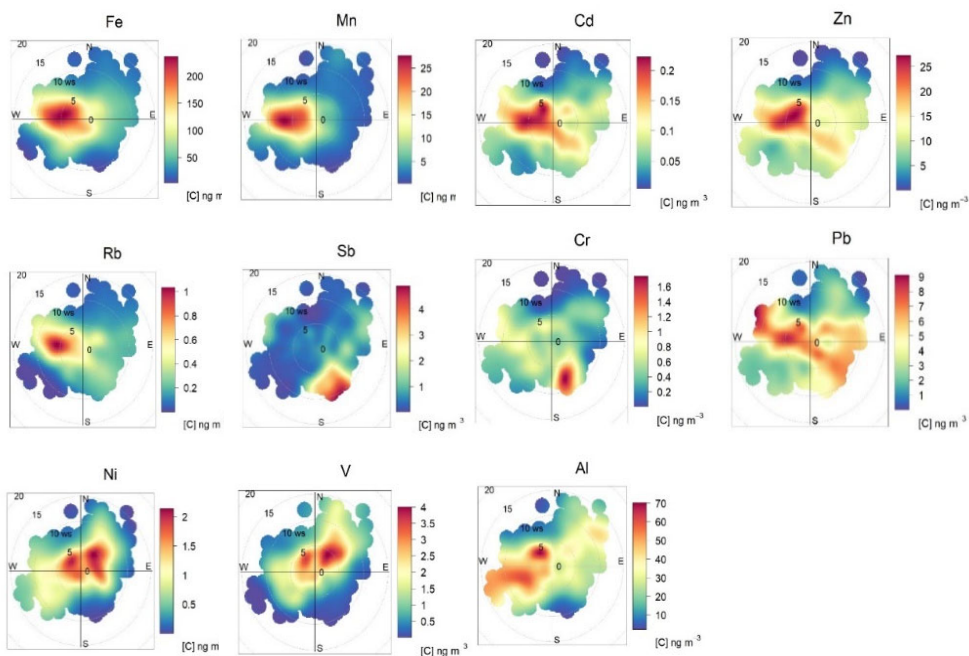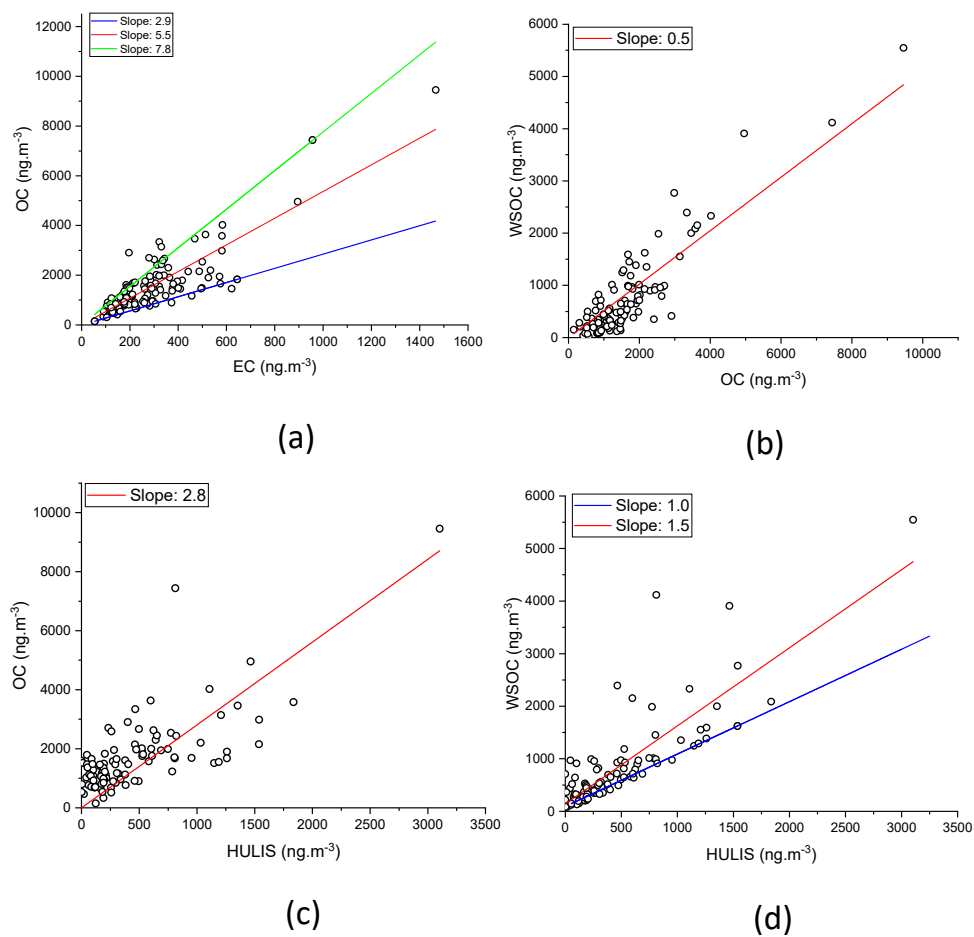**Figure S1.** Correlations between PM2.5 reconstructed by mass closure and PM2.5 measured (expressed in ng.m-3).
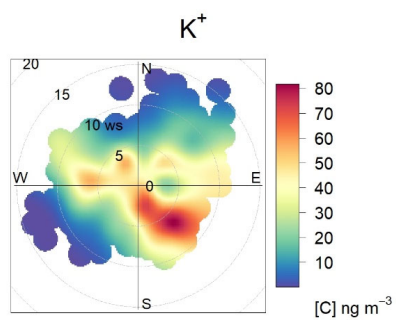
Figure S2. Bivariate polar plots of elemental concentration at Dunkerque during sampling period.
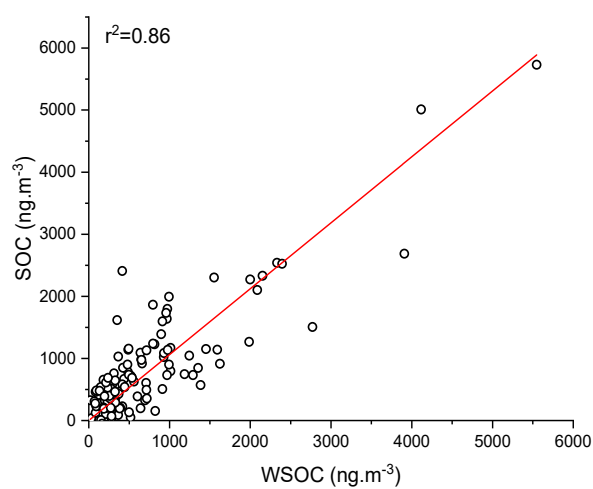
Figure S3. Windrose representation for the selection of sampling days that were influenced by industrial emissions (samples collected under the 250-320° wind sector).
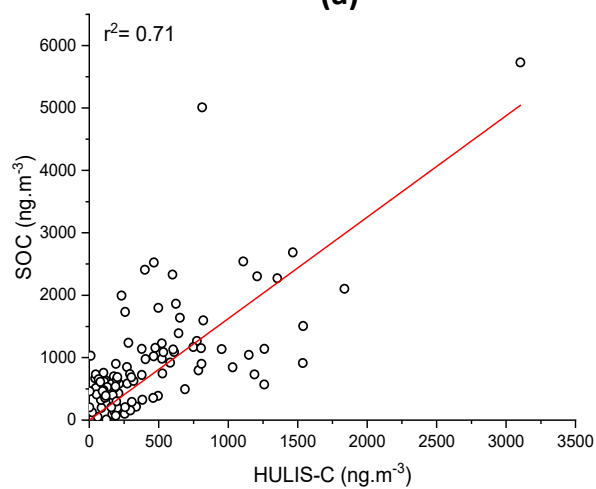
(a)

(b)

(c)

(d)

Figure S4. Correlations between the concentrations of (a) OC and EC, (b) WSOC and OC, (c) OC and HULIS-C and (d) WSOC and HULIS-C.

K+

Figure S5. Bivariate polar plots of K+ concentration at Dunkerque during sampling period.

r²=0.86

(a)

r²= 0.71

(b)

Figure S6. Correlations between the concentrations of (a) SOC and WSOC, and (b) SOC and HULIS-C.