



LiLiCHRO

SCALE IT UP

About LiLiCHRO

LiLiChro LLC. builds liquid-liquid chromatography systems for real-world separation work. From lab-scale analytics to industrial production, our equipment is designed to handle complex mixtures, reduce process friction, and scale efficiently. Backed by decades of experience, we focus on making purification practical, predictable, and economically viable.

Advantages of liquid-liquid chromatography (LLC)

Challenges in Preparative LC

Solid stationary phase issues (regeneration, cost, lifetime)

Difficult Scale-up: Parameters change drastically (column shape, packing material, etc.)

Time-consuming Method Development: Expensive column screening & optimization

The LiLiChro Solution

Liquid Stationary Phase: No solid support, easy solvent regeneration/distillation

Linear Scale-up: Direct mathematical calculation based on rotor volume

Rapid Development: Solvent selection via shake-flask test (1-3 days), fine-tuning on miniLiLi (<1 week)

Overcoming Chromatography Challenges

Problem

High OpEx & Solvent Waste: Expensive solvent purchase and disposal costs.

Stationary Phase Fouling: Irreversible adsorption of impurities; impossible to regenerate fully.

Limited Loading Capacity: Silica columns saturate quickly.

Our solutions

Sustainable & Cost-Efficient: Significantly lower solvent consumption (recyclable liquid phases).

Total Sample Recovery: No solid surface for irreversible binding; total sample recovery.

High Loading Capacity: inject much higher concentrations compared to prep-HPLC.

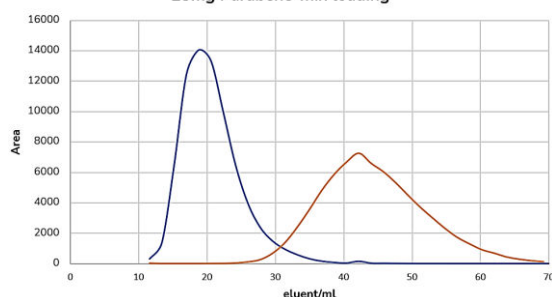
	miniLiLi	midiLiLi	maxiLiLi	prepLiLi
Radius [mm]	120	120	390	900
Volume [ml]	34	140	3400	7000
Flowrate [ml/min]	FR	4 x FR	100 x FR	1000 x FR
Rot. speed [rpm]	RS	RS	0,555 RS	0,25 RS
Loading capacity [g]	IA	4 x IA	100 x IA	4000 x IA

Scale it Up!



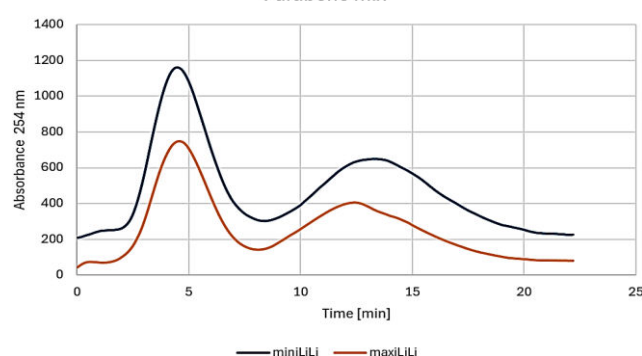
miniLiLi separation UV diagram

25mg Parabene-mix loading



Comparison of miniLiLi and maxiLiLi

Parabene mix



Analytical & Method Development Scale

Flow rate: 1-5 [ml/min]
Loading: 1-200 [mg]
R. Speed: 0-2000 [rpm]



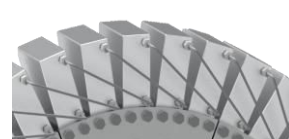
Lab- scale Preparative

Flow rate: 4-20 [ml/min]
Loading: 1-2 [g]
R. Speed: 0-2000 [rpm]



Pilot & Industrial Scale

Flow rate: 50-300 [ml/min]
Loading: 100-150 [g]
Rot. Speed: 0-600 [rpm]



Industrial Prod. Scale

Custom Industrial Solutions
Contact us for specs! ☺
Flow rate: 1-6 [l/min]
Loading: 2-3 [kg]
Rot. Speed: 0-400 [rpm]