# Proteomix POR15/30-Q

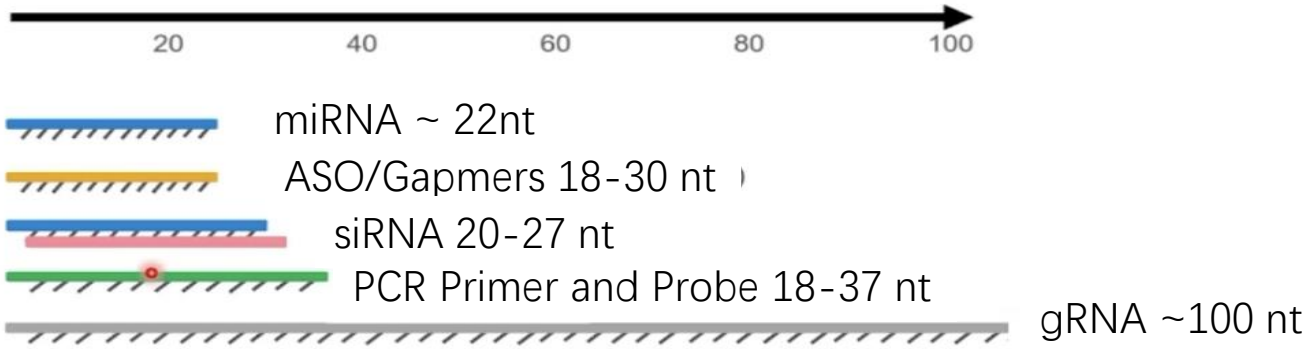
## Peptide, Oligonucleotide

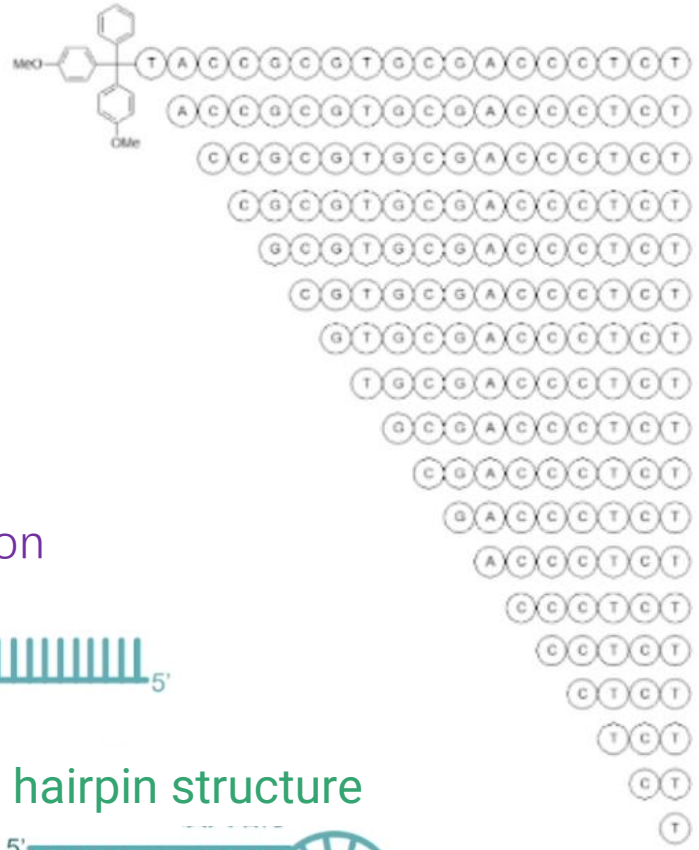
Sepax Technologies, Inc.

# Proteomix POR-IEX

| Resin | Proteomix POR15-Q | Proteomix POR15-S | Source 15Q | Source 15S |
|---|---|---|---|---|
| Base Matrix | Hydrophilic Modified PS/DVB | | PS/DVB | PS/DVB |
| Functional Group | $-N^+(CH_3)_3$ | $-SO_3H$ | $-N^+(CH_3)_3$ | $-SO_3H$ |
| Particle Size | 15 | 15 | 15 | 15 |
| DBC | ≥40mg/mL BSA | ≥40mg/mL lysozyme | ~ 45 mg BSA/mL resin | ~80 mg lysozyme |
| Operating Temperature | ≤40 ℃ | | 4°C to 40°C | 4°C to 40°C |
| pH Range | 2~13 (short term: 1-14 ) | | 2~12 (short term: 1-14 ) | |
| Max. Linear Flow Rate | 1800 cm/h | | 1800 cm/h | |
| Max. Pressure | ≤15 Mpa (150 bar) | | / | |
| Compatibility | Compatible with aqueous solution, a mixture of water and acetonitrile, ethanol, etc. Typical buffers: Tris, phosphate, and acetate. | | Compatible with aqueous solution, 1.0 M HCl, 100% Ethanol, 100% IPA, 1.0 M NaOH | |
| Storage | 20% Ethanol or 2% Benzyl Alcohol | | 4 to 30°C, 20% Ethanol | 4 to 30°C, 20% Ethanol + 0.2 M Sodium acetate |

# Oligonucleotide



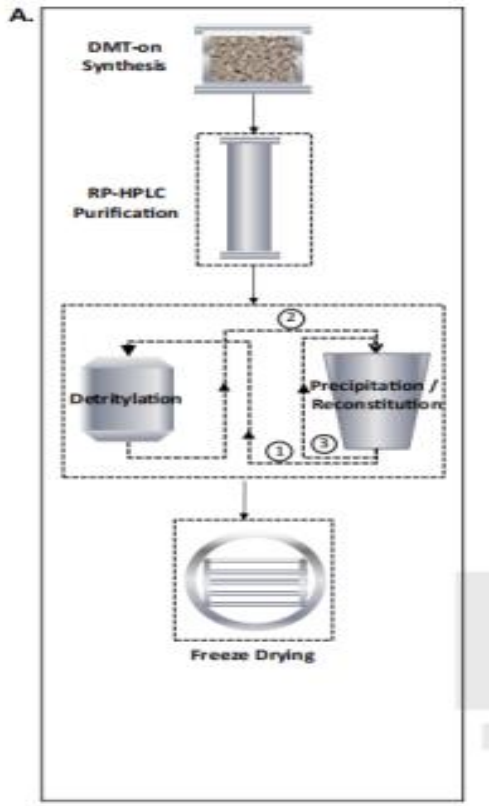



Impurities:

1. N+1、N-1
2. Aggregates
3. Byproduct impurities

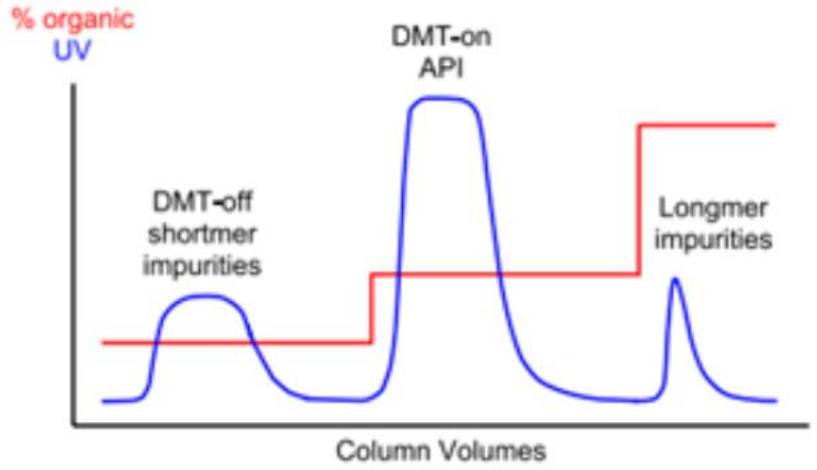

# Oligo Purification Method

## Reversed Phase




Solid Phase Synthesis → RP Chromatography → Detritylation → Precipitation → Lyophilization

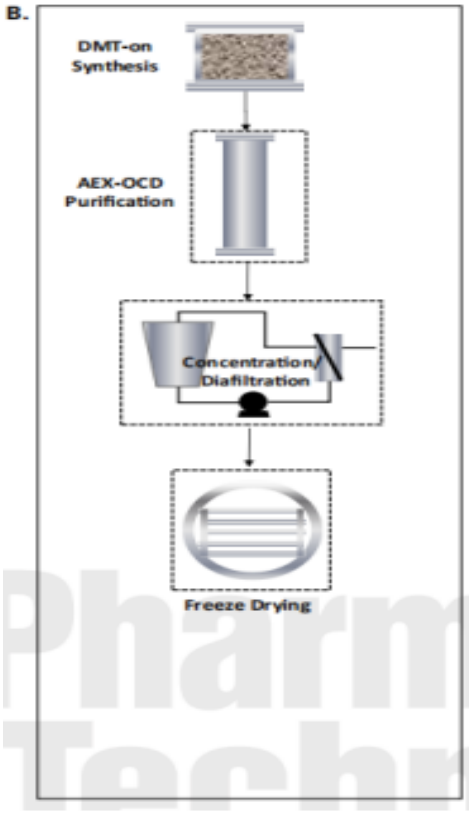
A: Reversed-phase high-performance liquid chromatography (RP-HPLC)




All Oligos have the 5' dimethoxytrityl (DMT) protecting group.
The final product all has some hydrophobicity that need to use organic solvent

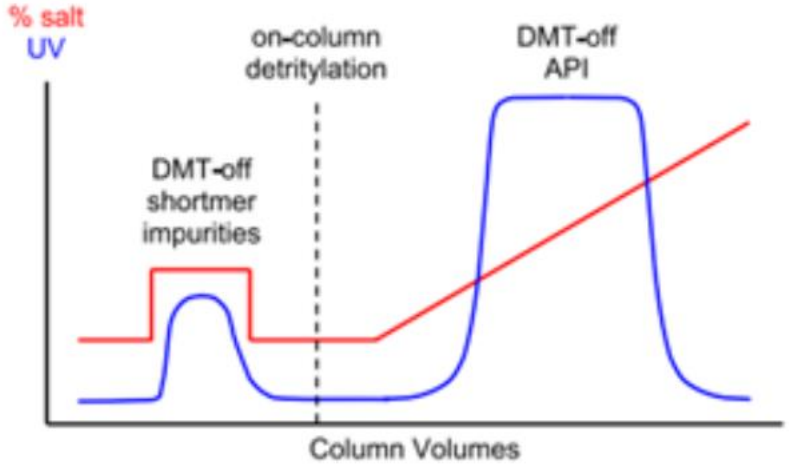
# Oligo Purification Method

## ION EXCHANGE



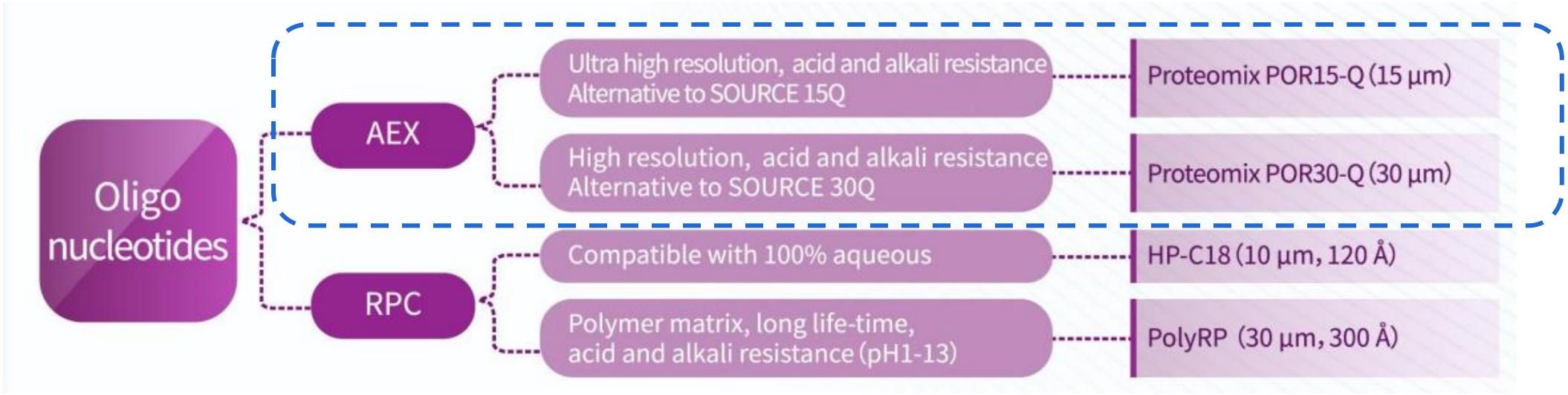

Solid Phase Synthesis → IEX Chromatography → Concentration/ Filtration → Lyophilization

B: Anion exchange (AEX) chromatography




Negatively charged Oligos interact with anion exchange resin
Detritylation needs to be performed in packed column
Mainly using strong anion exchange which can tolerant high pH conditions

# Resin Choice

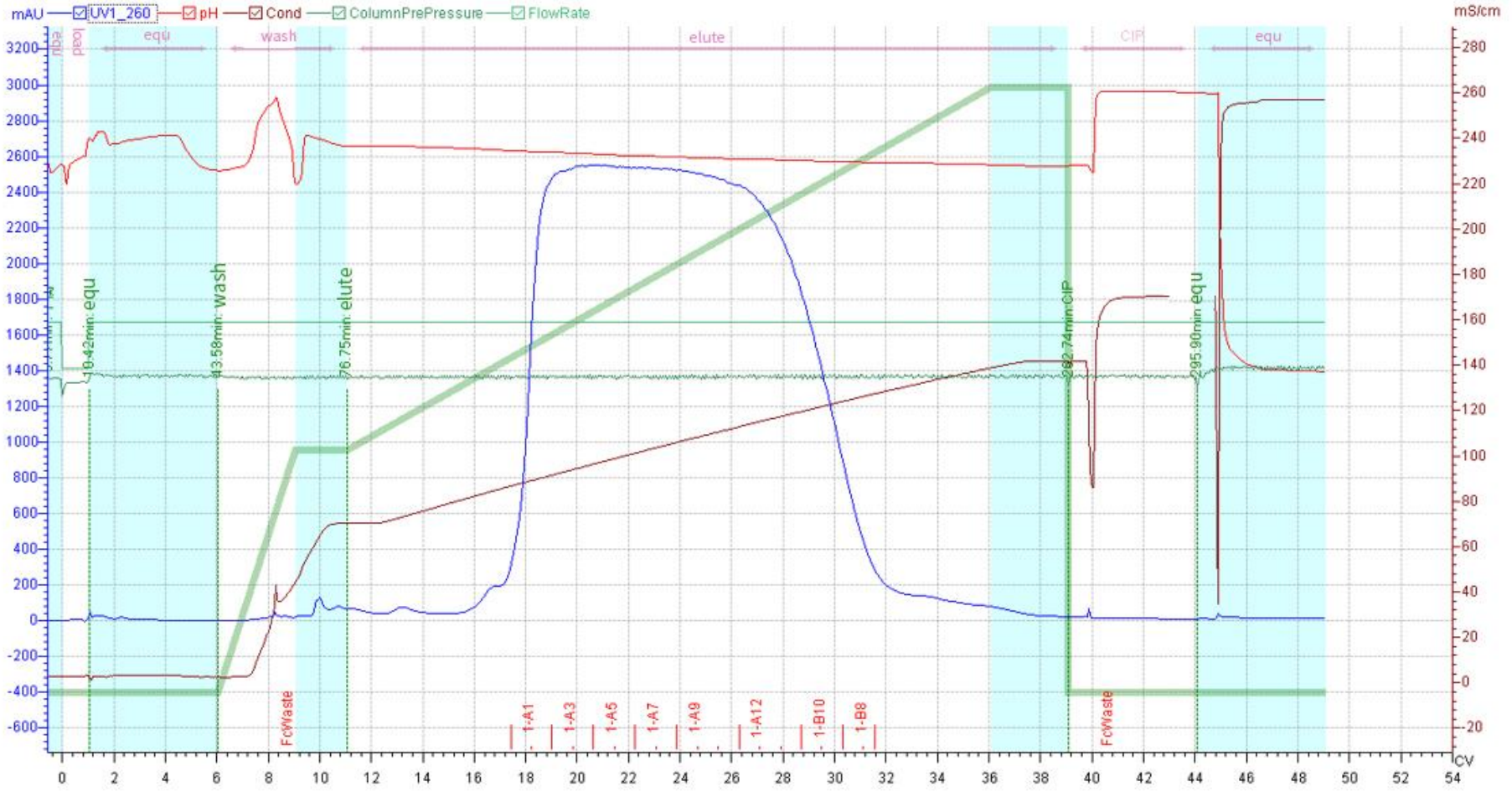


# Oligonucleotide Purification - Proteomix POR30-Q

Column: Proteomix POR30-Q（7.8 x 200mm FPLC, CV=9.55mL）

Mobile phase: A：20mM NaOH, B：A+2M NaCl, Instrument: SCG30-P

Detector: UV 260nm Column temperature: RT Sample: Oligonucleotide（36mg/mL), 3 times dilution



# Oligonucleotide Purification - Proteomix POR30-Q

Experiment：

1. Sanitization，0.5M NaOH，Soak tubing and column in 0.5M NaOH for 1hr.
2. Equilibration：100%A，equilibrate the column for 5cvs.
3. Sample injection：inject sample at 10mg/mL，sample concentration: 36mg/mL，dilute sample by 3 times, final sample concentration is 12mg/mL.
4. Equilibration：100%A，equilibrate the column for 5cvs.
5. Wash：0-40%B，linear gradient wash for 3cvs，keep gradient B at 40% for 2cvs.
6. Elution：40-100%B，linear gradient elution for 25cvs，keep gradient B at 100% for 5cvs，collect elution when UV reaches 300-300mAu for 0.8cvs.
7. CIP：Clean the column with 0.5M NaOH for 5cvs.

# Purity – Before vs. After Q Step

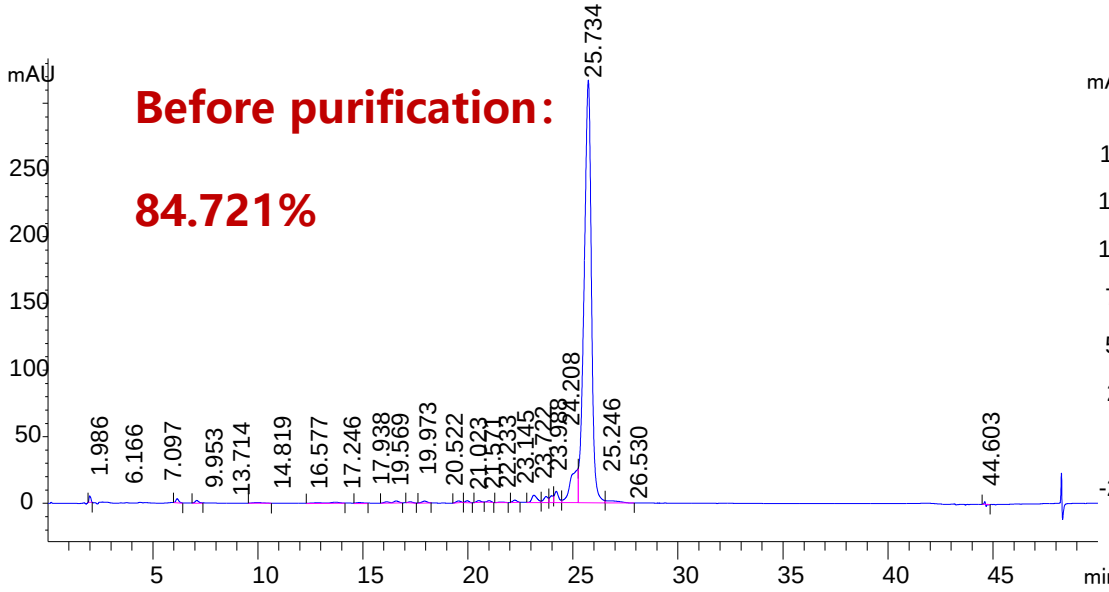
Column : Sepax Bio-C18(4.6*150mm, 5um,200A)

Mobile Phase : A： 7mM Triethylamine (TEA) /100mM Hexafluoro isopropanol (HFIP)/10mL Acetonitrile: B： 70%A+30% Acetonitrile

Flow rate: 1 mL/min; Detector : 260 nm; Column temperature: RT; Pressure: 101.64 bar

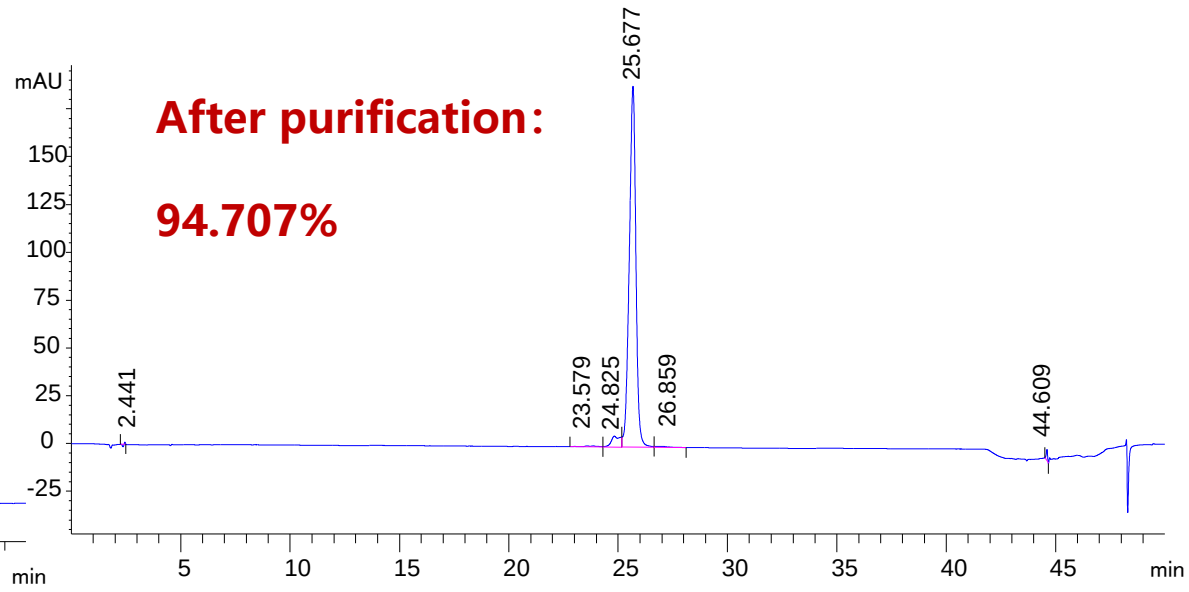
Injection volume: 5μL;

Sample: original sample (dilute 20 times with $H_2O$)




Injection volume: 80μL;

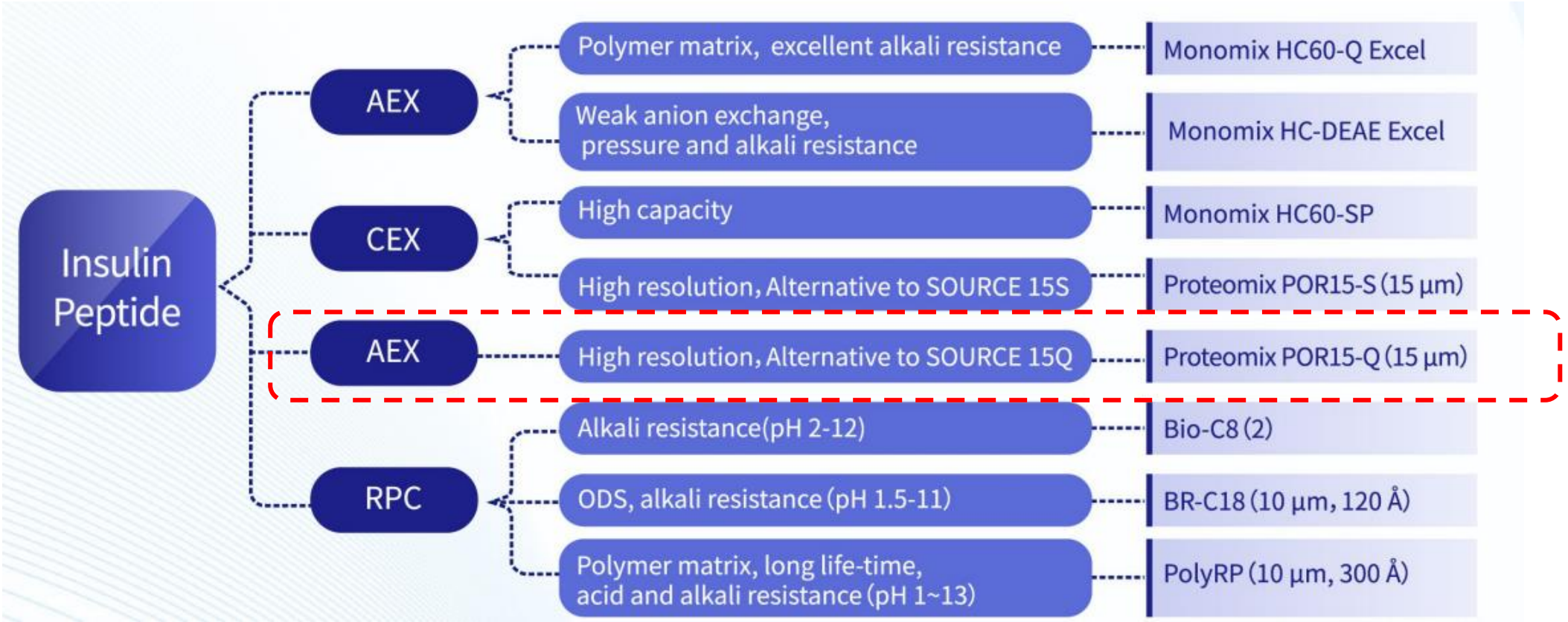
Sample: pooled fraction （A6-B9，dilute 20 times with $H_2O$）




Target product yield: 87.17%， Total yield: 97.91%， Capacity: 236 OD/mL

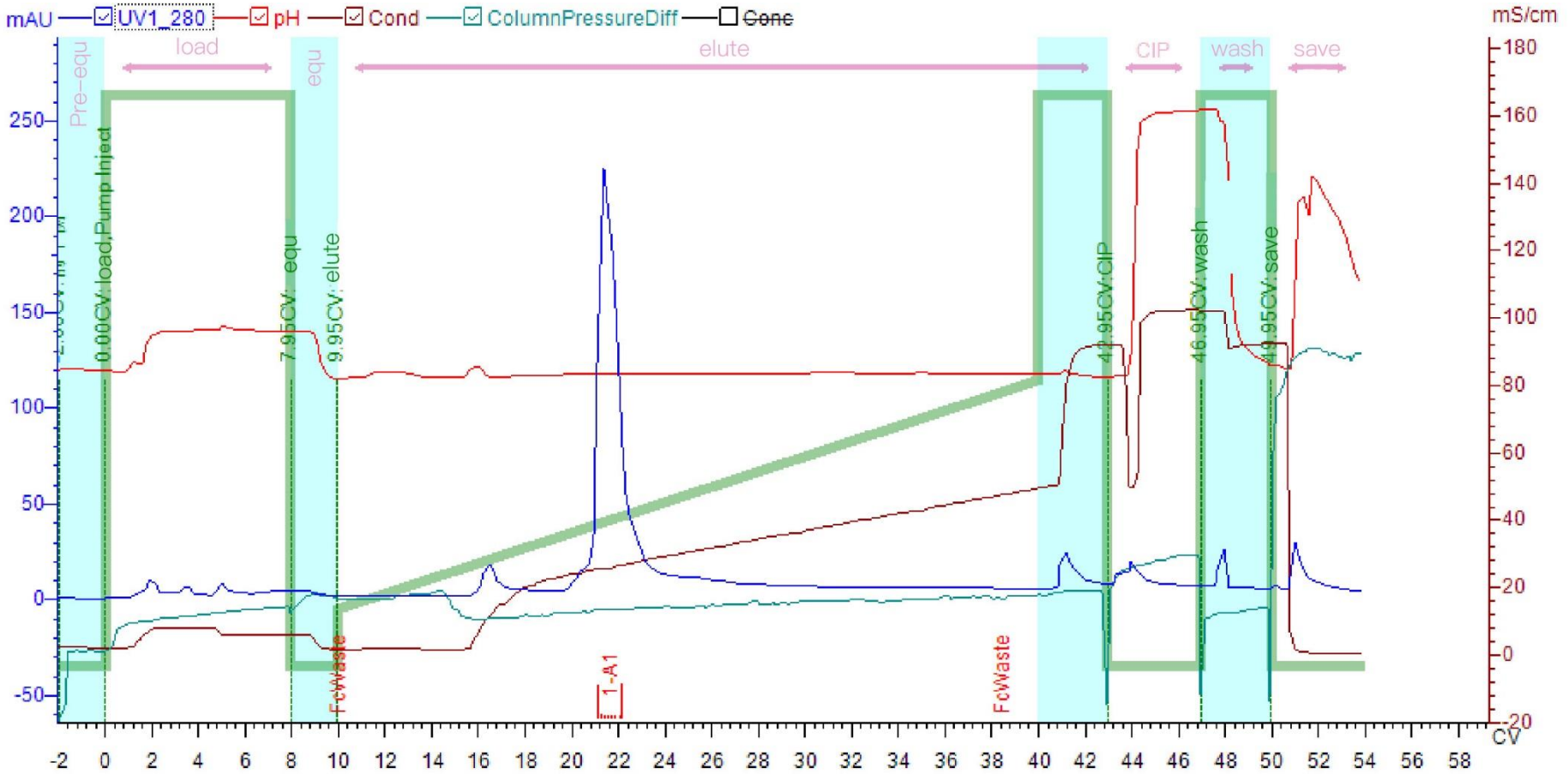
(The sample was not loaded at the maximum capacity of the column due to the sample volume.)

# Peptide, GLP – Resin Choice



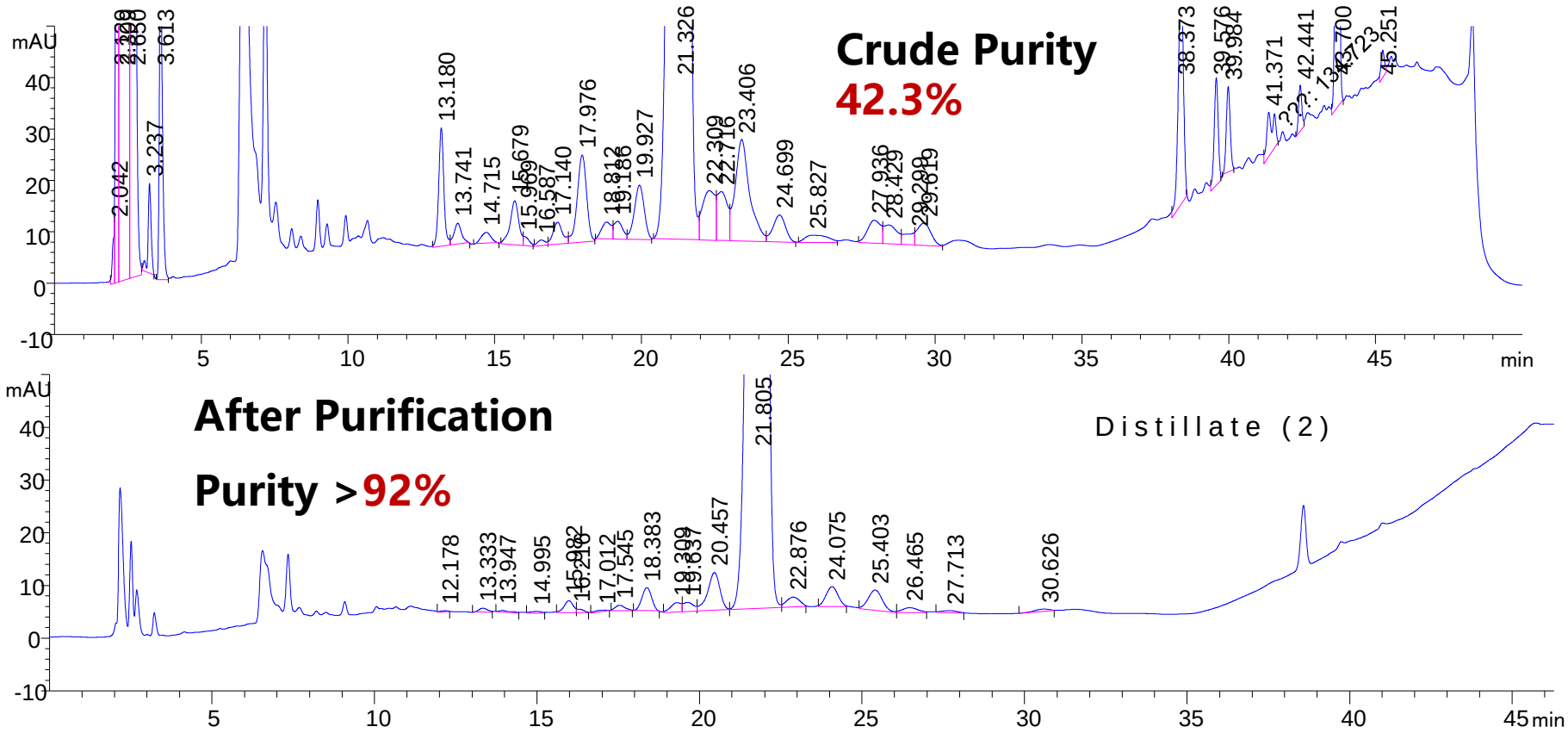
# Semaglutide GLP-1 Purification - Proteomix POR15-Q

Column: Proteomix POR15-Q(10mm*100mm,CV=7.8 mL)
Mobile phase: A: 20mmol Tris HCL（pH=7.0); B: 20mmol Tris HCL+1mol NaCl（pH=7.0）
Flow rate: 1.2mL/min; Detector: UV 280; Column temperature: RT;
Sample: Semaglutide Injection volume: 200mL; Pressure: 10 bar; Instrument: Prep HPLC



# Purity – Before vs. After Q Step

Column: Sepax GP-C18( 3μm, 120 Å, 4.6×150 mm)
Mobile phase : A: 0.08mol/L Ammonium phosphate dibasic buffer-10% Acetonitrile (pH=3.6);
B : Acetonitrile: Isopropyl alcohol : $H_2O$ =3:1:1
Flow rate: 0.7mL/min; Detector: UV 210 ; Column temperature: 30℃
Injection Volume: 10uL Instrument: HPLC



# Order Info

| Product | Particle Size | PN | Pack Size（L） | Cartridge（mL） |
|---|---|---|---|---|
| Proteomix POR15-Q | 15 µm | 221415950 | 0.5, 1, 5, 10, 100 | 4.2 |
| Proteomix POR15-S | 15 µm | 221115950 | 0.5, 1, 5, 10, 100 | 4.2 |
| Proteomix POR30-Q | 30 µm | 221430950 | 0.5, 1, 5, 10, 100 | 4.2 |
| Proteomix POR30-S | 30 µm | 221130950 | 0.5, 1, 5, 10, 100 | 4.2 |

# Thank You!

Check our website for more products

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Affinity | IEX | Mixed Mode|
Multimodal | HIC | SEC | RP