

JOURNAL OF THE CHEMICAL SOCIETY

Perkin Transactions II

Physical Organic Chemistry

CONTENTS

- 337 Kinetics of hydrolysis of some *N*'-(4-substituted benzylidene)salicylohydrazides **Yassien M. Temerk, Mostafa M. Kamal, and Mohamed E. Ahmed**
- 341 Derivatives of *m*-di-*t*-butylbenzene. Part 8. Dissociation constants of 2-halogeno-4,6-di-*t*-butylanilines, and ^1H nuclear magnetic resonance spectra of the corresponding acetanilides **Adrianus Jan de Koning**
- 345 Hydroboration of ferrocenylalkenes: Mechanistic and synthetic aspects **Claudio Lo Sterzo and Giancarlo Ortaggi**
- 349 Kinetics and mechanisms of nucleophilic displacements with heterocycles as leaving groups. Part 15. Dependence of mechanism of solvolysis of pyridinium cations on solvent character: evidence from rates, ρ values, and product analysis **Alan R. Katritzky, Maria L. Lopez-Rodriguez, and Jorge Marquet**
- 355 Micellar inhibition of $S_{\text{N}}1$ reactions of sterically hindered compounds **Clifford A. Bunton and Sten Ljunggren**
- 363 Stereochemistry of protonation at C(1) of nitronate adducts from 1,6-conjugate addition of Grignard reagents to 2-methoxy-1-nitronaphthalene **Graziano Baccolini, Giuseppe Bartoli, Marcella Bosco, and Renato Dalpozzo**
- 367 The synthesis and electrochemical study of new electrochromic viologen-based materials **John A. Barltrop and Andrew C. Jackson**
- 373 Kinetics and mechanism of the acid-induced rearrangements of α -santonin, 6-*epi*- α -santonin, and related compounds **Anthony J. Waring**
- 383 Absorption and emission spectra of difluorenyl-calcium and -strontium in tetrahydrofuran and in tetrahydropyran **Henk Vankerckhoven, Frans C. De Schryver, Marcel Van Beylen, and Thieo E. Hogen-Esch**
- 389 E.s.r., ENDOR, and triple resonance of fluoro-substituted fluorenone ketals **Jeffrey C. Evans, Christopher C. Rowlands, Bernardo J. Herold, and Jose M. A. Empis**
- 395 A kinetic study of the hydrolysis of ferrocenyliminium ions **Clifford A. Bunton, Faegh Davoudzadeh, Mansingrao H. Jagdale, and William E. Watts**
- 401 An electron spin resonance study of fatty acids and esters. Part 2. Hydrogen abstraction from saturated acids and their derivatives **Emanuele Bascetta, Frank D. Gunstone, and John C. Walton**
- 407 Semiempirical SCF-MO study of the molecular and electronic structures of radicals derived from thiols, sulphides, and disulphides **Christopher Glidewell**
- 411 Deprotonation of hydrazinium dications in the diazoniapropellane series to form bridgehead iminium ions; external and intramolecular trapping **Roger W. Alder, Richard B. Sessions, John O. Gmündler, and Cyril A. Grob**
- 419 A relationship between infrared band intensity and configuration of the cyano group in simple and fused cyclohexanecarbonitriles **Mamoru Takasuka, Takashi Saito, and Masumi Yamakawa**
- 423 Kinetic substituent and isotope effects in the acid-catalysed rearrangement of *N*-phenylhydroxylamines. Are nitrenium ions involved? **George Kohnstam, W. Andrew Petch, and D. Lyn H. Williams**

- 429 Synthesis, properties, and multinuclear (^1H , ^{13}C , ^{77}Se) nuclear magnetic resonance studies of selenoethers containing two or more selenium atoms **David J. Gulliver, Eric G. Hope, William Levason, Stephen G. Murray, David M. Potter, and Gregory L. Marshall**
- 435 ^{13}C Nuclear magnetic resonance study of some aliphatic polyamines **Stephen P. Dagnall, David N. Hague, and Michael E. McAdam**
- 441 Photochemical reaction of lucigenin: electron-transfer reduction of 10,10'-dimethyl-9,9'-biacridinediium by counter anions, followed by photocyclization **Koko Maeda, Toshiko Miyahara, Tamako Mishima, Sachiko Yamada, and Yumiko Sano**
- 447 Lipophilic bis(crown ether) derivatives of 15-crown-5 and 18-crown-6 as neutral carriers of ion-selective electrodes **Keiichi Kimura, Atsuo Ishikawa, Hiroshi Tamura, and Toshiyuki Shono**
- 451 Orientation in the chlorination of phenol and of anisole with sodium and t-butyl hypochlorites in various solvents **Yoshiro Ogata, Makoto Kimura, Yoshinori Kondo, Hiroshi Katoh, and Fa-Ching Chen**
- 455 Effects of colloidal SiO_2 and cyclodextrins on the aggregation of dyes in aqueous solutions **Phyllis Dan, Itamar Willner, Nagaraj S. Dixit, and Raymond A. Mackay**
- 461 Structural effects on valence tautomerism. Part 5. A carbon-13 nuclear magnetic resonance study on the effects of the π -acceptor ability of aryl substituents on the valence tautomerism of 7-aryl-2,5-di-t-butylcyclohepta-1,3,5-trienes **Ken'ichi Takeuchi, Hiroshi Fujimoto, Toshikazu Kitagawa, Hiroya Fujii, and Kunio Okamoto**
- 469 A kinetic study on asymmetric transfer hydrogenation of unsaturated acids and esters by alcohols with binuclear ruthenium(II) chiral diphosphine complexes **Kohji Yoshinaga, Taketoshi Kito, and Katsutoshi Ohkubo**
- 475 Interaction between porphyrins and hydroxylated compounds. Part 1. Study of tetraphenylporphyrin free base and its *N*-methyl derivatives in the presence of *p*-nitrophenol **Laure Guilleux, Pierre Krausz, Louis Nadjo, Raoul Uzan, and Charles Giannotti**
- 481 Secondary isotope multiplet nuclear magnetic resonance spectroscopy of partially labelled entities (SIMPLE): ^{13}C spectra of stachyose and its subunits **John C. Christofides and David B. Davies**
- 489 Structural analysis of the urinary lignan 2,3-bis-(3-hydroxybenzyl)butan-4-olide ('enterolactone'). A 400 MHz nuclear magnetic resonance study for the solution state and X-ray study for the crystal state **George Cooley, R. Duncan Farrant, David N. Kirk, Shailesh Patel, Steven Wynn, Malcolm J. Buckingham, Geoffrey E. Hawkes, Michael B. Hursthouse, Anita M. R. Galas, Alexander M. Lawson, and Kenneth D. R. Setchell**
- 499 Basicity of nitrogen-sulphur(vi) compounds. Part 5. Ionization of trisubstituted sulphamides **Séan D. McDermott, Padraig O. Burke, and William J. Spillane**
- 503 Electron spin resonance. Part 67. Oxidation of aliphatic sulphides and sulfoxides by the sulphate radical anion ($\text{SO}_4^{\cdot-}$) and of aliphatic radicals by the peroxydisulphate anion ($\text{S}_2\text{O}_8^{2-}$) **Michael J. Davies, Bruce C. Gilbert, and Richard O. C. Norman**
- 511 Electron spin resonance spectra of ether radical cations generated by radiolysis **Martyn C. R. Symons and Brendon W. Wren**
- 523 Rate constants for the formation of oxiranes by γ -scission in secondary β -t-butylperoxyalkyl radicals **A. J. Bloodworth, J. L. Courtneidge, and Alwyn G. Davies**
- 529 Effect of substituents at the 5-position on the first and second dissociation constants of isophthalic acid **Stewart J. Gumbley and Ross Stewart**
- 533 Substituent effects on the electronic structure of some styryl methyl sulphones studied by ultraviolet photoelectron spectroscopy **Carla Cauletti, Claudio Furlani, Gabriella Nicotra, Klaus-Dieter Schleinitz, and Wolfgang Wegener**
- 537 Base-catalysed rearrangement of 2-phenylamino-1,3,4-oxadiazole into 4-phenyl-1,2,4-triazolin-5-one **Renato Noto, Francesco Buccheri, Giuseppe Werber, Giovanni Consiglio, and Domenico Spinelli**
- 541 Mononuclear heterocyclic rearrangements. Part 11. Kinetic study of the rearrangement of (*Z*)-phenylhydrazones of some 5-alkyl-3-benzoyl-1,2,4-oxadiazoles into 4-acylamino-2,5-diphenyl-1,2,3-triazoles in benzene, dioxane-water, and acetonitrile **Vincenzo Frenna, Nicoló Vivona, Giovanni Consiglio, and Domenico Spinelli**
- 547 Kinetics of formation and decomposition of the intermediate complex in the reaction of methyl 4-methoxy-3,5-dinitrobenzoate with n-butylamine in dimethyl sulphoxide **Yoshinori Hasegawa**
- 553 Stereochemistry of substitution at trico-ordinate phosphorus **John Nielsen and Otto Dahl**
- 559 Quantification of effective polarisability. Applications to studies of X-ray photoelectron spectroscopy and alkylamine protonation **Johann Gasteiger and Michael G. Hutchings**
- 565 Transition state structures in ion-pair base-promoted *syn*-elimination reactions **Harold Kwart, Anne H. Gaffney, and Kazimiera A. Wilk**

CONTENTS

- 569 The influence of crown ethers on cation migration processes. Part 4. Some simple benzoquinone radical anions in the presence of dibenzo-18-crown-6 **Nicholas J. Flint and Brian J. Tabner**
- 573 The stabilities of Meisenheimer complexes. Part 34. Kinetic studies of σ -adduct formation and nucleophilic substitution in the reactions of 2,4,6-trinitrophenetole with aliphatic amines in dimethyl sulphoxide **Michael R. Crampton and Paul J. Routledge**
- 583 Conformational equilibria due to ring inversion in *N*-alkyl-*cis*-decahydroisoquinolines **Judith M. Bailey, Harold Booth, and Hatif A. R. Y. Al-Shirayda**

AUTHOR INDEX

- Ahmed, Mohamed E., 337–40
Alder, Roger W., 411–8
Al-Shirayda, Hatif A. R. Y., 583–8
Baccolini, Graziano, 363–6
Bailey, Judith M., 583–8
Barltrop, John A., 367–72
Bartoli, Giuseppe, 363–6
Bascetta, Emanuele, 401–6
Bloodworth, A. J., 523–8
Booth, Harold, 583–8
Bosco, Marcella, 363–6
Buccheri, Francesco, 537–40
Buckingham, Malcolm J., 489–98
Bunton, Clifford A., 355–62,
 395–400
Burke, Padraig O., 499–502
Cauletti, Carla, 533–6
Chen, Fa-Ching, 451–54
Christofides, John C., 481–8
Consiglio, Giovanni, 537–40,
 541–6
Cooley, George, 489–98
Courtneidge, J. L., 523–8
Crampton, Michael R., 573–82
Dagnall, Stephen P., 435–40
Dahl, Otto, 553–8
Dalpozzo, Renato, 363–6
Dan, Phyllis, 455–60
Davies, Alwyn G., 523–8
Davies, David B., 481–8
Davies, Michael J., 503–10
Davoudzadeh, Faegh, 395–400
de Koning, Adrianus Jan, 341–4
De Schryver, Frans C., 383–8
Dixit, Nagaraj S., 455–60
- Empis, Jose M. A., 389–94
Evans, Jeffrey C., 389–94
Farrant, R. Duncan, 489–98
Flint, Nicholas J., 569–72
Frenna, Vincenzo, 541–6
Fujii, Hiroya, 461–8
Fujimoto, Hiroshi, 461–8
Furlani, Claudio, 533–6
Gaffney, Anne H., 565–8
Galas, Anita M. R., 489–98
Gasteiger, Johann, 559–64
Giannotti, Charles, 475–80
Gilbert, Bruce C., 503–10
Glidewell, Christopher, 407–10
Gmunder, John O., 411–8
Grob, Cyril A., 411–8
Guilleux, Laure, 475–80
Gulliver, David J., 429–34
Gumbley, Stewart J., 529–32
Gunstone, Frank D., 401–6
Hague, David, N., 435–40
Hasegawa, Yoshinori, 547–52
Hawkes, Geoffrey E., 489–98
Herold, Bernardo J., 389–94
Hogen-Esch, Thieo E., 383–8
Hope, Eric G., 429–34
Hursthouse, Michael B., 489–98
Hutchings, Michael G., 559–64
Ishikawa, Atsuo, 447–50
Jackson, Andrew C., 367–72
Jagdale, Mansingrao H., 395–400
Kamal, Mostafa M., 337–40
Katoh, Hiroshi, 451–54
Katritzky, Alan R., 349–54
Kimura, Keiichi, 447–50
- Kimura, Makoto, 451–4
Kirk, David N., 489–98
Kitagawa, Toshikazu, 461–8
Kito, Taketoshi, 469–74
Kohnstam, George, 423–8
Kondo, Yoshinori, 451–4
Krausz, Pierre, 475–80
Kwart, Harold, 565–8
Lawson, Alexander M., 489–98
Levason, William, 429–34
Ljunggren, Sten, 355–62
Lopez-Rodriguez, Maria L., 349–54
Lo Sterzo, Claudio, 345–8
Mackay, Raymond A., 455–60
Maeda, Koko, 441–6
Marquet, Jorge, 349–54
Marshall, Gregory L., 429–34
McAdam, Michael E., 435–40
McDermott, Séan D., 499–502
Mishima, Tamako, 441–6
Miyahara, Toshiko, 441–6
Murray, Stephen G., 429–34
Nadjo, Louis, 475–80
Nicotra, Gabriella, 533–6
Nielsen, John, 553–8
Norman, Richard O. C., 503–10
Noto, Renato, 537–40
Ogata, Yoshiro, 451–4
Ohkubo, Katsutoshi, 469–74
Okamoto, Kunio, 461–8
Ortaggi, Giancarlo, 345–8
Patel, Shailesh, 489–98
Petch, W. Andrew, 423–8
Potter, David, M., 429–34
Routledge, Paul J., 573–82
- Rowlands, Christopher C., 389–94
Saito, Takashi, 419–22
Sano, Yumiko, 441–6
Schleinitz, Klaus-Dieter, 533–6
Sessions, Richard B., 411–8
Setchell, Kenneth D. R., 489–98
Shono, Toshiyuki, 447–50
Spillane, William J., 499–502
Spinelli, Domenico, 537–40,
 541–6
Stewart, Ross, 529–32
Symons, Martyn, C. R., 511–22
Tabner, Brian J., 569–72
Takasuka, Mamoru, 419–22
Takeuchi, Ken'ichi, 461–8
Tamura, Hiroshi, 447–50
Temerk, Yassien M., 337–40
Uzan, Raoul, 475–80
Van Beylen, Marcel, 383–8
Vankerckhoven, Henk, 383–8
Vivona, Nicoló, 541–6
Walton, John C., 401–6
Waring, Anthony J., 373–82
Watts, William E., 395–400
Wegener, Wolfgang, 533–6
Werber, Giuseppe, 537–40
Wilk, Kazimiera A., 565–8
Williams, D. Lyn H., 423–8
Willner, Itamar, 455–60
Wren, Brendon W., 511–22
Wynn, Steven, 489–98
Yamada, Sachiko, 441–6
Yamakawa, Masumi, 419–22
Yoshinaga, Kohji, 469–74

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