

Supporting Information

Determination of the Isotopic Composition of Gadolinium Using MC-ICPMS

Juan He^{1, 2}, Lu Yang^{2*}, Xiandeng Hou³, Zoltan Mester², and Juris Meija²

1: College of Chemistry, Sichuan University, Chengdu 610064, China

2: National Research Council Canada, 1200 Montreal Rd, Ottawa, Ontario, K1A 0R6, Canada.

3: Analytical & Testing Center, Sichuan University, 29 Wangjiang Rd, Chengdu, Sichuan 610064, China.

* Corresponding author: lu.yang@nrc-cnrc.gc.ca

Table of contents

Table S1. Possible spectral interferences of Gd, Er, and Hf isotopes.

Table S2. Atomic masses of gadolinium isotopes.

Data file containing all measurement results is uploaded separately in the Excel file: GADS-1-RawData.xlsx.

Table S1. Possible spectral interferences of Gd, Er, and Hf isotopes

Isotopes	Possible spectral interferences
¹⁵² Gd ⁺	¹³⁵ Ba ¹⁶ O ¹ H ⁺ , ¹³⁶ Ce ¹⁶ O ⁺ , ¹³⁶ Xe ¹⁶ O ⁺ , ¹³⁶ Ba ¹⁶ O ⁺ , ¹⁵² Sm ⁺
¹⁵⁴ Gd ⁺	¹³⁷ Ba ¹⁶ O ¹ H ⁺ , ¹³⁸ Ce ¹⁶ O ⁺ , ¹³⁸ La ¹⁶ O ⁺ , ¹³⁸ Ba ¹⁶ O ⁺ , ¹⁵⁴ Sm ⁺
¹⁵⁵ Gd ⁺	¹³⁹ La ¹⁶ O ⁺
¹⁵⁶ Gd ⁺	¹⁴⁰ Ce ¹⁶ O ⁺ , ¹⁵⁶ Dy ⁺
¹⁵⁷ Gd ⁺	¹⁴¹ Pr ¹⁶ O ⁺
¹⁵⁸ Gd ⁺	¹⁴² Nd ¹⁶ O ⁺ , ¹⁴² Ce ¹⁶ O ⁺ , ¹⁵⁸ Dy ⁺
¹⁶⁰ Gd ⁺	¹⁴³ Nd ¹⁶ O ¹ H ⁺ , ¹⁴⁴ Sm ¹⁶ O ⁺ , ¹⁴⁴ Nd ¹⁶ O ⁺ , ¹⁶⁰ Dy ⁺
¹⁶⁶ Er ⁺	¹⁴⁹ Sm ¹⁶ O ¹ H ⁺ , ¹⁵⁰ Nd ¹⁶ O ⁺ , ¹⁵⁰ Sm ¹⁶ O ⁺
¹⁶⁷ Er ⁺	¹⁵⁰ Nd ¹⁶ O ¹ H ⁺ , ¹⁵⁰ Sm ¹⁶ O ¹ H ⁺ , ¹⁵¹ Eu ¹⁶ O ⁺
¹⁷⁷ Hf ⁺	¹⁶⁰ Gd ¹⁶ O ¹ H ⁺ , ¹⁶⁰ Dy ¹⁶ O ¹ H ⁺ , ¹⁶¹ Dy ¹⁶ O ⁺
¹⁷⁸ Hf ⁺	¹⁶¹ Dy ¹⁶ O ¹ H ⁺ , ¹⁶² Er ¹⁶ O ⁺ , ¹⁶² Dy ¹⁶ O ⁺

Table S2. Atomic masses of gadolinium isotopes

Isotopes	Atomic mass	<i>u</i> , <i>k</i> =1
¹⁵² Gd	151.9197988	0.0000013

¹⁵⁴ Gd	153.9208734	0.0000013
¹⁵⁵ Gd	154.9226298	0.0000013
¹⁵⁶ Gd	155.9221306	0.0000013
¹⁵⁷ Gd	156.9239679	0.0000013
¹⁵⁸ Gd	157.9241116	0.0000013
¹⁶⁰ Gd	159.9270615	0.0000014
