Supplement of Atmos. Chem. Phys., 14, 4459–4472, 2014
http://www.atmos-chem-phys.net/acp-14-4459-2014/
doi:10.5194/acp-14-4459-2014-supplement

Atmospheric Chemistry and Physics Open Access

Supplement of

Indoor/outdoor relationships and mass closure of quasi-ultrafine, accumulation and coarse particles in Barcelona schools

M. Viana et al.

Correspondence to: M. Viana (mar.viana@idaea.csic.es)

Supporting Information

Table S1. Mean particle size distributions (in % of mass per size fraction) for major and trace elements in indoor and outdoor air.

	Indoor Quasi-UF	Indoor Accumulation	Indoor Coarse		Outdoor Quasi-UF	Outdoor Accumulation	Outdoor Coarse
Major components							
Mass	31%	22%	48%	**Mass**	38%	23%	39%
OM	18%	26%	56%	**OM**	23%	36%	41%
EC	56%	23%	21%	**EC**	68%	22%	10%
Al_2O_3	33%	6%	61%	**Al_2O_3**	48%	4%	48%
Ca	14%	14%	71%	**Ca**	31%	11%	57%
Fe	19%	9%	73%	**Fe**	35%	9%	57%
K	36%	10%	54%	**K**	47%	6%	47%
Mg	23%	7%	69%	**Mg**	38%	6%	57%
Na	18%	18%	64%	**Na**	25%	5%	70%
SO_4^{2-}	48%	30%	22%	**SO_4^{2-}**	44%	43%	13%
NO_3^-	28%	40%	32%	**NO_3^-**	28%	45%	28%
Cl^-	29%	28%	42%	**Cl^-**	31%	32%	38%
NH_4^+	51%	34%	16%	**NH_4^+**	42%	48%	9%
Mineral	22%	11%	67%	**Mineral**	39%	8%	53%
Marine	27%	27%	46%	**Marine**	30%	27%	44%
SIA	42%	33%	25%	**SIA**	35%	44%	21%
OM+EC	19%	26%	55%	**OM+EC**	25%	35%	40%
Trace components							
Li	15%	16%	69%	**Li**	29%	11%	61%
P	23%	24%	53%	**P**	35%	18%	48%
Sc	33%	33%	35%	**Sc**	33%	32%	34%
Ti	14%	11%	75%	**Ti**	27%	9%	64%
V	30%	23%	47%	**V**	41%	26%	33%
Cr	77%	5%	18%	**Cr**	76%	3%	21%
Mn	23%	11%	67%	**Mn**	37%	10%	52%
Co	30%	32%	38%	**Co**	32%	32%	35%
Ni	90%	5%	5%	**Ni**	92%	3%	5%
Cu	37%	18%	45%	**Cu**	32%	18%	51%
Zn	33%	26%	41%	**Zn**	37%	31%	32%
Ga	30%	28%	42%	**Ga**	34%	28%	39%
Ge	93%	4%	3%	**Ge**	89%	5%	6%
As	27%	21%	52%	**As**	36%	31%	33%
Se	31%	27%	42%	**Se**	40%	31%	29%
Rb	15%	13%	72%	**Rb**	30%	14%	57%
Sr	19%	8%	73%	**Sr**	39%	6%	56%
Mo	99%	0%	1%	**Mo**	98%	1%	0%
Cd	44%	32%	24%	**Cd**	49%	27%	25%
Sn	38%	23%	39%	**Sn**	38%	24%	39%
Sb	25%	25%	50%	**Sb**	16%	14%	70%
Ba	45%	9%	46%	**Ba**	53%	11%	36%
La	41%	5%	54%	**La**	49%	4%	47%
Ce	41%	6%	53%	**Ce**	51%	4%	44%
Pb	31%	23%	46%	**Pb**	38%	33%	29%

Table S2. Mean indoor/outdoor (I/O) ratios for major and trace elements in quasi-UF, accumulation and coarse particles, for all types of schools (traffic and urban background).

	Quasi-UF	Accumulation	Coarse
OM	1.19	1.22	1.79
EC	0.69	0.87	1.25
TC	1.27	1.22	1.79
Al_2O_3	0.83	0.98	1.22
Ca	0.99	1.27	1.67
Fe	0.53	0.59	0.92
K	0.87	1.02	1.13
Mg	0.68	0.98	1.23
Na	0.96	1.15	0.99
SO_4^{2-}	0.78	0.61	1.10
NO_3^-	0.50	0.55	0.74
Cl^-	1.18	1.16	1.02
NH_4^+	0.67	0.41	0.65
Li	0.81	0.95	NA
Sc	0.98	1.00	NA
Ti	0.76	0.71	1.30
V	0.72	0.74	0.99
Cr	0.99	0.99	1.02
Mn	0.53	0.79	0.94
Co	1.00	1.08	NA
Ni	0.73	0.97	1.00
Cu	1.03	0.94	0.89
Zn	1.02	0.91	0.97
As	0.84	0.64	1.05
Se	0.62	0.71	0.68
Rb	0.63	0.93	0.94
Sr	0.80	1.04	1.22
Cd	0.89	1.01	0.94
Sn	0.78	0.71	0.85
Sb	0.95	NA	0.65
Ba	0.81	0.92	0.98
La	0.77	0.94	0.94
Pb	0.74	0.52	1.16