# TEST REPORT

JANOSHIK

E-mail: info@janoshik.com
Web: www.janoshik.com

Task Number #237156

Testing ordered > 22 SEP '26

Sample received > 06 OCT '26

Client SPEPS/group

Sample MOTS-c 10mg

Manufacturer SPEPS/group

Batch

Sample description >

See picture or pictures attached.

Tests requested >

MOTS-c analysis

Results >

| | |
|---|---|
| MOTS-C | 10.93 mg |
| Purity | 98.339% |
| | |

Comments>

Analysis conducted > 08 OCT 2026

Signature>



# TEST REPORT

JANOSHIK

E-mail: info@janoshik.com
Web: www.janoshik.com

Task Number #237158

Testing ordered > 22 SEP '26

Sample received > 06 OCT '26

Client SPEPS/group

Sample MOTS-c 10mg

Manufacturer SPEPS/group

Batch

## Sample description >

See picture or pictures attached.

## Tests requested >

LCMS Screening For Peptide Contamination

## Results >

| | |
|---|---|
| LCMS screening | |
| | |
| | |

## Comments>

LCMS analysis identified the presence of mannitol and MOTS-C. LCMS spectra are attached. No significant contamination detected.

Analysis conducted > 07 OCT 2026

Signature>



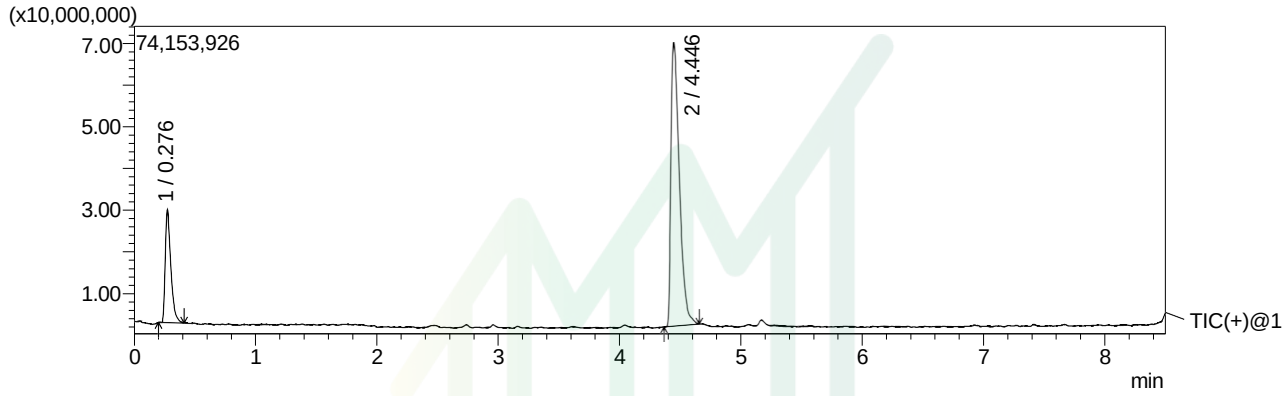
SHIMADZU
LabSolutions

# Analysis Report

## <Sample Information>

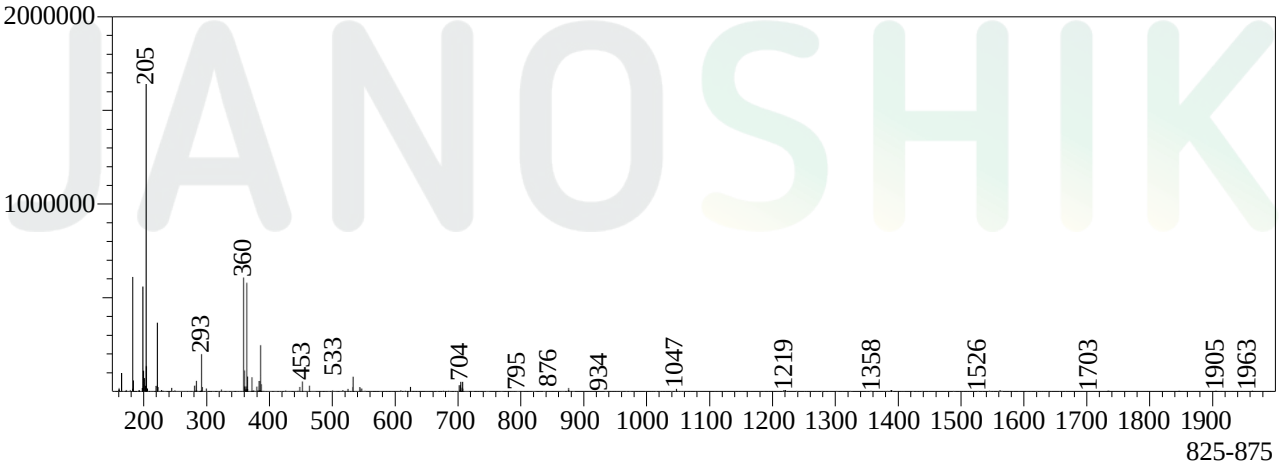
Sample Name : 31995-1 MOTS-c 10mg+LCMS scr.
+HM Sample ID 002
Data Filename : 31995-1 MOTS-c 10mg+LCMS scr.+HM_002_LCMS screening_002.lcd Method Filename : LCMS screening.lcm
Batch Filename : 20261006-8+shutdown.lcb
Vial # : 3-1 Sample Type : Unknown
Injection Volume : 0.1 uL
Date Acquired : 06/10/2026 15:09:33 Acquired by : System
Administrator Date Processed : 06/10/2026 15:18:04 Processed by :
System Administrator

## <Chromatogram>

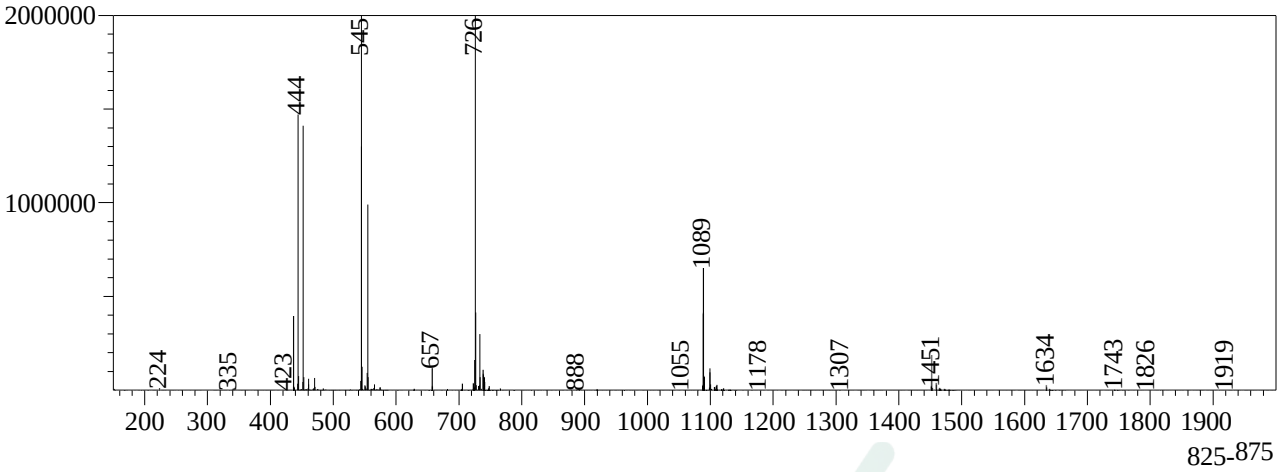



MS Spectrum

Peak#:1 R.Time:0.276(Scan#:111)
MassPeaks:749
Spectrum Mode:Averaged 0.203-0.413(82-166) BG Mode:Calc Segment 1 - Event 1



Peak#:2 R.Time:4.446(Scan#:1780)
MassPeaks:1291
Spectrum Mode:Averaged 4.365-4.658(1747-1864)
BG Mode:Calc Segment 1 - Event 1



# LC-MS Screening Summary

**MOTS-c-related sample | Sample 31995-1**

*Client-facing analytical summary*

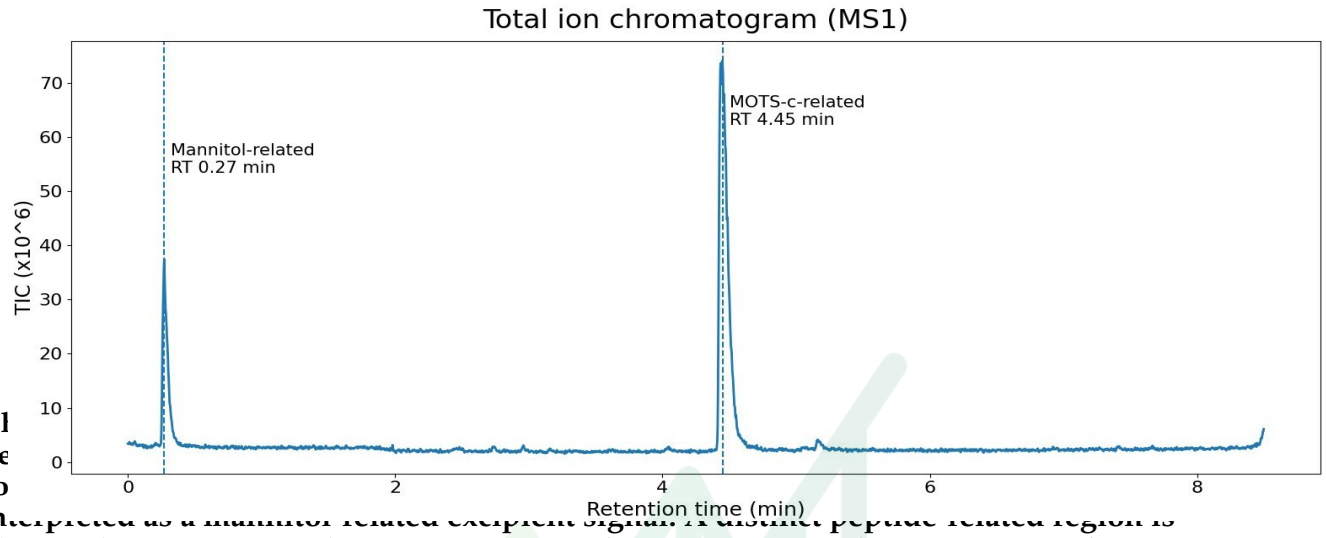
## Summary

LC-MS screening detected a dominant peptide-related chromatographic feature at approximately 4.41-4.56 min, with the strongest region near 4.45 min. The corresponding mass spectrum shows a coherent multiply charged ion pattern consistent with MOTS-c-related peptide material. Prominent co-eluting ions occur near m/z 435.8, 544.6, 725.85 and 1088.6. An early chromatographic feature at approximately 0.27 min contains an ion near m/z 204.75, consistent with a mannitol-related excipient signal. The screening result is qualitative and should not be considered a quantitative purity determination.

| Parameter | Observation |
|---|---|
| **Analysis** | LC-MS screening, positive-ion MS1 |
| **Sample** | 31995-1 MOTS-c 10 mg |
| **Main peptide-related region** | Approx. RT 4.41-4.56 min |
| **Representative spectrum** | RT 4.450 min |
| **Prominent ions** | Approx. m/z 435.8, 544.55-544.60, 725.85-725.90, 1088.55-1088.65; additional neighboring/adduct-related signals present |
| **Reference comparison** | MOTS-c molecular mass approx. 2174.6 Da; expected [M+4H]4+ approx. m/z 544.65, [M+3H]3+ approx. m/z 725.88, and [M+2H]2+ approx. m/z 1088.32 |
| **Overall assessment** | MOTS-c-related peptide material detected; qualitative screening only |

## Chromatographic profile

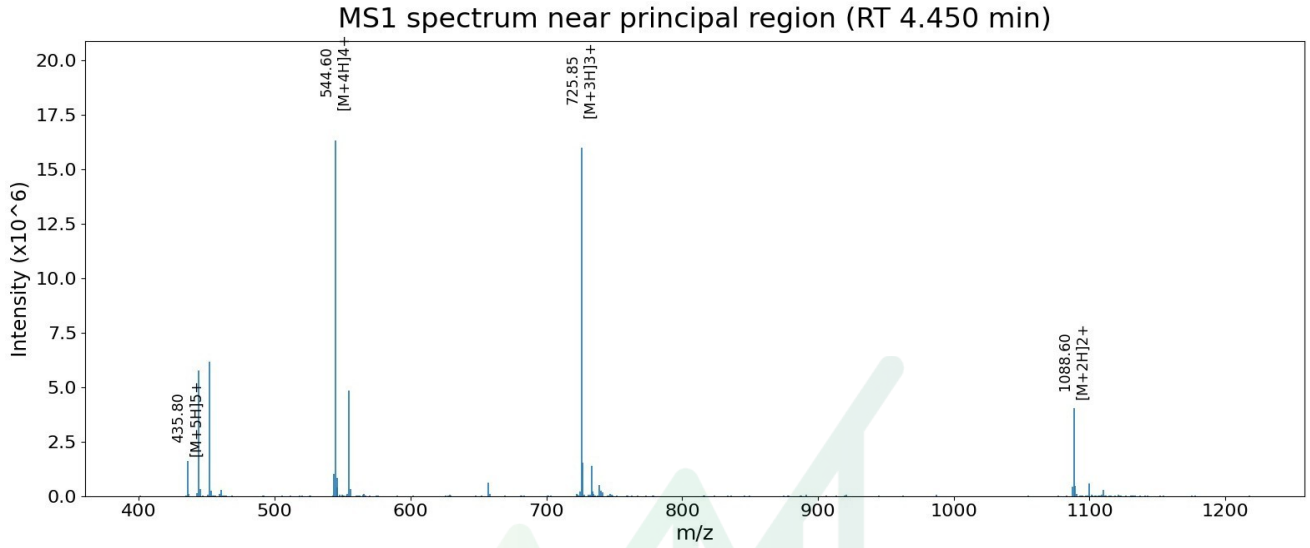
*Figure 1. MS1 total ion chromatogram (TIC). The principal peptide-related region occurs around 4.41-4.56 min, with maximum signal near 4.45 min.*




**Cl**
**pe**
**so**
**in**
**observed at approximately 4.41-4.56 min, with maximum signal near 4.45 min; this region was selected for peptide MS spectral evaluation. The TIC is presented as a qualitative screening profile and, without a validated quantitative LC method and peak integration, should not be interpreted as a chromatographic purity determination.**

## Mass spectrum of the principal region

*Figure 2. Representative positive-ion MS1 spectrum at RT 4.450 min. The spectrum contains a coherent multiply charged ion pattern, with prominent co-eluting ions near m/z 435.8, 544.6, 725.85 and 1088.6, compatible with the expected charge-state region for MOTS-c.*




## Interpretation

- **The chromatographic feature and coherent multiply charged MS pattern are consistent with peptide material and include signals in the expected charge-state region for MOTS-c.**
- **Prominent co-eluting ions near m/z 435.8, 544.6, 725.85 and 1088.6 are compatible with multiply charged MOTS-c-related species for a molecular mass of approximately 2174.6 Da. Neighboring signals may represent isotope, adduct and/or related peptide species.**
- **Accordingly, the result supports the presence of MOTS-c-related material but should not be used by itself as definitive confirmation of intact molecular identity or quantitative purity.**

- Mannitol: the first chromatographic peak at approximately RT 0.27 min contains a prominent ion at m/z ~204.75, consistent with the sodium adduct of mannitol, [M+Na]+ (theoretical m/z approximately 205.07). This feature is interpreted separately from the MOTS-c-related peptide ion envelope and is reported qualitatively; no quantitative mannitol determination was performed.

## Conclusion

**LC-MS screening result: MOTS-c-related peptide material detected. The observed co-eluting charge-state pattern is compatible with MOTS-c-related material. Definitive intact-mass identity and quantitative purity confirmation would require a suitable higher-resolution/deconvoluted LC-MS method and, where applicable, orthogonal purity testing.**

### Analytical note

The observations are qualitative and intended for screening/characterization; they are not a quantitative assay or certificate of purity.

# TEST REPORT

JANOSHIK

E-mail: info@janoshik.com
Web: www.janoshik.com

Task Number #237157

Testing ordered > 22 SEP '26

Sample received > 06 OCT '26

Client SPEPS/group

Sample MOTS-c 10mg

Manufacturer SPEPS/group

Batch

Sample description >

See picture or pictures attached.

Tests requested >

Endotoxin Analysis

Results >

| | |
|---|---|
| Endotoxin | <1 EU/Vial. |
| | |
| | |

Comments>

Analysis conducted > 09 OCT 2026

Signature>



# TEST REPORT

JANOSHIK

E-mail: info@janoshik.com
Web: www.janoshik.com

Task Number #237159

Testing ordered > 22 SEP '26

Sample received > 06 OCT '26

Client SPEPS/group

Sample MOTS-c 10mg

Manufacturer SPEPS/group

Batch

Sample description >

See picture or pictures attached.

Tests requested >

Heavy Metals Analysis

Results >

| | |
|---|---|
| As | not detected. |
| Cd | not detected. |
| Pb | not detected. |

Comments>

Hg: not detected.

Analysis conducted > 07 OCT 2026

Signature>

# TEST REPORT

JANOSHIK

E-mail: info@janoshik.com
Web: www.janoshik.com

Task Number #237160

Testing ordered > 22 SEP '26

Sample received > 06 OCT '26

Client SPEPS/group

Sample MOTS-c 40mg

Manufacturer SPEPS/group

Batch

Sample description >

See picture or pictures attached.

Tests requested >

MOTS-c analysis

Results >

| | |
|---|---|
| MOTS-C | 42.15 mg |
| Purity | 99.048% |
| | |

Comments>

Analysis conducted > 08 OCT 2026

Signature>



# TEST REPORT

JANOSHIK

E-mail: info@janoshik.com
Web: www.janoshik.com

Task Number #237162

Testing ordered > 22 SEP '26

Sample received > 06 OCT '26

Client SPEPS/group

Sample MOTS-c 40mg

Manufacturer SPEPS/group

Batch

## Sample description >

See picture or pictures attached.

## Tests requested >

LCMS Screening For Peptide Contamination

## Results >

| | |
|---|---|
| LCMS screening | |
| | |
| | |

## Comments>

LCMS analysis identified the presence of mannitol and MOTS-C. LCMS spectra are attached. No significant contamination detected.

Analysis conducted > 08 OCT 2026

Signature>



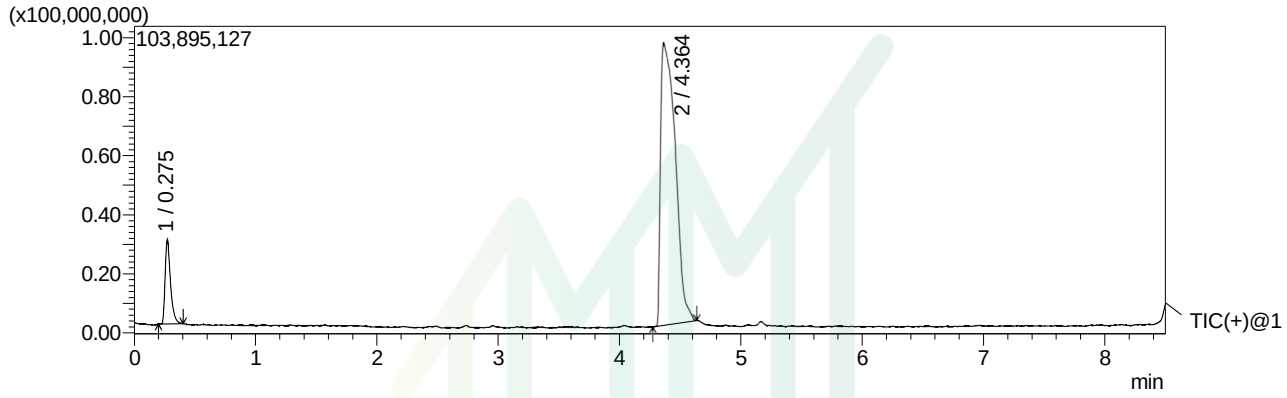
SHIMADZU
LabSolutions

# Analysis Report

## <Sample Information>

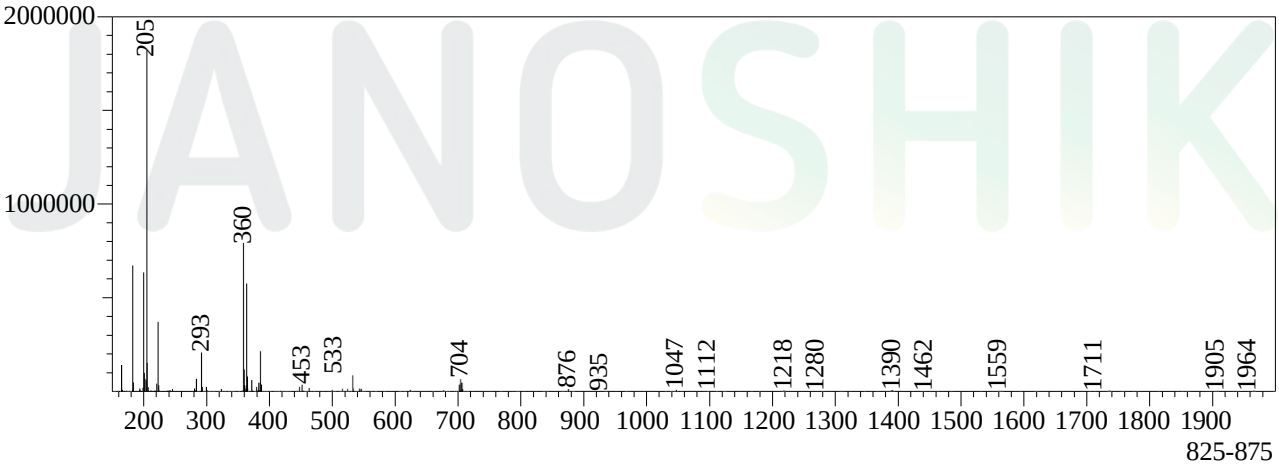
Sample Name : 31995-2 MOTS-c 40mg, LCMS scr.+HM Sample ID 004
Data Filename : 31995-2 MOTS-c 40mg, LCMS scr.+HM_004_LCMS screening_004.lcd Method Filename : LCMS screening.lcm
Batch Filename : 20261006-8+shutdown.lcb
Vial # : 3-2 Sample Type : Unknown
Injection Volume : 0.1 uL
Date Acquired : 06/10/2026 15:30:49 Acquired by : System
Administrator Date Processed : 06/10/2026 15:39:21 Processed by : System Administrator

## <Chromatogram>

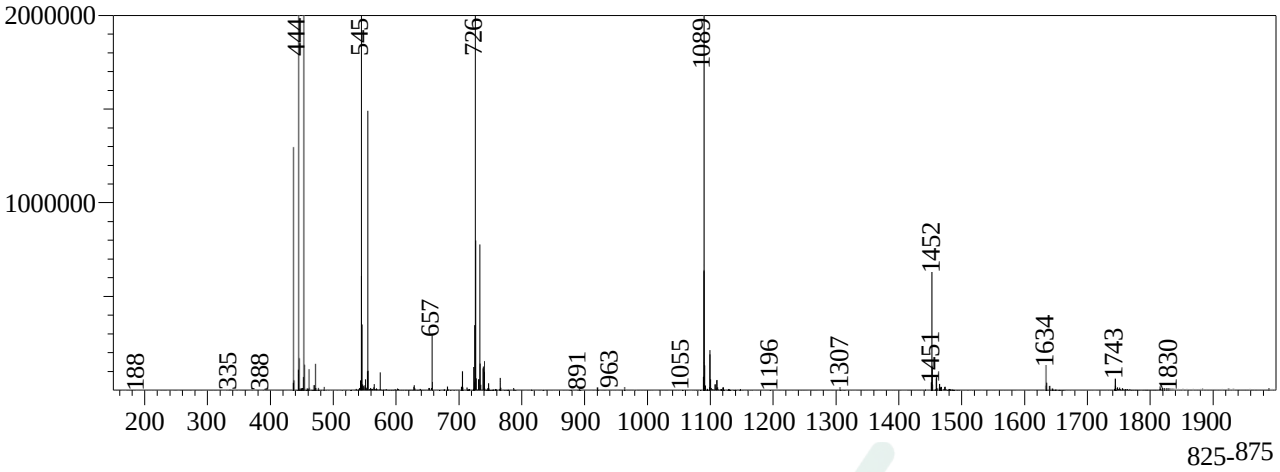



MS Spectrum

Peak#:1 R.Time:0.275(Scan#:111)
MassPeaks:709
Spectrum Mode:Averaged 0.203-0.405(82-163) BG Mode:Calc Segment 1 - Event 1



Peak#:2 R.Time:4.364(Scan#:1747)
MassPeaks:1465
Spectrum Mode:Averaged 4.275-4.635(1711-1855)
BG Mode:Calc Segment 1 - Event 1



# LC-MS Screening Summary

MOTS-C-related sample | Sample 31995-2

Client-facing analytical summary

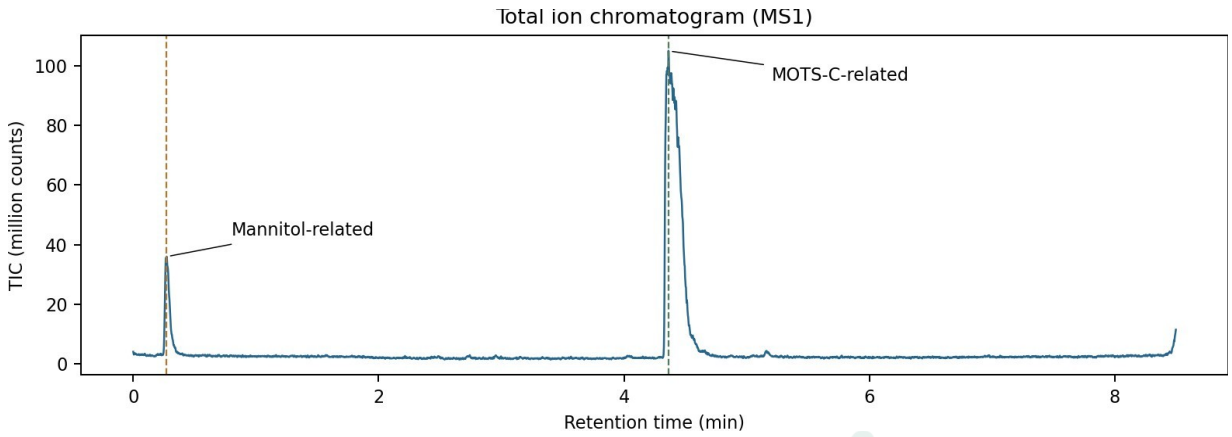
## Summary

LC-MS screening shows an early mannitol-related peak at approximately RT 0.273 min and a dominant peptide-related region near RT 4.36 min. The latter contains prominent multiply charged ions near m/z 1088.65, 725.90 and 544.60, consistent with the expected charge-state series of MOTS-C. This screening-level assignment is supported by the coherent ion pattern but is not a definitive sequence identification.

| Parameter | Observation |
|---|---|
| Analysis | LC-MS screening, positive-ion MS1 |
| Sample | 31995-2 MOTS-C 40 mg |
| Mannitol-related region | Approx. RT 0.273 min |
| Main peptide-related region | Approx. RT 4.36-4.44 min |
| Representative spectrum | RT 4.363 min |
| Prominent ions | m/z 1088.65 (2+), 725.90 (3+), 544.60 (4+); 435.75 (5+) |
| Reference comparison | MOTS-C theoretical monoisotopic mass approx. 2173.06 Da; expected [M+2H]2+ 1087.54, [M+3H]3+ 725.36, [M+4H]4+ 544.27 |
| Overall assessment | MOTS-C-related peptide material detected; provisional MS1 assignment |

## Chromatographic profile

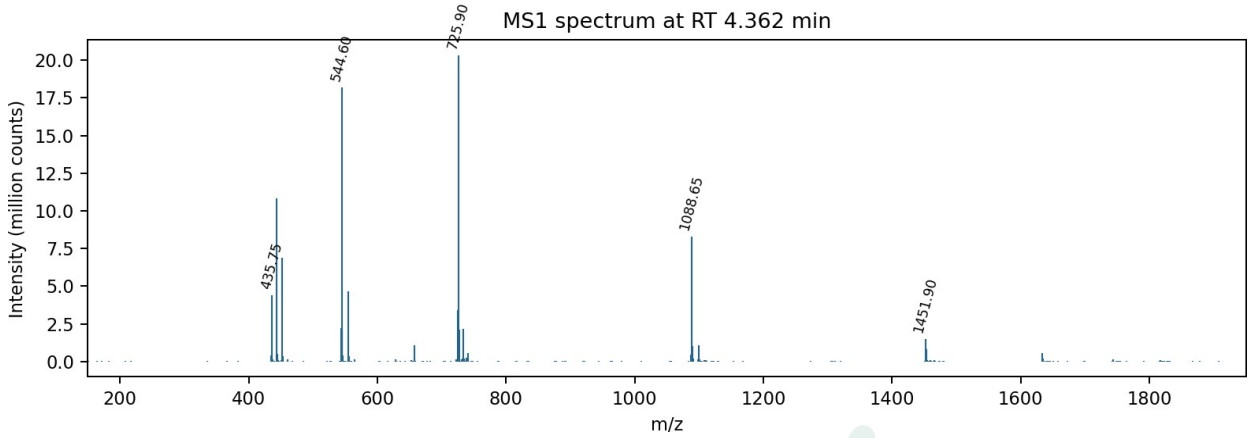
Figure 1. MS1 total ion chromatogram (TIC). The first peak is mannitol-related; the principal peptide region is near 4.36 min.




**Chromatographic comment.** The early peak at approximately RT 0.273 min contains m/z 204.75 and 182.75, compatible at nominal mass resolution with mannitol-related ions. A distinct dominant later region occurs around RT 4.36-4.44 min and is associated with a coherent peptide charge-state pattern. TIC intensity alone does not establish chromatographic purity.

## Mass spectrum of the principal region

Figure 2. Representative positive-ion MS1 spectrum at RT 4.363 min, showing the MOTS-C-related charge-state region.




## Interpretation

• The observed m/z 1088.65, 725.90, 544.60 and 435.75 form an approximately consistent 2+, 3+, 4+ and 5+ charge-state series, respectively, supporting a peptide with a neutral mass near 2175 Da.

• The observed ions lie near the expected MOTS-C mass region, but mass differences and the instrument resolution limit definitive intact-mass assignment. Adducts, calibration effects or related species cannot be resolved confidently by this screening spectrum alone.

• The early peak at RT 0.273 min is consistent with mannitol-related material, including m/z 204.75. This is a qualitative assignment, not a quantitative determination.

## Conclusion

LC-MS screening result: MOTS-C-related peptide material detected, with a prominent chromatographic feature near RT 4.36 min and a multiply charged ion pattern consistent with the expected mass region. Definitive intact-mass identity and quantitative purity confirmation would require a suitable higher-resolution/deconvoluted LC-MS method and, where applicable, orthogonal purity testing.

## Analytical note

The observations are qualitative and intended for screening/characterization; they are not a quantitative assay or certificate of purity.

# TEST REPORT

JANOSHIK

E-mail: info@janoshik.com
Web: www.janoshik.com

Task Number #237161

Testing ordered > 22 SEP '26

Sample received > 06 OCT '26

Client SPEPS/group

Sample MOTS-c 40mg

Manufacturer SPEPS/group

Batch

Sample description >

See picture or pictures attached.

Tests requested >

Endotoxin Analysis

Results >

| | |
|---|---|
| Endotoxin | <1 EU/Vial. |
| | |
| | |

Comments>

Analysis conducted > 09 OCT 2026

Signature>



# TEST REPORT

JANOSHIK

E-mail: info@janoshik.com
Web: www.janoshik.com

Task Number #237163

Testing ordered > 22 SEP '26

Sample received > 06 OCT '26

Client SPEPS/group

Sample MOTS-c 40mg

Manufacturer SPEPS/group

Batch

Sample description >

See picture or pictures attached.

Tests requested >

Heavy Metals Analysis

Results >

| | |
|---|---|
| As | not detected. |
| Cd | not detected. |
| Pb | not detected. |

Comments>

Hg: not detected.

Analysis conducted > 07 OCT 2026

Signature>

