# Subject Index of Volume 535 

## Alkyne

Synthesis and spectroscopic properties of some new bi-, tri- and tetrametallic complexes of the type $\left[\mathrm{M}(\mathrm{CO})_{5} \mathrm{~L}\right],\left[\mathrm{M}(\mathrm{CO})_{4} \mathrm{~L}_{2}\right]$ and $\left[\mathrm{M}(\mathrm{CO})_{3} \mathrm{~L}_{3}\right]\left\{\mathrm{M}=\mathrm{Cr}, \mathrm{Mo}, \mathrm{W} ; \mathrm{L}=\left[\mathrm{WI}_{2}(\mathrm{CO}) \mathrm{Ph}_{2} \mathrm{P}\left(\mathrm{CH}_{2}\right)_{2} \mathrm{PPh}-\right.\right.$ $\left.\left.\left(\mathrm{CH}_{2}\right)_{2} \mathrm{PPh}_{2}-P, P^{\prime}\right)\left(\eta^{2}-\mathrm{RC}_{2} \mathrm{R}^{\prime}\right)\right]\left(\mathrm{R}=\mathrm{R}^{\prime}=\mathrm{Me}, \mathrm{Ph} ; \mathrm{R}=\mathrm{Me}, \mathrm{R}^{\prime}=\right.$ $\mathrm{Ph})$ ) (P.K. Baker and M.M. Meehan), 129

## Alkynes

Preparation, reactions, and infrared spectra of fac-(CO) $\mathbf{3}^{(\mathrm{P}-\mathrm{P}) \mathrm{Mn}-\mathrm{Z}}$ complexes ( $\mathrm{P}-\mathrm{P}=\mathrm{DEPE}$, DPPE, DPPP; $\mathrm{Z}=\mathrm{H}, \mathrm{OTs}$, OMe, $\mathrm{OC}(\mathrm{O}) \mathrm{OMe}, \mathrm{NCO}, \mathrm{Cl}, \mathrm{Br}, \mathrm{N}_{3}$ ) (G.Q. Li and M. Orchin), 43

## Alkynyl

Ethinylkomplexe des Rutheniums mit terminalen Hauptgruppenele-ment-Substituenten: Systematischer Aufbau metallgebundener Phosphoniumacetylid-Liganden $\mathrm{R}^{\prime} \mathrm{R}_{2} \mathrm{P}^{(+)}-\left.\mathrm{C} \equiv \mathrm{C}\right|^{(-)}$(L. Dahlenburg, A. Weiß und M. Moll), 195
Aluminium compounds
Reactions of a carbosilylated methylenephosphonium ion with $\pi$-conjugated hydrocarbons (J. Thomaier, G. Alcaraz, H. Grützmacher, H. Hillebrecht, C. Marchand and U. Heim), 91

Antitumor activity
Chiral phosphine ligands derived from sugars. 10. Syntheses, structure, characterization, and antitumor activity of the gold(I) complexes with sugar-substructure phosphine ligands (J.-C. Shi, L.-J. Chen, X.-Y. Huang, D.-X. Wu and B.-S. Kang), 17
Aromatic amines
Formation of aromatic amines from dinitrogen complexes $\left[\mathrm{Cp}_{2} \mathrm{TiAr}\right]_{2}$ $\mathrm{N}_{2}\left(\mathrm{Ar}=\mathrm{C}_{6} \mathrm{H}_{5}, m-\mathrm{CH}_{3} \mathrm{C}_{6} \mathrm{H}_{4}\right)$ (E.G. Berkovich, V.S. Lenenko, L.I. Vyshinskaya, G.A. Vasil'eva, V.B. Shur and M.E. Vol'pin), 169
Aromatic compound
Reductive elimination of $\mathrm{Et}-\mathrm{Et}$ from $\mathrm{NiEt}_{2}$ (bpy) promoted by elec-tron-accepting aromatic compounds (T. Yamamoto and M. Abla), 209

## Aryllithiums

Formation of aromatic amines from dinitrogen complexes $\left[\mathrm{Cp}_{2} \mathrm{TiAr}\right]_{2}-$ $\mathrm{N}_{2}\left(\mathrm{Ar}=\mathrm{C}_{6} \mathrm{H}_{5}, m-\mathrm{CH}_{3} \mathrm{C}_{6} \mathrm{H}_{4}\right)$ (E.G. Berkovich, V.S. Lenenko, L.I. Vyshinskaya, G.A. Vasil'eva, V.B. Shur and M.E. Vol'pin), 169
Azido complexes
Preparation, reactions, and infrared spectra of fac-(CO) $\mathbf{3}_{3}(\mathrm{P}-\mathrm{P}) \mathrm{Mn}-\mathrm{Z}$ complexes ( $\mathrm{P}-\mathrm{P}=\mathrm{DEPE}, \mathrm{DPPE}, \mathrm{DPPP} ; \mathrm{Z}=\mathrm{H}, \mathrm{OTs}$, OMe , $\mathrm{OC}(\mathrm{O}) \mathrm{OMe}, \mathrm{NCO}, \mathrm{Cl}, \mathrm{Br}, \mathrm{N}_{3}$ ) (G.Q. Li and M. Orchin), 43

## Betaine

$\mathrm{Cp}_{2}^{*} \mathrm{Zr}\left(\mu-\mathrm{C}_{4} \mathrm{H}_{6}\right) \mathrm{B}\left(\mathrm{C}_{6} \mathrm{~F}_{5}\right)_{3}$, a first example of a stable unbridged homogeneous metallocene-betaine Ziegler catalyst system (J. Karl, G. Erker and R. Fröhlich), 59
Biarylnickel(II) complex
Reductive elimination of Et-Et from $\mathrm{NiEt}_{2}$ (bpy) promoted by elec-tron-accepting aromatic compounds (T. Yamamoto and M. Abla), 209

Bipyridine
Reductive elimination of $\mathrm{Et}-\mathrm{Et}$ from $\mathrm{NiEt}_{2}(\mathrm{bpy})$ promoted by elec-tron-accepting aromatic compounds (T. Yamamoto and M. Abla), 209
Bis(1-pyrazolyl)borates
Studies on some di- and triorganotin(IV) derivatives of bis(1-pyrazolyl)borates and some related compounds (D.K. Dey, M.K. Das and R.K. Bansal), 7
${ }^{11}$ B/ ${ }^{119}$ Sn NMR spectroscopy
Studies on some di- and triorganotin(IV) derivatives of bis(1-pyrazolyl)borates and some related compounds (D.K. Dey, M.K. Das and R.K. Bansal), 7

## Carbene complexes

Mechanism of aminocarbene formation by nucleophilic attack on isocyanide ligands in platinum(II) 2-pyrazyl and 4-pyridyl complexes (L. Canovese, F. Visentin, P. Uguagliati, B. Crociani and F. Di Bianca), 69

## Carbohydrate

Chiral phosphine ligands derived from sugars. 10. Syntheses, structure, characterization, and antitumor activity of the gold(I) complexes with sugar-substructure phosphine ligands (J.-C. Shi, L.-J. Chen, X.-Y. Huang, D.-X. Wu and B.-S. Kang), 17
Carbonyl
Mixed-metal cluster chemistry V. Syntheses and X-ray crystal structure of $\mathrm{Cp}_{2} \mathrm{Mo}_{2} \mathrm{Ir}_{2}\left(\mu_{3}-\mathrm{CO}\right)(\mu-\mathrm{CO})_{5}(\mathrm{CO})_{4}$ (N.T. Lucas, M.G. Humphrey and D.C.R. Hockless), 175
Carbonyl stretching frequencies
Preparation, reactions, and infrared spectra of fac- $(\mathrm{CO})_{3}(\mathrm{P}-\mathrm{P}) \mathrm{Mn}-\mathrm{Z}$ complexes ( $\mathrm{P}-\mathrm{P}=\mathrm{DEPE}, \mathrm{DPPE}, \mathrm{DPPP} ; \mathrm{Z}=\mathrm{H}, \mathrm{OTs}, \mathrm{OMe}$, $\mathrm{OC}(\mathrm{O}) \mathrm{OMe}, \mathrm{NCO}, \mathrm{Cl}, \mathrm{Br}, \mathrm{N}_{3}$ ) (G.Q. Li and M. Orchin), 43

## Catalysis

Kinetics and mechanism of the reaction of photogenerated ( $\eta^{1}$-(tetrachloromethane)pentacarbonylmetal( 0 ) complexes, ( $\eta^{1}$ - $\left(\mathrm{CCl}_{4}\right) \mathrm{M}$ $(\mathrm{CO})_{5} ; \mathrm{M}=\mathrm{Mo}, \mathrm{W}$ ) with 1-hexene: the initial steps in the creation of olefin methathesis catalysts (G.R. Dobson, J.P. Smit, W. Purcell and S. Ladogana), 63
Cationic derivatives
Neutral and cationic di(tert-butyl)cyclopentadienyl titanium, zirconium and hafnium complexes. Dynamic NMR study of the ligand-free cations $\left[\mathrm{M}\left(1,3-{ }^{-} \mathrm{Bu}_{2}-\eta^{5}-\mathrm{C}_{5} \mathrm{H}_{3}\right)\left(\eta^{5}-\mathrm{C}_{5} \mathrm{H}_{5}\right)\left(\mathrm{CH}_{3}\right)\right]^{+}(\mathrm{M}$ $=\mathrm{Zr}$, Hf) (J.I. Amor, T. Cuenca, M. Galakhov, P. Gómez-Sal, A. Manzanero and P. Royo), 155
Chiral phosphine
Chiral phosphine ligands derived from sugars. 10. Syntheses, structure, characterization, and antitumor activity of the gold(I) complexes with sugar-substructure phosphine ligands (J.-C. Shi, L.-J. Chen, X.-Y. Huang, D.-X. Wu and B.-S. Kang), 17

## Chromium

Synthesis and spectroscopic properties of some new bi-, tri- and tetrametallic complexes of the type $\left[\mathrm{M}(\mathrm{CO})_{5} \mathrm{~L}\right],\left[\mathrm{M}(\mathrm{CO})_{4} \mathrm{~L}_{2}\right]$ and
$\left[\mathrm{M}(\mathrm{CO})_{3} \mathrm{~L}_{3}\right]\left\{\mathrm{M}=\mathrm{Cr}, \mathrm{Mo}, \mathrm{W} ; \mathrm{L}=\left[\overline{\mathrm{WI}_{2}(\mathrm{CO})\left\{\mathrm{Ph}_{2} \mathrm{P}\left(\mathrm{CH}_{2}\right)_{2}\right.} \mathrm{PPh}^{2}\right.\right.$ $\left.\left(\mathrm{CH}_{2}\right)_{2} \mathrm{PPh}_{2}-P, P^{\prime}\left(\eta^{2}-\mathrm{RC}_{2} \mathrm{R}^{\prime}\right)\right]\left(\mathrm{R}=\mathrm{R}^{\prime}=\mathrm{Me}, \mathrm{Ph} ; \mathrm{R}=\mathrm{Me}, \mathrm{R}^{\prime}=\right.$ Ph) \} (P.K. Baker and M.M. Meehan), 129
Cluster
Mixed-metal cluster chemistry V. Syntheses and X-ray crystal structure of $\mathrm{CP}_{2} \mathrm{Mo}_{2} \mathrm{Ir}_{2}\left(\mu_{3}-\mathrm{CO}\right)(\mu-\mathrm{CO})_{5}(\mathrm{CO})_{4}$ (N.T. Lucas, M.G. Humphrey and D.C.R. Hockless), 175

## Crystal structure

Complexation of [ $\omega$-diphenylphosphinoalkyl]diphenylphosphine sulphides with $\mathrm{AgNO}_{3}$ (E.I. Matrosov, Z.A. Starikova, A.I. Yanovsky, D.I. Lobanov, I.M. Aladzheva, O.V. Bykhovskaya, Yu.T. Struchkov, T.A. Mastryukova and M.I. Kabachnik), 121
Mixed-metal cluster chemistry V. Syntheses and X-ray crystal structure of $\mathrm{Cp}_{2} \mathrm{Mo}_{2} \mathrm{Ir}_{2}\left(\mu_{3}-\mathrm{CO}\right)(\mu-\mathrm{CO})_{5}(\mathrm{CO})_{4}$ (N.T. Lucas, M.G. Humphrey and D.C.R. Hockless), 175
Reductive elimination of $\mathrm{Et}-\mathrm{Et}$ from $\mathrm{NiEt}_{2}$ (bpy) promoted by elec-tron-accepting aromatic compounds (T. Yamamoto and M. Abla), 209
Synthesis, characterization and structure of ferrocenylketimine complexes of platinum(II) (Y.J. Wu, L. Ding, H.X. Wang, Y.H. Liu, H.Z. Yuan and X.A. Mao), 49

Cycloadditions
Reactions of a carbosilylated methylenephosphonium ion with $\pi$-conjugated hydrocarbons (J. Thomaier, G. Alcaraz, H. Grützmacher, H. Hillebrecht, C. Marchand and U. Heim), 91

Cyclometallation
Synthesis, characterization and structure of ferrocenylketimine complexes of platinum(II) (Y.J. Wu, L. Ding, H.X. Wang, Y.H. Liu, H.Z. Yuan and X.A. Mao), 49

Cyclopentadienyl
Mixed-metal cluster chemistry V. Syntheses and X-ray crystal structure of $\mathrm{Cp}_{2} \mathrm{Mo}_{2} \mathrm{Ir}_{2}\left(\mu_{3}-\mathrm{CO}\right)(\mu-\mathrm{CO})_{5}(\mathrm{CO})_{4}$ (N.T. Lucas, M.G. Humphrey and D.C.R. Hockless), 175
Cyclopentadienyl derivatives
Neutral and cationic di(tert-butyl)cyclopentadienyl titanium, zirconium and hafnium complexes. Dynamic NMR study of the ligand-free cations $\left[\mathrm{M}\left(1,3-\mathrm{Bu}_{2}-\eta^{5}-\mathrm{C}_{5} \mathrm{H}_{3}\right)\left(\eta^{5}-\mathrm{C}_{5} \mathrm{H}_{5}\right)\left(\mathrm{CH}_{3}\right)\right]^{+}(\mathrm{M}$ $=\mathrm{Zr}, \mathrm{Hf}$ ) (J.I. Amor, T. Cuenca, M. Galakhov, P. Gómez-Sal, A. Manzanero and P. Royo), 155

## DIBAL-H

Synthesis and characterization of functionalized phosphenium ions, stabilized by two intramolecular dative $\mathrm{P} \leftarrow \mathrm{N}$ bonds (J.-P. Bezombes, F. Carré, C. Chuit, R.J.P. Corriu, A. Mehdi and C. Reyé), 81
Dibutyltin(IV)
Studies on some di- and triorganotin(IV) derivatives of bis(l-pyrazolyl)borates and some related compounds (D.K. Dey, M.K. Das and R.K. Bansal), 7
Dichlorodimethylzirconium
An efficient synthetic method of ansa-zirconocene dimethyl complexes via $\mathrm{Me}_{2} \mathrm{ZrCl}_{2}$ (J.T. Park, B.W. Woo, S.C. Yoon and S.C. Shim), 29
Dimethyltin(IV)
Studies on some di- and triorganotin(IV) derivatives of bis(1-pyrazolyl)borates and some related compounds (D.K. Dey, M.K. Das and R.K. Bansal), 7
ansa-Dimethylzirconocene
An efficient synthetic method of ansa-zirconocene dimethyl complexes via $\mathrm{Me}_{2} \mathrm{ZrCl}_{2}$ (J.T. Park, B.W. Woo, S.C. Yoon and S.C. Shim), 29
Dinitrogen complexes
Formation of aromatic amines from dinitrogen complexes $\left[\mathrm{CP}_{2} \mathrm{TiAr}\right]_{2}$ $\mathrm{N}_{2}\left(\mathrm{Ar}=\mathrm{C}_{6} \mathrm{H}_{5}, m-\mathrm{CH}_{3} \mathrm{C}_{6} \mathrm{H}_{4}\right)$ (E.G. Berkovich, V.S. Lenenko,
L.I. Vyshinskaya, G.A. Vasil'eva, V.B. Shur and M.E. Vol'pin), 169
Diphenyltin(IV)
Studies on some di- and triorganotin(IV) derivatives of bis(1-pyrazolyl)borates and some related compounds (D.K. Dey, M.K. Das and R.K. Bansal), 7

## Electrochemistry

Stereochemical rigidity in a trimetallic complex. X-ray crystal structure of trans- $\left[\mathrm{Pd}\left\{\left(\eta^{5}-\mathrm{C}_{5} \mathrm{H}_{5}\right) \mathrm{Fe}\left[\left(\eta^{5}-\mathrm{C}_{5} \mathrm{H}_{4}\right)-\mathrm{CH}=\mathrm{N}-\mathrm{N}\left(\mathrm{CH}_{3}\right)_{2}\right]\right]_{2}-\right.$ $\mathrm{Cl}_{2}$ ] (C. López, R. Bosque, X. Solans and M. Font-Bardía), 99

## Ferrocene

Stereochemical rigidity in a trimetallic complex. X-ray crystal structure of trans- $\left[\mathrm{Pd}\left\{\left(\eta^{5}-\mathrm{C}_{5} \mathrm{H}_{5}\right) \mathrm{Fe}\left[\left(\eta^{5}-\mathrm{C}_{5} \mathrm{H}_{4}\right)-\mathrm{CH}=\mathrm{N}-\mathrm{N}\left(\mathrm{CH}_{3}\right)_{2}\right]\right]_{2}-\right.$ $\left.\mathrm{Cl}_{2}\right]$ (C. López, R. Bosque, X. Solans and M. Font-Bardía), 99
Synthesis, characterization and structure of ferrocenylketimine complexes of platinum(II) (Y.J. Wu, L. Ding, H.X. Wang, Y.H. Liu, H.Z. Yuan and X.A. Mao), 49

Flash photolysis
Kinetics and mechanism of the reaction of photogenerated ( $\eta^{1}$-(tetrachloromethane)pentacarbonylmetal( 0 ) complexes, ( $\eta^{1}-\left(\mathrm{CCl}_{4}\right) \mathrm{M}$ $\left.(\mathrm{CO})_{5} ; \mathrm{M}=\mathrm{Mo}, \mathrm{W}\right)$ with 1 -hexene: the initial steps in the creation of olefin methathesis catalysts (G.R. Dobson, J.P. Smit, W. Purcell and S. Ladogana), 63

## Gold compound

Chiral phosphine ligands derived from sugars. 10. Syntheses, structure, characterization, and antitumor activity of the gold(I) complexes with sugar-substructure phosphine ligands (J.-C. Shi, L.-J. Chen, X.-Y. Huang, D.-X. Wu and B.-S. Kang), 17

## Hafnium

Neutral and cationic di(tert-butyl)cyclopentadienyl titanium, zirconium and hafnium complexes. Dynamic NMR study of the ligand-free cations $\left[\mathrm{M}\left(1,3-{ }^{-} \mathrm{Bu}_{2}-\eta^{5}-\mathrm{C}_{5} \mathrm{H}_{3}\right)\left(\eta^{5}-\mathrm{C}_{5} \mathrm{H}_{5}\right)\left(\mathrm{CH}_{3}\right)\right]^{+}(\mathrm{M}$ $=\mathrm{Zr}, \mathrm{Hf}$ ) (J.I. Amor, T. Cuenca, M. Galakhov, P. Gómez-Sal, A. Manzanero and P. Royo), 155
Halocarbons
Kinetics and mechanism of the reaction of photogenerated ( $\eta^{\prime}$-(tetrachloromethane)pentacarbonylmetal( 0 ) complexes, $\left(\eta^{1}-\left(\mathrm{CCl}_{4}\right) \mathrm{M}\right.$ $(\mathrm{CO})_{5} ; \mathrm{M}=\mathrm{Mo}, \mathrm{W}$ ) with 1-hexene: the initial steps in the creation of olefin methathesis catalysts (G.R. Dobson, J.P. Smit, W. Purcell and S. Ladogana), 63
Homogeneous catalysis
$\mathrm{Cp}_{2}^{*} \mathrm{Zr}\left(\mu-\mathrm{C}_{4} \mathrm{H}_{6}\right) \mathrm{B}\left(\mathrm{C}_{6} \mathrm{~F}_{5}\right)_{3}$, a first example of a stable unbridged homogeneous metallocene-betaine Ziegler catalyst system ( J . Karl, G. Erker and R. Fröhlich), 59
Hydrazone
Stereochemical rigidity in a trimetallic complex. X-ray crystal structure of trans- $\left[\mathrm{Pd}\left(\left(\eta^{5}-\mathrm{C}_{5} \mathrm{H}_{5}\right) \mathrm{Fe}\left[\left(\eta^{5}-\mathrm{C}_{5} \mathrm{H}_{4}\right)-\mathrm{CH}=\mathrm{N}-\mathrm{N}\left(\mathrm{CH}_{3}\right)_{2}\right]\right]_{2^{-}}\right.$ $\mathrm{Cl}_{2}$ ] (C. López, R. Bosque, X. Solans and M. Font-Bardía), 99

## Infrared spectroscopy

Studies on some di- and triorganotin(IV) derivatives of bis(1-pyrazolyl)borates and some related compounds (D.K. Dey, M.K. Das and R.K. Bansal), 7
Iridium
Mixed-metal cluster chemistry V. Syntheses and X-ray crystal structure of $\mathrm{Cp}_{2} \mathrm{Mo}_{2} \mathrm{Ir}_{2}\left(\mu_{3}-\mathrm{CO}\right)(\mu-\mathrm{CO})_{5}(\mathrm{CO})_{4}$ (N.T. Lucas, M.G. Humphrey and D.C.R. Hockless), 175
IR spectroscopy
Complexation of [ $\omega$-diphenylphosphinoalkyl]diphenylphosphine sulphides with $\mathrm{AgNO}_{3}$ (E.I. Matrosov, Z.A. Starikova, A.I.

Yanovsky, D.I. Lobanov, I.M. Aladzheva, O.V. Bykhovskaya, Yu.T. Struchkov, T.A. Mastryukova and M.I. Kabachnik), 121
Isocyanide complexes
Mechanism of aminocarbene formation by nucleophilic attack on isocyanide ligands in platinum(II) 2-pyrazyl and 4-pyridyl complexes (L. Canovese, F. Visentin, P. Uguagliati, B. Crociani and F. Di Bianca), 69

Kinetics
Kinetics and mechanism of the reaction of photogenerated ( $\eta^{1}$-(tetrachloromethane)pentacarbonylmetal( 0 ) complexes, ( $\eta^{1}-\left(\mathrm{CCl}_{4}\right) \mathrm{M}$ $(\mathrm{CO})_{5} ; \mathbf{M}=\mathbf{M o}, \mathrm{W}$ ) with 1-hexene: the initial steps in the creation of olefin methathesis catalysts (G.R. Dobson, J.P. Smit, W. Purcell and S. Ladogana), 63
Kinetics and mechanism
Mechanism of aminocarbene formation by nucleophilic attack on isocyanide ligands in platinum(II) 2-pyrazyl and 4-pyridyl complexes (L. Canovese, F. Visentin, P. Uguagliati, B. Crociani and F. Di Bianca), 69

## Lithium

Formation of aromatic amines from dinitrogen complexes $\left[\mathrm{CP}_{2} \mathrm{TiAr}\right]_{2}-$ $\mathrm{N}_{2}\left(\mathrm{Ar}=\mathrm{C}_{6} \mathrm{H}_{5}, m-\mathrm{CH}_{3} \mathrm{C}_{6} \mathrm{H}_{4}\right)$ (E.G. Berkovich, V.S. Lenenko, L.I. Vyshinskaya, G.A. Vasil'eva, V.B. Shur and M.E. Vol'pin), 169
Manganese diphosphine complexes
Preparation, reactions, and infrared spectra of fac- $(\mathrm{CO})_{3}(\mathrm{P}-\mathrm{P}) \mathrm{Mn}-\mathrm{Z}$ complexes ( $\mathrm{P}-\mathrm{P}=\mathrm{DEPE}, \mathrm{DPPE}, \mathrm{DPPP} ; \mathrm{Z}=\mathrm{H}, \mathrm{OTs}$, OMe , $\mathrm{OC}(\mathrm{O}) \mathrm{OMe}, \mathrm{NCO}, \mathrm{Cl}, \mathrm{Br}, \mathrm{N}_{3}$ ) (G.Q. Li and M. Orchin), 43
Metallocenes
$\mathrm{Cp}_{2}^{*} \mathrm{Zr}\left(\mu-\mathrm{C}_{4} \mathrm{H}_{6}\right) \mathrm{B}\left(\mathrm{C}_{6} \mathrm{~F}_{5}\right)_{3}$, a first example of a stable unbridged homogeneous metallocene-betaine Ziegler catalyst system (J. Karl, G. Erker and R. Fröhlich), 59
Methylenephosphonium salts
Reactions of a carbosilylated methylenephosphonium ion with $\pi$-conjugated hydrocarbons (J. Thomaier, G. Alcaraz, H. Grützmacher, H. Hillebrecht, C. Marchand and U. Heim), 91

## Molybdenum

Kinetics and mechanism of the reaction of photogenerated ( $\eta^{1}$-(tetrachloromethane)pentacarbonylmetal( 0 ) complexes, $\left(\eta^{1}-\left(\mathrm{CCl}_{4}\right) \mathrm{M}\right.$ $(\mathrm{CO})_{5} ; \mathbf{M}=\mathbf{M o}, \mathrm{W}$ ) with 1-hexene: the initial steps in the creation of olefin methathesis catalysts (G.R. Dobson, J.P. Smit, W. Purcell and S. Ladogana), 63
Mixed-metal cluster chemistry V. Syntheses and X-ray crystal structure of $\mathrm{CP}_{2} \mathrm{Mo}_{2} \mathrm{Ir}_{2}\left(\mu_{3}-\mathrm{CO}\right)(\mu-\mathrm{CO})_{5}(\mathrm{CO})_{4}$ (N.T. Lucas, M.G. Humphrey and D.C.R. Hockless), 175
Synthesis and spectroscopic properties of some new bi-, tri- and tetrametallic complexes of the type $\left[\mathrm{M}(\mathrm{CO})_{5} \mathrm{~L}\right],\left[\mathrm{M}(\mathrm{CO})_{4} \mathrm{~L}_{2}\right]$ and $\left[\mathrm{M}(\mathrm{CO})_{3} \mathrm{~L}_{3}\right]\left\{\mathrm{M}=\mathrm{Cr}, \mathrm{Mo}, \mathrm{W} ; \mathrm{L}=\left[\mathrm{WI}_{2}(\mathrm{CO})\left\{\mathrm{Ph}_{2} \mathrm{P}\left(\mathrm{CH}_{2}\right)_{2} \mathrm{PPh}-\right.\right.\right.$ $\left.\left.\left(\mathrm{CH}_{2}\right)_{2} \mathrm{PPh}_{2}-P, P^{\prime}\right\}\left(\eta^{2}-\mathrm{RC}_{2} \mathrm{R}^{\prime}\right)\right]\left(\mathrm{R}=\mathrm{R}^{\prime}=\mathrm{Me}, \mathrm{Ph} ; \mathrm{R}=\mathrm{Me}, \mathrm{R}^{\prime}=\right.$ $\mathrm{Ph})$ \} (P.K. Baker and M.M. Meehan), 129

Nickel
Reductive elimination of $\mathrm{Et}-\mathrm{Et}$ from $\mathrm{NiEt}_{2}$ (bpy) promoted by elec-tron-accepting aromatic compounds (T. Yamamoto and M. Abla), 209
Nuclear magnetic resonance
Chiral phosphine ligands derived from sugars. 10. Syntheses, structure, characterization, and antitumor activity of the gold(I) complexes with sugar-substructure phosphine ligands (J.-C. Shi, L.-J. Chen, X.-Y. Huang, D.-X. Wu and B.-S. Kang), 17
Nucleophilic attacks
Mechanism of aminocarbene formation by nucleophilic attack on isocyanide ligands in platinum(II) 2-pyrazyl and 4-pyridyl complexes (L. Canovese, F. Visentin, P. Uguagliati, B. Crociani and F. Di Bianca), 69

## Olefin metathesis

Kinetics and mechanism of the reaction of photogenerated ( $\eta^{1}$-(tetrachloromethane)pentacarbonylmetal( 0 ) complexes, $\left(\eta^{1}-\left(\mathrm{CCl}_{4}\right)\right.$ M$\left.(\mathrm{CO})_{5} ; \mathrm{M}=\mathrm{Mo}, \mathrm{W}\right)$ with 1 -hexene: the initial steps in the creation of olefin methathesis catalysts (G.R. Dobson, J.P. Smit, W. Purcell and S. Ladogana), 63

## Palladium(II)

Stereochemical rigidity in a trimetallic complex. X-ray crystal structure of trans $-\left[\operatorname{Pd}\left\{\left(\eta^{5}-\mathrm{C}_{5} \mathrm{H}_{5}\right) \mathrm{Fe}\left[\left(\eta^{5}-\mathrm{C}_{5} \mathrm{H}_{4}\right)-\mathrm{CH}=\mathrm{N}-\mathrm{N}\left(\mathrm{CH}_{3}\right)_{2}\right]\right]_{2}-\right.$ $\mathrm{Cl}_{2}$ ] (C. López, R. Bosque, X. Solans and M. Font-Bardia), 99

## Phosphaethene

Preparation and photoisomerization of 2-phosphaethenylbenzenes having more than one phosphorus-carbon double bond (H. Kawanami, K. Toyota and M. Yoshifuji), 1
Phosphine-phosphine sulphide
Complexation of [ $\omega$-diphenylphosphinoalkyl]diphenylphosphine sulphides with $\mathrm{AgNO}_{3}$ (E.I. Matrosov, Z.A. Starikova, A.I. Yanovsky, D.I. Lobanov, I.M. Aladzheva, O.V. Bykhovskaya, Yu.T. Struchkov, T.A. Mastryukova and M.I. Kabachnik), 121
Phosphonioethynyl
Ethinylkomplexe des Rutheniums mit terminalen Hauptgruppenele-ment-Substituenten: Systematischer Aufbau metallgebundener Phosphoniumacetylid-Liganden $\mathrm{R}^{\prime} \mathrm{R}_{2} \mathbf{P}^{(+)}-\left.\mathrm{C} \equiv \mathrm{C}\right|^{(-)}$(L. Dahlenburg, A. Weiß und M. Moll), 195
Phosphonium salts
Reactions of a carbosilylated methylenephosphonium ion with $\pi$-conjugated hydrocarbons (J. Thomaier, G. Alcaraz, H. Grützmacher, H. Hillebrecht, C. Marchand and U. Heim), 91

Phosphonus
Preparation and photoisomerization of 2-phosphaethenylbenzenes having more than one phosphorus-carbon double bond (H. Kawanami, K. Toyota and M. Yoshifuji), 1
Phosphorus NMR
Complexation of [ $\omega$-diphenylphosphinoalkyl]diphenylphosphine sulphides with $\mathrm{AgNO}_{3}$ (E.I. Matrosov, Z.A. Starikova, A.I. Yanovsky, D.I. Lobanov, I.M. Aladzheva, O.V. Bykhovskaya, Yu.T. Struchkov, T.A. Mastryukova and M.I. Kabachnik), 121
Platinum
Synthesis, characterization and structure of ferrocenylketimine complexes of platinum(II) (Y.J. Wu, L. Ding, H.X. Wang, Y.H. Liu, H.Z. Yuan and X.A. Mao), 49

Platinum complexes
Mechanism of aminocarbene formation by nucleophilic attack on isocyanide ligands in platinum(II) 2-pyrazyl and 4-pyridyl complexes (L. Canovese, F. Visentin, P. Uguagliati, B, Crociani and F. Di Bianca), 69

Polymerization
$\mathrm{Cp}_{2}^{*} \mathrm{Zr}\left(\mu-\mathrm{C}_{4} \mathrm{H}_{6}\right) \mathrm{B}\left(\mathrm{C}_{6} \mathrm{~F}_{5}\right)_{3}$, a first example of a stable unbridged homogeneous metallocene-betaine Ziegler catalyst system (J. Karl, G. Erker and R. Fröhlich), 59

Reductive elimination
Reductive elimination of $\mathrm{Et}-\mathrm{Et}$ from $\mathrm{NiEt}_{2}$ (bpy) promoted by elec-tron-accepting aromatic compounds (T. Yamamoto and M. Abla), 209

## Ruthenium

Ethinylkomplexe des Rutheniums mit terminalen Hauptgruppenele-ment-Substituenten: Systematischer Aufbau metallgebundener Phosphoniumacetylid-Liganden $\mathrm{R}^{\prime} \mathrm{R}_{2} \mathrm{P}^{(+)}-\left.\mathrm{C} \equiv \mathrm{C}\right|^{(-)}$(L. Dahlenburg, A. Weiß und M. Moll), 195

Silver
Complexation of [ $\omega$-diphenylphosphinoalkyl]diphenylphosphine sulphides with $\mathrm{AgNO}_{3}$ (E.I. Matrosov, Z.A. Starikova, A.I.

Yanovsky, D.I. Lobanov, I.M. Aladzheva, O.V. Bykhovskaya, Yu.T. Struchkov, T.A. Mastryukova and M.I. Kabachnik), 121

## Silylation

Silylation of silylketenes (S.N. Nikolaeva, S.V. Ponomarev, V.S. Petrosyan and J. Lorberth), 213
Stabilized phosphenium ion
Synthesis and characterization of functionalized phosphenium ions, stabilized by two intramolecular dative $\mathrm{P} \leftarrow \mathrm{N}$ bonds (J.-P. Bezombes, F. Carré, C. Chuit, R.J.P. Corriu, A. Mehdi and C. Reyé), 81
Steric protection
Preparation and photoisomerization of 2-phosphaethenylbenzenes having more than one phosphorus-carbon double bond ( H . Kawanami, K. Toyota and M. Yoshifuji), 1

Thermal isomerization
Silylation of silylketenes (S.N. Nikolaeva, S.V. Ponomarev, V.S. Petrosyan and J. Lorberth), 213

## Titanium

Formation of aromatic amines from dinitrogen complexes $\left[\mathrm{CP}_{2} \mathrm{TiAr}\right]_{2}-$ $\mathrm{N}_{2}\left(\mathrm{Ar}=\mathrm{C}_{6} \mathrm{H}_{5}, m-\mathrm{CH}_{3} \mathrm{C}_{6} \mathrm{H}_{4}\right)$ (E.G. Berkovich, V.S. Lenenko, L.I. Vyshinskaya, G.A. Vasil'eva, V.B. Shur and M.E. Vol'pin), 169
Neutral and cationic di(tert-butyl)cyclopentadienyl titanium, zirconium and hafnium complexes. Dynamic NMR study of the ligand-free cations $\left[\mathrm{M}\left(1,3-{ }^{\mathrm{L}} \mathrm{Bu}_{2}-\eta^{5}-\mathrm{C}_{5} \mathrm{H}_{3}\right)\left(\eta^{5}-\mathrm{C}_{5} \mathrm{H}_{5}\right)\left(\mathrm{CH}_{3}\right)\right]^{+}(\mathrm{M}$ $=\mathrm{Zr}, \mathrm{Hf}$ ) (J.I. Amor, T. Cuenca, M. Galakhov, P. Gómez-Sal, A. Manzanero and P. Royo), 155
Triazolato complexes
Preparation, reactions, and infrared spectra of fac- $(\mathrm{CO})_{3}(\mathrm{P}-\mathrm{P}) \mathrm{Mn}-\mathrm{Z}$ complexes ( $\mathrm{P}-\mathrm{P}=\mathrm{DEPE}, \mathrm{DPPE}$, DPPP; $\mathrm{Z}=\mathrm{H}$, OTs, OMe, OC(O)OMe, NCO, $\mathrm{Cl}, \mathrm{Br}, \mathrm{N}_{3}$ ) (G.Q. Li and M. Orchin), 43
1-Trimethylsiloxy-2-silylethynes
Silylation of silylketenes (S.N. Nikolaeva, S.V. Ponomarev, V.S. Petrosyan and J. Lorberth), 213
Trimethylsilyl(silyl)ketenes
Silylation of silylketenes (S.N. Nikolaeva, S.V. Ponomarev, V.S. Petrosyan and J. Lorberth), 213
Triphus
Synthesis and spectroscopic properties of some new bi-, tri- and tetrametallic complexes of the type $\left[\mathrm{M}(\mathrm{CO})_{5} \mathrm{~L}\right],\left[\mathrm{M}(\mathrm{CO})_{4} \mathrm{~L}_{2}\right]$ and $\left[\mathrm{M}(\mathrm{CO})_{3} \mathrm{~L}_{3}\right]\left\{\mathrm{M}=\mathrm{Cr}, \mathrm{Mo}, \mathrm{W} ; \mathrm{L}=\left[\mathrm{WI}_{2}(\mathrm{CO})\left(\mathrm{Ph}_{2} \mathrm{P}\left(\mathrm{CH}_{2}\right)_{2} \mathrm{PPh}-\right.\right.\right.$
$\left.\left.\left(\mathrm{CH}_{2}\right)_{2} \mathrm{PPh}_{2}-P, P^{\prime}\right)\left(\eta^{2}-\mathrm{RC}_{2} \mathrm{R}^{\prime}\right)\right]\left(\mathrm{R}=\mathrm{R}^{\prime}=\mathrm{Me}, \mathrm{Ph} ; \mathrm{R}=\mathrm{Me}, \mathrm{R}^{\prime}=\right.$ Ph) ( $\mathrm{P} . \mathrm{K}$. Baker and M.M. Meehan), 129
2,4,6-Tri-t-butylphenyl
Preparation and photoisomerization of 2-phosphaethenylbenzenes having more than one phosphorus-carbon double bond (H. Kawanami, K. Toyota and M. Yoshifuji), 1
Tungsten
Kinetics and mechanism of the reaction of photogenerated ( $\eta^{1}$-(tetrachloromethane)pentacarbonylmetal( 0 ) complexes, ( $\eta^{1}$ - $\left(\mathrm{CCl}_{4}\right)$ M$\left.(\mathrm{CO})_{5} ; \mathrm{M}=\mathrm{Mo}, \mathrm{W}\right)$ with 1 -hexene: the initial steps in the creation of olefin methathesis catalysts (G.R. Dobson, J.P. Smit, W. Purcell and S. Ladogana), 63
Synthesis and spectroscopic properties of some new bi-, tri- and tetrametallic complexes of the type $\left[\mathrm{M}(\mathrm{CO})_{5} \mathrm{~L}\right],\left[\mathrm{M}(\mathrm{CO})_{4} \mathrm{~L}_{2}\right]$ and $\left[\mathrm{M}(\mathrm{CO})_{3} \mathrm{~L}_{3}\right]\left\{\mathrm{M}=\mathrm{Cr}, \mathrm{Mo}, \mathrm{W} ; \mathrm{L}=\left[\mathrm{WI}_{2}(\mathrm{CO})\left(\mathrm{Ph}_{2} \mathrm{P}\left(\mathrm{CH}_{2}\right)_{2} \mathrm{PPh}-\right.\right.\right.$ $\left.\left(\mathrm{CH}_{2}\right)_{2} \mathrm{PPh}_{2}-P, P^{\prime} \mathcal{}\left(\eta^{2}-\mathrm{RC}_{2} \mathrm{R}^{\prime}\right)\right]\left(\mathrm{R}=\mathrm{R}^{\prime}=\mathrm{Me}, \mathrm{Ph} ; \mathrm{R}=\mathrm{Me}, \mathrm{R}^{\prime}=\right.$ Ph) (P.K. Baker and M.M. Meehan), 129

## X-ray crystallographic analysis

Preparation and photoisomerization of 2-phosphaethenylbenzenes having more than one phosphorus-carbon double bond (H. Kawanami, K. Toyota and M. Yoshifuji), 1

## X-ray diffraction

Chiral phosphine ligands derived from sugars. 10. Syntheses, structure, characterization, and antitumor activity of the gold(I) complexes with sugar-substructure phosphine ligands (J.-C. Shi, L.-J. Chen, X.-Y. Huang, D.-X. Wu and B.-S. Kang), 17

## X-ray structure analysis

Synthesis and characterization of functionalized phosphenium ions, stabilized by two intramolecular dative $\mathbf{P} \leftarrow \mathbf{N}$ bonds (J.-P. Bezombes, F. Carré, C. Chuit, R.J.P. Corriu, A. Mehdi and C. Reyé), 81

Ziegler catalysts
$\mathrm{Cp}_{2}^{*} \mathrm{Zr}\left(\mu-\mathrm{C}_{4} \mathrm{H}_{6}\right) \mathrm{B}\left(\mathrm{C}_{6} \mathrm{~F}_{5}\right)_{3}$, a first example of a stable unbridged homogeneous metallocene-betaine Ziegler catalyst system (J. Karl, G. Erker and R. Fröhlich), 59
Zirconium
Neutral and cationic di(tert-butyl)cyclopentadienyl titanium, zirconium and hafnium complexes. Dynamic NMR study of the ligand-free cations $\left[\mathrm{M}\left(1,3-{ }^{\mathrm{t}} \mathrm{Bu}_{2}-\eta^{5}-\mathrm{C}_{5} \mathrm{H}_{3}\right)\left(\eta^{5}-\mathrm{C}_{5} \mathrm{H}_{5}\right)\left(\mathrm{CH}_{3}\right)\right]^{+}(\mathrm{M}$ $=\mathrm{Zr}, \mathrm{Hf}$ ) (J.I. Amor, T. Cuenca, M. Galakhov, P. Gómez-Sal, A. Manzanero and P. Royo), 155

