High-speed mapping of Hg and Se in biological tissue via laser ablation – inductively coupled plasma – mass spectrometry

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Supplementary information

Table S1. Agilent 7900 ICP-MS and LA settings for all experiments aiming at the determination of SPR duration.

Repetition rate (Hz)	1
Energy density (J cm^{-2})	1.5
Beam waist diameter (µm)	20
Mask shape	O
Nuclides monitored	^{65}Cu, ^{77}Se, ^{202}Hg
Dwell time (ms)*	1-20, 10-20, 10-20

Table S2. LA-ICP-MS settings and data acquisition conditions for multi-elemental mapping of fungal tissue.

Teledyne CETAC Technologies Iridia LA system					
	Hg-only map	Fast Ag	Slow Ag	Fast Se	Slow Se
Repetition rate (Hz)	100	500	100	500	100
Energy density (J cm^{-2})	1.50	1.50	1.50	1.50	1.50
He carrier gas flow rate (L min^{-1})	0.250	0.250	0.250	0.250	0.250
Beam waist diameter (µm)	10	20	20	20	20
Mask shape	o	o	o	o	o
Dosage	5	5	5	5	5
Scan speed (µm s^{-1})	200	2000	400	2000	400
Agilent 7900 ICP-MS instrument					
	Hg map	Fast Ag	Slow Ag	Fast Se	Slow Se
RF power (W)	1500	1500	1500	1500	1500
Sampling depth (mm)	6	6	6	6	6
Plasma gas flow rate (L min^{-1})	15	15	15	15	15
Nebulizer gas flow rate (L min^{-1})	1.05	1.05	1.05	1.05	1.05
Nuclides monitored	^{202}Hg	^{107}Ag, ^{202}Hg	^{107}Ag, ^{202}Hg	^{77}Se, ^{202}Hg	^{77}Se, ^{202}Hg
Integration time (ms)	50	10 (2 & 2)	50 (22, 22)	10 (1 & 1)	50 (21 & 21)
Pixel acquisition rate (Hz)	20	100	20	100	20

Table S3. Average SPR durations, defined as FW0.1M, and corresponding standard deviations for the transient signals of ^{65}Cu, ^{77}Se and ^{202}Hg for every instrumental setup.

	$^{65}Cu^{+}$ FW0.1M (ms)	$^{77}Se^{+}$ FW0.1M (ms)	$^{202}Hg^{+}$ FW0.1M (ms)
A	105 ± 2	185 ± 6	204 ± 10
B	28 ± 5	162 ± 16	166 ± 10
C	44 ± 4	171 ± 20	358 ± 35
D	39 ± 5	152 ± 17	305 ± 21
E	33 ± 6	128 ± 12	265 ± 20
F	8 ± 1	109 ± 4	56 ± 2
G	7 ± 1	61 ± 4	50 ± 2