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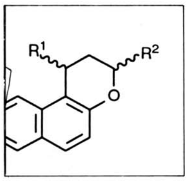
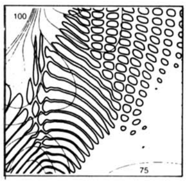


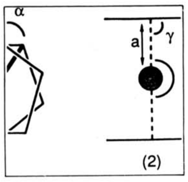
Benzotriazole-mediated Arylalkylation and Heteroarylalkylation *By Alan R. Katritzky and Xiangfu Lan* (pp. 363–373)

An electron donor can activate a benzotriazole group through a conjugated system of type D–(CH = CH)–CH$_2$Bt. If the conjugated system is a benzene or heterocycle this enables arylalkylation and heteroarylation reactions in which Bt is replaced by alkyl or aryl groups from Grignard reagents, by hydrogen from LiAlH$_4$, and by other nucleophiles including electron-rich aromatic systems, alcohols, thiols, *etc.* Such reactions enable specific *para*-substitution of anilines, *ortho*-substitution of phenols, and elaboration of phenol ethers and heterocycles. Their scope is increased by the possibility of deprotonation of the original system at the CH$_2$ and subsequent reaction with electrophiles before the Bt displacement.



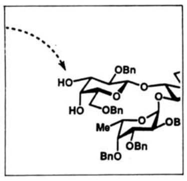
The Dynamics of Photodissociation *By Richard N. Dixon* (pp. 375–385)

The use of lasers, both to inititiate photochemical decomposition and to probe the primary products, has greatly advanced our knowledge of the dynamics of photodissociation. This article uses case histories for excitation of H_2O, H_2O_2, HONO, HCO, NH_3, HNO, and CH_4 to illustrate the diversity of mechanisms. These cover dissociation through motion on a single potential energy surface; dissociation mediated by surface crossings; and dissociation following internal conversion to the molecular ground state. Implications for larger molecules and future work are also discussed.



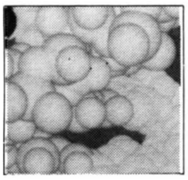
Molecular Mechanics Force Fields for Cyclopentadienyl Complexes *By Brice Bosnich* (pp. 387–395)

A self-consistent molecular mechanics force field is developed for the reproduction of structures and energy differences of bis-cyclopentadienyl (Cp) complexes. The method is used to identify the forces which control Cp ring rotations, the conformations of substituted Cp complexes, and provides an explanation for the existence of bent metallocenes of the alkaline earth and lanthanide metals and possibly for the bent structures of the divalent silicon group. The method provides an accurate method of reproducing structures and can incorporate the structural effects caused by crystal packing forces.



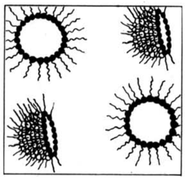
HAWORTH MEMORIAL LECTURE. Experiments Directed Towards Glycoconjugate Synthesis *By Tomoya Ogawa* (pp. 397–407)

Total synthesis of complex carbohydrates and glycoconjugates are described. Cycloglycosylation was carried out by use of either anomeric fluorides or thioglycosides to obtain cyclodextrins and their analogues. Other targets for synthetic studies have been selected mainly from bio-funtional glycoconjugates that include gangliosides, Nod-factors, N- and O-linked glycans of glycoproteins, plant cell wall oligosaccharide acting as endogenous plant hormones, GPI anchor (glycosyl phosphatidylinositol anchor), and functional domains of glycosaminoglycan. Key synthetic transformations in the experiments were highlighted in terms of efficiency and stereoselectivity.



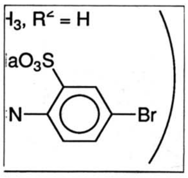
Pericyclic Key Reactions in Biological Systems and Biomimetic Syntheses *By Ulf Pindur and Günter H. Schneider* (pp. 409–415)

A variety of pericyclic key reactions in biological systems are explored and lead stereospecifically to many natural products. Some examples of pericyclic reactions taking place in biological systems are discussed and classified on the basis of reaction mechanism type. Some biomimetic syntheses are also included that complete the biosynthetic steps. There is evidence that some of the biological pericyclic reactions leading to enantiomerically pure compounds are catalysed by enzymes.



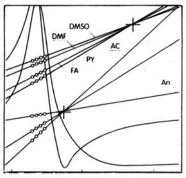
Surfactant Systems: Their Use in Drug Delivery *By M. Jayne Lawrence* (pp. 417–424)

Amphiphilic molecules frequently aggregate in solution to form a rich variety of phase structures. This review explains why there is considerable pharmaceutical interest in these structures and discusses the work performed to date examining their use as vehicles for drug delivery.



Biological Activity, Reactivity, and Use of Chromotropic Acid and its Derivatives *By Jan Duda* (pp. 425–428)

Complex-forming properties of chromotropic acid and its halogen derivatives in relation to metal ions are reviewed. Various reactions of these compounds, including oxidation reactions, and their applications are considered. The biological activities of chromotropic acid and its derivatives are also discussed, including their activity in the inhibition of HIV.



Mechanistic and Structural Investigations Based on the Isokinetic Relationship *By Wolfgang Linert* (pp. 429–438)

The rapid development of the Isokinetic Relationship IKR, especially concerning its applications to actual chemical reaction series, is reviewed. It is proved on the basis of several examples that the IKR is extremely sensitive to changes in reaction pathways, and that this can be used as a powerful tool in distinguishing changes within a given series of reactions, provided temperature-dependent data are available. It is hoped that the examples presented in this Review will encourage others to use the effect for detailed investigation of their own reaction series, especially as a simplified, reliable statistical analysis is now available.

1994 Indexes (pp. 439–442)

Articles that will appear in forthcoming issues include

Structure–Property Relationships in Superconducting Cuprates **C.N.R. Rao and A.K. Ganguli**

Stereochemical, Mechanistic, and Structural Features of Enzyme-catalysed Phosphate Monoester Hydrolyses **D. Gani and J. Wilkie**

CENTENARY LECTURE. Bridgehead Unsaturation in Compounds of Nature: A Proper Forum for Unleashing the Potential of Organic Synthesis **L.A. Paquette**

Conservation of Waterlogged Wood **B. Kaye**

Synthesis of Diarylketones through Carbonylative Coupling **J.-J. Brunet and R. Chauvin**

Transannular Interactions in Difunctional Medium Rings – Modelling Bimolecular Reactions **P. Rademacher**

Potential Surfaces and Dynamics of Weakly Bound Trimers: Perspectives from High Resolution IR Spectroscopy **M.A. Suhm and D.J. Nesbitt**

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