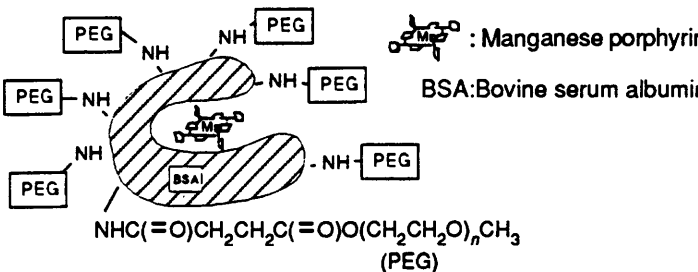
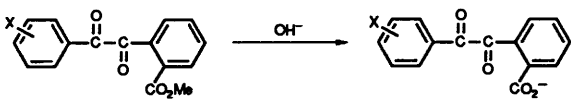
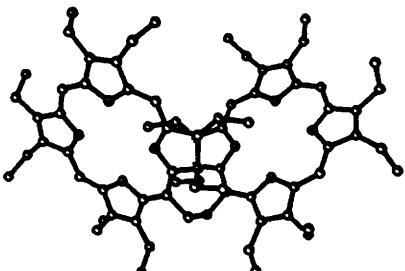
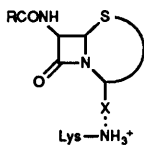


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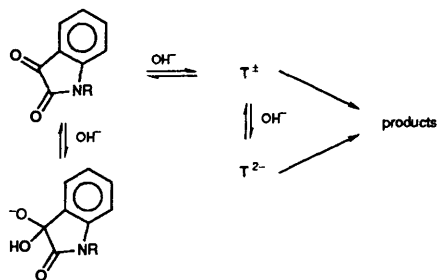
- vii Instructions for authors (1993)
 xxv Refereeing procedure and policy

Articles

<p>1 Enzymatic tryptophan 2,3-dioxygenase-like activity of a manganese porphyrin bound to bovine serum albumin modified with poly(ethylene glycol)</p> <p>Takashi Sagawa, Hitoshi Ishida, Kenji Urabe, Kohji Yoshinaga and Katsutoshi Ohkubo</p>	 <p>PEG-NH NH-PEG PEG-NH NH-PEG PEG-NH NH-PEG PEG-NH NH-PEG</p> <p>Mn-porphyrin : Manganese porphyrin BSA: Bovine serum albumin</p> <p>$\text{NHC(=O)CH}_2\text{CH}_2\text{C(=O)O(CH}_2\text{CH}_2\text{O)}_n\text{CH}_3$ (PEG)</p>
<p>7 Reactions of carbonyl compounds in basic solutions. Part 18. The mechanisms of the alkaline hydrolysis of methyl benzil-2-carboxylates and 2-phenylacetylbenzoates</p> <p>Keith Bowden and Faisal P. Malik</p>	 <p>$\text{X-C}_6\text{H}_4\text{-C(=O)-C(=O)-C}_6\text{H}_4\text{-CO}_2\text{Me} \xrightarrow{\text{OH}^-} \text{X-C}_6\text{H}_4\text{-C(=O)-C(=O)-C}_6\text{H}_4\text{-CO}_2^-$</p> <p>The alkaline hydrolysis of methyl benzil-2-carboxylates occurs with neighbouring-group participation by the keto-carbonyl groups</p>
<p>11 Structure and conformation of photosynthetic pigments and related compounds. Part 6. The first crystal structure of a covalently-linked chlorin dimer: 20,20'-ethylenebis(trans-2,3,7,8,12,13,17,18-octaethylchlorin)</p> <p>Mathias O. Senge, Håkon Hope and Kevin M. Smith</p>	
<p>17 The roles of the carboxy group in β-lactam antibiotics and lysine 234 in β-lactamase I</p> <p>Andrew P. Laws, Nicola J. Layland, David G. Proctor and Michael I. Page</p>	 <p>RCONH Lys-NH_3^+</p> <p>β-Lactams lacking a carboxy group are substrates for β-lactamase and the pH-rate profile for hydrolysis is still bell-shaped</p>

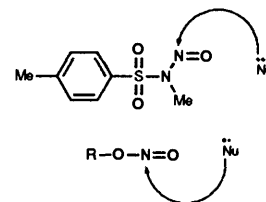
23 **The mechanisms of hydrolysis of the γ -lactam isatin and its derivatives**

Lorraine A. Casey, Ron Galt and Michael I. Page

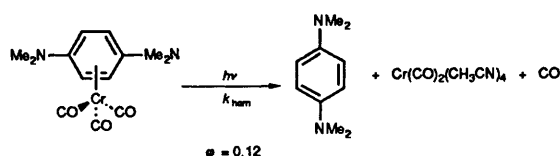
29 **Reactivity of nucleophilic nitrogen compounds towards the nitroso group**

Luis García-Río, Emilia Iglesias, J. Ramón Leis, M. Elena Peña and Ana Ríos

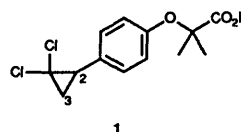
Nu: Primary amines
Secondary amines
Tertiary amines
 α -Effect *N*-nucleophiles
Amino acids

39 **Organometallic photoelectrochemistry: the photo-oxidation of an (arene)chromium tricarbonyl system**

Richard G. Compton, Roula Barghout, John C. Eklund, Adrian C. Fisher, Stephen G. Davies and Michael R. Metzler

43 **Degradation studies under neutral and basic conditions on ciprofibrate, an orally active hypolipidemic agent containing a (4-alkoxyaryl)-1,1-dichlorocyclopropane unit**

Juma'a R. Al Dulayymi, Mark S. Baird, Stephen J. Byard, Glynis Carr, George J. Ellames, John W. Firth, John M. Herbert, Margaret A. Donald, Petar R. Vojvodic and Louisa M. Wrench

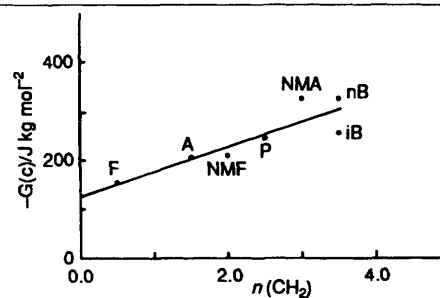


Ciprofibrate (1) ring-opens in both buffered and strongly basic aqueous solution predominantly by cleavage of the C_2 - C_3 bond with loss of chloride ion

49 **Kinetics of uncatalysed hydrolysis of 1-benzoyl-3-phenyl-1,2,4-triazole and *p*-methoxyphenyl dichloroethanoate in aqueous solution containing ureas, carboxamides, sulfonamides, sulfones and sulfoxides**

René P. V. Kerstholt, Jan B. F. N. Engberts and Michael J. Blandamer

Dependence of pairwise Gibbs energy interaction parameter $G(c)$ as a function of the number of methylene groups: hydrolysis of 1-benzoyl-3-phenyl-1,2,4-triazole

53 **Electron paramagnetic resonance spectra of substituted 1- and 2-naphthylmethyl radicals**

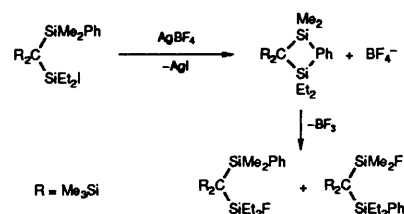
Richard A. Jackson and Christopher J. Rhodes



The complex EPR spectra of A' and B' have been analysed by correlation methods

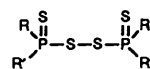
- 59 **Reaction of $(\text{Me}_3\text{Si})_2\text{C}(\text{SiMe}_2\text{Ph})(\text{SiEt}_2\text{I})$ with AgBF_4 . 1,3-Migration of the phenyl group**

Colin Eaborn, Paul D. Lickiss, Sabah T. Najim and Włodzimierz A. Stańczyk



- 63 **^{31}P CP MAS NMR studies of bis(organothiophosphoryl) disulfides. Correlation of chemical shift tensors and shielding parameters to molecular structure**

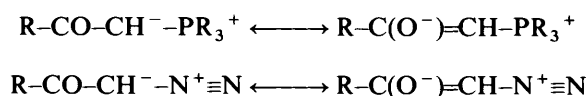
Marek J. Potrzebowski



Bis(organothiophosphoryl) disulfides have been used as models for studies of the relationships between the molecular structure and ^{31}P NMR parameters in the solid state

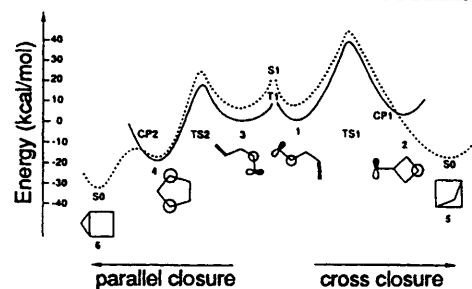
- 67 **NMR of terminal oxygen. Part 10. ^{17}O NMR spectra of carbonyl phosphonium ylides and diazocarbonyl compounds: resonance stabilization, bond order and excitation energy**

Hans Dahn and Péter Péchy



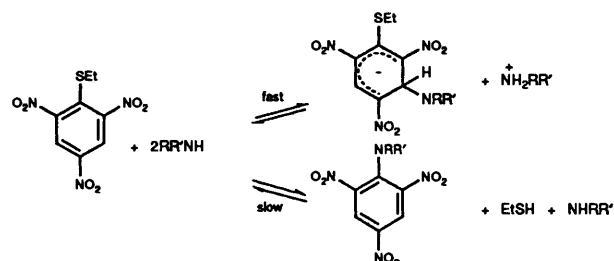
- 71 **Triplet-singlet intersystem crossing as the second step of the cycloaddition of triplet penta-1,4-diene. An *ab initio* MO study**

Masaru Ohsaku, Nobuaki Koga and Keiji Morokuma



- 75 **Kinetic and equilibrium studies of σ -adduct formation and nucleophilic substitution in the reactions of ethyl thiopicrate with aliphatic amines in dimethyl sulfoxide**

Rachel Chamberlin and Michael R. Crampton



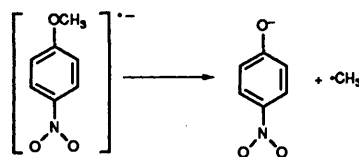
- 83 **Compounds with bridgehead nitrogen. Part 71. Stereochemistry of protonated perhydropyrido[1,2-*c*][1,3]benzoxazepines**

Trevor A. Crabb and Asadollah Fallah



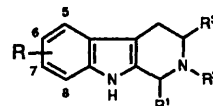
- 87 **Carbon–oxygen alkyl ether fragmentation in the radical anions of phenyl and nitrophenyl methyl ethers. An AM1 study**

Xavier Martin, Jorge Marquet and José M. Lluh



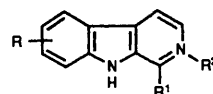
- 91 **Acid–base and spectral properties of β -carbolines. Part 1. Tetrahydro- β -carbolines**

Manuel Balón, José Hidalgo, Pilar Guardado, María A. Muñoz and Carmen Carmona



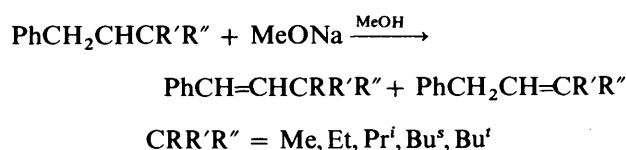
- 99 **Acid–base and spectral properties of β -carbolines. Part 2. Dehydro and fully aromatic β -carbolines**

Manuel Balón, José Hidalgo, Pilar Guardado, María A. Muñoz and Carmen Carmona



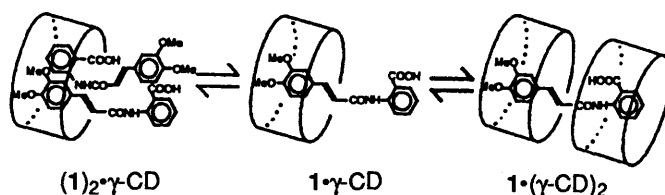
- 105 **Eliminations from 1-phenyl-2-alkyl tosylates promoted by MeONa in MeOH. Steric effects in alkene-forming elimination**

Bong Rae Cho and Man So Han



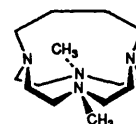
- 109 **Different photodimerization behaviour of tranilast in α -, β - and γ -cyclodextrin complexes: cavity-size and stoichiometry dependence**

Tadanobu Utsuki, Fumitoshi Hirayama and Kaneto Uekama



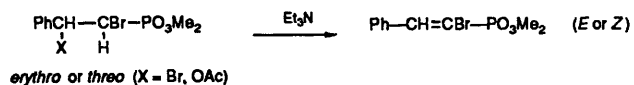
- 115 **Synthesis and characterization of an aza-cage behaving as a 'proton sponge'. Crystal structures of its mono- and tri-protonated species**

Andrea Bencini, Antonio Bianchi, Carla Bazzicalupi, Mario Ciampolini, Paolo Dapporto, Vieri Fusi, Mauro Micheloni, Nicoletta Nardi, Paola Paoli and Barbara Valtancoli



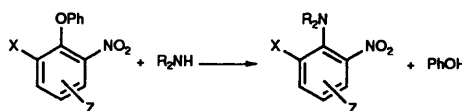
- 121 **Elimination from diastereoisomeric methyl 2-acetoxy-1-bromo- and 1,2-dibromo-2-phenylethylphosphonates**

Estela M. G. de Casal, Bruno M. Vuano and Mercedes C. Cabaleiro



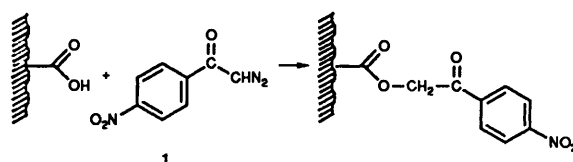
- 125 **The effect of *ortho* substituents on the mechanism of aromatic nucleophilic substitution reactions in dipolar aprotic solvents**

Thomas A. Emokpae, Patrick U. Uwakwe and Jack Hirst



- 133 **Modification of carboxyl groups in bacteriorhodopsin. Chemical evidence for the involvement of aspartic acid residues in the structure and function of bacteriorhodopsin**

Anil K. Singh and Sanjay M. Sonar



Proteins are characterised in terms of absorption, photochemistry, H^+ -pump activities and modification sites. Asp-212 is recognised as a counter ion by the Schiff-base chromophore.

Corrigendum

- 139 **The kinetics and mechanism of reaction of nitrous acid with 4-substituted phenols in aqueous acid solution** Ben D. Beake, Jill Constantine and Roy B. Moodie

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NOTE: An asterisk in the heading of each paper indicates the author who is to receive any correspondence.