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Supplement of

Characterization of a non-thermal plasma source for use as a mass spectrometric calibration tool and non-radioactive aerosol charger

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Charger (Working Gas)	Seed (Polarity)	Aerosol flow [L/Min]	Working Gas flow [mL/Min]	Ozone [ppm]	Charging probabilities for particles with mobility equivalent diameter [nm]							
					2.7	3.3	4.1	5.5	6.9	8.2	10.0	12.0
Torch (N2)	Ag(-)	2.5	100	82	0.0121	0.0166	0.0257	0.0330	0.0628	0.0825	0.1059	0.1290
Torch (N2)	Ag(+)	2.5	100	102		0.0080	0.0185	0.0193	0.0177	0.0241	0.0194	0.0287
Torch (N2)	Ag(-)	5.0	100	28			0.0245	0.0332	0.0435	0.0552	0.0679	0.0870
Torch (N2)	Ag(-)	8.0	100	29			0.0247	0.0348	0.0462	0.0592	0.0800	0.0899
Torch (Air)	Ag(-)	2.5	100	155	0.0101		0.0171	0.0284	0.0318	0.0465	0.0710	0.0877
Torch (Air)	Ag(+)	2.5	100				0.0089	0.0176	0.0238	0.0311	0.0408	0.0518
Torch (Air)	Ag(-)	5.0	100	90			0.0240	0.0300	0.0400	0.0491	0.0665	0.0844
Torch (Air)	Ag(-)	8.0	100	57			0.0202	0.0276	0.0361	0.0451	0.0591	0.0729
Torch (He)	Ag(-)	2.5	180		0.0094		0.0185	0.0269	0.0304	0.0541	0.0699	0.0838
Torch (He)	Ag(+)	2.5	180				0.0122	0.0247	0.0312	0.0381	0.0692	0.0827
Torch (He)	Ag(-)	5.0	180	59			0.0199	0.0222	0.0291	0.0358	0.0490	0.0627
Torch (He)	Ag(-)	8.0	180				0.0109	0.0118	0.0213	0.0211	0.0255	0.0118
Americium	Ag(-)	2.5			0.0091		0.0183	0.0257	0.0316	0.0423	0.0544	0.0673
Americium	Ag(+)	2.5					0.0207	0.0234	0.0290	0.0351	0.0315	0.0399
Americium	Ag(-)	5.0					0.0090	0.0085	0.0133	0.0192	0.0267	0.0402
Americium	Ag(-)	8.0					0.0109	0.0093	0.0158	0.0214	0.0306	0.0392
X-Ray	Ag(-)	2.5					0.0176	0.0255	0.0335	0.0408	0.0524	0.0699
X-Ray	Ag(+)	2.5					0.0150	0.0184	0.0257	0.0322	0.0438	0.0453
X-Ray	Ag(-)	5.0					0.0010	0.0124	0.0172	0.0214	0.0336	0.0452
X-Ray	Ag(-)	8.0					0.0074	0.0106	0.0197	0.0328	0.0434	0.0435

Table S1: Aerosol flow dependent charging efficiency measurements for different neutralizers with negatively (-) and positively (+) charged silver (Ag) seeds. In addition the experimentally determined ozone concentrations under different working gas and aerosol flow conditions for the Plasma charger (Torch).

Charger (Working Gas)	Seed (Polarity)	Aerosol flow [L/Min]	Working Gas flow [mL/Min]	Ozone [ppm]	Charging probabilities for particles with mobility equivalent diameter [nm]						
					2.6	3.8	5.1	6.4	7.5	9.2	11.0
Torch (N2)	NaCl(-)	2.5	180		0.0113	0.0217	0.0371	0.0547	0.0787	0.0956	0.1304
Torch (Air)	NaCl(-)	2.5	100		0.0141	0.0187	0.0298	0.0430	0.0555	0.0817	0.1082
Torch (He)	NaCl(-)	2.5	180		0.0114	0.0100	0.0177	0.0311	0.0419	0.0559	0.0729
Americium	NaCl(-)	2.5			0.0215	0.0162	0.0241	0.0299	0.0407	0.0542	0.0649
Americium	NaCl(+)	2.5			0.0158	0.0095	0.0149	0.0174	0.0273	0.0381	0.0514
X-Ray	NaCl(-)	2.5			0.0053	0.0145	0.0217	0.0323	0.0406		
X-Ray	NaCl(+)	2.5			0.0067	0.0077	0.0158	0.0212	0.0269		

Table S2: Aerosol flow dependent charging efficiency measurements for different neutralizers with negatively (-) and positively (+) charged sodium chloride (NaCl) seeds. In addition the experimentally determined ozone concentrations under different working gas and aerosol flow conditions for the Plasma charger (Torch).