



CERTIFICATE ID PV-CCC8E8-WCMT	ISSUE DATE 17/06/2026	BATCH/LOT N/A	CUSTOMER Alph4 Labs ltd
SAMPLE DESCRIPTION Retatrutide	EXPECTED MW 4731.4 Da	ANALYSIS DATE 15/06/2026 13:48	INSTRUMENT LCMS Line 1

LAB OBSERVATIONS & VERIFICATION

MS / Identity: As Expected

VERIFICATION SUMMARY

Purity (HPLC)

98.7%

Area% × PPI

Mass Spectrometry

Expected MW: 4731.4 Da

Detected MW: 4730.3 Da ✓

MW calculated from m/z 1183.6 [M+4H]⁴⁺

ANALYTICAL RESULTS

VERIFIED PURITY

98.7%

HPLC Analysis - 3 Peaks

PEAK PURITY (PPI)

98.7%

Spectral homogeneity of main peak

MAIN PEAK AREA

98.7%

Main peak vs total integrated area

MAIN PEAK

#1 @ 9.941 min

TOTAL PEAKS

3

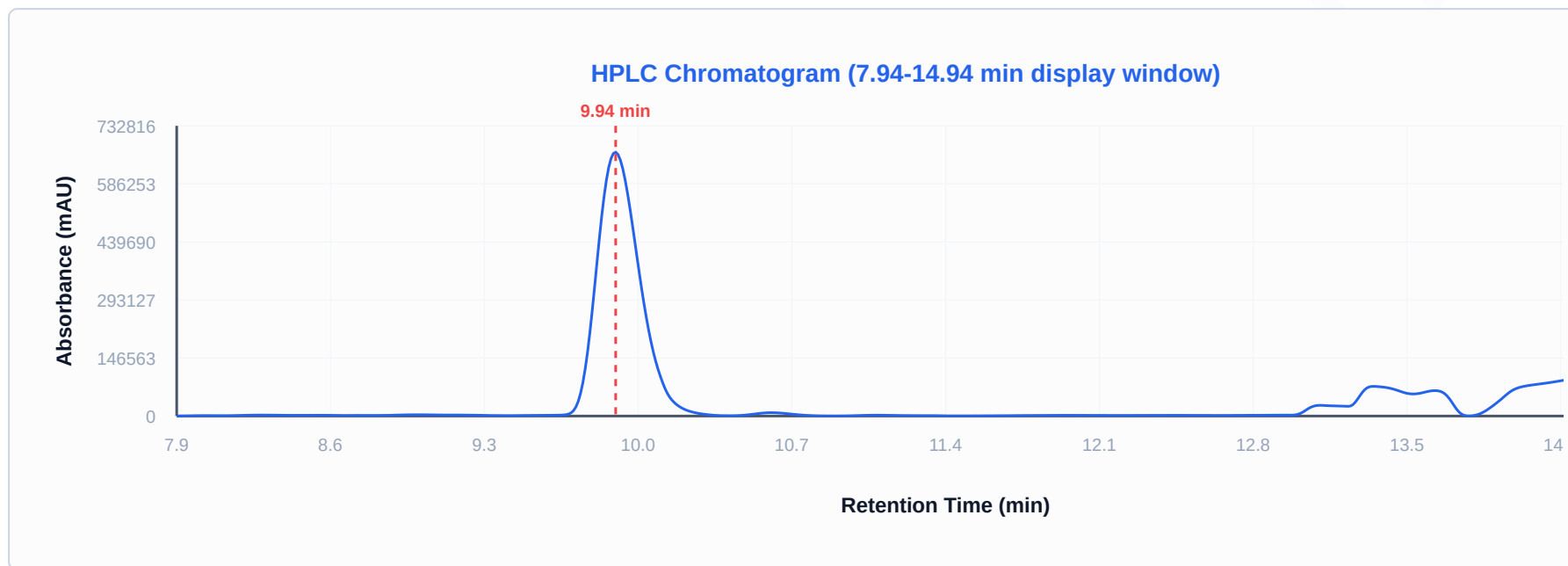
MS VERIFICATION

✓ Confirmed

DETECTION

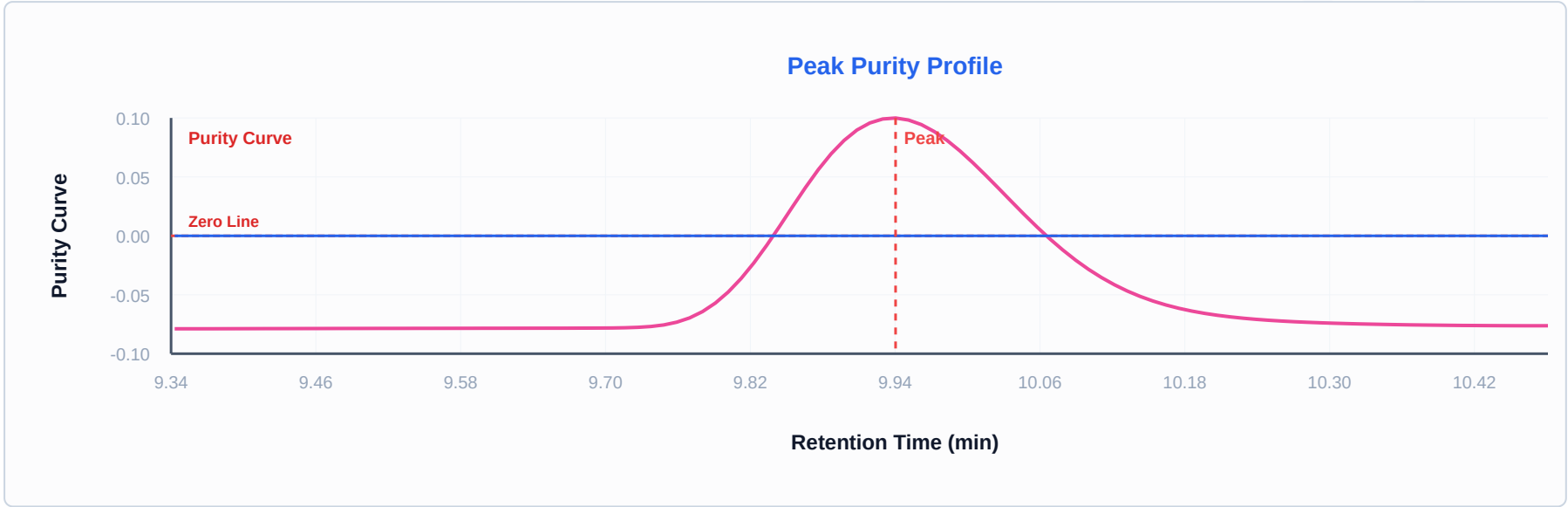
215 nm (± 4)

HPLC CHROMATOGRAM



Detection: 215 nm (± 4 nm)

PEAK PURITY PROFILE



PEAK INTEGRATION DATA

PEAK #	RETENTION (MIN)	AREA	HEIGHT	AREA %	WIDTH (MIN)	RESOLUTION (RS)	TAILING	PLATES (N)
1	9.941	8,909,071	N/A	98.70%	—	—	1.30	12,276
2	10.645	90,249	N/A	1.00%	—	2.08	1.23	17,921
3	11.115	20,405	N/A	0.23%	—	1.47	1.25	19,365

Resolution color-coded: Green ($Rs \geq 2.0$ or N/A for single peak), Yellow ($Rs \geq 1.0$), Red ($Rs < 1.0$). Values calculated from instrument data or derived from peak widths (USP <621>).

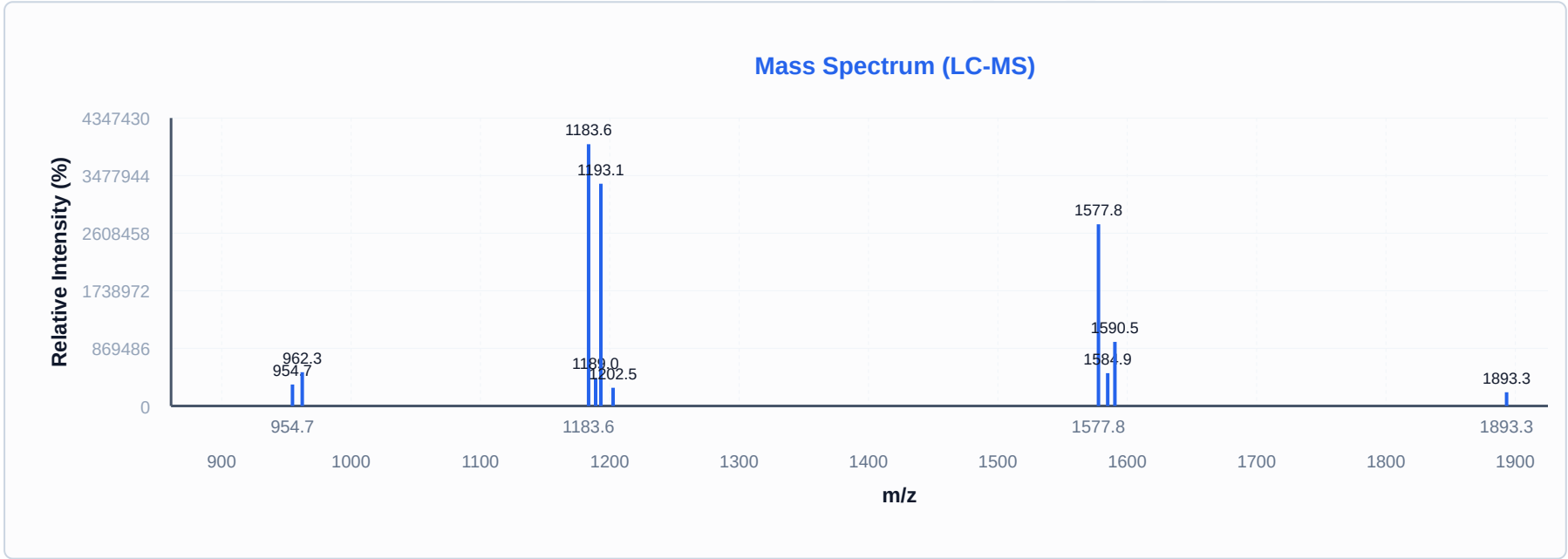
About minor peaks: Minor peaks are common in synthetic peptides and typically represent synthesis-related by-products such as incomplete sequences or minor structural variants. They are accounted for in the purity calculation. HPLC-UV measures their quantity but does not identify them — specific identification would require additional mass spectrometry analysis.

MASS SPECTROMETRY ANALYSIS — BLEND COMPONENTS (ESI+)

Individual LC-MS identity confirmation for each peptide component in this blend.

Component 1

EXPECTED MW —	BASE PEAK m/z 1183.60	
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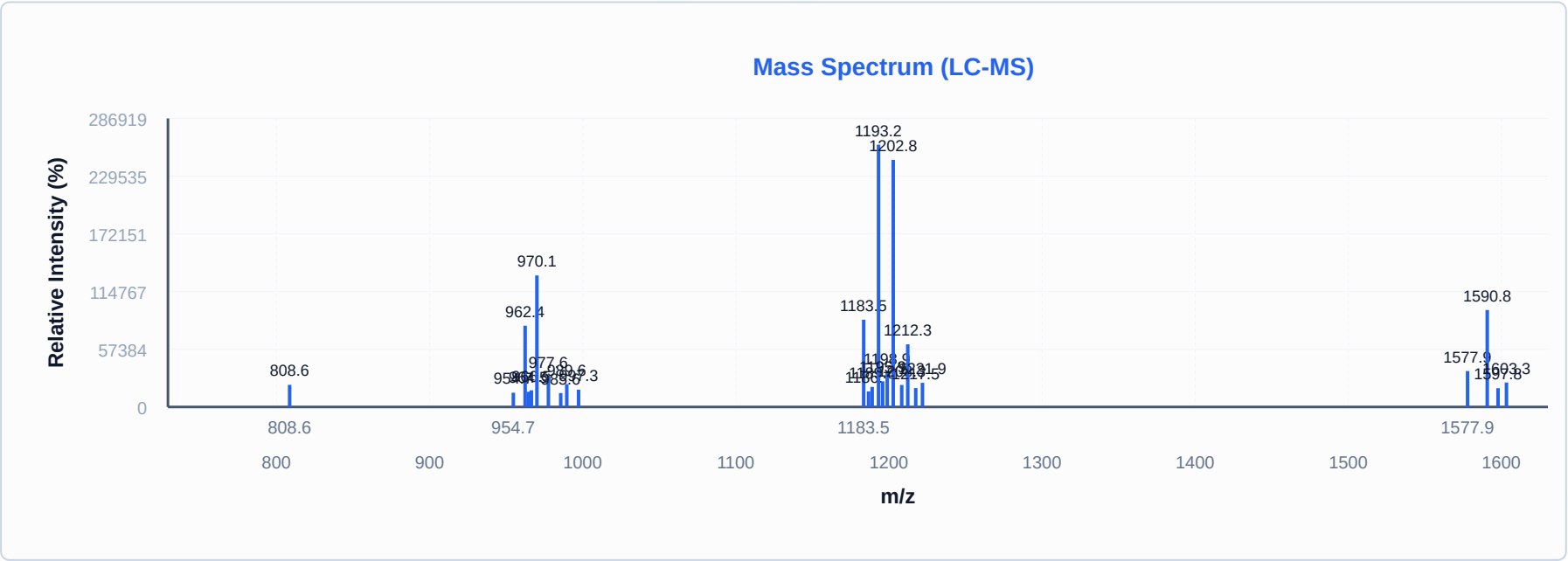


DETECTED M/Z	ASSIGNMENT	INTENSITY	RELATIVE %
1183.60	—	3,952,209	100.0%
1193.10	—	3,355,318	84.9%
1577.75	—	2,743,073	69.4%
1590.45	—	967,549	24.5%

DETECTED M/Z	ASSIGNMENT	INTENSITY	RELATIVE %
962.25	—	509,668	12.9%
1584.90	—	495,327	12.5%
1189.05	—	421,637	10.7%
954.70	—	323,973	8.2%
1202.55	—	274,696	7.0%
1893.25	—	206,966	5.2%

Component 2

EXPECTED MW	BASE PEAK
—	m/z 1193.20

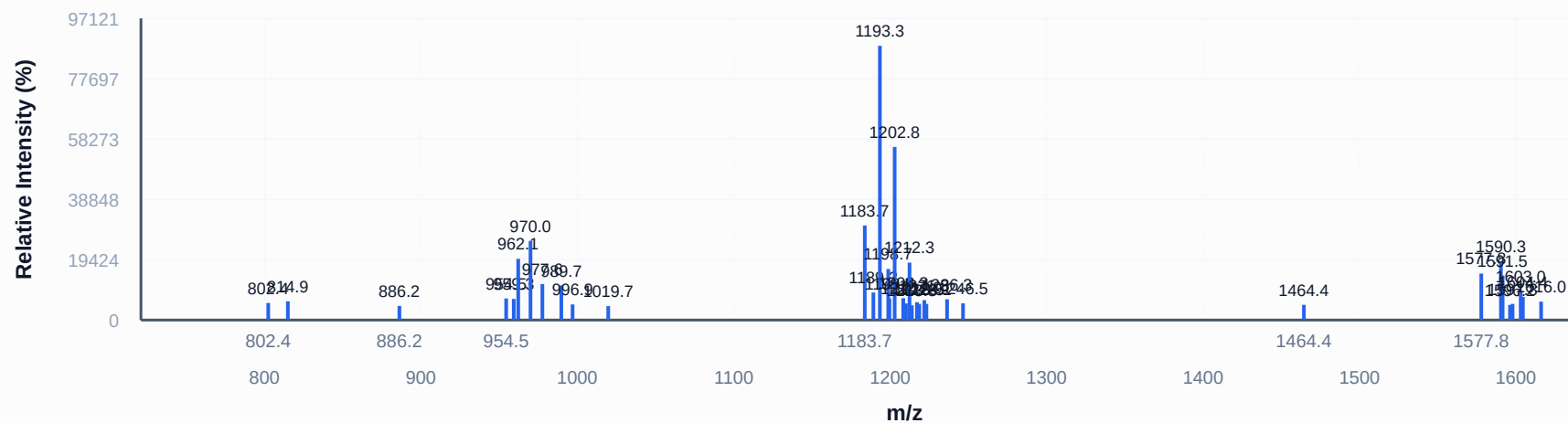


DETECTED M/Z	ASSIGNMENT	INTENSITY	RELATIVE %
1193.20	—	260,835	100.0%
1202.80	—	245,724	94.2%
970.10	—	130,758	50.1%
1590.75	—	96,404	37.0%
1183.50	—	86,741	33.3%
962.40	—	80,819	31.0%
1212.30	—	62,289	23.9%
1577.90	—	35,740	13.7%
1198.90	—	33,676	12.9%
977.60	—	30,246	11.6%

Component 3

EXPECTED MW —	BASE PEAK m/z 1193.35	
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Mass Spectrum (LC-MS)



DETECTED M/Z	ASSIGNMENT	INTENSITY	RELATIVE %
1193.35	—	88,292	100.0%
1202.80	—	55,736	63.1%
1183.70	—	30,446	34.5%
970.00	—	25,478	28.9%
962.15	—	19,699	22.3%
1590.35	—	18,785	21.3%
1212.30	—	18,483	20.9%
1198.70	—	16,428	18.6%
1577.80	—	14,962	16.9%
1591.45	—	14,345	16.2%

METHOD INFORMATION

Instrument	LCMS Line 1
Verification	PeptideVerify Independent Verification
Method	HPLC-MS
Detection	215 nm (± 4 nm)
MS Ionization	Electrospray (ESI+)

ANALYST NOTES

Lab Observations: Form: Lyophilized powder Color: White Condition: As expected - no issues

Purity Calculation Method: Purity is reported according to our validated laboratory method. For **single-peak samples**, purity equals the Peak Purity Index $\times 100$ — a spectral-homogeneity measure that detects co-eluting species hidden beneath the main peak. For **multi-peak samples**, purity equals the chromatographic main-peak %purity (Area% of the total integrated UV signal) multiplied by the main peak's Peak Purity Index, giving an overall purity that accounts for both extraneous peaks and any spectral heterogeneity within the main peak. For **blends**, each component's purity is reported individually as its Peak Purity Index $\times 100$, with the ratio between components determined by their relative chromatographic area (Area%). This follows the Bio-Analysis Centre's validated method for multi-component samples.



CERTIFICATE VERIFICATION

INDEPENDENTLY VERIFIED

peptideverify.co.uk/verify/PV-CCC8E8-WCMT

Scan QR code or visit the URL above to verify this certificate's authenticity and view detailed analysis data.

IMPORTANT NOTE

Sample Composition reflects UV-detectable compounds only. Non-UV excipients (mannitol, sugars, salts) are not measured by this method.

PeptideVerify — Independent Third-Party Peptide Verification

Analysis performed under controlled laboratory conditions using validated analytical methods.

This certificate relates solely to the sample as received and tested. Issued for research and informational purposes only — not an endorsement for human or veterinary use.

Certificate ID: PV-CCC8E8-WCMT | Batch/Lot: N/A | Customer: Alph4 Labs Ltd | Generated: 17 Jun 2026, 21:20