Flow Chemistry & Continuous Processing

Sai Make it better together

Ensuring faster, safer and accurately reproducible results with flow chemistry

Flow chemistry, also known as continuous flow or plug flow chemistry involves a chemical reaction run in a continuous flow stream of reagents. The process offers potential benefits in terms of efficiency, reduced impurity formation and higher yields. Flow chemistry can also give access to hazardous reactions where handling larger inventories of reagents and reactants should be avoided for safety reasons

The experienced flow chemistry team at Sai Life Sciences is co-located with the development facility and offers the entire array of services in our well-equipped and customized technology suite along with provision for scale-up.

Highlights

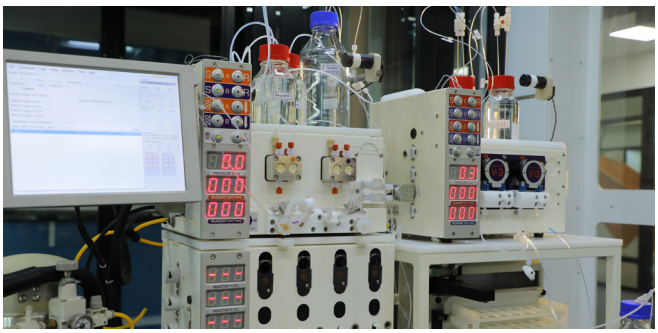
- Credited with successful production of specific compounds and optimization of processes
  - Proof-of-Concept completed more than 25 chemical processes for various projects
  - Delivered 25 g of final compound which include the nucleophilic substitution and cyclization reactions involved
  - Optimized Grignard reaction followed by cyclization reaction in the lab up to 50 g scale
  - Enhanced reaction conversion and selectivity for Debenzylation reaction with 1M BCl3 optimized the conditions up to 100 g
  - ATFE distillation process optimized with shortened residence time
  - LLE process for dichloromethane optimized with reduced time and water consumption
- Experience in vast range of chemical reactions - nucleophilic substitution, cyclization, aldehyde preparation, debenzylation, oxidation, methylation, Grignard reactions & Heck reactions, and more
- Safely handled highly sensitive chemicals like n-BuLi, i-PrMgCl, LiCl, BCl3, Br-CN Carbonylation reaction with CO gas
- Well-qualified and experienced scientific team

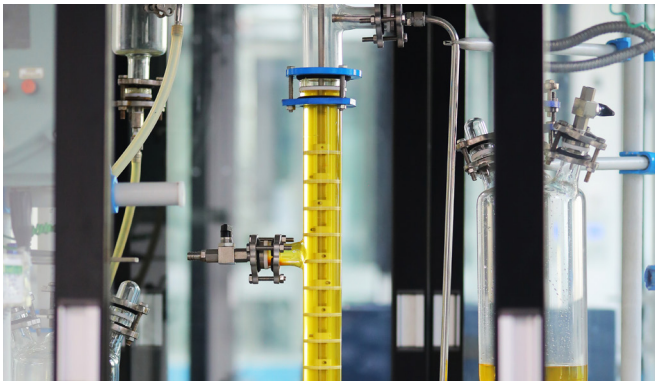
Comprehensive capabilities

- Spanning Lab → Pilot → Plant
- State-of-the art technology suite with significant expansion capacity
- Infrastructure also includes process development, optimization, and early supplies
- Development capability co-located with flow chemistry with a range of complementary equipment that supports continuous unit operations

Infrastructure

- Vapourtec - 10ml and 20 ml standard tube reactors, standard and cooled column reactors
- Agitated Cell Reactor (Coflore-ACR from AM Technology & indigenous coiled reactors with 5 ml to 100 ml)
- Short-path distillation
- Agitated Thin Film Evaporator (ATFE)
- Liquid-Liquid Extractor (LLE)
- Process Analytical Technology (PAT) with REACT-IR





For more information contact: **contact@sailife.com**