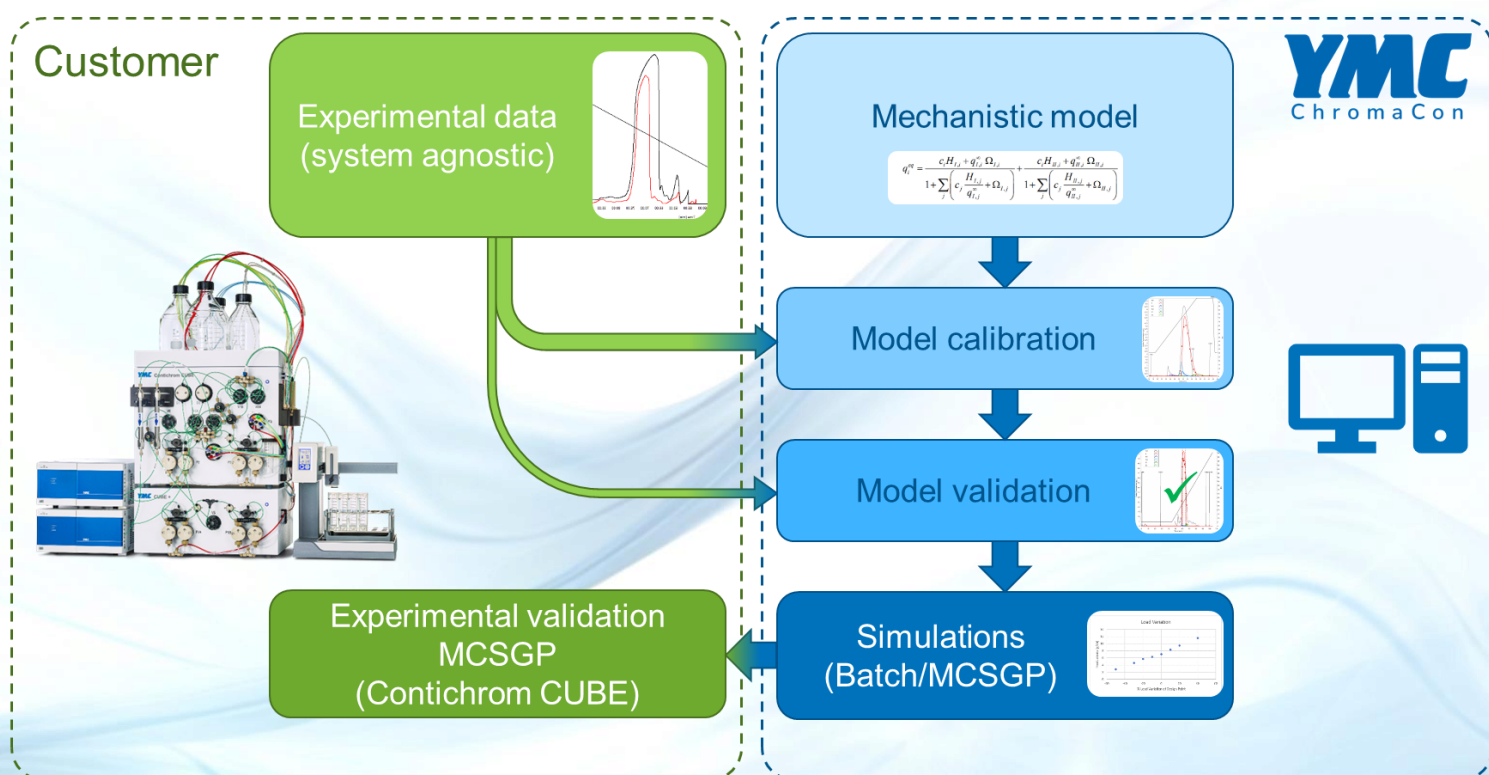


Process Modeling



MCSGP Modeling Service for Peptides and Oligonucleotides

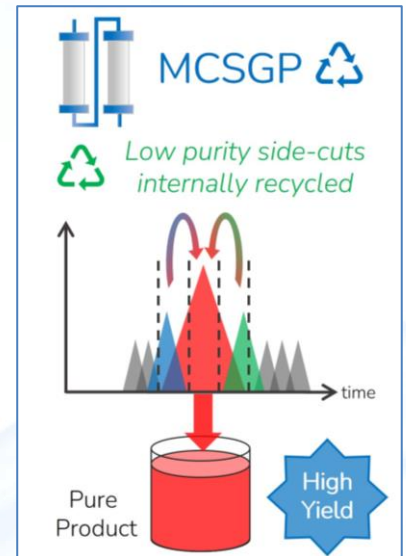


“Systematically evaluate the benefits of MCSGP and get out most of your MCSGP process”

Modeling Services for MCSGP



- ChromaCon's modeling services support and accelerate MCSGP process design and scale-up of oligo and peptide purifications
- We provide model-improved MCSGP operating points and scale-up scenarios without extra time-effort on your end
- Our modeling tools utilize mechanistic models
- Our modeling tools are specialized and validated for MCSGP and AutoPeak® dynamic process control



What are the advantages of modeling?

Save time in process development

Robustness Analysis

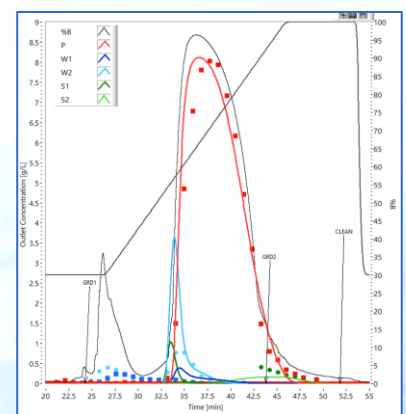
Process Validation

Process Understanding

Process Optimization

Process Characterization

Design Space Exploration



Modeling service packages

Stage 1: Model based MCSGP feasibility study:

- ✓ See how MCSGP compares to your existing single-column process
- ✓ Obtain parameters for scale-up estimations



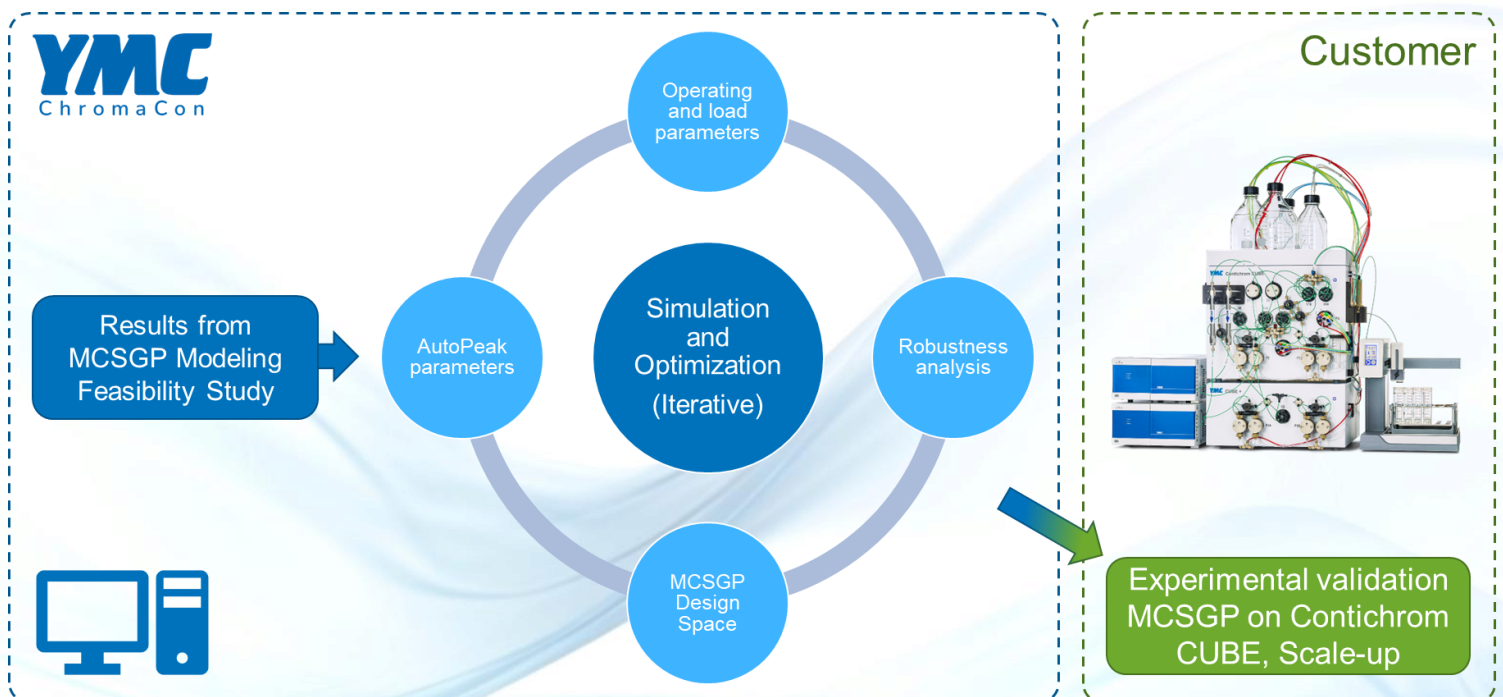
Stage 2: Model-based MCSGP Optimization Service:

- ✓ Examine MCSGP Robustness
- ✓ Maximize your MCSGP performance!

Model-based MCSGP Optimization Service (Stage 2)

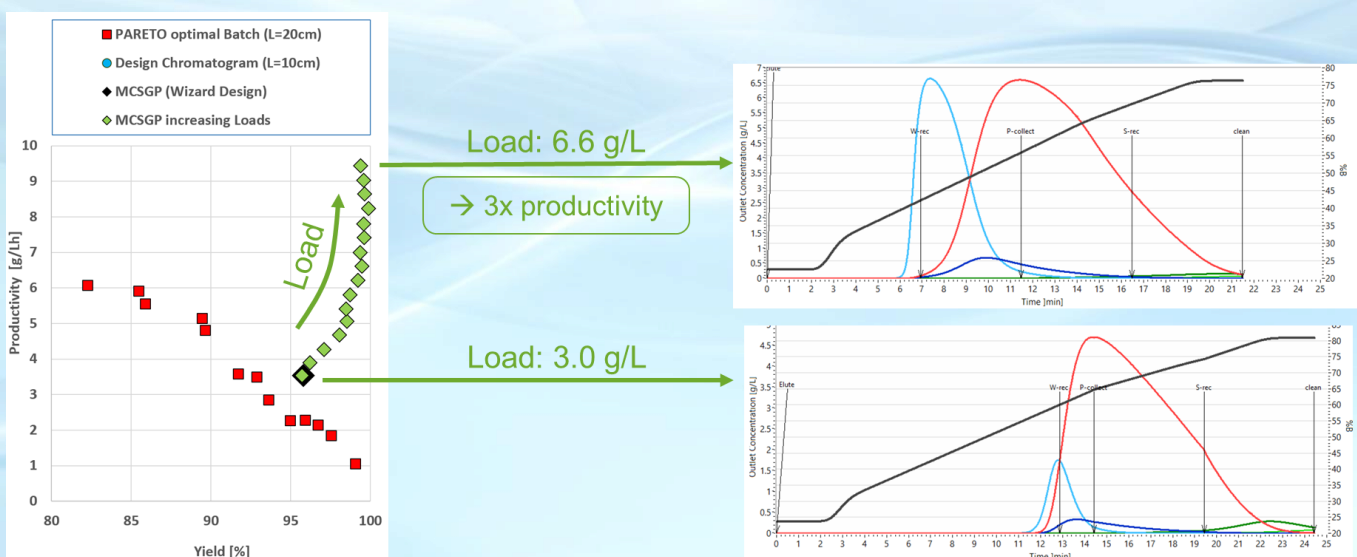
How do we optimize MCSGP?

- The robustness of MCSGP is tested by simulated parameter variations around the design point (stage 1)
- Parameter variations include column bed height, eluent modifier content, feed purity, flow rate, load
- We simulate the impact on process performance (yield, purity, productivity)



Iterative simulation and optimization

- Optimization is done through several rounds of iterations, balancing optimal performance and MCSGP process robustness.
- Example: Load optimization (left) and impact on internal MCSGP profiles (right)



Model-based MCSGP Optimization Service (Stage 2)

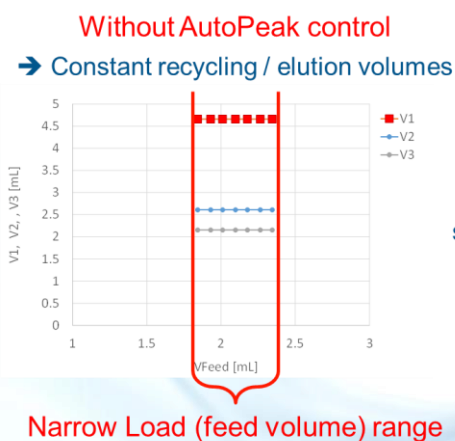
Optimization of MCSGP operating parameters

We optimize MCSGP by simulating:

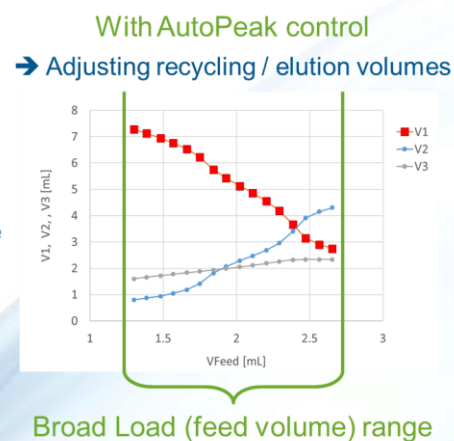
- Gradient slope
- Inline adjustment ratios
- Elution and Recycling phase borders



Design space determination with and without AutoPeak® control

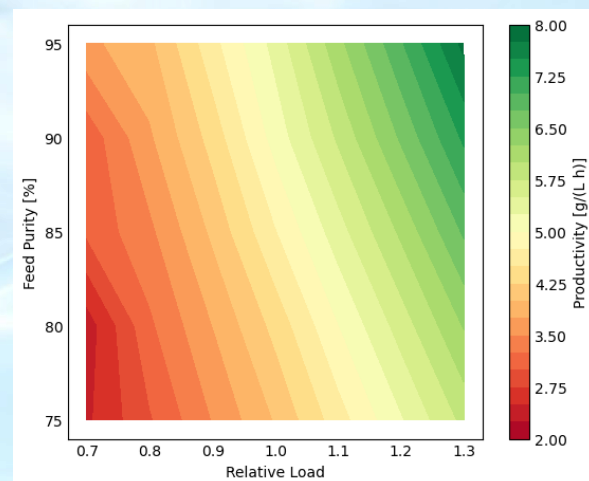
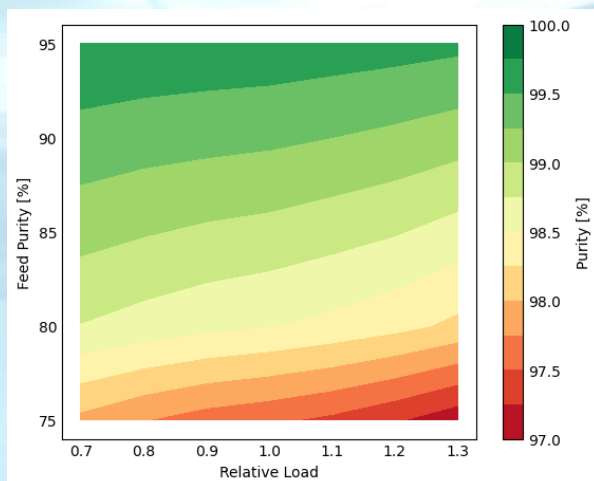


Only points in specification are plotted



Which results do we provide?

- Optimized and robust MCSGP setpoint for Contichrom systems
- Optimized AutoPeak® control parameters
- Design space evaluation



Contact



Contact us now to find out how you can solve your separation challenges more easily

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