

CERTIFICATE OF ANALYSIS
Pierce Triple Quadrupole Calibration Solution, Extended Mass Range
Product Number: 88340 Lot Number: 3212127
Expiration: March 11, 2026
Summary:

The Thermo Scientific™ Pierce™ Triple Quadrupole Calibration Solution, Extended Mass Range, is a ready-to-use liquid formulation for the calibration of all Thermo Scientific triple quadrupole mass spectrometers. The only additional materials needed are a 500µL Hamilton syringe and a liquid infusion line, both supplied with the instrument.

Visual:

Clear, colorless liquid

Components	Accurate Mass (m/z)	Specification (neat)	Results
*LC-MS grade acetonitrile (92% v/v)	--	Purity ≥ 99.9%	Pass
*LC-MS grade water (4% v/v)	--	LC-MS Grade	Pass
*LC-MS grade 2-propanol (4% v/v)	--	Purity ≥ 99.9%	Pass
LC-MS grade acetic acid	59.0139 ^{b(-)}	Purity ≥ 99.7%	Pass
Imidazole	69.0447 ^{a(+)}	Purity ≥ 99.0%	Pass
Triethylamine	102.1277 ^{a(+)}	Purity ≥ 99.5%	Pass
Trifluoroacetic acid (TFA)	112.9856 ^{b(-)}	Purity ≥ 99.5%	Pass
Tetramethylpiperidine	142.1590 ^{a(+)}	Purity ≥ 97.5%	Pass
1,8-Bis(dimethylamino) naphthalene	215.1543 ^{a(+)}	Purity ≥ 98.5%	Pass
2,4,6-Tris(trifluoromethyl)-1,3,5-triazine	301.9981 ^{c(-)}	Purity > 97.0%	Pass
Hexamethoxyphosphazene	322.0481 ^{a(+)}	Purity ≥ 99.0%	Pass
2,4,6-Tris(heptafluoropropyl)-1,3,5-triazine	601.9779 ^{c(-)}	Purity ≥ 95.0%	Pass
Hexakis(2,2-difluoroethoxy) phosphazene	622.0290 ^{a(+)}	Purity ≥ 97.0%	Pass
Hexakis(2,2,3,3-tetrafluoropropoxy) phosphazene	922.0098 ^{a(+)} 1033.9881 ^{d(-)}	Purity ≥ 95.0%	Pass
Hexakis(1h,1h,5h-octafluoropentoxy) phosphazene	1521.9715 ^{a(+)} 1633.9498 ^{d(-)}	Purity ≥ 95.0%	Pass
Hexakis(1h,1h,7h-perfluoroheptoxy) phosphazene	2121.9331 ^{a(+)} 2233.9115 ^{d(-)}	Purity ≥ 95.0%	Pass
Hexakis(1h,1h,9h-perfluorononyloxy) phosphazene	2721.8948 ^{a(+)} 2833.8731 ^{d(-)}	Purity ≥ 95.0%	Pass

^a[M+H]⁺
^b[M-H]⁻
^c[M+OH]⁺
^d[M+TFA]⁺

*Combined concentration of all other components listed is less than 1% w/v

Important Product Information:

- Allow the solution to warm to room temperature prior to use.
- For best results, use a dedicated syringe and infusion line. Before and after calibration, flush the syringe and infusion line with 1:1 water/acetonitrile solution to clean.
- Infuse the calibration solution for a minimum of 20 minutes with the instrument scanning before initiating the calibration routine.
- Approximately 500µL of solution are required for complete calibration in each ion polarity mode.

Storage:

Upon receipt store at 4 °C.

Compatible with these
Thermo Scientific™ Instruments:

TSQ Quantum™ Series[#]
 TSQ Discovery™ Series[#]
 TSQ Quantum Ultra™ Series[#]
 TSQ Quantum Access™ Series[#]
 TSQ Vantage™ Series[#]
 TSQ Endura™ Series
 TSQ Quantiva™ Series
 TSQ Fortis™ (Plus) Series
 TSQ Altis™ (Plus) Series
 TSQ Quantis™ (Plus) Series

[#] Use the list below of recommended masses for calibration of these instruments.

Positive mode: 69.0447, 142.1590, 322.0481, 622.0290, 922.0098
 Negative mode: 68.9947, 112.9856, 301.9981, 601.9779, 1033.9881

Additional information:

For MSDS please visit

www.thermoscientific.com/pierce

For calibration procedure use:

TSQ Series Getting Started Guide

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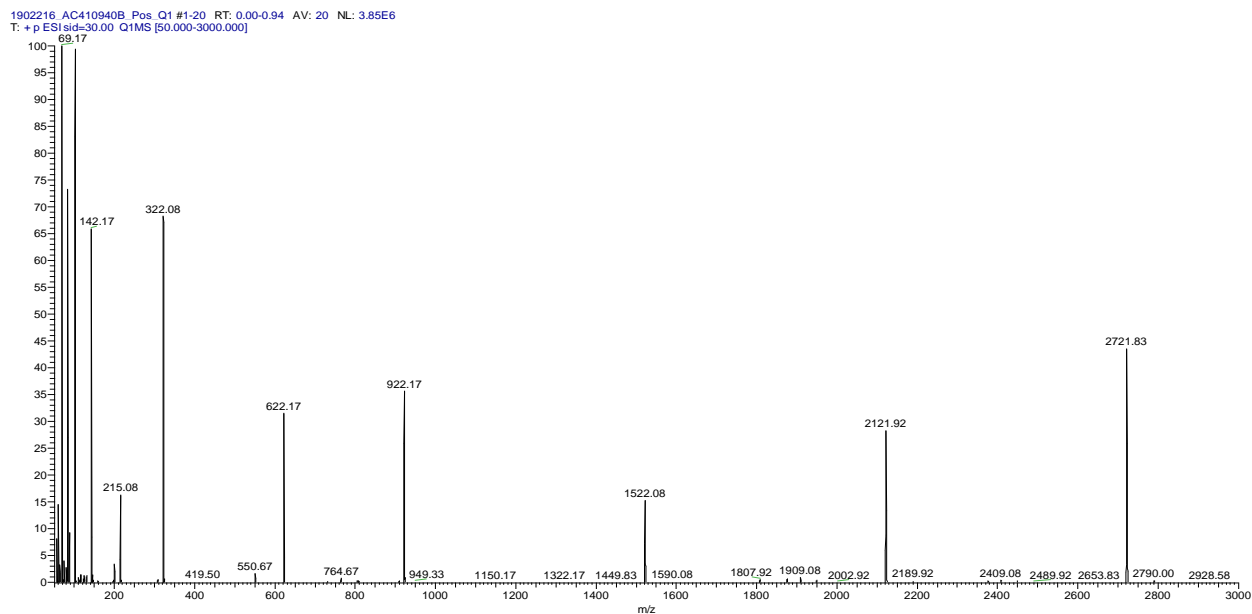
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CERTIFICATE OF ANALYSIS
Technical Support:

 For hardware related support call
 1-800-532-4752
 For reagent support call
 1-800-874-3723

Analysis	Specification	Results
Positive Mode Target Ions (m/z) 69, 102, 142, 215, 322, 622, 922, 1522, 2122, 2722	No ions present at +/- 10 m/z with relative intensity >20% of the target ion: 69, 102, 142, 215, 322, 622, 922, 1522, 2122, 2722	Pass
Negative Mode Target Ions (m/z) 69^a, 113, 302, 602, 1033, 1633, 2233, 2833	No ions present at +/- 10 m/z with relative intensity >20% of the target ion: 69, 113, 302, 602, 1034, 1634, 2234, 2834	Pass

^aAn in-source, fragmentation-product ion of trifluoroacetate

Positive Ion Mode, 50-3000 m/z


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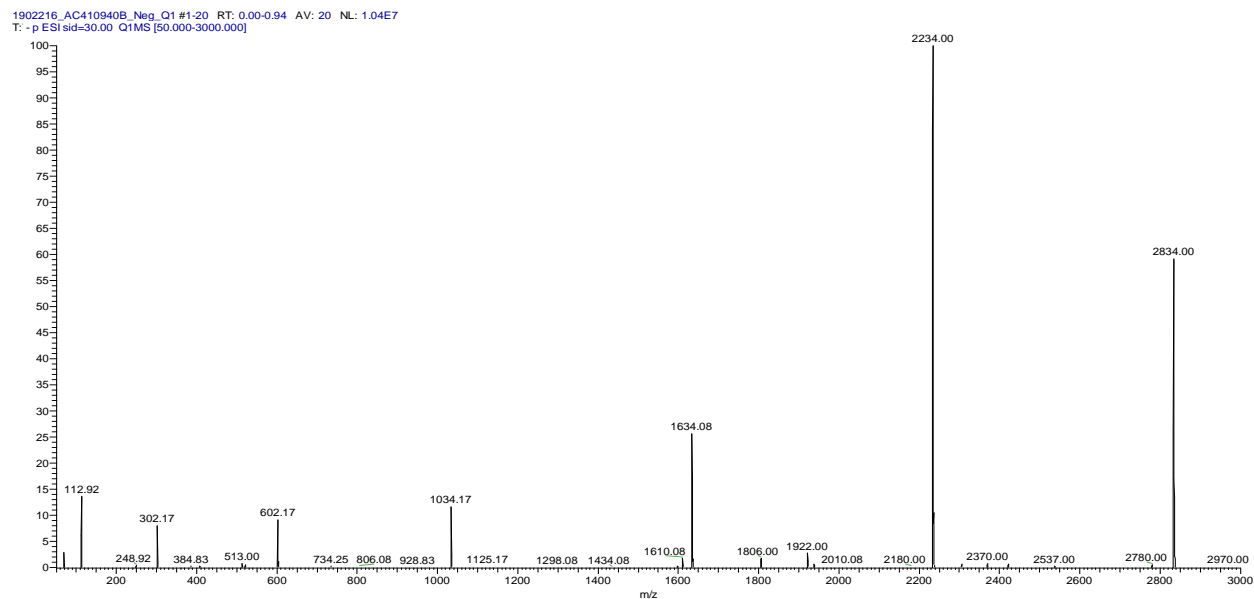
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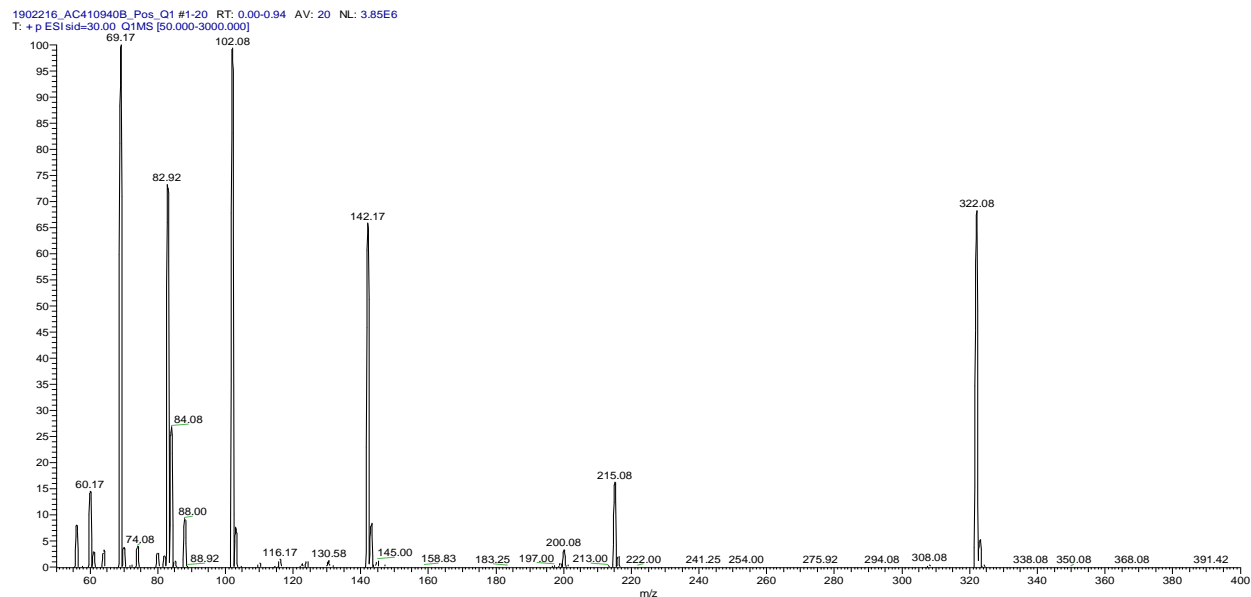
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Negative Ion Mode, 50-3000 m/z



Positive Ion Mode, 50-400 m/z



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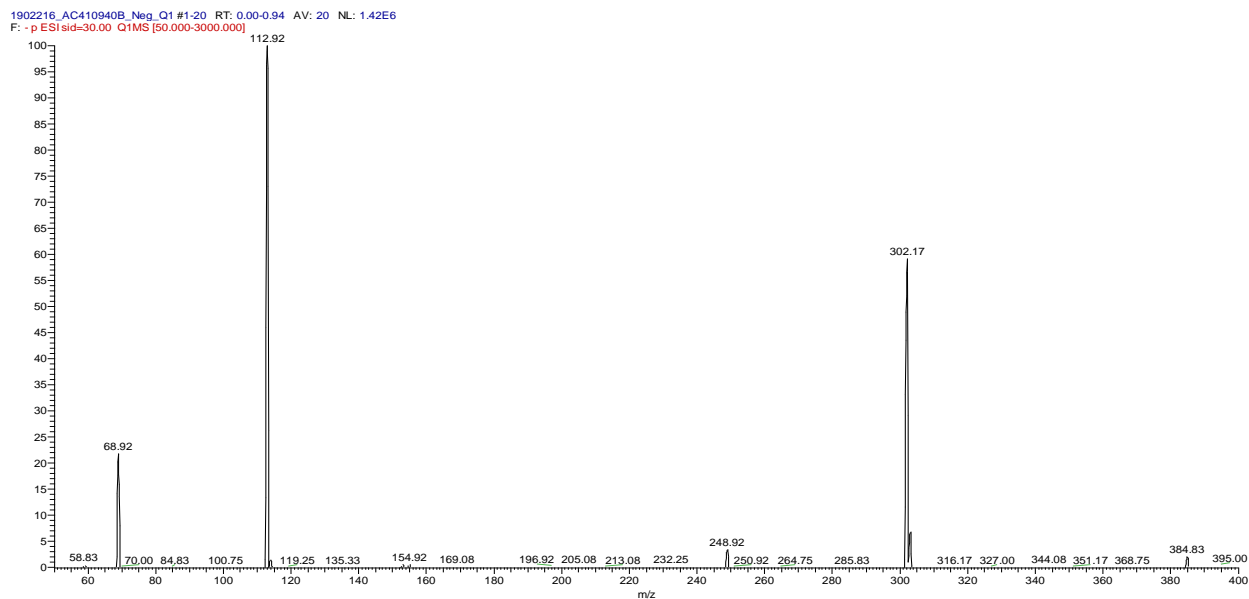
Pierce Biotechnology
3747 N. Meridian Road
Rockford, IL 61101 USA

(800) 874-3723 tel
(815) 968-0747 tel

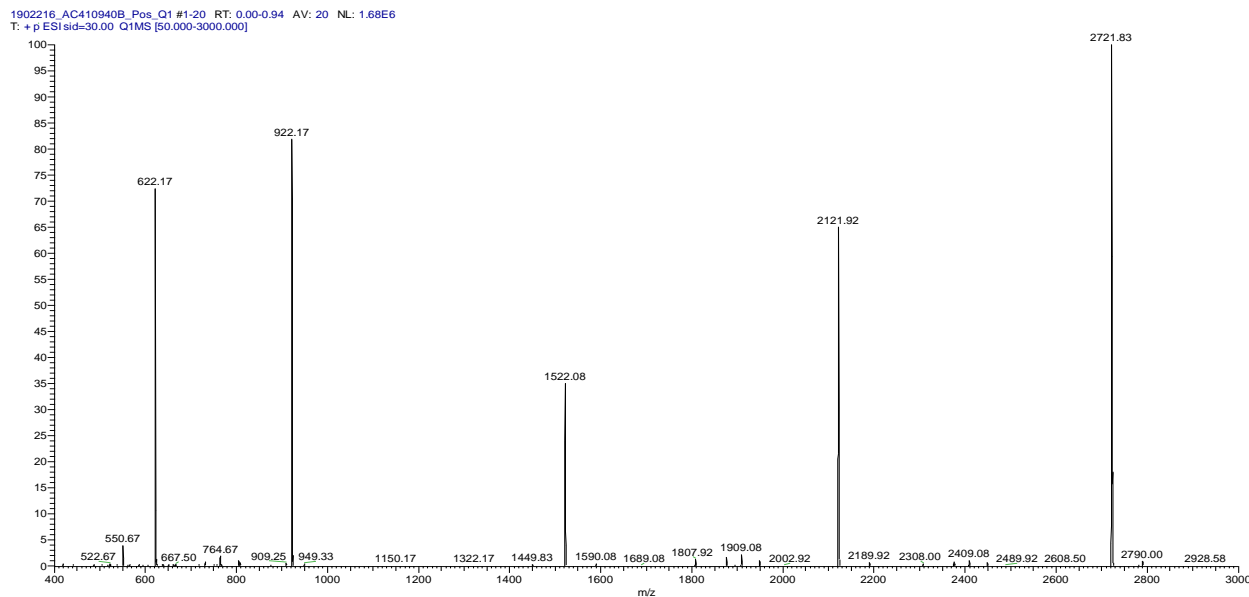
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Negative Ion Mode, 50-400 m/z



Positive Ion Mode, 400-3000 m/z



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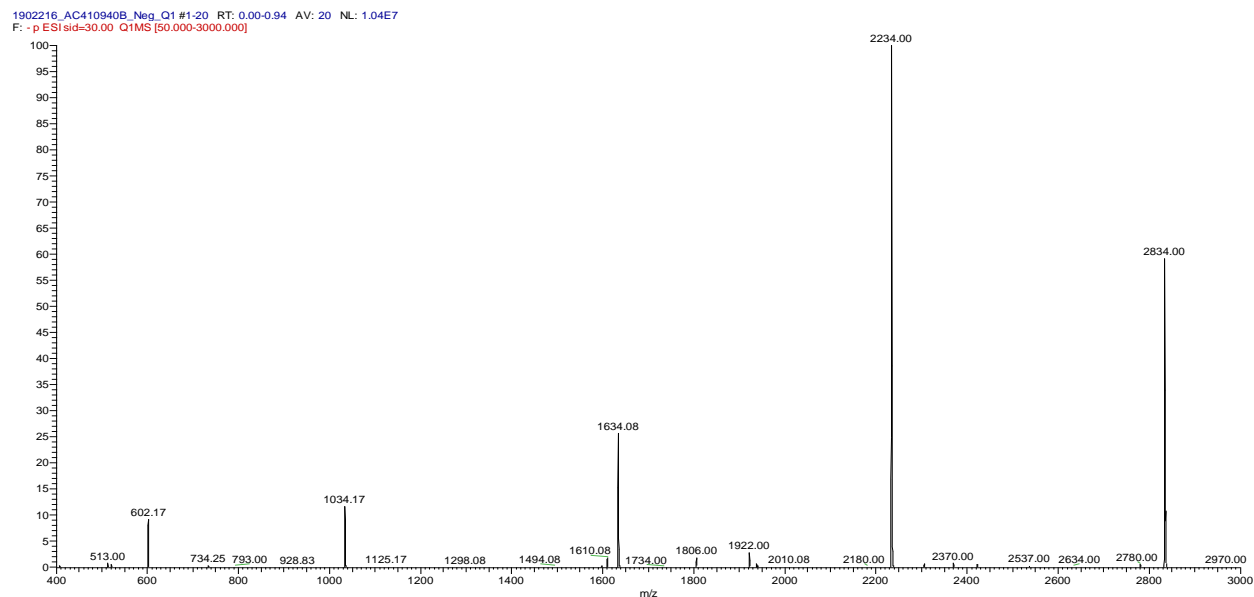
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Negative Ion Mode, 400-3000 m/z



Spectra were acquired on a Thermo Scientific™ TSQ Quantis™ Triple Quadrupole Mass Spectrometer.

Publish Date: 15-May-2025
Timothy Morton, Sr. Quality Chemist, Mass Spectrometry

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