

ELEVENTH
MONA SYMPOSIUM, NATURAL
PRODUCTS & MEDICINAL CHEMISTRY

Mona, Jamaica

January 6th – 10th

1986



SCIENTIFIC PROGRAMME
AND
ABSTRACTS OF SHORT PAPERS

Department of Chemistry

UNIVERSITY OF THE WEST INDIES

XIth MONA SYMPOSIUM - 4th to 10th JANUARY 1986

CONFERENCE CHAIRPERSON

PROF. W. R. CHAN

ORGANISING COMMITTEE:

Y. A. Jackson

K. E. Magnus (Head of Department)

K. O. Pascoe (Organizing Secretary)

E. V. Roberts

ACKNOWLEDGEMENTS :

The Organizing Committee wishes to acknowledge the assistance from the following:

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SCIENTIFIC PROGRAMME

PLENARY LECTURES

MONDAY, 6th JANUARY

Morning

9:35 - 10:35

A.R. Brossi
Department of Health & Human Services
National Institute of Health
Bld. 4, Room 135
Bethesda, Maryland 20205
U.S.A.

TITLE: Modification of Structure Substitution and Configuration, in Biologically Active Alkaloids.

11:00 - 12:00

E. Piers
Department of Chemistry
University of British Columbia
Vancouver, B.C. V6T 1Y6
CANADA

TITLE: The Use of Some Bifunctional Reagents in Organic Synthesis.

Afternoon

2:00 - 3:00

P.A. Jacobi
Department of Chemistry
Wesleyan University
Middletown, Conn. 06457
U.S.A.

TITLE: Intramolecular Cycloaddition Routes to the Highly Oxygenated Sesquiterpenes.

TUESDAY, 7th JANUARY

Morning

9:00 - 10:00

L.E. Overman
Department of Chemistry
University of California
Irvine, CA 94303
U.S.A.

TITLE: New Strategies for Stereocontrolled Synthesis
of Heterocyclic Natural Products.

10:45 - 11:45

F.J. Schmitz
Department of Chemistry
University of Oklahoma
620 Parrington Oval
Norman, Oklahoma 73019
U.S.A.

TITLE: Structure Determination of μ -Sponge and Soft
Coral Metabolites.

Afternoon:

2:00 - 3:00

M. Makosza
Polish Academy of Sciences
Institute of Organic Chemistry
01-224 Warozawaul
Kasprzaka 44
POLAND

TITLE: Vicarious Nucleophilic Substitution of Hydrogen.
A New Tool in Organic Synthesis.

THURSDAY, 9th JANUARY

Morning

9:00 - 10:00

J.E. Baldwin, F.R.S.
The Dyson Perrins Laboratory
South Parks Road
University of Oxford
Oxford OX1 3QY
ENGLAND

TITLE: Recent Advances in Biosynthesis

10:45 - 11:45

I.D. Spenser
Department of Chemistry
McMaster University
Hamilton, Ontario L8S 4M1
CANADA

TITLE: Biosynthesis of Vitamin B-1

Afternoon

2:00 - 3:00

K. Tatsuta
Department of Applied Chemistry
Keio University
Hiyoshi, Kohoku, Yokuhoma
Kanagwa 223
JAPAN

TITLE: Some Recent Progress in the Total Synthesis
of Natural Antibiotics.

FRIDAY, 10th JANUARY

Morning

9:00 - 10:00

I. Fleming
University Chemical Laboratory
Cambridge University
Lensfield Road, Cambridge CB2 1EW
ENGLAND

TITLE: Studies Directed Towards the Synthesis of
Gelsemine.

10:45 - 11:45

S.F. Martin
Department of Chemistry
University of Texas
Austin, TX 7871
U.S.A.

TITLE: Recent Applications of Intramolecular
Diels-Alder Reactions to the Total Synthesis
of Reserpine and Related Alkaloids.

Afternoon

3:35 - 4:35

P.S. Mariano
Department of Chemistry
University of Maryland
College Park, MD 20742
U.S.A.

TITLE: Application of Electron Transfer Photochemistry
in the Area of Alkaloid Synthesis.

DAILY SCHEDULE

MONDAY, 6th JANUARY

Morning:

8:15 - 9:00 Completion of Registration

9:00 - 9:30 Opening Address

*Hon. Anthony Johnson
Minister of State*

Dr. The Honourable Percival Broderick
Ministry of Agriculture, Science &
Technology.

9:30 - 9:35 Announcements

Chairperson - W.R. Chan

9:35 - 10:35 Plenary Lecture

A. Brossi - Modification of Structure
Substitution and Configuration, in
Biologically Active Alkaloids.

10:35 - 10:45 Question & Discussion Period

10:45 - 11:00 C o f f e e B r e a k

11:00 - 12:00 Plenary Lecture

E. Piers - The Use of Some Bifunctional
Reagents in Organic Synthesis.

12:00 - 12:10 Question & Discussion Period

SHORT PAPER

12:10 - 12:30

Paper # 1

J.K. Whitesell & J.F. Carpenter -
A Novel Solution to the Control of
Stereochemistry in the Synthesis of
Prostaglandins.

Afternoon:

Chairperson - S.J. Gould

2:00 - 3:00

Plenary Lecture

P.A. Jacobi - Intramolecular Cycloaddition Routes to the Highly Oxygenated Sesquiterpenes.

3:00 - 3:00

Question & Discussion Period

SHORT PAPERS

3:10 - 3:30

Paper # 2

P.S. Manchand - Some Biologically Active Diterpenes From Tropical Plants.

3:30 - 3:45

C o f f e e B r e a k

3:45 - 4:05

Paper # 3

D. Abramo-Bruno - Chemistry and Biology of Endemic Caribbean Asteraceae.

4:05 - 4:25

Paper # 4

C. Rivera, Y. Garcia, E. Jimenez and L. Gonzalez - Electron Impact Mass Spectrometry Applied to the Phytochemical Study of Solandra nitida.

4:25 - 4:45

Paper # 5

M. Kamil, M.A. Qasim, M. Ilyas and W. Rahman - Glycosides From the Leaves of Fagraea obovata.

4:45 - 5:05

Paper # 6

M.G. Nair and B.A. Burke - Allelopathic Influence of Kalanchoe daigremontiana

5:05 - 5:15

Question & Discussion Period

THURSDAY, 9th JANUARY

Morning.

Chairperson - B. Fraser-Reid

9:00 - 10:00

Plenary Lecture

J. Baldwin, F.R.S. - Recent Advances in Biosynthesis.

10:00 - 10:10

Question & Discussion Period

SHORT PAPER

10:10 - 10:30

Paper # 15

S.J. Gould - Biosynthesis of Quinoid Antibiotics.

10:30 - 10:45

C o f f e e B r e a k

10:45 - 11:45

Plenary Lecture

I. Spenser - Biosynthesis of Vitamin B-1.

SHORT PAPERS

11:55 - 12:15

Paper # 16

D. Cane - Biosynthesis of Trichodiene.

12:15 - 12:35

Paper # 17

A.I. Scott - Biosynthesis of Vitamin B-12 - The Later Stages.

Afternoon:

Chairperson - J.P. Kutney

2:00 - 3:00

Plenary Lecture

K. Tatsuta - Some Recent Progress in the
Total Synthesis of Natural Antibiotics.

3:00 - 3:10

Question & Discussion Period

SHORT PAPERS

3:10 - 3:30

Paper # 18

S.E. Thomas, D.H.R. Barton and R.B. Yeats
- A Convenient Synthesis of the Chiral
Cyclic Carbamate of Maytansinoids.

3:30 - 3:45

C o f f e e B r e a k

3:45 - 4:05

Paper # 19

P.N. Confalone - Recent Progress in the
[3+2] Dipolarcycloaddition Route to the
Maytansinoids.

4:05 - 4:25

Paper # 20

B.A. Burke, G. Goldsby, A. Aasen, B. Tal
and D. Robeson - Synthetic and Biosynthetic
Studies on Polyketide Metabolites of
Pathogenic fungi.

4:25 - 4:45

Paper # 21

T.J. Brocksom, A.G. Correa, R. Dockal
and U. Brocksom - Synthesis of ρ -Benzoquinones
From Phenols.

4:45 - 5:05

Paper # 22

B. Fitzsimmons and J. Rokach - The Lipoxins:
Synthesis and Biosynthesis.

FRIDAY, 10th JANUARY

Morning:

Chairperson - P.S. Manchand

9:00 - 10:00

Plenary Lecture

I. Fleming - Studies Directed Towards
the Synthesis of Gelsemine.

10:00 - 10:10

Question & Discussion Period

SHORT PAPER

10:10 - 10:30

Paper # 23

J.C. Vederas - Synthesis of Stereochemically
Pure α -Amino Acids.

10:30 - 10:45

C o f f e e B r e a k

10:45 - 11:45

Plenary Lecture

S.F. Martin - Recent Applications of
Intramolecular Diels-Alder Reactions to
the Total Synthesis of Reserpine and
Related Alkaloids.

11:45 - 11:55

Question & Discussion Period

SHORT PAPERS

11:55 - 12:15

Paper # 24

K.S. Brown - Dehydropyrrolizidine Alkaloid
Monoesters: Natural Occurrence and
Ecological Dynamics.

12:15 - 12:35

Paper # 25

H. Jacobs, F. Ramdayal, W. Reynolds,
S. McLean - Guyanin a New Limonoid
From Hortia regia (Vand).

Afternoon:

Chairperson - J. Huffman

SHORT PAPERS

- 2:00 - 2:20 Paper # 26
B. Fraser-Reid - Stereoselectivity and
Reactivity Differences Between Carbohydrates
and Carbocyclic α -Enones.
- 2:20 - 2:40 Paper # 27
D.R. Williams - Efforts for the
Stereocontrolled Preparation of
Tetrahydropyrans.
- 2:40 - 3:00 Paper # 28
D.J. Brown - Synthetic analogs of the
Insecticidal Principles of Mamea americana.
- 3:00 - 3:20 Paper # 29
J. Nunez-Alarcon, M. Quinones and
M.T. Carmona - Flavonoid Aglycones in
the Leaf Resin of Haploppapus bailahuen.
- 3:20 - 3:35 C o f f e e B r e a k
- 3:35 - 4:35 Plenary Lecture
P.S. Mariano - Applications of Electron
Transfer Photochemistry in the Area of
Alkaloid Synthesis.
- 4:35 - 4:45 Question & Discussion Period
- 4:45 - 5:00 Closing Ceremony

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ADDENDUM

SCIENTIFIC PROGRAMME

PLENARY LECTURE

THURSDAY, 9th JANUARY

Morning

9:00 - 10:00

A. Vasella
Organisch-Chemisches Inst.
Der Universität Zurich
CH-8057 Zurich
Winterthurerstrasse 190
SWITZERLAND

TITLE: Studies on Deoxynitro Sugars and Related
Compounds.

REGISTERED VISITING PARTICIPANTS

ABRAMO-BRUNO, A	KUTNEY, J. P.
ALBIZATI, K.V	LEWIS, D.
BALDWIN, J.	MAKOSZA, M.
BROCKSOM, T. J.	MANCHAND, P. S.
BROSSI, A.	MARIANO, P. S.
BROWN, D. J.	MARTIN, S. F.
BROWN, K. S.	MAXWELL, A.
BURKE, B. A.	McKENZIE, N. E.
CANE, D. E.	NAIR, M. G.
CHAN, W. R.	NARINE, B.
CONFALONE, P. N.	NUNEZ-ALARCON, J.
COOK, J. M.	OVERMAN, L.
COX, M.	PIERS, E.
FERREIRA, T. B.	RIVERA, C.
FITZSIMMONS, B.	SCHMITZ, F.
FLEMING, I.	SCOTT, A. I.
FODOR, G.	SIEBURTH, S,
FRASER-REID, B.	SPENSER, I.
GOULD, S.	TATSUTA, K
HARRISON, P.	THOMAS, E.
HOLLINGSWORTH, R.	THOMAS, S. E.
HORTON, D.	TINTO, W. F.
HUFFMAN, J. W.	VEDERAS, J. C.
JACOBI, P. A.	WEISS, U.
JACOBS, H. A.	WHITESELL, J. K.
KAMIL, M.	WILLIAMS, D. R.