

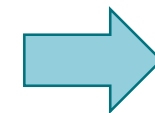
Electronic Supplementary Material (ESI) for JAAS.
Supplemental Information to Characterization of gas cell reactions for 70+ elements using N₂O for ICP tandem mass spectrometry measurements

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^bDepartment of Physics and Astronomy, University of Calgary, Calgary, Canada.

H																	He
<u>Li</u>	<u>Be</u>											<u>B</u>	C	N	O	F	Ne
<u>Na</u>	<u>Mg</u>											<u>Al</u>	<u>Si</u>	<u>P</u>	<u>S</u>	<u>Cl</u>	Ar
<u>K</u>	<u>Ca</u>	<u>Sc</u>	<u>Ti</u>	<u>V</u>	<u>Cr</u>	<u>Mn</u>	<u>Fe</u>	<u>Co</u>	<u>Ni</u>	<u>Cu</u>	<u>Zn</u>	<u>Ga</u>	<u>Ge</u>	<u>As</u>	<u>Se</u>	<u>Br</u>	Kr
<u>Rb</u>	<u>Sr</u>	<u>Y</u>	<u>Zr</u>	<u>Nb</u>	<u>Mo</u>	Tc	<u>Ru</u>	<u>Rh</u>	<u>Pd</u>	<u>Ag</u>	<u>Cd</u>	<u>In</u>	<u>Sn</u>	<u>Sb</u>	<u>Te</u>	<u>I</u>	Xe
<u>Cs</u>	<u>Ba</u>	Ln-Lu	<u>Hf</u>	<u>Ta</u>	<u>W</u>	<u>Re</u>	<u>Os</u>	<u>Ir</u>	<u>Pt</u>	<u>Au</u>	<u>Hg</u>	<u>Tl</u>	<u>Pb</u>	<u>Bi</u>	Po	At	Rn
Fr	Ra	Ac-Lr	Rf	Db	Sg	Bh	Hs	Mt	Ds	Rg	Cn	Nh	Fl	Mc	Lv	Ts	Og
			<u>La</u>	<u>Ce</u>	<u>Pr</u>	<u>Nd</u>	Pm	<u>Sm</u>	<u>Eu</u>	<u>Gd</u>	<u>Tb</u>	<u>Dy</u>	<u>Ho</u>	<u>Er</u>	<u>Tm</u>	<u>Yb</u>	<u>Lu</u>
			Ac	<u>Th</u>	Pa	<u>U</u>	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No	Lr



Mass-Shift with N₂O and O₂

Major Product Ions of ⁷Li⁺ with N₂O Reaction Gas

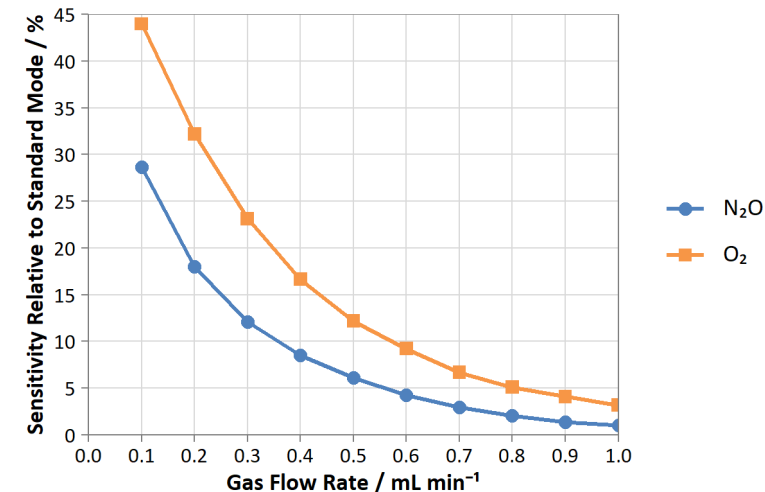
[NO ATOM TRANSFER
REACTION OBSERVED]

Major Product Ions of ⁷Li⁺ with O₂ Reaction Gas

[NO ATOM TRANSFER
REACTION OBSERVED]

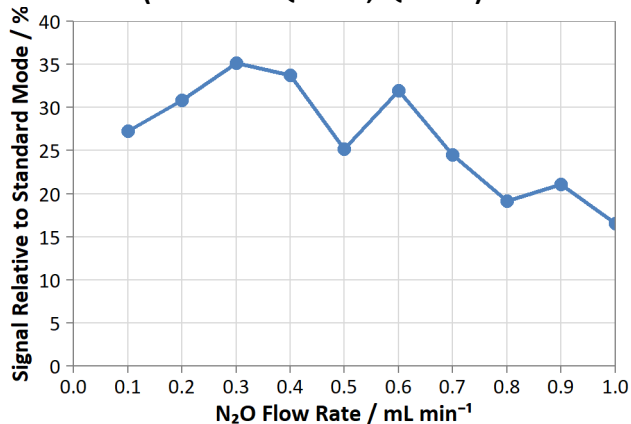
On-Mass with N₂O and O₂

On-Mass Profile of ⁷Li⁺ with N₂O and O₂



On-Mass Removal (as Interference) with N₂O

Variation of ⁷Li¹⁶O⁺ Interference with
N₂O Flow Rate
(On-Mass: Q1 = 23, Q3 = 23)



Variation of ⁷Li²⁺ Interference with
N₂O Flow Rate
(On-Mass: Q1 = 3.5, Q3 = 3.5)

[INSUFFICIENT DOUBLY-CHARGED
ION FORMATION OBSERVED]

Asymmetric Charge Transfer (with N₂O)

[NO CHARGE TRANSFER
REACTION OBSERVED]

Beryllium

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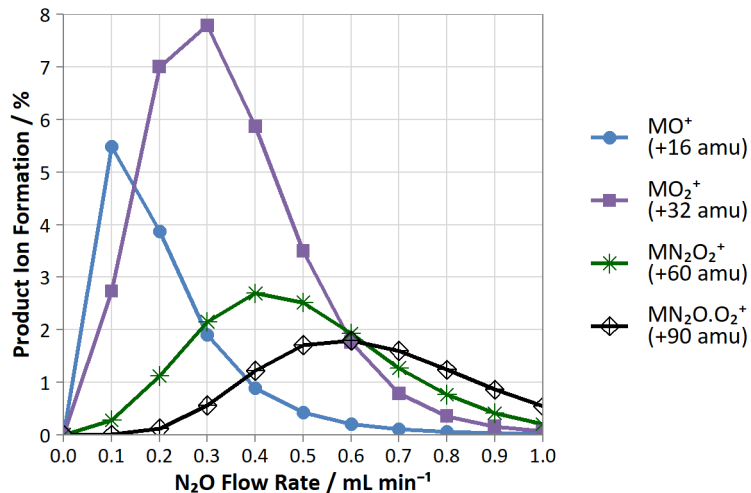
^aDepartment of General, Analytical and Physical Chemistry, Chair of General and Analytical Chemistry, Montanuniversität Leoben, Leoben, Austria.

^bDepartment of Physics and Astronomy, University of Calgary, Calgary, Canada.

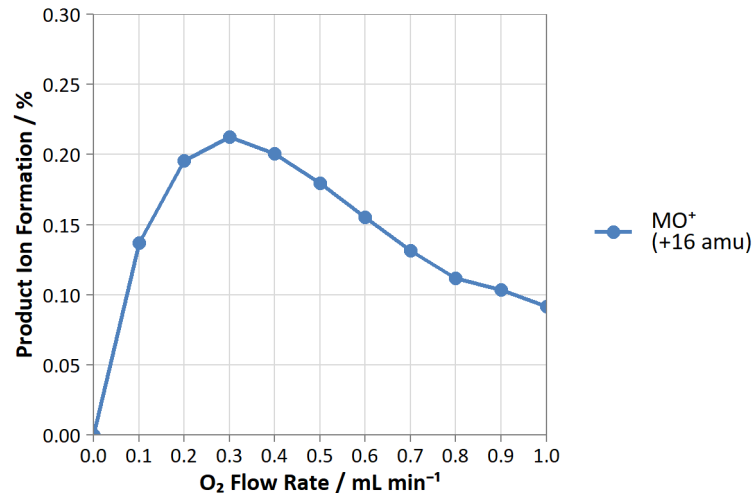


Mass-Shift with N₂O and O₂

Major Product Ions of ⁹Be⁺ with N₂O Reaction Gas

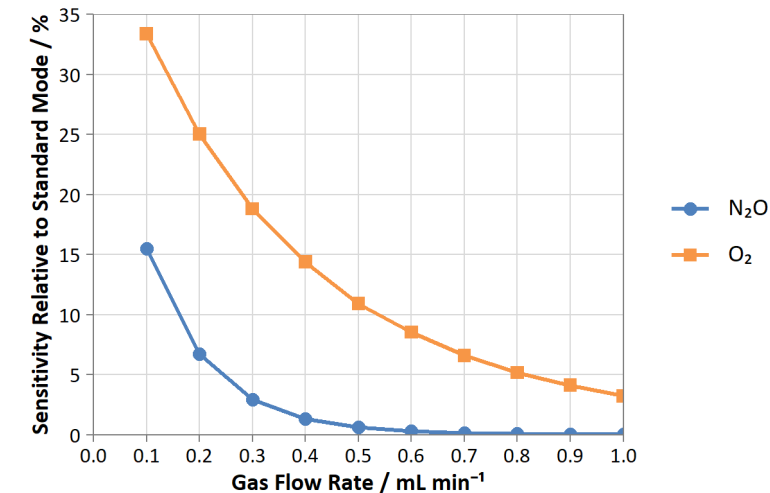


Major Product Ions of ⁹Be⁺ with O₂ Reaction Gas



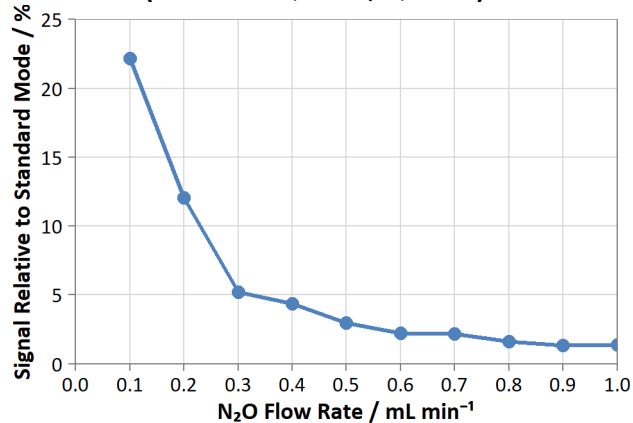
On-Mass with N₂O and O₂

On-Mass Profile of ⁹Be⁺ with N₂O and O₂



On-Mass Removal (as Interference) with N₂O

Variation of ⁹Be¹⁶O⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 25, Q3 = 25)

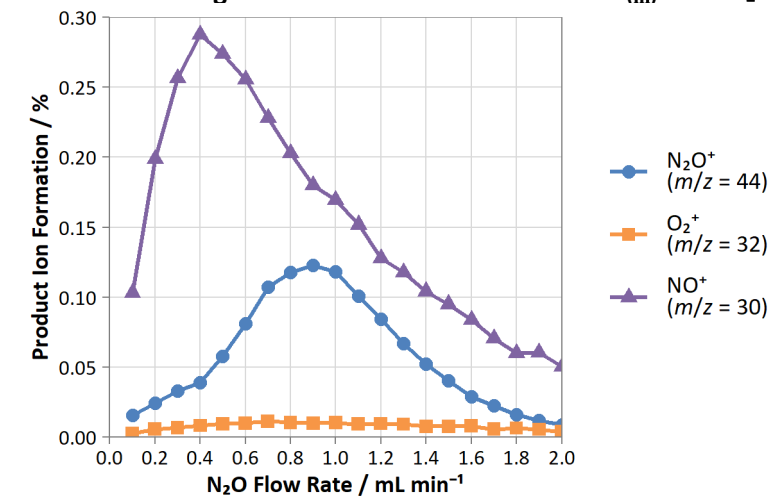


Variation of ⁹Be²⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 4.5, Q3 = 4.5)

[INSUFFICIENT DOUBLY-CHARGED ION FORMATION OBSERVED]

Asymmetric Charge Transfer (with N₂O)

Profile of Charge Transfer Reaction Between ⁹Be_(m)⁺ and N₂O



Boron

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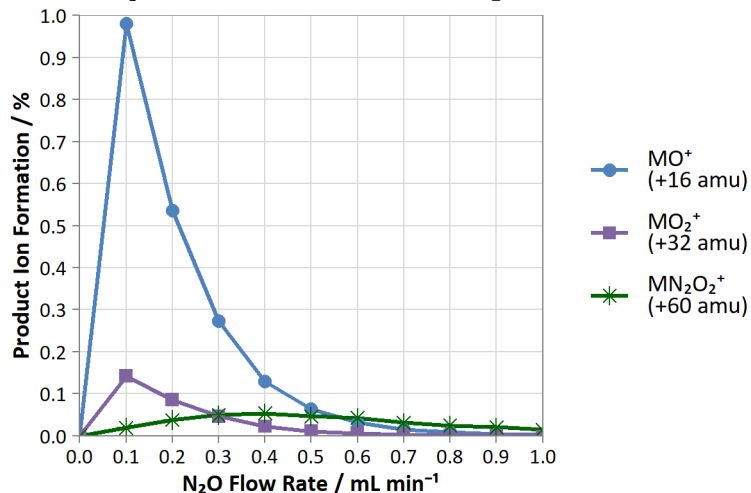
^aDepartment of General, Analytical and Physical Chemistry, Chair of General and Analytical Chemistry, Montanuniversität Leoben, Leoben, Austria.

^bDepartment of Physics and Astronomy, University of Calgary, Calgary, Canada.

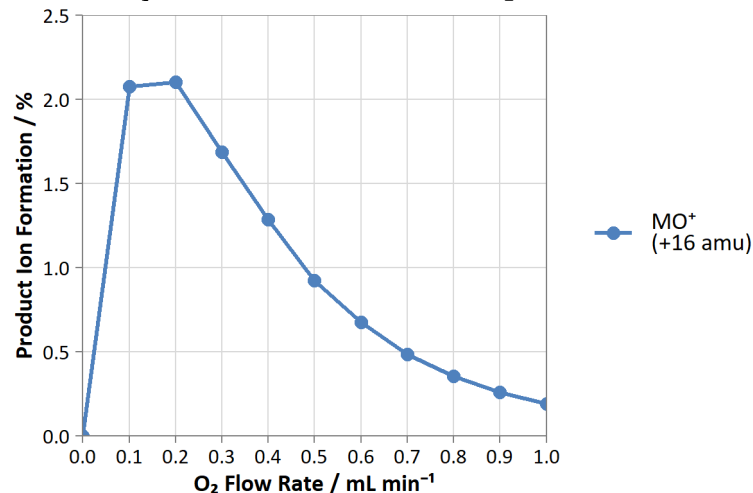


Mass-Shift with N₂O and O₂

Major Product Ions of ¹¹B⁺ with N₂O Reaction Gas

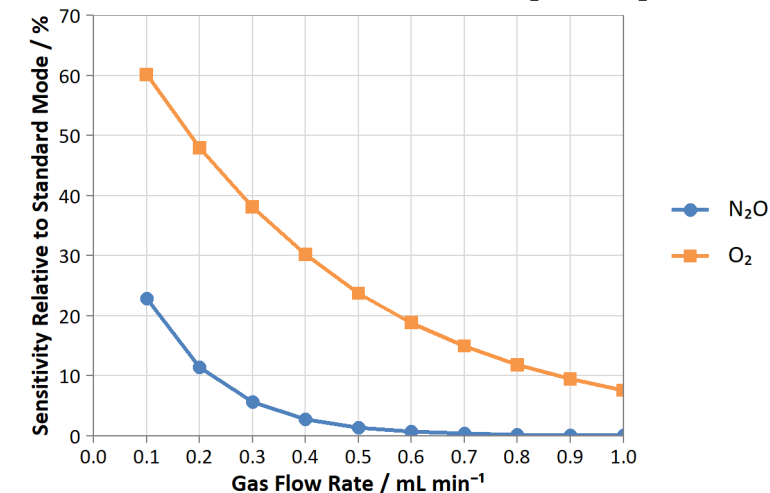


Major Product Ions of ¹¹B⁺ with O₂ Reaction Gas



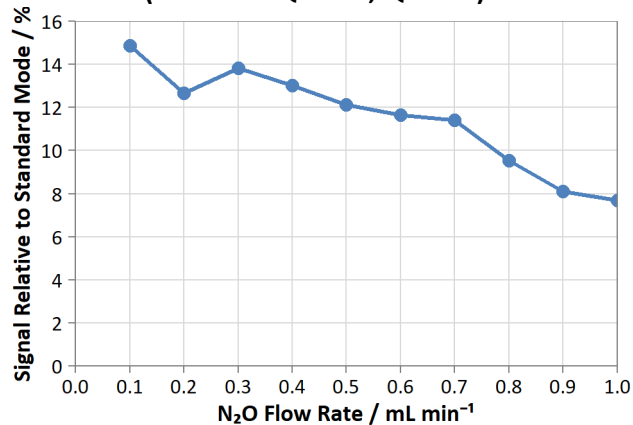
On-Mass with N₂O and O₂

On-Mass Profile of ¹¹B⁺ with N₂O and O₂



On-Mass Removal (as Interference) with N₂O

Variation of ¹¹B¹⁶O⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 27, Q3 = 27)

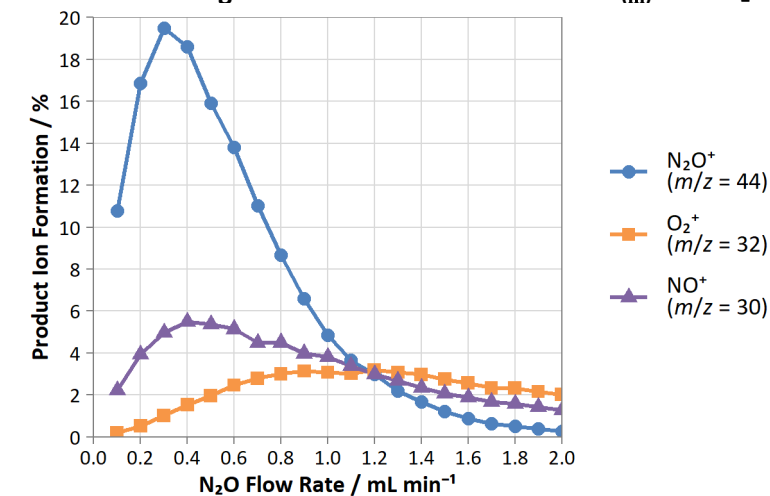


Variation of ¹¹B²⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 5.5, Q3 = 5.5)

[INSUFFICIENT DOUBLY-CHARGED ION FORMATION OBSERVED]

Asymmetric Charge Transfer (with N₂O)

Profile of Charge Transfer Reaction Between ¹¹B_(m)⁺ and N₂O



Sodium

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^bDepartment of Physics and Astronomy, University of Calgary, Calgary, Canada.



Mass-Shift with N₂O and O₂

Major Product Ions of ²³Na⁺ with N₂O Reaction Gas

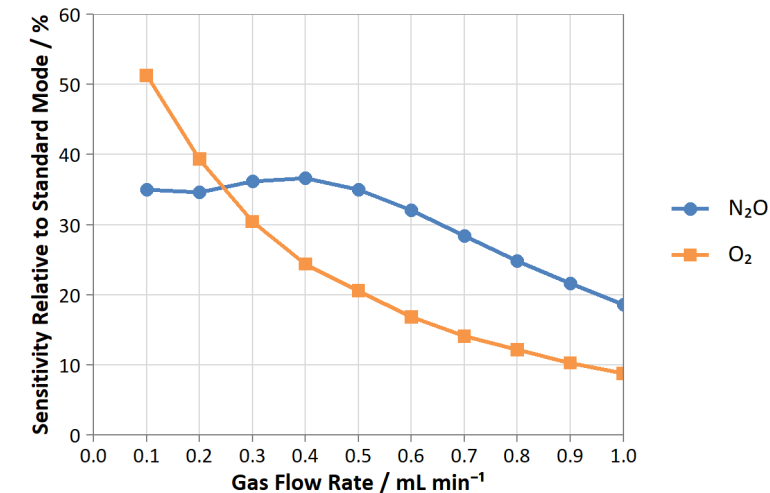
[NO ATOM TRANSFER
REACTION OBSERVED]

Major Product Ions of ²³Na⁺ with O₂ Reaction Gas

[NO ATOM TRANSFER
REACTION OBSERVED]

On-Mass with N₂O and O₂

On-Mass Profile of ²³Na⁺ with N₂O and O₂



On-Mass Removal (as Interference) with N₂O

Variation of ²³Na¹⁶O⁺ Interference with
N₂O Flow Rate
(On-Mass: Q1 = 39, Q3 = 39)

[INSUFFICIENT OXIDE
FORMATION OBSERVED]

Variation of ²³Na²⁺ Interference with
N₂O Flow Rate
(On-Mass: Q1 = 11.5, Q3 = 11.5)

[INSUFFICIENT DOUBLY-CHARGED
ION FORMATION OBSERVED]

Asymmetric Charge Transfer (with N₂O)

[NO CHARGE TRANSFER
REACTION OBSERVED]

Magnesium

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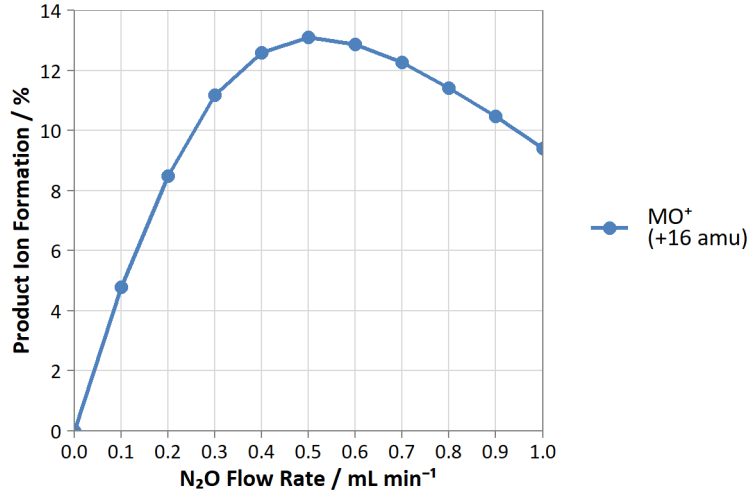
^aDepartment of General, Analytical and Physical Chemistry, Chair of General and Analytical Chemistry, Montanuniversität Leoben, Leoben, Austria.

^bDepartment of Physics and Astronomy, University of Calgary, Calgary, Canada.

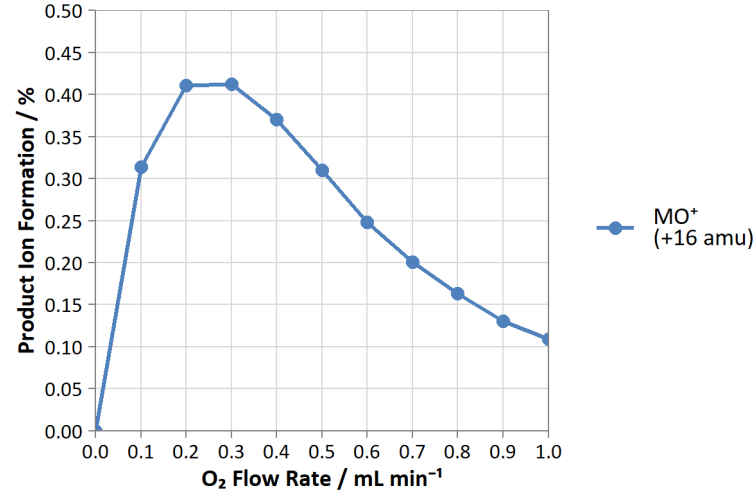


Mass-Shift with N₂O and O₂

Major Product Ions of ²⁴Mg⁺ with N₂O Reaction Gas

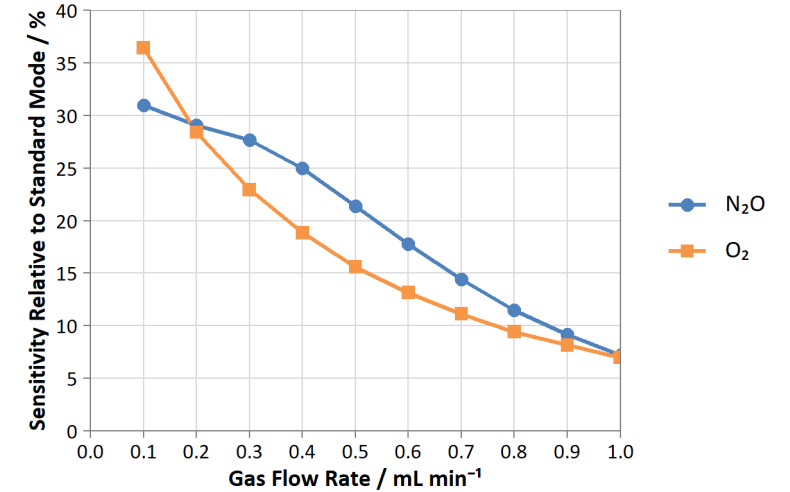


Major Product Ions of ²⁴Mg⁺ with O₂ Reaction Gas



On-Mass with N₂O and O₂

On-Mass Profile of ²⁴Mg⁺ with N₂O and O₂



On-Mass Removal (as Interference) with N₂O

Variation of ²⁴Mg¹⁶O⁺ Interference with N₂O Flow Rate
(On-Mass: Q1 = 40, Q3 = 40)

[NOT MEASURED]

Variation of ²⁴Mg²⁺ Interference with N₂O Flow Rate
(On-Mass: Q1 = 12, Q3 = 12)

[INSUFFICIENT DOUBLY-CHARGED ION FORMATION OBSERVED]

Asymmetric Charge Transfer (with N₂O)

[NO CHARGE TRANSFER REACTION OBSERVED]

Aluminium

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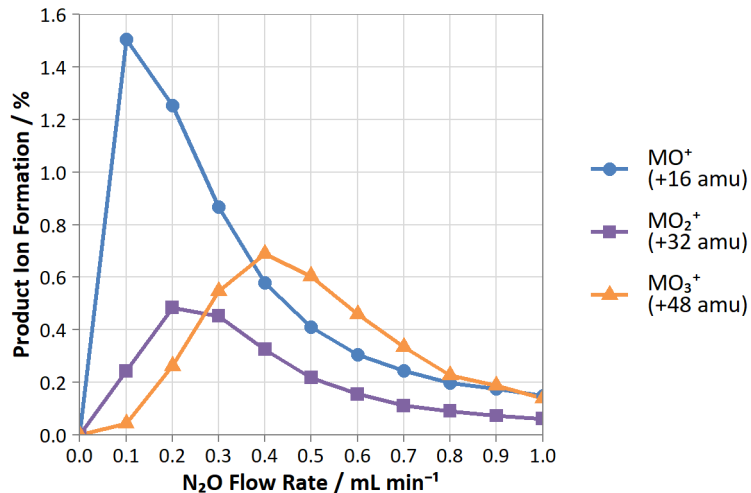
^aDepartment of General, Analytical and Physical Chemistry, Chair of General and Analytical Chemistry, Montanuniversität Leoben, Leoben, Austria.

^bDepartment of Physics and Astronomy, University of Calgary, Calgary, Canada.

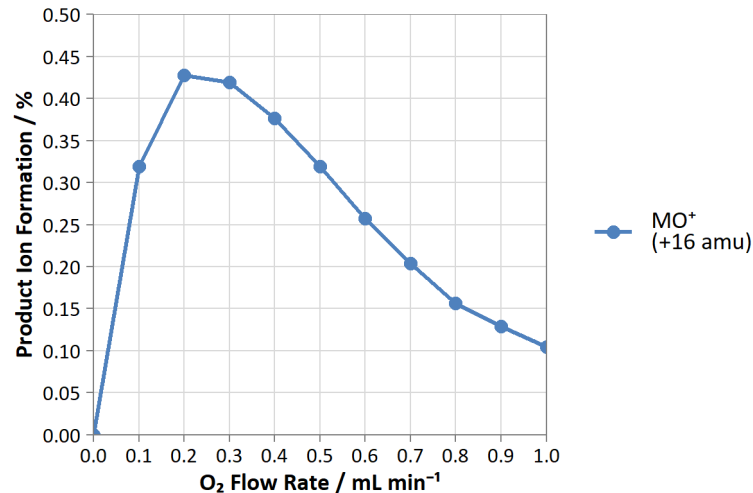


Mass-Shift with N₂O and O₂

Major Product Ions of ²⁷Al⁺ with N₂O Reaction Gas

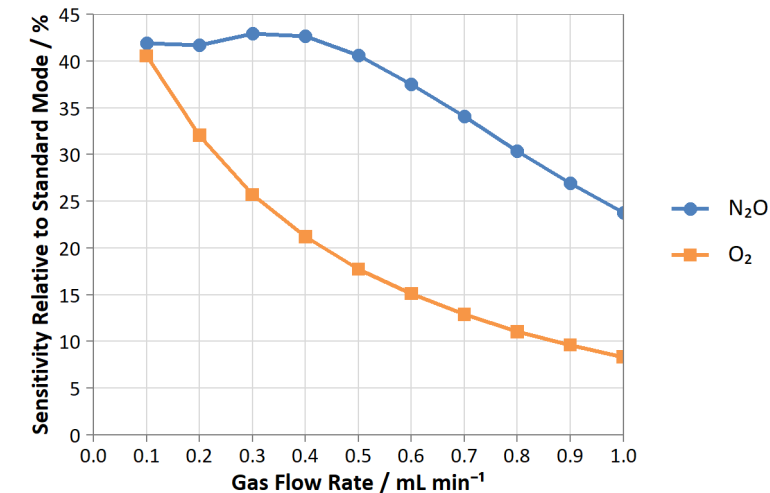


Major Product Ions of ²⁷Al⁺ with O₂ Reaction Gas



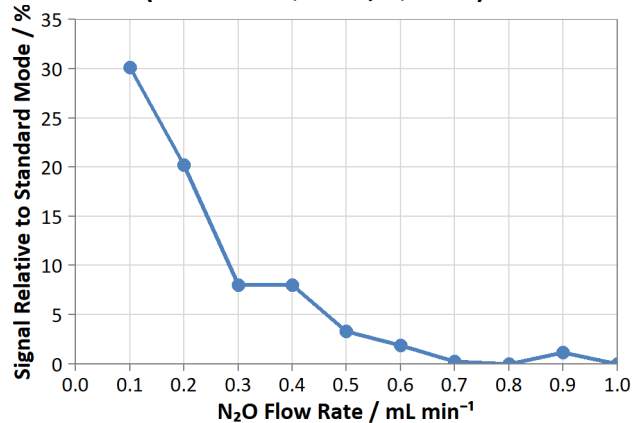
On-Mass with N₂O and O₂

On-Mass Profile of ²⁷Al⁺ with N₂O and O₂



On-Mass Removal (as Interference) with N₂O

Variation of ²⁷Al¹⁶O⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 43, Q3 = 43)

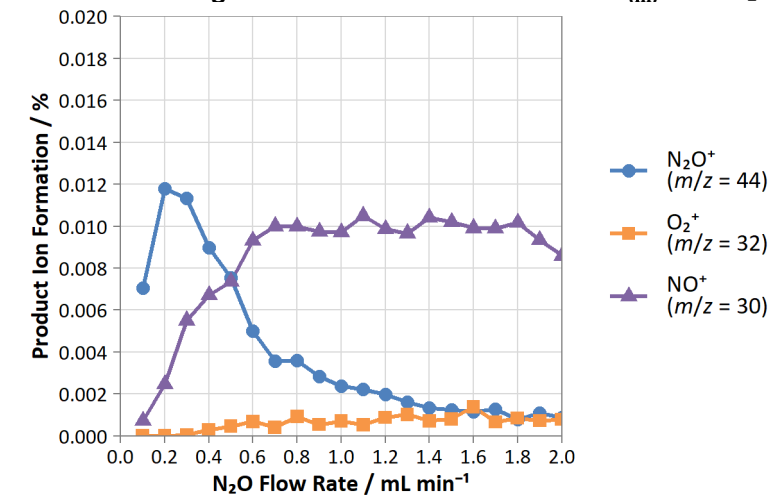


Variation of ²⁷Al²⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 13.5, Q3 = 13.5)

[INSUFFICIENT DOUBLY-CHARGED ION FORMATION OBSERVED]

Asymmetric Charge Transfer (with N₂O)

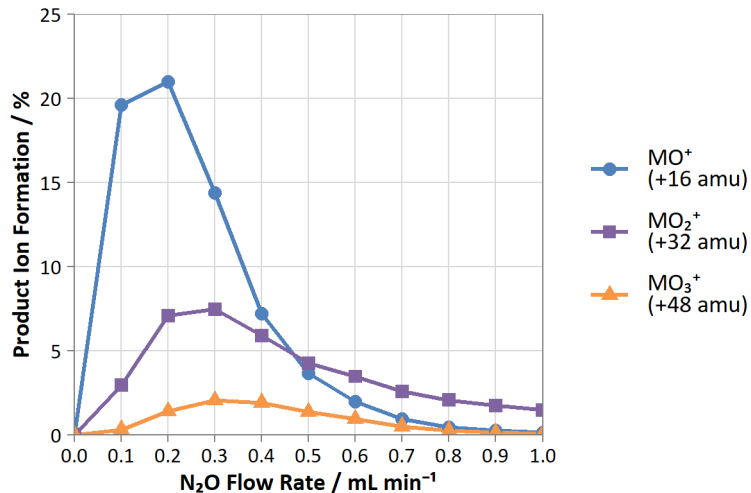
Profile of Charge Transfer Reaction Between ²⁷Al_(m)⁺ and N₂O



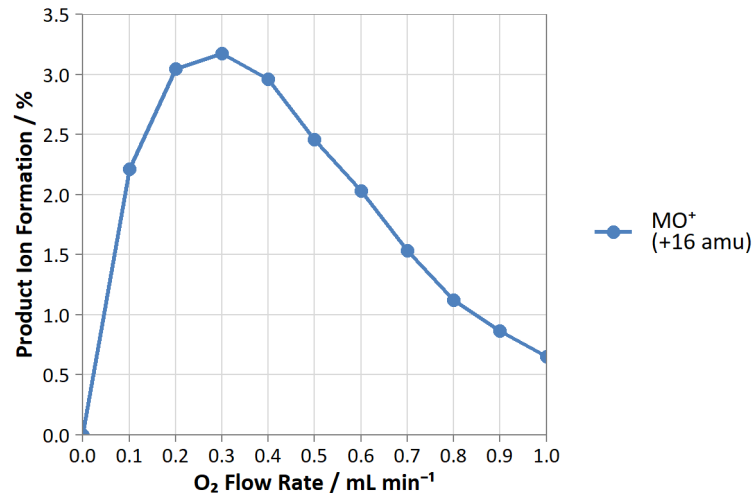


Mass-Shift with N₂O and O₂

Major Product Ions of ²⁹Si⁺ with N₂O Reaction Gas

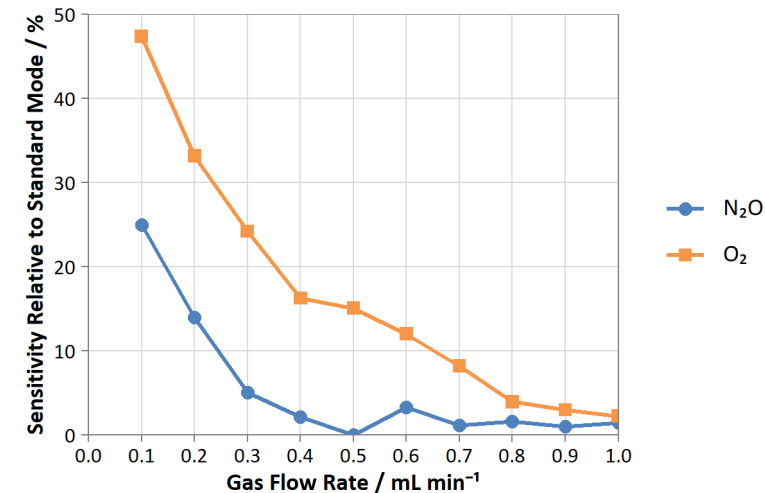


Major Product Ions of ²⁹Si⁺ with O₂ Reaction Gas



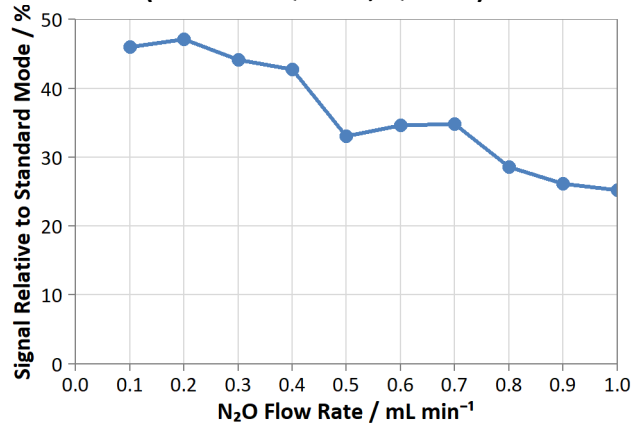
On-Mass with N₂O and O₂

On-Mass Profile of ²⁹Si⁺ with N₂O and O₂



On-Mass Removal (as Interference) with N₂O

Variation of ²⁹Si¹⁶O⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 45, Q3 = 45)

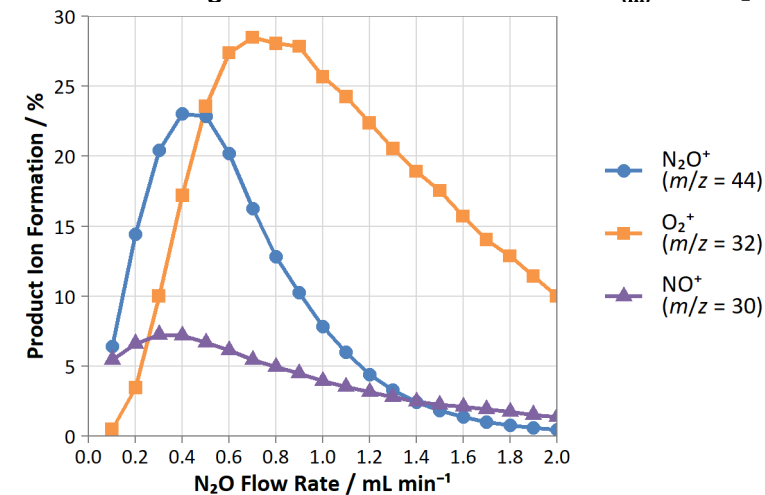


Variation of ²⁹Si²⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 14.5, Q3 = 14.5)

[INSUFFICIENT DOUBLY-CHARGED ION FORMATION OBSERVED]

Asymmetric Charge Transfer (with N₂O)

Profile of Charge Transfer Reaction Between ²⁹Si_(m)⁺ and N₂O



Phosphorus

Supplementary Information B to: Characterisation of gas cell reactions for 70+ elements using N₂O for ICP tandem mass spectrometry measurements

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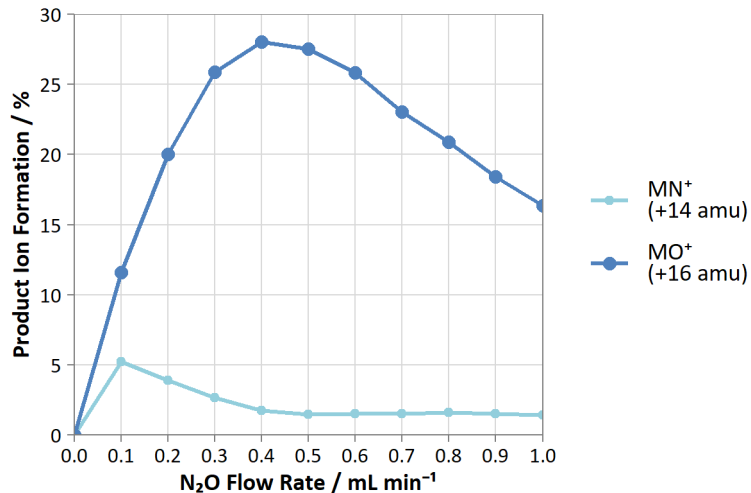
^aDepartment of General, Analytical and Physical Chemistry, Chair of General and Analytical Chemistry, Montanuniversität Leoben, Leoben, Austria.

^bDepartment of Physics and Astronomy, University of Calgary, Calgary, Canada.

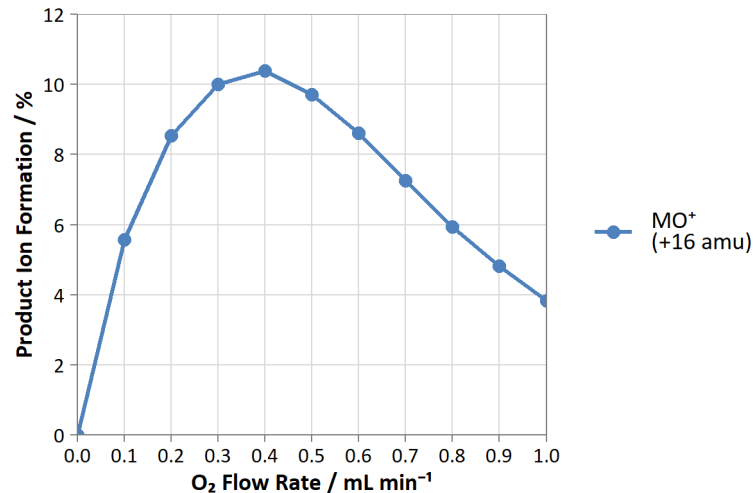


Mass-Shift with N₂O and O₂

Major Product Ions of ³¹P⁺ with N₂O Reaction Gas

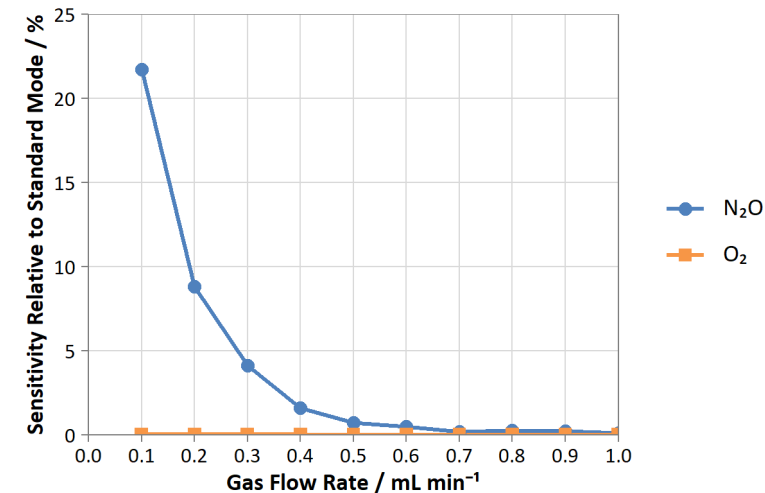


Major Product Ions of ³¹P⁺ with O₂ Reaction Gas



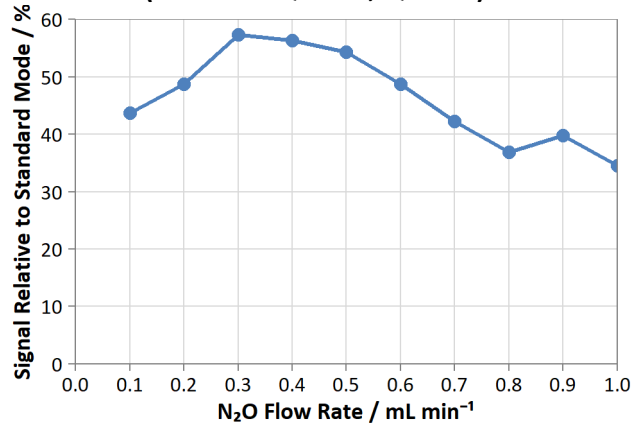
On-Mass with N₂O and O₂

On-Mass Profile of ³¹P⁺ with N₂O and O₂

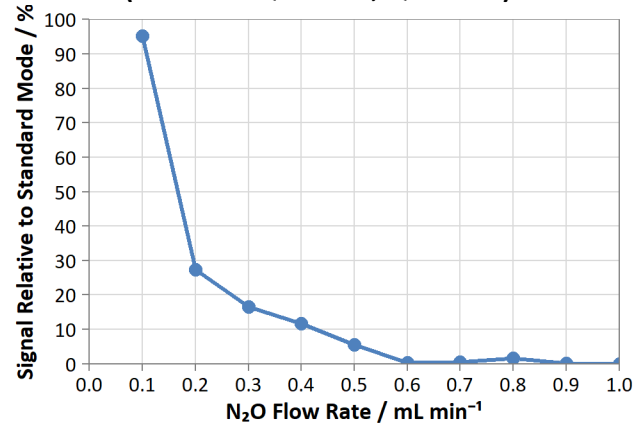


On-Mass Removal (as Interference) with N₂O

Variation of ³¹P¹⁶O⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 47, Q3 = 47)

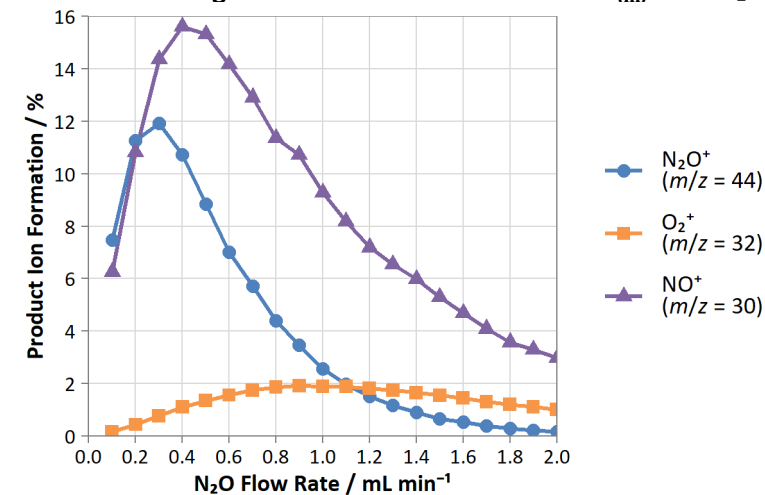


Variation of ³¹P²⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 15.5, Q3 = 15.5)



Asymmetric Charge Transfer (with N₂O)

Profile of Charge Transfer Reaction Between ³¹P_(m)⁺ and N₂O



Sulphur

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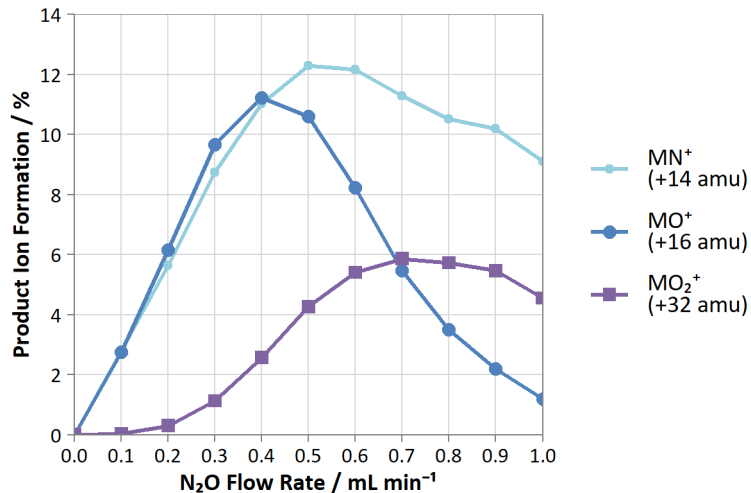
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^bDepartment of Physics and Astronomy, University of Calgary, Calgary, Canada.

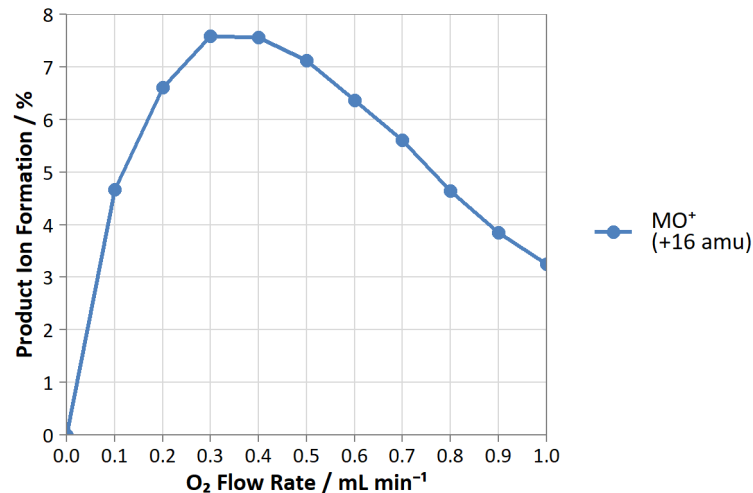


Mass-Shift with N₂O and O₂

Major Product Ions of ³⁴S⁺ with N₂O Reaction Gas

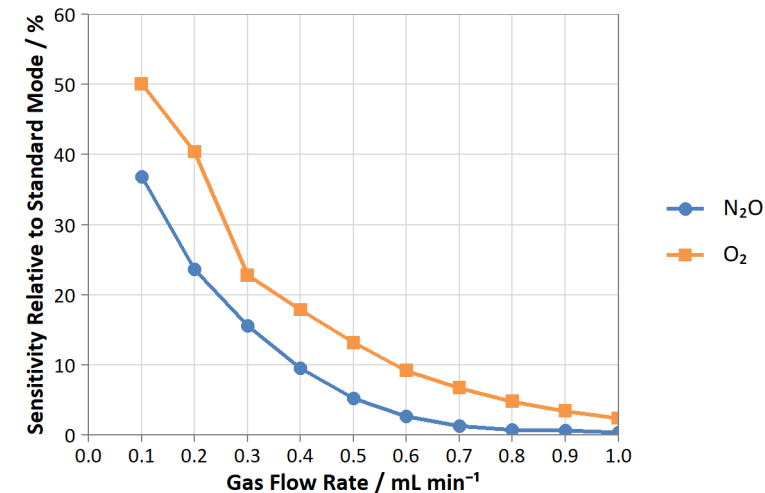


Major Product Ions of ³⁴S⁺ with O₂ Reaction Gas



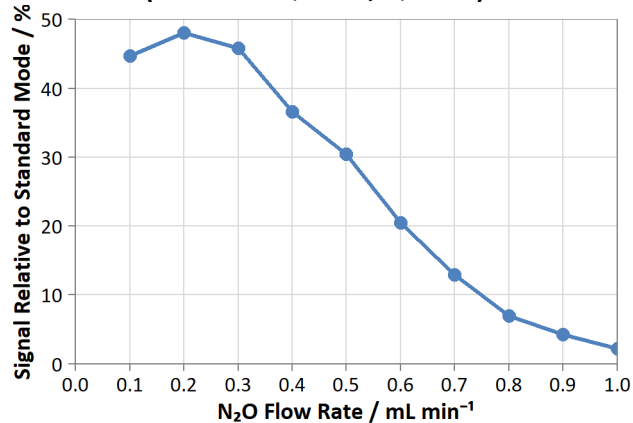
On-Mass with N₂O and O₂

On-Mass Profile of ³⁴S⁺ with N₂O and O₂



On-Mass Removal (as Interference) with N₂O

Variation of ³⁴S¹⁶O⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 50, Q3 = 50)

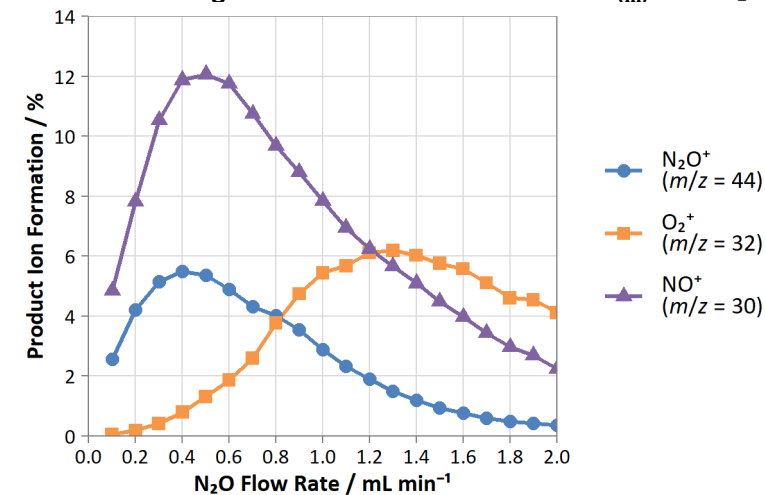


Variation of ³⁴S²⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 17, Q3 = 17)

[NOT MEASURED]

Asymmetric Charge Transfer (with N₂O)

Profile of Charge Transfer Reaction Between ³⁴S_(m)⁺ and N₂O



Chlorine

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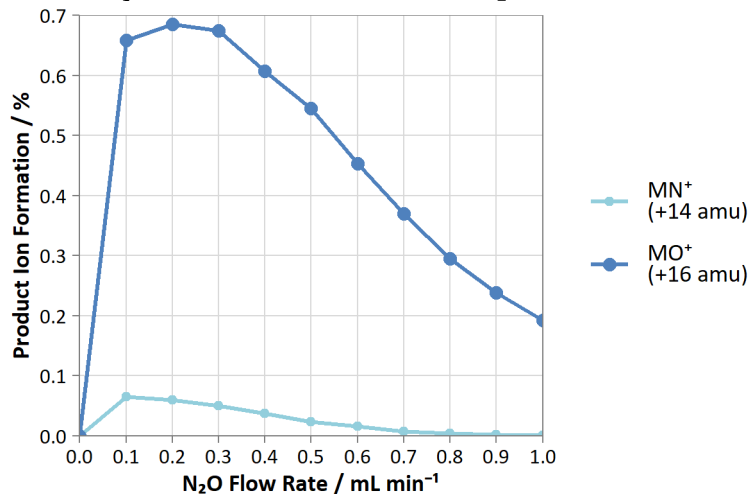
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^bDepartment of Physics and Astronomy, University of Calgary, Calgary, Canada.

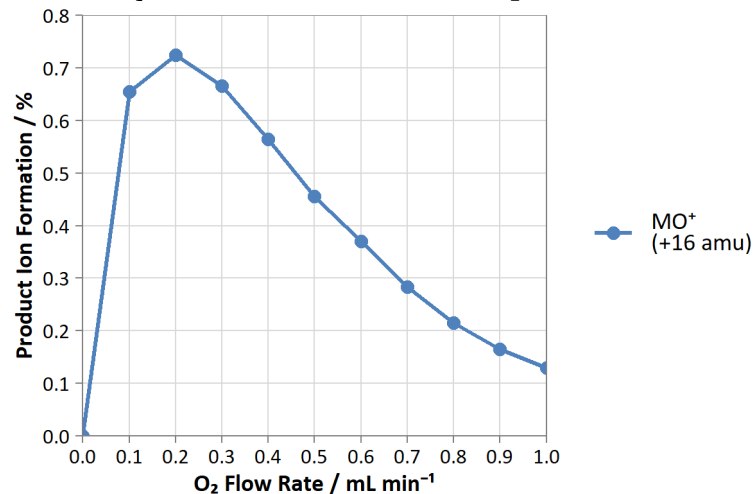


Mass-Shift with N₂O and O₂

Major Product Ions of ³⁵Cl⁺ with N₂O Reaction Gas

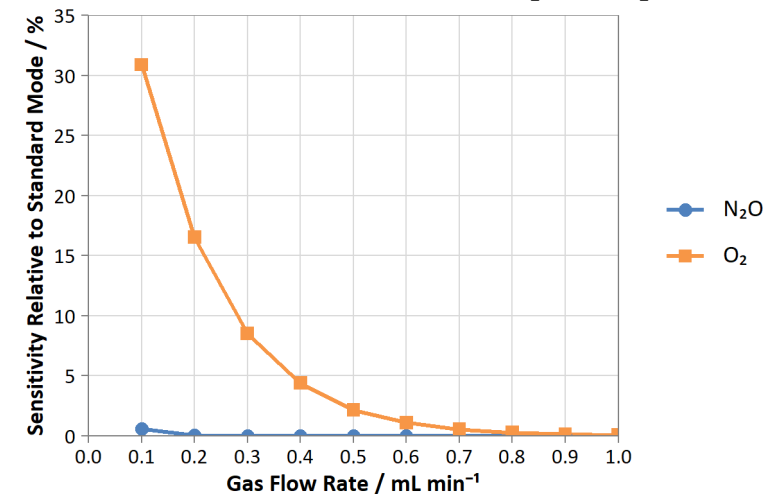


Major Product Ions of ³⁵Cl⁺ with O₂ Reaction Gas



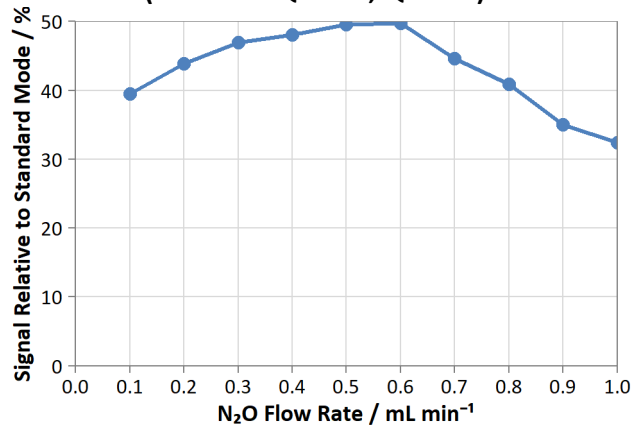
On-Mass with N₂O and O₂

On-Mass Profile of ³⁵Cl⁺ with N₂O and O₂



On-Mass Removal (as Interference) with N₂O

Variation of ³⁵Cl¹⁶O⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 51, Q3 = 51)

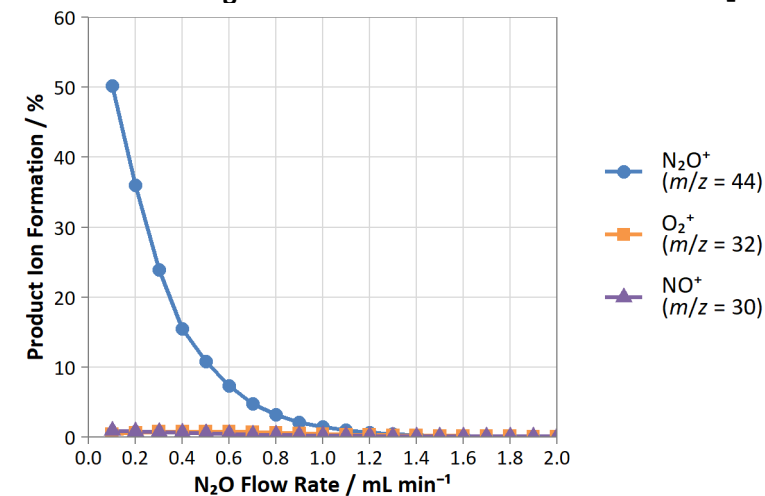


Variation of ³⁵Cl²⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 17.5, Q3 = 17.5)

[INSUFFICIENT DOUBLY-CHARGED ION FORMATION OBSERVED]

Asymmetric Charge Transfer (with N₂O)

Profile of Charge Transfer Reaction Between ³⁵Cl⁺ and N₂O



Potassium

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^aDepartment of General, Analytical and Physical Chemistry, Chair of General and Analytical Chemistry, Montanuniversität Leoben, Leoben, Austria.
^bDepartment of Physics and Astronomy, University of Calgary, Calgary, Canada.



Mass-Shift with N₂O and O₂

Major Product Ions of ³⁹K⁺ with N₂O Reaction Gas

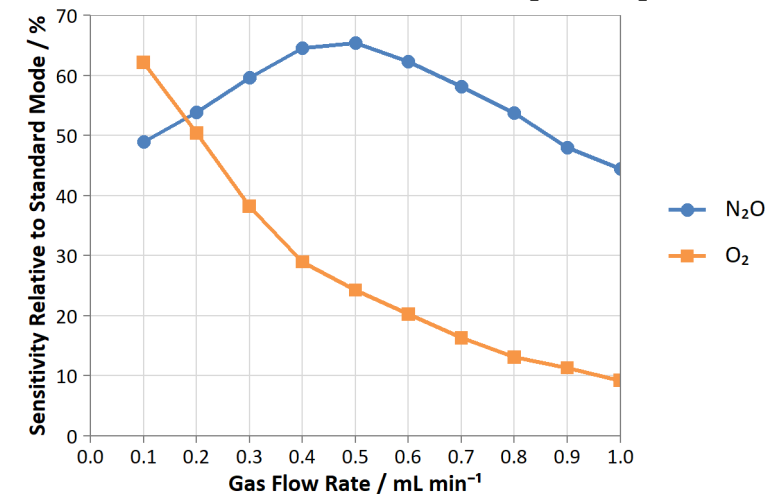
[NO ATOM TRANSFER
REACTION OBSERVED]

Major Product Ions of ³⁹K⁺ with O₂ Reaction Gas

[NO ATOM TRANSFER
REACTION OBSERVED]

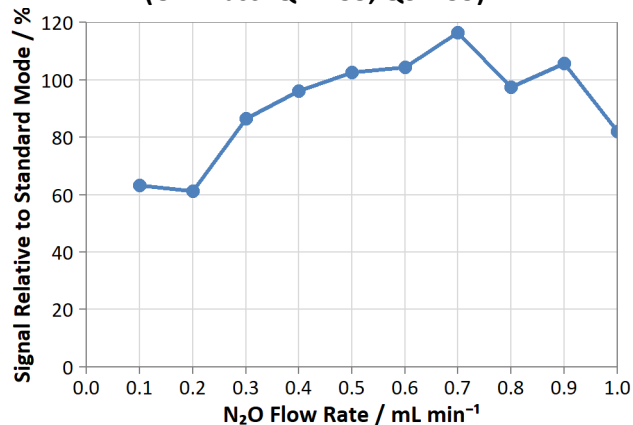
On-Mass with N₂O and O₂

On-Mass Profile of ³⁹K⁺ with N₂O and O₂



On-Mass Removal (as Interference) with N₂O

Variation of ³⁹K¹⁶O⁺ Interference with
N₂O Flow Rate
(On-Mass: Q1 = 55, Q3 = 55)



Variation of ³⁹K²⁺ Interference with
N₂O Flow Rate
(On-Mass: Q1 = 19.5, Q3 = 19.5)

[INSUFFICIENT DOUBLY-CHARGED
ION FORMATION OBSERVED]

Asymmetric Charge Transfer (with N₂O)

[NO CHARGE TRANSFER
REACTION OBSERVED]

Calcium

Supplementary Information B to: Characterisation of gas cell reactions for 70+ elements using N₂O for ICP tandem mass spectrometry measurements

Shaun T. Lancaster^{a*}, Thomas Prohaska^{ab} and Johanna Irrgeher^{ab}

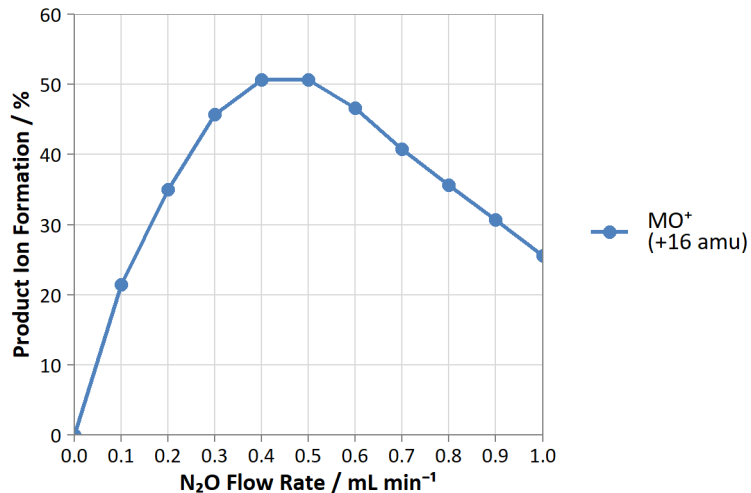
^aDepartment of General, Analytical and Physical Chemistry, Chair of General and Analytical Chemistry, Montanuniversität Leoben, Leoben, Austria.

^bDepartment of Physics and Astronomy, University of Calgary, Calgary, Canada.

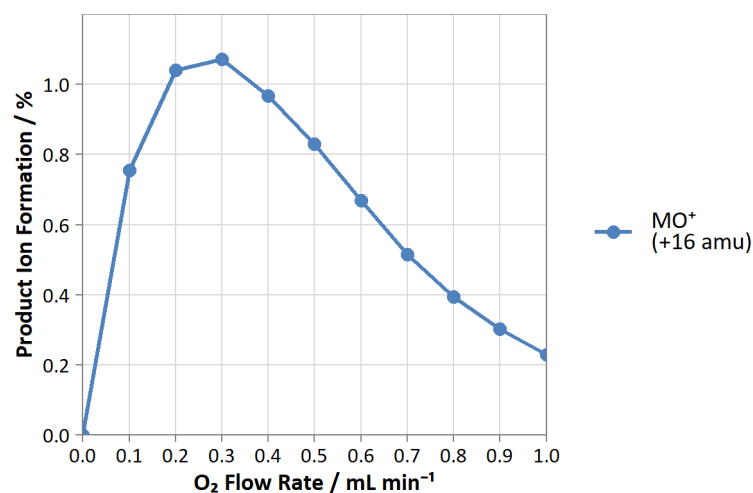


Mass-Shift with N₂O and O₂

Major Product Ions of ⁴⁴Ca⁺ with N₂O Reaction Gas

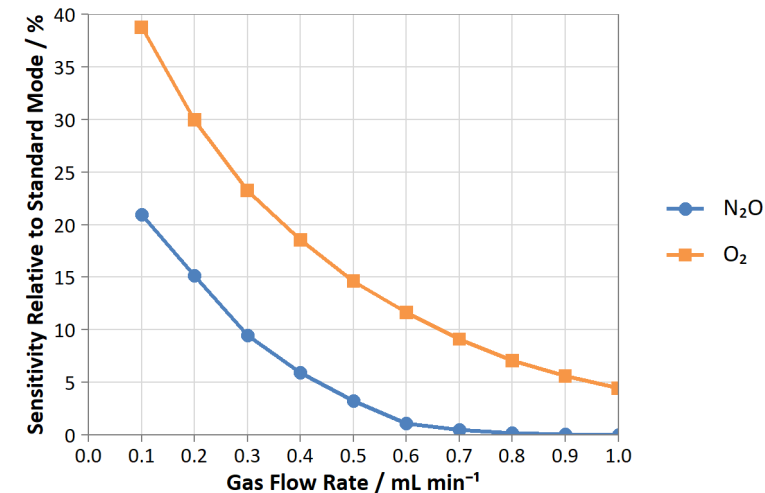


Major Product Ions of ⁴⁴Ca⁺ with O₂ Reaction Gas



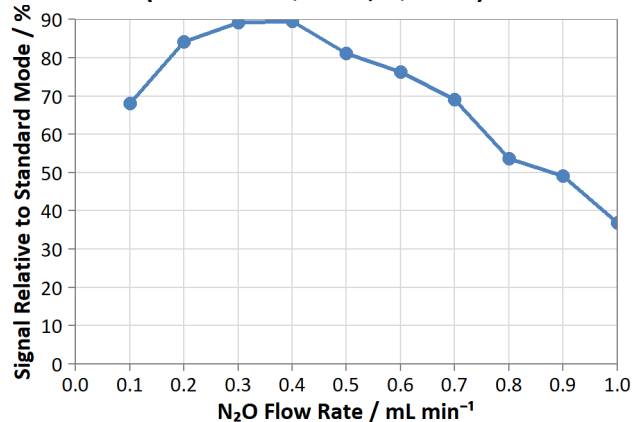
On-Mass with N₂O and O₂

On-Mass Profile of ⁴⁴Ca⁺ with N₂O and O₂

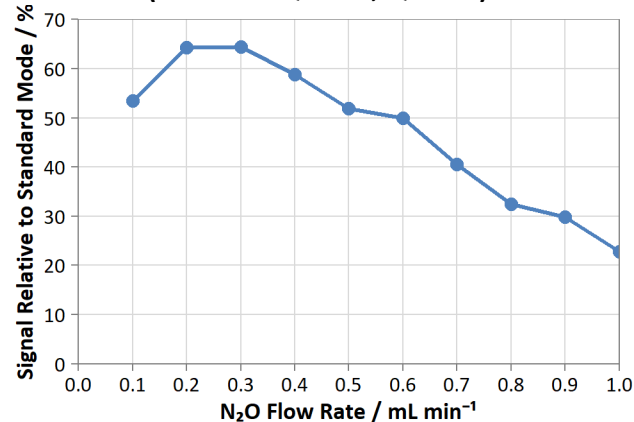


On-Mass Removal (as Interference) with N₂O

Variation of ⁴⁴Ca¹⁶O⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 60, Q3 = 60)



Variation of ⁴⁴Ca²⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 22, Q3 = 22)



Asymmetric Charge Transfer (with N₂O)

[NO CHARGE TRANSFER REACTION OBSERVED]



Scandium

Supplementary Information B to: Characterisation of gas cell reactions for 70+ elements using N₂O for ICP tandem mass spectrometry measurements

Shaun T. Lancaster^{a*}, Thomas Prohaska^{ab} and Johanna Irrgeher^{ab}

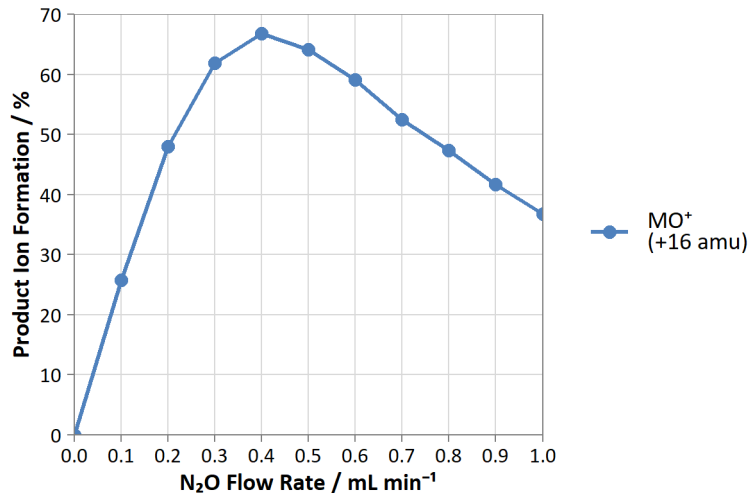
^aDepartment of General, Analytical and Physical Chemistry, Chair of General and Analytical Chemistry, Montanuniversität Leoben, Leoben, Austria.

^bDepartment of Physics and Astronomy, University of Calgary, Calgary, Canada.

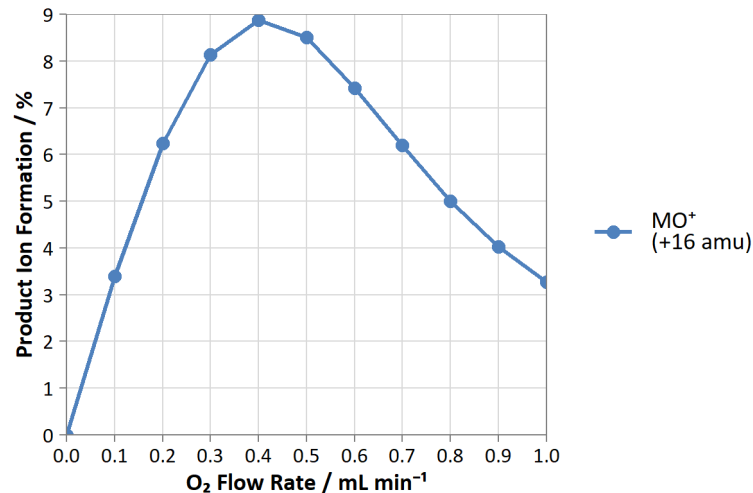


Mass-Shift with N₂O and O₂

Major Product Ions of ⁴⁵Sc⁺ with N₂O Reaction Gas

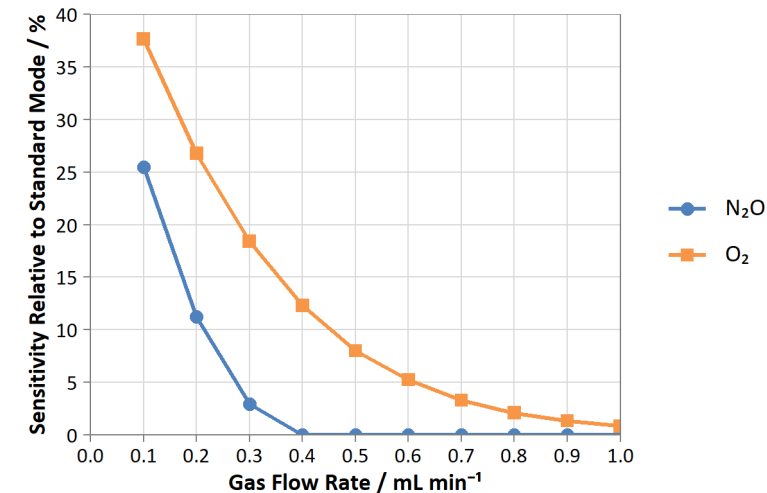


Major Product Ions of ⁴⁵Sc⁺ with O₂ Reaction Gas



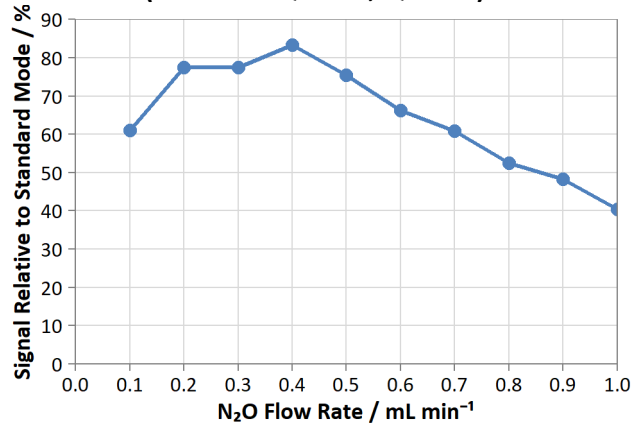
On-Mass with N₂O and O₂

On-Mass Profile of ⁴⁵Sc⁺ with N₂O and O₂

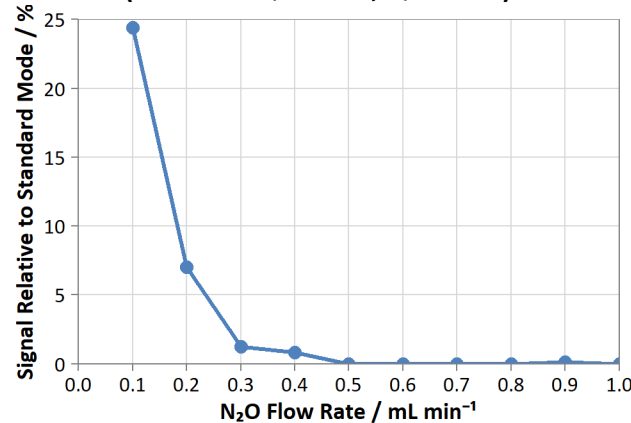


On-Mass Removal (as Interference) with N₂O

Variation of ⁴⁵Sc¹⁶O⁺ Interference with N₂O Flow Rate
(On-Mass: Q1 = 61, Q3 = 61)



Variation of ⁴⁵Sc²⁺ Interference with N₂O Flow Rate
(On-Mass: Q1 = 22.5, Q3 = 22.5)



Asymmetric Charge Transfer (with N₂O)

[NO CHARGE TRANSFER REACTION OBSERVED]

Titanium

Supplementary Information B to: Characterisation of gas cell reactions for 70+ elements using N₂O for ICP tandem mass spectrometry measurements

Shaun T. Lancaster^{a*}, Thomas Prohaska^{ab} and Johanna Irrgeher^{ab}

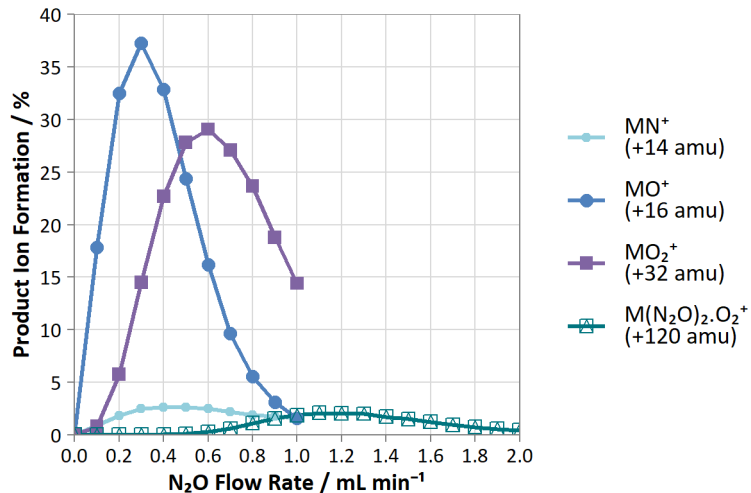
^aDepartment of General, Analytical and Physical Chemistry, Chair of General and Analytical Chemistry, Montanuniversität Leoben, Leoben, Austria.

^bDepartment of Physics and Astronomy, University of Calgary, Calgary, Canada.

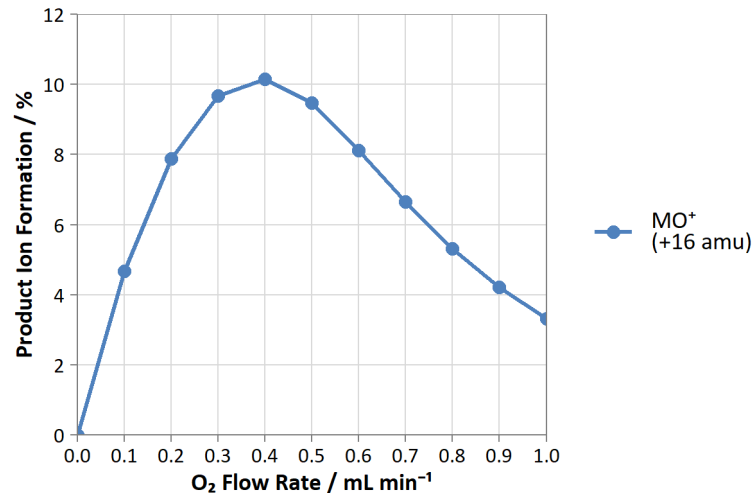


Mass-Shift with N₂O and O₂

Major Product Ions of ⁴⁷Ti⁺ with N₂O Reaction Gas

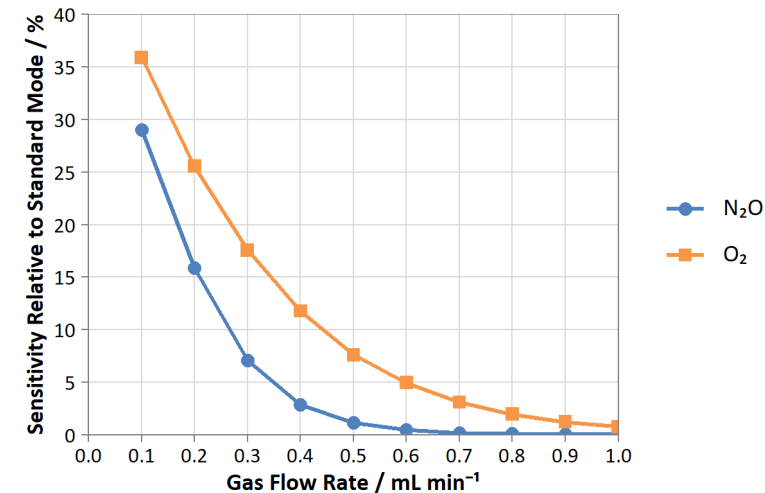


Major Product Ions of ⁴⁷Ti⁺ with O₂ Reaction Gas



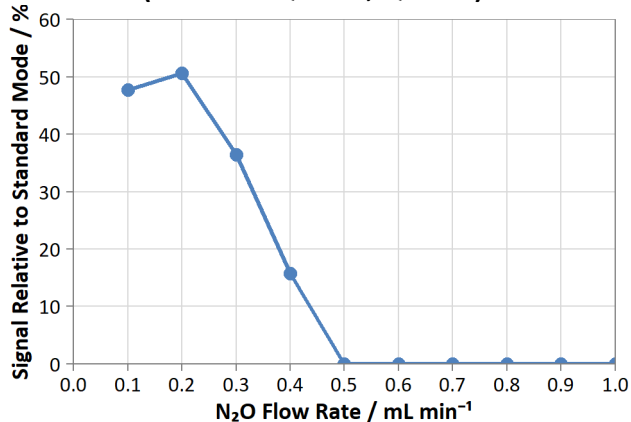
On-Mass with N₂O and O₂

On-Mass Profile of ⁴⁷Ti⁺ with N₂O and O₂



On-Mass Removal (as Interference) with N₂O

Variation of ⁴⁷Ti¹⁶O⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 63, Q3 = 63)



Variation of ⁴⁷Ti²⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 23.5, Q3 = 23.5)

[INSUFFICIENT DOUBLY-CHARGED ION FORMATION OBSERVED]

Asymmetric Charge Transfer (with N₂O)

[NO CHARGE TRANSFER REACTION OBSERVED]



Vanadium

Supplementary Information B to: Characterisation of gas cell reactions for 70+ elements using N₂O for ICP tandem mass spectrometry measurements

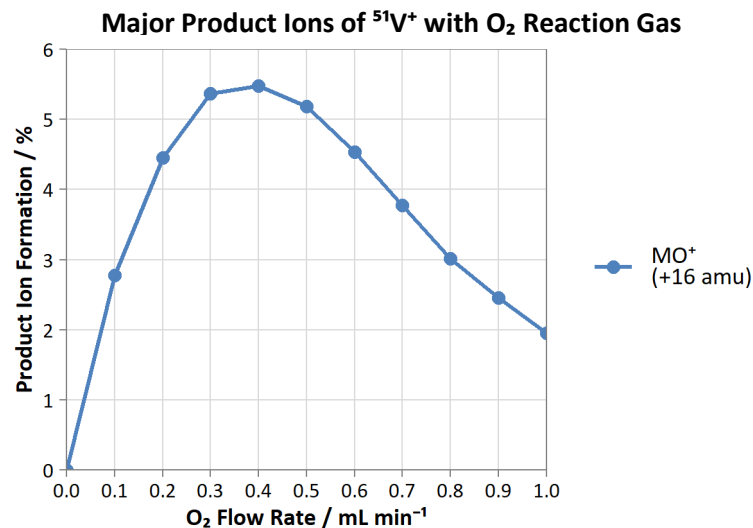
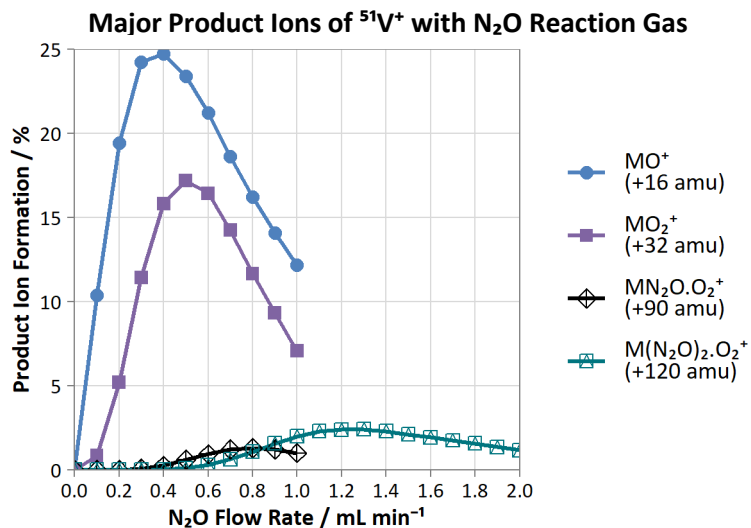
Shaun T. Lancaster^{a*}, Thomas Prohaska^{ab} and Johanna Irrgeher^{ab}

^aDepartment of General, Analytical and Physical Chemistry, Chair of General and Analytical Chemistry, Montanuniversität Leoben, Leoben, Austria.

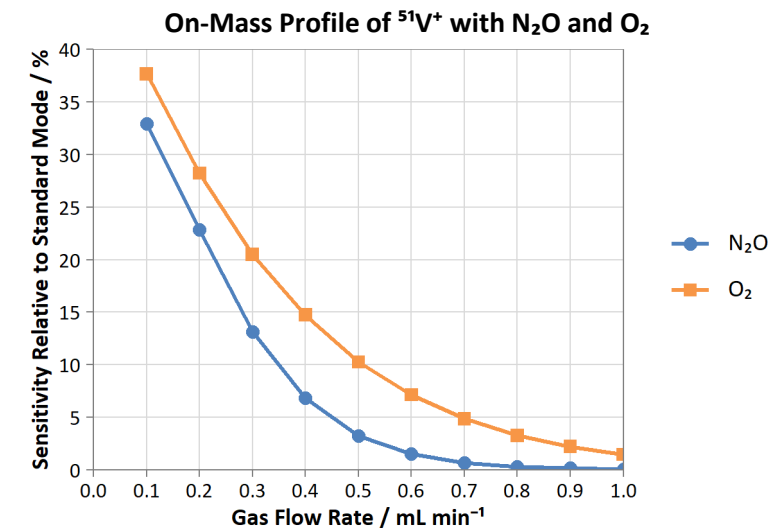
^bDepartment of Physics and Astronomy, University of Calgary, Calgary, Canada.



Mass-Shift with N₂O and O₂

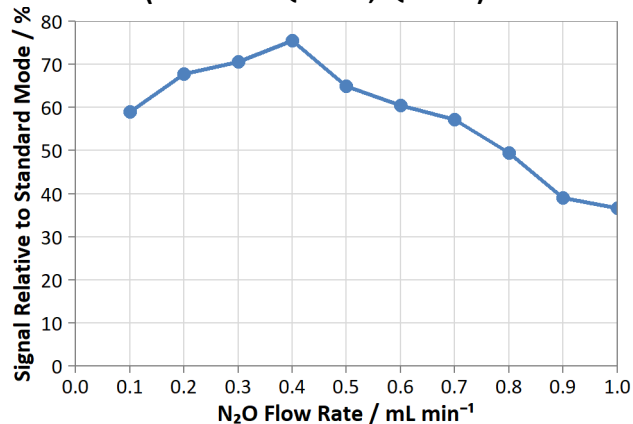


On-Mass with N₂O and O₂



On-Mass Removal (as Interference) with N₂O

Variation of ⁵¹V¹⁶O⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 67, Q3 = 67)



Variation of ⁵¹V²⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 25.5, Q3 = 25.5)

[INSUFFICIENT DOUBLY-CHARGED ION FORMATION OBSERVED]

Asymmetric Charge Transfer (with N₂O)

[NO CHARGE TRANSFER REACTION OBSERVED]

Chromium

Supplementary Information B to: Characterisation of gas cell reactions for 70+ elements using N₂O for ICP tandem mass spectrometry measurements

Shaun T. Lancaster^{a*}, Thomas Prohaska^{ab} and Johanna Irrgeher^{ab}

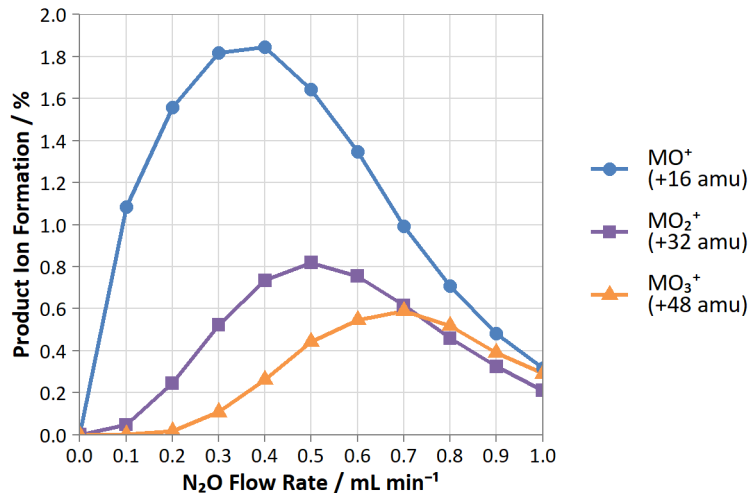
^aDepartment of General, Analytical and Physical Chemistry, Chair of General and Analytical Chemistry, Montanuniversität Leoben, Leoben, Austria.

^bDepartment of Physics and Astronomy, University of Calgary, Calgary, Canada.

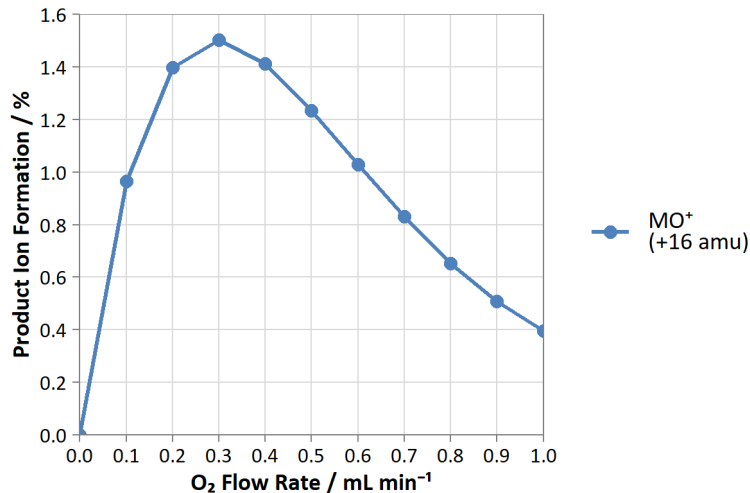


Mass-Shift with N₂O and O₂

Major Product Ions of ⁵²Cr⁺ with N₂O Reaction Gas

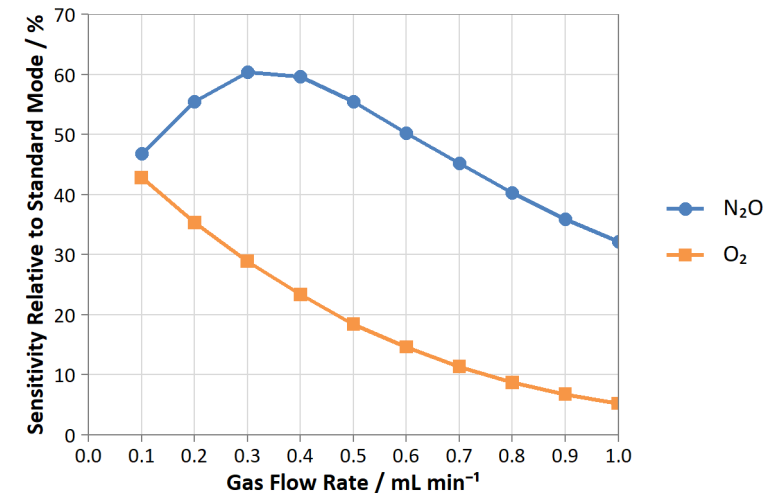


Major Product Ions of ⁵²Cr⁺ with O₂ Reaction Gas



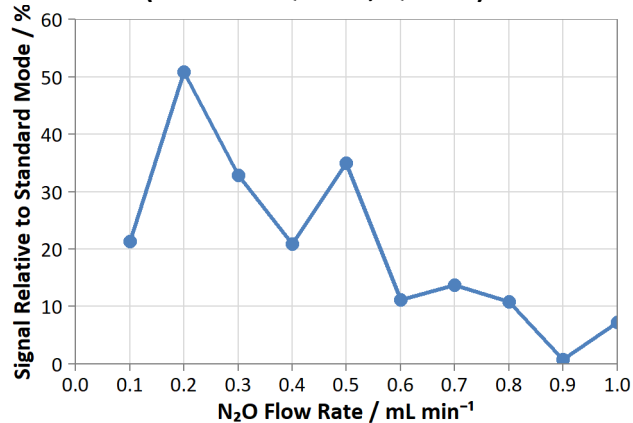
On-Mass with N₂O and O₂

On-Mass Profile of ⁵²Cr⁺ with N₂O and O₂



On-Mass Removal (as Interference) with N₂O

Variation of ⁵²Cr¹⁶O⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 68, Q3 = 68)



Variation of ⁵²Cr²⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 26, Q3 = 26)

[INSUFFICIENT DOUBLY-CHARGED ION FORMATION OBSERVED]

Asymmetric Charge Transfer (with N₂O)

[NO CHARGE TRANSFER REACTION OBSERVED]



Manganese

Supplementary Information B to: Characterisation of gas cell reactions for 70+ elements using N₂O for ICP tandem mass spectrometry measurements

Shaun T. Lancaster^{a*}, Thomas Prohaska^{ab} and Johanna Irrgeher^{ab}

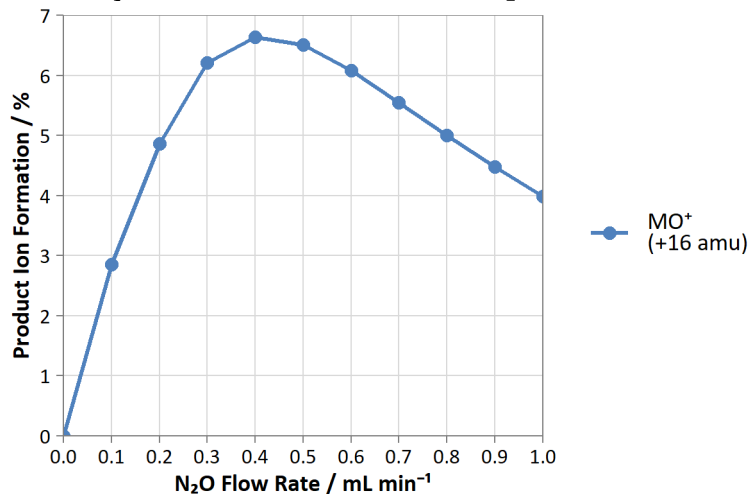
^aDepartment of General, Analytical and Physical Chemistry, Chair of General and Analytical Chemistry, Montanuniversität Leoben, Leoben, Austria.

^bDepartment of Physics and Astronomy, University of Calgary, Calgary, Canada.

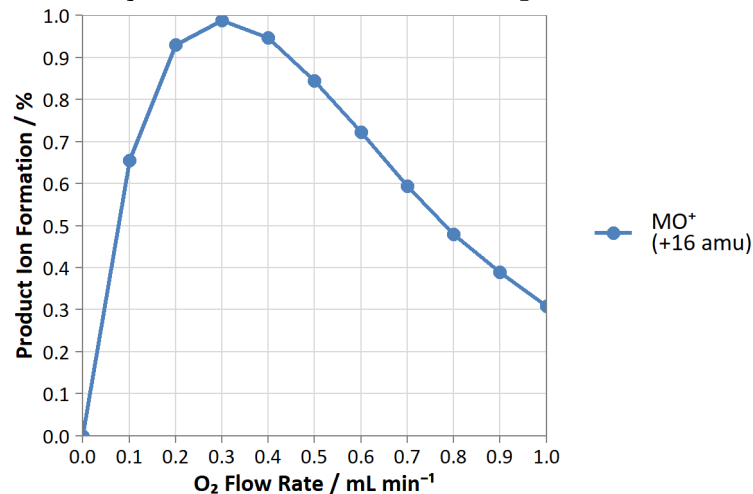


Mass-Shift with N₂O and O₂

Major Product Ions of ⁵⁵Mn⁺ with N₂O Reaction Gas

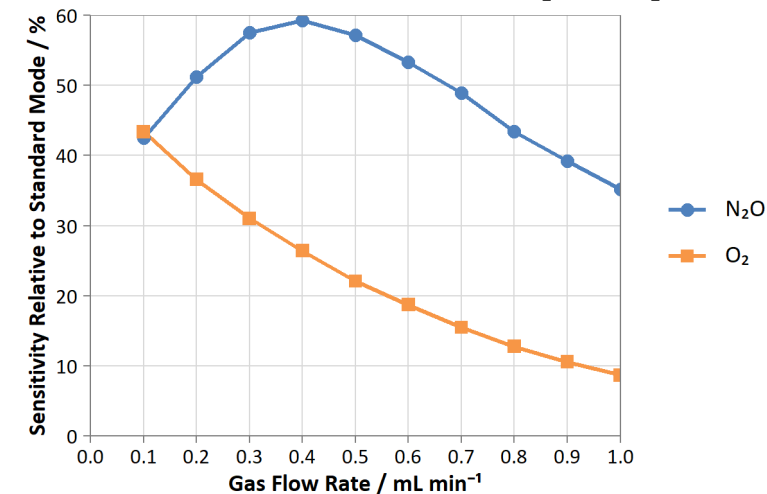


Major Product Ions of ⁵⁵Mn⁺ with O₂ Reaction Gas



On-Mass with N₂O and O₂

On-Mass Profile of ⁵⁵Mn⁺ with N₂O and O₂



On-Mass Removal (as Interference) with N₂O

Variation of ⁵⁵Mn¹⁶O⁺ Interference with N₂O Flow Rate
(On-Mass: Q1 = 71, Q3 = 71)

[INSUFFICIENT OXIDE FORMATION OBSERVED]

Variation of ⁵⁵Mn²⁺ Interference with N₂O Flow Rate
(On-Mass: Q1 = 27.5, Q3 = 27.5)

[INSUFFICIENT DOUBLY-CHARGED ION FORMATION OBSERVED]

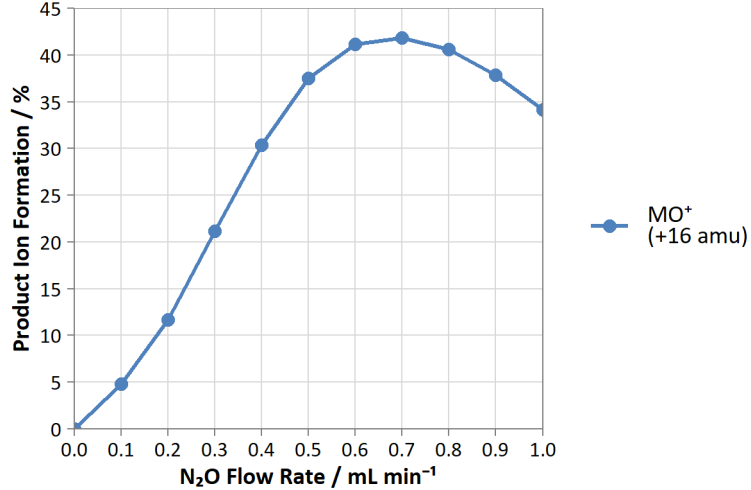
Asymmetric Charge Transfer (with N₂O)

[NO CHARGE TRANSFER REACTION OBSERVED]

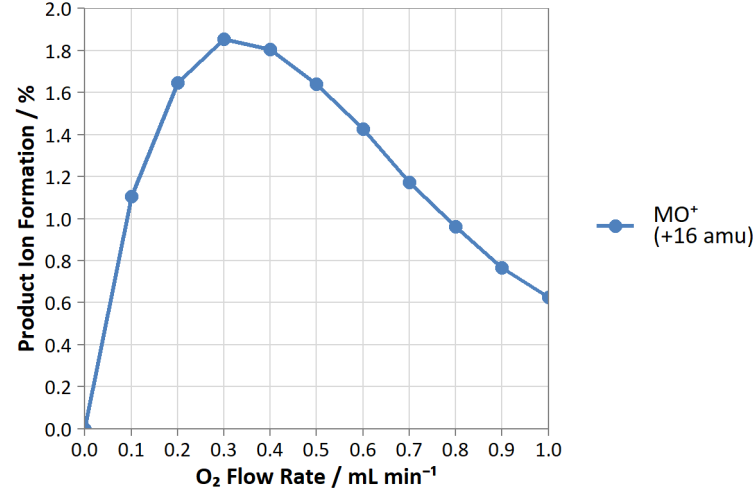


Mass-Shift with N₂O and O₂

Major Product Ions of ⁵⁷Fe⁺ with N₂O Reaction Gas

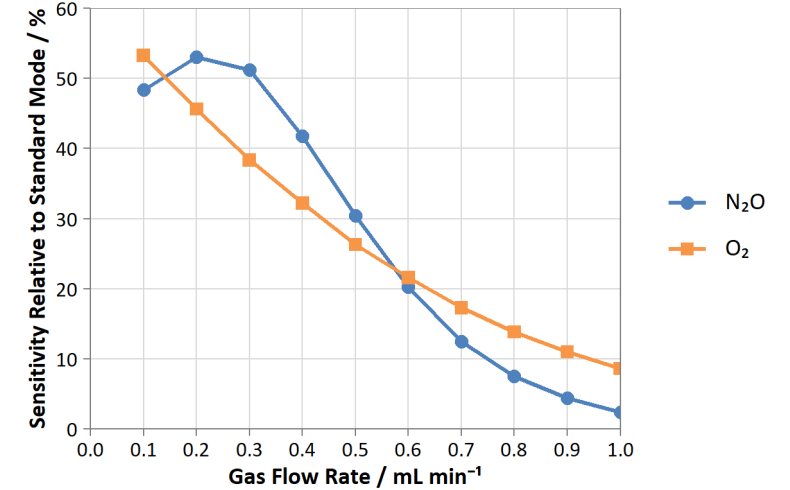


Major Product Ions of ⁵⁷Fe⁺ with O₂ Reaction Gas



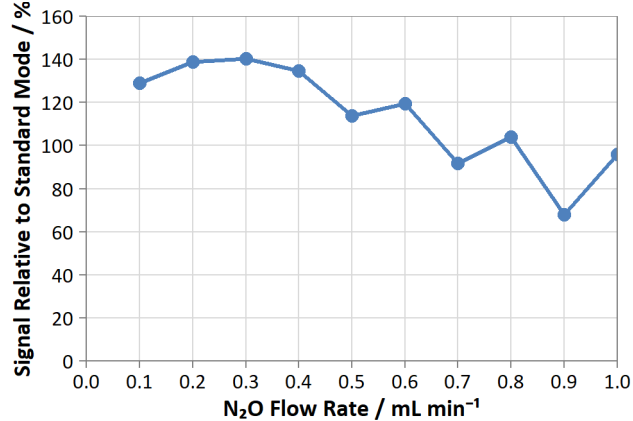
On-Mass with N₂O and O₂

On-Mass Profile of ⁵⁷Fe⁺ with N₂O and O₂



On-Mass Removal (as Interference) with N₂O

Variation of ⁵⁷Fe¹⁶O⁺ Interference with N₂O Flow Rate
(On-Mass: Q1 = 73, Q3 = 73)



Variation of ⁵⁷Fe²⁺ Interference with N₂O Flow Rate
(On-Mass: Q1 = 28.5, Q3 = 28.5)

[INSUFFICIENT DOUBLY-CHARGED ION FORMATION OBSERVED]

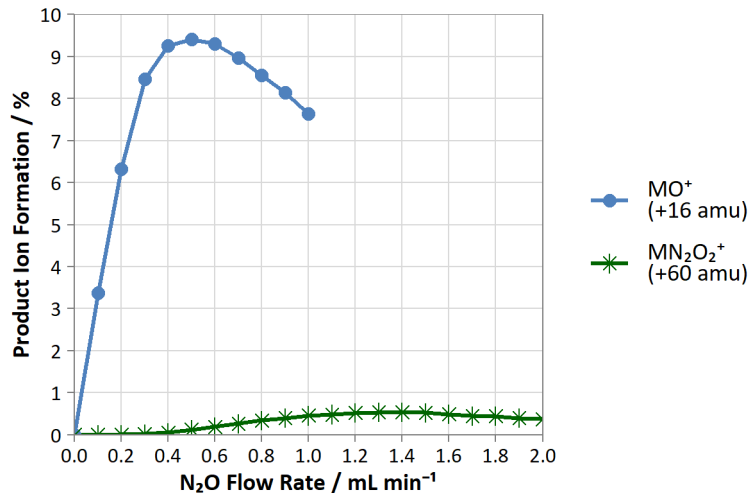
Asymmetric Charge Transfer (with N₂O)

[NO CHARGE TRANSFER REACTION OBSERVED]

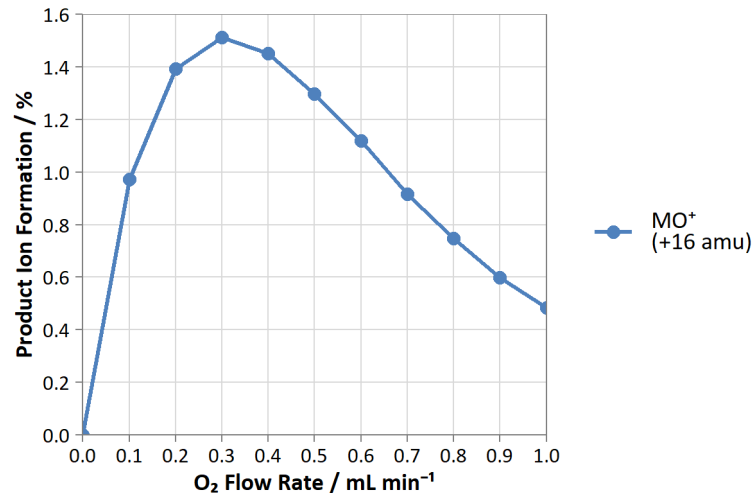


Mass-Shift with N₂O and O₂

Major Product Ions of ⁵⁹Co⁺ with N₂O Reaction Gas

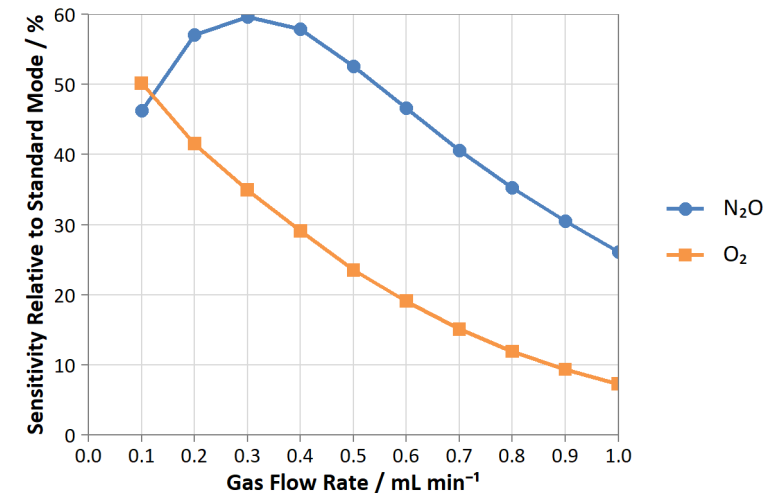


Major Product Ions of ⁵⁹Co⁺ with O₂ Reaction Gas



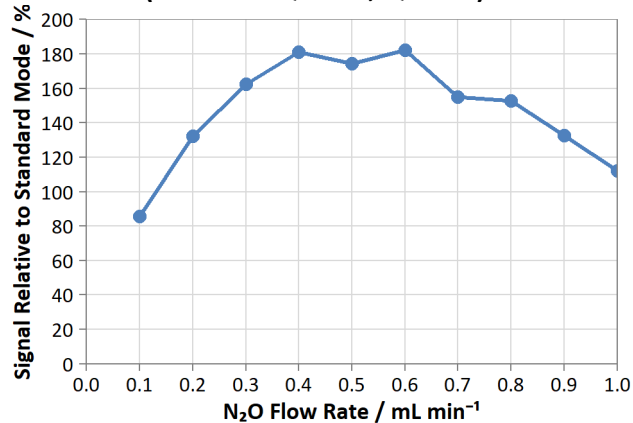
On-Mass with N₂O and O₂

On-Mass Profile of ⁵⁹Co⁺ with N₂O and O₂



On-Mass Removal (as Interference) with N₂O

Variation of ⁵⁹Co¹⁶O⁺ Interference with N₂O Flow Rate
(On-Mass: Q1 = 75, Q3 = 75)



Variation of ⁵⁹Co²⁺ Interference with N₂O Flow Rate
(On-Mass: Q1 = 29.5, Q3 = 29.5)

[INSUFFICIENT DOUBLY-CHARGED ION FORMATION OBSERVED]

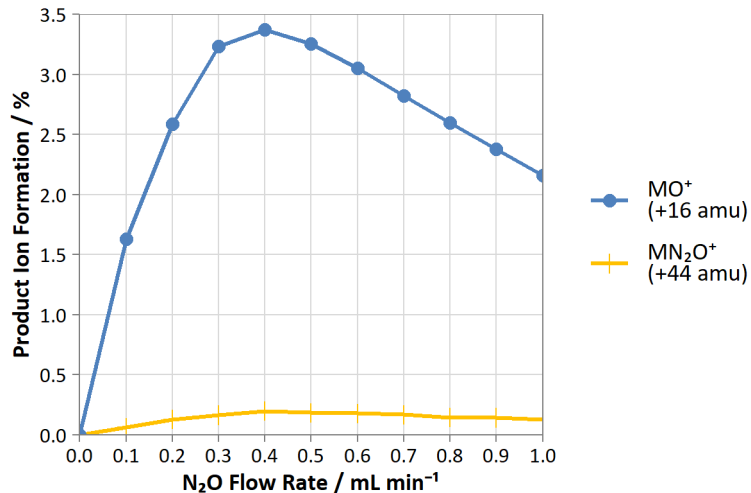
Asymmetric Charge Transfer (with N₂O)

[NO CHARGE TRANSFER REACTION OBSERVED]

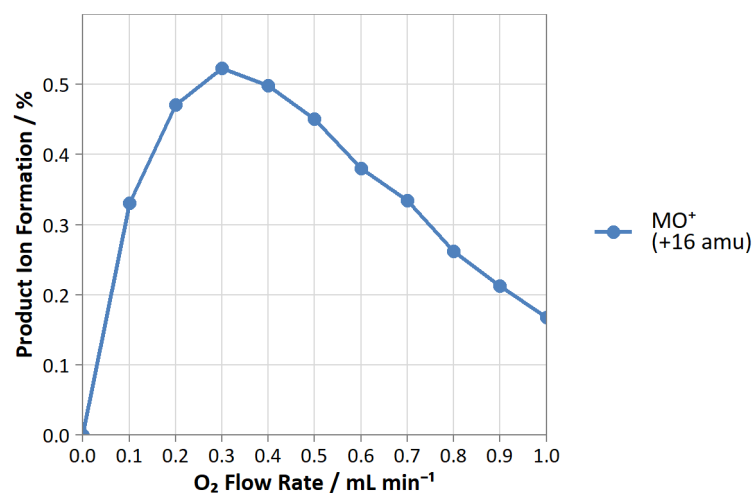


Mass-Shift with N₂O and O₂

Major Product Ions of ⁶⁰Ni⁺ with N₂O Reaction Gas

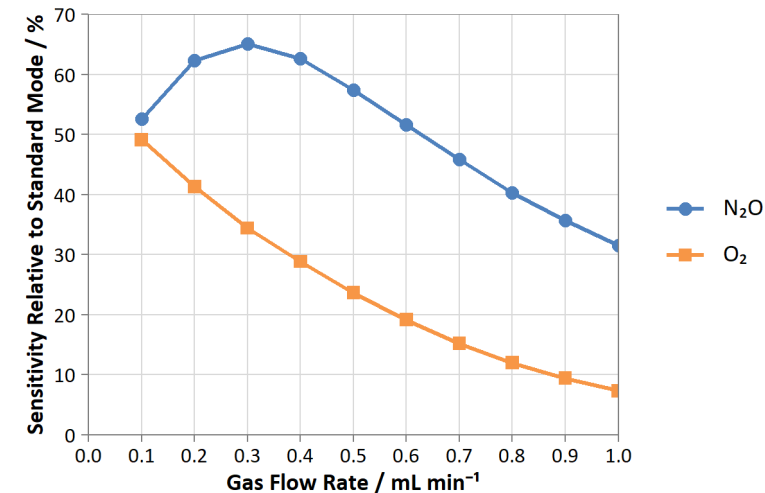


Major Product Ions of ⁶⁰Ni⁺ with O₂ Reaction Gas



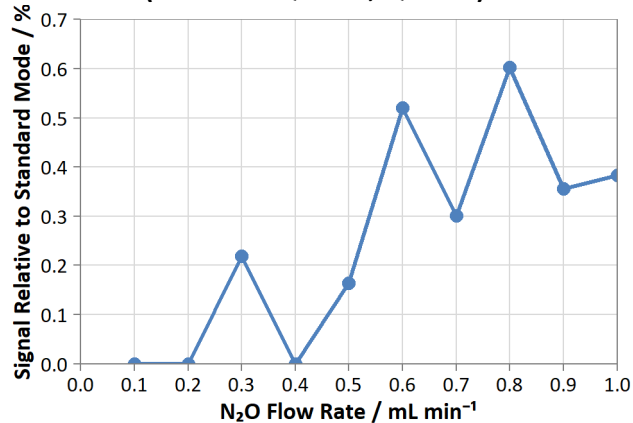
On-Mass with N₂O and O₂

On-Mass Profile of ⁶⁰Ni⁺ with N₂O and O₂

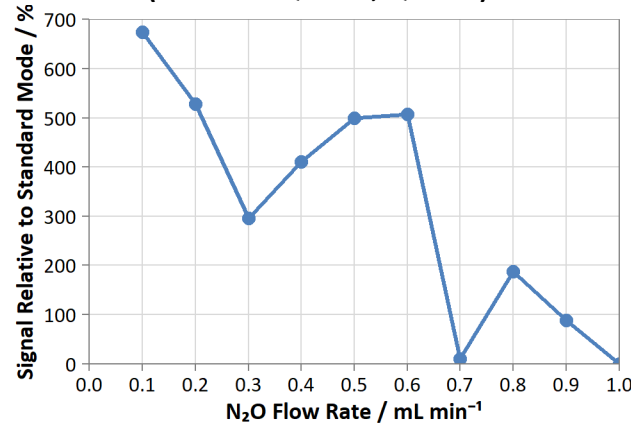


On-Mass Removal (as Interference) with N₂O

Variation of ⁶⁰Ni¹⁶O⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 76, Q3 = 76)



Variation of ⁶⁰Ni²⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 30, Q3 = 30)



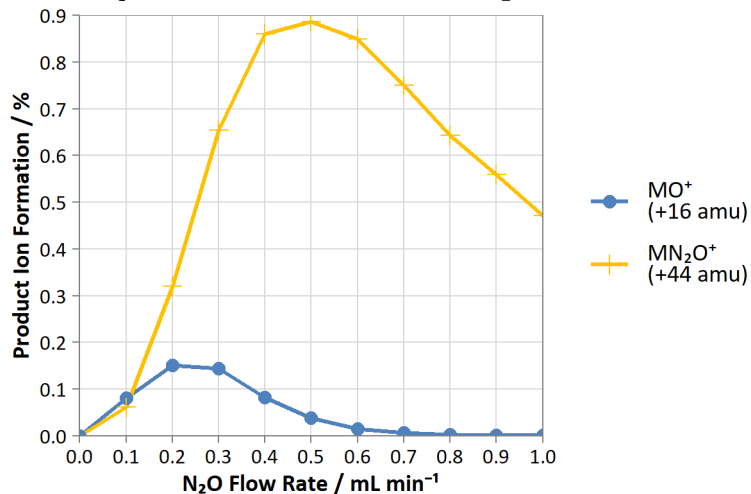
Asymmetric Charge Transfer (with N₂O)

[NO CHARGE TRANSFER REACTION OBSERVED]

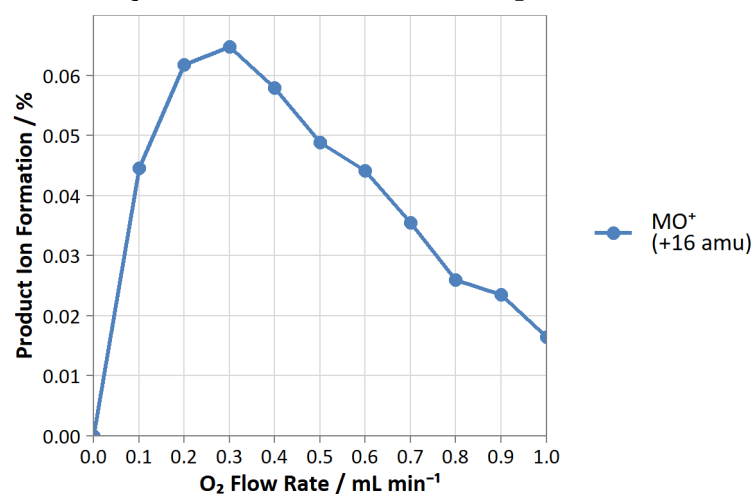


Mass-Shift with N₂O and O₂

Major Product Ions of ⁶³Cu⁺ with N₂O Reaction Gas

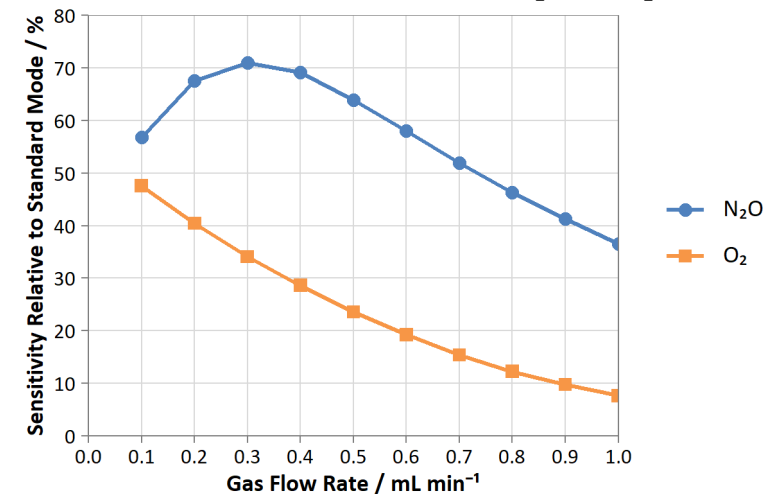


Major Product Ions of ⁶³Cu⁺ with O₂ Reaction Gas



On-Mass with N₂O and O₂

On-Mass Profile of ⁶³Cu⁺ with N₂O and O₂



On-Mass Removal (as Interference) with N₂O

Variation of ⁶³Cu¹⁶O⁺ Interference with N₂O Flow Rate
 (On-Mass: Q1 = 79, Q3 = 79)

[INSUFFICIENT OXIDE FORMATION OBSERVED]

Variation of ⁶³Cu²⁺ Interference with N₂O Flow Rate
 (On-Mass: Q1 = 31.5, Q3 = 31.5)

[INSUFFICIENT DOUBLY-CHARGED ION FORMATION OBSERVED]

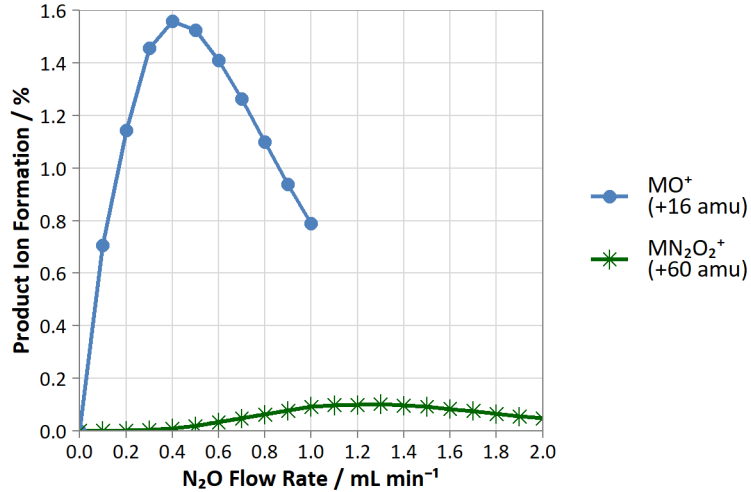
Asymmetric Charge Transfer (with N₂O)

[NO CHARGE TRANSFER REACTION OBSERVED]

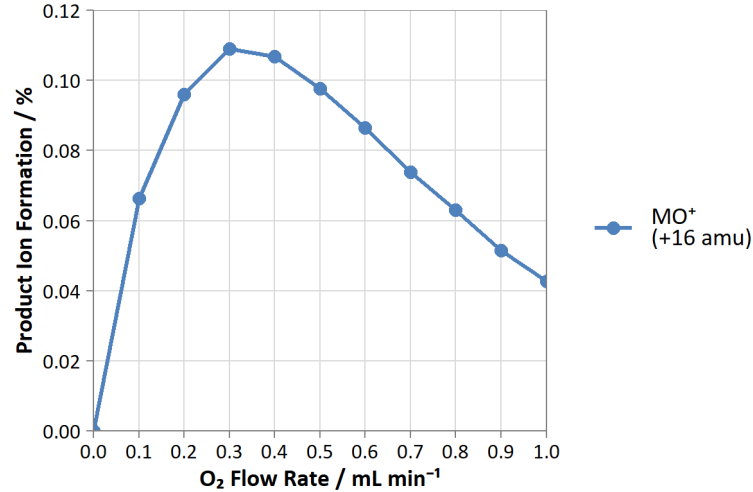


Mass-Shift with N₂O and O₂

Major Product Ions of ⁶⁶Zn⁺ with N₂O Reaction Gas

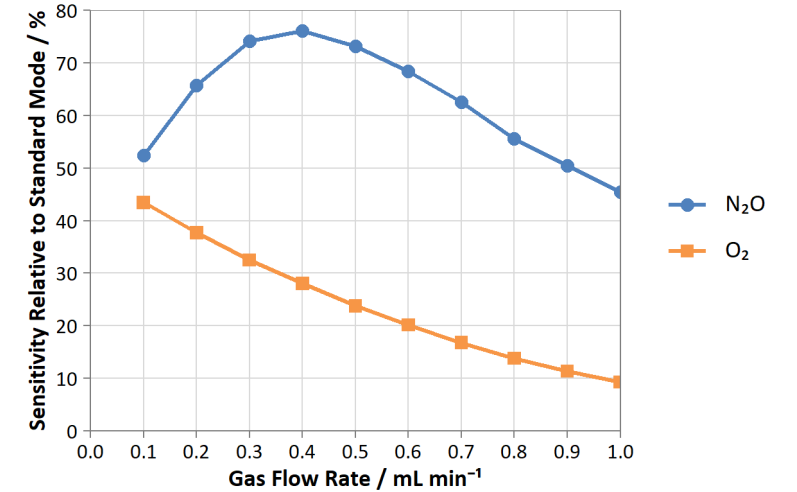


Major Product Ions of ⁶⁶Zn⁺ with O₂ Reaction Gas



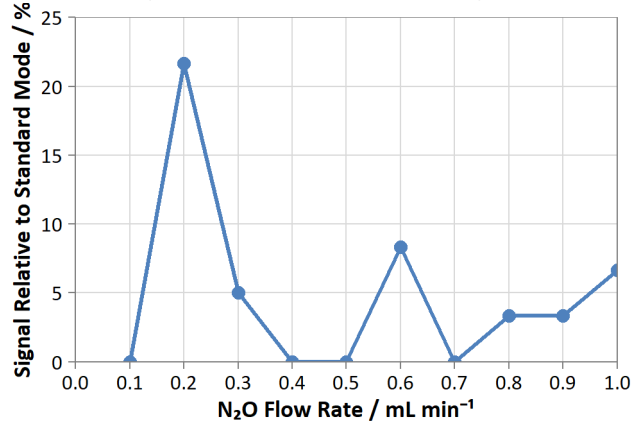
On-Mass with N₂O and O₂

On-Mass Profile of ⁶⁶Zn⁺ with N₂O and O₂

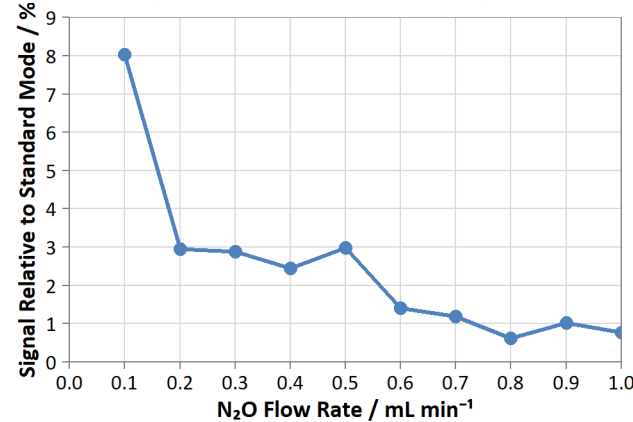


On-Mass Removal (as Interference) with N₂O

Variation of ⁶⁶Zn¹⁶O⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 82, Q3 = 82)



Variation of ⁶⁶Zn²⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 33, Q3 = 33)



Asymmetric Charge Transfer (with N₂O)

[NO CHARGE TRANSFER REACTION OBSERVED]



Mass-Shift with N₂O and O₂

Major Product Ions of ⁶⁹Ga⁺ with N₂O Reaction Gas

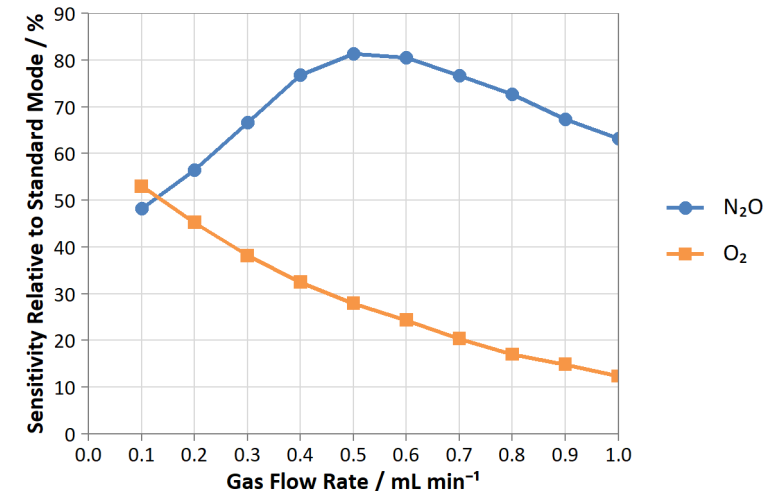
[NO ATOM TRANSFER
REACTION OBSERVED]

Major Product Ions of ⁶⁹Ga⁺ with O₂ Reaction Gas

[NO ATOM TRANSFER
REACTION OBSERVED]

On-Mass with N₂O and O₂

On-Mass Profile of ⁶⁹Ga⁺ with N₂O and O₂



On-Mass Removal (as Interference) with N₂O

Variation of ⁶⁹Ga¹⁶O⁺ Interference with
N₂O Flow Rate
(On-Mass: Q1 = 85, Q3 = 85)

[INSUFFICIENT OXIDE
FORMATION OBSERVED]

Variation of ⁶⁹Ga²⁺ Interference with
N₂O Flow Rate
(On-Mass: Q1 = 34.5, Q3 = 34.5)

[INSUFFICIENT DOUBLY-CHARGED
ION FORMATION OBSERVED]

Asymmetric Charge Transfer (with N₂O)

[NO CHARGE TRANSFER
REACTION OBSERVED]

Germanium

Supplementary Information B to: Characterisation of gas cell reactions for 70+ elements using N₂O for ICP tandem mass spectrometry measurements

Shaun T. Lancaster^{a*}, Thomas Prohaska^{ab} and Johanna Irrgeher^{ab}

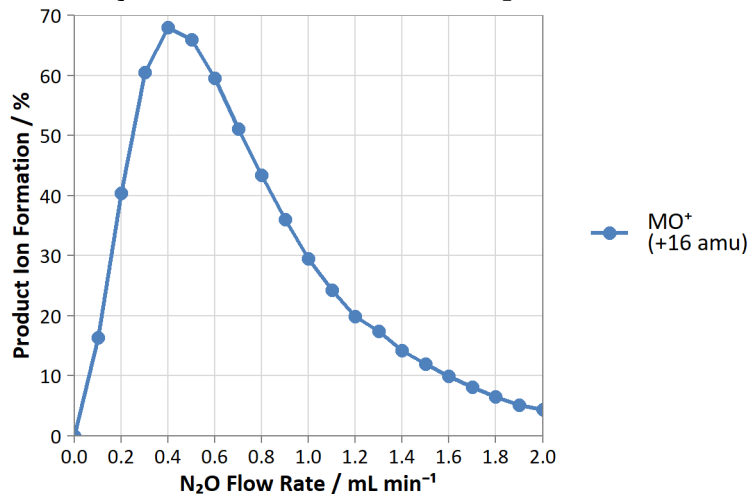
^aDepartment of General, Analytical and Physical Chemistry, Chair of General and Analytical Chemistry, Montanuniversität Leoben, Leoben, Austria.

^bDepartment of Physics and Astronomy, University of Calgary, Calgary, Canada.

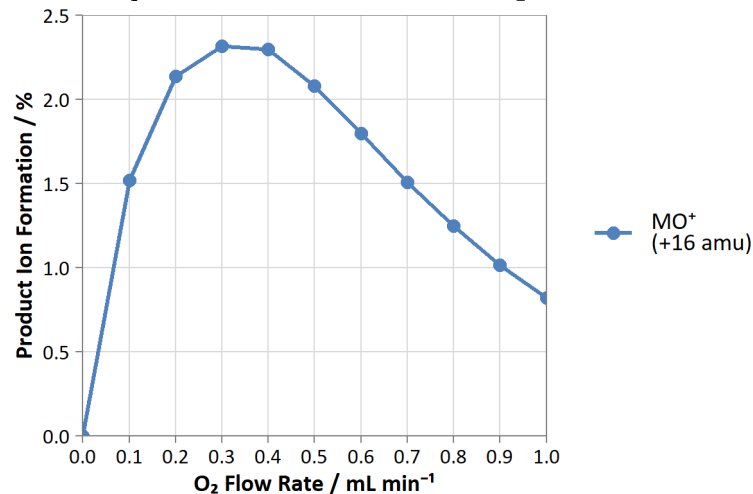


Mass-Shift with N₂O and O₂

Major Product Ions of ⁷⁴Ge⁺ with N₂O Reaction Gas

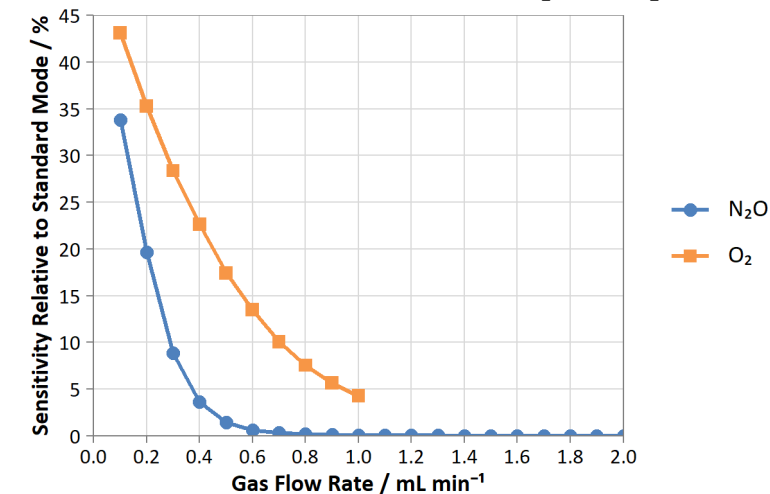


Major Product Ions of ⁷⁴Ge⁺ with O₂ Reaction Gas



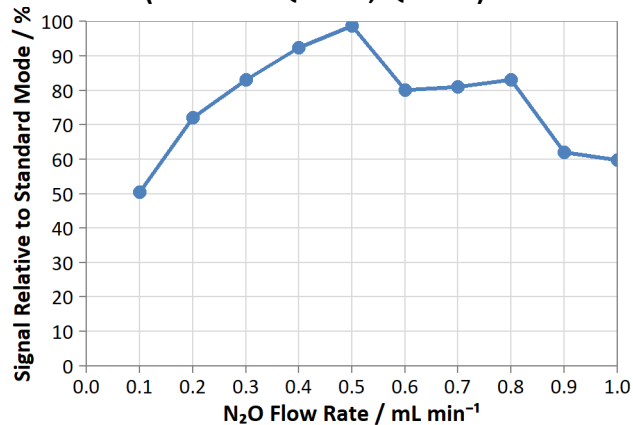
On-Mass with N₂O and O₂

On-Mass Profile of ⁷⁴Ge⁺ with N₂O and O₂



On-Mass Removal (as Interference) with N₂O

Variation of ⁷⁴Ge¹⁶O⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 90, Q3 = 90)

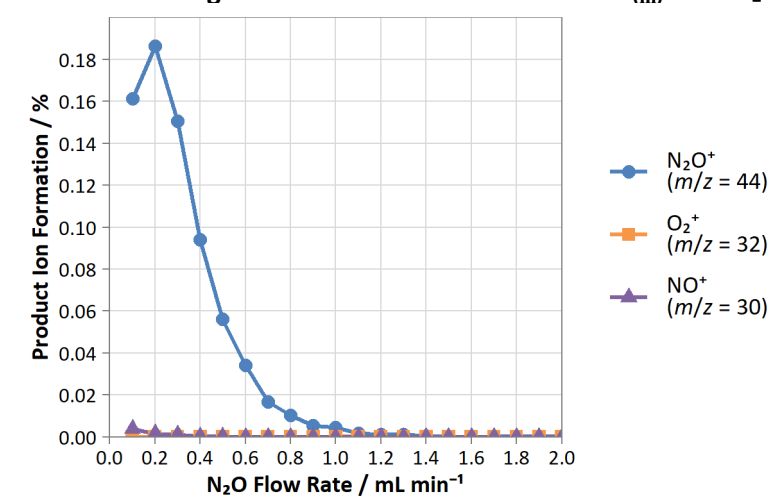


Variation of ⁷⁴Ge²⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 37, Q3 = 37)

[NOT MEASURED]

Asymmetric Charge Transfer (with N₂O)

Profile of Charge Transfer Reaction Between ⁷⁴Ge_(m)⁺ and N₂O



Arsenic

Supplementary Information B to: Characterisation of gas cell reactions for 70+ elements using N₂O for ICP tandem mass spectrometry measurements

Shaun T. Lancaster^{a*}, Thomas Prohaska^{ab} and Johanna Irrgeher^{ab}

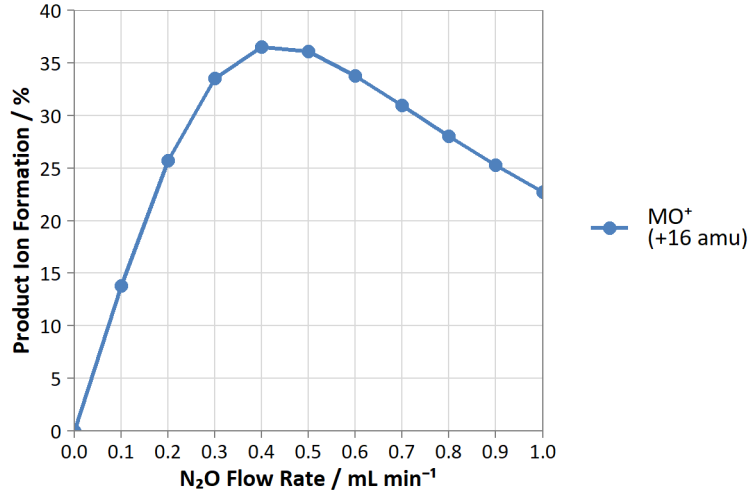
^aDepartment of General, Analytical and Physical Chemistry, Chair of General and Analytical Chemistry, Montanuniversität Leoben, Leoben, Austria.

^bDepartment of Physics and Astronomy, University of Calgary, Calgary, Canada.

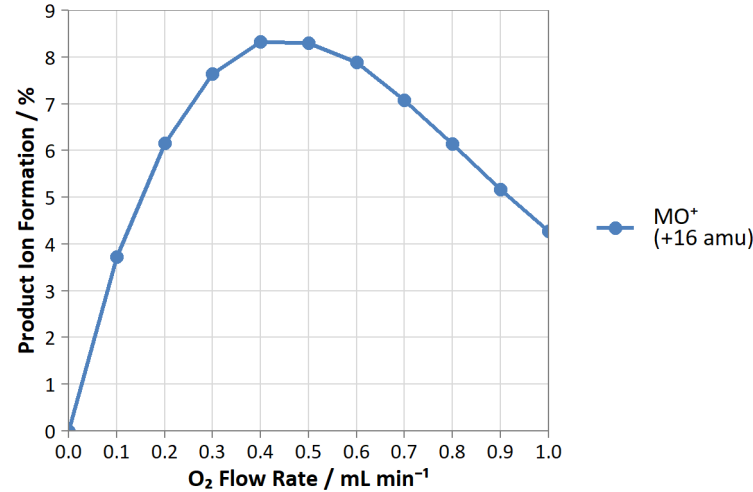


Mass-Shift with N₂O and O₂

Major Product Ions of ⁷⁵As⁺ with N₂O Reaction Gas

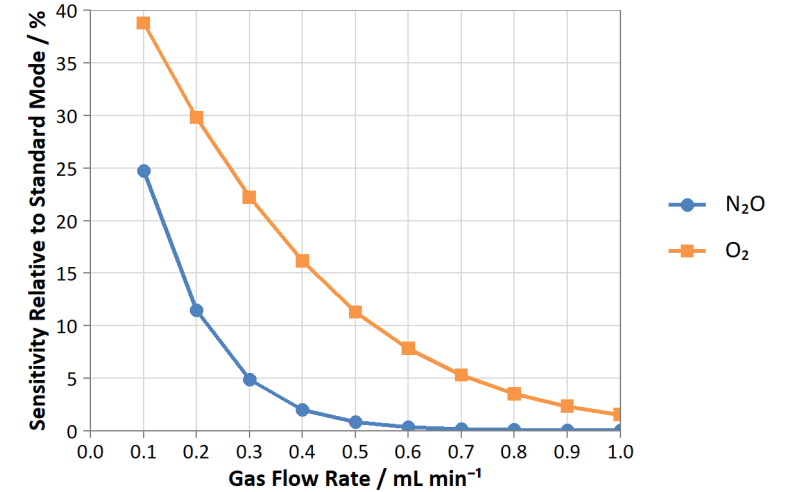


Major Product Ions of ⁷⁵As⁺ with O₂ Reaction Gas



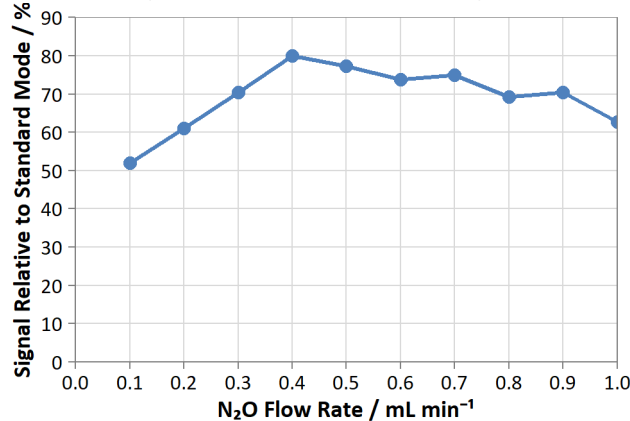
On-Mass with N₂O and O₂

On-Mass Profile of ⁷⁵As⁺ with N₂O and O₂



On-Mass Removal (as Interference) with N₂O

Variation of ⁷⁵As¹⁶O⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 91, Q3 = 91)

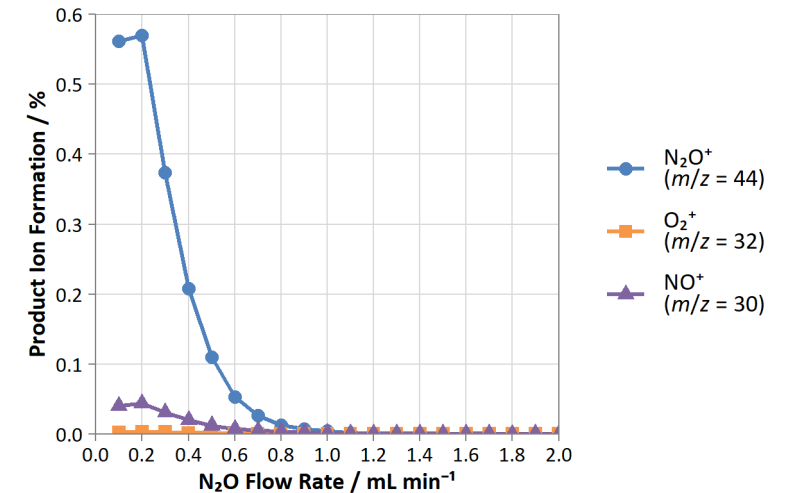


Variation of ⁷⁵As²⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 37.5, Q3 = 37.5)

[INSUFFICIENT DOUBLY-CHARGED ION FORMATION OBSERVED]

Asymmetric Charge Transfer (with N₂O)

Profile of Charge Transfer Reaction Between ⁷⁵As_(m)⁺ and N₂O



Selenium

Supplementary Information B to: Characterisation of gas cell reactions for 70+ elements using N₂O for ICP tandem mass spectrometry measurements

Shaun T. Lancaster^{a*}, Thomas Prohaska^{ab} and Johanna Irrgeher^{ab}

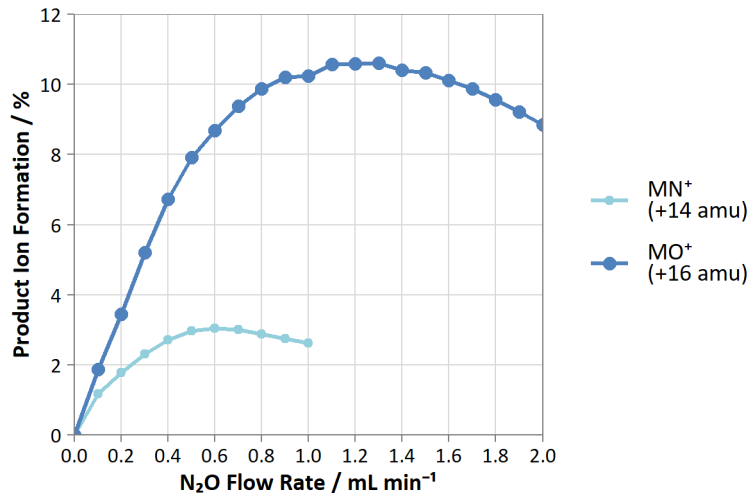
^aDepartment of General, Analytical and Physical Chemistry, Chair of General and Analytical Chemistry, Montanuniversität Leoben, Leoben, Austria.

^bDepartment of Physics and Astronomy, University of Calgary, Calgary, Canada.

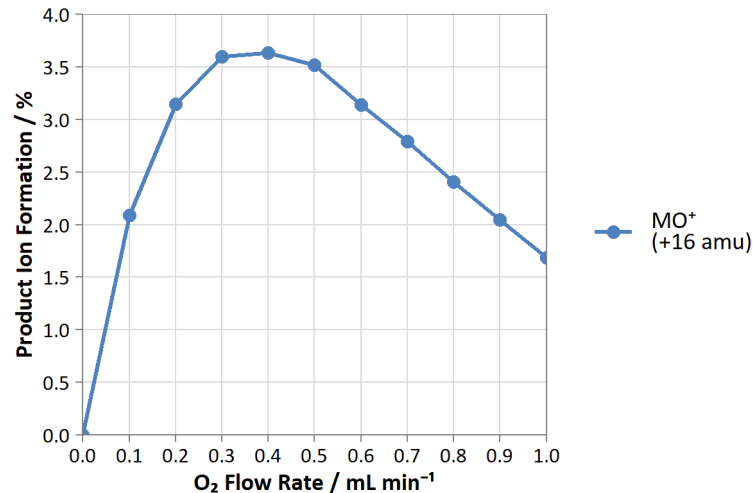


Mass-Shift with N₂O and O₂

Major Product Ions of ⁸²Se⁺ with N₂O Reaction Gas

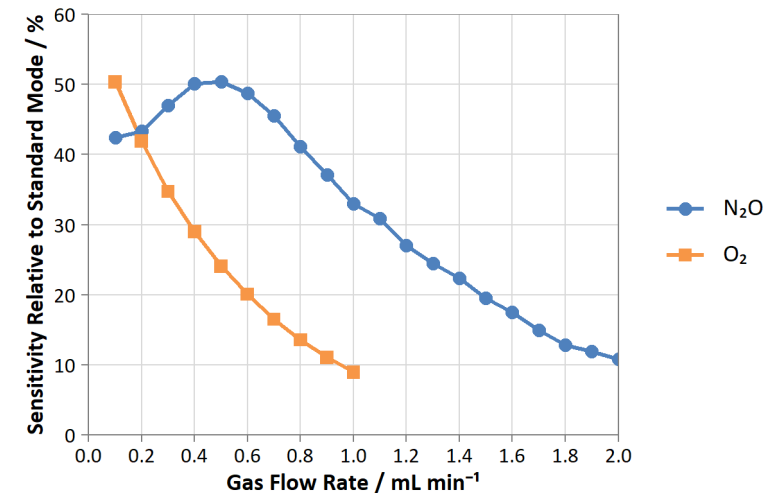


Major Product Ions of ⁸²Se⁺ with O₂ Reaction Gas



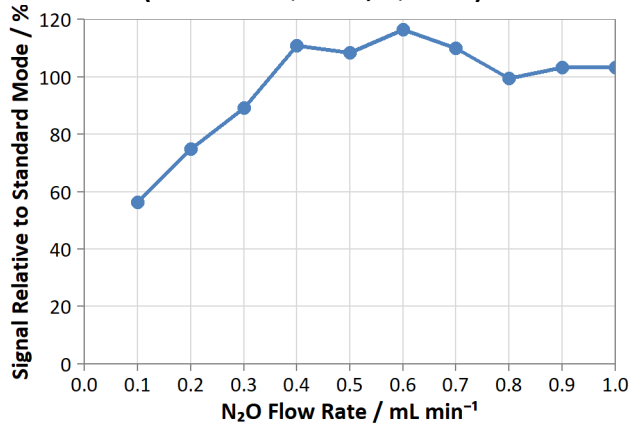
On-Mass with N₂O and O₂

On-Mass Profile of ⁸²Se⁺ with N₂O and O₂



On-Mass Removal (as Interference) with N₂O

Variation of ⁷⁸Se¹⁶O⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 94, Q3 = 94)

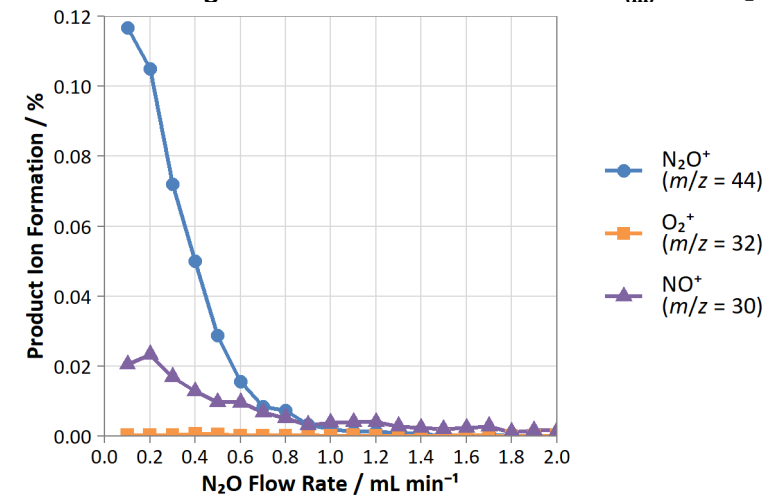


Variation of ⁷⁸Se²⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 39, Q3 = 39)

[NOT MEASURED]

Asymmetric Charge Transfer (with N₂O)

Profile of Charge Transfer Reaction Between ⁷⁸Se_(m)⁺ and N₂O



Bromine

Supplementary Information B to: Characterisation of gas cell reactions for 70+ elements using N₂O for ICP tandem mass spectrometry measurements

Shaun T. Lancaster^{a*}, Thomas Prohaska^{ab} and Johanna Irrgeher^{ab}

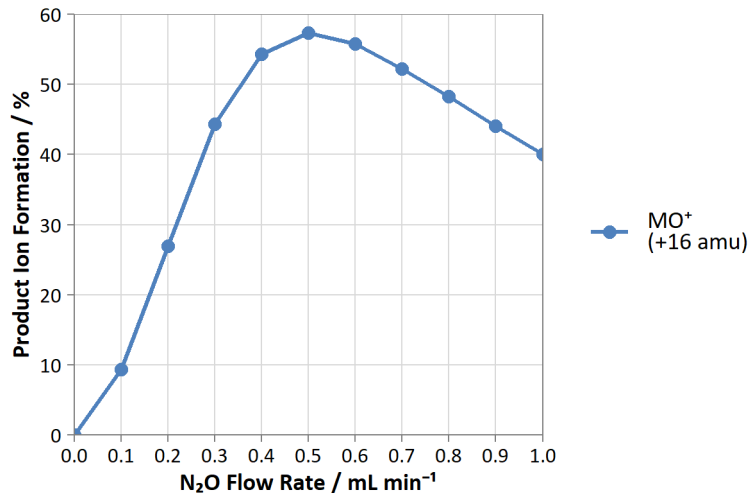
^aDepartment of General, Analytical and Physical Chemistry, Chair of General and Analytical Chemistry, Montanuniversität Leoben, Leoben, Austria.

^bDepartment of Physics and Astronomy, University of Calgary, Calgary, Canada.

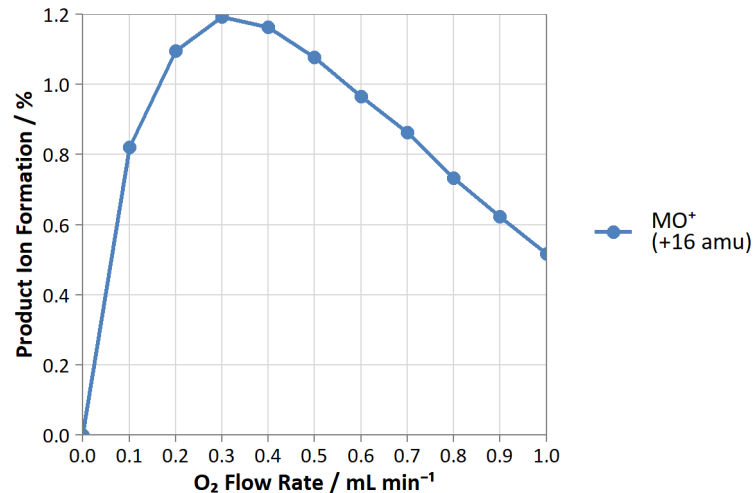


Mass-Shift with N₂O and O₂

Major Product Ions of ⁸¹Br⁺ with N₂O Reaction Gas

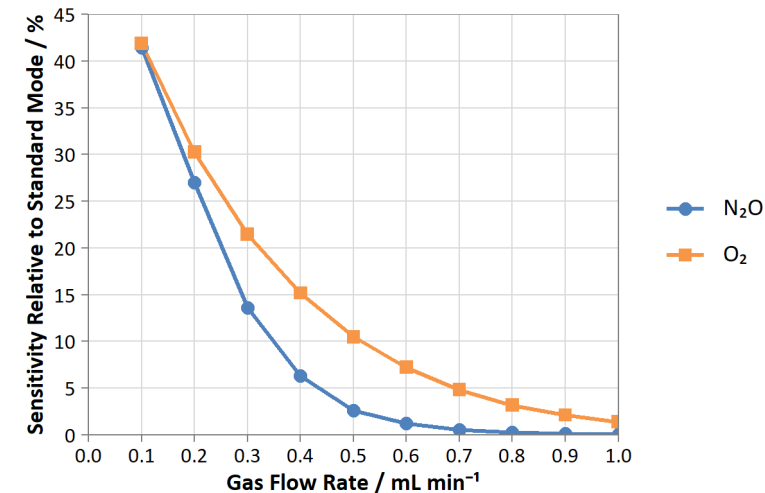


Major Product Ions of ⁸¹Br⁺ with O₂ Reaction Gas



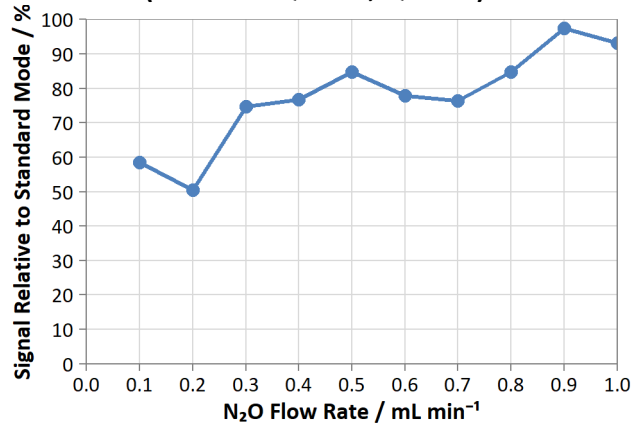
On-Mass with N₂O and O₂

On-Mass Profile of ⁸¹Br⁺ with N₂O and O₂

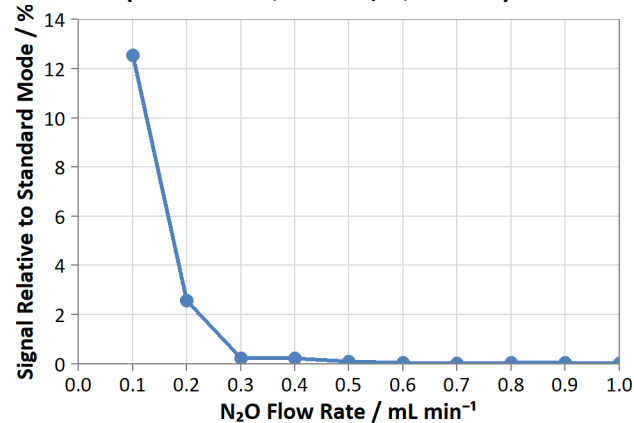


On-Mass Removal (as Interference) with N₂O

Variation of ⁸¹Br¹⁶O⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 97, Q3 = 97)

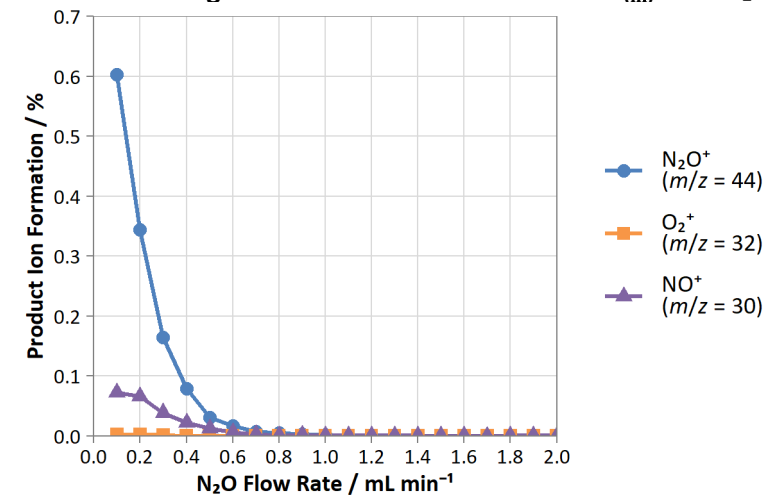


Variation of ⁸¹Br²⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 40.5, Q3 = 40.5)



Asymmetric Charge Transfer (with N₂O)

Profile of Charge Transfer Reaction Between ⁸¹Br_(m)⁺ and N₂O



Rubidium

Supplementary Information B to: Characterisation of gas cell reactions for 70+ elements using N₂O for ICP tandem mass spectrometry measurements
Shaun T. Lancaster^{a*}, Thomas Prohaska^{ab} and Johanna Irrgeher^{ab}
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^bDepartment of Physics and Astronomy, University of Calgary, Calgary, Canada.



Mass-Shift with N₂O and O₂

Major Product Ions of ⁸⁵Rb⁺ with N₂O Reaction Gas

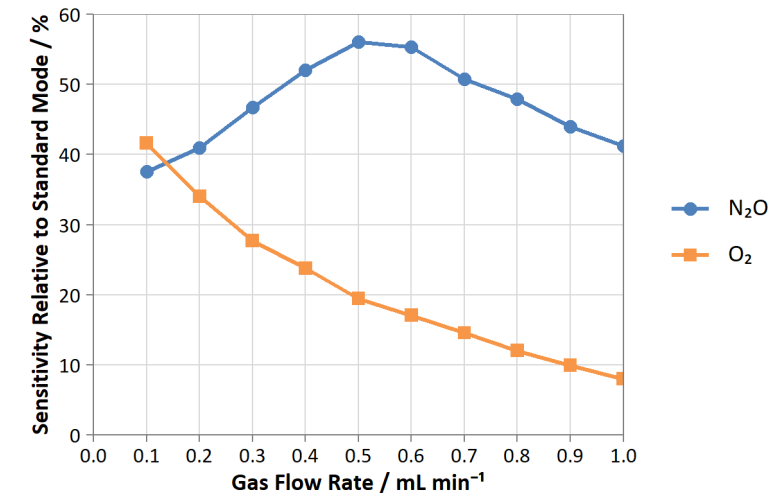
[NO ATOM TRANSFER
REACTION OBSERVED]

Major Product Ions of ⁸⁵Rb⁺ with O₂ Reaction Gas

[NO ATOM TRANSFER
REACTION OBSERVED]

On-Mass with N₂O and O₂

On-Mass Profile of ⁸⁵Rb⁺ with N₂O and O₂



On-Mass Removal (as Interference) with N₂O

Variation of ⁸⁵Rb¹⁶O⁺ Interference with
N₂O Flow Rate
(On-Mass: Q1 = 101, Q3 = 101)

[INSUFFICIENT OXIDE
FORMATION OBSERVED]

Variation of ⁸⁵Rb²⁺ Interference with
N₂O Flow Rate
(On-Mass: Q1 = 42.5, Q3 = 42.5)

[INSUFFICIENT DOUBLY-CHARGED
ION FORMATION OBSERVED]

Asymmetric Charge Transfer (with N₂O)

[NO CHARGE TRANSFER
REACTION OBSERVED]

Strontium

Supplementary Information B to: Characterisation of gas cell reactions for 70+ elements using N₂O for ICP tandem mass spectrometry measurements

Shaun T. Lancaster^{a*}, Thomas Prohaska^{ab} and Johanna Irrgeher^{ab}

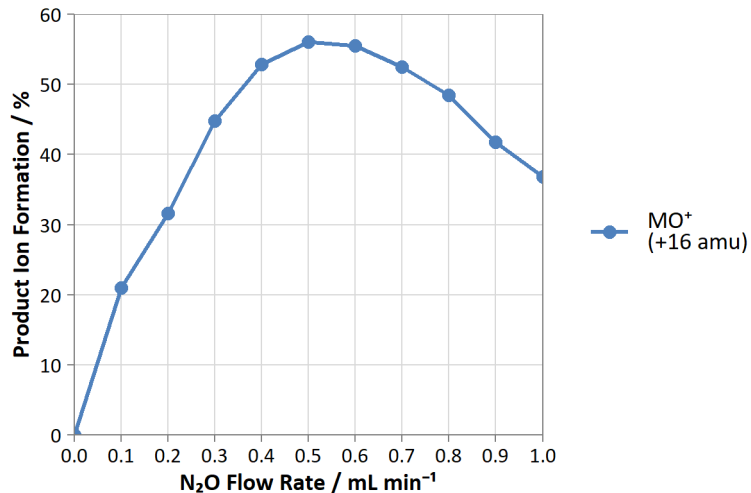
^aDepartment of General, Analytical and Physical Chemistry, Chair of General and Analytical Chemistry, Montanuniversität Leoben, Leoben, Austria.

^bDepartment of Physics and Astronomy, University of Calgary, Calgary, Canada.

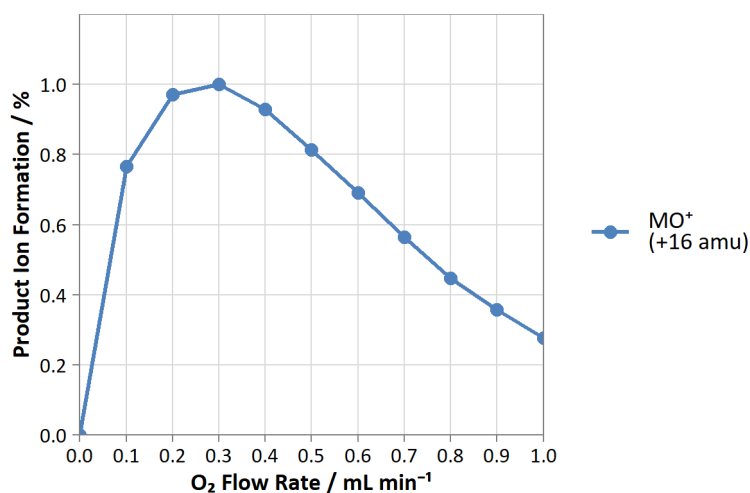


Mass-Shift with N₂O and O₂

Major Product Ions of ⁸⁸Sr⁺ with N₂O Reaction Gas

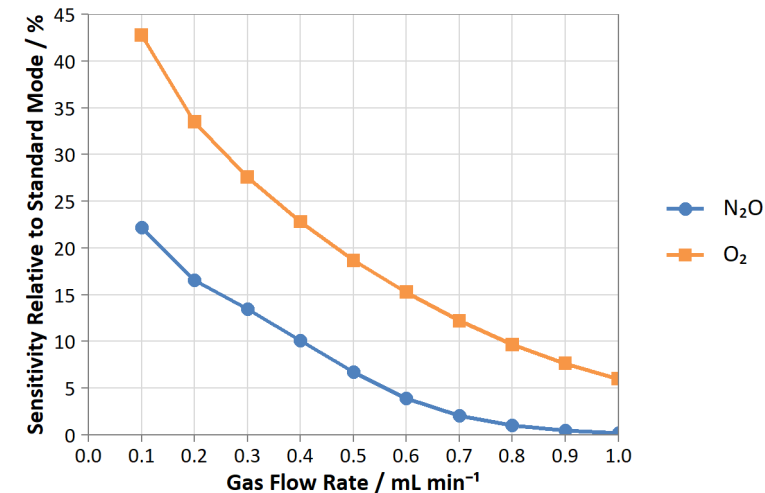


Major Product Ions of ⁸⁸Sr⁺ with O₂ Reaction Gas



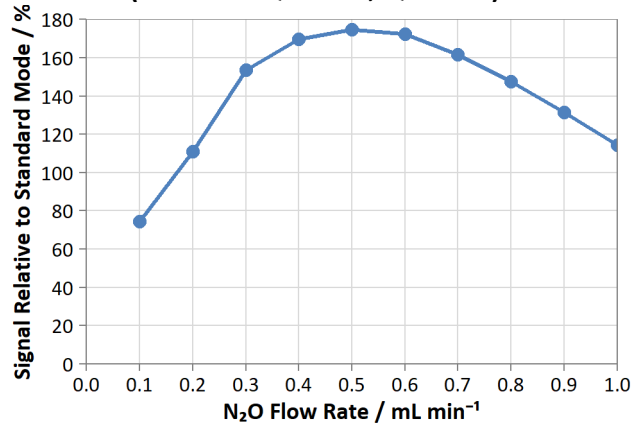
On-Mass with N₂O and O₂

On-Mass Profile of ⁸⁸Sr⁺ with N₂O and O₂

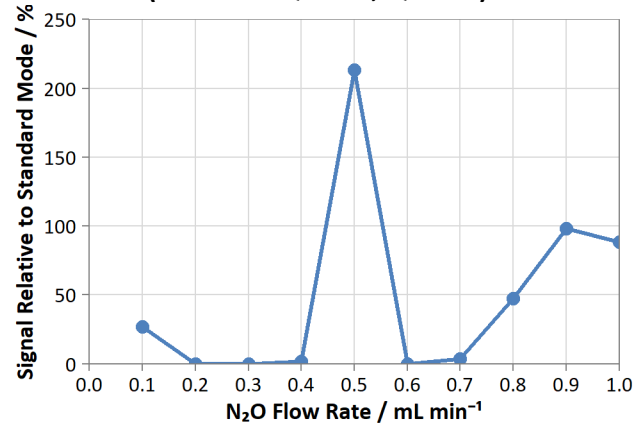


On-Mass Removal (as Interference) with N₂O

Variation of ⁸⁸Sr¹⁶O⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 104, Q3 = 104)



Variation of ⁸⁸Sr²⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 44, Q3 = 44)



Asymmetric Charge Transfer (with N₂O)

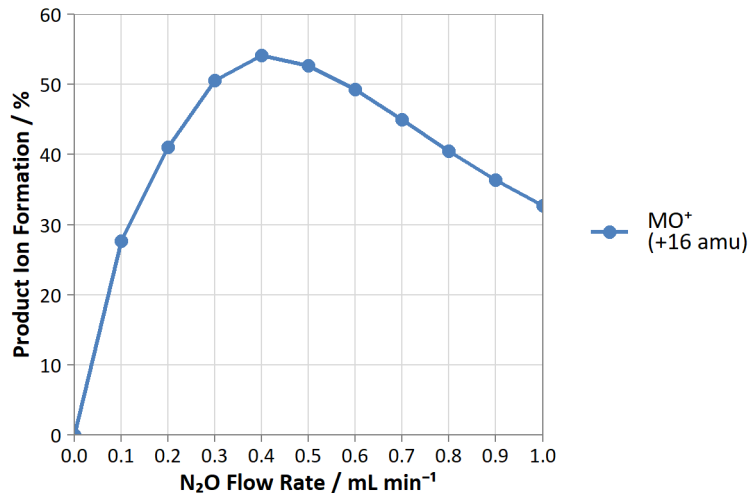
[NO CHARGE TRANSFER REACTION OBSERVED]



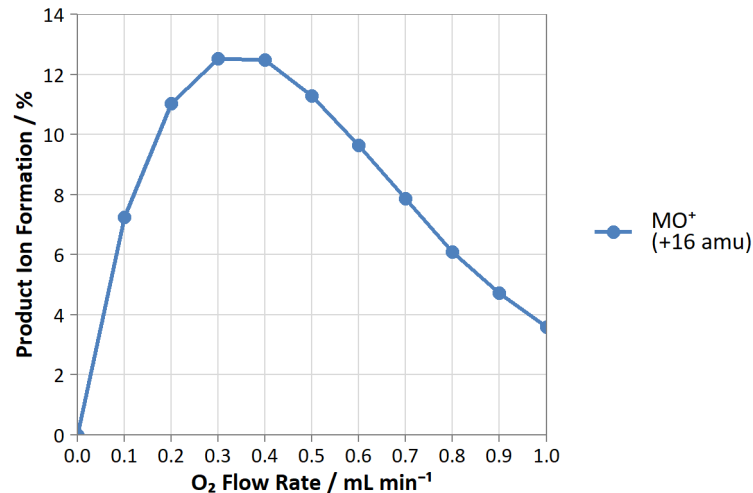


Mass-Shift with N₂O and O₂

Major Product Ions of ⁸⁹Y⁺ with N₂O Reaction Gas

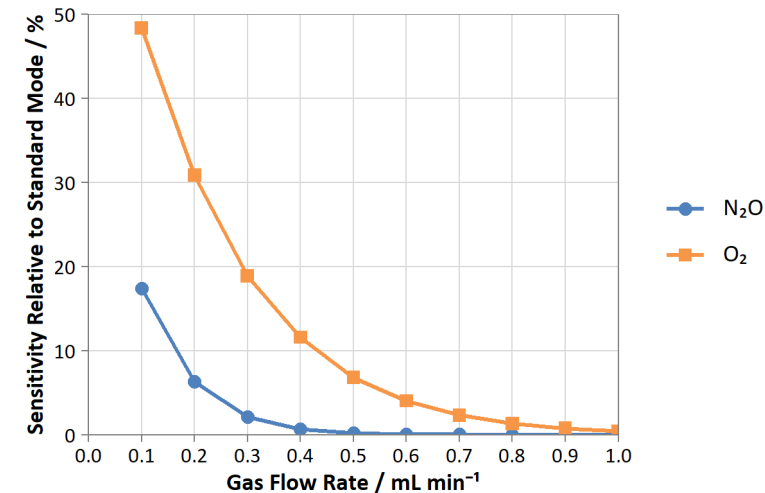


Major Product Ions of ⁸⁹Y⁺ with O₂ Reaction Gas



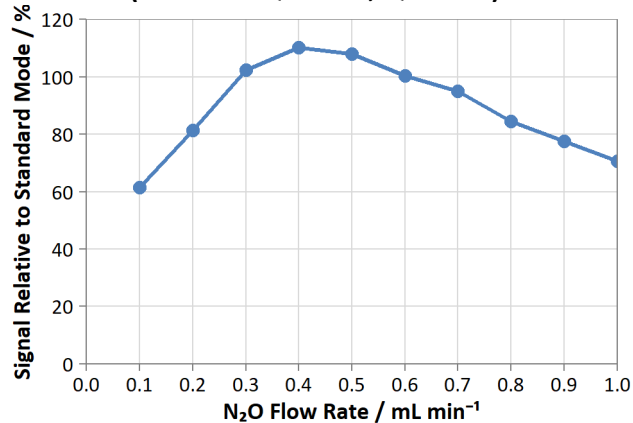
On-Mass with N₂O and O₂

On-Mass Profile of ⁸⁹Y⁺ with N₂O and O₂

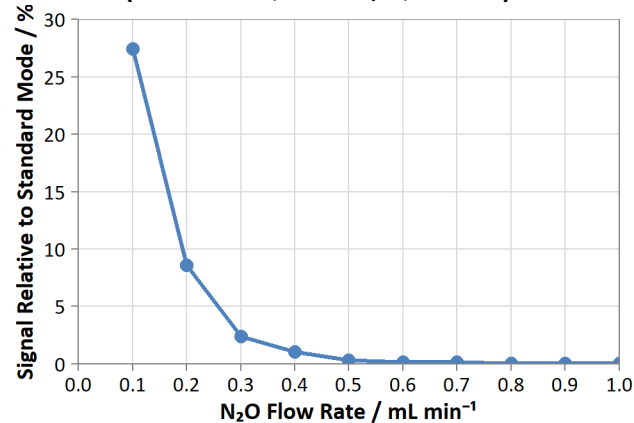


On-Mass Removal (as Interference) with N₂O

Variation of ⁸⁹Y¹⁶O⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 105, Q3 = 105)



Variation of ⁸⁹Y²⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 44.5, Q3 = 44.5)



Asymmetric Charge Transfer (with N₂O)

[NO CHARGE TRANSFER REACTION OBSERVED]

Zirconium

Supplementary Information B to: Characterisation of gas cell reactions for 70+ elements using N₂O for ICP tandem mass spectrometry measurements

Shaun T. Lancaster^{a*}, Thomas Prohaska^{ab} and Johanna Irrgeher^{ab}

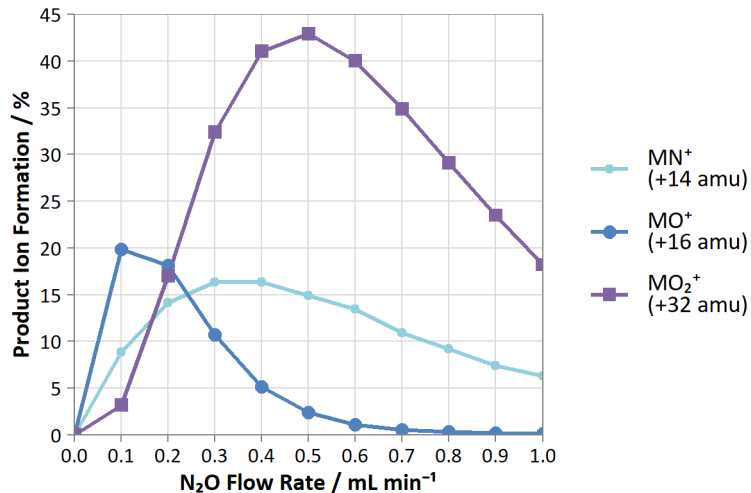
^aDepartment of General, Analytical and Physical Chemistry, Chair of General and Analytical Chemistry, Montanuniversität Leoben, Leoben, Austria.

^bDepartment of Physics and Astronomy, University of Calgary, Calgary, Canada.

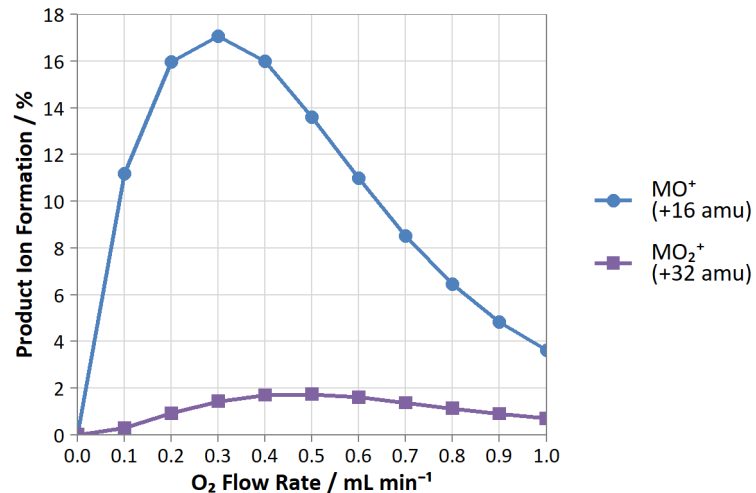


Mass-Shift with N₂O and O₂

Major Product Ions of ⁹⁰Zr⁺ with N₂O Reaction Gas

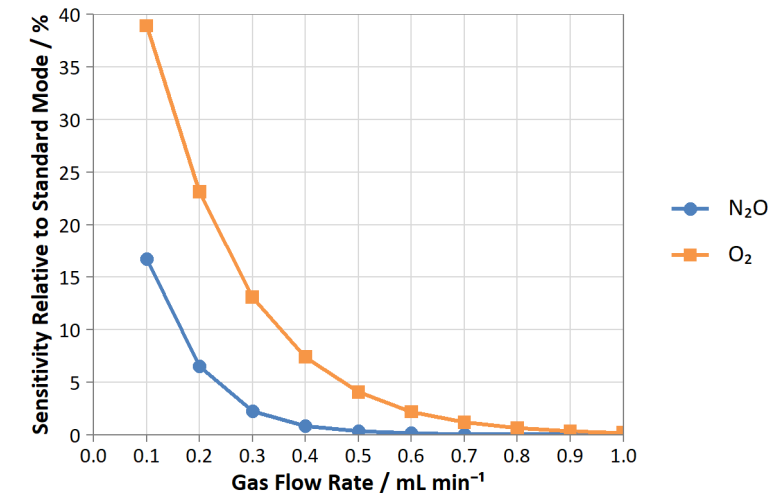


Major Product Ions of ⁹⁰Zr⁺ with O₂ Reaction Gas



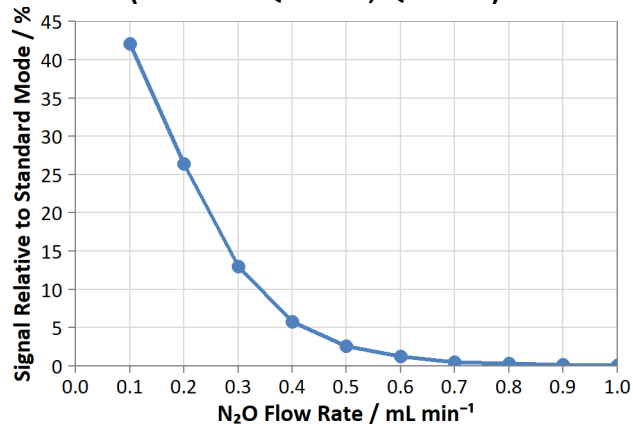
On-Mass with N₂O and O₂

On-Mass Profile of ⁹⁰Zr⁺ with N₂O and O₂



On-Mass Removal (as Interference) with N₂O

Variation of ⁹⁰Zr¹⁶O⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 106, Q3 = 106)



Variation of ⁹⁰Zr²⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 45, Q3 = 45)

[INSUFFICIENT DOUBLY-CHARGED ION FORMATION OBSERVED]

Asymmetric Charge Transfer (with N₂O)

[NO CHARGE TRANSFER REACTION OBSERVED]



Niobium

Supplementary Information B to: Characterisation of gas cell reactions for 70+ elements using N₂O for ICP tandem mass spectrometry measurements

Shaun T. Lancaster^{a*}, Thomas Prohaska^{ab} and Johanna Irrgeher^{ab}

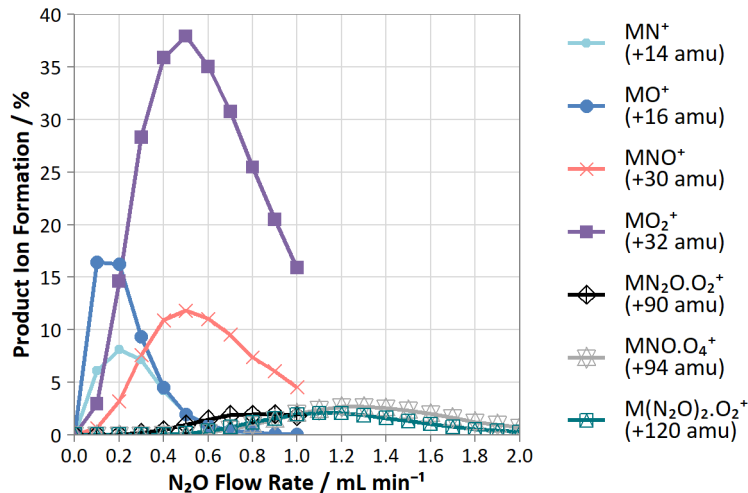
^aDepartment of General, Analytical and Physical Chemistry, Chair of General and Analytical Chemistry, Montanuniversität Leoben, Leoben, Austria.

^bDepartment of Physics and Astronomy, University of Calgary, Calgary, Canada.

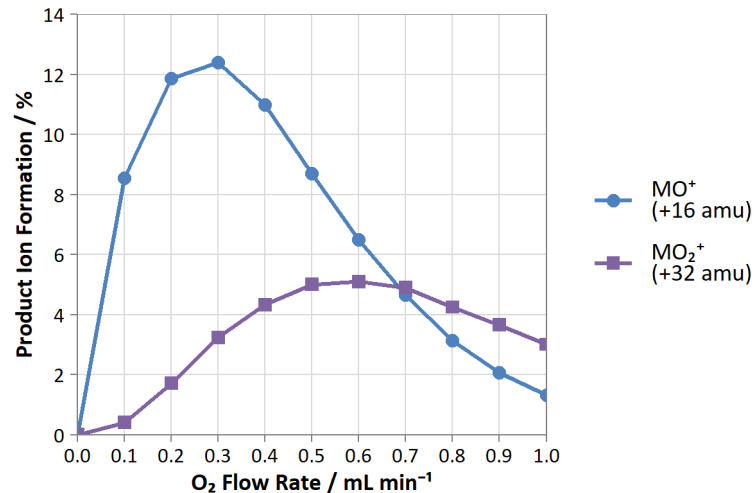


Mass-Shift with N₂O and O₂

Major Product Ions of ⁹³Nb⁺ with N₂O Reaction Gas

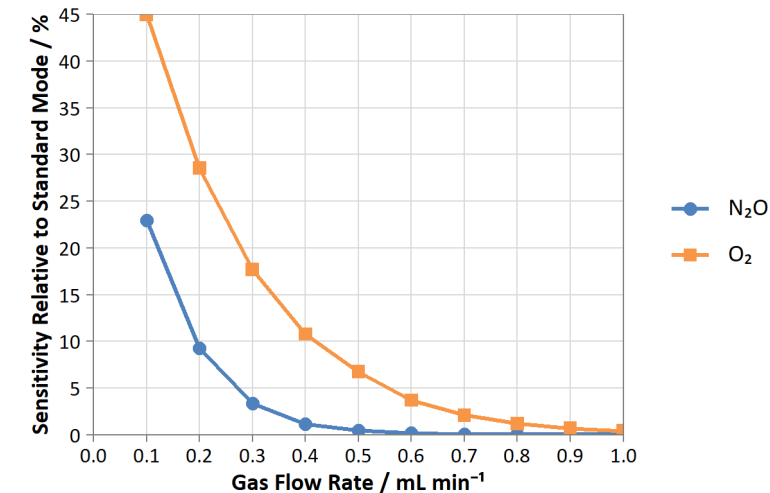


Major Product Ions of ⁹³Nb⁺ with O₂ Reaction Gas



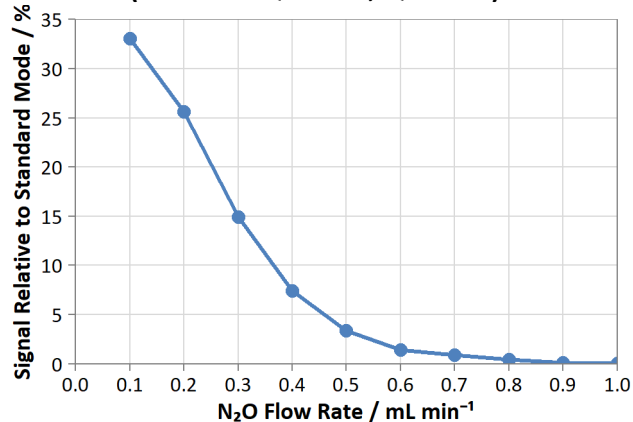
On-Mass with N₂O and O₂

On-Mass Profile of ⁹³Nb⁺ with N₂O and O₂

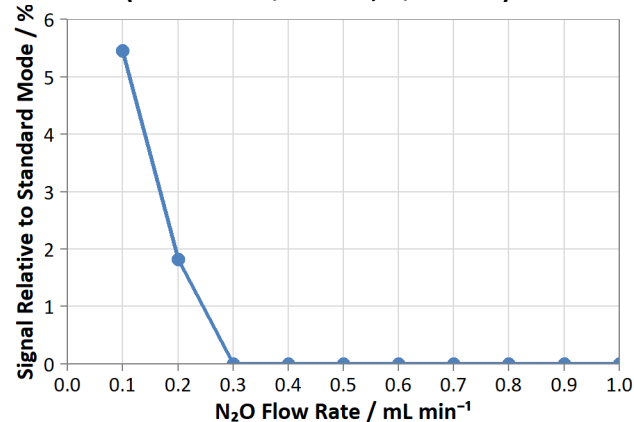


On-Mass Removal (as Interference) with N₂O

Variation of ⁹³Nb¹⁶O⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 109, Q3 = 109)



Variation of ⁹³Nb²⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 46.5, Q3 = 46.5)



Asymmetric Charge Transfer (with N₂O)

[NO CHARGE TRANSFER REACTION OBSERVED]

Molybdenum

Supplementary Information B to: Characterisation of gas cell reactions for 70+ elements using N₂O for ICP tandem mass spectrometry measurements

Shaun T. Lancaster^{a*}, Thomas Prohaska^{ab} and Johanna Irrgeher^{ab}

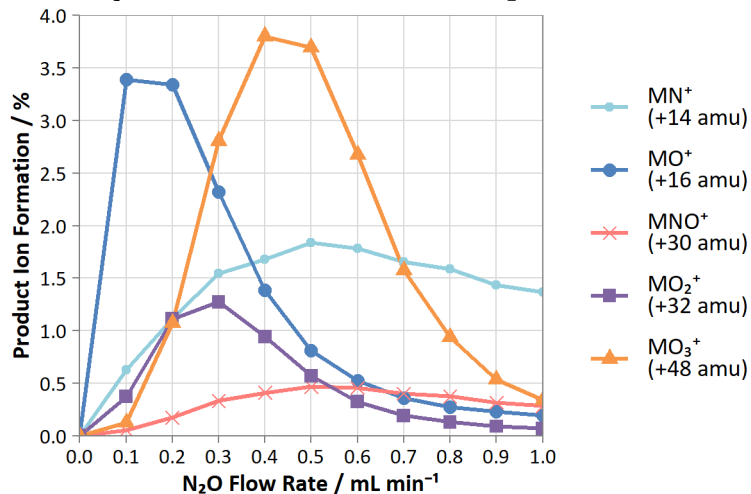
^aDepartment of General, Analytical and Physical Chemistry, Chair of General and Analytical Chemistry, Montanuniversität Leoben, Leoben, Austria.

^bDepartment of Physics and Astronomy, University of Calgary, Calgary, Canada.

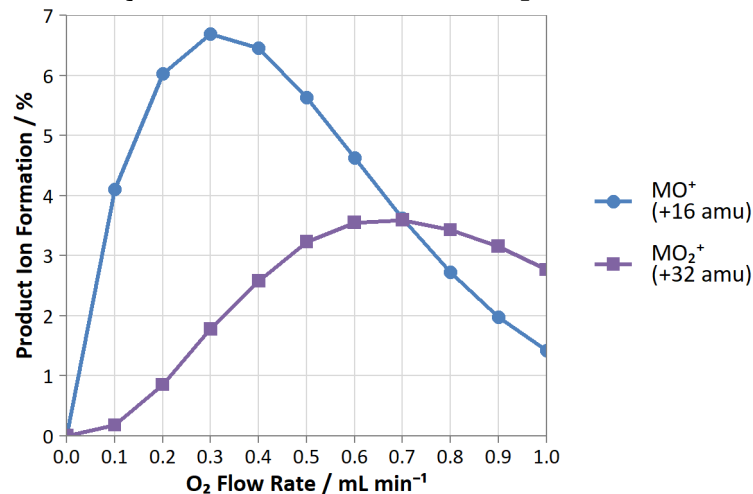


Mass-Shift with N₂O and O₂

Major Product Ions of ⁹⁸Mo⁺ with N₂O Reaction Gas

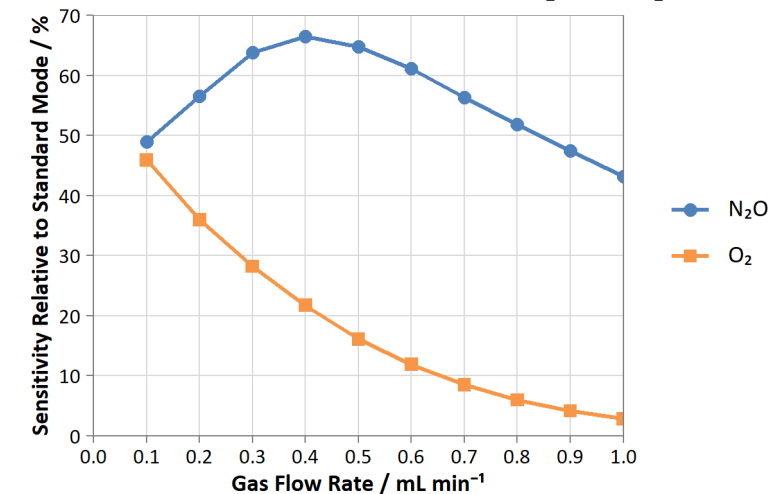


Major Product Ions of ⁹⁸Mo⁺ with O₂ Reaction Gas



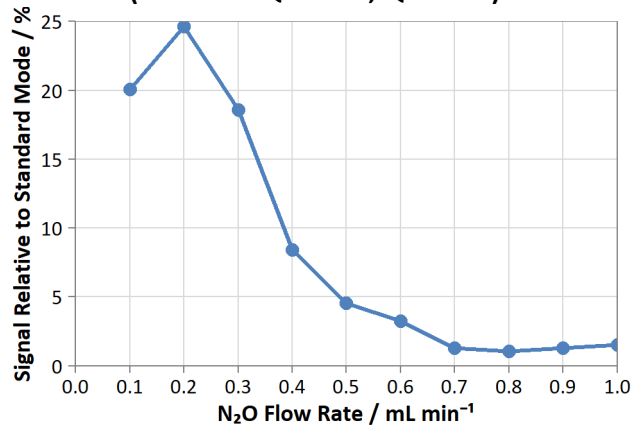
On-Mass with N₂O and O₂

On-Mass Profile of ⁹⁸Mo⁺ with N₂O and O₂



On-Mass Removal (as Interference) with N₂O

Variation of ⁹⁸Mo¹⁶O⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 114, Q3 = 114)



Variation of ⁹⁸Mo²⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 49, Q3 = 49)

[INSUFFICIENT DOUBLY-CHARGED ION FORMATION OBSERVED]

Asymmetric Charge Transfer (with N₂O)

[NO CHARGE TRANSFER REACTION OBSERVED]

Ruthenium

Supplementary Information B to: Characterisation of gas cell reactions for 70+ elements using N₂O for ICP tandem mass spectrometry measurements

Shaun T. Lancaster^{a*}, Thomas Prohaska^{ab} and Johanna Irrgeher^{ab}

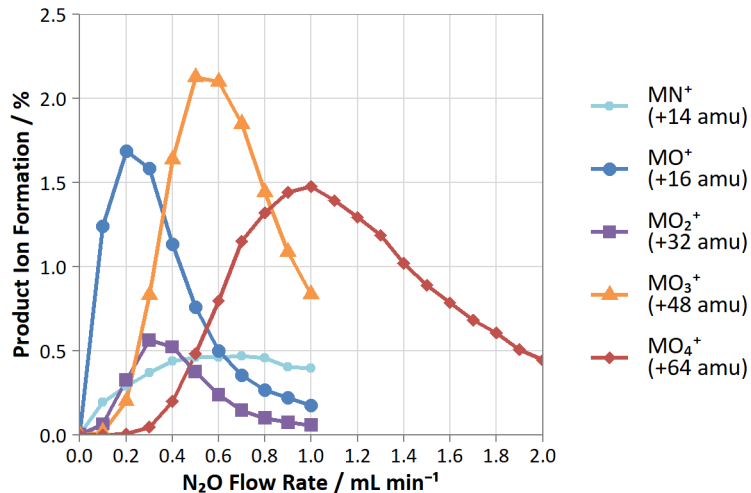
^aDepartment of General, Analytical and Physical Chemistry, Chair of General and Analytical Chemistry, Montanuniversität Leoben, Leoben, Austria.

^bDepartment of Physics and Astronomy, University of Calgary, Calgary, Canada.

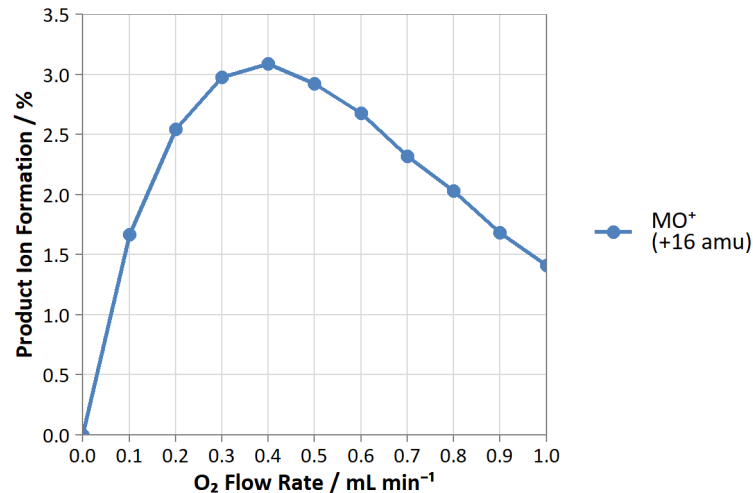


Mass-Shift with N₂O and O₂

Major Product Ions of ¹⁰¹Ru⁺ with N₂O Reaction Gas

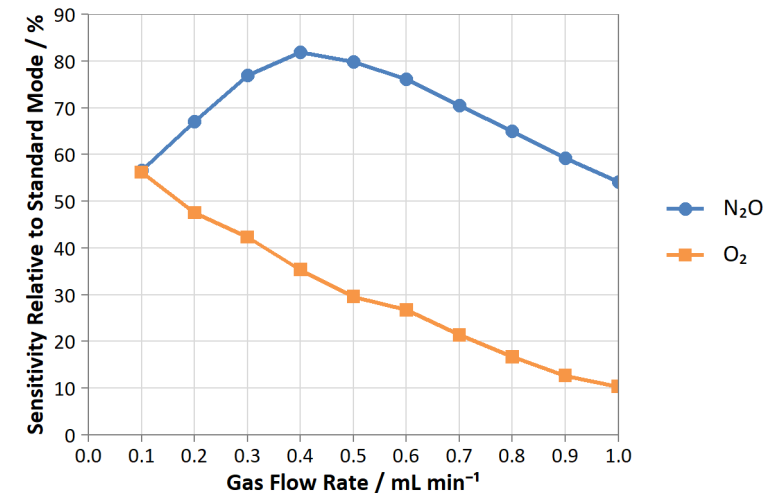


Major Product Ions of ¹⁰¹Ru⁺ with O₂ Reaction Gas



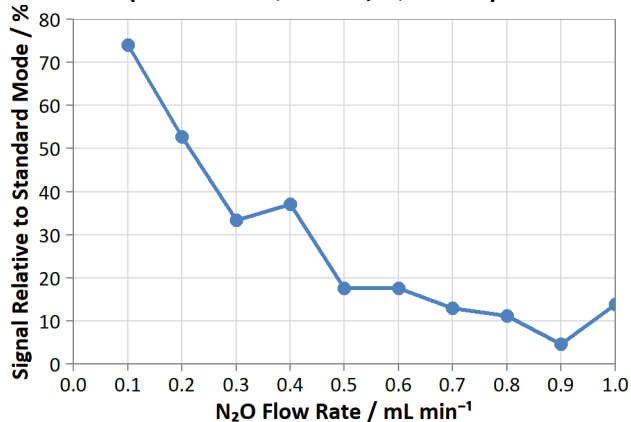
On-Mass with N₂O and O₂

On-Mass Profile of ¹⁰¹Ru⁺ with N₂O and O₂



On-Mass Removal (as Interference) with N₂O

Variation of ¹⁰¹Ru¹⁶O⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 117, Q3 = 117)



Variation of ¹⁰¹Ru²⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 50.5, Q3 = 50.5)

[INSUFFICIENT DOUBLY-CHARGED ION FORMATION OBSERVED]

Asymmetric Charge Transfer (with N₂O)

[NO CHARGE TRANSFER REACTION OBSERVED]



Rhodium

Supplementary Information B to: Characterisation of gas cell reactions for 70+ elements using N₂O for ICP tandem mass spectrometry measurements

Shaun T. Lancaster^{a*}, Thomas Prohaska^{ab} and Johanna Irrgeher^{ab}

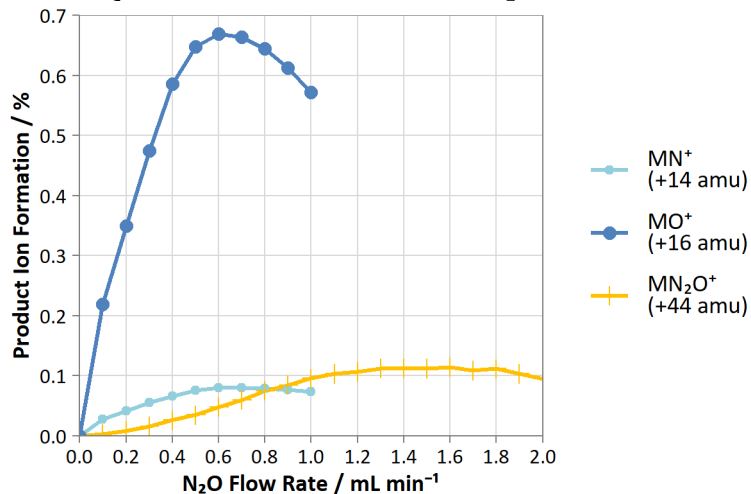
^aDepartment of General, Analytical and Physical Chemistry, Chair of General and Analytical Chemistry, Montanuniversität Leoben, Leoben, Austria.

^bDepartment of Physics and Astronomy, University of Calgary, Calgary, Canada.

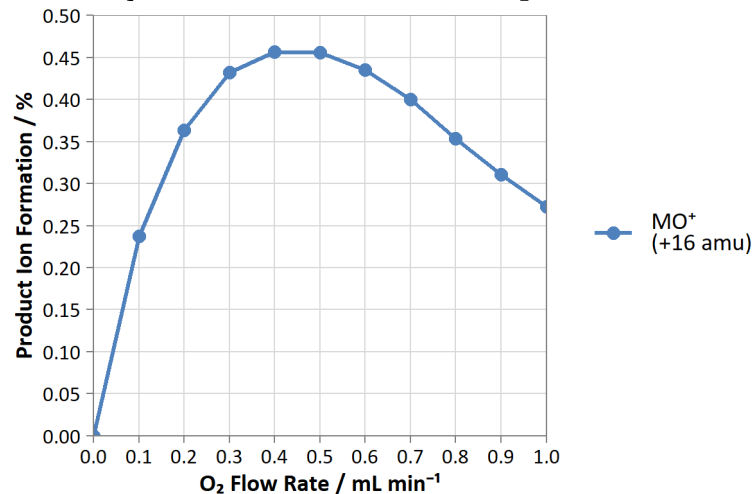


Mass-Shift with N₂O and O₂

Major Product Ions of ¹⁰³Rh⁺ with N₂O Reaction Gas

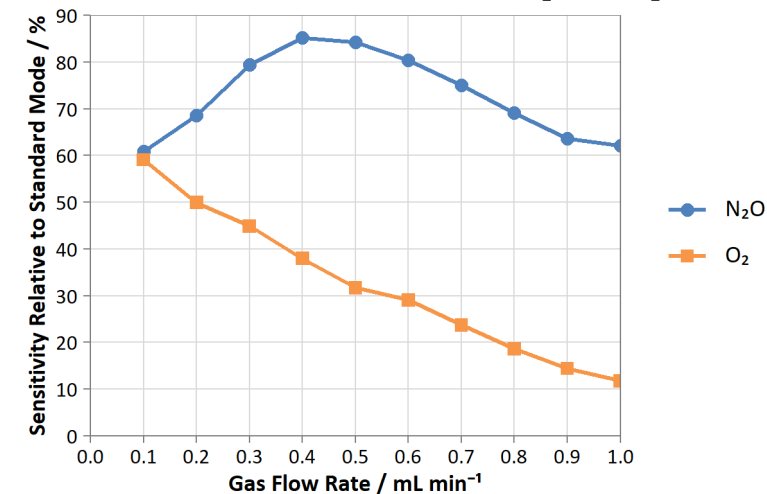


Major Product Ions of ¹⁰³Rh⁺ with O₂ Reaction Gas



On-Mass with N₂O and O₂

On-Mass Profile of ¹⁰³Rh⁺ with N₂O and O₂



On-Mass Removal (as Interference) with N₂O

Variation of ¹⁰³Rh¹⁶O⁺ Interference with N₂O Flow Rate
(On-Mass: Q1 = 119, Q3 = 119)

[INSUFFICIENT OXIDE FORMATION OBSERVED]

Variation of ¹⁰³Rh²⁺ Interference with N₂O Flow Rate
(On-Mass: Q1 = 51.5, Q3 = 51.5)

[INSUFFICIENT DOUBLY-CHARGED ION FORMATION OBSERVED]

Asymmetric Charge Transfer (with N₂O)

[NO CHARGE TRANSFER REACTION OBSERVED]

Palladium

Supplementary Information B to: Characterisation of gas cell reactions for 70+ elements using N₂O for ICP tandem mass spectrometry measurements

Shaun T. Lancaster^{a*}, Thomas Prohaska^{ab} and Johanna Irrgeher^{ab}

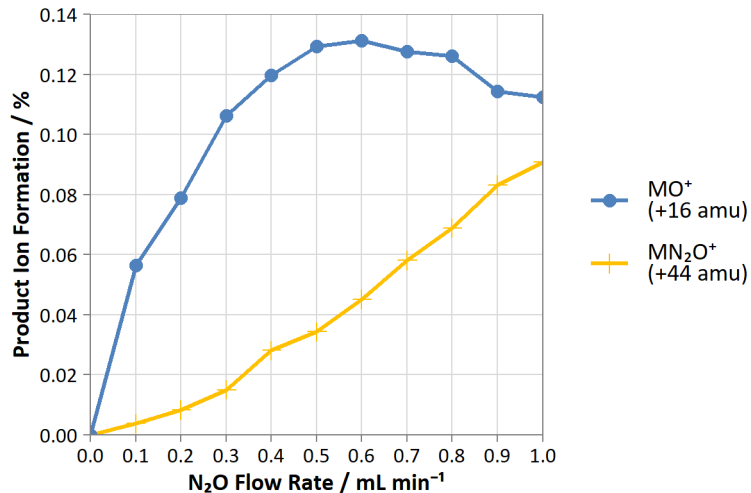
^aDepartment of General, Analytical and Physical Chemistry, Chair of General and Analytical Chemistry, Montanuniversität Leoben, Leoben, Austria.

^bDepartment of Physics and Astronomy, University of Calgary, Calgary, Canada.

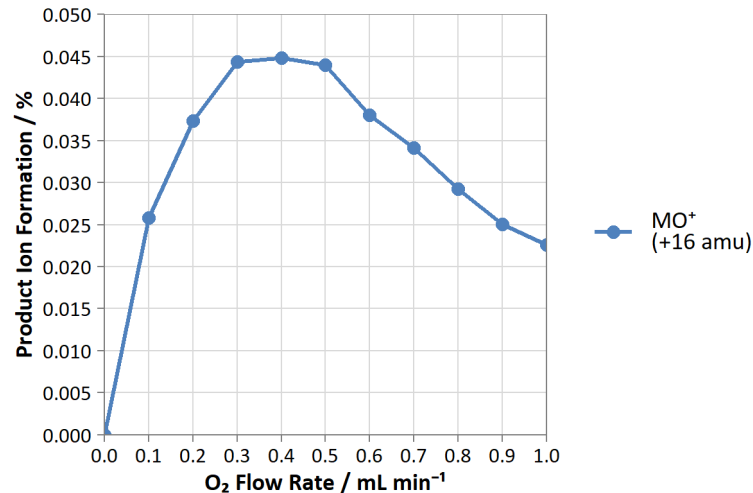


Mass-Shift with N₂O and O₂

Major Product Ions of ¹⁰⁵Pd⁺ with N₂O Reaction Gas

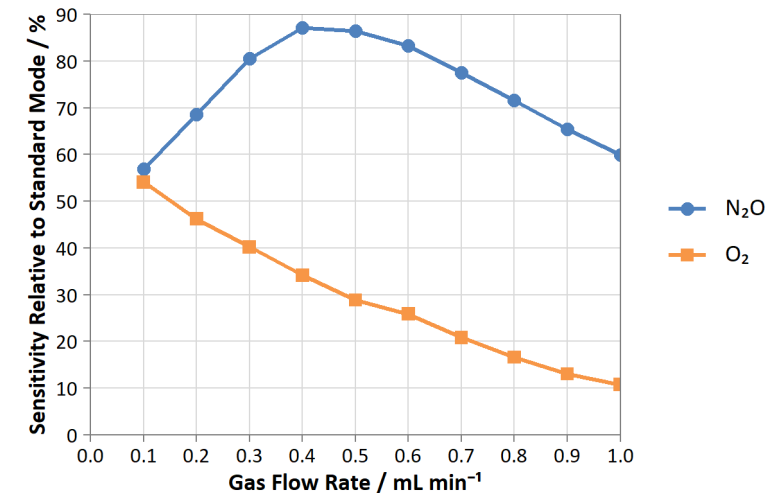


Major Product Ions of ¹⁰⁵Pd⁺ with O₂ Reaction Gas



On-Mass with N₂O and O₂

On-Mass Profile of ¹⁰⁵Pd⁺ with N₂O and O₂



On-Mass Removal (as Interference) with N₂O

Variation of ¹⁰⁵Pd¹⁶O⁺ Interference with N₂O Flow Rate
(On-Mass: Q1 = 121, Q3 = 121)

[INSUFFICIENT OXIDE FORMATION OBSERVED]

Variation of ¹⁰⁵Pd²⁺ Interference with N₂O Flow Rate
(On-Mass: Q1 = 52.5, Q3 = 52.5)

[INSUFFICIENT DOUBLY-CHARGED ION FORMATION OBSERVED]

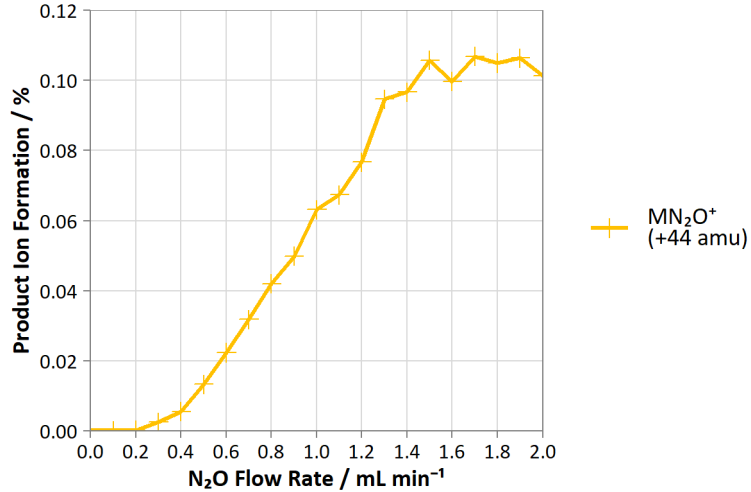
Asymmetric Charge Transfer (with N₂O)

[NO CHARGE TRANSFER REACTION OBSERVED]



Mass-Shift with N₂O and O₂

Major Product Ions of ¹⁰⁷Ag⁺ with N₂O Reaction Gas



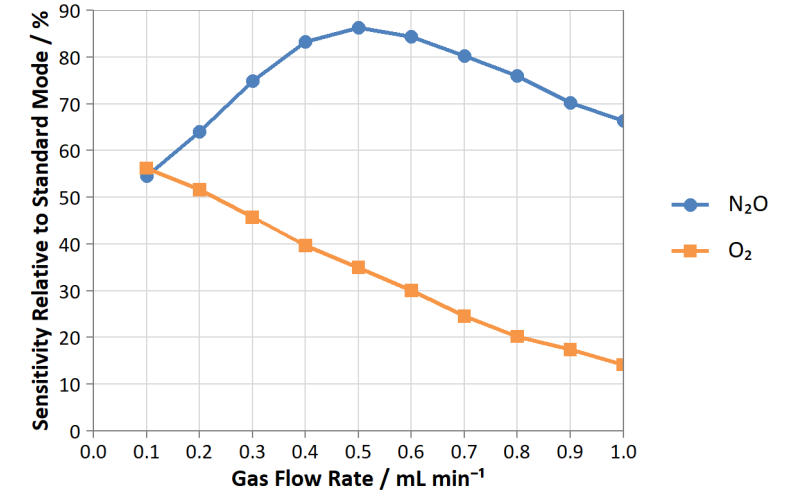
—+— MN₂O⁺
(+44 amu)

Major Product Ions of ¹⁰⁷Ag⁺ with O₂ Reaction Gas

[NO ATOM TRANSFER
REACTION OBSERVED]

On-Mass with N₂O and O₂

On-Mass Profile of ¹⁰⁷Ag⁺ with N₂O and O₂



On-Mass Removal (as Interference) with N₂O

Variation of ¹⁰⁷Ag¹⁶O⁺ Interference with
N₂O Flow Rate
(On-Mass: Q1 = 123, Q3 = 123)

[INSUFFICIENT OXIDE
FORMATION OBSERVED]

Variation of ¹⁰⁷Ag²⁺ Interference with
N₂O Flow Rate
(On-Mass: Q1 = 53.5, Q3 = 53.5)

[INSUFFICIENT DOUBLY-CHARGED
ION FORMATION OBSERVED]

Asymmetric Charge Transfer (with N₂O)

[NO CHARGE TRANSFER
REACTION OBSERVED]

Cadmium

Supplementary Information B to: Characterisation of gas cell reactions for 70+ elements using N₂O for ICP tandem mass spectrometry measurements

Shaun T. Lancaster^{a*}, Thomas Prohaska^{ab} and Johanna Irrgeher^{ab}

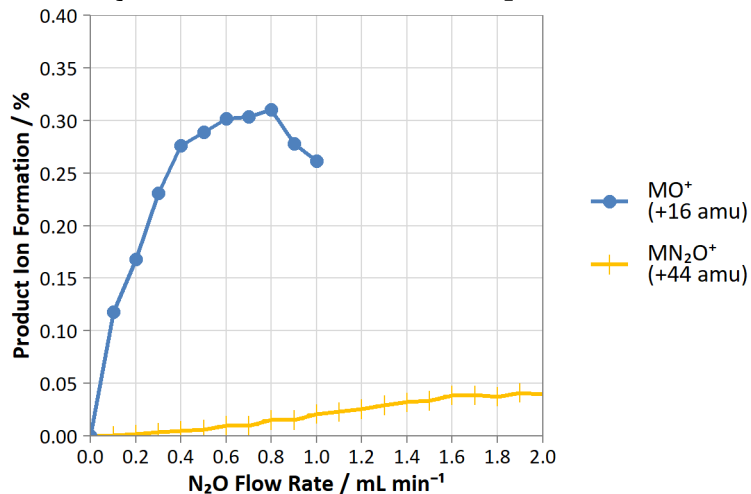
^aDepartment of General, Analytical and Physical Chemistry, Chair of General and Analytical Chemistry, Montanuniversität Leoben, Leoben, Austria.

^bDepartment of Physics and Astronomy, University of Calgary, Calgary, Canada.

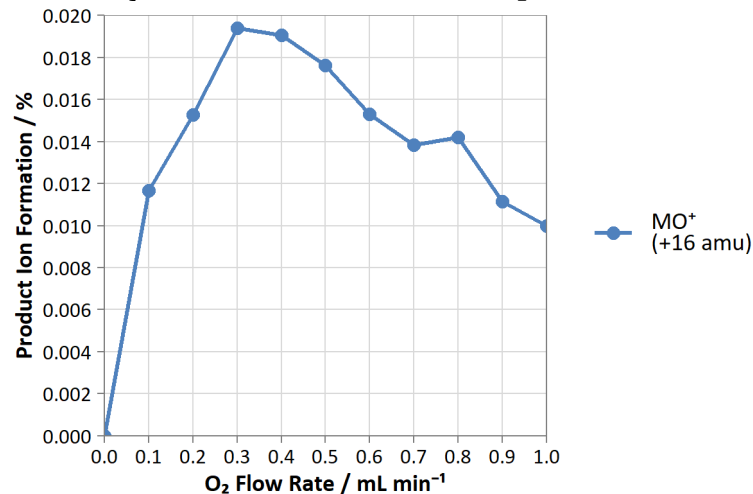


Mass-Shift with N₂O and O₂

Major Product Ions of ¹¹⁴Cd⁺ with N₂O Reaction Gas

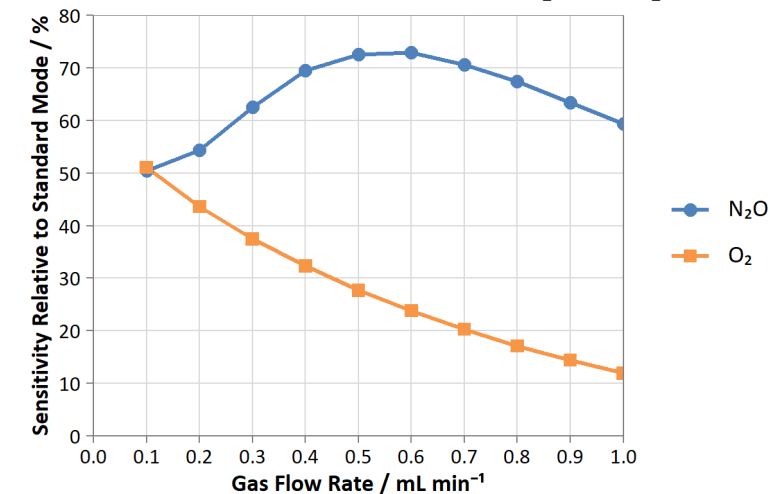


Major Product Ions of ¹¹⁴Cd⁺ with O₂ Reaction Gas



On-Mass with N₂O and O₂

On-Mass Profile of ¹¹⁴Cd⁺ with N₂O and O₂

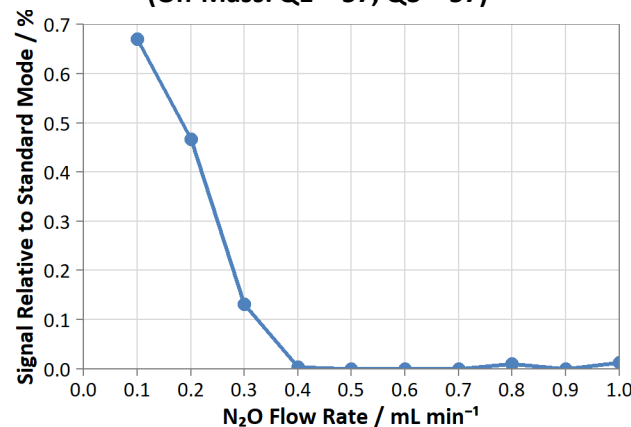


On-Mass Removal (as Interference) with N₂O

Variation of ¹¹⁴Cd¹⁶O⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 130, Q3 = 130)

[INSUFFICIENT OXIDE FORMATION OBSERVED]

Variation of ¹¹⁴Cd²⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 57, Q3 = 57)



Asymmetric Charge Transfer (with N₂O)

[NO CHARGE TRANSFER REACTION OBSERVED]



Mass-Shift with N₂O and O₂

Major Product Ions of ¹¹⁵In⁺ with N₂O Reaction Gas

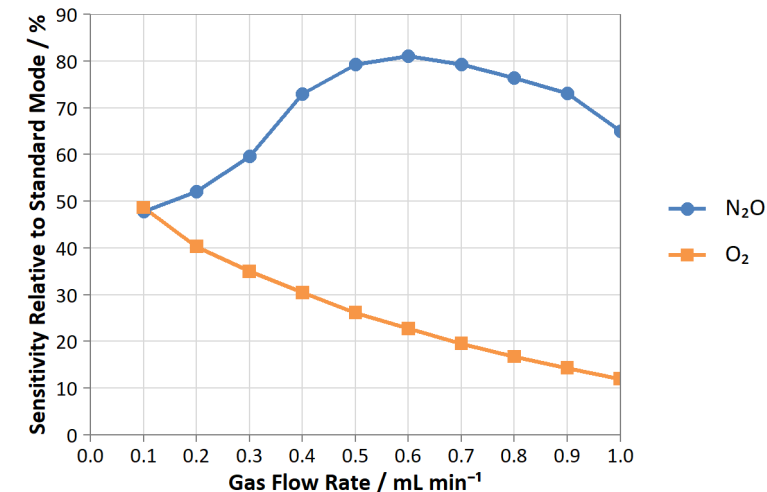
[NO ATOM TRANSFER
REACTION OBSERVED]

Major Product Ions of ¹¹⁵In⁺ with O₂ Reaction Gas

[NO ATOM TRANSFER
REACTION OBSERVED]

On-Mass with N₂O and O₂

On-Mass Profile of ¹¹⁵In⁺ with N₂O and O₂



On-Mass Removal (as Interference) with N₂O

Variation of ¹¹⁵In¹⁶O⁺ Interference with
N₂O Flow Rate
(On-Mass: Q1 = 131, Q3 = 131)

[INSUFFICIENT OXIDE
FORMATION OBSERVED]

Variation of ¹¹⁵In²⁺ Interference with
N₂O Flow Rate
(On-Mass: Q1 = 57.5, Q3 = 57.5)

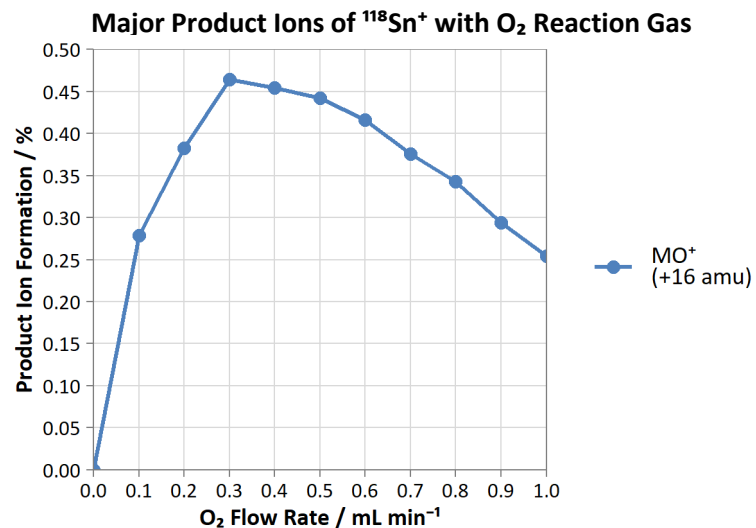
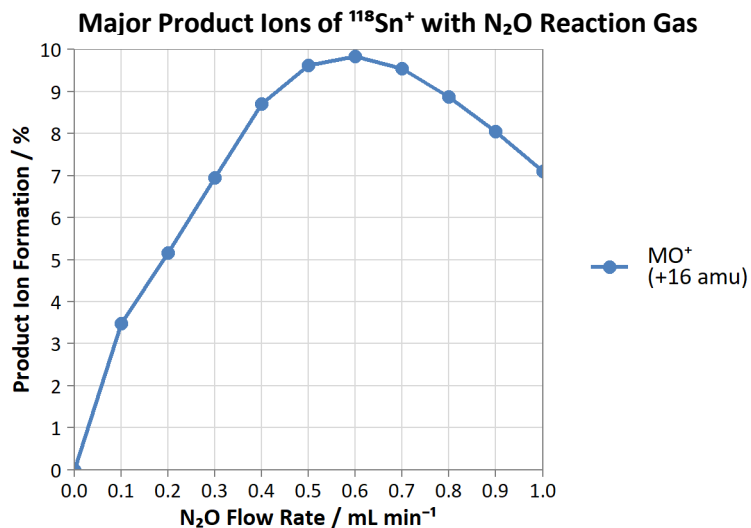
[INSUFFICIENT DOUBLY-CHARGED
ION FORMATION OBSERVED]

Asymmetric Charge Transfer (with N₂O)

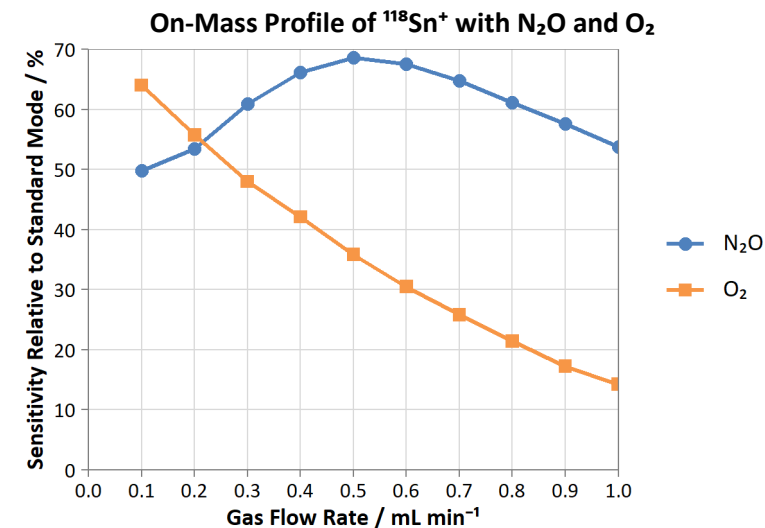
[NO CHARGE TRANSFER
REACTION OBSERVED]



Mass-Shift with N₂O and O₂



On-Mass with N₂O and O₂

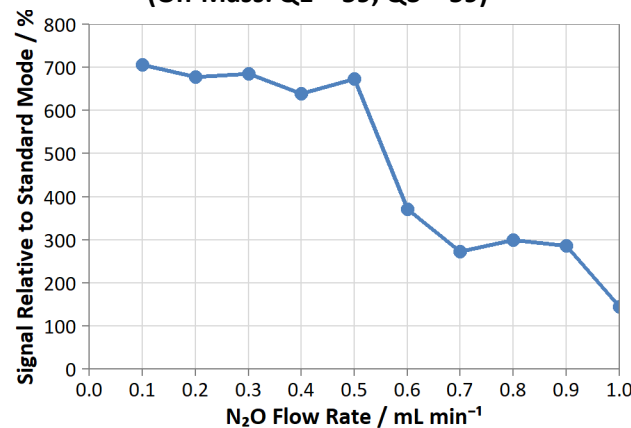


On-Mass Removal (as Interference) with N₂O

Variation of ¹¹⁸Sn¹⁶O⁺ Interference with N₂O Flow Rate
 (On-Mass: Q1 = 134, Q3 = 134)

[INSUFFICIENT OXIDE FORMATION OBSERVED]

Variation of ¹¹⁸Sn²⁺ Interference with N₂O Flow Rate
 (On-Mass: Q1 = 59, Q3 = 59)



Asymmetric Charge Transfer (with N₂O)

[NO CHARGE TRANSFER REACTION OBSERVED]

Antimony

Supplementary Information B to: Characterisation of gas cell reactions for 70+ elements using N₂O for ICP tandem mass spectrometry measurements

Shaun T. Lancaster^{a*}, Thomas Prohaska^{ab} and Johanna Irrgeher^{ab}

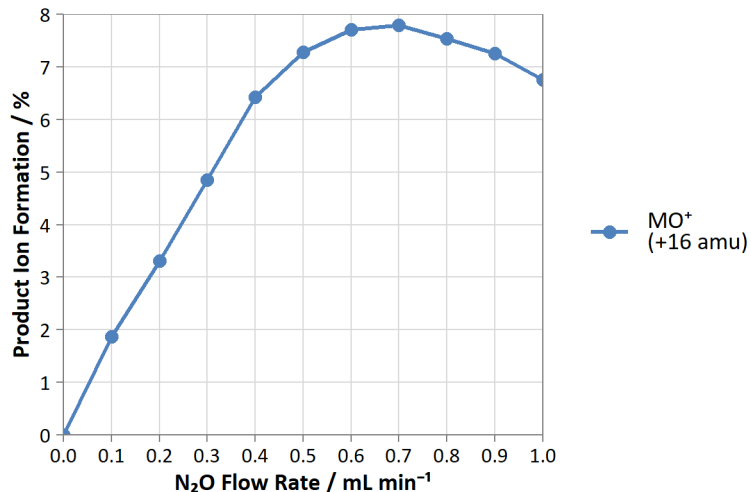
^aDepartment of General, Analytical and Physical Chemistry, Chair of General and Analytical Chemistry, Montanuniversität Leoben, Leoben, Austria.

^bDepartment of Physics and Astronomy, University of Calgary, Calgary, Canada.

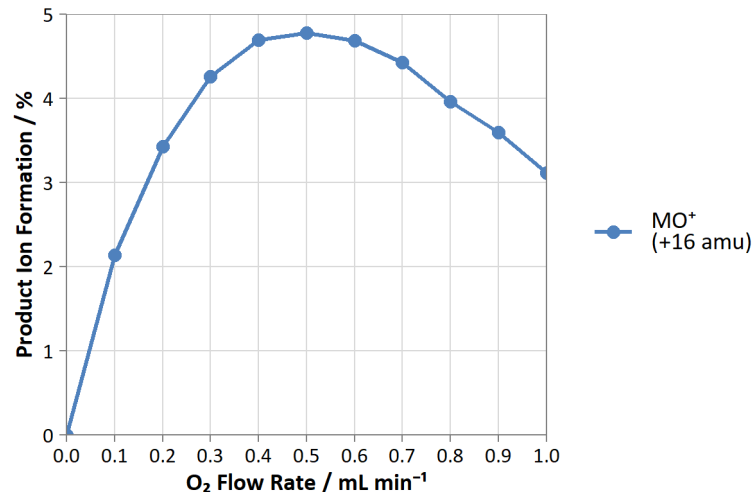


Mass-Shift with N₂O and O₂

Major Product Ions of ¹²¹Sb⁺ with N₂O Reaction Gas

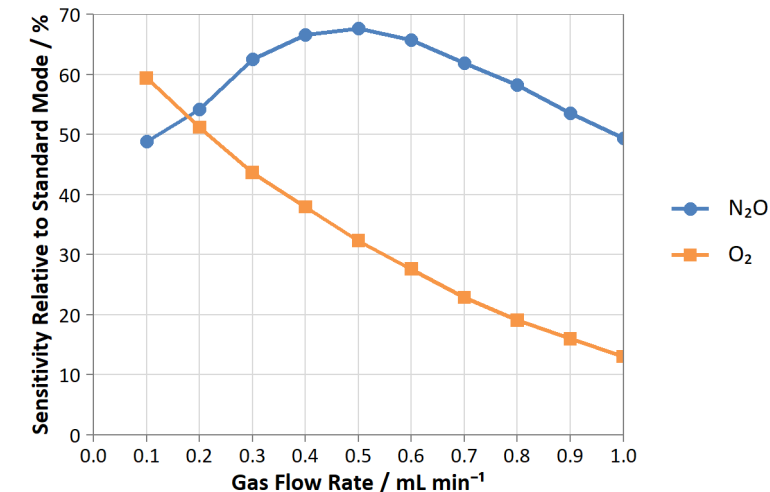


Major Product Ions of ¹²¹Sb⁺ with O₂ Reaction Gas



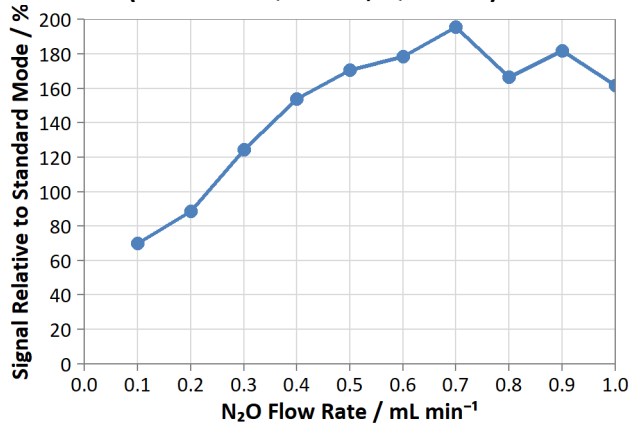
On-Mass with N₂O and O₂

On-Mass Profile of ¹²¹Sb⁺ with N₂O and O₂



On-Mass Removal (as Interference) with N₂O

Variation of ¹²¹Sb¹⁶O⁺ Interference with N₂O Flow Rate
(On-Mass: Q1 = 137, Q3 = 137)



Variation of ¹²¹Sb²⁺ Interference with N₂O Flow Rate
(On-Mass: Q1 = 60.5, Q3 = 60.5)

[INSUFFICIENT DOUBLY-CHARGED ION FORMATION OBSERVED]

Asymmetric Charge Transfer (with N₂O)

[NO CHARGE TRANSFER REACTION OBSERVED]

Tellurium

Supplementary Information B to: Characterisation of gas cell reactions for 70+ elements using N₂O for ICP tandem mass spectrometry measurements

Shaun T. Lancaster^{a*}, Thomas Prohaska^{ab} and Johanna Irrgeher^{ab}

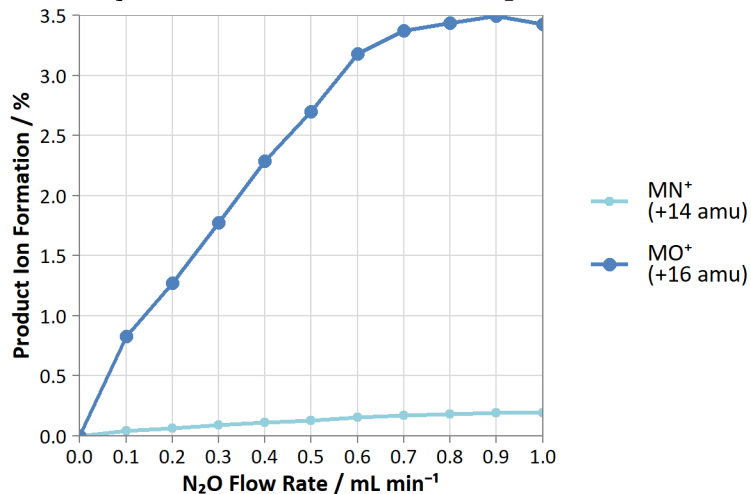
^aDepartment of General, Analytical and Physical Chemistry, Chair of General and Analytical Chemistry, Montanuniversität Leoben, Leoben, Austria.

^bDepartment of Physics and Astronomy, University of Calgary, Calgary, Canada.

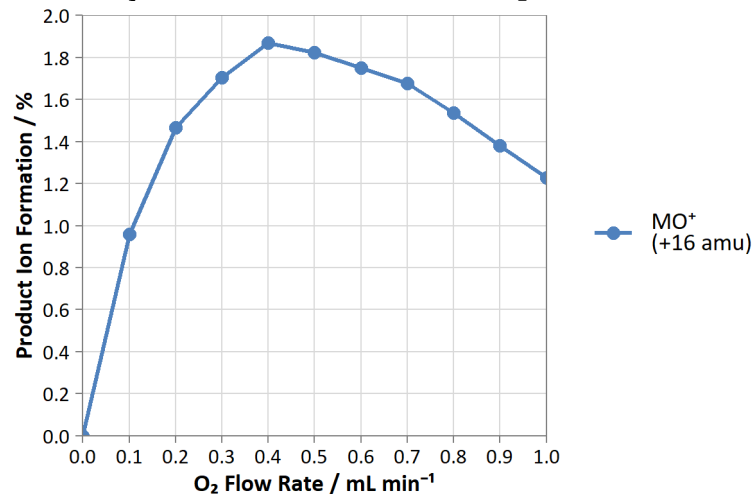


Mass-Shift with N₂O and O₂

Major Product Ions of ¹²⁸Te⁺ with N₂O Reaction Gas

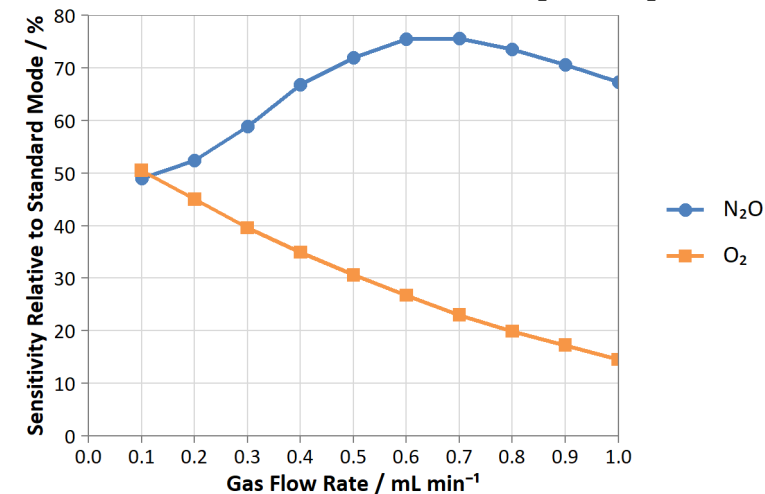


Major Product Ions of ¹²⁸Te⁺ with O₂ Reaction Gas



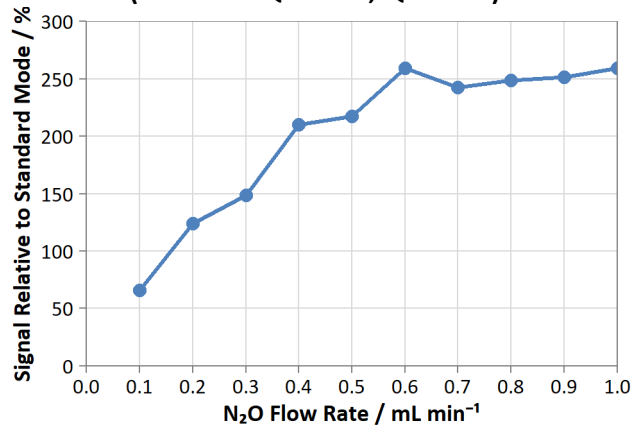
On-Mass with N₂O and O₂

On-Mass Profile of ¹²⁸Te⁺ with N₂O and O₂

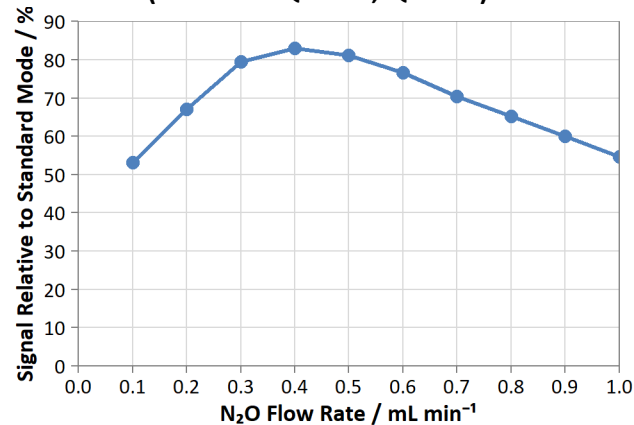


On-Mass Removal (as Interference) with N₂O

Variation of ¹²⁸Te¹⁶O⁺ Interference with N₂O Flow Rate
(On-Mass: Q1 = 144, Q3 = 144)



Variation of ¹²⁸Te²⁺ Interference with N₂O Flow Rate
(On-Mass: Q1 = 64, Q3 = 64)



Asymmetric Charge Transfer (with N₂O)

[NO CHARGE TRANSFER REACTION OBSERVED]

Iodine

Supplementary Information B to: Characterisation of gas cell reactions for 70+ elements using N₂O for ICP tandem mass spectrometry measurements

Shaun T. Lancaster^{a*}, Thomas Prohaska^{ab} and Johanna Irrgeher^{ab}

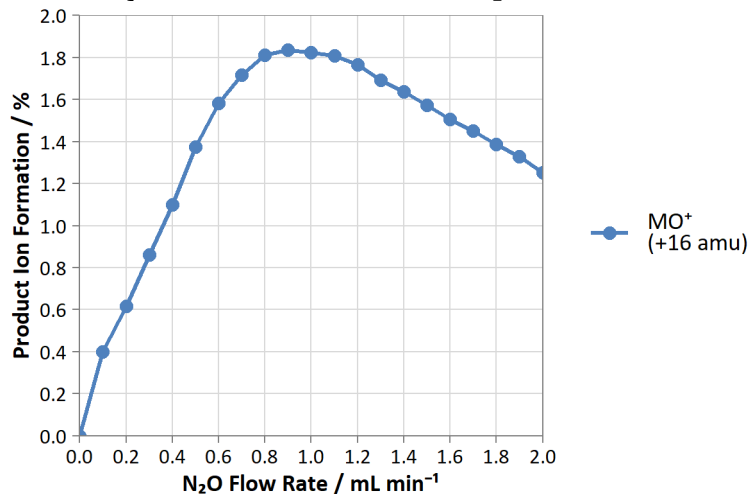
^aDepartment of General, Analytical and Physical Chemistry, Chair of General and Analytical Chemistry, Montanuniversität Leoben, Leoben, Austria.

^bDepartment of Physics and Astronomy, University of Calgary, Calgary, Canada.

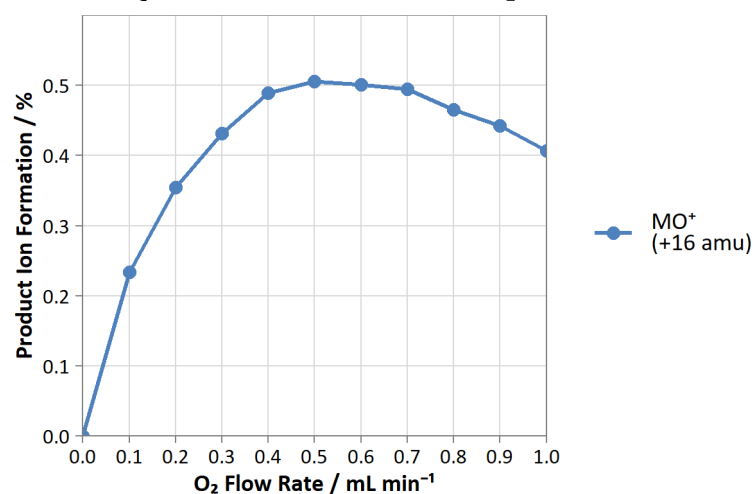


Mass-Shift with N₂O and O₂

Major Product Ions of ¹²⁷I⁺ with N₂O Reaction Gas

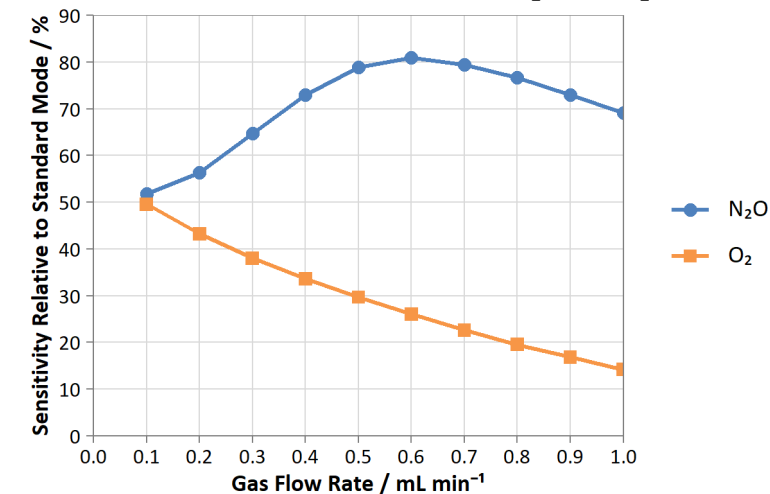


Major Product Ions of ¹²⁷I⁺ with O₂ Reaction Gas



On-Mass with N₂O and O₂

On-Mass Profile of ¹²⁷I⁺ with N₂O and O₂



On-Mass Removal (as Interference) with N₂O

Variation of ¹²⁷I¹⁶O⁺ Interference with N₂O Flow Rate
(On-Mass: Q1 = 143, Q3 = 143)

[INSUFFICIENT OXIDE FORMATION OBSERVED]

Variation of ¹²⁷I²⁺ Interference with N₂O Flow Rate
(On-Mass: Q1 = 63.5, Q3 = 63.5)

[INSUFFICIENT DOUBLY-CHARGED ION FORMATION OBSERVED]

Asymmetric Charge Transfer (with N₂O)

[NO CHARGE TRANSFER REACTION OBSERVED]



Mass-Shift with N₂O and O₂

Major Product Ions of ¹³³Cs⁺ with N₂O Reaction Gas

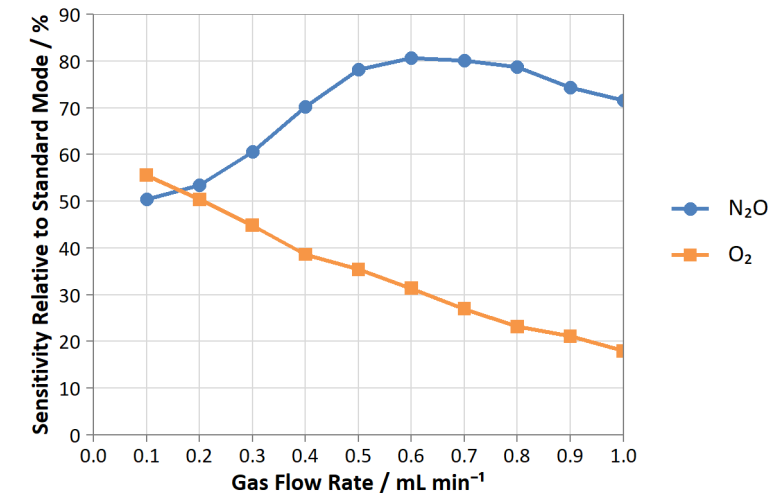
[NO ATOM TRANSFER
REACTION OBSERVED]

Major Product Ions of ¹³³Cs⁺ with O₂ Reaction Gas

[NO ATOM TRANSFER
REACTION OBSERVED]

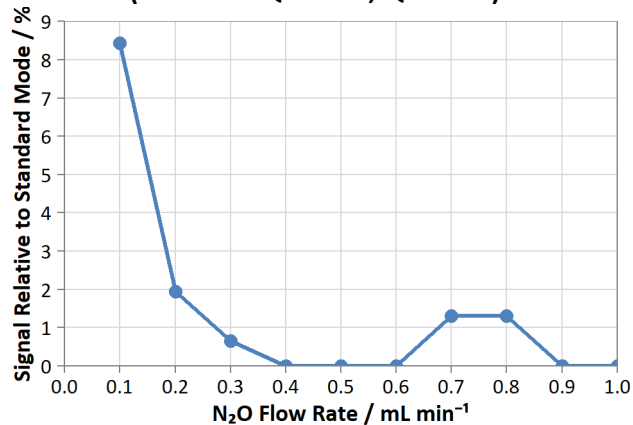
On-Mass with N₂O and O₂

On-Mass Profile of ¹³³Cs⁺ with N₂O and O₂



On-Mass Removal (as Interference) with N₂O

Variation of ¹³³Cs¹⁶O⁺ Interference with
N₂O Flow Rate
(On-Mass: Q1 = 149, Q3 = 149)



Variation of ¹³³Cs²⁺ Interference with
N₂O Flow Rate
(On-Mass: Q1 = 66.5, Q3 = 66.5)

[INSUFFICIENT DOUBLY-CHARGED
ION FORMATION OBSERVED]

Asymmetric Charge Transfer (with N₂O)

[NO CHARGE TRANSFER
REACTION OBSERVED]

Barium

Supplementary Information B to: Characterisation of gas cell reactions for 70+ elements using N₂O for ICP tandem mass spectrometry measurements

Shaun T. Lancaster^{a*}, Thomas Prohaska^{ab} and Johanna Irrgeher^{ab}

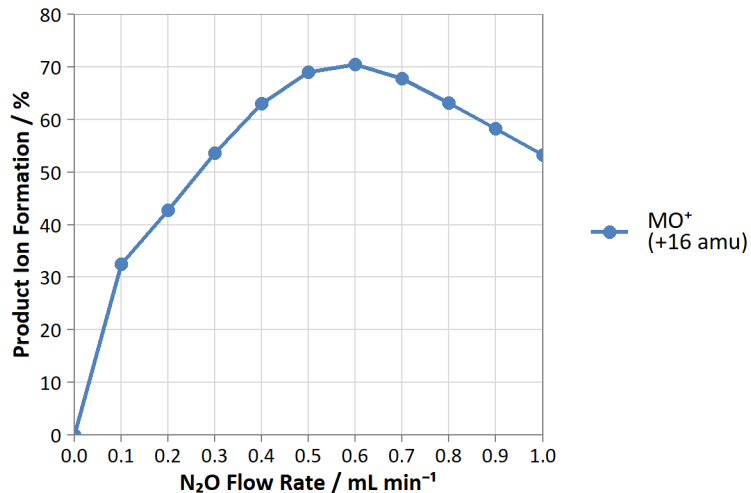
^aDepartment of General, Analytical and Physical Chemistry, Chair of General and Analytical Chemistry, Montanuniversität Leoben, Leoben, Austria.

^bDepartment of Physics and Astronomy, University of Calgary, Calgary, Canada.

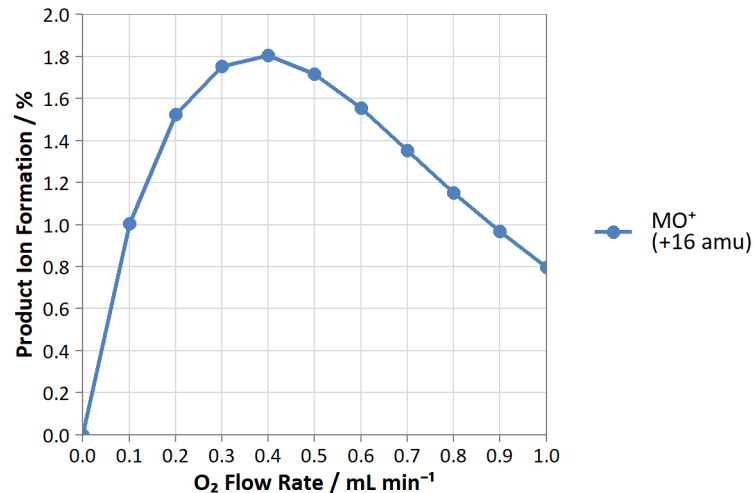


Mass-Shift with N₂O and O₂

Major Product Ions of ¹³⁸Ba⁺ with N₂O Reaction Gas

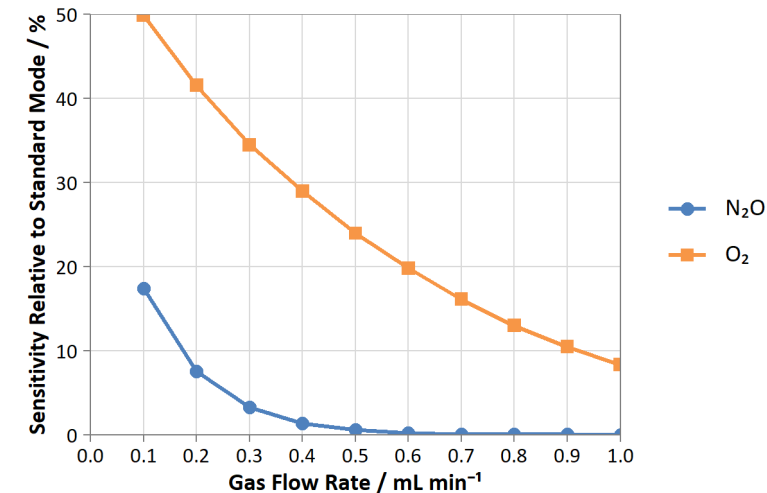


Major Product Ions of ¹³⁸Ba⁺ with O₂ Reaction Gas



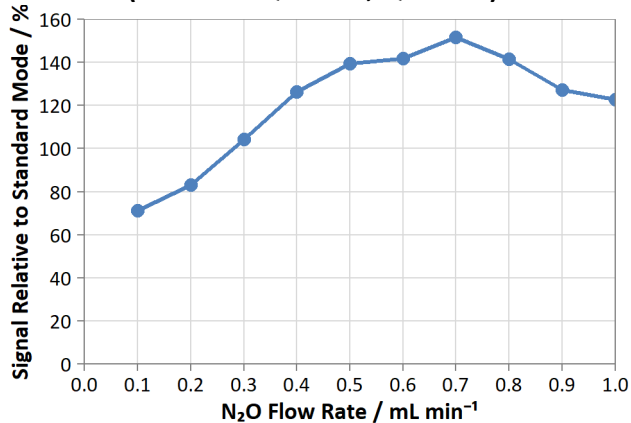
On-Mass with N₂O and O₂

On-Mass Profile of ¹³⁸Ba⁺ with N₂O and O₂

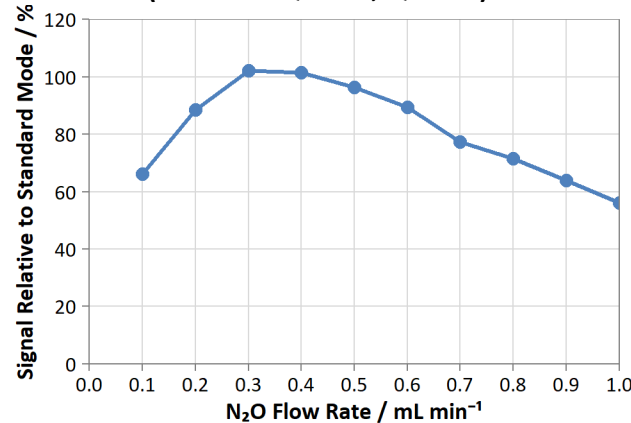


On-Mass Removal (as Interference) with N₂O

Variation of ¹³⁸Ba¹⁶O⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 154, Q3 = 154)



Variation of ¹³⁸Ba²⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 69, Q3 = 69)



Asymmetric Charge Transfer (with N₂O)

[NO CHARGE TRANSFER REACTION OBSERVED]



Lanthanum

Supplementary Information B to: Characterisation of gas cell reactions for 70+ elements using N₂O for ICP tandem mass spectrometry measurements

Shaun T. Lancaster^{a*}, Thomas Prohaska^{ab} and Johanna Irrgeher^{ab}

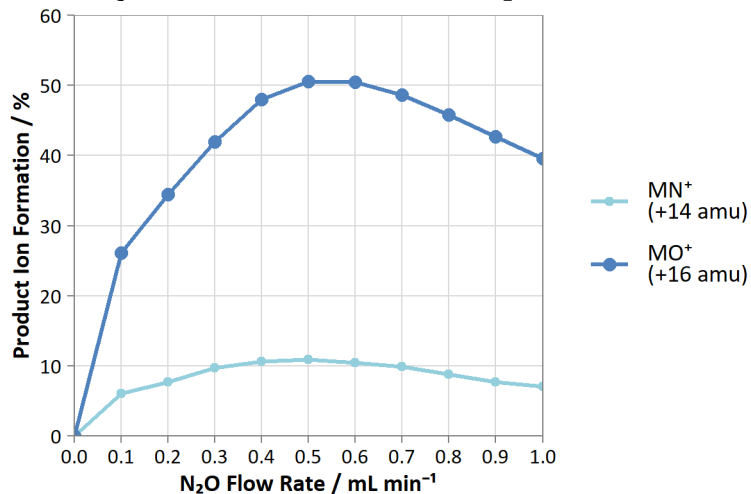
^aDepartment of General, Analytical and Physical Chemistry, Chair of General and Analytical Chemistry, Montanuniversität Leoben, Leoben, Austria.

^bDepartment of Physics and Astronomy, University of Calgary, Calgary, Canada.

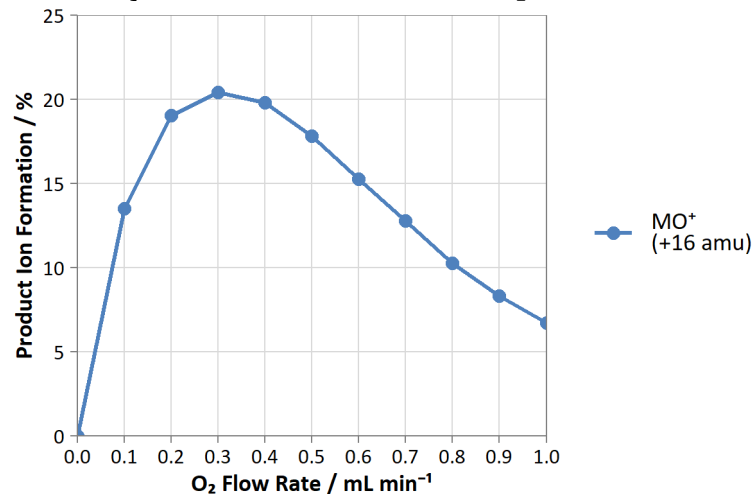


Mass-Shift with N₂O and O₂

Major Product Ions of ¹³⁹La⁺ with N₂O Reaction Gas

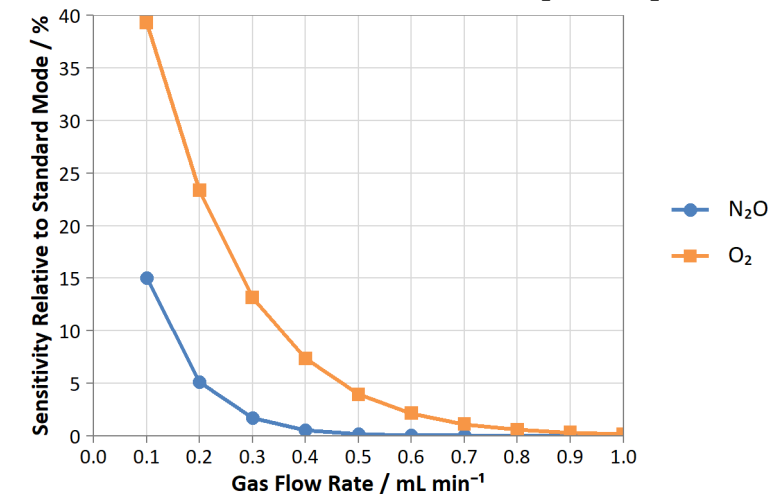


Major Product Ions of ¹³⁹La⁺ with O₂ Reaction Gas



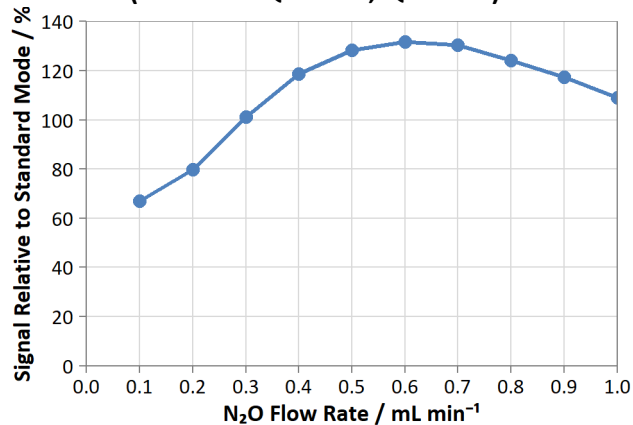
On-Mass with N₂O and O₂

On-Mass Profile of ¹³⁹La⁺ with N₂O and O₂

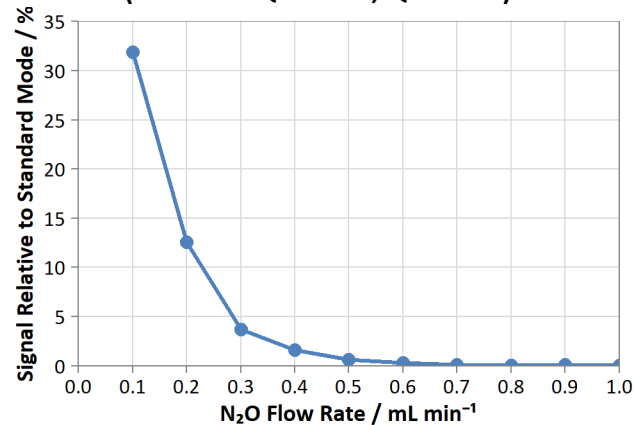


On-Mass Removal (as Interference) with N₂O

Variation of ¹³⁹La¹⁶O⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 155, Q3 = 155)



Variation of ¹³⁹La²⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 69.5, Q3 = 69.5)



Asymmetric Charge Transfer (with N₂O)

[NO CHARGE TRANSFER REACTION OBSERVED]

Cerium

Supplementary Information B to: Characterisation of gas cell reactions for 70+ elements using N₂O for ICP tandem mass spectrometry measurements

Shaun T. Lancaster^{a*}, Thomas Prohaska^{ab} and Johanna Irrgeher^{ab}

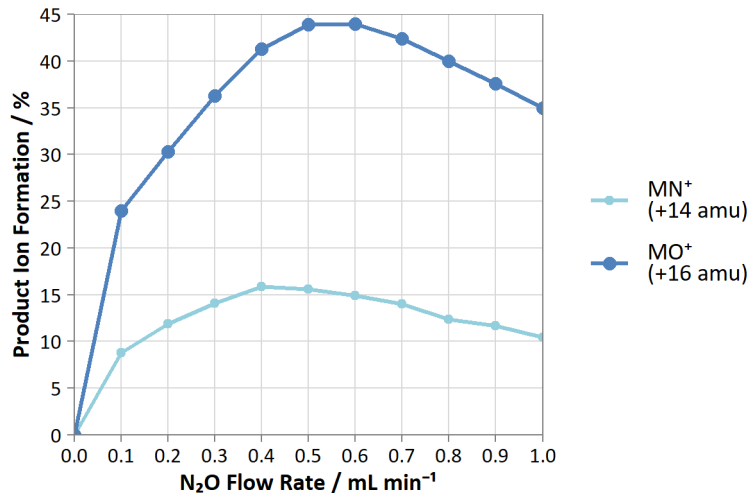
^aDepartment of General, Analytical and Physical Chemistry, Chair of General and Analytical Chemistry, Montanuniversität Leoben, Leoben, Austria.

^bDepartment of Physics and Astronomy, University of Calgary, Calgary, Canada.

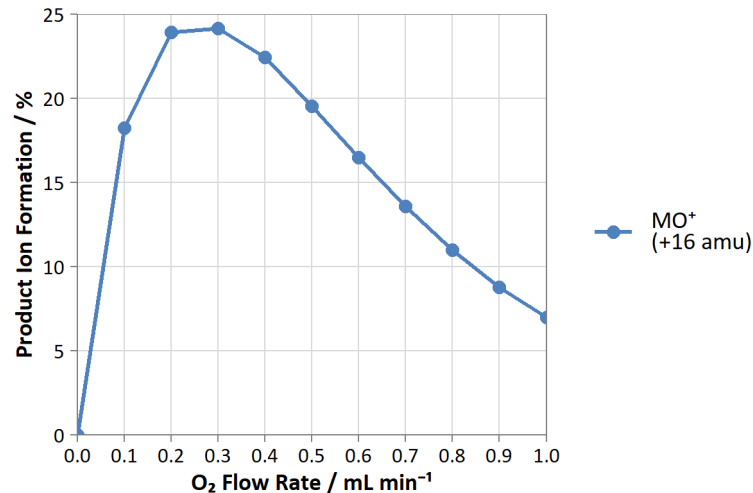


Mass-Shift with N₂O and O₂

Major Product Ions of ¹⁴⁰Ce⁺ with N₂O Reaction Gas

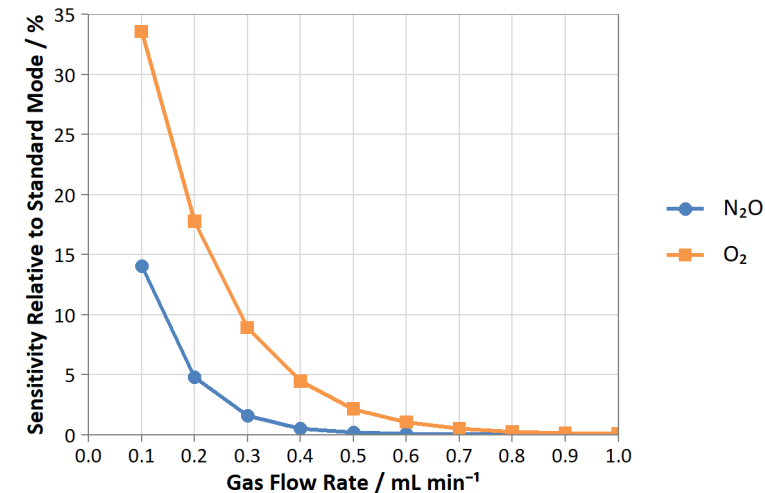


Major Product Ions of ¹⁴⁰Ce⁺ with O₂ Reaction Gas



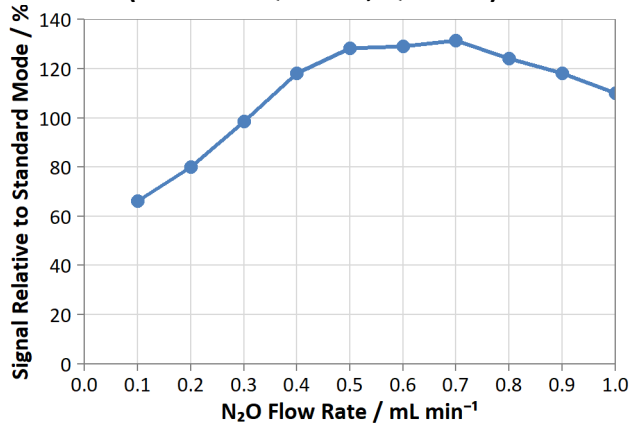
On-Mass with N₂O and O₂

On-Mass Profile of ¹⁴⁰Ce⁺ with N₂O and O₂

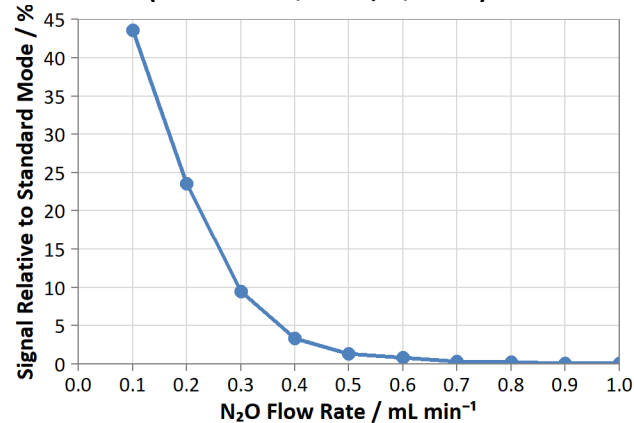


On-Mass Removal (as Interference) with N₂O

Variation of ¹⁴⁰Ce¹⁶O⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 156, Q3 = 156)



Variation of ¹⁴⁰Ce²⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 70, Q3 = 70)



Asymmetric Charge Transfer (with N₂O)

[NO CHARGE TRANSFER REACTION OBSERVED]



Praseodymium

Supplementary Information B to: Characterisation of gas cell reactions for 70+ elements using N₂O for ICP tandem mass spectrometry measurements

Shaun T. Lancaster^{a*}, Thomas Prohaska^{ab} and Johanna Irrgeher^{ab}

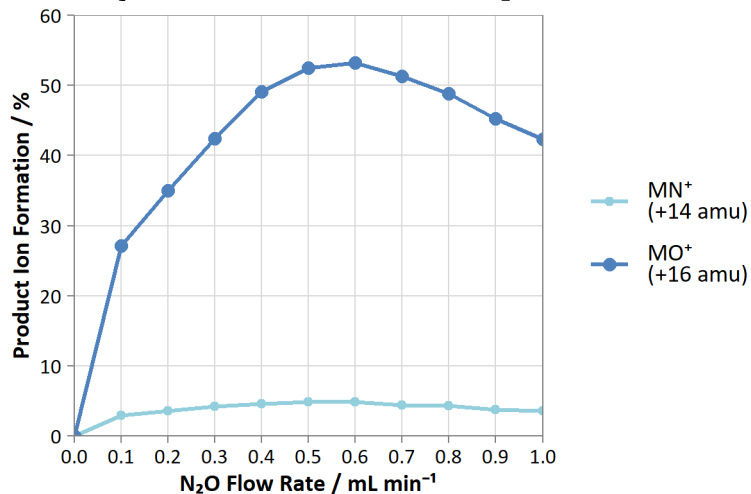
^aDepartment of General, Analytical and Physical Chemistry, Chair of General and Analytical Chemistry, Montanuniversität Leoben, Leoben, Austria.

^bDepartment of Physics and Astronomy, University of Calgary, Calgary, Canada.

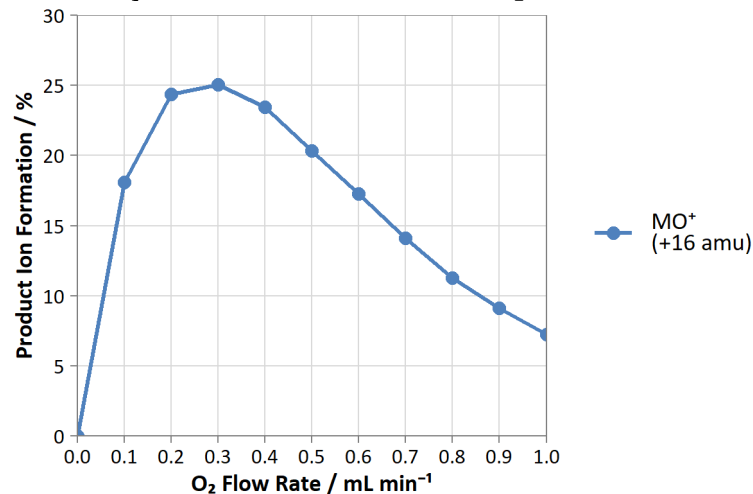


Mass-Shift with N₂O and O₂

Major Product Ions of ¹⁴¹Pr⁺ with N₂O Reaction Gas

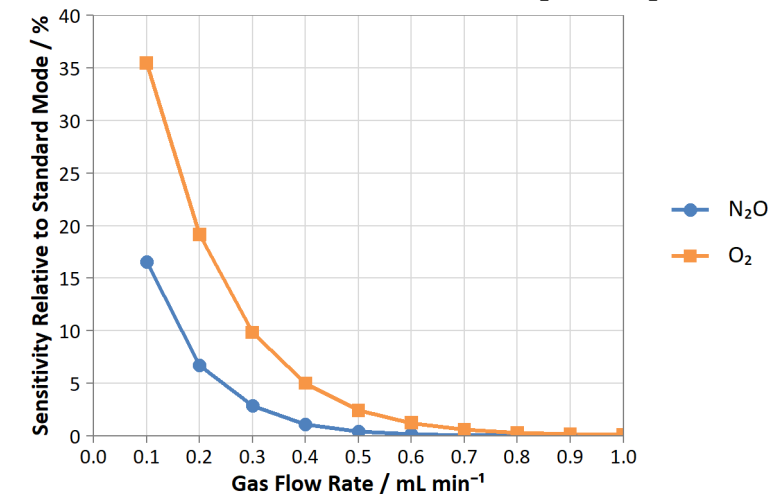


Major Product Ions of ¹⁴¹Pr⁺ with O₂ Reaction Gas



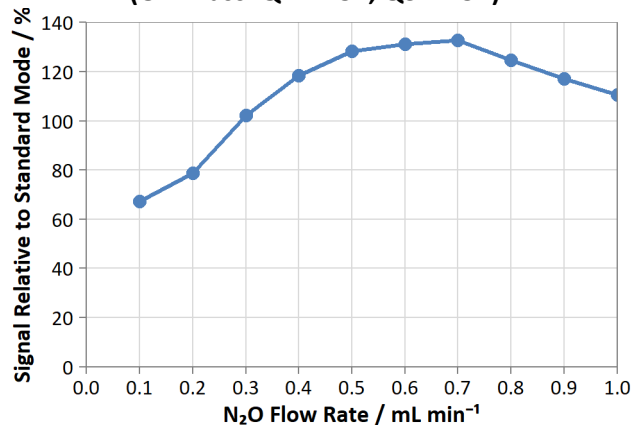
On-Mass with N₂O and O₂

On-Mass Profile of ¹⁴¹Pr⁺ with N₂O and O₂

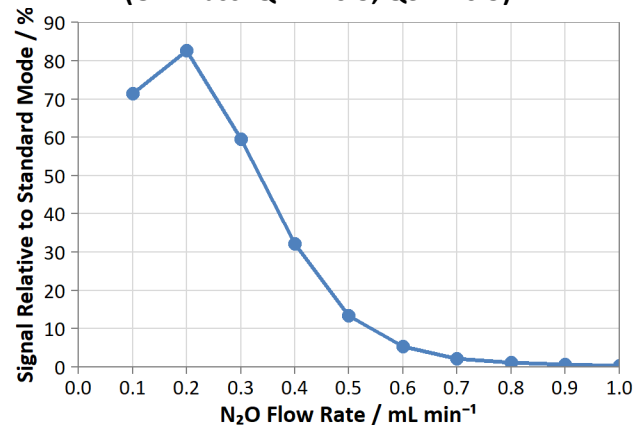


On-Mass Removal (as Interference) with N₂O

Variation of ¹⁴¹Pr¹⁶O⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 157, Q3 = 157)



Variation of ¹⁴¹Pr²⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 70.5, Q3 = 70.5)



Asymmetric Charge Transfer (with N₂O)

[NO CHARGE TRANSFER REACTION OBSERVED]



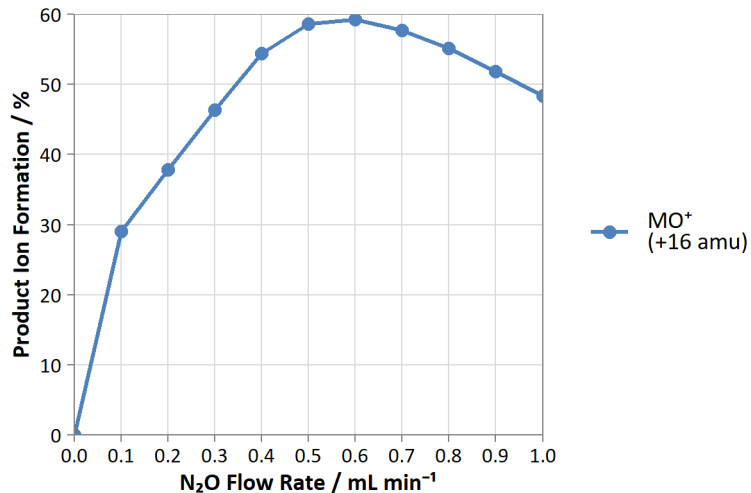
Neodymium

Supplementary Information B to: Characterisation of gas cell reactions for 70+ elements using N₂O for ICP tandem mass spectrometry measurements
Shaun T. Lancaster^{a*}, Thomas Prohaska^{ab} and Johanna Irrgeher^{ab}
^aDepartment of General, Analytical and Physical Chemistry, Chair of General and Analytical Chemistry, Montanuniversität Leoben, Leoben, Austria.
^bDepartment of Physics and Astronomy, University of Calgary, Calgary, Canada.

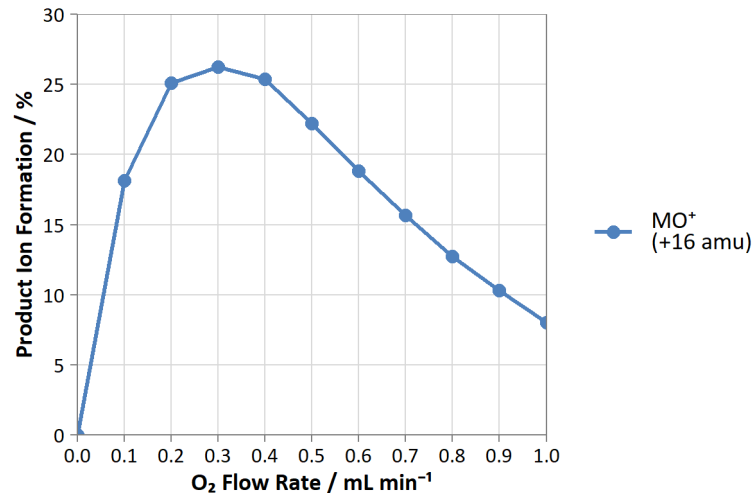


Mass-Shift with N₂O and O₂

Major Product Ions of ¹⁴³Nd⁺ with N₂O Reaction Gas

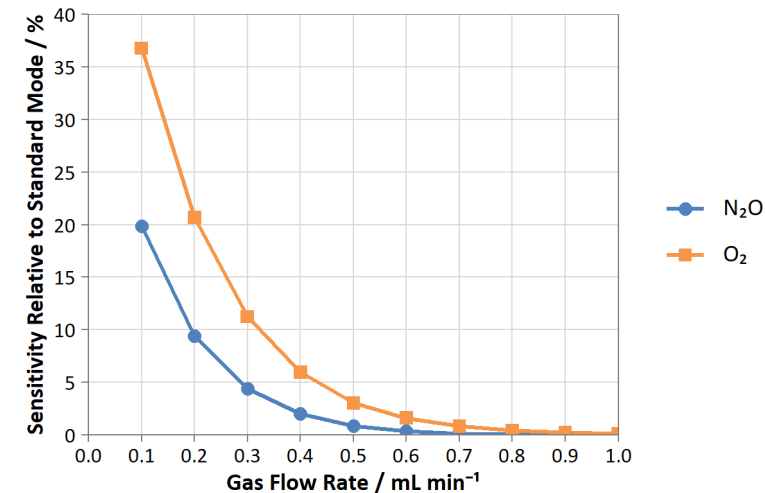


Major Product Ions of ¹⁴³Nd⁺ with O₂ Reaction Gas



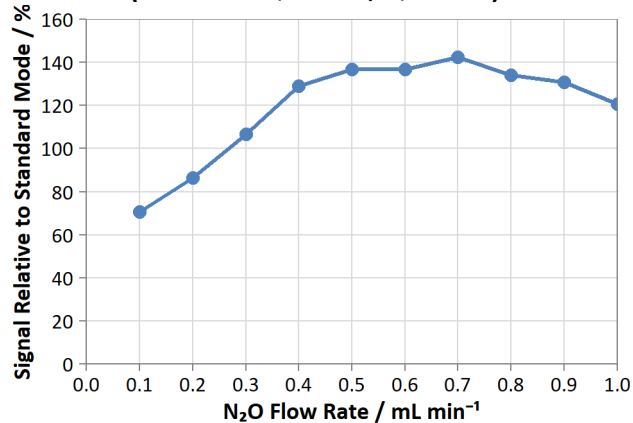
On-Mass with N₂O and O₂

On-Mass Profile of ¹⁴³Nd⁺ with N₂O and O₂

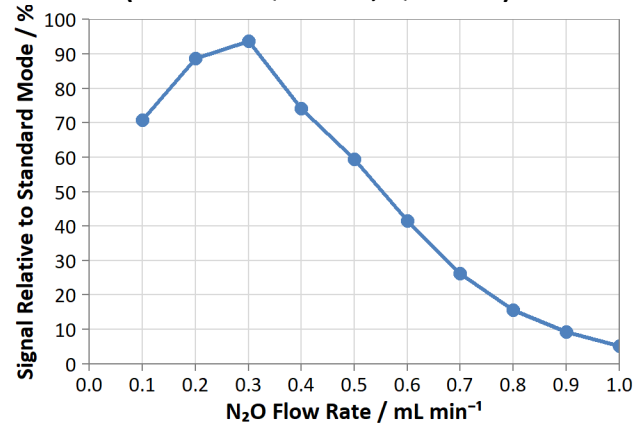


On-Mass Removal (as Interference) with N₂O

Variation of ¹⁴³Nd¹⁶O⁺ Interference with N₂O Flow Rate
(On-Mass: Q1 = 159, Q3 = 159)



Variation of ¹⁴³Nd²⁺ Interference with N₂O Flow Rate
(On-Mass: Q1 = 71.5, Q3 = 71.5)



Asymmetric Charge Transfer (with N₂O)

[NO CHARGE TRANSFER REACTION OBSERVED]

Samarium

Supplementary Information B to: Characterisation of gas cell reactions for 70+ elements using N₂O for ICP tandem mass spectrometry measurements

Shaun T. Lancaster^{a*}, Thomas Prohaska^{ab} and Johanna Irrgeher^{ab}

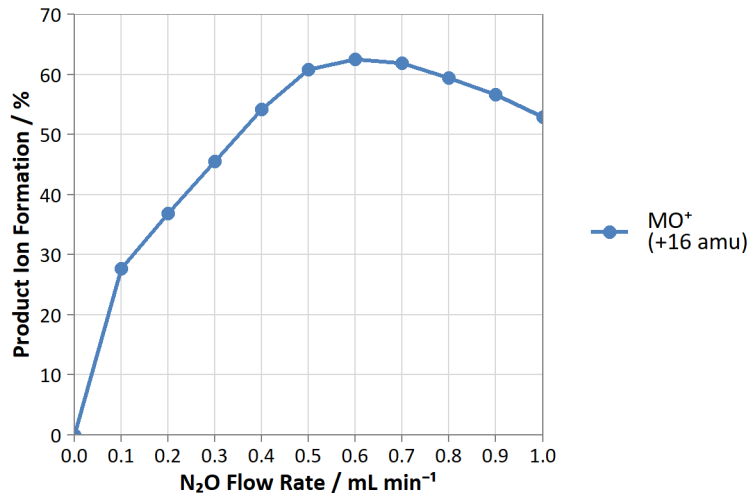
^aDepartment of General, Analytical and Physical Chemistry, Chair of General and Analytical Chemistry, Montanuniversität Leoben, Leoben, Austria.

^bDepartment of Physics and Astronomy, University of Calgary, Calgary, Canada.

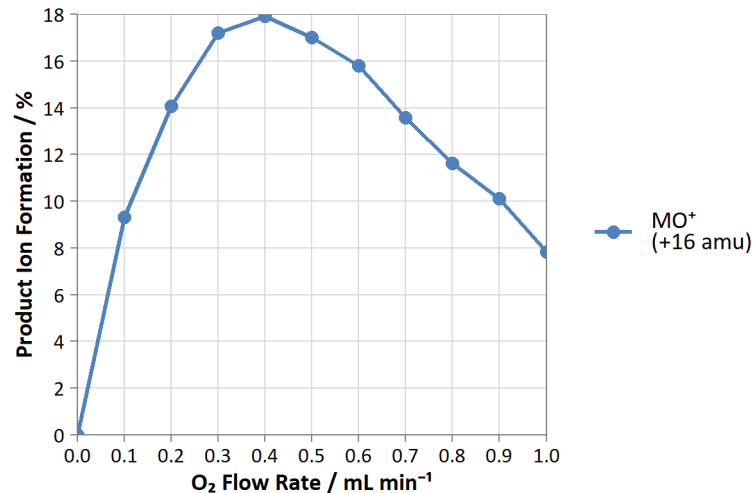


Mass-Shift with N₂O and O₂

Major Product Ions of ¹⁴⁷Sm⁺ with N₂O Reaction Gas

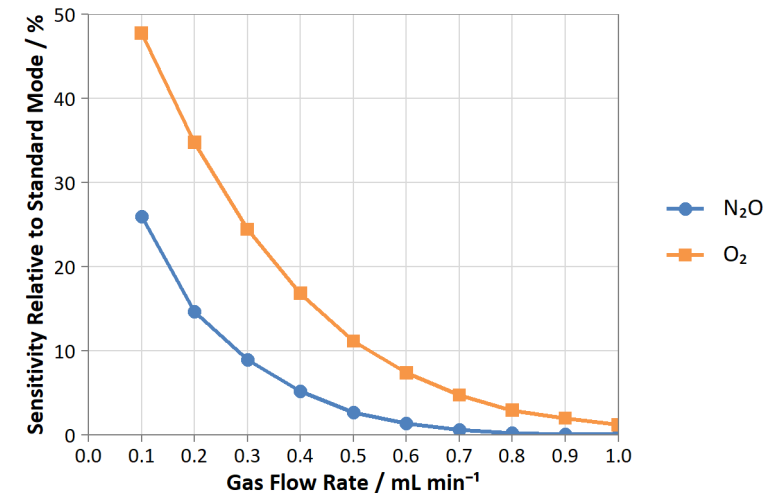


Major Product Ions of ¹⁴⁷Sm⁺ with O₂ Reaction Gas



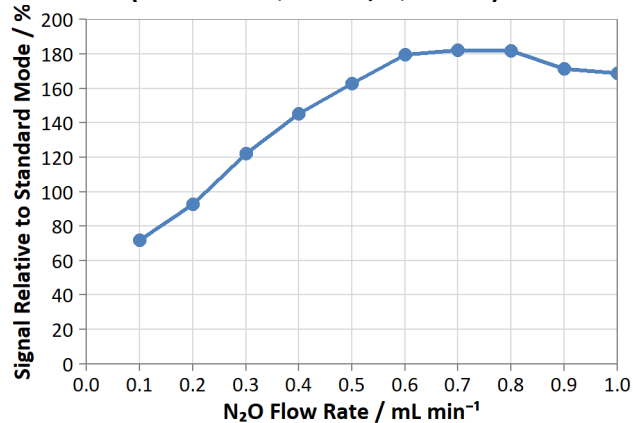
On-Mass with N₂O and O₂

On-Mass Profile of ¹⁴⁷Sm⁺ with N₂O and O₂

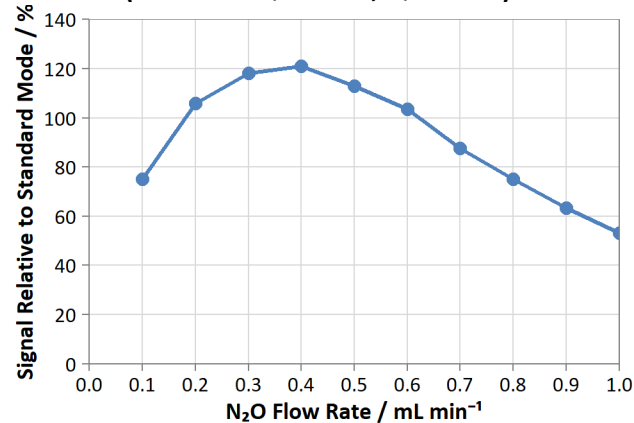


On-Mass Removal (as Interference) with N₂O

Variation of ¹⁴⁷Sm¹⁶O⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 163, Q3 = 163)



Variation of ¹⁴⁷Sm²⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 73.5, Q3 = 73.5)



Asymmetric Charge Transfer (with N₂O)

[NO CHARGE TRANSFER REACTION OBSERVED]



Europium

Supplementary Information B to: Characterisation of gas cell reactions for 70+ elements using N₂O for ICP tandem mass spectrometry measurements

Shaun T. Lancaster^{a*}, Thomas Prohaska^{ab} and Johanna Irrgeher^{ab}

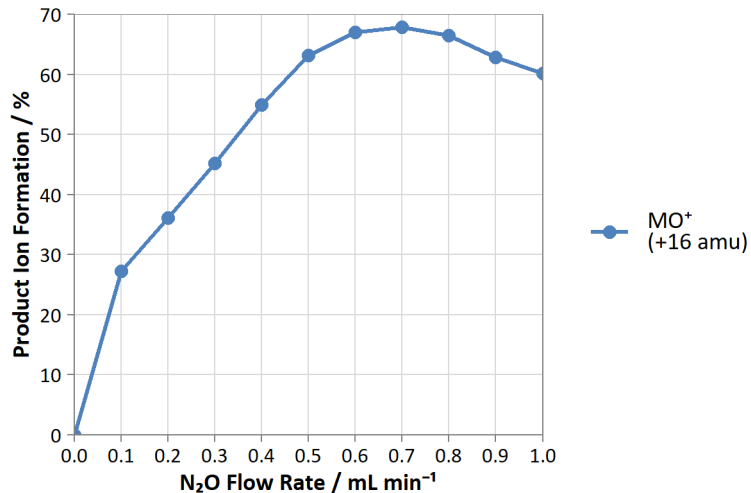
^aDepartment of General, Analytical and Physical Chemistry, Chair of General and Analytical Chemistry, Montanuniversität Leoben, Leoben, Austria.

^bDepartment of Physics and Astronomy, University of Calgary, Calgary, Canada.

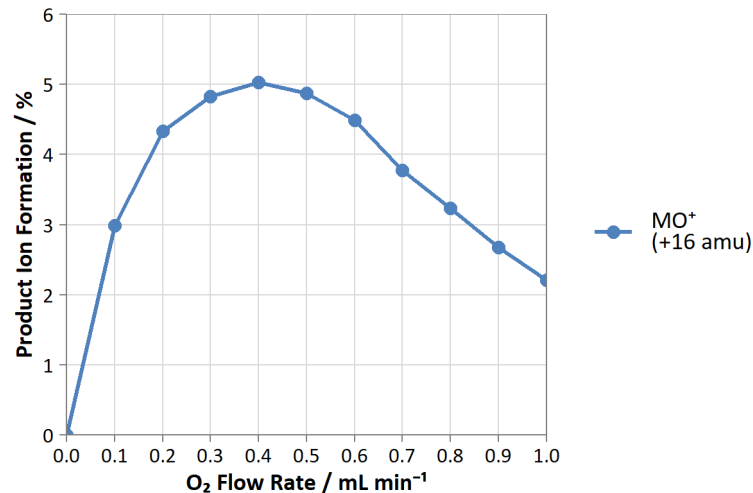


Mass-Shift with N₂O and O₂

Major Product Ions of ¹⁵³Eu⁺ with N₂O Reaction Gas

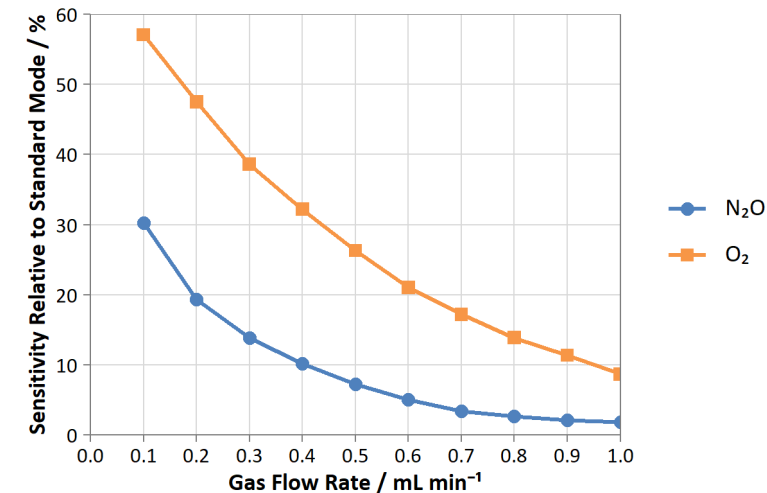


Major Product Ions of ¹⁵³Eu⁺ with O₂ Reaction Gas



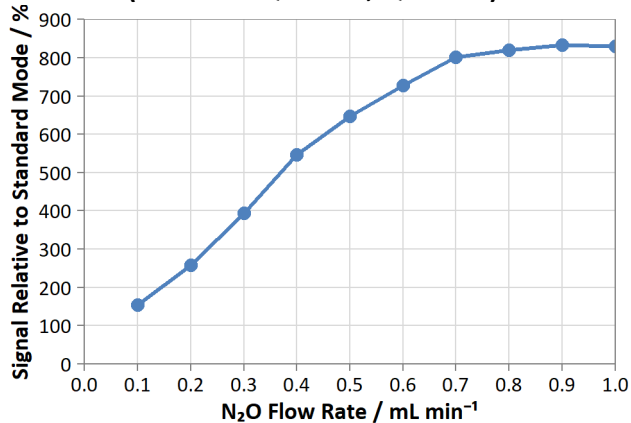
On-Mass with N₂O and O₂

On-Mass Profile of ¹⁵³Eu⁺ with N₂O and O₂

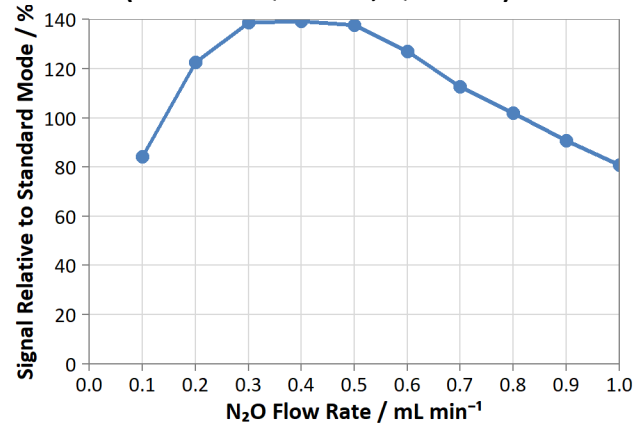


On-Mass Removal (as Interference) with N₂O

Variation of ¹⁵³Eu¹⁶O⁺ Interference with N₂O Flow Rate
(On-Mass: Q1 = 169, Q3 = 169)



Variation of ¹⁵³Eu²⁺ Interference with N₂O Flow Rate
(On-Mass: Q1 = 76.5, Q3 = 76.5)



Asymmetric Charge Transfer (with N₂O)

[NO CHARGE TRANSFER REACTION OBSERVED]



Gadolinium

Supplementary Information B to: Characterisation of gas cell reactions for 70+ elements using N₂O for ICP tandem mass spectrometry measurements

Shaun T. Lancaster^{a*}, Thomas Prohaska^{ab} and Johanna Irrgeher^{ab}

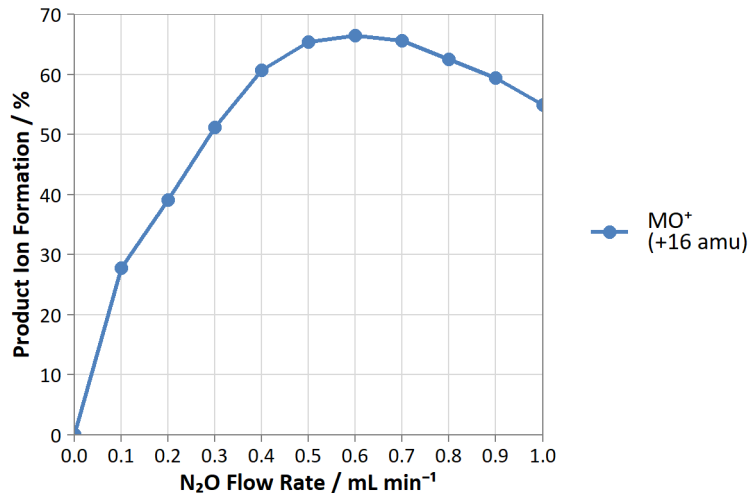
^aDepartment of General, Analytical and Physical Chemistry, Chair of General and Analytical Chemistry, Montanuniversität Leoben, Leoben, Austria.

^bDepartment of Physics and Astronomy, University of Calgary, Calgary, Canada.

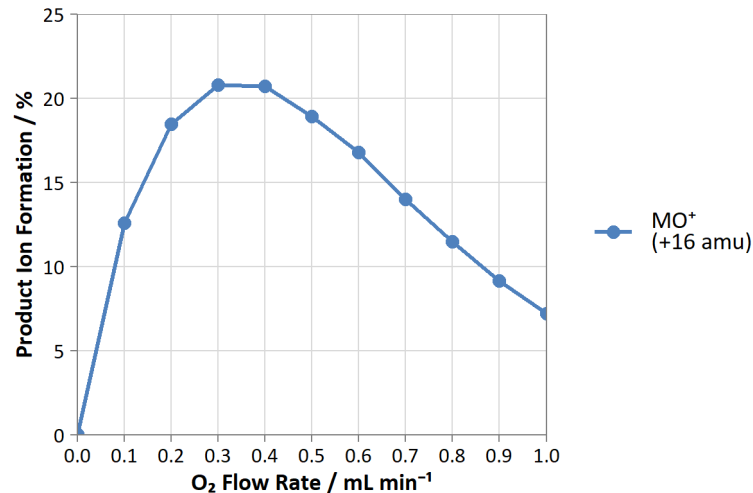


Mass-Shift with N₂O and O₂

Major Product Ions of ¹⁵⁵Gd⁺ with N₂O Reaction Gas

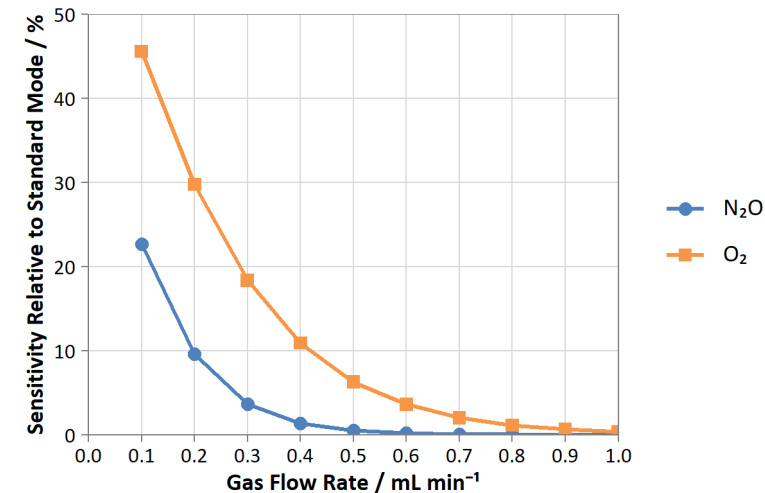


Major Product Ions of ¹⁵⁵Gd⁺ with O₂ Reaction Gas



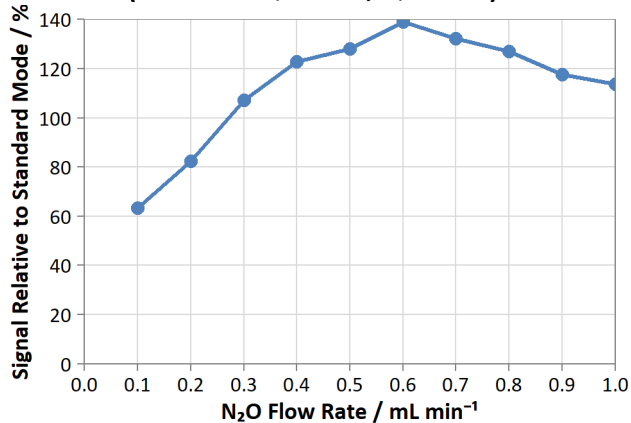
On-Mass with N₂O and O₂

On-Mass Profile of ¹⁵⁵Gd⁺ with N₂O and O₂

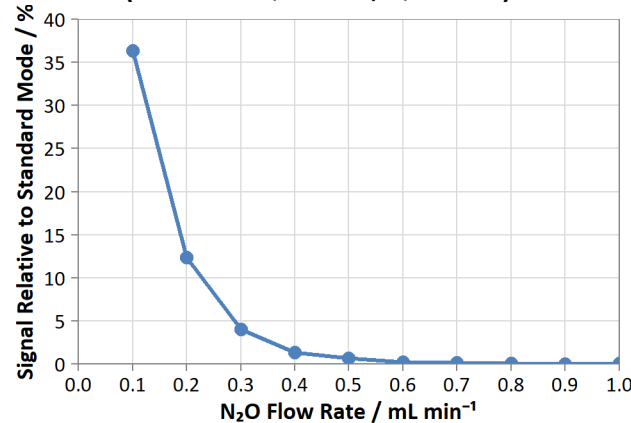


On-Mass Removal (as Interference) with N₂O

Variation of ¹⁵⁵Gd¹⁶O⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 171, Q3 = 171)



Variation of ¹⁵⁵Gd²⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 77.5, Q3 = 77.5)



Asymmetric Charge Transfer (with N₂O)

[NO CHARGE TRANSFER REACTION OBSERVED]

Terbium

Supplementary Information B to: Characterisation of gas cell reactions for 70+ elements using N₂O for ICP tandem mass spectrometry measurements

Shaun T. Lancaster^{a*}, Thomas Prohaska^{ab} and Johanna Irrgeher^{ab}

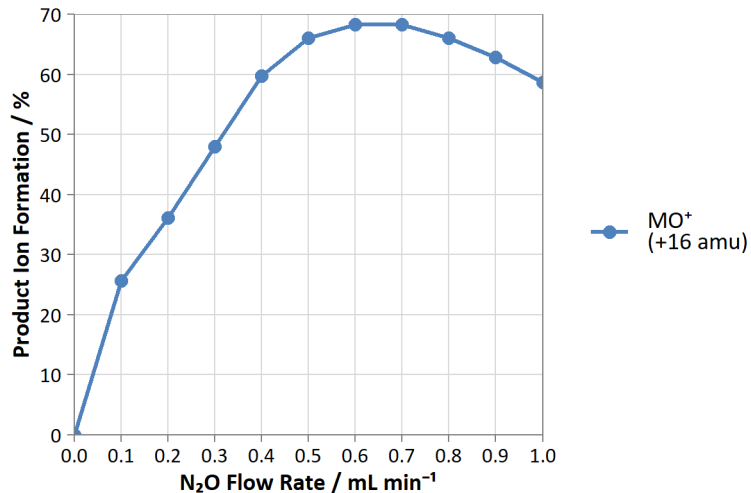
^aDepartment of General, Analytical and Physical Chemistry, Chair of General and Analytical Chemistry, Montanuniversität Leoben, Leoben, Austria.

^bDepartment of Physics and Astronomy, University of Calgary, Calgary, Canada.

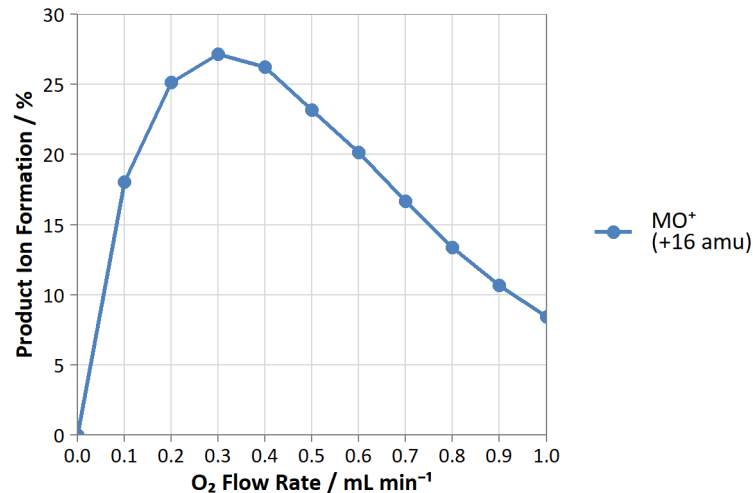


Mass-Shift with N₂O and O₂

Major Product Ions of ¹⁵⁹Tb⁺ with N₂O Reaction Gas

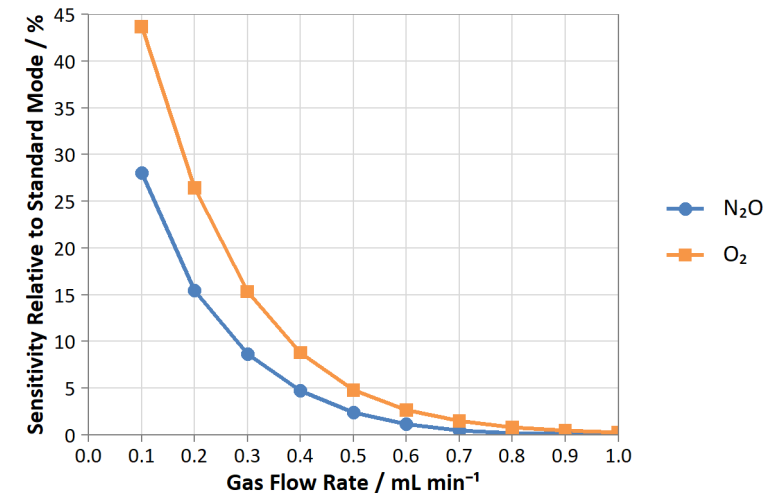


Major Product Ions of ¹⁵⁹Tb⁺ with O₂ Reaction Gas



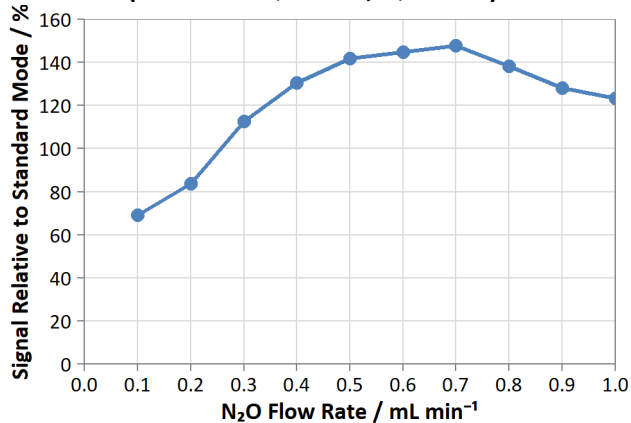
On-Mass with N₂O and O₂

On-Mass Profile of ¹⁵⁹Tb⁺ with N₂O and O₂

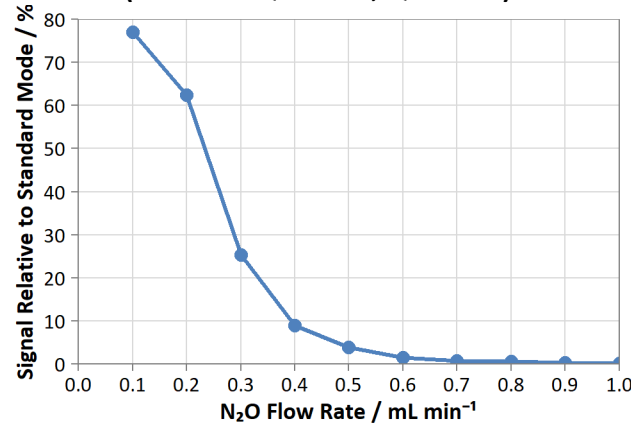


On-Mass Removal (as Interference) with N₂O

Variation of ¹⁵⁹Tb¹⁶O⁺ Interference with N₂O Flow Rate
(On-Mass: Q1 = 175, Q3 = 175)



Variation of ¹⁵⁹Tb²⁺ Interference with N₂O Flow Rate
(On-Mass: Q1 = 79.5, Q3 = 79.5)



Asymmetric Charge Transfer (with N₂O)

[NO CHARGE TRANSFER REACTION OBSERVED]



Dysprosium

Supplementary Information B to: Characterisation of gas cell reactions for 70+ elements using N₂O for ICP tandem mass spectrometry measurements

Shaun T. Lancaster^{a*}, Thomas Prohaska^{ab} and Johanna Irrgeher^{ab}

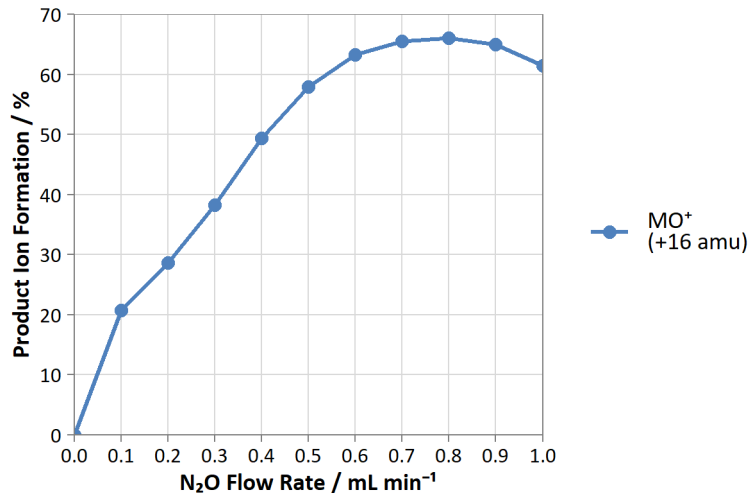
^aDepartment of General, Analytical and Physical Chemistry, Chair of General and Analytical Chemistry, Montanuniversität Leoben, Leoben, Austria.

^bDepartment of Physics and Astronomy, University of Calgary, Calgary, Canada.

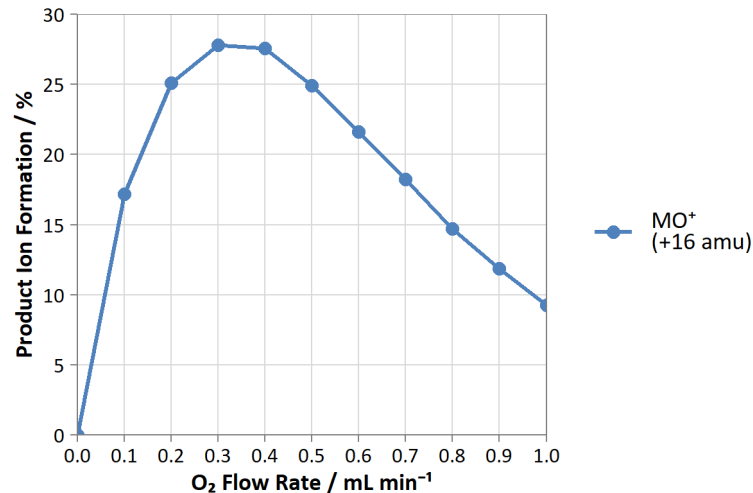


Mass-Shift with N₂O and O₂

Major Product Ions of ¹⁶³Dy⁺ with N₂O Reaction Gas

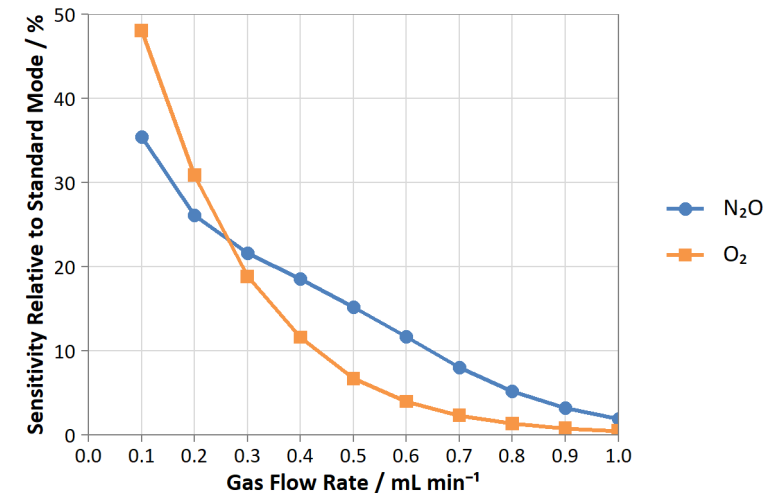


Major Product Ions of ¹⁶³Dy⁺ with O₂ Reaction Gas



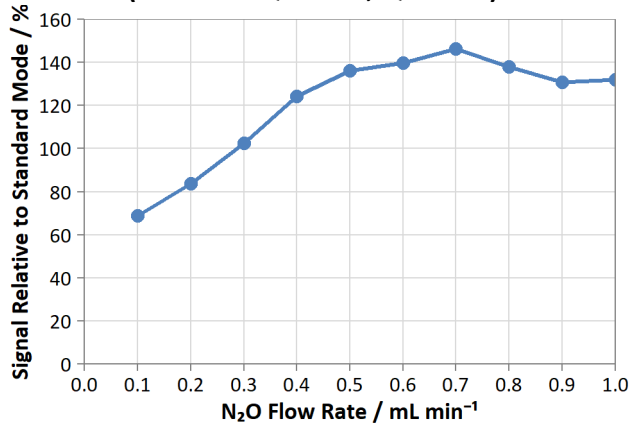
On-Mass with N₂O and O₂

On-Mass Profile of ¹⁶³Dy⁺ with N₂O and O₂

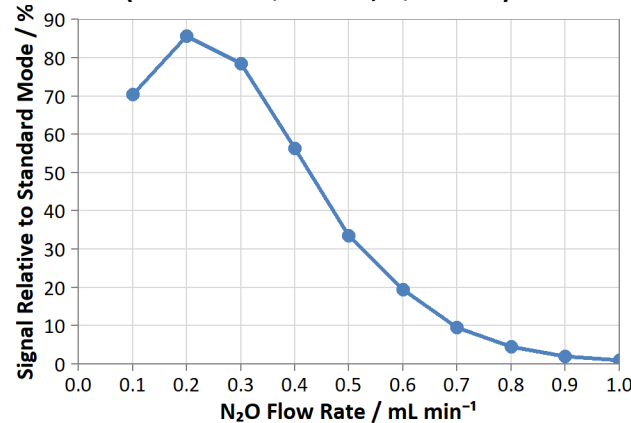


On-Mass Removal (as Interference) with N₂O

Variation of ¹⁶³Dy¹⁶O⁺ Interference with N₂O Flow Rate
(On-Mass: Q1 = 179, Q3 = 179)



Variation of ¹⁶³Dy²⁺ Interference with N₂O Flow Rate
(On-Mass: Q1 = 81.5, Q3 = 81.5)



Asymmetric Charge Transfer (with N₂O)

[NO CHARGE TRANSFER REACTION OBSERVED]



Holmium

Supplementary Information B to: Characterisation of gas cell reactions for 70+ elements using N₂O for ICP tandem mass spectrometry measurements

Shaun T. Lancaster^{a*}, Thomas Prohaska^{ab} and Johanna Irrgeher^{ab}

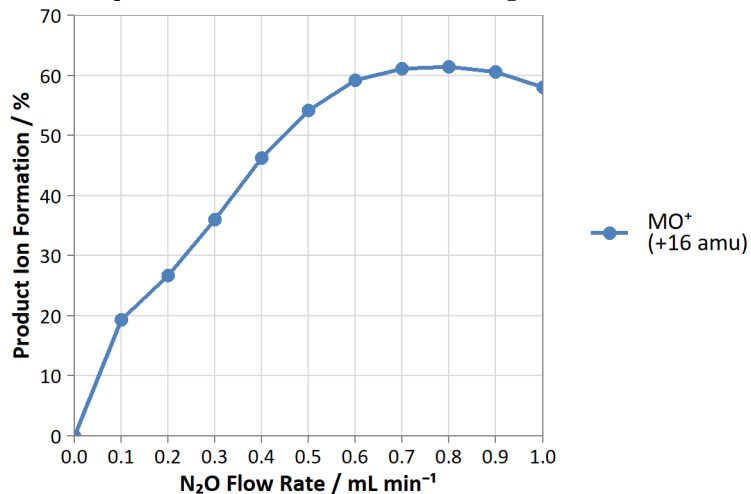
^aDepartment of General, Analytical and Physical Chemistry, Chair of General and Analytical Chemistry, Montanuniversität Leoben, Leoben, Austria.

^bDepartment of Physics and Astronomy, University of Calgary, Calgary, Canada.

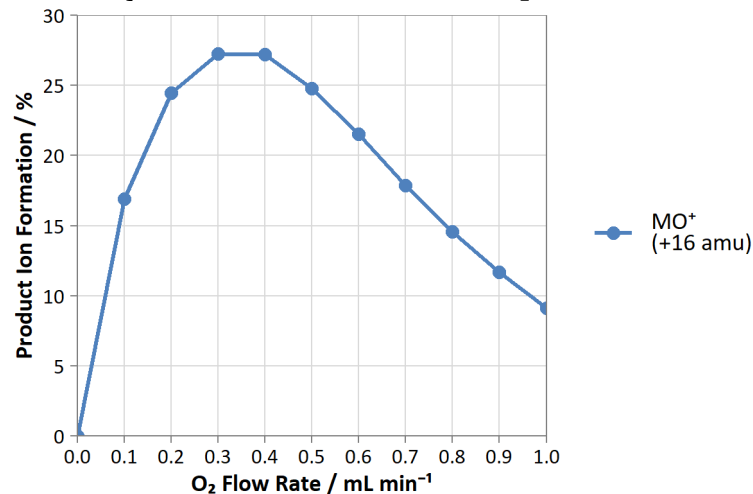


Mass-Shift with N₂O and O₂

Major Product Ions of ¹⁶⁵Ho⁺ with N₂O Reaction Gas

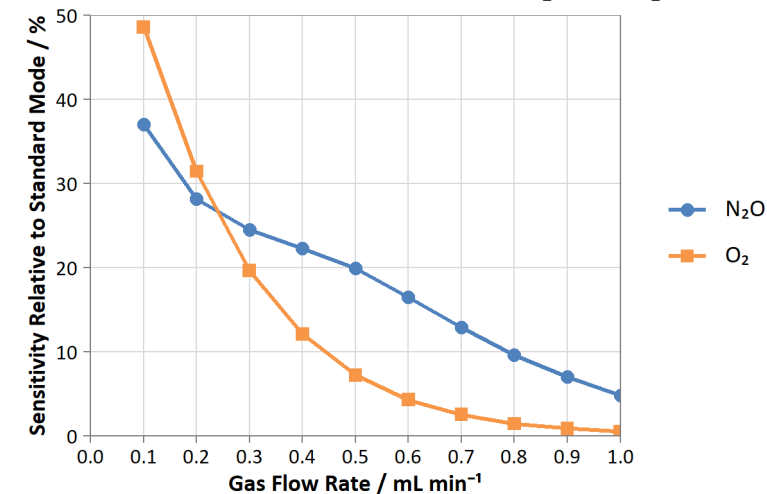


Major Product Ions of ¹⁶⁵Ho⁺ with O₂ Reaction Gas



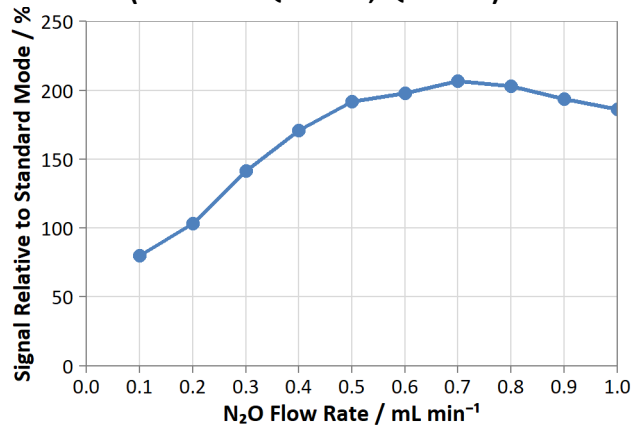
On-Mass with N₂O and O₂

On-Mass Profile of ¹⁶⁵Ho⁺ with N₂O and O₂

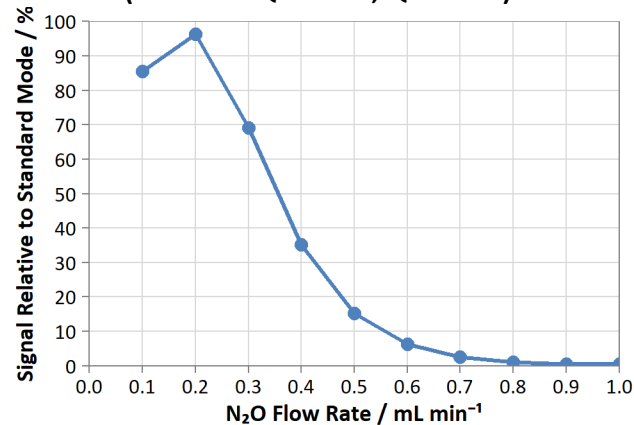


On-Mass Removal (as Interference) with N₂O

Variation of ¹⁶⁵Ho¹⁶O⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 181, Q3 = 181)



Variation of ¹⁶⁵Ho²⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 82.5, Q3 = 82.5)



Asymmetric Charge Transfer (with N₂O)

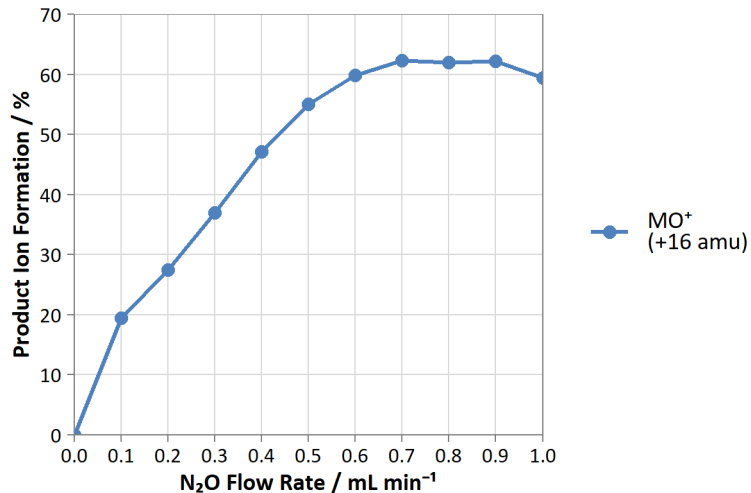
[NO CHARGE TRANSFER REACTION OBSERVED]



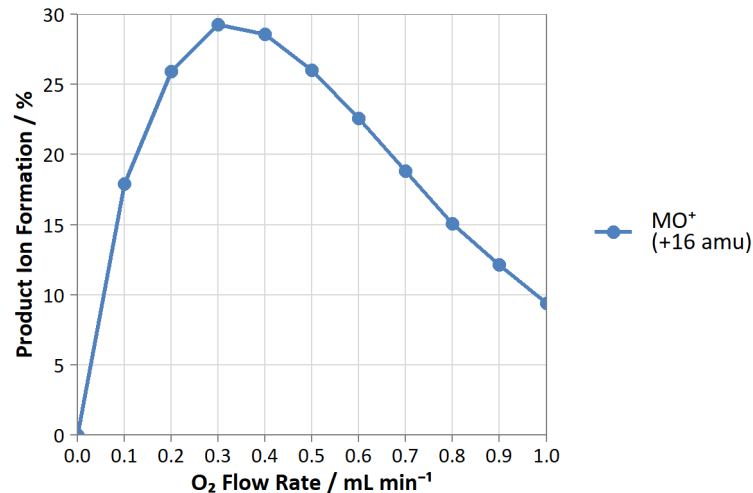


Mass-Shift with N₂O and O₂

Major Product Ions of ¹⁶⁶Er⁺ with N₂O Reaction Gas

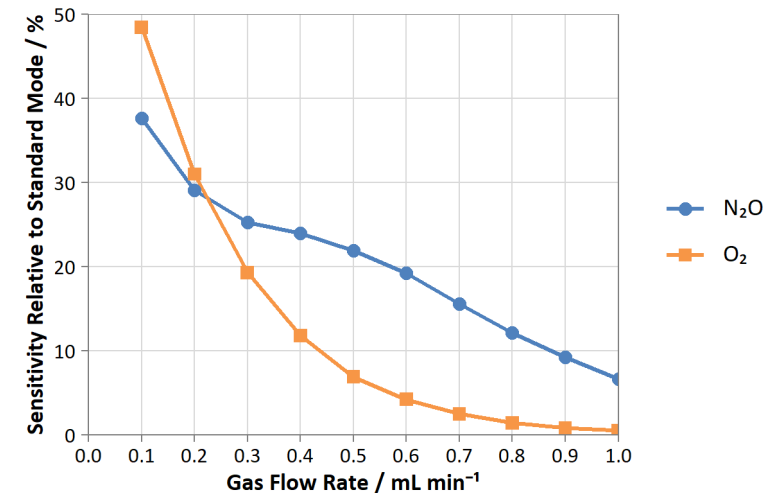


Major Product Ions of ¹⁶⁶Er⁺ with O₂ Reaction Gas



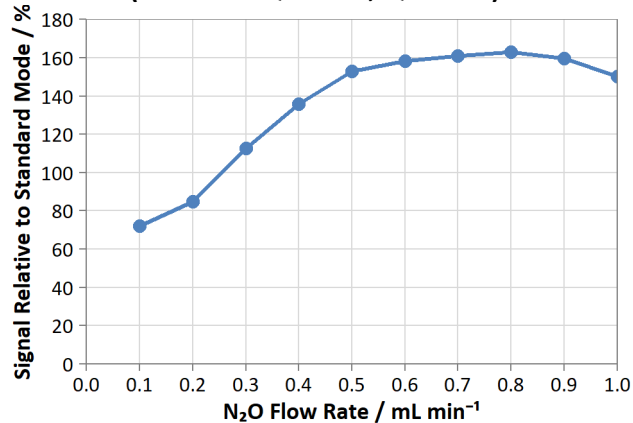
On-Mass with N₂O and O₂

On-Mass Profile of ¹⁶⁶Er⁺ with N₂O and O₂

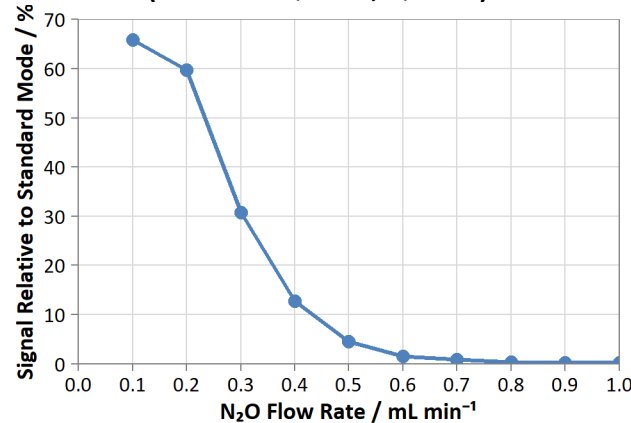


On-Mass Removal (as Interference) with N₂O

Variation of ¹⁶⁶Er¹⁶O⁺ Interference with N₂O Flow Rate
(On-Mass: Q1 = 182, Q3 = 182)



Variation of ¹⁶⁶Er²⁺ Interference with N₂O Flow Rate
(On-Mass: Q1 = 83, Q3 = 83)



Asymmetric Charge Transfer (with N₂O)

[NO CHARGE TRANSFER REACTION OBSERVED]

Thulium

Supplementary Information B to: Characterisation of gas cell reactions for 70+ elements using N₂O for ICP tandem mass spectrometry measurements

Shaun T. Lancaster^{a*}, Thomas Prohaska^{ab} and Johanna Irrgeher^{ab}

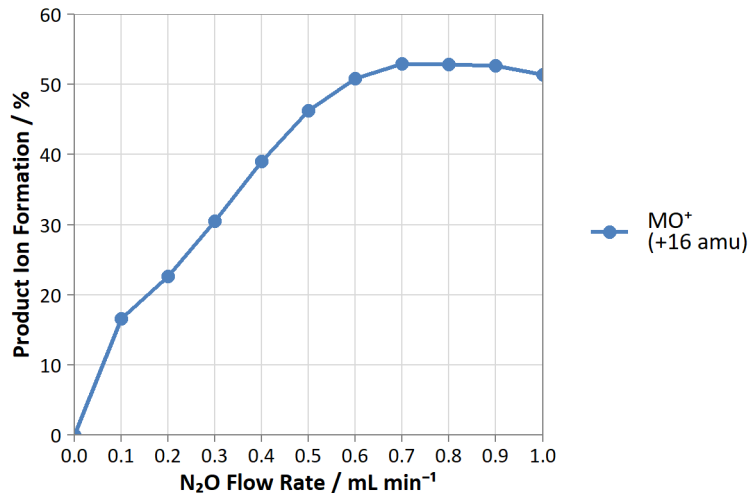
^aDepartment of General, Analytical and Physical Chemistry, Chair of General and Analytical Chemistry, Montanuniversität Leoben, Leoben, Austria.

^bDepartment of Physics and Astronomy, University of Calgary, Calgary, Canada.

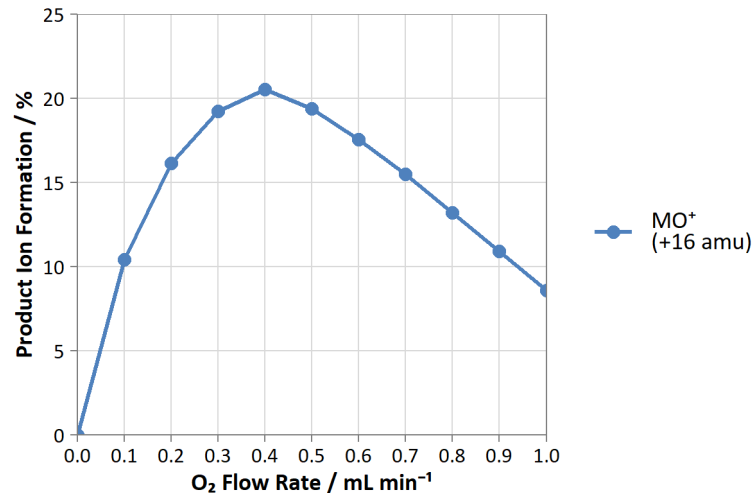


Mass-Shift with N₂O and O₂

Major Product Ions of ¹⁶⁹Tm⁺ with N₂O Reaction Gas

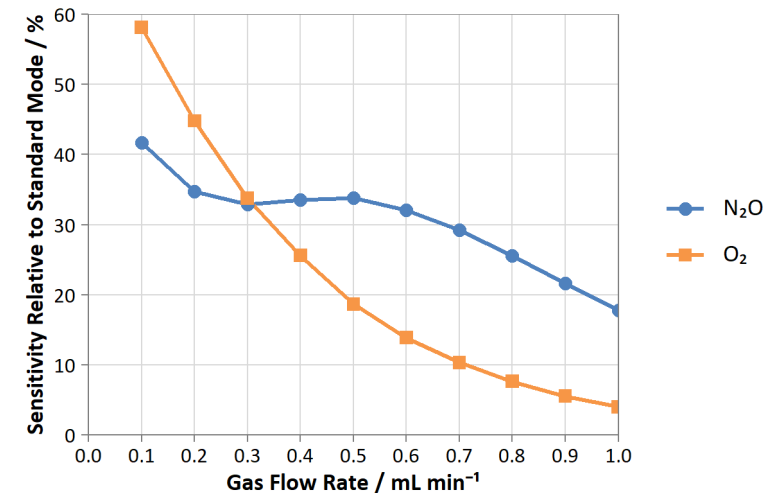


Major Product Ions of ¹⁶⁹Tm⁺ with O₂ Reaction Gas



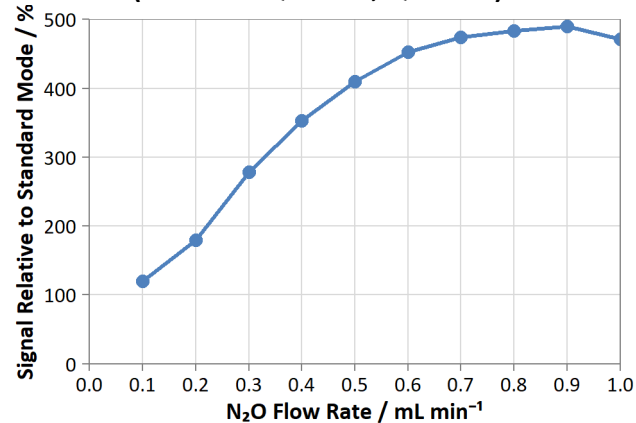
On-Mass with N₂O and O₂

On-Mass Profile of ¹⁶⁹Tm⁺ with N₂O and O₂

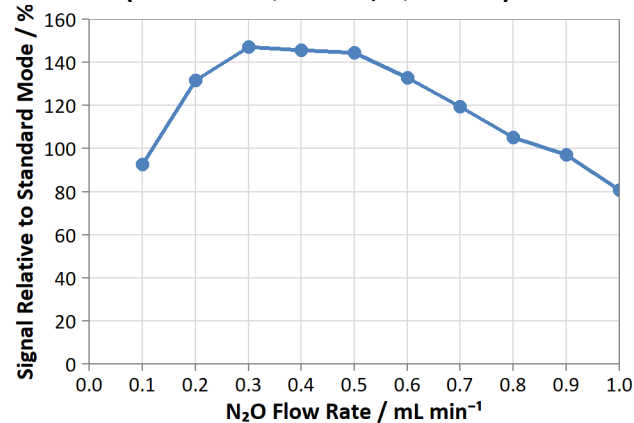


On-Mass Removal (as Interference) with N₂O

Variation of ¹⁶⁹Tm¹⁶O⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 185, Q3 = 185)



Variation of ¹⁶⁹Tm²⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 84.5, Q3 = 84.5)



Asymmetric Charge Transfer (with N₂O)

[NO CHARGE TRANSFER REACTION OBSERVED]



Ytterbium

Supplementary Information B to: Characterisation of gas cell reactions for 70+ elements using N₂O for ICP tandem mass spectrometry measurements

Shaun T. Lancaster^{a*}, Thomas Prohaska^{ab} and Johanna Irrgeher^{ab}

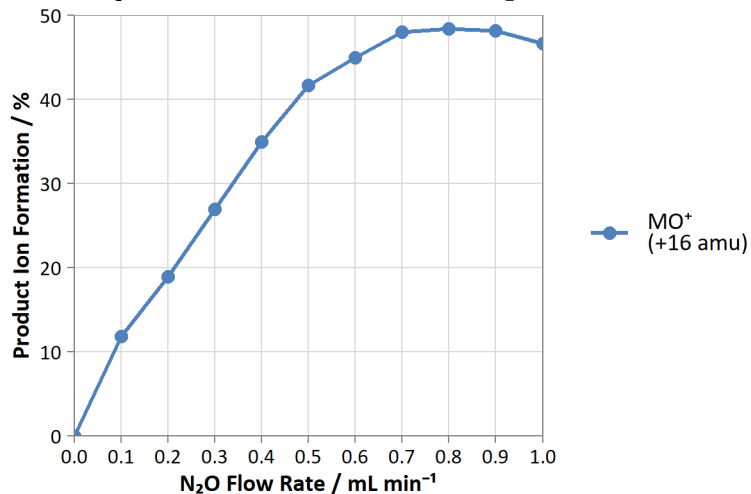
^aDepartment of General, Analytical and Physical Chemistry, Chair of General and Analytical Chemistry, Montanuniversität Leoben, Leoben, Austria.

^bDepartment of Physics and Astronomy, University of Calgary, Calgary, Canada.

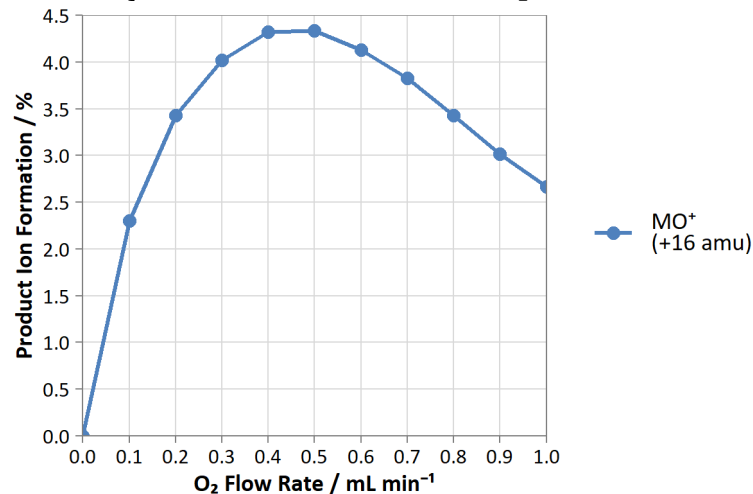


Mass-Shift with N₂O and O₂

Major Product Ions of ¹⁷⁴Yb⁺ with N₂O Reaction Gas

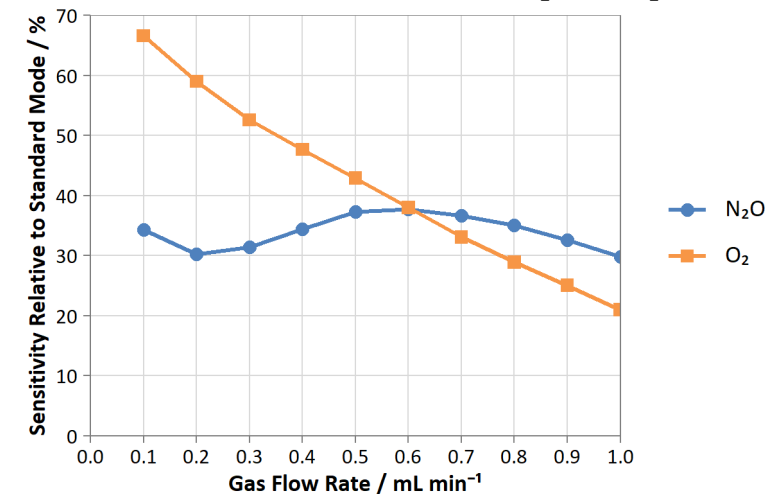


Major Product Ions of ¹⁷⁴Yb⁺ with O₂ Reaction Gas



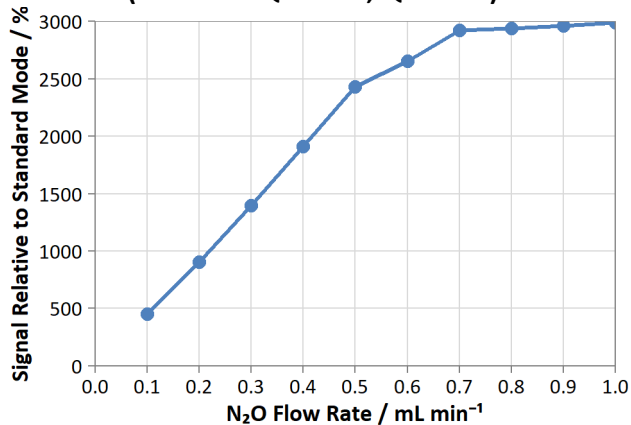
On-Mass with N₂O and O₂

On-Mass Profile of ¹⁷⁴Yb⁺ with N₂O and O₂

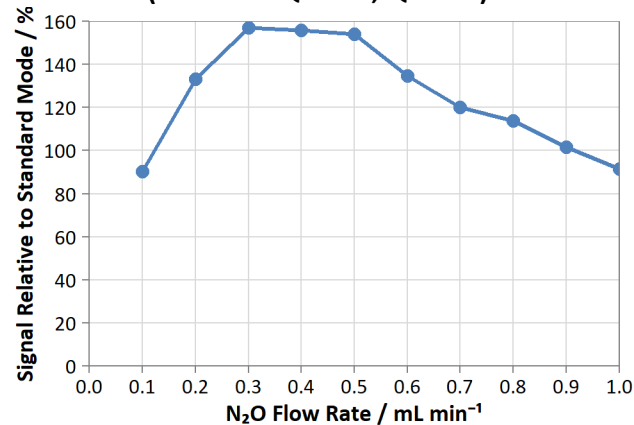


On-Mass Removal (as Interference) with N₂O

Variation of ¹⁷⁴Yb¹⁶O⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 190, Q3 = 190)



Variation of ¹⁷⁴Yb²⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 87, Q3 = 87)



Asymmetric Charge Transfer (with N₂O)

[NO CHARGE TRANSFER REACTION OBSERVED]



Lutetium

Supplementary Information B to: Characterisation of gas cell reactions for 70+ elements using N₂O for ICP tandem mass spectrometry measurements

Shaun T. Lancaster^{a*}, Thomas Prohaska^{ab} and Johanna Irrgeher^{ab}

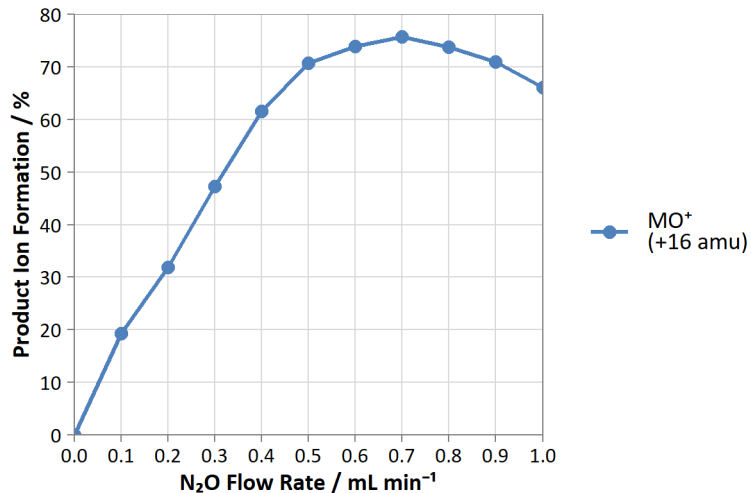
^aDepartment of General, Analytical and Physical Chemistry, Chair of General and Analytical Chemistry, Montanuniversität Leoben, Leoben, Austria.

^bDepartment of Physics and Astronomy, University of Calgary, Calgary, Canada.

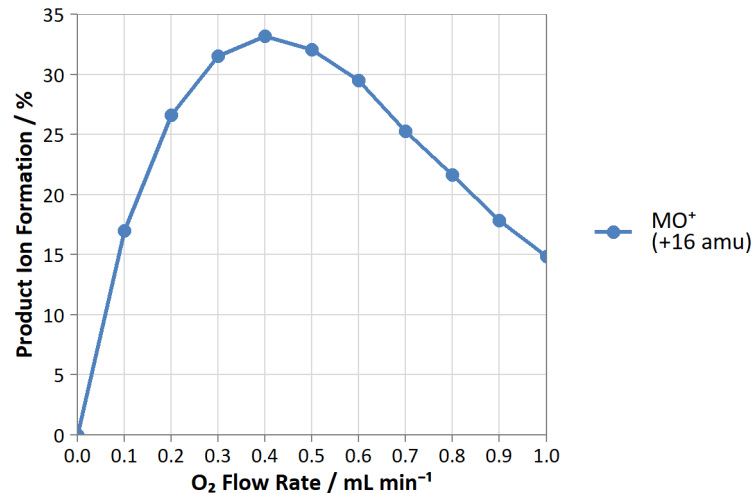


Mass-Shift with N₂O and O₂

Major Product Ions of ¹⁷⁵Lu⁺ with N₂O Reaction Gas

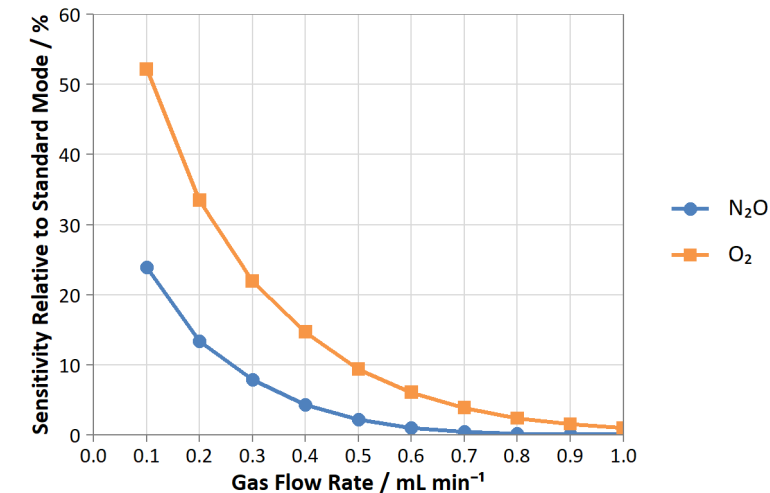


Major Product Ions of ¹⁷⁵Lu⁺ with O₂ Reaction Gas



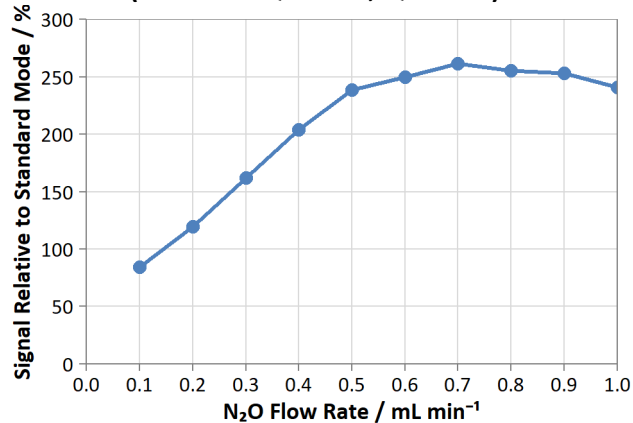
On-Mass with N₂O and O₂

On-Mass Profile of ¹⁷⁵Lu⁺ with N₂O and O₂

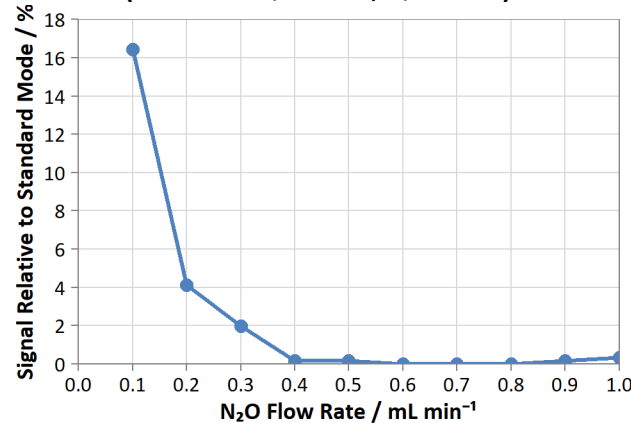


On-Mass Removal (as Interference) with N₂O

Variation of ¹⁷⁵Lu¹⁶O⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 191, Q3 = 191)



Variation of ¹⁷⁵Lu²⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 87.5, Q3 = 87.5)



Asymmetric Charge Transfer (with N₂O)

[NO CHARGE TRANSFER REACTION OBSERVED]



Hafnium

Supplementary Information B to: Characterisation of gas cell reactions for 70+ elements using N₂O for ICP tandem mass spectrometry measurements

Shaun T. Lancaster^{a*}, Thomas Prohaska^{ab} and Johanna Irrgeher^{ab}

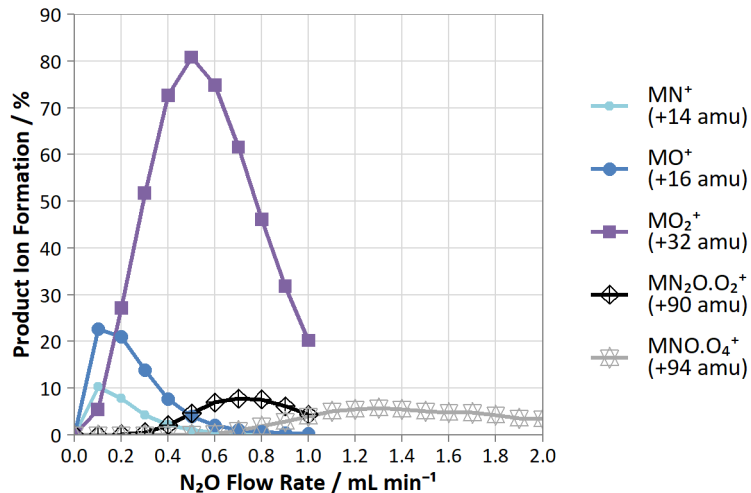
^aDepartment of General, Analytical and Physical Chemistry, Chair of General and Analytical Chemistry, Montanuniversität Leoben, Leoben, Austria.

^bDepartment of Physics and Astronomy, University of Calgary, Calgary, Canada.

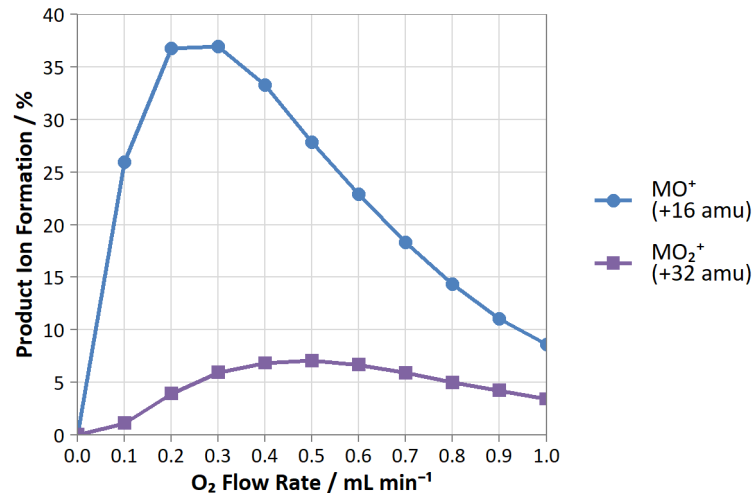


Mass-Shift with N₂O and O₂

Major Product Ions of ¹⁸⁰Hf⁺ with N₂O Reaction Gas

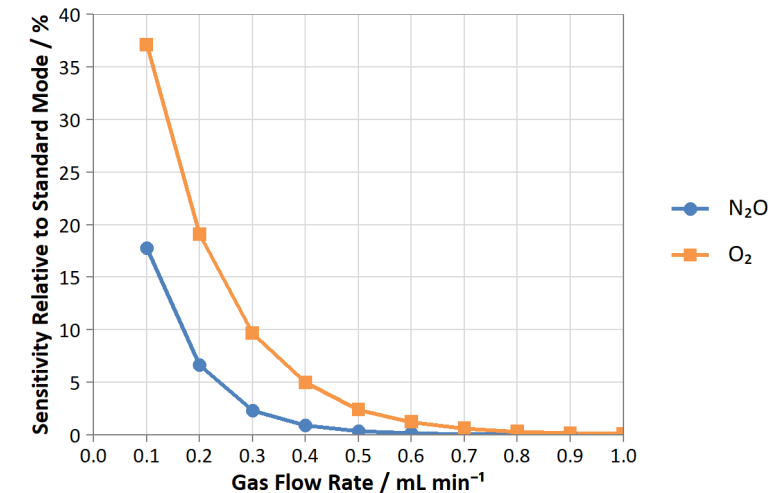


Major Product Ions of ¹⁸⁰Hf⁺ with O₂ Reaction Gas



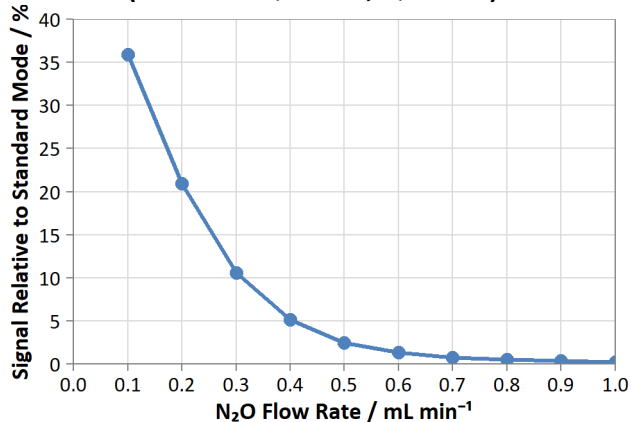
On-Mass with N₂O and O₂

On-Mass Profile of ¹⁸⁰Hf⁺ with N₂O and O₂

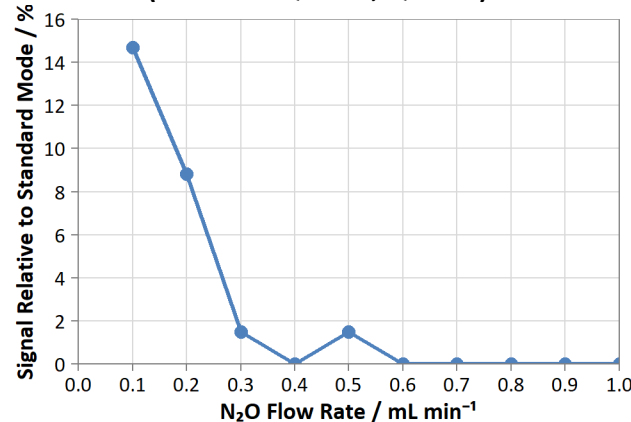


On-Mass Removal (as Interference) with N₂O

Variation of ¹⁸⁰Hf¹⁶O⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 196, Q3 = 196)



Variation of ¹⁸⁰Hf²⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 90, Q3 = 90)

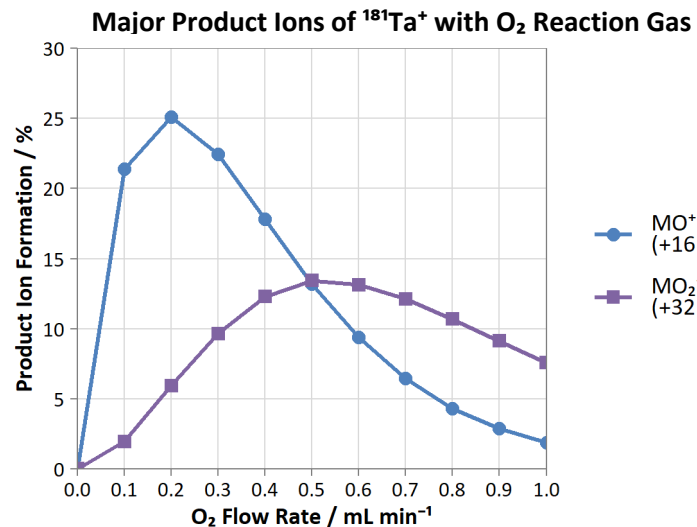
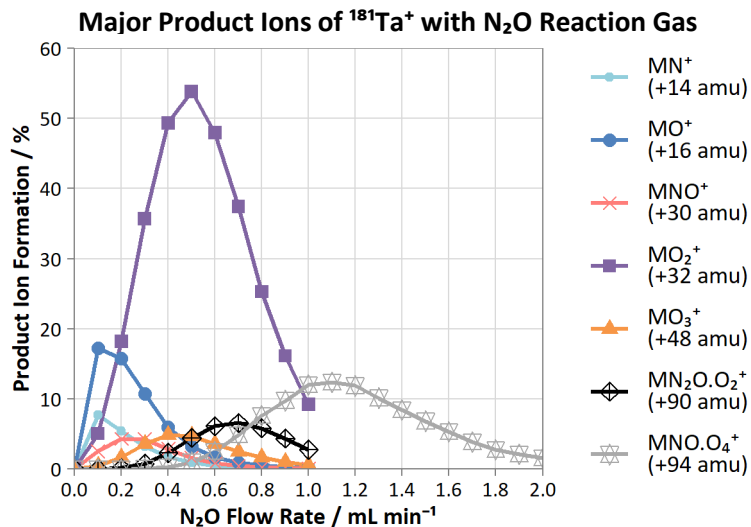


Asymmetric Charge Transfer (with N₂O)

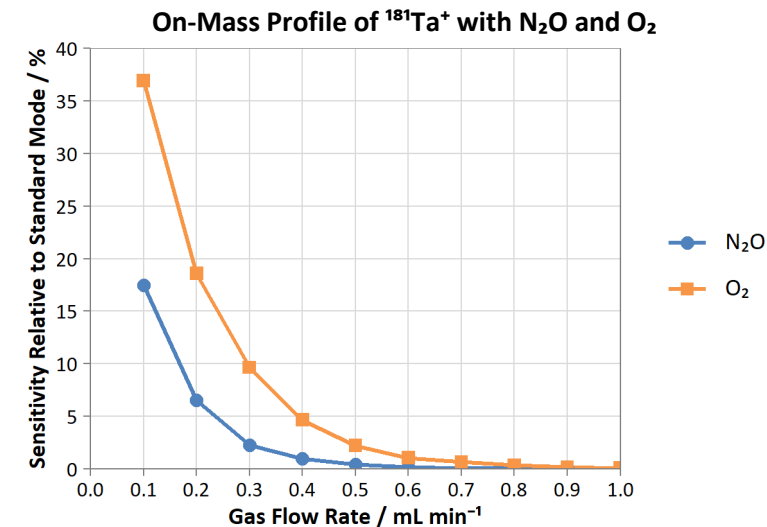
[NO CHARGE TRANSFER REACTION OBSERVED]



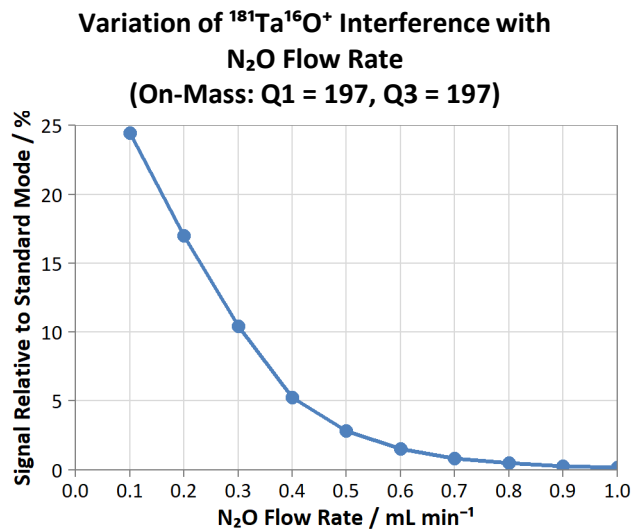
Mass-Shift with N₂O and O₂



On-Mass with N₂O and O₂



On-Mass Removal (as Interference) with N₂O



Variation of ¹⁸¹Ta²⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 90.5, Q3 = 90.5)

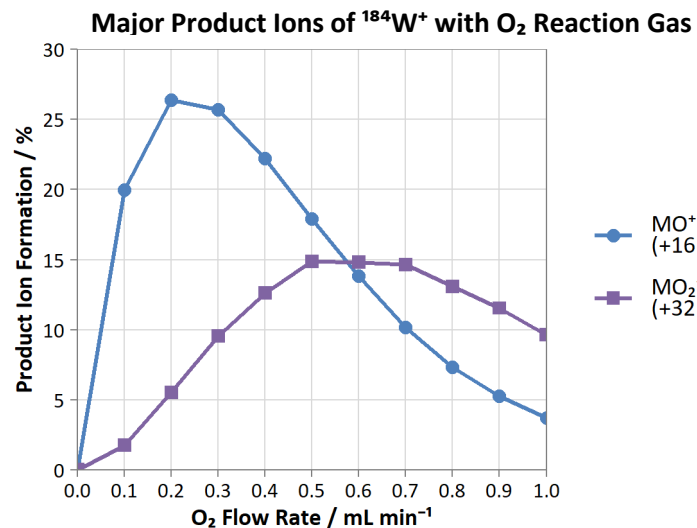
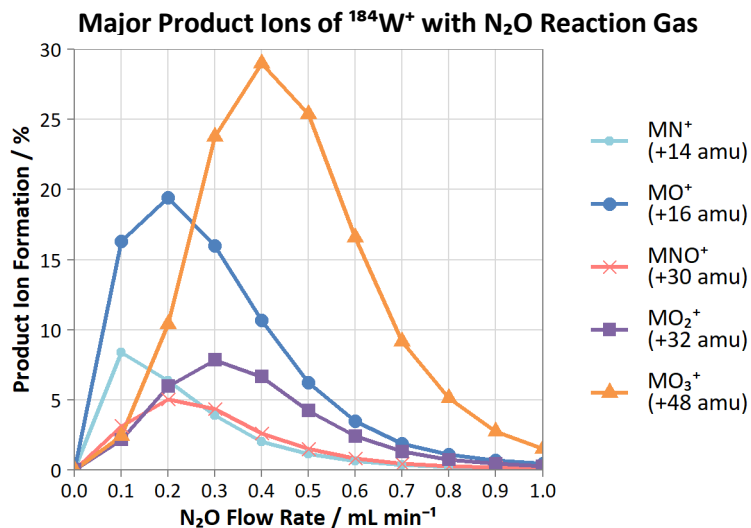
[INSUFFICIENT DOUBLY-CHARGED ION FORMATION OBSERVED]

Asymmetric Charge Transfer (with N₂O)

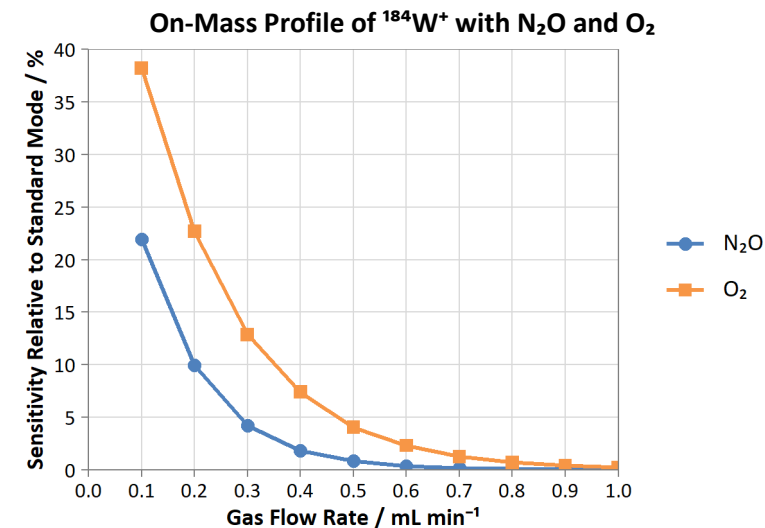
[NO CHARGE TRANSFER REACTION OBSERVED]



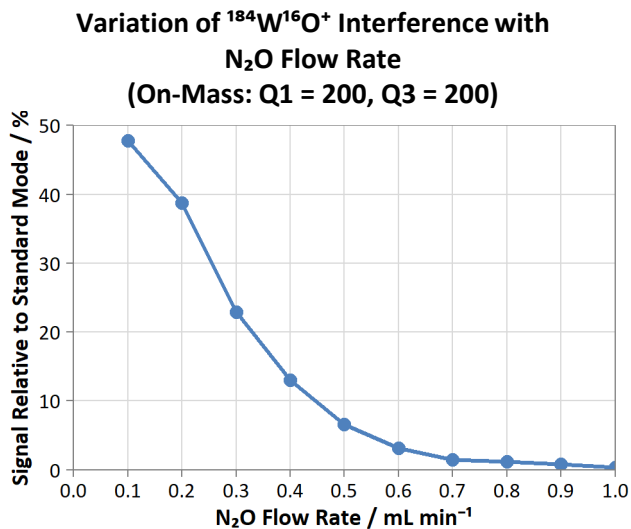
Mass-Shift with N₂O and O₂



On-Mass with N₂O and O₂



On-Mass Removal (as Interference) with N₂O



Variation of ¹⁸⁴W²⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 92, Q3 = 92)

[INSUFFICIENT DOUBLY-CHARGED ION FORMATION OBSERVED]

Asymmetric Charge Transfer (with N₂O)

[NO CHARGE TRANSFER REACTION OBSERVED]

Rhenium

Supplementary Information B to: Characterisation of gas cell reactions for 70+ elements using N₂O for ICP tandem mass spectrometry measurements

Shaun T. Lancaster^{a*}, Thomas Prohaska^{ab} and Johanna Irrgeher^{ab}

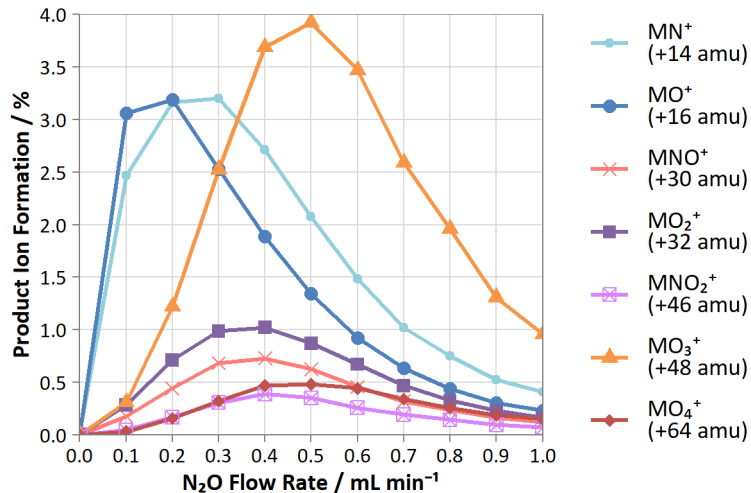
^aDepartment of General, Analytical and Physical Chemistry, Chair of General and Analytical Chemistry, Montanuniversität Leoben, Leoben, Austria.

^bDepartment of Physics and Astronomy, University of Calgary, Calgary, Canada.

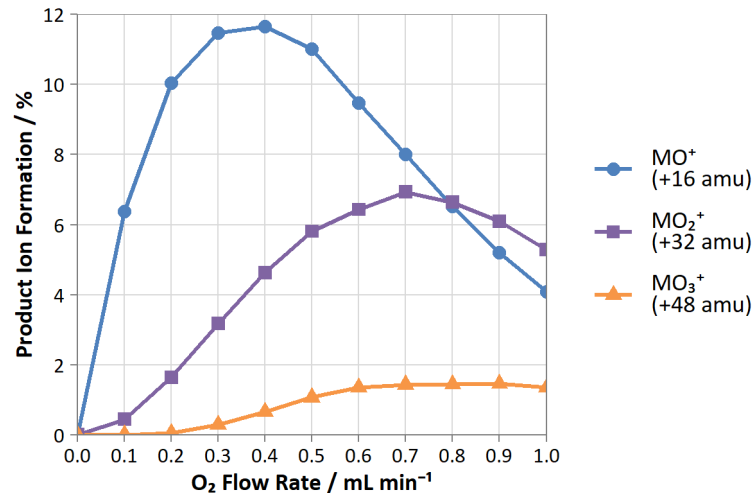


Mass-Shift with N₂O and O₂

Major Product Ions of ¹⁸⁷Re⁺ with N₂O Reaction Gas

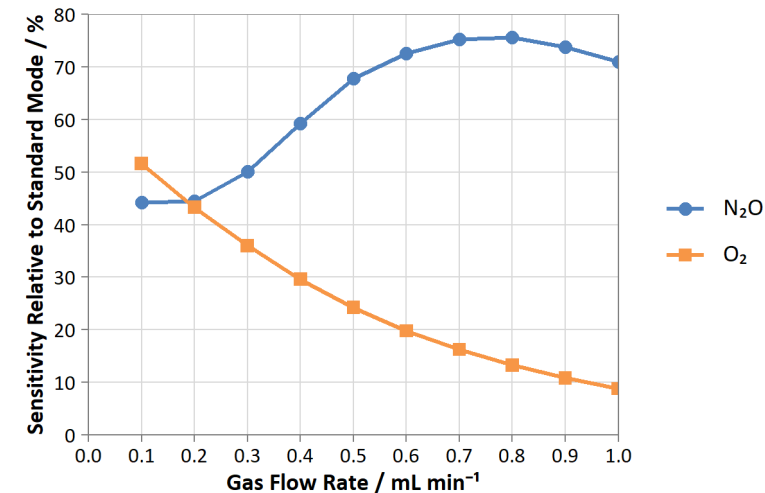


Major Product Ions of ¹⁸⁷Re⁺ with O₂ Reaction Gas



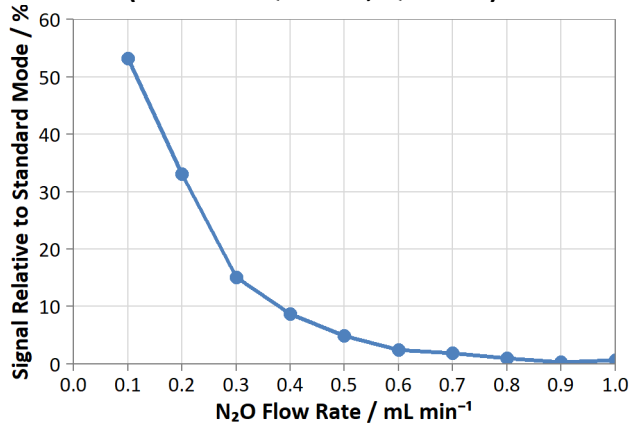
On-Mass with N₂O and O₂

On-Mass Profile of ¹⁸⁷Re⁺ with N₂O and O₂



On-Mass Removal (as Interference) with N₂O

Variation of ¹⁸⁷Re¹⁶O⁺ Interference with N₂O Flow Rate
(On-Mass: Q1 = 203, Q3 = 203)



Variation of ¹⁸⁷Re²⁺ Interference with N₂O Flow Rate
(On-Mass: Q1 = 93.5, Q3 = 93.5)

[INSUFFICIENT DOUBLY-CHARGED ION FORMATION OBSERVED]

Asymmetric Charge Transfer (with N₂O)

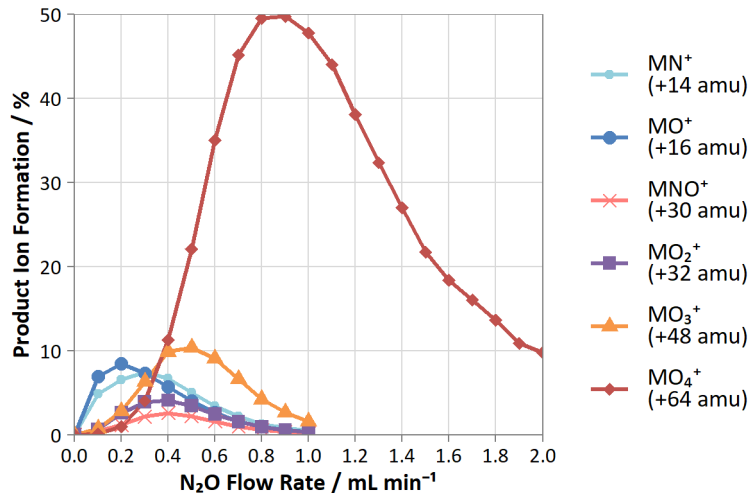
[NO CHARGE TRANSFER REACTION OBSERVED]



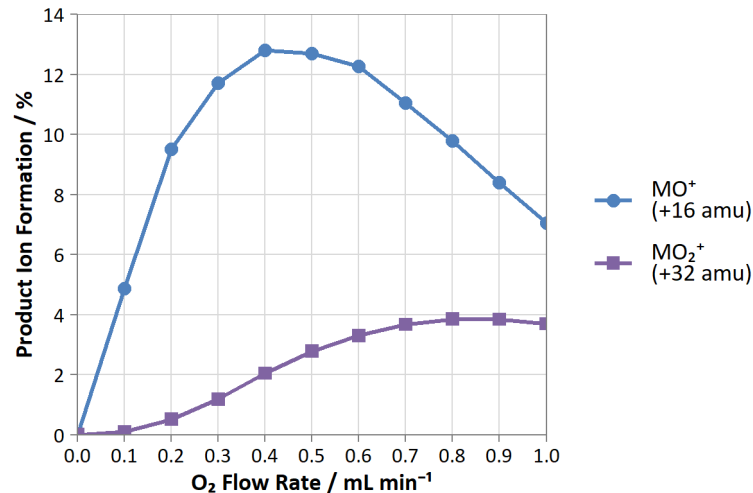


Mass-Shift with N₂O and O₂

Major Product Ions of ¹⁸⁹Os⁺ with N₂O Reaction Gas

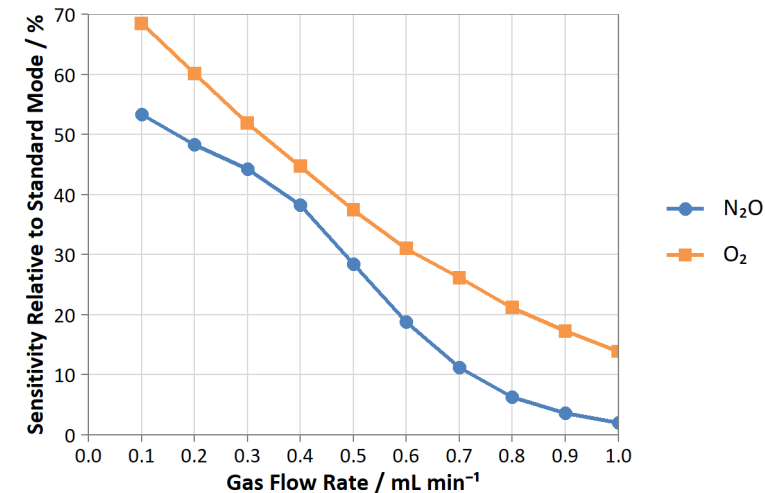


Major Product Ions of ¹⁸⁹Os⁺ with O₂ Reaction Gas



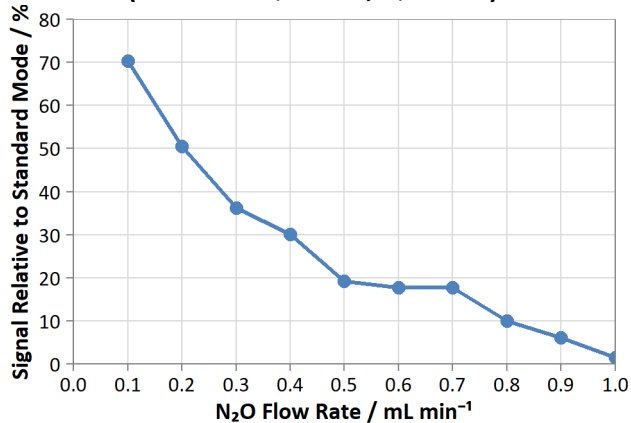
On-Mass with N₂O and O₂

On-Mass Profile of ¹⁸⁹Os⁺ with N₂O and O₂



On-Mass Removal (as Interference) with N₂O

Variation of ¹⁸⁹Os¹⁶O⁺ Interference with N₂O Flow Rate
(On-Mass: Q1 = 205, Q3 = 205)



Variation of ¹⁸⁹Os²⁺ Interference with N₂O Flow Rate
(On-Mass: Q1 = 94.5, Q3 = 94.5)

[INSUFFICIENT DOUBLY-CHARGED ION FORMATION OBSERVED]

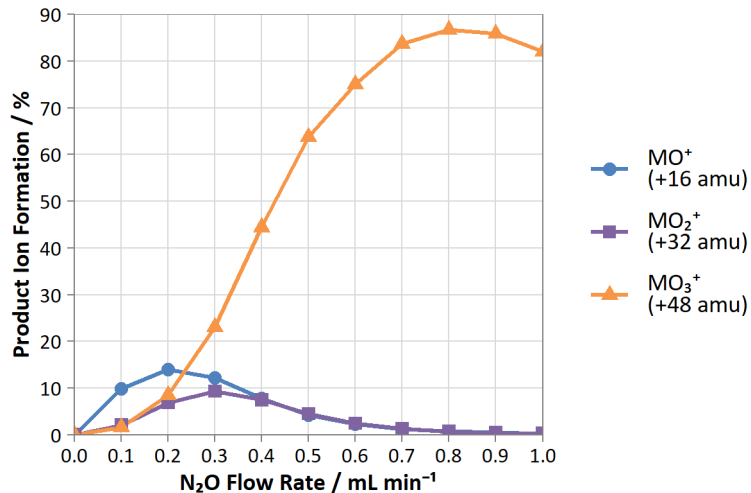
Asymmetric Charge Transfer (with N₂O)

[NO CHARGE TRANSFER REACTION OBSERVED]

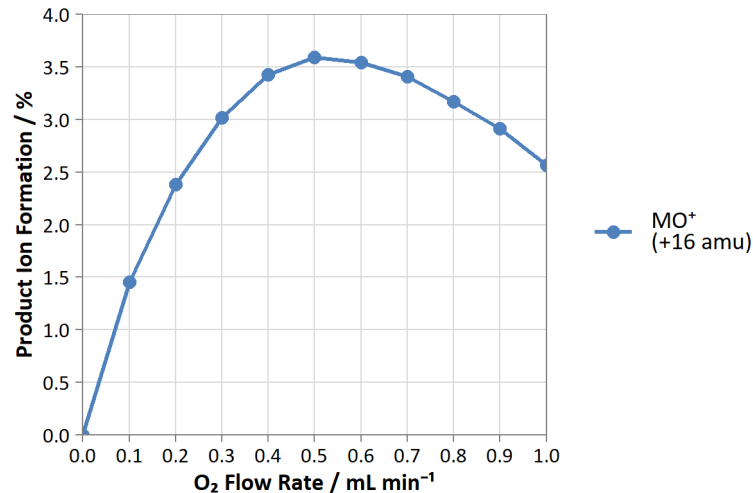


Mass-Shift with N₂O and O₂

Major Product Ions of ¹⁹³Ir⁺ with N₂O Reaction Gas

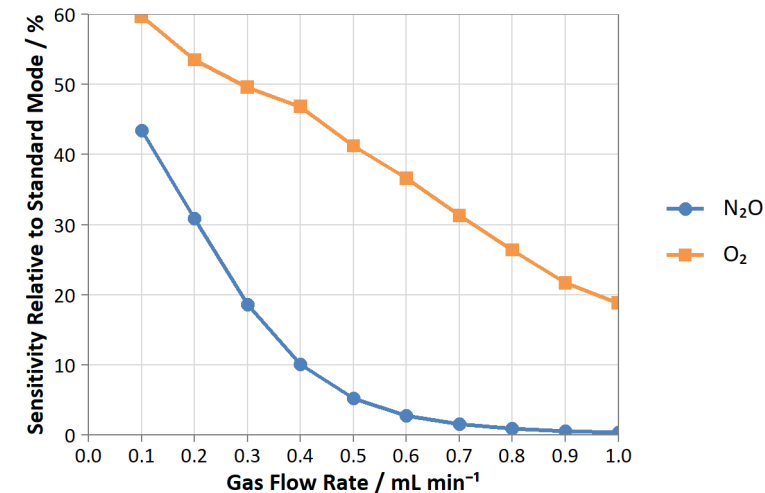


Major Product Ions of ¹⁹³Ir⁺ with O₂ Reaction Gas



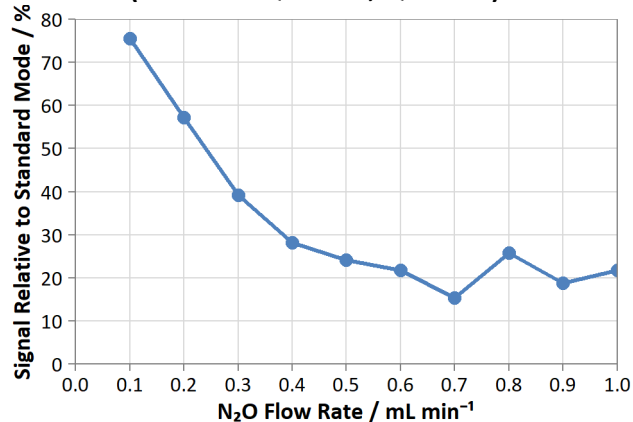
On-Mass with N₂O and O₂

On-Mass Profile of ¹⁹³Ir⁺ with N₂O and O₂



On-Mass Removal (as Interference) with N₂O

Variation of ¹⁹³Ir¹⁶O⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 209, Q3 = 209)



Variation of ¹⁹³Ir²⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 96.5, Q3 = 96.5)

[INSUFFICIENT DOUBLY-CHARGED ION FORMATION OBSERVED]

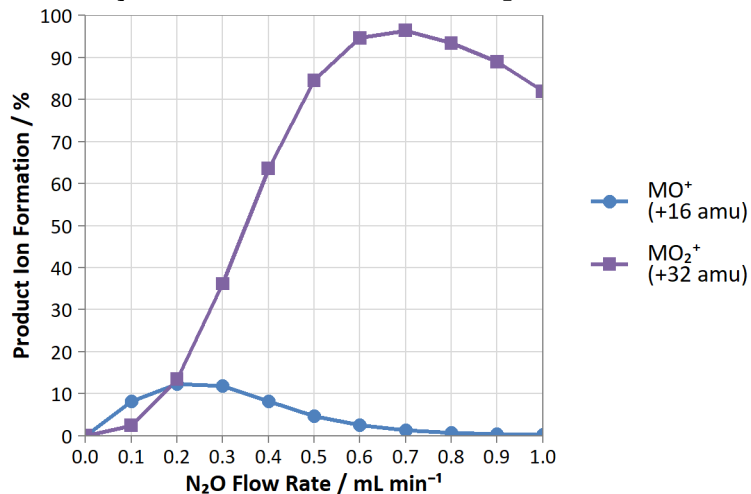
Asymmetric Charge Transfer (with N₂O)

[NO CHARGE TRANSFER REACTION OBSERVED]

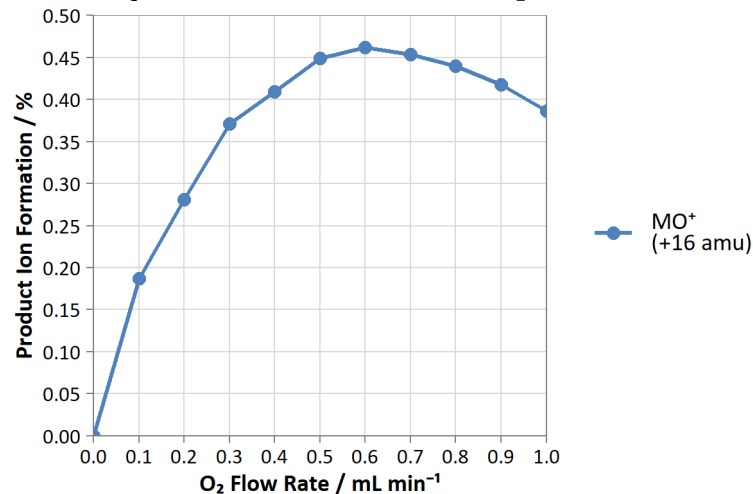


Mass-Shift with N₂O and O₂

Major Product Ions of ¹⁹⁵Pt⁺ with N₂O Reaction Gas

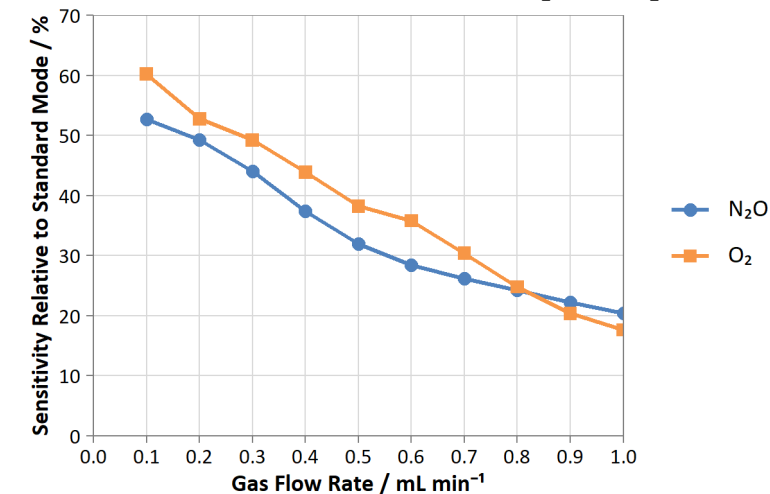


Major Product Ions of ¹⁹⁵Pt⁺ with O₂ Reaction Gas



On-Mass with N₂O and O₂

On-Mass Profile of ¹⁹⁵Pt⁺ with N₂O and O₂



On-Mass Removal (as Interference) with N₂O

Variation of ¹⁹⁵Pt¹⁶O⁺ Interference with N₂O Flow Rate
(On-Mass: Q1 = 211, Q3 = 211)

[INSUFFICIENT OXIDE FORMATION OBSERVED]

Variation of ¹⁹⁵Pt²⁺ Interference with N₂O Flow Rate
(On-Mass: Q1 = 97.5, Q3 = 97.5)

[INSUFFICIENT DOUBLY-CHARGED ION FORMATION OBSERVED]

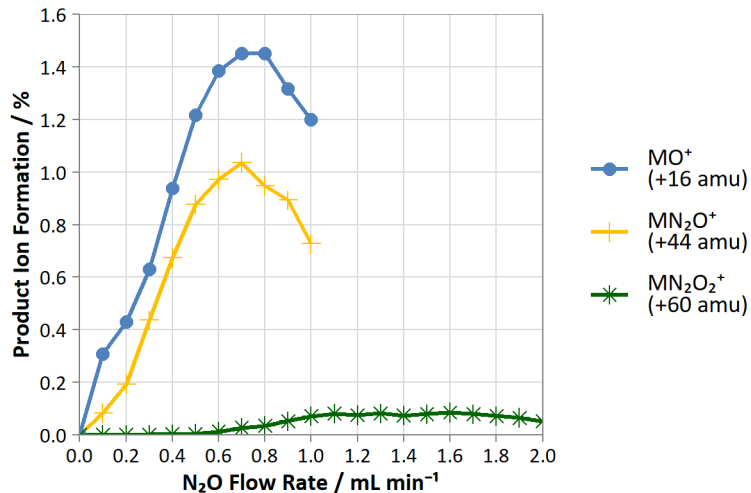
Asymmetric Charge Transfer (with N₂O)

[NO CHARGE TRANSFER REACTION OBSERVED]

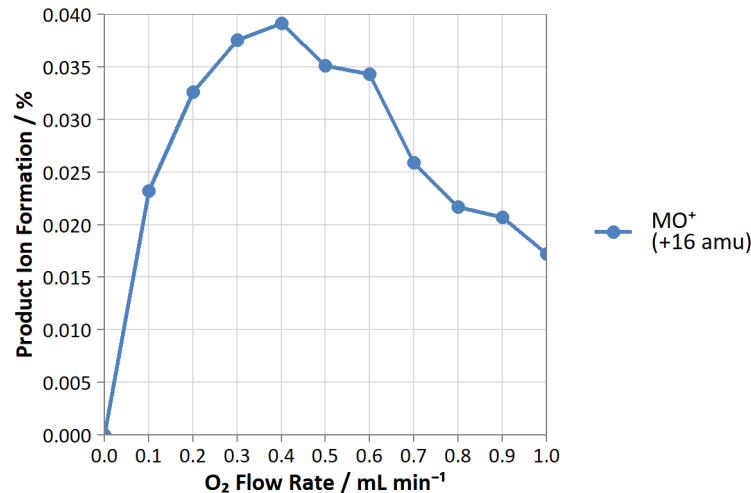


Mass-Shift with N₂O and O₂

Major Product Ions of ¹⁹⁷Au⁺ with N₂O Reaction Gas

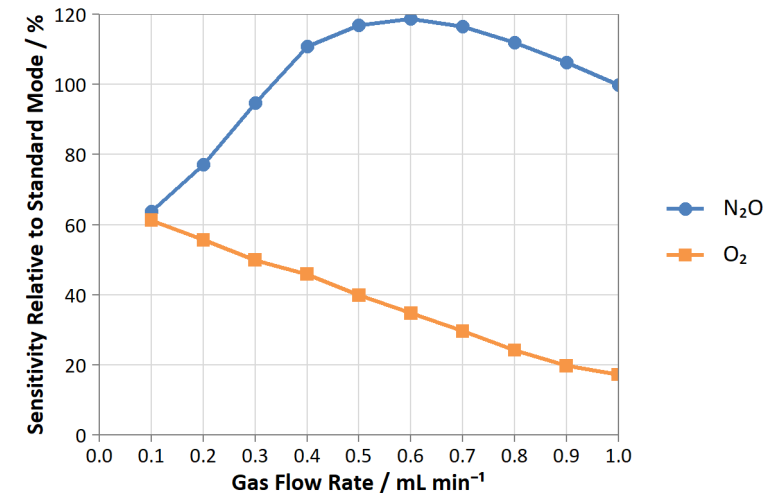


Major Product Ions of ¹⁹⁷Au⁺ with O₂ Reaction Gas



On-Mass with N₂O and O₂

On-Mass Profile of ¹⁹⁷Au⁺ with N₂O and O₂



On-Mass Removal (as Interference) with N₂O

Variation of ¹⁹⁷Au¹⁶O⁺ Interference with N₂O Flow Rate
(On-Mass: Q1 = 213, Q3 = 213)

[INSUFFICIENT OXIDE FORMATION OBSERVED]

Variation of ¹⁹⁷Au²⁺ Interference with N₂O Flow Rate
(On-Mass: Q1 = 98.5, Q3 = 98.5)

[INSUFFICIENT DOUBLY-CHARGED ION FORMATION OBSERVED]

Asymmetric Charge Transfer (with N₂O)

[NO CHARGE TRANSFER REACTION OBSERVED]

Mercury

Supplementary Information B to: Characterisation of gas cell reactions for 70+ elements using N₂O for ICP tandem mass spectrometry measurements

Shaun T. Lancaster^{a*}, Thomas Prohaska^{ab} and Johanna Irrgeher^{ab}

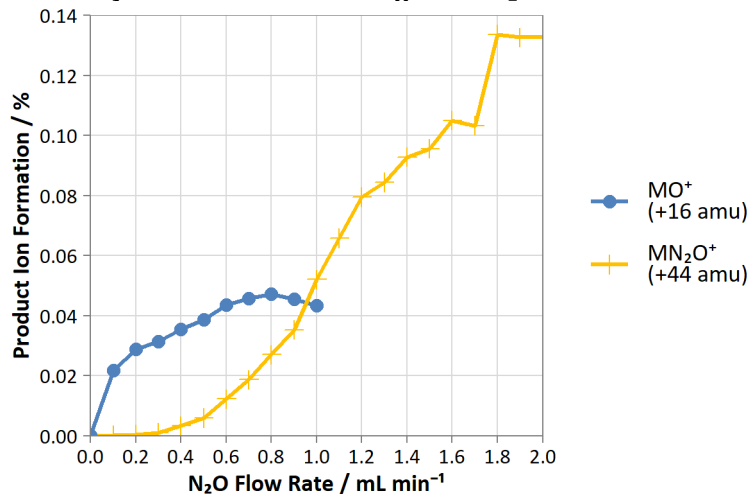
^aDepartment of General, Analytical and Physical Chemistry, Chair of General and Analytical Chemistry, Montanuniversität Leoben, Leoben, Austria.

^bDepartment of Physics and Astronomy, University of Calgary, Calgary, Canada.



Mass-Shift with N₂O and O₂

Major Product Ions of ²⁰²Hg⁺ with N₂O Reaction Gas



Major Product Ions of ²⁰²Hg⁺ with O₂ Reaction Gas

[NO ATOM TRANSFER REACTION OBSERVED]

On-Mass Removal (as Interference) with N₂O

Variation of ²⁰²Hg¹⁶O⁺ Interference with N₂O Flow Rate
(On-Mass: Q1 = 218, Q3 = 218)

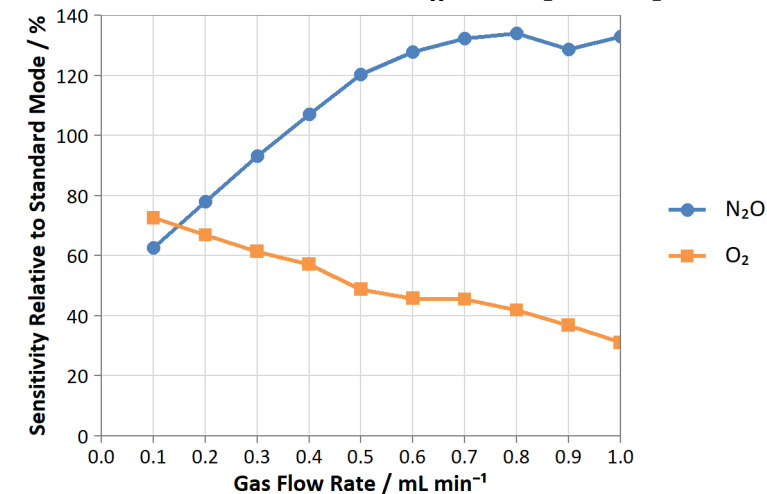
[INSUFFICIENT OXIDE FORMATION OBSERVED]

Variation of ²⁰²Hg²⁺ Interference with N₂O Flow Rate
(On-Mass: Q1 = 101, Q3 = 101)

[INSUFFICIENT DOUBLY-CHARGED ION FORMATION OBSERVED]

On-Mass with N₂O and O₂

On-Mass Profile of ²⁰²Hg⁺ with N₂O and O₂



Asymmetric Charge Transfer (with N₂O)

[NO CHARGE TRANSFER REACTION OBSERVED]

Thallium

Supplementary Information B to: Characterisation of gas cell reactions for 70+ elements using N₂O for ICP tandem mass spectrometry measurements

Shaun T. Lancaster^{a*}, Thomas Prohaska^{ab} and Johanna Irrgeher^{ab}

^aDepartment of General, Analytical and Physical Chemistry, Chair of General and Analytical Chemistry, Montanuniversität Leoben, Leoben, Austria.

^bDepartment of Physics and Astronomy, University of Calgary, Calgary, Canada.



Mass-Shift with N₂O and O₂

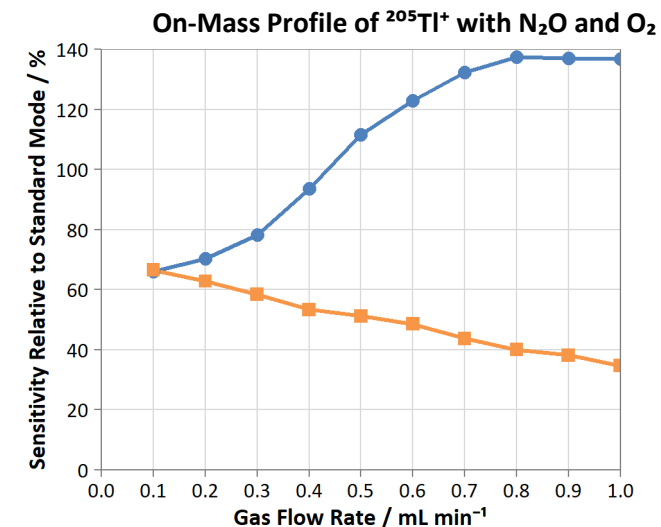
Major Product Ions of ²⁰⁵Tl⁺ with N₂O Reaction Gas

[NO ATOM TRANSFER
REACTION OBSERVED]

Major Product Ions of ²⁰⁵Tl⁺ with O₂ Reaction Gas

[NO ATOM TRANSFER
REACTION OBSERVED]

On-Mass with N₂O and O₂



On-Mass Removal (as Interference) with N₂O

Variation of ²⁰⁵Tl¹⁶O⁺ Interference with
N₂O Flow Rate
(On-Mass: Q1 = 221, Q3 = 221)

[INSUFFICIENT OXIDE
FORMATION OBSERVED]

Variation of ²⁰⁵Tl²⁺ Interference with
N₂O Flow Rate
(On-Mass: Q1 = 102.5, Q3 = 102.5)

[INSUFFICIENT DOUBLY-CHARGED
ION FORMATION OBSERVED]

Asymmetric Charge Transfer (with N₂O)

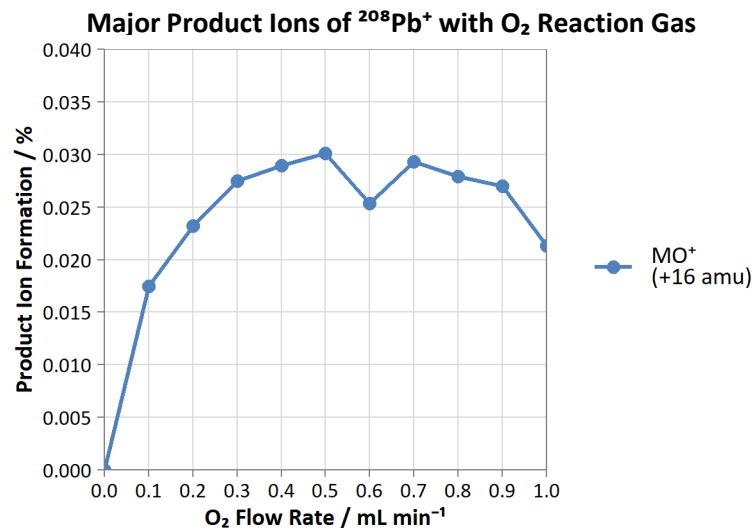
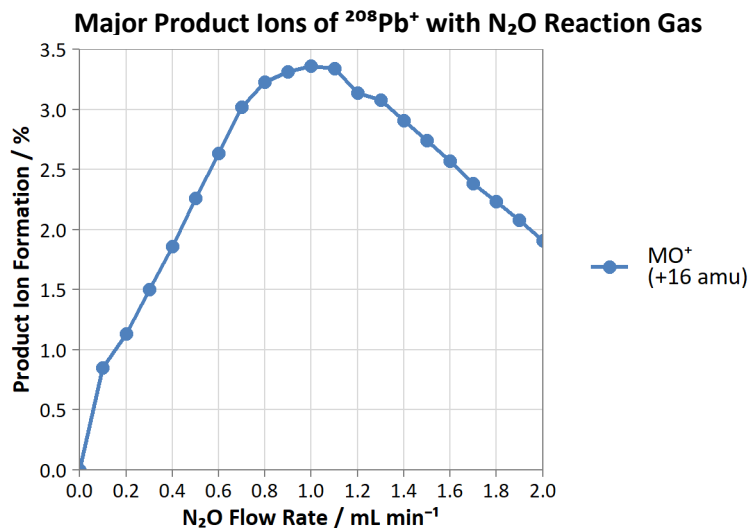
[NO CHARGE TRANSFER
REACTION OBSERVED]

Lead

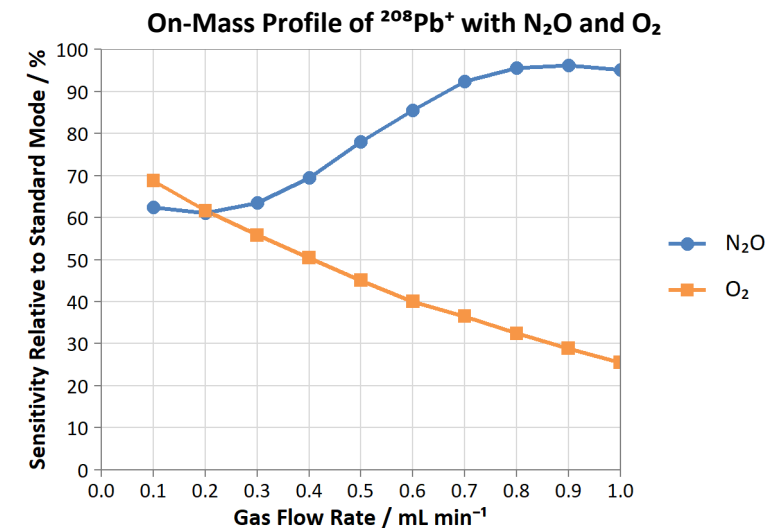
Supplementary Information B to: Characterisation of gas cell reactions for 70+ elements using N₂O for ICP tandem mass spectrometry measurements
Shaun T. Lancaster^{a*}, Thomas Prohaska^{ab} and Johanna Irrgeher^{ab}
^aDepartment of General, Analytical and Physical Chemistry, Chair of General and Analytical Chemistry, Montanuniversität Leoben, Leoben, Austria.
^bDepartment of Physics and Astronomy, University of Calgary, Calgary, Canada.



Mass-Shift with N₂O and O₂



On-Mass with N₂O and O₂



On-Mass Removal (as Interference) with N₂O

Variation of ²⁰⁸Pb¹⁶O⁺ Interference with N₂O Flow Rate
(On-Mass: Q1 = 224, Q3 = 224)

[INSUFFICIENT OXIDE FORMATION OBSERVED]

Variation of ²⁰⁸Pb²⁺ Interference with N₂O Flow Rate
(On-Mass: Q1 = 104, Q3 = 104)

[INSUFFICIENT DOUBLY-CHARGED ION FORMATION OBSERVED]

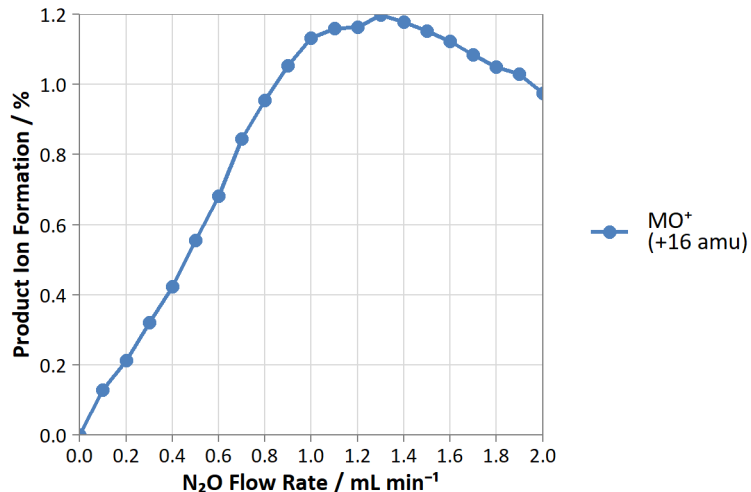
Asymmetric Charge Transfer (with N₂O)

[NO CHARGE TRANSFER REACTION OBSERVED]

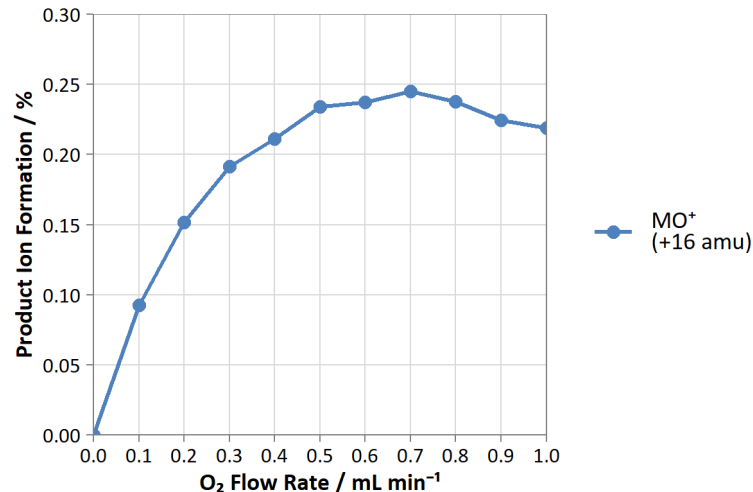


Mass-Shift with N₂O and O₂

Major Product Ions of ²⁰⁹Bi⁺ with N₂O Reaction Gas

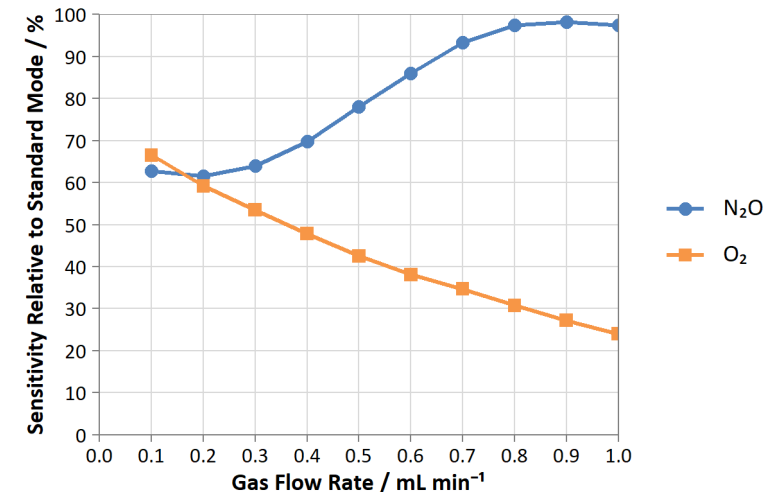


Major Product Ions of ²⁰⁹Bi⁺ with O₂ Reaction Gas



On-Mass with N₂O and O₂

On-Mass Profile of ²⁰⁹Bi⁺ with N₂O and O₂



On-Mass Removal (as Interference) with N₂O

Variation of ²⁰⁹Bi¹⁶O⁺ Interference with N₂O Flow Rate
(On-Mass: Q1 = 225, Q3 = 225)

[INSUFFICIENT OXIDE FORMATION OBSERVED]

Variation of ²⁰⁹Bi²⁺ Interference with N₂O Flow Rate
(On-Mass: Q1 = 104.5, Q3 = 104.5)

[INSUFFICIENT DOUBLY-CHARGED ION FORMATION OBSERVED]

Asymmetric Charge Transfer (with N₂O)

[NO CHARGE TRANSFER REACTION OBSERVED]

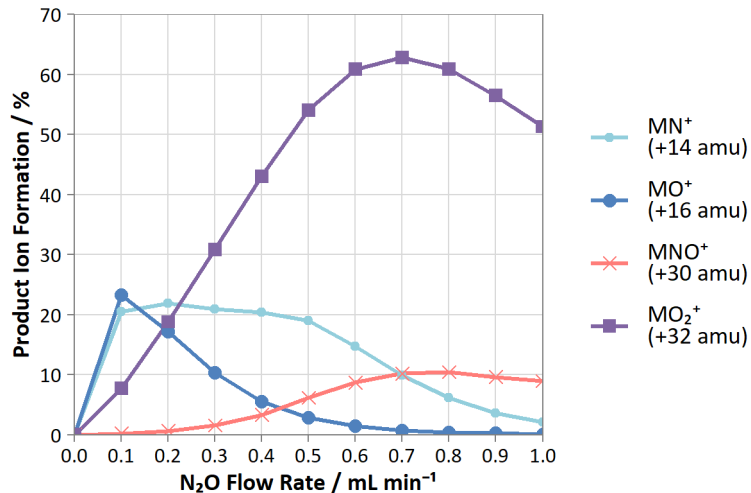
Thorium

Supplementary Information B to: Characterisation of gas cell reactions for 70+ elements using N₂O for ICP tandem mass spectrometry measurements
Shaun T. Lancaster^{a*}, Thomas Prohaska^{ab} and Johanna Irrgeher^{ab}
^aDepartment of General, Analytical and Physical Chemistry, Chair of General and Analytical Chemistry, Montanuniversität Leoben, Leoben, Austria.
^bDepartment of Physics and Astronomy, University of Calgary, Calgary, Canada.

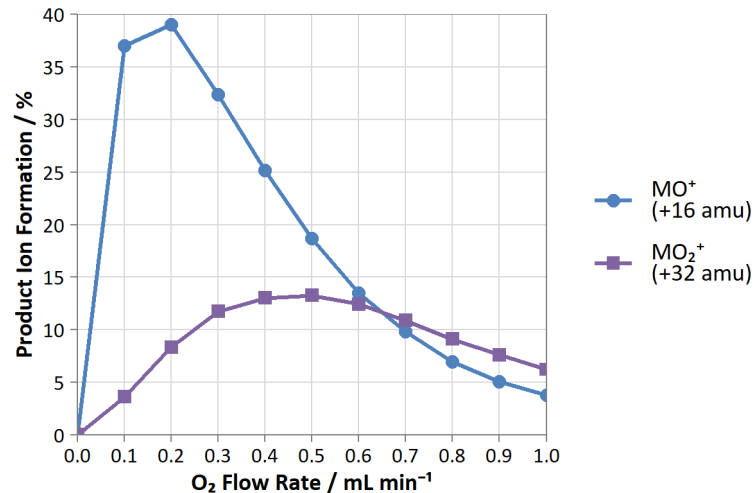


Mass-Shift with N₂O and O₂

Major Product Ions of ²³²Th⁺ with N₂O Reaction Gas

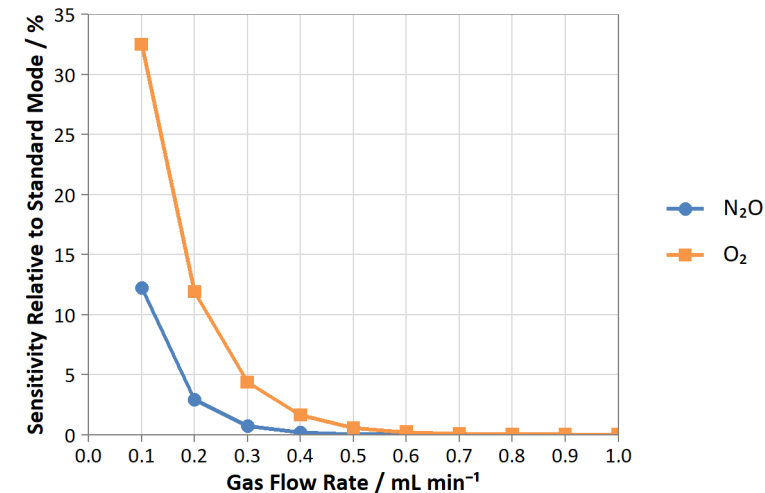


Major Product Ions of ²³²Th⁺ with O₂ Reaction Gas



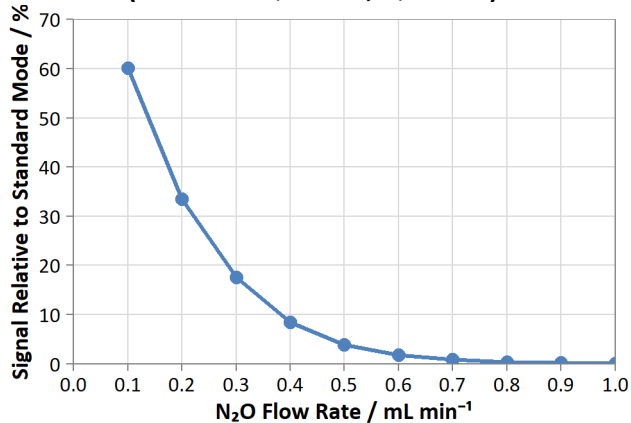
On-Mass with N₂O and O₂

On-Mass Profile of ²³²Th⁺ with N₂O and O₂

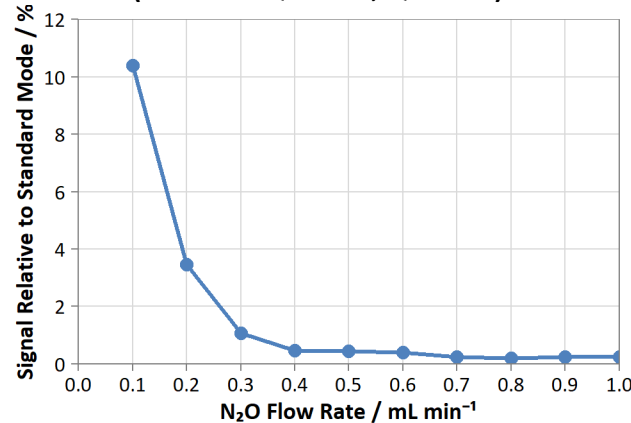


On-Mass Removal (as Interference) with N₂O

Variation of ²³²Th¹⁶O⁺ Interference with N₂O Flow Rate
(On-Mass: Q1 = 248, Q3 = 248)



Variation of ²³²Th²⁺ Interference with N₂O Flow Rate
(On-Mass: Q1 = 116, Q3 = 116)



Asymmetric Charge Transfer (with N₂O)

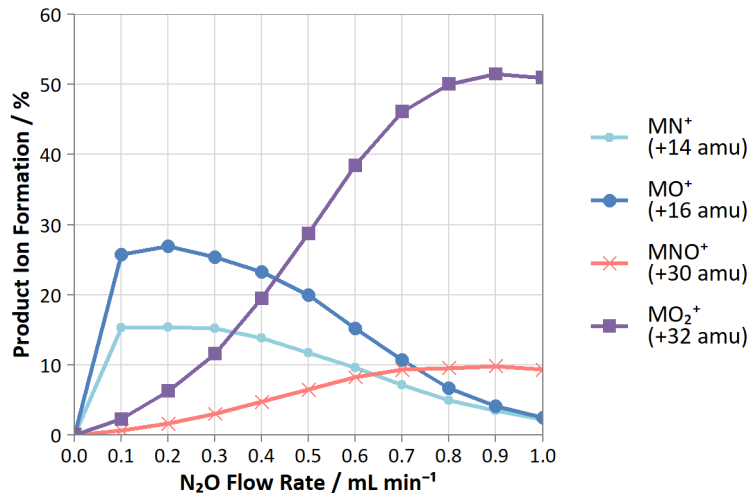
[NO CHARGE TRANSFER REACTION OBSERVED]



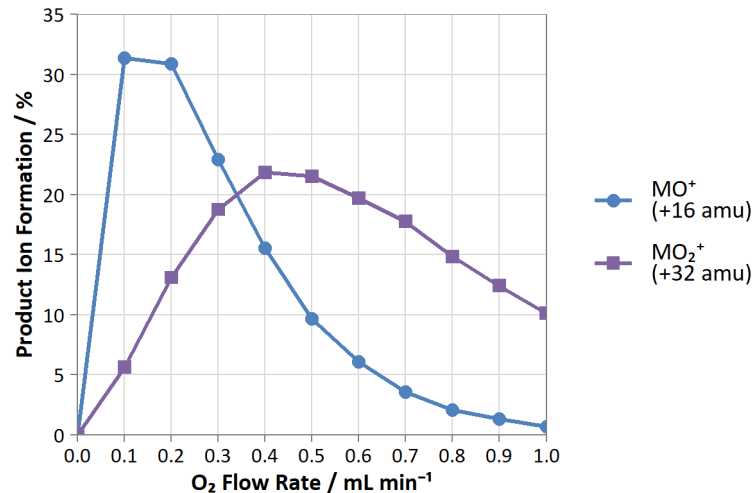


Mass-Shift with N₂O and O₂

Major Product Ions of ²³⁸U⁺ with N₂O Reaction Gas

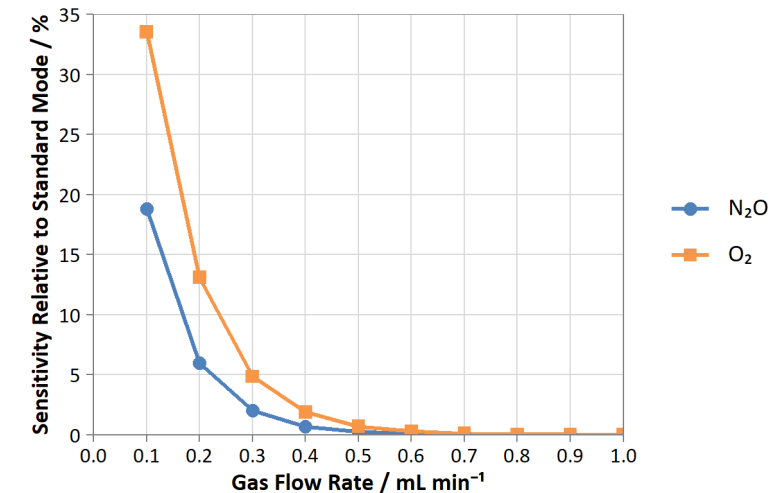


Major Product Ions of ²³⁸U⁺ with O₂ Reaction Gas



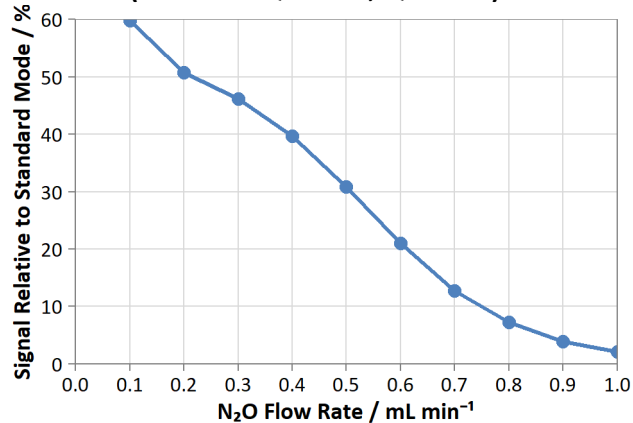
On-Mass with N₂O and O₂

On-Mass Profile of ²³⁸U⁺ with N₂O and O₂

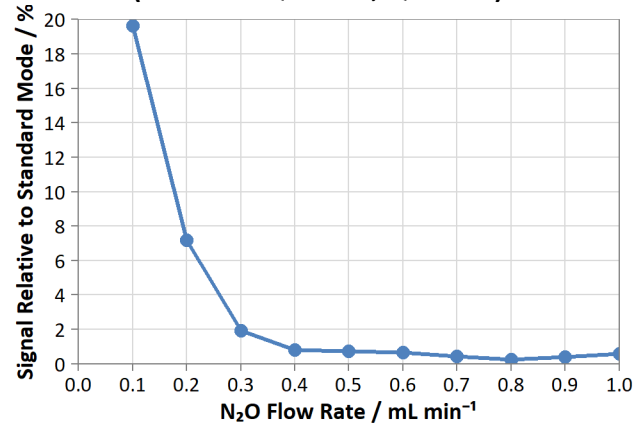


On-Mass Removal (as Interference) with N₂O

Variation of ²³⁸U¹⁶O⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 254, Q3 = 254)



Variation of ²³⁸U²⁺ Interference with N₂O Flow Rate (On-Mass: Q1 = 119, Q3 = 119)



Asymmetric Charge Transfer (with N₂O)

[NO CHARGE TRANSFER REACTION OBSERVED]