

## Publikationen

120. "Addition of diazonium salts to the coordinatively unsaturated core of a dinuclear organoruthenium core", T. Mayer, P. Mayer, H.-C. Böttcher, *Z. Naturforsch.* **2024**, *79b*, in press: doi.org/10.1515/znb-2024-0006.
119. "Cytotoxic Activity of Some Half-sandwich Rhodium(III) Complexes Containing 4,4'-disubstituted-2,2'-bipyridine Ligands", M. Graf, J. Ochs, P. Mayer, N. Metzler-Nolte, H.-C. Böttcher, *Z. Anorg. Allg. Chem.* **2023**, *649*, e202300195.
118. "Cytotoxic Activities of Half-sandwich *M*(III) Complexes (*M* = Rh, Ir) Bearing Chloro-substituted Bidentate-coordinated Phenanthroline or Terpyridine Ligands", M. Graf, J. Ochs, N. Metzler-Nolte, H.-C. Böttcher, P. Mayer, *Z. Anorg. Allg. Chem.* **2023**, *649*, e202300082.
117. "Evaluation of Cytotoxic Activities of New Half-sandwich Pentamethylcyclopentadienyl Iridium(III) Complexes Containing 4,4'-substituted 2,2'-Bipyridine Ligands", M. Graf, J. Ochs, N. Metzler-Nolte, P. Mayer, H.-C. Böttcher, *Z. Anorg. Allg. Chem.* **2023**, *649*, e202200382.
116. "Ein neuartiger T-förmiger 14-Elektronen Iridium(I)-Komplex stabilisiert durch eine agostische Ir-H-Wechselwirkung", J. Heinemann, P. Mayer, H.-C. Böttcher, *Z. Naturforsch.* **2023**, *78b*, 133–138.
115. "Cytotoxic activities of Bis-cyclometalated *M*(III) Complexes (*M* = Rh, Ir) Containing 5-substituted 1,10-Phenanthroline or 4,4'-substituted 2,2'-Bipyridine Ligands", M. Graf, H.-C. Böttcher, N. Metzler-Nolte, S. Thavalingam, P. Mayer, *Z. Anorg. Allg. Chem.* **2022**, *648*, e202200206.
114. "Cytotoxic activities of Bis-cyclometalated Iridium(III) Complexes Containing Chloro-substituted  $\kappa^2N$ -terpyridines", M. Graf, H.-C. Böttcher, Peter Mayer, N. Metzler-Nolte, S. Thavalingam, R. Czerwieniec, *Z. Anorg. Allg. Chem.* **2022**, *648*, e202200047.
113. "Triphenylmethyl Thionitrite: An Efficient NO Transfer Reagent During the Synthesis of a Triruthenium Cluster", J. Heinemann, H.-C. Böttcher, *Z. Anorg. Allg. Chem.* **2022**, *648*, e202100368.
112. "Coinage metal complexes of bis(quinaldinyl)phenylphosphine – simple reactions can lead to unprecedented results", K. Karaghiosoff, C. Kirst, J. Tietze, P. Mayer, H.-C. Böttcher, *ChemistryOpen* **2022**, *11*, e202100224.
111. "Photophysical and structural characterization of the bis-cyclometalated compound [Ir(ptypy)<sub>2</sub>( $\kappa^2N$ -tppz)]PF<sub>6</sub> and evaluation of its cytotoxic activity", M. Graf, H.-C. Böttcher, R. Czerwieniec, P. Mayer, S. Thavalingam, N. Metzler-Nolte, *Inorg. Chim. Acta* **2022**, *534*, 120806.
110. "Synthesis and structural characterization of bis-cyclometalated compounds [Ir(dFppy)<sub>2</sub>(Me<sub>4</sub>phen)]PF<sub>6</sub> and [Ir(dFCF<sub>3</sub>ppy)<sub>2</sub>(Me<sub>4</sub>phen)]PF<sub>6</sub>", M. Graf, R. Czerwieniec, P. Mayer, H.-C. Böttcher, *Inorg. Chim. Acta* **2021**, *527*, 120554.

109. "Pentamethylcyclopentadienyl M(III) Complexes (M = Rh, Ir) Exhibiting 2,3,5,6-tetra(2'-pyridyl)pyrazine as Seven-membered Chelating Ligand", M. Graf, H.-C. Böttcher, P. Mayer, *Z. Anorg. Allg. Chem.* **2021**, *647*, 1316–1318.
108. "Intermediates en Route Towards Tetranitrosyl-bis(diorganophosphanido)diiron Complexes", J. Heinemann, T. Mayer, H.-C. Böttcher, *Z. Anorg. Allg. Chem.* **2021**, *647*, 1209–1212.
107. "Electron-Deficient Triruthenium Clusters Containing Small Bite-Angle PNP-Ligands", H.-C. Böttcher, J. Heinemann, *Z. Anorg. Allg. Chem.* **2021**, *647*, 876–880.
106. "In celebration of the 70<sup>th</sup> birthday of Peter Klüfers", B. Weber, S. Herres-Pawlis, H.-C. Böttcher, *Z. Anorg. Allg. Chem.* **2021**, *647*, 801–802.
105. "Cytotoxic Activities of Bis-cyclometalated Rhodium(III) and Iridium(III) Complexes Containing 2,2'-Biphenyldiamine", M. Graf, H.-C. Böttcher, N. Metzler-Nolte, K. Sünkel, S. Thavalingam, R. Czerwieniec, *Z. Anorg. Allg. Chem.* **2021**, *647*, 519–524.
104. "Bis-cyclometalated Iridium Complexes Containing Modified Phenanthroline Ligands and Evaluation of their Cytotoxic Activities", M. Graf, H.-C. Böttcher, K. Sünkel, S. Thavalingam, N. Metzler-Nolte, R. Czerwieniec, *Z. Anorg. Allg. Chem.* **2021**, *647*, 306–311.
103. "Synthesis and Molecular Structure of [Ru<sub>3</sub>(CO)<sub>10</sub>(μ-dppa)] (dppa = Ph<sub>2</sub>PN(H)PPh<sub>2</sub>) Provided by Its Dioxane Solvate", H.-C. Böttcher, J. Heinemann, *Z. Anorg. Allg. Chem.* **2020**, *646*, 1787–1789.
102. "Synthesis and Characterization of Novel Triangular Rh<sub>2</sub>Au Cluster Compound Inspired by the Isolobality Concept", H.-C. Böttcher, M. Graf, P. Mayer, M. Scheer, *ChemistryOpen* **2020**, *9*, 991–995.
101. "Reactivity of Cyanide and Thiocyanate Towards the Nitrosyl Carbonyl [Co(CO)<sub>3</sub>(NO)]", H.-C. Böttcher, M. Graf, P. Mayer, *Z. Anorg. Allg. Chem.* **2020**, *646*, 1432–1436.
100. "Spontaneous Reductive Elimination at Iridium(III) Induced by the Strong π-Acceptor Ligand Trifluorophosphane", H.-C. Böttcher, P. Mayer, K. Karaghiosoff, *Z. Anorg. Allg. Chem.* **2020**, *646*, 558–560.
99. "An Entry to Double Phosphanyl-bridged Dinuclear Rhodium(II) Complexes", H.-C. Böttcher, M. Graf, P. Mayer, M. Scheer, *Eur. J. Inorg. Chem.* **2019**, 2648–2653.
98. "Synthesis and molecular structure of [Rh( $\eta^5$ -C<sub>5</sub>H<sub>5</sub>)(coe)(PtBu<sub>2</sub>H)] (coe = *cis*-cyclooctene)", H.-C. Böttcher, P. Mayer, D. Beck, *Z. Naturforsch.* **2019**, *74b*, 455–457.
97. "Synthesis, characterization and studies on the biological activity of bis-cyclometalated M(III) complexes (M = Rh, Ir and Ru)", K. Sünkel, M. Graf, D. Siegmund, N. Metzler-Nolte, H.-C. Böttcher, *Inorg. Chim. Acta* **2019**, *487*, 9–14.

96. "A deeper insight in solutions containing the hypothetical labile complex species "Fe(CO)<sub>4</sub>THF", H.-C. Böttcher, W. Beck, *Z. Anorg. Allg. Chem.* **2019**, *645*, 158–160.
95. "Wavelength-selective photoisomerisation of nitric oxide and nitrite in a rhodium complex", D. Schaniel, E.-E. Bendeif, T. Woike, H.-C. Böttcher, S. Pillet, **2018**, *CrystEngComm.* **2018**, *20*, 7100–7108.
94. "Crystal and molecular structure of *trans*-[RhCl(CO)(P<sup>t</sup>Bu<sub>2</sub>Ph)<sub>2</sub>]", P. Mayer, H.-C. Böttcher, *Z. Naturforsch.* **2018**, *73b*, 1029–1032.
93. "Synthesis and Molecular Structure of *trans*-[RhCl<sub>2</sub>(*t*Bu<sub>2</sub>Ph)<sub>2</sub>]: a Rare Example of a Mononuclear Rhodium(II) Complex", H.-C. Böttcher, P. Klüfers, T. Mies, P. Mayer, *Z. Anorg. Allg. Chem.* **2018**, *644*, 1593–1597.
92. "Interplay of Electronic and Steric Effects of R<sub>2</sub>PH (R = Bu<sup>t</sup>, *o*-tolyl) in Reactions with Triruthenium Dodecacarbonyl", H.-C. Böttcher, M. Graf, P. Mayer, *Z. Anorg. Allg. Chem.* **2018**, *644*, 1149–1152.
91. "Synthesis and crystal structure of a homoleptic diruthenium complex containing tetra-2-pyridyl-1,4-pyrazine (tppz)", M. Graf, P. Mayer, H.-C. Böttcher, *Z. Naturforsch.* **2017**, *72b*, 759–762.
90. "Synthesis and Molecular Structures of [Rh( $\eta^5$ -C<sub>5</sub>H<sub>5</sub>)(coe)<sub>2</sub>] (coe = *cis*-cyclooctene) and [Rh( $\eta^5$ -C<sub>5</sub>H<sub>5</sub>)(cod)] (cod = *cis,cis*- $\eta^4$ -1.5-cyclooctadiene)", M. Graf, H.-C. Böttcher, P. Mayer, M. Scheer, *Z. Anorg. Allg. Chem.* **2017**, *643*, 1323–1325.
89. "Conformational Rigidity in Complexes [MCl(*t*Bu<sub>2</sub>PH)<sub>3</sub>] (M = Rh, Ir)", H.-C. Böttcher, P. Mayer, *Z. Anorg. Allg. Chem.* **2017**, *643*, 1107–1111.
88. "Reaction Behavior of the Collman Reagent Towards the Nitrosyl Carbonyls [CoNO(CO)<sub>3</sub>] and [Fe(NO)<sub>2</sub>(CO)<sub>2</sub>]", H.-C. Böttcher, W. Beck, *Z. Naturforsch.* **2017**, *72b*, 457–460.
87. "Reaction Behavior of Decarbonyldimetallates(2-) (M = Cr and Mo) towards the Nitrosyl Carbonyls of Iron and Cobalt", H.-C. Böttcher, *Z. Anorg. Allg. Chem.* **2017**, *643*, 410–412.
86. "Synthesis and Molecular Structure of *trans*-[IrCl(NO)(P<sup>t</sup>Bu<sub>2</sub>H)<sub>2</sub>]BF<sub>4</sub>", H.-C. Böttcher, T. Mies, P. Mayer, *Z. Anorg. Allg. Chem.* **2016**, *642*, 793–795.
85. "Synthesis and Molecular Structure of *trans*-[RhCl(NO)(P<sup>t</sup>Bu<sub>2</sub>H)<sub>2</sub>]BF<sub>4</sub>", H.-C. Böttcher, P. Mayer, *Z. Anorg. Allg. Chem.* **2016**, *642*, 299–301.
84. "Cyclometalation of Phenylpyridines by Rhodium(I) *via* Room-temperature C–H Bond Activation", H.-C. Böttcher, M. Graf, P. Mayer, *Z. Anorg. Allg. Chem.* **2015**, *641*, 1856–1858.

83. “Cyclometalation of Phosphanes at Iridium(I): Interplay with Intramolecular Reductive Elimination Induced by the Strong  $\pi$ -Acceptor Ligands CO and NO<sup>+</sup>”, H.-C. Böttcher, M. Junk, P. Mayer, W. Beck, *Eur. J. Inorg. Chem.* **2015**, 3323–3327.
82. “Convenient Synthesis and Molecular Structure of the Cyclometallated Complex [IrCl(H)(C<sub>6</sub>H<sub>4</sub>PPh<sub>2</sub>)(PPh<sub>3</sub>)<sub>2</sub>]<sup>+</sup>”, H.-C. Böttcher, P. Mayer, *Z. Naturforsch.* **2014**, *69b*, 1237–1240.
81. “Diruthenium tetracarbonyl complexes of sawhorse-type”, D. Beck, P. Mayer, H.-C. Böttcher, *J. Organomet. Chem.* **2014**, *767*, 160–164.
80. “Convenient Synthesis and Molecular Structure of PPN[RhCl<sub>2</sub>(CO)<sub>2</sub>] (PPN<sup>+</sup> = bis(triphenylphosphane)iminium)”, H.-C. Böttcher, P. Mayer, *Z. Naturforsch.* **2014**, *69b*, 376–378.
79. “Protonation of metal-metal bonds in nitrosyl-bridged diruthenium complexes”, T. Mayer, H.-C. Böttcher, *Polyhedron* **2014**, *69*, 240–243.
78. “Diazaald: an entry to diruthenium complexes containing bridging nitrosyl ligands”, T. Mayer, P. Mayer, H.-C. Böttcher, *J. Organomet. Chem.* **2014**, *751*, 368–373.
77. “Synthesis and Molecular Structure of [Fe<sub>2</sub>( $\mu$ -PtBu<sub>2</sub>)<sub>2</sub>(NO)<sub>4</sub>]<sup>+</sup>”, H.-C. Böttcher, P. Mayer, T. Mayer, *Z. Anorg. Allg. Chem.* **2013**, *639*, 2609–2611.
76. “Luminescent diiridium(III) complex with a bridging biuretato ligand in unprecedented *N,N':O,O'* coordination”, M. Graf, K. Sünkel, R. Czerwieniec, H.-C. Böttcher, *J. Organomet. Chem.* **2013**, *745–746*, 341–346.
75. “Activation of C–Cl bonds: Synthesis and Structural Characterization of [Ru<sub>2</sub>( $\mu$ -Cl)( $\mu$ -P<sup>t</sup>Bu<sub>2</sub>)( $\mu$ -Ph<sub>2</sub>PN(H)PPh<sub>2</sub>)(CO)<sub>4</sub>]<sup>+</sup>”, T. Mayer, H.-C. Böttcher, *Z. Naturforsch.* **2013**, *68b*, 743–746.
74. “Protonation of metal-metal bonds in coordinatively unsaturated diruthenium cores”, T. Mayer, H.-C. Böttcher, *Polyhedron* **2013**, *50*, 507–511.
73. „Eine effektive Synthese von *cis*-[IrCl<sub>2</sub>(CO)<sub>2</sub>]<sup>+</sup> unter Verwendung von Ameisensäure als Carbonylierungsagens“, H.-C. Böttcher, P. Mayer, *Z. Anorg. Allg. Chem.* **2013**, *639*, 234–236.
72. “Synthesis and structural characterization of bis-cyclometalated complexes [M(pty)<sub>2</sub>(S<sub>2</sub>COCH<sub>3</sub>)] (M = Rh, Ir; pty = 2-(*p*-tolyl)pyridinato)”, M. Graf, H.-C. Böttcher, K. Sünkel, *Inorg. Chim. Acta* **2013**, *394*, 363–366.
71. “Combining two coordinatively unsaturated diruthenium cores by the tetradentate ligand (Ph<sub>2</sub>P)<sub>2</sub>NCH<sub>2</sub>C<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>N(PPh<sub>2</sub>)<sub>2</sub>”, T. Mayer, H.-C. Böttcher, *J. Organomet. Chem.* **2012**, *715*, 64–68.

70. “Reduktive Dimerisierung von NO an Dirutheniumkomplexen und Bildung eines tridentaten 2,2-Bis(diphenylphosphanyl)-ethanolato Liganden“, T. Mayer H.-C. Böttcher, *Z. Anorg. Allg. Chem.* **2012**, 638, 1755–1760.
69. “Synthese und Kristallstruktur des Komplexsalzes  $[\text{Au}(\text{tBu}_2\text{PH})_2][\text{HCl}_2]$ “, H.-C. Böttcher, P. Mayer, H. Schmidbaur, *Z. Naturforsch.* **2012**, 67b, 543–548.
68. “Structural characterization of *N,N*-Bis(diphenylphosphanyl)propylamine“, T. Mayer, H.-C. Böttcher, *Z. Naturforsch.* **2012**, 67b, 504–506.
67. “Crystal and Molecular Structures of the *trans*-Hyponitrite Compounds  $\text{Ph}_3\text{E}(\mu\text{-ONNO})\text{EPh}_3$  (E = Ge, Pb)“, T. Mayer H.-C. Böttcher, *Z. Anorg. Allg. Chem.* **2012**, 638, 1071–1074.
66. “Reductive NO dimerization to *trans*-hyponitrite in diruthenium complexes: intramolecular attack of hyponitrite on a CO ligand“, T. Mayer, P. Mayer, H.-C. Böttcher, *J. Organomet. Chem.* **2012**, 700, 41–47.
65. “Synthesis of electronically and coordinatively unsaturated complexes  $[\text{Ru}_2(\text{CO})_4(\mu\text{-H})(\mu\text{-P}^t\text{Bu}_2)(\mu\text{-L}_2)]$  ( $\text{L}_2$  = biphosphanes)“, T. Mayer, E. Parsa, H.-C. Böttcher, *J. Organomet. Chem.* **2011**, 696, 3415–3420.
64. “Synthese und Kristallstruktur von  $[\text{Ru}_2(\text{CO})_4(\mu\text{-H})(\mu\text{-NO})(\mu\text{-P}^t\text{Bu}_2)(\mu\text{-Ph}_2\text{PCH}_2\text{PPh}_2)]\text{BF}_4$ “, H.-C. Böttcher, T. Mayer, *Z. Anorg. Allg. Chem.* **2011**, 637, 1884–1888.
63. “The Crystal and Molecular Structure of Gold(I) Complexes Containing the Electron-Rich *P*-donor Ligand  $\text{Ph}_3\text{PNPPH}_2$ “, H.-C. Böttcher, K. Lux, M. Kidik, K. Karaghiosoff, *Z. Anorg. Allg. Chem.* **2011**, 637, 353–356.
62. “Crystal and Molecular Structure of the *trans*-Hyponitrite Compound  $\text{Ph}_3\text{Sn}(\mu\text{-ONNO})\text{SnPh}_3$ “, H.-C. Böttcher, T. Mayer, W. Beck, *Z. Anorg. Allg. Chem.* **2011**, 637, 345–347.
61. “Synthesis of the tris-cyclometalated complex *fac*- $[\text{Rh}(\text{ptpy})_3]$  and X-ray crystal structure of  $[\text{Rh}(\text{acac})(\text{ptpy})_2]$ “, H.-C. Böttcher, M. Graf, K. Sünkel, B. Salert, H. Krüger, *Inorg. Chem. Commun.* **2011**, 14, 377–379.
60. “Towards the new cyclometalated complex  $[\{\text{Rh}(\mu\text{-Cl})(\text{ptpy})_2\}_2]$  (ptpy = 2-(*p*-tolyl)pyridinato)“, K. Sünkel, M. Graf, H.-C. Böttcher, B. Salert, H. Krüger, *Inorg. Chem. Commun.* **2011**, 14, 539–541.
59. “Efficient synthesis of the cyclometalated complex *fac*- $[\text{Rh}(\text{ppy})_3]$  (ppy = 2-phenylpyridinato)“, H.-C. Böttcher, M. Graf, K. Sünkel, H. Krüger, *Inorg. Chim. Acta* **2011**, 370, 523–525.
58. “ $[\text{Ir}(\text{acac})(\eta^2\text{-C}_8\text{H}_{14})_2]$ : A precursor in the synthesis of cyclometalated iridium(III) complexes“, H.-C. Böttcher, M. Graf, K. Sünkel, P. Mayer, H. Krüger, *Inorg. Chim. Acta* **2011**, 365, 103–107.

57. “Hyponitrite Complexes: Crystal and Molecular Structure of  $[\text{Ru}_2(\text{CO})_4(\mu\text{-P}^t\text{Bu}_2)(\mu\text{-Ph}_2\text{PCH}_2\text{PPh}_2)(\mu\text{-}\eta^2\text{-ONNOMe})]$ ”, H.-C. Böttcher, P. Mayer, *Inorg. Chim. Acta* **2010**, 363, 799–801.
56. “Coordination Behavior of  ${}^t\text{Bu}_2\text{PH}$  towards  $[\{\text{Rh}(\mu\text{-Cl})(\text{coe})_2\}_2]$  (coe = *cis*-cyclooctene): Crystal and Molecular Structure of  $[\{\text{Rh}(\mu\text{-Cl})({}^t\text{Bu}_2\text{PH})_2\}_2]$ ”, H.-C. Böttcher, P. Mayer, *Z. Naturforsch.* **2008**, 63b, 1035–1039.
55. “Crystal and Molecular Structure of *trans*- $[\text{IrCl}(\text{N}_2)(\text{P}^i\text{Pr}_3)_2]$ ”, H.-C. Böttcher, M. Graf, P. Mayer, K. Sünkel, *Z. Anorg. Allg. Chem.* **2008**, 634, 1241–1243.
54. “The Crystal Structure of *trans*- $[\{\text{Rh}(\mu\text{-Cl})(\text{CO})(\text{coe})\}_2]$  (coe = *cis*-cyclooctene)”, H.-C. Böttcher, P. Mayer, *Z. Naturforsch.* **2008**, 63b, 342–344.
53. “Towards Rhodium and Iridium Complexes Containing the Secondary Phosphane Ligand  ${}^t\text{Bu}_2\text{PH}$ ”, H.-C. Böttcher, M. Graf, K. Karaghiosoff, P. Mayer, *Z. Anorg. Allg. Chem.* **2007**, 633, 2374–2379.
52. “Synthesis and Molecular Structure of *trans*- $[\text{IrCl}(\text{coe})({}^t\text{Bu}_2\text{PH})_2]$  (coe = *cis*-cyclooctene)”, H.-C. Böttcher, M. Graf, K. Karaghiosoff, P. Mayer, *Z. Anorg. Allg. Chem.* **2007**, 633, 913–916.
51. “A Counterintuitive Structural Effect of Metal-Metal Bond Protonation and its Electronic Underpinnings”, A. D. Phillips, A. Ienco, J. Reinhold, H.-C. Böttcher, C. Mealli, *Chem. Eur. J.* **2006**, 12, 4691–4701.
50. “Synthesis and X-ray Crystal Structure of a Heteroleptic Tris-cyclometalated Iridium(III) complex”, H.-C. Böttcher, M. Graf, H. Krüger, C. Wagner, *Inorg. Chem. Commun.* **2005**, 8, 278–280.
49. “Hydrodimetalation of *tert*-Butylphosphaethyne by a Diruthenium Complex - Crystal and Molecular Structure of  $[\text{Ru}_2(\text{CO})_4(\mu\text{-P}^t\text{Bu}_2)(\mu\text{-Ph}_2\text{PCH}_2\text{PPh}_2)\{\mu\text{-PC}(\text{H})\text{Bu}^t\}]$ ”, H.-C. Böttcher, D. Himmel, M. Scheer, *Organometallics* **2004**, 23, 5314–5316.
48. “Synthesis and X-ray Crystal Structure of the Secondary Phosphine Complex  $[\text{Rh}(\text{NO})(\text{NO}_2)_2(\text{Bu}^t_2\text{PH})_2]$ ”, H.-C. Böttcher, K. Mereiter, *Inorg. Chem. Commun.* **2004**, 7, 1225–1228.
47. “Reaction Properties of the *trans*-Hyponitrite Complex  $[\text{Ru}_2(\text{CO})_4(\mu\text{-H})(\mu\text{-P}^t\text{Bu}_2)(\mu\text{-Ph}_2\text{PCH}_2\text{PPh}_2)(\mu\text{-}\eta^2\text{-ONNO})]$ ”, H.-C. Böttcher, C. Wagner, K. Kirchner, *Inorg. Chem.* **2004**, 43, 6294–6299.
46. “Reductive Dimerization of Nitric Oxide to *trans*-Hyponitrite in the Coordination Sphere of a Dinuclear Ruthenium Complex”, H.-C. Böttcher, M. Graf, K. Mereiter, K. Kirchner, *Organometallics* **2004**, 23, 1269–1273.

45. “[Fe<sub>2</sub>(μ<sub>sb</sub>-CO)(CO)<sub>3</sub>(NO)(μ-P<sup>t</sup>Bu<sub>2</sub>)(μ-Ph<sub>2</sub>PCH<sub>2</sub>PPh<sub>2</sub>): Synthese, Kristallstruktur und Koordinationsisomerie“, H.-C. Böttcher, H. Schmidt, S. Tobisch, C. Wagner, *Z. Anorg. Allg. Chem.* **2003**, 629, 686–692.
44. “Coordinatively unsaturated complexes [M<sub>2</sub>(CO)<sub>4</sub>(μ-H)(μ-P<sup>t</sup>Bu<sub>2</sub>)(μ-Ph<sub>2</sub>PCH<sub>2</sub>PPh<sub>2</sub>)] (M = Fe, Ru): Synthesis and Crystal Structures of [Fe<sub>2</sub>(CO)<sub>4</sub>(μ-H)(μ-SO)(μ-P<sup>t</sup>Bu<sub>2</sub>)(μ-Ph<sub>2</sub>PCH<sub>2</sub>PPh<sub>2</sub>)] and [Ru<sub>2</sub>(CO)<sub>4</sub>(μ-H)(μ-SO<sub>2</sub>)(μ-P<sup>t</sup>Bu<sub>2</sub>)(μ-Ph<sub>2</sub>PCH<sub>2</sub>PPh<sub>2</sub>)]“, H.-C. Böttcher, M. Graf, K. Merzweiler, C. Wagner, *Inorg. Chim. Acta* **2003**, 350, 399–406.
43. “Aktivierung von Schwefelkohlenstoff an Trirutheniumclustern: Synthese und Kristallstruktur von [Ru<sub>3</sub>(CO)<sub>4</sub>(μ-PCy<sub>2</sub>)<sub>2</sub>(μ-Ph<sub>2</sub>PCH<sub>2</sub>PPh<sub>2</sub>)(μ<sub>3</sub>-S){μ<sub>3</sub>-η<sup>2</sup>-CSC(S)S}]“, H.-C. Böttcher, M. Fernandez, M. Graf, K. Merzweiler, C. Wagner, *Z. Anorg. Allg. Chem.* **2002**, 628, 2247–2248.
42. “Aktivierung von Schwefelkohlenstoff an Trirutheniumclustern: Synthese und Kristallstruktur von [Ru<sub>3</sub>(CO)<sub>5</sub>(μ-H)<sub>2</sub>(μ-PCy<sub>2</sub>)(μ-Ph<sub>2</sub>PCH<sub>2</sub>PPh<sub>2</sub>){μ-η<sup>2</sup>-PCy<sub>2</sub>C(S)}(μ<sub>3</sub>-S)] und [Ru<sub>3</sub>(CO)<sub>5</sub>(CS)(μ-H)(μ-P<sup>t</sup>Bu<sub>2</sub>)(μ-PCy<sub>2</sub>)<sub>2</sub>(μ<sub>3</sub>-S)]“, H.-C. Böttcher, M. Graf, K. Merzweiler, C. Wagner, *Z. Anorg. Allg. Chem.* **2001**, 627, 2657–2662.
41. “Studies on the Reactivity of the Clusters [Ru<sub>3</sub>(CO)<sub>8</sub>(μ-H)<sub>2</sub>(μ-PR<sub>2</sub>)<sub>2</sub>] (R = Bu<sup>t</sup>, Cy) towards Phosphine Ligands“, H.-C. Böttcher, M. Graf, K. Merzweiler, T. Rösel, H. Schmidt, C. Wagner, *Polyhedron* **2001**, 20, 2011–2018.
40. “Protonation of Metal-Metal Bonds: X-Ray Crystal Structures of the Complex Salts [Ru<sub>2</sub>(CO)<sub>4</sub>(μ-H)(μ-Cl)(μ-PBu<sup>t</sup>)<sub>2</sub>(μ-Ph<sub>2</sub>PCH<sub>2</sub>PPh<sub>2</sub>)] [BF<sub>4</sub>] and [M<sub>2</sub>(CO)<sub>4</sub>(μ-H)<sub>2</sub>(μ-PBu<sup>t</sup>)<sub>2</sub>(μ-Ph<sub>2</sub>PCH<sub>2</sub>PPh<sub>2</sub>)] [BF<sub>4</sub>] (M = Fe, Ru)“, H.-C. Böttcher, M. Graf, K. Merzweiler, C. Wagner, *J. Organomet. Chem.* **2001**, 628, 144–150.
39. “Heterodinukleare Komplexe: Synthese und Kristallstrukturen von [RuRh(μ-CO)(CO)<sub>4</sub>(μ-P<sup>t</sup>Bu<sub>2</sub>)(<sup>t</sup>Bu<sub>2</sub>PH)], [RuRh(μ-CO)(CO)<sub>3</sub>(μ-P<sup>t</sup>Bu<sub>2</sub>)(<sup>t</sup>Bu<sub>2</sub>PH)] und [CoRh(CO)<sub>4</sub>(μ-H)(μ-P<sup>t</sup>Bu<sub>2</sub>)(<sup>t</sup>Bu<sub>2</sub>PH)]“, H.-C. Böttcher, M. Graf, K. Merzweiler, C. Wagner, *Z. Anorg. Allg. Chem.* **2001**, 627, 903–908.
38. “Synthesis and Characterization of Electron-Rich Phosphido-Bridged Clusters“, H.-C. Böttcher, M. Graf, C. Wagner, *Phosphorus Sulfur Silicon* **2001**, 169, 185–188.
37. “Electron-rich and Electron-poor heterobimetallic Butterfly Clusters: Synthesis and Structure of [Ru<sub>3</sub>Ir(CO)<sub>8</sub>(μ<sub>3</sub>-H)(μ-Cl)<sub>2</sub>(μ-PBu<sup>t</sup>)<sub>2</sub>(Bu<sup>t</sup>PH)] and [Ru<sub>3</sub>Au(CO)<sub>10</sub>(μ-Cl)(Bu<sup>t</sup>PH)]“, H.-C. Böttcher, M. Graf, K. Merzweiler, C. Wagner, *Polyhedron* **2000**, 19, 2593–2598.
36. “Koordinativ ungesättigte Dirutheniumkomplexe: Synthese und Kristallstrukturen von [Ru<sub>2</sub>(CO)<sub>3</sub>L(μ-η<sup>1</sup>:η<sup>2</sup>-C≡CPh)(μ-P<sup>t</sup>Bu<sub>2</sub>)(μ-Ph<sub>2</sub>PCH<sub>2</sub>PPh<sub>2</sub>)] (L = CO, P<sup>n</sup>Bu<sub>3</sub>)“, H.-C. Böttcher, M. Graf, K. Merzweiler, C. Wagner, *Z. Anorg. Allg. Chem.* **2000**, 626, 1335–1340.
35. “Koordinativ ungesättigte Dirutheniumkomplexe: Synthese und Kristallstrukturen von [Ru<sub>2</sub>(CO)<sub>4</sub>(μ-H)(μ-S)(μ-P<sup>t</sup>Bu<sub>2</sub>)(μ-Ph<sub>2</sub>PCH<sub>2</sub>PPh<sub>2</sub>)] und [Ru<sub>2</sub>(CO)<sub>4</sub>(μ-X)(μ-P<sup>t</sup>Bu<sub>2</sub>)(μ-Ph<sub>2</sub>PCH<sub>2</sub>PPh<sub>2</sub>)] (X = Cl, S<sub>2</sub>CH)“, H.-C. Böttcher, M. Graf, K. Merzweiler, C. Wagner, *Z. Anorg. Allg. Chem.* **2000**, 626, 597–603.

34. "Koordinativ ungesättigte Dieisenkomplexe: Synthese und Kristallstrukturen von  $[\text{Fe}_2(\text{CO})_4(\mu\text{-H})(\mu\text{-P}^t\text{Bu}_2)(\mu\text{-Ph}_2\text{PCH}_2\text{PPh}_2)]$  und  $[\text{Fe}_2(\text{CO})_4(\mu\text{-CH}_2)(\mu\text{-H})(\mu\text{-P}^t\text{Bu}_2)(\mu\text{-Ph}_2\text{PCH}_2\text{PPh}_2)]$ ", H.-C. Böttcher, K. Merzweiler, C. Wagner, *Z. Anorg. Allg. Chem.* **1999**, 625, 857–865.
33. "Koordinativ ungesättigte Dirutheniumkomplexe: Synthese und Kristallstrukturen von  $[\text{Ru}_2(\text{CO})_n(\mu\text{-H})(\mu\text{-P}^t\text{Bu}_2)(\mu\text{-Ph}_2\text{PCH}_2\text{PPh}_2)]$  und  $[\text{Ru}_2(\text{CO})_4(\mu\text{-CH}_2)(\mu\text{-H})(\mu\text{-P}^t\text{Bu}_2)(\mu\text{-Ph}_2\text{PCH}_2\text{PPh}_2)]$  ( $n = 4, 5$ )", H.-C. Böttcher, K. Merzweiler, C. Bruhn, *Z. Anorg. Allg. Chem.* **1999**, 625, 586–592.
32. "Reaktion von  $[\text{Co}(\text{Bu}^t_2\text{PH})_2\text{I}_2]$  mit  $[\text{Ru}_3(\text{CO})_{12}]$ : Synthese und Röntgenkristallstrukturanalyse von  $[\text{Ru}_3(\text{CO})_6(\mu\text{-H})(\mu\text{-I})_2(\mu\text{-P}^t\text{Bu}_2)(\text{Bu}^t_2\text{PH})]$ ", M. Graf, K. Merzweiler, C. Bruhn, H.-C. Böttcher, *Z. Naturforsch.* **1998**, 53b, 865–870.
31. "Synthesis and X-Ray Crystal Structure of  $[\text{Ru}_3(\text{CO})_7(\mu\text{-H})(\mu\text{-PCy}_2)_3]$ : Reaction with Carbon Monoxide to the Electron-Rich Cluster  $[\text{Ru}_3(\text{CO})_9(\mu\text{-H})(\mu\text{-PCy}_2)_3]$ ", H.-C. Böttcher, M. Graf, K. Merzweiler, C. Bruhn, *Polyhedron* **1998**, 17, 3433–3438.
30. "Synthesis of Triruthenium Clusters Containing Mixed Bridging Phosphido Ligands: X-Ray Crystal Structures of  $[\text{Ru}_3(\text{CO})_7(\mu\text{-H})(\mu\text{-P}^t\text{Bu}_2)(\mu\text{-PCy}_2)_2]$  and the Electron-Deficient Complex  $[\text{Ru}_3(\mu\text{-CO})(\text{CO})_5(\mu\text{-H})_2(\mu\text{-P}^t\text{Bu}_2)_2(\text{Bu}^t_2\text{PH})]$ ", M. Graf, K. Merzweiler, C. Bruhn, H.-C. Böttcher, *J. Organomet. Chem.* **1998**, 553, 371–378.
29. "A Theoretical Investigation of Classical and Non-Classical Complex Molecular Structures of  $\text{Fe}_2(\text{CO})_n(\mu\text{-PR}_2)(\mu\text{-PR}'_2)$  ( $n = 5, 6$ ) Dimers", J. Reinhold, B. Müller, H.-C. Böttcher, B. Walther, *J. Mol. Struc. (THEOCHEM)* **1997**, 397, 79–86.
28. "Synthesis and X-ray Crystal Structure of the Heterobimetallic Complex  $[\text{FeRh}(\mu\text{-CO})(\text{CO})_3(\mu\text{-P}^t\text{Bu}_2)(\mu\text{-Ph}_2\text{PCH}_2\text{PPh}_2)]$ ", H.-C. Böttcher, K. Merzweiler, C. Bruhn, *Z. Naturforsch.* **1997**, 52b, 810–814.
27. "Reaction of  $[\{\text{CuCl}(\text{Bu}^t_2\text{PH})\}_4]$  with  $[\text{Ru}_3(\text{CO})_{12}]$ : X-ray Crystal Structures of the Chloride Transfer Products  $[\text{Ru}_3(\text{CO})_7(\mu\text{-H})(\mu\text{-P}^t\text{Bu}_2)_2(\mu\text{-Cl})]$  and the Electron-Rich 50-Electron Cluster  $[\text{Ru}_3(\text{CO})_6(\mu\text{-P}^t\text{Bu}_2)(\text{Bu}^t_2\text{PH})(\mu\text{-Cl})_3]$ ", H.-C. Böttcher, M. Graf, K. Merzweiler, C. Bruhn, *Polyhedron* **1997**, 16, 3253–3260.
26. "Reactions of Rhodium Chloro Complexes Containing Secondary Phosphines with Metal Carbonyls  $[\text{M}_3(\text{CO})_{12}]$  ( $\text{M} = \text{Fe}, \text{Ru}$ ): Synthesis and X-Ray Crystal Structures of the Metal Clusters  $[\text{Ru}_3\text{Rh}(\text{CO})_7(\mu_3\text{-H})(\mu\text{-P}^t\text{Bu}_2)_2(\text{Bu}^t_2\text{PH})(\mu\text{-Cl})_2]$  and  $[\text{Ru}_3\text{Rh}(\text{CO})_8(\mu_3\text{-H})(\mu\text{-H})_2(\mu_3\text{-P}^t\text{Bu}^t)(\mu\text{-P}^t\text{Bu}_2)_2]$ ", H.-C. Böttcher, M. Graf, K. Merzweiler, *J. Organomet. Chem.* **1997**, 534, 43–49.
25. "Reactions of  $[\text{IrCl}(\text{Bu}^t_2\text{PH})_3]$  with  $[\text{M}_3(\text{CO})_{12}]$  ( $\text{M} = \text{Fe}, \text{Ru}$ ): Synthesis and X-Ray Crystal Structures of the Metal Clusters  $[\text{Ru}_3(\text{CO})_8(\mu\text{-H})_2(\mu_3\text{-P}^t\text{Bu}^t)(\text{Bu}^t_2\text{PH})]$  and  $[\text{Ru}_3\text{Ir}(\text{CO})_7(\mu\text{-H})_2(\mu\text{-P}^t\text{Bu}_2)_2(\text{Bu}^t_2\text{PH})(\mu_3\text{-Cl})]$ ", H.-C. Böttcher, M. Graf, K. Merzweiler, *J. Organomet. Chem.* **1997**, 531, 107–113.



24. "Iridium Complexes with Secondary Phosphines: Synthesis and X-Ray Crystal Structure of  $[\text{IrCl}(\text{Bu}^t_2\text{PH})_3]$ ", H.-C. Böttcher, M. Graf, K. Merzweiler, *Polyhedron* **1997**, *16*, 341–343.
23. "Synthesis and X-Ray Crystal Structure of the Electron-Deficient Metal Carbonyl Cluster  $[\text{Os}_3(\text{CO})_5(\mu_3\text{-H})(\mu\text{-H})(\mu\text{-PBU}^t_2)_2(\mu\text{-Ph}_2\text{PCH}_2\text{PPh}_2)]$ ", F. W. Heinemann, H.-C. Böttcher, *J. Organomet. Chem.* **1996**, *526*, 145–147.
22. "Synthesis and X-Ray Crystal Structures of Phosphido-bridged Heterobimetallic Complexes:  $[\text{FeIr}(\mu\text{-CO})(\text{CO})_4(\mu\text{-PBU}^t_2)(\text{Bu}^t_2\text{PH})]$  and  $[\text{CoIr}(\text{CO})_5(\mu\text{-H})(\mu\text{-PBU}^t_2)(\text{Bu}^t_2\text{PH})]$ ", H.-C. Böttcher, M. Graf, K. Merzweiler, *J. Organomet. Chem.* **1996**, *525*, 191–197.
21. "Reactions of  $[\text{Ru}_3(\text{CO})_{10}(\mu\text{-Ph}_2\text{PCH}_2\text{PPh}_2)]$  with Secondary Phosphines  $\text{R}_2\text{PH}$  Involving Bulky Substituents ( $\text{R} = \text{Bu}^t, 1\text{-Ad}, \text{Cy}$ ); X-Ray Crystal Structures of  $[\text{Ru}_3(\text{CO})_6(\mu\text{-H})_2(\mu\text{-PCy}_2)_2(\mu\text{-Ph}_2\text{PCH}_2\text{PPh}_2)]$  and the Electron-Deficient Carbonyl Cluster  $[\text{Ru}_3(\mu\text{-CO})(\text{CO})_4(\mu_3\text{-H})(\mu\text{-H})(\mu\text{-PBU}^t_2)_2(\mu\text{-Ph}_2\text{PCH}_2\text{PPh}_2)]$ ", H.-C. Böttcher, H. Thönnessen, P. G. Jones, R. Schmutzler, *J. Organomet. Chem.* **1996**, *520*, 15–22.
20. "Synthese und Kristallstruktur des koordinativ ungesättigten Komplexes  $[\text{FeRu}(\text{CO})_5(\mu\text{-PBU}^t_2)_2]$ ", H.-C. Böttcher, H. Hartung, A. Krug, *Z. Naturforsch.* **1995**, *50b*, 1175–1180.
19. "Synthesis and X-ray Crystal Structure of  $[\text{Fe}_2(\text{CO})_5(\mu\text{-PBU}^t_2)(\mu\text{-PCy}_2)(\text{dppm-P})]$ : a Complex Containing dppm [dppm = bis(diphenylphosphino)methane] in the Rare Monodentate Coordination", H.-C. Böttcher, A. Krug, H. Hartung, *Polyhedron* **1995**, *14*, 901–905.
18. "X-ray Crystal Structure of  $[\text{FeRh}(\text{CO})_6(\mu\text{-PBU}^t_2)]$  (Fe-Rh): a Molecule with Two Semibridging Carbonyl Ligands", H. Hartung, A. Krug, H.-C. Böttcher, *J. Organomet. Chem.* **1995**, *487*, C1–C4.
17. "X-ray Crystal Structures of  $\text{PPN}[\text{Fe}_2(\mu\text{-CO})(\text{CO})_6(\mu\text{-PBU}^t_2)]$  [PPN =  $(\text{PPh}_3)_2\text{N}^+$ ] and  $[\text{Fe}_2(\mu\text{-CO})(\text{CO})_6(\mu\text{-H})(\mu\text{-PBU}^t_2)]$  and Structural Comparison with the Cluster  $[\text{Fe}_2\{\mu\text{-Ag}(\text{PPh}_3)\}(\mu\text{-CO})(\text{CO})_6(\mu\text{-PBU}^t_2)]$ ," H.-C. Böttcher, H. Hartung, A. Krug, B. Walther, *Polyhedron* **1994**, *13*, 2893–2897.
16. "Electrochemical investigation of the electron-poor/precise ( $n = 5/6$ ) complexes  $[\text{Fe}_2(\text{CO})_n(\mu\text{-PR}_2)(\mu\text{-PR}'_2)]$  ( $n = 5, \text{R} = \text{R}' = \text{Bu}^t; n = 6, \text{R} = \text{R}' = \text{Ph}; \text{R} = \text{Bu}^t, \text{R}' = \text{Ph}; \text{R} = \text{Bu}^t, \text{R}' = \text{Cy}$ ). EPR study of the radical anion  $[\text{Fe}_2(\mu\text{-PBU}^t_2)_2(\text{CO})_5]^{•-}$ " J.G.M. van der Linden, J. Heck, B. Walther, H.-C. Böttcher, *Inorg. Chim. Acta* **1994**, *217*, 29–32.
15. "Ligandinduzierter Abbau von Dodecacarbonyltriruthenium mit Di-*tert*-butylphosphin: Synthese, Kristallstruktur und Strukturdynamik von  $\text{HRu}_2(\text{CO})_4(\text{PBU}^t_2)(\text{HPBU}^t_2)_2$ " H.-C. Böttcher, G. Rheinwald, H. Stoeckli-Evans, G. Süss-Fink, B. Walther, *J. Organomet. Chem.* **1994**, *469*, 163–168.
14. "Coordinatively Unsaturated Complexes  $[\text{Fe}_2(\text{CO})_5(\mu\text{-PBU}^t_2)(\mu\text{-PR}_2)]$  ( $\text{Fe}=\text{Fe}$ ) ( $\text{R} = \text{Cy}, \text{Ph}$ ): Addition of  $\text{PBU}^t_3, \text{Ph}_2\text{PH}$  and dppm (dppm = Bis(diphenylphosphino)-

- methane). The Unprecedented Complex  $[\text{Fe}_2(\text{CO})_3(\mu\text{-P}^t\text{Bu}_2)(\mu\text{-PCy}_2)(\mu\text{-dppm})]$  (Fe-Fe)" B. Walther, H. Hartung, S. Bambirra, A. Krug, H.-C. Böttcher, *Organometallics* **1994**, *13*, 172–178.
13. "Transfert réciproque d'oxygène et d'hydrogène entre deux ligands coordonnés à une ossature dinucléaire de ruthénium: synthèse et structure moléculaire de  $\text{Ru}_2(\text{CO})_6(\mu\text{-PCy}_2)[\mu\text{-P}(\text{O})\text{Cy}_2]$ " A. Beguin, H.-C. Böttcher, M. C. Dai, G. Rheinwald, H. Stoeckli-Evans, G. Süss-Fink, B. Walther, *Chimia* **1993**, *47*, 192–195.
  12. "Substitution photochemistry of bis(phosphido)-bridged diironcarbonyl complexes  $[\text{Fe}_2(\text{CO})_n(\mu\text{-P}^t\text{Bu}_2)(\mu\text{-PR}_2)]$  ( $n = 5$ ,  $\text{R} = \text{Bu}^t$ ,  $\text{Cy}$ ;  $n = 6$ ,  $\text{R} = \text{Cy}$ ,  $\text{Me}$ )" H. Knoll, H. Hennig, B. Walther, H.-C. Böttcher, D. J. Stufkens, *Inorg. Chim. Acta* **1993**, *210*, 33–37.
  11. "Synthesis of  $[\text{Mo}_2\{\mu\text{-Au}(\text{PPh}_3)\}\text{Cp}_2(\text{CO})_4(\mu\text{-PPh}_2)]$  and the Structural Comparison of this Cluster with the Dimolybdenum Complexes  $[\text{Mo}_2\text{Cp}_2(\text{CO})_4(\mu\text{-H})(\mu\text{-PPh}_2)]$  and  $\text{PPN}[\text{Mo}_2\text{Cp}_2(\text{CO})_4(\mu\text{-PPh}_2)]$  [ $\text{PPN} = (\text{PPh}_3)_2\text{N}^+$ ]", H. Hartung, B. Walther, U. Baumeister, H.-C. Böttcher, A. Krug, F. Rosche, *Polyhedron* **1992**, *11*, 1563–1568.
  10. "Synthese, Charakterisierung und Reaktivität heterodinuklearer Komplexe:  $[(\text{CO})_4\text{Fe}(\mu\text{-P}^t\text{Bu}_2)\text{Rh}(\text{CO})\text{L}]$  (Fe-Rh), ( $\text{L} = \text{CO}$ ,  $\text{HPBu}^t_2$ ),  $[(\text{CO})_3\text{Co}(\mu\text{-H})(\mu\text{-P}^t\text{Bu}_2)\text{Rh}(\text{CO})(\text{HPBu}^t_2)]$  (Co-Rh)", B. Walther, H.-C. Böttcher, M. Scheer, G. Fischer, D. Fenske, G. Süss-Fink, *J. Organomet. Chem.* **1992**, *437*, 307–321.
  9. "Interplay of Phosphido and Phosphine Ligands in Dinuclear Ruthenium Complexes: Implication in the Catalytic Hydroformylation of Ethylene", A. Beguin, H.-C. Böttcher, G. Süss-Fink, B. Walther, *J. Chem. Soc., Dalton Trans.* **1992**, 2133–2134.
  8. "Ein ungewöhnliches Paar bis(phosphido)-verbrückter Dieisencarbonylkomplexe:  $[\text{Fe}_2(\text{CO})_n\{\mu\text{-P}(\text{tBu})_2\}(\mu\text{-PCy}_2)]$  ( $n = 5$  und  $6$ )", B. Walther, H. Hartung, J. Reinhold, P.G. Jones, H.-C. Böttcher, U. Baumeister, A. Krug, *Chem. Ber.* **1992**, *125*, 1379–1382.
  7. "Structure and Bonding of the Coordinatively Unsaturated Complexes  $[\text{Fe}_2(\text{CO})_5(\mu\text{-PR}_2)(\mu\text{-PR}'_2)]$  (Fe=Fe) ( $\text{R} = \text{R}' = \text{Bu}^t$ ;  $\text{R} = \text{Ph}$ ,  $\text{R}' = \text{Bu}^t$ ). Reaction of  $\text{Na}[\text{Fe}_2(\mu\text{-CO})(\text{CO})_6(\mu\text{-PR}_2)]$  with  $\text{R}'_2\text{PCI}$  ( $\text{R}, \text{R}' = \text{Ph}, \text{Cy}, \text{Me}, \text{Bu}^t$ )", B. Walther, H. Hartung, J. Reinhold, P.G. Jones, C. Mealli, H.-C. Böttcher, U. Baumeister, A. Krug, A. Möckel, *Organometallics* **1992**, *11*, 1542–1549.
  6. "Unexpected Reaction of  $[\text{Ni}(\text{CO})_{4-n}(\text{R}_2\text{PCI})_n]$  ( $n = 1, 2$ ;  $\text{R} = \text{Bu}^t, \text{Cy}, \text{Ph}$ ) with  $\text{Na}_2[\text{Fe}_2(\text{CO})_8]$ . Synthesis and Electronic Structure of the Anions  $[\text{Fe}_2(\mu\text{-CO})(\text{CO})_6(\mu\text{-PR}_2)]^-$  and their Reactions with  $\text{H}^+$  and  $[\text{M}(\text{PPh}_3)]^+$  ( $\text{M} = \text{Cu}, \text{Ag}, \text{Au}$ )", B. Walther, H. Hartung, H.-C. Böttcher, U. Baumeister, U. Böhlend, J. Reinhold, J. Sieler, J. Ladrière, H.-M. Schiebel, *Polyhedron* **1991**, *10*, 2423–2435.
  5. "Bimetallic Catalysts Derived from Heteronuclear Clusters: Carbon Monoxide Hydrogenation and Olefin Hydroformylation on Rhodium- Molybdenum / Silica Catalysts", A. Trunschke, H. Ewald, H. Miessner, A. Fukuoka, M. Ichikawa, H.-C. Böttcher, *Mat. Chem. Phys.* **1991**, *29*, 503–508.

4. "The Molecular and Electronic Structure of the Coordinatively Unsaturated Triangular Clusters  $\text{RhM}_2\text{Cp}_3(\text{CO})_5$  ( $\text{M} = \text{Mo}, \text{W}$ )", G. Winter, B. Schulz, A. Trunschke, H. Miessner, H.-C. Böttcher, B. Walther, *Inorg. Chim. Acta* **1991**, 184, 27–34.
3. "Olefin Hydroformylation and Selective Hydrogenation of Acetaldehyde on Mo-Promoted Rh /  $\text{SiO}_2$  Catalysts Derived from Metal Salt and Heteronuclear Cluster Precursors", A. Trunschke, H.-C. Böttcher, A. Fukuoka, M. Ichikawa, H. Miessner, *Catal. Lett.* **1991**, 8, 221–228.
2. "New Bimetallic Rh-Mo and Rh-W Clusters as Precursors for Selective Heterogenous CO Hydrogenation", A. Trunschke, H. Ewald, D. Gutschick, H. Miessner, M. Skupin, B. Walther, H.-C. Böttcher, *J. Mol. Catal.* **1989**, 56, 95–106.
1. "Synthesis of Triangular  $\text{RhM}_2\text{Cp}_3(\text{CO})_n$  Clusters ( $\text{M} = \text{Ni}, n = 2$ ;  $\text{M} = \text{Fe}, n = 4$ ;  $\text{M} = \text{Mo}, \text{W}; n = 6$ ).  $\text{RhMo}_2\text{Cp}_3(\text{CO})_6$  as Catalyst Precursor in the CO Hydrogenation Reaction", B. Walther, M. Scheer, H.-C. Böttcher, A. Trunschke, H. Ewald, D. Gutschick, H. Miessner, M. Skupin, G. Vorbeck, *Inorg. Chim. Acta* **1989**, 156, 285–289.

**Patent:**

"Methods for Preparing Supported Metal Catalysts", A. Trunschke, H. Müller, H. Miessner, H.-C. Böttcher, M. Scheer, B. Walther, (Akademie der Wissenschaften, Martin-Luther-Universität), **Germany DD 296,227**, 28.10.1991, Appl. 342,379, 02.07.1990.