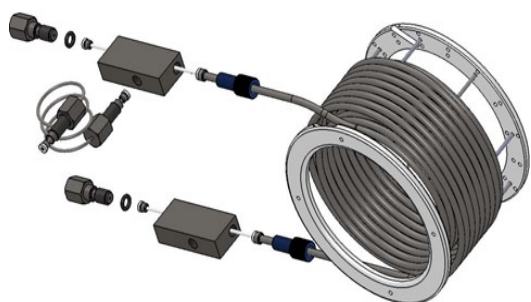


Welcome to the Spring 2017 issue of FullFlow, the flow chemistry newsletter from Vapourtec, a must-read for all Scientists interested in continuous processing applications and technology.

Product News



Rapid mixing the target?... not always

Progressive mixing gives benefits in many high value applications, exothermic reactions, anti-solvent crystallisations, ionic liquid synthesis, forced gradient polymer preparation. Vapourtec presents an innovate tube-in-tube solution providing repeatable progressive mixing.

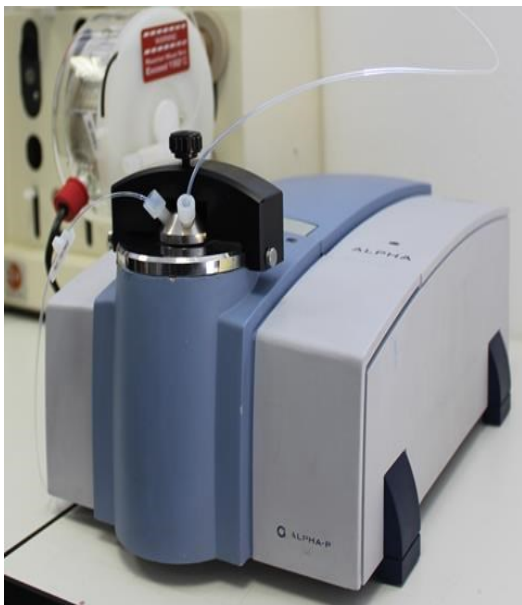
[Read more](#)



The new SF-10 pump has a gas delivery mode

The delivery of reactive gases is precisely controlled from 0.5 scc/min to 99 scc/min at pressures up to 10 bar. No need to set up mass flow controllers or continually adjust metering valves!

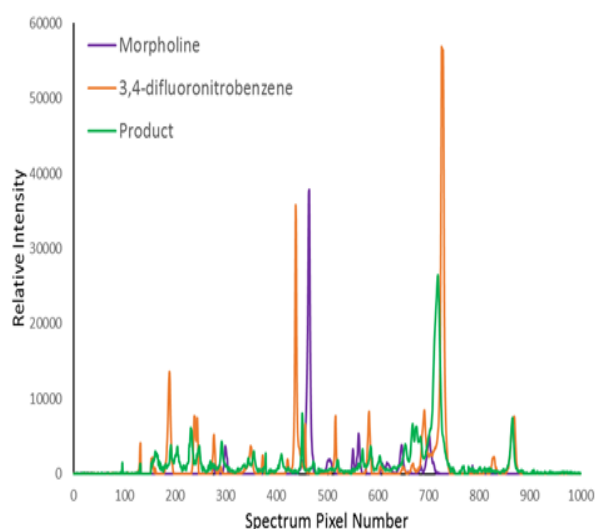
[Read more](#)



In-line analysis expanded with Bruker FTIR

Vapourtec have expanded the options for in-line analysis by the integrating the Bruker Alpha IR. Data from the Bruker instrument is integrated with the Flow Commander™ software allowing real time inline reaction monitoring.

[Read more](#)



Flow chemistry benefits from inline Raman

Vapourtec have developed a laboratory scale flow cell enabling the integration of Raman spectroscopy into Flow Commander™, providing a powerful and complimentary spectroscopic tool for reaction monitoring and optimisation.

[Read more](#)

Latest News



New Vapourtec base on the horizon

Vapourtec's new office, due to be open in June 2017, will offer the facilities and potential for increased research, development, training and customer liaison.

[Read more](#)



Huge flow success at ACS San Francisco

The ACS meeting in San Francisco saw great interest in continuous flow chemistry. Vapourtec was excited with the level of interest particularly regarding continuous flow photochemistry

[Read more](#)



Vapourtec service team expanded



Vapourtec strikes Hungary distribution deal

At Vapourtec we strive to offer the best possible customer support. A significant step towards this objective has been a reorganisation of the service team and the appointment of Wilna Gray in December 2016 as Service Manager.

[Read more](#)

Vapourtec has recently secured its latest distribution agreement with Budapest-based chemistry specialists Lab-Comp opening up new markets across central and eastern Europe.

[Read more](#)

Events



32nd International exhibition for fine and specialty chemicals - 31 May – 1 June 2017, Munich Trade Fair Centre, Germany, Booth N100

Chemspec Europe 2017 is the international exhibition for fine and speciality chemicals. The 32nd edition of this highly successful industry event will take place from 31 May – 1 June 2017 in the Munich Trade Fair Centre, Germany.

[Read more](#)

254th ACS National Meeting & Exposition – August 20-24, 2017 in Washington, USA

The 254th American Chemical Society National Meeting and Exposition will be held in Washington August on August 20-24 2017 and will focus on chemistry's impact on the global economy.

[Read more](#)



**New synthetic methods –
Design and application– 28
September 2017, SCI,
London, UK**

The SCI's Fine Chemical Group is pleased to announce a one-day meeting to showcase cutting edge synthetic organic chemistry. The aim of the meeting is to highlight new synthetic approaches, disconnections and methods, and their application as developed by key researchers from both academia and industry.

[Read More](#)

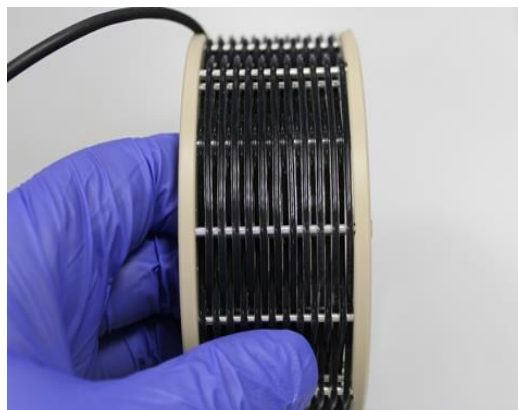
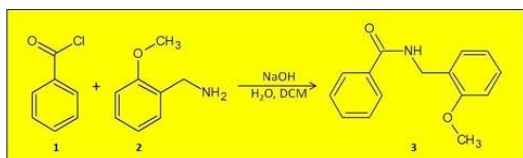


**FROST 6th Conference on
Frontiers in Organic
Synthesis Technology –
October 18-20, 2017 in
Budapest, Hungary**

The 6th FROST conference is again organized by the ACS Hungarian Chapter. The agenda topics will be; Safe production of hazardous chemicals in flow, Flow chemistry in pharma industry, Instruments for flow chemistry: microreactors and Flow chemistry for drug discovery

[Read more](#)

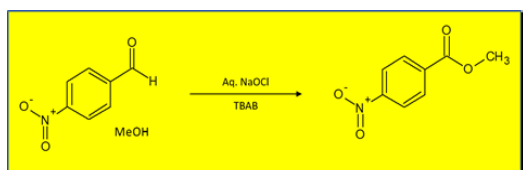
New Applications



Rapid Mixing Reactor for Amide Formation under Biphasic Flow Reaction Conditions

In this application, Dr Claudio Battilocchio of the Ley group, University of Cambridge, has used Vapourtec's 20 ml Rapid Mixing Reactors to perform an amide synthesis under biphasic flow reaction conditions.

[Read more](#)



Rapid Mixing Reactor for Biphasic Reaction Scale-up

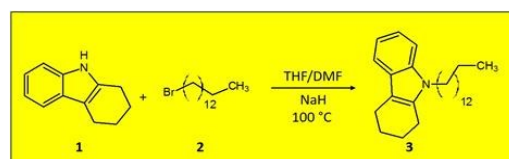
In this application note the Vapourtec high flow pump module and an R-series equipped with a Vapourtec large diameter reactor for rapid mixing has been used to perform a scale-up of biphasic Stevens oxidation.

[Read more](#)

Palladium on Charcoal Slurries in Continuous Flow Hydrogenation

Using a Vapourtec E-Series with V-3 peristaltic pumps it has been possible to handle solids in flow, to perform a continuous flow hydrogenation of 4-(2-fluoro-4-nitrophenyl)morpholine to the Linezolid intermediate 3-fluoro-4-(4-morpholinyl)aniline, using ammonium formate, and a heterogeneous palladium on charcoal slurry.

[Read more](#)



Sodium Hydride as a Slurry in Continuous Flow

As part of our ongoing series of application notes on pumping slurries of reagents we have turned our attention to sodium hydride, one of the most versatile heterogeneous strong bases.

[Read more](#)

Publications

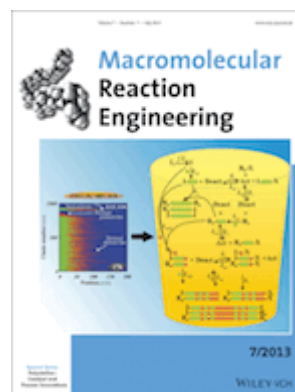


Flow Synthesis of Cyclobutanones via [2+2] Cycloaddition of Keteneiminium Salts & Ethylene Gas

Claudio Battilocchio, Grazia Iannucci, Shiyi Wang, Edouard Godineau, Amandine Krieger, Alain De Mesmaeker and Steven V Ley.

React. Chem. Eng., 2017, Advance Article DOI: 10.1039/C7RE00020K

[Read more](#)

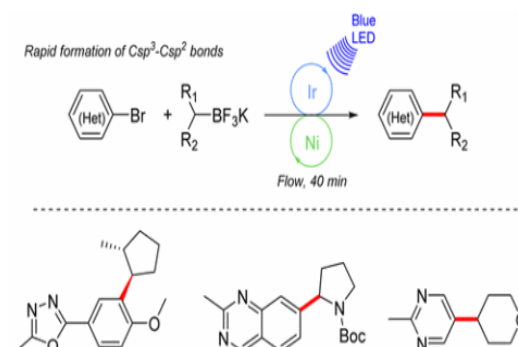


Preparation of Forced Gradient Copolymers Using Tube-in-Tube Continuous Flow Reactors

Simon Saubern, Xuan Nguyen, Van Nguyen, James Gardiner, John Tsanaktsidis, John Chiefari.

Wiley Online Library 27 January 2017
DOI: 10.1002/mren.201600065

[Read more](#)



Self-optimisation and model-based design of experiments for developing a C–H activation flow process

Alexander Echtermeyer, Yehia Amar, Jacek Zakrzewski and Alexei Lapkin.

Beilstein J. Org. Chem. 2017, 13, 150–163 **DOI:** 10.3762/bjoc.13.18

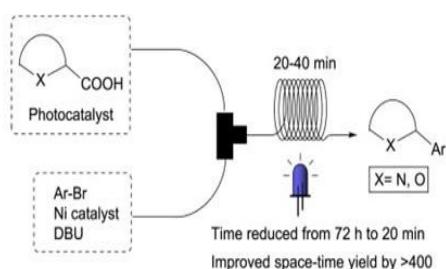
[Read more](#)

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

J. Org. Chem., 2016, 81 (24), pp 12525–12531
DOI: 10.1021/acs.joc.6b02408

[Read more](#)



Improving the throughput of batch photochemical reactions using flow: Dual photoredox and nickel catalysis in flow for C(sp²)C(sp³) cross-coupling

Irini Abdiaj, Jesús Alcázar.

ScienceDirect., 27 December 2016

DOI: dx.doi.org/10.1016/j.bmc.2016.12.041

[Read more](#)

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

Chemistry - A European Journal
Volume 23, Issue 13, pages 3197–3205,
March 2, 2017

DOI: 10.1002/chem.201605902

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