

Supplementary Material for:

Development of a Long-Term Sampling Method for Determination of NMHCs in Indoor Air

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Tables

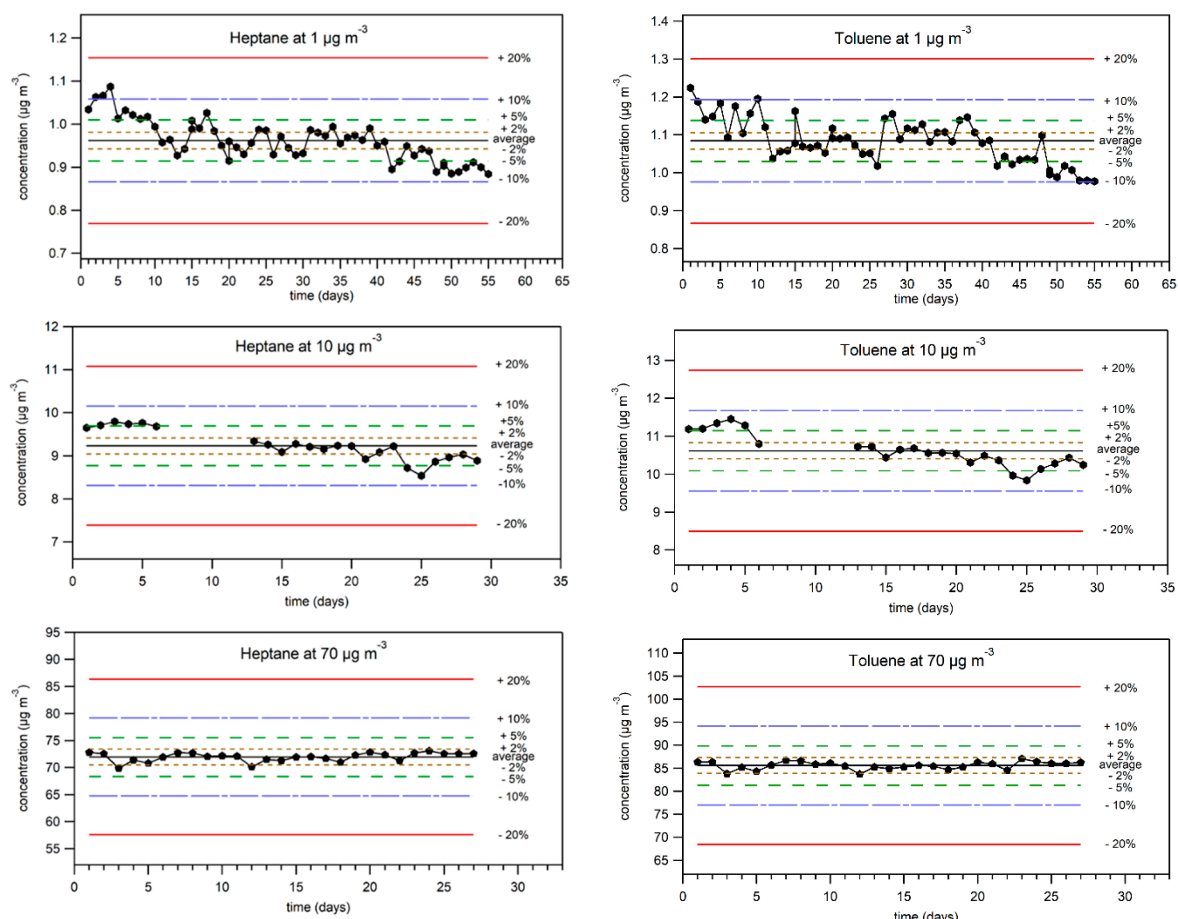
Table S1: Select NMHCs sampling rates for RAD 145 sampling device when sampled for 1 week at 25 °C.

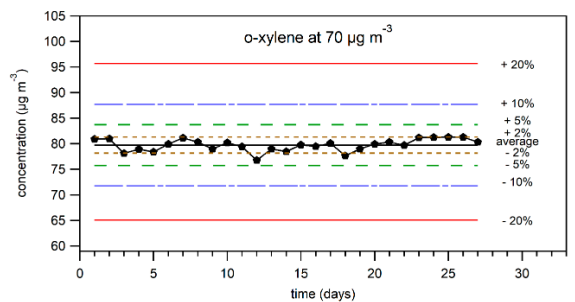
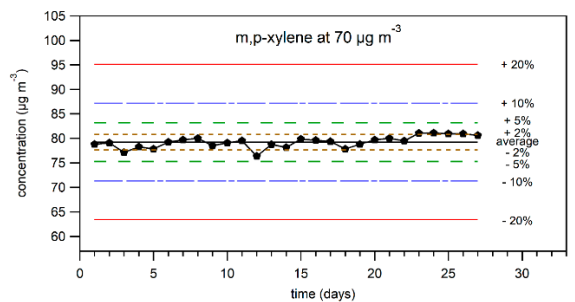
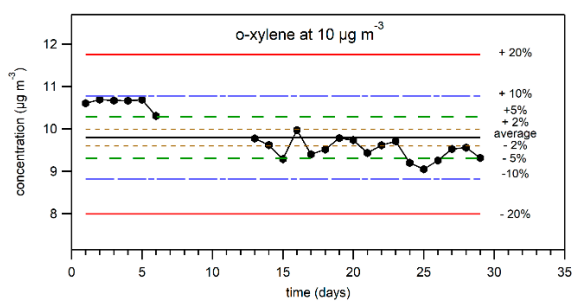
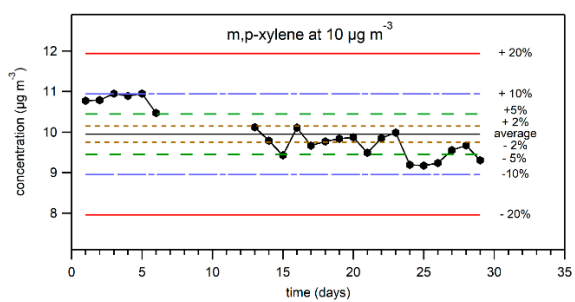
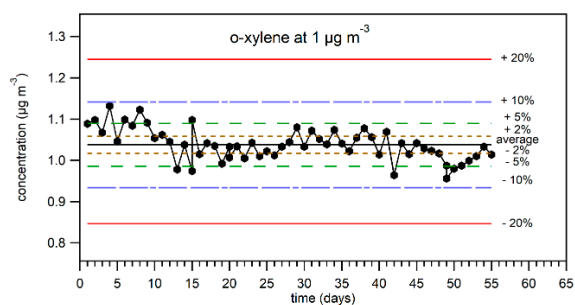
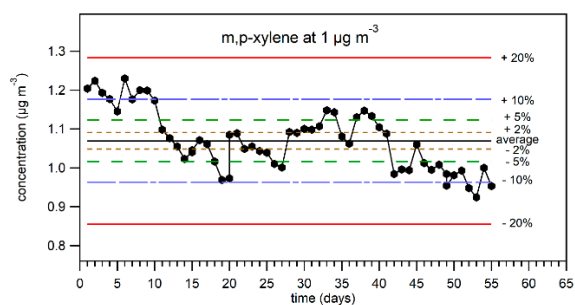
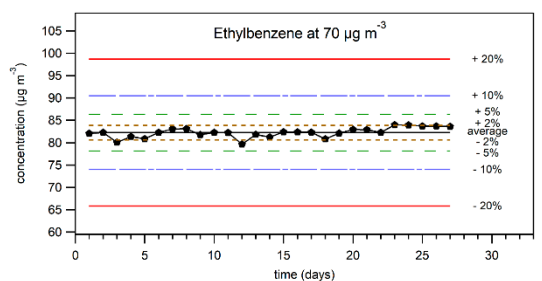
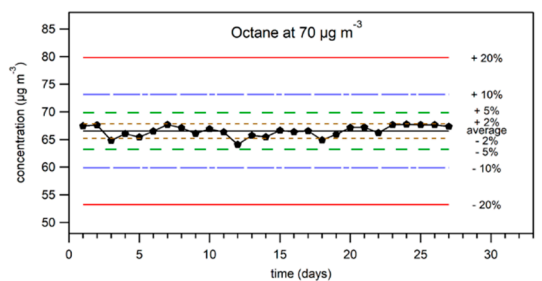
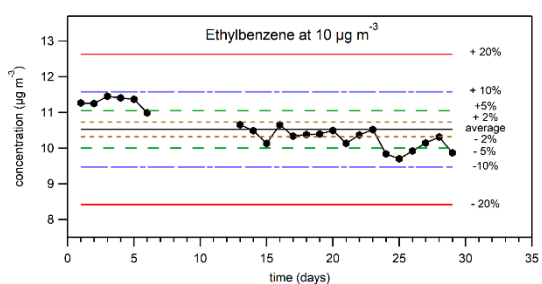
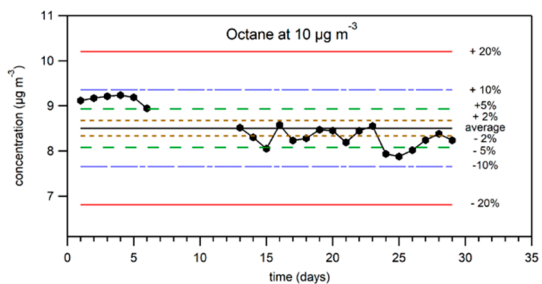
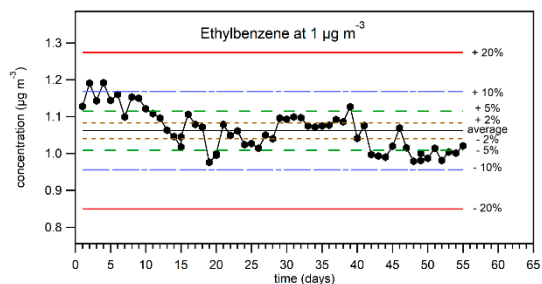
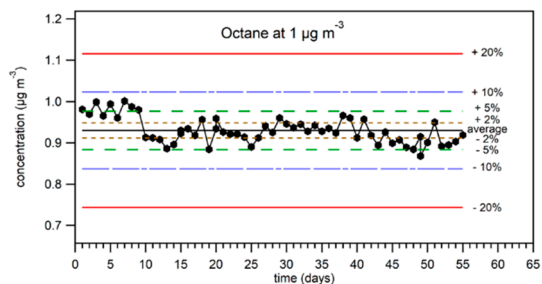
analyte	Sampling rates (ml.min ⁻¹)	Exposure time upper limit (days)
hexane	25.5	7
benzene	27.8	7
heptane	25.3	14
toluene	30.0	14
octane	24.1	14
ethylbenzene	25.7	14
meta + para-xylene	26.6	14
o-xylene	24.6	14
decane	22.3	14
naphthalene	20*	-

* The value is not provided by Radiello guide and is calculated by Maugeri foundation.

Figures

Figure S1: Stability of generated concentrations of NMHCs in breakthrough studies. In most cases each point represents an average of 24 measurements. Sometimes an average of 5 to 23 measurements is taken depending on availability of analytical data.





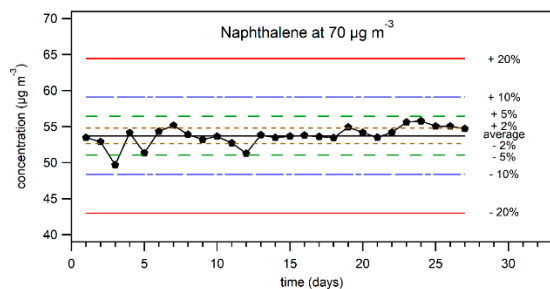
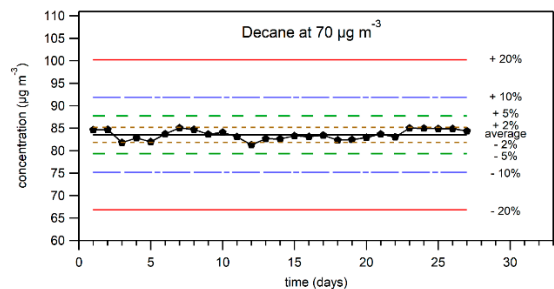
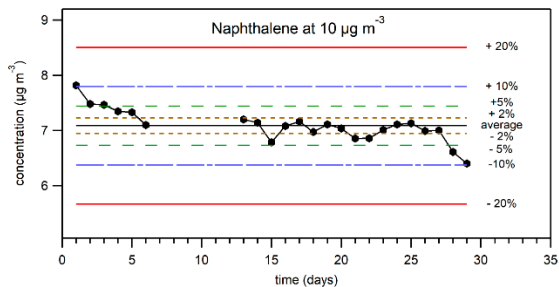
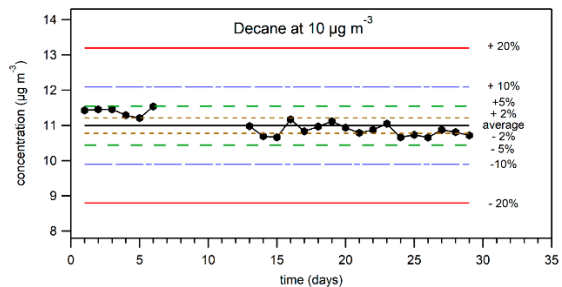
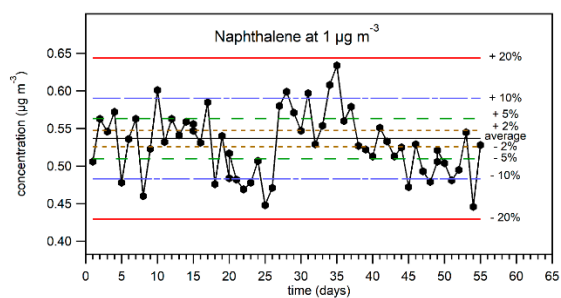
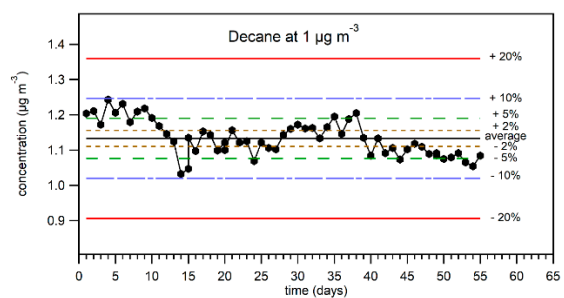
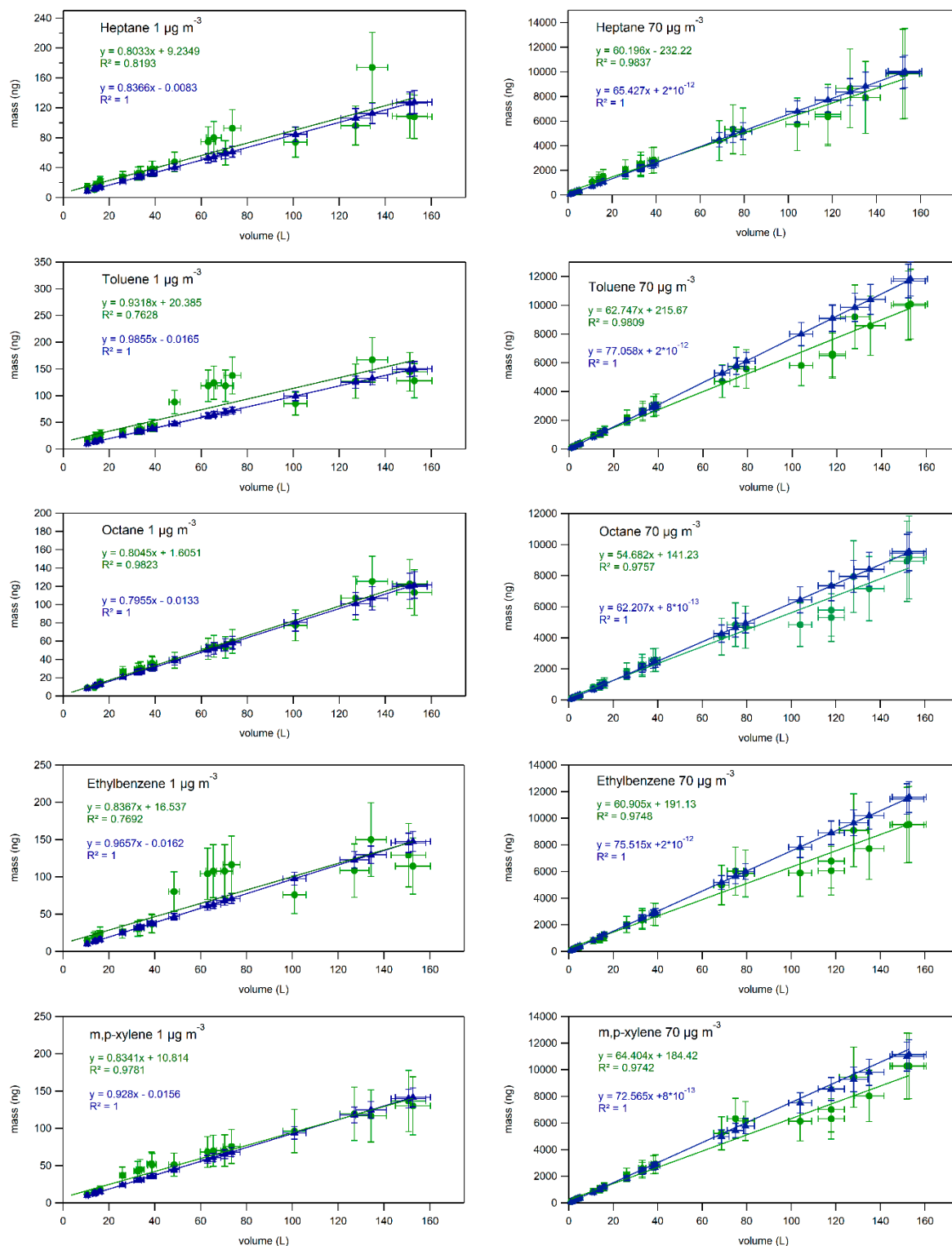


Figure S2: Breakthrough curves for NMHCs at the concentrations of 1 and 70 $\mu\text{g m}^{-3}$ sampled at a flow rate ranging from 2.5 to 4.0 ml min^{-1} . Green round symbols represent the masses measured in the tubes by GC-MS analysis. Blue triangles represent theoretical doped mass values.



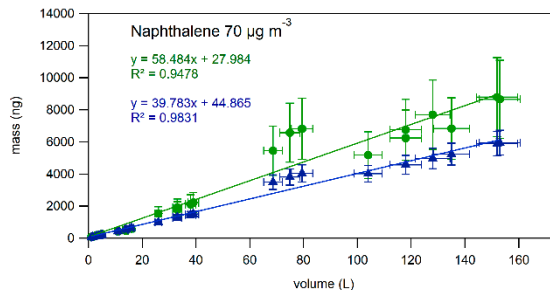
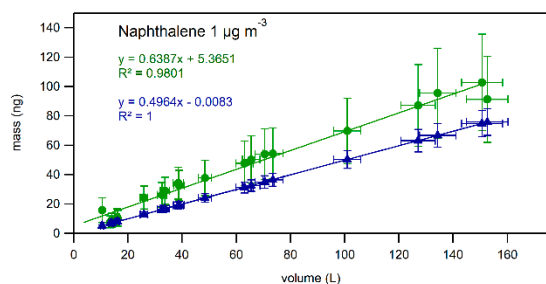
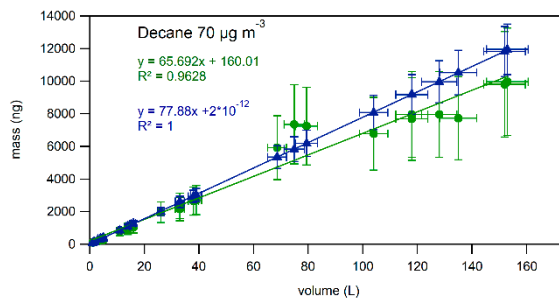
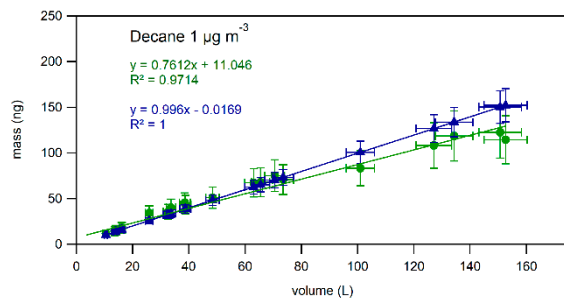
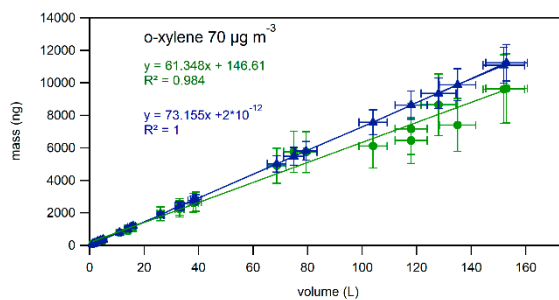
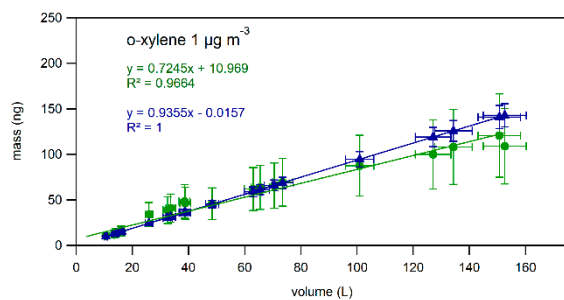


Figure S3: Relationship between measured and theoretical values for heptane, toluene, octane, ethylbenzene, m,p-xylene, p-xylene, decane and naphthalene. In orange (barely visible) are the values from breakthrough experiments done at $1 \mu\text{g m}^{-3}$, in blue are the values from breakthrough experiments done at $10 \mu\text{g m}^{-3}$, in green are the values from breakthrough experiments done at $70 \mu\text{g m}^{-3}$. A black dashed line is a linear fit through the points obtained while doping the tubes with 1, 10 and $70 \mu\text{g m}^{-3}$. A dashed red line represents a 1:1 line.

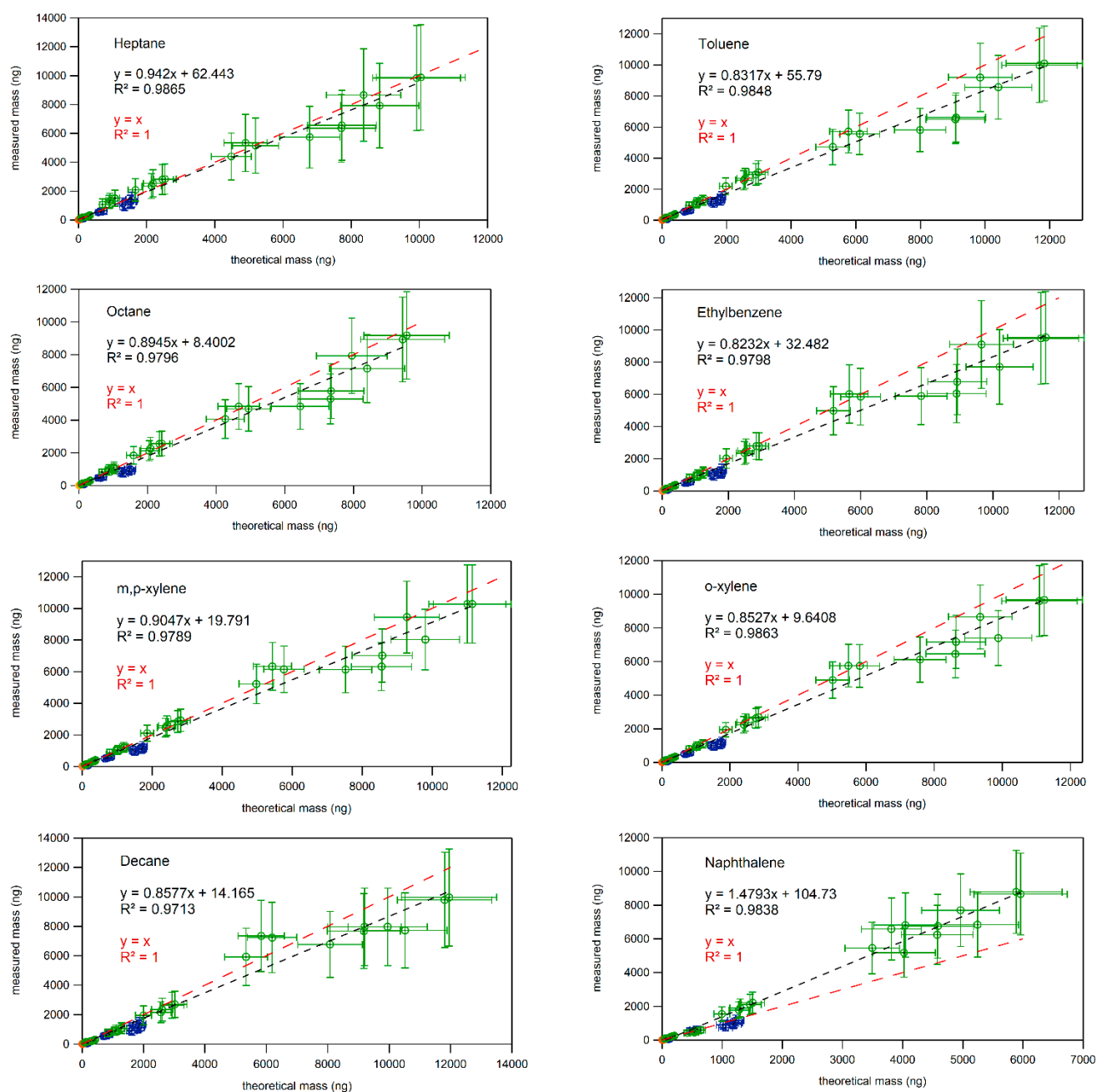


Figure S4: Profiles of heptane, toluene, octane, ethylbenzene, *m,p*-xylene, *p*-xylene, decane and naphthalene concentrations calculated using masses measured by portable GC analyzer. Measurements are taken continuously every hour from 1 of February 2021 to 27 of April 2021.

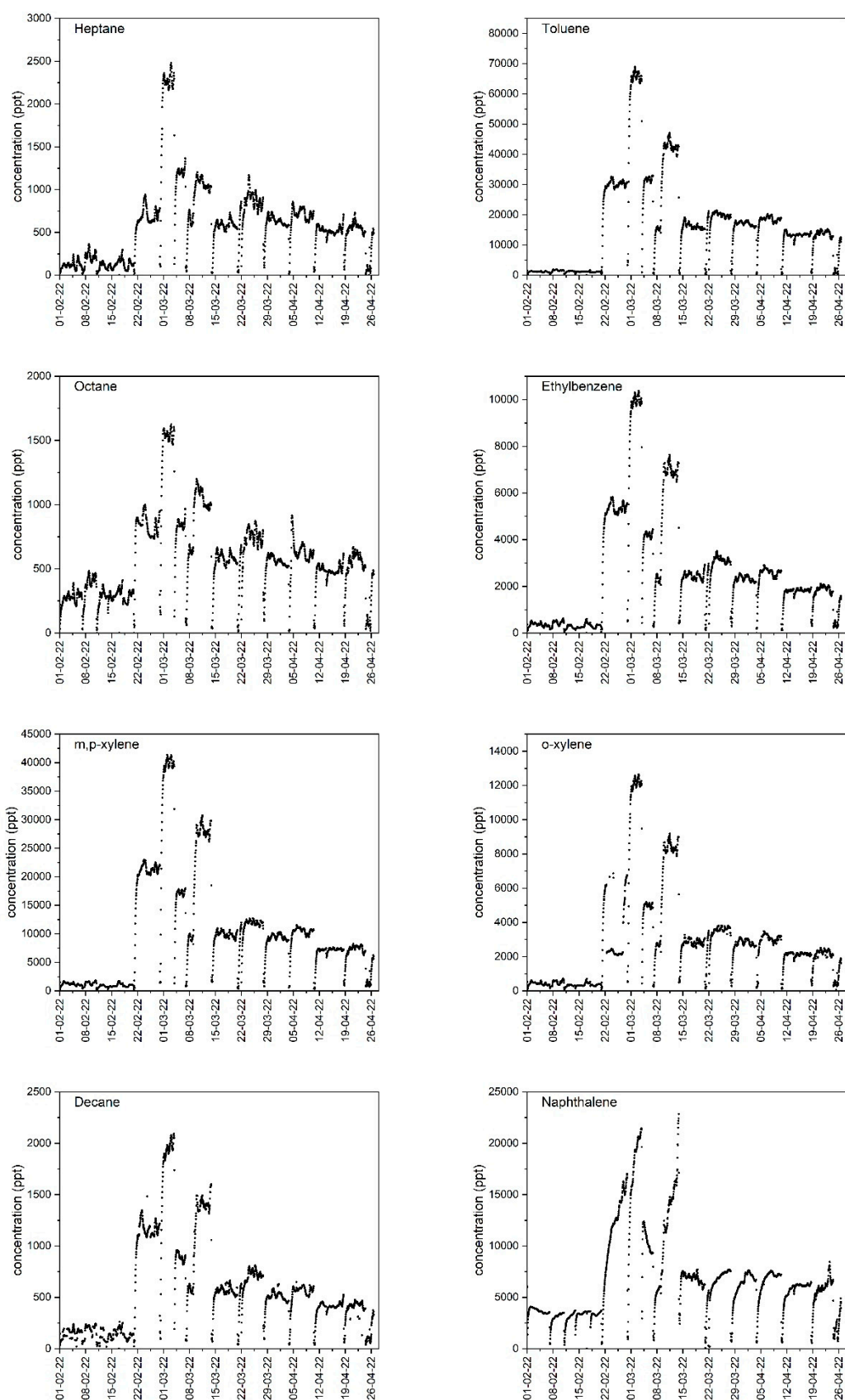
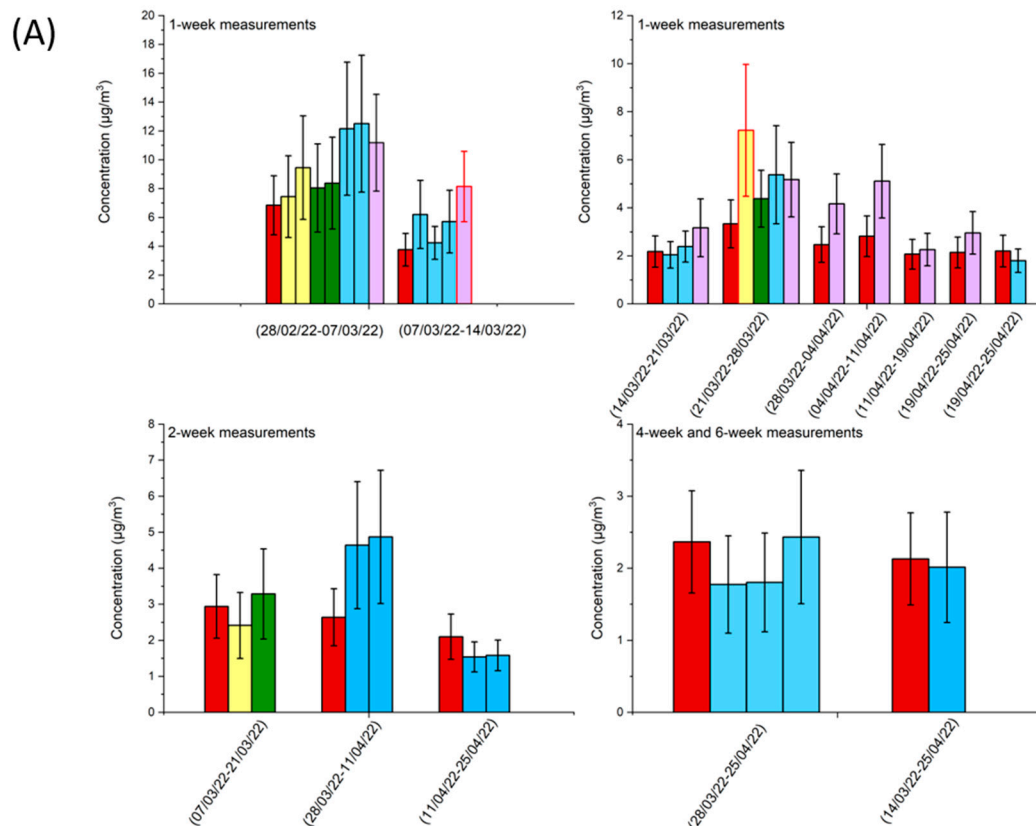
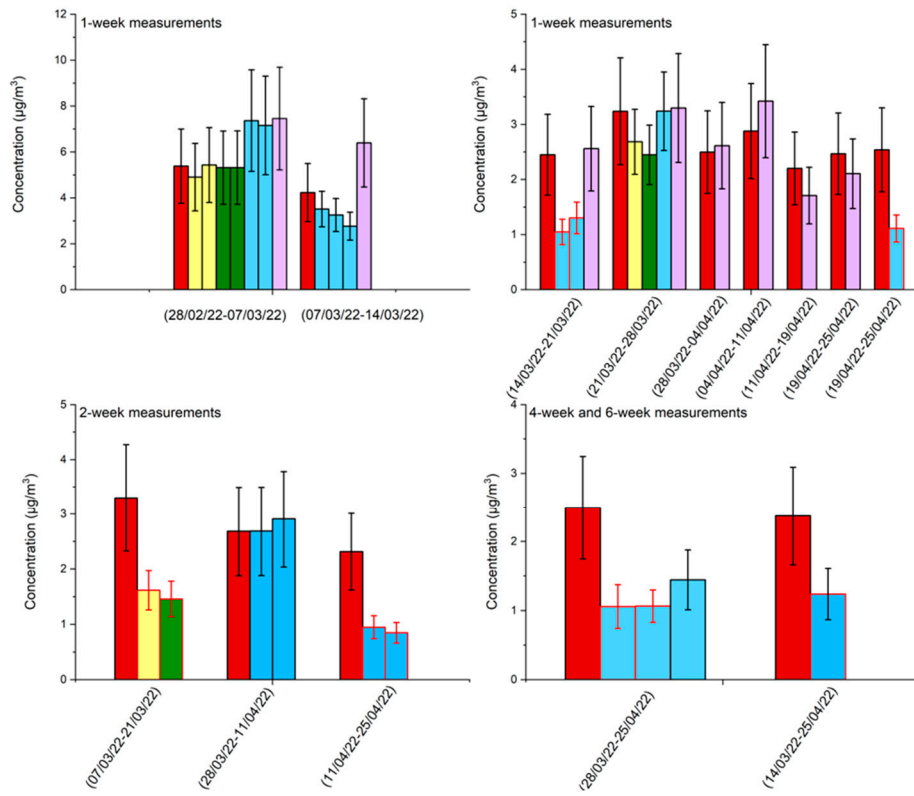


Figure S5: Comparison of average weekly, by-weekly, 4-week and 6-week concentrations for A) heptane, B) octane, C) decane, D) toluene, E) ethylbenzene, F) m,p-xylene, G) o-xylene, H) naphthalene. Red error bars represent the results that are not in accordance with the measurements obtained from portable GC.

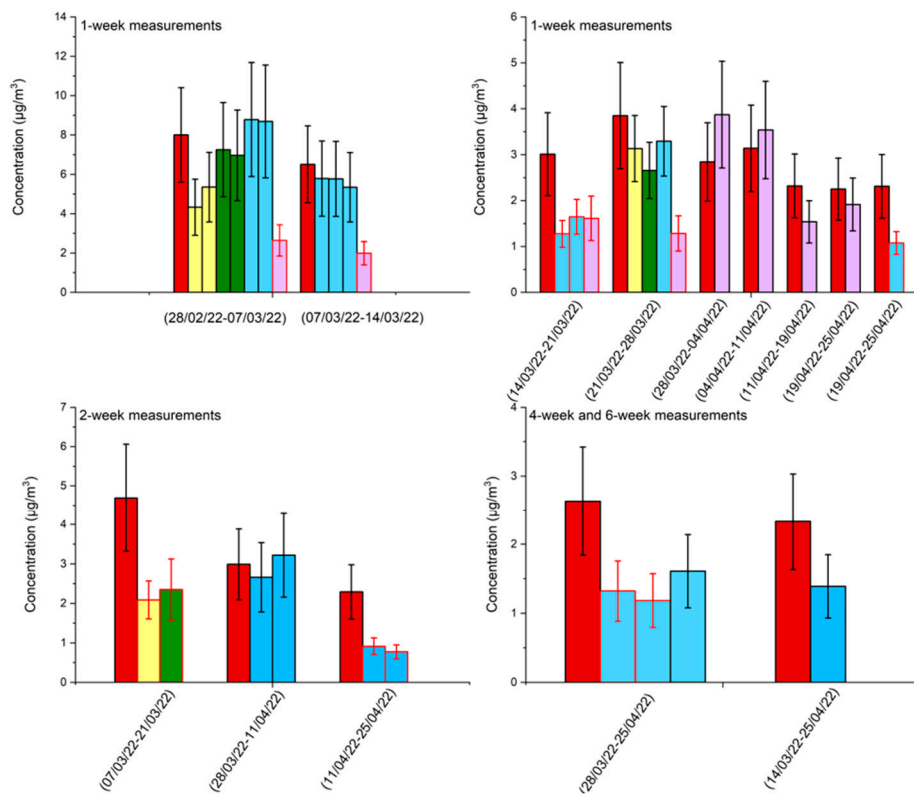


- average concentration calculated from data obtained from portable GC
- concentrations measured using the TB tubes placed outside of the experimental room and connected to it using PTFE tubing
- concentrations measured using the TB tubes placed outside of the experimental room and connected to it using Sulfinert tubing
- concentrations obtained from the TB tubes put directly inside of the testing room
- concentrations measured weekly by RAD samplers placed directly in the testing room

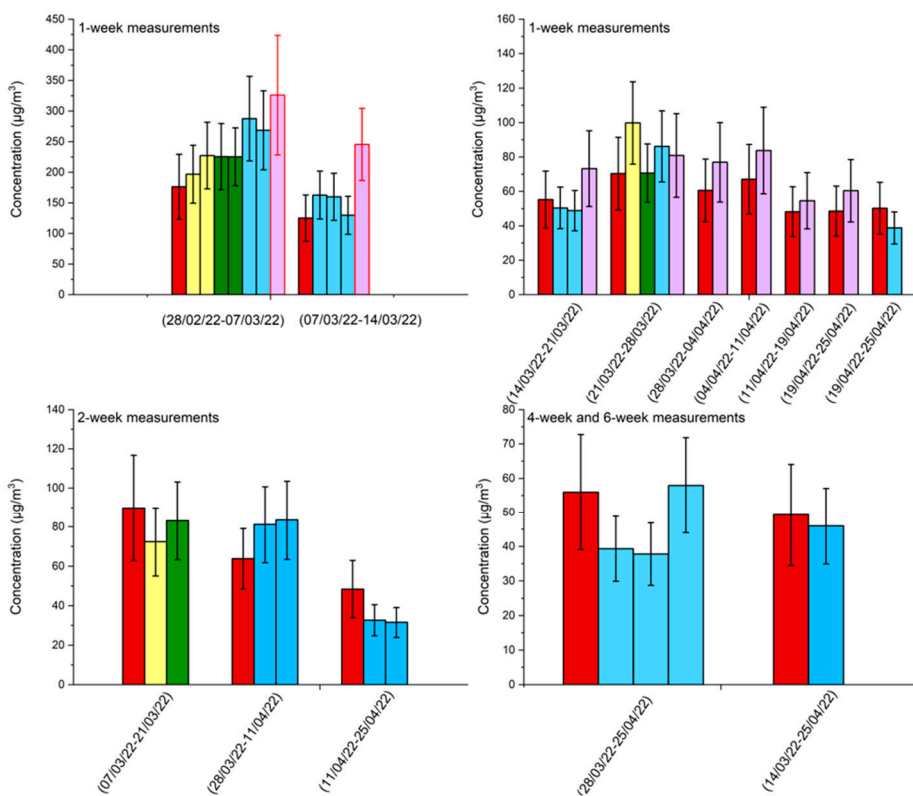
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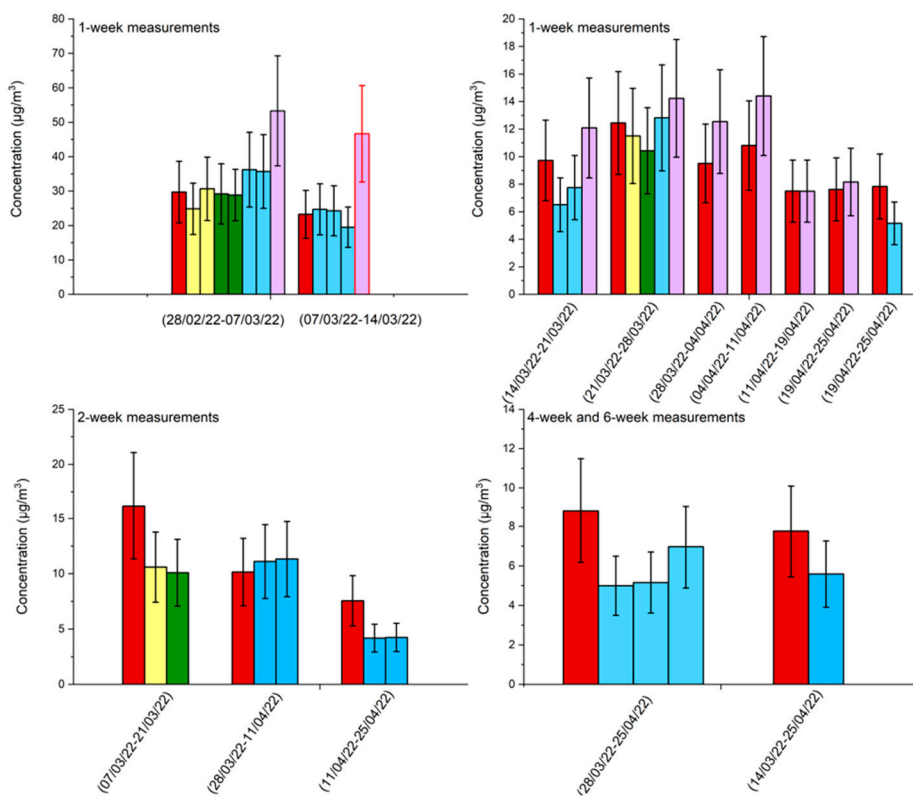
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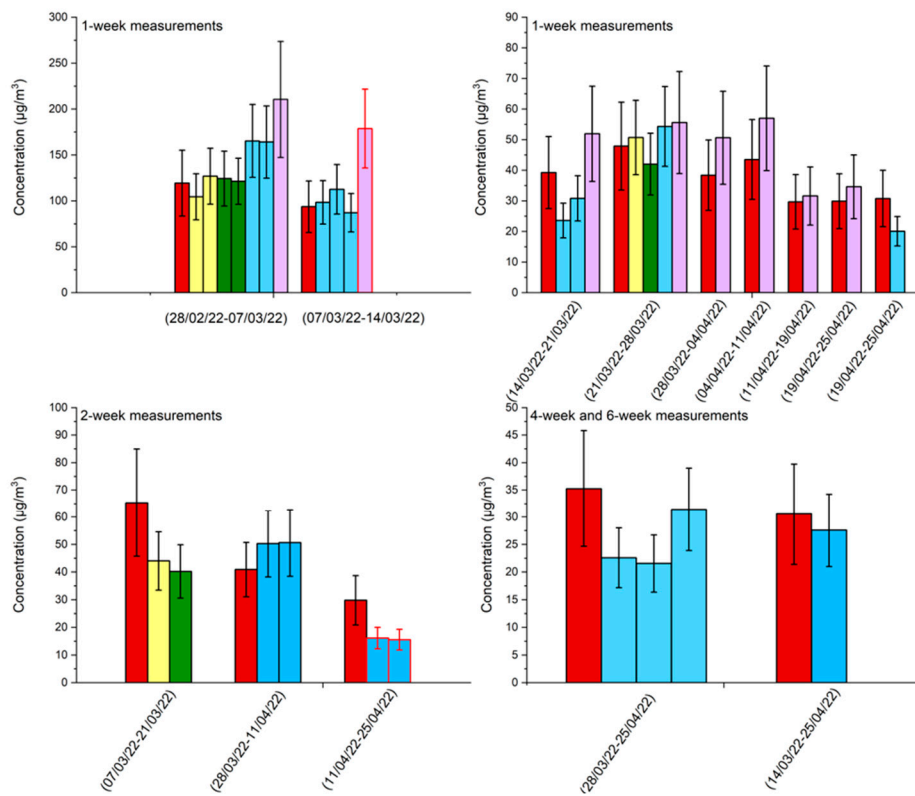
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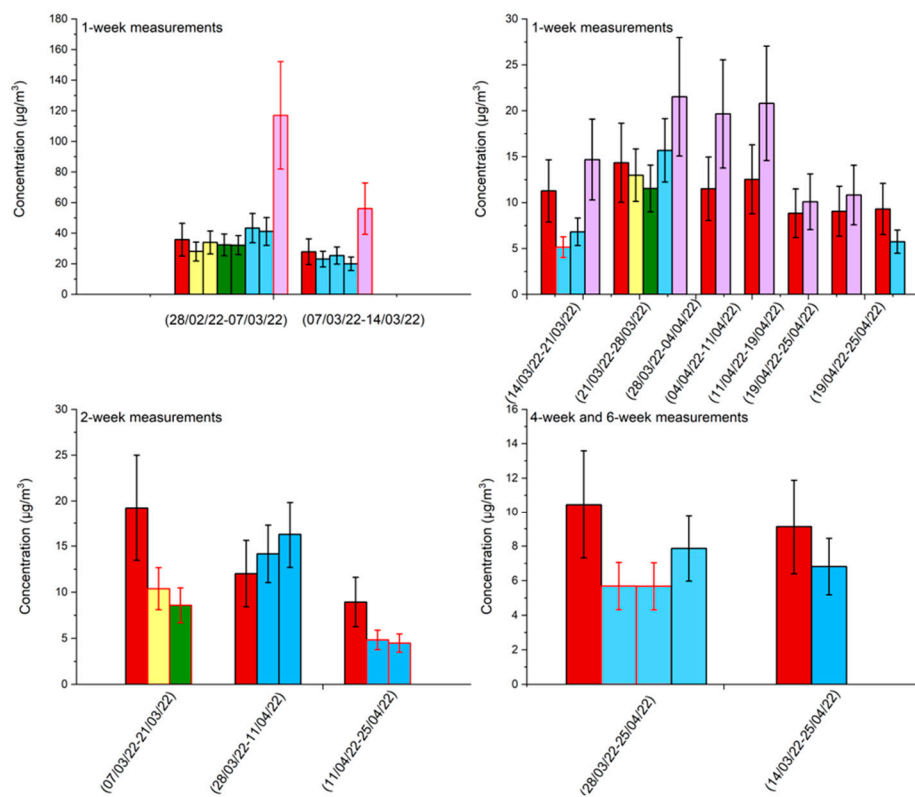
(E)



(F)



(G)



(H)

