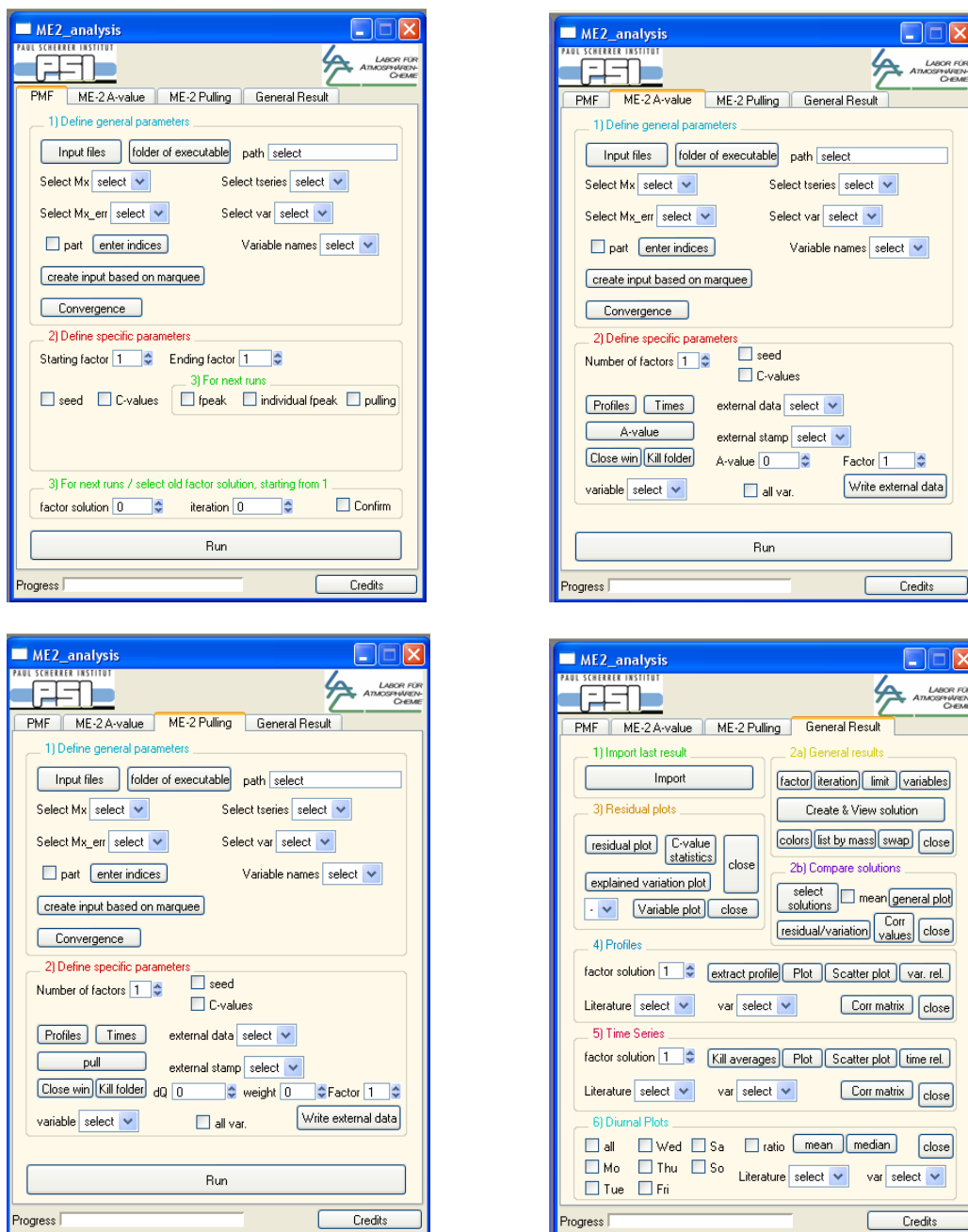# 6. Supplementary material

## 6.1. Representation of the interface tabs

All tabs of the ME-2 interface are presented in Fig. S.1. The first three tabs show the different parameters for the model runs, whereas in the fourth tab the results from all model runs can be evaluated.
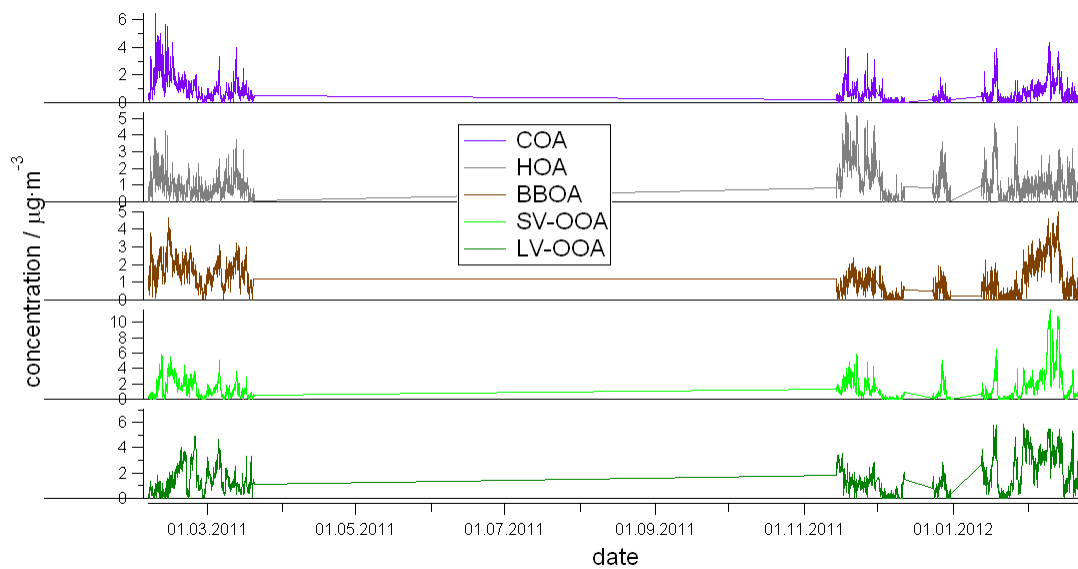

Fig. S.1 The tabs of the ME-2 interface in Igor Pro. Status: version 4.0.

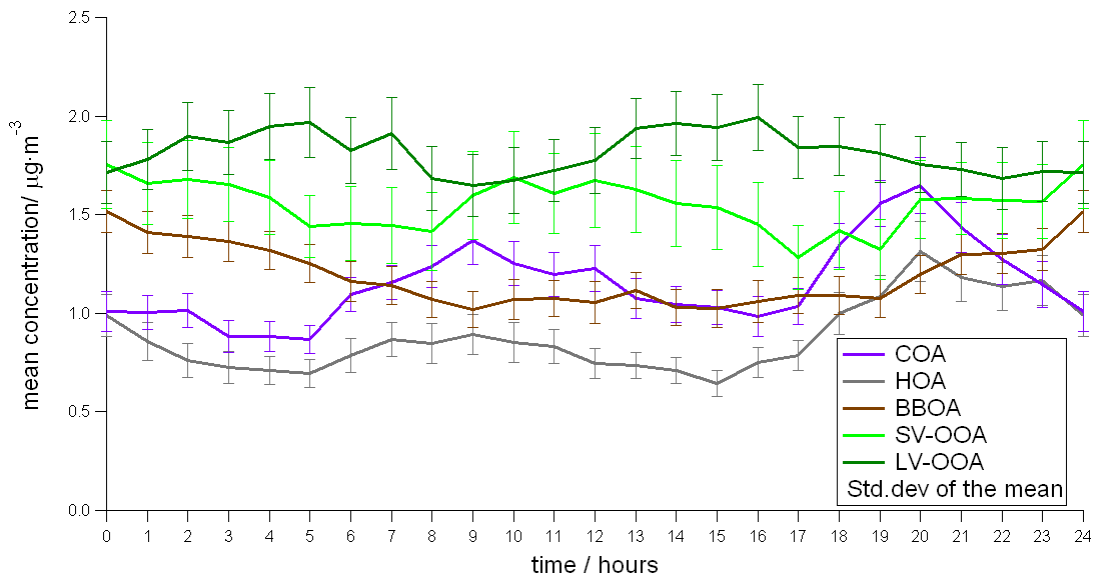Paul Scherrer Institute (PSI) Switzerland

6.2. PMF solution

This section contains the PMF solution for five factors with the global rotational parameter fpeak with the default value zero.
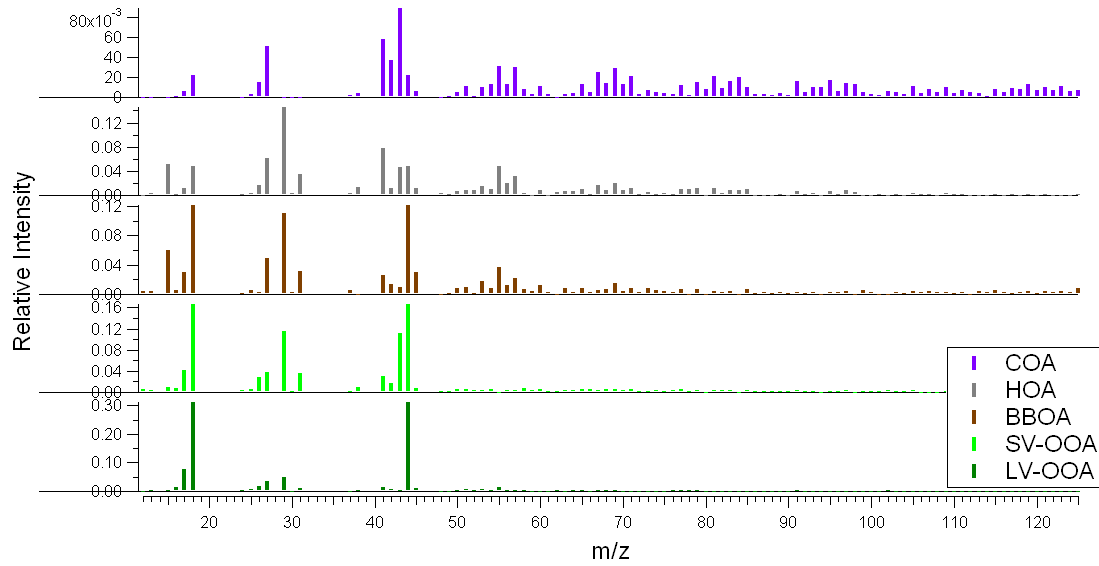
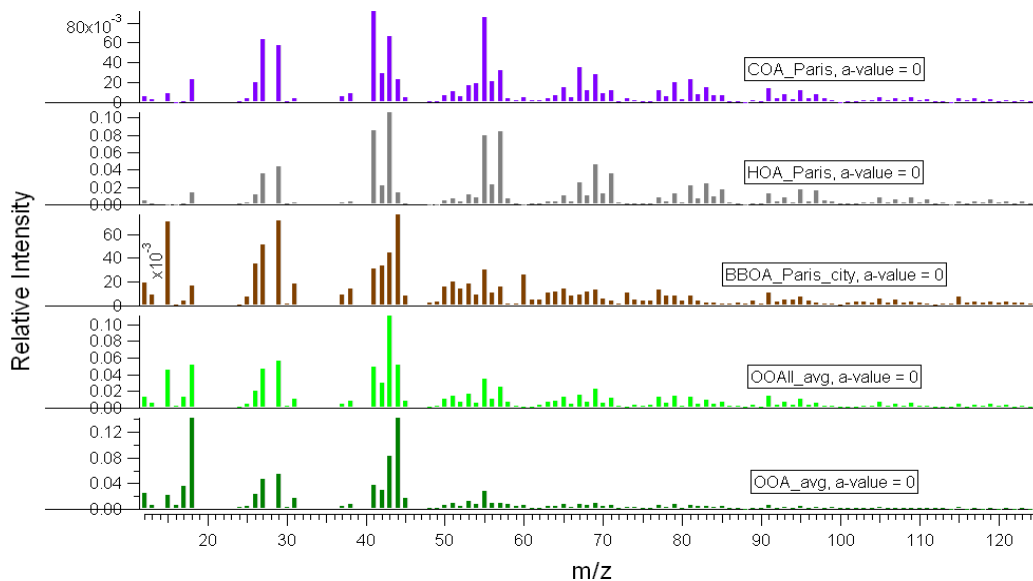**Fig. S.2**   The factor profiles for the five-factor PMF solution.

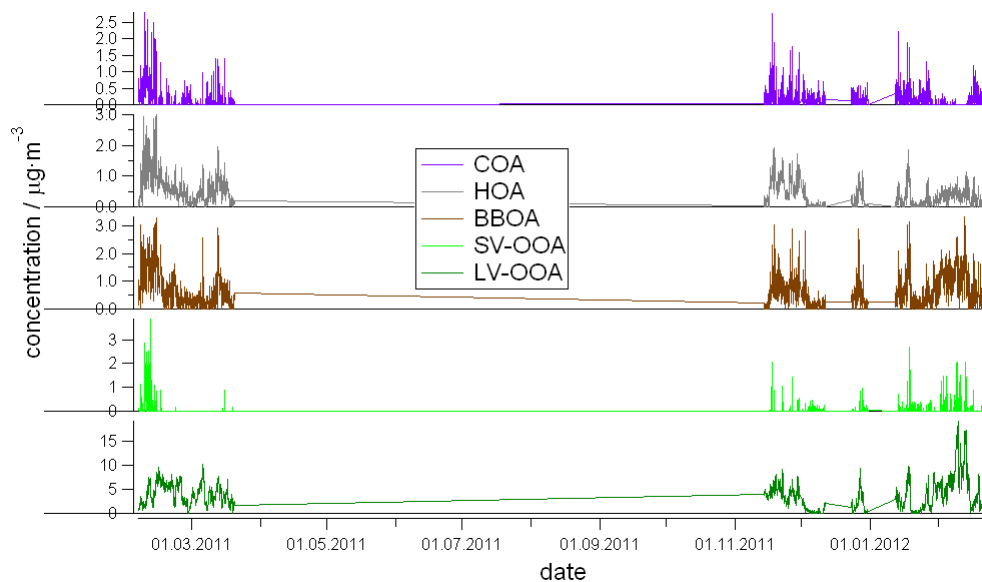**Fig. S.3**   The factor time series for the five-factor PMF solution.

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Fig. S.4   Mean hourly mass concentrations for the five factors retrieved from the PMF analysis.
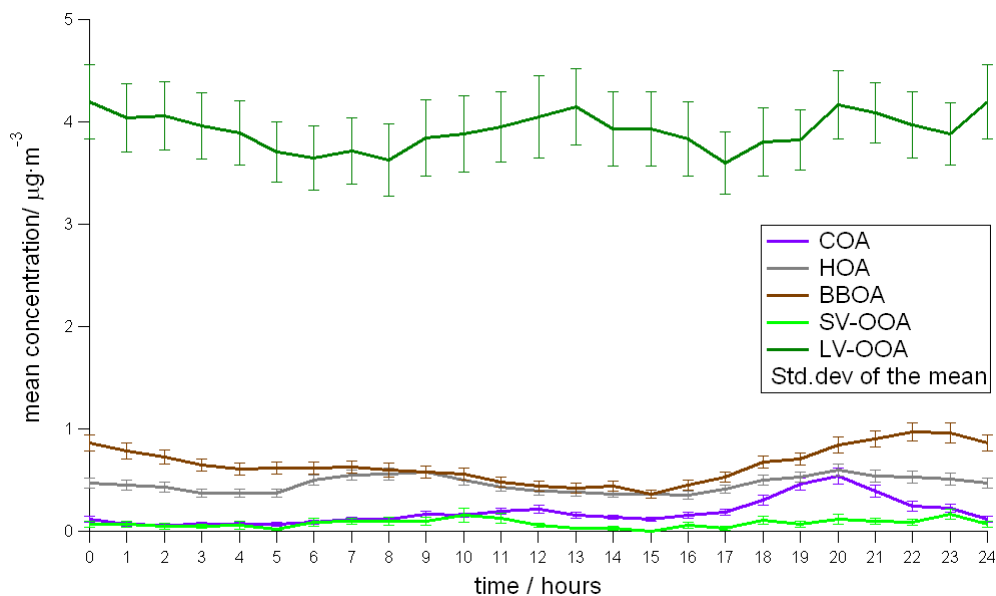
6.3. CMB solution

This section contains the CMB solution for five factors.

Fig. S.5   The factor profiles for the CMB solution.

Fig. S.6   The factor time series for the CMB solution.
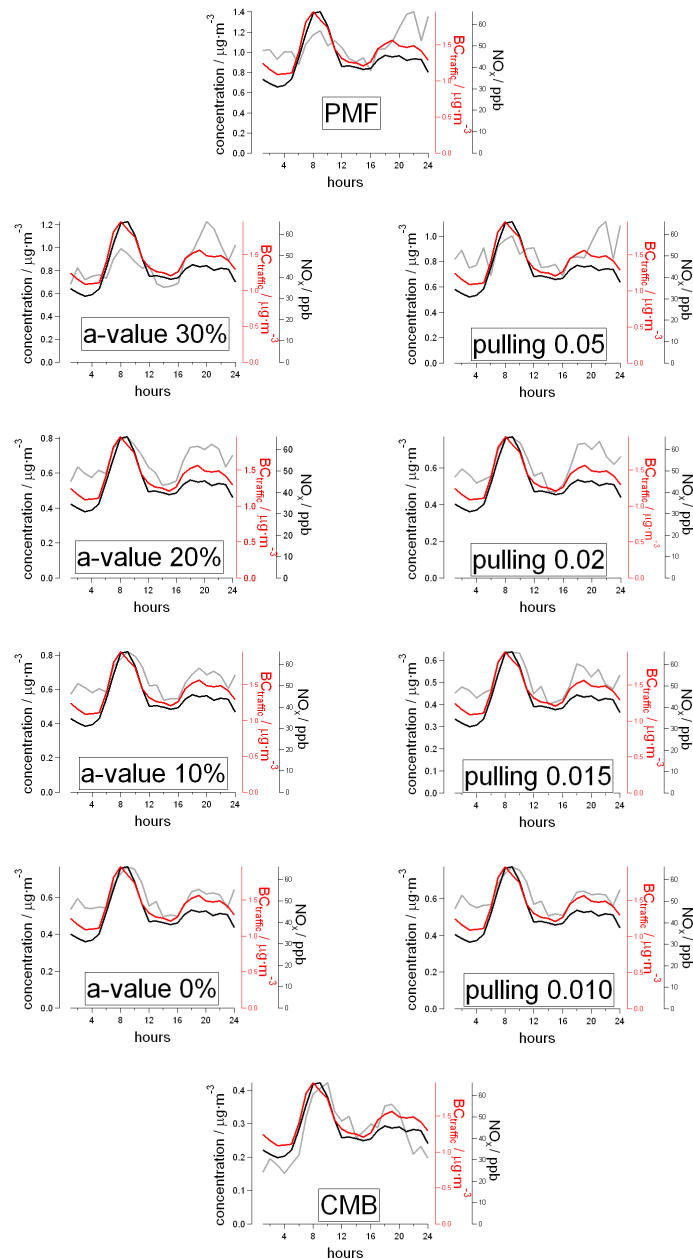

Fig. S.7   Mean hourly mass concentrations for the five factors retrieved from the CMB analysis.

6.4. Diurnal cycles
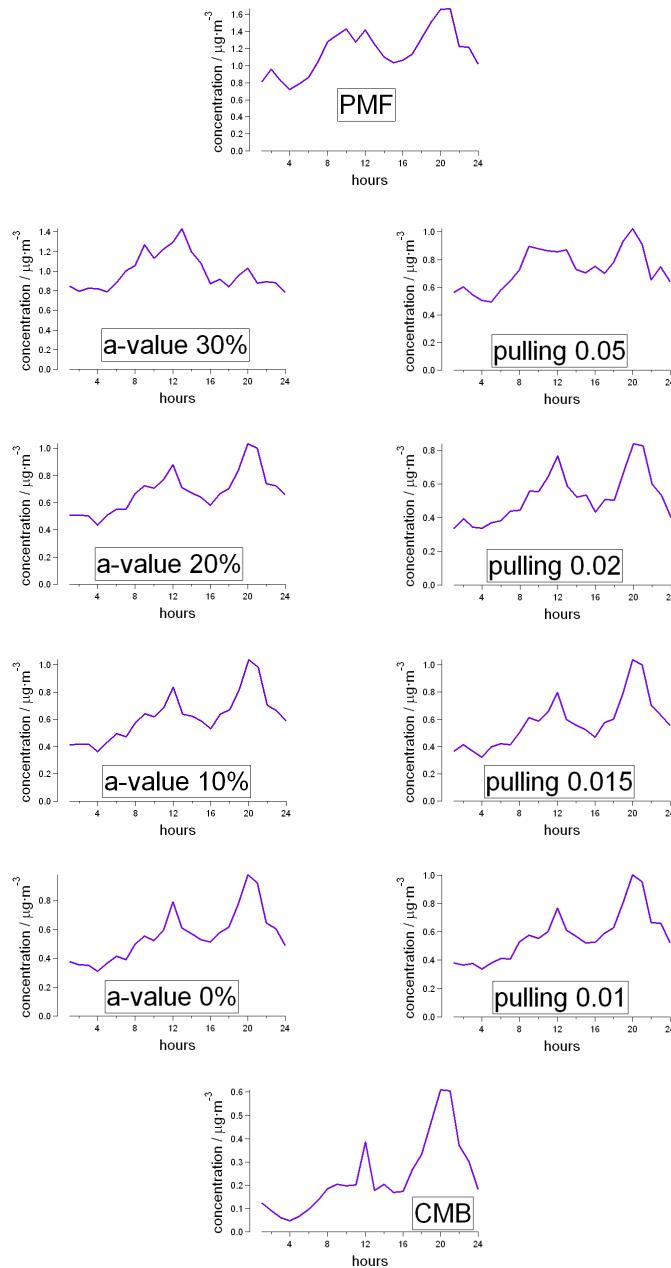
6.4.1. Diurnal cycle of HOA

The diurnal cycle for the hypothetical primary factor HOA over all runs is presented in Fig. S.8. The gray line in all plots represents the diurnal cycle of HOA, the black line represents NO_x and the red line represents $BC_{traffic}$.

Fig. S.8 Comparison of the diurnal cycle of the HOA factors in all model runs with those of NO_x and $BC_{traffic}$. All values are means.

6.4.2. Diurnal cycle of COA

The diurnal cycle for the hypothetical primary factor COA over all runs is contained in Fig. S.9.

Fig. S.9   The diurnal cycle of the COA factors in all model runs. All the values are means.

6.4.3. Diurnal cycles for the week-end and week-days

The diurnal cycles for the week-end and week-days for the ME-2 run using an *a*-value of 0.1 for the primaries, are compared in Fig. S.10. It is shown that the morning traffic peak for the traffic factor vanishes during the week-end as expected. In contrast a small bump at noon for the cooking factor is still visible for the week-end diurnal cycle. This underlines the fact that the separation of HOA and COA most likely succeeded.
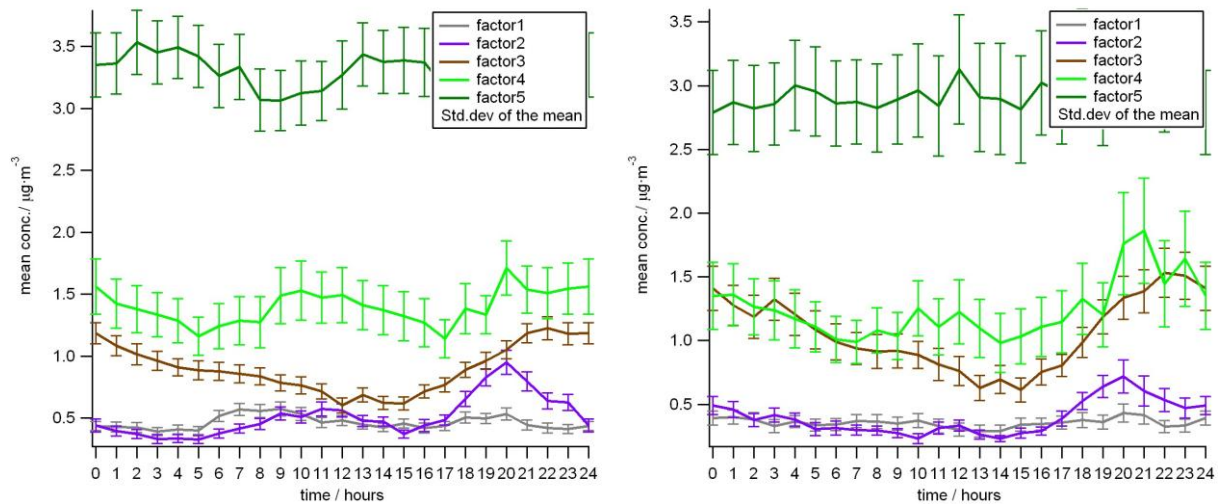
Fig. S.10 Week-days (left) and week-end (right) diurnal cycles for the solution having an *a*-value of 0.1.