

### Supporting Information

## On-line generated ozone as a reactive cell gas for tandem quadrupole inductively coupled plasma mass spectrometry

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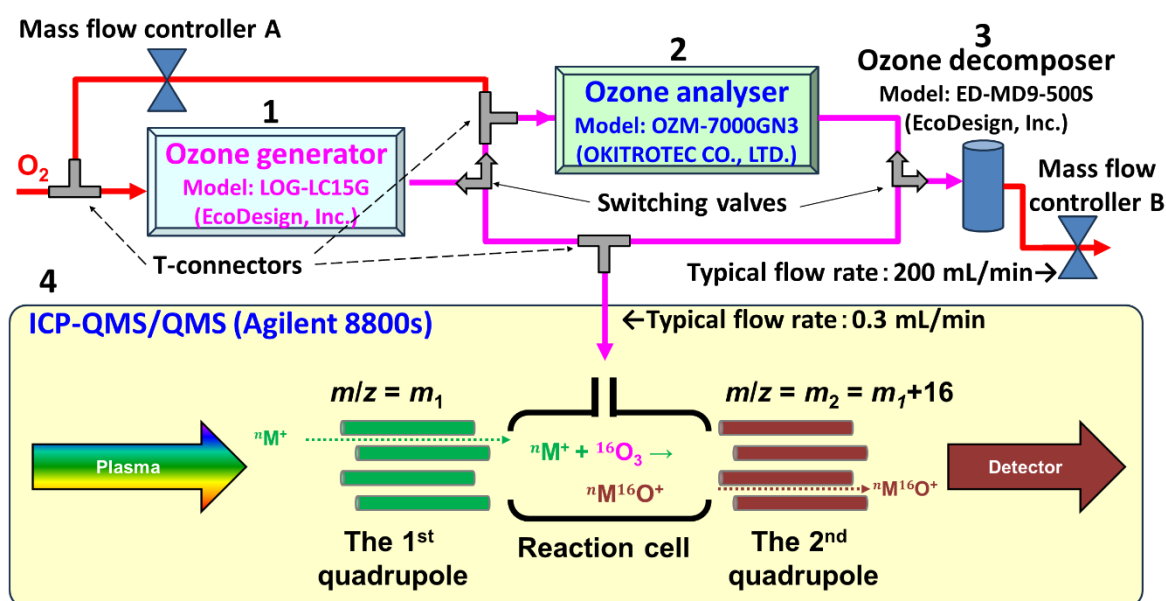


Fig. S1 Experimental system used in the present work (switching valves position for ozone analysis)

**Table S1** Percentage of product ions obtained with oxygen reaction and ozone reaction.

Element	m/z	O <sub>2</sub> reaction				O <sub>3</sub> reaction			
		M <sup>+</sup>	MO <sup>+</sup>	MOH <sup>+</sup>	MO <sub>2</sub> <sup>+</sup>	M <sup>+</sup>	MO <sup>+</sup>	MOH <sup>+</sup>	MO <sub>2</sub> <sup>+</sup>
Li	7	99.7%	0.0%	0.0%	0.3%	99.9%	0.0%	0.0%	0.1%
Be	9	62.7%	3.1%	32.8%	1.4%	69.2%	14.4%	3.7%	12.7%
B	11	90.9%	5.0%	2.5%	1.6%	83.2%	7.4%	0.7%	8.7%
C	12	36.8%	58.0%	4.3%	0.9%	46.4%	44.3%	1.6%	7.7%
N	14	0.7%	94.2%	0.2%	4.9%	0.8%	97.3%	0.8%	1.1%
O	16	10.3%	89.5%	0.1%	0.1%	2.4%	97.4%	0.1%	0.1%
Na	23	99.9%	0.0%	0.0%	0.0%	99.9%	0.0%	0.0%	0.0%
Mg	24	96.0%	0.9%	3.0%	0.0%	45.6%	30.2%	23.1%	1.1%
Al	27	95.4%	1.5%	3.1%	0.0%	67.5%	20.1%	10.1%	2.3%
Si	28	28.4%	6.9%	64.3%	0.4%	37.6%	38.0%	11.1%	13.3%
P	31	5.4%	93.8%	0.6%	0.2%	7.8%	79.9%	0.4%	12.0%
S	34	38.7%	60.4%	0.8%	0.1%	52.8%	43.5%	0.1%	3.6%
Cl	35	15.1%	84.1%	0.3%	0.5%	8.1%	90.5%	0.2%	1.3%
K	39	100.0%	0.0%	0.0%	0.0%	99.9%	0.0%	0.0%	0.0%
Ca	44	84.2%	1.6%	13.7%	0.5%	53.6%	16.6%	22.7%	7.1%
Sc	45	6.0%	93.5%	0.1%	0.3%	5.1%	72.0%	0.1%	22.9%
Ti	47	7.5%	91.2%	0.1%	1.2%	5.4%	44.6%	0.0%	49.9%
V	51	10.1%	87.8%	0.0%	2.1%	9.7%	31.9%	0.0%	58.3%
Cr	52	89.9%	9.8%	0.0%	0.2%	27.3%	35.8%	0.1%	36.9%
Mn	55	93.7%	4.5%	1.9%	0.0%	39.9%	38.6%	1.6%	19.9%
Fe	56	90.1%	9.4%	0.5%	0.1%	41.8%	47.7%	0.9%	9.5%
Co	59	91.6%	8.2%	0.1%	0.0%	40.5%	51.0%	0.5%	8.0%
Ni	60	96.9%	2.8%	0.3%	0.0%	43.5%	45.1%	0.5%	10.9%
Cu	63	99.9%	0.1%	0.0%	0.0%	71.5%	20.1%	0.0%	8.4%
Zn	66	99.5%	0.2%	0.3%	0.0%	56.3%	35.9%	3.8%	4.0%
Ga	71	100.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%
Ge	72	75.2%	4.0%	19.8%	0.9%	19.7%	24.9%	43.5%	11.9%
As	75	10.0%	89.5%	0.2%	0.3%	6.3%	90.9%	0.1%	2.7%
Se	77	79.6%	15.7%	0.1%	4.7%	43.4%	40.5%	0.0%	16.1%
Se	78	79.3%	20.5%	0.1%	0.0%	35.5%	46.1%	0.1%	18.3%
Br	79	89.2%	4.8%	5.8%	0.2%	43.7%	48.9%	0.5%	7.0%
Se	82	83.8%	16.1%	0.0%	0.0%	39.4%	44.8%	0.1%	15.6%

Element	m/z	O <sub>2</sub> reaction				O <sub>3</sub> reaction			
		M <sup>+</sup>	MO <sup>+</sup>	MOH <sup>+</sup>	MO <sub>2</sub> <sup>+</sup>	M <sup>+</sup>	MO <sup>+</sup>	MOH <sup>+</sup>	MO <sub>2</sub> <sup>+</sup>
Rb	85	100.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%
Sr	88	87.3%	2.0%	10.3%	0.4%	20.8%	37.0%	31.0%	11.3%
Y	89	2.6%	96.5%	0.2%	0.7%	1.8%	67.9%	0.1%	30.2%
Zr	90	1.8%	86.9%	0.1%	11.3%	1.2%	34.8%	0.0%	64.0%
Nb	93	2.0%	12.8%	0.0%	85.2%	1.9%	16.0%	0.0%	82.1%
Mo	95	18.6%	9.9%	0.0%	71.5%	15.5%	22.7%	0.0%	61.8%
Ru	101	89.2%	10.6%	0.0%	0.2%	34.9%	38.3%	0.0%	26.8%
Rh	103	98.1%	1.9%	0.0%	0.0%	43.2%	33.3%	0.0%	23.5%
Pd	105	99.8%	0.1%	0.0%	0.0%	62.7%	25.8%	0.1%	11.4%
Ag	107	100.0%	0.0%	0.0%	0.0%	99.8%	0.1%	0.0%	0.0%
Cd	111	99.8%	0.1%	0.0%	0.0%	52.8%	30.1%	17.0%	0.1%
In	115	100.0%	0.0%	0.0%	0.0%	99.1%	0.5%	0.3%	0.0%
Sn	118	97.9%	1.1%	0.9%	0.1%	31.6%	40.9%	24.1%	3.4%
Sb	121	78.4%	21.5%	0.1%	0.1%	17.9%	80.4%	0.1%	1.6%
Te	125	92.9%	7.1%	0.0%	0.0%	45.8%	43.8%	0.2%	10.3%
I	127	97.4%	2.6%	0.0%	0.0%	26.4%	60.7%	0.1%	12.8%
Cs	133	100.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%
Ba	137	83.0%	4.1%	12.4%	0.5%	13.5%	46.9%	24.6%	14.9%
La	139	0.7%	98.1%	0.1%	1.1%	0.3%	97.0%	0.1%	2.6%
Ce	140	0.2%	98.6%	0.1%	1.1%	0.1%	31.9%	0.0%	68.0%
Pr	141	0.3%	99.2%	0.1%	0.5%	0.2%	38.2%	0.0%	61.6%
Nd	146	0.4%	99.1%	0.2%	0.4%	0.2%	46.5%	0.0%	53.2%
Sm	147	4.7%	94.4%	0.6%	0.3%	2.2%	84.4%	0.3%	13.2%
Eu	153	80.0%	14.3%	5.2%	0.5%	16.3%	70.7%	2.1%	10.9%
Gd	157	8.4%	90.8%	0.2%	0.7%	3.7%	75.8%	0.1%	20.3%
Tb	159	0.8%	98.5%	0.1%	0.6%	0.5%	72.2%	0.1%	27.3%
Dy	163	1.2%	98.3%	0.1%	0.3%	0.8%	76.8%	0.1%	22.3%
Ho	165	1.3%	98.2%	0.1%	0.4%	0.8%	71.1%	0.1%	27.9%
Er	166	1.4%	98.0%	0.1%	0.5%	0.9%	68.4%	0.1%	30.6%
Tm	169	21.8%	77.8%	0.2%	0.2%	9.5%	64.8%	0.3%	25.3%
Yb	172	89.0%	8.2%	2.6%	0.2%	42.1%	49.5%	3.5%	4.9%
Lu	175	2.8%	96.4%	0.2%	0.6%	1.9%	62.4%	0.2%	35.4%
Hf	178	0.6%	76.1%	0.0%	23.3%	0.5%	41.1%	0.0%	58.4%
Ta	181	0.6%	8.5%	0.0%	90.9%	0.5%	8.7%	0.0%	90.8%

Element	m/z	O <sub>2</sub> reaction				O <sub>3</sub> reaction			
		M <sup>+</sup>	MO <sup>+</sup>	MOH <sup>+</sup>	MO <sub>2</sub> <sup>+</sup>	M <sup>+</sup>	MO <sup>+</sup>	MOH <sup>+</sup>	MO <sub>2</sub> <sup>+</sup>
W	182	1.1%	12.8%	0.0%	86.0%	1.2%	14.8%	0.1%	84.0%
Re	185	53.6%	12.5%	0.0%	33.9%	26.1%	23.5%	0.0%	50.4%
Os	189	45.0%	23.6%	0.0%	31.4%	23.0%	38.0%	0.0%	39.0%
Ir	193	88.6%	8.8%	0.0%	2.6%	35.7%	45.2%	0.0%	19.0%
Pt	195	98.3%	1.6%	0.0%	0.0%	37.9%	43.8%	0.1%	18.2%
Au	197	98.9%	1.1%	0.0%	0.0%	43.3%	24.9%	0.0%	31.8%
Hg	201	96.7%	1.6%	0.0%	1.6%	70.0%	23.5%	0.1%	6.5%
Tl	205	100.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%
Pb	208	99.5%	0.3%	0.2%	0.0%	42.9%	47.0%	10.1%	0.1%
Bi	209	98.4%	1.6%	0.0%	0.0%	43.1%	56.9%	0.0%	0.0%
Th	232	0.1%	99.9%	0.1%	-	0.1%	99.9%	0.0%	-
U	238	1.1%	98.8%	0.1%	-	0.7%	99.3%	0.0%	-