

## JOURNAL OF ORGANOMETALLIC CHEMISTRY, VOL. 394 (1990)

### SUBJECT INDEX

#### Boron

- cis*-3-( $\eta^6$ -C<sub>6</sub>H<sub>6</sub>)-3,1,2-FeC<sub>2</sub>B<sub>9</sub>H<sub>11</sub>, synthesis and molecular structure of (S.S. Lee, C.B. Knobler, M.F. Hawthorne), (394) 29
- [3,3,3-(CO)<sub>3</sub>-4-SMe<sub>2</sub>-3,1,2-MnC<sub>2</sub>B<sub>9</sub>H<sub>10</sub>], synthesis and molecular and electronic structure of; order-of-magnitude improved structure of ( $\eta$ -C<sub>5</sub>H<sub>5</sub>)Mn(CO)<sub>3</sub> (J. Cowie, E.J.M. Hamilton, J.C.V. Laurie, A.J. Welch), (394) 1
- 3,4-Diborafulvene as bridging ligand in a novel slipped tripledecker complex (G.E. Herberich, C. Ganter, L. Wesemann, R. Boese), (394) C1
- Metalladiborane anions, [M(CO)<sub>4</sub>( $\eta^2$ -B<sub>2</sub>H<sub>5</sub>)]<sup>-</sup> (Fe, Ru, Os), addition of electrophiles to (T.J. Coffy, S.G. Shore), (394) C27
- Metal-rich metallaborane clusters, synthesis of; mechanism involving fragment condensation (X. Meng, A.K. Bandyopadhyay, T.P. Fehlner, F.-W. Grevels), (394) 15

#### Chromium

- 1,1'-Bis(methylthio)ruthenocene, syntheses, structures and stereodynamics of transition metal complexes of; crystal structure of 1,1'-bis(methylthio)ruthenocene tetracarbonyltungsten (E.W. Abel, N.J. Long, K.G. Orrell, A.G. Osborne, V. Šík, P.A. Bates, M.B. Hursthouse), (394) 455
- Iron, chromium, molybdenum and tungsten diisopropylaminomethylidyne complexes (S. Anderson, A.F. Hill), (394) C24
- Mixed-metal carbide clusters, [MnRu<sub>3</sub>C(CO)<sub>13</sub>]<sup>-</sup>, [MnOs<sub>3</sub>C(CO)<sub>13</sub>]<sup>-</sup>, [Cr<sub>2</sub>Ru<sub>3</sub>C(CO)<sub>16</sub>]<sup>2-</sup>, [Mo<sub>2</sub>Ru<sub>3</sub>C(CO)<sub>16</sub>]<sup>2-</sup>, [Rh<sub>3</sub>Ru<sub>3</sub>C(CO)<sub>15</sub>]<sup>-</sup>, [Ni<sub>3</sub>Ru<sub>3</sub>C(CO)<sub>13</sub>]<sup>2-</sup> and [Co<sub>3</sub>Ru<sub>3</sub>C(CO)<sub>15</sub>]<sup>-</sup>; preparation via the ketenylidene route (M.P. Jensen, W. Henderson, D.H. Johnston, M. Sabat, D.F. Shriver), (394) 121

#### Cobalt

- Cationic mixed metal clusters, NMR and EHMO investigation of; X-ray crystal structure of (1,7,7-trimethyl- $\mu^2$ -2-propynylnorbornene) bis-(cyclopentadienyl)tetracarbonylmolybdenum (M.F. D'Agostino, C.S. Frampton, M.J. McGlinchey), (394) 145
- Iron carbonyls, reactions with triple-decker sandwich complexes ( $\eta^5$ -C<sub>5</sub>H<sub>5</sub>)Ni( $\mu$ , $\eta^5$ -C<sub>2</sub>B<sub>2</sub>C)M( $\eta^5$ -C<sub>5</sub>H<sub>5</sub>), (M = Co, Ni); replacement of ( $\eta^5$ -C<sub>5</sub>H<sub>5</sub>)Ni by and insertion of the Fe(CO)<sub>3</sub> fragment into the ( $\eta^5$ -C<sub>5</sub>H<sub>5</sub>)-Ni bond (J. Edwin, M.W. Whiteley, W. Herter, W. Siebert), (394) 329
- Mixed-metal carbide clusters, [MnRu<sub>3</sub>C(CO)<sub>13</sub>]<sup>-</sup>, [MnOs<sub>3</sub>C(CO)<sub>13</sub>]<sup>-</sup>, [Cr<sub>2</sub>Ru<sub>3</sub>C(CO)<sub>16</sub>]<sup>2-</sup>, [Mo<sub>2</sub>Ru<sub>3</sub>C(CO)<sub>16</sub>]<sup>2-</sup>, [Rh<sub>3</sub>Ru<sub>3</sub>C(CO)<sub>15</sub>]<sup>-</sup>, [Ni<sub>3</sub>Ru<sub>3</sub>C(CO)<sub>13</sub>]<sup>2-</sup> and [Co<sub>3</sub>Ru<sub>3</sub>C(CO)<sub>15</sub>]<sup>-</sup>; preparation via the ketenylidene route (M.P. Jensen, W. Henderson, D.H. Johnston, M. Sabat, D.F. Shriver), (394) 121
- Molybdenum and tungsten carbyne complexes, oxygen tripod ligand supported; carbon-carbon bond formation reactions; crystal structures of [L(CO)<sub>2</sub>W≡CC<sub>6</sub>H<sub>4</sub>-*p*-CH<sub>3</sub>] and [L(CO)Mo( $\mu$ -CO)Pd(I)C(C<sub>6</sub>H<sub>4</sub>-*p*-CH<sub>3</sub>)C<sub>6</sub>H<sub>4</sub>-*o*-CH<sub>2</sub>N(CH<sub>3</sub>)<sub>2</sub>], L<sup>-</sup> = [(C<sub>5</sub>H<sub>5</sub>)Co(P(O)(OCH<sub>3</sub>)<sub>2</sub>)<sub>3</sub>]<sup>-</sup> (W. Kläui, H. Hamers, M. Pfeffer, A. de Cian, J. Fischer), (394) 213
- Nickel-molybdenum and nickel-tungsten complexes as building blocks in the synthesis of mixed-metal clusters (M.J. Chetcuti, P.N. Cunningham, J.C. Gordon, B.E. Grant, J. Klaiss), (394) 765
- Sandwich complexes of transition metals, flexible coordination of indenyl ligands in; molecular structures of ( $\eta$ -C<sub>9</sub>R<sub>7</sub>)<sub>2</sub>M (M = Fe, R = H, Me; M = Co, Ni, R = H); direct measurement of the degree of slip-fold distortion as a function of *d*-electron count (S.A. Westcott, A.K. Kakkar, G. Stringer, N.J. Taylor, T.B. Marder), (394) 777

## Copper

Cationic bridging alkylidyne complexes, reactions with nucleophiles (C.P. Casey, P.C. Vosejpkka, M. Crocker), (394) 339

Mixed-metal clusters containing  $M\{P(CH_2Ph)_3\}$  ( $M = Cu$  or  $Ag$ ) fragments, influence of  $P(CH_2Ph)_3$  ligand on the metal framework structures adopted by; crystal structures of  $[Cu_2Ru_4(\mu_3-H)_2(CO)_{12}\{\mu-P(CH_2Ph)_2(\eta^2-CH_2Ph)\}]$  and  $[Cu_2Ru_4(\mu_3-H)_2(CO)_{12}\{P(CH_2Ph)_3\}_2]$  (C.J. Brown, P.J. McCarthy, I.D. Salter, K.P. Armstrong, M. McPartlin, H.R. Powell), (394) 711

## Gallium

Dimethylgallium azide polymer, X-ray crystal structure of; its use as a gallium nitride precursor (D.A. Atwood, R.A. Jones, A.H. Cowley, J.L. Atwood, S.G. Bott), (394) C6

## Gold

Bis(diphenylphosphino)-methanide or -amide and its derivatives as ligands in gold chemistry (A. Laguna, M. Laguna), (394) 743

$(Ph_3PAu)_2Fe(CO)_3P(OEt)_3$  triangular  $Au_2Fe$  cluster, synthesis and molecular structure of (L.W. Arndt, C.E. Ash, M.Y. Daresbourg, Y.M. Hsiao, C.M. Kim, J. Reibenspies, K.A. Youngdahl), (394) 733

## Iridium

*C*-Allylglycine-rhodium and -iridium complexes; preparation, structure and reactions of (I. Zahn, B. Wagner, K. Polborn, W. Beck), (394) 601

Iridium trifluoromethyl, difluorocarbene and tetrafluoroethylene complexes; crystal structures of  $IrI(CH_3)(CF_3)(CO)(PPh_3)_2$ ,  $Ir(CF_3)(C_2F_4)(CO)(PPh_3)_2$  and  $Ir(CF_3)=CF_2(CO)(PPh_3)_2$  (P.J. Brothers, A.K. Burrell, G.R. Clark, C.E.F. Rickard, W.R. Roper), (394) 615

Metal carbonyl complexes, dinitrogen monoxide induced carbon–hydrogen activation by (C. Barrientos, C.K. Ghosh, W.A.G. Graham, M.J. Thomas), (394) C31

## Iron

Cationic bridging alkylidyne complexes, reactions with nucleophiles (C.P. Casey, P.C. Vosejpkka, M. Crocker), (394) 339

*cis*-3-( $\eta^6-C_6H_6$ )-3,1,2- $FeC_2B_9H_{11}$ , synthesis and molecular structure of (S.S. Lee, C.B. Knobler, M.F. Hawthorne), (394) 29

$CpM(SnPh_3)(CO)_2$  ( $M = Fe, Ru$ ), carbene formation from; crystal structures of  $CpFeI(CO)\{=C(OEt)Ph\}$ ,  $CpRuI(CO)\{=C(OEt)Ph\}$  and  $CpRuI(CO)\{=C(NHMe)Ph\}$  (H. Adams, N.A. Bailey, C. Ridgway, B.F. Taylor, S.J. Walters, M.J. Winter), (394) 349

Iron, chromium, molybdenum and tungsten diisopropylaminomethylidyne complexes (S. Anderson, A.F. Hill), (394) C24

Iron carbonyls, reactions with triple-decker sandwich complexes ( $\eta^5-C_5H_5Ni(\mu,\eta^5-C_2B_2C)M(\eta^5-C_5H_5)$ , ( $M = Co, Ni$ ); replacement of  $(\eta^5-C_5H_5)Ni$  by and insertion of the  $Fe(CO)_3$  fragment into the  $(\eta^5-C_5H_5)-Ni$  bond (J. Edwin, M.W. Whiteley, W. Herter, W. Siebert), (394) 329

Iron(II) heterodinuclear alkanediyl complexes containing molybdenum(II), tungsten(II), rhenium(I) and ruthenium(II), synthesis and properties of (H.B. Friedrich, J.R. Moss, B.K. Williamson), (394) 313

Metalladiborane anions,  $[M(CO)_4(\eta^2-B_2H_5)]^-$  ( $Fe, Ru, Os$ ), addition of electrophiles to (T.J. Coffy, S.G. Shore), (394) C27

Metal-rich metallaborane clusters, synthesis of; mechanism involving fragment condensation (X. Meng, A.K. Bandyopadhyay, T.P. Fehlner, F.-W. Grevels), (394) 15

Molybdenum–iron bonds, alkyne assisted formation of; synthesis and crystal structure of  $[MoFe(\mu-C_4Ph_4)(CO)_4(S_2CNEt_2)_2]$  (H.-B. Kraatz, M.J. Went, J.C. Jeffery), (394) 167

Phosphorus-bridging carbonyl derivative containing three phosphorus atoms; crystal and molecular structure of  $(^3Pr_2NP)(^1Bu_2PP)COFe_2(CO)_6$  (R.B. King, N.K. Bhattacharyya, E.M. Holt), (394) 305

$(Ph_3PAu)_2Fe(CO)_3P(OEt)_3$  triangular  $Au_2Fe$  cluster, synthesis and molecular structure of (L.W. Arndt, C.E. Ash, M.Y. Daresbourg, Y.M. Hsiao, C.M. Kim, J. Reibenspies, K.A. Youngdahl), (394) 733

Rh complexes containing optically active iron compounds as ligands, enantioselective catalysis with; crystal structure of  $CpFe(CO)(COMe)PPh_2ORh(COD)$  (H. Brunner, R. Eder, B. Hammer, U. Klement), (394) 555

Sandwich complexes of transition metals, flexible coordination of indenyl ligands in; molecular structures of  $(\eta^5\text{C}_9\text{R}_7)_2\text{M}$  ( $\text{M} = \text{Fe}, \text{R} = \text{H}, \text{Me}; \text{M} = \text{Co}, \text{Ni}, \text{R} = \text{H}$ ); direct measurement of the degree of slip-fold distortion as a function of *d*-electron count (S.A. Westcott, A.K. Kakkar, G. Stringer, N.J. Taylor, T.B. Marder), (394) 777

### Lead

Bis[bis(trimethylsilylmethyl)manganese(II)], synthesis and properties of; crystal structures of its tetrahydrofuran and bis(dimethylphosphino)ethane adducts (P.B. Hitchcock, M.F. Lappert, W.-P. Leung, N.H. Buttrus), (394) 57

### Manganese

Bis[bis(trimethylsilylmethyl)manganese(II)], synthesis and properties of; crystal structures of its tetrahydrofuran and bis(dimethylphosphino)ethane adducts (P.B. Hitchcock, M.F. Lappert, W.-P. Leung, N.H. Buttrus), (394) 57

[3,3,3-(CO)<sub>3</sub>-4-SMe<sub>2</sub>-3,1,2-MnC<sub>2</sub>B<sub>9</sub>H<sub>10</sub>], synthesis and molecular and electronic structure of; order-of-magnitude improved structure of  $(\eta^5\text{C}_5\text{H}_5)\text{Mn}(\text{CO})_3$  (J. Cowie, E.J.M. Hamilton, J.C.V. Laurie, A.J. Welch), (394) 1

Manganese; stereospecific synthesis of mono- and bi-nuclear (ligand-bridged) carbonyl complexes of (G.A. Carriero, V. Riera), (394) 275

Mixed-metal carbide clusters,  $[\text{MnRu}_3\text{C}(\text{CO})_{13}]^-$ ,  $[\text{MnOs}_3\text{C}(\text{CO})_{13}]^-$ ,  $[\text{Cr}_2\text{Ru}_3\text{C}(\text{CO})_{16}]^{2-}$ ,  $[\text{Mo}_2\text{Ru}_3\text{C}(\text{CO})_{16}]^{2-}$ ,  $[\text{Rh}_3\text{Ru}_3\text{C}(\text{CO})_{15}]^-$ ,  $[\text{Ni}_3\text{Ru}_3\text{C}(\text{CO})_{13}]^{2-}$  and  $[\text{Co}_3\text{Ru}_3\text{C}(\text{CO})_{15}]^-$ ; preparation via the ketenylidene route (M.P. Jensen, W. Henderson, D.H. Johnston, M. Sabat, D.F. Shriver), (394) 121

### Mercury

Aryltin(IV) complexes, synthesis using arylmercury compounds; synthesis of mixed triaryltin(IV) complexes; crystal and molecular structure of  $[\text{Sn}(2\text{-C}_6\text{H}_4\text{N}=\text{NPh})\text{Ph}_2\text{Cl}]$  (J. Vicente, M.T. Chicote, M.C. Ramirez-de-Arellano, P.G. Jones), (394) 77

Methylmercury tetrafluoroborate, dimethylsulfoxide coordination to (H. Schmidbauer, H.-J. Öller, S. Gamper, G. Müller), (394) 757

### Metallocenes

1,1'-Bis(methylthio)ruthenocene, syntheses, structures and stereodynamics of transition metal complexes of; crystal structure of 1,1'-bis(methylthio)ruthenocene tetracarbonyltungsten (E.W. Abel, N.J. Long, K.G. Orrell, A.G. Osborne, V. Šík, P.A. Bates, M.B. Hursthouse), (394) 455

1,3-Dichalcogena-2-vanada-[3]ferrocenophanes (M. Herberhold, M. Schrepfermann, A.L. Rheingold), (394) 113

Iron carbonyls, reactions with triple-decker sandwich complexes  $(\eta^5\text{C}_5\text{H}_5)\text{Ni}(\mu, \eta^5\text{C}_2\text{B}_2\text{C})\text{M}(\eta^5\text{C}_5\text{H}_5)$ , ( $\text{M} = \text{Co}, \text{Ni}$ ); replacement of  $(\eta^5\text{C}_5\text{H}_5)\text{Ni}$  by and insertion of the  $\text{Fe}(\text{CO})_3$  fragment into the  $(\eta^5\text{C}_5\text{H}_5)-\text{Ni}$  bond (J. Edwin, M.W. Whiteley, W. Herter, W. Siebert), (394) 329

Zirconoxycarbene complexes, preparation by regioselective coupling of (isoprene)zirconocene with hexacarbonyltungsten and a ketone; crystal structure of  $\text{Cp}_2\text{ZrOC}\equiv\text{W}(\text{CO})_5\text{CH}_2\text{CHC}(\text{CH}_3)\text{CH}_2$  (G. Erker, F. Sosna, R. Pfaff, R. Noe, C. Sarter, A. Kraft, C. Krüger, R. Zwettler), (394) 99

### Molybdenum

1,1'-Bis(methylthio)ruthenocene, syntheses, structures and stereodynamics of transition metal complexes of; crystal structure of 1,1'-bis(methylthio)ruthenocene tetracarbonyltungsten (E.W. Abel, N.J. Long, K.G. Orrell, A.G. Osborne, V. Šík, P.A. Bates, M.B. Hursthouse), (394) 455

Cationic mixed metal clusters, NMR and EHMO investigation of; X-ray crystal structure of (1,7,7-trimethyl- $\mu^2$ -2-propynylnorbornene) bis-(cyclopentadienyl)tetracarbonyldimolybdenum (M.F. D'Agostino, C.S. Frampton, M.J. McGlinchey), (394) 145

Dimolybdenum centre, interconversion of oxo and imido ligands at; X-ray crystal structure of  $[\text{Mo}(\eta^5\text{C}_5\text{H}_4\text{Me})(\text{NPh})(\mu-\text{NPh})]_2$  (M.L.H. Green, G. Hogarth, P.C. Konidaris, P. Mountford), (394) C9

Iron, chromium, molybdenum and tungsten diisopropylaminomethylidyne complexes (S. Anderson, A.F. Hill), (394) C24

Iron(II) heterodinuclear alkanediyl complexes containing molybdenum(II), tungsten(II), rhenium(I) and ruthenium(II), synthesis and properties of (H.B. Friedrich, J.R. Moss, B.K. Williamson), (394) 313

**Mixed-metal carbide clusters.**  $[\text{MnRu}_3\text{C}(\text{CO})_{13}]^-$ ,  $[\text{MnOs}_3\text{C}(\text{CO})_{13}]^-$ ,  $[\text{Cr}_2\text{Ru}_3\text{C}(\text{CO})_{16}]^{2-}$ ,  $[\text{Mo}_2\text{Ru}_3\text{C}(\text{CO})_{16}]^{2-}$ ,  $[\text{Rh}_3\text{Ru}_3\text{C}(\text{CO})_{15}]^-$ ,  $[\text{Ni}_3\text{Ru}_3\text{C}(\text{CO})_{13}]^{2-}$  and  $[\text{Co}_3\text{Ru}_3\text{C}(\text{CO})_{15}]^-$ ; preparation via the ketenylidene route (M.P. Jensen, W. Henderson, D.H. Johnston, M. Sabat, D.F. Shriver), (394) 121

**Molybdenum and tungsten carbyne complexes, oxygen tripod ligand supported; carbon–carbon bond formation reactions;** crystal structures of  $[\text{L}(\text{CO})_2\text{W}\equiv\text{CC}_6\text{H}_4\text{-}p\text{-CH}_3]$  and  $[\text{L}(\text{CO})\text{Mo}(\mu\text{-CO})\text{Pd}(\text{I})\text{C}(\text{C}_6\text{H}_4\text{-}p\text{-CH}_3)\text{C}_6\text{H}_4\text{-o-CH}_2\text{N}(\text{CH}_3)_2]$ ,  $\text{L}^- = [(\text{C}_5\text{H}_5)\text{Co}(\text{P}(\text{O})(\text{OCH}_3)_2)_3]^-$  (W. Kläui, H. Hamers, M. Pfeffer, A. de Cian, J. Fischer), (394) 213

**Molybdenum– and tungsten–sulphur bonds, reversible insertion of alkynes into** (L. Carlton, W.A.W.A. Bakar, J.L. Davidson), (394) 177

**Molybdenum–iron bonds, alkyne assisted formation of; synthesis and crystal structure of**  $[\text{MoFe}(\mu\text{-C}_4\text{Ph}_4)(\text{CO})_4(\text{S}_2\text{CNEt}_2)_2]$  (H.-B. Kraatz, M.J. Went, J.C. Jeffery), (394) 167

**Nickel–molybdenum and nickel–tungsten complexes as building blocks in the synthesis of mixed-metal clusters** (M.J. Chetcuti, P.N. Cunningham, J.C. Gordon, B.E. Grant, J. Klaiss), (394) 765

**Tricarbonyl- $\eta^{5:1}$ -(2-cyclopentadienyl)ethyl-molybdenum and -tungsten, photochemical reactions with cyclic dienes** (C.G. Kreiter, M. Wenz, P. Bell), (394) 195

## Nickel

**Iron carbonyls, reactions with triple-decker sandwich complexes** ( $\eta^5\text{-C}_5\text{H}_5\text{Ni}(\mu, \eta^5\text{-C}_2\text{B}_2\text{C})\text{M}(\eta^5\text{-C}_5\text{H}_5)$ ,  $(\text{M} = \text{Co, Ni})$ ; replacement of  $(\eta^5\text{-C}_5\text{H}_5\text{Ni}$  by and insertion of the  $\text{Fe}(\text{CO})_3$  fragment into the  $(\eta^5\text{-C}_5\text{H}_5\text{Ni})$  bond (J. Edwin, M.W. Whiteley, W. Herter, W. Siebert), (394) 329

**Mixed-metal carbide clusters,**  $[\text{MnRu}_3\text{C}(\text{CO})_{13}]^-$ ,  $[\text{MnOs}_3\text{C}(\text{CO})_{13}]^-$ ,  $[\text{Cr}_2\text{Ru}_3\text{C}(\text{CO})_{16}]^{2-}$ ,  $[\text{Mo}_2\text{Ru}_3\text{C}(\text{CO})_{16}]^{2-}$ ,  $[\text{Rh}_3\text{Ru}_3\text{C}(\text{CO})_{15}]^-$ ,  $[\text{Ni}_3\text{Ru}_3\text{C}(\text{CO})_{13}]^{2-}$  and  $[\text{Co}_3\text{Ru}_3\text{C}(\text{CO})_{15}]^-$ ; preparation via the ketenylidene route (M.P. Jensen, W. Henderson, D.H. Johnston, M. Sabat, D.F. Shriver), (394) 121

**Nickel–molybdenum and nickel–tungsten complexes as building blocks in the synthesis of mixed-metal clusters** (M.J. Chetcuti, P.N. Cunningham, J.C. Gordon, B.E. Grant, J. Klaiss), (394) 765

**Sandwich complexes of transition metals, flexible coordination of indenyl ligands in; molecular structures of**  $(\eta\text{-C}_9\text{R}_7)_2\text{M}$  ( $\text{M} = \text{Fe, R} = \text{H, Me; M} = \text{Co, Ni, R} = \text{H}$ ); direct measurement of the degree of slip-fold distortion as a function of *d*-electron count (S.A. Westcott, A.K. Kakkar, G. Stringer, N.J. Taylor, T.B. Marder), (394) 777

## Osmium

**Dinuclear, hydrido-bridged osmium complexes with double and triple Os–Os bonds; synthesis, structure and reactivity of** (M. Schulz, S. Stahl, H. Werner), (394) 469

**( $\eta$ -Mesitylene)osmium complexes containing tertiary phosphines, intermolecular and intramolecular C–H activation reactions of** (M.A. Bennett, A.M.M. Weerasuria), (394) 481

**Metalladiborane anions,  $[\text{M}(\text{CO})_4(\eta^2\text{-B}_2\text{H}_5)]^-$**  ( $\text{Fe, Ru, Os}$ ), addition of electrophiles to (T.J. Coffy, S.G. Shore), (394) C27

**$\text{Os}_3(\mu\text{-H})_2(\text{CO})_9(\text{L})$  clusters,  $\text{L} = \text{PMe}_2\text{Ph, PMe}_3, \text{P}^i\text{Pr}_3, \text{P}(\text{o-tolyl})_3$  and  $\text{PPh}(\text{l-naphthyl})_2$ , fluxional behaviour of; crystal structure of  $\text{Os}_3(\mu\text{-H})_2(\text{CO})_9(\text{P}^i\text{Pr}_3)$**  (L.J. Farrugia), (394) 515

**Planar hexanuclear osmium clusters, substitution reactions of** (A. Bott, J.G. Jeffrey, B.F.G. Johnson, J. Lewis), (394) 533

## Palladium

**Molybdenum and tungsten carbyne complexes, oxygen tripod ligand supported; carbon–carbon bond formation reactions;** crystal structures of  $[\text{L}(\text{CO})_2\text{W}\equiv\text{CC}_6\text{H}_4\text{-}p\text{-CH}_3]$  and  $[\text{L}(\text{CO})\text{Mo}(\mu\text{-CO})\text{Pd}(\text{I})\text{C}(\text{C}_6\text{H}_4\text{-}p\text{-CH}_3)\text{C}_6\text{H}_4\text{-o-CH}_2\text{N}(\text{CH}_3)_2]$ ,  $\text{L}^- = [(\text{C}_5\text{H}_5)\text{Co}(\text{P}(\text{O})(\text{OCH}_3)_2)_3]^-$  (W. Kläui, H. Hamers, M. Pfeffer, A. de Cian, J. Fischer), (394) 213

**Palladium(II) and platinum(II) complexes with non-cyclic and cyclic ligands** ( $\text{C}_6\text{H}_3(\text{CH}_2\text{NR}^1\text{R}^2)_2\text{-}2,6\text{-}$ ), synthesis and reactivity towards diiodine; end-on diiodine–platinum(II) bonding in macrocyclic [ $\text{Pd}(\text{C}_6\text{H}_3(\text{CH}_2\text{NMe}(\text{CH}_2)_2\text{MeNCH}_2)_2\text{-}2,6\text{-}(\eta^1\text{-I}_2)]$ ] (J.A.M. van Beek, G. van Koten, G.P.C.M. Dekker, E. Wissing, M.C. Zoutberg, C.H. Stam), (394) 659

**Polynuclear palladium(II)–platinum(II) pentafluorophenyl homo- or heterometallic complexes containing bridging diphenylphosphido ligands; synthesis and crystal structure of**  $[(\text{C}_6\text{F}_5)_2\text{Pt}(\mu\text{-PPh}_2)_2\text{Pt}(\text{phen})]$  (J. Formiés, C. Fortuño, R. Navarro, F. Martínez, A.J. Welch), (394) 643

## Phosphorus

Bis(diphenylphosphino)-methanide or -amide and its derivatives as ligands in gold chemistry (A. Laguna, M. Laguna), (394) 743

[ClPt(NMe<sub>2</sub>NHCH<sub>2</sub>CHPPPh<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>PPh<sub>2</sub>)]Cl containing a tridentate ylide ligand, chemistry and crystal structure of (X.L.R. Fontaine, A.M. Herring, D.P. Markham, B.L. Shaw, M. Thornton-Pett), (394) 699

Dinuclear, hydrido-bridged osmium complexes with double and triple Os–Os bonds; synthesis, structure and reactivity of (M. Schulz, S. Stahl, H. Werner), (394) 469

Iridium trifluoromethyl, difluorocarbene and tetrafluoroethylene complexes; crystal structures of IrI(CH<sub>3</sub>)(CF<sub>3</sub>)(CO)(PPh<sub>3</sub>)<sub>2</sub>, Ir(CF<sub>3</sub>)(C<sub>2</sub>F<sub>4</sub>)(CO)(PPh<sub>3</sub>)<sub>2</sub> and Ir(CF<sub>3</sub>)=CF<sub>2</sub>(CO)(PPh<sub>3</sub>)<sub>2</sub> (P.J. Brothers, A.K. Burrell, G.R. Clark, C.E.F. Rickard, W.R. Roper), (394) 615

(PMe<sub>3</sub>)<sub>4</sub>Ru(OC<sub>6</sub>H<sub>4</sub>Me)<sub>2</sub>, phosphorus–carbon bond cleavage reaction of coordinated trimethylphosphine in (J.F. Hartwig, R.G. Bergman, R.A. Andersen), (394) 417

Polynuclear palladium(II)–platinum(II) pentafluorophenyl homo- or heterometallic complexes containing bridging diphenylphosphido ligands; synthesis and crystal structure of [(C<sub>6</sub>F<sub>5</sub>)<sub>2</sub>Pt(μ-PPPh<sub>2</sub>)<sub>2</sub>Pt(phen)] (J. Forniés, C. Fortuño, R. Navarro, F. Martínez, A.J. Welch), (394) 643

Pt(II)- $\eta^3$ -benzyl complexes, synthesis of; crystal structure of [Pt(Bu<sub>2</sub><sup>t</sup>P(CH<sub>2</sub>)<sub>3</sub>PBu<sub>2</sub><sup>t</sup>]( $\eta^3$ -anti-1-MeCHC<sub>6</sub>H<sub>4</sub>Br-4)][BF<sub>4</sub>] (L.E. Crascall, S.A. Litster, A.D. Redhouse, J.L. Spencer), (394) C35

Rh complexes containing optically active iron compounds as ligands, enantioselective catalysis with; crystal structure of CpFe(CO)(COMe)PPh<sub>2</sub>ORh(COD) (H. Brunner, R. Eder, B. Hammer, U. Klement), (394) 555

Trichloro(carbonyl)tris(dimethylphenylphosphine)rhenium(III), photochemistry in low temperature media (A.J. Rest, M.J. Wilson, E.C. Barra, P.G. Reveco), (394) C21

## Platinum

[ClPt(NMe<sub>2</sub>NHCH<sub>2</sub>CHPPPh<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>PPh<sub>2</sub>)]Cl containing a tridentate ylide ligand, chemistry and crystal structure of (X.L.R. Fontaine, A.M. Herring, D.P. Markham, B.L. Shaw, M. Thornton-Pett), (394) 699

Diphenyl{tris(trimethylsilyl)methyl}phosphine, desilylation and cyclometallation reactions with platinum(II) compounds; crystal structure of *trans*[PtClPPPh<sub>2</sub>C(SiMe<sub>3</sub>)<sub>2</sub>SiMe<sub>2</sub>CH<sub>2</sub>(PPh<sub>2</sub>)<sub>2</sub>]

Palladium(II) and platinum(II) complexes with non-cyclic and cyclic ligands (C<sub>6</sub>H<sub>3</sub>(CH<sub>2</sub>NR<sup>1</sup>R<sup>2</sup>)<sub>2</sub>-2,6)<sup>-</sup>, synthesis and reactivity towards diiodine; end-on diiodine–platinum(II) bonding in macrocyclic [PtI(C<sub>6</sub>H<sub>3</sub>(CH<sub>2</sub>NMe(CH<sub>2</sub>),MeNCH<sub>2</sub>)-2,6)( $\eta^1$ -I<sub>2</sub>)] (J.A.M. van Beek, G. van Koten, G.P.C.M. Dekker, E. Wissing, M.C. Zoutberg, C.H. Stam), (394) 659

Polynuclear palladium(II)–platinum(II) pentafluorophenyl homo- or heterometallic complexes containing bridging diphenylphosphido ligands; synthesis and crystal structure of [(C<sub>6</sub>F<sub>5</sub>)<sub>2</sub>Pt(μ-PPPh<sub>2</sub>)<sub>2</sub>Pt(phen)] (J. Forniés, C. Fortuño, R. Navarro, F. Martínez, A.J. Welch), (394) 643

Pt(II)- $\eta^3$ -benzyl complexes, synthesis of; crystal structure of [Pt(Bu<sub>2</sub><sup>t</sup>P(CH<sub>2</sub>)<sub>3</sub>PBu<sub>2</sub><sup>t</sup>]( $\eta^3$ -anti-1-MeCHC<sub>6</sub>H<sub>4</sub>Br-4)][BF<sub>4</sub>] (L.E. Crascall, S.A. Litster, A.D. Redhouse, J.L. Spencer), (394) C35

Trinuclear platinum clusters, molecular orbital study of (D.M.P. Mingos, T. Sree), (394) 679

## Rhenium

Iron(II) heterodinuclear alkanediyl complexes containing molybdenum(II), tungsten(II), rhenium(I) and ruthenium(II), synthesis and properties of (H.B. Friedrich, J.R. Moss, B.K. Williamson), (394) 313

Rhenium oxo and methylimido complexes with oxygen, sulphur and nitrogen chelates; synthesis, elimination reactions and structural analysis (W.A. Herrmann, D.W. Marz, E. Herdtweck), (394) 285

Trichloro(carbonyl)tris(dimethylphenylphosphine)rhenium(III), photochemistry in low temperature media (A.J. Rest, M.J. Wilson, E.C. Barra, P.G. Reveco), (394) C21

## Rhodium

Alkenyl-dirhodium complexes, syntheses, structures, and reactions of; coupling  $\mu$ -methylene and  $\sigma$ -vinyl to allyl, an entry to  $\mu$ -ethylidene- $\mu$ -methylene dirhodium complexes; crystal structures of [{(C<sub>5</sub>Me<sub>5</sub>Rh)( $\mu$ -CH<sub>2</sub>)(CH=CH<sub>2</sub>)<sub>2</sub>}<sub>2</sub>] and [(C<sub>5</sub>Me<sub>5</sub>Rh)<sub>2</sub>( $\mu$ -CH<sub>2</sub>)( $\mu$ -CHMe)Cl<sub>2</sub>] (J. Martinez, J.B. Gill, H. Adams, N.A. Bailey, I.M. Sacz, G.J. Sunley, P.M. Maitlis), (394) 583

C-Allylglycine-rhodium and -iridium complexes; preparation, structure and reactions of (I. Zahn, B. Wagner, K. Polborn, W. Beck), (394) 601

3,4-Diborafulvene as bridging ligand in a novel slipped tripledecker complex (G.E. Herberich, C. Ganter, L. Wesemann, R. Boese), (394) C1

Metal carbonyl complexes, dinitrogen monoxide induced carbon–hydrogen activation by (C. Barrientos, C.K. Ghosh, W.A.G. Graham, M.J. Thomas), (394) C31

Mixed-metal carbide clusters,  $[\text{MnRu}_3\text{C}(\text{CO})_{13}]^-$ ,  $[\text{MnOs}_3\text{C}(\text{CO})_{13}]^-$ ,  $[\text{Cr}_2\text{Ru}_3\text{C}(\text{CO})_{16}]^{2-}$ ,  $[\text{Mo}_2\text{Ru}_3\text{C}(\text{CO})_{16}]^{2-}$ ,  $[\text{Rh}_3\text{Ru}_3\text{C}(\text{CO})_{15}]^-$ ,  $[\text{Ni}_3\text{Ru}_3\text{C}(\text{CO})_{13}]^{2-}$  and  $[\text{Co}_3\text{Ru}_3\text{C}(\text{CO})_{15}]^-$ ; preparation via the ketenylidene route (M.P. Jensen, W. Henderson, D.H. Johnston, M. Sabat, D.F. Shriver), (394) 121

Rh complexes containing optically active iron compounds as ligands, enantioselective catalysis with; crystal structure of  $\text{CpFe}(\text{CO})(\text{COMe})\text{PPh}_2\text{ORh}(\text{COD})$  (H. Brunner, R. Eder, B. Hammer, U. Klement), (394) 555

Rhodium-catalyzed reactions of 1-alkynes with 3-butenoic acid, multiple pathways in (G. Salerno, M. Panza, G.P. Chiusoli, M. Costa), (394) 569

## Ruthenium

1,1'-Bis(methylthio)ruthenocene, syntheses, structures and stereodynamics of transition metal complexes of; crystal structure of 1,1'-bis(methylthio)ruthenocene tetracarbonyltungsten (E.W. Abel, N.J. Long, K.G. Orrell, A.G. Osborne, V. Šík, P.A. Bates, M.B. Hursthouse), (394) 455

$\text{CpM}(\text{SnPh}_3)(\text{CO})_2$  ( $\text{M} = \text{Fe}, \text{Ru}$ ), carbene formation from; crystal structures of  $\text{CpFe}(\text{CO})\{=\text{C}(\text{OEt})\text{Ph}\}$ ,  $\text{CpRu}(\text{CO})\{=\text{C}(\text{OEt})\text{Ph}\}$  and  $\text{CpRu}(\text{CO})\{=\text{C}(\text{NHMe})\text{Ph}\}$  (H. Adams, N.A. Bailey, C. Ridgway, B.F. Taylor, S.J. Walters, M.J. Winter), (394) 349

Iron(II) heterodinuclear alkanediyl complexes containing molybdenum(II), tungsten(II), rhenium(I) and ruthenium(II), synthesis and properties of (H.B. Friedrich, J.R. Moss, B.K. Williamson), (394) 313

Metalla-diborane anions,  $[\text{M}(\text{CO})_4(\eta^2\text{-B}_2\text{H}_5)]^-$  ( $\text{Fe}, \text{Ru}, \text{Os}$ ), addition of electrophiles to (T.J. Coffy, S.G. Shore), (394) C27

Mixed-metal carbide clusters,  $[\text{MnRu}_3\text{C}(\text{CO})_{13}]^-$ ,  $[\text{MnOs}_3\text{C}(\text{CO})_{13}]^-$ ,  $[\text{Cr}_2\text{Ru}_3\text{C}(\text{CO})_{16}]^{2-}$ ,  $[\text{Mo}_2\text{Ru}_3\text{C}(\text{CO})_{16}]^{2-}$ ,  $[\text{Rh}_3\text{Ru}_3\text{C}(\text{CO})_{15}]^-$ ,  $[\text{Ni}_3\text{Ru}_3\text{C}(\text{CO})_{13}]^{2-}$  and  $[\text{Co}_3\text{Ru}_3\text{C}(\text{CO})_{15}]^-$ ; preparation via the ketenylidene route (M.P. Jensen, W. Henderson, D.H. Johnston, M. Sabat, D.F. Shriver), (394) 121

Mixed-metal clusters containing  $\text{M}\{\text{P}(\text{CH}_2\text{Ph})_3\}$  ( $\text{M} = \text{Cu}$  or  $\text{Ag}$ ) fragments, influence of  $\text{P}(\text{CH}_2\text{Ph})_3$  ligand on the metal framework structures adopted by; crystal structures of  $[\text{Cu}_2\text{Ru}_4(\mu_3\text{-H}_2(\text{CO})_{12}\{\mu\text{-P}(\text{CH}_2\text{Ph})_2(\eta^2\text{-CH}_2\text{Ph})\})]$  and  $[\text{Cu}_2\text{Ru}_4(\mu_3\text{-H}_2(\text{CO})_{12}(\text{P}(\text{CH}_2\text{Ph})_3)_2)]$  (C.J. Brown, P.J. McCarthy, I.D. Salter, K.P. Armstrong, M. McPartlin, H.R. Powell), (394) 711

Open  $\text{Ru}_5$  cluster, reactions of (M.I. Bruce), (394) 365

$(\text{PMe}_3)_4\text{Ru}(\text{OC}_6\text{H}_4\text{Me})_2$ , phosphorus–carbon bond cleavage reaction of coordinated trimethylphosphine in (J.F. Hartwig, R.G. Bergman, R.A. Andersen), (394) 417

$\text{Ru}_3\{\mu\text{-H}, \mu\text{-O}=\text{CNMe}_2\}(\text{CO})_{10}$ , reaction with diarylacetylenes; synthesis and subsequent reaction of a ( $\mu$ -carboxamido,  $\mu$ - $\sigma$ ,  $\pi$ -vinyl)-hexacarbonyl diruthenium complex with propyne; crystal and molecular structures of  $\text{Ru}_2\{\mu\text{-O}=\text{CNMe}_2, \mu\text{-}\sigma, \pi\text{-C}(p\text{-tol})=\text{CH}(p\text{-tol})\}(\text{CO})_6$ , and of  $\text{Ru}_2\{\mu\text{-O}=\text{CNMe}_2, \mu\text{-}\sigma, \pi\text{-C}(\text{CH}_3)=\text{C}(\text{H})\text{C}(p\text{-tolyl})=\text{CH}(p\text{-tolyl})\}(\text{CO})_6$  ( $p\text{-tol} = p\text{-CH}_3\text{C}_6\text{H}_4$ ) (W. Krone-Schmidt, W.J. Sieber, N.M. Boag, C.B. Knobler, H.D. Kaesz), (394) 433

Ruthenium, benzyne complexes of; models for dissociative chemisorption of benzene on a metal surface; crystal structures of  $[\text{Ru}_4(\text{CO})_{10}(\mu\text{-CO})(\mu_4\text{-PR})(\mu_4\text{-}\eta^4\text{-C}_6\text{H}_4)]$  ( $\text{R} = \text{Ph}$  and  $\text{CH}_2\text{NPh}_2$ ),  $[\text{Ru}_5(\text{CO})_{13}(\mu_4\text{-PPh})(\mu_5\text{-}\eta^6\text{-C}_6\text{H}_4)]$  and  $[\text{Ru}_6(\text{CO})_{12}(\mu_4\text{-PMe})_2(\mu_3\text{-}\eta^2\text{-C}_6\text{H}_4)_2]$  (S.A.R. Knox, B.R. Lloyd, D.A.V. Morton, S.M. Nicholls, A.G. Orpen, J.M. Viñas, M. Weber, G.K. Williams), (394) 385

## Samarium

Bis(trimethylsilyl)cyclopentadienyl samarium complexes, synthesis and reactivity of; X-ray crystal structure of  $[(\text{Me}_3\text{Si})_2\text{C}_5\text{H}_3]_3\text{Sm}$  (W.J. Evans, R.A. Keyer, J.W. Ziller), (394) 87

## Silicon

Bis[bis(trimethylsilyl)methyl]manganese(II), synthesis and properties of; crystal structures of its tetrahydrafuran and bis(dimethylphosphino)ethane adducts (P.B. Hitchcock, M.F. Lappert, W.-P. Leung, N.H. Buttrus), (394) 57

Diphenyl(tris(trimethylsilyl)methyl)phosphine, desilylation and cyclometallation reactions with platinum(II) compounds; crystal structure of *trans*[PtCl<sub>2</sub>PPh<sub>2</sub>C(SiMe<sub>3</sub>)<sub>2</sub>SiMe<sub>2</sub>CH<sub>2</sub>] (PPh<sub>2</sub>)

Fluorovinylsilanes, bromodesilylation of (T. Gouyon, R. Sauvêtre, J.-F. Normant), (394) 37

Tetramesityldisilene, reactions with azides; synthesis of disilaaziridines (G.R. Gillette, R. West), (394) 45

## Silver

Mixed-metal clusters containing  $M\{P(CH_2Ph)_3\}$  ( $M = Cu$  or  $Ag$ ) fragments, influence of  $P(CH_2Ph)_3$  ligand on the metal framework structures adopted by; crystal structures of  $[Cu_2Ru_4(\mu_3-H)_2(CO)_{12}(\mu-P(CH_2Ph)_2(\eta^2-CH_2Ph))]$  and  $[Cu_2Ru_4(\mu_3-H)_2(CO)_{12}\{P(CH_2Ph)_3\}_2]$  (C.J. Brown, P.J. McCarthy, I.D. Salter, K.P. Armstrong, M. McPartlin, H.R. Powell), (394) 711

## Sulphur

1,1'-Bis(methylthio)ruthenocene, syntheses, structures and stereodynamics of transition metal complexes of; crystal structure of 1,1'-bis(methylthio)ruthenocene tetracarbonyltungsten (E.W. Abel, N.J. Long, K.G. Orrell, A.G. Osborne, V. Šík, P.A. Bates, M.B. Hursthouse), (394) 455

$[3,3,3-(CO)_3-4-SMe_2-3,1,2-MnC_2B_9H_{10}]$ , synthesis and molecular and electronic structure of; order-of-magnitude improved structure of  $(\eta-C_5H_5)Mn(CO)_3$  (J. Cowie, E.J.M. Hamilton, J.C.V. Laurie, A.J. Welch), (394) 1

Molybdenum- and tungsten-sulphur bonds, reversible insertion of alkynes into (L. Carlton, W.A.W.A. Bakar, J.L. Davidson), (394) 177

Rhenium oxo and methylimido complexes with oxygen, sulphur and nitrogen chelates; synthesis, elimination reactions and structural analysis (W.A. Herrmann, D.W. Marz, E. Herdtweck), (394) 285

Tetramesityldisilene, reactions with azides; synthesis of disilaaziridines (G.R. Gillette, R. West), (394) 45

## Tin

Aryltin(IV) complexes, synthesis using arylmercury compounds; synthesis of mixed triaryltin(IV) complexes; crystal and molecular structure of  $[Sn(2-C_6H_4N=NPh)Ph_2Cl]$  (J. Vicente, M.T. Chicote, M.C. Ramirez-de-Arellano, P.G. Jones), (394) 77

Bis[bis(trimethyl)silylmethyl]manganese(II), synthesis and properties of; crystal structures of its tetrahydrofuran and bis(dimethylphosphino)ethane adducts (P.B. Hitchcock, M.F. Lappert, W.-P. Leung, N.H. Buttrus), (394) 57

## Tungsten

1,1'-Bis(methylthio)ruthenocene, syntheses, structures and stereodynamics of transition metal complexes of; crystal structure of 1,1'-bis(methylthio)ruthenocene tetracarbonyltungsten (E.W. Abel, N.J. Long, K.G. Orrell, A.G. Osborne, V. Šík, P.A. Bates, M.B. Hursthouse), (394) 455

$Cp(CO)_2W\equiv CTol$  and  $Cp(CO)_2W\equiv C(2-C_4H_3S)$ , protonation in the presence of alkynes and carbon monoxide; synthesis of 1-naphthols and 4-hydroxy-5,6-dimethylbenzothiophene (K.E. Garrett, W.C. Feng, H. Matsuzaka, G.L. Geoffroy, A.L. Rheingold), (394) 251

2,5-Dithiahex-3-yne ( $MeSC\equiv CSMe$ ) and tungsten carbonyl complexes, electrophilic and nucleophilic reactions of (D.C. Miller, R.J. Angelici), (394) 235

Iron, chromium, molybdenum and tungsten diisopropylaminomethylidyne complexes (S. Anderson, A.F. Hill), (394) C24

Iron(II) heterodinuclear alkanediyl complexes containing molybdenum(II), tungsten(II), rhenium(I) and ruthenium(II), synthesis and properties of (H.B. Friedrich, J.R. Moss, B.K. Williamson), (394) 313

Molybdenum and tungsten carbyne complexes, oxygen tripod ligand supported; carbon-carbon bond formation reactions; crystal structures of  $[L(CO)_2W\equiv CC_6H_4-p-CH_3]$  and  $[L(CO)\overset{\circ}{Mo}(\mu-CO)Pd(I)C(C_6H_4-p-CH_3)C_6H_4-o-CH_2N(CH_3)_2]$ ,  $L^- = [(C_5H_5)Co\{P(O)(OCH_3)_2\}_3]^-$  (W. Kläui, H. Hamers, M. Pfeffer, A. de Cian, J. Fischer), (394) 213

Molybdenum- and tungsten-sulphur bonds, reversible insertion of alkynes into (L. Carlton, W.A.W.A. Bakar, J.L. Davidson), (394) 177

Nickel-molybdenum and nickel-tungsten complexes as building blocks in the synthesis of mixed-metal clusters (M.J. Chetcut, P.N. Cunningham, J.C. Gordon, B.E. Grant, J. Klaiss), (394) 765

Tetranuclear tungsten carbide cluster formed by the reductive cleavage of carbon monoxide; structural characterization of  $W_4(\mu_4-C)(OCH_2-C_5H_9)_{14}$  (M.H. Chisholm, C.E. Hammond, J.C. Huffman, V.J. Johnston), (394) C16

Tricarbonyl- $\eta^{5,1-}(2\text{-cyclopentadienyl})$ ethyl-molybdenum and -tungsten, photochemical reactions with cyclic dienes (C.G. Kreiter, M. Wenz, P. Bell), (394) 195

$W_4(OCH_2Pr^I)_{12}(\eta^2,\mu_4-CO)(CO)_2$  tricarbonyl, tetranuclear tungsten cluster supported by alkoxide ligands (M.H. Chisholm, K. Folting, V.J. Johnston, C.E. Hammond), (394) 265

Zirconoxycarbene complexes, preparation by regioselective coupling of (isoprene)zirconocene with hexa-carbonyltungsten and a ketone; crystal structure of  $\text{Cp}_2\text{ZrOC}=\text{W}(\text{CO})_5\text{ICH}_2\text{CHC}(\text{CH}_3)\text{CH}_2$  (G. Erker, F. Sosna, R. Pfaff, R. Noe, C. Sarter, A. Kraft, C. Krüger, R. Zwettler), (394) 99

### **Vanadium**

1,3-Dichalcogena-2-vanada-[3]ferrocenophanes (M. Herberhold, M. Schrepfermann, A.L. Rheingold), (394) 113

### **Zirconium**

Zirconoxycarbene complexes, preparation by regioselective coupling of (isoprene)zirconocene with hexa-carbonyltungsten and a ketone; crystal structure of  $\text{Cp}_2\text{ZrOC}=\text{W}(\text{CO})_5\text{ICH}_2\text{CHC}(\text{CH}_3)\text{CH}_2$  (G. Erker, F. Sosna, R. Pfaff, R. Noe, C. Sarter, A. Kraft, C. Krüger, R. Zwettler), (394) 99