

## JOURNAL OF ORGANOMETALLIC CHEMISTRY, VOL. 376 (1989)

---

### SUBJECT INDEX

#### **Aluminium**

1-Aminoalkanephosphonic acids, addition of diethyl phosphite to *N*-diisobutylaluminio-aldimines (Z.H. Kudzin, M.W. Majchrzak), (376) 245

#### **Antimony**

Antimony-iron mixed carbonyl clusters:  $[R_4N][SbFe_4(CO)_{16}]$  ( $R = Me, Et$ ) and  $[Et_4N]_2[Sb_2Fe_6(CO)_{20}]$ , synthesis and structures of (S. Luo, K.H. Whitmire), (376) 297

#### **Arsenic**

$\eta^3$ -Phosphino-, -arsino- and -thioketen complexes of tungsten, synthesis of (M. Wolfgruber, C.M. Stegmair, F.R. Kreissl), (376) 45

Tetraarsacyclobutadiene as a complex ligand (O.J. Scherer, J. Vondung, G. Wolmershäuser), (376) C35

#### **Boron**

[Diphenylboratobis( $\eta^5$ -cyclopentadienyl,  $\eta^6$ -phenylruthenium(II)] $^+$  cation, formation mechanism of (T. Wilczewski), (376) 385

#### **Chromium**

(Benzyl crotyl ether)chromium complexes, [2,3]-Wittig rearrangement of (M. Uemura, H. Nishimura, Y. Hayashi), (376) C3

2,2-Bis(diphenylphosphinomethyl)-1-phenylthiopropane and its group 6 complexes, synthesis of (S.-T. Liu, H.-E. Wang, M.-C. Cheng, S.-M. Peng), (376) 333

{ $\eta^6$ -1,4-( $CH_3SO_3)_2C_6H_4}Cr(CO)<sub>3</sub>, synthesis, characterization, and reactivity of (M.E. Wright), (376) 353$

Halo/n-alkyl mixed chromium(III) compound, synthesis, structure, and reactivity of  $Cr(n\text{-}Bu)_2Cl \cdot [(Me_2PCH_2)_3CMe]$  (E.G. Thaler, K. Folting, J.C. Huffman, K.G. Caulton), (376) 343

#### **Cobalt**

Allylperoxycobalt(III) tetraphenylporphyrin, formation and structure of (W. Mikolaiski, G. Baum, W. Massa, R.W. Hoffmann), (376) 397

Binuclear cobalt carbonyl complex with mixed valence,  $Co^0Co^1(\mu\text{-}Ph_2Ppy)_2(\mu\text{-}CO)(CO)Cl$  ( $Ph_2Ppy$  = diphenylphosphinopyridine), synthesis and molecular structure of (Z.-Z. Zhang, H.-K. Wang, Z. Xi, X.-K. Yao, R.-J. Wang), (376) 123

Carbonylcobalt complexes of ethynylhydrogenosilanes, formation and reactions of (R.J.P. Corriu, J.J.E. Moreau, H. Praet), (376) C39

$(C_5H_5Co)_3(\mu_3\text{-}\eta^2 : \eta^2 : \eta^2\text{-benzene})$ , electronic structure of (H. Wadeppohl, L. Zhu), (376) 115

#### **Copper**

Group 11 trifluoromethyl derivatives, formation by reaction of  $Cd(CF_3)_2 \cdot$  glyme with representative Au, Ag and Cu complexes: isolation of  $Au(CF_3)_3(PMe_3)$ ,  $Au(CF_3)_3(PEt_3)$ ,  $AuI(CF_3)_2(PMe_3)$ ,  $AuCF_3(PMe_3)$ ,  $AuCF_3(PEt_3)$  and  $AgCF_3(PMe_3)$ ; observation of  $CuCF_3(PMe_3)$ , (H.K. Nair, J.A. Morrison), (376) 149

## Germanium

Lithium bis(trimethylgermyl)amide, synthesis and structure of (M. Rannenberg, H.-D. Hausen, J. Weidlein), (376) C27

3-Organyl-silyl and -germyl propynals and their carbon analogues, aldol-type condensation of methyl diazoacetate with (O.I. Margorskaya, A.S. Medvedeva, M.M. Demina, I.D. Kalikhman, M.G. Voronkov), (376) 31

Palladium-catalysed reduction of acyl chlorides with tributylgermanium hydride (L. Geng, X. Lu), (376) 41

## Gold

Group 11 trifluoromethyl derivatives, formation by reaction of  $\text{Cd}(\text{CF}_3)_2 \cdot \text{glyme}$  with representative Au, Ag and Cu complexes: isolation of  $\text{Au}(\text{CF}_3)_3(\text{PMe}_3)$ ,  $\text{Au}(\text{CF}_3)_3(\text{PEt}_3)$ ,  $\text{Aul}(\text{CF}_3)_2(\text{PMe}_3)$ ,  $\text{AuCF}_3(\text{PMe}_3)$ ,  $\text{AuCF}_3(\text{PEt}_3)$  and  $\text{AgCF}_3(\text{PMe}_3)$ ; observation of  $\text{CuCF}_3(\text{PMe}_3)$ , (H.K. Nair, J.A. Morrison), (376) 149

## Hafnium

Chalcogen-containing metallocenic compounds with elemental chalcogens, thermal stability and reaction of (G. Tainturier, M. Fahim, G. Trouvé-Bellan, B. Gautheron), (376) 321

## Iridium

Carbon dioxide in the presence of  $\text{RhCl}(\text{CO})(\text{PPh}_3)_2$  and  $\text{IrCl}(\text{CO})(\text{PPh}_3)_2$ , electrochemical reduction of (A. Szymaszek, F.P. Pruchnik), (376) 133

## Iron

Antimony-iron mixed carbonyl clusters:  $[\text{R}_4\text{N}]_2[\text{SbFe}_4(\text{CO})_{16}]$  ( $\text{R} = \text{Me, Et}$ ) and  $[\text{Et}_4\text{N}]_2[\text{Sb}_2\text{Fe}_6(\text{CO})_{20}]$ , synthesis and structures of (S. Luo, K.H. Whitmire), (376) 297

$[(\text{C}_5\text{H}_5)\text{Fe}(\eta^6\text{-C}_8\text{H}_8)]\text{PF}_6$ , synthesis and crystal structure of (J. Heck, W. Massa), (376) C15

Ferrocenes derived from isodicyclopentadiene and tricyclo[5.2.1.0<sup>2,6</sup>]deca-2,5,8-triene (V. Bhide, P. Rinaldi, M.F. Farone), (376) 91

Lipophilic macrocyclic host molecules containing multiple ferrocenyl redox-active centres (P.D. Beer, A.C. Smythe, E.L. Tite, A. Ibbotson), (376) C11

Nitrosylcarbonyliron complexes, catalytic alkylations of allylic carbonates under argon in the presence of (J.-L. Roustan, M. Abedini, H.H. Baer), (376) C20

Phenyl-substituted cyclobutane and cyclopropane derivatives, photolysis and thermolysis of (R.L. Trace, W.M. Jones), (376) 103

Sulphur-bridged trinuclear carbonylalkynyliron clusters, preparation, properties and structure of (Th. Fassler, G. Huttner), (376) 367

## Lithium

Complex bases from organolithium compounds and various sodium alkoxides, properties of (L. Lochmann), (376) 1

Heterobimetallic bridged alkynide complex,  $(\text{C}_5\text{Me}_5)\text{Y}(\mu\text{-C}\equiv\text{CCMe}_3)_2\text{Li}(\text{THF})$ , synthesis and X-ray structure of (W.J. Evans, D.K. Drummond, T.P. Hanusa, J.M. Olofson), (376) 311

Lithium bis(trimethylgermyl)amide, synthesis and structure of (M. Rannenberg, H.-D. Hausen, J. Weidlein), (376) C27

## Manganese

Carbonyl dimers with mixed bridges  $[(\text{CO})_4\overline{\text{M(H)M(L)(CO)}_4}]_n$  ( $n = 2 - , 0$ ), electronic structure of (B.J. Trzebiatowska, B. Nissen-Sobocińska, L. Natkaniec), (376) 67

## Mercury

Dihexyn-4-ylzinc, intramolecular interaction between a zinc atom and a carbon–carbon triple bond in (E. Oknińska, K.B. Starowieyski), (376) 7

## Metallocenes

- Bis(pentamethylcyclopentadienyl)zinc and bis(tetramethylphenylcyclopentadienyl)zinc, solid state structures of (B. Fischer, P. Wijkens, J. Boersma, G. van Koten, W.J.J. Smeets, A.L. Spek, P.H.M. Budzelaar), (376) 223
- Chalcogen-containing metallocenic compounds with elemental chalcogens, thermal stability and reaction of (G. Tainturier, M. Fahim, G. Trouv  -Bellan, B. Gautheron), (376) 321
- $[(C_5H_5)Fe(\eta^6-C_8H_8)]PF_6$ , synthesis and crystal structure of (J. Heck, W. Massa), (376) C15
- Ferrocenes derived from isodicyclopentadiene and tricyclo[5.2.1.0<sup>2,6</sup>]deca-2,5,8-triene (V. Bhide, P. Rinaldi, M.F. Farone), (376) 91
- Lipophilic macrocyclic host molecules containing multiple ferrocenyl redox-active centres (P.D. Beer, A.C. Smythe, E.L. Tite, A. Ibbotson), (376) C11

## Molybdenum

- Aminomethyldiphenylphosphine-molybdenum complexes, synthesis and reactivity of; crystal structure of *cis*-Mo(CO)<sub>4</sub>(Ph<sub>2</sub>PCH<sub>2</sub>NHC<sub>6</sub>H<sub>4</sub>Me-*p*)<sub>2</sub>] (D.L. Davies, F.I. Healey, J. Howarth, D.R. Russell, L.J.S. Sherry), (376) C31
- 2,2-Bis(diphenylphosphinomethyl)-1-phenylthiopropane and its group 6 complexes, synthesis of (S.-T. Liu, H.-E. Wang, M.-C. Cheng, S.-M. Peng), (376) 333
- Carbonyl dimers with mixed bridges  $[(CO)_4\overset{\circ}{M}(H)\overset{\circ}{M}(\overset{\circ}{L})(CO)_4]_n$  ( $n = 2 - , 0$ ), electronic structure of (B.J. Trzebiatowska, B. Nissen-Soboci  ska, L. Natkaniec), (376) 67

## Nickel

- Nickel(0) olefin complexes of methylenecyclopropane and cyclopropene, preparation and structural characterisation of (L.S. Isaeva, T.A. Peganova, P.V. Petrovskii, D.N. Kravtsov), (376) 141
- Silyl-nickel complexes prepared by  $\eta^6$ -arene substitution in ( $\eta^6$ -toluene)bis(trihalosilyl)nickel; preparation of L<sub>3</sub>Ni(SiX<sub>3</sub>)<sub>2</sub> and L<sub>2</sub>Ni(SiX<sub>3</sub>)<sub>2</sub> (X = Cl, F; L = phosphine, phosphites, and pyridines); X-ray structure of *cis*-(collidine)<sub>2</sub>Ni(SiCl<sub>3</sub>)<sub>2</sub> (S.-B. Choe, J.J. Schneider, K.J. Klabunde, L.J. Radonovich, T.A. Ballantine), (376) 419

## Niobium

- Tetraarsacyclobutadiene as a complex ligand (O.J. Scherer, J. Vondung, G. Wolmersh  user), (376) C35

## Osmium

- [Diphenylboratabis( $\eta^5$ -cyclopentadienyl,  $\eta^6$ -phenylruthenium(II)]<sup>+</sup> cation, formation mechanism of (T. Wilczewski), (376) 385
- Os<sub>3</sub>H<sub>2</sub>(CO)<sub>9</sub>(C<sub>6</sub>H<sub>4</sub>), reaction with diphenylacetylene of; formation and structural characterisation of Os<sub>3</sub>(CO)<sub>7</sub>(C<sub>6</sub>H<sub>4</sub>)[PhCC(H)Ph]<sub>2</sub> (H. Chen, B.F.G. Johnson, J. Lewis, P.R. Raithby), (376) C7

## Palladium

- Palladium-catalysed reduction of acyl chlorides with tributylgermanium hydride (L. Geng, X. Lu), (376) 41

## Phosphorus

- 1-Aminoalkanephosphonic acids, addition of diethyl phosphite to *N*-diisobutylaluminio-aldimines (Z.H. Kudzin, M.W. Majchrzak), (376) 245
- Aminomethyldiphenylphosphine-molybdenum complexes, synthesis and reactivity of; crystal structure of *cis*-Mo(CO)<sub>4</sub>(Ph<sub>2</sub>PCH<sub>2</sub>NHC<sub>6</sub>H<sub>4</sub>Me-*p*)<sub>2</sub>] (D.L. Davies, F.I. Healey, J. Howarth, D.R. Russell, L.J.S. Sherry), (376) C31
- 2,2-Bis(diphenylphosphinomethyl)-1-phenylthiopropane and its group 6 complexes, synthesis of (S.-T. Liu, H.-E. Wang, M.-C. Cheng, S.-M. Peng), (376) 333
- Bisphosphinodihalogenosilanes, preparation of 1,3-diphospho-2-silaallyl anions from (K. Hassler, F. Mitter, B. Reiter), (376) C1
- Carbon dioxide in the presence of RhCl(CO)(PPh<sub>3</sub>)<sub>2</sub> and IrCl(CO)(PPh<sub>3</sub>)<sub>2</sub>, electrochemical reduction of (A. Szymaszek, F.P. Pruchnik), (376) 133

**Group 11 trifluoromethyl derivatives, formation by reaction of  $\text{Cd}(\text{CF}_3)_2 \cdot \text{glyme}$  with representative Au, Ag and Cu complexes: isolation of  $\text{Au}(\text{CF}_3)_3(\text{PMe}_3)$ ,  $\text{Au}(\text{CF}_3)_3(\text{PEt}_3)$ ,  $\text{AuI}(\text{CF}_3)_2(\text{PMe}_3)$ ,  $\text{AuCF}_3(\text{PMe}_3)$ ,  $\text{AuCF}_3(\text{PEt}_3)$  and  $\text{AgCF}_3(\text{PMe}_3)$ ; observation of  $\text{CuCF}_3(\text{PMe}_3)$ .** (H.K. Nair, J.A. Morrison), (376) 149

**Halo/n-alkyl mixed chromium(III) compound, synthesis, structure, and reactivity of  $\text{Cr}(\text{n-Bu})_2\text{Cl} \cdot (\text{Me}_2\text{PCH}_2)_3\text{CMe}$**  (E.G. Thaler, K. Folting, J.C. Huffman, K.G. Caulton), (376) 343

**Organophosphorus and organosilicon derivatives of sterically hindered phenols** (S.D. Pastor, E.T. Hessel), (376) 21

**$\eta^3$ -Phosphino-, -arsino- and -thioketen complexes of tungsten, synthesis of** (M. Wolfgruber, C.M. Stegmair, F.R. Kreissl), (376) 45

## Rhodium

**Carbon dioxide in the presence of  $\text{RhCl}(\text{CO})(\text{PPh}_3)_2$  and  $\text{IrCl}(\text{CO})(\text{PPh}_3)_2$ , electrochemical reduction of** (A. Szymaszek, F.P. Pruchnik), (376) 133

**$(\text{Me}_3\text{P})_3\text{Rh}(\text{Me})$ , reaction with toluene to give  $(\text{Me}_3\text{P})_3\text{Rh}(\text{Ar})$  ( $\text{Ar} = o$ -,  $m$ - and  $p$ -tolyl)** of (R.T. Price, R.A. Andersen, E.L. Muettterties), (376) 407

## Ruthenium

**$\mu$ -Amidocarbonylruthenium complexes, bridging in; crystal structure of  $[\text{Ru}_3(\mu\text{-H})(\mu\text{-H}_3\text{N}_2\text{-4,5-Me}_2\text{-1,2-phenylene})]$**  (J.A. Cabeza, V. Riera, M.A. Pellinghelli, A. Tiripicchio), (376) C23

**[Diphenylboratobis( $\eta^5$ -cyclopentadienyl,  $\eta^6$ -phenylruthenium(II)] $^+$  cation, formation mechanism of** (T. Wilczewski), (376) 385

## Samarium

**$\eta^6$ -m-Xylenesamariumtris(aluminum tetrachlorides), synthesis and molecular structure** (B. Fan, Q. Shen, Y. Lin), (376) 61

## Selenium

**Chalcogen-containing metallocenic compounds with elemental chalcogens, thermal stability and reaction of** (G. Tainturier, M. Fahim, G. Trouvé-Bellan, B. Gautheron), (376) 321

## Silicon

**Bisphosphinodihalogenosilanes, preparation of 1,3-diphospha-2-silaallyl anions from** (K. Hassler, F. Mitter, B. Reiter), (376) C1

**Carbonylcobalt complexes of ethynylhydrogenosilanes, formation and reactions of** (R.J.P. Corriu, J.J.E. Moreau, H. Praet), (376) C39

**1,1-Dimethylsilabutadiene, gas phase reactions of** (R.T. Conlin, M. Namavari), (376) 259

**Lithium bis(trimethylgermyl)amide, synthesis and structure of** (M. Rannenberg, H.-D. Hausen, J. Weidlein), (376) C27

**Methylchorosilanes, direct synthesis of (Review)** (M.P. Clark), (376) 165

**Organophosphorus and organosilicon derivatives of sterically hindered phenols** (S.D. Pastor, E.T. Hessel), (376) 21

**3-Organyl-silyl and -germyl propynals and their carbon analogues, aldol-type condensation of methyl diazoacetate with** (O.I. Margorskaya, A.S. Medvedeva, M.M. Demina, I.D. Kalikhman, M.G. Voronkov), (376) 31

**Si,Si'-substituted 1,2-bis(dimethylsilylmethyl)diacetylhydrazines, synthesis and chirality of** (I.D. Kalikhman, B.A. Gostevskii, O.B. Bannikova, M.G. Voronkov, V.A. Pestunovich), (376) 249

**Silyl-nickel complexes prepared by  $\eta^6$ -arene substitution in ( $\eta^6$ -toluene)bis(trihalosilyl)nickel: preparation of  $\text{L}_1\text{Ni}(\text{SiX}_3)_2$  and  $\text{L}_2\text{Ni}(\text{SiX}_3)_2$  ( $\text{X} = \text{Cl}, \text{F}$ ; L = phosphine, phosphites, and pyridines); X-ray structure of *cis*-(collidine) $_2\text{Ni}(\text{SiCl}_3)_2$  (S.-B. Choe, J.J. Schneider, K.J. Klabunde, L.J. Radonovich, T.A. Ballantine), (376) 419**

**1-Triethoxysilyl-1-alkenes, synthesis by cross-metathesis of vinyltriethoxysilane with 1-alkenes of** (Z. Foltynowicz, B. Marciniec), (376) 15

## Silver

Group 11 trifluoromethyl derivatives, formation by reaction of  $\text{Cd}(\text{CF}_3)_2 \cdot \text{glyme}$  with representative Au, Ag and Cu complexes: isolation of  $\text{Au}(\text{CF}_3)_3(\text{PMe}_3)$ ,  $\text{Au}(\text{CF}_3)_3(\text{PEt}_3)$ ,  $\text{AuI}(\text{CF}_3)_2(\text{PMe}_3)$ ,  $\text{AuCF}_3(\text{PMe}_3)$ ,  $\text{AuCF}_3(\text{PEt}_3)$  and  $\text{AgCF}_3(\text{PMe}_3)$ ; observation of  $\text{CuCF}_3(\text{PMe}_3)$ , (H.K. Nair, J.A. Morrison), (376) 149

## Sodium

Complex bases from organolithium compounds and various sodium alkoxides, properties of (L. Lochmann), (376) 1

## Sulphur

2,2-Bis(diphenylphosphinomethyl)-1-phenylthiopropane and its group 6 complexes, synthesis of (S.-T. Liu, H.-E. Wang, M.-C. Cheng, S.-M. Peng), (376) 333

Chalcogen-containing metallocenic compounds with elemental chalcogens, thermal stability and reaction of (G. Tainturier, M. Fahim, G. Trouv  -Bellan, B. Gautheron), (376) 321

{ $\eta^6$ -1,4-( $\text{CH}_3\text{SO}_3$ )<sub>2</sub> $\text{C}_6\text{H}_4$ }Cr(CO)<sub>3</sub>, synthesis, characterization, and reactivity of (M.E. Wright), (376) 353

Dihexyn-4-ylzinc, intramolecular interaction between a zinc atom and a carbon–carbon triple bond in (E. Okni  ska, K.B. Starowieyski), (376) 7

Sulphur-bridged trinuclear carbonylalkynyliron clusters, preparation, properties and structure of (Th. Fassler, G. Huttner), (376) 367

## Tellurium

Te telluronium heterocyclic  $\beta$ -diketonates, synthesis, spectra and biological activity of (K.M. Prasad, N.R. Rao, M.C. Ganorkar, C.M. Chary), (376) 53

## Tin

Allylstannation of aldehydes by crotyltin chlorides in acid media (D. Marton, G. Tagliavini, N. Vanzan), (376) 269

Bromodestannylation reactions of some functionally substituted organotin compounds (A.B. Chopra, L.C. Koll, J.C. Podest  , T.N. Mitchell), (376) 283

Triphenyltin(IV) chloroacetate, [ $(\text{C}_6\text{H}_5)_3\text{SnOC(O)CH}_2\text{Cl}$ ], VT<sup>119m</sup>Sn Mössbauer spectroscopy and X-ray crystallography of (S.W. Ng, K.L. Chin, C. Wei, V.G. Kumar Das, R.J. Butcher), (376) 277

## Tungsten

2,2-Bis(diphenylphosphinomethyl)-1-phenylthiopropane and its group 6 complexes, synthesis of (S.-T. Liu, H.-E. Wang, M.-C. Cheng, S.-M. Peng), (376) 333

$\eta^3$ -Phosphino-, -arsino- and -thioketen complexes of tungsten, synthesis of (M. Wolfgruber, C.M. Stegmair, F.R. Kreissl), (376) 45

Tungsten(II) metallacycles via two-dimensional indirect (<sup>1</sup>H, <sup>183</sup>W) NMR spectroscopy, <sup>183</sup>W NMR data for (R. Benn, A. Rufi  ska, M.A. King, C.E. Osterberg, T.G. Richmond), (376) 359

## Yttrium

Heterobimetallic bridged alkynide complex,  $(\text{C}_5\text{Me}_5)_2\text{Y}(\mu-\text{C}\equiv\text{CCMe}_3)_2\text{Li}(\text{THF})$ , synthesis and X-ray structure of (W.J. Evans, D.K. Drummond, T.P. Hanusa, J.M. Olofson), (376) 311

## Zinc

Bis(pentamethylcyclopentadienyl)zinc and bis(tetramethylphenylcyclopentadienyl)zinc, solid state structures of (B. Fischer, P. Wijkens, J. Boersma, G. van Koten, W.J.J. Smeets, A.L. Spek, P.H.M. Budzelaar), (376) 223

Dihexyn-4-ylzinc, intramolecular interaction between a zinc atom and a carbon–carbon triple bond in (E. Okni  ska, K.B. Starowieyski), (376) 7

Organozinc compounds, regioselectivity towards  $\alpha$ -iminoesters of (G. Courtois, L. Miginiac), (376) 235

## Zirconium

Chalcogen-containing metallocenic compounds with elemental chalcogens, thermal stability and reaction of (G. Tainturier, M. Fahim, G. Trouvé-Bellan, B. Gautheron), (376) 321

## Book review

The nuclear Overhauser effect in structural and conformational analysis; by D. Neuhaus, M. Williamson (G. Lawless), (376) C44