

Publications : Research Articles 2005 & 2006

1. Blom, B., Overett, M.J., Meijboom, R. & Moss, J.R. 2005. New palladium alpha-diimine complexes containing dendritic wedges for ethene oligomerisation. *Inorganica Chimica Acta* 358: 3491-3496.
2. Conradie, M., Kuhn, A., Muller, A. & Conradie, J. 2006. Methyl 4-[[[(1Z)-1-benzoyl-3-oxo-3-phenylprop-1-en-1-yl]amino]benzoate. *Acta Crystallographica E62*: o4717-o4719.
3. Conradie, M.M., Conradie, J. & Ghosh, A. 2006. A DFT overview of high-valent iron, cobalt and nickel tetraamidomacrocyclic ligand (TAML) complexes: The end of innocence? *Journal of Inorganic Biochemistry* 100: 620-626.
4. Crous, R., Datt, M., Foster, D., Bennie, L., Steenkamp, C., Huyser, J., Kirsten, L., Steyl, G. & Roodt, A. 2005. Rhodium hydride formation in the presence of a bulky phosphite: Spectroscopic and crystallographic study. *Dalton Transactions*: 1108-1116.
5. Davis, W.L., Shago, R.F., Langner, E.H.G. & Swarts, J.C. 2005. Synthesis and electrochemical properties of a series of ferrocene-containing alcohols. *Inorganica Chimica Acta* 24: 1611-1616.
6. Engelbrecht, H.P., Den Drijver, L., Steyl, G., & Roodt, A. 2005. Solid state and theoretical structural study on trans-[ReO₂(Eten)₂][CF₃SO₃.LiCF₃SO₃ (Eten = N-ethyl ethylenediamine). *Comptes Rendus Chimie* 8: 1660-1669.
7. Engelbrecht, H.P., Jurisson, S.S., Cutler, C.S., Den Drijver, L. & Roodt, A. 2005. Solid state study on rhenium dimethylphosphinoethane complexes. Special Issue: Synthesis and Reactions of Inorganic, Metal-Organic and Nanometal Chemistry: 83-90.
8. Falzone, K., Bohm, L., Slabbert, J.P., Swarts, J.C. & Van Rensburg, C.E.J. 2006. Rasiosensitization of CHO cells by two novel rhodium complexes under oxic and hypoxic conditions. *Anticancer Research* 26: 147-152.
9. Ghosh, A., Wasbotten, I.H., Davis, W. & Swarts, J.C. 2005. Norcorrole and dihydronorcorrole: A predictive quantum chemical study. *European Journal of Inorganic Chemistry*: 4479-4485.
10. Grobbelaar, E., Purcell, W. & Basson, S.S. 2006. A kinetic investigation of the oxidative addition reactions of the dimeric Bu₄N[Ir₂(m-Dcbp)(cod)₂] complex with iodomethane. *Inorganica Chimica Acta* 359: 3800-3806.
11. Guduri, B.R. & Luyt, A.S. 2006. Mechanical and morphological properties of carbon fibre reinforced-modified epoxy composites. *Journal of Applied Polymer Science* 101: 3529-3536.
12. Bowen, R.J., Caddy, J., Fernandes, M.A., Layh, M., Mammo, M.A. & Meijboom, R. 2006. Synthesis and characterisation of dialkyltin 2,3-bis(diphenylphosphino)maleic acid adducts. *Journal of Organometallic Chemistry* 691: 717-725.
13. Guduri, B.R., Rajulu, A.V. & Luyt, A.S. 2006. Effect of alkali treatment on the flexural properties of Hildegardia fabric composites. *Journal of Applied Polymer Science* 102: 1297-1302.
14. Janse Van Rensburg, J.M., Roodt, A. & Muller, A. 2006. Carbonyl(8-hydroxyquinolinato)-[tris(2,4-di-tert-butylphenyl)phosphite]rhodium(I) acetone hemisolvate. *Acta Crystallographica E62*: m2978-m2980.
15. Janse Van Rensburg, J.M., Roodt, A. & Muller, A. 2006. Carbonyl(cyclohexyl-diphenylphosphine)(8-hydroxyquinolinato)rhodium(I). *Acta Crystallographica E62*: m1040-m1042.
16. Janse Van Rensburg, J.M. & Roodt, A. 2006. Structure of carbonyl(8-hydroxyquinolinato-N,O) [tris(2,3,4,5,6-pentafluorophenyl)phosphine-P]rhodium(I). *Acta Crystallographica E62*: m2981-m2983.
17. Janse Van Rensburg, J.M., Roodt, A., Muller, A. & Meijboom, R. 2005. Structure of Carbonyl (8-hydroxyquinolinato) [tris(2-methylphenyl) phosphite] rhodium(I). *Acta Crystallographica E61*: m2743-m2745.
18. Kamara, B.I., Manong, D.T.L. & Brandt, E.V. 2005. Isolation and synthesis of a new Dimeric Dinhydrochalcone from Agapanthus Africanus. *Phytochemistry* 66: 1126-1130.

19. Kirsten, L., Steyl, G. & Roodt, A. 2006. Trans-Carbonylchlorobis[diphenyl(4-tolyl)-phosphine]rhodium(I). *Acta Crystallographica E62*: m1702-m1704.
20. Krump, H., Alexy, P. & Luyt, A.S. 2005. Preparation of a maleated Fischer-Tropsch paraffin wax and FTIR analysis of grafted maleic anhydride. *Polymer Testing* 24: 129-135.
21. Krump, H., Hudec, I. & Luyt, A.S. 2005. Influence of plasmas on the structural characterization of polyester fibres determined by Hg-porosimetry. *International Journal of Adhesion and Adhesives* 25(3): 269-273.
22. Krump, H., Jasso, M., Hudec, I., Dayss, E. & Luyt, A.S. 2006. Physical-morphological and chemical changes leading to an increase in adhesion between plasma treated polyester fibres and a rubber matrix. *Applied Surface Science* 252: 4264-4278.
23. Bowen, R.J., Covanis, E.M., Layh, M., Meijboom, R. & Poole, C.B. 2006. Bis[bis(diphenyl-phosphino)ethane]rhodium(I) tetraphenylborate. *Acta Crystallographica E62*: m101-m102.
24. Krump, H., Luyt, A.S. & Hudec, I. 2006. Effect of different modified clays on the thermal and physical properties of polypropylene-montmorillonite nanocomposites. *Materials Letters* 60: 2877-2880.
25. Krump, H., Šimor, M., Hudec, I., Jaššo, M. & Luyt, A.S. 2005. Adhesion strength study between plasma treated polyester fibres and a rubber matrix. *Applied Surface Science* 240(1-4): 268-274.
26. Krump, H., Luyt, A.S. & Molefi, J.A. 2005. Changes in surface energy as an indicator of polymer blend miscibility. *Materials Letters* 59(4): 517-519.
27. Langner, E.H.G., Davis, W.L., Shago, R.F. & Swarts, J.C. 2006. Spectroscopic and liquid crystal properties of phthalocyanine macromolecules with biomedical applications. In *Metal-Containing and Metallo-Supramolecular Polymers and Materials*, edited by G.R. Newkome, I. Manner, & U.S. Schubert. American Chemical Society, Macromolecular Symposium Series No 928. pp 443-456.
28. Luyt, A.S. & Hato, M.J. 2005. Thermal and mechanical properties of LLDPE/LDPE/wax ternary blends. *Journal of Applied Polymer Science* 96: 1748-1755.
29. Luyt, A.S. & Malunka M.E., 2005. Composites of low density polyethylene and short sisal fibres: The effect of wax addition and peroxide treatment on thermal properties. *Thermochimica Acta* 426(1-2): 101-107.
30. Luyt, A.S., Krupa, I. & Novak, I. 2006. The influence of Fischer-Tropsch paraffin wax on the thermal, mechanical and surface properties of polyolefin/wax blends. In *Focus on Polymeric Materials Research*, edited by B.M. Caruta, New York: Nova Science Publishers. pp. 155-161.
31. Luyt, A.S., Molefi, J.A. & Krump, H. 2006. Thermal, mechanical and electric properties of copper powder filled low-density and linear low-density polyethylene composites. *Polymer Degradation and Stability* 91: 1629-1636.
32. Malunka M.E., Luyt, A.S. & Krump, H. 2006. Preparation and characterization of EVA-sisal fibre composites. *Journal of Applied Polymer Science* 100: 1607-1671.
33. Mavunkal, I.J., Noll, B.C., Meijboom, R., Muller, A. & Fehlner, T.P. 2006. Novel approach to multimetal metallaborane clusters: Synthesis of hypoelectronic nido-Cp*3IrRu2B5H9 from the reaction of arachno-Cp*IrB3H9 with nido-Cp*RuH)2B3H7. *Organometallics* 25: 2906-2907.
34. Chambrier, C., Hughes, D.L., Swarts, J.C., Isare, B. & Cook, M.J. 2006. First example of a Di-Cadmium Tris-Phthalocyanine Triple-Decker Sandwich Complex. *Chemical Communications*: 3504-3506.
35. Meij, A.M.M., Otto, S. & Roodt, A. 2005. Synthesis and characterization of palladium(II) iodo complexes containing water soluble phosphine ligands. *Inorganica Chimica Acta*: 1005-1011.
36. Meijboom, R. 2006. Di-mu-acetato-bis[(tri-p-tolylphosphine)silver(I)]. *Acta Crystallographica E62*: m2698-m2700.
37. Meijboom, R. & Muller, A. 2006. Cis-Dichlorobis(tri-2-furylphosphine)palladium(II) dichloromethane hemisolvate. *Acta Crystallographica E62*: m2642-m2644.

38. Meijboom, R. & Muller, A. 2006. Di- μ -iodo-bis[pyridine(tri-*p*-tolylphosphine)silver(I)]. *Acta Crystallographica E* 62: m3191–m3193.
39. Meijboom, R., Beagley, P., Moss, J.R. & Roodt, A. 2006. Lithiated dimethylaminomethyl ferrocenes and ruthenocenes. *Journal of Organometallic Chemistry* 691: 916-920.
40. Meijboom, R., Haumann, M., Roodt, A. & Damoense, L. 2005. Synthesis, spectroscopy and hydroformylation activity of sterically demanding phosphite-modified cobalt catalysts. Special Issue: *Helvetica Chimica Acta*: 676-693.
41. Meijboom, R., Janse Van Rensburg, J.M., Kirsten, L. & Viljoen, J.A. 2006. Tetrakis-(triphenyl arsine)silver(I) hexafluorophosphate. *Acta Crystallographica E* 62: m2567-m2569.
42. Meijboom, R., Janse Van Rensburg, J.M., Senekal N.D., & Venter, J.S. 2006. *p*-Toluenesulfonato tris(triphenylarsine)silver(I). *Acta Crystallographica E* 62: m3056-m3058.
43. Meijboom, R., Muller, A. & Roodt, A. 2005. Packing behaviour in Rh(I) phosphite Vaska-type complexes. Paper presented at the SACI one day meeting on Organometallic Chemistry and Homogeneous Catalysis, Riviera Vaal/Vanderbijl Park South Africa, ., on
44. Meijboom, R., Muller, A. & Roodt, A. 2006. (η^6 -Benzene)dichloro[tris(2-isopropylphenyl) phosphite]ruthenium(II) dichloromethane solvate. *Acta Crystallographica E* 62: m1866-m1868.
45. Conradie, J. & Ghosh, A. 2006. Bending rules by being straight: A rationale for the linear FeNO unit 4 in low-spin square-pyramidal {FeNO}7 tetracyanonitrosylferrate(2-). *Journal of Inorganic Biochemistry* 100: 2069-2073.
46. Meijboom, R., Muller, A. & Roodt, A. 2006. Di- μ -chloro-bis[(benzyl) diphenyl phosphine]-chloropalladium(II). *Acta Crystallographica E* 62: m897-m899.
47. Meijboom, R., Muller, A. & Roodt, A. 2006. Tetra- μ -3-iodo-tetrakis[(tri-*p*-tolylphosphine- κ P)silver(I)]. *Acta Crystallographica E* 62: m2162-m2164.
48. Meijboom, R., Muller, A. & Roodt, A. 2006. Trans-Bis(benzyl diphenyl phosphine)- carbonylchlororhodium(I). *Acta Crystallographica E* 62: m682-m684.
49. Meijboom, R., Muller, A. & Roodt, A. 2006. Trans-Dichlorobis(tri-*m*-tolylphosphine) palladium(II). *Acta Crystallographica E* 62: m1603-m1605.
50. Meijboom, R., Muller, A. & Roodt, A. 2006. A new polymorph of trans-carbonylchloro bis[tris(4-fluorophenyl)phosphine]rhodium(I). *Acta Crystallographica E* 62: m1309-m1311.
51. Meijboom, R., Muller, A., Roodt, A. & Janse Van Rensburg, J.M. 2006. Trans-Dichlorobis[tris(4-fluorophenyl)phosphine]palladium(II) toluene solvate. *Acta Crystallographica E* 62: m894-m896.
52. Meijboom, R., Muller, A.J. & Roodt, A. 2005. Structure of trans-carbonylchlorobis(tri-*m*-tolylphosphino)rhodium(I) dichloromethane solvate. *Acta Crystallographica E* 61: m699-m701.
53. Mpanza, H.S. & Luyt, A.S. 2006. Comparison of different waxes as processing agents for low-density polyethylene. *Polymer Testing* 25: 436-442.
54. Mpanza, H.S. & Luyt, A.S. 2006. Influence of different waxes on the physical properties of linear low-density polyethylene. *South African Journal of Chemistry* 59: 48-54.
55. Mtshali, T.N., Purcell, W., Visser, H.G. & Basson, S.S. 2006. A crystallographic and kinetic study of the formation of the tricyanonitrido(pyridine-2-carboxylato- κ N, κ O)rhenate(V) ion, [ReN(η^2 -pic)(CN) $_3$] $_2^-$. *Polyhedron* 25: 2415-2425.
56. Conradie, J. & Ghosh, A. 2006. Iron(III)-nitro porphyrins: Theoretical exploration of a unique class of reactive molecules. *Inorganic Chemistry* 45: 4902-4909.
57. Muller, A., Meijboom, R. & Roodt, A. 2006. A crystallographic and DFT study on Vaska-type trans-[Rh(CO)Cl(PR $_3$) $_2$] complexes containing flexible ligands: The molecular structure of trans-[Rh(CO)Cl{P(OC $_6$ H $_5$) $_3$ } $_2$]. *Journal of Organometallic Chemistry* 691: 5794-5801.

58. Muller, A.J. & Otto, S. 2005. Structure of Methyl 2-(cyclohexylamino) cyclopent-1-ene-1-dithiocarboxylate. *Acta Crystallographica* E61: o2198-o2199.
59. Novak, I., Krupa, I. & Luyt, A.S. 2005. Improvement of polarity of polyethylene using oxidized Fischer-Tropsch paraffin wax and its influence on the final mechanical properties. *Journal of Applied Polymer Science* 95(5): 1164-1168.
60. Novak, I., Krupa, I. & Luyt, A.S. 2006. Modification of polarity and adhesive properties of polyolefins through blending with maleic anhydride grafted Fischer-Tropsch paraffin wax. *Journal of Applied Polymer Science* 100: 3069-3074.
61. Otto, S. & Roodt, A. 2006. Reactivity studies of trans-[PtClMe(SMe₂)₂] towards anionic and neutral ligand substitution processes. *Journal of Organometallic Chemistry* 691: 4626-4632.
62. Otto, S., Roodt, A. & Elding, L.I. 2006. Bridge splitting of trans-[PtCl₂(C₂H₄)₂] by ethene using a simple combined NMR–UV/vis cell: Crystal and molecular structure of cis-PtCl₂(C₂H₄)₂. *Inorganic Chemistry Communications* 9: 764-766.
63. Potgieter, J.H.W., Purcell, W., Visser, H.G. & Gutiérrez, J.N. 2005. Identification of different Co(III) apda complexes: Crystallisation of [Co(H₂O)₆].[Co(Hapda)₂]₂.H₂O. *Polyhedron* 24: 1968-1974.
64. Sam, Z.A., Elmroth, S.K.C., Roodt, A. & Muller, A.J. 2006. {μ-2-[1-(N,N-Dimethylamino)-ethyl]ferrocene-1,1'-diylbis(diphenylphosphine)-K₂P:P'}bis[thiocyanatogold(I)]. *Acta Crystallographica* E62: m1699-m1701.
65. Sam, Z.A., Roodt, A. & Otto, S. 2006. Aqueous solution and solid state study of the chlorotris(1,3,5-triaza-7-phosphabicyclo[3.3.1.1.3,7]decane)-platinum(II) ion and the crystal structure of {[Pt(NCS)(PTA)₃](NCS)₃}.5H₂O. *Journal of Coordination Chemistry* 59: 1025-36.
66. Sreekumari, N.P., Radhakrishnan, T., Revaprasadu, N., Kolawole, G.A., Luyt, A.S. & Djokovic, V. 2005. Polystyrene-co-maleic acid/CdS nanocomposites: preparation and properties. *Journal of Physics and Chemistry of Solids* 66: 1302-1306.
67. Conradie, J., Cameron, T.S., Aquino, M.A.S., Lamprecht, G.J. & Swarts, J.C. 2005. Synthetic, electrochemical and structural aspects of a series of ferrocene-containing dicarbonyl betadiketonato rhodium(I) complexes. *Inorganica Chimica Acta* 358: 2530-2542.
68. Sreekumari, N.P., Radhakrishnan, T., Revaprasadu, N., Kolawole, G.A., Luyt, A.S. & Djokovic, V. 2005. Preparation and characterization of polystyrene films containing PbS nanoparticles. *Journal of Materials Science* 40(16): 4407-4409.
69. Sreekumari, N.P., Radhakrishnan, T., Revaprasadu, N., Kolawole, G.A., Luyt, A.S. & Djokovic, V. 2005. Structure and properties of PbS-polyacrylamide nanocomposites. *Applied Physics* 81: 835-838.
70. Steyl, G. 2005. Structure of Bis(tropolonato)palladium(II). *Acta Crystallographica* E61: m1860-m1862.
71. Steyl, G. 2006. (Tricyclohexylphosphine)bis(tropolonato)palladium(II). *Acta Crystallographica* E62: m650-m652.
72. Steyl, G. 2006. A theoretical study on the behaviour of a neutral 2-(amino)-1-cyclopentene-1-dithiocarboxylate compound: Rotamers and hydrogen transfer effects. *Chemical Physics Letters* 418: 59-64.
73. Steyl, G. 2006. Chloro(triphenylphosphine)(tropolonato)palladium(II). *Acta Crystallographica* E62: m974-m976.
74. Steyl, G. 2006. Chlorobis(diphenyl(p-tolyl)phosphine)copper(I). *Acta Crystallographica* E62: m3277-m3278.
75. Steyl, G. 2006. Trans-Dichlorobis(triphenylphosphine)palladium(II) dichloroethane solvate. *Acta Crystallographica* E62: m1324-m1325.
76. Steyl, G. & Roodt, A. 2006. Molecular and crystallographic study of tropolone type derivatives by ab initio hartree-fock calculations. *South African Journal of Chemistry* 59: 21-27.
77. Steyl, G., Hill, T. & Roodt, A. 2005. Structure of 1,2-Dibenzoyl-3,4-bis(4-methoxyphenyl)-cyclobutane. *Acta Crystallographica* E61: o1978-o1980.
78. Conradie, J., Tangen, E., Ghosh, A. 2006. Trigonal bipyramidal iron(III) and manganese(III) oxo, sulfido, and selenido complexes: An electronic-structural overview. *Journal of Inorganic Biochemistry* 100: 707-715.

79. Steyl, G., Kirsten, L. & Roodt, A. 2006. Trans-Dichlorobis(diphenyl(p-tolyl)phosphine)-palladium(II). *Acta Crystallographica* E62: m1705-m1707.
80. Steyl, G., Kirsten, L., Muller, A. & Roodt, A. 2006. Trans-Bromocarbonylbis-(triphenylphosphine)rhodium. *Acta Crystallographica* E62: m1127-m1129.
81. Steyl, G. 2005. A theoretical study on the behaviour of a neutral 2-(amino)1-1-cyclopentene-1-dithiocarboxylate compound: Rotamers and hydrogen transfer effects. *Chemical Physics Letters* 418: 59-64.
82. Swarts, J.C., Laws, D. & Geiger, W.E. 2005. An organometallic electrode based on covalent attachment of the cobaltocenium group to carbon. *Organometallics* 24: 341-343.
83. Tangen, E., Conradie, J. & Ghosh, A. 2005. The challenge of being straight: Explaining the linearity of a low spin {FeNO}7 unit in a tropocoronand complex. *Inorganic Chemistry* 44: 8699-8706.
84. Tangen, E., Conradie, J., Svadberg, A. & Ghosh, A. 2005. Understanding the unexpected linearity of the trans-{Mn(NO)2}8 unit in a phthalocyanine complex: Some thoughts on dinitrosylheme intermediates in biology. *Journal Inorganic and Biochemistry* 99: 55-59.
85. Theron, M., Grobbelaar, E., Basson, S.S. & Purcell, W. 2005. Mechanistic investigation of the oxidative addition reactions between different iridium(I) cyclooctadiene ([Ir(LL')(cod)]) complexes and iodomethane. *Inorganica Chimica Acta* 358: 2457-2463.
86. Venter, G.J.S., Meijboom, R. & Roodt, A. 2006. Tetrakis(tri-p-tolylphosphine- η P)silver(I) hexafluorophosphate. *Acta Crystallographica* E62: m3453-m3455.
87. Visser, H.G. 2006. Barium di- -hydroxo-bis[(nitrilotriacetato)chromium(III)] hexahydrate. *Acta Crystallographica* E62: m3272-m3274.
88. Visser, H.G., Purcell, W., Basson, S.S. & Cloete, N. 2006. Di- -hydroxo bridge cleavage reactions between [Co(NTA)(m-OH)]22- and various N,N-bidentate ligands. *South African Journal of Chemistry* 59: 55-59.
89. Conradie, J., Wasbotten, I.H. & Ghosh, A. 2006. Electronic ménages a trois: A molecular orbital perspective of protonated ferryl intermediates and synthetic models. *Journal of Inorganic Biochemistry* 100: 502-506.
90. Visser, H.G., Purcell, W., Cloete, N. & Muller, A. 2005. Cesium bis-(N-carbamoylmethyl-iminodiacetat) chromium(III) dihydrate. *Acta Crystallographica*. E61: 1668.
91. Willemse, J.A., Bezuidenhout, B.C.B. & Holzapfel, C.W. 2006. The HF/BF3-catalysed reaction of substituted benzenes with carbon monoxide. *Synthesis* 15: 2543-2550.
92. Wyman, W., Robertson, K.N., Cameron, T.S., Swarts, J.C. & Aquino, M.A.S. 2005. Synthesis and characterisation of a ruthenocene carboxylate-containing ruthenium(II) complex. *Organometallics* 24: 6055-6088.
93. Wyman, W., Robertson, K.N., Cameron, T.S., Swarts, J.C. & Aquino, M.A.S. 2006. Synthesis, structure and electrochemistry of (Ferrocene-2-propenoato-O,O')bis[1,2-bis(diphenylphosphino)ethane-P,P']ruthenium(II) Hexafluorophosphate. *Inorganica Chimica Acta* 359: 3092-3096.