## JOURNAL OF THE CHEMICAL SOCIETY

# **Perkin Transactions 1**

# Organic and Bio-organic Chemistry

### **CONTENTS**

### **Perkin Communications**

1115 Stereospecific formation of 2-[(E)-alk-1'-enyl]benzoic acids in an unusual reaction of thiophthalides with aldehydes

Dipakranjan Mal, Gita Majumdar and Ranjan Pal

X RCHO

3

R = alkyl, phenyl

X H, OMe

Only trans isomers

Reagents and conditions: i, ButOLi, -60 to 25 °C; ii, H<sub>3</sub>O+

1117 Selective alkaline oxidative degradation of mono- and di-saccharides by H<sub>2</sub>O<sub>2</sub> with borate as catalyst and protecting group

Ron van den Berg, Joop A. Peters and Herman van Bekkum

### **Keynote Article**

1119 Improving the use of hydroxyl proton resonances in structure determination and NMR spectral assignment: inhibition of exchange by dilution

Clive M. Pearce and Jeremy K. M. Sanders

# **Articles**

HCO₂H MeN N N N N N N N N N N N N N N N N N N
CO <sub>2</sub> MeN Me Me N N N N N N N N N N N N N N N
$R^{1}$ $OR^{2}$ $R^{3}$ $R^{1}$ $OR^{2}$ $R^{3}$ $R^{3}$
I, H <sub>2</sub> Pd-C il, HCI NH <sub>2</sub> O
R <sup>1</sup> OH
R <sup>1</sup> OBu' Ph Ph Ph OBu'
NH <sub>2</sub> OH OH
1.:CX <sub>2</sub> , X = Cl, Br  2. H'M <sub>2</sub> O 3. Bu <sub>2</sub> SnH  X = Cl, Br
R = OCH <sub>2</sub> CH <sub>2</sub> O, X = Y = Cl, Br R = (OMe) <sub>2</sub> , X = Y = Br R = O, X = Y = Cl, Br R = O, X = H, Y = Br R = O, X = Br, Y = H
Me N D. stramonlum D OH
$= {}^{13}C$ $= {}^{13}C$ 2 (PS) 2 Phony IS 13C 2 2 Hillowith in incomparated into hydroxymine
(RS)-3-Phenyl[2- <sup>13</sup> C,2- <sup>2</sup> H]lactate is incorporated into hyoscyamine 2 in <i>Datura stramonium</i> with intact incorporation of the <sup>13</sup> C- <sup>2</sup> H bond at the C-3' of 2

1163	Horse radish peroxidase-catalysed oxidative coupling of methyl sinapate to give diastereoisomeric spiro dimers	MeO CO <sub>2</sub> Me  H <sub>2</sub> O <sub>2</sub> /HRP  MeO CO <sub>2</sub> Me  CO <sub>2</sub> Me  MeO MeO CO <sub>2</sub> Me
	Harri Setälä, Aarne Pajunen, Ilkka Kilpeläinen and Gösta Brunow	OH MeO OMe HO + diastereoisomer
1167	Annelated dehydroannulenes fused with azulene. Synthesis and properties of tetradehydro[14]-and -[16]annuleno[a]azulenes	R R
	Hiroyuki Higuchi, Jūro Ojima, Masafumi Yasunami, Kunihide Fujimori, Masako Ueno, Masaaki Yoshifuji and Gaku Yamamoto	Me Me Me Me Me 3 R = Pr <sup>1</sup> 2 R = H 4 R = H
1179	Facile synthesis of trifluoromethylated $\alpha$ -hydroxyphosphonates	OH  CF₃CH  OEt  P(O)(OR)₂
	Yanchang Shen and Ming Qi	Synthesis of 3 starting from 1 under mild conditions in 35–91% yields is described
1181	A short chemo-enzymic route to glycosphingolipids using soluble glycosyl transferases	Gaiβ1-4GlcNAcβ1-0 OH N <sub>3</sub> C <sub>13</sub> H <sub>27</sub>
	Benedicte Guilbert and Sabine L. Flitsch	Neu-5-Acα2-6Gaiβ1-4GlcNAcβ1-O OH OH
1187	Palladium(0)-catalysed cross-coupling reactions of α-alkoxyalkenylstannanes and α-alkoxyalkenylzincs	SnBu <sub>3</sub> [Pd <sub>2</sub> (dba) <sub>3</sub> ] PhI, DMF, room temp., 50%
	Sharon Casson and Philip Kocieński	
1193	An efficient general route to furo-, pyrido- and thieno-[d][2]benzazepines via Pd <sup>0</sup> catalysed cross coupling reactions and nitrile ylide cyclisations	A TOTAL PH
	Harry Finch, Donald H. Reece and John T. Sharp	Heterobiaryl-conjugated nitrile ylides (A-B = benzene-heterocycle) cyclise to give hetero-fused benzazepines

1205	Novel three-component coupling reaction of
	carbodiimide, methyl hydrogen maleate,
	and an alcohol or amine: synthesis of
	N-carbamoylaspartic acid derivatives

Keiki Kishikawa, Wongsiri Sankhavasi, Kazumi Yoshizaki, Shigeo Kohmoto, Makoto Yamamoto and Kazutoshi Yamada

# 1211 Unexpected formation and crystal structure of a spiro[indene-1,7'(6'H)-pyrrolo[3,4-b]-pyridin]-5'-one

Abood A. Bahajaj, Gregory J. Hitchings, Madeleine H. Moore and John M. Vernon

Heating the hydroxy lactam 4b in polyphosphoric acid promotes rearrangement to the styrene 10 and its cyclisation to spiro lactam 9a, b (two diastereoisomers)

# 1215 A five fused ring non-benzenoid quinone containing a seven-membered ring: synthesis and properties of cyclohept[f,g]aceanthrylene-5,8-dione and 1,2-dihydrocyclohept[f,g]-aceanthrylene-5,8-dione

Kiyokazu Morita, Takashi Aida, Kennichi Morinaga and Josuke Tsunetsugu

1221 Cyclic esters of calixarenes with phthalic acid and pyromellitic acid; synthesis and x-ray molecular structures

Dagmar Kraft, Volker Böhmer, Walter Vogt, George Ferguson and John F. Gallagher

Phthaloyl bridged tert-butylcalix[6]arene

1231 Stereocontrolled homologation of 1,2:3,4-di-*O*-isopropylidene-α-D-*galacto*-hexodialdo-1,5-pyranose to 7-deoxynonodialdose epimers *via* thiazole-aldehyde synthesis

Alessandro Dondoni, Sandra Ianelli, Ladislav Kniezo, Pedro Merino and Mario Nardelli

1241 Synthesis of 3-aryl-1,4-benzoxathianes: application to the preparation of a sweet compound

Anna Arnoldi, Angela Bassoli, Romualdo Caputo, Lucio Merlini, Giovanni Palumbo and Silvana Pedatella

$$R^2$$
  $R^2$   $R^2$   $R^2$   $R^2$   $R^2$   $R^2$   $R^2$   $R^2$ 

NBS-promoted rearrangement of 1,2-oxathiolanes afforded 3-aryl-1,4-benzoxathianes, e.g. the sweet compound R=OMe,  $R^1=OH$ 

1245 Photochemical coupling between halogenoheterocyclic and heterocyclic derivatives

$$X = 0, S$$

$$X = 0, S$$

$$A^{1} \times A^{2} \times A^{2} \times A^{2} \times A^{3} \times A^{4} \times A^{4}$$

Agnese D'Agostini and Maurizio D'Auria

The photochemical coupling reaction was investigated for various  $R^{\,1},\!R^{\,2}$ 

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Demethoxycarbonylation Reaction of Methyl 2,5- and 3,6-Dialkyl 1*H*-Azepine-1-carboxylates: Formation and Characterization of 2*H*-, 3*H*- and 4*H*-Azepines

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Flash Vacuum Pyrolysis of Stabilised Phosphorus Ylides. Part 2. Two Step Conversion of Acid Chorides to Acetylenic Esters and Terminal Alkynes R.A. Aitken, C.E.R. Horsburgh, J.G. McCreadie and S. Seth

Preparation and Pyrolysis of some Bi- and Tri-cyclic Sulfones Derived from [2+2] Cycloaddition of 2-Sulfolene **R.A. Aitken** and **I. Gosney** 

Reduction of 4-Oxo  $\alpha$ -Amino Acids as a Route to 4-Hydroxylated  $\alpha$ -Amino Acids. Concise Approaches to the Synthesis of Clavalanine, erythro-4-Hydroxyornithine and (+)-Bulgecinine R.F.W. Jackson, A.B. Rettie, A. Wood and M.J. Wythes

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Some Studies on Proximal Addition-Elimination Procedures in Intermolecular Carbon-Carbon Bond Forming Free Radical Reactions. A Convenient Synthesis of Ethyl [Ethyl 2,3,6,7,8-pentadeoxy-α-D-gluco-oct-27(E)-dieno-1, 5-pyranosid]uronate **B. Fraser-Reid, J.C. Lopez** and **A.M. Gomez** 

Further Observations on and Novel Products from Acid-catalysed Indole-Pyrrole Condensations. The Formation of Pyrrolo[2,3-b]carbazoles P.V.R. Shannon and L. Chunchatprasert

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