

Supporting information

Mass	Oxide ions	Argide ions	Nitride ions	Nitrogen monoxide ions
186W	¹⁷⁰ Er ¹⁶ O ⁺ (14.93%);	¹⁴⁶ Nd ⁴⁰ Ar ⁺ (17.2%)	¹⁷² Yb ¹⁴ N ⁺ (21.83%)	¹⁵⁶ Gd ¹⁴ N ¹⁶ O ⁺ (20.47%)
	¹⁷⁰ Yb ¹⁶ O ⁺ (3.04%);			¹⁵⁶ Dy ¹⁴ N ¹⁶ O ⁺ (0.06%);
184W	¹⁶⁸ Er ¹⁶ O ⁺ (26.78%);	¹⁴⁴ Nd ⁴⁰ Ar ⁺ (23.8%);	¹⁷⁰ Er ¹⁴ N ⁺ (14.93%);	¹⁵⁴ Sm ¹⁴ N ¹⁶ O ⁺ (22.75%);
	¹⁶⁸ Yb ¹⁶ O ⁺ (0.13%);	¹⁴⁴ Sm ⁴⁰ Ar ⁺ (3.07%)	¹⁷⁰ Yb ¹⁴ N ⁺ (3.04%)	¹⁵⁴ Gd ¹⁴ N ¹⁶ O ⁺ (2.18%),
203Tl	¹⁸⁷ Os ¹⁶ O ⁺ (13.24%);	¹⁶³ Dy ⁴⁰ Ar ⁺ (24.9%)	¹⁸⁹ Os ¹⁴ N ⁺ (16.15%)	¹⁷³ Yb ¹⁴ N ¹⁶ O ⁺ (16.13%)
	¹⁸⁷ Re ¹⁶ O ⁺ (62.60%)			
205Tl	¹⁸⁹ Os ¹⁶ O ⁺ (16.15%)	¹⁶⁵ Ho ⁴⁰ Ar ⁺ (100%)	¹⁹¹ Ir ¹⁴ N ⁺ (37.3%)	¹⁷⁴ Yb ¹⁴ N ¹⁶ O ⁺ (31.83%);
				¹⁷⁴ Hf ¹⁴ N ¹⁶ O ⁺ (0.16%)

Table S 1. The polyatomic interference during Tl isotope analysis. The relative abundances of isotopes are from Rosman and Taylor (1998) and shown as a percentage.

1. K. J. R. Rosman and P. D. P. Taylor, *Pure and Applied Chemistry*, 1998, **70**, 217-235.