

Table Electronic Supplementary Information 1. Speciation of PM₁₀ and levels of trace elements measured at Onda, L'Alcora, Vila-real and Borriana.

	Vila-real				L'Alcora				Onda				Borriana	
	2002	2003	2004	2005	2002	2003	2004	2005	2002	2003	2004	2005	2004	2005
n	73	80	89	76	85	72	88	82	77	72	58	62	45	102
µg/m ³														
PM ₁₀	37	40	37	36	39	34	34	34	26	28	29	27	36	37
OC+EC	5.5	5.3	4.8	5.3	4.4	3.9	4.2	3.9	4.3	3.5	3.8	3.9	4.1	4.5
CO ₃ ²⁻	3.3	3.5	2.9	3.3	3.6	3.1	2.8	3.3	2.0	2.2	1.8	2.3	2.3	2.3
SiO ₂	5.8	6.8	4.9	5.3	9.0	6.9	6.6	6.7	3.3	4.9	3.4	3.8	6.4	6.5
Al ₂ O ₃	1.9	2.3	1.6	1.8	3.0	2.3	2.2	2.2	1.1	1.6	1.1	1.3	2.1	2.2
Ca	1.8	1.9	1.6	1.8	2.0	1.7	1.5	1.8	1.0	1.1	0.9	1.2	1.1	1.2
K	0.8	0.9	0.6	0.5	1.0	0.8	0.7	0.6	0.5	0.6	0.4	0.4	0.7	0.6
Na	0.9	1.0	0.7	0.6	0.7	0.7	0.5	0.5	0.7	0.8	0.6	0.5	0.8	0.8
Mg	0.2	0.3	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Fe	0.5	0.6	0.5	0.5	0.8	0.6	0.6	0.6	0.3	0.4	0.3	0.3	0.4	0.4
Ti	0.05	0.06	0.05	0.05	0.07	0.05	0.06	0.06	0.03	0.04	0.03	0.03	0.06	0.06
P	0.03	0.04	0.02	0.02	0.03	0.03	0.01	0.02	0.03	0.03	0.02	0.01	0.02	0.02
SO ₄ ²⁻	4.8	5.0	4.7	4.2	4.5	3.9	4.1	4.1	4.5	4.2	4.3	4.1	4.9	4.4
NO ₃ ⁻	2.8	1.3	1.1	2.0	1.7	1.0	0.9	1.5	1.7	0.74	0.7	1.4	1.1	1.7
Cl ⁻	0.3	0.4	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.1	0.1	0.2	0.2
NH ₄ ⁺	1.0	0.5	0.6	0.8	0.9	0.5	0.6	0.9	1.0	0.5	0.6	0.9	0.8	0.9
ng/m ³														
Li	1.6	1.5	1.0	1.0	1.9	1.5	1.5	1.3	0.8	0.9	0.7	0.6	1.0	1.1
Sc	0.7	0.4	0.1	0.4	0.9	0.6	0.1	0.5	0.4	0.4	0.1	0.3	0.1	0.4
Ti	48	59	49	51	69	52	56	57	28	39	29	33	56	56
V	7	8	6	5	6	5	4	4	4	5	4	4	6	5
Cr	4	5	5	7	7	5	6	8	3	3	3	3	6	6
Co	0.6	1.1	0.8	0.7	0.8	0.8	0.7	0.7	0.4	0.6	1	0.4	0.7	0.6
Ni	4	4	4	5	3	3	3	4	3	2	3	3	4	4
Cu	10	9	9	8	7	6	5	6	5	4	5	4	7	10
Zn	364	361	186	85.9	416	336	244	89.5	190	282	134	45	299	183
As	11.7	11.0	4.1	3.0	11.3	9.9	6.0	2.5	5.9	9.4	3.1	1.7	7.8	5.0
Se	2.4	2.3	2.2	1.8	3.2	3.3	2.9	2.5	1.6	1.4	1.2	1.0	2.6	2.1
Rb	3.4	3.2	2.0	1.9	4.9	3.3	3.0	2.4	1.9	2.1	1.4	1.2	2.6	2.4
Sr	5	5	4	3.9	6	5	4	4.5	4	4	3	3.1	4.3	4.3
Y	0.2	0.3	0.1	0.3	0.4	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.1	0.3
Zr	15	15	10	13	35	28	24	20	10	10	7	10	12	17
Cd	1.7	1.3	2.9	0.7	1.4	1.3	1.8	0.8	1.0	1.0	1.2	0.6	1.0	1.5
Sn	1.7	2.6	2.7	1.3	1.3	2.3	1.8	1.0	1.1	2.4	2.3	1.0	1.2	1.5
Cs	0.6	0.5	0.3	0.2	0.9	0.6	0.5	0.3	0.4	0.4	0.2	0.1	0.4	0.3
Ba	120	74	34	12	100	66	27	12	69	60	22	14	26	16
La	0.7	0.6	0.5	0.5	1.0	0.6	0.5	0.6	0.5	0.4	0.3	0.3	0.5	0.5
Ce	1.2	1.2	0.8	1.2	5.2	1.8	2.1	1.9	0.9	1.0	0.6	0.7	1.1	1.6
Pr	0.3	0.2	0.1	0.2	0.4	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2
Nd	0.5	0.5	0.3	0.4	0.8	0.5	0.4	0.5	0.4	0.3	0.2	0.3	0.4	0.5
Hf	0.4	0.3	0.2	0.3	0.8	0.6	0.5	0.4	0.4	0.2	0.1	0.2	0.3	0.4
Tl	1.7	1.4	1.3	1.2	3.6	2.8	3.1	2.8	1.5	1.0	0.7	0.5	1.4	1.1
Pb	229	183	107	70	198	208	181	92	114	138	88	35	147	103
Bi	0.3	0.1	0.2	0.5	0.2	0.1	0.2	0.8	0.3	0.1	0.1	0.4	0.2	1.5
Th	0.4	0.1	0.1	0.1	0.5	0.2	0.1	0.2	0.6	0.1	0.04	0.1	0.1	0.2
U	0.6	0.1	0.12	0.1	0.9	0.1	0.2	0.1	0.9	0.1	0.1	0.04	0.2	0.1
Mn	8	11	8	8	8	7	6	7	6	7	5	6	7	7

Table Electronic Supplementary Information 2. Contribution of each source to specific elements and components. In bold: those higher than 60% and 35% (for indeterminate).

%	Mineral		Industrial 1		Regional background		Industrial 2		Sea spray		Road traffic		Indeterminate	
	Min	max	min	max	min	max	min	max	min	max	min	max	min	max
As	1	20	68	84	<1	5	<1	7	1	18	<1	11	<1	<1
Ca	48	81	<1	5	<1	12	<1	3	<1	2	9	22	4	27
K	43	44	32	37	4	15	2	6	<1	1	2	14	<1	4
Pb	6	15	58	77	<1	10	<1	5	<1	3	8	18	<1	<1
Al ₂ O ₃	64	84	10	24	1	10	2	4	<1	1	<1	5	<1	5
Na	1	18	<1	9	16	55	<1	5	19	51	<1	5	20	43
SO ₄ ²⁻	5	25	<1	8	45	75	<1	7	2	13	<1	13	<1	26
NO ₃ ⁻	<1	15	<1	7	2	61	1	12	<1	14	4	92	<1	<1
NH ₄ ⁺	<1	3	<1	<1	49	96	2	10	<1	<1	<1	51	<1	<1
V	20	46	<1	9	48	70	<1	<1	1	10	<1	2	<1	<1
Ni	12	40	<1	11	58	67	<1	<1	<1	1	<1	19	<1	<1
Zn	10	21	61	77	<1	17	<1	4	<1	5	<1	2	<1	<1
OC+EC	3	19	11	18	<1	9	2	12	<1	<1	30	35	17	51
Zr	18	46	14	23	<1	<1	15	53	2	4	12	27	<1	4
Tl	14	33	30	60	<1	6	3	19	<1	<1	1	21	<1	31
Mg	50	64	<1	6	12	27	<1	2	8	24	<1	5	8	16
Fe	67	80	6	14	6	13	1	5	<1	1	1	8	<1	<1
Ti	63	81	5	23	6	12	<1	3	<1	2	<1	9	<1	1
P	33	52	11	26	12	26	<1	1	<1	<1	<1	19	<1	39
Cl	<1	34	20	36	<1	<1	2	8	4	19	15	33	<1	46
Li	46	59	25	32	<1	15	2	10	<1	<1	<1	12	<1	3
Cr	30	45	6	36	16	22	<1	5	<1	<1	<1	25	<1	31
Co	35	52	11	31	19	23	<1	2	<1	2	<1	14	<1	25
Cu	22	53	8	21	1	39	<1	3	<1	<1	10	56	<1	40
Se	19	33	35	46	<1	18	2	23	<1	<1	<1	26	<1	18
Rb	42	59	31	46	<1	10	3	9	<1	<1	1	11	<1	1
Sr	59	69	8	11	2	18	1	7	2	12	2	12	<1	8
Y	70	87	<1	15	<1	9	3	6	<1	2	<1	21	<1	<1
Cd	<1	33	<1	60	6	35	2	29	<1	24	<1	32	<1	<1
Sn	2	30	15	38	<1	14	<1	17	<1	<1	3	33	<1	79
Cs	23	47	48	62	<1	<1	3	9	<1	2	<1	13	<1	<1
Ba	21	64	23	36	<1	21	<1	12	2	40	<1	4	<1	48
La	57	68	12	22	13	25	3	6	<1	<1	<1	2	<1	<1
Ce	20	80	3	13	<1	6	9	77	<1	30	<1	1	<1	<1
Pr	61	69	14	23	1	8	4	9	<1	1	<1	11	<1	11
Nd	67	76	9	23	<1	10	4	8	<1	1	<1	6	<1	<1
Hf	16	47	10	20	<1	6	17	62	<1	1	5	28	<1	8
Bi	3	17	<1	13	12	58	<1	19	<1	<1	<1	30	<1	58
Th	27	71	7	29	<1	<1	12	26	<1	2	<1	16	<1	27
U	<1	54	22	44	<1	2	2	38	<1	<1	<1	10	<1	66
Mn	56	77	1	9	13	26	<1	5	<1	5	<1	10	<1	5
Sc	42	68	<1	32	<1	19	<1	10	<1	15	<1	14	<1	17