

INDEXES

Volume 15, 1986

The indexes in this issue cover
Volumes 1—15

(Figures in bold type refer to the volume number)

INDEX OF AUTHORS

- Aarons, L. J., **5**, 359
 Ackroyd, J., **11**, 321
 Ager, D. J., **11**, 493
 Ahluwalia, J. C., **2**, 203
 Allen, N. S., **4**, 533, **15**, 373
 Angyal, S. J., **9**, 415
 Ambroz, H. B., **8**, 353
 Atkinson, D., **8**, 475
 Attygalle, A. B., **13**, 245
 Baker, A. D., **1**, 355
 Bamfield, P., **13**, 443
 Barker, B. E., **9**, 143
 Barron, L. D., **15**, 261
 Bartle, K. D., **10**, 113
 Bartlett, P. D., **5**, 149
 Baxendale, J. H., **7**, 235
 Beattie, I. R., **4**, 107
 Beddell, C. R., **13**, 279
 Bell, R. P., **3**, 513
 Belson, D. J., **11**, 41
 Bender, C. J., **15**, 475
 Bentley, P. H., **2**, 29
 Berkoff, C. E., **3**, 273
 Billington, D. C., **14**, 93
 Bird, C. L., **10**, 49
 Bird, C. W., **3**, 309
 Blandamer, M. J., **4**, 55; **14**, 137
 Blundell, T. L., **6**, 139
 Boelens, H., **7**, 167
 Bolton, R., **15**, 261
 Bradshaw, T. K., **6**, 43
 Braterman, P. S., **2**, 271
 Breslow, R., **1**, 553
 Brown, D. H., **9**, 217
 Brown, I. D., **7**, 359
 Brown, K. S., jun., **4**, 263
 Brundle, C. R., **1**, 355
 Bryce-Smith, D., **15**, 93
 Buchanan, G. L., **3**, 41
 Burdett, J. K., **3**, 293; **7**, 507
 Burgess, J., **4**, 55; **14**, 137
 Burnett, M. G., **12**, 267
 Burrows, H. D., **3**, 139
 Burtles, S. M., **7**, 201
 Butterworth, K. R., **7**, 185
 Cadogan, J. I. G., **3**, 87
 Carabine, M. D., **1**, 411
 Cardin, D. J., **2**, 99
 Carless, H. A. J., **1**, 465
 Casellato, U., **8**, 199
 Çetinkaya, B., **2**, 99
 Chamberlain, J., **4**, 569
 Chatt, J., **1**, 121
 Chesters, J. K., **10**, 270
 Chisholm, M. H., **14**, 69
 Chivers, T., **2**, 233
 Clark, G. M., **5**, 269
 Clark, R. J. H., **13**, 219
 Collins, C. J., **4**, 251
 Colvin, E. W., **7**, 15
 Connor, J. N. L., **5**, 125
 Corfield, G. C., **1**, 523
 Cornforth, J. W., **2**, 1
 Cotton, F. A., **4**, 27; **12**, 35
 Coulson, E. H., **1**, 495
 Covington, A. K., **14**, 265
 Cowan, J. M., **8**, 419
 Cox, B. G., **9**, 381
 Coyle, J. D., **1**, 465; **3**, 329; **4**, 523
 Cragg, G. M. L., **6**, 393
 Cramer, R. D., **3**, 273
 Crammer, B., **6**, 431
 Cross, R. J., **2**, 271; **9**, 185; **14**, 197
 Curthoys, G., **8**, 475
 Dack, M. R. J., **4**, 211
 Dainton, F. S., **4**, 323
 Dalton, H., **8**, 297
 Davies, D. I., **8**, 171
 de Rijke, D., **7**, 167
 de Silva, A. P., **10**, 181
 de Valois, P. J., **7**, 167
 Dickinson, E., **14**, 421
 Dickinson, L. C., **12**, 387
 Dobson, J. C., **5**, 79
 Dowle, M. D., **8**, 171
 Doyle, M. J., **2**, 99
 Drummond, I., **2**, 233
 Duffield, J. R., **15**, 291
 Dunkin, I. R., **9**, 1
 Durant, G. J., **14**, 375
 Duxbury, G., **12**, 453
 Dymond, J. H., **14**, 317
 Elliott, M., **7**, 473
 Emsley, J., **9**, 91
 Engberts, J. B. F. N., **14**, 237
 Eschenmoser, A., **5**, 377
 Evans, D. A., **2**, 75
 Evans, J., **10**, 159
 Fenby, D. V., **3**, 193
 Fensham, P. J., **13**, 199
 Fenton, D. E., **6**, 325; **8**, 199
 Ferguson, L. N., **4**, 289
 Fisher, L. R., **6**, 25
 Fleming, I., **10**, 83
 Flygare, W. H., **6**, 109
 Forge, A. J., **8**, 309
 Fox, M. F., **9**, 143
 Frazer, M. J., **11**, 171
 Fry, A., **1**, 163
 Funk, R. L., **9**, 41
 Garson, M. J., **8**, 539
 Georghiou, P. E., **6**, 83
 Gheorghiu, M. D., **10**, 289
 Gibson, K. H., **6**, 489
 Gilbert, J., **10**, 255
 Gilchrist, T. L., **12**, 53
 Gillespie, R. J., **8**, 315
 Goodings, E. P., **5**, 95
 Goodrich, J. A., **14**, 225
 Gordon, P. F., **13**, 443
 Gorman, A. A., **10**, 205
 Gray, B. F., **5**, 359
 Gray, H. B., **15**, 17
 Green, C. L., **2**, 75
 Greenhill, J. V., **6**, 277
 Greenwood, N. N., **3**, 231; **13**, 353
 Grey Morgan, C., **8**, 367
 Grice, R., **11**, 1
 Griffiths, J., **1**, 481
 Grimshaw, J., **10**, 181
 Grossert, J. S., **1**, 1
 Groves, J. K., **1**, 73
 Guilford, H., **2**, 249
 Gutteridge, N. J. A., **1**, 381
 Haines, R. J., **4**, 155
 Hall, G. G., **2**, 21
 Hall, L. D., **4**, 401
 Hall, T. W., **5**, 431
 Halliwell, H. F., **3**, 373
 Hamdan, I. Y., **8**, 143
 Hamer, G., **8**, 143

- Harmony, M. D., 1, 211
 Harris, K. R., 5, 215
 Harris, R. K., 5, 1
 Harrison, L. G., 10, 491
 Hartley, F. R., 2, 163
 Hartshorn, S. R., 3, 167
 Hathway, D. E., 9, 63, 241
 Hayward, R. C., 12, 285
 Heaven, M. C., 15, 405
 Heelis, P. F., 11, 15
 Henderson, J. W., 2, 397
 Hepler, L. G., 3, 193
 Hilburn, M. E., 8, 63
 Hinchliffe, A., 5, 79
 Hoffman, D. M., 14, 69
 Holbrook, K. A., 12, 163
 Holland, H. L., 10, 435; 11, 37
 Holm, R. H., 10, 455
 Hore, P. J., 8, 29
 Horton, E. W., 4, 589
 Hough, L., 14, 357
 Hudson, M. F., 4, 363
 Huffman, J. C., 14, 69
 Huntress, W. T., jun., 6, 295
 Hutchinson, D. W., 6, 43
 Ibers, J. A., 11, 57
 Ikan, R., 6, 431
 Isaacs, N. S., 5, 181
 Isbell, H. S., 3, 1
 Jaffé, H. H., 5, 165
 James, A. M., 8, 389
 Jamieson, A. M., 2, 325
 Janes, N. F., 7, 473
 Jencks, W. P., 10, 345
 Jenkins, J. A., 6, 139
 Johnson, A. W., 4, 1; 9, 125
 Johnson, S. P., 5, 441
 Johnstone, A. H., 7, 317; 9, 365
 Jones, J. R., 10, 329
 Jones, P. G., 13, 157
 Joslin, C. G., 8, 29
 Jotham, R. W., 2, 457
 Kalyanasundaram, K., 7, 453
 Katritzky, A. R., 13, 47
 Keenan, A. G., 8, 259
 Kembal, C., 13, 375
 Kemp, T. J., 3, 139; 8, 353
 Kennedy, J. F., 2, 355; 8, 221
 Kennewell, P. D., 4, 189; 9, 477
 Kenny, A. W., 4, 90
 King, G. A. M., 7, 297
 Kirby, G. W., 6, 1
 Kitaigorodsky, A. I., 7, 133
 Koch, K. R., 6, 393
 Kolar, G. F., 9, 241
 Korpela, T., 12, 309
 Kresge, A. J., 2, 475
 Krishnaji, 7, 219
 Kroto, H., 11, 435
 Krüger, H., 11, 227
 Kuhn, A. T., 10, 49
 Lappert, M. F., 2, 99
 Lee, M. L., 10, 113
 Lee-Ruff, E., 6, 195
 Leigh, G. J., 1, 121; 4, 155
 Lemieux, R. U., 7, 423
 Leznoff, C. C., 3, 65
 Lindberg, B., 10, 409
 Lindsay, D. G., 10, 233
 Lindoy, L. F., 4, 421
 Linford, R. G., 1, 445
 Lipscomb, W. N., 1, 319
 Liu, M. T. H., 11, 127
 Lynch, J. M., 3, 309
 Lythgoe, B., 9, 449
 Mäkelä, M. J., 12, 309
 McCleverty, J. A., 12, 331
 McKean, D. C., 7, 399
 McKellar, J. F., 4, 533
 Mc Kervey, M. A., 3, 479
 Mackie, R. K., 3, 87
 McLauchlan, K. A., 8, 29
 McNab, H., 7, 345
 Maitland, G. C., 2, 181
 Maitlis, P. M., 10, 1
 Mann, B. E., 15, 167
 Manning, P. G., 5, 233
 Maret, A. R., 2, 325
 Markov, P., 13, 69
 Maslowsky, E., 9, 25
 Mason, R., 1, 431
 Mayo, B. C., 2, 49
 Meadowcroft, A. E., 4, 99
 Menger, H. W., 2, 415
 Meyer, A. Y., 15, 449
 Midgley, D., 4, 549
 Millen, D. J., 5, 253
 Mills, R., 5, 215
 Mingos, D. M. P., 15, 31
 Mitchell, J. C., 14, 399
 Moore, D. S., 12, 415
 Moore, H. W., 2, 415; 10, 289
 Morgan, E. D., 13, 245
 Morley, R., 5, 269
 Morris, D. G., 11, 397
 Morris, J. H., 6, 173
 Morris, J. L., 15, 1
 Muetterties, E. L., 11, 283
 Mulheirn, L. F., 1, 259
 Munn, A., 4, 87
 Murphy, W. S., 12, 213
 Musumarra, G., 13, 47
 Newman, J. F., 4, 77
 Nightingale, W. H., 7, 195
 Norman, R. O. C., 8, 1
 North, A. M., 1, 49
 Oakenfull, D. G., 6, 25
 Overton, K. H., 8, 447
 Page, M. I., 2, 295
 Paleos, C. M., 14, 45
 Paulsen, H., 13, 15
 Pelter, A., 11, 191
 Perkins, P. G., 6, 173
 Pickford, C. J., 10, 245
 Pletcher, D., 4, 471
 Poliakoff, M., 3, 293; 7, 527
 Prakash, V., 7, 219
 Pratt, A. C., 6, 63
 Pratt, J. M., 14, 161
 Puddephatt, R. J., 12, 99
 Ramm, P. J., 1, 259
 Ramsay, J. D. F., 15, 335
 Rao, C. N. R., 5, 297; 12, 361
 Ratledge, C., 8, 283
 Rattee, I. D., 1, 145
 Redl, G., 3, 273
 Redpath, J., 12, 75
 Rees, C. W., 15, 1
 Richards, D. H., 6, 235
 Ritch, J. B., jun., 5, 452
 Roberts, M. W., 6, 373
 Robinson, F. A., 5, 317
 Robinson, S. D., 12, 415
 Roche, M., 5, 165
 Rodgers, M. A. J., 7, 235
 Roesky, H. W., 15, 309

Index

- Rose, A. E. A., **6**, 173
Rouvray, D. H., **3**, 355
Rowlinson, J. S., **7**, 329;
12, 251
Sanders, J. K. M., **6**, 467
Sarma, T. S., **2**, 203
Satchell, D. P. N., **4**, 231;
6, 345
Satchell, R. S., **4**, 231
Scheinmann, F., **11**, 321
Schlegel, W., **7**, 177
Scriven, E. F. V., **12**,
129
Self, R., **10**, 255
Senthinathan, V. P., **5**,
297
Sherman, L. R., **14**, 225
Sherwood, P. M. A., **14**,
1
Shorter, J., **7**, 1
Simonetta, M., **13**, 1
Simpson, T. J., **4**, 497
Singh, S., **5**, 297
Slorach, S. A., **10**, 280
Smith, E. B., **2**, 181, **15**,
503
Smith, I. W. M., **14**, 141
Smith, J. A. S., **15**, 225
Smith, K., **3**, 443
Smith, K. M., **4**, 363
Smith, W. E., **6**, 173; **9**,
217
Snell, K. D., **8**, 259
Somorjai, G. A., **13**,
321
Spiro, M., **15**, 141
Stacey, M., **2**, 145
Staunton, J., **8**, 539
Staveley, L. A. K., **13**,
173
Stevens, M. F. G., **7**, 377
Stoddart, J. Fraser, **8**, 85
Stokes, R. H., **11**, 257
Strachan, A. N., **11**, 41
Suckling, C. J., **3**, 387;
13, 97
Suckling, K. E., **3**, 387
Sutherland, I. O., **15**, 63
Sutherland, J. K., **9**, 265
Sutherland, R. G., **1**, 241
Sutton, D., **4**, 443
Swan, J. S., **7**, 201
Swindells, R., **7**, 212
Sykes, A. G., **14**, 283
Symons, M. C. R., **5**,
337; **12**, 1, 387; **13**,
393
Takken, H. J., **7**, 167
Taylor, J. B., **4**, 189; **9**,
477
Taylor, S. E., **10**, 329
Thea, S., **15**, 125
Theobald, D. W., **5**,
203
Thomas, T. W., **1**, 99
Thompson, M., **1**, 355
Thorner, C. W., **8**, 563
Tincknell, R. C., **5**, 463
Toennies, J. P., **3**, 407
Tolman, C. A., **1**, 337
Trost, B. M., **11**, 141
Truax, D. R., **5**, 411
Twitchett, H. J., **3**, 209
Tyman, J. H. P., **8**, 499
Underhill, A. E., **1**, 99;
9, 429
van Dort, J. M., **7**, 167
van der Linde, L. M.,
7, 167
Varvoglis, A., **10**, 377
Vaughan, K., **7**, 377
Vidali, M., **8**, 199
Vigato, P. A., **8**, 199
Vollhardt, K. P. C., **9**,
41
Wain, R. L., **6**, 261
Walker, E. R. H., **5**, 23
Walker, I. C., **3**, 467
Waltz, W. L., **1**, 241
Ward, I. M., **3**, 231
Ward, R. S., **11**, 75
Watkins, D. M., **9**, 429
Wattanasin, S., **12**, 213
White, A. J., **3**, 17
Whitfield, R. C., **1**, 27
Widom, B., **14**, 121
Wieser, H., **5**, 411
Wiesner, K., **6**, 413
Williams, A., **15**, 125
Williams, D. H., **13**, 131
Williams, D. L. H., **14**,
171
Williams, D. R., **15**, 291
Williams, G., **7**, 89
Williams, G. H., **15**, 261
Williams, R. J. P., **9**,
281, 325
Wilson, A. D., **7**, 265
Wise, S. A., **10**, 113
Yoffe, A. D., **5**, 51
Zeelen, F. J., **12**, 75

INDEX OF TITLES

- Abiotic receptors, 12, 285
- Absorption bands in the spectra of stars, a crystal field approach, 5, 233
- Acidity of solid surfaces, 8, 475
- Across the living barrier, 6, 325
- Activation parameters for chemical reactions in solution, 14, 237
- Acylation and alkylation catalysts, 4-dialkylaminopyridines, super, 12, 129
- by ketens and isocyanates, a mechanistic comparison, 4, 231
- Acylation, Friedel-Crafts, of alkenes 1, 73
- Adamantane rearrangements, 3, 379
- Affinity chromatography, chemical aspects of, 3, 249
- Alcohols and amines, conformational analysis of, 5, 411
- Aliphatic nucleophilic substitution reactions, new insights into, from the use of pyridines as leaving groups, 13, 47
- Alkali-metal complexes in aqueous solution, 4, 549
- Alkaloids, aconite, synthesis of, 6, 413
- Alkenes, the Friedel-Crafts acylation of, 1, 73
- π -Allylnickel halides as selective reagents in organic synthesis, 14, 93
- Aluminium phosphates, the chemistry and binding properties of, 6, 173
- Amines and alcohols, conformational analysis of, 5, 411
- Analysis of trace constituents of the diet, organic and inorganic, 10, 245, 255
- Analytical methods, modern, for environmental polycyclic aromatic compounds, 10, 113
- Anionic cyclization of phenols, 12, 213
- Ants, chemicals from the glands of, 13, 245
- Aphids and scale insects, their chemistry, 4, 263
- Application of electrochemical techniques to the study of homogeneous chemical reactions, 4, 471
- Applications of e.s.r. spectroscopy to kinetics and mechanism in organic chemistry, 8, 1
- Application of research findings to the development of commercial flavourings, 7, 177
- Aqueous carbonate solutions, potentiometric titrations of, 14, 265
- Aqueous mixtures, kinetics of reactions in, 4, 55
- Aqueous solution, micelles in, 6, 25
- Arylation, homolytic, of aromatic and polyfluoroaromatic compounds, 15, 261
- Aryl cations—new light on old intermediates, 8, 353
- halides, photochemistry and photocyclization of, 10, 181
- Aryldiazonium cations, co-ordination chemistry of, 4, 443
- Aryliodine(III) dicarboxylates, 10, 377
- Atmosphere, interactions in, of droplets and gases, 1, 411
- Autocatalysis, 7, 297
- Azidoquinones and related compounds, chemistry of, 2, 415
- Azobenzene and its derivatives, photochemistry of, 1, 481
- B₁₂-Dependent isomerase enzymes: how the protein controls the active site, 14, 161
- Benzene compounds, substituted, synthesis from acyclic compounds, 13, 441
- Bile pigments, 4, 363
- Binding of heavy metals to proteins, 6, 139
- Binding properties and chemistry of aluminium phosphates, 6, 173
- Bio-active molecules, structural studies on, 13, 131
- Biological surfaces, molecular aspects of, 8, 389
- Biomimetic chemistry, 1, 553
- Biosynthesis of sterols, 1, 259
- Biosynthetic products from arachidonic acid, 6, 489
- studies, carbon-13 nuclear magnetic resonance in, 4, 497
- Bis(diphenylphosphino)methane, chemistry of, 12, 99
- Blood groups, human, and carbohydrate chemistry, 7, 423
- Bonding in molecular clusters and their relationship to bulk metals, 15, 31

- Bond strengths, CH, in simple organic compounds: effects of conformation and substitution, 7, 399
 — valences—a simple structural model for inorganic chemistry, 7, 359
- Boron reagents, carbon-carbon bond formation involving, 11, 191
- Bredt's rule, 3, 41
- Brønsted relation—recent developments, 2, 475
- Brownian dynamics with hydrodynamic interactions: the application to protein diffusional problems, 14, 421
- Butadiene, polymerization and copolymerization of, 6, 235
- Calciferols, hormonal: chemistry of 'Vitamin' D, 6, 83
- Calorimetric investigations of hydrogen bond and charge-transfer complexes, 3, 193
- Cancer and chemicals, 4, 289
- Carbohydrate chemistry and human blood groups, 7, 423
- Carbohydrate-directed macromolecules, transition-metal oxide chelates of, 8, 221
- Carbohydrate-protein complexes, glycoproteins, and proteoglycans, of human tissues, chemical aspects of, 2, 355
- Carbohydrates to enzyme analogues, 8, 85
- Carbon-carbon bond formation involving boron reagents, 11, 191
- Carbon-13 nuclear magnetic resonance in biosynthetic studies, 4, 497
- Carbocation ions, carbanions, and radicals, chirality in, 2, 397
- Carbonyl clusters, metal, relationship with supported metal catalysts, 10, 159
 — compounds, photochemistry of, 1, 465
 — equivalents, silicon-containing, 11, 493
 — group transpositions, 11, 397
- Carcinogens, chemical, mechanisms of reaction with nucleic acid, 9, 241
- Catalysis and coordination compounds involving electron-rich main group elements, 15, 309
- Catalysis and surface chemistry, new perspectives, 6, 373
- Catalysis, homogeneous, and organometallic chemistry, the 16 and 18 electron rule in, 1, 337
 — of the olefin metathesis reaction, 4, 155
- Catalysts, supported metal, relationship with metal carbonyl clusters, 10, 159
- CENTENARY LECTURE. Biomimetic chemistry, 1, 553
- CENTENARY LECTURE. Catalysis and coordination compounds involving electron-rich main group elements, 15, 309
- CENTENARY LECTURE. Cyclopentanoids: a challenge for new methodology, 11, 141
- CENTENARY LECTURE. Hydrocarbon reactions at metal centres, 11, 283
- CENTENARY LECTURE. Light scattering in pure liquids and solutions, 6, 109
- CENTENARY LECTURE. Long-range electron-transfer in blue copper proteins, 15, 17
- CENTENARY LECTURE. Metal Clusters in biology, 10, 455
- CENTENARY LECTURE. Molecular Ingredients of heterogeneous catalysis, 13, 321
- CENTENARY LECTURE. Organic reaction paths: a theoretical approach, 13, 1
- CENTENARY LECTURE. Phase equilibrium and interfacial structure, 14, 121
- CENTENARY LECTURE. Quadruple bonds and other multiple metal to metal bonds, 4, 27
- CENTENARY LECTURE. Reactivities of carbon disulphide, carbon dioxide, and carbonyl sulphide towards some transition-metal systems, 11, 57
- CENTENARY LECTURE. Rotationally and vibrationally inelastic scattering of molecules, 3, 407
- CENTENARY LECTURE. Systematic development of strategy in the synthesis of polycyclic polysubstituted natural products: the aconite alkaloids, 6, 413
- CENTENARY LECTURE. Three-dimensional structures and chemical mechanisms of enzymes, 1, 319
- Charge transfer and hydrogen bond complexes, calorimetric investigations of, 3, 193
- Charge-transfer complexes, theoretical

- models of, 15, 475
- Chemical applications of advances in Fourier transform spectroscopy, 4, 569
- Chemical aspects of affinity chromatography 2, 249
- of glycoproteins, proteoglycans, and carbohydrate-protein complexes of human tissues, 2, 355
- Chemical education, conceptions, misconceptions, and alternative frameworks in, 13, 199
- research: facts, findings, and consequences, 9, 365
- interpretations of molecular wavefunctions, 5, 79
- models of enzymic transimination, 12, 309
- processes on heterogeneous catalysis, 13, 375
- Chemically-induced dynamic electron polarization (CIDEP), role in chemistry, 8, 29
- Chemicals from the glands of ants, 13, 245
- in rodent control, 1, 381
- which control plant growth, 6, 261
- Chemistry and binding properties of aluminium phosphates, 6, 173
- CHEMISTRY AND FLAVOUR**
- I Molecular Structure and Organoleptic Quality, 7, 167**
- II Application of Research Findings to the Development of Commercial Flavourings, 7, 177**
- III Safety Evaluation of Natural and Synthetic Flavourings, 7, 185**
- IV The Influence of Legislation on Research in Flavour Chemistry, 7, 195**
- V The Development of Flavour in Potable Spirits, 7, 201**
- VI The Influence of Flavour Chemistry on Consumer Acceptance, 7, 212**
- Chemistry and the new industrial revolution, 5, 317
- , a topological subject, 2, 457
- of aphids and scale insects, 4, 263
- of azidoquinones and related compounds, 2, 415
- of dental cements, 7, 265
- of dyeing, 1, 145
- of the gold drugs used in the treatment of rheumatoid arthritis, 9, 217
- of homonuclear sulphur species, 2, 233
- of long-chain phenols of non-isoprenoid origin, 8, 499
- of the production of organic isocyanates, 3, 209
- of peroxonium ions and dioxygen ylides, 14, 399
- of transition-metal carbene complexes and their role as reaction intermediates, 2, 99
- of 'Vitamin' D: the hormonal calciferols, 6, 83
- , some considerations on the philosophy of, 5, 203
- Chirality in carbonium ions, carbanions, and radicals, 2, 397
- Chirality, symmetry, and molecular, 15, 189
- Chlorophyll chemistry, n.m.r. spectral change as a probe, 6, 467
- Chromatography, affinity, chemical aspects of, 2, 249
- cis-* and *trans*-Effects of ligands, 2, 163
- Clathrates and molecular inclusion phenomena, 7, 65
- Collisional transfer of rotational energy and spectral lineshapes, 7, 219
- Compartmental ligands: routes to homo- and hetero-dinuclear complexes, 8, 199
- Complex formation between sugars and metal cations, 9, 415
- hydride reducing agents, the functional group selectivity of, 5, 23
- Complexes, alkali-metal, in aqueous solution, 4, 549
- homo- and hetero-dinuclear, routes *via* compartmental ligands, 8, 199
- , 1-D metallic, 9, 429
- Complexes, square-planar, isomerization mechanisms of, 9, 185
- Computer resolution of overlapping electronic absorption bands, 9, 143
- Conductivity and superconductivity in polymers, 5, 95
- Conformation and substitution, effects of, on individual CH bond

- strengths in simple organic compounds, 7, 399
 — of rings and neighbouring group effects, development of Haworth's concepts of, 3, 1
 Conformational analysis of some alcohols and amines: a comparison of molecular orbital theory, rotational and vibrational spectroscopy, 5, 411
 — studies on small molecules, 1, 293
 Contribution of ion-pairing to 'memory effects', 4, 251
 Contributions of pulse radiolysis to chemistry, 7, 235
 Conversion of ammonium cyanate into urea—a saga in reaction mechanisms, 7, 1
 Co-ordination chemistry of aryl-diazonium cations: aryl-diazenato (aryloxo) complexes of transition metals, and the aryl-diazenato-nitrosyl analogy, 4, 443
 Corrin synthesis, post-B₁₂ problems in, 5, 377
 Crystal field approach to absorption bands in the spectra of stars, 5, 233
 Crystal structure determination: a critical view, 13, 157
 Crystals and molecules, organic, non-bonded interactions of atoms in, 7, 133
 Current aspects of unimolecular reactions, 12, 163
 Cyanocobalt(III) complexes, the synthesis of mononuclear, 12, 267
 Cyanoketenes: synthesis and cyclo-additions, 10, 289
 Cyclization, initiation of, using 3-methylcyclohex-2-enone derivatives, 9, 265
 — of phenols, anionic, 12, 213
 Cyclopentanoids: a challenge for new methodology, 11, 141
 Cyclopolymerization, 1, 523
 Dental cements, chemistry of, 7, 265
 Designing drugs to fit a macromolecular receptor, 13, 279
 Development of flavour in potable spirits, 7, 201
 4-Dialkylaminopyridines: super acylation and alkylation catalysts, 12, 129
 Diazirines, the thermolysis and photolysis of, 11, 127
 β-Dicarbonyl compounds, light-induced tautomerism of, 13, 69
 Dielectric relaxation in polymer solutions, 1, 49
 Diffusion in liquids, the effect of isotopic substitution on, 5, 215
 Diffusional problems, Brownian dynamics with hydrodynamic interactions: the application to protein, 14, 421
 Difluoroamino-radical, gas-phase kinetics of, 3, 17
 Droplets and gases, interactions in the atmosphere of, 1, 411
 Drug design, isosterism and molecular modification in, 8, 563
 — —, quantitative 3, 273
 Dyeing, chemistry of, 1, 145
 Echinoderms, 1, 1
 Education, chemical, a reassessment of research in, 1, 27
 —, —, review of research and development in the U.K., 1972—1976, 7, 317
 Effect of isotopic substitution on diffusion in liquids, 5, 215
 Electrochemical techniques, application of to study of homogeneous chemical reactions, 4, 471
 Electrode and related structures, photoelectron spectroscopic structures of, 14, 1
 Electron as a chemical entity, 4, 323
 — scattering spectroscopy, threshold, 3, 467
 — spectroscopy, 1, 355
 Electronic absorption bands, overlapping, computer resolution of, 9, 143
 Electronic properties of some chain and layer compounds, 5, 51
 — transitions, vibrational intensities in, 5, 165
 Electrons, solvated, in solutions of metals, 5, 337
 Electron spin resonance of haemoglobin and myoglobin, 12, 387
 Electron-transfer, long range, in blue copper proteins, 15, 17
 Electrophilic aromatic substitutions, non-conventional, and related reactions, 3, 167
 — C-nitroso-compounds, 6, 1

- Electrophoresis, historical development of sodium dodecyl sulphate-polyacrylamide gel, 14, 225
- Elimination reactions, isotope effect studies of, 1, 163
- Enaminones, 6, 277
- Energetics of neighbouring group participation, 2, 295
- Enumeration methods for isomers, 3, 355
- Environmental chemical influences on behaviour and mentation, 15, 93
- lead in perspective, 8, 63
- polycyclic aromatic compounds, modern analytical methods for, 10, 113
- protection in the distribution of hazardous chemicals, 4, 99
- regulation: an international view, 5, 431
- Enzyme analogues from carbohydrates, 8, 85
- Enzymes, immobilized, 6, 215
- in organic synthesis, 3, 387
- , the logic of working with, 2, 1
- , three-dimensional structures and chemical mechanisms of, 1, 319
- Enzyme-catalysed reactions, reactive intermediates in, 13, 97
- Enzymic reactions, stereochemical choice in 8, 447
- E.s.r. spectroscopy, applications to kinetics and mechanism in organic chemistry, 8, 1
- Experimental Studies on the structure of aqueous solutions of hydrophobic solutes, 2, 203
- FARADAY LECTURE. The electron as a chemical entity, 4, 323
- FARADAY LECTURE. The molecular theory of small systems, 12, 251
- Fast reactions, techniques for the kinetic study of, 11, 227
- Fats grown from wastes, 8, 283
- Fe(CO)₄, 7, 527
- 5-Substituted pyrimidine nucleosides and nucleotides, 6, 43
- Fixation, of nitrogen, 1, 121
- Flavins (isoalloxazines), the photo-physical and photochemical properties of, 11, 15
- Fluorescence decay dynamics of the halogens and interhalogens, 15, 405
- Fluxionality of polyene and polyenyl metal complexes, 15, 167
- Forces between simple molecules, 2, 181
- Foreign compounds in mammals, importance of non-enzymic chemical reaction processes to the rate of, 9, 63
- Formation of hydrocarbons by micro-organisms, 3, 309
- Fourier transform spectroscopy, chemical applications of advances in, 4, 569
- Four-membered rings and reaction mechanisms, 5, 149
- Friedel-Crafts acylation of alkenes, 1, 73
- Functional group selectivity of complex hydride reducing agents, 5, 23
- Gas-phase kinetics of the difluoro-amino-radical, 3, 17
- Gases, and droplets, interactions in the atmosphere of, 1, 411
- Glass transition: salient facts and theoretical models, 12, 361
- Glycoproteins, proteoglycans, and carbohydrate-protein complexes of human tissues, chemical aspects of, 2, 355
- Glycoproteins, synthesis of complex oligosaccharide chains of, 13, 15
- Gold drugs used in the treatment of rheumatoid arthritis, chemistry of, 9, 217
- Growth of computational quantum chemistry from 1950 to 1971, 2, 21
- Guanidine derivatives acting at histaminergic receptors 14, 375
- Haemoglobin and myoglobin, electron spin resonance of, 12, 387
- Halogens and interhalogens, fluorescence decay dynamics of, 15, 405
- Handling toxic chemicals—environmental considerations, 4, 77
- Hard-sphere theories of transport properties, 14, 317
- HAWORTH MEMORIAL LECTURE. The consequences of some projects initiated by Sir Norman Haworth, 2, 145
- HAWORTH MEMORIAL LECTURE. The

- Haworth-Hudson controversy and the development of Haworth's concepts of ring conformation and of neighbouring group effects, 3, 1
- HAWORTH MEMORIAL LECTURE. The sweeter side of chemistry, 14, 357
- HAWORTH MEMORIAL LECTURE. Human blood groups and carbohydrate chemistry, 7, 423
- HAWORTH MEMORIAL LECTURE. Structural studies of polysaccharides, 10, 409
- HAWORTH MEMORIAL LECTURE. Synthesis of complex oligosaccharide chains of glycoproteins, 13, 15
- Hazards in the chemical industry—risk management and insurance, 8, 419
- Health hazards to workers from industrial chemicals, 4, 82
- Heterogeneous catalysis, chemical processes on, 13, 375
- High resolution laser spectroscopy, 12, 453
- Histaminergic receptors, guanidine derivatives acting at, 14, 375
- Historical development of sodium dodecyl sulphate-polyacrylamide gel electrophoresis, 14, 225
- Homogeneous catalysis, and organometallic chemistry, the 16 and 18 electron rule in, 1, 337
- Homogeneous chemical reactions, application of electrochemical techniques to the study of, 4, 471
- Homolytic arylation of aromatic and polyfluoroaromatic compounds, 15, 261
- Human blood groups and carbohydrate chemistry, 7, 423
- Hydrocarbon formation by microorganisms, 3, 309
- reactions at metal centres, 11, 283
- Hydrogen bond and charge-transfer complexes, calorimetric investigations of, 3, 193
- bonded liquids, thermodynamics of, 11, 257
- bonding, very strong, 9, 91
- isotope effects, kinetic, recent advances in the study of, 3, 513
- Hydrophobic solutes, experimental studies on the structure of aqueous solutions of, 2, 203
- Imines, photochemistry of, 6, 63
- Immobilized enzymes, 6, 215
- Importance of (non-enzymic) chemical reaction processes to the fate of foreign compounds in mammals, 9, 63
- Importance of solvent internal pressure and cohesion to solution phenomena, 4, 211
- Inclusion phenomena, molecular, and clathrates, 7, 65
- Individual CH bond strengths in simple organic compounds: effects of conformation and substitution, 7, 399
- Industry, chemical, hazards in: risk management and insurance, 8, 419
- Influence of flavour chemistry on consumer acceptance, 7, 212
- Influence of legislation on research in flavour chemistry, 7, 195
- Infrared and Raman vibrational spectroscopy in inorganic chemistry, 4, 107
- INGOLD LECTURE. Four-membered rings and reaction mechanisms, 5, 149
- INGOLD LECTURE. How does a reaction choose its mechanism? 10, 345
- Initiation of cyclization using 3-methylcyclohex-2-enone derivatives, 9, 265
- Inorganic chemistry, bond valences, a simple structural model for, 7, 359
- Inorganic pyro-compounds $M_n[(X_2O_7)_b]$, 5, 269
- Insect attractants of natural origin, 2, 75
- Insecticides, a new group of: synthetic pyrethroids, 7, 473
- Interactions in the atmosphere of droplets and gases, 1, 411
- , ion-solvent, thermodynamics of, 9, 381
- , metal-metal, in transition-metal complexes containing infinite chains of metal atoms, 1, 99
- , non-bonded, of atoms in organic crystals and molecules, 7, 133
- Introducing a new agricultural chemical, 4, 77
- Ion-molecule reactions in the evolution of simple organic molecules in

- interstellar clouds and planetary atmospheres, 6, 295
- Ion-pairing, contribution to 'memory effects', 4, 251
- Ion-solvent interactions, thermodynamics of, 9, 381
- Isocyanates and ketens, a mechanistic comparison of acylation by, 4, 231
- , organic, chemistry of the production of, 3, 209
- Isocyanic acid, preparation and properties of, 11, 41
- Isomer enumeration methods, 3, 355
- Isomerization mechanisms of square-planar complexes, 9, 185
- Isosterism and molecular modification in drug design, 8, 563
- Isotope effect studies of elimination reactions, 1, 163
- Isotopic hydrogen exchange in purines: mechanisms and applications, 10, 329
- substitution effects on diffusion in liquids, 5, 215
- JOHN JEYES LECTURE. Chemicals which control plant growth, 6, 261
- JOHN JEYES LECTURE. Environmental chemical influences on behaviour and mentation, 15, 93
- JOHN JEYES LECTURE. The environmental chemistry of radioactive waste disposal, 15, 291
- KELVIN LECTURE. Across the living barrier, 6, 325
- Ketens and isocyanates, a mechanistic comparison of acylation by, 4, 231
- Kinetics and mechanism in organic chemistry, applications of e.s.r. spectroscopy to, 8, 1
- , gas-phase, of the difluoroamino-radical, 3, 17
- of reactions in aqueous mixtures, 4, 55
- β -Lactams, synthetic routes to, 5, 181
- Lanthanide shift reagents in nuclear magnetic resonance spectroscopy, 2, 49
- Laser light scattering, quasielastic, 2, 325
- Laser spectroscopy of ultra-trace quantities, 8, 367
- Lasers, tunable, 3, 293
- Lead, environmental, in perspective, 8, 63
- LENNARD-JONES LECTURE. Recent experimental and theoretical work on molecularly simple liquid mixtures, 13, 173
- Leukotrienes; a new class of biologically active compounds including SRS-A, the synthesis of, 11, 321
- Ligand substitution reactions of square-planar molecules, 14, 197
- Ligands, *cis*- and *trans*-effects of, 2, 163
- , compartmental: routes to homo- and hetero-dinuclear complexes, 8, 199
- Light-induced tautomerism of β -dicarbonyl compounds, 13, 69
- Lignans and neolignans, the synthesis of, 11, 75
- Liquid mixtures, recent experimental and theoretical work on molecularly simple, 13, 173
- Liquid, surface of, 7, 329
- LIVERSIDGE LECTURE. On first looking into nature's chemistry:
- I The role of small molecules and ions: the transport of elements, 9, 281
- II The role of large molecules, especially proteins, 9, 325
- LIVERSIDGE LECTURE. Recent advances in the study of kinetic hydrogen isotope effects, 3, 513
- LIVERSIDGE LECTURE. The surface of a liquid, 7, 329
- Macrocyclic ligands, synthetic, transition-metal complexes of, 4, 421
- Macromolecular receptor, designing drugs to fit a, 13, 279
- Main-group elements, ring, cage, and cluster compounds of, 8, 315
- Matrix isolation technique and its application to organic chemistry, 9, 1
- Measurement of effective charge in an organic reaction in solution, 15, 125
- Mechanisms, chemical, and three-dimensional structures of enzymes, 1, 319
- , isomerization, of square-planar complexes, 9, 185
- of the microbial hydroxylation of steroids, 11, 371
- of reaction between ultimate

Index

- chemical carcinogens and nucleic acid, 9, 241
- MELDOLA MEDAL LECTURE. Chemical aspects of glycoproteins, proteoglycans, and carbohydrate-protein complexes of human tissues, 2, 355
- MELDOLA MEDAL LECTURE. $\text{Fe}(\text{CO})_4$, 7, 527
- MELDOLA MEDAL LECTURE. Molecular collisions and the semiclassical approximation, 5, 125
- MELDOLA MEDAL LECTURE. Molecular shapes, 7, 507
- MELDOLA MEDAL LECTURE. N.m.r. spectral change as a probe of chlorophyll chemistry, 6, 467
- MELDOLA MEDAL LECTURE. The relationship between metal carbonyl clusters and supported metal catalysts, 10, 159
- Meldrum's acid, 7, 345
- Metal carbonyl clusters, relationship with supported metal catalysts, 10, 159
- centres, hydrocarbon reactions at, 11, 283
- clusters in biology, 10, 455
- Metal-metal bonding and metalloboranes, 3, 231
- bonds of various orders, synergic interplay of experiment and theory in studying, 12, 35
- Metal-ion-promoted reactions of organo-sulphur compounds, 6, 345
- 1-D Metallic complexes, 9, 429
- Metalloboranes and metal-metal bonding, 3, 231
- bonds, multiple (especially quadruple), 4, 27
- interactions in transition-metal complexes containing infinite chains of metal atoms, 1, 99
- Metals, binding to proteins, 6, 139
- Methyl group removal in steroid biosynthesis, 10, 435
- Micelle-forming surfactant solutions, photophysics of molecules in, 7, 453
- Micelles in aqueous solution, 6, 25
- Microbes, use in the petrochemical industry, 8, 297
- Micro-organisms, protein production by, 8, 143
- Mixed-valence complexes, the chemistry and spectroscopy of, 13, 219
- Molecular aspects of biological surfaces, 8, 389
- beam reactive scattering, 11, 1
- collisions and the semiclassical approximation, 5, 125
- orbital theory, comparison with rotational and vibrational spectroscopy in conformational analysis of alcohols and amines, 5, 411
- recognition by synthetic receptors, 15, 63
- shapes, 7, 507
- tectonics, the construction of polyhedral clusters, 13, 353
- structure and organoleptic quality, 7, 167
- theory of small systems, 12, 251
- wavefunctions, chemical interpretations of, 5, 79
- Molecules, the size of, 15, 449
- Molybdenum and tungsten; alkoxy, amido, hydrazido, and related compounds of, 12, 331
- Monoalkyltriazenes, 7, 377
- Morphogenesis, biological, the physical chemistry of, 10, 491
- Motion, molecular, and time-correlation functions, 7, 89
- Multistability in open chemical reaction systems, 5, 359
- Myoglobin and haemoglobin, electron spin resonance of, 12, 387
- Natural products from echinoderms, 1, 1
- —, polycyclic polysubstituted, systematic development of strategy in, 6, 413
- Neighbouring-group effects and ring conformation, development of Haworth's concepts of, 3, 1
- participation, energetics of, 2, 295
- Neutron scattering techniques, small angle, recent developments in the characterization of oxide sols, 15, 335
- New insights into aliphatic nucleophilic substitution reactions from the use of pyridines as leaving groups, 13, 47
- New perspectives in surface chemistry and catalysis, 6, 373

- Nitrogen fixation, 1, 121
- S-Nitrosation and the reactions of S-nitroso compounds, 14, 171
- Nitroso-alkenes and nitroso-alkynes, 12, 53
- C-Nitroso-compounds, electrophilic, 6, 1
- N.m.r. and vibrational spectroscopic studies, structure in solvents and solutions, 12, 1
- Non-bonded interactions of atoms in organic crystals and molecules, 7, 133
- Non-conventional electrophilic aromatic substitutions and related reactions, 3, 167
- Nuclear magnetic resonance and the periodic table, 5, 1
- — — — —, carbon-13, in biosynthetic studies, 4, 497
- — — — — methods (new) for tracing the future of hydrogen in biosynthesis, 8, 539
- — — — — spectral change as a probe of chlorophyll chemistry, 6, 467
- — — — — spectroscopy, lanthanide shift reagents in, 2, 49
- — — — —: spin-lattice relaxation, 4, 401
- — — — — quadrupole interactions in solids, 15, 225
- Nucleic acid, mechanisms of reaction with ultimate chemical carcinogens, 9, 241
- Nucleosides and nucleotides, pyrimidine, 5-substituted, 6, 43
- Nutritional chemistry of inorganic trace constituents of the diet, 10, 270
- NYHOLM MEMORIAL LECTURE. Chemical education research: facts, findings, and consequences, 9, 365
- NYHOLM MEMORIAL LECTURE. Conceptions, misconceptions, and alternative frameworks in chemical education, 13, 199
- NYHOLM MEMORIAL LECTURE. Forward from Nyholm's March On Lecture, 3, 373
- NYHOLM MEMORIAL LECTURE. Growth, change, challenge, 5, 253
- NYHOLM MEMORIAL LECTURE. Ring, cage, and cluster compounds of the main group elements, 8, 315
- NYHOLM MEMORIAL LECTURE. Solving chemical problems, 11, 171
- NYHOLM MEMORIAL LECTURE. Synergic interplay of experiment and theory in studying metal-metal bonds of various orders, 12, 35
- Olefin metathesis and its catalysis, 4, 155
- Olefinic compounds, photochemistry of, 3, 329
- On first looking into nature's chemistry: I The role of small molecules and ions: the transport of the elements, 9, 281
- II The role of large molecules, especially proteins, 9, 325
- Organic chemistry of superoxide, 6, 195
- Organic reaction paths: a theoretical approach, 13, 1
- Organoboranes as reagents for organic synthesis, preparation of, 3, 443
- Organoborates in organic synthesis: the use of alkenyl-, alkynyl-, and cyanoborates as synthetic intermediates, 6, 393
- Organometallic chemistry and homogeneous catalysis, the 16 and 18 electron rule in, 1, 337
- Organomethyl compounds, synthesis, structure, and vibrational spectra, 9, 25
- Organosulphur compounds, metal-ion-promoted reactions of, 6, 345
- Organo-transition-metal complexes: stability, reactivity, and orbital correlations, 2, 271
- Oxygen, singlet molecular, 10, 205
- PEDLER LECTURE. Organic poly-(sulphur-nitrogen) chemistry, 15, 1
- PEDLER LECTURE. Porphyrins and related ring systems, 4, 1
- Peroxonium ions and dioxygen ylides, the chemistry of, 14, 399
- Phase boundaries, reactivity of organic molecules at, 1, 229
- Phase equilibrium and interfacial structure, 14, 121
- Phenols, anionic cyclization of, 12, 213
- , long-chain, of non-isoprenoid origin, 8, 499
- Philosophy of chemistry, some con-

Index

- siderations, 5, 203
Phosphates, aluminium, the chemistry and binding properties of, 6, 173
Phosphorus compounds, tervalent, in organic synthesis, 3, 87
Photochemistry of azobenzene and its derivatives, 1, 481
— of carbonyl compounds, 1, 465
— of imines, 6, 63
— of olefinic compounds, 3, 329
— of organic sulphur compounds, 4, 523
— of the uranyl ion, 3, 139
— of transition-metal co-ordination compounds—a survey, 1, 241
Photocyclization and photochemistry of aryl halides, 10, 181
Photodegradation and stabilization of commercial polyolefins, 4, 533
Photoelectron spectroscopic studies of electrode and related structures, 14, 1
Photophysical and photochemical properties of flavins (isoalloxazines), 11, 15
Photophysics of molecules in micelle-forming surfactant solutions, 7, 453
Plant growth, control by chemicals, 6, 261
Plastocyanin, structure and electron-transfer reactivity of the blue copper protein, 14, 283
Platinum metal complexes, η^5 -cyclopentadienyl and η^6 -arene as protecting ligands towards, 10, 1
Polyelectrodes: the behaviour and applications of mixed redox systems, 15, 141
Polyhedral clusters, the construction of, 13, 353
Polymer solutions, dielectric relaxation in, 1, 49
— supports, insoluble, use in organic chemical synthesis, 3, 65
Polymerization and copolymerization of butadiene, 6, 235
Polymerization in organized systems, 14, 45
Polymers, conductivity and superconductivity in, 5, 95
Polymers, recent advances in the photo-oxidation and stabilization of, 15, 373
Polyolefins, commercial, photo-degradation and stabilization of, 4, 533
Polysaccharides, structural studies of, 10, 409
Poly(sulphur-nitrogen) chemistry, organic, 15, 1
Porphyrins and related ring systems, 4, 1
Post-B₁₂ problems in corrin synthesis, 5, 377
Potentiometric titrations of aqueous carbonate solutions, 14, 265
Preparation of organoboranes: reagents for organic synthesis, 3, 443
— and properties of isocyanic acid, 11, 41
PRESIDENTIAL ADDRESS 1976. Chemistry and the new industrial revolution, 5, 317
PRIESTLEY LECTURE. 'On the science of deep-sea diving—observations on the respiration of different kinds of air', 15, 503
Properties and syntheses of sweetening agents, 6, 431
Prostaglandins, tomorrow's drugs, 4, 589
—, thromboxanes, PGX: biosynthetic products from arachidonic acid, 6, 489
Prostanoids, total syntheses of, 2, 29
Protecting ligands, η^5 -cyclopentadienyl and η^6 -arene towards platinum metal complexes, 10, 1
Protein production by micro-organisms, 8, 143
Proteins, binding of heavy metals to, 6, 139
Proteins, role of in nature's chemistry, 9, 325
Pulse radiolysis, contributions to chemistry, 7, 235
Purines, isotopic hydrogen exchange in, mechanisms and applications, 10, 329
Pyridines as leaving groups, new insights into aliphatic nucleophilic substitution from the use of, 13, 47
Pyrimidine nucleosides and nucleotides, 5-substituted, 6, 43
Pyro-compounds, inorganic, M_n[(X₂O₇)_n], 5, 269
Quadruple bonds and other multiple metal to metal bonds, 4, 27

- Quantitative drug design, 3, 273
- Quantum chemistry, computational, growth of from 1950 to 1971, 2, 21
- mechanical tunnelling in chemistry, 1, 211
- Quasielastic laser light scattering, 2, 325
- Radical cations in condensed phases, 13, 393
- Radioactive and toxic wastes: a comparison of their control and disposal, 4, 90
- Radioactive waste disposal, the environmental chemistry of, 15, 291
- Radiolysis, pulse, contributions to chemistry, 7, 235
- Raman and infrared vibrational spectroscopy in inorganic chemistry, 4, 107
- R. A. ROBINSON MEMORIAL LECTURE. Potentiometric titrations of aqueous carbonate solutions, 14, 265
- R. A. ROBINSON MEMORIAL LECTURE. Thermodynamics of hydrogen-bonded liquids, 11, 257
- Reaction mechanisms, four-membered rings and, 5, 149
- , the conversion of ammonium cyanate into urea, 7, 1
- Reactions involving the triple bond in dimolybdenum and ditungsten hexa-alkoxides and C-C, C-N, C-O triple bonds, 14, 69
- Reactive intermediates in enzyme-catalysed reactions, 13, 97
- Reactivities of carbon disulphide, carbon dioxide, and carbonyl sulphide towards some transition-metal systems, 11, 57
- Reactivity of organic molecules at phase boundaries, 1, 229
- Recent advances in the photo-oxidation and stabilization of polymers, 15, 373
- Recent advances in the study of kinetic hydrogen isotope effects, 3, 513
- Recent developments in the characterization of oxide sols using small angle neutron scattering techniques, 15, 335
- Recent syntheses in the Vitamin D field, 9, 449
- Redox systems, polyelectrodes: the behaviour and applications of mixed, 15, 141
- Research in chemical education: a reassessment, 1, 27
- RESOURCES CONSERVATION BY NOVEL BIOLOGICAL PROCESSES**
- I Grow Fats from Wastes, 8, 283
- II The Use of Microbes in the Petrochemical Industry, 8, 297
- III Utilization of Agricultural and Food Processing Wastes containing Carbohydrates, 8, 309
- Review of chemical education research and development in the U.K., 1972—1976, 7, 317
- Ring, cage, and cluster compounds of the main group elements, 8, 315
- ROBERT ROBINSON LECTURE. Post-B₁₂ problems in corrin synthesis, 5, 377
- ROBERT ROBINSON LECTURE. The logic of working with enzymes, 2, 1
- ROBERT ROBINSON LECTURE. Vitamin B₁₂. Retrospect and prospects, 9, 125
- Rodent control, chemicals in, 1, 381
- Role of chemically-induced dynamic electron polarization (CIDEP) in chemistry, 8, 29
- Rotationally and vibrationally inelastic scattering of molecules, 3, 407
- Safety evaluation of natural and synthetic flavourings, 7, 185
- Scale insects and aphids, chemistry of, 4, 263
- Semistable molecules in the laboratory and in space, 11, 435
- Silicon compounds in organic synthesis, some uses of, 10, 83
- containing carbonyl equivalents, 11, 493
- in organic synthesis, 7, 15
- 16 and 18 Electron rule in organometallic chemistry and homogeneous catalysis, 1, 337
- Size of molecules, 15, 449
- Small molecules, conformation studies on, 1, 293
- Solids, surface energy of, 1, 445
- Sols, oxide, recent developments in the characterization of, using small angle neutron scattering techniques, 15, 335

Index

- Solute-solvent interactions, spectroscopic studies of, 5, 297
- Solution phenomena, the importance of solvent internal pressure and cohesion, 4, 211
- Solutions of metals: solvated electrons, 5, 337
- Solvent internal pressure and cohesion, importance to solution phenomena, 4, 211
- Solving chemical problems, 11, 171
- Some considerations on the philosophy of chemistry, 5, 203
- Some recent developments in chemistry teaching in schools, 1, 495
- Spectra of stars, absorption bands in, a crystal field approach, 5, 233
- Spectral lineshapes, collisional transfer of rotational energy with, 7, 219
- Spectroscopic studies of solute-solvent interactions, 5, 297
- Spectroscopy and chemistry of mixed-valence complexes, 13, 219
- Spectroscopy, electron, 1, 355
- , Fourier transform, chemical applications of advances in, 4, 569
- , laser, of ultra-trace quantities, 8, 367
- , rotational and vibrational, comparison with molecular orbital theory in conformational analysis of alcohols and amines, 5, 411
- , threshold electron scattering, 3, 467
- Spin-lattice relaxation: a fourth dimension for proton n.m.r. spectroscopy, 4, 401
- Square-planar complexes, isomerization mechanisms of, 9, 185
- Square-planar molecules, ligand substitution reactions of, 14, 197
- SRS-A, the synthesis of leukotrienes: a new class of biologically active compounds including, 11, 321
- Stability, reactivity, and orbital correlations of organo-transition-metal complexes, 2, 271
- Stereochemical choice in enzymic reactions, 8, 447
- Stereoselective synthesis of steroid side-chains, 12, 75
- Steroid biosynthesis, methyl group removal in, 10, 435
- , the mechanism of the microbial hydroxylation of, 11, 371
- , routes to by intramolecular Diels-Alder reactions of *o*-xylenes, 9, 41
- side-chains, stereoselective synthesis of, 12, 75
- Sterols, biosynthesis of, 1, 259
- Structure and electron-transfer reactivity of the blue copper protein plastocyanin, 14, 283
- Structure in solvents and solutions—N.m.r. and vibrational spectroscopic studies, 12, 1
- of aqueous solutions of hydrophobic solutes, experimental studies on, 2, 203
- Substitution and conformation, effects of, on individual CH bond strengths in simple organic compounds, 7, 399
- Sugars, complex formation with cations, 9, 415
- Sulphoximides, 4, 189
- Sulphoximides—an update, 9, 477
- Sulphur compounds, organic, photochemistry of, 4, 523
- organic compounds of, metal-ion-promoted reactions of, 6, 345
- species, homonuclear, chemistry of, 2, 233
- Superconductivity and conductivity in polymers, 5, 95
- Superoxide, organic chemistry of, 6, 195
- Surface chemistry and catalysis, new perspectives, 6, 373
- energy of solids, 1, 445
- modified electrodes, 8, 259
- of a liquid, 7, 329
- Surfaces, biological, molecular aspects of, 8, 389
- , solid, their acidity, 8, 475
- Sweetening agents, properties and syntheses of, 6, 431
- Sweeter side of chemistry, 14, 357
- Symmetry and molecular chirality, 15, 189
- Syntheses and properties of sweetening agents, 6, 431
- of mononuclear cyanocobalt(III) complexes, 12, 267
- , recent, in the Vitamin D field, 9, 449
- , total, of prostanoids, 2, 29

- Synthesis and cycloadditions, cyanoketenes, 10, 289
 — and synthetic utility of halolactones, 8, 171
 —, of corrins, post-B₁₂ problems in 5, 377
 — of complex oligosaccharide chains of glycoproteins, 13, 15
 — of leukotrienes: a new class of biologically active compounds including SRS-A, 11, 321
 — of lignans and neolignans, 11, 75
 — of polycyclic polysubstituted natural products, systematic development of strategy in, 6, 413
 —, organic, enzymes in, 3, 387
 —, organic, preparation of organoboranes as reagents for, 3, 443
 —, organic, silicon in, 7, 15
 —, organic, some uses of silicon compounds, 10, 83
 —, organic, trivalent phosphorus compounds in, 3, 87
 —, organic, use of inorganic polymer supports in, 3, 65
 —, organic, the use of organoborates as synthetic intermediates, 6, 393
 —, structure, and vibrational spectra of organomethyl compounds, 9, 25
 — of substituted benzene compounds from acyclic precursors, 13, 441
- Synthetic pyrethroids. A new group of insecticides, 7, 473
 — routes to β -lactams, 5, 181
- Systematic development of strategy in the synthesis of polycyclic polysubstituted natural products: the aconite alkaloids, 6, 413
- TATE AND LYLE LECTURE. From carbohydrates to enzyme analogues, 8, 85
- TATE AND LYLE LECTURE. Spin-lattice relaxation: a fourth dimension for proton n.m.r. spectroscopy, 4, 401
- TATE AND LYLE LECTURE. Transition-metal oxide chelates of carbohydrate-directed macromolecules, 8, 221
- Teaching of chemistry in schools, some recent developments in, 1, 495
- Techniques for the kinetic study of fast reactions in solution, 11, 227
- Tervalent phosphorus compounds in organic synthesis, 3, 87
- Theoretical models of charge-transfer complexes, 15, 475
- Thermal, photochemical, and transition-metal mediated routes to steroids by intramolecular Diels–Alder reactions of *o*-xylylenes (*o*-quinodimethanes), 9, 41
- Thermodynamics of ion–solvent interactions, 9, 381
- Thermolysis and photolysis of diazirines, 11, 127
- Three-dimensional structures and chemical mechanisms of enzymes, 1, 319
- Threshold electron scattering spectroscopy, 3, 467
- Thromboxanes, prostaglandins, PGX: biosynthetic products of arachidonic acid, 6, 489
- TILDEN LECTURE. Alkoxy, amido, hydrazido, and related compounds of molybdenum and tungsten, 12, 331
- TILDEN LECTURE. Applications of e.s.r. spectroscopy to kinetics and mechanism in organic chemistry, 8, 1
- TILDEN LECTURE. Carbon–carbon bond formation involving boron reagents, 11, 191
- TILDEN LECTURE. Chemistry and Spectroscopy of mixed-complexes, 13, 219
- TILDEN LECTURE. Concerning stereochemical choice in enzymic reactions, 8, 447
- TILDEN LECTURE. η^5 -Cyclopentadienyl and η^6 -arene as protecting ligands towards platinum metal complexes 10, 1
- TILDEN LECTURE. Electrophilic C-nitroso-compounds, 6, 1
- TILDEN LECTURE. Initiation of cyclization using 3-methylcyclohex-2-enone derivatives, 9, 265
- TILDEN LECTURE. Molecular beam reactive scattering, 11, 1
- TILDEN LECTURE. Molecular recognition by synthetic receptors, 15, 63
- TILDEN LECTURE. New perspectives in surface chemistry and catalysis, 6, 373
- TILDEN LECTURE. Semistable molecules in the laboratory and in space, 11, 435
- TILDEN LECTURE. Some uses of silicon compounds in organic synthesis, 10, 83

Index

- TILDEN LECTURE. Structural studies on bio-active molecules, 13, 131
- TILDEN LECTURE. Structure and electron-transfer reactivity of the blue copper protein plastocyanin, 14, 283
- TILDEN LECTURE. The collision dynamics of vibrationally excited molecules, 14, 141
- TILDEN LECTURE. Valence in transition-metal complexes, 1, 431
- Time-correlation functions and molecular motion, 7, 89
- Topological subject—chemistry, 2, 457
- Trace constituents of the diet, chemical aspects, 10, 233
- organic constituents of the diet, sources and biogenesis, 10, 280
- Transimination, chemical models of enzymic, 12, 309
- Transition-metal carbene complexes, chemistry and rôle as reaction intermediates, 2, 99
- complexes, containing infinite chains of metal atoms, metal-metal interactions in, 1, 99
- complexes of synthetic macrocyclic ligands, 4, 421
- complexes, valence in, 1, 431
- co-ordination compounds, photochemistry of, 1, 241
- hydride complexes, 12, 415
- systems, reactivities of carbon disulphide, carbon dioxide, and carbonyl sulphide systems towards, 11, 57
- oxide chelates of carbohydrate-directed macromolecules, 8, 221
- Transport properties, hard-sphere theories of, 14, 317
- Triple bond in dimolybdenum and ditungsten hexa-alkoxides and C—C, C—N, C—O triple bonds, reactions involving the, 14, 69
- Tunable lasers, 3, 293
- Unimolecular reactions, current aspects of, 12, 163
- Uranyl ion, photochemistry of, 3, 139
- Use of insoluble polymer supports in organic chemical synthesis, 3, 65
- Utilization of agricultural and food processing wastes containing carbohydrates, 8, 309
- Valence in transition-metal complexes, 1, 431
- Valences, bond, a simple structural model for inorganic chemistry, 7, 359
- Very strong hydrogen bonding, 9, 91
- Vibrational and n.m.r. spectroscopic studies, structure in solvents and solutions, 12, 1
- , infrared, and Raman spectroscopy in inorganic chemistry, 4, 107
- intensities in electronic transitions, 5, 165
- spectra, synthesis, and structure of organomethyl compounds, 9, 25
- Vibrationally and rotationally inelastic scattering of molecules, 3, 407
- Vibrationally excited molecules, the collision dynamics of, 14, 141
- Viologens, electrochemistry of, 10, 49
- Vitamin B₁₂, retrospects and prospects, 9, 125
- Vitamin D, chemistry of: the hormonal calciferols, 6, 83
- Vitamin D, recent syntheses in, 9, 449
- Ylides, the chemistry of peroxonium ions and dioxygen, 14, 399