

JOURNAL OF THE CHEMICAL SOCIETY

Chemical Communications

Number 8
1985

CONTENTS

- 437 Transition Metal-mediated Discrimination between Diastereoisomers of a New Linear P₂N₂ Ligand, L₁; X-Ray Structure Analysis of *rac*-L₁, [Pt(*rac*-L₁)Cl]Cl·2H₂O, and an Unusual Rh^I Dimer [Rh₂(*rac*-L₁-H)₂(CO)₂]·2H₂O **Christopher W. G. Ansell, Mervyn K. Cooper, Keith P. Dancey, Paul A. Duckworth, Kim Henrick, Mary McPartlin, Gregory Organ, Peter A. Tasker**
- 439 Template Synthesis of a New P₂N₂ Macrocyclic Ligand *via* Direct Alkylation of Co-ordinated Amido Nitrogen Atoms; X-Ray Structure Analysis of the Free Ligand and its Neutral Ni^{II} Complex **Christopher W. G. Ansell, Mervyn K. Cooper, Keith P. Dancey, Paul A. Duckworth, Kim Henrick, Mary McPartlin, Peter A. Tasker**
- 441 A New Diagnostic Tool for Elucidating the Mechanism of Enantioselective Reactions. Application to the Hajos–Parrish Reaction **Claude Agami, Jacques Levisalles, Catherine Puchot**
- 443 Anomalous Equilibration of (*Z*)-*N*-[1-(1-Naphthyl)ethylidene]isopropylamine in [2H₄]Methanol: a Kinetic Chimera involving an Apparent Equilibrium Overshoot **Derek R. Boyd, Salim Al-Showiman, W. Brian Jennings, Valerie E. Wilson**
- 444 Nitrogen-15 N.M.R. Characterization of Bent and Linear Nitrosyl Ligands in the Solid State by Cross-polarisation Magic-angle-spinning Spectroscopy of Complexes of Ruthenium **Joan Mason, D. Michael P. Mingos, Jacob Schaefer, Darren Sherman, Edward O. Stejskal**
- 446 Barbacenic Acid, a Bisnorditerpene with a Novel Skeleton from *Barbacenia flava* **Angelo C. Pinto, Maria do Carmo Frechiani, Bernard Tinant, Jean-Paul Declercq, Maurice Van Meerssche**
- 447 Design of Bifunctional Organometallic 'Electron Reservoirs': 35- to 38-Electron Sandwiches Including the First Stable, Localized Mixed Valence Complexes Containing Fe^I **Marie-Hélène Desbois, Jacques Guillin, J.-P. Mariot, F. Varret, Didier Astruc**
- 450 Single Electron Reduction of Tetracyanoquinodimethane, TCNQ, and Phenazine and Two Electron Reduction of TCNQ by Organo-iron Electron Reservoir Complexes **Marie-Hélène Desbois, Pascal Michaud, Didier Astruc**
- 452 A Novel Mechanism for the Conversion of α -Cyclopropylbenzyl Alcohol into γ -Trimethylsilylbutyrophenone **Jih Ru Hwu**
- 454 On the Intramolecular Cyclization of a Thiazolium Salt **Michael B. Doughty, David S. Lawrence**
- 455 Stereoselective Control of the Reduction of Aryl- β -ketoesters by *ortho* Aromatic Substituents **George R. Brown, Alan J. Foubister**
- 456 Intramolecular Interactions in Bis(pentamethylcyclopentadienyl) Complexes: X-Ray Structures of (η^5 -C₅Me₅)₂Zr(OH)(Cl) and (η^5 -C₅Me₅)₂Zr(OH)(Cl) and (η^5 -C₅Me₅)₂Zr(OH)₂ **Roberto Bortolin, Vikram Patel, Ian Munday, Nicholas J. Taylor, Arthur J. Carty**
- 458 Cationic Ruthenium Formyl Complexes, Evidence for a Homolytic Cleavage of the Ru–Formyl Bond in *trans*-[Ru(CHO)(CO)(dp)₂][SbF₆] [dp = 1,2-bis(diphenylphosphino)benzene] **David S. Barratt, David J. Cole-Hamilton**
- 459 A Novel Synthesis of Acyl Cyanides from Diethyl Phosphorocyanidate and Some 1-Substituted Imidazole Carboxylic Acids including a *D*-Ribofuranoside **Bhovinder S. Nagra, Gordon Shaw, David H. Robinson**
- 460 The Mechanism of Metal-promoted Alkyne Cyclo-oligomerisation with Isocyanides leading to Cyclopentadiene Derivatives. The Crystal and Molecular Structure of [WSPr(CNBut)⁺{ η^2 -C₄(CF₃)₄CNBut⁻}(η^5 -C₅H₅)] containing an η^2 -Tetrakis-(trifluoromethyl)cyclopentadienimine Ligand **Jack L. Davidson, W. F. Wilson, K. W. Muir**
- 462 Mono- and Di-selenium Complexes of Chromium. Syntheses and Crystal Structures of (η^5 -C₅H₅)₂Cr₂(CO)₄Se and (η^5 -C₅H₅)₂(CO)₄Se₂ **Lai Yoong Goh, Chen Wei, Ekk Sinn**
- 464 Dicopper Complexes of a New Binucleating Ligand involving Sulphides and Benzimidazoles **Jean-Marc Latour, Danièle Limosin, Paul Rey**
- 466 β -Arylsulphonylvinylamines: Synthesis and Use in a New Route to Dihydropyridines **Ben L. Feringa**
- 467 *endo*-Anomeric and *exo*-Anomeric Effects in 2-Substituted Tetrahydropyrans **Harold Booth, Khedhair A. Khedhair**
- 469 Asymmetric Conjugate Addition of Grignard Reagents in the Presence of Tertiary Amines to α,β -Unsaturated Amides Derived from (*S*)-2-(1-Hydroxy-1-methylethyl)pyrrolidine or (*S*)-Prolinol **Kenso Soai, Hideaki Machida, Atsuhiko Ookawa**
- 470 Total Synthesis of an *N*-Methylporphyrin **Anthony H. Jackson, Ravindra K. Pandey, Edward Roberts**
- 471 Novel Photochemical Reaction of *p*-Benzoquinone Derivatives. Transannular Addition and Quinone Ring Cleavage in 2,5-(Oct-4-eno)-*p*-benzoquinones {Tricyclo[8.2.2]-tetradeca-1(13),5,10-triene-12,14-diones} **Takashi Tsuji, Yutaka Hienuki, Masaru Miyake, Shinya Nishida**
- 473 A New Method for the Preparation of Active Esters Using Di-2-pyridyl Carbonate **Sunggak Kim, Young Kwan Ko**

- 474 Poly(*p*-phenylene)-catalysed Photoreduction of Water to Hydrogen **Shozo Yanagida, Akira Kabumoto, Kunihiro Mizumoto, Chyongjin Pac, Katsumi Yoshino**
- 475 A Comparison of Nickel- and Platinum-catalysed Methanation, using Transient-kinetic Methods **C.-H. Yang, Y. Soong, P. Biloen**
- 476 Synthesis and Crystal Structure of the Novel Cyclometallophosphine Complex $\text{Re}_4\text{Cl}_2(\text{CO})_{15}\{\text{MePP}(\text{Me})\text{PMe}\}$ **Nicholas J. Taylor**
- 478 Synthesis and Structures of $\text{Re}_6(\text{CO})_{18}(\mu_4\text{-PMe})_3$ and $\text{Re}_5(\text{CO})_{14}(\mu_4\text{-PMe})(\mu\text{-PMe}_2)(\mu_3\text{-P}[\text{Re}(\text{CO})_5])$; Two New Rhenium Cluster Geometries **Nicholas J. Taylor**
- 479 Molybdenum-95 N.M.R. Spectroscopy as a Probe of Biological Systems: the Detection of Tetraoxo- and Tetrathiomolybdate(vi) bound to Bovine Serum Albumin **Stuart Bristow, C. David Garner, Stuart K. Hagyard, Gareth A. Morris, John R. Nicholson, Colin F. Mills**
- 481 CO Adsorption Suppression due to Charge Transfer in the Ni-SiO_x-n-Si(111) System at Low Ni Coverage **Katsumi Tanaka, B. Viswanathan, I. Toyoshima**
- 482 (-)-Myrtaylenol, a Tricyclic Sesquiterpene Alcohol with a Novel Carbon Skeleton from the Liverwort *Mylia taylorii* **Daisuke Takaoka, Akihiko Matsuo, Junji Kuramoto, Mitsuru Nakayama, Shūichi Hayashi**
- 484 Combination of EXAFS and Electronic Spectroscopy to determine the Structure of Nickel(IV) Complexes **Andrew T. Steel, Martinus C. Feiters, C. David Garner, S. Samar Hasnain, William Levason, Simon J. Higgins**
- 485 Stereocontrolled Synthesis of (±)-Deoxydopodophyllotoxin *via* the Benzyl Equivalent of the Peterson Reaction **Seiichi Takano, Shizuo Otaki, Kunio Ogasawara**
- 487 Branched-chain Alkene Formation from H₂-CO Reaction over Some Metal Oxide Catalysts **Ken-ichi Maruya, Akihiro Inaba, Tatsuichi Maehashi, Kazunari Domen, Takaharu Onishi**
- 488 Rapid Cleavage of Tridentate Cobalt(III)-co-ordinated Triphosphate **Gilbert P. Haight, Jr., Trevor W. Hambley, Philip Hendry, Geoffrey A. Lawrance, Alan M. Sargeson**
- 491 Alkylation of Benzene with α-Diazoketones *via* Cycloheptatrienyl Intermediates **M. Anthony McKervey, D. Noel Russell, M. Fiona Twohig**
- 492 Structure Sensitivity of the Catalytic Oxidation of n-Butane to Maleic Anhydride **Fabrizio Cavani, Gabriele Centi, Ferruccio Trifirò**
- 494 ¹⁷O N.M.R. Studies of Enol and Phenol Compounds with Intramolecular Hydrogen Bonds **Vyacheslav V. Lapachev, Il'ya Ya. Mainagashev, Svetlana A. Stekhova, Martin A. Fedotov, Viktor P. Krivopalov, Vladimir P. Mamaev**
- 496 Deuterium Isotope Effects in a Triply Degenerate Cyclopropylethyl Cation **Hans-Ullrich Siehl, Ernst-Wilhelm Koch**
- 498 Acyclic Stereoselection using 1,2-Asymmetric Induction. The First Total Synthesis of (+)-Corynomycolic Acid **Yasunori Kitano, Yuichi Kobayashi, Fumie Sato**
- 499 Visualization of Chromatography Columns by N.M.R. Imaging **Laurance D. Hall, Vasanthan Rajanayagam**
- 501 A Phenyl-lithium Activated Fe₄S₄ Cluster as a Hydride Transfer Agent in the Hydrogenation of Carbonyl Compounds **Hiroo Inoue, Yoshiharu Nagao, Eiichi Haruki**
- 502 Novel Regioselectivity under Conformational Control in the Methylation of 2,3-Dihydroxy-1-naphthaldehyde **Francis M. Dean, Gassan El-Kass, Lalit Prakash**
- 504 Enantioselective Synthesis of (*R*)- or (*S*)-2-Alkylglutaraldehydic Acid Methyl Esters *via* Chiral Organotin Enamines **Brigitte Nebout, Bernard de Jeso, Jean-Claude Pommier**
- 505 Acid Dissociation Constants for Plastocyanin in the Cu^I State **John D. Sinclair-Day, Margaret J. Sisley, A. Geoffrey Sykes, Garry C. King, Peter E. Wright**
- 507 Iron Porphyrin-based Electrocatalytic Reduction of Nitrite to Ammonia **Mark H. Barley, Kenneth Takeuchi, W. Rorer Murphy, Jr., Thomas J. Meyer**
- 508 Synthesis of a Cyclic Chiral Axially Disymmetric Tetramethylethylenediamine-like but Non Chelating 1,2-Diamine **Nicole Maigrot, Jean-Paul Mazaleyrat**
- 510 Theoretical Studies of Isotope Effects Pertinent to Solvolysis Mechanisms **Ian H. Williams**
- 511 Palladium-catalysed Conversion of Alkenols into Five- and Six-membered Ring Lactones at Room Temperature and Atmospheric Pressure **Howard Alper, Danielle Leonard**
- 512 Selective Nitration of Phenol **Humayun Pervez, Liliias Rees, Colin J. Suckling**
- 514 A Novel Synthesis of Nezukone *via* the Rearrangement of a Bicyclic Isomer: Evidence for the Intermediacy of Heptafulvenes **Martin G. Banwell, G. Lance Gravatt, Cliff E. F. Rickard**
- 515 The Nature of Hydrogen Bonding in Hydrotrioxides of Methyl α-Methylbenzyl Ether and α-Methylbenzyl Alcohol. Are Hydrotrioxides Self-associated in Solutions? **Božo Plesničar, Franci Kovač, Milan Hodošček, Jože Koller**
- 518 Stereoselective Preparation of Bicyclic Lactams by Copper- or Ruthenium-catalysed Cyclization of *N*-Allyltrichloroacetamides: A Novel Entry to Pyrrolidine Alkaloid Skeletons **Hideo Nagashima, Ken-ichi Ara, Hidetoshi Wakamatsu, Kenji Itoh**
- 519 Biosynthesis of Asukamycin. Formation of the 2-Amino-3-hydroxycyclopent-2-enone Moiety **Akira Nakagawa, Tzay-Shiang Wu, Paul J. Keller, Jonathan P. Lee, Satoshi Ōmura, Heinz G. Floss**
- 521 Stereospecific Synthesis of a Metallo-enolate: *E*-[Zr{OC(SiMe₃)=CHAr}Cl(η-C₅H₅)₂] (Structurally Characterised) *via* Carbonylation of [Zr{CH(SiMe₃)Ar}Cl(η-C₅H₅)₂] (Ar = 9-Anthryl) **Michael F. Lappert, Colin L. Raston, Lutz M. Engelhardt, Allan H. White**
- 523 Direct Conversion of Allylic Nitro Compounds into Allyl Sulphides and Allyl Sulphones **Noboru Ono, Isami Hamamoto, Tetsuya Yanai, Aritsune Kaji**
- 524 Unusual Cycloaddition Products from the Trapping of an α-Oxo-sulphine (-thioetone *S*-oxide) with Simple Alkenes **Ian W. J. Still, Fred J. Ablenas**
- 525 Organic Solid Photochromism *via* a Photoreduction Mechanism. Photochromism of Viologen Crystals **Hiroyoshi Kamogawa, Takeshi Suzuki**
- 526 Preferential Solvation and the Composition of the Solvation Shell of (Dimethyl Sulphoxide)penta-amminechromium(III) Ion in Dimethyl Sulphoxide-Water Mixtures **Warren L. Reynolds, Lucinda Reichley-Yinger, Yu Yuan**

AUTHOR INDEX

- Ablenas, Fred J., 524
 Agami, Claude, 441
 Alper, Howard, 511
 Al-Showiman, Salim, 443
 Ansell, Christopher W. G., 437, 439
 Ara, Ken-ichi, 518
 Astruc, Didier, 447, 450
 Banwell, Martin G., 514
 Barley, Mark H., 507
 Barratt, David S., 458
 Biloen, P., 475
 Booth, Harold, 467
 Bortolin, Roberto, 456
 Boyd, Derek R., 443
 Bristow, Stuart, 479
 Brown, George R., 455
 Carty, Arthur J., 456
 Cavani, Fabrizio, 492
 Centi, Gabriele, 492
 Cole-Hamilton, David J., 458
 Cooper, Mervyn K., 437, 439
 Dancey, Keith P., 437, 439
 Davidson, Jack L., 460
 Dean, Francis M., 502
 Declercq, Jean-Paul, 446
 de Jeso, Bernard, 504
 Desbois, Marie-Hélène, 447, 450
 do Carmo Frechiani, Maria, 446
 Domen, Kazunari, 487
 Doughty, Michael B., 454
 Duckworth, Paul A., 437, 439
 El-Kass, Gassan, 502
 Engelhardt, Lutz M., 521
 Fedotov, Martin A., 494
 Feiters, Martinus C., 484
 Feringa, Ben L., 466
 Floss, Heinz G., 519
 Foubister, Alan J., 455
 Garner, C. David, 479, 484
 Goh, Lai Yoong, 462
 Gravatt, G. Lance, 514
 Guillin, Jacques, 447
 Hagyard, Stuart K., 479
 Haight, Gilbert P., Jr., 488
 Hall, Laurance D., 499
 Hamamoto, Isami, 523
 Hambley, Trevor W., 488
 Haruki, Eiichi, 501
 Hasnain, S. Samar, 484
 Hayashi, Shūichi, 482
 Hendry, Philip, 488
 Henrick, Kim, 437, 439
 Hienuki, Yutaka, 471
 Higgins, Simon J., 484
 Hodošček, Milan, 515
 Hwu, Jih Ru, 452
 Inaba, Akihiro, 487
 Inoue, Hiroo, 501
 Itoh, Kenji, 518
 Jackson, Anthony H., 470
 Jennings, W. Brian, 443
 Kabumoto, Akira, 474
 Kaji, Aritsune, 523
 Kamogawa, Hiroyoshi, 525
 Keller, Paul J., 519
 Khedhair, Khedhair A., 467
 Kim, Sunggak, 473
 King, Garry C., 505
 Kitano, Yasunori, 498
 Ko, Young Kwan, 473
 Kobayashi, Yuichi, 498
 Koch, Ernst-Wilhelm, 496
 Koller, Jože, 515
 Kovač, Franci, 515
 Krivopalov, Viktor P., 494
 Kuramoto, Junji, 482
 Lapachev, Vyacheslav V., 494
 Lappert, Michael F., 521
 Latour, Jean-Marc, 464
 Lawrance, Geoffrey A., 488
 Lawrence, David S., 454
 Lee, Jonathan P., 519
 Leonard, Danielle, 511
 Levason, William, 484
 Levisalles, Jacques, 441
 Limosin, Danièle, 464
 Machida, Hideaki, 469
 McKervey, M. Anthony, 491
 McPartlin, Mary, 437, 439
 Maehashi, Tatsuichi, 487
 Maigrot, Nicole, 508
 Mainagashev, Il'ya Ya., 494
 Mamaev, Vladimir P., 494
 Mariot, J.-P., 447
 Maruya, Ken-ichi, 487
 Mason, Joan, 444
 Matsuo, Akihiko, 482
 Mazaleyrat, Jean-Paul, 508
 Meyer, Thomas J., 507
 Michaud, Pascal, 450
 Mills, Colin F., 479
 Mingos, D. Michael P., 444
 Miyake, Masaru, 471
 Mizumoto, Kunihiko, 474
 Morris, Gareth A., 479
 Muir, K. W., 460
 Munday, Ian, 456
 Murphy, W. Rorer, Jr., 507
 Nagao, Yoshiharu, 501
 Nagashima, Hideo, 518
 Nagra, Bhovinder S., 459
 Nakagawa, Akira, 519
 Nakayama, Mitsuru, 482
 Nebout, Brigitte, 504
 Nicholson, John R., 479
 Nishida, Shinya, 471
 Ogasawara, Kunio, 485
 Ōmura, Satoshi, 519
 Onishi, Takaharu, 487
 Ono, Noboru, 523
 Ookawa, Atsuhiko, 469
 Organ, Gregory, 437
 Otaki, Shizuo, 485
 Pac, Chyongjin, 474
 Pandey, Ravindra K., 470
 Patel, Vikram, 456
 Pervez, Humayun, 512
 Pinto, Angelo C., 446
 Plesničar, Božo, 515
 Pommier, Jean-Claude, 504
 Prakash, Lalit, 502
 Puchot, Catherine, 441
 Rajanayagam, Vasanthan, 499
 Raston, Colin L., 521
 Rees, Liliias, 512
 Reichley-Yinger, Lucinda, 526
 Rey, Paul, 464
 Reynolds, Warren L., 526
 Rickard, Cliff E. F., 514
 Roberts, Edward, 470
 Robinson, David H., 459
 Russell, D. Noel, 491
 Sargeson, Alan M., 488
 Sato, Fumie, 498
 Schaefer, Jacob, 444
 Shaw, Gordon, 459
 Sherman, Darren, 444
 Siehl, Hans-Ullrich, 496
 Sinclair-Day, John D., 505
 Sinn, Ekk, 462
 Siskey, Margaret J., 505
 Soai, Kenso, 469
 Soong, Y., 475
 Steel, Andrew T., 484
 Stejskal, Edward O., 444
 Stekhova, Svetlana A., 494
 Still, Ian W. J., 524
 Suckling, Colin J., 512
 Suzuki, Takeshi, 525
 Sykes, A. Geoffrey, 505
 Takano, Seiichi, 485
 Takaoka, Daisuke, 482
 Takekuchi, Kenneth, 507
 Tanaka, Katsumi, 481
 Tasker, Peter A., 437, 439
 Taylor, Nicholas J., 456, 476, 478
 Tinant, Bernard, 446
 Toyoshima, I., 481
 Trifirò, Ferruccio, 492
 Tsuji, Takashi, 471
 Twohig, M. Fiona, 491
 Van Meerssche, Maurice, 446
 Varret, F., 447
 Viswanathan, B., 481
 Wakamatsu, Hidetoshi, 518
 Wei, Chen, 462
 White, Allan H., 521
 Williams, Ian H., 510
 Wilson, Valerie E., 443
 Wilson, W. F., 460
 Wright, Peter E., 505
 Wu, Tzay-Shiang, 519
 Yanagida, Shozo, 474
 Yanai, Tetsuya, 523
 Yang, C.-H., 475
 Yoshino, Katsumi, 474
 Yuan, Yu, 526

NEW..a monthly current awareness bulletin giving worldwide coverage in the field of synthetic chemistry...

METHODS IN ORGANIC SYNTHESIS

The massive amount of literature published these days in the field of synthetic chemistry makes it a laborious and time-consuming task to find just the items YOU want.

METHODS IN ORGANIC SYNTHESIS (MOS) provides current and cost-effective coverage of novel and unusual reactions and reaction schemes, keeping you up to date and saving you the time, effort and expense of performing your own literature searches.

MOS contains over 200 items per issue, drawn from the world's major primary organic chemistry journals, and published within weeks of the appearance of the original documents!

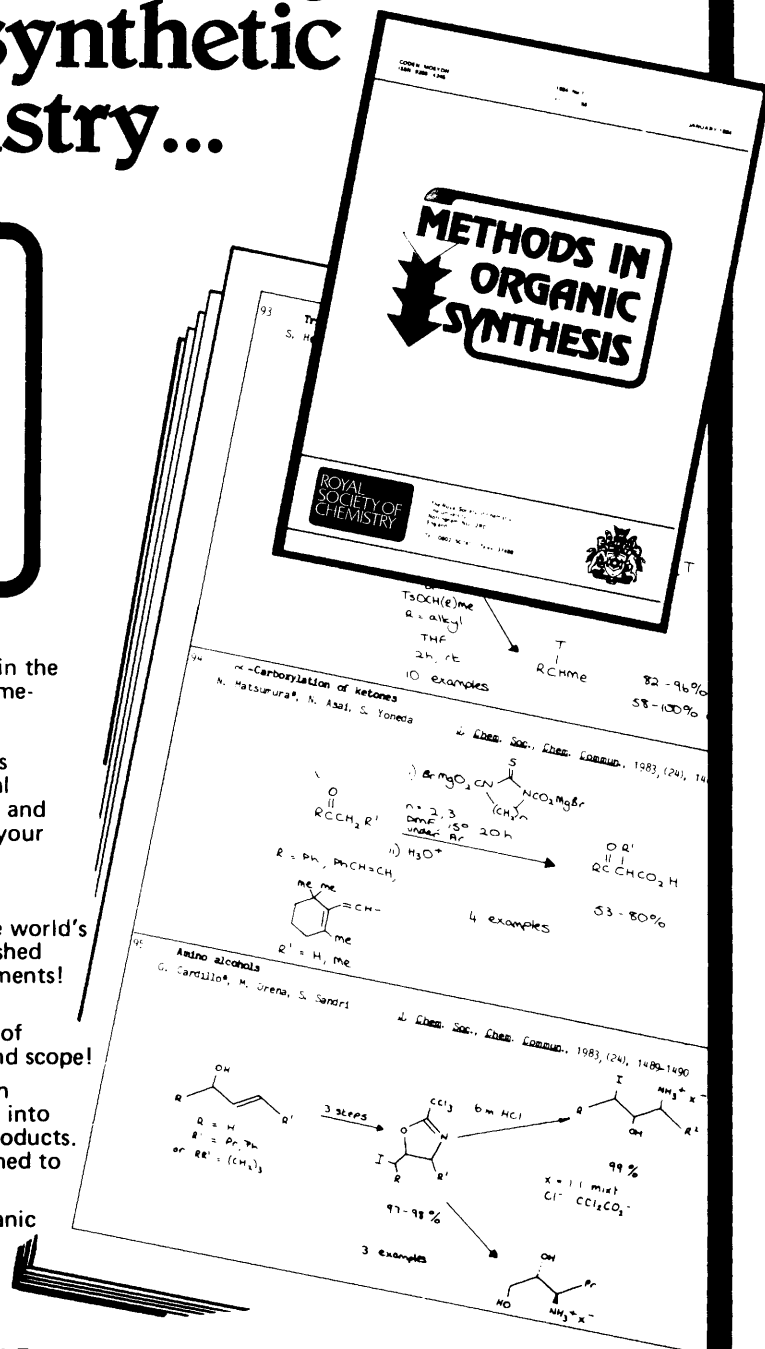
MOS items include titles, bibliographic details and **STRUCTURAL DIAGRAMS** or **LINE FORMULAE** of reaction schemes with details of conditions, yields and scope!

MOS issues each contain five comprehensive indexes: an Author Index, and a Keyword Subject Index divided into four sections: Reactants, Reactions, Reagents and Products. These indexes are cumulated annually, and are designed to give you easy access to items of particular interest!

MOS also includes books and reviews of interest to organic chemists!

For further details, subscription rates and FREE SAMPLE ISSUE contact:-

The Royal Society of Chemistry,
The University,
Nottingham NG7 2RD.
Tel: 0602 507411, Telex: 37488



ROYAL SOCIETY OF CHEMISTRY