Flow Chemistry Publications

The following (non-exhaustive) list of papers shows peer reviewed work that has been published using the Vapourtec R-Series and E-Series flow chemistry systems. As new work is continually published, please check on our website for updates.

Continuous-Flow Accelerated Sulfation of Heparan Sulfate Intermediates
Saurabh Anand, Sandhya Mardhekar, Rakesh Raigawali, Nirmala Mohanta, Prashant Jain, Chethan D. Shanthamurthy & Boopathy Gnanaprakasam* & Raghavendra Kikkeri*
Indian Institute of Science Education and Research, Dr. Homi Bhabha Road, Pune-411 008, India

https://pubs.acs.org/doi/abs/10.1021/acs.orglett.0c00878

Development of a Large-Scale Cyanation Process Using Continuous Flow Chemistry en Route to the Synthesis of Remdesivir
Tiago Vieira[1]*, Andrew C. Stevens[1]*, Andrei Chtchemelinine[2], Detian Gao[1], Pavel Badalov[1], Lars Heumann[2]
[1]Gilead Alberta ULC, 1021 Hayter Road, Edmonton, Alberta T6S 1A1, Canada
[2]Gilead Sciences, Inc. 333 Lakeside Drive, Foster City, California 94404, United States

https://pubs.acs.org/doi/abs/10.1021/acs.oprd.0c00172

Tropylium-promoted prenylation reactions of phenols in continuous flow
Klaus Omoregbee[1,2], Kevin N. H. Luc[1], An H. Dinh[1], Thanh Vinh Nguyen[1]
[1]School of Chemistry, University of New South Wales, Sydney, Australia
[2]Department of Biology, Chemistry and Pharmacy, Freie Universität Berlin, Berlin, Germany

https://link.springer.com/article/10.1007/s41981-020-00082-w

Making electrochemistry easily accessible to the synthetic chemist
Christiane Schotten*[a], Thomas P. Nicholls[a], Richard A. Bourne[b], Nikil Kapur[c], Bao N. Nguyen[a], Charlotte E. Willans*[a]
[a] School of Chemistry, University of Leeds, Leeds LS2 9JT, UK
[b] School of Chemical and Process Engineering, University of Leeds, Leeds LS2 9JT, UK
[c] School of Mechanical Engineering, University of Leeds, Leeds LS2 9JT, UK

https://pubs.rsc.org/en/content/articlehtml/2020/gc/d0gc01247e

Scale-up and Optimization of a Continuous Flow Synthesis of an α-Thio-β-chloroacrylamide
Olga C. Dennehy[1], Denis Lynch[1], Stuart G. Collins[1]*, Anita R. Maguire[2]*, Humphrey A. Moynihan[1]*
[1] School of Chemistry, Analytical and Biological Chemistry Research Facility, Synthesis and Solid State Pharmaceutical Centre, University College Cork, Cork T12 K8AF, Ireland.
[2] School of Chemistry and School of Pharmacy, Analytical and Biological Chemistry Research Facility, Synthesis and Solid State Pharmaceutical Centre, University College Cork, Cork T12 K8AF, Ireland

https://pubs.acs.org/doi/abs/10.1021/acs.oprd.0c00079

Automated Glycan Assembly in a Variable-Bed Flow Reactor Provides Insights into Oligosaccharide–Resin Interactions
Eric T. Sletten[1], José Danglad-Flores[1], Manuel Nuño[2], Duncan Guthrie[2] & Peter H. Seeberger[1]
[1]Department of Biomolecular Systems, Max Planck Institute of Colloids and Interfaces, Am Mühlenberg 1, 14476 Potsdam, Germany
[2]Vapourtec, Ltd., Park Farm Business Centre, Fornham St. Genevieve, Bury St. Edmunds, Suffolk IP28 6TS, United Kingdom

https://pubs.acs.org/doi/full/10.1021/acs.orglett.0c01264

Photocatalytic α-Tertiary Amine Synthesis via C–H Alkylation of Unmasked Primary Amines
Alison S. H. Ryder[a], William B. Cunningham[b], George Ballantyne[b], Tom Mules[b], Anna G. Kinsella[b], Jacob Turner-Dore[b], Catherine M. Alder[c], Lee J. Edwards[c], Blandine S. J. McKay[c], Matthew N. Grayson[b] & Alexander J. Cresswell[b]*
[a]Centre for Sustainable Chemical Technologies, 1 South, University of Bath, Claverton Down, Bath, BA2 7AY (UK)
[b]Department of Chemistry, 1 South, University of Bath, Claverton Down, Bath, BA2 7AY (UK)

[c]Medicines Design, GSK Medicines Research Centre, Gunnels Wood Rd, Stevenage, SG1 2NY (UK)

https://onlinelibrary.wiley.com/doi/abs/10.1002/anie.202005294

Electrochemistry in continuous systems
Thomas P. Nicholls, Christiane Schotten & Charlotte E. Willans
School of Chemistry, University of Leeds, Leeds, LS2 9JT, UK

https://www.sciencedirect.com/science/article/pii/S2452223620300444

Dynamic Crystallization Pathways of Polymorphic Pharmaceuticals Revealed in Segmented Flow with Inline Powder XRD
Mark Alan Levenstein[1, 2], Lois E Wayment[3, 4, 5], C. Daniel Scott[3, 6], Ruth A Lunt[3, 4], Pierre-Baptiste Flandrin[3], Sarah Day[5], Chiu Tang[5], Chick C. Wilson[3], Fiona C. Meldrum[2] & Nikil Kapur[1]
[1]School of Mechanical Engineering, University of Leeds, Woodhouse Lane, Leeds LS2 9JT, UK
[2]School of Chemistry, University of Leeds, Woodhouse Lane, Leeds LS2 9JT, UK
[3]Department of Chemistry, University of Bath, Claverton Down, Bath BA2 7AY, UK
[4]CMAC Future Manufacturing Hub, University of Bath, Claverton Down, Bath BA2 7AY, UK
[5]Diamond Light Source, Harwell Campus, Didcot, Oxfordshire OX11 0DE, UK
[6]Centre for Sustainable Chemical Technologies, University of Bath, Claverton Down, Bath BA2 7AY, UK

https://pubs.acs.org/doi/abs/10.1021/acs.analchem.0c00860

A Metallaphotoredox Method for the Expansion of Benzyl SAR on Electron-Deficient Amines
Meghan D. Shea, Umar Faruk Mansoor & Brett A. Hopkins*
Discovery Chemistry, Merck & Co., Inc., 33 Avenue Louis Pasteur, Boston, Massachusetts 02115, United States

https://pubs.acs.org/doi/abs/10.1021/acs.oprd.0c00109

Management of the Heat of Reaction under Continuous Flow Conditions Using In-Line Monitoring Technologies
Masahiro Hosoya, Shogo Nishijima & Noriyuki Kurose
API R&D Laboratory, CMC R&D Division, Shionogi and Co., Ltd., 1-3, Kuise Terajima 2-chome, Amagasaki, Hyogo 660-0813, Japan

https://pubs.acs.org/doi/abs/10.1021/acs.oprd.0c00109

Use of Photon Equivalents as a Parameter for Scaling Photoredox Reactions in Flow: the translation of a photocatalytic C-N cross-coupling from lab scale to multikilogram scale
Emily B. Corcoran*[a], Jonathan P. McMullen*[b], François Lévesque[b], Michael K. Wismer[c], John R. Naber[b]
[a]Process Research & Development, Merck & Co., Inc., Boston, MA 02115 (USA)
[b]Process Research & Development, Merck & Co., Inc., Rahway, NJ 07065 (USA)
[c]Scientific Engineering & Design, Merck & Co., Inc., Kenilworth, NJ 07033 (USA)

https://onlinelibrary.wiley.com/doi/abs/10.1002/ange.201915412

Disposable Cartridge Concept for On-Demand Synthesis of Turbo Grignards, Knochel-Hauser Amides and Magnesium Alkoxides
Mateo Berton[1]*, Kevin Sheehan[2], Andrea Adamo[2], Tyler McQuade[1]*
[1]Department of Chemical and Life Sciences Engineering, Virginia Commonwealth University, Biotech Eight, 737 N. 5th St, Box 980100, Richmond, VA 23219, USA
[2]Zaiput Flow Technologies, 300 2nd Avenue, Waltham, MA 02451, USA.

https://www.beilstein-journals.org/xiv/preprints/202040

A Flow Process Built upon a Batch Foundation—Preparation of a Key Amino Alcohol Intermediate via Multistage Continuous Synthesis
John Jin Lim,[*,†], Kenneth Arrington,[*,†], Anna L. Dunn,[†], David C. Leitch,[‡,†], Ian Andrews,[†], Neil R. Curtis,[§], Mark J. Hughes,[§], Daniel R. Tray,[§], Charles E. Wade,[§], Matthew P. Whiting,[§], Charles Goss,[∥], Yangmu Chloe Liu,[§], Brian M. Roesch[§]
[†]Chemical Development, API Chemistry, GlaxoSmithKline, Upper Providence, Pennsylvania 19426, United States
[‡]Department of Chemistry, University of Victoria, Victoria, BC V8P 5C2, Canada

[§]Chemical Development, API Chemistry, GlaxoSmithKline, Stevenage SG1 2NY, U.K.
[‖]Chemical Development, Product and Process Engineering, GlaxoSmithKline, Upper Providence, Pennsylvania 19426, United Statesc

https://pubs.acs.org/doi/full/10.1021/acs.oprd.9b00478

A Continuous Flow Sulfuryl Chloride Based Reaction – Synthesis of a Key Intermediate in a New Route Toward Emtricitabine and Lamivudine

Juliana M. de Souza, Mateo Berton, David R. Snead*, D. Tyler McQuade
Department of Chemical and Life Science Engineering, Virginia Commonwealth University, Richmond, VA, 23284-3068, USA.

https://pubs.acs.org/doi/10.1021/acs.oprd.0c00146

Automated radial synthesis of organic molecules

Sourav Chatterjee [1], Mara Guidi [1,2], Peter H. Seeberger [1,2] & Kerry Gilmore [1]
[1] Department of Biomolecular Systems, Max-Planck-Institute of Colloids and Interfaces, Potsdam, Germany
[2] Freie Universität Berlin, Institute of Chemistry and Biochemistry, Berlin, Germany

https://www.nature.com/articles/s41586-020-2083-5

An Enzymatic Flow-Based Preparative Route to Vidarabine

Lucia Tamborini[1], Clelia Previtali [1], Francesca Annunziata [1], Teodora Bavaro [2], Marco Terreni [2] , Enrica Calleri [2], Francesca Rinaldi [2], Andrea Pinto [3], Giovanna Speranza [4], Daniela Ubiali [2]* & Paola Conti [1]
[1] Department of Pharmaceutical Sciences, University of Milan, via Mangiagalli 25, 20133 Milano, Italy
[2] Department of Drug Sciences, University of Pavia, viale Taramelli 12, 27100 Pavia, Italy
[3] Department of Food, Environmental and Nutritional Sciences, University of Milan, via Celoria 2, 20133 Milano, Italy
[4] Department of Chemistry, University of Milan, via Golgi 19, 20133 Milano, Italy

https://www.mdpi.com/1420-3049/25/5/1223

Continuous-flow synthesis and application of polymer-supported BODIPY Photosensitisers for the generation of singlet oxygen; process optimised by in-line NMR spectroscopy

Christopher G. Thomson [1], Callum M. S. Jones [2], Georgina Rosair [1], David Ellis, Jose Marques-Hueso [2], Ai-Lan Lee [1] & Filipe Vilela [1]
[1] Institute of Chemical Sciences, School of Engineering and Physical Sciences, Heriot-Watt University, Edinburgh, Scotland, EH14 4AS, UK
[2] Institute of Sensors, Signals and Systems, School of Engineering & Physical Sciences, Heriot-Watt University, Edinburgh, EH14 4AS, UK

https://link.springer.com/article/10.1007/s41981-019-00067-4

Preparation of 5-Hydroxymethylfurfural from High Fructose Corn Syrup Using Organic Weak Acid in Situ as Catalyst

Changqu Lin, Hongli Wu, Junyi Wang, Jinsha Huang, Fei Cao*, Wei Zhuang*, Yanyu Lu, Jiao Chen, Honghua Jia, Pingkai Ouyang
College of Biotechnology and Pharmaceutical Engineering, Nanjing Tech University, 30 South Puzhu Road, Nanjing 211816, P. R. China

https://pubs.acs.org/doi/abs/10.1021/acs.iecr.9b06602

Amino Alcohol Acrylonitriles as Activators of the Aryl hydrocarbon Receptor Pathway, An Unexpected MTT Phenotypic Screening Outcome

Jennifer Baker[1], Cecilia C Russel[1], Jayne Gilbert[2], Jennette Sakoff[2], Adam McCluskey[1]
[1]The University of Newcastle, Department of Chemistry, University Drive, Callaghan, 2308 Newcastle, AUSTRALIA
[2]Calvary Mater Hospital, Medical Oncology, Eidith Street, Waratah, 2308 Newcastle, AUSTRALIA

https://onlinelibrary.wiley.com/doi/abs/10.1002/cmdc.201900643

Continuous flow aminolysis under high temperature and pressure

Bryan Li, Scott Bader, Steve M. Guinness, Sally Gut Ruggeri, Cheryl M. Hayward, Steve Hoagland, John Lucas, Ruizhi Li, David Limburg, J. Christopher McWilliams, Jeffrey Raggon & John Van Alsten
Worldwide Research and Development, Pfizer Inc., Eastern Point Road, Groton, CT, 06340, USA

Celgene Corporation, 556 Morris Ave, Summit, NJ, USA
Worldwide Research and Development, Pfizer Inc., Eastern Point Road, Groton, CT, 06340, USA
Rhodes Technologies, 498 Washington Street, Coventry, RI, USA
https://link.springer.com/article/10.1007/s41981-019-00049-6

Continuous Flow Photochemistry for the Preparation of Bioactive Molecules
Mara Di Filippo, Cormac Bracken and Marcus Baumann *
School of Chemistry, University College Dublin, Science Centre South, Belfield, Dublin 4, Ireland
https://www.mdpi.com/1420-3049/25/2/356

Development of a Continuous Flow Photoisomerization Reaction Converting Isoxazoles into Diverse Oxazole Products
Cormac Bracken, Marcus Baumann*****
School of Chemistry, University College Dublin, Science Centre South, Belfield, Dublin 4, Ireland
https://pubs.acs.org/doi/abs/10.1021/acs.joc.9b03399

Continuous-Flow Biocatalytic Process for the Synthesis of the Best Stereoisomers of the Commercial Fragrances Leather Cyclohexanol (4-Isopropylcyclohexanol) and Woody Acetate (4-(Tert-Butyl)Cyclohexyl Acetate)
Francesca Tentori [1,†], Elisabetta Brenna [1,2,*], Michele Crotti [1], Giuseppe Pedrocchi-Fantoni [2], Maria Chiara Ghezzi [1] and Davide Tessaro [1]
[1] Dipartimento di Chimica, Materiali ed Ingegneria Chimica “Giulio Natta”, Politecnico di Milano, Via Mancinelli 7, 20131 Milano, Italy
[2] Istituto di Scienze e Tecnologie Chimiche – CNR, Via Mancinelli 7, 20131 Milano, Italy
https://www.mdpi.com/2073-4344/10/1/102

Visible Light-Mediated (Hetero)aryl Amination Using Ni(II) Salts and Photoredox Catalysis in Flow: A Synthesis of Tetracaine
Boyoung Y. Park, Michael T. Pirnot andStephen L. Buchwald*
Department of Chemistry, Massachusetts Institute of Technology, Cambridge, Massachusetts 02139, United States
https://pubs.acs.org/doi/abs/10.1021/acs.joc.9b03107

In-Line Purification: A Key Component to Facilitate Drug Synthesis and Process Development in Medicinal Chemistry
Nopphon Weeranoppanant, Nopphon Weeranoppanant
Department of Chemical Engineering, Faculty of Engineering, Burapha University, 169 Longhard Bangsaen Road, Muang, Chonburi 02131, Thailand
School of Biomolecular Science and Engineering, Vidyasirimedhi Institute of Science and Technology (VISTEC), Wangchan Valley 555 Moo 1 Payupnai, Wangchan, Rayong 21210 Thailand
https://pubs.acs.org/doi/abs/10.1021/acsmedchemlett.9b00491

In-line purification: A key component to facilitate drug synthesis and process development in medicinal chemistry
Nopphon Weeranoppanant[1,2*], Andrea Adamo[3*]
[1] Department of Chemical Engineering, Faculty of Engineering, Burapha University, 169 Longhard Bangsaen Road, Muang, Chonburi 02131, Thailand
[2] School of Biomolecular Science and Engineering, Vidyasirimedhi Institute of Science and Technology (VISTEC), Wangchan Valley 555 Moo 1 Payupnai, Wangchan, Rayong 21210 Thailand
[3] Zaiput Flow Technologies, 300 Second Avenue, Waltham, Massachusetts 02451, United States
https://pubs.acs.org/doi/abs/10.1021/acsmedchemlett.9b00491

Use of Immobilized Amine Transaminase from Vibrio fluvialis under Flow Conditions for the Synthesis of (S)-1-(5-Fluoropyrimidin-2-yl)-ethanamine
Riccardo Semproli [a] , Gianmarco Vaccaro [a,b] , Erica E. Ferrandi [c], Marta Vanoni [c], Teodora Bavaro [a], Giorgio Marrubini [a], Francesca Annunziata [b], Paola Conti [b], Giovanna Speranza [d] , Daniela Monti * [c] , Lucia Tamborini *[b], Daniela Ubiali *[a]
[a] R. Semproli, G. Vaccaro, Dr. G. Marrubini, Dr. T. Bavaro, Prof. D. Ubiali, Department of Drug Sciences, University of Pavia, Viale Taramelli 12, I-27100 Pavia, Ital
[b] G. Vaccaro, F. Annunziata, Prof. P. Conti, Prof. L. Tamborini, Department of Pharmaceutical Sciences, University of Milano, Via Mangiagalli 25, I-20133 Milano, Italy
[c] Dr. E. E. Ferrandi, M. Vanoni, Dr. D. Monti, Istituto di Scienze e Tecnologie Chimiche "Giulio Natta" (SCITEC) – CNR, Via Bianco 9, I-20131 Milano, Italy
[d] Prof. G. Speranza, Department of Chemistry, University of Milano, Via Golgi 19, I-20133 Milano, Italy
https://onlinelibrary.wiley.com/doi/abs/10.1002/cctc.201902080

Continuous Flow Enables Metallaphotoredox Catalysis in a Medicinal Chemistry Setting: Accelerated Optimization and Library Execution of a Reductive Coupling between Benzylic Chlorides and Aryl Bromides
Zachary G. Brill,*† Casey B. Ritts, † Umar Faruk Mansoor, Nunzio Sciammetta
Department of Discovery Chemistry, MRL, Merck & Co., Inc., 33 Avenue Louis Pasteur, Boston, MA 02115 USA.
https://pubs.acs.org/doi/10.1021/acs.orglett.9b04117

Continuous Flow Synthesis of Methyl Oximino Acetoacetate: Accessing Greener Purification Methods with Inline Liquid-Liquid Extraction and Membrane Separation Technology
René Lebl, Trevor Murray, Andrea Adamo, David Cantillo, C. Oliver Kappe
https://pubs.acs.org/doi/abs/10.1021/acssuschemeng.9b05954

Cellulose fast pyrolysis for platform chemicals: assessment of potential targets and suitable reactor technology
Anurag Parihar, Sankar Bhattacharya
Department of Chemical Engineering, Monash University, Clayton, VIC, Australia
https://onlinelibrary.wiley.com/doi/abs/10.1002/bbb.2066

Continuous and green microflow synthesis of azobenzene compounds catalyzed by consecutively prepared tetrahedron CuBr
Hong Qin[a,1], Chengkou Liu[a,1], Niuniu Lv[a], Wei He[a], Jingjing Meng[a], Zheng Fang[a], Kai Guo[ab]
[a] College of Biotechnology and Pharmaceutical Engineering, Nanjing Tech University, No. 30 Puzhu South Road, Nanjing, China
[b] State Key Laboratory of Materials-Oriented Chemical Engineering, Nanjing Tech University, Nanjing, 211816, China
https://www.sciencedirect.com/science/article/abs/pii/S0143720819321138

Safe and Scalable Continuous Flow Azidophenylselenylation of Galactal to Prepare Galactosamine Building Blocks
Mónica Guberman, Bartholomäus Pieber, Peter H. Seeberger*
Department of Biomolecular Systems, Max Planck Institute of Colloids and Interfaces, Am Mühlenberg 1, 14476 Potsdam, Germany
Department of Chemistry and Biochemistry, Freie Universität Berlin, Arnimalle 22, 14195 Berlin, Germany
https://pubs.acs.org/doi/10.1021/acs.oprd.9b00456?goto=supporting-info

A Practical Method for Continuous Production of sp3-Rich Compounds from (Hetero)Aryl Halides and Redox-Active Esters
Dr. Eiichi Watanabe [a], Dr. Yiding Chen [b], Oliver May [b], Prof. Steven V. Ley [*b]
[a] New Path Molecular Ltd. Building 580, Babraham Research Campus, Cambridge (UK)
[b] Department of Chemistry, University of Cambridge, Lensfield Road, Cambridge (UK)
https://onlinelibrary.wiley.com/doi/abs/10.1002/chem.201905048?af=R

Metal-Free Visible-Light-Mediated Hydrotrifluoromethylation of Unactivated Alkenes and Alkynes in Continuous Flow
Anne-Laure Barthelemy, Guillaume Dagousset, Emmanuel Magnier
Institut Lavoisier de Versailles, UMR 8180, Université de Versailles-Saint-Quentin, 78035 Versailles Cedex, France
https://onlinelibrary.wiley.com/doi/abs/10.1002/ejoc.201901252

Stereospecific Amination of Mesylated Cyclobutanol in Continuous Flow
Matthieu Tissot, Jérôme Jacq, Patrick Pasau
UCB Biopharma SPRL, Avenue de l'industrie, 1420 Braine l'Alleud, Belgium
https://pubs.acs.org/doi/abs/10.1021/acs.oprd.9b00381

Stereospecific Amination of Mesylated Cyclobutanol in Continuous Flow
Matthieu Tissot, Jérôme Jacq, Patrick Pasau
UCB Biopharma SPRL, Avenue de l'industrie, 1420 Braine l'Alleud, Belgium
https://pubs.acs.org/doi/abs/10.1021/acs.oprd.9b00381

A new formulation for symbolic regression to identify physico-chemical laws from experimental data
Pascal Neumann[ab], Liwei Cao [bc], Danilo Russo[b], Vassilios S. Vassiliadis[b], Alexei A. Lapkin[bc]
[a] Aachener Verfahrenstchnik – Process Systems Engineering, RWTH Aachen University, Aachen, Germany
[b] Department of Chemical Engineering and Biotechnology, University of Cambridge, Cambridge CB3 0AS, UK
[c] Cambridge Centre for Advanced Research and Education in Singapore, CARES Ltd., 1 CREATE Way, CREATE Tower #05-05,

138602 Singapore, Singapore

https://www.sciencedirect.com/science/article/pii/S1385894719328256

Real-Time Monitoring of Solid-Phase Peptide Synthesis Using a Variable Bed Flow Reactor

Eric T. Sletten[a], Manuel Nuno[b], Duncan Guthrie[b] Peter Seeberger[a,c]
[a]Department of Biomolecular Systems, Max Planck Institute of Colloids and Interfaces, Am Mühlenberg 1, 14476 Potsdam, Germany
[b]Vapourtec Ltd, Park Farm Business Centre, Fornham St Genevieve, Bury St Edmunds, Suffolk IP28 6TS, U.K
[c]Department of Chemistry and Biochemistry, Freie Universität Berlin, Arnimalle 22, 14195, Berlin, Germany

https://pubs.rsc.org/en/Content/ArticleLanding/2019/CC/C9CC08421E#!divAbstract

Electroorganic Synthesis under Flow Conditions

Mohamed Elsherbini, Thomas Wirth
School of Chemistry, Cardiff University, Main Building, Park Place, Cardiff CF10 3AT, United Kingdom

https://pubs.acs.org/doi/abs/10.1021/acs.accounts.9b00497

Lilly Research Award Program (LRAP): A Successful Academia–Industry Partnership Model in the Context of Flow Chemistry for Drug Discovery

Mateos, Carlos

https://www.ingentaconnect.com/contentone/scs/chimia/2019/00000073/00000010/art00003

In situ non-invasive Raman spectroscopic characterisation of succinic acid polymorphism during segmented flow crystallisation

Anuradha R. Pallipurath[a], Pierre-Baptiste Flandrin[a], Lois E. Wayment[a, b, c], Chick C. Wilson[a, b], Karen Robertson[a]
[a]Department of Chemistry, University of Bath, Claverton Down, BA2 7AY, UK
[b]CMAC Future Manufacturing Hub, University of Bath, Claverton Down, Bath BA2 7AY, UK
[c].Diamond Light Source, Harwell Campus, Didcot, Oxfordshire OX11 0DE, UK

https://pubs.rsc.org/en/content/articlelanding/2019/me/c9me00103d#!divAbstract

Microfluidic synthesis of fatty acid esters: Integration of dynamic combinatorial chemistry and scale effect

Wei He[a1], Yuan Gao[a1], Guiqin Zhu[a], Hao Wu[a], Zheng Fang[a], Kai Guo[ab]
[a] College of Biotechnology and Pharmaceutical Engineering, Nanjing Tech University, Nanjing 211816, PR China
[b] State Key Laboratory of Materials-Oriented Chemical Engineering, Nanjing Tech University, Nanjing 210009, PR China

https://www.sciencedirect.com/science/article/pii/S1385894719321242

Continuous Flow Aminolysis of RAFT Polymers Using Multistep Processing and Inline Analysis

Tiago Vieira[1]*, Andrew C. Christian H. Hornung*, Karin von Känel, Ivan Martinez-Botella, Maria Espiritu, Xuan Nguyen, Almar Postma, Simon Saubern, John Chiefari & San H. Thang
CSIRO Manufacturing Flagship, Bag 33, Clayton South, Victoria 3169, Australia

https://pubs.acs.org/doi/10.1021/ma501628f

Development of a continuous flow synthesis of propranolol: tackling a competitive side reaction

Sonia De Angelis[1, 2], Paolo Celestini[3], Rosa Purgatorio[1], Leonardo Degennaro[1, 2], Gabriele Rebuzzini[3], Renzo Luisi[1, 2], Claudia Carlucci[1, 2]
[1] Department of Pharmacy - Drug Sciences, University of Bari "A. Moro" Via E. Orabona 4, Bari, Italy
[2] Flow Chemistry and Microreactor Technology FLAME-Lab, Bari, Italy
[3] COSMA S.p.A, Ciserano Italy

https://link.springer.com/article/10.1007/s41981-019-00047-8

Photochemical flow synthesis of 3-hydroxyazetidines

Michele Ruggeri [1], Amanda Worthy Dombrowski [2], Stevan W. Djuric [2], Ian Richard Baxendale [1]
[1] University of Durham, Department of Chemistry, South Road, DH1 3LE Durham, UNITED KINGDOM
[2] AbbVie, Inc., 1 North Waukegan Road, North Chicago, IL 60064 Chicago, UNITED STATES

https://onlinelibrary.wiley.com/doi/abs/10.1002/cptc.201900188

Flow nanoprecipitation of size-controlled D-leucine nanoparticles for spray-drying formulations

Bruno Cerra, Gabriele Mosca, Maurizio Ricci, Aurélie Schoubben and Antimo Gioiello

https://pubs.rsc.org/en/content/articlelanding/2019/re/c9re00242a/unauth#!divAbstract

Visible-Light-Mediated Cross-Couplings and C–H Activation via Dual Photoredox/Transition-Metal Catalysis in Continuous-Flow Processes

Soo Dong Kim, Jonghyun Lee, Nam-Jung Kim, Boyoung Park

Kyung Hee University, Department of Pharmacy, Kyungheedaero 26, 02447 Seoul, Republic of Korea

https://onlinelibrary.wiley.com/doi/pdf/10.1002/ajoc.201900354

A flow platform for degradation-free CuAAC bioconjugation

Marine Z. C. Hatit[1], Linus F. Reichenbach[1], John M. Tobin[2], Filipe Vilela[2], Glenn A. Burley[1], Allan J. B. Watson[3]

[1]Department of Pure and Applied Chemistry, University of Strathclyde, 295 Cathedral Street, Glasgow G1 1XL, UK

[2]Chemical Sciences, Heriot-Watt University, Edinburgh EH14 4AS, UK

[3]School of Chemistry, University of St Andrews, North Haugh, St Andrews, UK

https://www.nature.com/articles/s41467-018-06551-0

Batch Versus Flow Lithiation-Substitution of 1,3,4-Oxadiazoles: Exploitation of Unstable Intermediates Using Flow Chemistry

Jeff Y. F. Wong, John M. Tobin, Filipe Vilela and Graeme Barker*

Institute of Chemical Sciences, Heriot-Watt University, Edinburgh EH11 4AS, Scotland, UK.

https://onlinelibrary.wiley.com/doi/abs/10.1002/chem.201902917

A Photoredox Coupling Reaction of Benzylboronic Esters and Carbonyl Compounds in Batch and Flow

Yiding Chen†, Oliver May†, David C. Blakemore‡ and Steven V. Ley†*

† Department of Chemistry, University of Cambridge, Lensfield Road, Cambridge CB2 1EW, U.K.

‡ Medicine Design, Pfizer Inc., Eastern Point Road, Groton, Connecticut 06340, United States

https://pubs.acs.org/doi/full/10.1021/acs.orglett.9b02307

Heumann Indole Flow Chemistry Process

Cynthia Crifar, Fenja Leena Dücker, Sacha Nguyen Thanh, Vanessa Kairouz, William D. Lubell

https://pubs.acs.org/doi/abs/10.1021/acs.joc.9b01516

Integrated plug flow synthesis and crystallisation of pyrazinamide

C. Daniel Scott,[a] Ricardo Labes,[b] Martin Depardieu,[c] Claudio Battilocchio,[b] Matthew G. Davidson,[a] Steven V. Ley,[b] Chick C. Wilson[ad] and Karen Robertson*[c]

[a] Centre for Sustainable Chemical Technologies, Department of Chemistry, University of Bath, UK

[b] Department of Chemistry, University of Cambridge, UK

[c] Department of Chemistry, University of Bath, UK

[d] EPSRC Future Continuous Manufacturing and Advanced Crystallisation Research Hub, University of Bath, UK

https://pubs.rsc.org/en/content/articlelanding/2018/re/c8re00087e#!divAbstract

Conjugated porous polymers for photocatalytic applications

Y. L. Wong [a], J. M. Tobin [b], Z. Xu [a], F. Vilela [*b]

[a] Department of Biology and Chemistry, City University of Hong Kong, 83 Tat Chee Avenue, Kowloon, Hong Kong

[b] School of Engineering and Physical Sciences, Heriot Watt University, Edinburgh, UK

https://pubs.rsc.org/en/content/articlelanding/2016/ta/c6ta07697a#!divAbstract

In-Flow Flash Nanoprecipitation of Size-Controlled D-Leucine Nanoparticles for Spray-Drying Formulations

Bruno Cerra, Gabriele Mosca, MaurizioRicci, Aurélie Schoubben, and Antimo Gioiello

Department of Pharmaceutical Sciences, University of Perugia, Via del Liceo 1, I-06122 Perugia, Italy

https://chemrxiv.org/articles/In-Flow_Flash_Nanoprecipitation_of_Size-Controlled_D-Leucine_Nanoparticles_for_Spray-Drying_Formulations/8074508

The Role of Single-Atom Catalysis in Potentially Disruptive Technologies

Mario Pagliaro

Instituto per lo Studio dei Materiali Nanostutturati, CNR, Palermo, Italy

https://www.sciencedirect.com/science/article/pii/B9780128190883000028

A Simple and Efficient Flow Preparation of Pyocyanin a Virulence Factor of Pseudomonas Aeruginosa

Frederik B. Mortzfeld[a,b], Jörg Pietruska[b], and Ian Baxendale*[a]

[a]Department of Chemistry, University of Durham, South Road, Durham, Durham, DH1 3LE, UK.
[b]Institut für Bioorganische Chemie, Heinrich-Heine-Universität Düsseldorf im Forschungszentrum Jülich, 52425, Jülich, Deutschland.

https://onlinelibrary.wiley.com/doi/full/10.1002/ejoc.201900526

Electrophilic Bromination in Flow: A safe and Sustainable Alternative to the Use of Molecular Bromine in Batch

Reinout Van Kerrebroeck, Pieter Naert, Thomas S. A. Heugebaert, Matthias D'hooghe, and Christian V. Stevens*
SynBioC research goup, Department of Green Chemistry and Technology, Ghent University, Coupure Links 653, 9000 Ghent, Belgium.

https://www.mdpi.com/1420-3049/24/11/2116/htm

Microfluidic process intensification for synthesis and formulation in the pharmaceutical industry

Aliaa I. Shallan[a,b]*, Craig Priest[a,c]
[a]Future industries institute, University of South Australia, Mawson Lakes, SA, 5095, Australia
[b]Faculty of Pharmacy, Helwan University, Cairo, 11795, Egypt
[c]School of Engineering, University of South Australia, Mawson Lakes, SA, 5095, Australia

https://www.sciencedirect.com/science/article/pii/S0255270118315927

Continuous flow chemo-enzymatic Baeyer-Villiger oxidation with superactive and extra-extra stable enzyme/carbon nanotube catalyst: an efficienct upgrade from batch to flow

Anna Szelwicka[a], Przemysław Zawadzki[b], Magdalena Sitko[a], Sławomir Boncel[c], Wojciech Czardybon[b], Anna Chrobok*[a]
[a]Department of Chemical Organic Technology and Petrochemistry, Silesian University of Technology, Krzywoustego 4, 44-100 Gliwice, Poland
[b]Selvita S.A., Bobrzynskiego 14, 30-348 Cracow, Poland
[c]Department of Organic Chemistry, Bioorganic Chemistry, and Biotechnology, Silesian University of Technology, Krzywoustego 4, 44-100 Gliwice, Poland

https://pubs.acs.org/doi/full/10.1021/acs.oprd.9b00132

Synthetic route design of AZD4635, an $A_{2A}R$ antagonist

Mairi M. Littleson*[†], Andrew D. Campbell[†], Adam Clarke[†], Mark Dow[†], Gareth Ensor[†], Matthew C. Evans[†], Adam Herring[†], Bethany A. Jackson[†], Lucinda V. Jackson[†], Staffan Karlsson[‡], David J. Klauber[†], Danny H. Legg[§], Kevin W. Leslie[†], Štefan Moravčík[‡], Chris D. Parsons[§], Thomas O. Ronson[†], Rebecca E. Meadows[†]
[†]Chemical Development, Pharmaceutical Technology and Development, AstraZeneca, Macclesfield Campus, SK10 2NA, Macclesfield, U.K.
[‡]Early Chemical Development, Pharmaceutical Sciences, IMED Biotech Unit, AstraZeneca, Gothenburg, SE-431 83 Mölndal, Sweden
[§]Early Chemical Development, Pharmaceutical Sciences, IMED Biotech Unit, AstraZeneca, Macclesfield Campus, SK10 2NA, Macclesfield, U.K.

https://pubs.acs.org/doi/full/10.1021/acs.oprd.9b00171

Continuous flow knitting of a triptycene hypercrosslinked polymer

Cher Hon Lau [*a], Tian-dan Lu [b], Shi-Peng Sun [b], Xianfeng Chen [a], Mariolino Carta [c] and Daniel M. Dawson [d]
[a] School of Engineering, The University of Edinburgh, Robert Stevenson Road,Edinburgh EH9 3FB, UK
[b] State Key Laboratory of Materials-Oriented Chemical Engineering, College of Chemical Engineering, Nanjing Tech. University, Nanjing 210009, China
[c] Department of Chemistry, College of Science, Swansea University, Grove Building, Singleton Park, Swansea SA2 8PP, UK
[d] School of Chemistry, EaStCHEM and Centre of Magnetic Resonance, University of St. Andrews, KY16 9ST, UK

https://pubs.rsc.org/en/content/articlelanding/2019/cc/c9cc03731d#!divAbstract

Transaminase-catalyzed continuous synthesis of biogenic aldehydes

Martina L. Contente[a] and Francesca Paradisi*[a,b]
[a] School of Chemistry, University of Nottingham, University Park, Nottingham, NG7, 2RD, United Kingdom
[b] Department of Chemistry and Biochemistry, University of Bern, Freiestrasse 3, 3012 Bern, Switzerland

https://onlinelibrary.wiley.com/doi/abs/10.1002/cbic.201900356

A Novel and Efficient Continuous-Flow Route To Prepare Trifluoromethylated *N*-Fused Heterocycles for Drug Discovery and Pharmaceutical Manufacturing

Lara Amini-Rentsch[1], Ennio Vanoli , Sylvia Richard-Bildstein , Roger Marti , Gianvito Vilé*
Idorsia Pharmaceuticals Ltd., Chemistry Technologies & Lead Discovery, Department of Drug Discovery Chemistry, Hegenheimermattweg 91, CH-4123 Allschwil, Switzerland

University of Applied Sciences Western Switzerland (HES-SO), Haute Ecole d'Ingénierie et d'Architecture de Fribourg, Institute of Chemical Technology, 80 boulevard de Pérolles, CH-1700 Fribourg, Switzerland
https://pubs.acs.org/doi/10.1021/acs.iecr.9b01906

Flow Hydrodediazoniation of Aromatic Heterocycles
Liesa Röder [1], Alexander J. Nicholls [2] and Ian R. Baxendale [2,*]
[1] Department of Biology, Chemistry, and Pharmacy, Freie Universität Berlin, 14195 Berlin, Germany
[2] Department of Chemistry, University of Durham, South Road, Durham, DH1 3LE, UK
https://www.mdpi.com/1420-3049/24/10/1996

Continuous-Flow Electrochemical Generator of Hypervalent Iodine Reagents: Synthetic Applications
Dr Mohamed Elsherbini, Bethan Winterson, Haifa Alharbi, Ana A. Folgueiras-Amador, Clina Gnot, and Thomas Wirth*
School of Chemistry, Cardiff University, Main Building, Park Place, Cardiff, CF10 3AT UK
https://onlinelibrary.wiley.com/doi/full/10.1002/anie.201904379

Definitive screening designs for multistep kinetic models in flow
Christopher A. Hone[a], Alistair Boyd[b], Anne O'Kearney-McMullan[b], Richard A. Bourne[a*], and Frans L. Muller[a*]
[a] Institute of Process Research and Development (iPRD), School of Chemistry and School of Chemical and Process Engineering, University of Leeds, LS2 9JT, UK.
[b] Global Development, AstraZeneca, Macclesfield, Cheshire, UK, SK10 2NA, UK.
https://pubs.rsc.org/en/content/articlelanding/2019/re/c9re00180h/unauth#!divAbstract

Visible light-promoted Fe-catalyzed Csp2-Csp3 Kumada cross-coupling in flow
Xiao-Jing Wei, Irini Abdiaj, Carlo Sambiagio, Chenfei Li, Eli Zysman-Colman, Jesus Alcazar, Timothy Noel
Department of Chemical Engineering and Chemistry, Micro Flow Chemistry and Synthetic Methodology, Eindhoven University of Technology, Den Dolech 2, 5612 AZ, Eindhoven, The Netherlands
https://onlinelibrary.wiley.com/doi/abs/10.1002/anie.201906462

Experimental Methods in Chemical Engineering: Micro-Reactors
Arturo Macchi [a], Patrick Plouffe [a], Gregory S. Patience [b], Dominique M. Roberge [c]
[a] Centre for Catalysis Research and Innovation, Department of Chemical and Biological Engineering, University of Ottawa, Ottawa, ON, K1N 6N5 Canada
[b] Department of Chemical Engineering - Ecole Polytechnique de Montreal, QC, H3C 3A7 Canada
[c] Chemical Manufacturing Technologies, Lonza AG, CH-, 3930 Visp, Switzerland
https://onlinelibrary.wiley.com/doi/abs/10.1002/cjce.23525

Continuous Flow Synthesis of Highly Substituted Tetrahydrofurans
Patrick Hoffmeyer, Christoph Schneider
Institute of Organic Chemistry, University of Leipzig, Johannisallee 29, D, -04103 Leipzig Germany
https://onlinelibrary.wiley.com/doi/abs/10.1002/ejoc.201900421

Peroxidation of 2-oxindole and barbituric acid derivatives under batch and continuous flow using an eco-friendly ethyl acetate solvent
Moreshwar B. Chaudhari,[a] Nirmala Mohanta,[a] Akanksha M. Pandey,[a] Madhusoodhanan Vandana,[b] Krishanpal Karmodiya[b] and Boopathy Gnanaprakasam*[a]
[a]Department of Chemistry, Indian Institute of Science Education and Research (IISER) Pune, Dr. Homi Bhabha Road, Pune 411008, India
[b]Department of Biology, Indian Institute of Science Education and Research (IISER) Pune, Dr. Homi Bhabha Road, Pune 411008, India
https://pubs.rsc.org/en/content/articlelanding/2019/re/c9re00068b/unauth#!divAbstract

Rapid and Multigram Synthesis of Vinylogous Esters under Continuous Flow: An Access to Transetherification and Reverse Reaction of Vinylogous Esters
Nirmala Mohanta, Moreshwar B. Chaudhari, Naveen Kumar Digrawal, Boopathy Gnanaprakasam*
Department of Chemistry, Indian Institute of Science Education and Research, Pune 411008, India
https://pubs.acs.org/doi/abs/10.1021/acs.oprd.9b00067

Continuous manufacturing – the Green Chemistry promise?
Luke Rogers and Klavs F. Jensen
Department of Chemical Engineering, MIT, 77 Massachusetts Avenue, Cambridge, MA 02139-4307, USA

https://pubs.rsc.org/en/content/articlepdf/2019/gc/c9gc00773c

Practical and regioselective amination of arenes using alkyl amines

Alessandro Ruffoni [1], Fabio Juliá [1], Thomas D. Svejstrup [1], Alastair J. McMillan [1], James J. Douglas [2] & Daniele Leonori [1]
[1] School of Chemistry, University of Manchester, Oxford Road, Manchester M13 9PL, UK.
[2] Early Chemical Development, Pharmaceutical Sciences, IMED Biotech Unit, AstraZeneca, Macclesfield SK10 2NA, UK

https://www.nature.com/articles/s41557-019-0254-5#Sec216

The Influence of Residence Time Distribution on Continuous-Flow Polymerization

Marcus H. Reis, Travis P. Varner, Frank A. Leibfarth*
Department of Chemistry, The University of North Carolina at Chapel Hill, Chapel Hill, NC 27599, USA

https://chemrxiv.org/articles/The_Influence_of_Residence_Time_Distribution_on_Continuous_Flow_Polymerization/7726166

Additive manufacturing of photoactive polymers for visible light harvesting

Adilet Zhakeyev[ac], John Tobin[a], Huizhi Wang[b], Filipe Vilela[a], Jin Xuan[ac]
[a] School of Engineering and Physical Sciences, Heriot-Watt University, Edinburgh, EH14 4AS, UK
[b] Department of Mechanical Engineering, Imperial College London, Exhibition Road, South Kensington Campus, London, SW7 2AZ, UK
[c] Department of Chemical Engineering, Loughborough University, Loughborough, UK

https://www.sciencedirect.com/science/article/pii/S1876610219306034

Modeling and Design of a Flow-Microreactor-Based Process for Synthesizing Ionic Liquids

Yuichi Nakahara*†⊥ , Bert Metten‡, Osamu Tonomura§⊥, Aiichiro Nagaki‖⊥ , Shinji Hasebe§⊥, and Jun-ichi Yoshida⊥#
† New Frontiers Research Group, Frontier Research Laboratories, Institute For Innovation, Ajinomoto Co., Inc., 1-1 Suzuki-cho, Kawasaki-ku, Kawasaki, Kanagawa 210-8681, Japan
‡ Ajinomoto Bio Pharma Services, Cooppallaan 91, B-9230 Wetteren, Belgium
§ Department of Chemical Engineering, Graduate School of Engineering, Kyoto University, Nishikyo-ku, Kyoto 615-8510, Japan
‖ Department of Synthetic Chemistry and Biological Chemistry, Graduate School of Engineering, Kyoto University, Nishikyo-ku, Kyoto 615-8510, Japan
⊥ Micro Chemical Production Study Consortium in Kyoto University, Kyoto University, Nishikyo-ku, Kyoto 615-8510, Japan
National Institute of Technology, Suzuka College, Shiroko-cho, Suzuka, Mie 510-0294, Japan

https://pubs.acs.org/doi/full/10.1021/acs.oprd.8b00436

Synthesis of a Renewable Macrocyclic Musk: Evaluation of Batch, Microwave, and Continuous Flow Strategies

Émilie Morin[§], Johann Sosoe[§], Michaël Raymond[§], Benjamin Amorelli[†]*, Richard M. Boden[†], and Shawn K. Collins*[§]
[§] Department of Chemistry and Centre for Green Chemistry and Catalysis, Université de Montréal, CP 6128 Station Downtown, Montréal, Québec, Canada H3C 3J7
[†] Research & Development, International Flavors & Fragrances Inc., 1515 State Route 36, Union Beach, New Jersey, 07735, United States

https://pubs.acs.org/doi/abs/10.1021/acs.oprd.8b00450

Bioprocess Intensification Using Flow Reactors: Stereoselective Oxidation of Achiral 1,3-diols with Immobilized Acetobacter Aceti

Valerio De Vitis [1], Federica Dall'Oglio [2], Francesca Tentori [3], Martina Letizia Contente [4], Diego Romano [1], Elisabetta Brenna [3], Lucia Tamborini[2]* and Francesco Molinari [1]*
[1] Department of Food, Environmental and Nutritional Sciences (DeFENS), Università degli Studi di Milano, Via Celoria 2, 20133 Milan, Italy
[2] Department of Pharmaceutical Sciences (DISFARM), Università degli Studi di Milano, Via Mangiagalli 25, 20133 Milan, Italy
[3] Dipartimento di Chimica, Materiali ed Ingegneria Chimica "Giulio Natta" Politecnico di Milano, Via Mancinelli 7, I-20131 Milan, Italy
[4] School of Chemistry, University of Nottingham, University Park, Nottingham, NG7 2RD, UK

https://www.mdpi.com/2073-4344/9/3/208/htm

Reversible chemoselective transetherification of vinylogous esters using Fe-catalyst under additive free conditions

Nenavath Parvathalu, Sandip G. Agalave, Nirmala Mohanta and Boopathy Gnanaprakasam*
Department of Chemistry, Indian Institute of Science Education and Research, Pune-411008, India

https://pubs.rsc.org/en/content/articlelanding/2019/ob/c9ob00307j/unauth#!divAbstract

Investigation of a Weak Temperature–Rate Relationship in the Carbamoylation of a Barbituric Acid Pharmaceutical Intermediate

Alexander G. O'Brien*[†], Yangmu Chloe Liu*[†], Mark J. Hughes[‡], John Jin Lim[†], Neil S. Hodnett[‡], and Nicholas Falco[†]
[†] GlaxoSmithKline, 1250 South Collegeville Road, Collegeville, Pennsylvania 19426, United States
[‡] GlaxoSmithKline, Medicines Research Centre, Gunnels Wood Road, Stevenage, Hertfordshire SG1 2NY, United Kingdom

https://pubs.acs.org/doi/abs/10.1021/acs.joc.9b00411

Rapid and Multigram Synthesis of Vinylogous Esters under Continuous Flow: An Access to Transetherification and Reverse Reaction of Vinylogous Esters

Nirmala Mohanta, Moreshwar B. Chaudhari, Naveen Kumar Digrawal, and Boopathy Gnanaprakasam*
Department of Chemistry, Indian Institute of Science Education and Research, Pune 411008, India

https://pubs.acs.org/doi/abs/10.1021/acs.oprd.9b00067

Protection-Group-Free Synthesis of Sequence-Defined Macromolecules via Precision λ-Orthogonal Photochemistry

Waldemar Konrad, Christian Fengler, Sarrah Putwa, and Christopher Barner-Kowollik*
Macromolecular Architectures, Institut für Technische Chemie und Polymerchemie, Karlsruhe Institute of Technology (KIT), Engesserstr. 18, 76131 Karlsruhe, Germany
School of Chemistry, Physics and Mechanical Engineering, Queensland University of Technology (QUT), 2 George Street, QLD, 4000 Brisbane, Australia

https://onlinelibrary.wiley.com/doi/abs/10.1002/anie.201901933

Decarboxylative Intramolecular Arene Alkylation Using *N*-(Acyloxy)phthalimides, an Organic Photocatalyst, and Visible Light

Trevor C. Sherwood*[†], Hai-Yun Xiao*[†], Roshan G. Bhaskar[†], Eric M. Simmons[‡], Serge Zaretsky[‡], Martin P. Rauch[§], Robert R. Knowles[§], and T. G. Murali Dhar[†]
[†] Research and Development, Bristol-Myers Squibb Company, P.O. Box 4000, Princeton, New Jersey 08543-4000, United States
[‡] Chemical and Synthetic Development, Bristol-Myers Squibb, 1 Squibb Drive, New Brunswick, New Jersey 08903, United States
[§] Department of Chemistry, Princeton University, Princeton, New Jersey 08544, United States

https://pubs.acs.org/doi/abs/10.1021/acs.joc.9b00432

Flow Electrochemical Cyclizations via Amidyl Radicals: Easy Access to Cyclic Ureas

Nisar Ahmed[a,b] *, Aggeliki Vgenopoulou[a]
[a] School of Chemistry, Cardiff University, Park Place, Cardiff, CF10 3AT, UK
[b] School of Chemistry, University of Bristol, Bristol, BS8 1TS, UK

https://www.thieme-connect.com/products/ejournals/html/10.1055/s-0037-1611772

Efficient Flow Electrochemical Alkoxylation of Pyrrolidine-1-Carbaldehyde

Nasser Amri[a], Ryan A. Skilton[b], Duncan Guthrie[b], Thomas Wirth[*a]
[a] School of Chemistry, Cardiff University, Park Place, Cardiff, CF10 3AT, UK
[b] Vapourtec Ltd., 21 Park Farm Business Centre, Bury St Edmunds, IP28 6TS, UK

https://www.thieme-connect.com/products/ejournals/pdf/10.1055/s-0037-1611774.pdf

Overcoming Water Insolubility in Flow: Enantioselective Hydrolysis of Naproxen Ester

David Roura Padrosa [1] , Valerio De Vitis [2] , Martina Letizia Contente [1,*], Francesco Molinari [2] and Francesca Paradisi [1,*]
[1] School of Chemistry, University of Nottingham, University Park, Nottingham NG7 2RD, UK;
[2] Department of Food, Environmental and Nutritional Sciences (DeFENS), Università degli studi di Milano, Via Mongiagalli 25, 20133 Milan, Italy;

http://scholar.google.co.uk/scholar_url?url=https://www.mdpi.com/20734344/9/3/232/pdf&hl=en&sa=X&d=4927449594359372866&scisig=AAGBfm1jTkGZDwbCoVIolsHeAX8_NVEueQ&nossl=1&oi=scholaralrt

A solid-supported arylboronic acid catalyst for direct amidation

Yihao Du,[a] Thomas Barber,[a] Sol Ee Lim,[a] Henry S. Rzepa,[b] Ian R. Baxendale*[a] and Andrew Whiting*[a]
[a] Centre for Sustainable Chemical Processes, Department of Chemistry, Durham University, Science Laboratories, South Road, Durham, UK
[b] Department of Chemistry, Imperial College, South Kensington Campus, London, UK

https://pubs.rsc.org/en/content/articlelanding/2019/cc/c8cc09913h/unauth#!divAbstract

Visible Light-Promoted Beckmann Rearrangements: Separating Sequential Photochemical and Thermal Phenomena in a Continuous Flow Reactor
Yuesu Chen, David Cantillo, C. Oliver Kappe
Karl-Franzens-Universitat Graz, Institute of Chemistry, 8010 Graz, AUSTRIA
https://onlinelibrary.wiley.com/doi/abs/10.1002/ejoc.201900231

A Consolidated and Continuous Synthesis of Ciprofloxacin from a Vinylogous Cyclopropyl Amide
N. Perrer Tosso, Bimbisar K. Desai, Eliseu De Oliveira, Juekun Wen, John Tomlin, and B. Frank Gupton*
Department of Chemistry and Department of Chemical and Life Science Engineering, Virginia Commonwealth University, 601 West Main Street, Richmond, Virginia 23220, United States
https://pubs.acs.org/doi/abs/10.1021/acs.joc.8b03222

Emerging Trends in Flow Chemistry and Applications to the Pharmaceutical Industry
Andrew R Bogdan and Amanda W Dombrowski
Discovery Chemistry and Technologies, AbbVie, Inc., 1 North Waukegan Road, North Chicago, Illinois 60064, United States
https://pubs.acs.org/doi/abs/10.1021/acs.jmedchem.8b01760

Towards a Scalable Synthesis of 2-Oxabicyclo[2.2.0]hex-5-en-3-one Using Flow Photochemistry
Jason D. Williams[a,b], Yuma Otake[a], Guilhem Coussanes[c], Iakovos Saridakis[c], Nuno Maulide[c], C. Oliver Kappe[a,b]
[a] Center for Continuous Flow Synthesis and Processing (CC FLOW), Research Center Pharmaceutical Engineering GmbH (RCPE), Inffeldgasse 13, 8010 Graz, Austria
[b] Institute of Chemistry, University of Graz, NAWI Graz, Heinrichstrasse 28, 8010 Graz, Austria
[c] Institute of Organic Chemistry, University of Vienna, Währinger Strasse 38, 1090 Vienna, Austria
https://onlinelibrary.wiley.com/doi/abs/10.1002/cptc.201900017

Continuous flow processing as a tool for the generation of terpene-derived monomer libraries
Renan Galaverna,[a] Lucas P. Fernandes,[a] Duncan L. Browne[b] and Julio C. Pastre*[a]
[a] Institute of Chemistry, University of Campinas – UNICAMP, Campinas, Brazil
[b] School of Chemistry, Cardiff University, Main Building, Park Place, Cardiff CF10 3AT, UK
https://pubs.rsc.org/en/content/articlelanding/2019/re/c8re00237a#!divAbstract

Rapid Photochemical Reaction Studies under Continuous-flow Conditions in the Vapourtec UV-150 Reactor-A Technical Note
Richard Hunter [a], Sam Josland [a], Joseph Moore [b], Duncan Guthrie [b], Mark J. Robertson [a]; Michael Oelgemöller [a]
[a] College of Science and Engineering, James Cook University, Townsville, QLD 4911, Australia
[b] Vapourtec Ltd, Park Farm Business Centre, Fornham St Genevieve, Bury St Edmunds, Suffolk, IP28 6TS, UK
https://www.ingentaconnect.com/contentone/ben/coc/2018/00000022/00000025/art00006

Enabling synthesis in fragment-based drug discovery by reactivity mapping: photoredox-mediated cross-dehydrogenative heteroarylation of cyclic amines
Rachel Grainger*[a], Tom D. Heightman[a], Steven V. Ley[b], Fabio Lima[b,c], Christopher N. Johnson*[a]
[a] Astex Pharmaceuticals, 436 Cambridge Science Park, Milton Road, Cambridge, UK
[b] Department of Chemistry, University of Cambridge, Lensfield Road, Cambridge CB2 1EW, UK
[c] Novartis Pharma AG, Novartis Campus, 4002 Basel, Switzerland
https://pubs.rsc.org/en/Content/ArticleLanding/2019/SC/C8SC04789H#!divAbstract

Enhanced mixing of biphasic liquid-liquid systems for the synthesis of *gem*-dihalocyclopropanes using packed bed reactors
T von Keutz [1, 2], D Cantillo [1, 2], CO Kappe [1, 2]
[1] Center for Continuous Flow Synthesis and Processing (CCFLOW) Research Center Pharmaceutical Engineering GmbH (RCPE) Graz, Austria
[2] Institute of Chemistry, NAWI Graz, University of Graz, Graz, Austria
https://link.springer.com/article/10.1007/s41981-018-0026-1

Deprotection of N-Boc Groups Under Continuous Flow High Temperature Conditions
Bryan Li, Ruizhi Li, Peter Dorff, James Christopher McWilliams, Robert M Guinn, Steven M. Guinness, Lu Han, Ke Wang, and Shu Yu

Medicinal Science, Worldwide Research and Development, Pfizer Inc., Eastern Point Road, Groton, Connecticut 06340, United States

https://pubs.acs.org/doi/abs/10.1021/acs.joc.8b02909

A Laser Driven Flow Chemistry Platform for Scaling Photochemical Reactions with Visible Light

Kaid C. Harper, Eric G. Moschetta, Shailendra V. Bordawekar, Steven J. Wittenberger

Process Research and Development, AbbVie Inc., 1 North Waukegan Road, North Chicago, Illinois 60064, United States

https://pubs.acs.org/doi/10.1021/acscentsci.8b00728

De novo design of organic photocatalysts: bithiophene derivatives for the visible-light induced C-H functionalization of heteroarenes

Cecilia Bottecchia [1], Raul Martin [2], Irini Abdiaj [3], Ettore Crovini [4], Jesus Alcazar [3], Jesus Jorduna, Maria Blesa, Jose Carrillo [2], Pilar Prieto, Timothy Noel [1]

[1] TU Eindhoven, Netherlands

[2] Universidad de Castilla-La Mancha Facultad de Ciencias y Tecnologias Quimicas de Ciudad Real, Spain

[3] Janssen Research and Development, Spain

[4] University of Saint Andrews School of Chemistry, United Kingdom

https://onlinelibrary.wiley.com/doi/abs/10.1002/adsc.201801571

Integrating reactive distillation with continuous flow processing

Marcus Baumann

School of Chemistry, University College Dublin, Science Centre South, Belfield, Dublin 4, Ireland

https://pubs.rsc.org/en/content/articlelanding/2018/re/c8re00217g/unauth#!divAbstract

Enabling tools for continuous-flow biphasic liquid-liquid reaction

Nopphon Weeranoppanant *[a]

[a] Department of Chemical Engineering, Faculty of Engineering, Burapha University, 169 Longhard Bangsaen, Saensook, Muang, Thailand

https://pubs.rsc.org/en/content/articlelanding/2018/re/c8re00230d/unauth#!divAbstract

High-Throughput Template-Free Continuous Flow Synthesis of Polyaniline Nanofibers

Rekha Singh[†#], Karuna Veeramani[†‡#], Rishab Bajpai[†], and Anil Kumar*[†‡§]

[†]Department of Chemistry, [‡]IITB-Monash Research Academy, [§]National Centre for Excellence in Technologies for Internal Security (NCETIS), Indian Institute of Technology Bombay, Powai, Mumbai, 400076, India

https://pubs.acs.org/doi/abs/10.1021/acs.iecr.8b04507

A Continuous Flow Strategy for the Facile Synthesis and Elaboration of Semi-Saturated Heterobicyclic Fragments

Nicola Luise, Eleanor Wyatt, Gary Tarver, Paul Graham Wyatt

University of Dundee, School of Life Sciences, DD1 5EH Dundee, UNITED KINGDOM

https://onlinelibrary.wiley.com/doi/abs/10.1002/ejoc.201801684

Continuous Flow Chlorination of Alkenyl Iodides Promoted by Copper Tubing

Antoine Nitelet [a], Vanessa Kairouz [b], Hélène Lebel [b], André B. Charette [b], Gwilherm Evano [a]

[a] Laboratoire de Chimie Organique, Service de Chimie et Physico, Chimie Organiques, Université libre de Bruxelles (ULB), Avenue F. D. Roosevelt 50, CP160/06, 1050 Brussels, Belgium

[b] Centre in Green Chemistry and Catalysis, Faculty of Arts and Sciences, Department of Chemistry, Université de Montréal, P.O. Box 6128, Station Downtown, Montréal, Québec, H3C 3J7, Canada

https://www.thieme-connect.com/products/ejournals/html/10.1055/s-0037-1610398

Continuous flow palladium-catalyzed trifluoromethylthiolation of C-H bonds

Alexanne Bouchard [1], Vanessa Kairouz [1], Maxime Manneveau [2], Heng-Ying Xiong [2], Tatiana Besset [2]

[1] Department of Chemistry and Continuous Flow Synthesis Laboratory, Université de Montréal, Montréal, Canada

[2] INSA Rouen, CNRS, COBRA (UMR 6014), Normandie Université, Rouen, France

https://link.springer.com/article/10.1007/s41981-018-0023-4

Continuous preparation for rifampicin

Xin Li [1], Zhuang Liu [1], Hao Qi [1], Zheng Fang [1], Siyu Huang [1], Shanshan Miao [1], Kai Guo [1,2]

[1] College of Biotechnology and Pharmaceutical Engineering, Nanjing Tech University, Nanjing, China
[2] State Key Laboratory of Materials-Oriented Chemical Engineering, Nanjing Tech University, Nanjing, China
https://link.springer.com/article/10.1007/s41981-018-0017-2

Using Carbon Dioxide as a Building Block in Continuous Flow Synthesis
Hyowon Seo, Long V. Nguyen, Timothy F. Jamison
Department of Chemistry, Massachusetts Institute of Technology, Cambridge, Massachusetts, 02139 USA
https://onlinelibrary.wiley.com/doi/abs/10.1002/adsc.201801228

Chemoselective Synthesis of Amines from Ammonium Hydroxide and Hydroxylamine in Continuous Flow
Clément Audubert, Alexanne Bouchard, Gary Mathieu, and Hélène Lebel*
Department of Chemistry and Centre in Green Chemistry and Catalysis (CGCC), Université de Montréal, P.O. Box 6128, Station Downtown, Montréal, QC H3C 3J7, Canada
https://pubs.acs.org/doi/abs/10.1021/acs.joc.8b02387

Enantiospecific cyclization of methyl N-(tert-butoxycarbonyl)-N-(3-chloropropyl)-D-alaninate to 2-methylproline derivative via 'memory of chirality' in flow
Gianvito Vilé [1], Gunther Schmidt [2], Sylvia Richard-Bildstein [1], Stefan Abele [2]
[1] Drug Discovery Chemistry, Idorsia Pharmaceuticals Ltd., Allschwil, Switzerland
[2] Chemical Development, Idorsia Pharmaceuticals Ltd., Allschwil, Switzerland
https://link.springer.com/article/10.1007/s41981-018-0022-5

Mg-Catalyzed OPPenauer Oxidation—Application to the Flow Synthesis of a Natural Pheromone
Virginie Liautard, Mélodie Birepinte, Camille Bettoli and Mathieu Pucheault *
Institut des Sciences Moléculaires (ISM), UMR 5255 CNRS—Université de Bordeaux, 351 Cours de la Libération, 33405 Talence CEDEX, France
https://www.mdpi.com/2073-4344/8/11/529

Dehydration of an Insoluble Urea Byproduct Enables the Condensation of DCC and Malonic Acid in Flow
Alexander G. O'Brien*, Eric M. Ricci, and Michel Journet
GlaxoSmithKline, 709 Swedeland Road, King of Prussia, Pennsylvania 19406, United States
https://pubs.acs.org/doi/abs/10.1021/acs.oprd.7b00375

Self-Sufficient Flow-Biocatalysis by Coimmobilization of Pyridoxal 5'-Phosphate and ω-Transaminases onto Porous Carriers
Ana I. Benítez-Mateos[†], Martina L. Contente[§], Susana Velasco-Lozano[⊥], Francesca Paradisi*[§], and Fernando López-Gallego*[⊥‡]
[†] Heterogeneous Biocatalysis Laboratory, CICbiomaGUNE, Paseo Miramón 182, Edificio empresarial C", 20014 San Sebastián, Spain
[§] School of Chemistry, University of Nottingham, University Park, Nottingham NG7 2RD, U.K.
[⊥] Heterogeneous biocatalysis laboratory, Instituto de Síntesis Química y Catálisis Homogénea (ISQCH−CSIC), University of Zaragoza, C/Pedro Cerbuna 12, 50009 Zaragoza, Spain
[‡] ARAID, Aragon I+D foundation, Zaragoza, Spain
https://pubs.acs.org/doi/10.1021/acssuschemeng.8b02672

A Convergent Continuous Multistep Process for the Preparation of C4-Oxime-Substituted Thiazoles
Edouard Godineau *[†], Claudio Battilocchio [†‡], Matthias Lehmann [†], Steven V. Ley [‡], Ricardo Labes [‡], Letitia Birnoschi [‡], Srinivas Subramanian [§], C.S Prasanna [§], Amol Gorde [§], Mahesh Kalbagh [§], Vivek Khade [§], Anton Scherrer [†], Anthony C. O'Sullivan [†]
[†] Syngenta Crop Protection, Process Research, Schaffhauserstrasse 101, CH-4332, Switzerland
[‡] Innovative Technology Centre, Department of Chemistry, University of Cambridge, Lensfield Road, CB2 1EW, UK
[§] Syngenta Research and Technology Centre, Santa Monica Works, Corlim, Goa India, 403110
https://pubs.acs.org/doi/abs/10.1021/acs.oprd.8b00095

Additive Free Fe-Catalyzed Conversion of Nitro to Aldehyde under Continuous Flow Module
Sandip G. Agalave, Moreshwar B. Chaudhari, Girish Singh Bisht and Boopathy Gnanaprakasam*
Department of Chemistry, Indian Institute of Science Education and Research Pune-411008, India
https://pubs.acs.org/doi/abs/10.1021/acssuschemeng.8b02090

Recent Advances in Photodecarboxylations Involving Phthalimides
Saira Mumtaz [A], Mark J. Robertson [A] and Michael Oelgemöller [A B]

[A] James Cook University, College of Science and Engineering, Townsville, Qld 4811, Australia.
[B] Corresponding author. Email: michael.oelgemoeller@jcu.edu.au

http://www.publish.csiro.au/CH/CH18220

C–H functionalisation of aldehydes using light generated, non-stabilised diazo compounds in flow†

Paul Dingwall [a], Andreas Greb [a], Lorène N. S. Crespin [a], Ricardo Labes [a], Biagia Musio [a], Jian-Siang Poh [a], Patrick Pasau [b], David C. Blakemore [c] and Steven V. Ley *[a]
[a] Department of Chemistry, University of Cambridge, Lensfield Road, Cambridge CB2 1EW, UK.
[b] UCB Biopharma SPRL, Chemical Research R5, Chemin du Foriest 1420, Braine-L'Alleud, Belgium
[c] Medicine Design, Pfizer Inc., Eastern Point Road, Groton, Connecticut 06340, USA

https://pubs.rsc.org/en/content/articlehtml/2018/cc/c8cc06202a

Catalytic Static Mixers for the Continuous Flow Hydrogenation of a Key Intermediate of Linezolid (Zyvox)

James Gardiner *, Xuan Nguyen †, Charlotte Genet †, Mike D. Horne ‡, Christian Hornung †, John Tsanaktsidis †
† CSIRO Manufacturing, Bayview Avenue, VIC 3169, Australia
‡CSIRO Mineral Resources, Bayview Avenue, Clayton, VIC 3169, Australia

https://pubs.acs.org/doi/abs/10.1021/acs.oprd.8b00153

Photoinduced Palladium Negishi Cross-Coupling Through Visible Light Absorption of Palladium-Organozinc complexes

Irini Abdiaj[a], Lena Huck[a,b], José Miguel Mateo[b], Antonio de la Hoz[b], M. Victoria Gomez[c], Angel Díaz-Ortiz[b], and Jesús Alcázar [a *]
[a] Lead Discovery, Janssen Research and Development, Janssen-Cilag, S.A., Jarama 75A, 45007 Toledo, Spain
[b] Facultad de Ciencias y Tecnologías Químicas, Universidad de Castilla-La Mancha, Av. Camilo José Cela 10, 13071 Ciudad Real, Spain
[c] Instituto Regional de Investigación Científica Aplicada, Universidad de Castilla-La Mancha, Av. Camilo José Cela, sn, 13071 Ciudad Real, Spain

https://onlinelibrary.wiley.com/doi/abs/10.1002/anie.201808654

Three-component assembly of multiply substituted homoallylic alcohols and amines using a flow chemistry photoreactor

Yiding Chen†, David Blakemore‡, Patrick Pasau§ and Steven V. Ley†
† Department of Chemistry, University of Cambridge, Lensfield Road, Cambridge CB2 1EW, U.K.
‡ Medicine Design, Pfizer Inc., Eastern Point Road, Groton, Connecticut 06340, United States
§ UCB Biopharma SPRL, Chemical Research R5, Chemin du Foriest, 1420 Braine-L'Alleud, Belgium

https://pubs.acs.org/doi/10.1021/acs.orglett.8b02907

Mild Homologation of Esters via Continuous Flow Chloroacetate Claisen Reactions

Maximilian A. Ganiek, Maria V. Ivanova, Benjamin Martin* and Paul Knochel*
Department of Chemistry, Ludwig-Maximilians-Universität Munich, Butenandtstr. 5 – 13, 81377 Munich, Germany

https://www.ncbi.nlm.nih.gov/pubmed/30290045

Regioselective Chlorination of Quinoline Derivatives via Fluorine Mediation in a Microfluidic Reactor

Hao Qi, Xin Li, Zhuang Liu, Shan-Shan Miao, Prof. Zheng Fang, Lin Chen, Zheng Fang, Prof. Kai Guo
College of Biotechnology and Pharmaceutical Engineering, Nanjing Tech University, Nanjing, China
State Key Laboratory of Materials-Oriented Chemical Engineering, Nanjing Tech University, Nanjing, China

https://onlinelibrary.wiley.com/doi/full/10.1002/slct.201802925

Continuous flow synthesis of a carbon-based molecular cage macrocycle *via* a three-fold homocoupling reaction

Melanie Kitchin,[ab] Kristina Konstas,[a] Christopher J. Sumby,[b] Milena L. Czyz,[a] Peter Valente,[b] Matthew R. Hill,*[ab] Anastasios Polyzos*[ac] and Christian J. Doonan*[ab]
[a] CSIRO Manufacturing Flagship, Bayview Avenue, Clayton, Australia
[b] Centre for Advanced Nanomaterials and the School of Physical Sciences, The University of Adelaide, Adelaide, Australia

https://pubs.rsc.org/en/content/articlelanding/2015/cc/c5cc05181a#!divAbstract

Flow-based biocatalysis: Application to peracetylated arabinofuranosyl-1,5-arabinofuranose synthesis

Teodora Bavaro[a], Andrea Pinto[b], Federica Dall'Oglio[c], María J. Hernáiz[d], Carlo F. Morelli[e], Paolo Zambelli[b], Carlo De Micheli[c,] Paola Conti[c], Lucia Tamborini[c], Marco Terreni[a]
[a] Department of Drug Sciences, University of Pavia, Viale Taramelli 12, 27100 Pavia, Italy
[b] Department of Food Environmental and Nutritional Science (DeFENS), University of Milan, Via Mangiagalli 25, 20133 Milan, Italy

[c] Department of Pharmaceutical Sciences (DISFARM), University of Milan, Via Mangiagalli 25, 20133 Milan, Italy
[d] Department of Pharmaceutical and Organic Chemistry, Faculty of Pharmacy, Complutense University of Madrid, Plaza de Ramón y Cajal s/n, 28040 Madrid, Spain
[e] Department of Chemistry, University of Milan, Via Golgi 19, 20133 Milan, Italy
https://www.sciencedirect.com/science/article/pii/S1359511318302484

Continuous Flow Photochemical Benzylic Bromination of a Key Intermediate in the Synthesis of a 2-Oxazolidinone
Y Chen, O de Frutos, C Mateos, JA Rincon, D Cantillo, C Olivier Kappe
https://onlinelibrary.wiley.com/doi/abs/10.1002/cptc.201800114

Native Chemical Ligation–Photodesulfurization in Flow
Timothy S. Chisholm, Daniel Clayton, Luke J. Dowman, Jessica Sayers, Richard J. Payne
School of Chemistry, The University of Sydney, Sydney, NSW 2006, Australia
https://pubs.acs.org/doi/10.1021/jacs.8b03115

Continuous flow biocatalysis
Joshua Britton, Sudpta Majumdar, Gregory A. Weiss
Department of Chemistry, Molecular Biology and Biochemistry, University of California, Irvine, USA
http://pubs.rsc.org/en/content/articlelanding/2018/cs/c7cs00906b/unauth#!divAbstract

Reductive aminations using a 3D printed supported metal(0) catalyst system
Charlotte Genet[1], Xuan Nguyen[1], Bita Bayatsarmadi[2], Mike D. Horne[2], James Gardiner[1], Christian H. Hornung[1]
[1] CSIRO Manufacturing, Clayton, South Australia
[2] CSIRO Minerals Resources, Clayton, South Australia
https://link.springer.com/article/10.1007/s41981-018-0013-6

Flow Synthesis of Coumalic Acid and its Derivatization
Laura K. Smith and Ian R. Baxendale
Department of Chemistry, University of Durham, South Road, Durham, DH1 3LE, UK.
https://pubs.rsc.org/en/content/articlelanding/2018/re/c8re00116b#!divAbstract

Combining CH functionalisation and flow photochemical heterocyclic metamorphosis (FP-HM) for the Combining CH functionalisation and flow photochemical heterocyclic metamorphosis (FP-HM) for the synthesis of benzo [1, 3] oxazepines
Jasraj S. Babra, Andrew T. Russell, Christopher D. Smith, Yuxiong Zhang
Department of Chemistry, University of Reading, Whiteknights, Reading, RG6 6AD, UK
https://www.sciencedirect.com/science/article/pii/S0040402018306148

Studies toward the scaling of gas-liquid photocycloadditions
Dr. Emily B. Corcoran, Dr. François Lévesque, Dr. Jonathan P. McMullen, Dr. John R. Naber
Department of Process Research and Development, Merck Sharp & Dohme Corp., Rahway, USA
https://onlinelibrary.wiley.com/doi/full/10.1002/cptc.201800098

Photooxygenation in an advanced led-driven flow reactor module: Experimental investigations and modelling
Robbie Radjagobalou[ab], Jean-François Blanco[a], Odile Dechy-Cabaret[b], Michael Oelgemöller[c], Karine Loubière
[a] Laboratoire de Génie Chimique LGC, Université de Toulouse, CNRS, Toulouse, France
[b] Laboratoire de Chimie de Coordination LCC, CNRS, Toulouse, France
[c] James Cook University, College of Science and Engineering, Townsville, Queensland 4811, Australia
https://www.sciencedirect.com/science/article/abs/pii/S0255270118304355

P-121: Successive and scalable synthesis of highly stable Cs_4PbBr_6 perovskite microcrystal by microfluidic system and their application in backlight display
Hung-Chia Wang, Zhen Bao, Ru-Shi Liu
Department of Chemistry, National Taiwan UniversityTaipei, Taiwan
Department of Mechanical Engineering and Graduate Institute of Manufacturing Technology, National Taipei University of TechnologyTaipei, Taiwan
https://onlinelibrary.wiley.com/doi/abs/10.1002/sdtp.12305

Self-sustaining closed-loop multienzyme-mediated conversion of amines into alcohols in continuous reactions

Martina L. Contente, Francesca Paradisi
School of Chemistry, University of Nottingham, Nottingham, United Kingdom
https://www.nature.com/articles/s41929-018-0082-9

Dichlorophenylacrylonitriles as AhR Ligands displaying selective breast cancer cytotoxicity in vitro

Jennifer R Selective Oxidation of Sulfides in Flow Chemistry

[1], Jayne Gilbert[2], Stefan Paula[3], Xiao Zhu[3], Jennette A Sakoff[2], Adam McCluskey[1]
[1] The University of Newcastle, Chemistry, Newcastle, Australia
[2] Calvary Mater Hospital, Medical Oncology, Newcastle, Australia
[3] Purdue University, Chemistry, West Lafayette, United States
https://onlinelibrary.wiley.com/doi/abs/10.1002/cmdc.201800256

Combining C-H functionalisation and flow photochemical heterocyclic metamorphosis (FP-HM) for the synthesis of benzo[1,3]oxazepines
Jasraj S. Babra, Andrew T. Russell, Christopher D. Smith, Yuxiong Zhang
Department of Chemistry, University of Reading, Whiteknights, Reading, RG6 6AD, UK
https://www.sciencedirect.com/science/article/pii/S0040402018306148

Multistep Continuous-Flow Processes for the Preparation of Heterocyclic Active Pharmaceutical Ingredients
Romaric Gérardy, Jean-Christophe M. Monbaliu
Center for Integrated Technology and Organic Synthesis, Department of Chemistry, University of Liège, Liège, Belgium
https://link.springer.com/chapter/10.1007/7081_2018_21

Flow Chemistry Approaches Applied to the Synthesis of Saturated Heterocycles
Marcus Baumann, Ian R. Baxendale
Department of Chemistry, University of Durham, Durham, UK
https://link.springer.com/chapter/10.1007/7081_2018_16

An efficient benzoxaborole one-pot synthesis by SiliaCat DPP-Pd heterogeneous catalysis using diboronic acid
Kana kunihiro, Laurence Dumais, Guillaume Lafitte, Emeric Varvier, Loïc Tomas, Craig Harris
Nestlé Skin Health, Galderma R&D, France
Ecole Nationale Supérieure des Ingenieurs en Arts Chimiques et Technologiques, France
https://onlinelibrary.wiley.com/doi/abs/10.1002/adsc.201800262

Total Synthesis of Neomarchantin A: Key Bond Constructions Performed Using Continuous Flow Methods
Émilie Morin, Michaël Raymond, Amaury Dubart, and Shawn K. Collins
Department of Chemistry and Centre for Green Chemistry and Catalysis, Université de Montréal, CP 6128 Station Downtown, Montréal, Québec, Canada H3C 3J7
https://pubs.acs.org/doi/10.1021/acs.orglett.7b01127

In situ epoxide generation by dimethyldioxirane oxidation and the use of epichlorohydrin in the flow synthesis of a library of β-amino alcohols
Peter J. Cossar, Jennifer R. Baker, Nicholas Cain, Adam McCluskey
Chemistry, The University of Newcastle, University Drive Callaghan, New South Wales 2308, Australia
http://rsos.royalsocietypublishing.org/content/5/4/171190

Safe Use of Hazardous Chemicals in Flow
MT Rahman, T Wirth
[1] School of Chemistry and Chemical Engineering, Queen's University Belfast, Belfast, UK
[2] School of Chemistry, Cardiff University, Cardiff, UK
https://link.springer.com/chapter/10.1007/7081_2018_17

Photochemical Synthesis of Heterocycles: Merging Flow Processing and Metal-Catalyzed Visible Light Photoredox Transformations
T Glasnov

Institute of Chemistry, University of Graz, Graz, Austria
https://link.springer.com/chapter/10.1007/7081_2018_20

Flow Chemistry as a Drug Discovery Tool: A Medicinal Chemistry Perspective
[1] Andrew R. Bogdan, [2] Michael G. Organ
[1] Discovery Chemistry and Technology, AbbVie Inc., North Chicago, USA
[2] Department of Chemistry and Biomolecular Sciences, University of Ottawa, Ottawa, Canada
https://link.springer.com/chapter/10.1007/7081_2018_24

Copper mediated, heterogeneous, enantioselective intramolecular Buchner reactions of α-diazoketones using continuous flow processing
DC Crowley[†], D Lynch[†], AR Maguire[‡]
[†] School of Chemistry, Analytical and Biological Chemistry Research Facility, University College Cork, Cork T12 K8AF, Ireland
[‡] School of Chemistry and School of Pharmacy, Analytical and Biological Chemistry Research Facility, Synthesis and Solid State Pharmaceutical Centre, University College Cork, Cork T12 K8AF, Ireland
https://pubs.acs.org/doi/abs/10.1021/acs.joc.8b00147

Functionalization of Heteroarenes Under Continuous Flow
Joachim Demaerel, Vidmantas Bieliũnas, Wim M. De Borggraeve
Molecular Design and Synthesis, Department of Chemistry, KU Leuven, Leuven, Belgium
https://link.springer.com/chapter/10.1007/7081_2018_22

Photoredox Iridium–Nickel Dual-Catalyzed Decarboxylative Arylation Cross-Coupling: From Batch to Continuous Flow via Self-Optimizing Segmented Flow Reactor
Hsiao-Wu Hsieh[†], Connor W. Coley[‡], Lorenz M. Baumgartner[‡], Klavs F. Jensen*[‡], and Richard I. Robinson*[†]
[†] Global Discovery Chemistry − Chemical Technology Group, Novartis Institutes for Biomedical Research, 250 Massachusetts Avenue, Cambridge, Massachusetts 02139, United States
[‡] Department of Chemical Engineering, Massachusetts Institute of Technology, 77 Massachusetts Avenue, Cambridge, Massachusetts 02139, United States
https://pubs.acs.org/doi/abs/10.1021/acs.oprd.8b00018

A combination of flow and batch mode processes for the efficient preparation of $mGlu_{2/3}$ receptor negative allosteric modulators (NAMs)
Raveendra Panickar Dhanya, Ananda Herath, Douglas J. Sheffler, Nicholas D.P. Cosford
Cancer Metabolism and Signaling Networks Program, NCI-Designated Cancer Center, Sanford Burnham Prebys Medical Discovery Institute, 10901 N. Torrey Pines Rd., La Jolla, CA 92037, USA
https://www.sciencedirect.com/science/article/pii/S004040201830351X

On-demand synthesis of organozinc halides under continuous flow conditions
Mateo Berton, Lena Huck, Jesús Alcázar
Lead Discovery, Janssen Research and Development, Janssen-Cilag, S.A., Toledo, Spain
https://www.nature.com/articles/nprot.2017.141

Generation of Diversity Sets with High sp3 Fraction Using the Photoredox Coupling of Organotrifluoroborates and Organosilicates with Heteroaryl/Aryl Bromides in Continuous Flow
Kevin D Raynor, Gregory D May, Upul K. Bandarage, and Michael J. Boyd
Vertex Pharmaceuticals Inc., 50 Nothern Avenue, Boston, Massachusetts 02210, United States.
https://www.ncbi.nlm.nih.gov/pubmed/29281285

Iron-Catalyzed Batch/Continuous Flow C-H Functionalization Module for the Synthesis of Anticancer Peroxides
Moreshwar Bhagwan Chaudhari, Suresh Moorthy, Sohan Patil, Girish Singh Bisht, Haneef Mohamed, Sudipta Basu, and Boopathy Gnanaprakasam
Department of Chemistry, Indian Institute of Science Education and Research, Pune 411008, India
http://pubs.acs.org/doi/abs/10.1021/acs.joc.7b02854

Selective *N*-monomethylation of primary anilines with dimethyl carbonate in continuous flow
Hyowon Seo, Anne-Catherine Bédard, Willie P. Chen, Robert W. Hicklin, Alexander Alabugin, Timothy F. Jamison
Department of Chemistry, Massachusetts Institute of Technology, 77 Massachusetts Ave., Cambridge, MA 02139, USA

https://www.sciencedirect.com/science/article/pii/S0040402017312346

Continuous flow multistep synthesis of α-functionalized esters via lithium enolate intermediates

Timo von Keutz[ab], Franz J. Strauss[b], David Cantillo[ab], C. Oliver Kappe[ab]
[a] Center for Continuous Flow Synthesis and Processing (CC FLOW), Research Center Pharmaceutical Engineering GmbH (RCPE), Inffeldgasse 13, 8010 Graz, Austria
[b] Institute of Chemistry, NAWI Graz, University of Graz, Heinrichstrasse 28, 8010 Graz, Austria

https://www.sciencedirect.com/science/article/pii/S004040201731222X

A concise flow synthesis of indole-3-carboxylic ester and its derivatisation to an auxin mimic

Marcus Baumann, Ian R. Baxendale and Fabien Deplante
Department of Chemistry, University of Durham, South Road, Durham, Durham, DH1 3LE, UK

https://www.beilstein-journals.org/bjoc/articles/13/251

Synthesis, physicochemical properties, and biological activity of bile acids 3-glucuronides: Novel insights into bile acid signalling and detoxification

Serena Mostarda[a], Daniela Passeri[b, 1], Andrea Carotti[a, 1], Bruno Cerra[a], Carolina Colliva[b], Tiziana Benicchi[b], Antonio Macchiarulo[a], Roberto Pellicciari[b], Antimo Gioiello[a]
[a] Department of Pharmaceutical Sciences, University of Perugia, Via del Liceo, 1, 06123 Perugia, Italy
[b] TES Pharma, Corso Vannucci, 47, 06121 Perugia, Italy

https://www.sciencedirect.com/science/article/pii/S0223523417310401

Conjugated polymers via direct arylation polymerization in continuous flow: minimizing the cost and batch-to-batch variations for high-throughput energy conversion

Nemal S. Gobalasingham[1], Jon E. Carlé[2], Frederik C. Krebs[2], Barry C. Thompson[1], Eva Bundgaard[2], Martin Helgesen*[,2]
[1] Department of Chemistry and Loker Hydrocarbon Research Institute, University of Southern California, Los Angeles, California, 90089-1661
[2] DTU Energy, Technical University of Denmark, Roskilde, DK-4000, Denmark

http://onlinelibrary.wiley.com/doi/10.1002/marc.201700526/full

Recent advances of microfluidics technologies in the field of medicinal chemistry

László Ürge*, Jesus Alcazar[†], Lena Huck[†], György Dormán[‡]
* DBH Group, Budapest, Hungary
[†] Janssen Research and Development, Toledo, Spain
[‡] Innostudio Inc., Budapest, Hungary

http://www.sciencedirect.com/science/article/pii/S0065774317300192

Sustainable flow synthesis of a versatile cyclopentenone building block

Marcus Baumann[†], Ian R. Baxendale*[†], Paolo Filipponi[‡], and Te Hu[†]
[†] Department of Chemistry, University of Durham, South Road, DH1 3LE Durham, U.K.
[‡] Novartis Pharma AG, Fabrikstrasse 14, 4002 Basel, Switzerland

http://pubs.acs.org/doi/abs/10.1021/acs.oprd.7b00328

Auto-tandem catalysis: Pd(II)-catalysed dehydrogenation/oxidative Heck of Cyclopentane-1,3-diones

Claire J C Lamb, Bryan G Nderitu, Gemma McMurdo, John MTobin, Filipe Vilela, and Ai-Lan Lee
Institute of Chemical Sciences, Heriot-Watt University, Edinburgh EH14 4AS, United Kingdom

http://onlinelibrary.wiley.com/doi/10.1002/chem.201704442/pdf

Exploring effects of intermittent light upon visible light promoted water oxidations

Dominic Walsh*[a], Pascaline Patureau[a], Karen Robertson[a], Shaun Reeksting[b], Anneke Lubben[b], Salvador Eslava[c] and Mark T. Wellera[a]
[a] Department of Chemistry, University of Bath, Bath, BA2 7AY, UK.
[b] Chemical Characterization and Analysis Facility, University of Bath, Bath, BA2 7AY, UK
[c] Department of Chemical Engineering, University of Bath, BA2 7AY, UK

http://pubs.rsc.org/en/content/articlepdf/2017/se/c7se00304h

Telescoped continuous flow generation of a library of highly substituted 3-thio-1,2,4-triazoles.

Mariana C. F. C. B. Damião , Renan Souza Galaverna , Alan P Kozikowski , James Eubanks and Julio Cezar Pastre
[a] Institute of Chemistry, University of Campinas - UNICAMP, PO Box 6154 - Zip Code 13083-970, Campinas, SP, Brazil
[b] StarWise Therapeutics LLC - University Research Park – Zip Code 53719-1235, Madison, Wisconsin, USA
[c] Division of Genetics and Development - Krembil Research Institute – Zip Code M5T 2S8, Toronto, Ontario, Canada
http://pubs.rsc.org/en/content/articlehtml/2017/re/c7re00125h

Targeting a mirabegron precursor by BH_3-mediated continuous flow reduction process
Sonia De Angelis[a], Claudia Carlucci[a], Modesto de Candia[a], Gabriele Rebuzzini[b], Paolo Celestini[b], Massimiliano Riscazzi[b], Renzo Luisi[a,,], Leonardo Degennaro[a]
[a] FLAME-Lab – Flow Chemistry and Microreactor Technology Laboratory, Department of Pharmacy — Drug Sciences, University of Bari "A. Moro" Via E. Orabona 4, Bari 70125, Italy
[b] COSMA S.p.A, Via Colleoni 15/17, Ciserano, BG 24040, Italy
http://www.sciencedirect.com/science/article/pii/S0920586117306739

In situ preparation and consumption of O-Mesitylsulfonylhydroxylamine (MSH) in continuous flow for the amination of pyridines
Cara E. Brocklehurst*, Guido Koch, Stephanie Rothe-Pöllet, Luigi La Vecchia
Synthesis and Technologies, Global Discovery Chemistry, Novartis Institutes for Biomedical Research, Klybeckstrasse 141, 4057 Basel, Switzerland
https://www.thieme-connect.com/products/ejournals/abstract/10.1055/s-0036-1588799

Highly efficient oxidation of amines to aldehydes with flow-based biocatalysis
Dr. Martina L. Contente[1,2], Federica Dall'Oglio[3], Dr. Lucia Tamborini[3], Prof. Francesco Molinari[4],Prof. Francesca Paradisi[1,2]
[1] School of Chemistry, University of Nottingham, Nottingham, UK
[2] UCD School of Chemistry, University College Dublin, Dublin, Ireland
[3] Department of Pharmaceutical Sciences, DISFARM, University of Milan, Milan, Italy
[4] Department of Food, Environmental and Nutritional Science, DeFENS, University of Milan, Milan, Italy
http://onlinelibrary.wiley.com/doi/10.1002/cctc.201701147/full

Novel polystyrene-immobilized chiral amino alcohols as heterogeneous ligands for the enantioselective Arylation of Aldehydes in Batch and Continuous Flow Regime
José Augusto Forni, Luiz Fernando Toneto Novaes, Renan Galaverna, Julio C.Pastre
Institute of Chemistry, University of Campinas – UNICAMP, PO Box 6154, 13083-970, Campinas, SP, Brazil
http://www.sciencedirect.com/science/article/pii/S0920586117305771

An efficient and green pathway for continuous Friedel-Crafts acylation over α-Fe_2O_3 and $CaCO_3$ nanoparticles prepared in the microreactors
Zheng Fang[a1,] Wei He[b1,] TaoTu[b,] Niuniu Lv[a], Chuanhong Qiu[a,] Xin Li[a,] Ning Zhu[a,] Li Wan[a,] Kai Guo[ac]
[a] College of Biotechnology and Pharmaceutical Engineering, Nanjing Technology University, No. 30 Puzhu South Road, Nanjing, China
[b] Department of Chemistry, Fudan University, 220 Handan Road, 200433 Shanghai, China
[c] State Key Laboratory of Materials-Oriented Chemical Engineering, Nanjing Technology University, Nanjing 211816, PR China
http://www.sciencedirect.com/science/article/pii/S1385894717314845

A nanoporous graphene analog for superfast heavy metal removal and continuous-flow visible-light photoredox catalysis
Ran Xiao[a], John Michael Tobin[b], Meiqin Zha[a], Yunlong Hou[a], Jun He[c], Filipe Vilela[*b] and Zhengtao Xu[*a]
[a] Department of Chemistry, City University of Hong Kong, 83 Tat Chee Avenue, Kowloon, Hong Kong
[b] School of Engineering and Physical Sciences, Heriot-Watt University, Edinburgh, UK
[c] School of Chemical Engineering and Light Industry, Guangdong University of Technology, Guangzhou 510006, China
http://pubs.rsc.org/en/content/articlelanding/2017/ta/c7ta05534j#!divAbstract

A novel micro-flow system under microwave irradiation for continuous synthesis of 1, 4-dihydropyridines in the absence of solvents via Hantzsch reaction
WeiHe[ab,] ZhengFang[b,] KaiZhang[b,] TaoTu[a,] NiuniuLv[b,] ChuanhongQiu[b,] KaiGuo[bc]
Department of Chemistry, Fudan University, No. 220 Handan Road, Shanghai, 200433, PR China
[b] College of Biotechnology and Pharmaceutical Engineering, Nanjing Technology University, No. 30 Puzhu South Road, Nanjing, 211816, PR China

[c] State Key Laboratory of Materials-Oriented Chemical Engineering, Nanjing Technology University, No. 30 Puzhu South Road, Nanjing, 211816, PR China

http://www.sciencedirect.com/science/article/pii/S1385894717314444

Methanolysis of epoxidized soybean oil in continuous flow conditions

Vincenzo Pantone[a], Amelita Grazia Laurensa[b], Cosimo Annese[c], Francesco Fracassi[b], Caterina Fusco[c], Angelo Nacci[b, c,] Antonella Russo[a], Lucia D'Accolti[b, c]

[a] Greenswitch s.r.l., Ferrandina MT, Italy

[b] Dipartimento di Chimica, Università di Bari Aldo Moro, Via E. Orabona 4, 70126 Bari, Italy

[c] ICCOM-CNR, SS Bari, Via E. Orabona 4, 70126 Bari, Italy

http://www.sciencedirect.com/science/article/pii/S0926669017305125

Visible-light-induced trifluoromethylation of highly functionalized arenes and heteroarenes in continuous flow

Irini Abdiaj[a], Cecilia Bottecchia[b], Jesus Alcazar*[a], Timothy Noël*[b]

[a]Janssen Research & Development, Jarama 75A, 45007 Toledo, Spain

[b] Department of Chemical Engineering and Chemistry, Micro Flow Chemistry & Process Technology, Eindhoven University of Technology, Den Dolech 2, 5612 AZ Eindhoven, The Netherlands

https://www.thieme-connect.com/products/ejournals/html/10.1055/s-0036-1588527

Continuous preparation and use of dibromoformaldoxime as a reactive intermediate for the synthesis of 3-bromoisoxazolines

Claudio Battilocchio, Francesco Bosica, Sam M. Rowe, Bruna Lacerda Abreu, Edouard Godineau, Matthias Lehmann, and Steven V Ley

http://pubs.acs.org/doi/abs/10.1021/acs.oprd.7b00229

Chemoenzymatic synthesis in flow reactors: a rapid and convenient preparation of captopril

Dr. Valerio De Vitis[1], Dr. Federica Dall'Oglio[1], Dr. Andrea Pinto[2], Prof. Carlo De Micheli[2], Prof. Francesco Molinari[1], Prof. Paola Conti[2], Dr. Diego Romano[1], Dr. Lucia Tamborini[2]

[1] *Department of Food Environmental and Nutritional Science, University of Milan, Milan, Italy*

[2] *Department of Pharmaceutical Sciences, University of Milan, Milan, Italy*

http://onlinelibrary.wiley.com/doi/10.1002/open.201700082/full

Preparation of polyfunctional diorgano-magnesium and - zinc reagents using in situ trapping halogen-lithium exchange of highly functionalized (hetero)aryl halides in continuous flow

Marthe Ketels, Maximilian Andreas Ganiek, Niels Weidmann, Paul Knochel

LMU München, Department of Chemistry, München, Germany

http://onlinelibrary.wiley.com/doi/10.1002/anie.201706609/full

Flow assisted synthesis: a key fragment of SR 142948A

Matthew Oliver Kitching, Olivia E Dixon, Marcus Baumann, Ian Richard Baxendale

University of Durham, Chemistry, Durham, UK

http://onlinelibrary.wiley.com/doi/10.1002/ejoc.201700904/full

Singlet oxygen oxidations in homogeneous continuous flow using a gas–liquid membrane reactor

Antonia Kouridaki, Kevin Huvaere

EcoSynth NV, Industrielaan 12, 9800 Deinze, Belgium

http://pubs.rsc.org/en/content/articlehtml/2017/re/c7re00053g

A convenient, mild and green synthesis of NH-sulfoximines in flow reactors

Leonardo Degennaro[1], Arianna Tota[1], Sonia De Angelis[1], Michael Andresini[1], Cosimo Cardellicchio[2], Maria Annunziata Capozzi[1], Giuseppe Romanazzi[3], Renzo Luisi[1]

[1] *University of Bari, Department of Pharmacy - Drug Sciences, Bari, Italy*

[2] *CNR ICCOM, Department of Chemistry, Bari, Italy*

[3] *Politecnico di Bari, DICATECh, Bari, Italy*

http://onlinelibrary.wiley.com/doi/10.1002/ejoc.201700850/full

A Continuous flow method for the desulfurization of substituted thioimidazoles applied to the synthesis of new etomidate derivatives

Marcus Baumann, Ian R Baxendale
Durham University, Department of Chemistry, Durham, UK

http://onlinelibrary.wiley.com/doi/10.1002/ejoc.201700833/full

High throughput photo-oxidations in a packed bed reactor system
Caleb J.Kong, DanielFisher, Bimbisar K.Desai,. YuanYang, Saeed Ahmad, Katherine Belecki, B. Frank Gupton
Department of Chemistry and Department of Chemical and Life Science Engineering, Virginia Commonwealth University, 601 W. Main St. Richmond, VA 23220, USA

http://www.sciencedirect.com/science/article/pii/S0968089617313627

Phase separation macrocyclization in a complex pharmaceutical setting: application toward the synthesis of Vaniprevir
Éric Godin, Anne-Catherine Bédard, Michaël Raymond, and Shawn K. Collins*
Département de Chimie, Centre for Green Chemistry and Catalysis, Université de Montréal, CP 6128 Station Downtown, Montréal, Québec, H3C 3J7 Canada

http://pubs.acs.org/doi/abs/10.1021/acs.joc.7b01308

Grignard Reagents on a Tab: Direct Magnesium Insertion under Flow Conditions
Lena Huck,†,‡ Antonio de la Hoz,*,‡ Angel Díaz-Ortiz,‡ and Jesus Alcázar*,†
†Janssen Research and Development, Janssen-Cilag, S.A., C/Jarama 75, 45007 Toledo, Spain
‡Facultad de Ciencias Químicas, Universidad de Castilla-La Mancha, 13071 Ciudad Real, Spain

http://pubs.acs.org/doi/abs/10.1021/acs.orglett.7b01590

Co-production of HMF and gluconic acid from sucrose by chemo-enzymatic method
Hongli Wu, Ting Huang, Fei Cao, Qiaogen Zou, Ping Wei, Pingkai Ouyang
College of Biotechnology and Pharmaceutical Engineering, Nanjing Tech University, 30 South Puzhu Road, Nanjing 211816 PR China

http://www.sciencedirect.com/science/article/pii/S1385894717310586

Efficient synthesis of 5-(chloromethyl) furfural (CMF) from high fructose corn syrup (HFCS) using continuous flow processing
T. M. Kohl,*[a] B. Bizet,[a] P. Kevan,[a] C. Sellwood,[a] J. Tsanaktsidis[a] and C. H. Hornung[a]
[a] CSIRO Manufacturing Flagship, Bag 10, Clayton South, Australia

http://pubs.rsc.org/en/content/articlelanding/2017/re/c7re00039a/unauth#!divAbstract

Barbier continuous flow preparation and reactions of carbamoyllithiums for nucleophilic amidation
Maximilian Andreas Ganiek, Matthias Richard Becker, Guillaume Berionni, Hendrik Zipse, Paul Knochel
LMU München, Department of Chemistry, München, Germany

http://onlinelibrary.wiley.com/doi/10.1002/chem.201702593/full

Polymer-supported photosensitizers for oxidative organic transformations in flow and under visible light Irradiation
John M. Tobin†, Timothy J. D. McCabe‡, Andrew W. Prentice†, Sarah Holzer†, Gareth O. Lloyd† , Martin J. Paterson†, Valeria Arrighi†, Peter A. G. Cormack*‡, and Filipe Vilela*†
† School of Engineering and Physical Sciences, Heriot-Watt University, Edinburgh, EH14 4AS Scotland, United Kingdom
‡ WestCHEM, Department of Pure and Applied Chemistry, University of Strathclyde, Thomas Graham Building, 295 Cathedral Street, Glasgow, G1 1XL Scotland, United Kingdom

http://pubs.acs.org/doi/abs/10.1021/acscatal.7b00888

Direct valorisation of waste cocoa butter triglycerides via catalytic epoxidation, ring-opening and polymerisation
Dorota D Plaza[a], Vinzent Strobel[b,c], Parminder Kaur KS Heer[b], Andrew B Sellars[d], Seng-Soi Hoong[d], Andrew J Clark[d], Alexei A Lapkin[b]
[a] School of Engineering, University of Warwick, Coventry, UK
[b] Department of Chemical Engineering and Biotechnology, University of Cambridge, UK
[c] Aachener Verfahrenstechnik – Process Systems Engineering, RWTH Aachen University, Aachen, Germany
[d]Department of Chemistry, University of Warwick, Coventry, UK

http://onlinelibrary.wiley.com/doi/10.1002/jctb.5292/full

Hydrogen sulfide chemistry in continuous flow: Efficient synthesis of 2-oxopropanethioamide
David Cantillo[1,2], Phillip A. Inglesby[3], Alistair Boyd[3] and C. Oliver Kappe[1,2*]

[1]Institute of Chemistry, University of Graz, NAWI Graz, Heinrichstrasse 28, 8010 Graz, Austria
[2]Research Center Pharmaceutical Engineering (RCPE), Inffeldgasse 13, 8010 Graz, Austria
[3]AstraZeneca, Silk Road Business Park, Macclesfield, SK10 2NA, United Kingdom
http://akademiai.com/doi/abs/10.1556/1846.2017.00006

Automating multistep flow synthesis: approach and challenges in integrating chemistry, machines and logic
Chinmay A. Shukla[1,2] and Amol A. Kulkarni*[1,2]
[1] Academy of Scientific and Innovative Research (AcSIR), CSIR-National Chemical Laboratory (NCL) Campus, Pune 411008, India
[2] Chem. Eng. & Proc. Dev. Div., CSIR-National Chemical Laboratory, Dr. Homi Bhaba Road, Pashan, Pune 411008, India
https://www.beilstein-journals.org/bjoc/articles/13/97/i/2

Utilizing on- and off-line monitoring tools to follow a kinetic resolution step during flow synthesis
Kathleen A. Farley, Usa Reilly, Dennis P. Anderson, Brian P. Boscoe, Mark W. Bundesmann, David A. Foley, Manjinder S. Lall, Chao Li, Matthew R. Reese, Jiangli Yan
Medicinal Sciences, Pfizer Worldwide Research and Development, Groton, CT, United States
http://onlinelibrary.wiley.com/doi/10.1002/mrc.4494/full

Flow Synthesis of Cyclobutanones via [2+2] Cycloaddition of Keteneiminium Salts and Ethylene Gas
Claudio Battilocchio[a], Grazia Iannucci[a], Shiyi Wang[a], Edouard Godineau[b], Amandine Krieger[b], Alain De Mesmaeker[b] and Steven V Ley*[a]
[a] Innovative Technology Centre, Department of Chemistry, University of Cambridge, Lensfield Road, CB2 1EW, UK
[b] Syngenta Crop Protection AG, Crop Protection Research, Schaffhauserstrasse 101, CH-4332, Switzerland
http://pubs.rsc.org/en/content/articlelanding/2017/re/c7re00020k/unauth#!divCitation

Continuous Flow α‑Arylation of N,N‑Dialkylhydrazones under Visible-Light Photoredox Catalysis
Juan A. Vega, José Manuel Alonso, Gabriela Méndez, Myriam Ciordia, Francisca Delgado, and Andrés A. Trabanco
Neuroscience Medicinal Chemistry, Janssen Research & Development, Jarama 75A, 45007 Toledo, Spain
http://pubs.acs.org/doi/ipdf/10.1021/acs.orglett.7b00117

Utilization of flow chemistry in catalysis: New avenues for the selective synthesis of Bis(indolyl)methanes
Swapna S. Mohapatra[a, b], Zoe E. Wilson[a], Sujit Roy[b], Steven V. Ley[a]
[a] Department of Chemistry, University of Cambridge, Lensfield Road, Cambridge, CB2 1EW, UK
[b] Organometallics & Catalysis Laboratory, School of Basic Sciences, Indian Institute of Technology, Bhubaneswar 751013, India
http://www.sciencedirect.com/science/article/pii/S0040402017301588

Continuous-flow synthesis of highly functionalized imidazo-oxadiazoles facilitated by microfluidic extraction
Ananda Herath and Nicholas D. P. Cosford*
Cancer Metabolism & Signaling Networks Program, Sanford Burnham Prebys Medical Discovery Institute, 10901 North Torrey Pines Road, La Jolla, California 92037, USA
http://www.beilstein-journals.org/bjoc/content/pdf/1860-5397-13-26.pdf

Preparation of Forced Gradient Copolymers Using Tube-in-Tube Continuous Flow Reactors
Simon Saubern, Xuan Nguyen, Van Nguyen, James Gardiner, John Tsanaktsidis, John Chiefari
CSIRO Manufacturing, Clayton, VIC, Australia
http://onlinelibrary.wiley.com/doi/10.1002/mren.201600065/full

A Continuous Flow Synthesis and Derivatization of 1,2,4-Thiadiazoles
Marcus Baumann, Ian R. Baxendale
Department of Chemistry, University of Durham, South Road, DH1 3LE Durham, United Kingdom.
http://www.sciencedirect.com/science/article/pii/S0968089617300901

Self-optimisation and model-based design of experiments for developing a C–H activation flow process
Alexander Echtermeyer[1,2], Yehia Amar[2], Jacek Zakrzewski[2] and Alexei Lapkin[2]
[1]Aachener Verfahrenstechnik – Process Systems Engineering, RWTH Aachen University, Aachen, Germany
[2]Department of Chemical Engineering and Biotechnology, University of Cambridge, Cambridge, United Kingdom
http://www.beilstein-journals.org/bjoc/single/articleFullText.htm?publicId=1860-5397-13-18

Diels–Alder reactions of myrcene using intensified continuous-flow reactors
Christian H. Hornung, Miguel Á. Álvarez-Diéguez, Thomas M. Kohl and John Tsanaktsidis
CSIRO Manufacturing, Bag 10, Clayton South, Victoria 3169, Australia
http://www.beilstein-journals.org/bjoc/single/articleFullText.htm?publicId=1860-5397-13-15

Active Site-Mapping of Xylan-Deconstructing Enzymes with Arabinoxylan Oligosaccharides Produced by Automated Glycan Assembly
Deborah Senf, Colin Ruprecht, Goswinus de Kruijff, Sebastian Simonetti, Frank Schuhmacher, Peter Seeberger, Fabian Pfrengle
Max-Planck-Institute of Colloids and Interfaces, Biomolecular Systems, Potsdam, Germany
http://onlinelibrary.wiley.com/doi/10.1002/chem.201605902/full

Mixed-Linkage Glucan Oligosaccharides Produced by Automated Glycan Assembly Serve as Tools to Determine the Substrate Specificity of Lichenase
Pietro Dallabernardina, Frank Schuhmacher, Peter H Seeberger, Fabian Pfrengle
Max-Planck-Institute of Colloids and Interfaces, Biomolecular Systems, Potsdam, Germany
http://onlinelibrary.wiley.com/doi/10.1002/chem.201605479/full

Improving the throughput of batch photochemical reactions using flow: Dual photoredox and nickel catalysis in flow for C(sp^2)—C(sp^3) cross-coupling
Irini Abdiaj, Jesús Alcázar
Janssen Research and Development, Janssen-Cilag, S.A., C/Jarama 75, 45007 Toledo, Spain
http://www.sciencedirect.com/science/article/pii/S096808961631495X

Synthesis of Cycloalkyl Substituted 7-Azaindoles via Photoredox Nickel Dual Catalytic Cross-Coupling in Batch and Continuous Flow
Natalie Palaychuk, Travis J. DeLano, Michael J. Boyd, Jeremy Green, and Upul K. Bandarage
Vertex Pharmaceuticals Incorporated, 50 Northern Avenue, Boston, Massachusetts 02210, United States
http://pubs.acs.org/doi/abs/10.1021/acs.orglett.6b03223?journalCode=orlef7

Acridinium-Based Photocatalysts: A Sustainable Option in Photoredox Catalysis
Amruta Joshi-Pangu[†], François Lévesque[†], Hudson G. Roth[‡], Steven F. Oliver[†], Louis-Charles Campeau[†], David Nicewicz[‡], and Daniel A. DiRocco[*†]
[†] Process Research & Development, Merck Research Laboratories, P.O. Box 2000, Rahway, New Jersey 07065, United States
[‡] Department of Chemistry, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina 27599-3290, United States
http://pubs.acs.org/doi/abs/10.1021/acs.joc.6b01240?journalCode=joceah

Halogenation of organic compounds using continuous flow and microreactor technology
David Cantillo[ab] and C. Oliver Kappe*[ab]
** Corresponding authors*
[a] Institute of Chemistry, University of Graz, NAWI Graz, Heinrichstrasse 28, Graz, Austria
[b] Research Center Pharmaceutical Engineering GmbH (RCPE), Inffeldgasse 13, 8010 Graz, Austria
http://pubs.rsc.org/en/content/articlelanding/2017/re/c6re00186f/unauth#!divAbstract

Application of the Photoredox Coupling of Trifluoroborates and Aryl Bromides to Analog Generation Using Continuous Flow
Travis J. DeLano, Upul K. Bandarage, Natalie Palaychuk, Jeremy Green, and Michael J. Boyd
Vertex Pharmaceuticals Incorporated, 50 Northern Avenue, Boston, Massachusetts 02210, United States
http://pubs.acs.org/doi/abs/10.1021/acs.joc.6b02408?journalCode=joceah

Design and Development of Pd-catalyzed Aerobic N-Demethylation Strategies for the Synthesis of Noroxymorphone in Continuous Flow Mode
Bernhard Gutmann[a,b], David Cantillo[a,b], Ulrich Weigl[c], D Phillip Cox[d] and C. Oliver Kappe[a,b*]
[a,b] Institute of Chemistry, University of Graz, Nawi Graz, Heinrichstrasse 28, 8010 Graz, Austria and Research Center Pharmaceutical Engineering (RCPE), Inffeldgasse 13, 8010 Graz, Austria
[c] Cilag AG, Hochstrasse 201, 8200 Schaffhausen, Switzerland
[d] Noramco Inc., 503 Carr Road, Suite 200, Wilmington, DE 19809, USA
http://onlinelibrary.wiley.com/doi/10.1002/ejoc.201601453/full

γ-Glutamyl-dipeptides: Easy tools to rapidly probe the stereoelectronic properties of the ionotropic glutamate receptor binding pocket

Lucia Tamborini[a], Veronica Nicosia[a], Paola Conti[a], Federica Dall'Oglio[a], Carlo De Micheli[a], Birgitte Nielsen[b], Anders A. Jensen[b], Darryl S. Pickering[b], Andrea Pinto[a]

[a] *Department of Pharmaceutical Sciences (DISFARM), University of Milan, Via Mangiagalli 25, 20133 Milan, Italy*

[b] *Department of Drug Design and Pharmacology, Faculty of Health and Medical Sciences, University of Copenhagen, Universitetsparken 2, 2100 Copenhagen OE, Denmark*

http://www.sciencedirect.com/science/article/pii/S0040402016311693

Expedited access to thieno[3,2-*c*]quinolin-4(5*H*)-ones and benzo[*h*]-1,6-naphthyridin-5(6*H*)-ones *via* a continuous flow photocyclization method

Y. Fang[a] and G. K. Tranmer*[ab]

** Corresponding authors*

[a] *College of Pharmacy, Faculty of Health Science, University of Manitoba, Winnipeg, Canada*

[b] *Department of Chemistry, Faculty of Science, University of Manitoba, Winnipeg, Canada*

http://pubs.rsc.org/-/content/articlelanding/2016/ob/c6ob02279k#!divAbstract

A benchtop NMR spectrometer as a tool for monitoring mesoscale continuous-flow organic synthesis: equipment interface and assessment in four organic transformations

Cynthia M. Archambault[a] and Nicholas E. Leadbeater*[a]

** Corresponding authors*

[a] *Department of Chemistry, University of Connecticut, 55 North Eagleville Road, Storrs, USA*

http://pubs.rsc.org/en/content/articlelanding/2016/ra/c6ra19662d#!divAbstract

BODIPY-based conjugated microporous polymers as reusable heterogeneous photosensitisers in a photochemical flow reactor

J. M. Tobin,[a] J. Liu,[b] H. Hayes,[a] M. Demleitner,[a] D. Ellis,[a] V. Arrighi,[a] Z. Xu*[b] and F. Vilela*[a]

** Corresponding authors*

[a] *School of Engineering and Physical Sciences, Heriot-Watt University, Edinburgh, UK*

[b] *Department of Biology and Chemistry, City University of Hong Kong, 83 Tat Chee Avenue, Kowloon, China*

http://pubs.rsc.org/en/content/articlelanding/2016/py/c6py01393g#!divAbstract

Reformatsky and Blaise reactions in flow as a tool for drug discovery. One pot diversity oriented synthesis of valuable intermediates and heterocycles

L. Huck,[ab] M. Berton,[a] A. de la Hoz,[b] A. Díaz-Ortiz[b] and J. Alcázar*[a]

** Corresponding authors*

[a] *Janssen Research and Development, Janssen-Cilag, S.A., C/ Jarama 75, Toledo, Spain*

[b] *Facultad de Ciencias Químicas, Universidad de Castilla-La Mancha, Ciudad Real, Spain*

http://pubs.rsc.org/en/content/articlelanding/2016/gc/c6gc02619b#!divAbstract

Visible light activation of Boronic Esters enables efficient photoredox C(sp^2)–C(sp^3) cross-couplings in flow

Fabio Lima[a], Dr. Mikhail A. Kabeshov[a], Dr. Duc N. Tran[a], Dr. Claudio Battilocchio[a], Dr. Joerg Sedelmeier[b], Dr. Gottfried Sedelmeier[b], Dr. Berthold Schenkel[b], Prof. Steven V. Ley*[a]

** Corresponding authors*

[a] *Department of Chemistry, University of Cambridge, Cambridge, UK*

[b] *Novartis Pharma AG, Basel, Switzerland*

http://onlinelibrary.wiley.com/doi/10.1002/anie.201605548/full

Engineering chemistry: integrating batch and flow reactions on a single, automated reactor platform

D. E. Fitzpatrick[a] and S. V. Ley*[a]

** Corresponding authors*

[a] *Department of Chemistry, University of Cambridge, Lensfield Road, Cambridge CB2 1EW, UK*

http://pubs.rsc.org/en/content/articlelanding/2016/re/c6re00160b#!divAbstract

Triphenylphosphine-grafted, RAFT-synthesised, porous monoliths as catalysts for Michael addition in flow synthesis

Kristine J. Barlow[a,], Victor Bernabeu[a], Xiaojuan Hao[a], Timothy C. Hughes[a], Oliver E. Hutt[a], Anastasios Polyzos[a, b], Kathleen A. Turner[a], Graeme Moad[a]

[a] *CSIRO Manufacturing Flagship, Bag 10, Clayton South, Victoria 3169, Australia*

[b] *University of Melbourne, School of Chemistry, Parkville, Victoria 3010, Australia*

http://dx.doi.org/10.1016/j.reactfunctpolym.2015.09.008

Ethyl Lithiodiazoacetate: Extremely Unstable Intermediate Handled Efficiently in Flow

Dr. Simon T. R. Müller[a], Tobias Hokamp[a], Svenja Ehrmann[a], Dr. Paul Hellier[b], Prof. Dr. Thomas Wirth[a]

[a] *School of Chemistry, Cardiff University, Cardiff, UK*

[b] *Pierre Fabre Médicament, Parc Industriel de la Chartreuse, Castres CEDEX, France*

http://onlinelibrary.wiley.com/doi/10.1002/chem.201602133/abstract

A facile hybrid 'flow and batch' access to substituted 3,4-dihydro-2*H*-benzo[*b*][1,4]oxazinones

Andrew J. S. Lin,[a] Cecilia C. Russell,[a] Jennifer R. Baker,[a] Shelby L. Frailey,[ab] Jennette A. Sakoff[c] and Adam McCluskey*[a]

** Corresponding authors*

[a] *Chemistry, Centre for Chemical Biology, School of Environmental & Life Sciences, University of Newcastle, University Drive, Callaghan, Australia*

[b] *Chemical Engineering, Trine University, Angola, 46703 USA*

[c] *Department of Medical Oncology, Calvary Mater Newcastle Hospital, Waratah, Australia*

http://pubs.rsc.org/is/content/articlelanding/2016/ob/c6ob01153e#!divAbstract

Continuous flow biocatalysis: production and in-line purification of amines by immobilised transaminase from *Halomonas elongata*

Matteo Planchestainer,[a] Martina Letizia Contente,[ab] Jennifer Cassidy,[a] Francesco Molinari,[b] Lucia Tamborini*[c] and Francesca Paradisi*[ad]

** Corresponding authors*

[a] *UCD School of Chemistry, University College Dublin, Belfield, Dublin 4, Ireland*

[b] *Department of Food, Environmental and Nutritional Sciences (DeFENS), Università degli studi di Milano, Via Mangiagalli 25, Milan, Italy*

[c] *Department of Pharmaceutical Sciences (DISFARM), Università degli studi di Milano, Via Mangiagalli 25, Milan, Italy*

[d] *School of Chemistry, University of Nottingham, University Park, Nottingham, UK*

http://pubs.rsc.org/en/content/articlelanding/2017/gc/c6gc01780k#!divAbstract

A laboratory-scale continuous flow chlorine generator for organic synthesis

Franz J. Strauss[a], David Cantillo*[ab], Javier Guerra[c] and C. Oliver Kappe*[ab]

** Corresponding authors*

[a] *Institute of Chemistry, University of Graz, NAWI Graz, Heinrichstrasse 28, Graz, Austria*

[b] *Research Center Pharmaceutical Engineering GmbH (RCPE), Inffeldgasse 13, 8010 Graz, Austria*

[c] *Crystal Pharma, Gadea Pharmaceutical Group, A Division of AMRI, Parque Tecnológico de Boecillo, Valladolid, Spain*

http://pubs.rsc.org/en/content/articlelanding/2016/re/c6re00135a/unauth#!divAbstract

Continuous processing and efficient in situ reaction monitoring of a hypervalent iodine (III) mediated cyclopropanation using benchtop NMR spectroscopy

Batool Ahmed-Omer, Eric Sliwinski, John Paul Cerroti, Steven V Ley

http://pubs.acs.org/doi/abs/10.1021/acs.oprd.6b00177?journalCode=oprdfk

Aryl amination using ligand-free Ni(II) salts and photoredox catalysis

Emily B. Corcoran[1], Michael T. Pirnot[2], Shishi Lin[3], Spencer D. Dreher[3], Daniel A. DiRocco[3], Ian W. Davies[3], Stephen L. Buchwald[2],*, David W. C. MacMillan[1],*

[1] *Merck Center for Catalysis at Princeton University, Princeton, NJ 08544, USA*

[2] *Department of Chemistry, Massachusetts Institute of Technology, Cambridge, MA 02139, USA*

[3] *Department of Process Chemistry, Merck Research Laboratories, Rahway, NJ 07065, USA*

http://science.sciencemag.org/content/early/2016/06/22/science.aag0209

Catalytic Chan-Lam coupling using a 'tube-in-tube' reactor to deliver molecular oxygen as an oxidant

Carl J. Mallia[1], Paul M. Burton[2], Alexander M. R. Smith[2], Gary C. Walter[2] and Ian R. Baxendale[1]

[1] *Department of Chemistry, Durham University, South Road, Durham, DH1 3LE, United Kingdom*

[2] *Syngenta CP R&D Chemistry, Jealott's Hill International Research Centre, Bracknell, Berkshire, RG42 6EY, United Kingdom*

http://www.beilstein-journals.org/bjoc/single/articleFullText.htm?publicId=1860-5397-12-156

An approach to the synthesis of 4-aryl and 5-aryl substituted thiazole-2(3H)-thiones employing flow processing

Monaem Balti[a], Shelli A. Miller[b], Mohamed Lotfi Efrit[a] and Nicholas E. Leadbeater*[b]
** Corresponding authors*
[a] Université Tunis El Manar, Laboratory of Organic Synthesis and Heterocyclic Chemistry, Faculty of Science of Tunis, Department of Chemistry, 1060 Tunis, Tunisia
[b] Department of Chemistry, University of Connecticut, 55 North Eagleville Road, Storrs, USA

http://pubs.rsc.org/en/content/articlelanding/2016/ra/c6ra15488c#!divAbstract

Flow carbonylation of sterically hindered ortho-subsituted iodoarenes
Carl J. Mallia[1], Gary C. Walter[2] and Ian R. Baxendale[1]
[1] Department of Chemistry, Durham University, South Road, Durham, DH1 3LE, United Kingdom
[2] Syngenta CP R&D Chemistry, Jealott's Hill International Research Centre, Bracknell, Berkshire, RG42 6EY, United Kingdom

http://www.beilstein-journals.org/bjoc/single/articleFullText.htm?publicId=1860-5397-12-147

Exploring flow procedures for diazonium formation
Te Hu, Ian R. Baxendale and Marcus Baumann*
**Department of Chemistry, University of Durham, South Road, Durham DH1 3LE, UK*

http://www.mdpi.com/1420-3049/21/7/918/htm

Catalytic macrocyclization strategies using continuous flow: formal total synthesis of ivorenolide A
Mylène de Léséleuc, Eric Godin, Shawn Parisien-Collette, Alexandre Levesque, and Shawn K. Collins*
**University of Montréal, Department of Chemistry, Montréal, Canada*

http://pubs.acs.org/doi/abs/10.1021/acs.joc.6b01500

Delivering enhanced efficiency in the synthesis of α-diazosulfoxides by exploiting the process control enabled in flow
Patrick G. McCaw[1], Benjamin J. Deadman[1], Anita R. Maguire[1,2], Stuart G. Collins[1]
[1] Department of Chemistry, Analytical and Biological Chemistry Research Facility, Synthesis and Solid State Pharmaceutical Centre, University College Cork, Cork, Ireland
[2] Department of Chemistry and School of Pharmacy, Analytical and Biological Chemistry Research Facility, Synthesis and Solid State Pharmaceutical Centre, University College Cork, Cork, Ireland

http://www.akademiai.com/doi/abs/10.1556/1846.2016.00013

Continuous-flow synthesis and derivatization of aziridines through palladium-catalyzed C(sp^3)–H activation
Jacek Zakrzewski[1], Adam P. Smalley[2], Dr. Mikhail A. Kabeshov[2], Prof. Matthew J. Gaunt[2], Prof. Alexei A. Lapkin[1]
[1] Department of Chemical Engineering and Biotechnology, University of Cambridge, Cambridge, UK
[2] Chemistry Department, University of Cambridge, Cambridge, UK

http://onlinelibrary.wiley.com/wol1/doi/10.1002/anie.201602483/full

Metal-free borylation of electron-rich aryl(pseudo)halides under continuous-flow photolytic conditions
* Corresponding authors
Kai Chen[a], Man Sing Cheung[b], Zhenyang Lin*[b] and Pengfei Li*[a]
[a] Center for Organic Chemistry, Frontier Institute of Science and Technology (FIST) and Frontier Institute of Chemistry, Xi'an Jiaotong University, 99 Yanxiang Road, Xi'an, China
[b] Department of Chemistry, The Hong Kong University of Science and Technology, Clear Water Bay, Kowloon, China

http://pubs.rsc.org/en/content/articlelanding/2016/qo/c6qo00109b#!divAbstract

Difluorocarbene addition to alkenes and alkynes in continuous flow
Pauline Rullière, Patrick Cyr, and André B. Charette*
Université de Montréal, Centre in Green Chemistry and Catalysis, Department of Chemistry, Faculty of Arts and Science, P.O. Box 6128, Station Downtown, Québec, Canada H3C 3J7

http://pubs.acs.org/doi/abs/10.1021/acs.orglett.6b00573?journalCode=orlef7

A simple setup for transfer hydrogenations in flow chemistry
Matthew Hutchings, Thomas Wirth*
School of Chemistry, Cardiff University, Cardiff CF10 3AT, UK

https://www.thieme-connect.com/products/ejournals/abstract/10.1055/s-0035-1561624

A scalable and operationally simple radical trifluoromethylation
Joel W. Beatty[1], James J. Douglas[1,2], Kevin P. Cole[2] ,Corey R. J. Stephenson[1,]

[1] *Department of Chemistry, University of Michigan, Ann Arbor, Michigan 48109, USA*
[2] *Small Molecule Design and Development, Lilly Research Laboratories, Eli Lilly and Company, Indianapolis, Indiana 46285, USA*
http://www.nature.com/ncomms/2015/150810/ncomms8919/full/ncomms8919.html

Photoactive and metal-free polyamide-based polymers for water and wastewater treatment under visible light irradiation
Junjie Shen[a], Roman Steinbach[a], John Tobin[a], Mayumi Mouro Nakata[a], Matthew Bower[b], Martin McCoustra[a], Helen Bridle[a], Valeria Arrighi[a], Filipe Vilela[a]
[a] *School of Engineering and Physical Sciences, Heriot-Watt University, Edinburgh, EH14 4AS, United Kingdom*
[b] *Drinking Water Quality Regulator for Scotland, Edinburgh, EH6 6WW, United Kingdom*
http://www.sciencedirect.com/science/article/pii/S0926337316302818

Biodiesel synthesis using integrated acid and base catalysis in continuous flow
Mousa Asadi, Joel F. Hooper, David W. Lupton
School of Chemistry, Monash University, Clayton 3800, Victoria, Australia
http://www.sciencedirect.com/science/article/pii/S0040402016302046

The generation of a library of bromodomain-containing protein modulators expedited by continuous flow synthesis
Paolo Filipponi and Ian R. Baxendale*
[*] *Department of Chemistry, University of Durham South Road, Durham, DH1 3LE, United Kingdom*
http://onlinelibrary.wiley.com/doi/10.1002/ejoc.201600222/abstract

An efficient etherification of *Ginkgol biloba* extracts with fewer side effects in a micro-flow system
Yin-Lin Qin[a], Wei He[a], Mei Su[b], Zheng Fang[c], Ping-Kai Ouyang[a], Kai Guo[a,d]
[a] *College of Biotechnology and Pharmaceutical Engineering, Nanjing Technology University, Nanjing 210009, China*
[b] *Jiangsu Carephar Pharmaceutical Co., Ltd., Nanjing 210014, China*
[c] *School of Pharmaceutical, Nanjing Technology University, Nanjing 210009, China*
[d] *State Key Laboratory of Materials-Oriented Chemical Engineering, Nanjing Technology University, Nanjing 211816, China*
http://www.sciencedirect.com/science/article/pii/S1001841716300705

Fine chemical syntheses under flow using SiliaCat catalysts
Rosaria Ciriminna,[a] Valerica Pandarus,[b] François Béland*[b] and Mario Pagliaro*[a]
** Corresponding authors*
[a] *Istituto per lo Studio dei Materiali Nanostrutturati, CNR, via U. La Malfa 153, 90146 Palermo, Italy*
[b] *SiliCycle, 2500, Parc-Technologique Blvd, Québec, G1P 4S6 Canada*
http://pubs.rsc.org/en/content/articlelanding/2016/cy/c6cy00038j#!divAbstract

Continuous-flow synthesis of 2H-azirines and their diastereoselective transformation to aziridines
Marcus Baumann*, Ian R. Baxendale
Department of Chemistry, University of Durham, South Road, Durham, DH1 3LE, UK
http://community.dur.ac.uk/i.r.baxendale/papers/Synlett2016.27.159.pdf

Continuous flow magnesiation or zincation of acrylonitriles, acrylates, and nitroolefins. Application to the synthesis of butenolides
Maximilian A. Ganiek, Matthias R. Becker, Marthe Ketels, and Paul Knochel[*]
Department of Chemistry, Ludwig-Maximilians-Universität, Butenandtstr. 5-13, 81377 Munich, Germany
http://pubs.acs.org/doi/abs/10.1021/acs.orglett.6b00086

Continuous flow photo-initiated RAFT polymerisation using a tubular photochemical reactor
James Gardiner[a], Christian H. Hornung[a], John Tsanaktsidis[a], Duncan Guthrie[b]
[a] *CSIRO Manufacturing, Bag 10, Clayton South, Victoria 3169, Australia*
[b] *Vapourtec Ltd, Park Farm Business Centre, Bury St Edmunds IP28 6TS, United Kingdom*
http://www.sciencedirect.com/science/article/pii/S0014305716300325

Continuous-flow photochemistry: a need for chemical engineering
Karine Loubière[a, b], Michael Oelgemöller[c], Tristan Aillet[a, b], Odile Dechy-Cabaret[a, d], Laurent Prat[a, b]
[a] *CNRS, Laboratoire de Génie Chimique (LGC UMR 5503), 4 allée Emile Monso, BP 84234, 31432 Toulouse, France*
[b] *Université de Toulouse, INPT, ENSIACET, F-31432 Toulouse, France*
[c] *James Cook University, College of Science, Technology and Engineering, Townsville, Queensland 4811, Australia*

[d] *CNRS, Laboratoire de Chimie de Coordination (LCC UPR 8241), 205 route de Narbonne, BP 44099, F-31077 Toulouse, France*

http://www.sciencedirect.com/science/article/pii/S0255270116300393

Efficient metal-free photochemical borylation of aryl halides under batch and continuous-flow conditions†

Kai Chen**,** Shuai Zhang**,** Pei He and Pengfei Li*****

Center for Organic Chemistry, Frontier Institute of Science and Technology (FIST), Xi'an Jiaotong University, 99 Yanxiang Road, Xi'an, Shaanxi 710054, China

http://pubs.rsc.org/en/content/articlehtml/2016/sc/c5sc04521e

Continuous flow photochemistry as an enabling synthetic technology: synthesis of substituted-6(5*H*)-phenanthridinones for use as poly (ADP-ribose) polymerase inhibitors

Y. Fang[a] and G. K. Tranmer*[ab]

** Corresponding authors*

[a] *College of Pharmacy, Faculty of Health Sciences, University of Manitoba, Winnipeg, Canada*

[b] *Department of Chemistry, Faculty of Science, University of Manitoba, Winnipeg, Canada*

http://pubs.rsc.org/en/content/articlelanding/2014/md/c5md00552c#!divAbstract

Controlled generation and use of CO in flow†‡

Steffen V. F. Hansen [ab], Zoe E. Wilson [a], Trond Ulven *[b] and Steven V. Ley *[a]

[a] *Department of Chemistry, University of Cambridge Lensfield Road, Cambridge, CB2 1EW, UK.*

[b] *Department of Physics, Chemistry and Pharmacy, University of Southern Denmark, Campusvej 55, 5230 Odense M, Denmark.*

http://pubs.rsc.org/en/content/articlehtml/2016/re/c6re00020g

The solid copper-mediated C-N cross-coupling of phenylboronic acids under continuous flow conditions

Jennifer Bao[a], Geoffrey K. Tranmer[a, b,]

[a] *College of Pharmacy, Faculty of Health Science, University of Manitoba, Winnipeg, MB R3E 0T5, Canada*

[b] *Department of Chemistry, Faculty of Science, University of Manitoba, Winnipeg, MB R3T 2N2, Canada*

http://www.sciencedirect.com/science/article/pii/S0040403915305207

Visible-light photoredox catalysis using a macromolecular ruthenium complex: reactivity and recovery by size-exclusion nanofiltration in continuous flow†

Javier Guerra **[ab],** David Cantillo **[a]** and C. Oliver Kappe ***[a]**

[a] *Institute of Chemistry, University of Graz, NAWI Graz, Heinrichstrasse 28, A-8010 Graz, Austria.*

[b] *Crystal Pharma, Gadea Pharmaceutical Group, a division of AMRI, Parque Tecnológico de Boecillo, Valladolid, 47151, Spain*

http://pubs.rsc.org/en/content/articlehtml/2016/cy/c6cy00070c

Integrating multicomponent flow synthesis and computational approaches for the generation of a tetrahydroquinoline compound based library

Bruno Cerra,[a] Serena Mostarda,[a] Chiara Custodi,[a] Antonio Macchiarulo[a] and Antimo Gioiello*[a]

[a] *Department of Pharmaceutical Sciences, University of Perugia, Via del Liceo 1, I-06122 Perugia, Italy*

http://pubs.rsc.org/en/content/articlelanding/2015/md/c5md00455a#!divAbstract

The expanding utility of continuous flow hydrogenation

Peter J. Cossar,[a] Lacey Hizartzidis,[a] Michela I. Simone,[a] Adam McCluskey*[a] and Christopher P. Gordon*[b]

**Corresponding authors*

[a] *Centre for Chemical Biology, Chemistry Building, School of Environmental and Life Science, The University of Newcastle, University Drive, Callaghan, Australia*

[b] *Nanoscale Organisation and Dynamics Group, School of Science and Health, University of Western Sydney, Locked Bag, Penrith, Australia*

http://pubs.rsc.org/en/content/articlelanding/2015/ob/c5ob01067e#!divAbstract

Highly efficient and safe procedure for the synthesis of aryl 1,2,3-triazoles from aromatic amine in a continuous flow reactor

Federica Stazi[a,] , Damiano Cancogni[a], Lucilla Turco[b], Pieter Westerduin[a], Sergio Bacchi[a,]

[a] *GlaxoSmithKline Spa, Chemical Development Department, Synthetic Chemistry, Via Fleming 4, 37135 Verona, Italy*

[b] *GlaxoSmithKline Spa, Analytical Chemistry, Via Fleming 4, 37135 Verona, Italy*

http://www.sciencedirect.com/science/article/pii/S0040403910013675

Studies of a diastereoselective electrophilic fluorination reaction employing a cryo-flow reactor
Keiji Nakayama,[a] Duncan L. Browne,[b] Ian R. Baxendale,[b,1] Steven V. Ley*[b]
[a] *Process Technology Research Laboratories, Pharmaceutical Technology Division, Daiichi Sankyo, Shinomiya, Hiratsuka, Kanagawa, 254-0014, Japan*
[b] *Innovative Technology Centre, Department of Chemistry, University of Cambridge, Lensfield Road, Cambridge, CB2 1EW, UK*
http://community.dur.ac.k/i.r.baxendale/papers/Synlett.2013.24.1298.pdf

The changing face of organic synthesis
Authors: Ley, Steven V.; Baxendale, Ian R.
Source: CHIMIA International Journal for Chemistry, Volume 62, Number 3, March 2008, pp. 162-168(7)
http://community.dur.ac.uk/i.r.baxendale/papers/Chimia2008.62.162.pdf

A novel internet-based reaction monitoring, control and autonomous self-optimization platform for chemical synthesis
Daniel E. Fitzpatrick*†, Claudio Battilocchio†, and Steven V. Ley†
† *Innovative Technology Centre, Department of Chemistry, University of Cambridge, Lensfield Road, Cambridge CB2 1EW, U.K.*
http://pubs.acs.org/doi/abs/10.1021/acs.oprd.5b00313

Thermolysis of 1,3-dioxin-4-ones: fast generation of kinetic data using in-line analysis under flow
Thomas Durand,[a] Cyril Henry,[a] David Bolien,[a] David C. Harrowven,[a] Sally Bloodworth,[a] Xavier Franck[b] and Richard J. Whitby*[a]
[a] *Chemistry, Faculty of Natural and Environmental Sciences, University of Southampton, Southampton, UK*
[b] *Normandie Université, COBRA, UMR 6014 & FR 3038, Université de Rouen, INSA Rouen, CNRS, 1 rue Tesnière, 76821 Mont-Saint-Aignan Cedex, France*
http://pubs.rsc.org/en/content/articlelanding/2016/re/c5re00007f/unauth#!divAbstract

Continuous heterogeneously catalyzed oxidation of benzyl alcohol in a ceramic membrane packed-bed reactor
Achilleas Constantinou†¶, Gaowei Wu†, Albert Corredera†, Peter Ellis‡, Donald Bethell§, Graham J. Hutchings∥, Simon Kuhn⊥, and Asterios Gavriilidis*†
† *Department of Chemical Engineering, University College London, Torrington Place, London, WC1E 7JE, United Kingdom*
¶ *Division of Chemical and Petroleum Engineering, School of Engineering, London South Bank University, London, SE1 0AA, United Kingdom*
‡ *Johnson Matthey, Blounts Court Road, Reading, RG4 9NH, United Kingdom*
§ *Department of Chemistry, University of Liverpool, Crown Street, Liverpool L69 7ZD, United Kingdom*
∥ *School of Chemistry, Cardiff University, Main Building, Park Place, Cardiff, CF10 3AT, United Kingdom*
⊥ *Department of Chemical Engineering, KU Leuven, W. de Croylaan 46, 3001 Leuven, Belgium*
http://pubs.acs.org/doi/abs/10.1021/acs.oprd.5b00220

Automated glycan assembly of xyloglucan oligosaccharides
Pietro Dallabernardina,[ab] Frank Schuhmacher,[ab] Peter H. Seeberger[ab] and Fabian Pfrengle*[ab]
[a] *Department of Biomolecular Systems, Max-Planck-Institute of Colloids and Interfaces, Am Mühlenberg 1, 14476 Potsdam, Germany*
[b] *Freie Universität Berlin, Institute of Chemistry and Biochemistry, Arnimallee 22, 14195 Berlin, Germany*
http://pubs.rsc.org/en/content/articlelanding/2016/ob/c5ob02226f/unauth#!divAbstract

Continuous flow Buchwald–Hartwig amination of a pharmaceutical intermediate†
Polina Yaseneva [a], Paul Hodgson [a], Jacek Zakrzewski [a], Sebastian Falß [b], Rebecca E. Meadows [c] and Alexei A. Lapkin *[a]
[a] *Department of Chemical Engineering and Biotechnology, University of Cambridge, Cambridge CB2 3RA, UK. E-mail: aal35@cam.ac.uk; Fax: +44 (0)1223 334796*
[b] *INVITE GmbH, Chempark Leverkusen, 51373 Leverkusen, Germany*
[c] *Pharmaceutical Development, AstraZeneca, Silk Road Business Park, Macclesfield SK10 2NA, UK*
http://pubs.rsc.org/is/content/articlehtml/2016/re/c5re00048c

An efficient continuous flow process for the synthesis of a non-conventional mixture of fructooligosaccharides
Paolo Zambelli[a], Lucia Tamborini[b,*], Samuele Cazzamalli[b], Andrea Pinto[b], Stefania Arioli[a], Silvia Balzaretti[a], Francisco J. Plou[c], Lucia Fernandez-Arrojo[c], Francesco Molinari[a], Paola Conti[b], Diego Romano[a,*]
[a] *Department of Food Environmental and Nutritional Science (DeFENS), University of Milan, Via Mangiagalli, 20133 Milan, Italy*
[b] *Department of Pharmaceutical Sciences (DISFARM), University of Milan, Via Mangiagalli 25, 20133 Milan, Italy*
[c] *Instituto de Catálisis y Petroleoquímica, CSIC, 28049 Madrid, Spain*
http://www.sciencedirect.com/science/article/pii/S0308814615008808

Dynamic flow synthesis of porous organic cages

Michael E. Briggs,[a] Anna G. Slater,[a] Neil Lunt,[a] Shan Jiang,[a] Marc A. Little,[a] Rebecca L. Greenaway,[a] Tom Hasell,[a] Claudio Battilocchio,[b] Steven V. Ley[b] and Andrew I. Cooper*[a]

[a]Department of Chemistry and Centre for Materials Discovery, University of Liverpool, Crown Street, Liverpool, UK

[b] Innovative Technology Centre, Department of Chemistry, University of Cambridge, Lensfield Road, Cambridge, UK

http://pubs.rsc.org/en/content/articlelanding/2015/cc/c5cc07447a#!divAbstract

Continuous photochemistry: the flow synthesis of ibuprofen *via* a photo-Favorskii rearrangement

M. Baumann[a] and Ian R. Baxendale*[a]

Department of Chemistry, University of Durham, South Road, Durham, UK

http://pubs.rsc.org/en/content/articlelanding/2016/re/c5re00037h/unauth#!divAbstract

Making ends meet: flow synthesis as the answer to reproducible high-performance conjugated polymers on the scale that roll-to-roll processing demands

Martin Helgesen, Jon E. Carlé, Gisele A. dos Reis Benatto, Roar R. Søndergaard, Mikkel Jørgensen, Eva Bundgaard, Frederik C. Krebs

Department of Energy Conversion and Storage, Technical University of Denmark, Roskilde, Denmark

http://onlinelibrary.wiley.com/doi/10.1002/aenm.201401996/full

Amination of aryl halides and esters using intensified continuous flow processing

Thomas M. Kohl *, Christian H. Hornung and John Tsanaktsidis

CSIRO Manufacturing Flagship, Bag 10, Clayton South, Victoria 3169, Australia

http://www.mdpi.com/1420-3049/20/10/17860/htm

An integrated flow and microwave approach to a broad spectrum protein kinase inhibitor

Cecilia Russell,[a] Andrew J. S. Lin,[a] Peter Hains,[b] Michela I. Simone,[a] Phillip J. Robinson[b] and Adam McCluskey*[a]

A Centre for Chemical Biology, Chemistry, School of Environmental and Life Science, The University of Newcastle, University Drive, Callaghan, Australia

B Children's Medical Research Institute, 214 Hawkesbury Road, Westmead, Australia

http://pubs.rsc.org/en/content/articlelanding/2015/ra/c5ra09426g#!divAbstract

Light-induced C-H arylation of (hetero)arenes by in situ generated diazo anhydrides

Dr. David Cantillo[1], Dr. Carlos Mateos[2], Dr. Juan A. Rincon[2], Dr. Oscar de Frutos[2,*] and Prof. Dr. C. Oliver Kappe[1,*]

1. *Institute of Chemistry, University of Graz, NAWI Graz, Heinrichstrasse 28, 8010 Graz (Austria)*
2. *Centro de Investigación Lilly S. A. Avda. de la Industria 30, 28108 Alcobendas-Madrid (Spain)*

http://onlinelibrary.wiley.com/doi/10.1002/chem.201502357/abstract?userIsAuthenticated=false&deniedAccessCustomisedMessage=

Photodecarboxylative benzylations of *N*-methoxyphthalimide under batch and continuous-flow conditions

Hossein Mohammadkhani Pordanjani [A B], Christian Faderl [A C], Jun Wang [A], Cherie A. Motti [D], Peter C. Junk [A] and Michael Oelgemöller [A E]

[A] James Cook University, College of Science, Technology and Engineering, Townsville, Qld 4811, Australia.

[B] Faculty of Chemistry, Bu-Ali Sina University, Hamedan, 6517838683, Iran.

[C] Institut für Organische Chemie, Universität Regensburg, Universitätsstr. 31, D-93053 Regensburg, Germany.

[D] Australian Institute of Marine Science (AIMS), Biomolecular Analysis Facility, Townsville, Qld 4810, Australia.

[E] Corresponding author.

http://www.publish.csiro.au/?paper=CH15356

A short multi-step flow synthesis of a potential spirocyclic fragrance component

Ian R. Baxendale*

Department of Chemistry, University of Durham, South Road, Durham, DH1 3LE, UK

http://onlinelibrary.wiley.com/doi/10.1002/ceat.201500255/suppinfo

Flow synthesis of 2-methylpyridines via α-methylation

Camille Manansala [1] and Geoffrey K. Tranmer [1,2,*]

[1] College of Pharmacy, Faculty of Health Science, University of Manitoba, Winnipeg, MB R3E 0T6, Canada

[2] Department of Chemistry, Faculty of Science, University of Manitoba, Winnipeg, MB R3T 2N2, Canada

http://www.mdpi.com/1420-3049/20/9/15797/htm

The development of a short route to the API ropinirole hydrochloride

Zeshan Yousuf,[a] Andrew K. Richards,[b] Andrew N. Dwyer,[c] Bruno Linclau[a] and David C. Harrowven*[a]
[a] *Chemistry, University of Southampton, Highfield, Southampton, UK*
[b] *GlaxoSmithKline Medicines Research Centre, Gunnels Wood Road, Stevenage, UK*
[c] *Formally at GlaxoSmithKline Innovation and Sustainable Manufacturing COE, Worthing, UK*

http://pubs.rsc.org/en/content/articlelanding/2015/ob/c5ob01739d#!divAbstract

A practical deca-gram scale ring expansion of (R)-(−)-carvone to (R)-(+)-3-methyl-6-isopropenyl-cyclohept-3-enone-1

Leandro de C. Alves,[a] André L. Desiderá,[a] Kleber T. de Oliveira,[a] Sean Newton,[b] Steven V. Ley*[b] and Timothy J. Brocksom*[a]
[a] *Departamento de Química, Universidade Federal de São Carlos, P.O. Box 676, São Carlos – SP, Brazil*
[b] *Department of Chemistry, University of Cambridge, Lensfield Road, Cambridge, UK*

http://pubs.rsc.org/en/content/articlelanding/2015/ob/c5ob00525f/unauth#!divAbstract

A flow-based synthesis of telmisartan

Alex Martin, Ali Siamaki, Katherine Belecki, B. Gupton
Department of Chemistry and Department of Chemical and Life Science Engineering Virginia Commonwealth University 601 W. Main St. Richmond Virginia 23284 United States

http://www.akademiai.com/doi/abs/10.1556/JFC-D-15-00002

Two-stage flow synthesis of coumarin via *O*-acetylation of salicylaldehyde

Xin Li[1],Anbang Chen[1,] Yangzhi Zhou[1,] Lingling Huang[2,] Zheng Fang[2,] Haifeng Gan[1,] Kai Guo[1]
[1] *College of Biotechnology and Pharmaceutical Engineering, Nanjing Tech University, 30 Puzhu Rd S., Nanjing 211816, PR China*
[2] *School of Pharmaceutical Sciences, Nanjing Tech University, 30 Puzhu Rd S., Nanjing 211816, PR China*
[3] *State Key Laboratory of Materials-Oriented Chemical Engineering, Nanjing Tech University, 30 Puzhu Rd S., Nanjing 211816, PR China*

http://www.akademiai.com/doi/abs/10.1556/1846.2014.00043

The preparation of ethyl levulinate facilitated by flow processing: the catalyzed and uncatalyzed esterification of levulinic acid

Meghan P. Negus[1,] Andrew C. Mansfield[2,] Nicholas E. Leadbeater[1]
[1] *Department of Chemistry, University of Connecticut, 55 North Eagleville Road, Storrs, CT 06269, United States*
[2] *Vapourtec Ltd., Park Farm Business Centre, Bury St. Edmunds IP28 6TS, United Kingdom* [3] *Department of Community Medicine and Health Care, University of Connecticut Health Center, The Exchange, 263 Farmington Ave, Farmington, CT 06030, United States*

http://www.akademiai.com/doi/abs/10.1556/1846.2015.00005

Photodecarboxylations in an advanced meso-scale continuous flow photoreactor

Sam Josland[1], Saira Mumtaz[2] and Michael Oelgemöller[2,*]
[1] *University of Southampton, Department of Chemistry, University Road, Southampton, SO17 1BJ, United Kingdom*
[2] *James Cook University, College of Science, Technology and Engineering, Townsville, QLD 4811, Australia*

http://onlinelibrary.wiley.com/doi/10.1002/ceat.201500285/abstract

Flow alkylation of thiols, phenols, and amines using a heterogenous base in a packed-bed reactor

Alastair Baker[1,] Michael Graz[2,] Robert Saunders[2,] Gareth J. S. Evans[2,] Ilaria Pitotti[1,] Thomas Wirth[1]
[1] *School of Chemistry, Cardiff University, Park Place, Main Building, Cardiff CF10 3AT, UK*
[2] *Neem Biotech, Willowbrook Technical Units, Llandogo Road, St. Mellons, Cardiff CF3 0EF, UK*

http://www.akademiai.com/doi/abs/10.1556/1846.2015.00009

Generation and trapping of ketenes in flow

Cyril Henry[1], David Bolien[1], Bogdan Ibanescu[1], Sally Bloodworth[1], David C. Harrowven[1], Xunli Zhang[2], Andy Craven[3], Helen F. Sneddon[3] Richard J. Whitby[1,*]
[1]*Chemistry, University of Southampton, Southampton, HANTS, SO17 1BJ, UK,*
[2] *Bioengineering Group, Faculty of Engineering and the Environment, University of Southampton, Southampton, HANTS, SO17 1BJ, UK*

[3]*GlaxoSmithKline R&D Ltd., Medicines Research Centre, Gunnels Wood Road, Stevenage, HERTS, SG1 2NY, UK*

http://onlinelibrary.wiley.com/doi/10.1002/ejoc.201403603/full

A concise flow synthesis of efavirenz‡

Dr. Camille A. Correia[1], Dr. Kerry Gilmore[1], Prof. Dr. D. Tyler McQuade[3] andProf. Dr. Peter H. Seeberger[1,2,*]

[1]*Department of Biomolecular Systems, Max Planck Institute of Colloids and Interfaces, Am Mühlenberg 1, 14476 Potsdam (Germany)*

[2]*Institute for Chemistry and Biochemistry, Freie Universität Berlin, Arnimallee 22, 14195 Berlin (Germany)*

[3]*Department of Chemistry and Biochemistry, Florida State University, Tallahassee, FL 32306 (USA)*

http://onlinelibrary.wiley.com/doi/10.1002/anie.201411728/abstract

A monolith immobilised iridium Cp* catalyst for hydrogen transfer reactions under flow conditions Maria Victoria Rojo,*[1] Lucie Guetzoyan[1] Ian. R. Baxendale[1,2]

[1] *Department of Chemistry, University of Cambridge, Lensfield Road, Cambridge, UK*

[2] *Department of Chemistry, University of Durham, South Road, Durham, UK*

http://pubs.rsc.org/en/content/articlelanding/2015/ob/c4ob02376e#!divAbstract

Development of a flow method for the hydroboration/oxidation of olefins

José A. Souto,*[1,2] Robert A. Stockman[3] Steven V. Ley[1]

[1] *Department of Chemistry, University of Cambridge, Lensfield Road, Cambridge CB2 1EW, UK*

[2] *Departamento de Química Orgánica, Universidade de Vigo, Vigo, Spain*

[3] *School of Chemistry, University of Nottingham, Nottingham, UK*

http://pubs.rsc.org/en/Content/ArticleLanding/2015/OB/c5ob00170f#!divAbstract

Reevaluation of the 2-nitrobenzyl protecting group for nitrogen containing compounds: an application of flow photochemistry

Chloe I. Wendell, Michael J. Boyd,

Vertex Pharmaceuticals Inc., 50 Northern Avenue, Boston, MA, United States

http://www.sciencedirect.com/science/article/pii/S0040403915000106

Flow synthesis of ethyl isocyanoacetate enabling the telescoped synthesis of 1,2,4-triazoles and pyrrolo-[1,2-c]pyrimidines

Marcus Baumann,[1] Antonio M. Rodriguez Garcia[1,2] Ian R. Baxendale*[1]

[1] *Department of Chemistry, Durham University, South Road, Durham, UK*

[2] *Universidad de Castilla-La Mancha, Departamento de Química Orgánica, Facultad de Ciencias y Tecnologías Químicas, Avd. Camilo José Cela, 10, 13071 Ciudad Real, Spain*

http://pubs.rsc.org/en/Content/ArticleLanding/2015/OB/c5ob00245a#!divAbstract

Heterogenization of Pd–NHC complexes onto a silica support and their application in Suzuki–Miyaura coupling under batch and continuous flow conditions

Alberto Martínez,[1] Jamin L. Krinsky,[1] Itziar Peñafiel,[1] Sergio Castillón,[2] Konstantin Loponov,[3] Alexei Lapkin,[3] Cyril Godard*[1] Carmen Claver*[1]

[1] *Department of Physical and Inorganic Chemistry, Universitat Rovira i Virgili, C/ Marcel li Domingo s/n, Campus Sescelades, Tarragona, Spain*

[2] *Department of Analytical and Organic Chemistry, Universitat Rovira i Virgili, C/ Marcel li Domingo s/n, Campus Sescelades, Tarragona, Spain*

[3] *Department of Chemical Engineering and Biotechnology, University of Cambridge, New Museum*

http://pubs.rsc.org/en/content/articlelanding/2014/cy/c4cy00829d/unauth%20-%20!divAbstract#!divAbstract

The direct α-C(sp^3)–H functionalisation of N-aryl tetrahydroisoquinolines via an iron-catalysed aerobic nitro-Mannich reaction and continuous flow processing

Martin Brzozowski Jose A. ForniG. Paul Savage Anastasios Polyzos

CSIRO Manufacturing Flagship, Bayview Avenue, Clayton 3168, Australia

http://pubs.rsc.org/en/Content/ArticleLanding/2015/CC/c4cc07913b#!divAbstract

Efficient continuous-flow synthesis of macrocyclic triazoles

Anne-Catherine Bédard Jeffrey Santandrea Shawn Collins

Department of Chemistry and Centre for Green Chemistry and Catalysis, University of Montreal

http://www.akademiai.com/doi/suppl/10.1556/JFC-D-14-00042

Factors Influencing the regioselectivity of the oxidation of asymmetric secondary amines with singlet oxygen
Dr. Dmitry B. Ushakov [1,†], Matthew B. Plutschack [1,†], Dr. Kerry Gilmore[1,*] and Prof. Dr. Peter H. Seeberger [1,]
Max Planck Institute of Colloids and Interfaces, Am Mühlenberg 1, 14476 Potsdam (Germany)

http://onlinelibrary.wiley.com/doi/10.1002/chem.201500121/abstract?deniedAccessCustomisedMessage=&userIsAuthenticated=false

Glucuronidation of bile acids under flow conditions: design of experiments and Koenigs–Knorr reaction optimization
Serena Mostarda,[a] Paolo Filipponi,[a] Roccaldo Sardella,[a] Francesco Venturoni,[a] Benedetto Natalini,[a] Roberto Pellicciari[ab] and Antimo Gioiello*[a]
[a] Laboratory of Medicinal and Advanced Synthetic Chemistry (Lab MASC), Department of Pharmaceutical Sciences, University of Perugia, Via del Liceo 1, I-06123 Perugia, Italy
[b] Palmiro Togliatti 22bis, I-06073 Loc. Terrioli, Corciano, Italy

http://pubs.rsc.org/en/content/articlelanding/2014/ob/c4ob01911c#!divAbstract

Electroactive and photoactive poly[Isoindigo-alt-EDOT] synthesized using direct (hetero)arylation polymerization in batch and in continuous flow
François Grenier,† Badrou Réda Aïch,†,‡ Yu-Ying Lai,§ Maxime Guérette,† Andrew B. Holmes,§ Ye Tao,‡ Wallace W. H. Wong,*,§ and Mario Leclerc*,†
†Département de Chimie, Université Laval, Québec City, Qc G1V 0A6, Canada
‡Information and Communications Technologies Portfolio, National Research Council of Canada, Ottawa, ON K1A 0R6, Canada
§School of Chemistry, Bio21 Institute, the University of Melbourne, 30 Flemington Road, Parkville, Victoria 3010, Australia

http://pubs.acs.org/doi/abs/10.1021/acs.chemmater.5b00083

Chemical assembly systems: layered control for divergent, continuous, multistep syntheses of active pharmaceutical ingredients[‡]
Dr. Diego Ghislieri, Dr. Kerry Gilmore and Prof. Dr. Peter H. Seeberger*
Department of Biomolecular Systems, Max-Planck Institute for Colloids and Interfaces, Universität Berlin, Germany

http://dx.doi.org/10.1002/anie.201409765

Continuous reductions and reductive aminations using solid $NaBH_4$
Kerry Gilmore [†], Stella Vukelić [‡], D. Tyler McQuade [†§], Beate Koksch [‡], and Peter H. Seeberger [*†‡]
[†] Max Planck Institute of Colloids and Interfaces, Germany
[‡] Institute of Chemistry and Biochemistry, Freie Universität Berlin, Germany
[§] Department of Chemistry and Biochemistry, Florida State University, United States

http://dx.doi.org/10.1021/op500310s

Versatile, high quality and scalable continuous flow production of metal-organic frameworks
Marta Rubio-Martinez, Michael P. Batten, Anastasios Polyzos, Keri-Constanti Carey, James I. Mardel, Kok-Seng Lim & Matthew R. Hill
CSIRO Materials Science and Engineering, Australia

http://dx.doi.org/10.1038/srep05443

Flow synthesis and biological activity of aryl sulphonamides as selective carbonic anhydrase IX and XII inhibitors
Emiliano Rosatelli [a], Andrea Carotti [a], Mariangela Ceruso [b], Claudiu T. Supuran [c], Antimo Gioiello [a,*]
[a] Laboratory of Medicinal and Advanced Synthetic Chemistry (Lab MASC), Department of Pharmaceutical Sciences, University of Perugia, Via del Liceo 1, Perugia I-06123, Italy
[b] Laboratory of Bioinorganic Chemistry, University of Florence, Via della Lastruccia 3, Sesto Fiorentino (Firenze) I-50019, Italy
[c] Neurofarba Dept., Section of Pharmaceutical and Nutriceutical Sciences, University of Florence, Via U. Schiff 6, Sesto Fiorentino (Firenze) I-50019, Italy

http://www.ncbi.nlm.nih.gov/pubmed/24948563

Facilitating biomimetic syntheses of borrerine derived alkaloids by means of flow-chemical methods.
Sonja B. Kamptmann [A] and Steven V. Ley
Department of Chemistry, University of Cambridge, Lensfield Road, Cambridge CB2 1EW, UK.

http://dx.doi.org/10.1071/CH14530

Synthesis of a carprofen analogue using a continuous flow UV-reactor
Antoine Caron , Augusto C. Hernandez-Perez , and Shawn K. Collins *
Department of Chemistry and Centre for Green Chemistry and Catalysis, Université de Montréal, Québec, Canada.
http://dx.doi.org/10.1021/op5002148

Continuous synthesis of organozinc halides coupled to negishi reactions
Nerea Alonso[2,3], L. Zane Miller[1], Juan de M. Muñoz[2], Jesus Alcázar[2,*] and D. Tyler McQuade[1,*]
[1]*Department of Chemistry and Biochemistry, Florida State University, USA*
[2]*Janssen Research and Development, Janssen-Cilag, Toledo, Spain*
[3]*Facultad de Química, Universidad de Castilla-La Mancha, Spain*
http://dx.doi.org/10.1002/adsc.201400243

Efficient synthesis of panaxadiol derivatives using continuous-flow microreactor and evaluation of anti-tumor activity
Yan Wu[a, 1], Wei-Qi Chen[b, 1], Yu-Qing Zhao[c,] , Hu-Ri Piao[a,]
[a] *Key Laboratory of Natural Resources and Functional Molecules of the Changbai Mountain, Affiliated Ministry of Education, Yanbian University College of Pharmacy, China*
[b] *Department of Chemistry, Fudan University, Shanghai, China*
[c] *School of Traditional Chinese Materia Medica, Shenyang Pharmaceutical University, Shenyang, China*
http://dx.doi.org/10.1016/j.cclet.2014.1103

Continuous flow magnesiation of functionalized heterocycles and acrylates with TMPMgCl·LiCl
Dr. Trine P. Petersen, Matthias R. Becker and Prof. Dr. Paul Knochel*
Ludwig-Maximilians-Universität München, Department Chemie, München, Germany
http://dx.doi.org/10.1002/anie.201404221

A continuous-flow approach to 3,3,3-trifluoromethylpropenes: bringing together Grignard addition, Peterson elimination, inline extraction, and solvent switching
Trevor A. Hamlin [†], Gillian M. L. Lazarus [†], Christopher B. Kelly [†], and Nicholas E. More
*†‡
[†] *Department of Chemistry, University of Connecticut, United States*
[‡] *Department of Community Medicine & Health Care, University of Connecticut Health Center, United States*
http://dx.doi.org/10.1021/op500190j

Development of a Grignard-type reaction for manufacturing in a continuous-flow reactor
Fabrice G. J. Odille [†§], Anna Stenemyr [†§], and Fritiof Pontén [*‡]
[†] *Pharmaceutical Development R&D, Chemical Science, AstraZeneca, SE-151 85 Södertälje, Sweden*
[‡] *Innovative Medicines, Cardiovascular and Metabolic Diseases, Medicinal Chemistry, AstraZeneca R&D, Sweden*
[§] *SP Process Development, Forskargatan, Sweden*
http://dx.doi.org/10.1021/op500290x

First example of alkyl-aryl Negishi cross-coupling in flow: mild, efficient and clean introduction of functionalized alkyl groups
Brecht Egle[2], Juan de Muñoz[1], Nerea Alonso[1], Wim M. De Borggraeve[2], Antonio de la Hoz[3], Angel Díaz-Ortiz[3], Jesús Alcázar[1]
[1]*Janssen Research and Development Department of Medicinal Chemistry Janssen-Cilag, Toledo Spain*
[2]*Department of Chemistry, Molecular Design and Synthesis University of Leuven, Heverlee Belgium*
[3]*Universidad de Castilla-La Mancha Facultad de Ciencias y Tecnologías Químicas, Spain*
http://dx.doi.org/10.1556/JFC-D-13-00009

A general continuous flow method for palladium catalysed carbonylation reactions using single and multiple tube-in-tube gas-liquid microreactors
Ulrike Gross[1], Peter Koos[1], Matthew O'Brien[1,2,*], Anastasios Polyzos[1,3] and Steven V. Ley[1]
[1]*Whiffen Laboratory, Department of Chemistry, University of Cambridge, Cambridge, UK*
[2]*School of Physical and Geographical Sciences, Keele University, Staffordshire, UK*
[3]*CSIRO, Materials Science and Engineering, Clayton South, Australia*
http://dx.doi.org/10.1002/ejoc.201402804

Flow chemistry meets advanced functional materials
Dr. Rebecca M. Myers, Daniel E. Fitzpatrick, Dr. Richard M. Turner and Prof. Steven V. Ley*
Department of Chemistry, University of Cambridge, Cambridge, UK
http://dx.doi.org/10.1002/chem.201402801

Multistep flow synthesis of 5-amino-2-aryl-2*H*-[1,2,3]-triazole-4-carbonitriles
Dr. Jérôme Jacq and Dr. Patrick Pasau*
UCB Biopharma, Avenue de l'Industrie, 1420 Braine l'Alleud (Belgium)
http://dx.doi.org/10.1002/chem.201402074

The rapid synthesis of oxazolines and their heterogeneous oxidation to oxazoles under flow conditions
Steffen Glöckner, Duc N. Tran, Richard J. Ingham, Sabine Fenner, Zoe E. Wilson, Claudio Battilocchio and Steven V. Ley*
Department of Chemistry, University of Cambridge, Cambridge, UK
http://dx.doi.org/10.1039/C4OB02105C

First example of a continuous-flow carbonylation reaction using aryl formates as CO precursors
Nerea Alonso[1, 3], Juan de Muñoz[1], Brecht Egle[2], Johannes L. Vrijdag[2], Wim M. De Borggraeve[2] , Antonio de la Hoz[3], Angel Díaz-Ortiz[3], Jesús Alcázar[1]
[1]*Janssen Research and Development, Janssen-Cilag Department of Medicinal Chemistry S.A., Toledo, Spain*
[2]*Molecular Design and Synthesis University of Leuven, Department of Chemistry, Heverlee Belgium*
[3]*Universidad de Castilla-La Mancha Facultad de Ciencias y Tecnologías Químicas Real, Spain*
http://dx.doi.org/10.1556/JFC-D-14-00005

Glycosylation with *N*-acetyl glycosamine donors using catalytic iron(III) triflate: from microwave batch chemistry to a scalable continuous-flow process
Amandine Xolin,[a] Arnaud Stévenin,[a] Mathieu Pucheault,[b] Stéphanie Norsikian,[a] François-Didier Boyer*[ac] and Jean-Marie Beau*[ad]
[a] *Centre de Recherche de Gif, Institut de Chimie des Substances Naturelles, CNRS, Gif-sur-Yvette, France*
[b] *Institut des Sciences Moléculaires, CNRS-Université de Bordeaux, Talence, France*
[c] *Institut Jean-Pierre Bourgin, UMR1318 INRA-AgroParisTech, Versailles, France*
[d] *Université Paris-Sud and CNRS, Laboratoire de Synthèse de Biomolécules, Institut de Chimie Moléculaire et des Matériaux, Orsay, France*
http://dx.doi.org/10.1039/C4QO00183D

The generation of a library of bromodomain-containing protein modulators expedited by continuous flow synthesis
Paolo Filipponi [a] and Ian R. Baxendale [*a]
Department of Chemistry, University of Durham South Road, Durham, DH1 3LE, United Kingdom
http://onlinelibrary.wiley.com/doi/10.1002/ejoc.201600222/full

An efficient etherification of *Ginkgol biloba* extracts with fewer side effects in a micro-flow system
Yin-Lin Qin[a], Wei He[a], Mei Su[b], Zheng Fang[c], Ping-Kai Ouyang[a], Kai Guo[a, d, ,]
[a] *College of Biotechnology and Pharmaceutical Engineering, Nanjing Technology University, Nanjing 210009, China*
[b] *Jiangsu Carephar Pharmaceutical Co., Ltd., Nanjing 210014, China*
[c] *School of Pharmaceutical, Nanjing Technology University, Nanjing 210009, China*
[d] *State Key Laboratory of Materials-Oriented Chemical Engineering, Nanjing Technology University, Nanjing 211816, China*
http://www.sciencedirect.com/science/article/pii/S1001841716300705

Continuous flow synthesis of thieno[2,3-*c*]isoquinolin-5(4*H*)-one scaffold: a valuable source of PARP-1 inhibitors
Paolo Filipponi [†], Carmine Ostacolo [‡], Ettore Novellino [‡], Roberto Pellicciari [†§], and Antimo Gioiello [*†]
[†] *Dipartimento di Scienze Farmaceutiche, Università di Perugia, Via del Liceo 1, I-06123 Perugia, Italy*
[‡] *Dipartimento di Farmacia, Università degli Studi di Napoli Federico II, Napoli, Italy*
[§] *TES Pharma S.r.l., Corciano (Perugia), Italy*
http://dx.doi.org/10.1021/op500074h

Regioselective synthesis of 3-aminoimidazo[1,2-*a*]-pyrimidines under continuous flow conditions
Ashlie J. E. Butler , Mark J. Thompson , Patrick J. Maydom , James A. Newby , Kai Guo , Harry Adams , and Beining Chen [*]
Department of Chemistry, University of Sheffield, Sheffield, U.K.

http://dx.doi.org/10.1021/jo501861g

Microwave irradiation and flow chemistry for a straightforward synthesis of piano-stool iron complexes

Anastassiya Pagnoux-Ozherelyeva[a], David Bolien[b], Sylvain Gaillard[a], Flavie Peudru[a], Jean-François Lohier[a], Richard J. Whitby[b,*], Jean-Luc Renaud[a,*]

[a] *Normandie University, University of Caen Basse Normandie, Laboratoire de Chimie Moléculaire et Thioorganique, CNRS, Caen, France*

[b] *Chemistry, University of Southampton, Southampton, UK*

http://dx.doi.org/10.1016/j.jorganchem.2014.09.031

Continuous flow macrocyclization at high concentrations: synthesis of macrocyclic lipids

Anne-Catherine Bédard, Sophie Régnier and Shawn K. Collins

Département de Chimie, Centre for Green Chemistry and Catalysis, Université de Montréal, Montréal, Canada

http://dx.doi.org/10.1039/c3gc40872h

Continuous synthesis of artemisinin-derived medicines

Kerry Gilmore,[a] Daniel Kopetzki,[a] Ju Weon Lee,[b] Zoltan Horvath,[b] D. Tyler McQuade,[a] Andreas Seidel-Morgenstern,[b,c] and Peter H. Seeberger[a,d]

[a] *Max-Planck-Institute of Colloids and Interfaces, Department of Biomolecular Systems, Germany*

[b] *Max-Planck-Institute for Dynamics of Complex Technical Systems, Germany*

[c] *Otto-von-Guericke-University, Chair for Chemical Process Technology, Germany*

[d] *Freie Universität Berlin, Institute of Chemistry and Biochemistry, Berlin, Germany*

http://dx.doi.org/10.1039/C4CC05098C

Consecutive oxygen-based oxidations convert amines to α-cyanoepoxides

Dmitry B. Ushakov,*a* Kerry Gilmore,**a* and Peter H. Seeberger**a,b*

[a] *Max Planck Institute of Colloids and Interfaces, Potsdam, Germany*

[b] *Institute of Chemistry and Biochemistry, Freie Universität Berlin, Berlin, Germany*

http://dx.doi.org/10.1039/C4CC04932**B**

Continuous-flow oxidative cyanation of primary and secondary amines using singlet oxygen

Dmitry B. Ushakov, Kerry Gilmore, Daniel Kopetzki, D. Tyler McQuade, and Peter H. Seeberger

[1]*Department für Biomolekulare Systeme, Max-Planck-Institut für Kolloid- und Grenzflächenforschung, Potsdam, Germany*

[2]*Institut für Chemie und Biochemie, Freie Universität Berlin, Berlin, Germany*

[3]*Department of Chemistry and Biochemistry, Florida State University, Tallahassee, USA*

http://dx.doi.org/**10.1002/anie.201307778**

Flow synthesis of a versatile fructosamine mimic and quenching studies of a fructose transport probe

Matthew B. Plutschack[1,2], D. Tyler McQuade[1,2], Giulio Valenti[2] and Peter H. Seeberger[2]

[1]Department of Chemistry and Biochemistry, Florida State University, USA

[2]Max Planck Institute of Colloids and Interfaces, Germany

http://dx.doi.org/**10.3762/bjoc.9.238**

Synthesis of all four stereoisomers of 3-(tert-Butoxycarbonyl)-3-azabicyclo[3.1.0]hexane-2-carboxylic acid

Bettina Bakonyi †, Markus Furegati *‡, Christian Kramer §, Luigi La Vecchia ‡, and Flavio Ossola ‡

† Doetsch Grether AG, Falkensteinerstrasse 37, 4132 Muttenz, Switzerland

‡ Preparations Laboratories, Global Discovery Chemistry, Novartis Institutes for Biomedical Research, Klybeckstrasse 141, 4057 Basel,Switzerland

§ Institute of General, Inorganic and Theoretical Chemistry and Center for Molecular Biosciences Innsbruck (CMBI), University of Innsbruck, Innsbruck, Austria

http://dx.doi.org/10.1021/jo4013282

Seamless integration of dose-response screening and flow chemistry: efficient generation of structure–activity relationship data of β-Secretase (BACE1) inhibitors

Dr. Michael Werner[1,*], Christoph Kuratli[1],Dr. Rainer E. Martin[1,*], Dr. Remo Hochstrasser[1], David Wechsler[1], Dr. Thilo Enderle[1], Dr. Alexander I. Alanine[1]and Prof. Dr. Horst Vogel[2]

[1] *Medicinal Chemistry, Small Molecule Research, Pharma Research & Early Development (pRED), F. Hoffmann-La Roche AG,*

Grenzacherstrasse 124, 4070 Basel (Switzerland)
[2] Institute of Chemical Sciences and Engineering, Swiss Federal Institute of Technology of Lausanne (EPFL), Station 6, 1015 Lausanne (Switzerland)

http://dx.doi.org/10.1002/anie.201309301

Controlled synthesis of poly(3-hexylthiophene) in continuous flow
Helga Seyler, Jegadesan Subbiah, David J. Jones, Andrew B. Holmes and Wallace W. H. Wong*
School of Chemistry, Bio21 Institute, University of Melbourne, 30 Flemington Road, Parkville, Victoria 3010, Australia

http://dx.doi.org/10.3762/bjoc.9.170

Integration of enabling methods for the automated flow preparation of piperazine-2-carboxamide
Richard J. Ingham[1], Claudio Battilocchio[1], Joel M. Hawkins[2] and Steven V. Ley[1]
[1]Innovative Technology Centre, Department of Chemistry, University of Cambridge, Lensfield Road, CB2 1EW, Cambridge, UK
[2]Pfizer Worldwide Research and Development, Eastern Point Road, Groton, CT 06340, USA

http://dx.doi.org/10.3762/bjoc.10.56

Sequential flow process for the controlled polymerisation and thermolysis of RAFT-synthesised polymers
CH Hornung, A Postma, S Saubern, J Chiefari
CSIRO Materials Science and Engineering, Victoria, Australia

http://dx.doi.org/10.1016/j.polymer.2014.01.023

Robust and reusable supported palladium catalysts for cross-coupling reactions in flow
William R. Reynolds,[ab] Pawel Plucinski[bc] and Christopher G. Frost*[ab]
** Corresponding authors*
[a] Centre for Sustainable Chemical Technologies, University of Bath, Claverton Down, Bath, UK
[b] Department of Chemistry, University of Bath, Claverton Down, Bath, UK
[c] Department of Chemical Engineering, University of Bath, Claverton Down, Bath, UK

http://dx.doi.org/10.1039/C3CY00836C

Investigating the continuous synthesis of a nicotinonitrile precursor to nevirapine
Ashley R. Longstreet[1], Suzanne M. Opalka[1], Brian S. Campbell[1], B. Frank Gupton[2], Tyler McQuade[1]
[1]Department of Chemistry and Biochemistry, Florida State University, United States
[2]Department of Chemistry, Virginia Commonwealth University, United States

http://dx.doi.org/10.3762/bjoc.9.292

Porous, functional, poly(styrene-co-divinylbenzene) monoliths by RAFT polymerization
Kristine J. Barlow (née Tan), Xiaojuan Hao, Timothy C. Hughes, Oliver E. Hutt, Anastasios Polyzos, Kathleen A. Turner, Graeme Moad
Commonwealth Scientific and Industrial Research Organisation (CSIRO), Materials Science & Engineering, Australia

http://dx.doi.org/10.1039/C3PY01015E

New insights into cyclobutenone rearrangements: a total synthesis of the natural ROS-generating anti-cancer agent cribrostatin 6‡
Mubina Mohamed[1], Théo P. Gonçalves[1], Prof. Richard J. Whitby[1], Dr. Helen F. Sneddon[2], Prof. David C. Harrowven[1]
[1]Chemistry, University of Southampton, UK
[2]GlaxoSmithKline Medicines Research Centre, UK

http://dx.doi.org/10.1002/chem.201102263

Hypervalent iodine/TEMPO-mediated oxidation in flow systems: a fast and efficient protocol for alcohol oxidation
Nida Ambreen, Ravi Kumar and Thomas Wirth
Cardiff University, School of Chemistry, Park Place, Cardiff, UK

http://dx.doi.org/10.3762/bjoc.9.162

The application of a monolithic triphenylphosphine reagent for conducting Ramirez *gem*-dibromoolefination reactions in flow
Kimberley A. Roper[1], Malcolm B. Berry[2] and Steven V. Ley[1]

[1]*Innovative Technology Centre, Department of Chemistry, University of Cambridge, U.K.*
[2]*GlaxoSmithKline, Stevenage, U.K.*

http://dx.doi.org/10.3762/bjoc.9.207

Flow-based, cerium oxide enhanced, low-level palladium sonogashira and heck coupling reactions by perovskite catalysts
Claudio Battilocchio[1], Benjamin N. Bhawal[1], Rajeev Chorghade[1], Benjamin J. Deadman[1], Joel M. Hawkins[2], Steven V. Ley[1]
[1] *Innovative Technology Centre, Department of Chemistry, University of Cambridge, UK*
[2] *Pfizer Worldwide Research & Development, Groton, USA*

http://dx.doi.org/10.1002/ijch.201300049

The fit for purpose development of S1P$_1$ receptor agonist GSK2263167 using a Robinson annulation and Saegusa oxidation to access an advanced phenol intermediate
Robert M. Harris, Benjamin I. Andrews, Stacy Clark, Jason W. B. Cooke, John C. S. Gray, and Stephanie Q. Q. Ng
Chemical Development, GlaxoSmithKline Research and Development Ltd., UK

http://dx.doi.org/10.1021/op400162p

Raman spectroscopy as a tool for monitoring mesoscale continuous-flow organic synthesis: Equipment interface and assessment in four medicinally-relevant reactions
Trevor A. Hamlin and Nicholas E. Leadbeater
Department of Chemistry, University of Connecticut, USA

http://dx.doi.org/10.3762/bjoc.9.215

Biotransformation with whole microbial systems in a continuous flow reactor: resolution of (*RS*)-flurbiprofen using *Aspergillus oryzae* by direct esterification with ethanol in organic solvent
Lucia Tamborini[a], Diego Romano[b], Andrea Pinto[a],Martina Contente[a],Maria C. Iannuzzi[a], Paola Conti[a],Francesco Molinari[b]
[a] *Dipartimento di Scienze Farmaceutiche, Universitá degli Studi di Milano, Italy*
[b] *Dipartimento di Scienze per gli Alimenti, la Nutrizione e l'Ambiente (DEFENS), Universitá degli Studi di Milano, Italy*

http://dx.doi.org/10.1016/j.tetlet.2013.08.119

Continuous flow synthesis of Coumarin
Anbang Chen[1], Xin Li[1], Yangzhi Zhou[1], Lingling Huang[2], Zheng Fang[2], Haifeng Gan[1] and Kai Guo[1],
[1] *College of Biotechnology and Pharmaceutical Engineering, Nanjing University of Technology*
[2] *School of Pharmaceutical Sciences, Nanjing University of Technology*

http://dx.doi.org/10.4028/www.scientific.net/AMR.781-784.936

Continuous flow-processing of organometallic reagents using an advanced peristaltic pumping system and the telescoped flow synthesis of (E/Z)-tamoxifen
Philip R D Murray [1], Duncan L Browne [1], Julio C Pastre [1,2], Chris Butters [3], Duncan Guthrie [3], Steven V Ley [1]
[1] *Department of Chemistry, University of Cambridge, UK*
[2] *Instituto de Química, University of Campinas, Brazil.*
[3] *Vapourtec Ltd, UK*

http://dx.doi.org/10.1021/op4001548

Integrated synthesis and testing of substituted xanthine based DPP4 inhibitors: application to drug discovery
Werngard Czechtizky [1], Jüergen Dedio [1], Bimbisar Desai [2], Karen Dixon [2], Elizabeth Farrant [2], Qixing Feng [2], Trevor Morgan [2], David M. Parry [2], Manoj K. Ramjee [2], Christopher N. Selway [2], Thorsten Schmidt [1], Gary J. Tarver *[2], Adrian G. Wright [2]
[1] *Sanofi-Aventis.*
[2] *Cyclofluidic Ltd.*

http://dx.doi.org/10.1021/ml400171b

Applying flow chemistry: methods, materials, and multistep synthesis
D. Tyler McQuade [1 3],Peter H. Seeberger [1 2]
[1] *Department of Biomolecular Systems, Max Planck Institute of Colloids and Interfaces*
[2] *Institute for Chemistry and Biochemistry, Freie Universität Berlin,*
[3] *Department of Chemistry and Biochemistry, Florida State University*

http://dx.doi.org/10.1021/jo400583m

Controlled synthesis of poly(3-hexylthiophene) in continuous flow

Helga Seyler, Jegadesan Subbiah, David J. Jones, Andrew B. Holmes and Wallace W. H. Wong
School of Chemistry, Bio21 Institute, University of Melbourne

http://dx.doi.org/10.3762/bjoc.9.170

Building a sulfonamide library by eco-friendly flow synthesis
Antimo Gioiello,* Emiliano Rosatelli, Michela Teofrasti, Paolo Filipponi, and Roberto Pellicciari
Dipartimento di Chimica e Tecnologia del Farmaco, Università di Perugia, Via del Liceo, 1, 06123 Perugia, Italy.

http://pubs.acs.org/doi/abs/10.1021/co400012m

The rapid generation of isocyanates in flow
Marcus Baumann, Ian R. Baxendale
Department of Chemistry, University of Durham

http://dx.doi.org/10.3762/bjoc.9.184

Continuous synthesis of pyridocarbazoles and initial photophysical and bioprobe characterization
D. Tyler McQuade*[ab], Alexander G. O'Brien[a], Markus Dörr[c], Rajathees Rajaratnam[c], Ursula Eisold[d], Bopanna Monnanda[a], Tomoya Nobuta[a], Hans-Gerd Löhmannsröben[d], Eric Meggers[c], Peter H. Seeberger[ae]
[a] *Department for Biomolecular Systems, Max Planck Institute for Colloids and Interfaces*
[b] *Department of [b]Chemistry and Biochemistry, Florida State University*
[c] *Fachbereich Chemie, Philipps-Universität Marburg*
[d] *Potsdam Institut für Chemie*
[e] *Freie Universität Berlin*

http://dx.doi.org/10.1039/C3SC51846A

Microwave heating and conventionally-heated continuous-flow processing as tools for performing cleaner palladium-catalyzed decarboxylative couplings using oxygen as the oxidant – a proof of principle study
Nicholas Leadbeater [1], DiAndra M. Rudzinski [1]
[1] *Department of Chemistry, University of Connecticut*.

http://dx.doi.org/10.1515/gps-2013-0043

Rapid discovery of a novel series of Abl kinase inhibitors by application of an integrated microfluidic synthesis and screening platform
Bimbisar Desai†, Karen Dixon†, Elizabeth Farrant†, Qixing Feng†, Karl R. Gibson‡, Willem P. van Hoorn§, James Mills‡, Trevor Morgan†, David M. Parry†, Manoj K. Ramjee†, Christopher N. Selway*†, Gary J. Tarver†, Gavin Whitlock‡, and Adrian G. Wright†
[†] *Cyclofluidic Ltd, Biopark, Broadwater Road, Welwyn Garden City, AL7 3AX, U.K.*
[‡] *Sandexis LLP, Discovery Park, Sandwich, Kent CT13 9ND, U.K.*
[§] *Accelrys Ltd, 334 Cambridge Science Park, Cambridge, CB4 0WN, U.K.*

http://pubs.acs.org/doi/abs/10.1021/jm400099d

A multi-step continuous flow process for the N-demethylation of alkaloids
Yuji Nakano [1], G. Paul Savage [1], Simon Saubern [1], Peter J. Scammells [2], Anastasios Polyzos [1]
[1] *CSIRO Materials Science and Engineering, Victoria, Australia.*
[2] *Medicinal Chemistry, Monash Institute of Pharmaceutical Sciences, Monash University, Victoria, Australia.*

http://dx.doi.org/10.1071/CH12463

A two-stage continuous-flow synthesis of spirooxazine photochromic dyes
Mark York [123], Adriana Edenharter [1]
[1] *CSIRO Materials Science and Engineering, Clayton, Vic. 3169, Australia.*
[2] *Cooperative Research Centre for Polymers, Notting Hill, Vic. 3168, Australia.*
[3] *Advanced Polymerik Pty Ltd, Notting Hill, Vic. 3168, Australia*

http://dx.doi.org/10.1071/CH12435

Ozonolysis of some complex organic substrates in flow
M. D. Roydhouse [1], W. B. Motherwell [1], A. Constantinou [2], A. Gavriilidis [2], R. Wheeler [3], Down [3], Campbell [3]
[1] *Dept of Chemistry, University College London, UK*
[2] *Dept of Chemical Engineering, University College London, UK*
[3] *GSK, Stevenage, UK*

http://dx.doi.org/10.1039/C3RA00125C

Continuous synthesis and use of N-heterocyclic carbene copper(I) complexes from insoluble Cu2O

Suzanne M. Opalka [1], Jin Kyoon Park [3], Ashley R. Longstreet [2], D. Tyler McQuade [2]
[1] *Department of Chemistry and Biochemistry, Florida State University, USA*
[2] *Department of Chemistry and Chemical Biology, Cornell University, USA*
[3] *Department of Chemistry and Chemical Institute for Functional Materials, Pusan National University, Korea*

http://dx.doi.org/10.1021/ol303442m

An expeditious synthesis of imatinib and analogues utilising flow chemistry methods

Mark D Hopkin, Ian Baxendale, Steven.V.Ley
Dept of Chemistry, University of Cambridge, UK

http://dx.doi.org/10.1039/C2OB27002A

Continuous-flow generation of diazoesters and their direct use in S-H and P-H insertion reactions: synthesis of a-sulfanyl, a-sulfonyl and a-phosphono carboxylates

Hannah E. Bartrum[1], David C. Blakemore[2] , Christopher J. Moody[1], Christopher J. Hayes[1]
[1] *School of Chemistry, University of Nottingham, UK*
[2] *Pfizer Neusentis, Cambridge, UK*

http://dx.doi.org/10.1016/j.tet.2013.01.020

Synthesis of carbohydrate-functionalised sequence-defined oligo (amidoamine)s by photochemical thiol-ene coupling in a continuous flow reactor

Felix Wojcik[1,2], Alexander G. O'Brien[1,2], Sebastian Götze[1,2], Peter H. Seeberger[1,2] , Laura Hartmann[1,2]
[1]*Department of Biomolecular Systems, Max Planck Institute of Colloids and Interfaces, Potsdam (Germany)*
[2]*Institute for Chemistry and Biochemistry, Freie Universität Berlin, Germany*

http://dx.doi.org/10.1002/chem.201203927

Synthesis of RAFT block copolymers in a multi-stage continuous flow process inside a tubular reactor

Christian H. Hornung, Xuan Nguyen, Stella Kyi, John Chiefari, Simon Saubern
CSIRO Materials Science & Engineering, Victoria, Australia.

http://dx.doi.org/10.1071/CH12479

Continuous flow synthesis of organic electronic materials: case studies in methodology translation and scale-up

Helga Seyler[1], Stefan Haid[2], Tae-Hyuk Kwon[1], David J. Jones[1], Peter Bäuerle[2], Andrew B. Holmes[1], Wallace W. H. Wong[1]
[1] *Bio21 Institute, University of Melbourne, Australia.*
[2] *Institute of Organic Chemistry II and Advanced Materials, University of Ulm, Germany.*

http://dx.doi.org/10.1071/CH12406

Preparation of arene chromium tricarbonyl complexes using continuous-flow processing: (η6-$C_6H_5CH_3$)$Cr(CO)_3$ as an example

Christopher (Xiang) Lee[1] , Elizabeth A. Pedrick[1] , Nicholas E. Leadbeater[1,2]
[1]*Department of Chemistry, University of Connecticut, USA*
[2]*Department of Community Medicine and Health Care, University of Connecticut Health Center, USA*

http://dx.doi.org/10.1556/JFC-D-12-00018

Visible light-initiated preparation of functionalized polystyrene monoliths for flow chemistry

Farhan R. Bou-Hamdan[1], Kathleen Krüger[1], Klaus Tauer[1], Tyler McQuade [1,3] , Peter H. Seeberger [1,2]
[1] *Max Planck Institute of Colloids and Interfaces Potsdam, Germany.*
[2] *Institute of Chemistry and Biochemistry, Freie Universität Berlin, Germany.*
[3] *Department of Chemistry & Biochemistry, Florida State University, USA.*

http://dx.doi.org/10.1071/CH12405

Integrated continuous processing and flow characterization of RAFT polymerization in tubular flow reactors

Christian H. Hornung, Xuan Nguyen, Geoff Dumsday, Simon Saubern*
CSIRO Materials Science and Engineering, Victoria. Australia

http://dx.doi.org/10.1002/mren.201200029

Synthesis of an H3 antagonist via sequential one-pot additions of a magnesium ate complex and an amine to a 1,4-ketoester followed by carbonyl-directed fluoride addition
Joel M. Hawkins, Pascal Dubé, Mark T. Maloney, Lulin Wei. Marcus Ewing, Stephen M. Chesnut, Joshua R. Denette, Brett M. Lillie, Rajappa Vaidyanathan
Pharmaceutical Sciences, Pfizer Inc., Groton, USA
http://dx.doi.org/10.1021/op300093j

A "catch-react-release" method for the flow synthesis of 2-aminopyrimidines and preparation of the imatinib base
Richard J. Ingham, Elena Riva, Nikzad Nikbin, Ian R. Baxendale, and Steven V. Ley*
Innovative Technology Centre, University of Cambridge, U.K.
http://dx.doi.org/10.1021/ol301673q

Sustainable and efficient methodology for CLA synthesis and identification
Andres Moreno, Maria Moreno, Maria Victoria Gómez, Cristina Cebrian, Pilar Prieto, Antonio de la Hoz
Departamento de Química Inorgánica, , Universidad de Castilla-La Mancha, Ciudad Real, Spain.
http://dx.doi.org/10.1039/C2GC35792E

Continuous synthesis and purification by direct coupling of a flow reactor with simulated moving-bed chromatography
Alexander G. O'Brien[1], Zoltán Horváth[3], François Lévesque [1], Ju Weon Lee[3], Andreas Seidel-Morgenstern[3], Peter H. Seeberger [1,2]
[1] Department for Biomolecular Systems, Max-Planck Institute for Colloids and Interfaces, Potsdam, Germany
[2] Freie Universität Berlin, Germany
[3] Max-Planck Institute for Dynamics of Complex Technical Systems, Magdeburg, Germany
http://dx.doi.org/10.1002/anie.201202795

A continuous flow process for the radical induced end group removal of RAFT polymers
Christian H. Hornung, Almar Postma, Simon Saubern, John Chiefari
CSIRO Materials Science & Engineering, Victoria, Australia
http://dx.doi.org/10.1002/mren.201200007

Continuous flow synthesis of secondary amides by tandem azidation- amidation of anilines
Christian Spiteri, John E. Moses*
School of Chemistry, University of Nottingham, UK
http://dx.doi.org/10.1055/s-0031-1291013

Asymmetric homogeneous hydrogenation in flow using a tube-in-tube reactor
Sean Newton[1], Steven V. Ley[1], Eva Casas Arcé[2], Damian M. Grainger[2]
[1]Department of Chemistry, University of Cambridge, U.K.
[2]Johnson Matthey Catalysis & Chiral Technology, Cambridge, U.K.
http://dx.doi.org/10.1002/adsc.201200073

Continuous flow hydrogenation using an on-demand gas delivery reactor
Michael A. Mercadante, Christopher B. Kelly, Christopher (Xiang) Lee, Nicholas E. Leadbeater*
Department of Chemistry, University of Connecticut, USA
http://dx.doi.org/10.1021/op300019w

An efficient method for the lipase-catalysed resolution and in-line purification of racemic flurbiprofen in a continuous-flow reactor
Lucia Tamborini[1], Diego Romano[2], Andrea Pinto[1], Arianna Bertolani[12], Francesco Molinari[2], Paola Conti[1]
[1] Dipartimento di Scienze Farmaceutiche 'Pietro Pratesi', Universitá degli Studi di Milano, Italy
[2] Dipartimento di Scienze e Tecnologie Alimentari e Microbiologiche, Universitá degli Studi di Milano, Italy
http://dx.doi.org/10.1016/j.molcatb.2012.02.008

Soluble polymer-supported flow synthesis: A green process for the preparation of heterocycles
Nicolò Prosa, Raphaël Turgis, Riccardo Piccardi, Marie-Christine Scherrman
Institut de Chimie Moléculaire et des Matériaux d'Orsay, Université Paris-Sud, France
http://dx.doi.org/10.1002/ejoc.201101726

Continuous flow synthesis and scale-up of glycine- and taurine-conjugated bile salts
Francesco Venturoni, Antimo Gioiello, Roccaldo Sardella, Benedetto Natalini and Roberto Pellicciari
Dipartimento di Chimica e Tecnologia del Farmaco, Università di Perugia, Italy
http://dx.doi.org/10.1039/C2OB25528F

Development of a continuous flow scale-up approach of reflux inhibitor AZD6906
Tomas Gustafsson, Henrik Sörensen, Fritiof Pontén*
Medicinal Chemistry, AstraZeneca R&D Mölndal, Sweden http://dx.doi.org/10.1021/op200340c

Phase-transfer catalysis under continuous flow conditions: an alternative approach to the biphasic liquid/liquid O-alkylation of phenols
Daniele De Zani[2], Matteo Colombo[1]
[1]NiKem Research 20021 via Zambeletti 25 Milan Baranzate, Italy
[2]Erregierre, San Paolo D'Argon Bergamo, Italy
http://dx.doi.org/10.1556/jfchem.2012.00020

Continuous-flow synthesis of the anti-malaria drug artemisinin
François Lévesque[1], Peter H. Seeberger[1,2]
[1]Department for Biomolecular Systems, Max-Planck Institute for Colloids and Interfaces, Potsdam, Germany
[2]Institute for Chemistry and Biochemistry, Freie Universität Berlin, Germany
http://dx.doi.org/10.1002/anie.201107446

Continuous proline catalysis via leaching of solid proline
Suzanne M. Opalka[1], Ashley R. Longstreet[2] and D. Tyler McQuade[2]
[1]Department of Chemistry and Chemical Biology, Cornell University, USA
[2]Department of Chemistry and Biochemistry, Florida State University,USA
http://dx.doi.org/10.3762/bjoc.7.194

Scale-up of flow-assisted synthesis of C2-symmetric chiral PyBox ligands
Claudio Battilocchio[13], Marcus Baumann[1], Ian R. Baxendale[1], Mariangela Biava[3], Matthew O. Kitching[1], Steven V. Ley[1], Rainer E. Martin*[2], Stephan A. Ohnmacht[2], Nicholas D. C. Tappin[1]
[1]Department of Chemistry, University of Cambridge, UK
[2] F. Hoffmann-La Roche Ltd., Pharmaceuticals Division, Basel, Switzerland
[3] Department of Pharmaceutical Chemistry and Technology, Sapienza University of Rome, Italy
http://dx.doi.org/10.1055/s-0031-1289676

Application of flow chemistry to the selective reduction of esters to aldehydes
Juan de M. Muñoz[1], Jesús Alcázar[1], Antonio de la Hoz[2], Angel Díaz-Ortiz[2]
[1]Janssen, Toledo, Spain
[2]Facultad de Ciencias Químicas, Universidad de Castilla-La Mancha, Spain
http://dx.doi.org/10.1002/ejoc.201101458

Synthesis of annulated pyridines by intramolecular inverse-electron-demand hetero-diels-alder reaction under superheated continuous flow conditions
Rainer E. Martin[1], Falk Morawitz[1], Christoph Kuratli[1], André M. Alker[2], Alexander I. Alanine[1]
[1]Chemistry Technology and Innovation, F. Hoffmann-La Roche Ltd, Basel, Switzerland
[2]Biostructure Section, F. Hoffmann-La Roche Ltd, Basel Switzerland
http://dx.doi.org/10.1002/ejoc.201101538

The application of a monolithic triphenylphosphine reagent for conducting appel reactions in flow microreactors
Kimberley A. Roper[1], Heiko Lange[1], Anastasios Polyzos[1], Malcolm B. Berry[2], Ian R. Baxendale[1] and Steven V. Ley[1]
[1]Innovative Technology Centre, University of Cambridge
[2]GlaxoSmithKline, Stevenage, UK
http://dx.doi.org/10.3762/bjoc.7.194

Continuous preparation of arylmagnesium reagents in flow with inline IR monitoring
Tobias Brodmann[1], Peter Koos[1], Albrecht Metzger[1], Paul Knochel*[2], Steven V. Ley*[1]
[1]Department of Chemistry, University of Cambridge, U.K.

[2]Department of Chemistry, Ludwig Maximilians-Universität, München, Germany

http://dx.doi.org/10.1021/op200275d

New insights into cyclobutenone rearrangements: a total synthesis of the natural ROS-generating anti-cancer agent cribrostatin (ROS=reactive-oxygen species)

Mubina Mohamed[1], Théo P. Gonçalves[1], Richard J. Whitby[1], Helen F. Sneddon[2], David C. Harrowven[1]
[1]Dept of Chemistry, University of Southampton, UK
[2]GSK Medicines Research Centre, Stevenage, UK

http://dx.doi.org/10.1002/chem.201102263

The oxygen-mediated synthesis of 1,3-butadiynes in continuous flow: using teflon AF-2400 to effect gas/liquid contact

Trine P. Petersen [123], Dr. Anastasios Polyzos [14], Dr. Matthew O'Brien [1], Dr. Trond Ulven [2], Dr. Ian R. Baxendale [1], Prof. Steven V. Ley [1]
[1] Whiffen Laboratory, University of Cambridge, UK
[2] Department of Physics and Chemistry, University of Southern Denmark
[3] Discovery Chemistry and DMPK, H. Lundbeck A/S,Denmark
[4] CSIRO, Materials Science and Engineering, Australia

http://dx.doi.org/10.1002/cssc.201100339

Lead diversification 2: application to P38, gMTP and lead compounds

M. Abid Masood [1], Marc Bazin[2], Mark E. Bunnage[1], Andrew Calabrese[3], Mark Cox[1], Sally-Ann Fancy[1], Elizabeth Farrant[1], David W. Pearce[1], Manuel Perez[1], Laure Hitzel[1], Torren Peakman[1]
[1] Worldwide Medicinal Chemistry, Pfizer, UK
[2] Hepatochem, Cambridge, MA, USA
[3] Celgene San Diego, USA

http://dx.doi.org/10.1016/j.bmcl.2011.11.033

A continuous-flow synthesis of annulated and polysubstituted furans from the reaction of ketones and a-haloketones

Mark York
CSIRO Materials Science and Engineering, Australia
Cooperative Research Centre for Polymers, Notting Hill, Australia

http://dx.doi.org/10.1016/j.tetlet.2011.09.083

Suzuki-Miyaura cross-coupling of heteroaryl halides and arylboronic acids in continuous flow

Timothy Noël and Andrew J. Musacchio
Department of Chemistry, MIT, USA

http://dx.doi.org/10.1021/ol202052q

The oxygen-mediated synthesis of 1,3-butadiynes in continuous flow: using teflon AF-2400 to effect gas/liquid contact

Trine P. Petersen[123], Anastasios Polyzos[14], Matthew O'Brien[1], Trond Ulven[2], Ian R. Baxendale[1], Steven V. Ley[1],*
[1]Whiffen Laboratory, Department of Chemistry, University of Cambridge
[2]Department of Physics and Chemistry, University of Southern Denmark
[3]Discovery Chemistry and DMPK, H. Lundbeck A/S, Denmark
[4]CSIRO, Materials Science and Engineering, Victoria, Australia

http://dx.doi.org/10.1002/cssc.201100339

Continuous flow synthesis of conjugated polymers

Helga Seyler, David J. Jones, Andrew B. Holmes and Wallace W. H. Wong
Bio21 Institute, University of Melbourne, Australia

http://dx.doi.org/10.1039/C1CC14315H

Continuous-flow, palladium-catalysed alkoxycarbonylation reactions using a prototype reactor in which it is possible to load gas and heat simultaneously

Michael A. Mercadante and Nicholas E. Leadbeater
Department of Chemistry, University of Connecticut, USA

http://dx.doi.org/10.1039/C1OB05808H

Teflon AF-2400 mediated gas–liquid contact in continuous flow methoxycarbonylations and in-line FTIR measurement of

CO concentration
Peter Koos, Ulrike Gross, Anastasios Polyzos, Matthew O'Brien, Ian Baxendale and Steven V. Ley
Innovative Technology Centre, University of Cambridge, UK
http://dx.doi.org/10.1039/C1OB06017A

Rapid access to α-alkoxy and α-amino acid derivatives through safe continuous-flow generation of diazoesters
Hannah E. Bartrum[1], David C. Blakemore[2], Christopher J. Moody[1], Christopher J. Hayes[1]
[1]*School of Chemistry, University of Nottingham, UK*
[2]*Pfizer Global Research and Development, Sandwich, UK*
http://dx.doi.org/10.1002/chem.201101590

Continuous flow photolysis of aryl azides: preparation of 3H-azepinones
Farhan R. Bou-Hamdan, François Lévesque, Alexander G. O'Brien, Peter H. Seeberger
Max Planck Institute of Colloids and Interfaces, Berlin, Germany
http://dx.doi.org/10.3762/bjoc.7.129

Ozonolysis in flow using capillary reactors
M. D. Roydhouse[1], A. Ghaini[2], A. Constantinou, A. Cantu-Perez[2], W. B. Motherwell[1], and A. Gavriilidis[2]
[1]*Department of Chemistry, University College London, UK*
[2]*Department of Chemical Engineering, University College London, UK*
http://dx.doi.org/10.1021/op200036d

Nitrile oxide 1,3-dipolar cycloaddition by dehydration of nitromethane derivatives under continuous flow conditions
Malte Brasholz, Simon Saubern* and G. Paul Savage
CSIRO Materials Science and Engineering, Victoria, Australia.
http://dx.doi.org/10.1071/CH11079

Nitration chemistry in continuous flow using fuming nitric acid in a commercially available flow reactor
Cara E. Brocklehurst, Hansjrg Lehmann, and Luigi La Vecchia
Global Discovery Chemistry, Novartis, Basel, Switzerland
http://dx.doi.org/10.1021/op200055r

Synthesis of a drug-like focused library of trisubstituted pyrrolidines using integrated flow chemistry and batch methods
Marcus Baumann[1]. Ian R. Baxendale[1], Steven V. Ley [1], Christoph Kuratli[2], Rainer E. Martin[2], Josef Schneider[2]
[1]*Innovative Technology Centre, University of Cambridge, U.K.*
[2]*F. Hoffmann-La Roche Ltd., Basel, Switzerland.*
http://dx.doi.org/10.1021/co2000357

Synthesis of (+)-dumetorine and congeners by using flow chemistry technologies
Elena Riva[2], Anna Rencurosi[1], Stefania Gagliardi[1], Daniele Passarella[2], Marisa Martinelli[1]*
[1]*NiKem Research S.r.l., Milan, Italy*
[2]*Università degli Studi di Milano,Milan, Italy*
http://dx.doi.org/10.1002/chem.201100300

Preparation of fluoxetine by multiple flow processing steps
Batoul Ahmed-Omer, Adam J. Sanderson
Eli Lilly and Co. Ltd., Lilly Research Centre, UK.
http://dx.doi.org/10.1039/C0OB00906G

Oxidation reactions in segmented and continuous flow chemical processing using an N-(tert-Butyl) phenylsulfinimidoyl chloride monolith
Lange, Matthew J. Capener, Alexander X. Jones, Catherine J. Smith, Nikzad Nikbin, Ian R. Baxendale,
Steven V. Ley*
Innovative Technology Centre, University of Cambridge, UK
http://dx.doi.org/10.1055/s-0030-1259923

Decarboxylative biaryl synthesis in a continuous flow reactor
Paul P. Lange[1], [1]Lukas J. Gooßen, [2]Philip Podmore, [2]Toby Underwood, [2]Nunzio Sciammetta

[1]Technische Universität Kaiserslautern, Germany
[2]Pfizer Global R&D, Sandwich, UK

http://dx.doi.org/10.1039/C0CC05708H

Diastereoselective chain-elongation reactions using microreactors for applications in complex molecule assembly
Catherine F. Carter[1], Heiko Lange[1], Daiki Sakai[2], Ian R. Baxendale[1], Steven V. Ley[1]
[1] Innovative Technology Centre, University of Cambridge, UK, CB2 1EW, UK
[2] Mitsubishi Tanabe Pharma Corporation, Yokohama, Japan

http://dx.doi.org/10.1002/chem.201003148

One-flow, multistep synthesis of nucleosides by Brønsted acid-catalyzed glycosylation
Adam Sniady, Matthew W. Bedore, Timothy F. Jamison
Novartis Institutes for Biomedical Research Inc., Cambridge, USA
MIT, Cambridge, USA

http://dx.doi.org/10.1002/ange.201006440

An integrated flow and batch-based approach for the synthesis of o-methyl siphonazole
Marcus Baumann, Ian R. Baxendale, Malte Brasholz, John J. Hayward, Steven V. Ley, Nikzad Nikbin
Innovative Technology Centre, Cambridge, UK

http://dx.doi.org/10.1055/s-0030-1260573

Flow synthesis of organic azides and the multistep synthesis of imines and amines using a new monolithic triphenylphosphine reagent
Catherine J. Smith, Christopher D. Smith, Nikzad Nikbin, Steven V. Ley, Ian R. Baxendale
Innovative Technology Centre, Cambridge, UK

http://dx.doi.org/10.1039/C0OB00813C

A fully automated, multistep flow synthesis of 5-amino-4-cyano-1,2,3-triazoles
Catherine J. Smith, Nikzad Nikbin, Steven V. Ley, Heiko Lange, Ian R. Baxendale
Innovative Technology Centre, Cambridge, UK

http://dx.doi.org/10.1039/C0OB00815J

A general, one-step synthesis of substituted indazoles using a flow reactor
Rob C. Wheeler, Emma Baxter, Ian B. Campbell, Simon J. F. Macdonald
GlaxoSmithKline, Stevenage, UK

http://pubs.acs.org/doi/abs/10.1021/op100288t

Continuous flow synthesis of fullerene derivatives
Helga Seyler, Wallace Wing Ho Wong, Dave Jones, Andrew B. Holmes
University Of Melbourne, Australia

http://dx.doi.org/10.1021/jo2001879

Controlled RAFT polymerization in a continuous flow microreactor
Christian H. Hornung ,Carlos Guerrero-Sanchez, Malte Brasholz, Simon Saubern, John Chiefari, Graeme Moad, Ezio Rizzardo, San H. Thang
CSIRO Materials Science & Engineering, Victoria, Australia

http://dx.doi.org/10.1021/op1003314

Highly efficient dehydration of carbohydrates to 5-(chloromethyl)furfural (CMF), 5-(hydroxymethyl)furfural (HMF) and levulinic acid by biphasic continuous flow processing
Malte Brasholz , Karin von Känel, Christian H. Hornung, Simon Saubern, John Tsanaktsidis
CSIRO Materials Science & Engineering, Victoria, Australia

http://dx.doi.org/10.1039/C1GC15107J

Continuous flow thermolysis of azidoacrylates for the synthesis of heterocycles and pharmaceutical intermediates
Alexander G. O'Brien, François Lévesque and Peter H. Seeberger
Max Planck Institute of Colloids and Interfaces, Potsdam, Germany

http://dx.doi.org/10.1039/C0CC04481D

Safe and reliable synthesis of diazoketones and quinoxalines in a continuous flow reactor

Laetitia J. Martin[1], Andreas L. Marzinzik[1], Steven V. Ley[2], Ian R. Baxendale[2]
[1] Novartis Institute for BioMedical Research, Basel, Switzerland
[2] *Innovative Technology Centre, Cambridge, UK*

http://dx.doi.org/10.1021/ol1027927

The continuous-flow synthesis of carboxylic acids using CO2 in a tube-in-tube gas permeable membrane reactor

Anastasios Polyzos, Matthew O'Brien, Trine P. Petersen, Ian R. Baxendale, Steven V. Ley
Innovative Technology Centre, Cambridge, UK

http://dx.doi.org/10.1002/anie.201006618

A breakthrough method for the accurate addition of reagents in multi-step segmented flow processing

Heiko Lange[1], Catherine F. Carter[1] , Mark D. Hopkin[1] , Adrian Burke[2] , Jon G. Goode[2] , Ian R. Baxendale[1], Steven V. Ley[1]
[1]*Innovative Technology Centre, University of Cambridge, UK*
[2]*Mettler-Toledo AutoChem, UK*

http://dx.doi.org/10.1039/c0sc00603c

Continuous flow coupling and decarboxylation reactions promoted by copper tubing

Yun Zhang[1], Timothy F. Jamison[2], Sejal Patel[1], Nello Mainolfi[1]
[1] *Novartis Institutes for Biomedical Research Inc., Cambridge, USA*
[2] *MIT, Cambridge, USA*

http://dx.doi.org/10.1021/ol1026848

Synthesis of β-Keto esters in-flow and rapid access to substituted pyrimidines

Hannah E. Bartrum[1], David C. Blakemore[2], Christopher J. Moody[1], and Christopher J. Hayes[1]
[1] *School of Chemistry, University of Nottingham, UK*
[2] *Pfizer Global Research and Development, Sandwich, UK*

http://dx.doi.org/10.1021/jo101783m

Synthesis of 3-aryl/benzyl-4,5,6,6a-tetrahydro-3aH-pyrrolo[3,4-d]isoxazole derivatives: a comparison between conventional, microwave-assisted and flow-based methodologies

Sabrina Castellano[1], Lucia Tamborini[2], Monica Viviano[1], Andrea Pinto[2], Gianluca Sbardella[1], and Paola Conti[2]
[1] *Dipartimento di Scienze Farmaceutiche, Universit degli Studi di Salerno, Italy*
[2] *Dipartimento di Scienze Farmaceutiche "Pietro Pratesi",*
Universit degli Studi di Milano, Italy

http://dx.doi.org/10.1021/jo1014323

Flow synthesis of tricyclic spiropiperidines as building blocks for the histrionicotoxin family of alkaloids

Malte Brasholz[1], Brian A. Johnson[2], James M. Macdonald[1], Anastasios Polyzos[1], John Tsanaktsidis[1], Simon Saubern[1], Andrew B. Holmes[1,2] and John H. Ryan[1] ,
[1] *CSIRO Molecular and Health Technologies, Victoria, Australia*
[2] *School of Chemistry, Bio 21 Institute, University of Melbourne, Victoria, Australia*

http://dx.doi.org/10.1016/j.tet.2010.04.092

A continuous flow process using a sequence of microreactors with in-line IR analysis for the preparation of N,N-diethyl-4-(3-fluorophenylpiperidin-4-ylidenemethyl)benzamide as a potent and highly selective δ-opioid receptor agonist

Zizheng Qian, Ian R. Baxendale, Steven V. Ley
Innovative Technology Centre, University of Cambridge

http://dx.doi.org/10.1002/chem.201002147

Preparation of arylsulfonyl chlorides by chlorosulfonylation of in situ generated diazonium salts using a continuous flow reactor

Laia Malet-Sanz, Julia Madrzak, Steven V.Ley and Ian R.Baxendale
Innovative Technology Centre, University of Cambridge

http://dx.doi.org/10.1039/C0OB00450B

$KMnO_4$-mediated oxidation as a continuous flow process
Jorg Sedelmeier, Steven V. Ley, Ian R. Baxendale and Marcus Baumann
Innovative Technology Centre, University of Cambridge
http://dx.doi.org/10.1021/ol101345z

Synthesis of highly substituted nitropyrrolidines, nitropyrrolizines and nitropyrroles via multicomponent-multistep sequences within a flow reactor
Marcus Baumann, Ian R. Baxendale, Andreas Kirschning, Steven V. Ley,* and Jens Wegner
Department of Chemistry, University of Cambridge
http://dx.doi.org/10.3987/COM-10-S(E)77

A gram-scale batch and flow total synthesis of perhydrohistrionicotoxin
Dr. Malte Brasholz[1], Dr. James M. Macdonald[1], Dr. Simon Saubern[1], Dr. John H. Ryan[1], Prof. Dr. Andrew B. Holmes[1], [2]
[1] *CSIRO Molecular and Health Technologies, Victoria, Australia*
[2] *School of Chemistry, Bio 21 Institute, University of Melbourne, Victoria, Australia*
http://dx.doi.org/10.1002/chem.201090183

Effect of phase transfer chemistry, segmented fluid flow, and sonication on the synthesis of cinnamic esters
Mauro Riccaboni, Elena La Porta, Andrea Martorana and Roberta Attanasio
Department of Medicinal Chemistry, NiKem Research Srl, Milan, Italy
http://dx.doi.org/10.1016/j.tet.2010.04.031

Continuous flow palladium (II)-catalyzed oxidative heck reactions with arylboronic acids
Luke R. Odell [1], Jonas Lindh [1], Tomas Gustafsson [2], Mats Larhed [1 *]
[1] *Organic Pharmaceutical Chemistry, Department of MedChem, Uppsala University, Sweden*
[2] *AstraZeneca R&D Mölndal, Sweden*
http://dx.doi.org/10.1002/ejoc.201000063

Reaction of Grignard reagents with carbonyl compounds under continuous flow conditions
E. Riva[1], S. Gagliardi[2], M. Martinelli[2], D. Passarella[1], D. Vigo[2] and A. Rencurosi[2,]
[1] *Dipartimento di Chimica Organica e Industriale, Università degli Studi di Milano, Via Venezian 21, 20133 Milano, Italy*
[2] *NiKem Research S.r.l., Milan, Italy*
http://dx.doi.org/10.1016/j.tet.2010.02.078

[3+2] Dipolar cycloadditions of an unstabilised azomethine ylide under continuous flow conditions
Mark Grafton, Andrew C. Mansfield and M. Jonathan Fray
Pfizer Global Research and Development, Sandwich, UK
http://dx.doi.org/10.1016/j.tetlet.2009.12.071

A highly efficient flow reactor process for the synthesis of N-Boc-3,4-dehydro-l-proline methyl ester
Lucia Tamborini, Paola Conti, Andrea Pinto and Carlo De Micheli
Dipartimento di Scienze Farmaceutiche 'Pietro Pratesi', Università degli Studi di Milano, Italy
http://dx.doi.org/10.1016/j.tetasy.2009.12.023

Efficient continuous flow synthesis of hydroxamic acids and suberoylanilide hydroxamic acid preparation
E. Riva[1], S. Gagliardi[2], Caterina Mazzoni [2,] M. Martinelli[2], D. Passarella[1], D. Vigo[2] and A. Rencurosi[2,]
[1] *Dipartimento di Chimica Organica e Industriale, Università degli Studi di Milano, Via Venezian 21, 20133 Milano, Italy*
[2] *NiKem Research S.r.l., Milan, Italy*
http://dx.doi.org/10.1021/jo900144h

The application of flow microreactors to the preparation of a family of casein kinase I inhibitors
Francesco Venturoni, Nikzad Nikbin, Steven V. Ley and Ian R. Baxendale
Innovative Technology Centre, Cambridge, UK
http://dx.doi.org/10.1039/b925327k

Multi-step synthesis by using modular flow reactors: the preparation of YneOnes and their use in heterocycle synthesis
Ian R. Baxendale[1], Søren C. Schou[2], Jörg Sedelmeier[1], Steven V. Ley[1]
[1]*ITC, Department of Chemistry, University of Cambridge*

[2]*LEO Pharma, Medicinal Chemistry Research, Denmark*

http://dx.doi.org/10.1002/chem.200902906

A flow process using microreactors for the preparation of a quinolone derivative as a potent $5HT_{1B}$ antagonist
Zizheng Qian, Ian R. Baxendale, Steven V. Ley
Innovative Technology Centre, Cambridge, UK

http://dx.doi.org/10.1055/s-0029-1219358

A flow-based synthesis of Imatinib: the API of Gleevec
Mark D. Hopkin, Ian R. Baxendale and Steven V. Ley
Innovative Technology Centre, Cambridge, UK

http://dx.doi.org/10.1039/c001550d

ReactIR flow cell: a new analytical tool for continuous flow chemical processing
Catherine F. Carter[1], Heiko Lange[1], Steven V. Ley[1], Ian R. Baxendale[1], Brian Wittkamp[2], Jon G. Goode[3] and Nigel L. Gaunt[3]
[1] *Innovative Technology Centre, Department of Chemistry, University of Cambridge*
[2] *Mettler-Toledo AutoChem, USA*
[3] *Mettler-Toledo AutoChem, UK*

http://dx.doi.org/10.1021/op900305v

A safe and reliable procedure for the iododeamination of aromatic and heteroaromatic amines in a continuous flow reactor
Laia Malet-Sanz, Julia Madrzak, Rhian S. Holvey and Toby Underwood
Research Chemistry, Pfizer Global Research and Development, Sandwich, UK

http://dx.doi.org/10.1016/j.tetlet.2009.10.007

Development of fluorination methods using continuous-flow microreactors
Marcus Baumann, Ian R. Baxendale, Laetitia J. Martin, Steven V. Ley
Innovative Technology Centre, Cambridge, UK

http://dx.doi.org/10.1016/j.tet.2009.05.083

Multistep synthesis using modular flow reactors: Bestmann-Ohira reagent for the formation of alkynes and triazoles
Ian R. Baxendale[1], Steven V. Ley[1], Andrew C. Mansfield [2], Christopher D. Smith[1]
[1]*ITC, Department of Chemistry, University of Cambridge,*
[2]*Pfizer Global R&D Research Centre, Sandwich, (UK)*

http://dx.doi.org/10.1002/anie.200900970

A bifurcated pathway to thiazoles and imidazoles using a modular flow microreactor
Ian R. Baxendale, Steven V. Ley, Christopher D. Smith, Lucia Tamborini and Ana-Florina Voica
Innovative Technology Centre, Cambridge, UK

http://dx.doi.org/10.1021/cc800070a

The use of diethylaminosulfur trifluoride (DAST) for fluorination in a continuous-flow microreactor
Marcus Baumann, Ian R. Baxendale, Steven V. Ley
Innovative Technology Centre, Cambridge, UK

http://dx.doi.org/10.1055/s-2008-1078026

A modular flow reactor for performing Curtius rearrangements as a continuous flow process
Marcus Baumann[1], Ian R. Baxendale[1], Steven V. Ley[1], Nikzad Nikbin[1], Christopher D. Smith[1] and Jason P. Tierney[2]
[1] *Innovative Technology Centre, Department of Chemistry, University of Cambridge*
[2] *Neurology Lead Discovery Chemistry, GlaxoSmithKline R and D, Harlow, UK*

http://dx.doi.org/10.1039/b801631n

[3 + 2] Cycloaddition of acetylenes with azides to give 1,4-disubstituted 1,2,3-triazoles in a modular flow reactor
Christopher D. Smith[1], Ian R. Baxendale[1], Steve Lanners[1], John J. Hayward[1], Steven V. Ley[1], Stephen C. Smith[2]
[1]*Innovative Technology Centre, University of Cambridge, UK*
[2]*Syngenta, Jealots Hill International Research Centre, UK*

http://dx.doi.org/10.1039/b702995k

Azide monoliths as convenient flow reactors for efficient Curtius rearrangement reactions
Marcus Baumann, Ian R. Baxendale, Steven V. Ley, Nikzad Nikbin and Christopher D. Smith
Innovative Technology Centre, Cambridge, UK

http://dx.doi.org/10.1039/b801634h

A microcapillary flow disc reactor for organic synthesis
Christian H. Hornung[1], Malcolm R. Mackley[2], Ian R. Baxendale[1], Steven V. Ley[1]
[1] Department of Chemistry, University of Cambridge
[2] Department of Chemical Engineering, University of Cambridge

http://dx.doi.org/10.1021/op700015f

A flow reactor process for the synthesis of peptides utilizing immobilized reagents, scavengers and catch and release protocols
Ian R. Baxendale, Steven V. Ley, Christopher D. Smith and Geoffrey K. Tranmer
Innovative Technology Centre, Cambridge, UK

http://dx.doi.org/10.1039/b612197g

Fully automated flow-through synthesis of secondary sulfonamides in a binary reactor system
Charlotte M. Griffiths-Jones, Mark D. Hopkin, Daniel Jönsson, Steven V. Ley, David J. Tapolczay, Emma Vickerstaffe, and Mark Ladlow
GlaxoSmithKline Cambridge Technology Centre, Cambridge

http://dx.doi.org/10.1021/cc060152b

Fully automated continuous flow synthesis of 4,5-disubstituted oxazoles
Marcus Baumann, Ian R. Baxendale, Steven V. Ley, Christopher D. Smith, and Geoffrey K. Tranmer
Innovative Technology Center, University of Cambridge

http://dx.doi.org/10.1021/ol061975c

Continuous flow ligand-free heck reactions using monolithic Pd [0] nanoparticles
Nikzad Nikbin, Mark Ladlow, and Steven V. Ley
Department of Chemistry, University of Cambridge, UK

http://dx.doi.org/10.1021/op7000436

Tagged phosphine reagents to assist reaction work-up by phase-switched scavenging using a modular flow reactor
Christopher D. Smith, Ian Baxendale, Geoffrey Tranmer, Marcus Baumann, Stephen Smith, Russell Lewthwaite and Steven V. Ley
Department of Chemistry, University of Cambridge, UK

http://dx.doi.org/10.1039/b703033a

A flow process for the multi-step synthesis of the alkaloid natural product oxomaritidine: a new paradigm for molecular assembly
Ian R. Baxendale, Jon Deeley, Charlotte M. Griffiths-Jones, Steven V. Ley, Steen Saaby and Geoffrey K. Tranmer
Innovative Technology Centre, University of Cambridge

http://dx.doi.org/10.1039/B600382F