

Contents

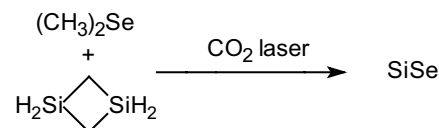
Communication

Luis Díaz, Magna Santos, Josef Pola

J. Organomet. Chem. 692 (2007) 3841

Gas-phase formation of SiSe in IR laser-co-decomposition of dimethyl selenide and 1,3-disilacyclobutane

IR laser irradiation of gaseous dimethyl selenide–1,3-disilacyclobutane mixture results in transient gas-phase formation of silicon selenide proven by LIF excitation spectrum.



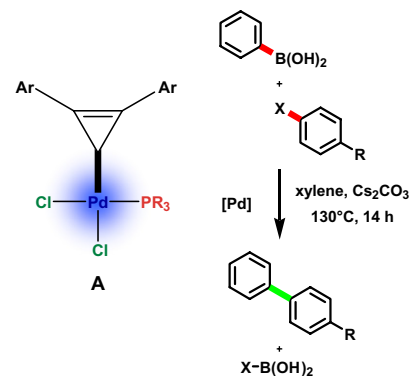
Regular Papers

Wolfgang A. Herrmann, Karl Öfele, Christian Taubmann, Eberhardt Herdtweck, Stephan D. Hoffmann

J. Organomet. Chem. 692 (2007) 3846

Catalysis of CC-coupling reactions by cyclopropenyldiene palladium complexes

A series of dinuclear chloro-bridged 2,3-diarylcyclopropenyldiene palladium(II) complexes (aryl = phenyl, mesityl, naphthyl) were synthesized by oxidative addition of 2,3-diaryl-1,1-dichlorocyclopropenes to palladium black. Beside an investigation of their structural features the deduced mononuclear phosphine substituted complexes **A** were tested as catalysts in Suzuki–Miyaura coupling reactions of bromo- and chloro arenes.

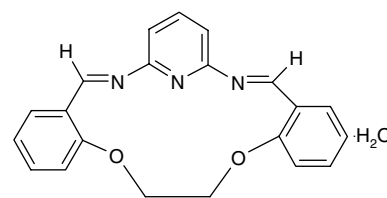


Salih Ilhan, Hamdi Temel, Ismail Yilmaz, Memet Sekerci

J. Organomet. Chem. 692 (2007) 3855

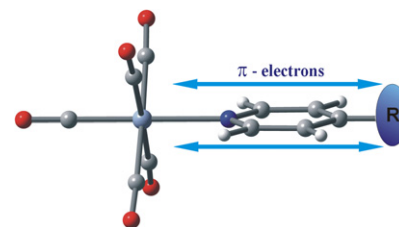
Synthesis, structural characterization and electrochemical studies of new macrocyclic Schiff base containing pyridine head and its metal complexes

A new macrocyclic ligand, 1,3,5-triaza-2,4,7,8:13,14-tribenzo-9,12-dioxa-cyclopentadeca-1,5-diene, was synthesized by reaction of 2,6-diaminopyridine and 1,2-bis(2-carboxyaldehyde phenoxy)ethane. Then, its Cu(II), Ni(II), Pb(II), Co(III) and La(III) complexes were synthesized by the template effect by the reaction of 2,6-diaminopyridine and 1,2-bis(2-carboxyaldehyde phenoxy)ethane and Cu(NO₃)₂ · 3H₂O, Ni(NO₃)₂ · 6H₂O, Pb(NO₃)₂, Co(NO₃)₂ · 6H₂O, La(NO₃)₃ · 6H₂O, respectively. The ligand and its metal complexes have been characterized by elemental analysis, IR, ¹H and ¹³C NMR, UV–Vis spectra, magnetic susceptibility, thermal gravimetric analysis, conductivity measurements, mass spectra, and cyclic voltammetry.



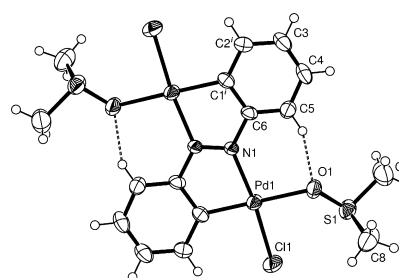
Marcin Palusiak*J. Organomet. Chem.* 692 (2007) 3866Substituent effect in *para* substituted Cr(CO)₅-pyridine complexes

Systematic studies on the substituent effect in *para* substituted Cr(CO)₅-pyridine complexes have been performed on the basis of DFT quantum-chemical calculations, *Atoms in Molecules* topological analysis of electron density and analysis of substituent constants. A set of substituents have been taken into consideration: NO, NO₂, CN, CHO, F, H, CH₃, OCH₃, OH and NH₂. It has been found that the electron withdrawing substituents additionally stabilize the Cr–N bond, whereas the electron donating ones weaken this bond. The substituent effect mainly affects the π-component of the Cr–N bond.

**Krešimir Molčanov, Manda Ćurić, Darko Babić, Biserka Kojić-Prodić***J. Organomet. Chem.* 692 (2007) 3874

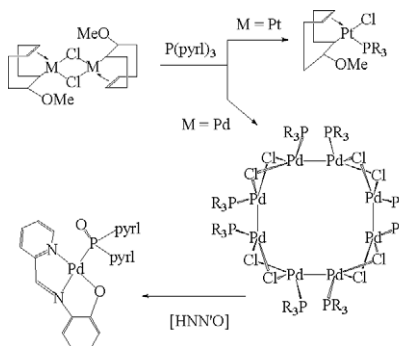
2D and 3D supramolecular assemblies of double cyclopalladated azobenzenes realized by C–H...Cl–Pd, π...π and C–H...π interactions

The crystal structures of the double cyclopalladated complexes with azobenzene are two- and three-dimensional arrays in which molecular components are self-organized through C–H...Cl–Pd hydrogen bonds and π...π or C–H...π interactions. These complexes, with two Pd–Cl bonds participating in the hydrogen bond formation and π-conjugated system involved in the π...π or C–H...π interactions, represent a new class of building blocks for construction of solid state supramolecular assemblies.

**Inma Angurell, Isabel Martínez-Ruiz, Oriol Rossell, Miquel Seco, Pilar Gómez-Sal, Avelino Martín, Mercé Font-Bardia, Xavier Solans***J. Organomet. Chem.* 692 (2007) 3882

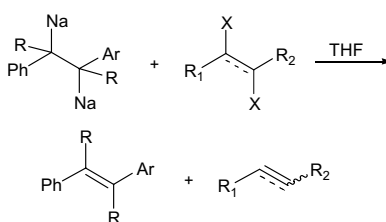
About the different reactivity of dinuclear palladium and platinum compounds with trispyrrolylphosphine: Synthesis and X-ray crystallographic results of new palladium complexes containing P–pyrrolyl bonds

Pd and Pt complexes [M(μ-Cl)(κ,η²-COE-MeO)₂] (COE-MeO = 2-methoxy-5-cycloocten-1-yl) show different reactivity towards P(pyr)₃. The reactivity of the palladium complexes containing trispyrrolylphosphine has been investigated.

**Ugo Azzena, Mario Pittalis, Giovanna Dettori, Luisa Pisano, Emanuela Azara***J. Organomet. Chem.* 692 (2007) 3892

A new and highly effective organometallic approach to 1,2-dehalogenations and related reactions

We investigated the reductive elimination of several functionalized and non-functionalized vic-dibromides with 1,2-diaryl-1,2-disodium-ethanes. The reaction proceeds under mild conditions, and is tolerant of a variety of functional groups. Extension of this procedure to similar 1,2-disubstituted-compounds was also investigated. Reductive eliminations run on stereochemical probe compounds strongly suggest that this reaction proceeds via a “single electron” reductive elimination reaction pathway.



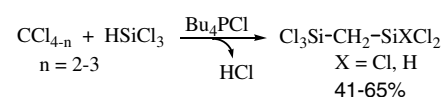
Ar = Ph, 2-pyridyl; R = H, Ph; X = Br, I, Cl, OAlk, OAcyl

**Dong Euy Jung, Seung-Hyun Kang,
Joon Soo Han, Weon Cheol Lim,
Young-ae W. Park, Bok Ryul Yoo**

J. Organomet. Chem. 692 (2007) 3901

Si–C coupling reaction of polychloromethanes with HSiCl_3 in the presence of Bu_4PCl : Convenient synthetic method for bis(chlorosilyl)methanes

Bu_4PCl -catalyzed coupling reaction of polychloromethanes $\text{CH}_{4-n}\text{Cl}_n$ ($n = 2-4$) with HSiCl_3 gave bis(chlorosilyl)methanes $\text{Cl}_3\text{SiCH}_2\text{-SiCl}_2\text{X}$ ($\text{X} = \text{Cl}$ (**1a**), H (**1b**)) as major products in 65% (**1a:1b** = 64:1) and 47% (42:5) yields from the reaction of CCl_4 and CHCl_3 at 100°C for 8 h, respectively, and in 41% (34:7) yield from that of CH_2Cl_2 at 170°C for 12 h.

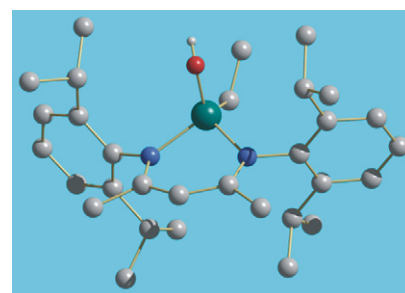


**Kinga Leszczyńska, Izabela D. Madura,
Antoni R. Kunicki, Janusz Zachara,
Magdalena Łoś**

J. Organomet. Chem. 692 (2007) 3907

New route to alkylaluminum hydroxides via hydrolysis of cyclopentadienylaluminum complexes

A new simple synthetic method for the formation of hydroxide alkylaluminum complexes via hydrolysis of cyclopentadienylaluminum compounds has been found. The hydrolysis of cyclopentadienylaluminum complexes with $\text{HC}[(\text{CMe})(2,6\text{-}^i\text{Pr}_2\text{C}_6\text{H}_3\text{N})]_2$ ligand (L) leads to the formation of $(\text{L})\text{Al}(\text{R})\text{OH}$ ($\text{R} = \text{Me}, \text{Et}$). The high selectivity of the hydrolysis was revealed.

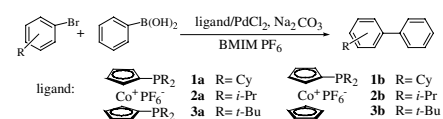


**Guang-Ao Yu, Yong Ren, Jin-Tao Guan,
Yan Lin, Sheng Hua Liu**

J. Organomet. Chem. 692 (2007) 3914

Synthesis and application of novel ionic phosphine ligands with a cobaltocenium backbone

Six novel ionic phosphine ligands with cobaltocenium backbone were synthesized and characterized by X-ray diffraction techniques. These ligands were proved to be air-stable and suitable for Suzuki coupling reaction in ionic liquid ($\text{BMIM}^+\text{PF}_6^-$), enabling high catalytic activity.

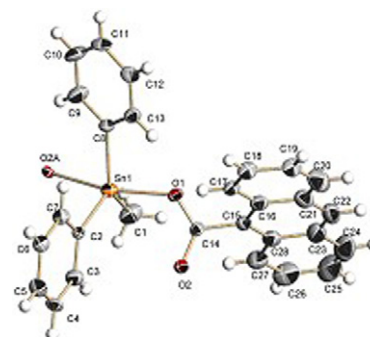


**Mostafa M. Amini, Amirreza Azadmehar,
Hamid Reza Khavasi, S.W. Ng**

J. Organomet. Chem. 692 (2007) 3922

Synthesis, characterization, and molecular structures of di- and triorganotin(IV) complexes with 9-anthracenecarboxylic acid: The structural diversity in organotin 9-anthracenecarboxylates

The di- and triorganotin(IV) derivatives of anthracenecarboxylic acid, $\text{Ph}_2\text{MeSnOC}(\text{O})\text{-C}_{14}\text{H}_9$, $\text{Me}_3\text{SnOC}(\text{O})\text{C}_{14}\text{H}_9$, $\text{Me}_2\text{Sn}[\text{OC}(\text{O})\text{-C}_{14}\text{H}_9]_2 \cdot \text{CH}_3\text{OH}$, $\text{Ph}_3\text{SnOC}(\text{O})\text{C}_{14}\text{H}_9 \cdot \text{CH}_3\text{OH}$, $\text{Ph}_2\text{EtSnOC}(\text{O})\text{C}_{14}\text{H}_9$, $\text{Ph}_2\text{Sn}[\text{OC}(\text{O})\text{-C}_{14}\text{H}_9]_2$, and $\text{PhMe}_2\text{SnOC}(\text{O})\text{C}_{14}\text{H}_9$ were synthesized by the reaction of Ph_2MeSnI , $\text{Me}_3\text{-SnCl}$, Me_2SnCl_2 , Ph_3SnCl , Ph_2EtSnCl , $\text{Ph}_2\text{-SnCl}_2$, and PhMe_2SnI with anthracenecarboxylic acid with aid of potassium *isopropoxide*.

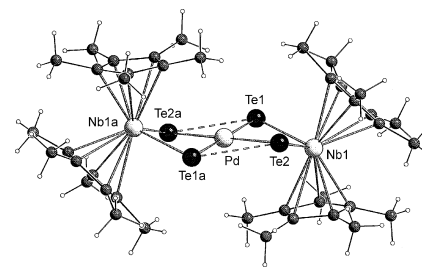


**Marek M. Kubicki, Patrick Schwarz,
Walter Meier, Joachim Wachter,
Manfred Zabel**

J. Organomet. Chem. 692 (2007) 3931

[{(C₅Me₅)₂Nb}₂PdTe₄], a heterometallic palladium telluride cluster with a planar PdTe₄ fragment

The reaction of [Cp^{*}Nb(Te₂H)] (Cp^{*} = η⁵-C₅Me₅) with [Pd(DBA)₂] (DBA = dibenzylidenephosphanyl)methane in the presence of bis(diphenylphosphanyl)methane gave the new tetra-telluropalladate cluster [(Cp^{*}Nb)₂PdTe₄] (**1**). Characteristic structural feature of **1** is a planar PdTe₄ rectangle, which is in striking contrast to related WTe₄ (tetrahedral) and NiTe₄ (distorted tetrahedral) complexes bearing niobocene groups.

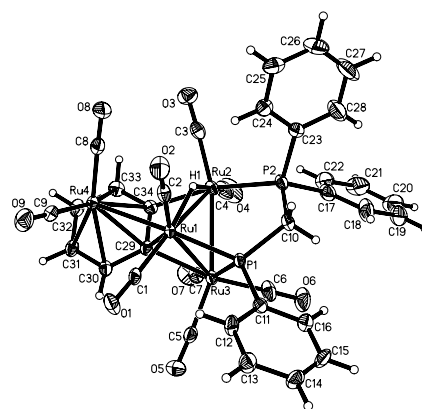


**Shariff E. Kabir, Mohammad R. Hassan,
Daniel T. Haworth, Sergey V. Lindeman,
Tasneem A. Siddiquee, Dennis W. Bennett**

J. Organomet. Chem. 692 (2007) 3936

P–C and C–H bond cleavages of dpmm in the thermal reaction of [Ru₃(CO)₁₀(μ-dppm)] with benzothiophene: X-ray structures of [Ru₆(μ-CO)(CO)₁₃{μ₄-PhP(C₆H₄)PPh}(μ₆-C)] and [Ru₄>(CO)₉(μ₃-η²-PhPCH₂PPh₂)(μ₄-η⁶:η¹:η¹-C₆H₄)-(μ-H)]

The thermal reaction of [Ru₃(CO)₁₀(μ-dppm)] (**1**) with benzothiophene in toluene gave a mixture of products. Four previously reported compounds [Ru₂(CO)₆{μ-CH₂PPh(C₆H₄)PPh}] (**2**), [Ru₂(CO)₆{μ-C₆H₄PPh(CH₂)PPh}] (**3**), [Ru₃(CO)₉{μ₃-η³-(Ph)PCH₂P(Ph)C₆H₄}] (**4**) and [Ru₃(CO)₁₀{μ-η²-PPh(CH₂)(C₆H₄)PPh}] (**6**) and two new clusters [Ru₆(μ-CO)(CO)₁₃{μ₃-η²-PhP(C₆H₄)-PPh}(μ₆-C)] (**5**) and [Ru₄(CO)₉(μ₃-η²-PhPCH₂PPh₂)(μ₄-η⁶:η⁶:η⁶-C₆H₄)(μ-H)] (**7**) were obtained from the reaction of [Ru₃(CO)₁₀(μ-dppm)] (**1**) with benzothiophene at 110 °C.

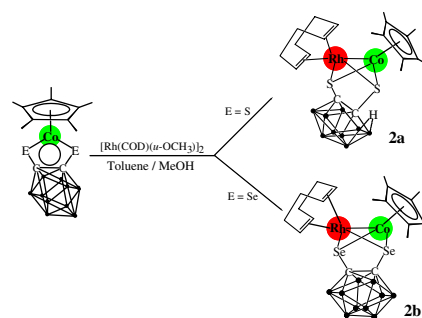


Jia-Sheng Zhang, Guo-Xin Jin

J. Organomet. Chem. 692 (2007) 3944

Synthesis and characterization of hetero-binuclear Co–Rh complexes [Cp^{*}CoS₂C₂-(B₉H₁₀)] [Rh(COD)] (**2a**) and *closo*-carborane diselenolato ligand [Cp^{*}CoSe₂C₂-(B₁₀H₁₀)] [Rh(COD)] (**2b**) have been synthesized and characterized structurally.

The hetero-binuclear Co–Rh complexes with *nido*-carborane dithiolato ligand [Cp^{*}CoS₂C₂-(B₉H₁₀)] [Rh(COD)] (**2a**) and *closo*-carborane diselenolato ligand [Cp^{*}CoSe₂C₂-(B₁₀H₁₀)] [Rh(COD)] (**2b**) have been synthesized and characterized structurally.

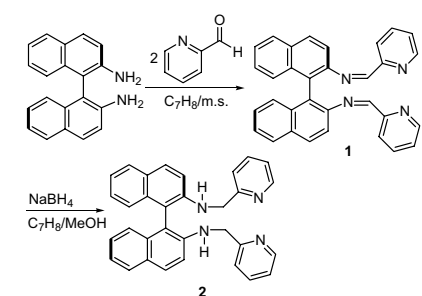


**Guofu Zi, Li Xiang, Yadong Zhang,
Qiuwen Wang, Xiaofang Li, Yuan Yang,
Zhanbin Zhang**

J. Organomet. Chem. 692 (2007) 3949

Synthesis and X-ray structures of new chiral Ag(I) complexes with biaryl-based N₄-donor ligands

Rigidity plays an important role in the formation of the helicate silver(I) complexes. Ligand **1** induces a dinuclear double helicate, while ligand **2** affords a mononuclear single helicate.

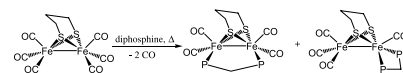


**Fatima I. Adam, Graeme Hogarth,
Idris Richards**

J. Organomet. Chem. 692 (2007) 3957

Models of the iron-only hydrogenase: Reactions of $[\text{Fe}_2(\text{CO})_6(\mu\text{-pdt})]$ with small bite-angle diphosphines yielding bridge and chelate diphosphine complexes $[\text{Fe}_2(\text{CO})_4(\text{diphosphine})(\mu\text{-pdt})]$

Reactions of $[\text{Fe}_2(\text{CO})_6(\mu\text{-pdt})]$ (pdt = $\text{SCH}_2\text{-CH}_2\text{CH}_2\text{S}$) with a range of small bite-angle diphosphines have been carried out under different conditions leading to the eventual generation of tetracarbonyl complexes $[\text{Fe}_2(\text{CO})_4(\text{diphosphine})(\mu\text{-pdt})]$ which can be formed as either bridge or chelate isomers.

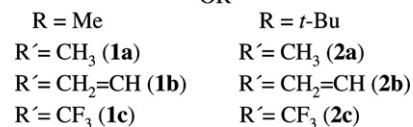
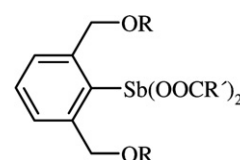


**Lubomír Machuča, Libor Dostál,
Roman Jambor, Karel Handlíř, Robert Jirásko,
Aleš Růžička, Ivana Cisařová,
Jaroslav Holeček**

J. Organomet. Chem. 692 (2007) 3969

Intramolecularly coordinated organoantimony(III) carboxylates

The reactions of intramolecularly coordinated organoantimony chlorides $\text{L}^{1,2}\text{SbCl}_2$ ($[\text{2,6}(\text{ROCH}_2)_2\text{C}_6\text{H}_3]^-$, R = Me; L^1 and R = *t*-Bu; L^2) with silver salts of selected carboxylic acids gave corresponding organoantimony carboxylates $\text{L}^{1,2}\text{Sb}(\text{OOCR}')_2$. The structure of studied compounds was determined using single crystal X-ray diffraction techniques, IR spectroscopy and variable temperature ^1H , ^{13}C , ^{19}F NMR spectroscopy. This investigation revealed significant differences in coordination mode of both O,C,O chelating ligands and carboxylic groups in this set of compounds.

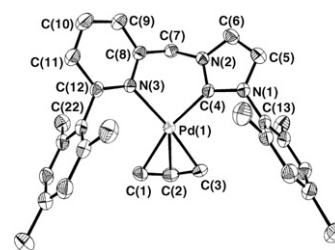


**Chao-Yu Wang, Yi-Hong Liu, Shei-Ming Peng,
Jwu-Ting Chen, Shiuh-Tzung Liu**

J. Organomet. Chem. 692 (2007) 3976

Palladium(II) complexes containing a bulky pyridinyl *N*-heterocyclic carbene ligand: Preparation and reactivity

Coordination behavior of Pd(II) complexes with bulky pyridine *N*-heterocyclic carbene ligand have been investigated.

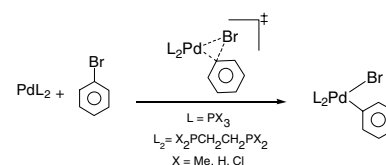


**Reza Fazaeli, Alireza Ariafard,
Saiedeh Jamshidi, Elham S. Tabatabaie,
Khatereh A. Pishro**

J. Organomet. Chem. 692 (2007) 3984

Theoretical studies of the oxidative addition of PhBr to $\text{Pd}(\text{PX}_3)_2$ and $\text{Pd}(\text{X}_2\text{PCH}_2\text{CH}_2\text{PX}_2)$ (X = Me, H, Cl)

The density functional theory calculations were used to study the influence of the substituent at P on the oxidative addition of PhBr to $\text{Pd}(\text{PX}_3)_2$ and $\text{Pd}(\text{X}_2\text{PCH}_2\text{CH}_2\text{PX}_2)$ where X = Me, H, Cl.

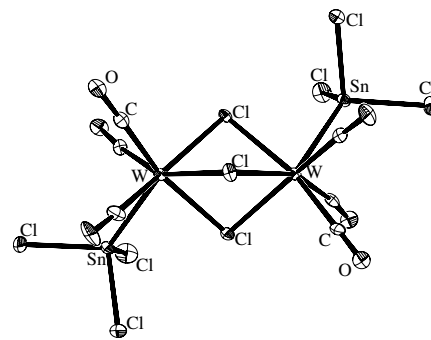


**Anna Malinowska, Andrzej Kochel,
Teresa Szymańska-Buzar**

J. Organomet. Chem. 692 (2007) 3994

An anionic binuclear complex of tungsten(II), $[(\mu\text{-Cl})_3\{\text{W}(\text{SnCl}_3)(\text{CO})_3\}_2]^-$ (I^-), and its reactivity towards norbornene

An anionic binuclear complex of tungsten(II), $[(\mu\text{-Cl})_3\{\text{W}(\text{SnCl}_3)(\text{CO})_3\}_2]^-$ (I^-), containing the protonated piperidine molecule $[\text{Hpip}]^+$ as the counter ion, has been obtained and its molecular structure elucidated by single-crystal X-ray diffraction studies. In the presence of complex I^- , norbornene transformed to a new olefin, 2,2'-binorbornylidene with ca. 50% yield.



Note

**Antony J. Deeming, Caroline S. Forth,
Graeme Hogarth**

J. Organomet. Chem. 692 (2007) 4000

Synthesis and crystal structure of $[\text{Ru}_8(\mu_5\text{-S})_2(\mu_4\text{-S})(\mu_3\text{-S})(\mu\text{-CNMe}_2)_2(\mu\text{-CO})(\text{CO})_{15}]$ formed via the double sulphur-carbon bond cleavage of dithiocarbamate ligands

Thermolysis of *cis*- $[\text{Ru}(\text{CO})_2(\text{S}_2\text{CNMe}_2)_2]$ and $\text{Ru}_3(\text{CO})_{12}$ affords octanuclear $[\text{Ru}_8(\mu_5\text{-S})_2(\mu_4\text{-S})(\mu_3\text{-S})(\mu\text{-CNMe}_2)_2(\mu\text{-CO})(\text{CO})_{15}]$ via the double sulphur-carbon bond cleavage of both dithiocarbamate ligands.

