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Supplement of

Implementation of real-time source apportionment approaches using the ACSM–Xact–Aethalometer (AXA) setup with SoFi RT: the Athens case study

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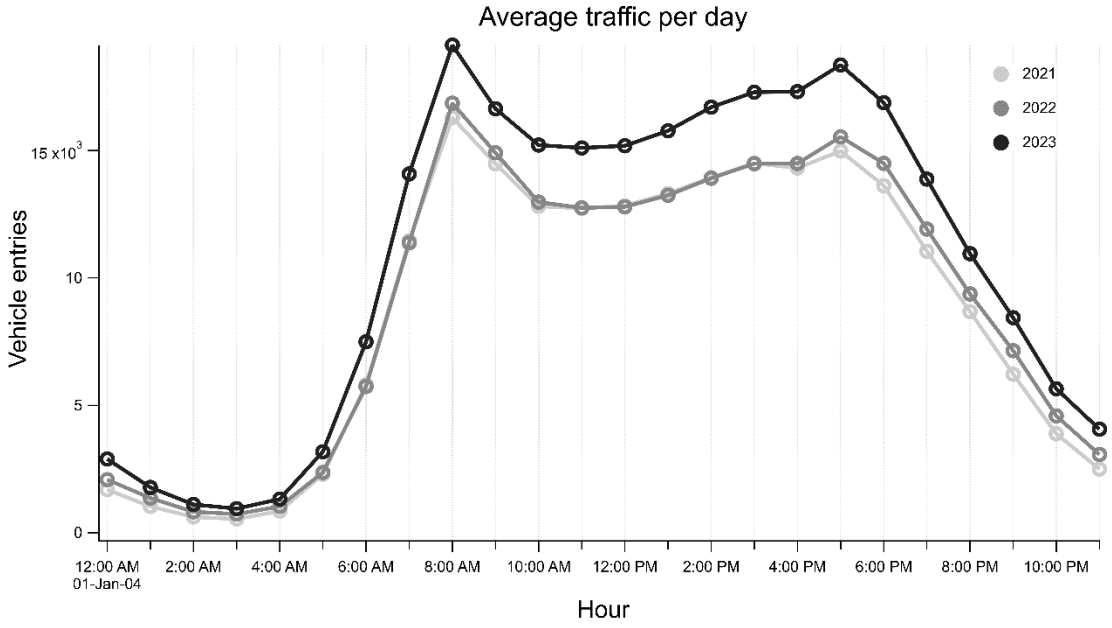


Figure S1. Traffic density per hour on the highway road near the Demokritos campus

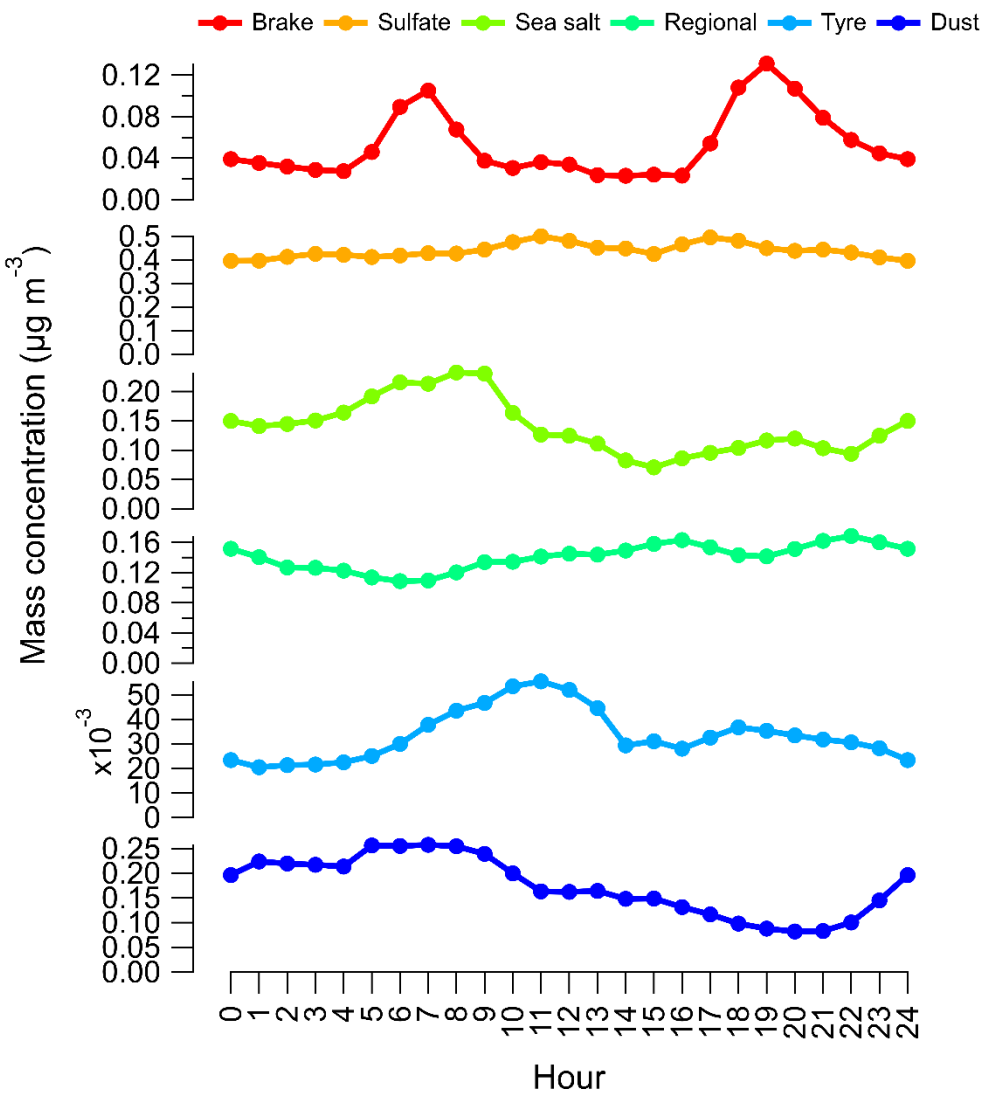


Figure S2. Diurnal variability of Near Real time obtained factors from RT PMF on Xact data

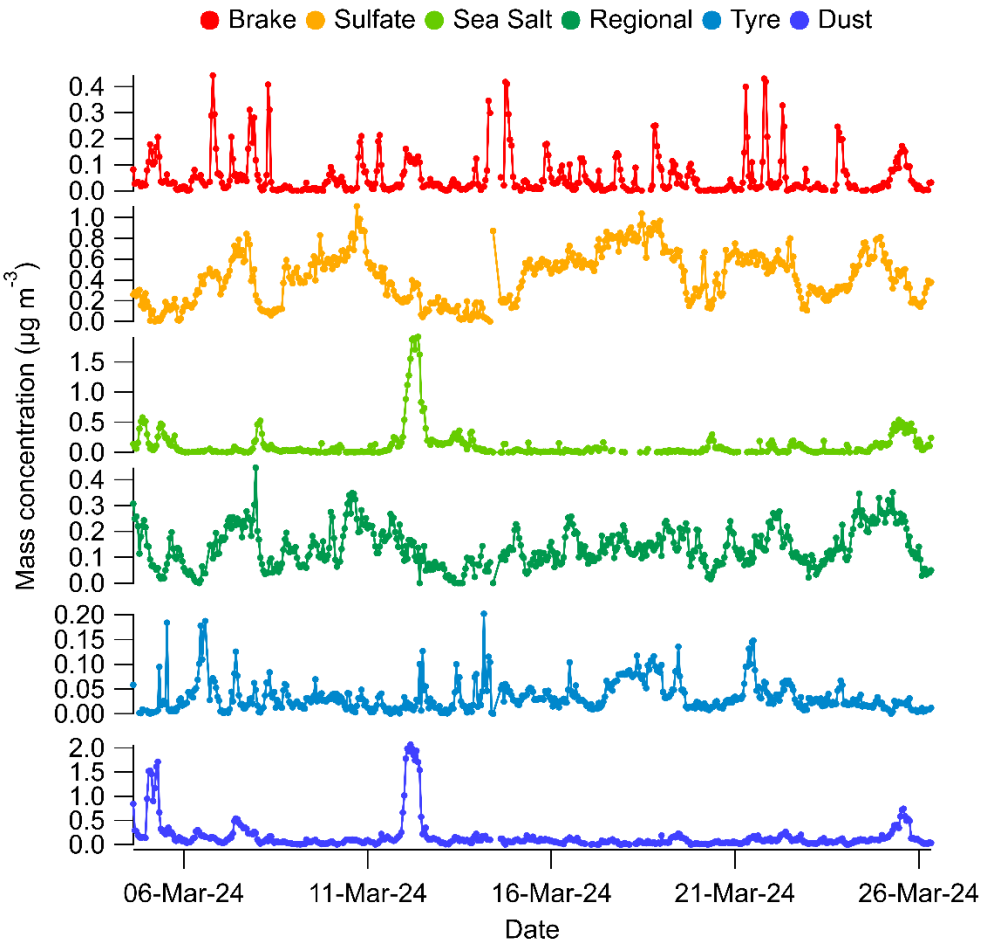


Figure S3. Temporal variability of Near Real time obtained factors from RT PMF on Xact data

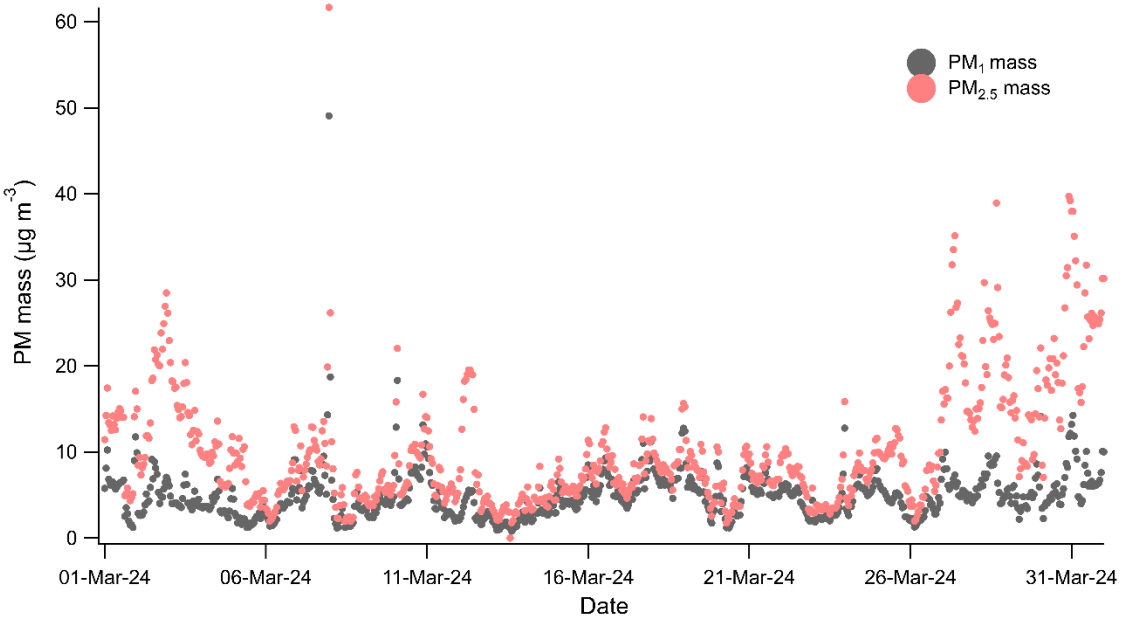
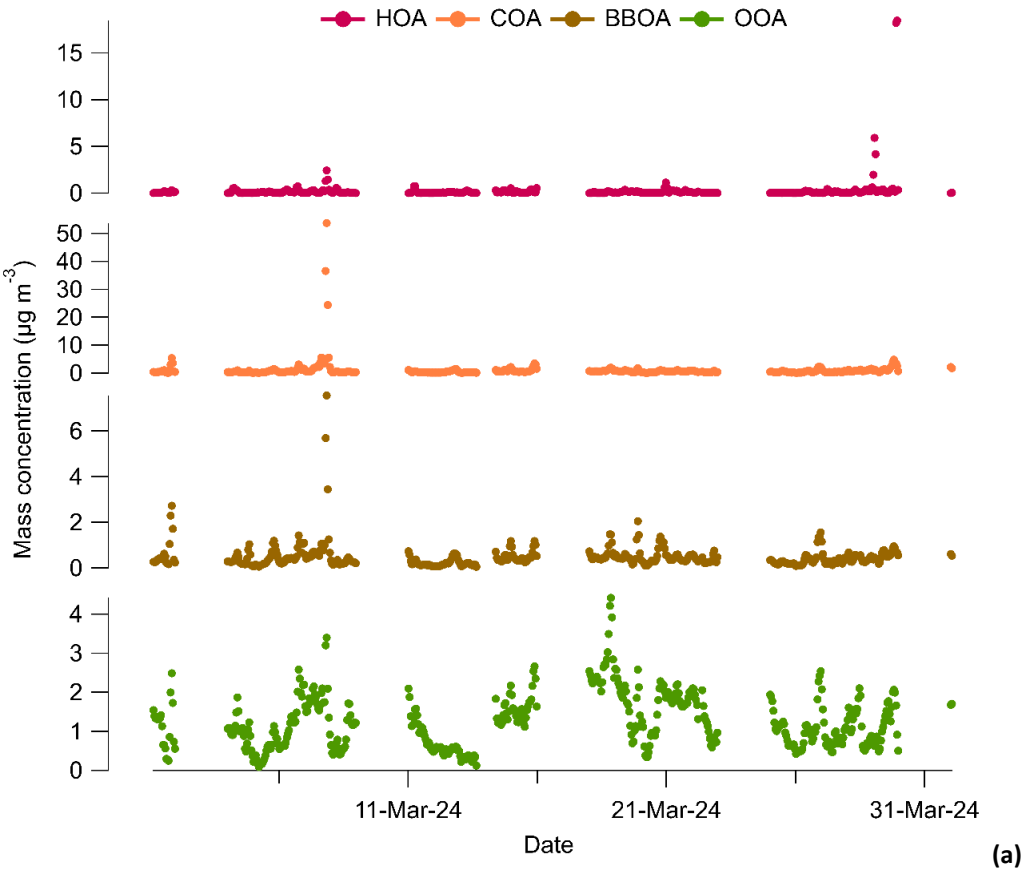


Figure S4. PM1 and PM2.5 concentrations measured by OPC


HOA
COA
BBOA
OOA
Mass concentration (µg m-3)
15
10
5
0
50
40
30
20
10
0
6
4
2
0
4
3
2
1
0
11-Mar-24
21-Mar-24
31-Mar-24
Date

(a)

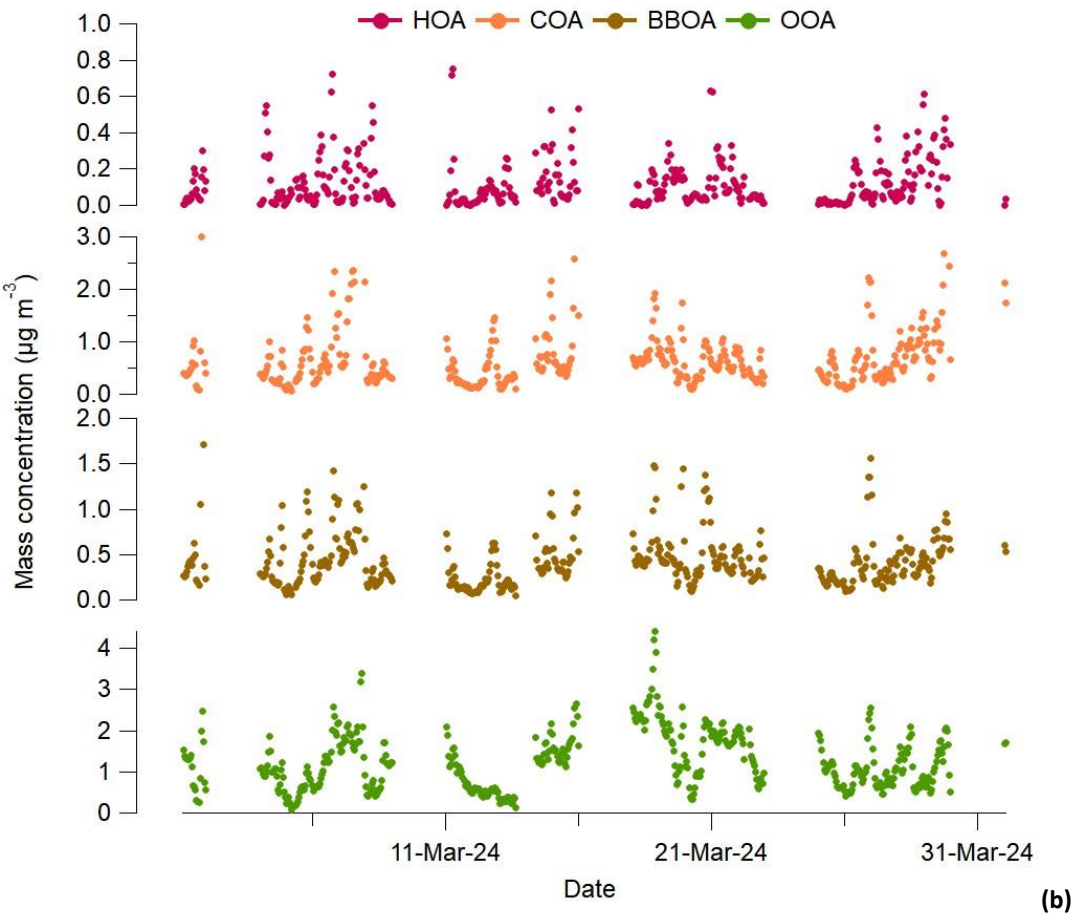


Figure S5. Temporal variability of Near Real time obtained organic factors from RT PMF on ACSM data in original scale (a), and zoomed in (b)

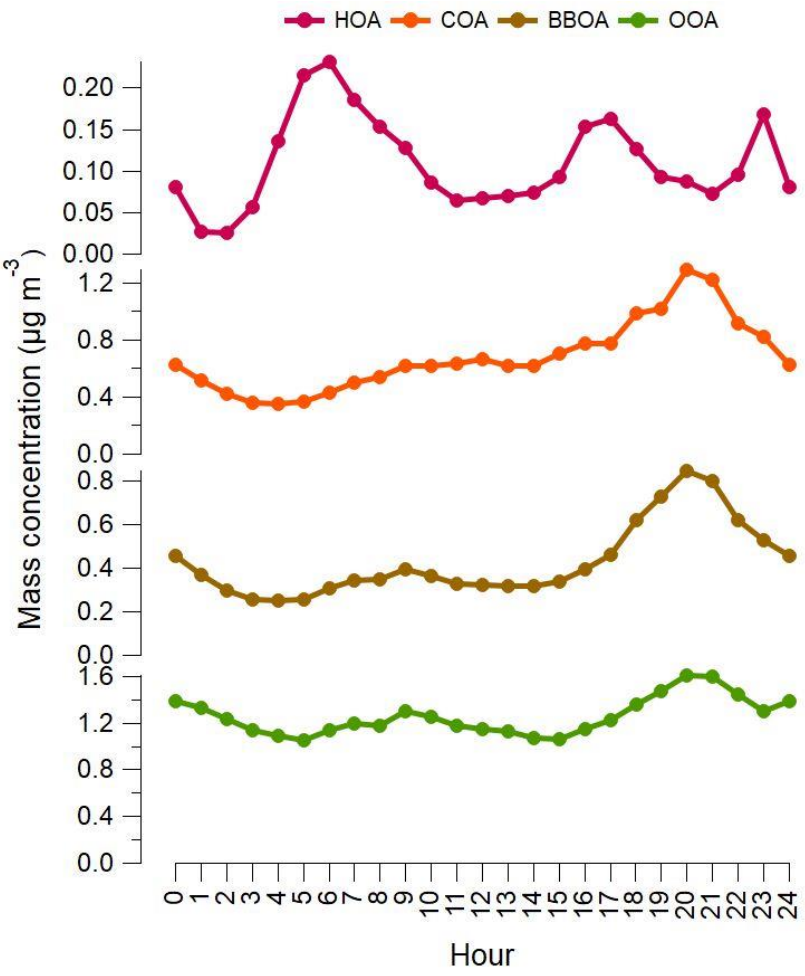


Figure S6. Diurnal variability of Near Real time obtained organic factors from RT PMF on ACSM data

Table S1. Xact profiles of Base case and RT with zero/non-zero

	Base case					
	Brake wear	Sulfate	Sea salt	Regional	Tyre wear	Dust
Si	0	0	0	0	0	0.490
X_S	0.050	0.980	0.080	0.570	0.290	0.020
Cl	0	0	0.840	0.010	0	0
K	0	0.020	0	0.310	0.210	0.060
Ca	0.060	0	0.070	0	0.170	0.340
Ti	0	0	0	0	0	0.010
V	0	0	0	0	0	0
Cr	0	0	0	0	0	0
Mn	0	0	0	0	0.010	0
Fe	0.860	0	0.010	0.080	0.180	0.070
Ni	0	0	0	0	0	0
Cu	0.020	0	0	0	0	0
Zn	0	0	0	0.010	0.120	0
X_As	0	0	0	0	0.010	0
Br	0	0	0	0.010	0	0
Sr	0	0	0	0	0	0
Pb	0	0	0	0	0.010	0

	RT with Zero/non Zero					
	Brake wear	Sulfate	Sea salt	Regional	Tyre wear	Dust
Si	0	0	0	0	0	0.315
X_S	0	1.000	0.2600	0.598	0.254	0
Cl	0	0	0.608	0	0	0
K	0	0	0	0.353	0.142	0.073
Ca	0	0	0.131	0	0	0.389
Ti	0	0	0	0	0	0.025
V	0	0	0	0.004	0	0
Cr	0.052	0	0	0	0	0
Mn	0.094	0	0	0	0.007	0
Fe	0.335	0	0	0.023	0.406	0.195
Ni	0	0	0	0.003	0	0
Cu	0.254	0	0	0	0.014	0
Zn	0.265	0	0	0	0.152	0
X_As	0	0	0	0	0.015	0
Br	0	0	0	0.017	0	0
Sr	0	0	0	0	0	0.004
Pb	0.001	0.000	0.001	0.002	0.010	0.000

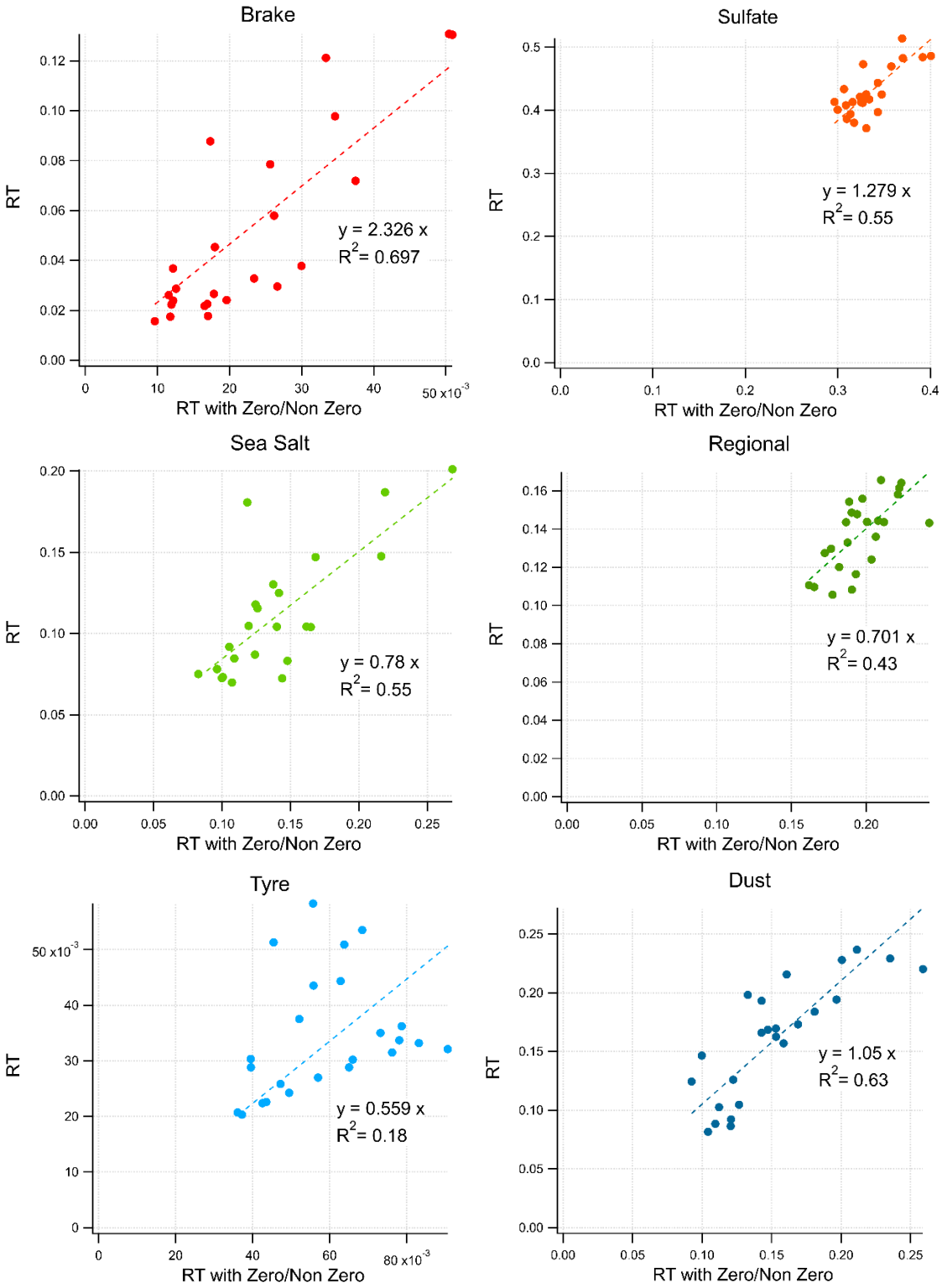


Figure S7. Xact scatter plots of Xact RT and RT zero/non-zero diurnal trends

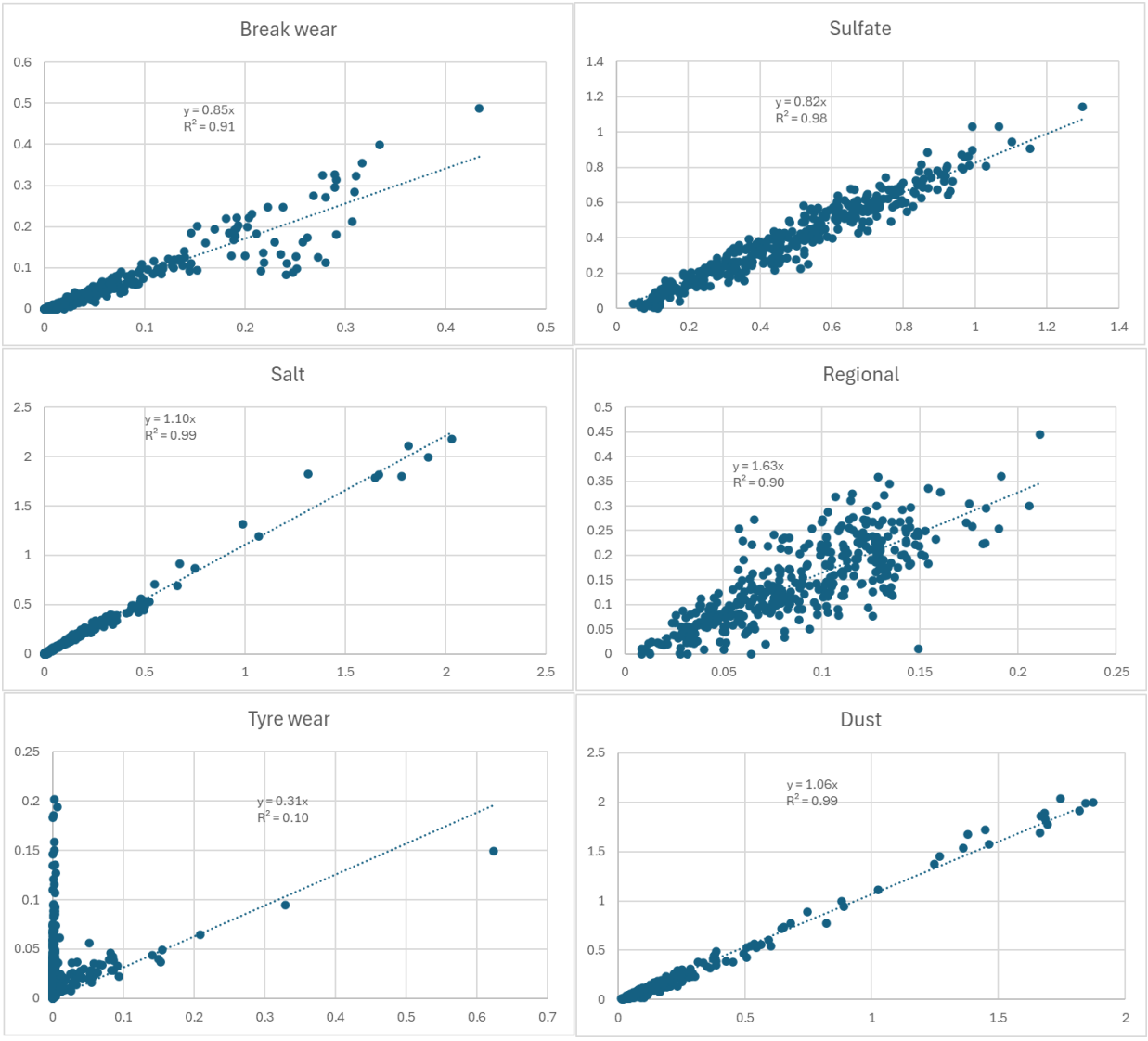


Figure S8. Scatter plots of elemental OP SA and RT SA source contributions using the zero/non-zero approach. x-axis represents the zero/non-zero approach run in µg/m^3, while the y-axis the OP-SA run in µg/m^3

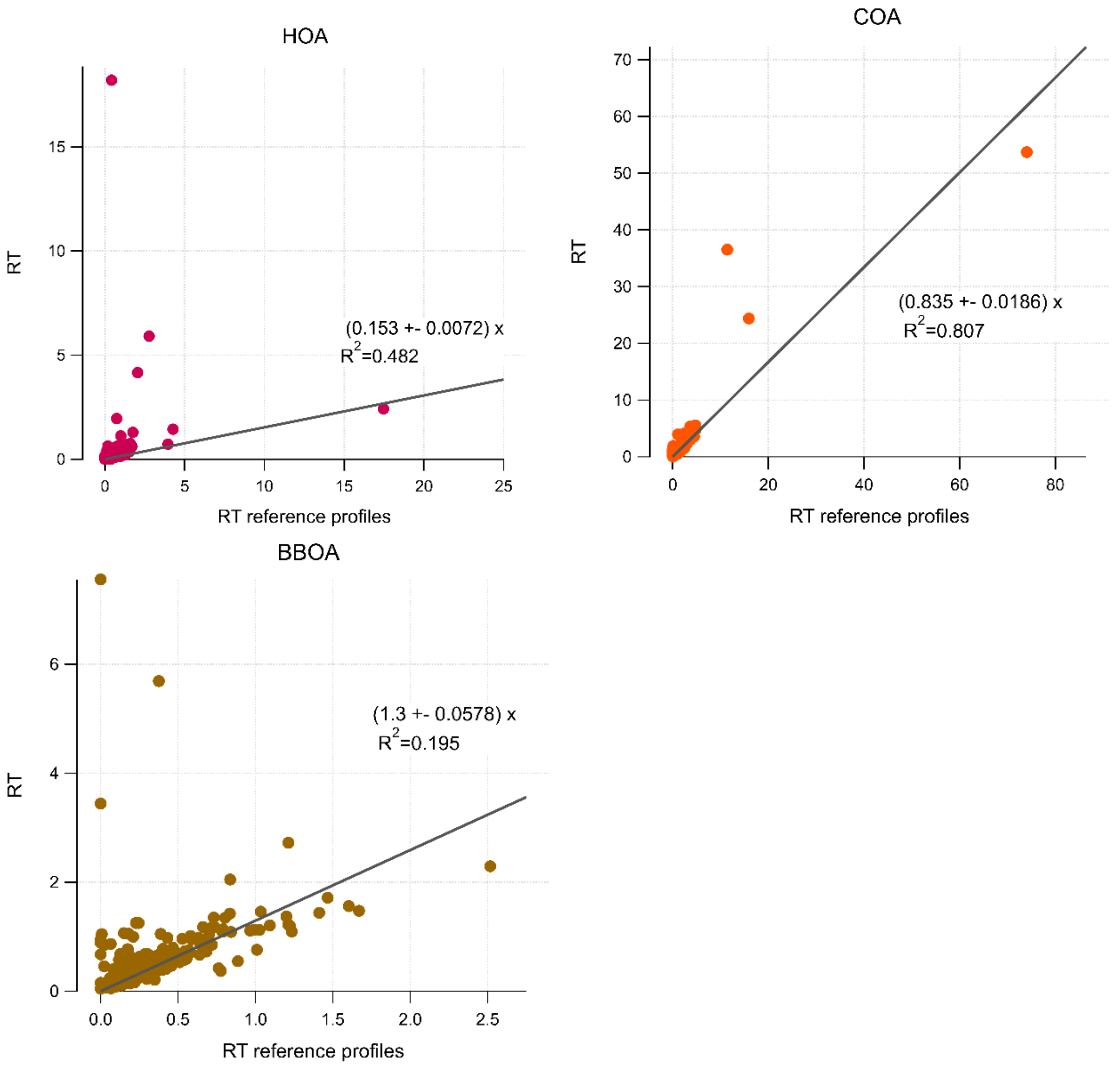


Figure S9. Scatter plots of organic OP SA and RT SA source contributions using the reference profiles