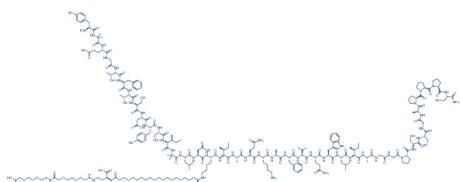
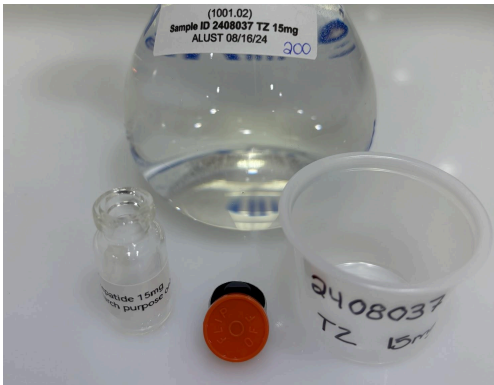




Certificate of Analysis



| | | | |
|-------------------|---|-----------------|------------------|
| Compound: | Tirzepatide | Analysis Date: | 17-Aug-2024 |
| CAS: | 2023788-19-2 | Client: | PurePep Research |
| Manufacturer: | N/A | | |
| Client Sample ID: | T15 Orange Cap | | |
| Lot: | TZ 15mg 1 vial | Test Reference: | 2408037 |
| Sample Image: |  | | |

| Sample Testing | Test Method | Acceptance Criteria | Result |
|--|-------------|----------------------------|---------|
| Appearance | Visual | White to off-white powder | Pass |
| Identification by Retention Time | TM-1001 | 0.98 - 1.02 | 1.01 |
| Identification by UV Spectral Comparison to Reference Standard | TM-1001 | ≥ 950 | 1000 |
| Vial Content (mg) | TM-1001 | Per customer specification | 16.63mg |
| Purity | TM-1001 | Per customer specification | 99.552% |

- **Appearance:** This check is to visually verify that the sample matches the expected sample properties. If the sample appearance was different than listed, TrustPointe would reach out to the customer to verify that the correct samples were received.
- The Following Tests Are Performed Using HPLC (High Performance Liquid Chromatography):
 - **Identification by Retention Time:** This is an identification test in which the retention time of the sample is compared to the average retention time of five reference standard injections.
 - **Identification by UV Spectral Comparison to Reference Standard:** This is an identification test in which the UV spectrum of the sample is compared to the UV spectrum of the standard.

- **Vial Content (mg):** This is the amount of the compound in the vial we tested determined by HPLC analysis.
- **Purity:** This is purity of the sample, calculated including peaks around the compound that may be impurities.

| Method & System Suitability | Test Method | Acceptance Criteria | Result |
|---------------------------------|-------------|---------------------------------------|--------|
| Standard + SSC Injection RSD | TM-1001 | Standard Bracket Area RSD \leq 2.0% | 0.0% |
| Coelution Control (Peak Purity) | TM-1001 | > 950 | 1000 |

- **Standard + SSC Injection RSD:** This value shows that the HPLC system was running properly throughout your testing. The %RSD of the standard injections performed before your sample and the standard injection performed after your sample is calculated to ensure there were no system errors during your run. Although system errors such as leaks, a line running dry, air bubbles, etc. are rare, it's important that we demonstrate no errors occurred during analysis.
- **Coelution Control (Peak Purity):** This value demonstrates that there is no co-elution occurring during analysis. We receive samples from a multitude of manufacturers and each has their own recipe (stabilizers, solubilizers, fillers, etc) in their process. This measurement ensures that none of these other components interfere with the analysis. In short, this number confirms that the method is working properly and only analyzing the target compound.

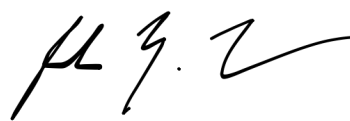
All testing services provided by TrustPointe Analytics LLC are subject to our [Terms of Service](#). Learn [How To Read a COA](#).

Created By:



Ashlee Lust 17-Aug-2024

Reviewed By:



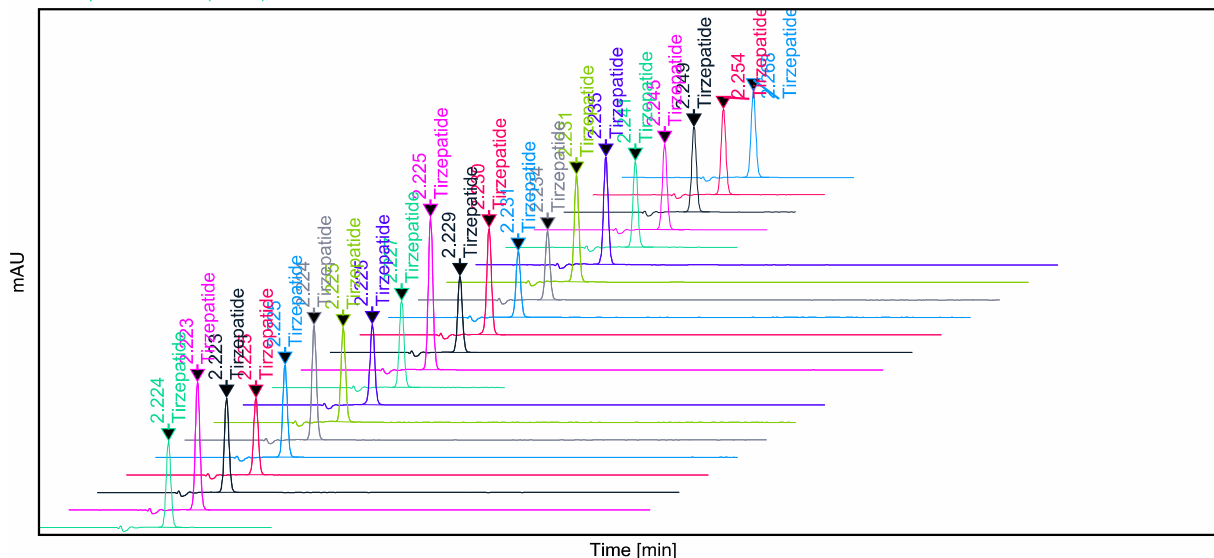
Joshua Lust 17-Aug-2024

Sample Potency and ID Report

Sequence Name 1001_aml_081624

Sequence Acquired Date 2024-08-16 18:28:55-04:00

Tirzepatide Std - 1
Sample ID 2408032 - 1
Sample ID 2408037
Sample ID 2408041
Tirzepatide Std - 7 (SSC2)
Tirzepatide Std - 2
Sample ID 2408032 - 2
Sample ID 2408038
Sample ID 2408047
Tirzepatide Std - 3
Sample ID 2408033 - 1
Tirzepatide Std - 6 (SSC1)
Sample ID 2408049
Tirzepatide Std - 4
Sample ID 2408033 - 2
Sample ID 2408039
Sample ID 2408052
Tirzepatide Std - 5
Sample ID 2408035
Sample ID 2408040
Sample ID 2408030



| Sample Name | Name | RT | Area | Multiplier | Amount | Unit | UV Match Factor | Peak Purity | Peak Tail Factor |
|----------------------------|-------------|-------|------|------------------|--------|------|-----------------|-------------|------------------|
| Tirzepatide Std - 1 | Tirzepatide | 2.268 | 96 | 1;1;1;1;1 | 9.41 | % | 1000 | 1000 | 1.1 |
| Tirzepatide Std - 2 | Tirzepatide | 2.254 | 96 | 1;1;1;1;1 | 9.37 | % | 1000 | 1000 | 1.0 |
| Tirzepatide Std - 3 | Tirzepatide | 2.249 | 96 | 1;1;1;1;1 | 9.38 | % | 1000 | 1000 | 1.1 |
| Tirzepatide Std - 4 | Tirzepatide | 2.245 | 96 | 1;1;1;1;1 | 9.37 | % | 1000 | 1000 | 1.0 |
| Tirzepatide Std - 5 | Tirzepatide | 2.241 | 96 | 1;1;1;1;1 | 9.38 | % | 1000 | 1000 | 1.1 |
| Sample ID 2408032 - 1 | Tirzepatide | 2.235 | 121 | 10;1;1;1;1 | 118.19 | % | 1000 | 1000 | 1.0 |
| Sample ID 2408032 - 2 | Tirzepatide | 2.231 | 120 | 10;1;1;1;1 | 116.78 | % | 1000 | 1000 | 1.0 |
| Sample ID 2408033 - 1 | Tirzepatide | 2.234 | 77 | 13.33333;1;1;1;1 | 100.01 | % | 1000 | 1000 | 1.1 |
| Sample ID 2408033 - 2 | Tirzepatide | 2.231 | 74 | 13.33333;1;1;1;1 | 95.97 | % | 1000 | 1000 | 1.0 |
| Sample ID 2408035 | Tirzepatide | 2.230 | 122 | 8.33333;1;1;1;1 | 99.12 | % | 1000 | 1000 | 1.0 |
| Sample ID 2408037 | Tirzepatide | 2.229 | 85 | 13.33333;1;1;1;1 | 110.89 | % | 1000 | 1000 | 1.1 |
| Sample ID 2408038 | Tirzepatide | 2.225 | 170 | 8.33333;1;1;1;1 | 138.31 | % | 998 | 999 | 1.0 |
| Tirzepatide Std - 6 (SSC1) | Tirzepatide | 2.227 | 96 | 1;1;1;1;1 | 9.36 | % | 1000 | 1000 | 1.1 |
| Sample ID 2408039 | Tirzepatide | 2.225 | 92 | 13.33333;1;1;1;1 | 120.24 | % | 1000 | 1000 | 1.0 |
| Sample ID 2408040 | Tirzepatide | 2.225 | 104 | 10;1;1;1;1 | 101.89 | % | 1000 | 1000 | 1.1 |
| Sample ID 2408041 | Tirzepatide | 2.224 | 127 | 10;1;1;1;1 | 123.97 | % | 1000 | 1000 | 1.0 |

Sample Potency and ID Report

| Sample Name | Name | RT | Area | Multiplier | Amount | Unit | UV Match Factor | Peak Purity | Peak Tail Factor |
|----------------------------|-------------|-------|------|------------------|--------|------|-----------------|-------------|------------------|
| Sample ID 2408047 | Tirzepatide | 2.225 | 102 | 10;1;1;1;1 | 99.91 | % | 1000 | 1000 | 1.0 |
| Sample ID 2408049 | Tirzepatide | 2.225 | 86 | 13.33333;1;1;1;1 | 111.42 | % | 1000 | 1000 | 1.1 |
| Sample ID 2408052 | Tirzepatide | 2.223 | 105 | 10;1;1;1;1 | 102.98 | % | 1000 | 1000 | 1.0 |
| Sample ID 2408030 | Tirzepatide | 2.223 | 142 | 16.66667;1;1;1;1 | 231.83 | % | 999 | 999 | 1.0 |
| Tirzepatide Std - 7 (SSC2) | Tirzepatide | 2.224 | 96 | 1;1;1;1;1 | 9.36 | % | 1000 | 1000 | 1.0 |

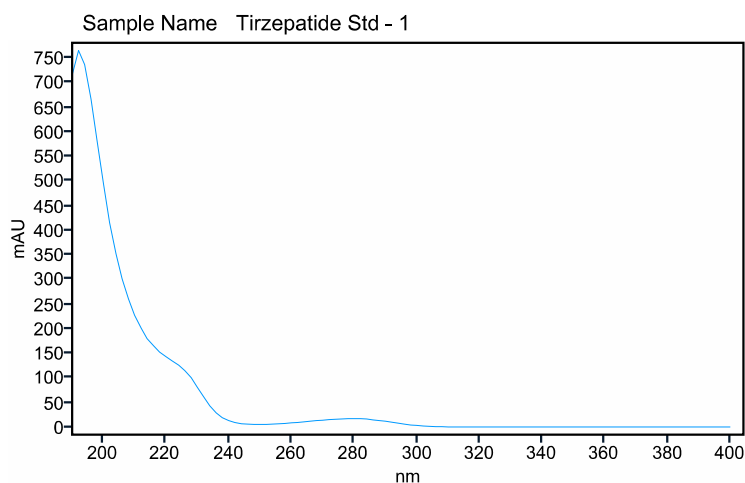
UV Match Spectra

RT:

2.268

Compound Name:

Tirzepatide



Compound Spectra Confirm Result Confirmed

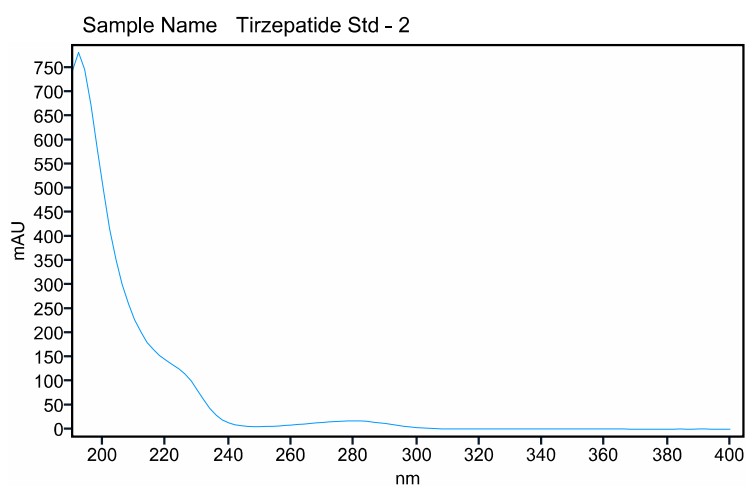
UV Match Spectra

RT:

2.254

Compound Name:

Tirzepatide



Compound Spectra Confirm Result Confirmed

Sample Potency and ID Report

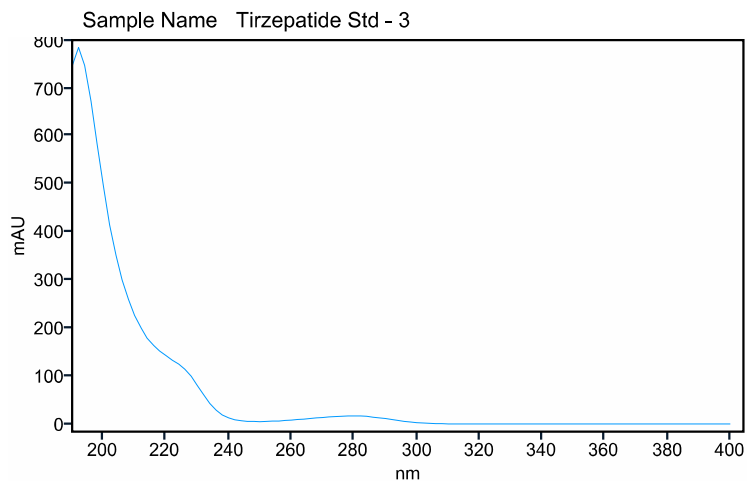
UV Match Spectra

RT:

2.249

Compound Name:

Tirzepatide



Compound Spectra Confirm Result Confirmed

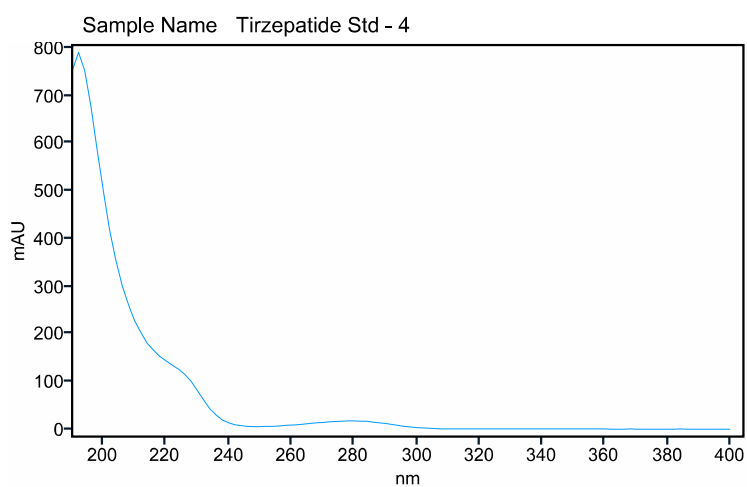
UV Match Spectra

RT:

2.245

Compound Name:

Tirzepatide



Compound Spectra Confirm Result Confirmed

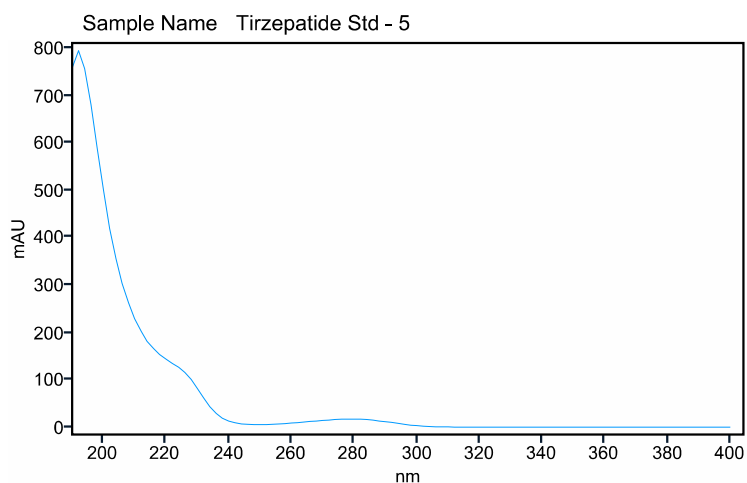
UV Match Spectra

RT:

2.241

Compound Name:

Tirzepatide



Compound Spectra Confirm Result Confirmed

Sample Potency and ID Report

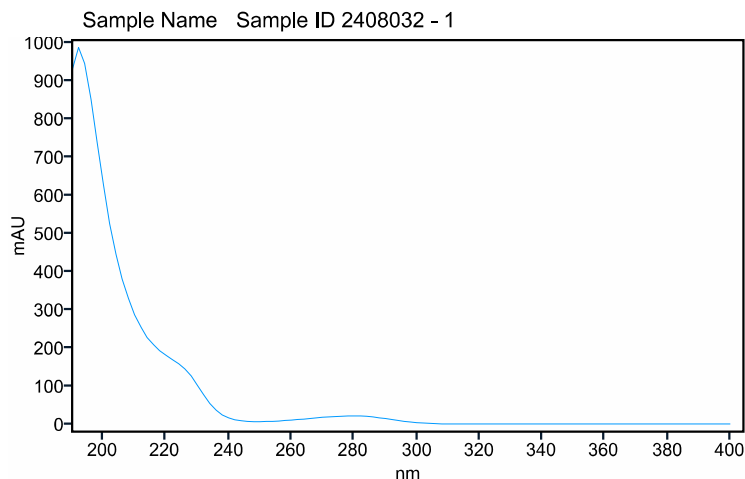
UV Match Spectra

RT:

2.235

Compound Name:

Tirzepatide



Compound Spectra Confirm Result Confirmed

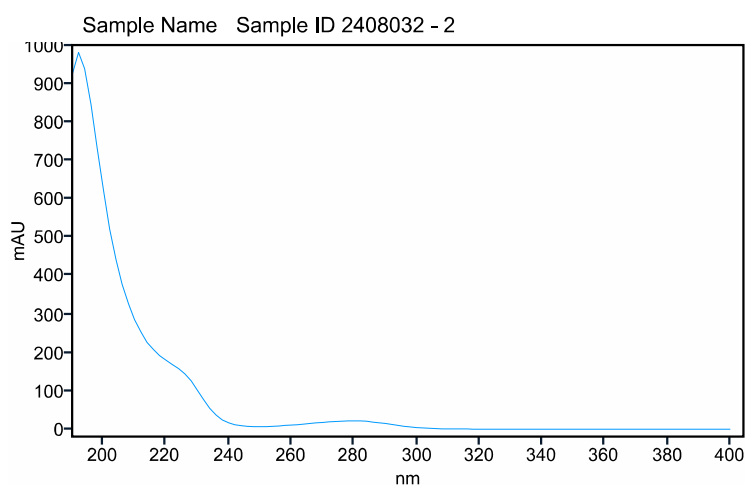
UV Match Spectra

RT:

2.231

Compound Name:

Tirzepatide



Compound Spectra Confirm Result Confirmed

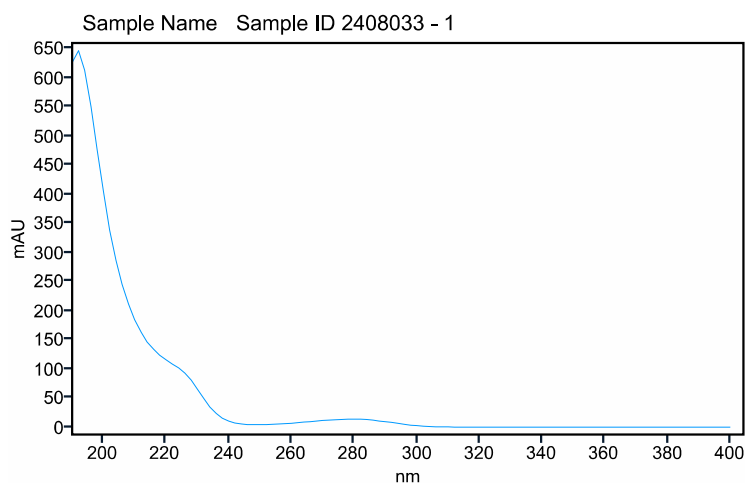
UV Match Spectra

RT:

2.234

Compound Name:

Tirzepatide



Compound Spectra Confirm Result Confirmed

Sample Potency and ID Report

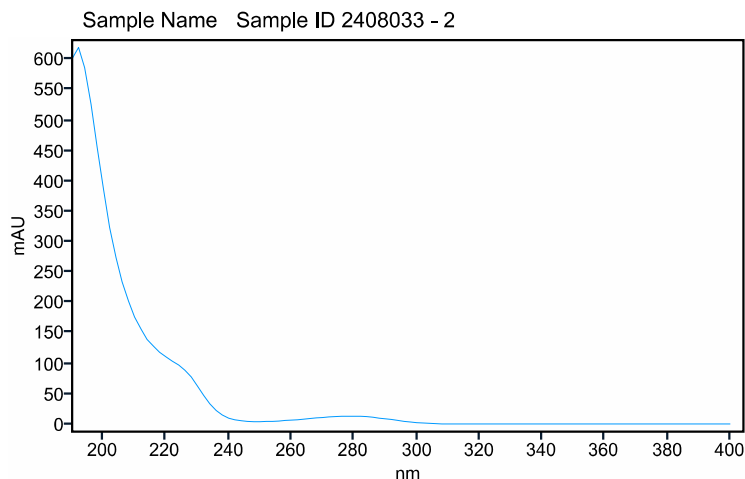
UV Match Spectra

RT:

2.231

Compound Name:

Tirzepatide



Compound Spectra Confirm Result Confirmed

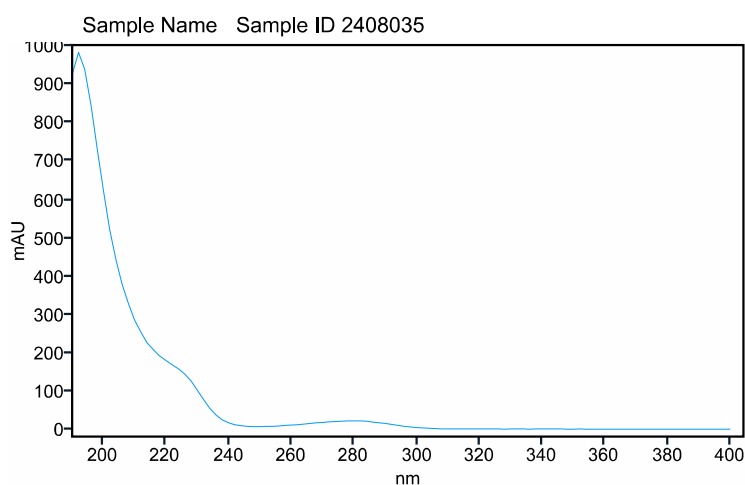
UV Match Spectra

RT:

2.23

Compound Name:

Tirzepatide



Compound Spectra Confirm Result Confirmed

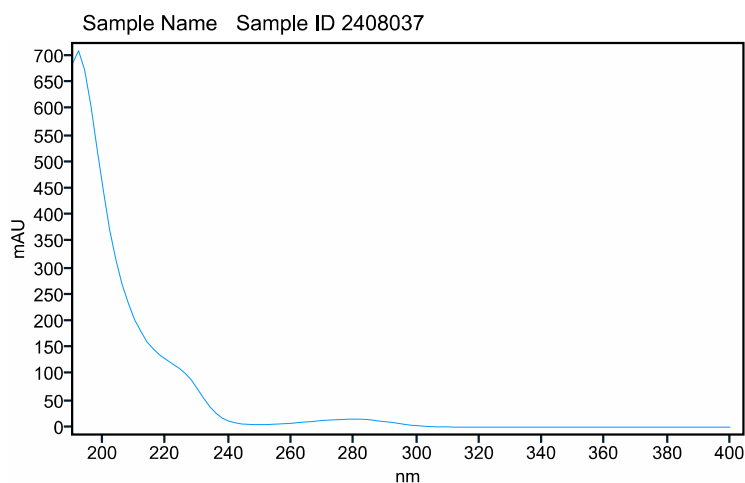
UV Match Spectra

RT:

2.229

Compound Name:

Tirzepatide



Compound Spectra Confirm Result Confirmed

Sample Potency and ID Report

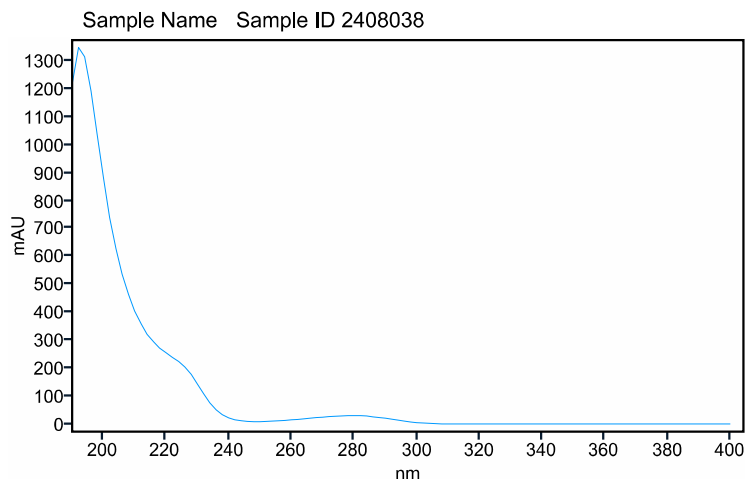
UV Match Spectra

RT:

2.225

Compound Name:

Tirzepatide



Compound Spectra Confirm Result Confirmed

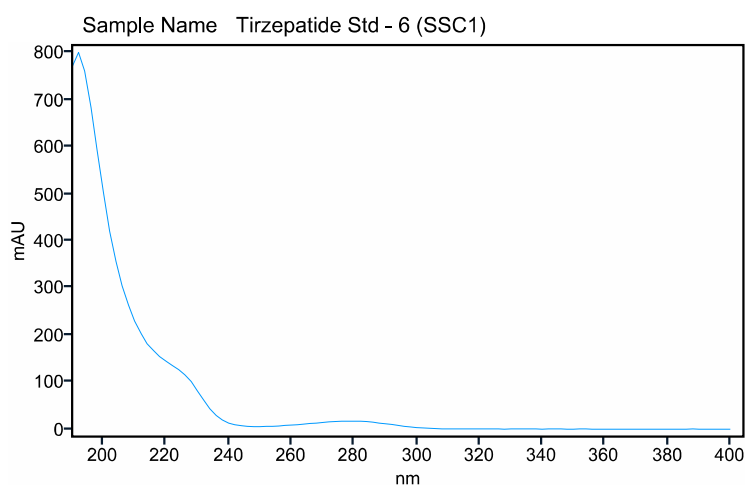
UV Match Spectra

RT:

2.227

Compound Name:

Tirzepatide



Compound Spectra Confirm Result Confirmed

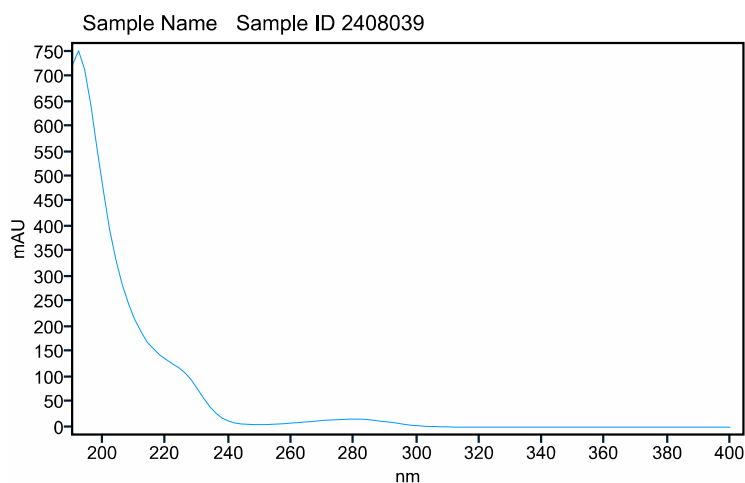
UV Match Spectra

RT:

2.225

Compound Name:

Tirzepatide



Compound Spectra Confirm Result Confirmed

Sample Potency and ID Report

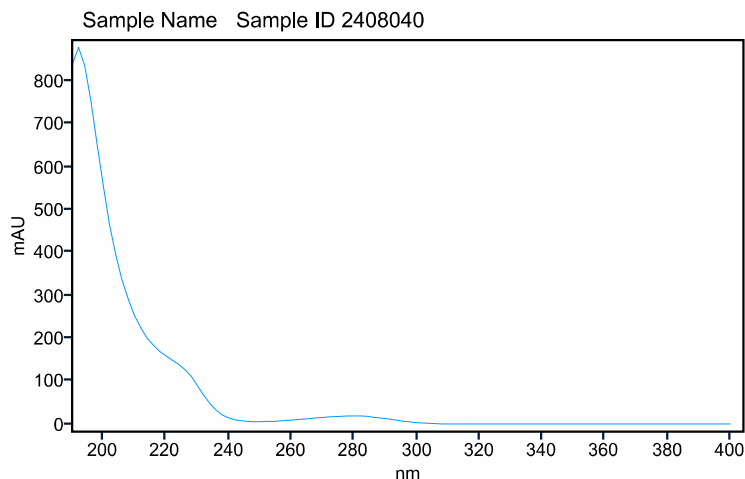
UV Match Spectra

RT:

2.225

Compound Name:

Tirzepatide



Compound Spectra Confirm Result Confirmed

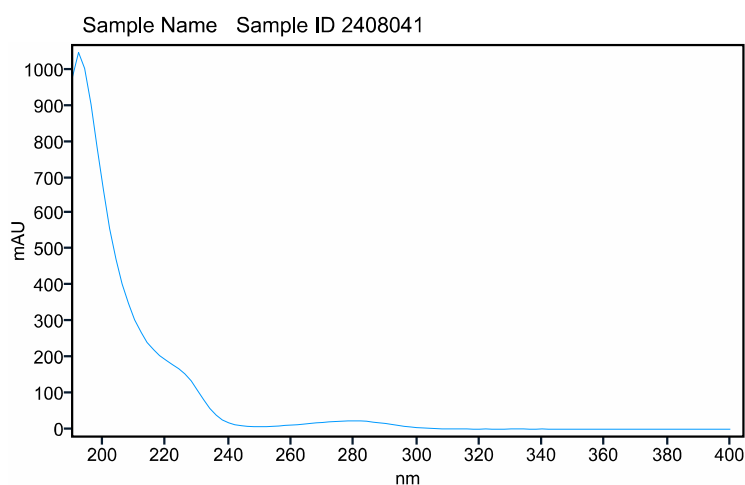
UV Match Spectra

RT:

2.224

Compound Name:

Tirzepatide



Compound Spectra Confirm Result Confirmed

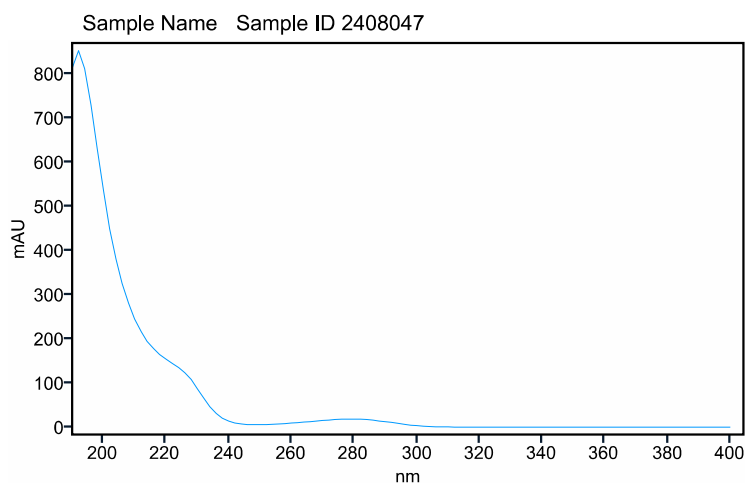
UV Match Spectra

RT:

2.225

Compound Name:

Tirzepatide



Compound Spectra Confirm Result Confirmed

Sample Potency and ID Report

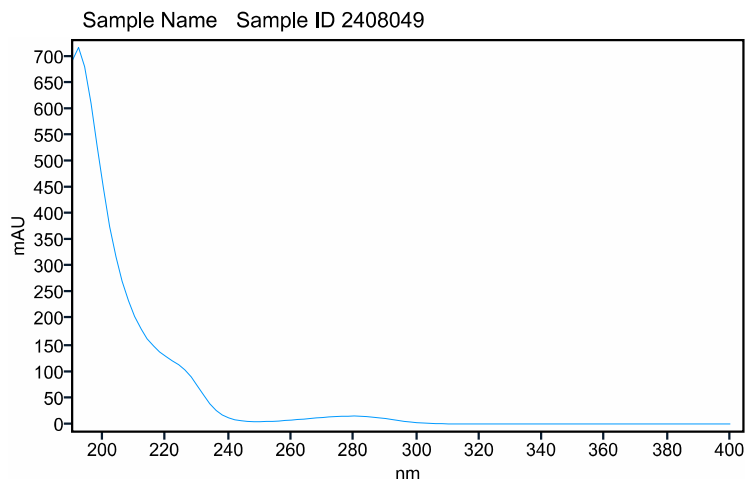
UV Match Spectra

RT:

2.225

Compound Name:

Tirzepatide



Compound Spectra Confirm Result Confirmed

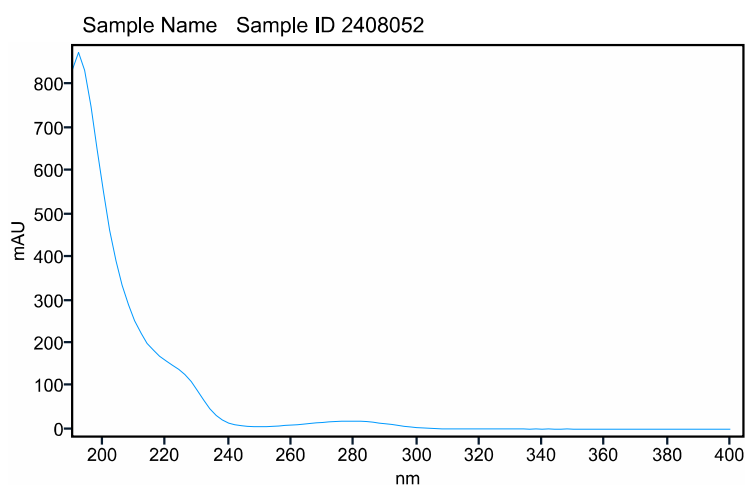
UV Match Spectra

RT:

2.223

Compound Name:

Tirzepatide



Compound Spectra Confirm Result Confirmed

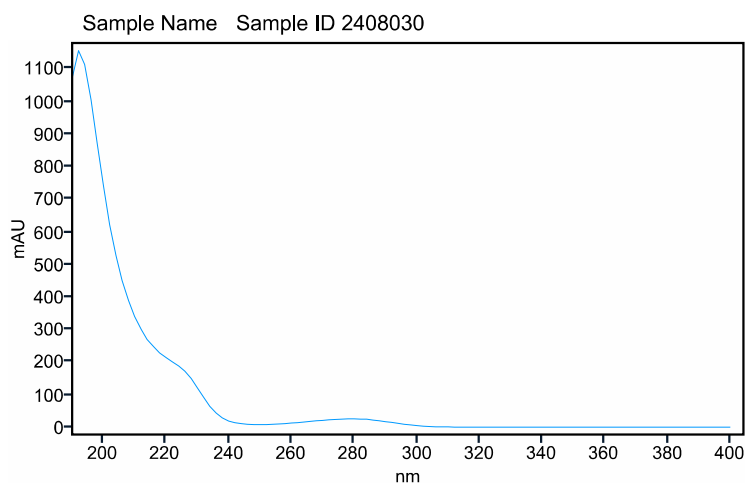
UV Match Spectra

RT:

2.223

Compound Name:

Tirzepatide



Compound Spectra Confirm Result Confirmed

Sample Potency and ID Report

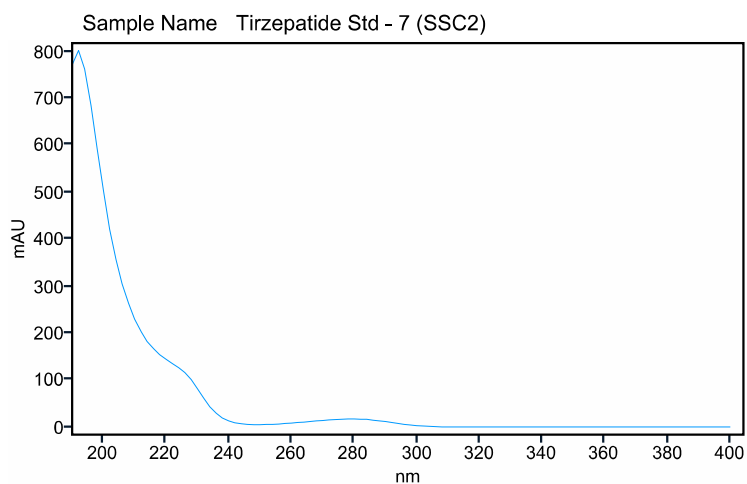
UV Match Spectra

RT:

2.224

Compound Name:

Tirzepatide

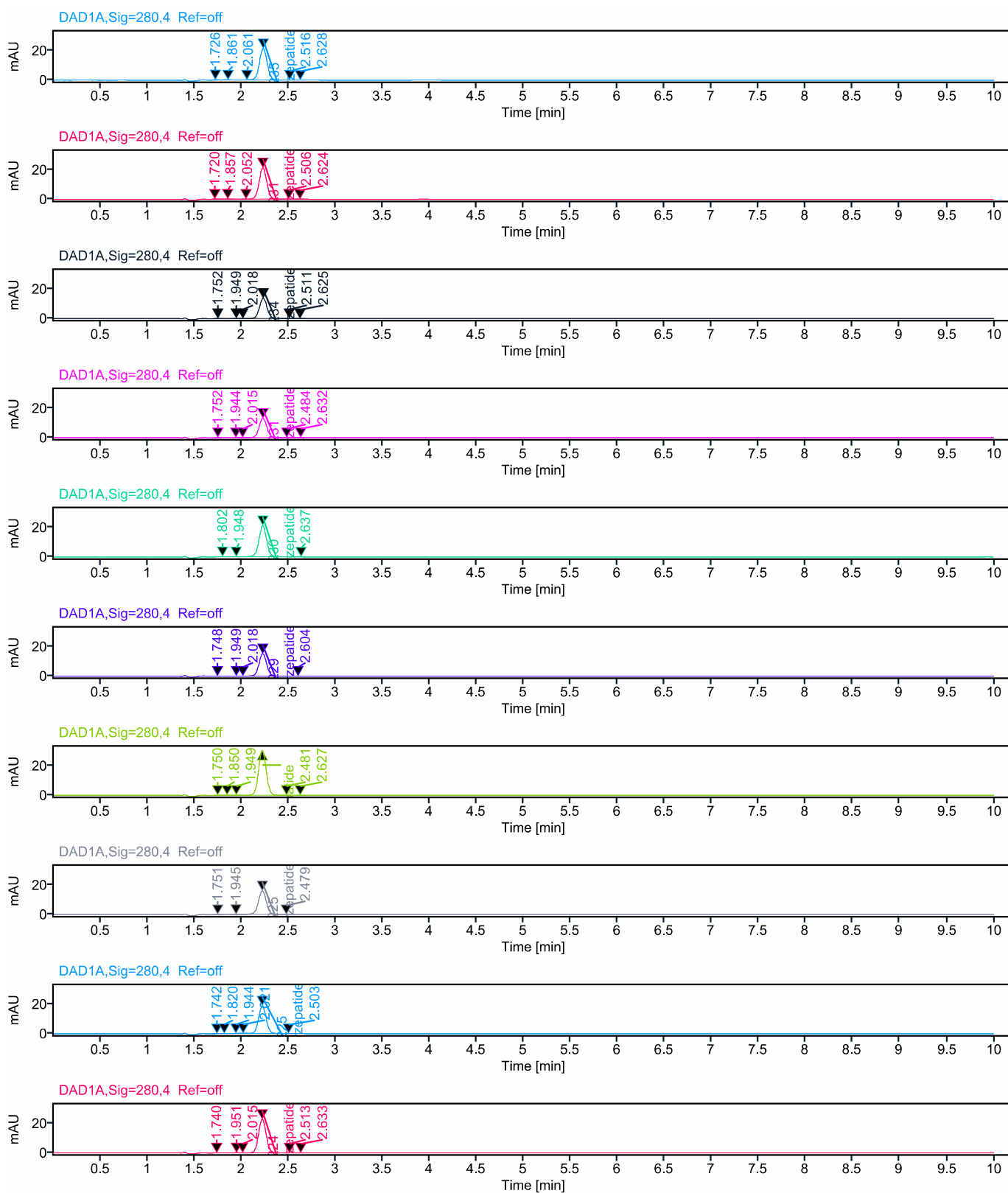


Compound Spectra Confirm Result Confirmed

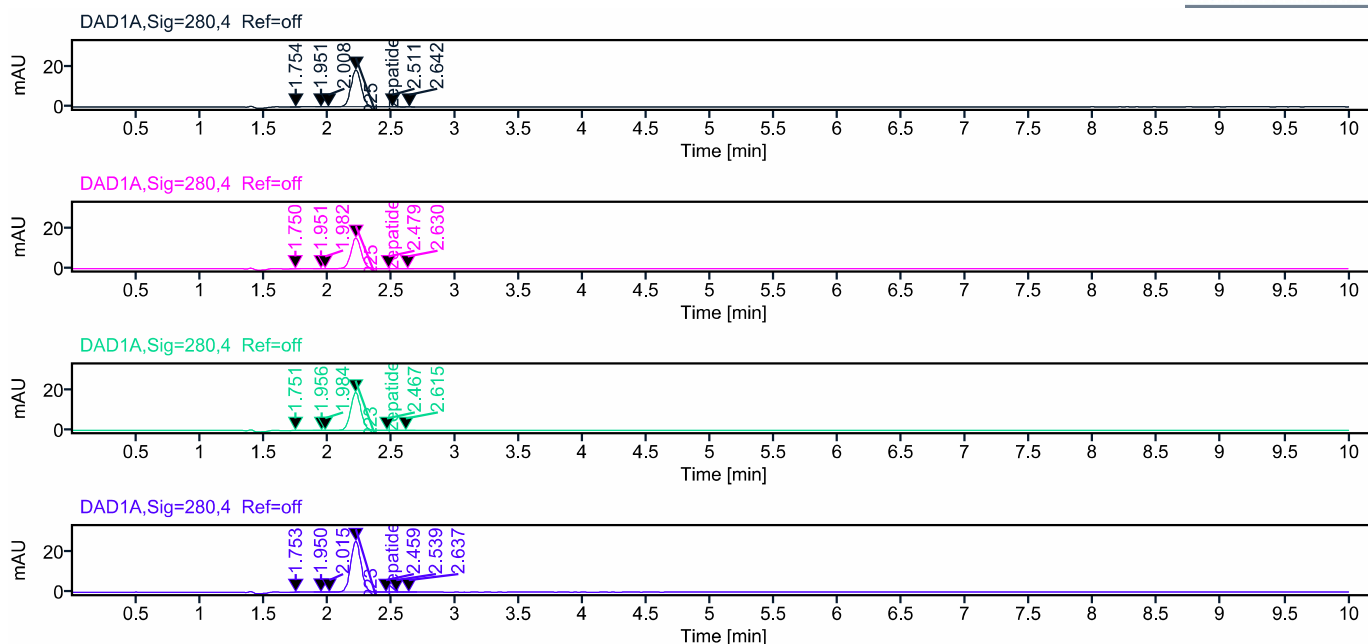
Sample Purity Report

Sequence Name 1001_aml_081624

Sequence Acquired Date 2024-08-16 18:28:55-04:00



Sample Purity Report



| Sample Name | Name | RT | Area | Peak Area Percent |
|-----------------------|-------------|-------|---------|-------------------|
| Sample ID 2408032 - 1 | | 1.726 | 0.624 | 0.511 |
| Sample ID 2408032 - 1 | | 1.861 | 0.303 | 0.248 |
| Sample ID 2408032 - 1 | | 2.061 | 0.200 | 0.163 |
| Sample ID 2408032 - 1 | Tirzepatide | 2.235 | 121.010 | 99.001 |
| Sample ID 2408032 - 1 | | 2.516 | 0.047 | 0.039 |
| Sample ID 2408032 - 1 | | 2.628 | 0.048 | 0.039 |
| Sample ID 2408032 - 2 | | 1.720 | 0.580 | 0.480 |
| Sample ID 2408032 - 2 | | 1.857 | 0.291 | 0.241 |
| Sample ID 2408032 - 2 | | 2.052 | 0.225 | 0.186 |
| Sample ID 2408032 - 2 | Tirzepatide | 2.231 | 119.562 | 98.953 |
| Sample ID 2408032 - 2 | | 2.506 | 0.134 | 0.111 |
| Sample ID 2408032 - 2 | | 2.624 | 0.035 | 0.029 |
| Sample ID 2408033 - 1 | | 1.752 | 0.090 | 0.117 |
| Sample ID 2408033 - 1 | | 1.949 | 0.047 | 0.061 |
| Sample ID 2408033 - 1 | | 2.018 | 0.031 | 0.041 |
| Sample ID 2408033 - 1 | Tirzepatide | 2.234 | 76.793 | 99.574 |
| Sample ID 2408033 - 1 | | 2.511 | 0.097 | 0.126 |
| Sample ID 2408033 - 1 | | 2.625 | 0.062 | 0.080 |

Sample Purity Report

| Sample Name | Name | RT | Area | Peak Area Percent |
|-----------------------|-------------|-------|---------|-------------------|
| Sample ID 2408033 - 2 | | 1.752 | 0.117 | 0.158 |
| Sample ID 2408033 - 2 | | 1.944 | 0.020 | 0.027 |
| Sample ID 2408033 - 2 | | 2.015 | 0.018 | 0.025 |
| Sample ID 2408033 - 2 | Tirzepatide | 2.231 | 73.695 | 99.671 |
| Sample ID 2408033 - 2 | | 2.484 | 0.054 | 0.073 |
| Sample ID 2408033 - 2 | | 2.632 | 0.034 | 0.046 |
| Sample ID 2408035 | | 1.802 | 0.345 | 0.282 |
| Sample ID 2408035 | | 1.948 | 0.117 | 0.096 |
| Sample ID 2408035 | Tirzepatide | 2.230 | 121.785 | 99.575 |
| Sample ID 2408035 | | 2.637 | 0.058 | 0.048 |
| Sample ID 2408037 | | 1.748 | 0.095 | 0.111 |
| Sample ID 2408037 | | 1.949 | 0.104 | 0.122 |
| Sample ID 2408037 | | 2.018 | 0.075 | 0.087 |
| Sample ID 2408037 | Tirzepatide | 2.229 | 85.154 | 99.552 |
| Sample ID 2408037 | | 2.604 | 0.109 | 0.128 |
| Sample ID 2408038 | | 1.750 | 0.108 | 0.063 |
| Sample ID 2408038 | | 1.850 | 0.177 | 0.104 |
| Sample ID 2408038 | | 1.949 | 0.106 | 0.062 |
| Sample ID 2408038 | Tirzepatide | 2.225 | 169.925 | 99.713 |
| Sample ID 2408038 | | 2.481 | 0.031 | 0.018 |
| Sample ID 2408038 | | 2.627 | 0.068 | 0.040 |
| Sample ID 2408039 | | 1.751 | 0.163 | 0.176 |
| Sample ID 2408039 | | 1.945 | 0.091 | 0.098 |
| Sample ID 2408039 | Tirzepatide | 2.225 | 92.331 | 99.661 |
| Sample ID 2408039 | | 2.479 | 0.060 | 0.065 |
| Sample ID 2408040 | | 1.742 | 0.136 | 0.128 |
| Sample ID 2408040 | | 1.820 | 0.224 | 0.212 |
| Sample ID 2408040 | | 1.944 | 0.270 | 0.256 |
| Sample ID 2408040 | | 2.021 | 0.488 | 0.462 |
| Sample ID 2408040 | Tirzepatide | 2.225 | 104.320 | 98.802 |
| Sample ID 2408040 | | 2.503 | 0.147 | 0.139 |
| Sample ID 2408041 | | 1.740 | 0.112 | 0.088 |
| Sample ID 2408041 | | 1.951 | 0.106 | 0.083 |
| Sample ID 2408041 | | 2.015 | 0.060 | 0.047 |

Sample Purity Report

| Sample Name | Name | RT | Area | Peak Area Percent |
|-------------------|-------------|-------|---------|-------------------|
| Sample ID 2408041 | Tirzepatide | 2.224 | 126.929 | 99.575 |
| Sample ID 2408041 | | 2.513 | 0.163 | 0.128 |
| Sample ID 2408041 | | 2.633 | 0.101 | 0.080 |
| Sample ID 2408047 | | 1.754 | 0.126 | 0.122 |
| Sample ID 2408047 | | 1.951 | 0.119 | 0.116 |
| Sample ID 2408047 | | 2.008 | 0.073 | 0.071 |
| Sample ID 2408047 | | 2.225 | 102.293 | 99.589 |
| Sample ID 2408047 | Tirzepatide | 2.511 | 0.057 | 0.056 |
| Sample ID 2408047 | | 2.642 | 0.047 | 0.046 |
| Sample ID 2408049 | | 1.750 | 0.141 | 0.164 |
| Sample ID 2408049 | | 1.951 | 0.172 | 0.200 |
| Sample ID 2408049 | | 1.982 | 0.086 | 0.100 |
| Sample ID 2408049 | | 2.225 | 85.558 | 99.438 |
| Sample ID 2408049 | | 2.479 | 0.043 | 0.050 |
| Sample ID 2408049 | Tirzepatide | 2.630 | 0.041 | 0.047 |
| Sample ID 2408052 | | 1.751 | 0.139 | 0.132 |
| Sample ID 2408052 | | 1.956 | 0.127 | 0.120 |
| Sample ID 2408052 | | 1.984 | 0.045 | 0.042 |
| Sample ID 2408052 | | 2.223 | 105.433 | 99.570 |
| Sample ID 2408052 | | 2.467 | 0.082 | 0.077 |
| Sample ID 2408052 | | 2.615 | 0.062 | 0.058 |
| Sample ID 2408030 | Tirzepatide | 1.753 | 0.102 | 0.071 |
| Sample ID 2408030 | | 1.950 | 0.201 | 0.141 |
| Sample ID 2408030 | | 2.015 | 0.069 | 0.048 |
| Sample ID 2408030 | | 2.223 | 142.411 | 99.669 |
| Sample ID 2408030 | | 2.459 | 0.022 | 0.015 |
| Sample ID 2408030 | | 2.539 | 0.019 | 0.013 |
| Sample ID 2408030 | | 2.637 | 0.061 | 0.043 |