



Science of Synthesis News

Volume 1, Issue 2 June 2001

In this issue...

Science of Synthesis Goes Electronic: The First Snapshots

Freelance Scientific Editors Meet in Stuttgart

Volume 9 Authors Celebrate Publication

Get Acquainted: The Volume Editors for Volumes 18 and 19

Thieme at the ACS National Meeting

Meet Newcomers to the Science of Synthesis Staff

Our website has a brand new look!

Visit us on the Internet:

www.science-of-synthesis.com

Now featuring video clips, new photos, and much more!



Welcome from the Managing Editor

guido.herrmann@thieme.de

Dear Reader,

Welcome to the second edition of *Science of Synthesis News*! This newsletter presents quarterly updates on the various facets of the *Science of Synthesis* project in an effort to strengthen the relationship between authors, volume editors, the editorial board and the editorial office. Since the newsletter's launch in March we have received many positive and encouraging responses from our readers.

In this issue, Deputy Managing Editor Dr. Fiona Shortt will report on our freelance team's meeting and the reception for Volume 9 authors this spring. You will also meet the newest members of our editorial staff.

Dr. Joe Richmond will present the new volume editors for Volumes 18 and 19.

The marketing and sales team has undergone several significant changes recently. Alexandra Williams has moved to our New York office to coordinate sales of the elec-



tronic version of *Science of Synthesis*. In her report you will meet Dr. Thomas Krimmer, who has assumed the position of marketing manager for Thieme Chemistry. Alexandra will also report on the ACS National Meeting in San Diego and other upcoming conferences.

Finally, we are delighted to report that the long-awaited electronic version of *Science of Synthesis* has now reached the alpha-testing stage. Dr. Rolf Hoppe will show you the first snapshots of this exciting software.

I hope you find this newsletter informative and enjoyable. On behalf of the entire *Science of Synthesis* team, I wish you a nice summer and hope to meet you in person at one of the conferences this season.

Guido F. Herrmann
Managing Editor
Science of Synthesis

Editorial Update

Dr. M. Fiona Shortt, Deputy Managing Editor

fiona.shortt@thieme.de

A meeting for the *Science of Synthesis* freelance team of scientific editors was held in Stuttgart from February 21–23, 2001. The freelance team is made up of a number of highly experienced editors, all of whom have a PhD in organic chemistry and whose mother language is English. Many of the team live and work in Britain.

This meeting provided the in-house editors and freelance editors with the opportunity to sit down together and discuss editorial procedures in detail. The results of this meeting are better services for our authors as a result of defined editorial procedures, poli-

cies and styles. It also gave the team a chance to meet one of our volume editors, Professor David StC. Black (Volume 15), who was also an author for the already published Volume 9 (G. Maas). On February 22, Professor Black gave a lecture which was attended by the entire editorial team at the University of Stuttgart. Professor Black also visited the editorial office on February 23 and spoke with the editorial team about his experiences as a *Science of Synthesis* author. This invaluable feedback was much appreciated by the entire team.

A *Science of Synthesis* volume takes ca. 3 years to complete. This includes volume



The *Science of Synthesis* freelance team of scientific editors: Karen du Plooy, Elizabeth Smeaton, Carmel Hayes, Kay Greenfield, Jutta Backes, Colin Drayton, Rupert Purchase, Keith Baggaley

Editorial Office

Deputy Managing Editor

Dr. M. Fiona Shortt

Scientific Editors

Dr. Karen M. Muirhead
Lindsey A. Sturdy

Assistant Scientific Editors

Dr. Ayse Abdullah
Dr. Katharine Bray
Dr. Susanna Stephen

Editorial/Production Assistant

Leigh Murray

Project Administrator and Controller

Angela Huttelmaier

Editorial Secretary

Angela Gilden

Freelance Scientific Editors

Dr. Jutta Backes
Dr. Keith Baggaley
Dr. Colin J. Drayton
Dr. Karen E. du Plooy
Dr. Kay L. Greenfield
Dr. Carmel Hayes
Dr. Rupert Purchase
Dr. Joe P. Richmond
Dr. Elizabeth Smeaton

Drawers

Hanne Haeusler
Ruth Hammelehle
Hilpi Segnitz
Lisa Ulbrich
Kornelia Wagenblast

Operations Assistant

Jennifer Mazzuchi

Georg Thieme Verlag
Rüdigerstrasse 14
D-70469 Stuttgart
Germany

Phone + 49 (711) 89 31-774
Fax + 49 (711) 89 31-777
E-mail science-of-synthesis
@thieme.de
WWW www.science-of-
synthesis.com

planning, finding authors, writing the contributions and producing the volume. So the authors' reception for Volume 9 (G. Maas), held on February 23 at Thieme in Stuttgart, provided a nice opportunity for the volume editor, authors and editorial team to get together one last time having worked together over the last 3 years and to celebrate the success of the volume. Among the attendees were Professor G. Maas, Professor K.-P. Zeller, Dr. J. Schatz, Dr. H. Heydt, Professor



B. König, Professor D. StC. Black and Dr. U. Bergsträsser. The entire editorial team attended together with other representatives from Thieme and one of our typesetting firms, Triltsch. Professor G. Maas, Volume Editor, and G. F. Herrmann, Managing Editor, both thanked the authors and the editorial office for all their hard work.

We have some new members of staff. Dr. Ayse Abdullah from Derwent Information Ltd, London, joined the team as an assistant scientific editor in March. Dr. Katharine Bray, who recently completed her PhD at the University of Bristol, joined the editorial team as an assistant scientific editor in May.



David StC. Black at the University of Stuttgart



Ayse Abdullah



Katy Bray

Personal News

Author **J. P. Fackler, Jr.** (Texas A & M University, College Station, USA) has received the ACS Award for Distinguished Service in the Advancement of Inorganic Chemistry.



Murray Goodman

Kudos to the following winners of this year's ACS Cope Scholar Awards: *Houben-Weyl* volume editor **Murray Goodman** (University of California, San Diego, USA), author **Jeffrey Kelly** (The Scripps Research Institute, La Jolla, USA) and *Science of Synthesis* volume editor **Victor Snieckus** (Queen's University, Kingston, Canada). They will receive the awards and present lectures during a Division of Organic Chemistry symposium at the ACS national meeting in Chicago, USA, August 26–30.

Houben-Weyl volume editor **Günter Helmchen** (University of Heidelberg, Germany) has won the Horst-Pracejus Prize from the Association of German Chemists for his pioneering work in stereo-chemical research and organic synthesis.

Author **Wolfgang Herrmann** (Technical University of Munich, Germany) was

named an *Officier de l'Ordre National du Mérite* by the President of France.

Editorial board member **Steve V. Ley** (University of Cambridge, UK) has been awarded an honorary doctorate from the University of Salamanca, Spain. Additionally, Ley will receive the August Wilhelm von Hofmann Prize at the Association of German Chemists meeting in September.



The Roger Adams Award in Organic Chemistry will be presented to editorial board member **Ryoji Noyori** (Nagoya University, Japan) at the National Organic Chemistry Symposium in Bozeman, Montana in June. In addition, Noyori has received an honorary fellowship from the RSC.



The ACS has awarded author **Iwao Ojima** (State University of New York, Stony Brook, USA) the E.B. Hershberg Award for Important Discoveries in Medicinally Active Substances.



Volume editor **Victor Snieckus** (Queen's University, Kingston, Canada), in addition to the ACS Cope Scholar award, will receive the International Award in Heterocyclic Chemistry in August at the International Congress of Heterocyclic Chemistry in Yokohama, Japan.

Happy birthday wishes to editorial board member **Barry Trost** (Stanford University, USA), who turns 60 on June 13.



VIP Report (Volumes in Planning)

Dr. Joe Richmond, Scientific Editor

joe.richmond@t-online.de

Volume 18, Compounds with Four Carbon–Heteroatom Bonds: $X-C\equiv X$, $X=C=X$, $X_2C=X$, CX_4



Julian Knight has the task of editing the first of the “regular” functional-group volumes of *Science of Synthesis*, which follow the 17 volumes on Organometallics and Hetarenes. He

is a lecturer in organic chemistry at Newcastle University and one of the modern young synthetic chemists in the UK. Knight's research interests are enantioselective natural product synthesis and asymmetric homogeneous catalysis using chiral transition metal catalysts. His synthetic strategies often make use of readily available amino acids or carbohydrates as starting materials (chiral pool).

At first glance, the connection between Julian Knight's research and the generic structures in the title of Volume 18 is not obvious; a closer look, however, reveals that his work with chiral 1,3-oxazolidin-2-ones and 1,3-dioxolan-2-ones is in fact the chemistry of carbonic acid derivatives. Since *Science of Synthesis* handles hetarenes as separate volumes, but incorporates the treatment of saturated or partially unsaturated heterocycles with their acyclic functional group counterparts, all of the modern synthetic methodologies involving these heterocycles are found in the Volumes 18–42 on functional groups containing heteroatoms.

Other significant qualities that Julian Knight brings to the *Science of Synthesis* project include a keen analytical intelligence, computer savvy

and a strong interest in teaching. If you look at his website, you will find interactive quizzes on various aspects of elementary organic chemistry. Julian's editorship of Volume 18 will lay the groundwork for all volumes to follow.

📍 <http://www.staff.ncl.ac.uk/j.g.knight/jgk.html>

Volume 19, Compounds with Three Carbon–Heteroatom Bonds: Nitriles, Isonitriles, and Derivatives



Shun-Ichi Murahashi is well-known and respected by organic and organometallic chemistry communities throughout the world. He received the Chemical Society of Japan Award for Young Chemists just two years after receiving his Ph.D. at Osaka University, where he was a professor of chemistry from 1979 to 2001 and is now emeritus professor. This year Murahashi became a professor in the Department of Applied Chemistry at the Okayama University of Science.

Shun-Ichi Murahashi is an international leader in the development of new synthetic methodologies using transition metal complex catalysts. A significant part of his research is dedicated to the simulation of the function of metalloenzymes, such as cytochrome P450, with transition metal catalysts. Sun-Ichi Murahashi was a visiting professor at the Université de Rennes I, 1992, and a visiting professor at the Université

P. et M. Curie, Paris, 1997. He has been a visiting professor at Kyushu University's Institute for Fundamental Research of Organic Chemistry since 1995. In 1993 he served as chairman of the 7th IUPAC OMCOS Symposium in Kobe, Japan before that city was struck by a tragic earthquake. He was editor-in-chief of *Chemistry Letters*, 1994–1998.



Shun-Ichi Murahashi has played a leading role in a number of scientific organizations. He was director of the Society of Synthetic Organic Chemistry, Japan, 1992–1993. He also served as director and then vice president of the Kinki Chemical Society, Japan, 1985–1999. Since 1989 he has been an officer in the Chemical Society of Japan and now serves as its president. Murahashi's awards and honors include the Award of the Chemical Society of Japan, 1995, a Docteur Honoris Causa from the Université de Rennes, 1995, and the MERCK-Schuchardt Lectureship, 1996.

VIP Preview

In the next issue of the newsletter, the VIP Report will welcome three eminent leaders in the synthetic community who have very recently joined *Science of Synthesis* as volume editors: Rick L. Danheiser (MIT) for Volume 23 on Ketenes and Derivatives, Armin de Meijere (Universität Göttingen) for Volume 24 on Ketene Acetals and Yne-X Compounds, and Albert Padwa (Emory University) for Volume 27 on Heteroatom Analogues of Aldehydes and Ketones.

Welcome to New Authors

The *Science of Synthesis* team would like to extend a warm welcome to the following new authors:

Volume 4

Dr. J. Pietruszka (Universität Stuttgart, Germany)
Dr. G. Whitham (The Dyson Perrins Laboratory, Oxford, UK)

Volume 6

Christian Burmester (Technische Universität Clausthal, Germany)

Volume 8

Prof. J. V. Comasseto (Universidade de São Paulo, Brazil)
Prof. C. da Cruz Silveira (Universidade de São Paulo, Brazil)
Prof. R. E. Gawley (University of Miami, USA)

Volume 14

Prof. A. T. Balaban (The Polytechnic University, Bucharest, Romania)
Dr. T. S. Balaban (Forschungszentrum Karlsruhe, Germany)

Volume 15

Prof. Dr. M. Banwell (The Australian National University, Canberra, Australia)
Prof. Dr. D. Spitzner (Universität Hohenheim, Stuttgart, Germany)
Prof. Dr. R. Streubel (Technische Universität Braunschweig, Germany)

Volume 18

Prof. A. Y. Ilchenko (Academy of Sciences of Ukraine)
Prof. G. Guichard (University of Strasbourg, France)
Prof. K. W. Jung (University of South Florida, Tampa, USA)
Prof. L. Rossi (Università degli Studi, L'Aquila, Italy)
Prof. G. Sartori (Università Viale delle Scienze, Parma, Italy)
Dr. J. G. Schmidt (Los Alamos National Laboratory, USA)
Dr. J.-P. Senet (Le Bouchet Research Center, Vert-le-Petit, France)
Dr. L. A. Silks III (Los Alamos National Laboratory, USA)

Electronic Digest *Dr. Rolf Hoppe, Software Development Project Leader*

rolf.hoppe@thieme.de

The E-Team

Software Development Project Leader

Dr. Rolf Hoppe

Production Assistant

Thomas Dambacher

Software Development Office

Phone +49 (711) 89 31-780

Fax +49 (711) 89 31-777

E-mail rolf.hoppe@thieme.de

After a developmental period of four years, the electronic version of *Science of Synthesis* will be launched this year. The summer period will be used to alpha- and beta-test the software thor-

oughly. The figures here show you two typical views of the user interface.

The electronic version of *Science of Synthesis* allows for easy navigation through the graphical representation of its content on the left hand side. The user simply has to click on the class of compounds s/he is interested in (e.g., indoles in the hetarene category) and *Science of Synthesis* will provide all of the relevant transformations (e.g., ring closure, ring transformation, substituent modification, etc.). Once a suitable transformation is found, *Science of Synthesis* will present background information for the particular methods, experimental procedures, illustrative examples and the relevant literature. Figure 1 highlights this approach.

Science of Synthesis will also allow for structure, reaction, and text searches. All hits are listed and the user can easily produce a meaningful

ranking and rating of all hits through the navigational tool on the left hand side. Figure 2 shows one example of this.

The commercial version will be ready before the end of the year. In the next issue of the newsletter, you can look forward to a summary of the results of the alpha- and beta-testing and more detailed information on the software.



Science of Synthesis - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address http://beta.fiz-karlsruhe.de/thieme-chemistry/sos/prod/index.html

Thieme Chemistry Science of Synthesis

Info Logout Demo Help

Science of Synthesis	pp
Hetarenes	
Fused Five-Membered Hetarenes with One Heteroatom	840
Indole and Its Derivatives	266
Indoles	234
Synthesis by Ring-Closure Reactions	121
Synthesis by Ring Transformation	4
Aromatization	6
Synthesis by Substitution	86
Synthesis by Substituent Modification	16

10 Fused Five-Membered Hetarenes with One Heteroatom

10.13 Indole and Its Derivatives

10.13.1 Indoles

J. A. Joule, October 2000, Vol. 10, Page 361

The word indole is derived from the word India: indigo, the blue dye, was first exported from India to Europe in the 16th century. Indoles are generally crystalline colorless solids, the simpler ones having characteristic odors: pure 1*H*-indole itself has a jasmine-like odor while that of 3-methyl-1*H*-indole (skatole) is notorious for its fecal character. The electron-rich character of indoles brings a tendency to light-catalyzed autoxidation; indoles should be stored away from oxygen and light. Simple indoles are also sensitive to strong acids, a point that must be taken into account in designing synthetic manipulations. Electron-withdrawing substituents have a stabilizing effect on each of these sensitivities.

1*H*-Indole (1) is the only tautomer detectable under normal circumstances; 3*H*-indole (2, indolenine in older literature) can be generated, but tautomerizes rapidly to 1*H*-indole at temperatures above -50°C (Scheme 1).^[1]

Scheme 1 The Tautomeric Structures of Indole

1 1*H*-indole (indole)

2 3*H*-indole (indolenine)

a 3*H*-indolium cation (an indoleninium cation)

The indole system occurs in the essential amino acid tryptophan (4, R¹ = CO₂H; Scheme 2), and thence in

Done Local intranet

Figure 1 Science of Synthesis allows for easy navigation through its logical structure.

Science of Synthesis - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address http://beta.fiz-karlsruhe.de/BASScgi/11

Thieme Chemistry Science of Synthesis

Info Logout Demo Help

155	Science of Synthesis	pp
155	Hetarenes	
155	Fused Five-Membered Hetarenes with One Heteroatom	840
124	Indole and Its Derivatives	266
110	Indoles	234
65	Synthesis by Ring-Closure Reactions	121
57	By Annulation to an Arene	107
20	By Formation of One N—C and One C—C Bond	39
1	With Formation of 1—7a and 3—3a Bonds	3
1	From Benzo-1,4-quinones and Enamines; Nenitzescu Synthesis	3

Hit 24 of 155

Goto Hit Last Query New Query Products Sitemap

with benzoyl, is utilized, *N*-benzoyl-1-(phenylsulfonyl)-1*H*-indol-5-amine result.^[161]

Scheme 68 Nenitzescu Synthesis Using *N*-Phenylsulfonyl Derivatives of Benzo-1,4-quinone Monoimines [181]

243 244 245

Methyl 5-Hydroxy-1-isopropyl-2,6-dimethyl-1*H*-indole-3-carboxylate; Typical Procedure: [169]

A soln of 2-methylbenzo-1,4-quinone (1.22 g, 10 mmol) in MeNO₂ (10 mL) was added to methyl (β-3-(isopropylamino)but-2-enoate (1.6 g, 10 mmol) dissolved in MeNO₂ (10 mL) at rt. An immediate red color was produced and the soln became warm. After 24 h the product was filtered off and dried; yield: 2.15 g (82%); mp 198–199°C.

References

[168] Allen, G. R., *Org. React.*, (1973) **20**, 337.

[169] Patrick, J. B.; Saunders, E. K., *Tetrahedron Lett.*, (1979), 4009.

[170] Betkerur, S. N.; Siddappa, S., *J. Chem. Soc.*, (1968), 1795.

[171] Domschke, G.; Fürst, H., *Chem. Ber.*, (1959) **92**, 3244.

Done Internet

Figure 2 Science of Synthesis allows for structure and reaction searching.

The Marketing and Sales Team

Marketing Manager

Dr. Thomas Krimmer

Sales Assistant

Alexandra L. Williams
(New York, USA)

Marketing and Sales Office New York

Thieme Publishers
333 Seventh Avenue
New York
NY 10001
Phone + 1(212)584-4711
Fax + 1(212)947-1112
E-mail awilliams@thieme.com

Stuttgart

Phone + 49(711)8931-772
Fax + 49(711)8931-777
E-mail marketing@science-of-synthesis.com

We are pleased to welcome Dr. Thomas Krimmer to the *Science of Synthesis* team in the position of Marketing Manager, Thieme Chemistry. Thomas will be responsible for all aspects of the marketing for *Science of Synthesis*. Alexandra Williams, formerly working on the marketing for *Science of Synthesis*, will now move to our Thieme office in New York to focus on the sale of *Science of Synthesis* electronic version in the Americas.

We were delighted to welcome Professor Gerhard Maas and his enthusiastic team of authors to a reception at Thieme Haus in Stuttgart to celebrate the publication of *Science of Synthesis* Volume 9. Professor Maas and his authors were joined by members of the *Science of Synthesis* team and many contributors to the project amounting to a collection of over 50 people gathered at Thieme Haus. The

reception, held on February 23, celebrated 4 years of close collaboration culminating in the release of Volume 9 in December 2000.

Guido F. Herrmann opened the reception with a few words to thank all contributors to the project for their enthusiasm and commitment. He was followed by Professor Maas, who expressed his appreciation to his authors and to the publishing house for their continued commitment and cooperation. Professor Maas praised the fluid communication he has had with authors and the publishing house and the efficiency enabled by electronic procedures and e-mail. As the reception coincided with a visit to Germany, Professor David Black from the University of New South Wales, Sydney, Australia was pleased to be able to attend. As a future volume editor for Volume 15, as well as an author for Volume 9, he was happy to share in the celebration and learn from the successful experiences of Professor Maas and his team.

Please visit our new, revised website to view live clips from the reception. Professor Maas and Professor Black say a few words about their experiences as contributors to *Science of Synthesis*.

Our conference activities for 2001 commenced with an exhibition at the ACS spring meeting in San Diego. This meeting marked the first international event since the publication of the first two volumes of *Science*

of *Synthesis* and an important platform for the launch of the print series. This was one of the first opportunities for us to meet our customers and discuss their reaction to the new series. The response from the scientific community was very positive and the meeting was notable for the growing excitement surrounding the electronic version.

The summer may conjure up images of warm days and holidays for most, but for us it is the busiest time in our conference calendar. Over the following months we will be exhibiting at meetings all over the world, including the 17th American Peptide Symposium in San Diego (June 9-14), the 11th OMCOS Organometallic Chemistry directed towards Organic Synthesis in Taipei, Taiwan (July 22-26), the 18th International Congress of Heterocyclic Chemistry in Yokohama, Japan (July 29-August 2), and the American Chemical Society Fall Meeting, Chicago (August 26-31). If you are attending a conference, please visit our stand. We look forward to meeting you and will enjoy the opportunity to present a pre-release version of the forthcoming electronic version. Please view our web page for further details of our conference activities.



K.-P. Zeller, J. Schatz, G. Maas, D. StC. Black, U. Bergsträßer, B. König.