

ELECTRONIC SUPPLEMENTARY INFORMATION

**Experimental determination of metals generated during the thermal failure of lithium ion batteries**

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			Li	Ni	Mn	Co	Cu	Al
Cell A	Metal from smoke particulate	Mass %	13	26	14	30	3	14
		Mole %	51	13	7	14	1	14
	Metal Residues from swabbing near the positive end of cell	Mass %	7	10	5	53	5	20
		Mole %	34	6	3	30	2	25
	Metal Residues from swabbing elsewhere	Mass %	5	10	5	54	6	20
		Mole %	26	6	4	34	3	27
Cell B	Metal from smoke particulate	Mass %	12	67	0	12	1	8
		Mole %	50	35	0	6	1	8
	Metal Residues from swabbing near the positive end of cell	Mass %	5	68	0	13	3	11
		Mole %	28	46	0	8	2	16
	Metal Residues from swabbing elsewhere	Mass %	4	71	0	13	3	9
		Mole %	25	50	0	9	2	14
Cell C	Metal from smoke particulate	Mass %	5	29	30	30	0	6
		Mole %	30	20	22	20	0	8
	Metal Residues from swabbing near the positive end of cell	Mass %	6	21	20	21	0	32
		Mole %	26	12	12	12	0	38
	Metal Residues from swabbing elsewhere	Mass %	2	17	15	18	1	47
		Mole %	11	10	9	10	1	59
Cell D	Metal from smoke particulate	Mass %	6	48	23	19	0	4
		Mole %	33	32	17	12	0	6
	Metal Residues from swabbing near the positive end of cell	Mass %	4	47	22	19	0	8
		Mole %	23	34	17	13	0	13
	Metal Residues from swabbing elsewhere	Mass %	4	41	19	16	1	19
		Mole %	21	27	13	11	1	27
Cell E	Metal from smoke particulate	Mass %	7	70	8	9	1	5
		Mole %	36	44	6	6	1	7
	Metal Residues from swabbing near the positive end of cell	Mass %	5	62	7	8	7	11
		Mole %	25	43	5	6	5	16
	Metal Residues from swabbing elsewhere	Mass %	5	55	7	7	13	13
		Mole %	27	37	4	5	8	19

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Cell F	Metal from smoke particulate	Mass %	9	1	0	73	1	16
		Mole %	42	0	0	39	1	18
	Metal Residues from swabbing near the positive end of cell	Mass %	5	1	0	74	1	19
		Mole %	27	0	0	46	1	26
	Metal Residues from swabbing elsewhere	Mass %	4	1	0	79	1	15
		Mole %	23	1	0	53	1	22
Cell G	Metal from smoke particulate	Mass %	12	1	0	77	1	9
		Mole %	42	0	0	39	1	18
	Metal Residues from swabbing near the positive end of cell	Mass %	6	0	0	86	1	7
		Mole %	27	0	0	46	1	26
	Metal Residues from swabbing elsewhere	Mass %	7	0	0	85	5	3
		Mole %	23	0	0	53	1	22
Cell H	Metal from smoke particulate	Mass %	5	38	33	15	2	7
		Mole %	29	26	24	10	1	10
	Metal Residues from swabbing near the positive end of cell	Mass %	6	24	31	9	7	23
		Mole %	30	13	19	5	4	29
	Metal Residues from swabbing elsewhere	Mass %	4	24	36	10	8	18
		Mole %	23	15	25	7	5	25
Cell I	Metal from smoke particulate	Mass %	5	44	26	19	0	6
		Mole %	29	30	19	13	0	9
	Metal Residues from swabbing near the positive end of cell	Mass %	4	43	25	19	0	9
		Mole %	23	30	19	13	0	15
	Metal Residues from swabbing elsewhere	Mass %	3	40	20	18	0	19
		Mole %	18	27	15	13	0	27