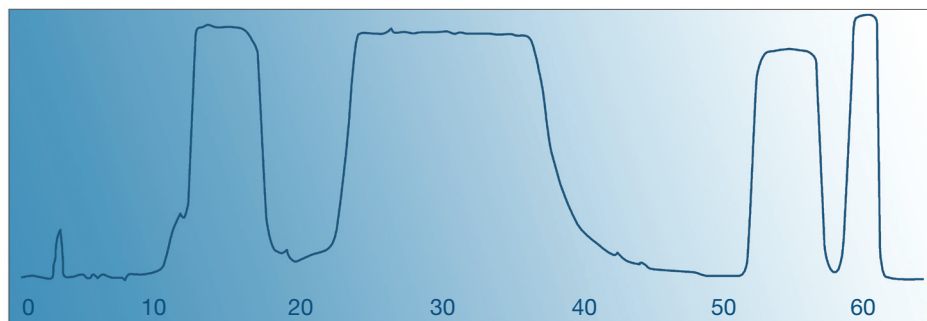


# Purification Scale Up Using Dynamic Extractions HPCCC Instruments

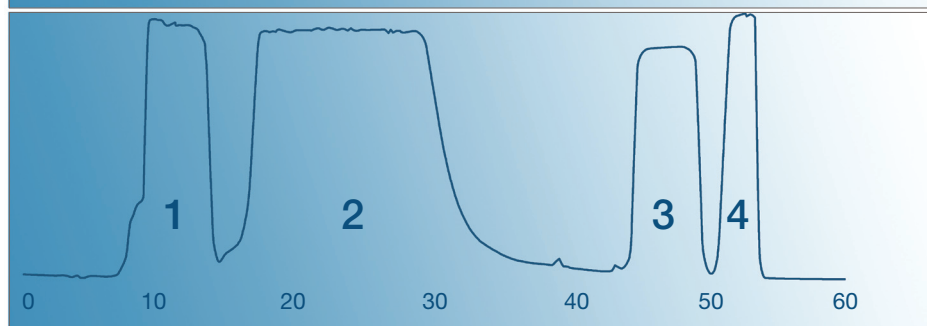
An essential part of the purification process when large quantities of materials are required is scaling up a separation. Unlike some solid-liquid chromatographic processes where method redevelopment is often required as purification is scaled up, for HPCCC, scale up is linear and volumetric.

The data below demonstrate a 42-fold scale up of the four component mixture comprising 1: Methyl 2-acetamido-5-bromobenzoate; 2: Warfarin; 3: 4-Bromobenzamide; 4: Dipyrindamole.

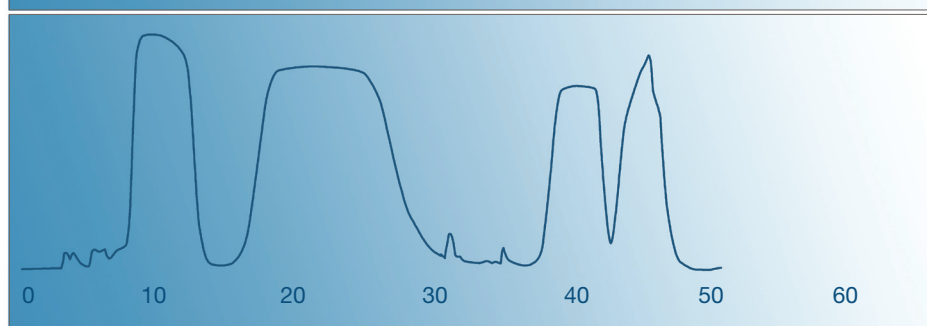
Analytical column  
Loading 0.2 grams



Semi-prep column  
Loading 1.2 grams



Preparative column  
Loading 8.4 grams



Instrument	DE Spectrum	DE Spectrum	DE Midi
Column	analytical	semi-preparative	preparative
Column Volume (mL)	26	134	912
Nominal Scale Factor	1x	6x	42x
Flow Rate (mL/min)	1	6	42
Stationary Phase Retention (%)	83	90	92
Loading (g)	0.2	1.2	8.4
Loading Volume (mL)	2	12	84

**Experimental Conditions:** HEMWat SS 17 (Hexane:Ethyl acetate:Methanol:Water, 1:1:1:1, v/v/v/v), NP mode elution. In all three experiments, following complete elution of component 2, the column contents were extruded by pumping LP through the column.

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