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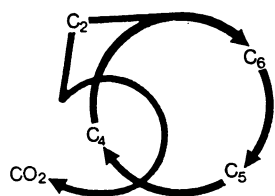
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KREBS' CITRIC ACID CYCLE



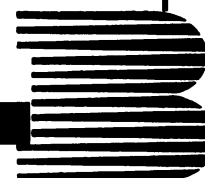
– Half a century
and still turning

Edited by J. Kay & P.D.J. Weitzman

List of contents and authors: *Introductory remarks* by H.L. Kornberg. *Evolutionary roots of the citric acid cycle in prokaryotes* by H. Gest. *Control of flux through the citric acid cycle and the glyoxylate bypass in Escherichia coli* by W.H. Holms. *Patterns of diversity of citric acid cycle enzymes* by P.D.J. Weitzman. *Molecular genetic aspects of the citric acid cycle of Escherichia coli* by J.S. Miles & J.R. Guest. *2-Oxo acid dehydrogenase multi-enzyme complexes: in the beginning and halfway there* by R.N. Perham, L.C. Packman & S.E. Radford. *Structural basis for regulation in Gram-negative bacterial citrate synthases* by H.W. Duckworth, D.H. Anderson, A.W. Bell, L.J. Donald, A.L. Chu & G.D. Brayer. *Regulation of the enzymes at the branchpoint between the citric acid cycle and the glyoxylate bypass in Escherichia coli* by H.G. Nimmo, A.C. Borthwick, E.M.T. El-Mansi, W.H. Holms, C. MacKintosh & G.A. Nimmo. *The subunits of succinyl-coenzyme A synthetase – function and assembly* by W.A. Bridger, W.T. Wolodko, W. Henning, C. Upton, R. Majumdar & S.P. Williams. *The role of the citric acid cycle in fungal organic acid fermentations* by C. P. Kubicek. *Hormonal regulation of fluxes through pyruvate dehydrogenase and the citric acid cycle in mammalian tissues* by R.M. Denton, J.G. McCormack, P.J.W. Midgley & G.A. Rutter. *The role of the citric acid cycle in cells of the immune system and its importance in sepsis, trauma and burns* by E.A. Newsholme, P. Newsholme & R. Curi. *Enzyme – enzyme interactions as modulators of the metabolic flux through the citric acid cycle* by S. Beeckmans & L. Kanarek. *Organizational aspects of the citric acid cycle* by P.A. Srere, B. Sumegi & A.D. Sherry. *Compensatory regulation in metabolic pathways – responses to increases and decreases in citrate synthase levels* by K. Walsh, M. Schena, A.J. Flint & D.E. Koshland Jr. Subject index.

195 pp. ISBN 0 904498 22 0 £30.00 (\$55.00) BIOCHEMICAL SOCIETY SYMPOSIUM No. 54

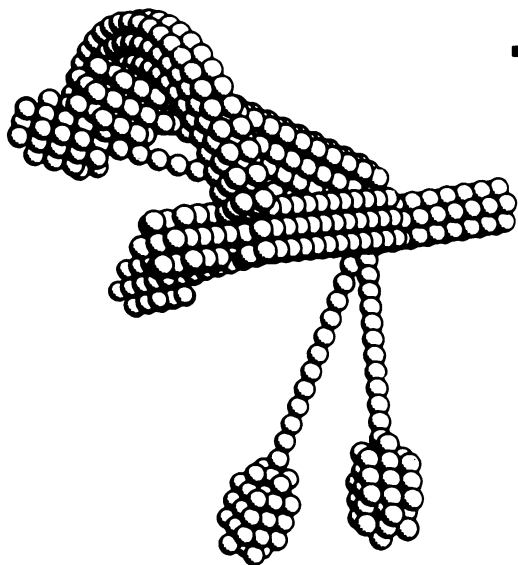
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BIOCHEMICAL SOCIETY SYMPOSIA NO. 49

Molecular Variants of Proteins

– Biosynthesis and Clinical Relevance



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Introduction by P. N. Campbell. *Structural Homology of Nicotinic Acetylcholine Receptor Subunits* by S. Numa. *Alternative RNA Processing Events as a Critical Developmental Regulatory Strategy in Neuroendocrine Gene Expression* by M. G. Rosenfeld, S. G. Amara & R. M. Evans. *Evolution in the Insulin Family: Molecular Clocks that Tell the Wrong Time* by M. Bajaj, T. Blundell & S. Wood. *The Molecular Pathology of Human α_1 -Antitrypsin* by R. W. Carrell, I. C. Bathurst & S. O. Brennan. *Collagen Gene Structure: the Paradox May be Resolved* by H. Boedtker & S. Aho. *Studies on Keratin Multigene Families* by G. E. Rogers. *The Interferons* by J. Taylor Papadimitriou. *Structure–Function Relationships in Immunoglobulins* by R. A. Dwek, B. J. Sutton, S. J. Perkins & T. W. Rademacher. *Muscle Protein Isoforms and Physiological Function: Role of Nerve in Gene Expression* by S. V. Perry, G. K. Dhoot & D. H. Heeley. *Calcium-dependent Proteinases and Specific Inhibitors: Calpain and Calpastatin* by T. Murachi. *The Biochemistry of Variant Surface Glycoproteins of the African Trypanosomes* by M. J. Turner. *The Implications of Genetic Variation in Human Pathology* by R. Williamson, K. E. Davies, J. Donald, C. Gilliam, S. Wallis & S. Humphries. *Subject Index.*

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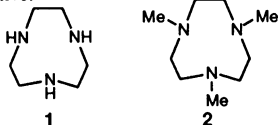
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Prof. F.A. Cotton at Texas A & M University and Prof. S. Lippard at M.I.T. suggested that we offer the important ligands, 1,4,7-triazacyclononane and its trimethyl derivative.

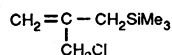


Yang, R.; Zompa, L.J. *Inorg. Chem.* 1976, 15, 1499.
Gerald, C.F.G.C. *et al. ibid.* 1985, 24, 3876.

31,130-8 1,4,7-Triazacyclononane, 97%
(1) 100mg \$17.50; 500mg \$58.00

31,129-4 1,4,7-Trimethyl-1,4,7-triazacyclononane, 99% (2)
100mg \$19.50; 500mg \$64.25

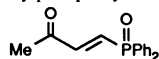
Prof. B. Trost, when at the University of Wisconsin, suggested that we offer 2-chloromethyl-3-trimethylsilyl-1-propene, a useful [3 + 2] annulation reagent.



Knapp, S.; O'Connor, O.; Mobile, D. *Tetrahedron Lett.* 1980, 21, 4557.

31,834-5 2-Chloromethyl-3-trimethylsilyl-1-propene, 97%
1g \$18.00
5g \$60.00

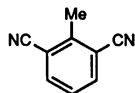
Prof. S.D. Darling at the University of Akron suggested an important dienophile, *trans*-4-diphenylphosphinyl-3-buten-2-one.



Darling, S.D.; Brandes, S.J. *J. Org. Chem.* 1982, 47, 1413.

31,022-0 trans-4-Diphenylphosphinyl-3-buten-2-one, 98%
1g \$7.00
5g \$22.00

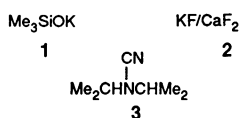
Prof. R.H. Mitchell at the University of Victoria suggested an interesting synthetic building block for trisubstituted benzenes.



Krizan, T.D.; Martin, J.C. *J. Org. Chem.* 1982, 47, 2681.

31,099-9 2,6-Dicyanotoluene, 97%
5g \$18.00; 25g \$60.00

Prof. Ralph Raphael at Cambridge University made three really useful suggestions:



(1) An organic-solvent-soluble, completely anhydrous KOH equivalent.
Laganis, E.D.; Chenard, B.L. *Tetrahedron Lett.* 1984, 25, 5831.

32,486-8 Potassium trimethylsilylanolate
25g \$10.00; 100g \$25.00

(2) A new fluorinating agent developed simultaneously in England and Japan.

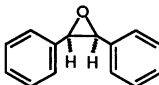
Clark, J.H.; Hyde, A.J.; Smith, D.K. *Chem. Commun.* 1986, 791. Ichihara, J.; Matsuo, T.; Hanafusa, T.; Ando, T. *ibid.* 1986, 793.

31,663-6 Potassium fluoride, 20 wt. % on calcium fluoride
25g \$11.50
100g \$30.00

(3) A stable, easily handled liquid reagent useful for the cyanation of organometallics.
Crossley, R.; Shepherd R.G. *J. Chem. Soc., Perkin Trans. 1* 1985, 2479.

21,382-9 Diisopropylcyanamide, 97 + %
50g \$14.05; 250g \$44.25

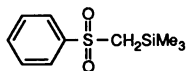
Prof. B.D. Hammock at the University of California at Davis suggested *cis*-stilbene oxide as a substrate for microsomal and cytosolic epoxide hydrolases, and for monitoring epoxide hydrolase activity.



Hammock, B.D. *et al. Methods Enzymol.* 1985, 3, 303.

30,832-3 cis-Stilbene oxide, 97%
1g \$19.50; 5g \$65.00

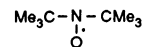
Dr. P.S. Jones at Imperial College in London suggested phenyl trimethylsilylmethyl sulfone for the preparation of vinyl sulfones from carbonyl compounds.



Craig, D.; Ley, S.V.; Simpkins, N.S. (Imperial College) and Whitham, G.D.; Prior, M.J. (Oxford University). *J. Chem. Soc., Perkin Trans. 1*, 1985, 1949.

30,674-6 Phenyl trimethylsilylmethyl sulfone, 98%
5g \$8.25; 25g \$28.25

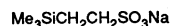
Prof. William Plachy at San Francisco State University suggested di-*tert*-butyl nitroxide, recently used in a spectral study of nitroxide solvation in pure and mixed solvents.



Symons, M.C.R.; Pena-Nunez, A.S. *J. Chem. Soc., Faraday Trans. 1*, 1985, 81, 2421.

30,072-1 Di-tert-butyl nitroxide
250mg \$10.05; 1g \$26.95

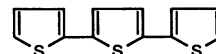
Prof. S.M. Weinreb of the Pennsylvania State University suggested an interesting protecting reagent.



Weinreb, S.M.; Demko, D.M.; Lessen, T.A. *Tetrahedron Lett.* 1986, 27, 2099.

30,793-9 2-Trimethylsilyl ethanesulfonic acid, sodium salt
1g \$8.10; 5g \$27.00

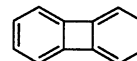
Prof. Jacques Kagan at the University of Illinois at Chicago suggested 2,2':5',2''-terthiophene (α -terthienyl), a natural product occurring in marigold, which displays enhanced nematocidal and antibiotic activity in the presence of UV light.



Kagan, J. *et al. J. Org. Chem.* 1982, 47, 2201. Kagan, J.; Arora, S.K. *Tetrahedron Lett.* 1983, 24, 4043. Wynberg, H.; Metselaar, J. *Synth. Commun.* 1984, 14, 1.

31,107-3 2,2':5',2''-Terthiophene, 99%
250mg \$18.50; 1g \$51.00

Prof. A.G. Davies at University College in London suggested that we offer biphenylene (1) of interest in the study of esr spectra; it was used recently in a study of electron-transfer rates between aromatics in a rigid solid.



1

Miller, J.R.; Beitz, J.V.; Huddleston, R.K. *J. Am. Chem. Soc.* 1984, 106, 5057.

32,195-8 Biphenylene, 99% (1)
100mg \$12.00

Also available:
32,441-8 2-Biphenylencarboxylic acid, 97%
100mg \$16.00

32,439-6 2-Acetylbiphenylene, 98%
100mg \$14.00

Naturally, we made them. It was no bother at all, just a pleasure to be able to help.



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