



# Gilson Purification Services

ENRICH OR PURIFY ACTIVE INGREDIENTS FROM MG TO TONS

Gilson Purification has over 40 years experience in analytical, preparative and industrial scale chromatography. We provide specialist purification services, helping you purify or enrich your molecules of interest. Whether you have simple or complex starting materials, such as biological matrices, natural extracts, synthetic mixtures or fermentations broths, we offer end-to-end support from feasibility to production through industrial intensification.



## YOUR NEEDS ARE OUR GOALS

- Production of highly purified analytical standards
- Production of active ingredients
- Removal of non-desirable molecule(s) from a complex mixture
- Global fractionation of your extract
- Target molecule enrichment
- Impurity isolation

## SERVICE MODEL OPTIONS

- Service performed at our state-of-the-art facility at Gilson Purification
- Outsourcing solution by our team of experts in your facility
- Consultation service

## OUR TEAM, EQUIPMENT, AND TECHNOLOGIES

- A complete team of chemical engineers, scientists, and technicians
- R&D and Pilot/Production application laboratories
- Innovative silica free Centrifugal Partition Chromatography technology for complex mixture purification
- Prep and process LC techniques such as FLASH and HPLC
- Analytical equipments for purity determination or structural elucidation (e.g. HPLC, HPTLC, GC, NMR etc)



## HOW WE CAN SUPPORT YOU

- Feasibility study, method development and optimization
- Intensification, scale up study, CAPEX, OPEX evaluation
- In-house production from mg to tons scale
- Full project support to provide turnkey solutions including instrumentations & method(s)



*Thanks to our team of experts and our in-house innovative purification technology, we can solve problems related to the use of traditional techniques and make chromatography an affordable technology for a larger range of applications.*

Specification of your project under NDA

Feasibility studies / Scale up / Production

Report and wrap up meeting





# CASE STUDIES

## 1. API FROM DOWNSTREAM PROCESS FROM LAB TO PROCESS SCALE



### CHALLENGE:

- Crude mixture obtained from bacterial fermentation
- From 38% to 85% in one step with close impurity to be removed
- Industrialization of the process

### STRATEGY:

- Determination of the best technology/process
- Feasibility study at lab scale for qualitative achievement
- Scale-up study, CAPEX/OPEX optimization
- First batch production

### OUTCOME:

- CPC technology to reach a purity >85% in one step
- Production of a 4 kg batch
- Estimated productivity per year : 7.3 tons

## 2. PRODUCTION OF AN ANALYTICAL STANDARD FROM A NATURAL EXTRACT



### CHALLENGE:

- Analytical standard production from natural extract
- Content lower than 1% in the crude extract
- Production of 100 mg

### STRATEGY:

- Determination of the best technology/process
- Analytical method development TLC and HPLC
- Production of 100 mg

### OUTCOME:

- Two step purification with CPC/MS for enrichment and Prep HPLC for polishing
- Production of 100 mg with purity >95%
- Routine method for further production

## VISIT OUR LEARNING HUB

- ↓ AN1034: Two Step Purification of Alkaloid with Antimalarial Activity
- ↓ AN1035: Purification of Vanillin: A Comparative Study Between Prep HPLC and CPC
- ↓ AN1036: Single-Step Purification of THC, CBD, CBN, CBG and Minor Cannabinoids
- ↓ AN1037: Purification of [6]-Gingerol from Ginger for Flavoring Industries
- ↓ AN1041: Added Value of Applying Centrifugal Partition Chromatography (CPC) to Bioprocessing Downstream Purification
- ↓ AN1042: Targeted Purification of an Antimalarial Compound from *Artemisia Annu L.* extract Using the VERITY® CPC LAB MS System
- ↓ AN1047: Two-Dimensional Purification of 7-Hydroxymitragynine Using CPC and HPLC
- ↓ AN1048: A Comparative Study Between CPC and Flash Chromatography for Natural Product Purification



*"The feasibility study and optimization steps before industrializing a process are critical to get quality products and Gilson's Purification Services teams were a critical enabler",*  
**Top 10 Natural flavor company**

## PROVIDER OF PURIFICATION SOLUTIONS

To learn more Contact us:

[www.gilson.com/contact](http://www.gilson.com/contact) or watch our video



Scan to watch the video