

Subject Index of Volume 504

Ab-initio

Formation of organometallic exciplexes of the type $[\text{Hg}(\eta^2\text{-arene})]$ in mercury photosensitized reactions of aromatic compounds (L.A. Fowley, J.C. Lee, Jr., R.H. Crabtree and P.E.M. Siegbahn), 57

Methane activation by tris(imido) complexes: the effect of metal, ligand and d orbital occupation (M.T. Benson, T.R. Cundari and E.W. Moody), 1

Ab initio calculations

Ab initio molecular orbital study of oxidative addition of H_2 and CH_4 to the $\text{RhCl}(\text{CO})(\text{PH}_3)_2$ complex (D.G. Musaev and K. Morokuma), 93

Acetophenone

Directing effect of functional groups in ruthenium-catalyzed addition of substituted acetophenones to an olefin (M. Sonoda, F. Kakiuchi, N. Chatani and S. Murai), 151

Alkane

A novel aminomethylation reaction of gaseous alkanes with tert-methylamine *N*-oxides via C–H bond activation by copper(II) salts (Y. Taniguchi, S. Horie, K. Takaki and Y. Fujiwara), 137

Alkane activation

On the mechanism and regioselectivity of alkane photocarbonylation catalyzed by $\text{Rh}(\text{PMe}_3)_2(\text{CO})\text{Cl}$ (G.P. Rosini, K. Zhu and A.S. Goldman), 115

Amine *N*-oxide

A novel aminomethylation reaction of gaseous alkanes with tert-methylamine *N*-oxides via C–H bond activation by copper(II) salts (Y. Taniguchi, S. Horie, K. Takaki and Y. Fujiwara), 137

Aminomethylation

A novel aminomethylation reaction of gaseous alkanes with tert-methylamine *N*-oxides via C–H bond activation by copper(II) salts (Y. Taniguchi, S. Horie, K. Takaki and Y. Fujiwara), 137

Arene

Photochemistry of $\text{Os}(\eta^6\text{-arene})$ complexes in low-temperature matrices: an infrared spectroscopic study of C–H bond activation (S.-A. Brough, C. Hall, A. McCamley, R.N. Perutz, S. Stahl, U. Wecker and H. Werner), 33

Bond activation

Methane activation by tris(imido) complexes: the effect of metal, ligand and d orbital occupation (M.T. Benson, T.R. Cundari and E.W. Moody), 1

Bond energies

Ligand effects as probes for mechanistic aspects of remote C–H bond activation by Iron(I) cations in the gas phase (D. Schröder and H. Schwarz), 123

Carbon–hydrogen bond cleavage

Directing effect of functional groups in ruthenium-catalyzed addition of substituted acetophenones to an olefin (M. Sonoda, F. Kakiuchi, N. Chatani and S. Murai), 151

Carbonylation

On the mechanism and regioselectivity of alkane photocarbonylation catalyzed by $\text{Rh}(\text{PMe}_3)_2(\text{CO})\text{Cl}$ (G.P. Rosini, K. Zhu and A.S. Goldman), 115

Catalysis

Methane activation by tris(imido) complexes: the effect of metal, ligand and d orbital occupation (M.T. Benson, T.R. Cundari and E.W. Moody), 1

Catalytic C–H/olefin coupling

Directing effect of functional groups in ruthenium-catalyzed addition of substituted acetophenones to an olefin (M. Sonoda, F. Kakiuchi, N. Chatani and S. Murai), 151

C–C bond formation

A novel aminomethylation reaction of gaseous alkanes with tert-methylamine *N*-oxides via C–H bond activation by copper(II) salts (Y. Taniguchi, S. Horie, K. Takaki and Y. Fujiwara), 137

C–H activation

C–H activation by aqueous platinum complexes: A mechanistic study (G.A. Luinstra, L. Wang, S.S. Stahl, J.A. Labinger and J.E. Bercaw), 75

C–H bond activation in functionalized organic compounds with $\text{Cp}^*(\text{PMe}_3)\text{IrMe}(\text{OTf})$: generation, structural characterization and metal-based rearrangement of the acetone activation product $\text{Cp}^*(\text{PMe}_3)\text{Ir}(\eta^3\text{-CH}_2\text{C}(\text{OH})\text{CH}_2)^+\text{OTf}^-$ (B.A. Arndtsen and R.G. Bergman), 143

C–H bond activation of thiophenes at iridium: a lower energy process than C–S bond scission (C. Bianchini, M.V. Jiménez, A. Meli, S. Moneti and F. Vizza), 27

Mechanistic aspects of the oxidative functionalization of ethane and ethanol by platinum(II) salts in aqueous medium. Role of platinum(II)–olefin and platinum(IV)–alkyl intermediates (A.C. Hutson, M. Lin, N. Basicakes and A. Sen), 69

Reactions of C–H bonds in organic oxygenates with octaethylporphyrinato rhodium(II) and iridium(II) dimers (K.J. Del Rossi, X.-X. Zhang and B.B. Wayland), 47

C–H bond activation

A novel aminomethylation reaction of gaseous alkanes with tert-methylamine *N*-oxides via C–H bond activation by copper(II) salts (Y. Taniguchi, S. Horie, K. Takaki and Y. Fujiwara), 137

Ligand effects as probes for mechanistic aspects of remote C–H bond activation by Iron(I) cations in the gas phase (D. Schröder and H. Schwarz), 123

Photophysical aspects of C–H bond activation in rhodium dicarbonyl complexes (A.A. Purwoko, D.P. Drolet and A.J. Lees), 107

Copper acetate

A novel aminomethylation reaction of gaseous alkanes with tert-methylamine *N*-oxides via C–H bond activation by copper(II) salts (Y. Taniguchi, S. Horie, K. Takaki and Y. Fujiwara), 137

Ethane

Mechanistic aspects of the oxidative functionalization of ethane and ethanol by platinum(II) salts in aqueous medium. Role of plat-

- inum(II)-olefin and platinum(IV)-alkyl intermediates (A.C. Hutson, M. Lin, N. Basickes and A. Sen), 69
- Ethanol**
 Mechanistic aspects of the oxidative functionalization of ethane and ethanol by platinum(II) salts in aqueous medium. Role of platinum(II)-olefin and platinum(IV)-alkyl intermediates (A.C. Hutson, M. Lin, N. Basickes and A. Sen), 69
- Ethylene**
 Mechanistic aspects of the oxidative functionalization of ethane and ethanol by platinum(II) salts in aqueous medium. Role of platinum(II)-olefin and platinum(IV)-alkyl intermediates (A.C. Hutson, M. Lin, N. Basickes and A. Sen), 69
- Exciplexes**
 Formation of organometallic exciplexes of the type $[\text{Hg}(\eta^2\text{-arene})]$ in mercury photosensitized reactions of aromatic compounds (L.A. Fowley, J.C. Lee, Jr., R.H. Crabtree and P.E.M. Siegbahn), 57
- Hydrodesulfurization**
 C-H bond activation of thiophenes at iridium: a lower energy process than C-S bond scission (C. Bianchini, M.V. Jiménez, A. Meli, S. Moneti and F. Vizza), 27
- Imidos**
 Methane activation by tris(imido) complexes: the effect of metal, ligand and d orbital occupation (M.T. Benson, T.R. Cundari and E.W. Moody), 1
- Infrared spectroscopy**
 Photochemistry of $\text{Os}(\eta^6\text{-arene})$ complexes in low-temperature matrices: an infrared spectroscopic study of C-H bond activation (S.-A. Brough, C. Hall, A. McCamley, R.N. Perutz, S. Stahl, U. Wecker and H. Werner), 33
- Iridium**
 C-H bond activation in functionalized organic compounds with $\text{Cp}^*(\text{PMe}_3)\text{IrMe}(\text{OTf})$: generation, structural characterization and metal-based rearrangement of the acetone activation product $\text{Cp}^*(\text{PMe}_3)\text{Ir}(\eta^3\text{-CH}_2\text{C}(\text{OH})\text{CH}_2)^+\text{OTf}^-$ (B.A. Arndtsen and R.G. Bergman), 143
 C-H bond activation of thiophenes at iridium: a lower energy process than C-S bond scission (C. Bianchini, M.V. Jiménez, A. Meli, S. Moneti and F. Vizza), 27
 Reactions of C-H bonds in organic oxygenates with octaethylporphyrinato rhodium(II) and iridium(II) dimers (K.J. Del Rossi, X.-X. Zhang and B.B. Wayland), 47
- Iron**
 Ligand effects as probes for mechanistic aspects of remote C-H bond activation by Iron(I) cations in the gas phase (D. Schröder and H. Schwarz), 123
- Ligand effects**
 Ligand effects as probes for mechanistic aspects of remote C-H bond activation by Iron(I) cations in the gas phase (D. Schröder and H. Schwarz), 123
- Mass spectrometry**
 Ligand effects as probes for mechanistic aspects of remote C-H bond activation by Iron(I) cations in the gas phase (D. Schröder and H. Schwarz), 123
- Matrix isolation**
 Photochemistry of $\text{Os}(\eta^6\text{-arene})$ complexes in low-temperature matrices: an infrared spectroscopic study of C-H bond activation (S.-A. Brough, C. Hall, A. McCamley, R.N. Perutz, S. Stahl, U. Wecker and H. Werner), 33
- Mercury**
 Formation of organometallic exciplexes of the type $[\text{Hg}(\eta^2\text{-arene})]$ in mercury photosensitized reactions of aromatic compounds (L.A. Fowley, J.C. Lee, Jr., R.H. Crabtree and P.E.M. Siegbahn), 57
- Metal clusters**
 H/D exchange via reversible pyridine ortho-metallation, and competition between C-H oxidative addition and CO coordination in hydrido-carbonyl triangular rhenium clusters: a $^1\text{H-NMR}$ investigation. X-ray crystal structure of the anion $[\text{Re}_3(\mu\text{-H})_2(\text{CO})_11(\text{Py})]^-$ (T. Beringhelli, L. Carlucci, G. D'Alfonso, G. Ciani and D.M. Proserpio), 15
- Metallacycles**
 C-H bond activation in functionalized organic compounds with $\text{Cp}^*(\text{PMe}_3)\text{IrMe}(\text{OTf})$: generation, structural characterization and metal-based rearrangement of the acetone activation product $\text{Cp}^*(\text{PMe}_3)\text{Ir}(\eta^3\text{-CH}_2\text{C}(\text{OH})\text{CH}_2)^+\text{OTf}^-$ (B.A. Arndtsen and R.G. Bergman), 143
- Metalloporphyrins**
 Reactions of C-H bonds in organic oxygenates with octaethylporphyrinato rhodium(II) and iridium(II) dimers (K.J. Del Rossi, X.-X. Zhang and B.B. Wayland), 47
- Methane**
 Methane activation by tris(imido) complexes: the effect of metal, ligand and d orbital occupation (M.T. Benson, T.R. Cundari and E.W. Moody), 1
- Ortho-metallation**
 H/D exchange via reversible pyridine ortho-metallation, and competition between C-H oxidative addition and CO coordination in hydrido-carbonyl triangular rhenium clusters: a $^1\text{H-NMR}$ investigation. X-ray crystal structure of the anion $[\text{Re}_3(\mu\text{-H})_2(\text{CO})_11(\text{Py})]^-$ (T. Beringhelli, L. Carlucci, G. D'Alfonso, G. Ciani and D.M. Proserpio), 15
- Osmium**
 Photochemistry of $\text{Os}(\eta^6\text{-arene})$ complexes in low-temperature matrices: an infrared spectroscopic study of C-H bond activation (S.-A. Brough, C. Hall, A. McCamley, R.N. Perutz, S. Stahl, U. Wecker and H. Werner), 33
- Oxidation**
 Mechanistic aspects of the oxidative functionalization of ethane and ethanol by platinum(II) salts in aqueous medium. Role of platinum(II)-olefin and platinum(IV)-alkyl intermediates (A.C. Hutson, M. Lin, N. Basickes and A. Sen), 69
- Oxidative addition**
 Ab initio molecular orbital study of oxidative addition of H_2 and CH_4 to the $\text{RhCl}(\text{CO})(\text{PH}_3)_2$ complex (D.G. Musaev and K. Morokuma), 93
- Phosphine**
 C-H bond activation of thiophenes at iridium: a lower energy process than C-S bond scission (C. Bianchini, M.V. Jiménez, A. Meli, S. Moneti and F. Vizza), 27
- Photochemistry**
 Formation of organometallic exciplexes of the type $[\text{Hg}(\eta^2\text{-arene})]$ in mercury photosensitized reactions of aromatic compounds (L.A. Fowley, J.C. Lee, Jr., R.H. Crabtree and P.E.M. Siegbahn), 57
 On the mechanism and regioselectivity of alkane photocarbonylation catalyzed by $\text{Rh}(\text{PMe}_3)_2(\text{CO})\text{Cl}$ (G.P. Rosini, K. Zhu and A.S. Goldman), 115
 Photochemistry of $\text{Os}(\eta^6\text{-arene})$ complexes in low-temperature matrices: an infrared spectroscopic study of C-H bond activation (S.-A. Brough, C. Hall, A. McCamley, R.N. Perutz, S. Stahl, U. Wecker and H. Werner), 33

- Photophysical aspects of C–H bond activation in rhodium dicarbonyl complexes (A.A. Purwoko, D.P. Drolet and A.J. Lees), 107
- Platinum
- C–H activation by aqueous platinum complexes: A mechanistic study (G.A. Luinstra, L. Wang, S.S. Stahl, J.A. Labinger and J.E. Bercaw), 75
- Platinum complex
- Mechanistic aspects of the oxidative functionalization of ethane and ethanol by platinum(II) salts in aqueous medium. Role of platinum(II)–olefin and platinum(IV)–alkyl intermediates (A.C. Hutson, M. Lin, N. Basickes and A. Sen), 69
- Pyridine
- H/D exchange via reversible pyridine ortho-metallation, and competition between C–H oxidative addition and CO coordination in hydrido–carbonyl triangular rhenium clusters: a ^1H -NMR investigation. X-ray crystal structure of the anion $[\text{Re}_3(\mu\text{-H})_2(\text{CO})_1(\text{Py})]^-$ (T. Beringhelli, L. Carlucci, G. D'Alfonso, G. Ciani and D.M. Proserpio), 15
- Rhenium
- H/D exchange via reversible pyridine ortho-metallation, and competition between C–H oxidative addition and CO coordination in hydrido–carbonyl triangular rhenium clusters: a ^1H -NMR investigation. X-ray crystal structure of the anion $[\text{Re}_3(\mu\text{-H})_2(\text{CO})_1(\text{Py})]^-$ (T. Beringhelli, L. Carlucci, G. D'Alfonso, G. Ciani and D.M. Proserpio), 15
- Rhodium
- Ab initio molecular orbital study of oxidative addition of H_2 and CH_4 to the $\text{RhCl}(\text{CO})(\text{PH}_3)_2$ complex (D.G. Musaev and K. Morokuma), 93
- On the mechanism and regioselectivity of alkane photocarbonylation catalyzed by $\text{Rh}(\text{PMe}_3)_2(\text{CO})\text{Cl}$ (G.P. Rosini, K. Zhu and A.S. Goldman), 115
- Photophysical aspects of C–H bond activation in rhodium dicarbonyl complexes (A.A. Purwoko, D.P. Drolet and A.J. Lees), 107
- Reactions of C–H bonds in organic oxygenates with octaethylporphyrinato rhodium(II) and iridium(II) dimers (K.J. Del Rossi, X.-X. Zhang and B.B. Wayland), 47
- Ruthenium
- Directing effect of functional groups in ruthenium-catalyzed addition of substituted acetophenones to an olefin (M. Sonoda, F. Kakiuchi, N. Chatani and S. Murai), 151
- Thienyl bridges
- Formation of 2-thienyl derivatives during the thermal activation of thiophene by $\text{Tp}^* \text{Ir}(\text{C}_2\text{H}_4)_2$ (M. Paneque, M.L. Poveda, L. Rey, S. Taboada, E. Carmona and C. Ruiz), 147
- Thiolate
- C–H bond activation of thiophenes at iridium: a lower energy process than C–S bond scission (C. Bianchini, M.V. Jiménez, A. Meli, S. Moneti and F. Vizza), 27
- Thiophene
- C–H bond activation of thiophenes at iridium: a lower energy process than C–S bond scission (C. Bianchini, M.V. Jiménez, A. Meli, S. Moneti and F. Vizza), 27
- Thiophene activation
- Formation of 2-thienyl derivatives during the thermal activation of thiophene by $\text{Tp}^* \text{Ir}(\text{C}_2\text{H}_4)_2$ (M. Paneque, M.L. Poveda, L. Rey, S. Taboada, E. Carmona and C. Ruiz), 147
- Transition-metal ions
- Ligand effects as probes for mechanistic aspects of remote C–H bond activation by Iron(I) cations in the gas phase (D. Schröder and H. Schwarz), 123
- Transition metals
- Methane activation by tris(imido) complexes: the effect of metal, ligand and d orbital occupation (M.T. Benson, T.R. Cundari and E.W. Moody), 1
- Vinyl
- Photochemistry of $\text{Os}(\eta^6\text{-arene})$ complexes in low-temperature matrices: an infrared spectroscopic study of C–H bond activation (S.-A. Brough, C. Hall, A. McCamley, R.N. Perutz, S. Stahl, U. Wecker and H. Werner), 33