

PRESS RELEASE

Photosynthesis of Chiral Building Blocks for Drug Discovery

A new **white paper**, written by scientists at **Liverpool ChiroChem (LCC)**, describes how the **Asynt Illumin8 parallel photoreactor** is being used to synthesise a range of new 2-Aryl N-Heterocycles.

The discovery of a novel enantioselective synthetic pathway for reduction of pyridines to the corresponding chiral piperidines led to the formation of LCC in 2014. Since inception, LCC have enhanced their expertise enabling them to provide leading scientific organisations with access to chirally-pure compounds that play their part in small molecule drug discovery.

The white paper describes how using a combination of photoredox-mediated hydrogen atom transfer (HAT) and nickel catalysis - scientists were able to synthesise di- and tri-functionalised N-pyrrolidines of high interest to the drug discovery community.

Dr Shaun Smullen, a senior research chemist at LCC commented "Our initial photochemical reaction set-up using Kessil 40 W lamps was rather time consuming. The introduction of Asynt's Illumin8 parallel photoreactor drastically improved our efficiency by allowing us to perform eight

Asynt Ltd

Unit 29 Hall Barn Road Industrial Estate Isleham Cambridgeshire United Kingdom CB7 5RJ
T: +44 (0)1638 781709 F: +44(0)1638 781706 enquiries@asynt.com www.asynt.com



reactions simultaneously. The yields and selectivity of these reactions were comparable in both set-ups".

The Illumin8 parallel photoreactor is designed to be simple to set-up, flexible in operation and easy-to-use. It allows users to run up to eight photochemical reactions at a time in 6 mL borosilicate tubes. The unit mounts on a standard magnetic hotplate stirrer enabling powerful agitation and heating (up to 80 °C). Easy to use connectors, on top of the Illumin8, allow for an inert atmosphere or vacuum to be applied to each reaction tube. Compact in size, the Illumin8 parallel photoreactor features a ring of eight high power UV (365 nm) or blue (450 nm) light emitting diodes (LEDs) with safety interlocks to ensure light tight photochemical reactions. With each LED positioned close to a corresponding reaction tube, Illumin8 efficiently delivers an even photon flux to each reaction enhancing the consistency of your photochemical reactions.

To read the LCC white paper in full please visit www.asynt.com/wp-content/uploads/2020/02/Photochemistry-with-Illumin8-LCC-white-paper-SHARE.pdf. For further information on the Illumin8 please visit <https://www.asynt.com/product/illumin8-parallel-photoreactor/> or contact Asynt on +44-1638-781709 / enquiries@asynt.com.

Asynt is a leading supplier of affordable products, consumables and services for chemists in industry and academia. With staff of trained chemists - Asynt can draw upon this in-depth applications knowledge to provide a high level of customer support for its DrySyn Heating Blocks, Controlled Lab Reactors, Synthesis Tools, Evaporators, Circulators, Temperature Control Systems, Vacuum Pumps and Lab Safety Equipment.

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Registration No: 5160407

VAT No: GB 838 5592 82

Illustrative image:



Caption: Illumin8 Parallel Photoreactor

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Caption: Ross Goodyear, R&D chemist at Liverpool ChiroChem with the Illumin8 Parallel Photoreactor

For more information please contact:

Media: Dr Bill Bradbury +44-208-546-0869 / info@primetek-solutions.com

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