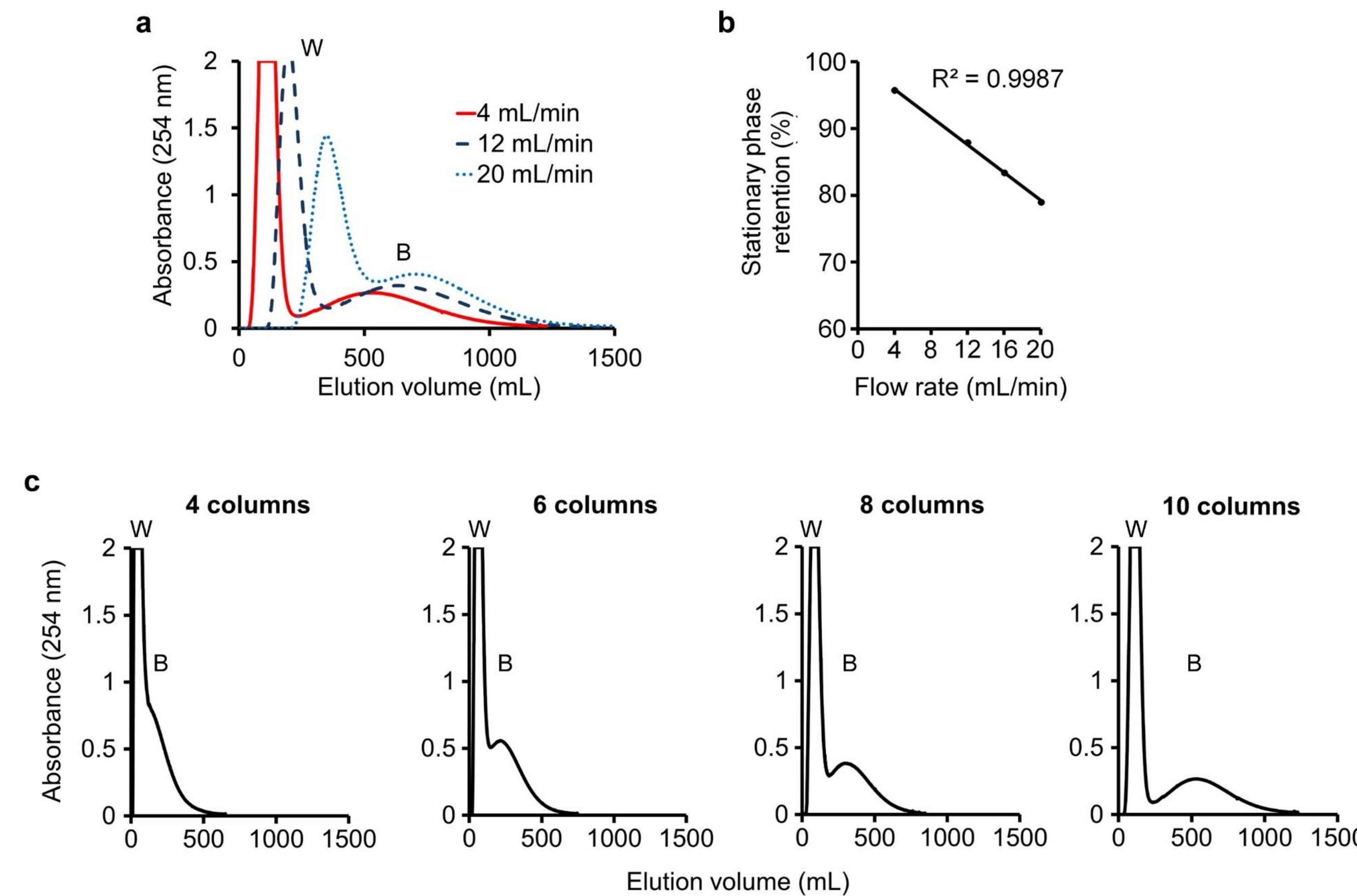
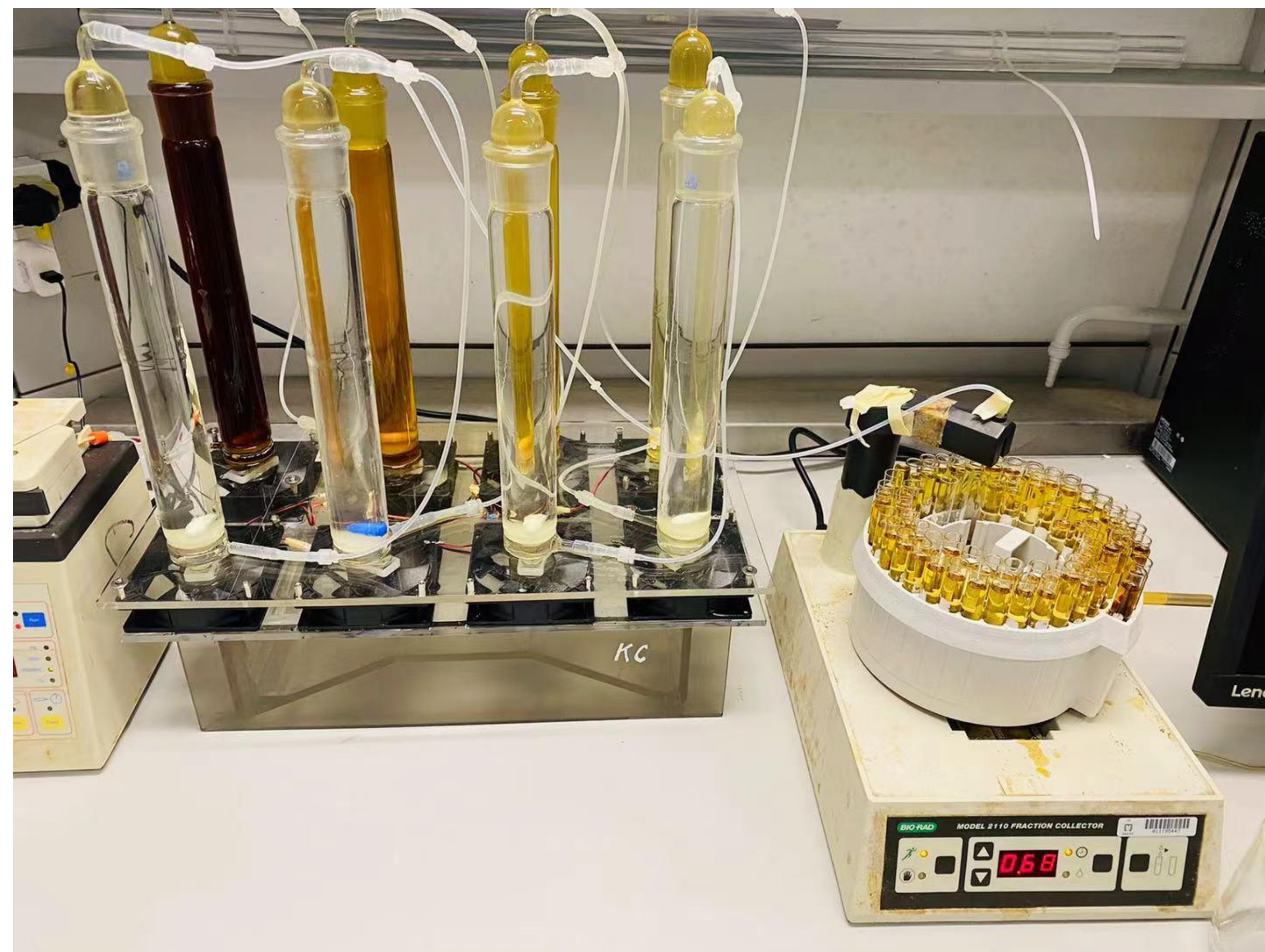
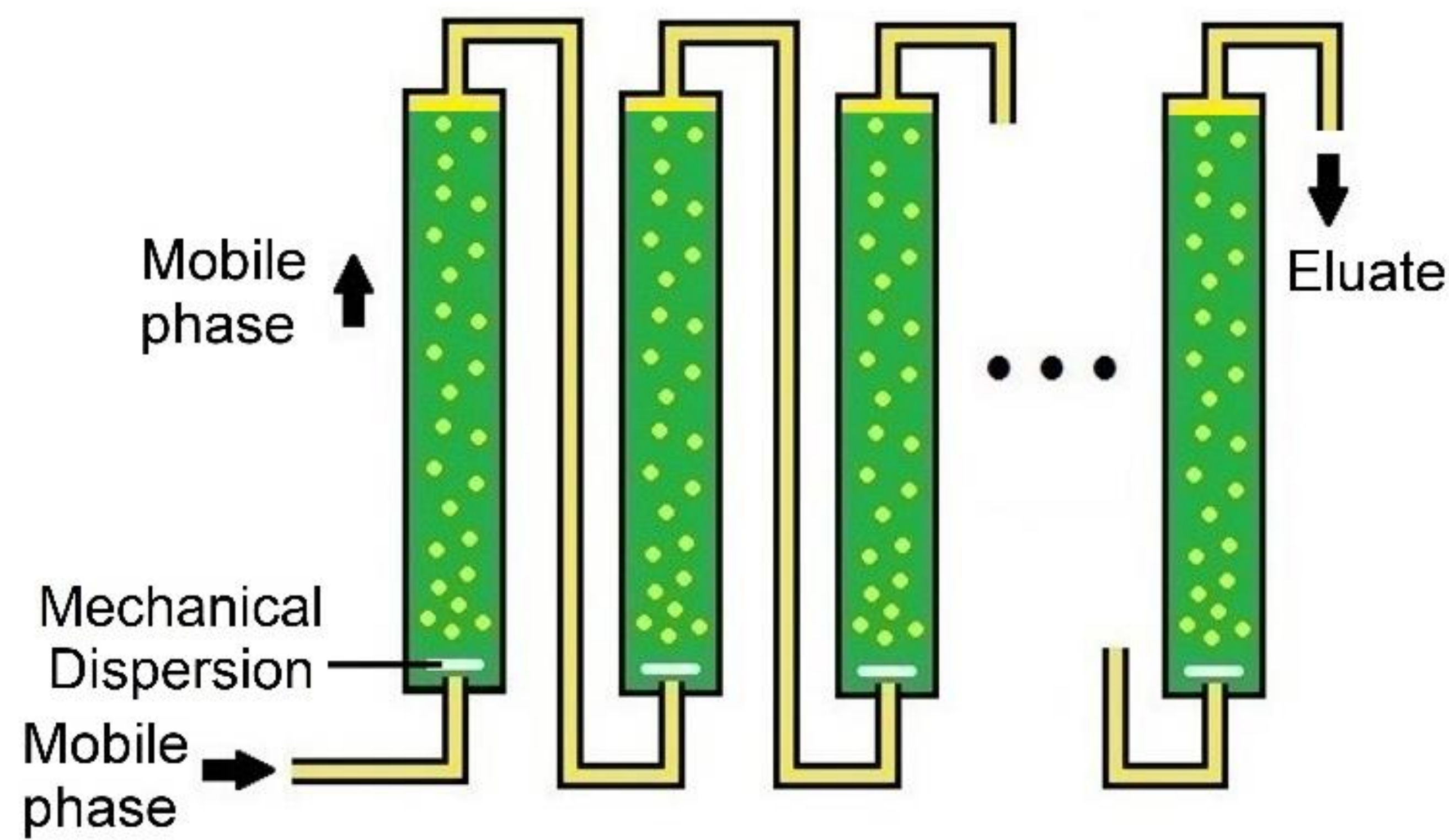


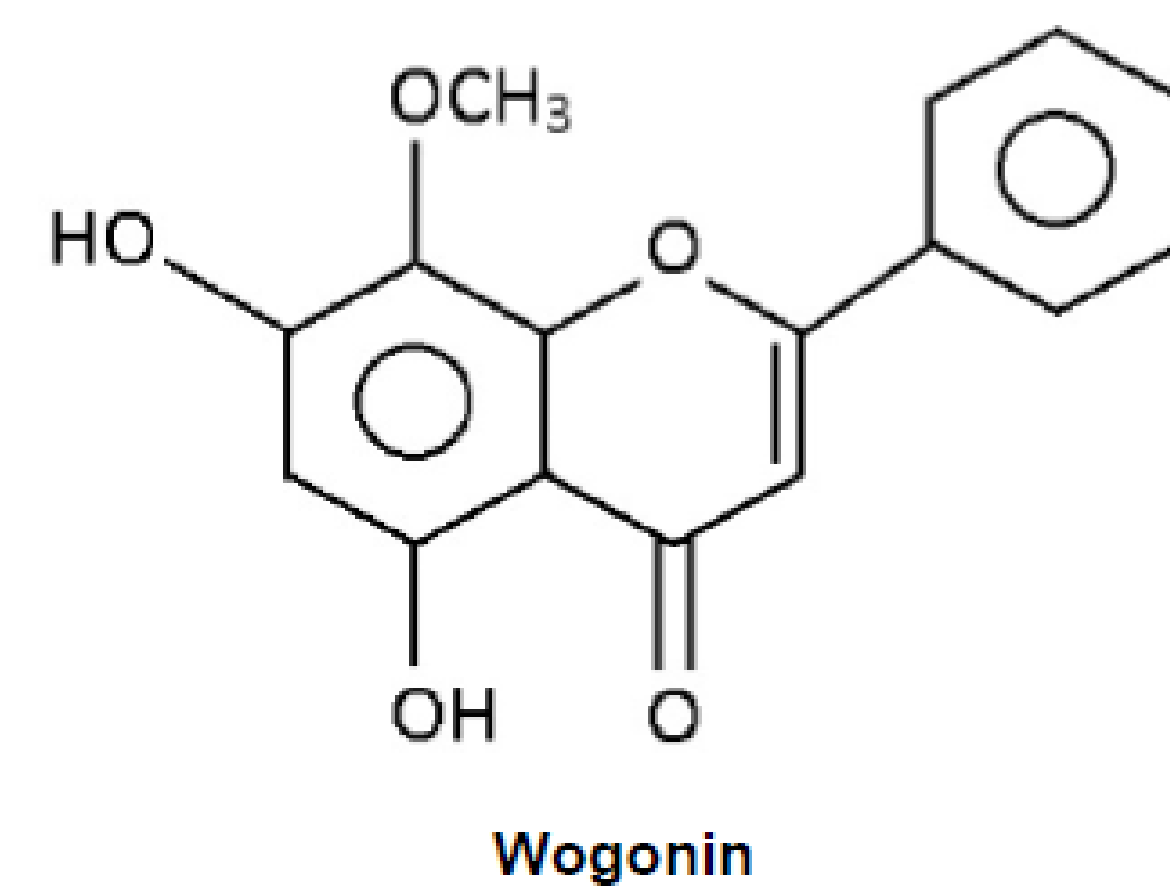
Purity or Capacity? Why not **BOTH**?

We are **PuroChem Limited**, a HKUST spin off biotech company that focuses on innovative separation technology, **Dispersed Mobile-Phase Countercurrent Chromatography (DMCC)**. It enables **High Resolution Purification** for medicinal herbal compounds and organic synthesis products at **Industrial Capacity**.



The relationship of DMCC resolution to flow rate and number of columns
DMCC performance is highly predictable

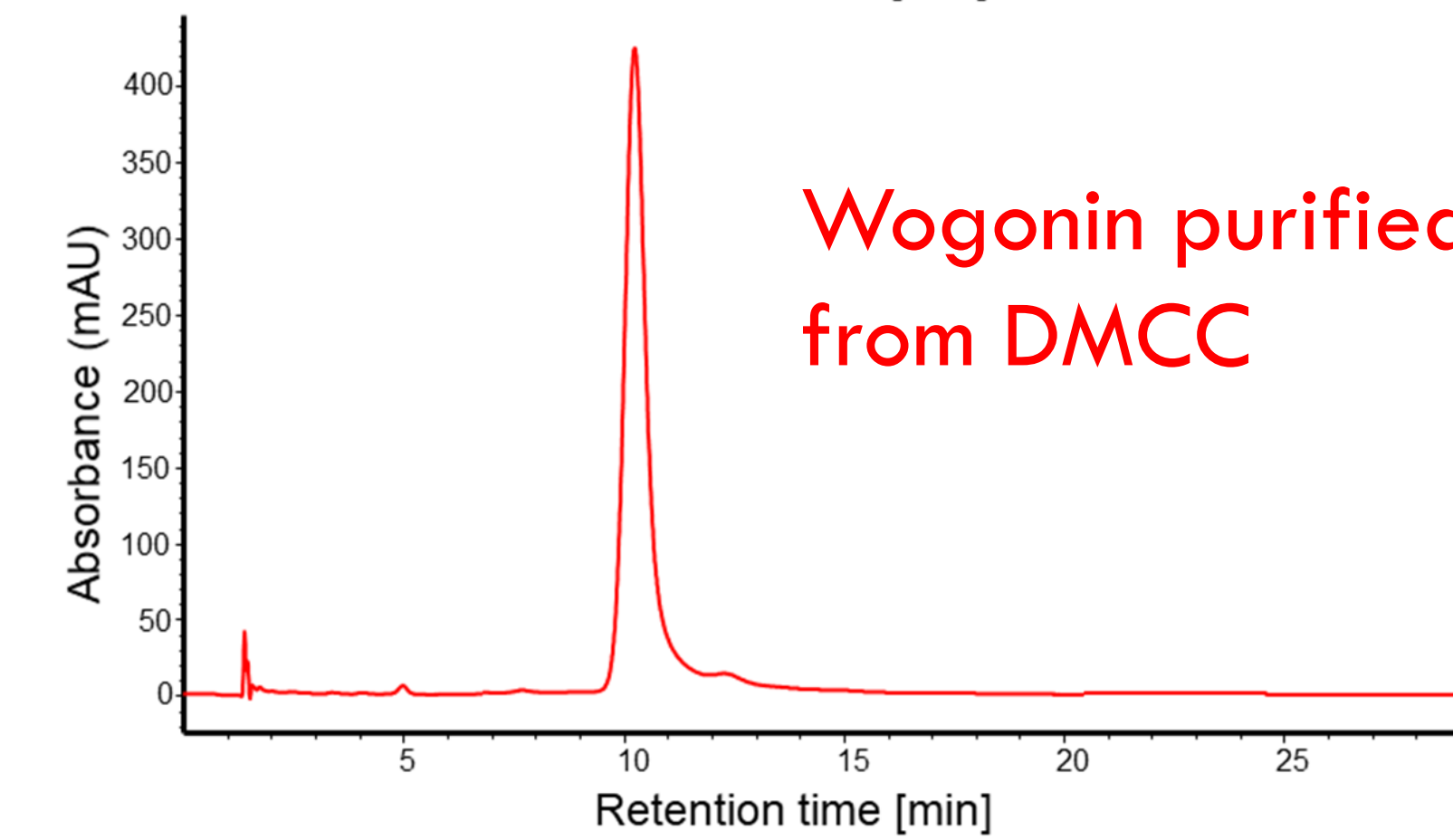
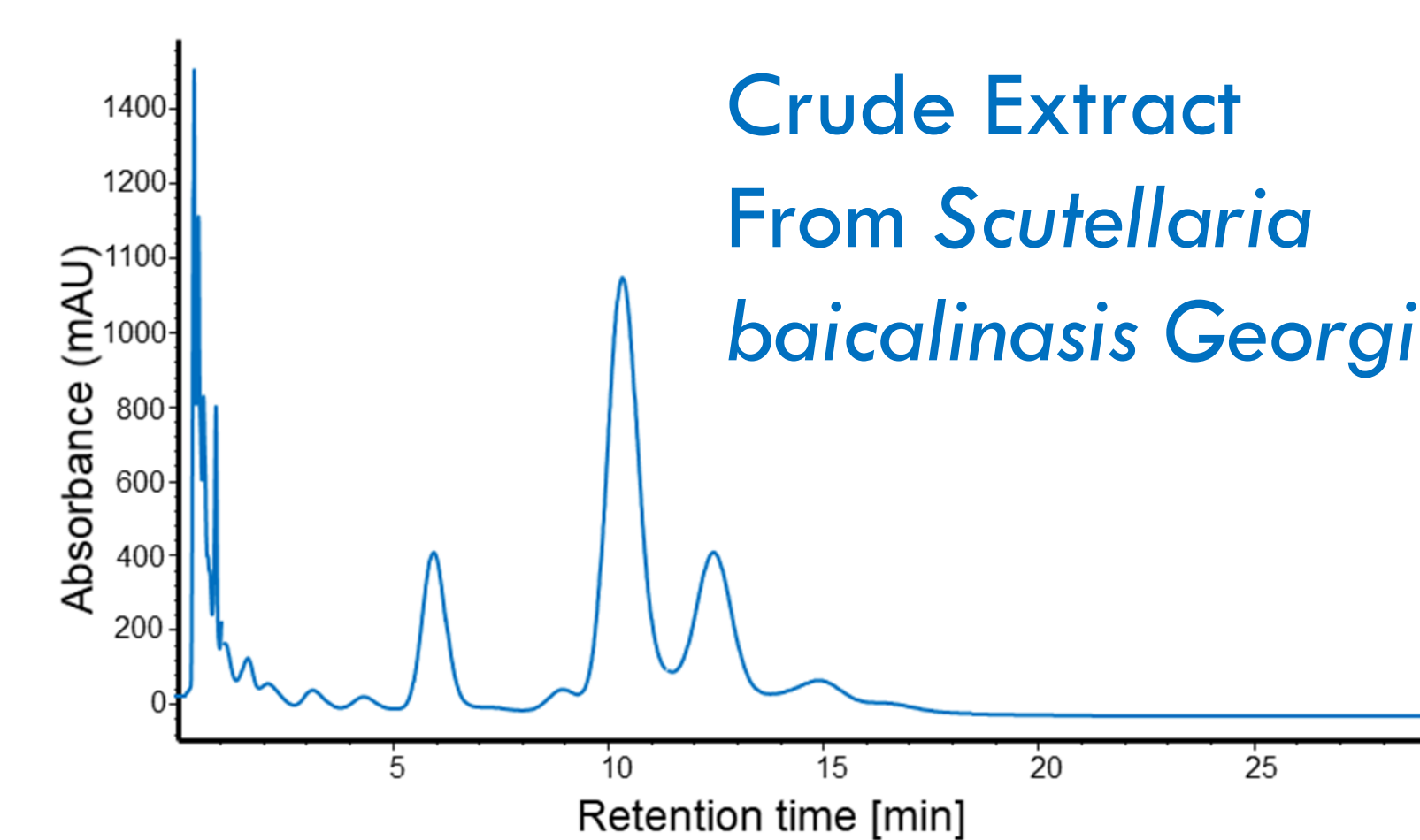
Illustrations of DMCC by examples of solute separations



Purified Wogonin Crystals



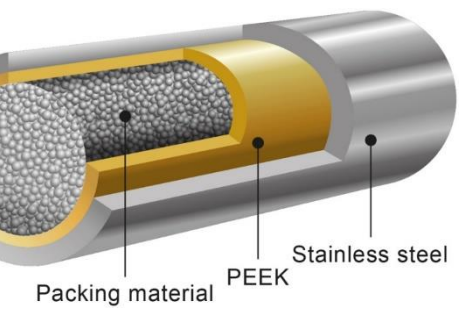
Input: 6g of extract
Product: 610 mg



Yield: 10.17%
Purity: >98%

DMCC overcomes limitation of industrial chromatography

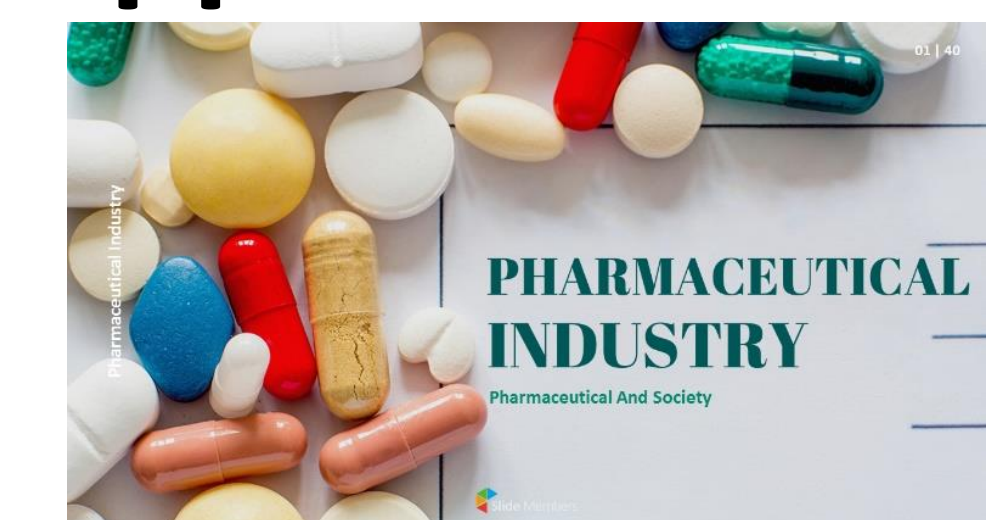
DMCC	HPLC
Silica-free hollow column	Silica resin packed column
<ul style="list-style-type: none"> Compatible with various organic solvents Greatly reduced cost to customers 	<ul style="list-style-type: none"> Irreversible binding and hence lost of materials Increased cost of columns and equipment Resin associated contamination to products and environment Allows Off-column collection only
Low pressure peristaltic pump	High pressure pump
<ul style="list-style-type: none"> No resin associated contamination to products and environment Allows On and Off-column collection Reduced costs of set up and maintenance 	<ul style="list-style-type: none"> Resin associated contamination to products and environment Allows Off-column collection only Increased cost and system leakage



Applications



Natural product purification



Pharmaceutical industry



Food industry



Synthetic chemistry



Petrochemical industry



Environmental monitoring

Highlights

- PuroChem Limited invented and manufacture DMCC for varies scale purification
- DMCC overcomes challenges of traditional chromatographic purification
- DMCC offers **Lower Cost**, **Faster Speed**, **Higher Yield** and **Superior Scalability**
- DMCC suits to wide range of applications

Ho & Xue (2016) *Separations* 3 (4): 32
US Patent No. 10, 675, 558; Issued on 9 June 2020

- Countercurrent distribution based on liquid-liquid partition
- Powerful separation method with minimal loss of solutes
- DMCC developed to **adapt countercurrent distribution to column chromatography**
- Solute exchange achieved by **mechanical dispersion** right after the entry of mobile phase
- Removed the bottle neck of continuous countercurrent distribution**, and hence the dependence on centrifugation
- Removed the bottleneck of scalability of Countercurrent chromatography**