

## Annex 1: Supplementary figures

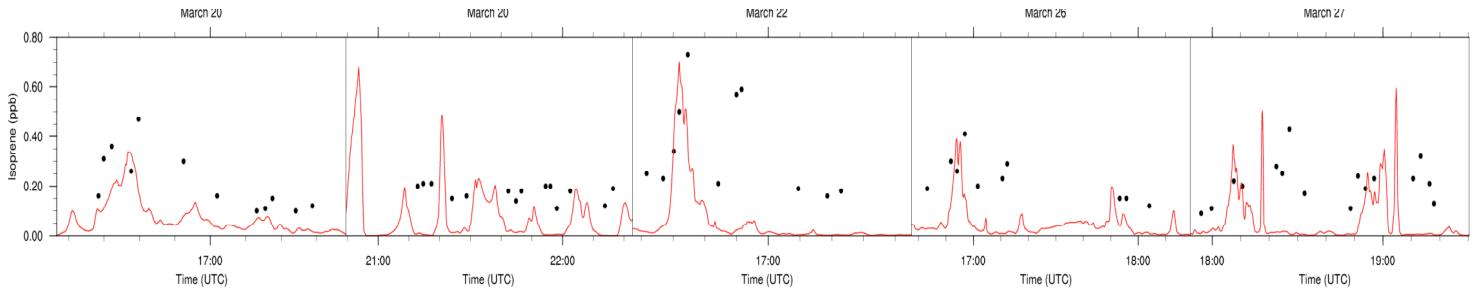
Figure 1: Comparison of isoprene concentrations as observed by G1 airplane (black dots) and simulated by the CHIMERE model (red line) during the MILAGRO experiment.

Figure 2: Time series (a) and diurnal profiles (b) of  $O_x$  ( $=O_3+NO_2$ ) concentrations as observed by RAMA air quality stations (dotted line) and simulated by the CHIMERE model (full line, BIO-EP run) from 4 to 30 March 2006. As in Figure 3, the variability among observations is denoted by gray shading and main statistical indicators for the comparison are also given (bias, RMSE and correlation). All 16 measurement locations that provide both ozone and  $NO_2$  measurements have been considered for this comparison.

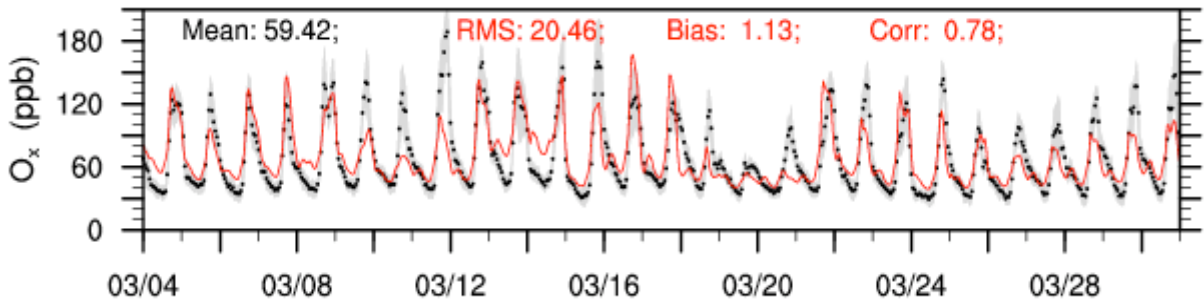
Figure 3: Observed and predicted average diurnal profiles of oxygenated organic aerosol (OOA) at T0 for the available MILAGRO dataset. Similar to Figure 7, black dots and shaded area represent the observations associated with their variability, the red solid line and red vertical bars indicate the ANT-T model run. The blue line represents the aerosol fraction of the total oxygenated organic material (SOA+SVOCs) that is available for the gas/aerosol partitioning.

Figure 4: Comparison of predicted (black dots) and observed (full line) surface concentrations of OH at T1 that is involved in the oxidation of SOA precursors. Averaged diurnal cycles have been computed over the period of 4-30 March 2006. The variability among observations and model predictions is denoted by gray shading and vertical bars respectively.

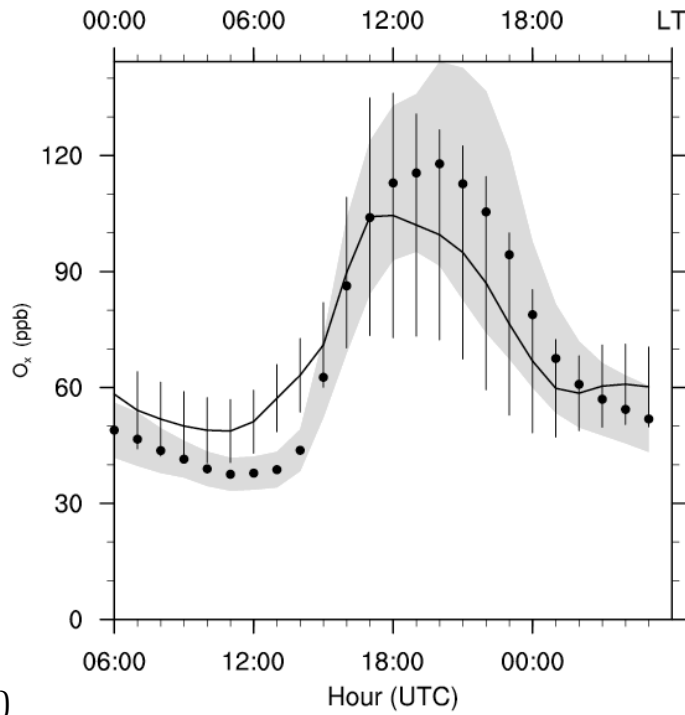
Figure 1



Mexico-City: average among RAMA stations



(a)



(b)

Figure 2

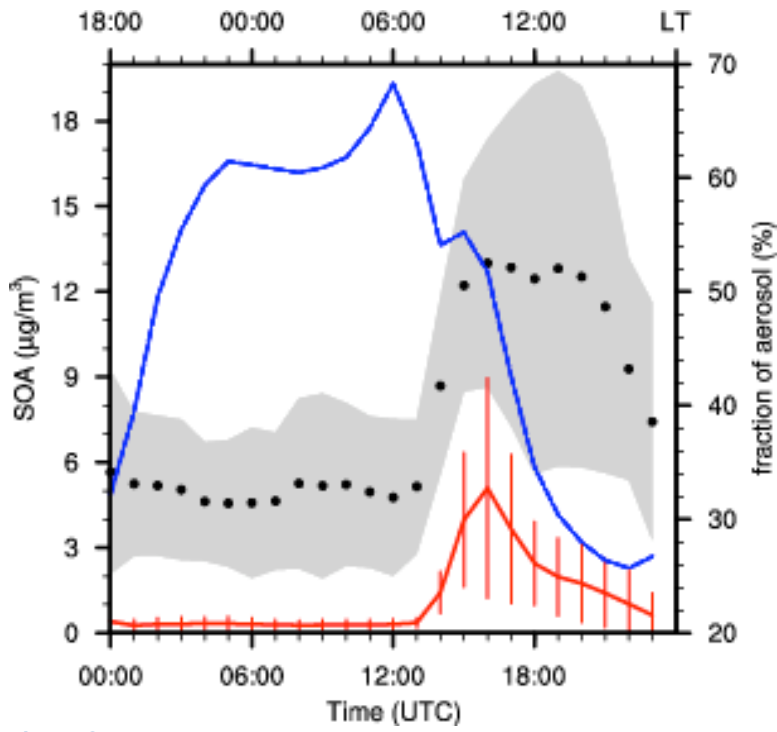


Figure 3

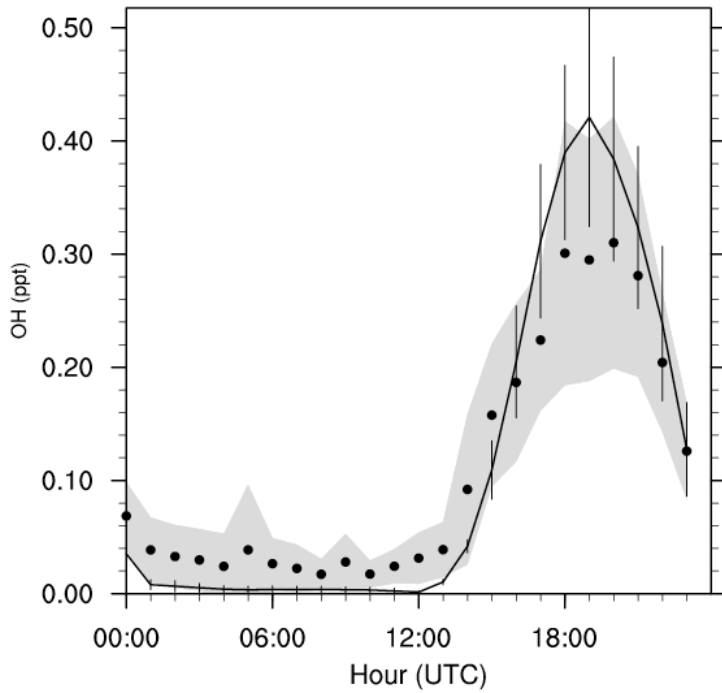


Figure 4