



Sepax Monomix H2P SAX Tween Quantification

Monomix H2P SAX, 2.1 x 20 mm SS

Part Number: 282640990-2102

Monomix H2P SAX, 2.1 x 50 mm SS

Part Number: 282640990-2105



Summary

- Monomix H2P-SAX columns are designed to effectively quantify neutral amphiphilic surfactants, such as Tween 80, Tween 20, and Poloxamers, which are commonly present in formulated biological samples, such as Monoclonal Antibodies.
- In this study, Erbitux and Tween 20 and Tween 80 mixtures were analyzed as an example to demonstrate the effectiveness of tween quantification by Monomix H2P-SAX column. The calibration range and capacity of Tween 20/80 were also analyzed on Monomix H2P-SAX column, respectively:
 - Tween 20: Calibration range 0.0016%- 0.0250%; Capacity: 0.0125 μg
 - Tween 80: Calibration range 0.0010%- 0.0156%; Capacity: 0.0078 μg
 - *(Larger column sizes are available if higher capacity is needed)*
- Monomix H2P-SAX columns are more hydrophilic than other surfactant quantification column brands on the market. 10% IPA which is commonly used in the binding condition to reduce hydrophobic interaction, is not needed in the binding condition of Monomix H2P-SAX.
- With a narrow size distribution ($D_{90}/D_{10} < 1.3$), Monomix H2P-SAX column offers higher separation and better peak shape than other vendors.



Technical Specification

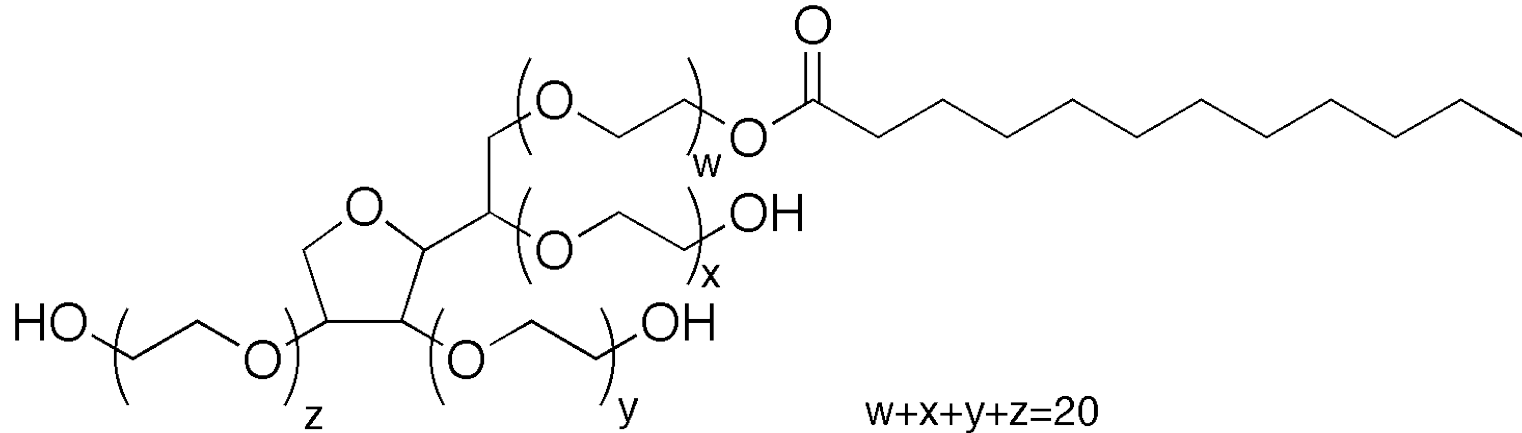
Application:	Surfactant quantification
Brand:	Monomix H2P-SAX
Part Number:	282640991-2102
Chemistry:	Mixed-Mode
Ion exchange capacity:	0.5 meq/gram
Mass Spec. Compatibility:	Yes
Particle Size:	40 μm
pH Stability:	1-13
Operating Temperature Limit:	80 °C
Operating Pressure Limit:	3,000 psi
Flow Rate:	0.1-1 mL/min
Mobile Phase Compatibility:	Aqueous solvents, organic solvents, or their mixtures

Experimental Method

Mobile Phase	A: 2% formic acid in water B: 2% formic acid in IPA
Instrument:	HPLC
Detector:	ELSD
Column Temperature	23 °C
Flow Rate:	1.00 mL/min
Injection Volume:	50 μL
Column Pressure Range:	40-125 bar



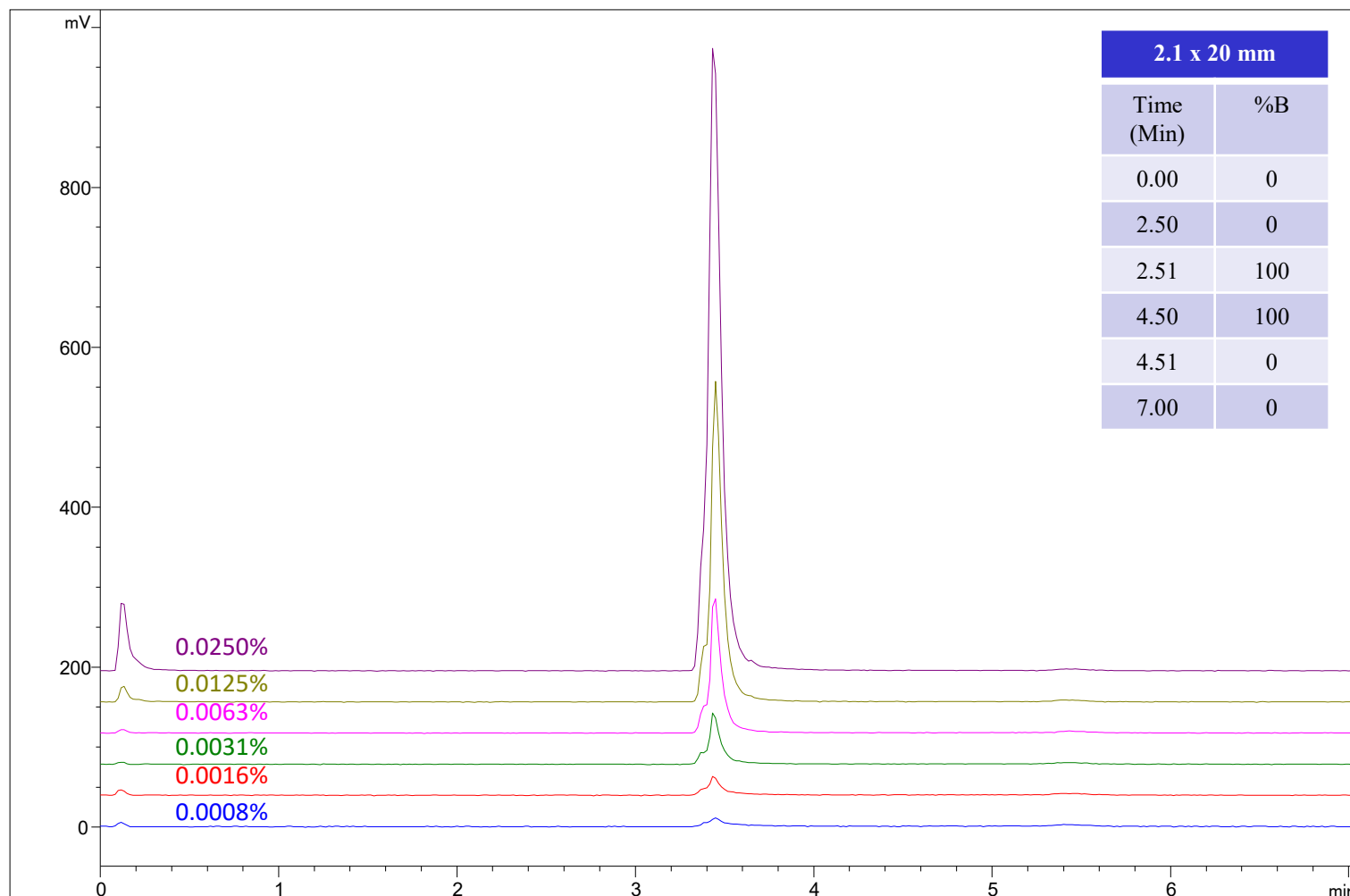
Tween 20 Structure



Tween 20 is a mixed population sample.



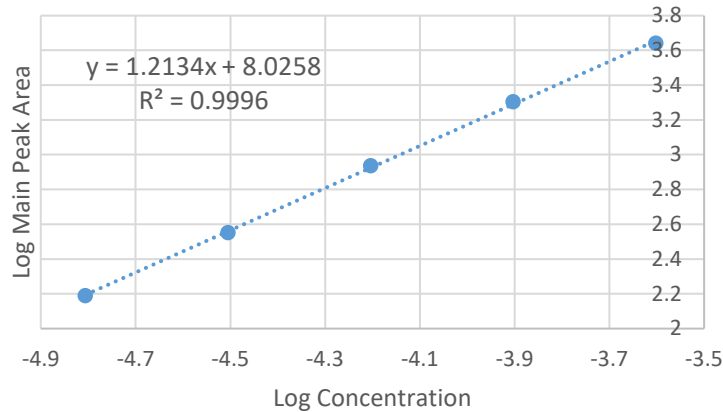
Tween 20 Quantification Test on Monomix H2P-SAX Column



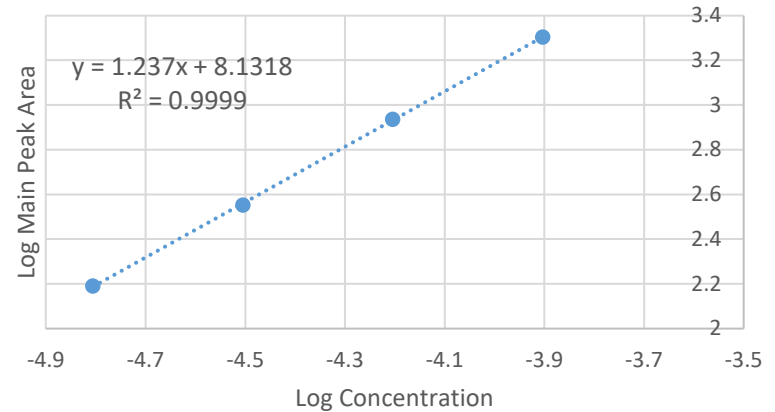


Tween 20 Quantification Test on Monomix H2P-SAX Column Calibration Curve

**Tween 20
(Include 0.025% data point)**



**Tween 20
(Not include 0.025% data point)**

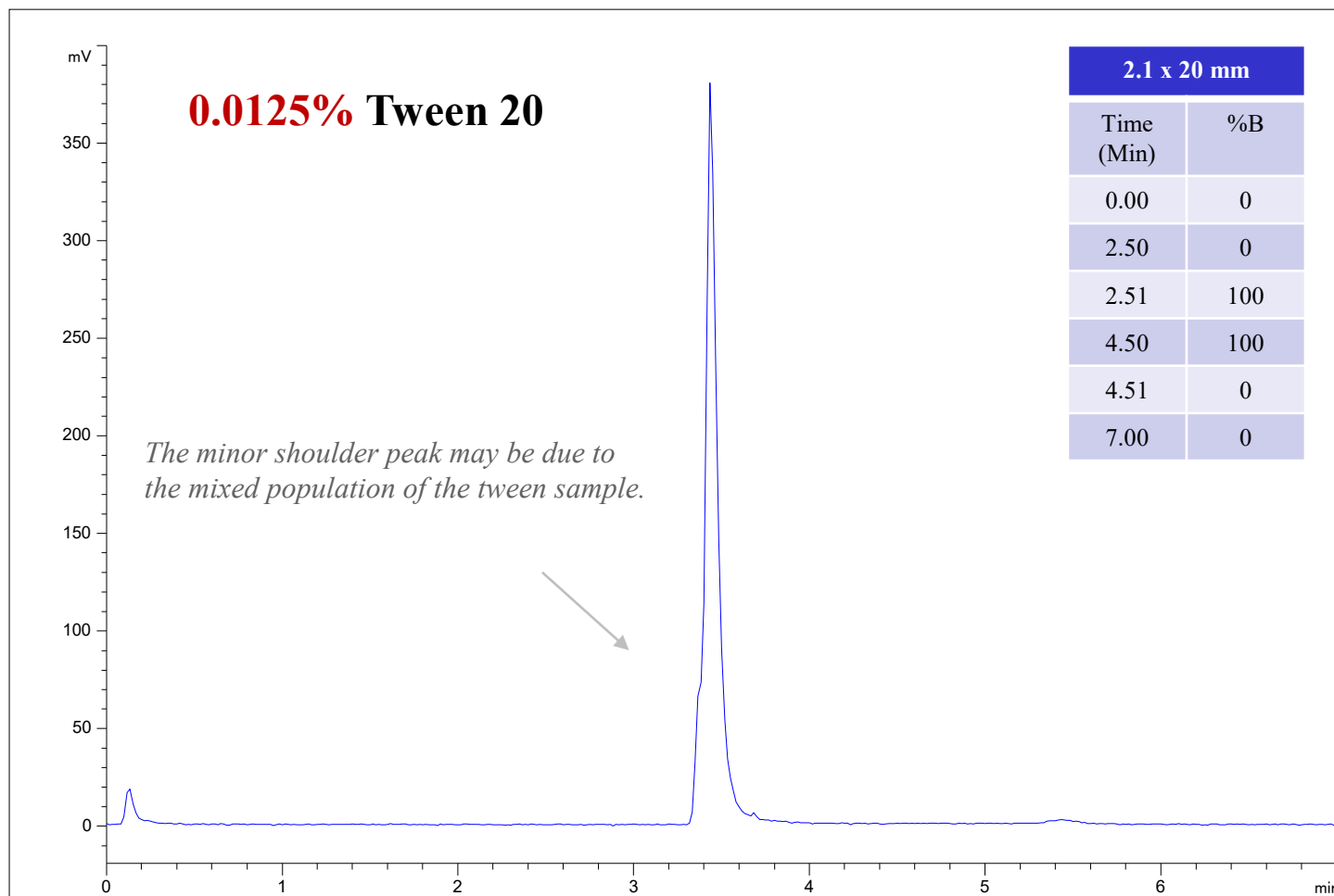


Capacity: 0.0125 μg

Concentration w/v	Flowthrough Area	Main Peak Area	Log (Concentration)	Log (Flowthrough Area)	Log (Main Peak Area)
0.0008%	14.9	85.5	-5.10721	1.173186	1.931966
0.0016%	22	155	-4.80618	1.342423	2.190332
0.0031%	9.8	356.3	-4.50515	0.991226	2.551816
0.0063%	18	862.2	-4.20412	1.255273	2.935608
0.0125%	75	2011.9	-3.90309	1.875061	3.303606
0.0250%	349.8	4373.4	-3.60206	2.54382	3.640819

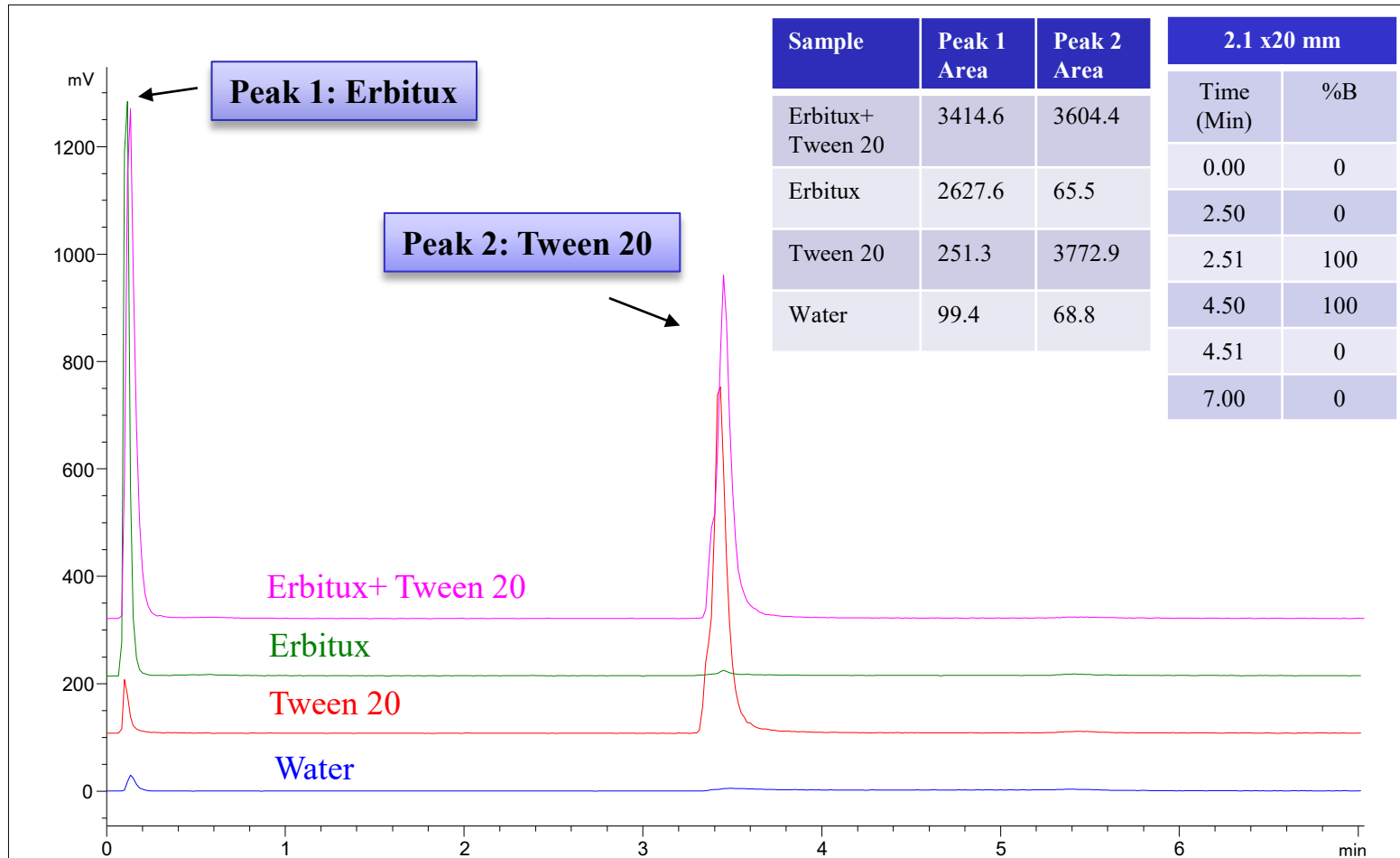


Tween 20 Test on Monomix H2P-SAX





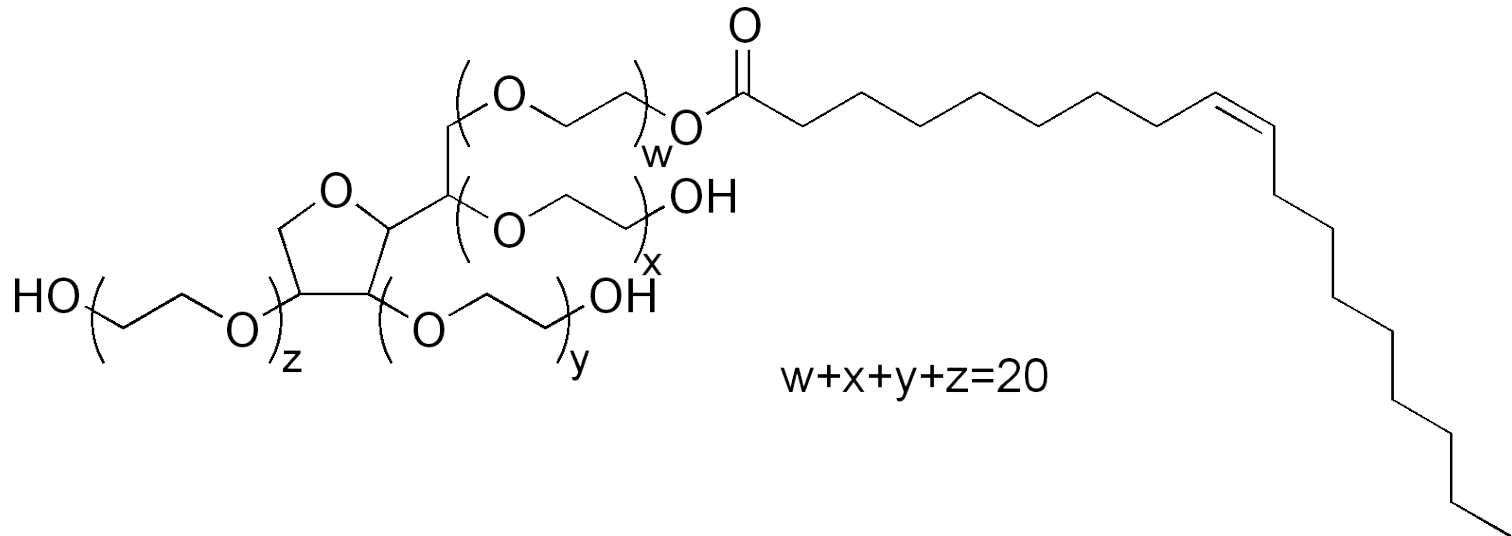
Tween 20 and Erbitux Test on Monomix H2P-SAX



Sample: 0.04 mg/mL Erbitux+ 0.02% Tween 20, 0.04 mg/mL Erbitux, 0.02% Tween 20



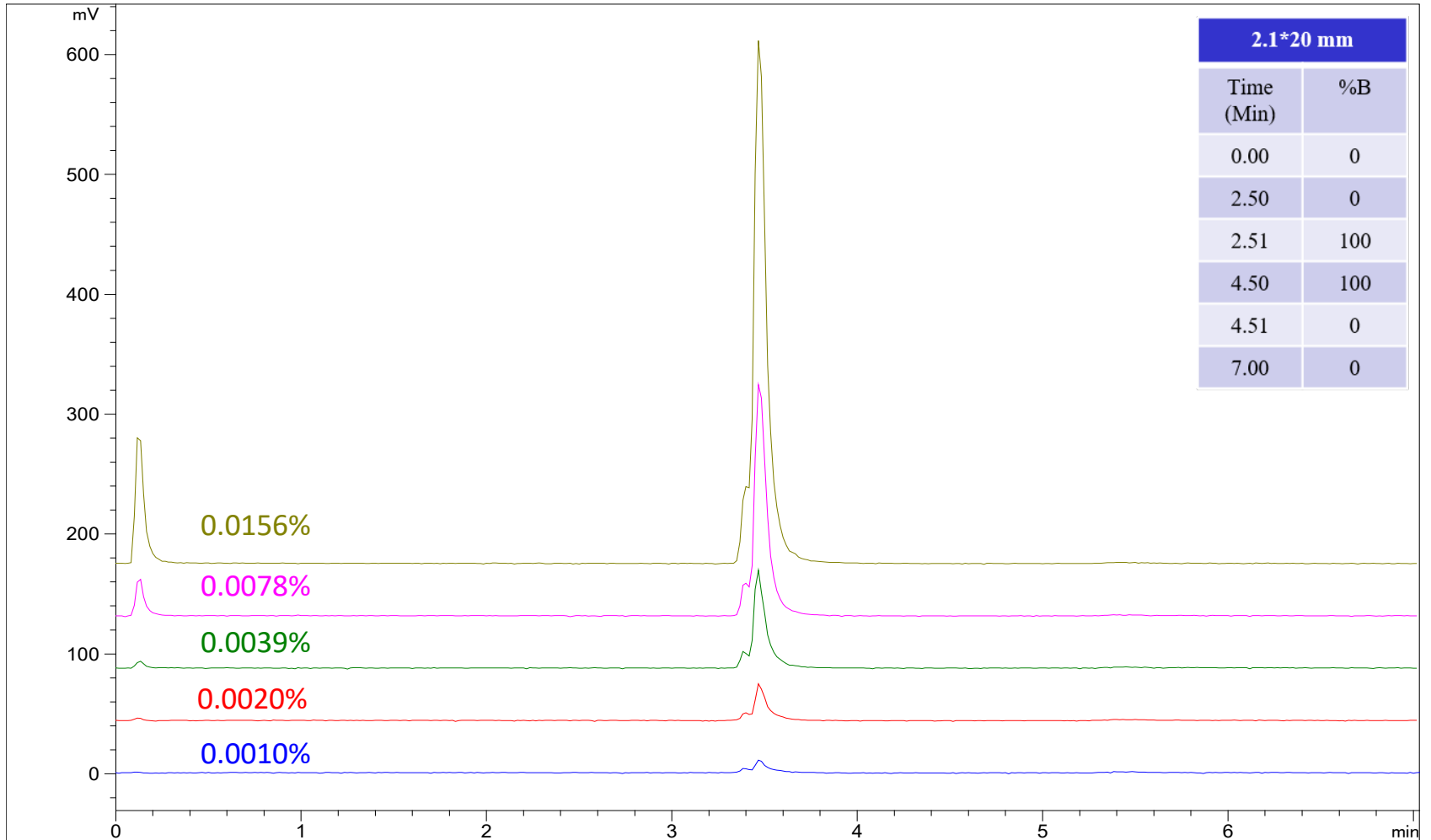
Tween 80 Structure



Tween 80 is a mixed population sample.



Tween 80 Quantification Test on Monomix H2P SAX

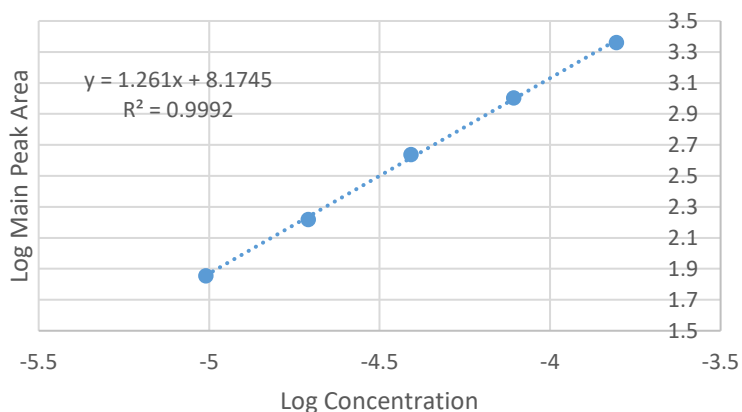


2.1*20 mm	
Time (Min)	%B
0.00	0
2.50	0
2.51	100
4.50	100
4.51	0
7.00	0

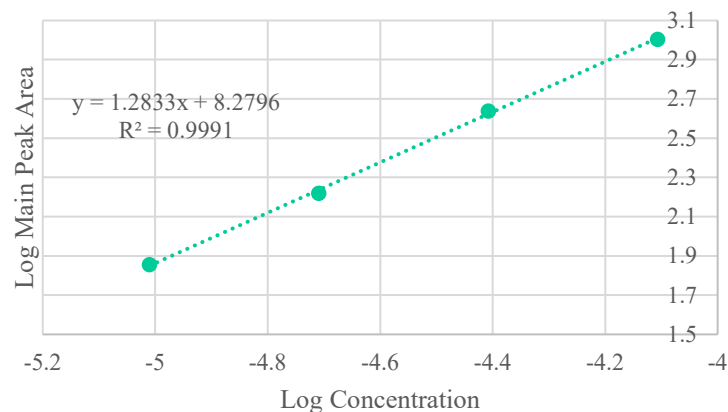


Tween 80 Quantification Test on Monomix H2P SAX Calibration Curve

Tween 80
(Include 0.0156 % data point)



Tween 80
(Not include 0.0156 % data point)

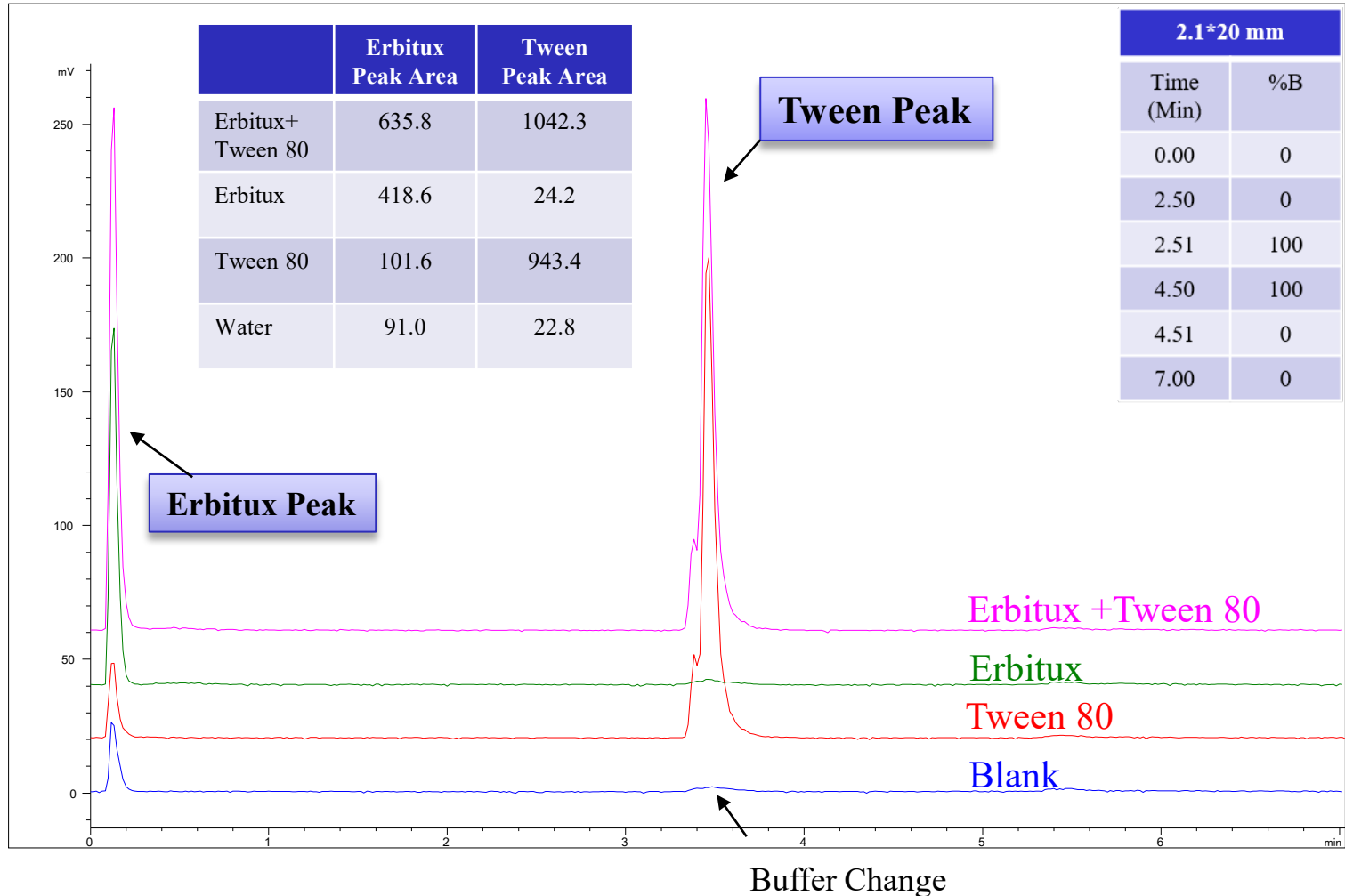


Capacity: 0.0078 μg

Sample	Concentration w/v	Flowthrough	Main Peak Area	Log (Concentration)	Log (Flowthrough)	Log (Main Peak Area)
1	0.0010%	1.9	71.8	-5.0103	0.278754	1.856124
2	0.0020%	7.5	165.4	-4.70927	0.875061	2.218536
3	0.0039%	17.6	435.3	-4.40824	1.245513	2.638789
4	0.0078%	104	1008.7	-4.10721	2.017033	3.003762
5	0.0156%	369.7	2298.8	-3.80618	2.567849	3.361501



Quantification of Tween 80 in Erbitux by Monomix H2P SAX



Sample: 0.01 mg/mL Erbitux, 0.01 mg/mL Erbitux + 0.008% Tween 80



Order Information

Column	Part Number
Monomix H2P SAX, 2.1 x 20 mm SS	282640990-2102
Monomix H2P SAX, 2.1 x 50 mm SS	282640990-2105

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