

## JOURNAL OF THE CHEMICAL SOCIETY

## Perkin Transactions I

## Organic and Bio-organic Chemistry

## CONTENTS

- 1867 *meta*-Photocycloaddition of *trans*-1,2-dichloroethene to the benzene ring: directed cyclopropane ring formation in the tricyclo[3.3.0.0<sup>2,8</sup>]oct-3-ene skeleton **Andrew Gilbert, Peter Heath, and Paul W. Rodwell**
- 1875 *Erythrophleum* alkaloids. Synthesis of (–)-4-*epi*-cassamine **Antonio Abad, Consuelo Agulló, Manuel Arnó, Luis R. Domingo, and Ramón J. Zaragozá**
- 1885 Structure and biosynthesis of harzianopyridone, an antifungal metabolite of *Trichoderma harzianum* **Julia M. Dickinson, James R. Hanson, Peter B. Hitchcock, and Norman Claydon**
- 1889 Synthesis of 5,6-dihydro-4*H*-imidazo[1,5-*a*][4,1]benzoxazepin-6-ones and their transformation into 5,6-dihydro-4*H*-imidazo[1,5-*a*][1,4]benzodiazepin-6-ones **Michael S. Ashwood, Jacqueline A. Gourlay, Peter G. Houghton, Madeleine A. Nagel, and Stanley H. B. Wright**
- 1895 Carbon-nitrogen bond formation in cyclisations by deoxygenation, thermolysis, or photolysis of phenylimidazo[1,2-*a*]pyridine systems: access to pyrido[1',2':1,2]imidazo[4,5-*b*]indoles **Jean Claude Teulade, Alain Gueiffier, Henri Viols, Jean-Pierre Chapat, Gerard Grassy, Bernard Perly, and Gerard Dauphin**
- 1901 Studies in [3.3] sigmatropic rearrangement: regioselective synthesis of 1-aryloxymethylpyrano[2,3-*c*][1]benzopyran-5(3*H*)-one and 1-aryloxymethyl-2-methylfuro[2,3-*c*][1]benzopyran-4-one **Krishna C. Majumdar and Rathindranath De**
- 1907 Syntheses based on cyclohexadienes. Part 2. Convenient synthesis of 6-alkylsalicylates, 6-alkyl-2,4-dihydroxybenzoate, and 2,5-dialkylresorcinols **Charles C. Kanakam, Neelakandha S. Mani, Halasya Ramanathan, and G. S. R. Subba Rao**
- 1915 Total synthesis of the racemic 3-methyl analogue of the antitumour agent acivicin **Zsuzsanna Gombos, József Nyitrai, Pál Kolonits, and Mária Kajtár-Peredy**
- 1923 Oxidation of enamines derived from sugars **Reyes Babiano, Carlos Durán, Joaquín Plumet, Emilio Román, Eloisa Sánchez, José Antonio Serrano, and José Fuentes**
- 1927 Photo-induced selenothio esterification of olefins: radical addition to vinylsilanes **Takeshi Toru, Takuya Seko, Etsuro Maekawa, and Yoshio Ueno**
- 1931 Lead tetra-acetate oxidation of tetrahydrobenzazepine enamides: the synthesis of *N*-acyl substituted tetrahydro-3-benzazocin-2(1*H*)-ones. A chemical and crystallographic study **Ralph A. Lessor, Patrice White Rafalko, and George R. Lenz**
- 1939 Metabolites of the higher fungi. Part 25. Punctaporonin G from the fungus *Poronia punctata* (Linnaeus: Fries) Fries **Raymond L. Edwards, Derek J. Maitland, J. Philip Poyser, and Anthony J. S. Whalley**
- 1943 Biosynthesis of porphyrins and related macrocycles. Part 34. Synthesis and properties of *S*-pyrrolylmethylcysteinyl and  $\epsilon$ -*N*-Pyrrolylmethyllysyl peptides **Andrew D. Miller, Finian J. Leeper, and Alan R. Battersby**
- 1957 Stereoselective synthesis of the C-24 and C-25 stereoisomeric pairs of 24-ethyl-26-hydroxy- and 24-ethyl-[26-<sup>2</sup>H]sterols and their  $\Delta^{22}$ -derivatives: reassignment of <sup>13</sup>C n.m.r. signals of the *pro-R* and the *pro-S* methyl groups at C-25 of 24-ethylsterols **Isao Horibe, Hiroshi Nakai, Tomohiro Sato, Shujiro Seo, Ken'ichi Takeda, and Suguru Takatsuto**
- 1969 Biosynthesis of 24 $\beta$ -ethylsterols in cultured cells of *Trichosanthes kirilowii* (Cucurbitaceae) fed with [1,2-<sup>13</sup>C<sub>2</sub>]- and [2-<sup>13</sup>C<sup>2</sup>H<sub>3</sub>]-acetate: reinvestigation of the stereochemistry at C-25 **Shujiro Seo, Atsuku Uomori, Yohko Yoshimura, Ken'ichi Takeda, Haruo Seto, Yutaka Ebizuka, Hiroshi Noguchi, and Ushio Sankawa**

- 1975 *N*-Amino-2-pyridones from acetohydrazide derivatives **Carmen Aparicio, Nazario Martín, Margarita Quinteiro, Carlos Seoane, José L. Soto, José A. Valdés, and Sonsoles Velázquez**
- 1981 Electrophilic substitution in indoles. Part 17. The cyclisation of (dimethoxyphenylacetyl)tryptamines to spirocyclic indole derivatives **Kshetra M. Biswas and Anthony H. Jackson**
- 1987 <sup>1</sup>H and <sup>13</sup>C N.m.r. spectral assignment studies of terretonin, a toxic meroterpenoid metabolite of *Aspergillus terreus* **C. Rupert McIntyre, David Reed, Ian H. Sadler, and Thomas J. Simpson**
- 1995 Secondary mould metabolites. Part 29. Isolation and structure elucidation of candicansol, 3-*epi*-illudol and 1-*O*-acetyl-3-*epi*-illudol, novel sesquiterpenoids from *Clitocybe candicans*, and absolute configuration of 3-*epi*-illudol **Alberto Arnone, Rosanna Cardillo, Vincenza Di Modugno, and Gianluca Nasini**
- 2001 Enzymes in organic synthesis. Part 3. Synthesis of enantiomerically pure prostaglandin intermediates by enzyme-catalyzed transesterification of (1*SR*,2*RS*,5*SR*,6*RS*)-bicyclo[3.3.0]octane-2,6-diol with trichloroethyl acetate in an organic solvent **Marina A. Djadchenko, Kasimir K. Pivnitsky, Fritz Theil, and Hans Schick**
- 2003 Preparation and isomerisation of some steroidal hydroxy epoxides **George A. Morrison and John B. Wilkinson**
- 2009 Convenient preparation of 3,3-dibromo-1,3-dihydroindol-2-ones and indole-2,3-diones (isatins) from indoles **John Parrick, Arbaeyah Yahya, Abdul S. Ijaz, and Jin Yizun**
- 2017 *C*-Stannylated carbohydrate derivatives. Part 3. 1,2:5,6-Di-*O*-isopropylidene-3-*C*-(organostannyl)methyl- $\alpha$ -D-allofuranose derivatives. Crystal and molecular structure of 3-*C*-(dibutyliodostannyl)methyl-1,2:5,6-di-*O*-isopropylidene- $\alpha$ -D-allofuranose **Philip J. Cox, Solange M. S. V. Doidge-Harrison, R. Alan Howie, Ian W. Nowell, Oonah J. Taylor, and James L. Wardell**
- 2023 Diastereofacial selectivity in Diels–Alder reactions of a diene having a stereogenic centre carrying a silyl group adjacent to the diene system **Ian Fleming, Achintya K. Sarkar, Michael J. Doyle, and Paul R. Raithby**
- 2031 Selective syntheses using cyclodextrins as catalysts. Part 5. *para*-Selective hydroxymethylation of phenol by formaldehyde using hydroxypropyl cyclodextrins **Makoto Komiyama**
- 2035 Photochemical reactivity of imines from benzil mono-oxime esters **Diego Armesto, William M. Horspool, Miguel Apoita, Mar G. Gallego, and Ana Ramos**
- 2039 Syntheses and aggregation properties of new water-soluble calixarenes **Seiji Shinkai, Takashi Arimura, Koji Araki, Hirotsuke Kawabata, Hiroshi Satoh, Takayuki Tsubaki, Osamu Manabe, and Junzo Sunamoto**
- 2047 The chemistry of pseudomonic acid. Part 10. Preparation of heterocyclic derivatives **Michael J. Crimmin, Peter J. O'Hanlon, Norman H. Rogers, and Graham Walker**
- 2059 The chemistry of pseudomonic acid. Part 11. Dehydrative cyclisation of  $\alpha$ -acylamino ketones to oxazoles **Michael J. Crimmin, Peter J. O'Hanlon, Norman H. Rogers, Fiona M. Sime, and Graham Walker**
- 2065 Cardiac glycosides from *Corchorus olitorius* **Shashi B. Mahato, Naranjan P. Sahu, Subodh K. Roy, and Birendra N. Pramanik**
- 2069 Activation of reducing agents. Sodium hydride containing complex reducing agents, Part 34. Complete or partial reduction of aromatic nitro compounds **Ghania Feghouli, Régis Vanderesse, Yves Fort, and Paul Caubère**
- 2073 Efficient preparative-scale enzymatic synthesis of specifically deuteriated bile acids **Sergio Riva, Gianluca Ottolina, Giacomo Carrea, and Bruno Danieli**
- 2075 Ferrocene derivatives. Part 24. Synthesis of dihydro-2-pyridines and dihydro-3*H*-2-cyclopent[*c*]azepines by photolysis of their cyclopentadienyliron derivatives **Ihsan U. Khand, Touhami Lanez, and Peter L. Pauson**
- 2079 Syntheses of *C*- and *N*-functionalised derivatives of 1,5,9-triazacyclododecane **Ian M. Helps, David Parker, Karl J. Jankowski, James Chapman, and Patrick E. Nicholson**
- 2083 Chemistry of silyl thioketones. Part 5. Synthesis and properties of alkyl  $\alpha$ -silyl thioketones: a comparison with aryl derivatives **Bianca F. Bonini, Germana Mazzanti, Paolo Zani, and Gaetano Maccagnani**
- 2089 Synthesis of albidin (6-methoxy-3-methylisobenzofuran-4,5-dione) and ( $\pm$ )-curvulol [( $\pm$ )-1,3-dihydro-6-methoxy-3-methylisobenzofuran-4,5-diol] **Shaun Tennant and Dieter Wege**
- 2095 Synthesis of dipyrzolo[3,4-*b*:4',3'-*f*]azepines and dithieno[2,3-*b*:3',2'-*f*]azepines from 1-substituted 2,7-dichloro-4,5-dihydro-1*H*-azepine-3,6-dicarbaldehydes **Thierry Aubert, Michel Farnier, Isabelle Meunier, and Roger Guilard**
- 2099 Unexpected outcome in the titanium-catalysed epoxidation of branched hydroxy-propene nucleosides **Michel Bessodes, Marie-José Egron, and Kostas Antonakis**
- 2105 Synthesis of some 13-oxaprostanoids **Adnan M. M. Mjalli and Stanley M. Roberts**
- 2111 Structure elucidation of cordifolin A, a novel cucurbitacin from *Fevillea cordifolia*, using one and two dimensional n.m.r. techniques **Lyndon B. Johnson, Paul B. Reese, Earle V. Roberts, Lister K. P. Lam, and John C. Vederas**

- 2117 Synthesis of 4-(*N,N*-dimethylaminoethyl)-1,2,3,4-tetrahydrocarbazole: molecular structure and reactivity of 1,2-dihydrocarbazol-4(3H)-one and derivatives **Jose-Gonzalo Rodriguez, Fernando Temprano, Carmen Esteban-Calderon, and Martin Martinez-Ripoll**

## Perkin Communications

---

- 2123 Unexpected entry to a novel carbocyclic tricyclic system **William S. Murphy, Anne Culhane, and Rouh-Rong Juo**
- 2124 Concise, stereoselective preparation and synthetic uses of (*Z*)-4-(trimethylstannyl)buta-1,3-dienes **Edward Piers and Richard D. Tillyer**
- 2126 Peptide synthesis catalyzed by chymotrypsin in organic solvents **J. M. Ricca and D. H. G. Crout**
- 2128 Unusual behaviour of 2,2-dimethyl-2*H*-chromene derivatives (precocenes) in phenylselenenylation **Petra Wagner, Helmut Duddeck, Tibor Timár, Éva Csuhai, and Joseph Cs. Jászberényi**
- 2129 Diels–Alder reactions of 3,4-dialkoxyfurans: an application to the highly efficient synthesis of ( $\pm$ )-methyl triacetylshikimate **Masato Koreeda, Kee-Yong Jung, and Junji Ichita**
- 2131 Stereocontrolled total synthesis of methyl 12(*S*)-hydroxy-5*Z*,8*E*,10*E*-heptadecatrienoate **K. C. Nicolaou, N. A. Stylianides, and J. Y. Ramphal**
- 2133 Synthesis of ( $\pm$ )-benzoleukotriene B<sub>3</sub>: a novel leukotriene B<sub>4</sub> analogue **Stevan W. Djurić, Richard A. Haack, and Stella S. Yu**
- 2135 Hydrazidopyridinium salts as precursors of *N,N'*-diaminohydantoins and  $\alpha$ -hydrazino acids **Claudie Florac, Philippe Le Grel, Michèle Baudy-Floc'h, and Albert Robert**
- 2136 A mild uncatalysed dearomatisation reaction **Richard E. Bolton, Christopher J. Moody, and Charles W. Rees**
- 2137 An unusual base-catalysed rearrangement of an  $\alpha$ -ethoxycarbonylethyl (or  $\alpha$ -cyanoethyl) cyclic  $\beta$ -keto ester **Zhuo-Feng Xie, Izumi Nakamura, Hiroshi Suemune, and Kiyoshi Sakai**
- 2139 Studies on bifunctional annulating reagents: a combined annulation–ring cleavage approach to the synthesis of eight- and nine-membered rings **Thomas V. Lee, Frances S. Roden, and John R. Porter**
- 2140 Conjugated heterocumulenes. Synthesis of C=C- and N=C-conjugated ketenimines through a Wittig-type reaction and their conversion into hetero(carbo)cycles **Takao Saito, Michio Nakane, Takashi Miyazaki, and Shinichi Motoki**
- 2142 Stereochemistry in electrophilic reactions to carbanions not stabilized by intramolecular chelation **Rikuhei Tanikaga and Takashi Murashima**

## AUTHOR INDEX

- Abad, Antonio, 1875  
 Agulló, Consuelo, 1875  
 Antonakis, Kostas, 2099  
 Aparicio, Carmen, 1975  
 Apoita, Miguel, 2035  
 Araki, Koji, 2039  
 Arimura, Takashi, 2039  
 Armesto, Diego, 2035  
 Arnó, Manuel, 1875  
 Arnone, Alberto, 1995  
 Ashwood, Michael S., 1889  
 Aubert, Thierry, 2095  
 Babiano, Reyes, 1923  
 Battersby, Alan R., 1943  
 Baudy-Floc'h, Michèle, 2135  
 Bessodes, Michel, 2099  
 Biswas, Kshetra M., 1981  
 Bolton, Richard E., 2136  
 Bonini, Bianca F., 2083  
 Cardillo, Rosanna, 1995  
 Carrea, Giacomo, 2073  
 Caubère, Paul, 2069  
 Chapat, Jean-Pierre, 1895  
 Chapman, James, 2079  
 Claydon, Norman, 1885  
 Cox, Philip J., 2017  
 Crimmin, Michael J., 2047, 2059  
 Crout, D. H. G., 2126  
 Cshai, Éva, 2128  
 Culhane, Anne, 2123  
 Danieli, Bruno, 2073  
 Dauphin, Gerard, 1895  
 De, Rathindranath, 1901  
 Dickinson, Julia M., 1885  
 Di Modugno, Vincenza, 1995  
 Djadchenko, Marina A., 2001  
 Djurić, Stevan W., 2133  
 Doidge-Harrison, Solange M. S. V., 2017  
 Domingo, Luis R., 1875  
 Doyle, Michael J., 2023  
 Duddeck, Helmut, 2128  
 Durán, Carlos, 1923  
 Ebizuka, Yutaka, 1969  
 Edwards, Raymond L., 1939  
 Egron, Marie-José, 2099  
 Esteban-Calderon, Carmen, 2117  
 Farnier, Michel, 2095  
 Feghouli, Ghania, 2069  
 Fleming, Ian, 2023  
 Florac, Claudie, 2135  
 Fort, Yves, 2069  
 Fuentes, José, 1923  
 Gallego, Mar G., 2035  
 Gilbert, Andrew, 1867  
 Gombos, Zsuzsanna, 1915  
 Gourlay, Jacqueline A., 1889  
 Grassy, Gerard, 1895  
 Gueiffier, Alain, 1895  
 Guillard, Roger, 2095  
 Haack, Richard A., 2133  
 Hanson, James R., 1885  
 Heath, Peter, 1867  
 Helps, Ian M., 2079  
 Hitchcock, Peter B., 1885  
 Horibe, Isao, 1957  
 Horspool, William M., 2035  
 Houghton, Peter G., 1889  
 Howie, R. Alan, 2017  
 Ichita, Junji, 2129  
 Ijaz, Abdul S., 2009  
 Jackson, Anthony H., 1981  
 Jankowski, Karl J., 2079  
 Jászberényi, Joseph Cs., 2128  
 Johnson, Lyndon B., 2111  
 Jung, Kee-Yong, 2129  
 Juo, Rouh-Rong, 2123  
 Kajtár-Peredy, Mária, 1915  
 Kanakam, Charles C., 1907  
 Kawabata, Hirosuke, 2039  
 Khand, Ihsan U., 2075  
 Kolonits, Pál, 1915  
 Komiyama, Makoto, 2031  
 Koreeda, Masato, 2129  
 Lam, Lister K. P., 2111  
 Lanez, Touhami, 2075  
 Lee, Thomas V., 2139  
 Leeper, Finian J., 1943  
 Le Grel, Philippe, 2135  
 Lenz, George R., 1931  
 Lessor, Ralph A., 1931  
 Maccagnani, Gaetano, 2083  
 Maekawa, Eturo, 1927  
 Mahato, Shashi B., 2065  
 Maitland, Derek J., 1939  
 Majumdar, Krishna C., 1901  
 Manabe, Osamu, 2039  
 Mani, Neelakandha S., 1907  
 Martín, Nazario, 1975  
 Martínez-Ripoll, Martín, 2117  
 Mazzanti, Germana, 2083  
 McIntyre, C. Rupert, 1987  
 Meunier, Isabelle, 2095  
 Miller, Andrew D., 1943  
 Miyazaki, Takashi, 2140  
 Mjalli, Adnan M. M., 2105  
 Modugno, Vincenza Di, 1995  
 Moody, Christopher J., 2136  
 Morrison, George A., 2003  
 Motoki, Shinichi, 2140  
 Murashima, Takashi, 2142  
 Murphy, William S., 2123  
 Nagel, Madeleine A., 1889  
 Nakai, Hiroshi, 1957  
 Nakamura, Izumi, 2137  
 Nakane, Michio, 2140  
 Nasini, Gianluca, 1995  
 Nicholson, Patrick E., 2079  
 Nicolaou, K. C., 2131  
 Noguchi, Hiroshi, 1969  
 Nowell, Ian W., 2017  
 Nyitrai, József, 1915  
 O'Hanlon, Peter J., 2047, 2059  
 Ottolina, Gianluca, 2073  
 Parker, David, 2079  
 Parrick, John, 2009  
 Pauson, Peter L., 2075  
 Perly, Bernard, 1895  
 Piers, Edward, 2124  
 Pivnitsky, Kasimir K., 2001  
 Plumet, Joaquín, 1923  
 Porter, John R., 2139  
 Poyser, J. Philip, 1939  
 Pramanik, Birendra N., 2065  
 Quinteiro, Margarita, 1975  
 Rafalko, Patrice White, 1931  
 Raithby, Paul R., 2023  
 Ramanathan, Halasya, 1907  
 Ramos, Ana, 2035  
 Ramphal, J. Y., 2131  
 Rao, G. S. R. Subba, 1907  
 Reed, David, 1987  
 Rees, Charles W., 2136  
 Reese, Paul B., 2111  
 Ricca, J. M., 2126  
 Riva, Sergio, 2073  
 Robert, Albert, 2135  
 Roberts, Earle V., 2111  
 Roberts, Stanley M., 2105  
 Roden, Frances S., 2139  
 Rodriguez, Jose-Gonzalo, 2117  
 Rodwell, Paul W., 1867  
 Rogers, Norman H., 2047, 2059  
 Román, Emilio, 1923  
 Roy, Subodh K., 2065  
 Sadler, Ian H., 1987  
 Sahu, Naranjan P., 2065  
 Saito, Takao, 2140  
 Sakai, Kiyoshi, 2137  
 Sánchez, Eloisa, 1923  
 Sankawa, Ushio, 1969  
 Sarkar, Achintya K., 2023  
 Sato, Tomohiro, 1957  
 Satoh, Hiroshi, 2039  
 Schick, Hans, 2001  
 Seko, Takuya, 1927  
 Seo, Shujiro, 1957, 1969  
 Seoane, Carlos, 1975  
 Serrano, José Antonio, 1923  
 Seto, Haruo, 1969  
 Shinkai, Seiji, 2039  
 Sime, Fiona M., 2059  
 Simpson, Thomas J., 1987  
 Soto, José L., 1975  
 Stylianides, N. A., 2131  
 Suemune, Hiroshi, 2137  
 Sunamoto, Junzo, 2039  
 Takatsuto, Suguru, 1957  
 Takeda, Ken'ichi, 1957, 1969  
 Tanikaga, Rikuhei, 2142  
 Taylor, Oonah J., 2017  
 Temprano, Fernando, 2117  
 Tennant, Shaun, 2089  
 Teulade, Jean Claude, 1895  
 Theil, Fritz, 2001  
 Tillyer, Richard D., 2124  
 Tímár, Tibor, 2128  
 Toru, Takeshi, 1927  
 Tsubaki, Takayuki, 2039  
 Ueno, Yoshio, 1927  
 Uomori, Atsuku, 1969  
 Valdés, José A., 1975  
 Vanderesse, Régis, 2069  
 Vederas, John C., 2111  
 Velázquez, Sonsoles, 1975  
 Viols, Henri, 1895  
 Wagner, Petra, 2128  
 Walker, Graham, 2047, 2059  
 Wardell, James L., 2017  
 Wege, Dieter, 2089  
 Whalley, Anthony J. S., 1939  
 Wilkinson, John B., 2003  
 Wright, Stanley H. B., 1889  
 Xie, Zhuo-Feng, 2137  
 Yahya, Arbaeyah, 2009  
 Yizun, Jin, 2009  
 Yoshimura, Yohko, 1969  
 Yu, Stella S., 2133  
 Zani, Paolo, 2083  
 Zaragoza, Ramón J., 1875

---

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