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High-Throughput Adsorption Contract R&D

Breakthrough Analysis – Liquid Purification and Separation

With over 20 years of expertise in high-throughput testing, Avantium accelerates research in (ad)sorbent development and non-volatile liquid-phase adsorption applications through our dedicated systems. Our high-throughput technology enables parallel screening of numerous adsorbents and adsorption process conditions.

Benefits

Accelerating your experiments by parallelization
Unparalleled reproducibility between columns
Scalable results by mimicking full scale conditions

Features

Small sample size
Pretreatment
Non-volatile liquid dosing
Non-volatile fixed bed breakthrough experiments
Cyclic adsorption and desorption
Online and/or offline analysis
Data mining and visualization

Applications

- Sugars and sweeteners separation and purification
- PFAS from water
- Edible oils purification
- Condensate purification
- Pharmaceutical purifications (API's)

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Liquid Purification and Separation Specifications

Process Conditions	Range	Remarks
Adsorption temperature range	30 – 250 °C	
Desorption temperature range	< 250 °C	
Operating pressure	7 – 40 barg	
Sample volume	0.1 - 2.0 mL	
Flow	0 – 10 mL/min	
LHSV	30 – 300 hr^{-1}	

Dedicated Service Process

Intake by detailed scoping process
Setup by scalable (ad)sorbent preparation
Analytical method development
Test program, executing the design of experiment (DOE)
Regular data reporting in pre-defined formats
Evaluation and close-out include support for data interpretation

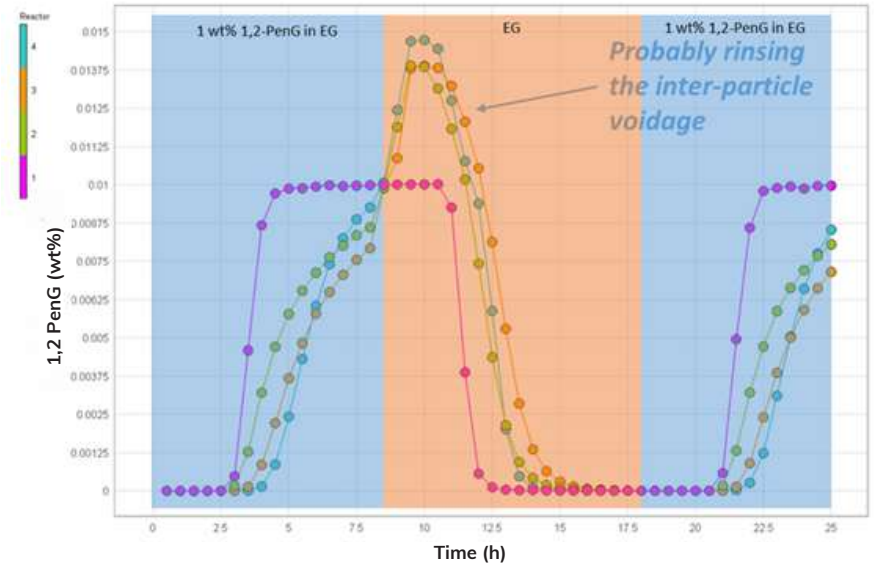
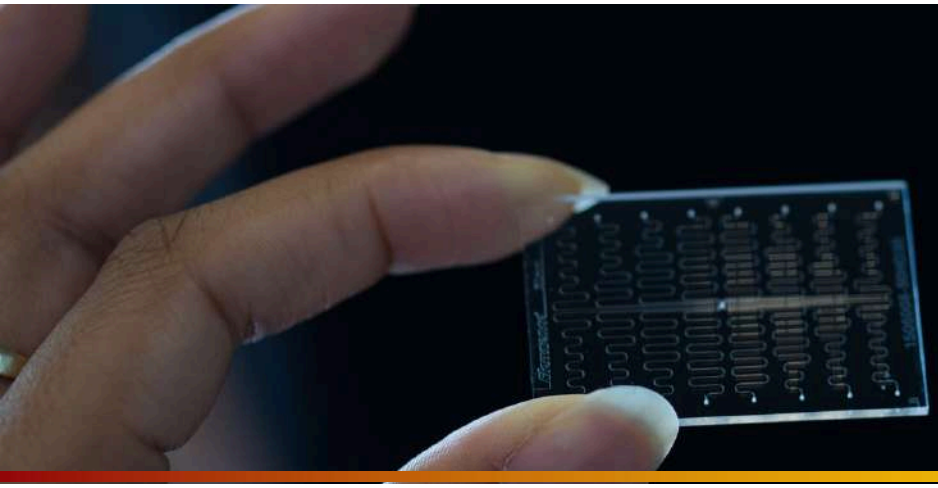


Fig: Breakthrough ad- and desorption of glycols for four channels in parallel



Avantium R&D Solutions is provider of advanced testing units and services. We provide leading producers and research institutes developing better and more efficient (ad)sorbents and catalysts with our high-throughput technology. We offer customized catalyst and (ad)sorbent testing systems & services.

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