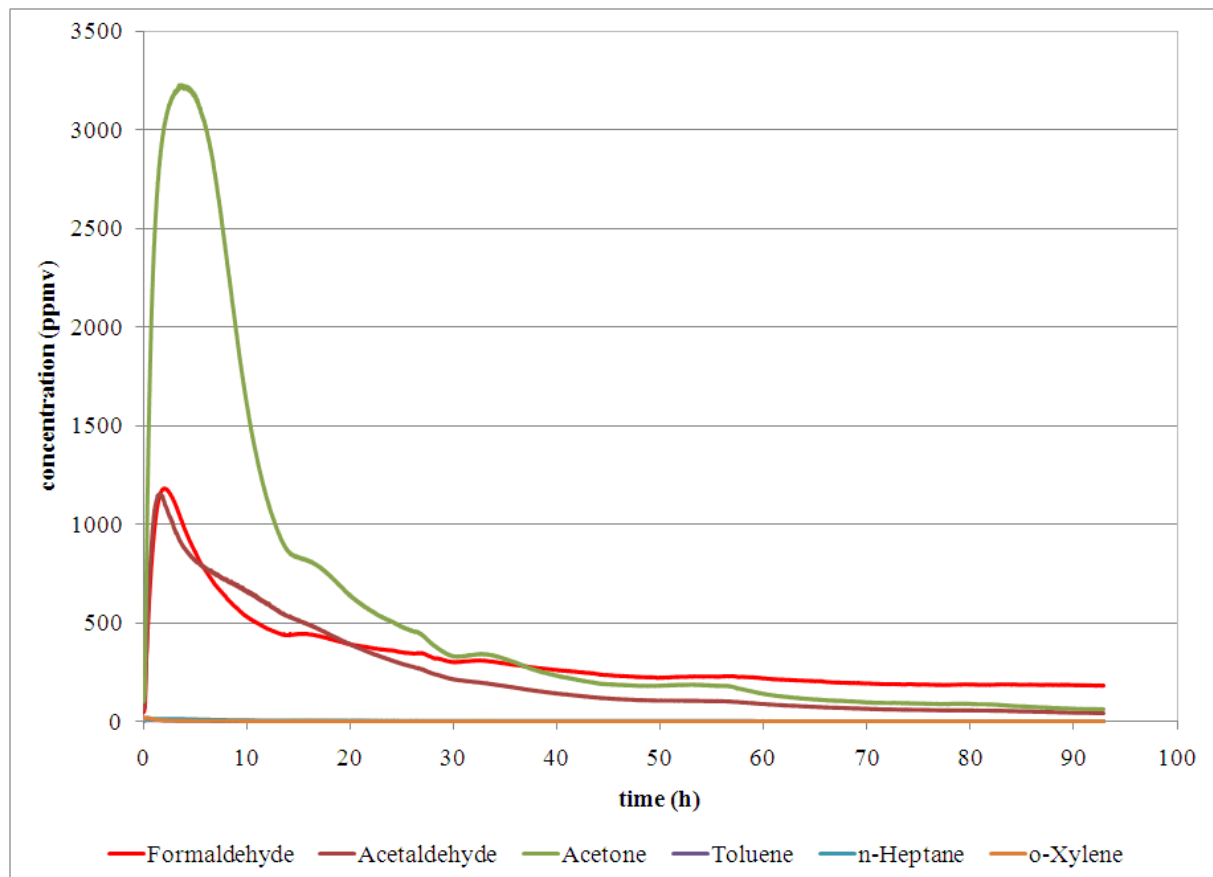


Reactor only

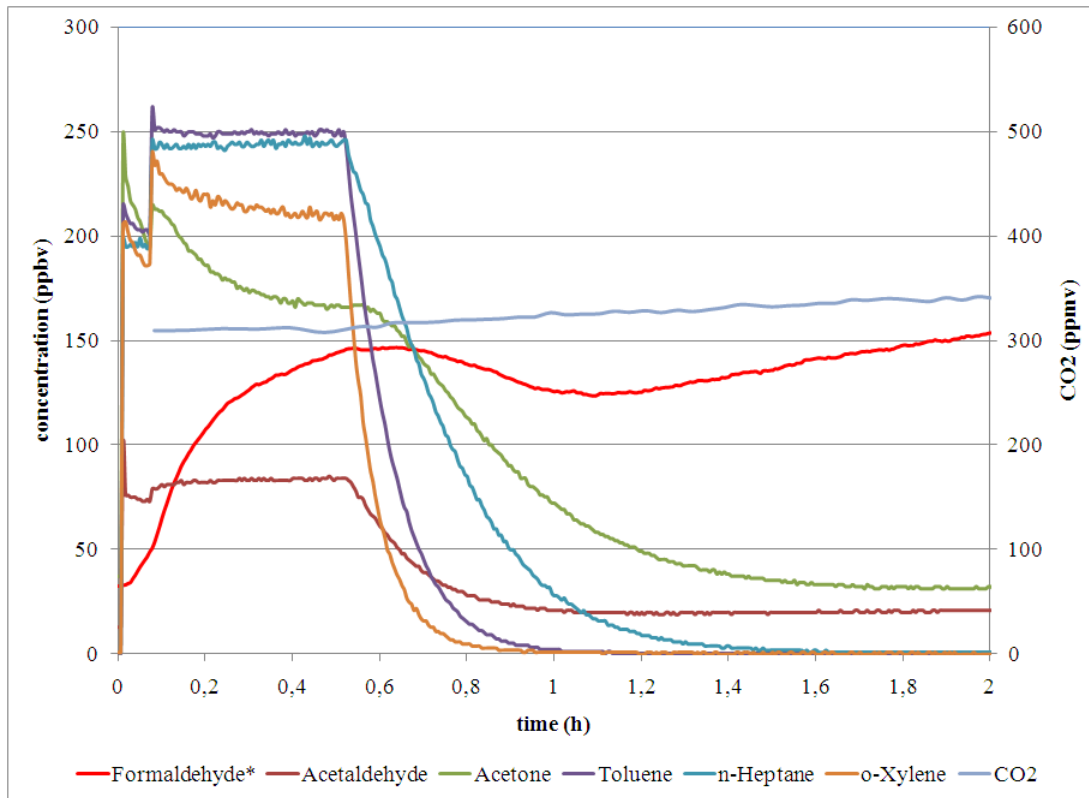


We can observe the production of formaldehyde, acetaldehyde and acetone for about 2-3 hours followed by a decrease. But it was, even after 90 hours, those three compounds are still present in the gas phase.

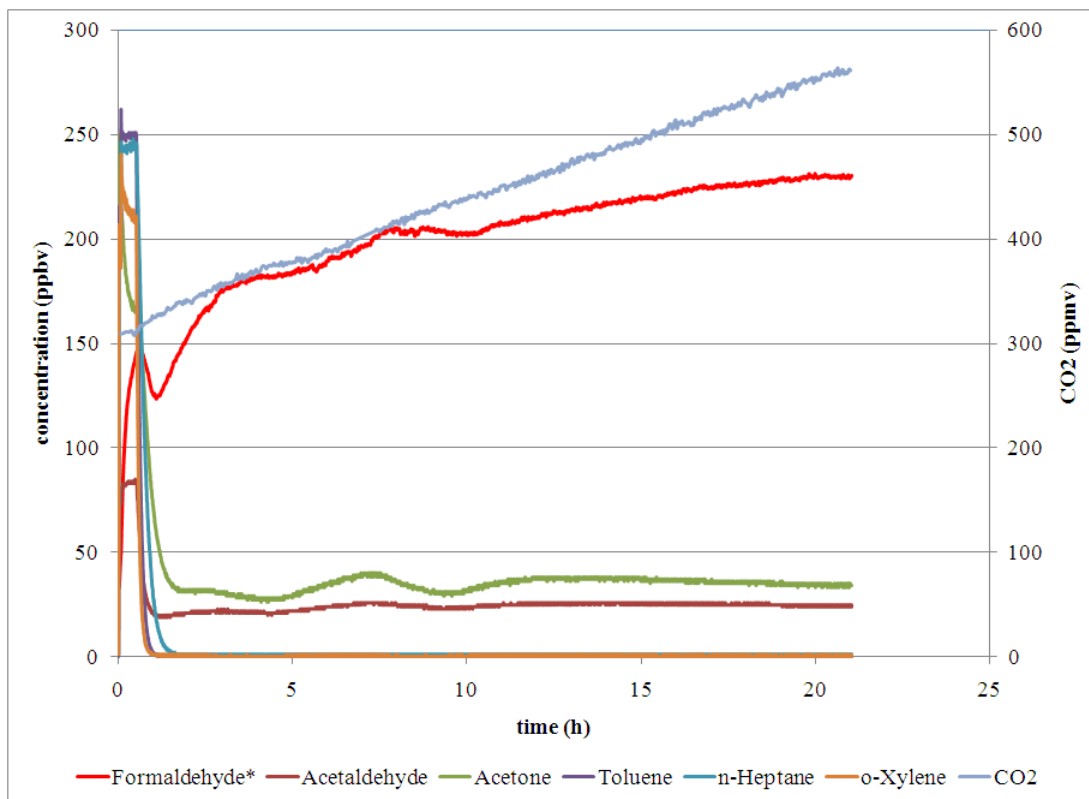
Due to some analytical problem, the CO₂ could not be followed during the test. It is not shown in this graph.

A second test was carried out for the VOC removal, a mixture of acetaldehyde, acetone, heptanes, toluene, o-xylene and formaldehyde was introduced in the chamber. The VOC evolution versus time is shown below.

During the stabilization stage, we can observe some adsorption of acetone and xylene. Once the reactor is switched ON, the VOC decreases and CO₂ is produced. Xylene and toluene are quickly removed followed by heptanes. Acetaldehyde and acetone could not be removed totally even after 20 hours. Formaldehyde is slightly decreased at the beginning but starts to be produced continuously. CO₂ is also continuously produced during the experiment, signifying that organic compounds present on the reactor are still degraded.

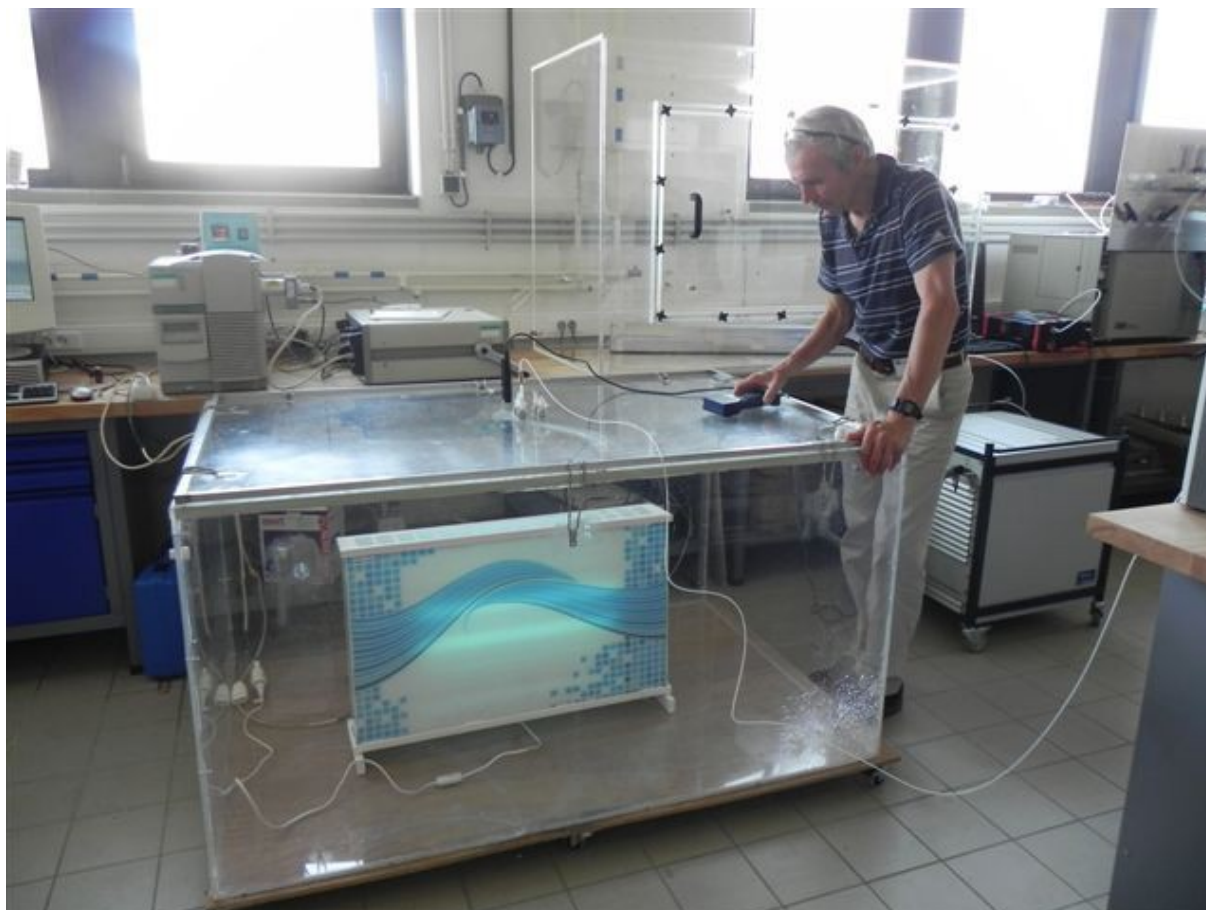


First two hours of the test.



20 hours testing

Sampling online on adsorbent trap followed by GC-MS indicate the possible presence of fluoro carbon compound such as Hexane,1,1,1,2,2,3,3,4,4,5,5,6,6-tridecafluoro



Prototype of a glass nanopurity device during laboratory testing.

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