

Lab Reactor – a modular flow reactor

Clemens R. HORN, Olivier LOBET, Mohammed Acherki, Bertrand Gallet

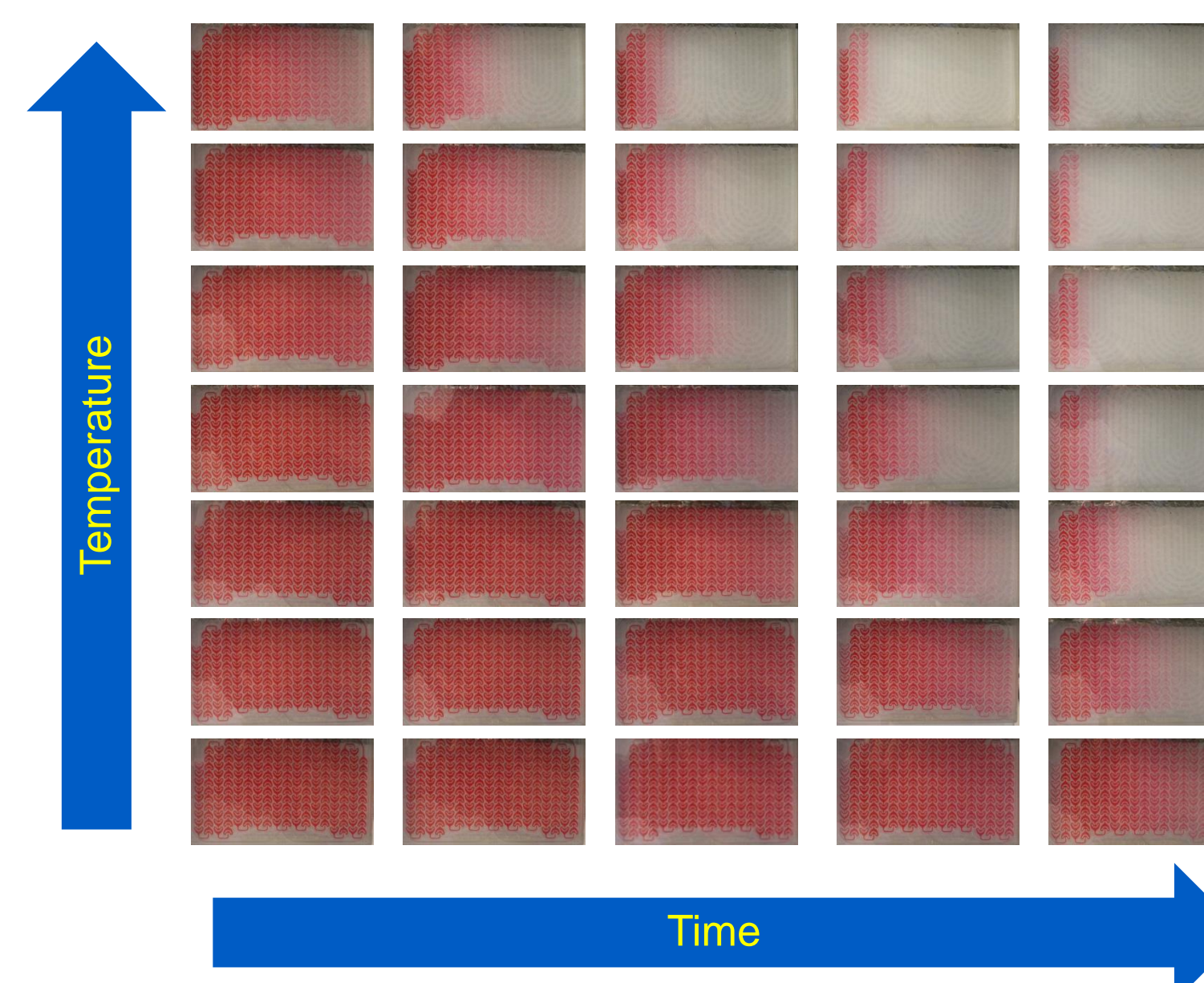
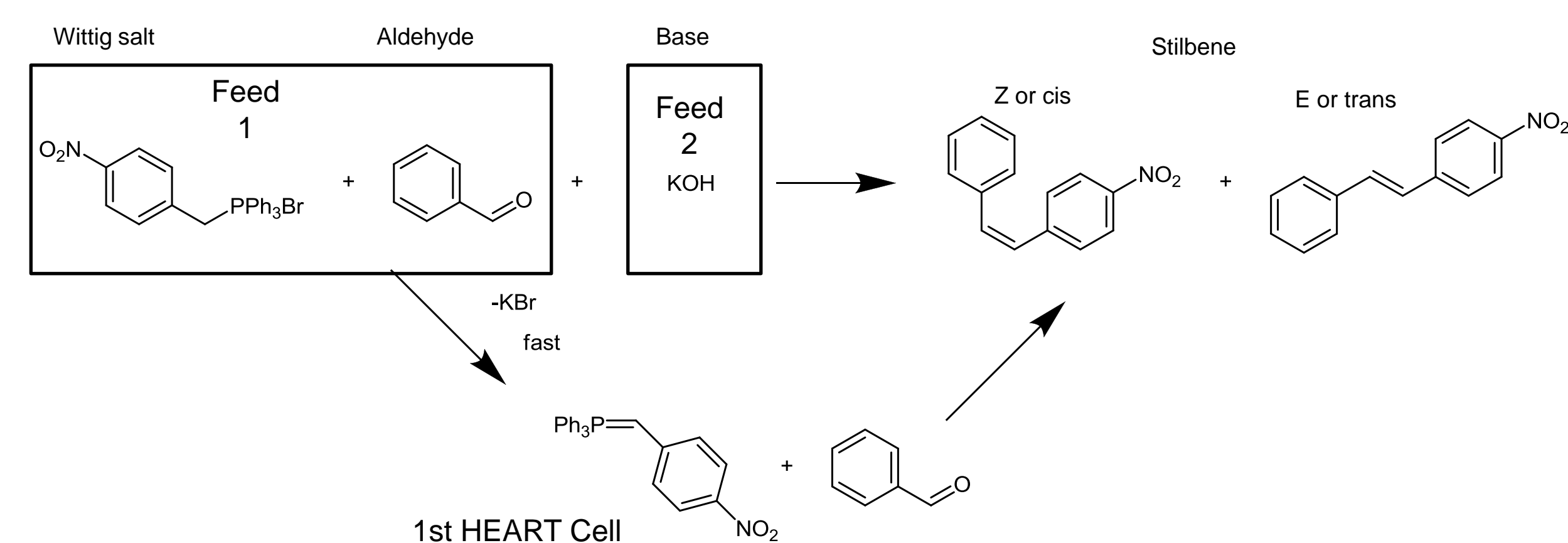
Corning SAS, Corning European Technology Center, 7 bis Avenue de Valvins, 77210 Avon, France, galletb@corning.com

Lab Reactor

Corning Lab Reactor is a modular system. The dosing unit can be combined with various reactor units. All units itself can be modified (eg. adding a third pump or a second reactor module)

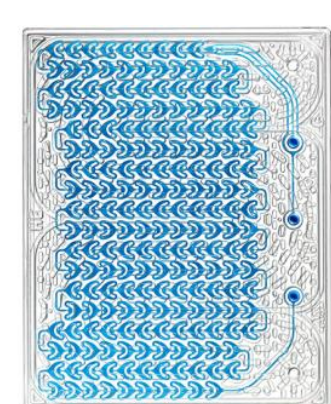
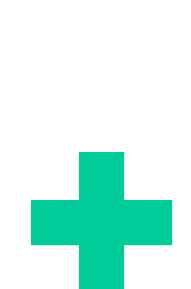


See what is happening due to the a glass module



Any visible change during the reaction can be seen.

Adapt your setup



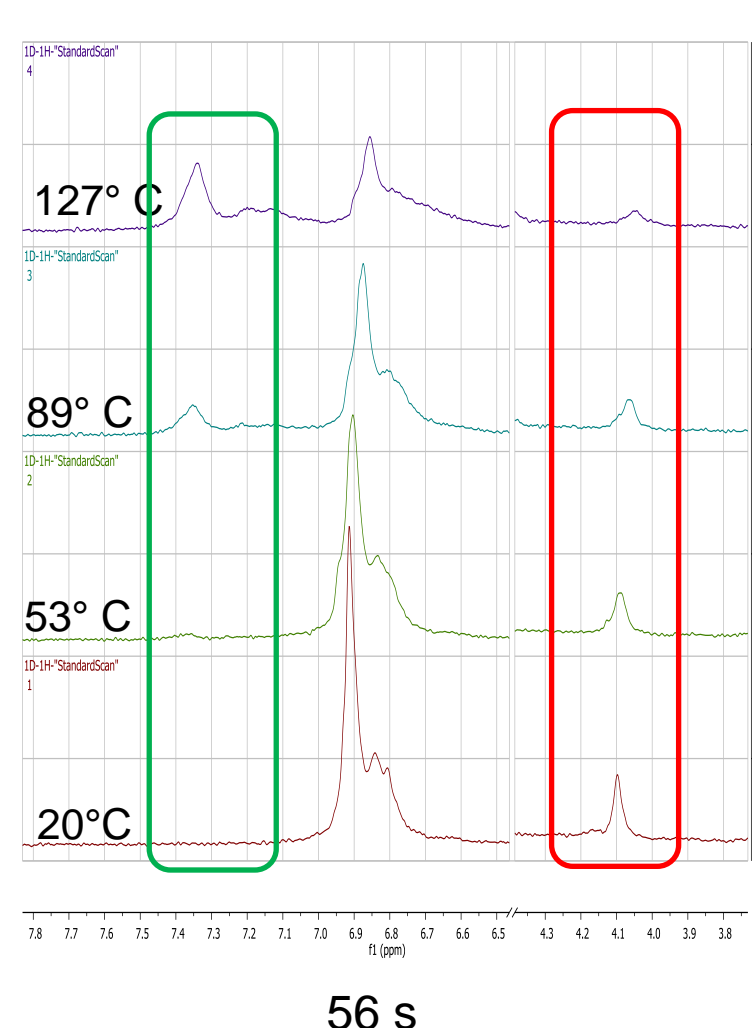
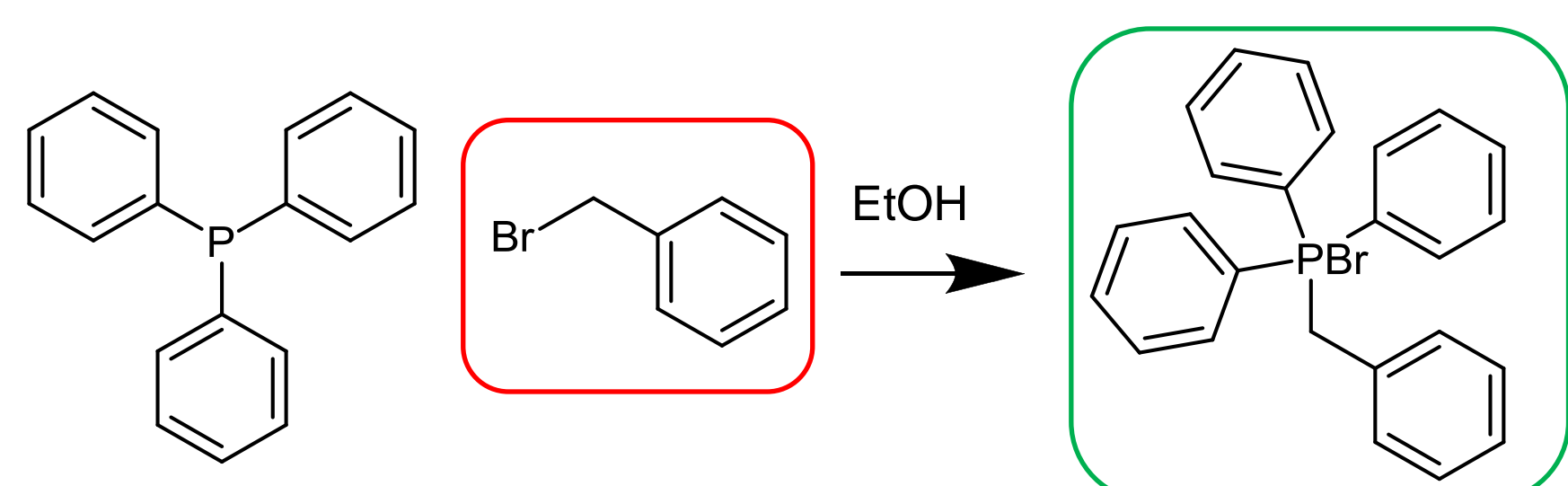
Thermal Quench/
Temperature adjustment

Second reaction module:

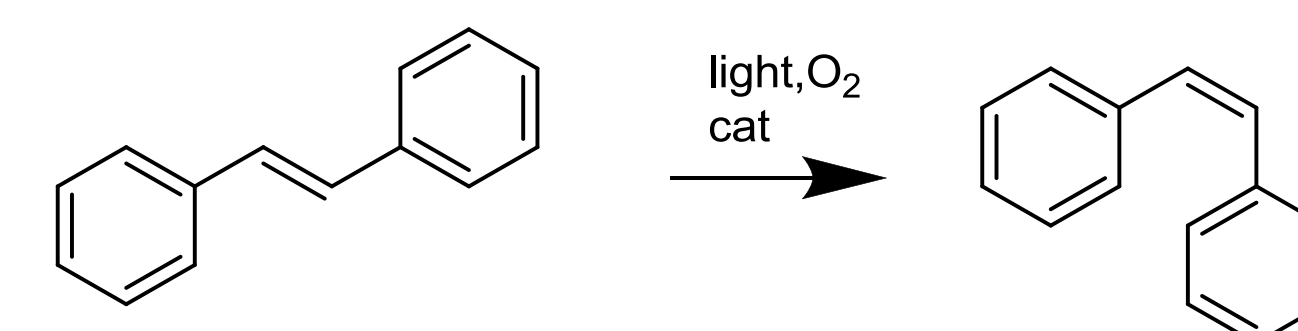
Thermal quench of the reaction

Safety: cooling down EtOH below boiling point

Temperature adjustment for online NMR



Photochemistry



Choose between 6 wavelengths,

Change the light intensity from 0 to 100%

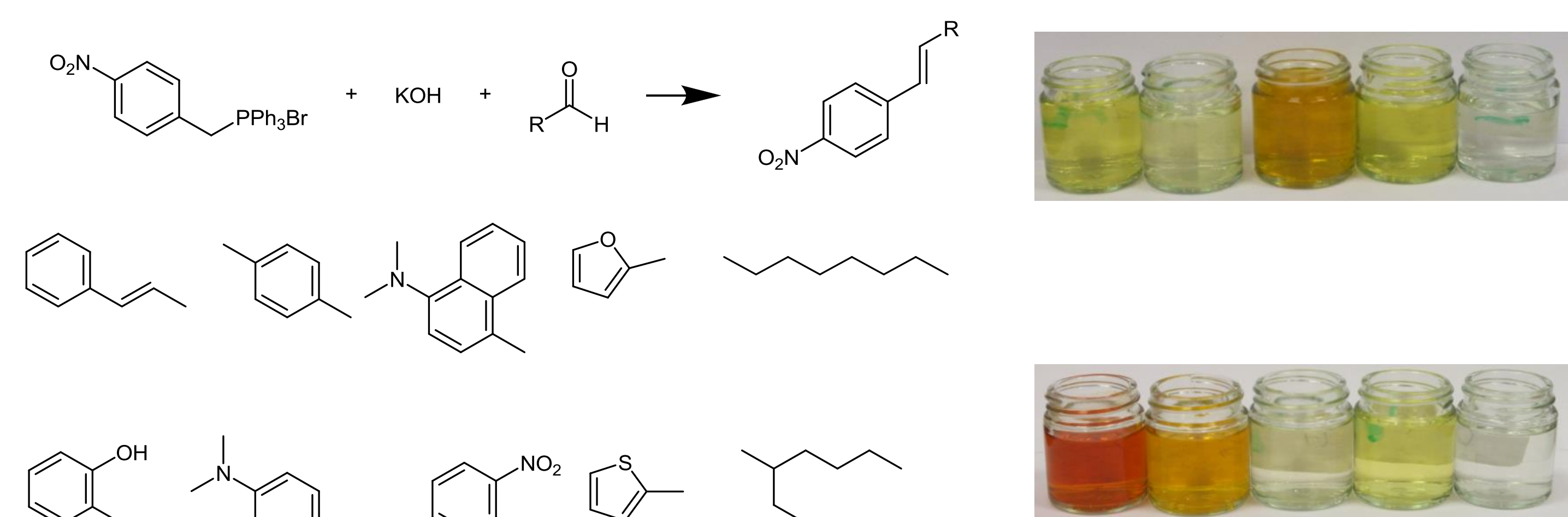
Work under pressure

Light nm	Power %	rt	Yield %
485	100	1 min	52
485	50	1 min	25
485	10	1 min	6
White light*	100	1 min	7
405	100	1 min	52
385	100	1 min	29
365	100	1 min	23
485	100	2 min	83



Before (5 bar) backpressure regulator after (2 ml/min gas)

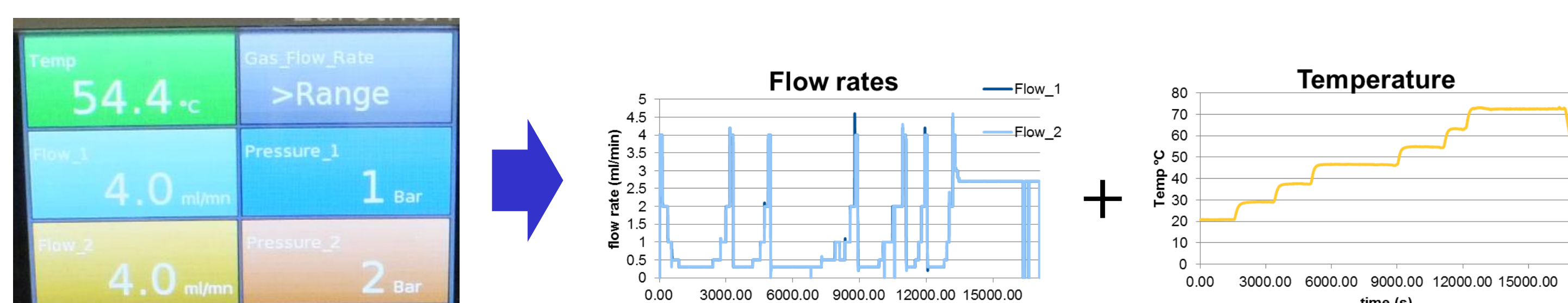
Create libraries



Difference to batch technics:

Generate as much material as you need without changing anything, just run the experiment longer

All data are automatically recorded

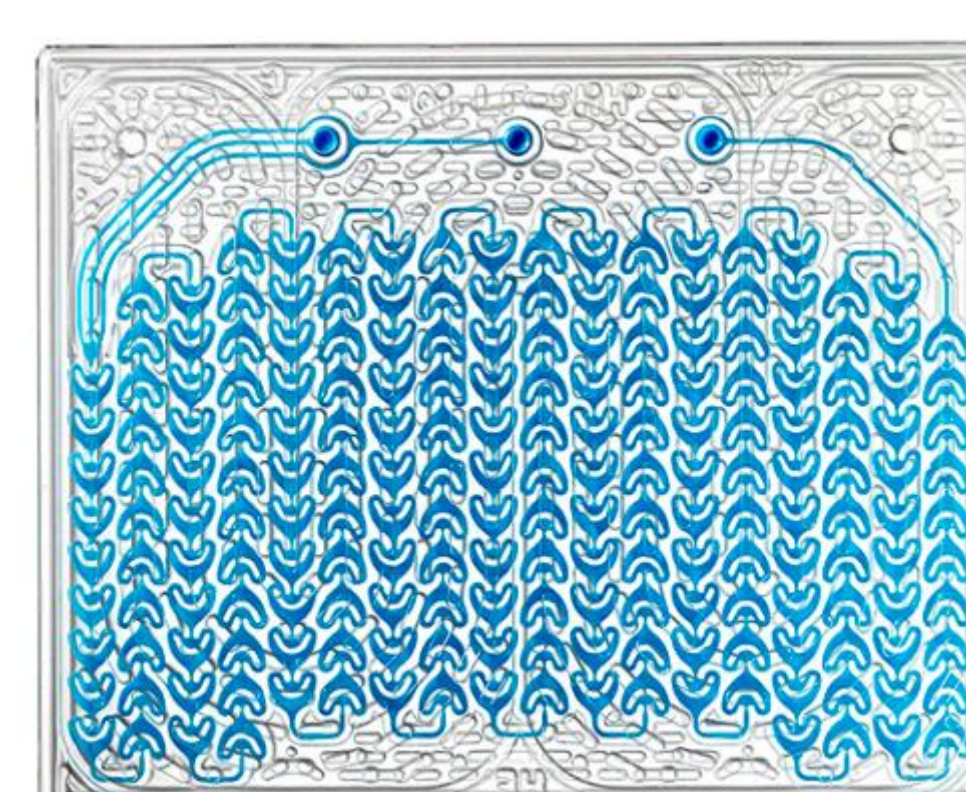


Other features



Corning's unique patented HEART design as in all Corning Flow reactors

Excellent heat and mass transfer performance



Metal free reaction pathway

High corrosion resistance

Pressure limit 18 bars

Easy to use and intuitive

Narrow residence time distribution

Compatible with various online analytics

For commercial or technical request please contact: reactors@corning.com