



## Contents

### Communications

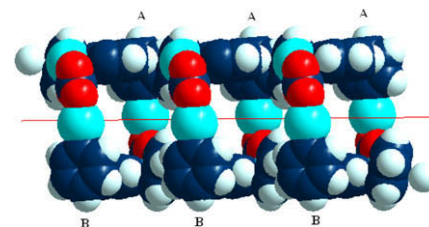
**Li Quan, Handong Yin, Jichun Cui,  
Min Hong, Liansheng Cui,  
Minglei Yang, Daqi Wang**

*J. Organomet. Chem.* 694 (2009) 3683

Synthesis and crystal structure of dinuclear tetraphenylantimony carboxylate derivatives based on different coordination modes

Two novel dinuclear tetraorganoantimony carboxylate derivatives were synthesized based on two different coordination

modes, in which the environment of one of the two Sb atoms is described as trigonal bipyramid and the other is ascribed to distorted octahedron carrying four phenyl and one benzoate substituent. Structures of compounds **1** and **2** were determined by single-crystal X-ray analysis, IR and NMR. Of the two compounds, a novel double-chain structure was shown in compound **1** through C–H···π weak interaction, while compound **2** exhibited a 1D chain by C–H···π weak interaction identically.

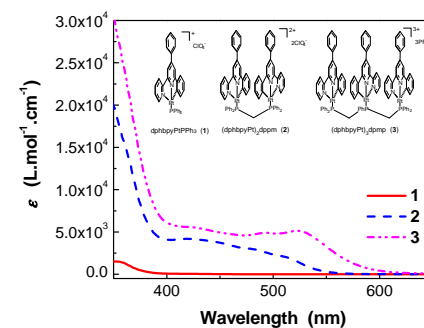


**Yunjing Li, Timothy M. Pritchett,  
Pin Shao, Joy E. Haley, Hongjun Zhu,  
Wenfang Sun**

*J. Organomet. Chem.* 694 (2009) 3688

Excited-state absorption of *mono*-, *di*- and *tri*-nuclear cyclometalated platinum 4,6-diphenyl-2,2'-bipyridyl complexes

The ground-state absorption cross-sections ( $\sigma_g$ ), triplet excited-state absorption cross-section ( $\sigma_T$ ) at 532 nm, singlet excited-state absorption cross-sections ( $\sigma_S$ ) at various visible wavelengths, singlet and triplet excited-state lifetimes, and triplet quantum yields of *mono*-, *di*- and *tri*-nuclear cyclometalated platinum(II) 4,6-diphenyl-2,2'-bipyridyl complexes, are reported.



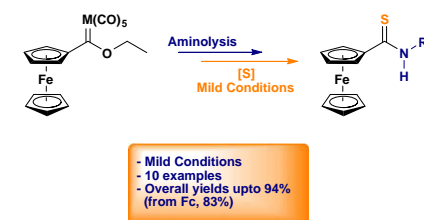
### Regular Papers

**César Sandoval-Chávez,  
José G. López-Cortés,  
Alejandro I. Gutiérrez-Hernández,  
María C. Ortega-Alfaro,  
Alfredo Toscano,  
Cecilio Alvarez-Toledano**

*J. Organomet. Chem.* 694 (2009) 3692

An expedient approach to ferrocenyl thioamides via Fischer carbenes

An efficient route to easily access a diversity of new potential ferrocenyl thioamides was achieved in high overall yields. The scope of method was evidenced by the tolerance to different functional groups on side chain of amino ferrocenyl carbene.

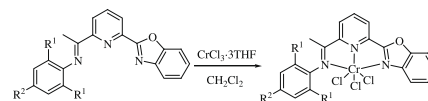


**Rong Gao, Tongling Liang,  
Fosong Wang, Wen-Hua Sun**

*J. Organomet. Chem.* 694 (2009) 3701

Chromium(III) complexes bearing 2-benzoxazolyl-6-arylimino-pyridines: Synthesis and their ethylene reactivity

A series of chromium complexes bearing 2-benzoxazolyl-6-aryliminopyridines was synthesized and fully characterized. Upon activation with MAO or MMAO, title complexes exhibited high activity for ethylene oligomerization and moderate activity for ethylene polymerization.

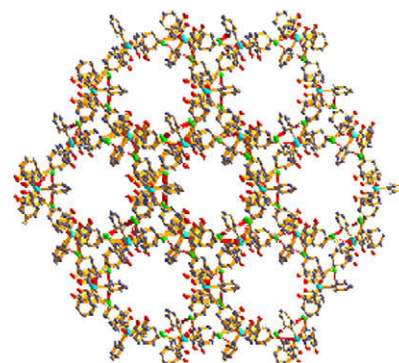


**Li Quan, Han-dong Yin, Ji-chun Cui,  
Min Hong, Da-qi Wang**

*J. Organomet. Chem.* 694 (2009) 3708

Synthesis, characterization and crystal structures of tri- and tetraphenylantimony(V) compounds containing arylcarbonyloxy moiety

A series of tri- and tetraphenylantimony(V) compounds containing arylcarbonyloxy moiety have been synthesized and characterized by elemental analysis, IR, and NMR spectroscopy. Attempts to grow crystals led to colorless blocks identified by X-ray diffraction as  $(\text{ArCOO})_2\text{SbPh}_3$  or  $(\text{ArCOO})\text{SbPh}_4$ .

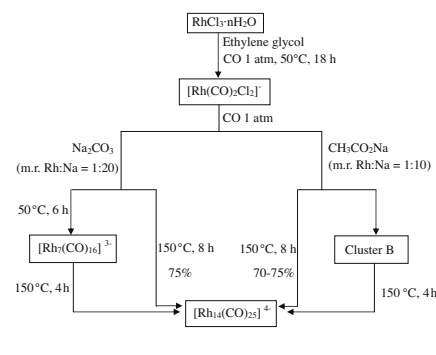


**Claudia Dragonetti, Luigi Garlaschelli,  
Patrizia Mussini, Dominique Roberto**

*J. Organomet. Chem.* 694 (2009) 3718

High-yield syntheses of  $[\text{Rh}_7(\text{CO})_{16}]^{3-}$  and  $[\text{Rh}_{14}(\text{CO})_{25}]^{4-}$  working in ethylene glycol solution under 1 atm of CO

The clusters  $[\text{Rh}_7(\text{CO})_{16}]^{3-}$  and  $[\text{Rh}_{14}(\text{CO})_{25}]^{4-}$  can be easily prepared by a new simple and high yield one-pot synthesis starting from  $\text{RhCl}_3 \cdot n\text{H}_2\text{O}$  dissolved in ethylene glycol. These new syntheses are more convenient than those previously reported.

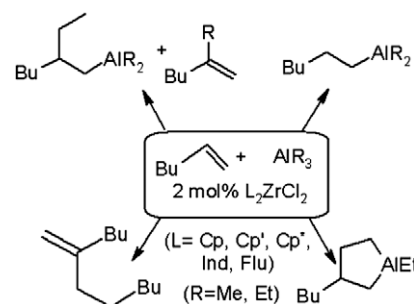


**Lyudmila V. Parfenova,  
Vener Z. Gabdrakhmanov,  
Leonard M. Khalilov,  
Usein M. Dzhemilev**

*J. Organomet. Chem.* 694 (2009) 3725

On study of chemoselectivity of reaction of trialkylalanes with alkenes, catalyzed with Zr  $\pi$ -complexes

The influence of the organoaluminium compound nature, Zr  $\pi$ -ligand environment, solvent type and reagent ratio on the chemoselectivity of reactions of trialkylalanes ( $\text{AlMe}_3$ ,  $\text{AlEt}_3$ ) with alkenes, catalyzed with  $\text{L}_2\text{ZrCl}_2$  [ $\text{L} = \text{Cp}$ ,  $\text{Cp}'$  ( $\text{Cp}' = \eta^5\text{-C}_5\text{H}_4\text{CH}_3$ ),  $\text{Cp}''$  ( $\text{Cp}'' = \eta^5\text{-C}_5(\text{CH}_3)_5$ ), Ind (indenyl), Flu (fluorenyl)] has been studied.

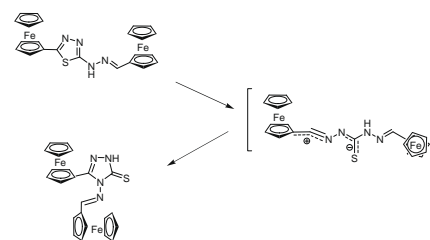


**Balázs Fábián, Antal Csámpai,  
Tibor Zs. Nagy, Mátyás Czugler,  
Pál Sohár**

*J. Organomet. Chem.* 694 (2009) 3732

Synthesis, ring transformations, IR-, NMR and DFT study of heterocycles with two ferrocenyl units

DMAD-mediated-organocatalytic- and oxidative cyclizations of 1,5-bis(ferrocenylmethylidene)thiocarbohydrazide, its alkylated- and imino analogues afforded a series of heterocycles carrying two ferrocene units. Interconversions including thermal isomerization of a 1,3,4-thiadiazole into 1,2,4-triazole were also observed. The assumed ferrocene-stabilized nitrilimine intermediate of this process was modelled by B3LYP/6-31 G(d,p) calculations.

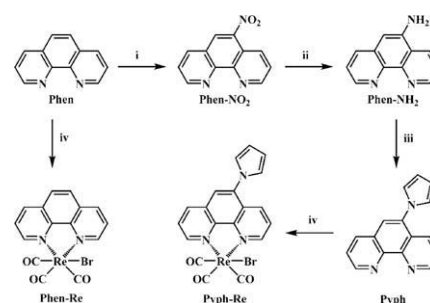


**Zhenjun Si, Xiaona Li, Xiyun Li,  
Hongjie Zhang**

*J. Organomet. Chem.* 694 (2009) 3742

Synthesis, photophysical properties, and theoretical studies on pyrrole-containing bromo Re(I) complex

**Pyph-Re** is successfully synthesized and the effect of pyrrole moiety on its photophysical properties is experimentally and theoretically analyzed consulting those of **Phen-Re**.



**Alvaro Aballay, Gonzalo E. Buono-Core,  
Fernando Godoy, A. Hugo Klahn,  
Andrés Ibañez, María Teresa Garland**

*J. Organomet. Chem.* 694 (2009) 3749

Reactions of cationic complex  $[(\eta^5\text{-C}_5\text{Me}_5)\text{-Re}(\text{CO})_3\text{I}]^+$  with primary amines leading to cyclic carbamoyl complexes

The reaction of cationic complex  $[(\eta^5\text{-C}_5\text{Me}_5)\text{Re}(\text{CO})_3\text{I}]^+$  with aliphatic and aromatic primary amines unexpectedly produced the cyclic carbamoyl species  $\text{trans}-(\eta^5:\eta^1\text{-C}_5\text{Me}_4\text{CH}_2\text{NRC(=O)})\text{Re}(\text{CO})_2(\text{I})$  (1, R = Me; 2, R = Pr; 3, R = Ph; 4, R = *p*-tolyl). The products were fully characterized by spectroscopy. The X-ray structure of 3 confirms the  $\eta^1$ -coordination of the carbamoyl moiety to rhenium.



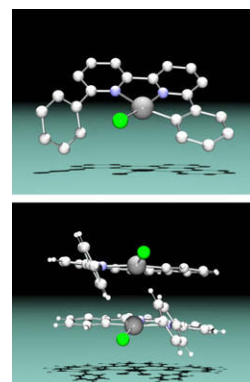
**Antonio Zucca, Giacomo Luigi Petretto,  
Maria Luisa Cabras, Sergio Stoccoro,  
Maria Agostina Cinellu,  
Mario Manassero,  
Giovanni Minghetti**

*J. Organomet. Chem.* 694 (2009) 3753

$\text{N}^{\wedge}\text{N}^{\wedge}\text{C}$  platinum(II) and palladium(II) cyclometallates of 6,6'-diphenyl-2,2'-bipyridine, L: Crystal and molecular structure of  $[\text{Pd}(\text{L-H})\text{Cl}]$

Reaction of  $\text{K}_2[\text{PtCl}_4]$  or  $\text{Na}_2[\text{PdCl}_4]$  with 6,6'-diphenyl-2,2'-bipyridine, L, gives the cyclometallated species  $[\text{Pt}(\text{L-H})\text{Cl}]$ , **1**, and  $[\text{Pd}(\text{L-H})\text{Cl}]$ , **2**, where L-H is a terdentate  $\text{N}^{\wedge}\text{N}^{\wedge}\text{C}$  anionic ligand. The structure of **2**, solved by X-ray diffraction, shows a considerable distortion when compared with the analogous complex of 6-phenyl-2,2'-bipyridine.

Substitution of the chloride in complex **1** gives cationic complexes as well as neutral species, including the hydride  $[\text{Pt}(\text{L-H})\text{H}]$ .

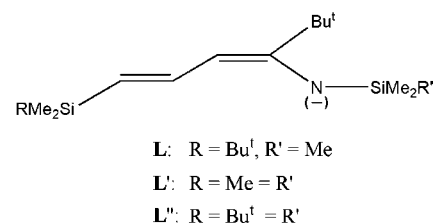


**Peter B. Hitchcock,  
Michael F. Lappert, Zhong-Xia Wang**

*J. Organomet. Chem.* 694 (2009) 3762

A contribution to 1-azapentadienylmetal chemistry: Si, Sn(II), Fe(II) and Co(II) complexes

The crystalline compounds  $\text{Sn}(\text{L})_2$ ,  $\text{Sn}(\text{L}')_2$ ,  $[\text{Sn}(\text{L}')(\mu\text{-Cl})]_2$ ,  $[\text{Sn}(\text{L}'')(\mu\text{-Cl})]_2$  (X-ray data),  $\text{Me}_3\text{Si}(\text{L})$ , the high-spin  $\text{Fe}(\text{L})_2$  and the low-spin  $\text{Co}(\text{L})_2$ , as well as the liquid  $\text{Me}_3\text{Si}(\text{L}')$  and  $\text{Me}_3\text{Si}(\text{L}'')$ , have been prepared and characterised.

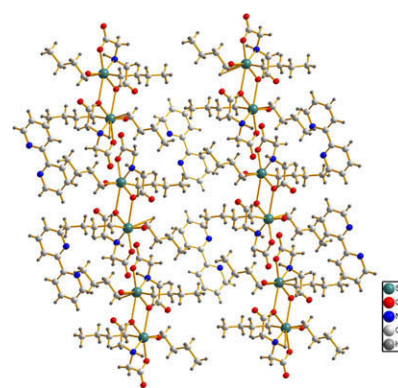


**Zafar A. Siddiqi, M. Shahid,  
Sarvendra Kumar, Mohd Khalid,  
Shabana Noor**

*J. Organomet. Chem.* 694 (2009) 3768

Synthesis, crystal structure and in vitro antitumor activity of carboxylate bridged dinuclear organotin(IV) complexes

Two novel dinuclear organotin(IV) complexes with stoichiometry  $[\text{n-Bu}_2\text{Sn}(\text{imda})(\text{H}_2\text{O})]_2(\text{L-L})$  [ $(\text{L-L}) = 2,2'$ -bipyridine or 1,10-phenanthroline] were synthesised. A distorted pentagonal bipyramidal (pbp) coordination geometry around each {Sn} metal was ascertained from spectral studies including  $^{119}\text{Sn}$  Mössbauer and X-ray crystallography. The compounds were also evaluated for their antitumor activities.

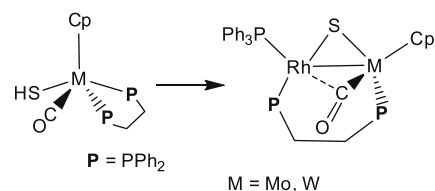


**Kentaro Iwasa, Hidetake Seino,  
Yasushi Mizobe**

*J. Organomet. Chem.* 694 (2009) 3775

Syntheses of new Mo(II) and W(II) mono(hydrosulfido) complexes and their conversion into di- and tetranuclear sulfido-bridged heterobimetallic complexes

Reactions of mono(hydrosulfido) complexes  $[\text{CpM}(\text{SH})(\text{CO})(\text{dppe})]$  ( $\text{M} = \text{Mo}, \text{W}$ ) with  $[\text{RhCl}(\text{PPh}_3)_3]$  in the presence of base gave heterodinuclear complexes  $[\text{CpM}(\text{CO})(\mu\text{-S})(\mu\text{-dppe})\text{Rh}(\text{PPh}_3)]$ , which were converted further to the dimerization products  $[(\text{CpM})_2(\text{Rh}(\text{dppe}))_2(\mu_2\text{-CO})_2(\mu_3\text{-S})_2]$ .

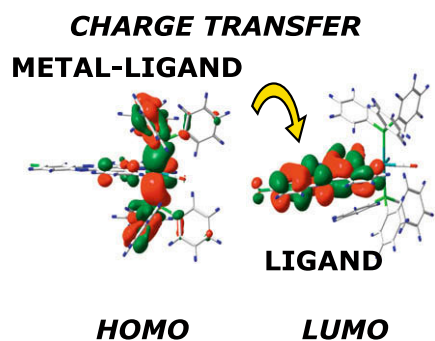


**Mauricio Yáñez, Juan Guerrero,  
Pedro Aguirre, Sergio A. Moya,  
Gloria Cárdenas-Jirón**

*J. Organomet. Chem.* 694 (2009) 3781

Experimental and theoretical characterization of Ru(II) complexes with polypyridine and phosphine ligands

Synthesized ruthenium hydride complexes containing phosphorus and polypyridine ligands  $[\text{RuH}(\text{CO})(\text{N-N})(\text{PPh}_3)_2]^+$  showed, by quantum chemistry, a distorted octahedral structure of the metal with respect to the ligands, with the phosphine ligands in *trans* position. TD-DFT calculations predicted a metal-ligand to ligand charge transfer for the excited states of longer wavelength.

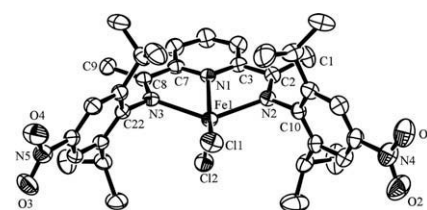


**Zerong Long, Biao Wu, Peiju Yang,  
Gang Li, Yanyan Liu, Xiao-Juan Yang**

*J. Organomet. Chem.* 694 (2009) 3793

Synthesis and characterization of *para*-nitro substituted 2,6-bis(phenylimino)pyridyl Fe(II) and Co(II) complexes and their ethylene polymerization properties

A series of iron(II) and cobalt(II) complexes ligated by 2,6-bis(4-nitro-2,6- $R_2$ -phenylimino)pyridines have been synthesized and characterized, which showed high catalytic ethylene polymerization activities in the presence of MAO. The electronic and steric effects of the ligands on the catalysts have been discussed.

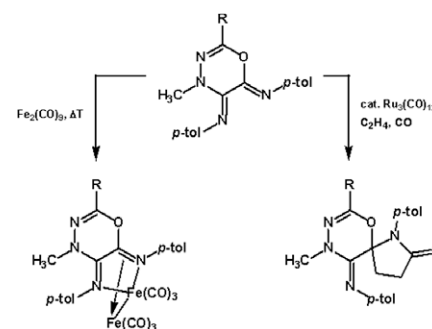


**Katharina Kaleta, Jan Fleischhauer,  
Helmar Görls, Rainer Beckett,  
Wolfgang Imhof**

*J. Organomet. Chem.* 694 (2009) 3800

Novel diazadienes based on 1,3,4-oxadiazines: Ligands in iron carbonyl complexes and substrates in catalytic [2+2+1] cycloaddition reactions

Novel diazadienes based on a 1,3,4-oxadiazine backbone react with  $Fe_2(CO)_9$  to produce unsymmetrically coordinated dinuclear iron carbonyl complexes. The same regioselectivity is observed in ruthenium catalyzed formal [2+2+1] cycloaddition reactions of the diazadienes with ethylene and carbon monoxide leading to chiral spiro-lactams.

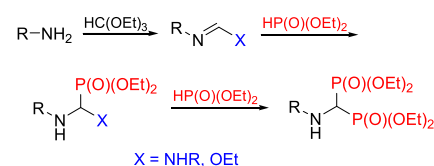


**Ewa Dąbrowska, Agnieszka Burzyńska,  
Artur Mucha, Ewa Matczak-Jon,  
Wanda Sawka-Dobrowolska,  
Łukasz Berlicki, Paweł Kafarski**

*J. Organomet. Chem.* 694 (2009) 3806

Insight into the mechanism of three component condensation leading to aminomethylenebisphosphonates

Application of aromatic amines allowed identification intermediates and side-products of three-component reaction of synthesis of aminomethylenebisphosphonates, and to suggest the mechanism of the condensation.



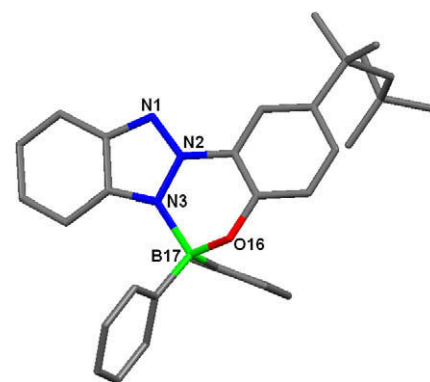
**Adriana Esparza-Ruiz,  
Adrián Peña-Hueso, Heinrich Nöth,  
Angelina Flores-Parra,  
Rosalinda Contreras**

*J. Organomet. Chem.* 694 (2009) 3814

Boron coordination compounds derived from 2-phenyl-benzimidazole and 2-phenyl-benzotriazole bidentate ligands

The syntheses and structures of a series of boron heterocycles derived from 2-(1H-benzimidazol-2-yl)-phenylamine or -phe-

nol or -benzenedisulfide or 2-[3-(1,1,1,3-tetramethyl-butyl)-phenyl]-2H-benzotriazole or 2-[3,5-bis-(1-methyl-1-phenyl-ethyl)-phenyl]-2H-benzotriazole and  $(C_6H_5)_2BOH$  or  $BF_3 \cdot OEt_2$  are reported. The new boron compounds have four fused rings. They are zwitterionic, with a negative charge on the boron and a delocalized positive charge on the ligand. Compounds have been studied by NMR, IR, mass spectrometry, and some of them by X-ray diffraction analyses.

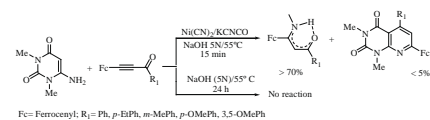


**Ivonne Arellano, Pankaj Sharma,  
Armando Cabrera, Diego Pérez,  
José L. Arias, Noé Rosas**

*J. Organomet. Chem.* 694 (2009) 3823

Synthesis of ferrocenyl- $\beta$ -enamino ketones: A search of ferrocenylpyrido[2,3-*d*]pyrimidines using a  $\text{Ni}(\text{CN})_2/\text{NaOH}/\text{KCN}$  system as catalytic precursor

New ferrocenyl- $\beta$ -enamino ketones (**1–6**), were obtained by the reaction of 6-amino-1,3-dimethyluracil with several ferrocenyl- $\alpha$ -ketoalkynes at 55 °C. A mechanism for the synthesis of  $\beta$ -enamino ketones is suggested. Methylamide anion formation in a monophasic aqueous system containing  $\text{Ni}(\text{CN})_2/\text{CO}/\text{NaOH}/\text{H}_2\text{O}/\text{KCN}$  is described.



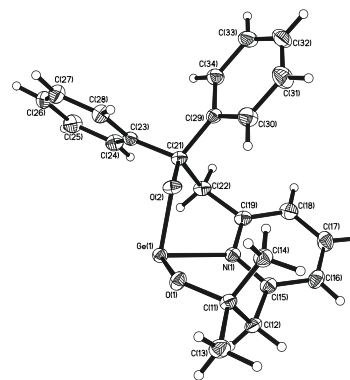
## Notes

**Mengmeng Huang,  
El'mira Kh. Lermontova, Kirill V. Zaitsev,  
Andrei V. Churakov, Yuri F. Oprunenko,  
Judith A.K. Howard, Sergey S. Karlov,  
Galina S. Zaitseva**

*J. Organomet. Chem.* 694 (2009) 3828

Novel germylenes and stannylenes based on pyridine-containing dialcohol ligands

The first representatives of a novel class of germylenes and stannylenes based on pyridine-containing dialcohols were prepared. The structures of two compounds (monomeric germylene and dimeric stannylene) were studied by X-ray analysis. In several cases the low-valent character of metallic centre was confirmed by the reaction with bromine.



**Tomohiro Agou, Masaki Sekine,  
Junji Kobayashi,  
Takayuki Kawashima**

*J. Organomet. Chem.* 694 (2009) 3833

Multi-step detection of cyanide ion by a bis(dimesitylboryl)dibenzoazaborine

Bis(dimesitylboryl)dibenzoazaborine **1** reacted with up to two cyanide ions in stepwise fashion to afford the corresponding Lewis acid–base type complexes **2** and **3**, which was monitored with UV–Vis and fluorescence spectroscopy. The complex formation constants against cyanide ion were larger than those against fluoride ion.

