

nanoscale synthesis

exploring chemical space with
high throughput and ultra-low
volume reactions



 **sptlabtech**

 **sptlabtech**

low-volume liquid handling with mosquito[®]



simplified assay miniaturisation with a user-friendly instrument

easily accessible low volume pipetting



eliminate cross-contamination

disposable pipettes for ensuring reaction integrity



maximising reagent use and preserving precious sample

ultra low dead volumes as low as 0.2 μ L



high throughput plate preparation

rapid plate to plate pipetting motion and tip exchange



aspirate, dispense and even mix in any SBS plate type or format

versatile at low volume



accuracy and precision, irrespective of liquid class

true positive-displacement pipetting



accelerating the pace of medicinal chemistry and HT chemical synthesis

- more reactions with less material
- synthesize 10-100 times more analogues
- explore 10-100 times more reaction conditions
- rapidly discover high yielding reaction conditions
- accelerate lead optimisation by coupling with biological assays
- map reaction space to generate predictive models
- easily design your experiments with the nanoChem reaction planner software

references:

a. Nanomole-scale high-throughput chemistry for the synthesis of complex molecules:

Alexander Buitrago Santanilla, Erik L. Regalado, Tony Pereira, Michael Shevlin, Kevin Bateman, Louis-Charles Campeau, Jonathan Schneeweis, Simon Berritt, Zhi-Cai Shi, Philippe Nantermet, Yong Liu, Roy Helmy, Christopher J. Welch, Petr Vachal, Ian W. Davies, Tim Cernak, Spencer D. Dreher

Science 02 Jan 2015:Vol. 347, Issue 6217, pp. 49-53 DOI: 10.1126/science.1259203

<http://science.sciencemag.org/content/347/6217/49.short>

b. Nanoscale synthesis and affinity ranking:

Nathan J. Gesmundo, Bérengère Sauvagnat, Patrick J. Curran, Matthew P. Richards, Christine L. Andrews, Peter J. Dandliker & Tim Cernak. Nature volume 557, pages 228–232 (2018)

<https://www.nature.com/articles/s41586-018-0056-8>

c. Mapping the dark space of chemical reactions with extended nanomole synthesis and MALDI-TOF MS:

Shishi Lin, Sergei Dikler, William D. Blincoe, Ronald D. Ferguson, Robert P. Sheridan, Zhengwei Peng, Donald V. Conway, Kerstin Zawatzky, Heather Wang, Tim Cernak, Ian W. Davies, Daniel A. DiRocco, Huaming Sheng, Christopher J. Welch, Spencer D. Dreher,

Science 24 May 2018: eaar6236 DOI: 10.1126/science.aar6236

<http://science.sciencemag.org/content/early/2018/05/23/science.aar6236.abstract>

d. Predicting reaction performance in C–N cross-coupling using machine learning:

Derek T. Ahneman, Jesús G. Estrada, Shishi Lin, Spencer D. Dreher, Abigail G. Doyle,

Science 13 Apr 2018: Vol. 360, Issue 6385, pp. 186-190 DOI: 10.1126/science.aar5169

<http://science.sciencemag.org/content/360/6385/186.abstract>

e. A High-Throughput Mass-Spectrometry-Based Assay for Identifying the Biochemical Functions of Putative Glycosidases:

Tianyuan Peng Gabe Nagy Dr. Jonathan C. Trinidad Dr. Joy Marie Jackson Prof. Nicola L. B. Pohl

Wiley First published: 27 September 2017 <https://doi.org/10.1002/cbic.201700292> Cited by: 1

<https://onlinelibrary.wiley.com/doi/abs/10.1002/cbic.201700292>

f. Scope and limitations of carbohydrate hydrolysis for de novo glycan sequencing using a hydrogen peroxide/metallopeptide-based glycosidase mimetic:

Tianyuan Peng, ZacharyWooke, Nicola L.B.Pohl

Science Direct Received 9 December 2017, Revised 10 January 2018, Accepted 29 January 2018, Available online 3 February 2018

<https://www.sciencedirect.com/science/article/abs/pii/S0008621517308595>

get in touch

SPT Labtech Ltd

+44 (0) 1223 627 555

discover@sptlabtech.com

SPT Labtech Inc

+1 (855) 601 5867

discover@sptlabtech.com

SPT Labtech India Private Ltd

+91 9968291292

enquiries@sptlabtech.com

find us on



sptlabtech.com