

# Publications 2001

---

1. ***Fluctuation-entanglement mechanism for director anchoring at nematic polymer surfaces.***  
Physical Review E, 2001, 63  
F N Braun, C Viney
2. ***New polymers from our oldest suppliers: Building on 4 billion years of research.***  
Polymer '01. The New Polymers: Design, Development & Applications  
(Edited by J. Watts), IoM Communications, London, 2001, 1-7  
C Viney
3. ***The effect of concentration on the rate of formation of liquid crystal and crystalline phases.***  
Polymer, 2001, 42, 6759-6764  
I J McEwen, S W Watt, C Viney
4. ***Tensile properties of silkworm silk obtained by forced silking.***  
J. Appl. Polym. Sci., 2001, 82, 1928-1935  
J J Perez-Rigueiro, M Elices, J Llorca, C Viney
5. ***Natural protein fibers.***  
Encyclopedia of Materials: Science and Technology (Edited by K.H.J. Buschow, R.W. Cahn, M.C. Flemings, B. Ilshner, E.J. Kramer, and S. Mahajan),  
Pergamon / Elsevier Science, Oxford, 2001, 6, 5948-5957  
C Viney
6. ***Non-covalent interactions between acidic heterocycles and amidine bases.***  
Mat. Sci. Eng. C-Bio. S, 2001, 18, 9-13  
A Kraft, L Peters, S Johann, A Reichert, F Osterod, R Frohlich
7. ***Spectroscopy and dynamics of nitromethane ( $CH_3NO_2$ ) and its anionic states.***  
Int. J. Mass Spectrom. and Ion Physics, 2001, 205, 171-182  
I C Walker, M A D Fluendy
8. ***VUV optical absorption and electron energy-loss spectroscopy of chlorine nitrate.***  
Int. J. Mass Spectrom. and Ion Physics, 2001, 205, 183-196  
N J Mason, N C Jones, L Kaminski, B A Osborne, G Marston, M A Fernandez,  
I C Walker, E A Seddon, J Ballard, D A Newnham

9. ***Chiro-optical properties of lyotropic ethyl cellulose derivatives.***  
Polymer, 2001, 42, 1297-1301  
J C Thies, J M G Cowie
10. ***The use of molecular recognition to obtain selective blending in polymer systems.***  
Polymer, 2001, 42, 4783-4789  
J M G Cowie, C Love
11. ***Inorganic-organic hybrids by exfoliation of MoS<sub>2</sub>.***  
J. Mater. Chem., 2001, 11, 1086-1091  
A V Powell, L Kosidowski, A McDowall
12. ***Pressure-induced phase transitions in chromium thiospinels.***  
Phys. Rev. B, 2001, 63, 064106  
P Vaqueiro, A V Powell, S Hull, D A Keen
13. ***Enthalpy relaxation of styrene-maleic anhydride (SMA) copolymers. 2. Blends with poly(methyl methacrylate) (PMMA).***  
Polymer, 2001, 42, 6991-6997  
N R Cameron, J M G Cowie, R Ferguson, I J McEwan
14. ***Short wavelength light reflecting films from side-chain liquid crystal homopolymers with chiral spacers.***  
Polymers for Advanced Technologies, 2001, 12, 506-514  
J M G Cowie, D M Duncan
15. ***Laser-induced fluorescence studies of elementary processes in a helium plasma following He 3<sup>3P</sup> - 2<sup>3S</sup> and 3<sup>1P</sup> - 2<sup>1S</sup> excitation.***  
J. Phys. B: At. Mol. Opt. Phys., 2001, 34, 1569-1587  
M J Frost, S Himmelmann, D D Palmer
16. ***Applied physics - Toward diamond lasers.***  
Science, 2001, 292, 1847-1848  
P John
17. ***The unimolecular decomposition of internal-energy-selected molecular ions by threshold-photoelectron-photoion coincidence spectroscopy.***  
25th Annual Meeting, BMSS Southampton 9-12 September 2001, 25  
E E Rennie, L Cooper, C A F Johnson, J E Parker, D M P Holland, D A Shaw, M A Hayes
18. ***Binding interactions between 3-aryl-1,2,4-oxadiazol-5-ones and a trisimidazoline base.***

- J. Chem. Soc. Perkin Trans. 1, 2001, 1321-1328  
A Reichert, R Frohlich, R Ferguson, A Kraft
19. ***Noncovalent interactions between tetrazole and an N,N'-diethyl-substituted benzamidine.***  
J. Org. Chem., 2001, 66, 3291-3298  
L Peters, R Frohlich, A S F Boyd, A Kraft
20. ***Luminescent supramolecular assemblies based on hydrogen-bonded complexes of stilbenecarboxylic acids and dithieno[3,2-b: 2',3'-d] thiophene-2-carboxylic acids with a tris (imidazoline) base.***  
J. Mater. Chem., 2001, 11, 1625-1633  
F Osterod, L Peters, A Kraft, J J Morrison, T Sano, N Feeder, A B Holmes
21. ***Supramolecular assemblies with dithieno[3,2-b: 2',3'-d]thiophenes and other conjugated thiophene-containing pi-systems.***  
Synthetic Met., 2001, 119, 175-176  
L Peters, T Sano, J J Morrison, N Feeder, A B Holmes, A Kraft
22. ***Organic field-effect transistors - The breakthrough at last.***  
ChemPhysChem, 2001, 2, 163-165  
A Kraft
23. ***The design and performance of a threshold-photoelectron-photoion coincidence spectrometer for the study of unimolecular decomposition in polyatomic ions.***  
Nucl. Instrum. Meth. B, 2001, 179, 436-454  
D M P Holland, D A Shaw, I Sumner, M A Hayes, R A Mackie, B Wannberg,  
L G Shpinkova, E E Rennie, L Cooper, C A F Johnson, J E Parker
24. ***A study of the unimolecular decomposition of internal-energy-selected furan molecular ions by threshold-photoelectron-photoion coincidence spectroscopy.***  
Chem. Phys., 2001, 263, 149-165  
E E Rennie, L Cooper, C A F Johnson, J E Parker, R A Mackie, L G Shpinkova,  
D M P Holland, D A Shaw, M A Hayes
25. ***Local dynamics of atactic polypropylene across the glass transition.***  
Physica B, 2001, 301, 35-43  
V Arrighi, R Ferguson, R E Lechner, M T F Telling, A Triolo
26. ***Restricted dynamics in polymer-filler systems.***  
Physica B, 2001, 301, 110-114  
S Gagliardi, V Arrighi, R Ferguson, M T F Telling

27. ***A concise, efficient route to fumitremorgins.***  
Tet. Lett., 2001, 42, 113-115  
P D Bailey, P J Cochrane, K Lorenz, I D Collier, D P J Pearson, G M Rosair
28. ***Lyotropic liquid crystalline cellulose derivatives in blends and molecular composites.***  
Polymer, 2001, 42, 9657-9663  
J M G Cowie, V Arrighi, J Cameron, I J McEwan, I J McEwen
29. ***Neutron scattering studies of linear and cyclic poly(dimethylsiloxanes).***  
Absrt. Pap Am Chem S, 2001, 221, 225  
A C Dagger, V Arrighi, S Gagliardi, M J Shenton, S J Clarson, J A Semlyen
30. ***Quasi-elastic neutron scattering.***  
Physica B, 2001, 301, VII-VIII  
V Arrighi, M T F Telling
31. ***Temperature dependence of local chain dynamics in atactic polypropylene: a neutron spin-echo study.***  
Physica B, 2001, 301, 157-162  
V Arrighi, C Pappas, A Triolo, S Pouget
32. ***Dynamic heterogeneity in polymer electrolytes. Comparison between QENS data and MD simulations.***  
Physica B, 2001, 301, 163-167  
A Triolo, V Arrighi, R Triolo, S Passerini, M Mastragostino, R E Lechner, R Ferguson, O Borodin, G D Smith
33. ***Ester methyl group dynamics in the poly(methyl methacrylate) stereocomplex: A neutron scattering study.***  
Macromol. Symp., 2001, 166, 269-276  
R Pillay, V Arrighi, W Kagunya, J S Higgins
34. ***CPI: A recipe for improving applicable properties of discotic liquid crystals.***  
J. Am. Chem. Soc., 2001, 123, 7915-7916  
N Boden, R J Bushby, G Cooke, O Lozman, Z B Lu
35. ***The charge-transfer complexation of tetrathiafulvalene with paraquat and its oligomeric derivatives.***  
Tet. Lett., 2001, 42, 5089-5091  
G Cooke, H A de Cremiers, F M A Duclairoir, M Gray, P Vaqueiro, A V Powell, G M Rosair, V M Rotello

36. *A stopperless tetrathiafulvalene based [2] pseudorotaxane molecular shuttle.*  
Tet. Lett., 2001, 42, 4223-4226  
M R Bryce, G Cooke, W Devenport, F M A Duclairoir, V M Rotello
37. *Synthesis of 6-aryl-2,4-diamino-pyrimidines and triazines using palladium catalysed Suzuki cross-coupling reactions.*  
Tetrahedron, 2001, 57, 2787-2789  
G Cooke, H A de Cremiers, V M Rotello, P Vanderstraeten
38. *An investigation of the complex behaviour of structurally modified tetrathiafulvalene derivatives with the electron deficient cyclophane cyclobis(paraquat-p-phenylene).*  
Tet. Lett., 2001, 42, 1143-1145  
M R Bryce, G Cooke, F M A Duclairoir, V M Rotello
39. *A series of three (E)-2-alkylidene-1,4-di-p-tosyl-1,2,3,4-tetrahydro-quinoxaline compounds.*  
Acta Crystallogr., 2001, C57, 861-864  
S Banerjee, A K Mukherjee, R Mukhopadhyay, R N G Kundu, A J Welch
40. *A 1D thiocyanato bridge nickel (II) system: crystal structure and magnetic properties.*  
Polyhedron, 2001, 20, 651-655  
T K Maji, I R Laskar, G Mostafa, A J Welch, P S Mukherjee, N R Chaudhuri
41. *[{Rh( $\eta^5$ -Ph<sub>2</sub>C<sub>2</sub>B<sub>9</sub>H<sub>9</sub>)( $\eta^3$ -OH)}<sub>4</sub>]: A tetramericicosahedral metallocarborane containing an {Rh(OH)}<sub>4</sub> cubane cluster.*  
Angew. Chem. Int. Edit., 2001, 40, 715-717  
B E Hodson, D Ellis, T D McGrath, J J Monaghan, G M Rosair, A J Welch
42. *Tensile properties of Argiope trifasciata drag line silk obtained from the spider's web.*  
J. Appl. Polym. Sci., 2001, 82, 2245-2251  
J J Perez-Rigueiro, M Elices, J Llorca, C Viney
43. *A simple method for orienting silk and other flexible fibres in transmission electron microscopy specimens.*  
J. Microsc.-Oxford, 2001, 203, 235-238  
J E Trancik, J T Czernuszka, C Merriman, C Viney
44. *Tensile properties of Attacus atlas silk submerged in liquid media.*  
J. Appl. Polym. Sci., 2001, 82, 53-62  
J J Perez-Rigueiro, M Elices, J Llorca, C Viney
45. *Multiaxial anisotropy of spider (Araneus diadematus) cocoon silk fibres.*  
Polymer, 2001, 42, 5797-5800

J Y J Barghout, J T Czernuszka, C Viney

46. ***Synthesis of a novel bicyclic nucleoside restricted to an S-type conformation and initial evaluation of its hybridization properties when incorporated into oligodeoxynucleotides.***  
J. Org. Chem., 2001, 66, 5106-5112  
L Kvaerno, R H Wightman, J Wengel
47. ***Synthesis and reactivity of benzylic sulfonium salts: benzylation of phenol and thiophenol under near-neutral conditions.***  
Tetrahedron, 2001, 57, 2871-2884  
J Forrester, R V H Jones, L Newton, P N Preston
48. ***Theoretical study of the oxidative addition of ammonia to various unsaturated low-valent transition metal species.***  
Organometallics, 2001, 20, 1860-1874  
S A Macgregor
49. ***Regioselectivities of the insertion reactions of unsymmetrical alkynes with the nickelacycles [NiBr(C<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>PPh<sub>2</sub>-2)(L)] (L = tertiary phosphine).***  
Organometallics, 2001, 20, 2864-2877  
A J Edwards, S A Macgregor, A D Rae, E Wenger, A C Willis
50. ***The synthesis and crystal structure analysis of novel macrocyclic peroxides.***  
Tet. Lett., 2001, 42, 5529-5532  
K J McCullough, T Ito, T Tokuyasu, A Masuyama, M Nojima
51. ***A analogues: Synthesis by the ozonolysis of unsaturated hydroperoxides, structural analysis and determination of anti-malarial activity.***  
Tetrahedron, 2001, 57, 5979-5989  
T Tokuyasu, A Masuyama, M Nojima, K J McCullough, H S Kim, Y Wataya Yingzhaosu
52. ***Synthesis and antimalarial activity of novel medium-sized 1,2,4,5-tetraoxacycloalkanes.***  
J. Med. Chem., 2001, 44, 2357-2361  
H S Kim, Y Nagai, K Ono, K Begum, Y Wataya, Y Hamada, K Tsuchiya, A Masuyama, M Nojima, K J McCullough
53. ***Recent advances in the chemistry of cyclic peroxides.***  
Curr. Org. Chem., 2001, 5, 601-636  
K J McCullough, M Nojima
54. ***Chain packing and miscibility in polymer blends.***  
Abstr. Pap. Am. Chem. S., 2001, 221, 553

S Shenoy, V Arrighi, J M G Cowie

55. ***The asymmetric synthesis and conformational analysis of new C<sub>2</sub>-symmetric macrocycles derived from head-to-head linked alpha-amino acids and benzene or pyridine.***  
Tetrahedron, 2001, 57, 1379-1386  
P D Bailey, S R L Everitt, K M Morgan, A G Brewster
56. ***Synthesis of conformationally constrained amino acid and peptide derivatives.***  
J. Chem. Soc., Perkin Trans. 1, 2001, 3245-3251  
P D Bailey, N Bannister, M Bernad, S Blanchard, A N Boa
57. ***Teaching chemists to communicate? Not my job!***  
University Chemistry Education, 2001, 5, 80-86  
P D Bailey
58. ***The Nyholm Lecture.***  
Variety in Chemistry Teaching 2001, RSC, 7-13  
P D Bailey
59. ***Getting the message across: Key skills for scientists.***  
RSC London, 2001, 48  
P D Bailey, S E Shinton
60. ***Insertions of unsymmetric alkynes into the metal-carbon bonds of nickelacycles: What determines the regiochemistry?***  
Helv. Chim. Acta, 2001, 84, 3084-3104  
M A Bennett, S A Macgregor, E Wenger
61. ***Theoretical organometallic chemistry.***  
Specialist Periodical Reports, Organometallic Chemistry, 2001, 29  
S A Macgregor
62. ***Tuneable electrochemical interactions between polystyrenes with anthracenyl and tetrathiafulvalenyl side chains.***  
Chem. Commun., 2001, 21, 2232-2233  
H A De Cremiers, G Clavier, F Ilhan, G Cooke, V M Rotello
63. ***The first redox controlled hydrogen bonded three-pole switch.***  
Chem. Commun., 2001, 1954-1955  
C Bourgel, A S F Boyd, G Cooke, H A De Cremiers, F M A Duclairoir, V M Rotello
64. ***Control of host dimerization and flavin recognition via intramolecular receptor self-assembly.***

Tet. Lett., 2001, 42, 7357-7377

F Jeoung, H A De Cremiers, R Deans, G Cooke, S L Heath, P Vanderstraeten, V M Rotello

65. ***Time-resolved kinetic studies of the  $N_2^+ \rightarrow N_2$  association reaction.***  
Phys. Chem. Chem. Phys., 2001, 3, 4536-4541  
M J Frost, C R J Sharpe
66. ***Investigation of hydrogen-bonding structure in blends of poly(N-vinylpyrrolidone) with poly(vinyl acetate-co-vinyl alcohol) using positron annihilation.***  
Macromolecules, 2001, 34, 7071-7075  
J M G Cowie, I McEwan, I J McEwen, R A Pethrick
67. ***Are halocarboranes suitable for substitution reactions? The case for 3-I-1,2- $C_2B_{10}H_{11}$ : molecular orbital calculations, aryl-dehalogenation reactions,  $^{11}B$  NMR interpretation of closo-carboranes and molecular structures of 1-Ph-3-Br-1,2-closo- $C_2B_{10}H_{10}$  and 1-Ph-1,2-closo- $C_2B_{10}H_{11}$ .***  
Inorg. Chem., 2001, 40, 6555-6562  
C Vinas, G Barbera, J M Oliva, F Teixidor, A J Welch, G M Rosair
68. ***Tetra-n-butylammonium 7-phenylethynyl-8-phenyl-7,8-nido-dicarbadecahydroundecaborate (I-).***  
Acta Crystallogr., 2001, E57, 1171-1172  
G M Rosair, F H Schmidt, A J Welch
69. ***Tetraphenylphosphonium 7-phenylethynyl-8-phenyl-7,8-nido-dicarbadecahydroundecaborate (I-).***  
Acta Crystallogr., 2001, E57, 1168-1170  
G M Rosair, F H Schmidt, A J Welch
70. ***Crystal engineering with heteroboranes. 1. 1-carboxy-1,2-dicarb-closo-dodecaborane(11).***  
Acta Crystallogr., 2001, C57, 1295-1296  
A J Welch, U Venkatasubramanian, G M Rosair, D Ellis, D J Donohoe
71. ***Colossal magnetoresistance in the layered chromium sulphide  $Cr_2S_{3-x}$  ( $x=0.08$ ).***  
Phys. Rev. B, 2001, 64, 132402  
P Vaqueiro, A V Powell, A I Coldea, C A Steer, I M Marshall, S J Blundell, J Singleton, T Ohtani
72. ***Synthesis and characterisation of a layered organically-templated manganese phosphate,  $[Mn_2(HPO_4)_3] \cdot (NH_3(CH_2)_2NH_3)_{3/2} \cdot H_2PO_4$  and its reaction with water.***  
J. Mater. Chem., 2001, 11, 3172-3179  
A M Chippindale, F O M Gaslain, A R Cowley, A V Powell



73. ***Antibiotics.***  
Carbohydrate Chemistry (Specialist Periodical Report), 2001, 32, 241-255  
R H Wightman
74. ***Nucleosides.***  
Carbohydrate Chemistry (Specialist Periodical Report), 2001, 32, 256-311  
R H Wightman
75. ***An ab initio study of the isomerization and fragmentation of simple cyanide and isocyanide molecules and radical cations.***  
25th Annual Meeting, BMSS Southampton 9-12 September, 100  
J E Parker, C A F Johnson, A Shanks
76. ***Advanced Materials Highlights (1).***  
Chem. Ind., 2001, 84-86  
A Kraft
77. ***Advanced Materials Highlights (2).***  
Chem. Ind., 2001, 219-220  
A Kraft
78. ***Advanced Materials Highlights (3).***  
Chem. Ind., 2001, 345-347  
A Kraft
79. ***Advanced Materials Highlights (4).***  
Chem. Ind., 2001, 479-480  
A Kraft
80. ***Advanced Materials Highlights (5).***  
Chem. Ind., 2001, 630-631  
A Kraft
81. ***Advanced Materials Highlights (6).***  
Chem. Ind., 2001, 771-772  
A Kraft
82. ***High resolution TEM observation of CVD diamond films.***  
Inst. Phys. Conf. Ser., 2001, 168, 39-42  
A G Fitzgerald, Y-c Fan, C Kisielowski, P John, C E Troupe, J I B Wilson

83. ***The oxidation of (100) textured diamond.***  
Diamond and Related Materials, 2001,  
P John, N Polwart, C E Troupe, J I B Wilson
84. ***The cavity ring-down spectroscopy of C2 in a microwave plasma.***  
Diamond and Related Materials, 2001,  
P John, J R Rabeau, J I B Wilson
85. ***Synthesis and structural characterisation of a cyano-bridged trinuclear complex [(CuL)<sub>2</sub>Fe(CN)<sub>6</sub>][ClO<sub>4</sub>].2CH<sub>3</sub>OH.H<sub>2</sub>O.***  
Polyhedron, 2001, 20, 2473-2476  
A Mondal, S Mitra, G M Rosair
86. ***Synthesis and crystal structure of mononuclear copper (II) complex of tridentate Schiff base ligand and its ferrocyanide-bridged pentanuclear complex.***  
Polyhedron, 2001, 20, 579-584  
A Mondal, M K Saha, B Bag, S Mitra, G M Rosair, M S El Fallah
87. ***Synthesis and magnetic study of new mu-oxalato dinuclear copper (II) complexes.***  
Indian J. Chem. A, 2001, 40, 451-455  
P S Mukherjee, T K Maji, S Koner, G M Rosair, N R Chaudhuri
88. ***Sodium hydrogen bis(phenoxyacetate).***  
Acta Crystallogr., 2001, C57, 250-251  
J Evans, A Kapitan, G M Rosair, K J Roberts, G White
89. ***Synthesis and structural characterization of an alternating double aquo-bridged and single cyano-bridged polymeric barium-iron complex : {[Ba<sub>2</sub>(phen)<sub>4</sub>(H<sub>2</sub>O)<sub>6</sub>Fe(CN)<sub>6</sub>]. Cl<sub>2</sub>(phen)3H<sub>2</sub>O}***  
*n*  
Inorg. Chem. Commun., 2001, 4, 712-715  
N K Karan, S Mitra, G M Rosair, D Jenkins, K M Abdul Malik
90. ***Electrospray mass spectra of noncovalent complexes between amidines and various organic acids.***  
Abstr. Pap. Am. Chem. S., 2001, 221, 166  
A Kraft, L Peters, R Ferguson
91. ***Sodium hydrogen bis(phenoxyacetate) hemi-hydrate.***  
Acta Crystallogr., 2001, C57, 1277-1278  
J Evans, A Kapitan, G Rosair, K J Roberts, G White