sensor sensitivity, <i>a</i>	137
Pt/ <i>n</i> -GaAs, construction, <i>a</i>	171, 231
NH ₃ detection, <i>a</i>	137
PtSi- <i>n</i> -Si(100), <i>a</i>	171
PtSi-Si, <i>a</i>	115
Ru/GaAs, <i>a</i>	115
Schottky Contacts , Pt/ <i>n</i> -GaAs, e-beam preparation, <i>a</i>	231
Ru/ <i>n</i> -GaAs, <i>a</i>	231
Sensors , <i>see Detectors</i>	
Silicon , <i>a</i>	48, 114
Sodium Chloride , electrolysis, <i>a</i>	166
Solar Cells	38
Solder , PtPb, for ICs, <i>a</i>	59
Solvated Atoms , Pt, Pd, Au, precursors	80
Steel, corrosion in sea water, prevention, <i>a</i>	58
stainless, Ru deposition on, <i>a</i>	114
trans-Stillene , epoxidation, <i>a</i>	107
Strain Gauges , Pd films for, <i>a</i>	228
Structure , micro, Pt-Co-B, after solidification, <i>a</i>	48
Pt/Co multilayer, sputtered, magnetism, <i>a</i>	104
Pd, on hydriding, <i>a</i>	49
in Pd-Cu, at 300–1200K, <i>a</i>	49
Pd-Mn, H induced ordering, <i>a</i>	49
Pd-Rh, on H addition, <i>a</i>	49
[Ru(PPPh ₃) ₂ (TCNQ)] ²⁻ , <i>a</i>	50
Styrene , reactions, <i>a</i>	107
Sulphides , oxidation to sulphones, on OsO ₄ , <i>a</i>	56
Sulphur , catalyst poison, <i>a</i>	111
Sulphur Dioxide , oxidation, at Pt-graphite sheet electrode, <i>a</i>	51
Superalloys , used for gas turbine blades	89
Superconductivity , in Bi-Sr-Ca-Cu-O, <i>a</i>	53
in UPd ₃ Al-Nb system, <i>a</i>	225
Superconductors , β-[CH ₂]N[Pd(dmit) ₂] _n , <i>a</i>	105
high temperature, Pt, Rh, for flux pinning low resistance contact electrodes	97
Superconductors (contd.)	
UPd ₃ Al, <i>a</i>	165
Surface Science , TPR/TPD, catalyst characterisation	98
Synthesis Gas , for alcohols synthesis, <i>a</i>	56
Tantalum , <i>a</i>	111, 149
Tellurium , catalyst dopant, <i>a</i>	111
Temperature Measurement , 7th Int. Symp., review	135
<i>a</i> , thick Pt films for low temperatures, <i>a</i>	59, 231
Temperature Programmed Reduction , catalyst characterisation	231
Tetraene , carbocyclisation, <i>a</i>	113
Thallium , for modifying Pt electrode, <i>a</i>	106
Thermocouples	59, 135
Thermodynamics , in Pd-Nb, <i>a</i>	49
of U-PGMs phase diagrams, <i>a</i>	48
Thick Films , Pt, for low temperature measurement, <i>a</i>	231
Thin Films , (C ₆ H ₅)Pt(N ₃), on Si(111), <i>a</i>	226
Co/Pd, multilayered, magnetism, <i>a</i>	58, 104, 224
Co/Pt, multilayers, interdiffusion, magnetisation, <i>a</i>	58, 104, 165, 224
Ir, by organometallic CVD, <i>a</i>	227
IrO _x , SIROFs, as pH detectors, <i>a</i>	109
organic pigment formation, <i>a</i>	227
oxide, on Pd implanted Fe-40Cr alloys, <i>a</i>	104
Pd, amorphous, electrical conductivity, <i>a</i>	224
discontinuous on glass, for strain gauge, <i>a</i>	228
electroless deposited, <i>a</i>	227
on PA and polypprole, <i>a</i>	108
protective layers on less noble metals, <i>a</i>	104
Pd alloys, for industrial H ₂ production	90
Pd(OOCCH ₃) ₂ , e-beam metallisation, <i>a</i>	115
polymerised phenol, on Pt electrodes, for glucose oxidase immobilisation, <i>a</i>	106
Pt+NiCr/pyrex glass, dealloying, <i>a</i>	224
Pt, in fuel cell electrodes	145
Pt on glass, for microsensor, <i>a</i>	108
Pt, Pd, from solvated metal atom solution	80
Pt/Nafion, in PEM fuel cells, <i>a</i>	114
PtSi, in Schottky diodes, <i>a</i>	115
Rh, by CVD, <i>a</i>	167, 227
Ru/Ti mixed oxides/Si, for anode protection, <i>a</i>	108
RuO _x , plasma etching, <i>a</i>	166
TbFeCo+Pt,Nb, corrosion, magnetism in, <i>a</i>	104
Thiophene , catalyst poison, <i>a</i>	228
Tin , catalyst modifier, <i>a</i>	110
Titanium , platinised, corrosion in sea water, <i>a</i>	114
Pt/Ti, in electrical contacts, <i>a</i>	114
Ti-Si, implanted with Pd ions, corrosion, <i>a</i>	114
Triarylbismuthines , carbonylation, <i>a</i>	113
Trichloroethylene , hydrodechlorination, <i>a</i>	229
Trimethyl Aconitate , synthesis, <i>a</i>	229
Trimethylamine , adsorption, on Ru/TiO _x , <i>a</i>	112
Tritium , release from Pd, <i>a</i>	49
Tryptophan , chemiluminescence, with Ru(bpy) ₃ ²⁺ , <i>a</i>	53
Tungsten , catalyst dopant, <i>a</i>	111
U-PGM-F , phase diagrams, <i>a</i>	48
Uranium , U-PGM phase diagrams, thermodynamics, <i>a</i>	48
Ureas , N,N'-disubstituted, synthesis, <i>a</i>	55
Vanadium , catalyst promoter, <i>a</i>	56
Vinylation , aryl chlorides, <i>a</i>	230
Water , electrochemical reduction, <i>a</i>	226
oxidation, on OsX ₂ disk electrodes, <i>a</i>	226
photodecomposition, <i>a</i>	107
Water Gas Shift Reaction , <i>a</i>	52, 58, 168, 226, 230
Wires , Pt, for crystal growth, <i>a</i>	54
Pt-Ir, in glucose sensor, <i>a</i>	59
X-Ray Mirrors , W/Rh/C multilayers for, <i>a</i>	50
Xylene isomers , oxidation, <i>a</i>	54
Zirconium , ZrO ₂ , bonding with Pd, <i>a</i>	165