

Welcome to the Summer 2024 issue of FullFlow, the flow chemistry newsletter from Vapourtec, a must-read for all scientists interested in continuous processing applications and technology.

Read on to find out the latest product news, new publications using the Vapourtec flow chemistry systems, recent application notes, and upcoming events.

[Product news](#) | [Latest news](#) | [Application notes](#) | [Events](#) | [Publications](#)

Product News

New compact and flexible peptide synthesizer: Peptide-ExplorerLT



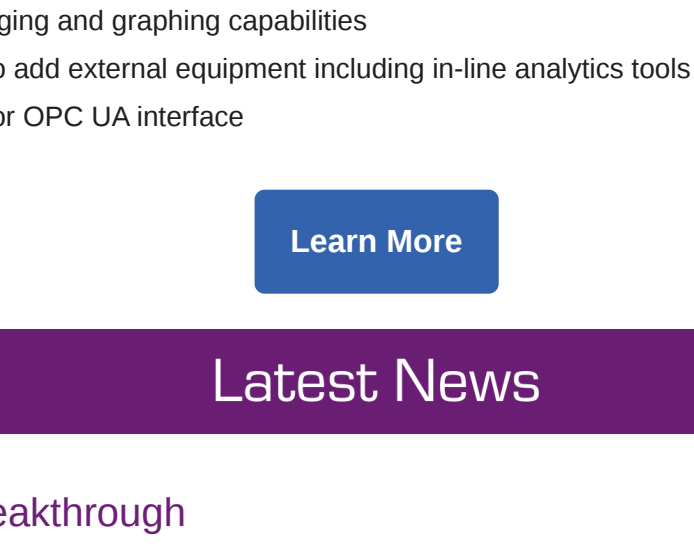
The Peptide-ExplorerLT is aimed at chemists looking to explore and optimise linear peptide synthesis. This addition to our Fast Flow Solid Phase Peptide Synthesis (FF-SPPS) range benefits from the same technology as the Peptide-Explorer launched in 2020, but with a more compact footprint and at a lower price point.

The benefits of Vapourtec's FF-SPPS with our proprietary Variable Bed Flow Reactor (VBFR) over traditional SPPS methods include:

- More controlled chemistry: eliminating randomness and increasing crude purity
- Uniform heating: minimising aggregations and accessing difficult peptides
- Effortless linear scale-up with identical purity
- Short cycle times
- In-line data for rapid reaction optimisation
- Effective couplings with as low as 1.2 equivalents of amino acids

[Learn More](#)

Take your E-Series system to the next level with state-of-the-art automation software



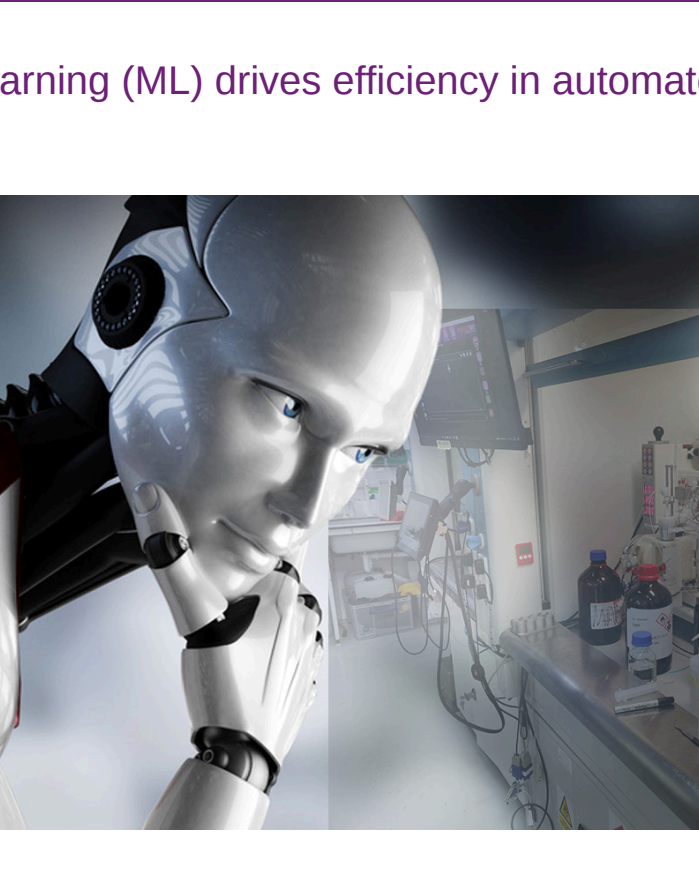
If you own a Vapourtec E-Series system, you can now upgrade it with the new E-Series automation software for:

- Fully automated reactions for unattended operation
- Data logging and graphing capabilities
- Option to add external equipment including in-line analytics tools
- Option for OPC UA interface

[Learn More](#)

Latest News

Double breakthrough

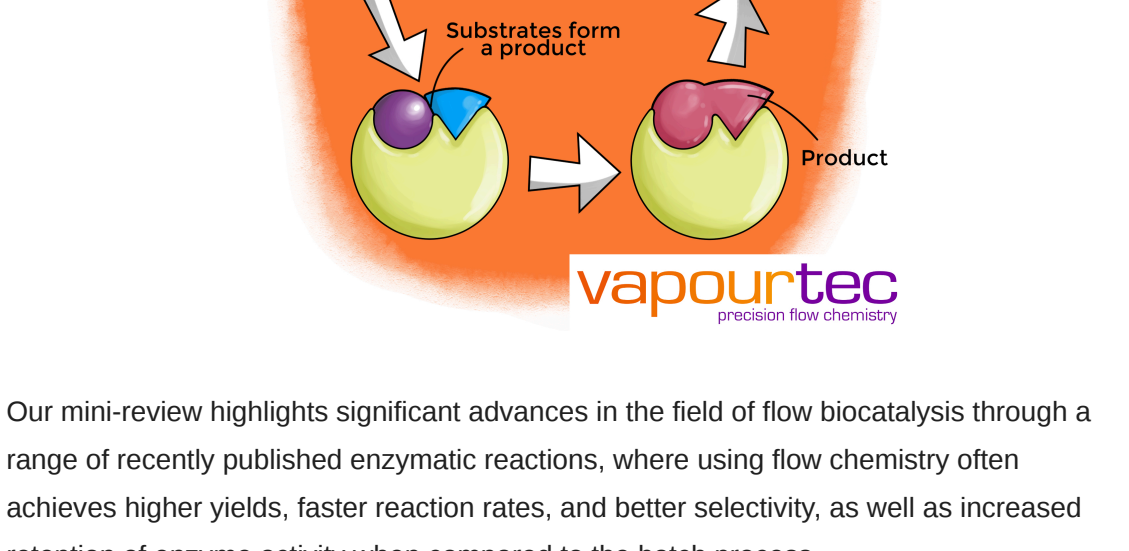


Two key publications released recently within the same week demonstrate the breadth and impact of recent innovative work within the field of flow chemistry.

The two papers demonstrate improvements within photochemistry and peptide synthesis utilising Vapourtec's recently unveiled photochemical continuous stirred tank reactor (CSTR) and the pioneering Peptide-Explorer synthesiser respectively.

[Learn More](#)

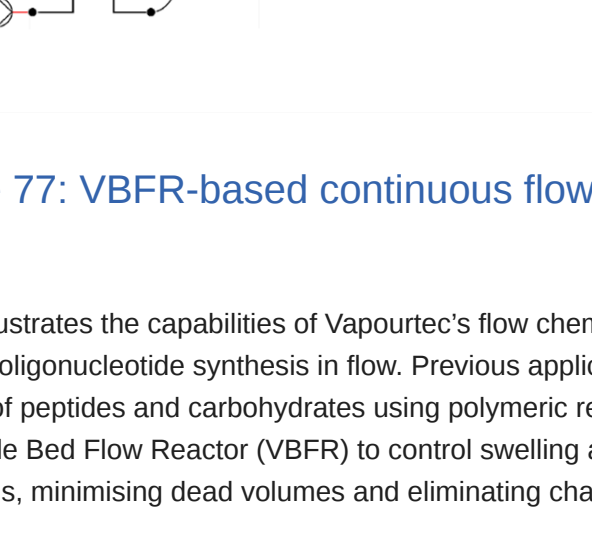
Machine Learning (ML) drives efficiency in automated chemistry



There is a growing role and potential for machine learning in chemistry, and particularly within flow chemistry. Vapourtec and collaborators at Accelerated Materials have been demonstrating how the Vapourtec flow chemistry systems and software with OPC UA can be utilised for self-optimising reactions for example.

[Learn More](#)

The rise of continuous flow biocatalysis



Our mini-review highlights significant advances in the field of flow biocatalysis through a range of recently published enzymatic reactions, where using flow chemistry often achieves higher yields, faster reaction rates, and better selectivity, as well as increased retention of enzyme activity when compared to the batch process.

[Learn More](#)

Application Notes



Application Note 77: VBFR-based continuous flow synthesis of oligonucleotides

This application note illustrates the capabilities of Vapourtec's flow chemistry systems in the field of solid-phase oligonucleotide synthesis in flow. Previous application notes have covered the synthesis of peptides and carbohydrates using polymeric resin as solid support, using a Variable Bed Flow Reactor (VBFR) to control swelling and growth throughout the synthesis, minimising dead volumes and eliminating channelling of reagents.

[Learn More](#)

Events

Bio Asia Taiwan

24th – 28th July 2024
Taipei – Taiwan
Attending: CSO Dr Manuel Nuño
[Find out more >>>](#)

ACS Fall 2024

18th – 22nd August 2024
Denver – USA
Attending: Distributor Manager Ali Deuchars
[Find out more >>>](#)

37th European Peptide symposium

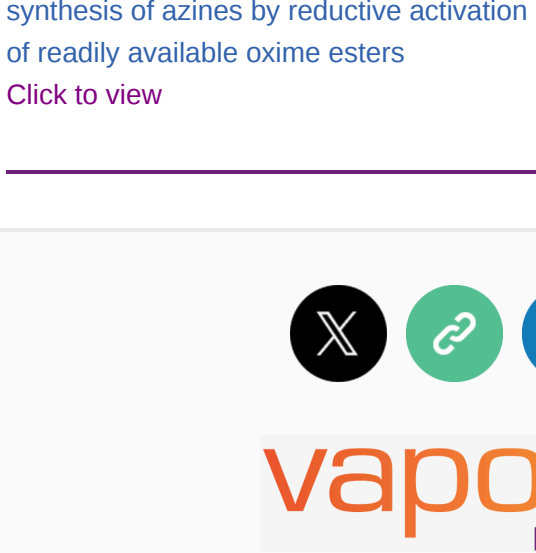
25th – 29th August 2024
Florence – Italy
Attending: Research Scientist Victoire Laude
[Find out more >>>](#)

15th European Conference on Organic Free Radicals

1st – 4th September 2024
Manchester – UK
Attending: CSO Dr. Manuel Nuño & Sales Specialist Harold Rupapa
[Find out more >>>](#)

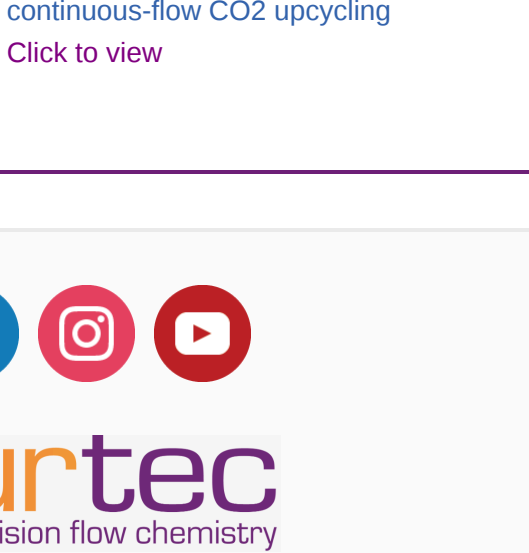
Publications

Below are 6 compelling publications selected from the 50+ publications citing Vapourtec in recent months. To view all publications citing Vapourtec, [click here](#).



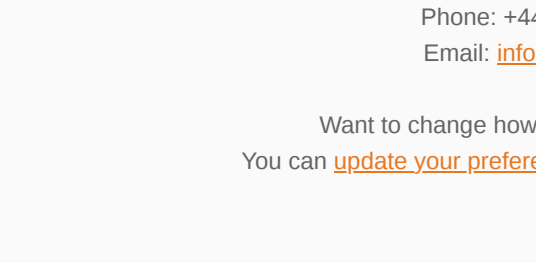
Continuous-Flow Solid-Phase Peptide Synthesis to Enable Rapid, Multigram Deliveries of Peptides

[Click to view](#)



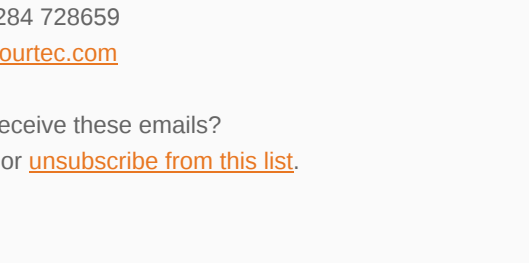
Multiphase photochemistry in flow mode via an integrated continuous stirred tank reactor (CSTR) approach

[Click to view](#)



Automated One-pot Library Synthesis with Aldehydes as Radical Precursors

[Click to view](#)



Immobilisation of benzo[c][1,2,5]thiadiazole (BTZ) within polymers of intrinsic microporosity (PIMs) for use in flow photochemistry

[Click to view](#)

A hydrazine-free photoredox catalytic synthesis of azines by reductive activation of readily available oxime esters

[Click to view](#)

Poly(ionic liquid)-based aerogels for continuous-flow CO2 upcycling

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