



## Contents of Volume 670

### Special Issue: Recent Developments in Metal Alkynyl Organometallic Chemistry

Preface . . . . .	1
<b>Review</b>	
Cluster compounds containing a linear carbon chain derived from polyy nediy l and polyynyl complexes, $\text{Fp}^*-(\text{C}\equiv\text{C})_n-\text{X}$ [ $\text{X} = \text{Fp}^*$ , H; $\text{Fp}^* = \text{Fe}(\eta^5\text{-C}_5\text{Me}_5)(\text{CO})_2$ ] M. Akita, A. Sakurai, M.-C. Chung, Y. Moro-oka . . . . .	2
<b>Regular Papers</b>	
Luminescent properties of carbon-rich starburst gold(I) acetylide complexes. Crystal structure of $[\text{TEE}][\text{Au}(\text{PCy}_3)]_4$ ( $[\text{TEE}]H_4$ = tetraethynylethene) W. Lu, N. Zhu, C.-M. Che . . . . .	11
New ferrocenyl heterometallic complexes of 2,7-diethynylfluoren-9-one W.-Y. Wong, K.-Y. Ho, K.-H. Choi . . . . .	17
Macrocyclic gold(I) complexes and [2]catenanes containing carbonyl functionalized diacetylide ligands F. Mohr, D.J. Eisler, C.P. McArdle, K. Atieh, M.C. Jennings, R.J. Puddephatt . . . . .	27
Synthesis of ruthenium acetylides: new building blocks for molecular electronics S. Rigaut, J. Perruchon, L. Le Pichon, D. Touchard, P.H. Dixneuf . . . . .	37
Heterobimetallic platinum–copper and platinum–silver transition metal complexes based on <i>cis</i> -[Pt](C≡CPh) <sub>2</sub> : an overview H. Lang, A. del Villar . . . . .	45
Organometallic complexes for nonlinear optics: Part 31. Cubic hyperpolarizabilities of ferrocenyl-linked gold and ruthenium complexes S.K. Hurst, M.G. Humphrey, J.P. Morrall, M.P. Cifuentes, M. Samoc, B. Luther-Davies, G.A. Heath, A.C. Willis . . . . .	56
$\eta^1$ -Alkynyl and vinylidene transition metal complexes: 10. Reaction of the metal-acetylidyde $[(\eta^5\text{-C}_5\text{H}_5)(\text{CO})(\text{NO})\text{W}-\text{C}\equiv\text{C}-\text{C}(\text{CH}_3)_3]\text{Li}$ with 1,2-diiodoethane as electrophile and with various nucleophiles J. Ipaktschi, K. Reimann, M. Serafin, A. Dülmer . . . . .	66
Synthesis of indenyl-ruthenium(II) $\sigma$ -alkynyl complexes via nucleophilic addition of (1 <i>R</i> )-(+) and (1 <i>S</i> )-(–)-camphor enolates on the allenylidene group of $[\text{Ru}(-\text{C}=\text{C}=\text{CPh}_2)(\eta^5\text{-C}_9\text{H}_7)(\text{PPh}_3)_2][\text{PF}_6]$ : Efficient synthesis of novel optically pure vinylidene derivatives V. Cadierno, M. Pilar Gamasa, J. Gimeno, E. Pérez-Carreño, S. García-Granda . . . . .	75
Titanocene and zirconocene $\sigma$ -alkynyl complexes in C–C single bond coupling and cleavage reactions U. Rosenthal, P. Arndt, W. Baumann, V.V. Burlakov, A. Spannenberg . . . . .	84
$\text{Et}_2\text{SiH}_2$ assisted the selective dimerization of terminal alkynes catalyzed by $\text{Cp}_2^*\text{UMe}_2$ J.Q. Wang, M.S. Eisen . . . . .	97
Versatile reactions of a <i>para</i> -bromophenylacetylidyne iron(II) derivative and X-ray structure of the fluoro analogue. Synthesis of new redox-active organoiron(II) synthons J. Courmarcel, G. Le Gland, L. Toupet, F. Paul, C. Lapinte . . . . .	108
Synthesis and reactivity of alkynyl niobocene complexes A. Antiñolo, C. García-Yebra, M. Fajardo, I. del Hierro, C. López-Mardomingo, I. López-Solera, A. Otero, Y. Pérez, S. Prashar . . . . .	123
Palladium–iminophosphine-catalyzed homocoupling of alkynylstannanes and other organostannanes using allyl acetate or air as an oxidant E. Shirakawa, Y. Nakao, Y. Murota, T. Hiyama . . . . .	132

Long-lived higher excited state luminescence from new ruthenium(II)–allenylidene complexes J. van Slageren, R.F. Winter, A. Klein, S. Hartmann . . . . .	137
Reactivity of metal acetylides with chalcogen-bridged metal carbonyl cluster in presence of free alkyne molecule: synthesis and characterisation of $[(\eta^5\text{-C}_5\text{Me}_5)\text{MFe}_3(\mu_3\text{-S})\{(\mu_3\text{-C(H)=C(R)S}\}(\text{CO})_6(\mu_3\text{-CCPh})]$ ( $\text{R} = \text{Ph}$ , $n\text{-Bu}$ and $\text{M} = \text{W}$ , $\text{Mo}$ ) and $[(\eta^5\text{-C}_5\text{Me}_5)\text{MFe}_3(\mu_3\text{-S})\{(\mu_3\text{-C(Fc)=C(H)S}\}(\text{CO})_7(\mu_3\text{-CCPh})]$ ( $\text{M} = \text{W}$ , $\text{Mo}$ ) P. Mathur, A.K. Bhunia, C. Srinivasu, S.M. Mobin . . . . .	144
1,4-Diyynes from alkynyl–propargyl coupling reactions C. Tedeschi, C. Saccavini, L. Maurette, M. Soleilhavoup, R. Chauvin . . . . .	151
A new approach to the synthesis of carbon chains capped by metal clusters M.I. Bruce, M.E. Smith, N.N. Zaitseva, B.W. Skelton, A.H. White . . . . .	170
A simple synthesis of tetraethynylethenes and representative molecular structures of some dicobalt derivatives O.F. Koentjoro, P. Zuber, H. Puschmann, A.E. Goeta, J.A.K. Howard, P.J. Low . . . . .	178
Homo-dinuclear $\sigma$ -alkynyl complexes: past, present and opportunities S.K. Hurst, T. Ren . . . . .	188
Reactions of metalloalkynes VII. Protonation of ruthenium ethyne-1,2-diyl complexes C.S. Griffith, G.A. Koutsantonis, B.W. Skelton, A.H. White . . . . .	198
Synthesis, electrochemistry and structural characterization of luminescent rhenium(I) monoynyl complexes and their homo- and hetero-metallic binuclear complexes V.W.-W. Yam, K.M.-C. Wong, S.H.-F. Chong, V.C.-Y. Lau, S.C.-F. Lam, L. Zhang, K.-K. Cheung . . . . .	205
Synthesis, structures and photophysics of novel luminescent platinum–copper complexes I. Ara, J.R. Berenguer, E. Eguizábal, J. Forniés, J. Gómez, E. Lalinde . . . . .	221
Structural varieties in double salts of silver acetylide containing ancillary anions and terminal ligands Q.-M. Wang, G.-C. Guo, T.C.W. Mak . . . . .	235
Synthesis and characterization of trimetallic complexes with a borazine core Q. Hu, M.F. Lo, I.D. Williams, N. Koda, Y. Uchimaru, G. Jia . . . . .	243
Organometallic complexes for nonlinear optics: Part 32: Synthesis, optical spectroscopy and theoretical studies of some osmium alkynyl complexes J.P. Morrall, C.E. Powell, R. Stranger, M.P. Cifuentes, M.G. Humphrey, G.A. Heath . . . . .	248
Author Index of Volume 670 . . . . .	257
Subject Index of Volume 670 . . . . .	259
Contents of Volume 670 . . . . .	263