Table S1 Pearson correlation coefficients between redox activities of PM (i.e. macrophage ROS and DTT) and selected chemical species. Coefficients for species in the accumulation and coarse modes were mostly below detection limit; thus values are for quasi-UF mode particles only

Species		Macrophage ROS		DTT	
		R	p	R	p
Water-Soluble Elements	Li	-0.09	0.72	-0.03	0.90
	Na	-0.68	0.00	-0.76	0.00
	Mg	-0.70	0.00	-0.74	0.00
	K	-0.72	0.00	-0.74	0.00
	Ca	-0.64	0.01	-0.68	0.00
	Ti	-0.23	0.37	-0.25	0.33
	Mn	-0.43	0.09	-0.34	0.19
	Fe	0.13	0.63	0.18	0.48
	Cu	0.42	0.09	0.32	0.21
	Ba	-0.54	0.02	-0.51	0.04
	P	-0.17	0.53	-0.26	0.31
	Rb	-0.47	0.06	-0.43	0.08
	Sr	-0.76	0.00	-0.80	0.00
	Cs	-0.02	0.95	0.06	0.82
	La	-0.04	0.88	0.03	0.90
	Ce	0.01	0.96	0.06	0.83
	Cd	0.38	0.13	0.28	0.27
Total Elements	Li	-0.34	0.18	-0.21	0.41
	Na	-0.49	0.05	-0.40	0.11
	Mg	-0.47	0.06	-0.39	0.13
	Al	-0.26	0.31	-0.18	0.48
	S	0.15	0.57	0.07	0.80
	K	-0.25	0.33	-0.21	0.42
	Ca	-0.21	0.42	-0.21	0.41
	Ti	-0.18	0.48	-0.12	0.64
	V	**0.81**	**0.00**	**0.60**	**0.01**
	Cr	-0.17	0.51	0.08	0.76
	Mn	-0.28	0.27	-0.16	0.54
	Fe	-0.29	0.26	-0.20	0.45
	Co	-0.12	0.66	0.07	0.80
	Ni	0.21	0.43	0.18	0.49
	Cu	-0.27	0.29	-0.22	0.41
	Zn	0.06	0.83	-0.02	0.96
	Ba	-0.30	0.24	-0.21	0.42
	Pb	0.20	0.44	0.33	0.20

Table S2 Summary of slope, intercept and correlation coefficients (R^2) for the regressions between ROS and DTT levels and selected water-soluble elements[#]

	Macrophage ROS			DTT Activity		
Species	**Slope***	**Intercept**	**R^2**	**Slope**	**Intercept**	**R^2**
OC	8.53e-3	0.05	0.65	9.6e-4	5.7e-3	0.83
WIOC	9.7e-3	0.05	0.67	1.1e-3	6.4e-3	0.83
[a]WSOC	0.04	0.08	0.46	0.49	9.43e-3	0.43
PAH (MW<=228)	103.1	0.06	0.55	9.01	0.01	0.62
V	3.6	0.10	0.88	0.27	0.01	0.58
Co	348.7	0.04	0.31	43.3	4.0e-3	0.44
Al	1.70	0.14	0.25	0.22	0.02	0.41
Zn	1.01	0.11	0.25	0.10	0.01	0.22
Mo	126.9	0.05	0.40	12.6	7.7e-3	0.50

*expressed as (µg Zymosan Units / µg Species)

[#] The level of Quasi-UF ROS at SITE 5 was excessively high (outlier) and discarded from the regression analysis

Table S3 "Best-fitting" regression model results for: a) DTT , and: b) Macrophage ROS. Tests were run and confirmed that the 3 major assumptions of linear regression, i.e. normality (the errors should be normally distributed), homogeneity of variance (the error variance should be constant), and linearity (the relationships between the predictors and the outcome variable should be linear), were valid.

a)

DTT	Partial R^2	Model R^2	C(p)	F Value	Pr > F	Parameter Estimate	Standardized Estimate
Intercept						0.034	0
OC	**0.76**	0.76	40.30	44.46	**<.0001**	0.056	0.64
Al	0.13	0.89	13.9851	15.35	0.0018	0.00000915	0.37
Co	0.055	**0.95**	4	11.99	0.0047	0.000739	0.25

b)

ROS	Partial R^2	Model R^2	C(p)	F Value	Pr > F	Parameter Estimate	Standardized Estimate
Intercept						0.332	
V	**0.86**	0.86	12.59	76.09	**<.0001**	0.399	0.62
OC	0.07	**0.93**	3	11.59	0.0059	0.000223	0.41

Table S4 Pearson correlation coefficients among water-soluble elements

	Al	S	V	Cr	Co	Ni	Cu	Zn	Pb	Mo	Sb
Al	1										
S	0.60	1									
V	0.62	0.65	1								
Cr	0.79	0.65	0.67	1							
Co	0.68	0.28	0.60	0.52	1						
Ni	0.65	0.67	0.99	0.71	0.59	1					
Cu	0.49	0.14	0.35	0.45	0.27	0.33	1				
Zn	0.86	0.47	0.54	0.59	0.69	0.56	0.48	1			
Pb	0.60	0.82	0.76	0.79	0.34	0.80	0.15	0.34	1		
Mo	0.78	0.56	0.80	0.94	0.59	0.82	0.51	0.62	0.76	1	
Sb	0.32	0.16	0.18	0.55	0.09	0.20	0.68	0.10	0.28	0.53	1

Figure S1 Sampling sites locations

Figure S2 Correlation between Macrophage ROS and DTT activities

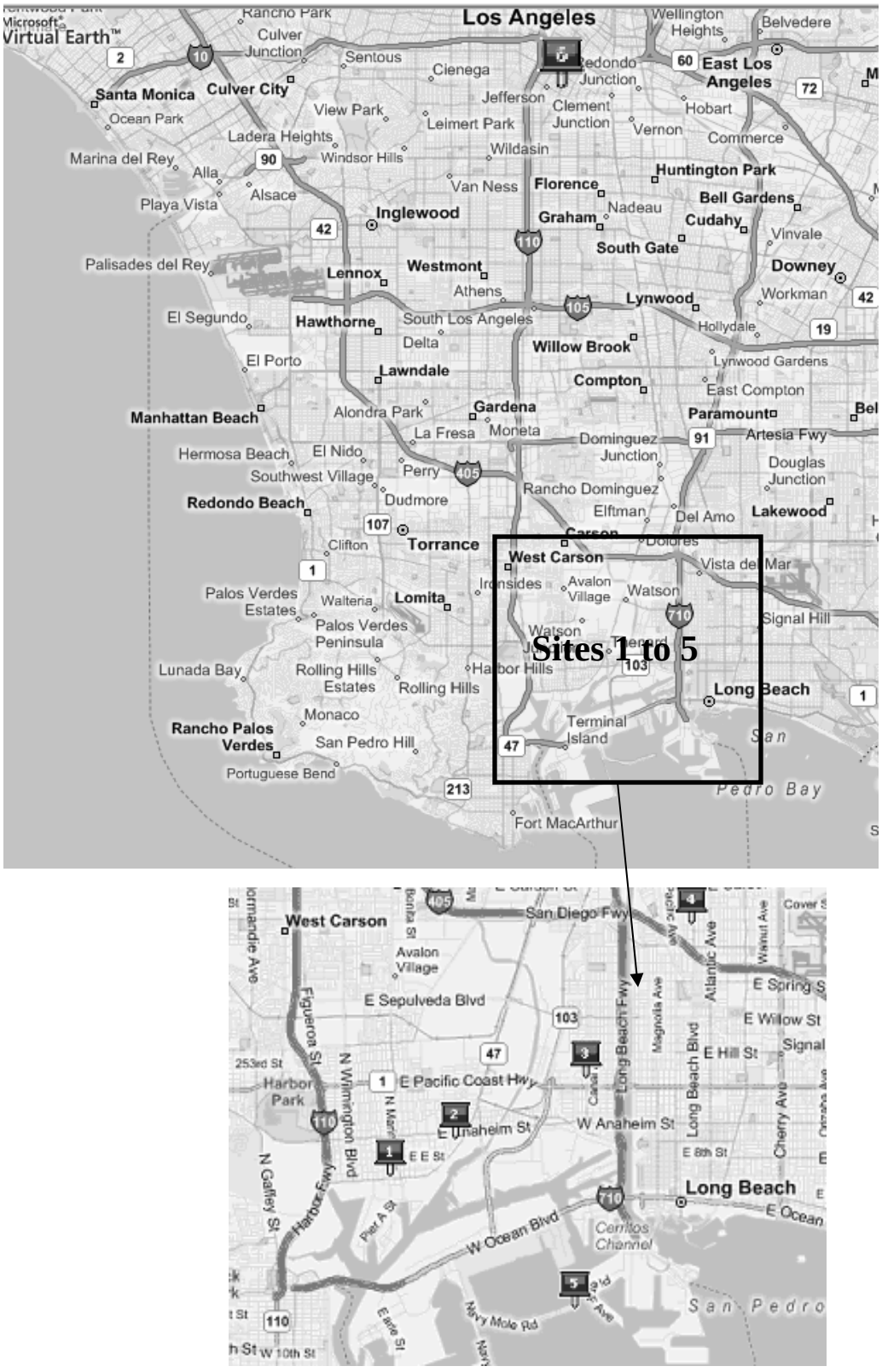

Figure S1 Sampling sites locations

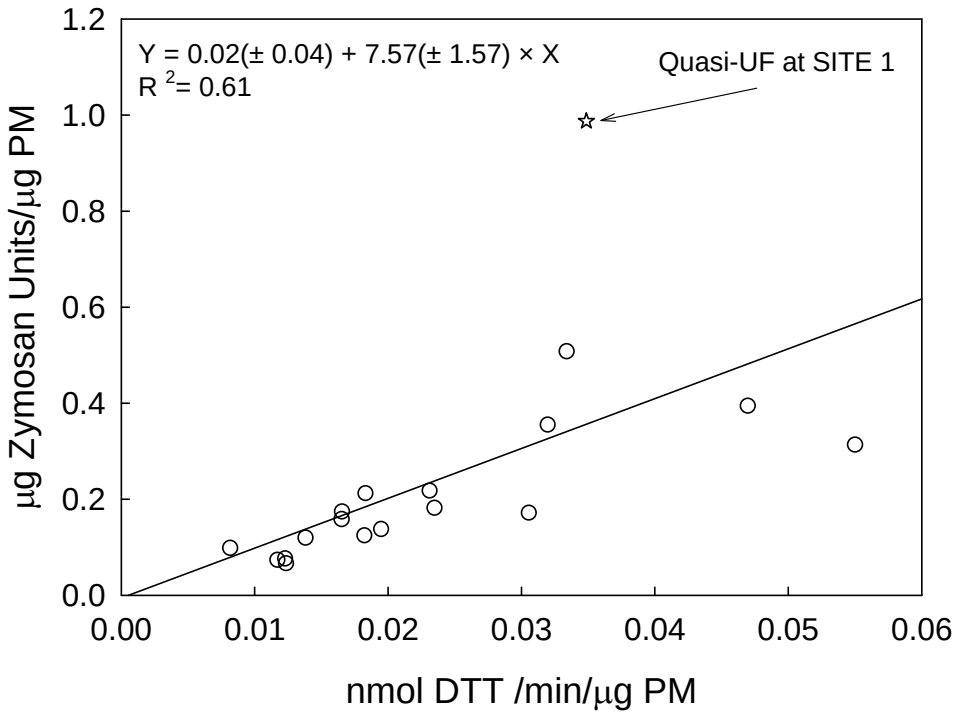

Figure S2 Correlation between Macrophage ROS and DTT activities