

# Publications 1998

---

## 1. *Nucleosides*

Carbohydrate Chemistry (Specialist Periodical Report), 1998, 30, 268-315  
R H Wightman

## 2. *Heterocyclic Nucleoside Analogues by Cycloaddition Reactions of 1-Vinylthymine with 1,3-Dipoles*

Nucleosides & Nucleotides, 1998, 17, 1053-1075  
D R Adams, A S F Boyd, R Ferguson, D S Grierson, C Monneret

## 3. *Magnetic and electronic properties of lead-doped lanthanum manganate*

Journal of Materials Chemistry, 1998, 8, 119-124  
A V Powell, D C Colgan, C Herwig, A G Whittaker

## 4. *The Kinetic Energy of Lithium in LiTiS<sub>2</sub> as Determined by Neutron Compton Scattering*

Physica B, 1998, 241-243, 335-337  
A V Powell, L Kosidowski, J Mayers

## 5. *Cation Deficiency in Ordered-Vacancy Ternary Sulfides*

Mater Sci Forum, 1998, 278, 686  
A V Powell, D C Colgan

## 6. *Structural control of reactivity in some new cyclidene complexes*

Co-ordination Chemistry Reviews, 1998, 174, 313-326  
J H Cameron, C A Clarke, G M Rosair, E L Scott

## 7. *Local Dynamics of Poly(dimethyl siloxane) in the presence of Reinforcing Filler Particles*

Polymer, 1998, 39, 6369-6376  
V Arrighi, A N Burgess, G Floudas, J S Higgins

## 8. *Chiral Palisade Side-chain Liquid Crystal Copolymers: Effect of Comonomer End Group on the Nature of the Liquid Crystalline Phase*

Polymers for Advanced Technologies, 1998, 9, 128-133  
J M G Cowie, I A Borthwick

## 9. *Micromachined Pattern Transfer into CVD Diamond*

Diamond and Related Materials, 1998, 7, 1148-1154

P John, J S Aitchison, M G Jubber, J H Marsh, A J McLaughlin, C E Troupe, J I B Wilson

10. **Diamond-based Glucose Sensors**

Diamond and Related Materials, 1998, 7, 575-580

P John, I C Drummond, J Grice, M G Jubber, C E Troupe, J I B Wilson

11. **Physical Aging in Poly(vinyl acetate) 2 Relative Rates of Volume and Enthalpy Relaxation**

Macromolecules, 1998, 31, 2611-2615

J M G Cowie, I J McEwen, S Harris

12. **Ion conduction in macroporous polythene film doped with electrolytes**

Solid State Ionics, 1998, 109, 139-144

J M G Cowie, M A Spence

13. **Enthalpy relaxation in glassy polystyrenes Part 3 Stress and enthalpy relaxation in poly(4-methylstyrene) and poly(4-chlorostyrene)**

Journal of the Chemical Society - Faraday Trans, 1998, 94, 1105-1109

J M G Cowie, I J McEwen, A Brunacci

14. **Physical ageing in poly(vinyl acetate) - 3 Structural relaxation and its effect on the stress relaxation modulus**

Polymer, 1998, 39, 4393-4397

J M G Cowie, I J McEwen, R Ferguson, S Harris

15. **Ion conduction in crosslinked beta-cyclodextrin gels**

Polymer, 1998, 39, 7139-7141

J M G Cowie, M A Spence

16. **Modification of poly(styrene-stat-acrylonitrile) to promote polymer blend miscibility through hydrogen-bonded (2,4-diamino-1,3,5-triazine)-maleimide interactions**

Polymer, 1998, 40, 227-231

J M G Cowie, D Cocton

17. **The length of cooperativity at the glass transition in poly(vinyl acetate) from the modelling of the structural relaxation process**

Polymer, 1998, 40, 183-192

J M G Cowie, I J McEwen, R Ferguson, J L Gomez Ribelles, S Harris, A Vidaurre Garayo

18. **An Ion Conducted Tour Through Some Polymer Electrolytes**

Polymer International, 1998, 47, 20-27

J M G Cowie

19. ***Functionalised Polydiacetylenes with Polar, Hydrogen Bonding and Metal-Containing Groups***  
Functional Polymers, Modern Synthetic Methods and Novel Structures, ACS Symposium Series, 1998, 704, 321-329  
W E Lindsell, P N Preston, I H Jenkins, C Murray, T A J Woodman
20. ***Synthesis of Pyrido-1,2,4-thiazines Related to Antihypertensive***  
Tetrahedron, 1998, 54, 13645-13654  
P N Preston, R H Wightman, C G Neill
21. ***First example of a sixteen-membered Jager macrocycle having a 'Z' conformation***  
Journal of the Chemical Society - Chemical Communications, 1998, 1595-1596  
J H Cameron, G M Rosair, D P Nicol
22. ***Copolymer-supported metal complexes capable of binding dioxygen***  
Reactive Polymers, 1998, 36, 173-183  
J H Cameron, S Graham, H B Harvey, J J Liggat, A McKee, E L Scott, I Soutar
23. ***Naphthalene intercalation into molybdenum disulfide***  
Journal of the Chemical Society - Chemical Communications, 1998, 2201-2202  
A V Powell, L Kosidowski
24. ***Steroidal and Non-steroidal Sulfamates as Potent Inhibitors of Steroid Sulfatase***  
Journal of Medicinal Chemistry, 1998, 41, 1068-1083  
N M Howarth, B V L Potter, A Purohit, M J Reed, L W L Woo, H M H Hejaz
25. ***Manipulation of Substituents at Nitrogen in Tropanes, Homotropanes and Dehydro-Derivatives***  
Tetrahedron, 1998, 54, 10899-10914  
N M Howarth, J R Malpass, C R Smith
26. ***The electronic states and molecular properties of 1,2,3-triazine, studied by VUV absorption, near-threshold electron energy-loss spectroscopy and ab-initio multi-reference configuration***  
Chemical Physics, 1998, 228, 39-59  
I C Walker, M F Guest, H McNab, M H Palmer, M R F Siggel, M MacDonald
27. ***Photoabsorption and near-threshold electron energy-loss spectroscopy of OCIO***  
Journal of Physics B: Atomic and Molecular Physics, 1998, 31, 3387-3405  
I C Walker, J M Gingell, G Marston, N J Mason, F Motte-Tollet, M R F Siggel, H Zhao, K L Brown, J Delwiche
28. ***Synthesis of (3S,4R)-3,4-Isopropylidenedioxy-1-Pyrroline-N-Oxide, an Enantiopure Functionalised Cyclic Nitrone; Cycloaddition Reactions with Dimethyl Maleate and Dimethyl***

**Fumarate**

Synthetic Communications, 1998, 28, 3443-3450

R H Wightman, M Closa

29. *Synthesis of Trihydroxylated Pyrrolizidines and Indolizidines using Cycloaddition Reactions of Functionalised Cyclic Nitrones, and the Synthesis of (+)- and (-)-Lentiginosine*  
Tetrahedron, 1998, 54, 9429-9446  
R H Wightman, K P Meldrum, A E McCaig
30. *Radical cyclisation of carbohydrate alkynes: synthesis of highly functionalised cyclohexanes and carbasugars*  
Journal of the Chemical Society - Chemical Communications, 1998, 1505-1506  
R H Wightman, G Singh, E Maudru
31. *Asymmetric cycloadditions of dienes to chloronitroso compounds derived from carbohydrate ketones: synthesis of (-)-physoperuvine and (+)-epibatidine*  
Journal of the Chemical Society - Chemical Communications, 1998, 2251-2252  
P D Bailey, R H Wightman, A Hall, D C Rees
32. *Steric effects in heteroboranes Part 21 Metallation of a bis(thiophenyl)carborane giving both exo and endo products. Synthesis and structural characterisation of RuCl{7,8-(SPh)<sub>2</sub>-7,8-nido-C<sub>2</sub>B<sub>9</sub>H<sub>10</sub>}(p-cymene) and 1,2-(SPh<sub>2</sub>)-3-(p-cymene)-3,1,2-semipseudocloso-RuC<sub>2</sub>B<sub>9</sub>H<sub>9</sub>*  
Inorganic Chemistry, 1998, 37, 5394-5395  
F Teixidor, C Vinas, M A Flores, G M Rosair, A J Welch, A S Weller
33. *Charge-Compensated Carbarhodaboranes Synthesis and Molecular Structures of 3-L-3-I2-4-SMe2-3,1,2-closo-RhC<sub>2</sub>B<sub>9</sub>H<sub>10</sub>, L = CO or PPh<sub>3</sub>*  
Polyhedron, 1998, 17, 2627-2632  
A S F Boyd, A J Welch, G M Rosair, A S Weller, F B H Tiarks, S K Zahn
34. *Sterically Encumbered, Charge-Compensated, Metallacarboranes Synthesis and Structures of Ruthenium Pentamethylcyclopentadienyl Derivatives*  
Organometallics, 1998, 17, 3227-3235  
A J Welch, G M Rosair, A S Weller
35. *Synthesis and characterisation of N,N'-dipropyl-1,2-ethanediamine and N,N'-diisopropyl-1,2-ethanediamine complexes of nickel(II): Thermal studies and X-ray single crystal structure analysis of [Ni(N,N'-dipropyl-1,2-ethanediamine)2(NCS)2]*  
Acta Chem Scand, 1998, 52, 702-708  
A J Welch, I R Laskar, D Das, N R Chaudhuri, G Mostafa
36. *1-Phenyl-3,3-bis(triethylphosphine)-1,2-dicarba-3-platina-closo-dodecaborane*

Acta Crystallogr, Sect C, 1998, C54, 588-591  
A J Welch, R L Thomas, G O Kyd

37. *Expected and unexpected outcomes of a heteroborane isomerisation*  
Journal of the Chemical Society - Chemical Communications, 1998, 1065-1066  
A J Welch, S Dunn, G M Rosair, A S Weller
38. *Synthesis and characterisation of N,N'-dipropyl/diisopropylethane-1,2-diamine complexes of nickel(II) nitrate: thermal studies and X-ray single crystal structure analysis of cis-nitratobis(N,N'-dipropylethane-1,2-diamine)nickel(II) nitrate*  
Polyhedron, 1998, 17, 1363-1368  
A J Welch, I R Laskar, D Das, N R Chaudhuri, G Mostafa
39. *Rhodathiaboranes with "anomalous" electron counts: synthesis structure and reactivity*  
J Organometal Chem, 1998, 550, 315-329  
A J Welch, K J Adams, T D McGrath, G M Rosair, A S Weller
40. *3-(n<sub>3</sub>-Allyl)-3,3-dicarbonyl-4-(dimethylsulfido)-3,1,2-molybdadicarba-closo-dodecaborane(12)*  
Acta Crystallogr, 1998, C54, 214-217  
A J Welch, G M Rosair, A S Weller, K Johansen
41. *1-[Chloro(diphenylphosphino)gold(I)-P]-2-phenyl-1,2-dicarba-closo-dodecaborane(12)*  
Acta Crystallogr, 1998, C54, 13-15  
A J Welch, M A McWhannel, G M Rosair
42. *The formation, characterisation and structures of closo-12-vertex dirhodathiaboranes containing rhodium(II) centres*  
Polyhedron, 1998, 17, 341-349  
A J Welch, K J Adams, T D McGrath
43. *Synthesis of alpha-heterosubstituted glycine derivatives from dihaloethanamides*  
Tetrahedron Letters, 1998, 39, 7755-7758  
P D Bailey, G M Rosair, S R Baker, A N Boa, J Clayson
44. *The electronic states of pyrrole studied by optical (VUV) absorption, near-threshold electron energy-loss (EEL) spectroscopy and ab initio multi-reference configuration interaction studies*  
Chemical Physics, 1998, 238, 179-199  
I C Walker, M F Guest, M H Palmer
45. *Antibiotics*  
Carbohydrate Chemistry (Specialist Periodical Report), 1998, 30, 253-267  
R H Wightman

46. *N-Phenyl-1-aza-2-cyano-1,3-butadienes : An Intramolecular Hetero Diels-Alder Strategy for the Construction of 1,4-Benzodiazepines*  
Tetrahedron Letters, 1998, 39, 4283-4286  
D R Adams, D S Grierson, C Goulaouic-Dubois, N J Sisti, F W Fowler
47. *Iron(II)-mediated fragmentation of unsaturated hydroperoxy acetals: a rapid synthetic route to 13-membered macrolides*  
Journal of the Chemical Society - Chemical Communications, 1998, 1173-1174  
K J McCullough, A Masuyama, M Nojima, Y Motomura
48. *Ozonolyses of 1-alkyl-substituted 3-methylindenones Remarkable effects of the substituent steric bulk and the stereochemistry of the carbonyl oxide intermediates on the efficiency of zonide formation*  
Journal of Organic Chemistry, 1998, 63, 5617-5622  
K J McCullough, S Kawamura, A Masuyama, M Nojima, R Takeuchi
49. *Syntheses, structure analyses and reactions of 1,3,5-trioxepanes and related compounds*  
Journal of the Chemical Society - Perkin Transactions 1, 1998, 15, 2353-2362  
K J McCullough, A Masuyama, K M Morgan, M Nojima, S Satake, Y Okada, S Takeda
50. *Synthesis of novel hydroperoxy-substituted 1,2,4,5-tetroxepanes and 1,2,4,5-tetroxocanes*  
Tetrahedron Letters, 1998, 39, 6597-6600  
K J McCullough, A Masuyama, M Nojima, Y Ushigoe, Y Nonami
51. *Chemical transformations of solvent-derived ozonolysis products: acid-catalysed reactions of alpha-alkoxy alpha'- hydroperoxy isochromans with aldehydes*  
Journal of the Chemical Society - Perkin Transactions 1, 1998, 18, 3059-3064  
K J McCullough, S Kawamura, A Masuyama, M Nojima, Y Ushigoe, S Tanaka
52. *Chemical transformations of solvent-derived ozonolysis products: improved synthesis of polycyclic 1,2,4,6-tetroxepanes from alpha-alkoxy alpha'-hydroperoxy cyclic ethers and aldehydes*  
Journal of the Chemical Society - Perkin Transactions 1, 1998, 18, 3053-3057  
K J McCullough, A Masuyama, M Nojima, Y Ushigoe, S Tanaka
53. *Synthesis and characterisation of derivatives of monocyclopentadienylbis(arene-1,2-dithiolato) titanium(IV); crystal structures of M[Ti(h<sub>5</sub>-C<sub>5</sub>Me<sub>5</sub>)(1,2-S<sub>2</sub>C<sub>6</sub>H<sub>4</sub>)<sub>2</sub>] [M=Tl and N(PPh<sub>3</sub>)<sub>2</sub>]*  
Journal of the Chemical Society - Dalton Transactions, 1998, 1581-1586  
W E Lindsell, G M Rosair, M A Spence
54. *Synthesis and characterisation of monocyclopentadienyl dithiolato complexes of niobium and*

*tantalum; crystal structures of [Nb<sub>2</sub>(n<sub>5</sub>-C<sub>5</sub>H<sub>4</sub>Me)2Cl<sub>4</sub>(u-O){u-n<sub>2</sub>,n<sub>2</sub>-S<sub>2</sub>C<sub>2</sub>H<sub>4</sub>}] and [Nb<sub>2</sub>n<sub>5</sub>-C<sub>5</sub>H<sub>4</sub>Me)2O(S<sub>2</sub>C<sub>2</sub>H<sub>4</sub>)<sub>2</sub>{u-n<sub>1</sub>,n<sub>2</sub>-S<sub>2</sub>C<sub>2</sub>H<sub>4</sub>}]*

Journal of the Chemical Society - Dalton Transactions, 1998, 3281-3286

W E Lindsell, G M Rosair, M A Spence

55. *Synthesis of Ferrocene Derivatives with potentially mesogenic functional substituents*

Journal of Chemistry Research, 1998, S62-63 (M423-433)

W E Lindsell, L Xinxin

56. *A Theoretical Study of M(PH<sub>3</sub>)<sub>4</sub> (M = Ru, Fe) ; Models for the Highly Reactive d8 Intermediates M(dmpe)<sub>2</sub> (M = Ru, Fe)*

Journal of the Chemical Society - Dalton Transactions, 1998, 271

S A Macgregor, O Eisenstein, R N Perutz, M K Whittlesey

57. *Reactions of N<sub>2</sub><sup>+</sup> with CO and NO at thermal energy*

Chemical Physics, 1998, 231, 145-153

M J Frost, S Kato, S M Bierbaum, S R Leone

58. *Stress relaxation and physical ageing in a blend of poly(styrene-co-acrylonitrile) and poly(methyl methacrylate)*

Journal of the Chemical Society - Faraday Trans, 1998, 94, 3481-3486

J M G Cowie, I J McEwen, S Matsuda

59. *Spectrochemical and Computational Studies of Tetrachloro- and Tetrabromo-oxo- and nitrido-technetate(V) and their Tc(IV) Counterparts*

Journal of the Chemical Society - Dalton Trans, 1998, 2303

S A Macgregor, J Baldas, G A Heath, K H Moock, S C Nissen, R G Raptis

60. *Mapping the Unpaired Electron Density in [Pt(bipy)L<sub>2</sub>]- (bipy = 2,2'-bipyridine; L = Cl- CN- 13CN-): a Combined EPR/ENDOR/Theoretical Study*

Journal of the Chemical Society - Faraday Trans, 1998, 94, 2985

S A Macgregor, E J L McInnes, K J Taylor, L J Yellowlees, R D Farley, C C Rowlands

61. *The Stabilization of High-oxidation States in Transition Metals, Part 2 WCl<sub>6</sub> Oxidises [WF<sub>6</sub>]-, but would PtCl<sub>6</sub> Oxidise [PtF<sub>6</sub>]-? An Electrochemical and Computational Study of 5d Transition Metal Halides*

Inorganic Chemistry, 1998, 37, 3284

S A Macgregor, K H Moock

62. *Blends of rigid and flexible macromolecules: poly(benzimidazole) mixed with poly(vinyl acetate-stat-vinyl alcohol) copolymers*

Polymer, 1998, 40, 1993-2001

63. ***Asymmetric Routes to Substituted Piperidines***  
Journal of the Chemical Society - Chemical Communications, 1998, 633-640  
P D Bailey, P A Millwood, P D Smith
64. ***Structural Requirements for Non-peptide substrate Binding to the Epithelial proton-Coupled Oligopeptide Transporter***  
J Physiol, 1998, 511P, 26-27  
P D Bailey, C A R Boyd, J R Bronk, I D Collier, C S Temple
65. ***4-Aminomethylbenzoic Acid is a Non-translocated Competitive Inhibitor of the Epithelial Peptide Transporter PepT1***  
J Physiol, 1998, 512, 629-634  
P D Bailey, C A R Boyd, J R Bronk, I D Collier, K M Morgan, C S Temple, D Meredith
66. ***Peptide Mimics as Substrates for the Intestinal Peptide Transporter***  
J Biol Chem, 1998, 273, 20-22  
P D Bailey, C A R Boyd, J R Bronk, I D Collier, K M Morgan, C S Temple, D Meredith, A K Stewart, N A Lister, R D Vaughan-Jones
67. ***The Design and Synthesis of Cyclic Peptide Chelators***  
Peptides 96, Mayflower Scientific Ltd, England, 1998, 227-228  
P D Bailey, J D Heffernan, D J Bennett, R Gilfillan, N J Hales
68. ***The Synthesis of Peptide Isosteres: Their Role as Active Site Probes for the Transmembrane Peptide Transporter Protein PepT1***  
Peptides 96, Mayflower Scientific Ltd, England, 1998, 229-230  
P D Bailey, I D Collier
69. ***The Synthesis of Polycyclic Peptides: Structural Studies and Application to CCK***  
Peptides 96, Mayflower Scientific Ltd, England, 1998, 231-232  
P D Bailey, C M Flynn, H S Rabiasz, I M McDonald
70. ***Challenges and Opportunities for Chemistry Education***  
Variety in Chemistry Teaching, 1998, Royal Society of Chemistry, 1998, 8-10  
P D Bailey
71. ***The 355nm photodissociation of jet-cooled CH<sub>3</sub>SNO: alignment of the NO photofragment***  
Chemical Physics Letters, 1998, 292, 161-166  
J Pfab, C L Ning, G R Kennedy

72. *Kinetic studies of the reaction of some nitrosoalkanes with nitrogen dioxide*  
Journal of the Chemical Society - Perkin Trans 2, 1998, 483-485  
J Pfab, B G Gowenlock, B King, M Witanowski
73. *Electronic spectroscopy of the C state of NO by laser multiphoton ionization: rotational structure of the C2II ( $v'=0$ ) from X2II ( $v''=0$ ) two-photon band*  
Molecular Physics, 1998, 94, 313-323  
J Pfab, M Hippler
74. *Getting the Message Across: Key Skills for Chemists - An Undergraduate Reference Book*  
Royal Society of Chemistry, 1998  
P D Bailey, S E Shinton
75. *A photoabsorption, photodissociation and photoelectron spectroscopy study of C<sub>6</sub>H<sub>6</sub> and C<sub>6</sub>D<sub>6</sub>*  
Chemical Physics, 1998, 229, 107-123  
C A F Johnson, J E Parker, M A Hayes, E E Rennie, D A Shaw, D M P Holland
76. *An experimental and theoretical study of the spectroscopic and thermodynamic properties of toluene*  
Chemical Physics, 1998, 230, 97-116  
C A F Johnson, J E Parker, M A Hayes, D M P Holland, M A MacDonald, E E Rennie, D A Shaw, L G Shpinkova, W von Niessen
77. *Dissociation of furan molecular ions: experiment and theory*  
Abstracts of the 23th Annual Meeting of the British Mass Spectrometry Society, 13-16 Sept, 1998, Warwick, 1998, 23, 10  
C A F Johnson, J E Parker, M A Hayes, D M P Holland, M A MacDonald, E E Rennie, D A Shaw, L G Shpinkova
78. *A study of the spectroscopic and thermodynamic properties of furan by means of photoabsorption, photoelectron and photoion spectroscopy*  
Chemical Physics, 1998, 236, 365-385  
C A F Johnson, J E Parker, M A Hayes, D M P Holland, M A MacDonald, E E Rennie, D A Shaw, L G Shpinkova
79. *Supramolecular Liquid Crystallinity: Spherical Coils of Levan Surrounding Cylindrical Rods of DNA*  
Physical Review Letters, 1998, 80, 623-626  
C Viney, A E Huber
80. *Un modelo para el estudio de los materiales biológicos: la seda*

Anales de Mecanica de la Fractura, 1998, 15, 267-272  
J Perez-Rigueiro, C Viney, J Llorca, M Elices

81. ***Mucin-Water Phases: conditions for mucus liquid crystallinity***  
Thermochimica Acta, 1998, 315, 39-49  
J M Davies, C Viney
82. ***Thermal Analysis of Major Ampullate (Drag Line) Spider Silk: the effect of spinning rate on tensile modulus***  
Thermochimica Acta, 1998, 315, 61-66  
K B Guess, C Viney
83. ***Modelling the Ballistic Performance of Body Armour Using a Finite Difference Code***  
Personal Armour Systems Symposium 98, DCTA S&TD Proceedings (Colchester, UK), 1998, 98/02, 259-288  
N Sharma, P Kelly, D Carr, C Viney
84. ***Silkworm Silk as an Engineering Material***  
Journal of Applied Polymer Science, 1998, 70, 2439-2447  
J Perez-Rigueiro, C Viney, J Llorca, M Elices
85. ***Physics and Gel Electrophoresis: using terminal velocity to characterize molecular weight***  
European Journal of Physics, 1998, 19, 575-580  
C Viney, R A Fenton
86. ***Defect Diagnosis - A Case Study involving Chemical Analysis***  
Construction and Building Materials, 1998, 12, 259  
I J McEwen, J Douglas
87. ***Ferrocenyl substituted carboranes: synthesis and characteristics***  
Journal of Organometallic Chemistry, 1998, 556, 55-66  
G M Rosair, A S Weller, C L Beckering