

Data Review Stations

Station	Station nummer	in EBAS	in @VOC@	controlled
Beromünster	CH0053R	yes	yes	yes
Jungfrauoch	CH0001G	yes	yes	no
Hohenpeissenberg	DE0043G	yes	yes	yes
Cape Verde	CV0001G	yes	yes	yes
Kosetice	CZ0003R	yes	yes	yes
Mt Cimone	IT0009R	yes	yes	yes
Pallas	FI0096G	yes	yes	yes
Hyytiälä	FI0050R	yes	yes	yes
Peyrusse Vieille NMHCs	FR0013R	no	no	no
Peyrusse Vieille OVOCs	FR0013R	no	no	no
Zeppelin mountain	NO0042G	yes	yes	yes
SIRTA (Gif sur Yvette)	FR0020R	yes	yes	yes
Puy de Dôme	FR0030R	yes	yes	yes
Auchencort Moss	GB0048R	yes	yes	yes
Chibolton	GB1055R	yes	yes	yes
UBA sites (EMEP)		no	no	no

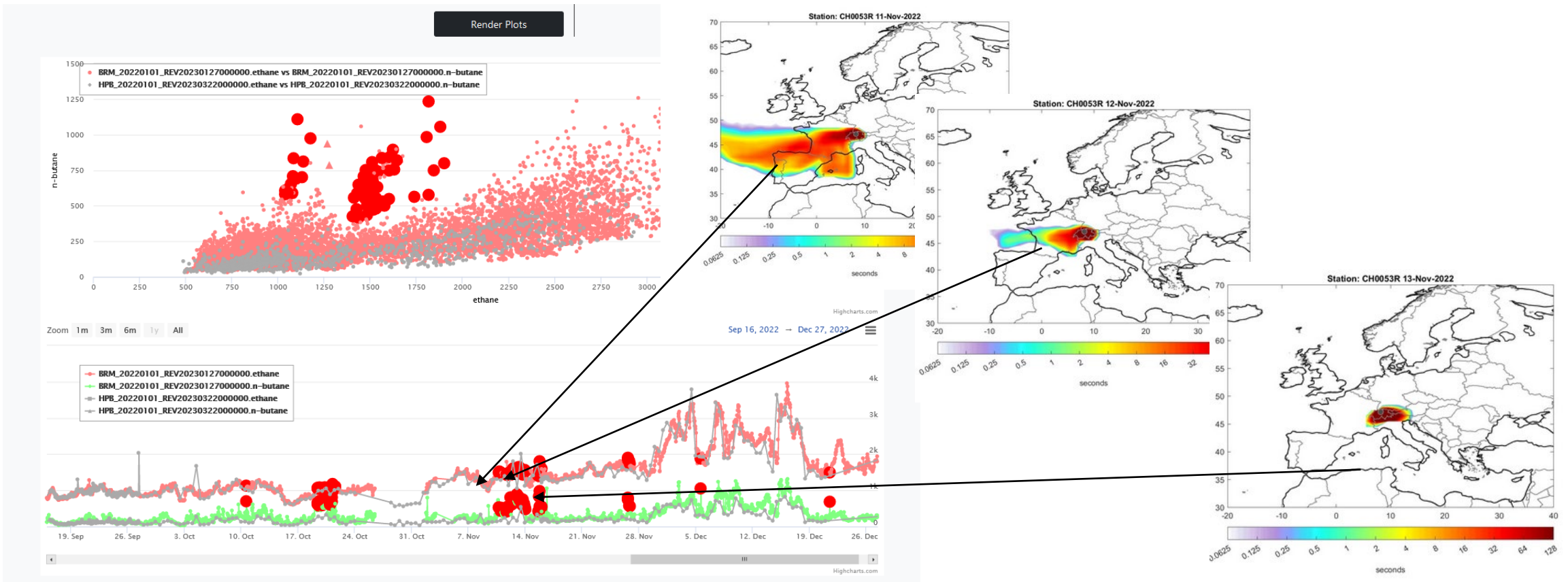
Accepted and in finally submitted to EBAS

Beromünster

Beromünster

n-butane/ethane:

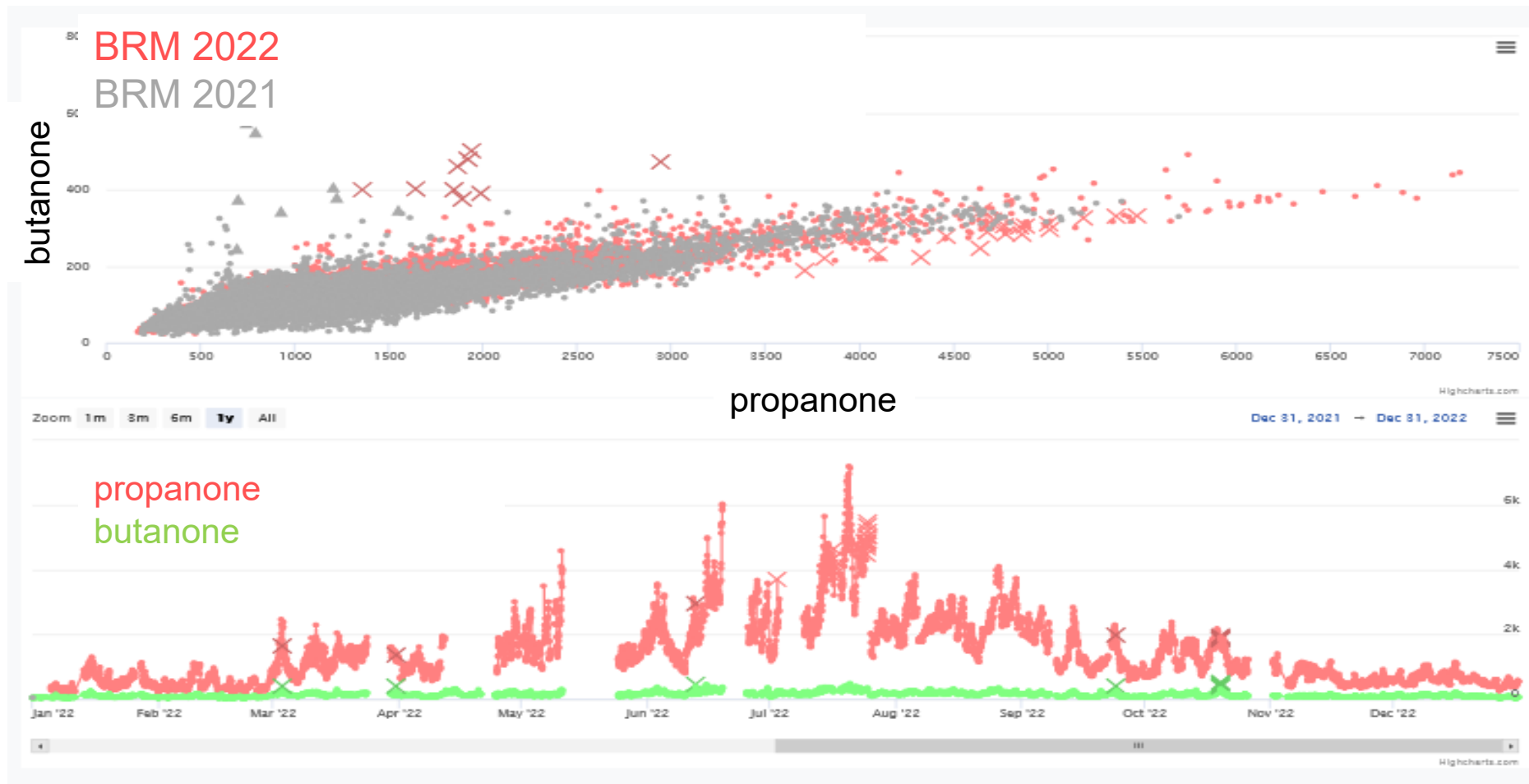
Episodes of elevated n-butane – must be a regional source. I did not flag the data but please check the episodes: Do these episodes show similar met patterns or anything unusual?



Beromünster

Butanone vs Propanone:

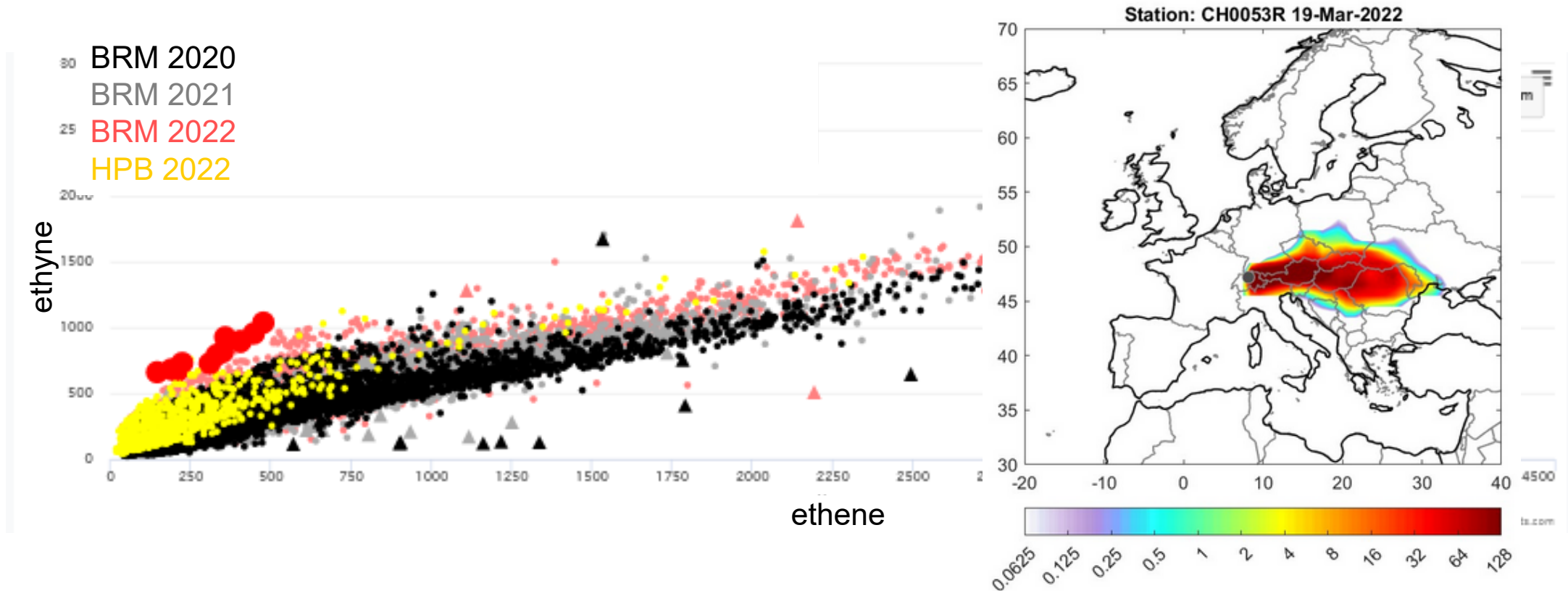
Elevated values of butanone -> please check if ok or maybe some work with ethanol or solvent going on nearby.



Beromünster

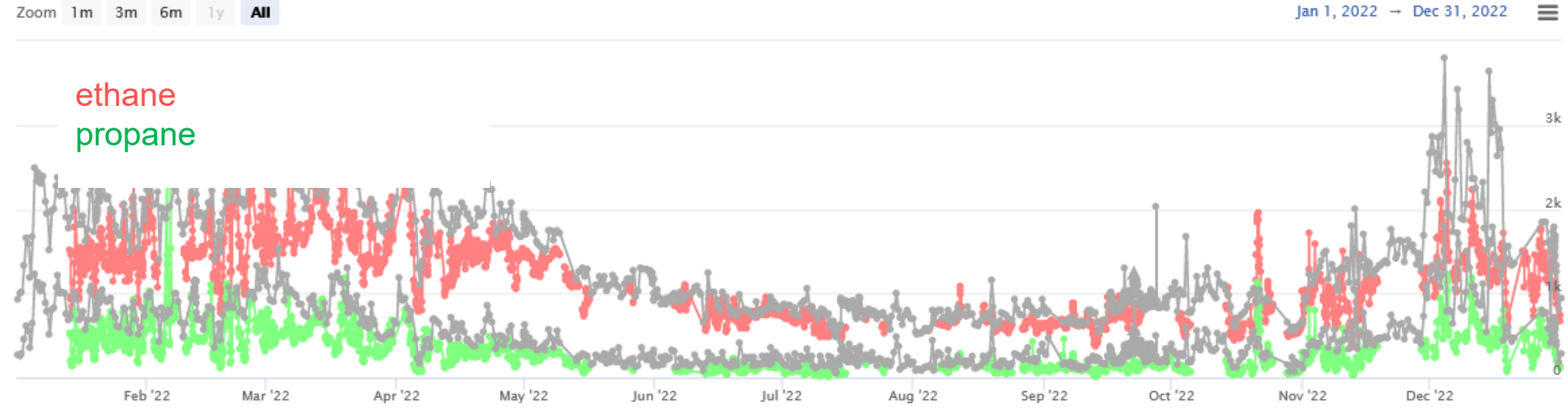
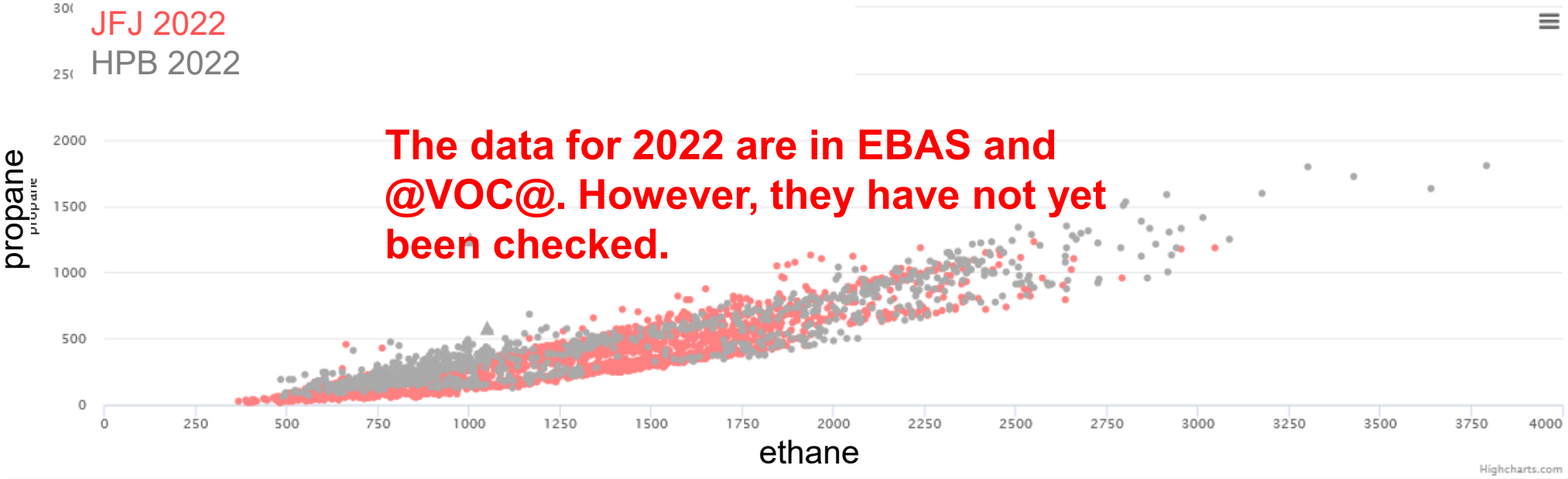
Ethyne/Ethene:

Just a comment: Elevated ethyne or decreased ethene in the period with strong easterly wind– similar feature observed at HPB. Data not flagged but interesting feature.



Jungfraujoch

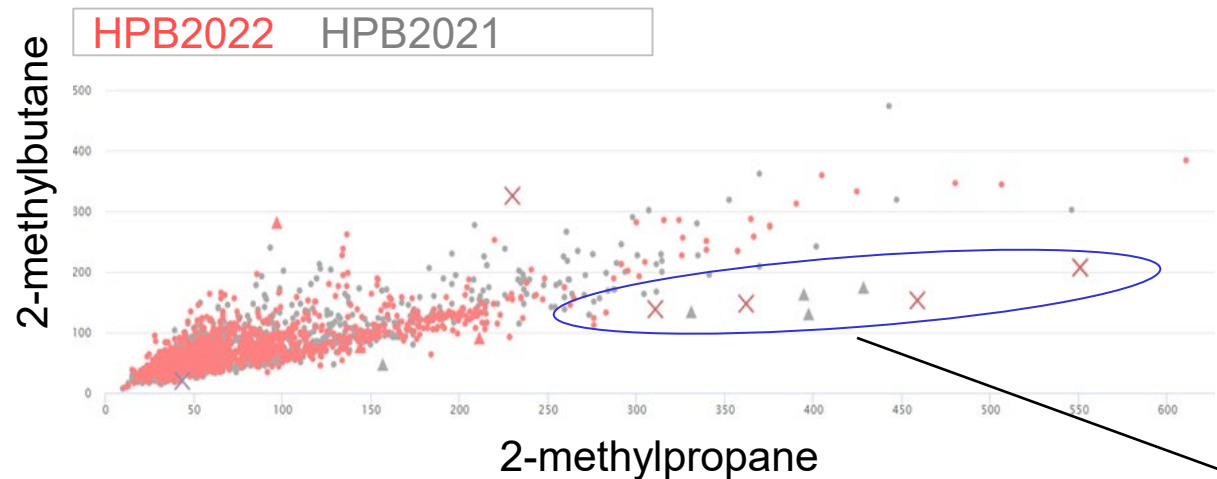
Jungfrauoch



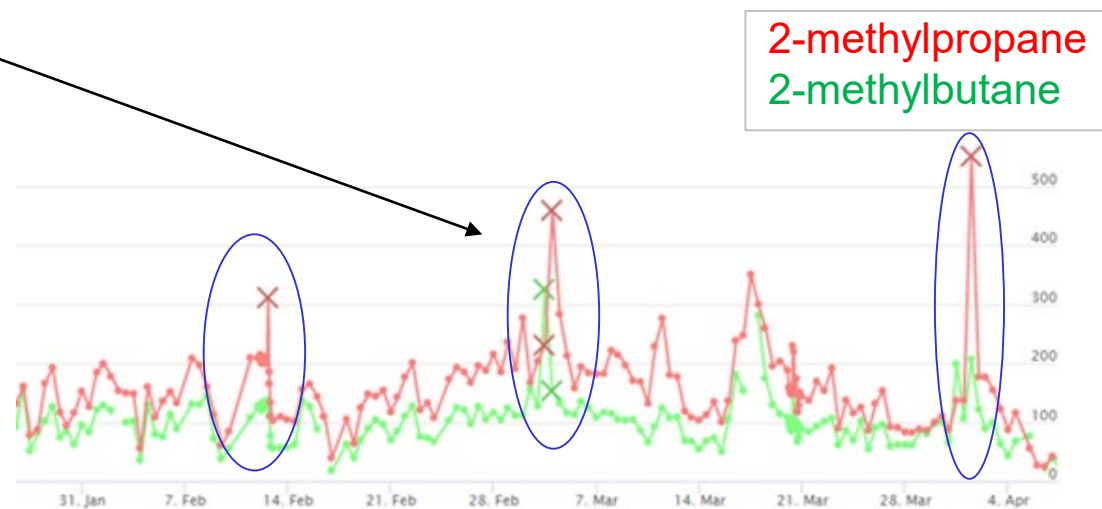
Hohenpeissenberg

Hohenpeissenberg

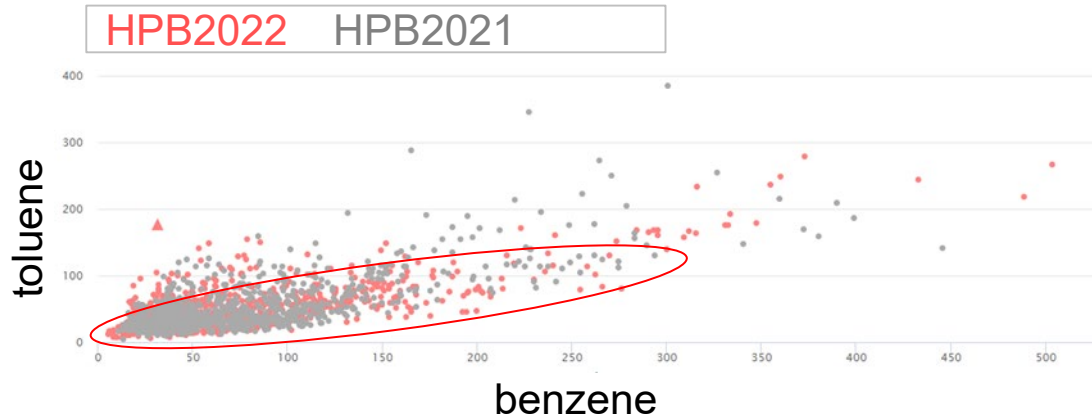
Some outliers



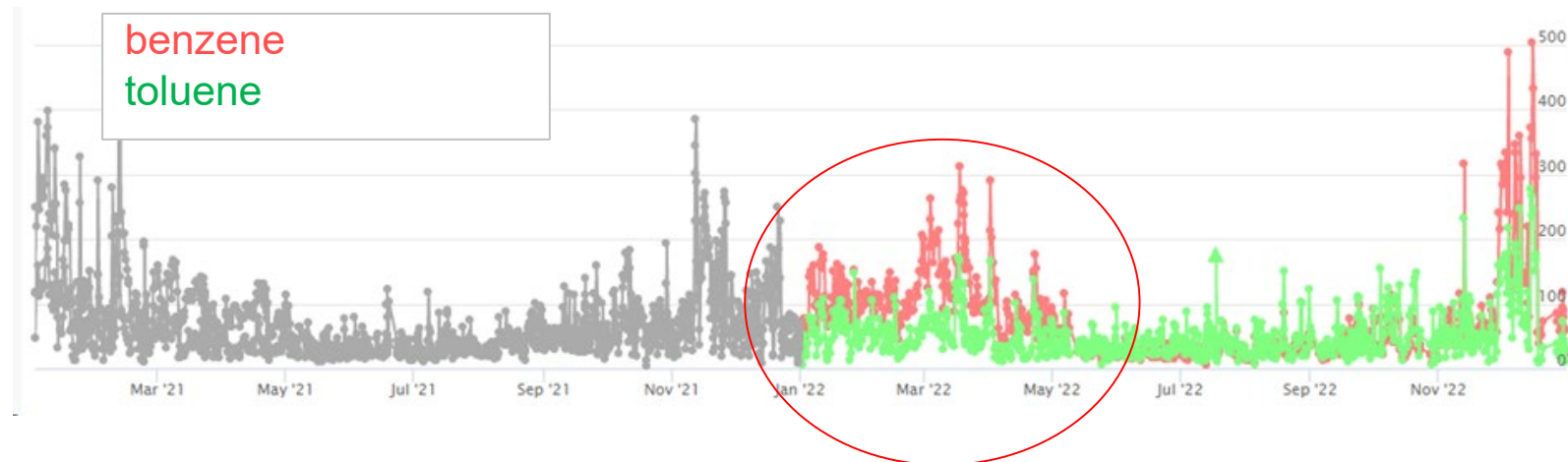
Some peaks are shifted or behave different
Same as last year maybe station specific



Hohenpeissenberg



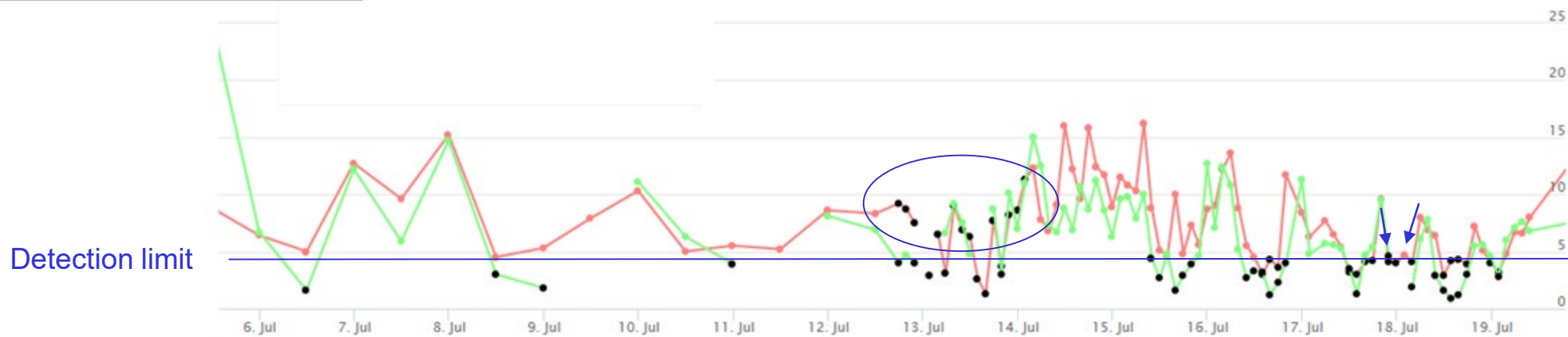
Toluene and benzene lower at beginning of year
This is also visible in BRM
> Could be due to lockdown or station specific



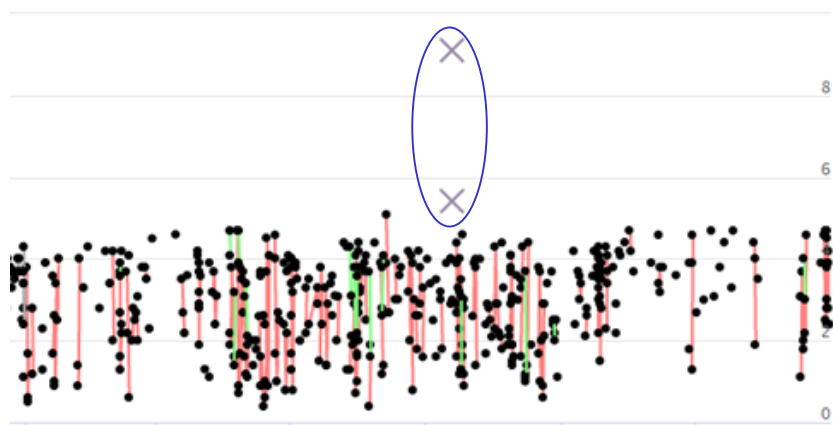
Hohenpeissenberg

ethylbenzene HPB2022
o-xylene HPB2022

Some concentrations are below detectionlimit while others are not

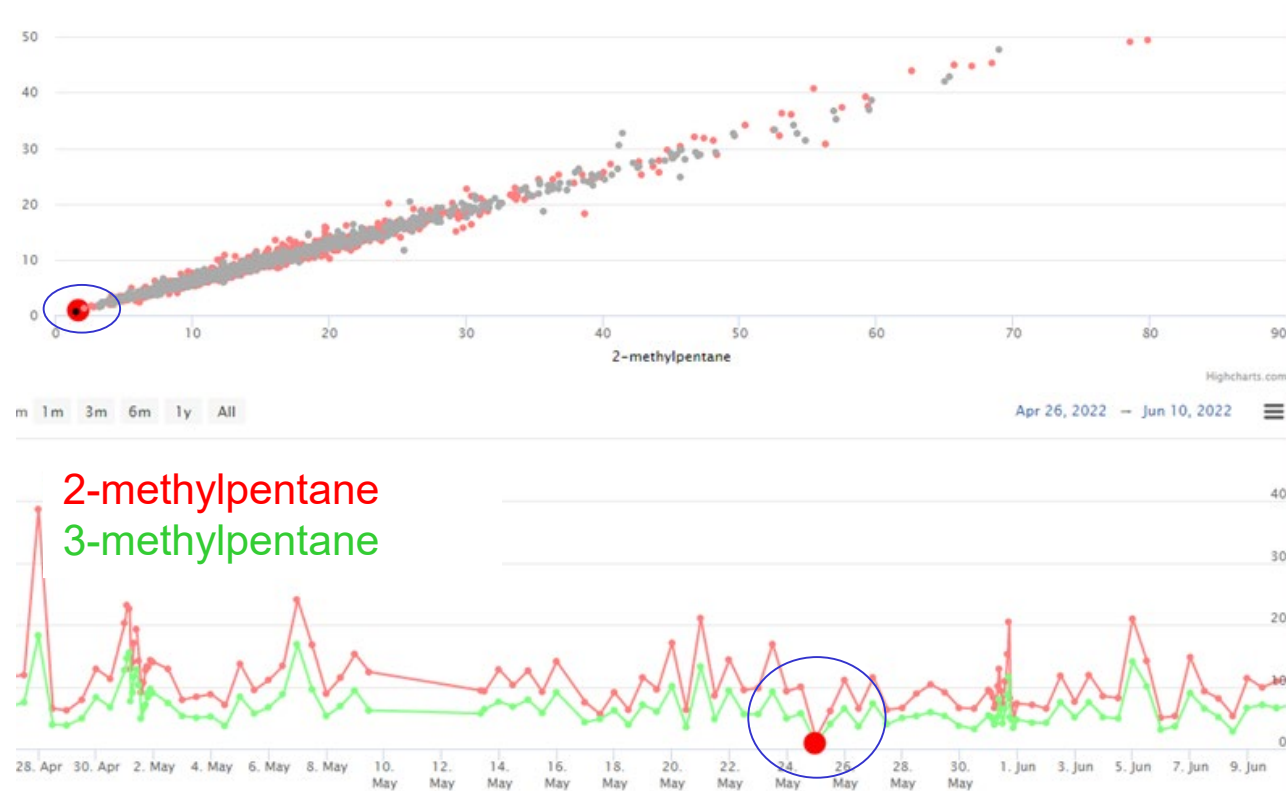


Same for mp-xylene



Hohenpeissenberg

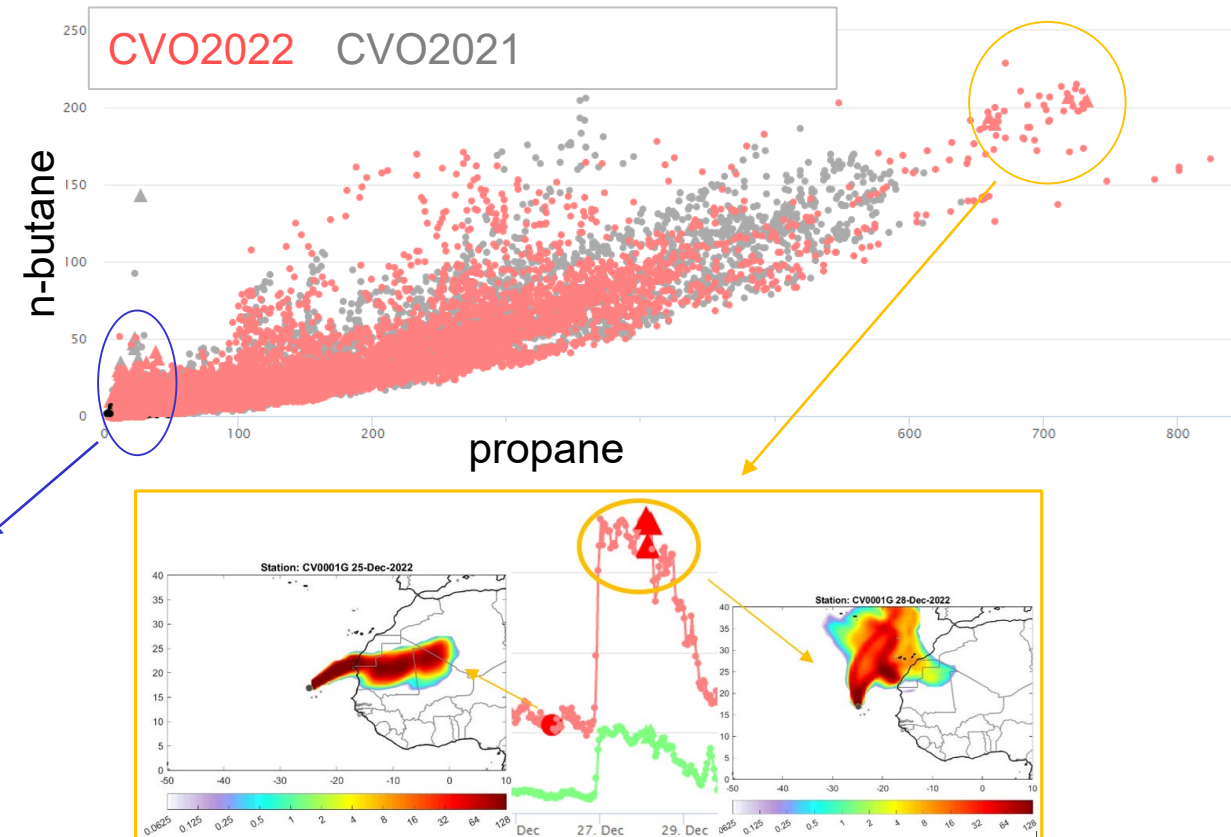
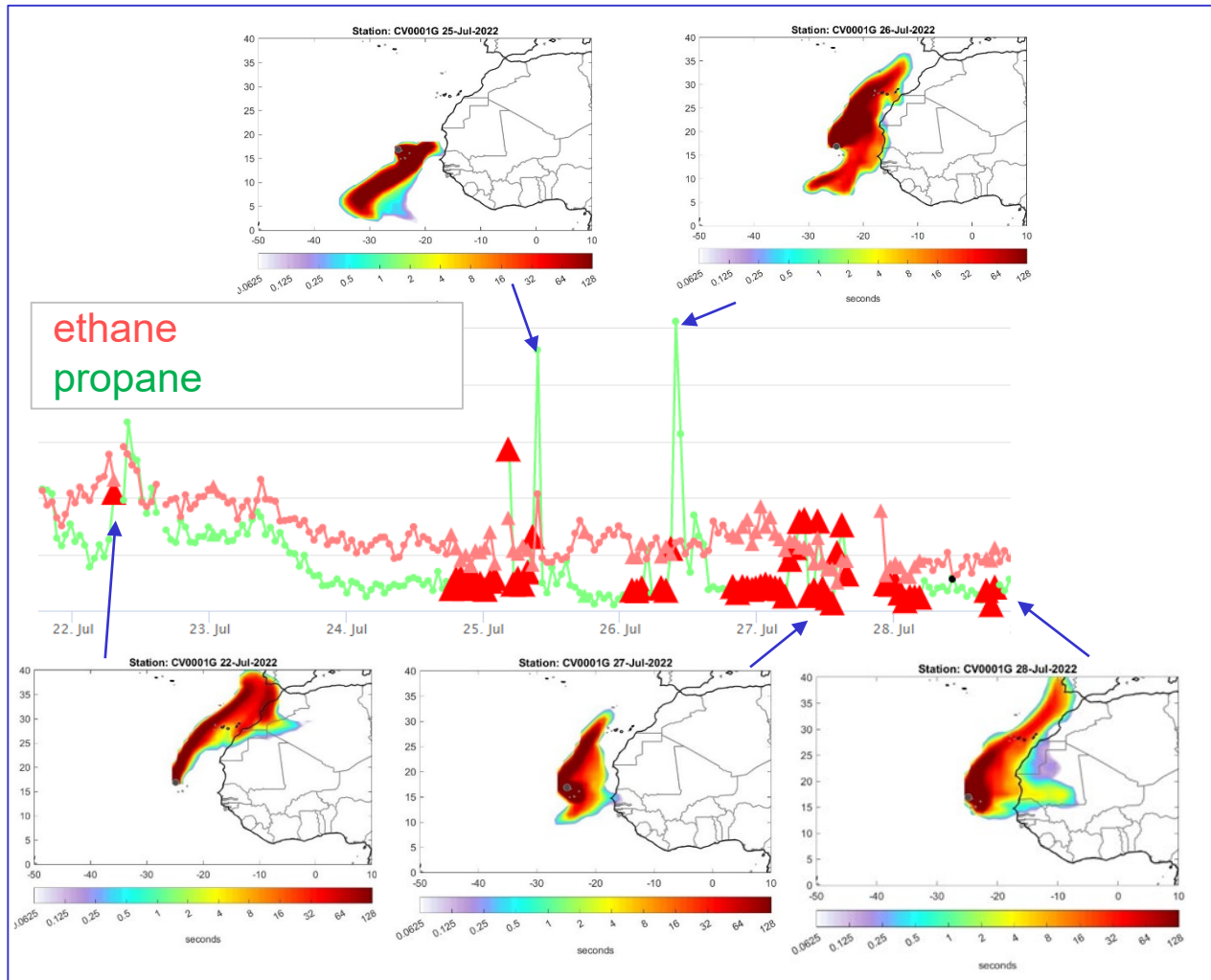
Drop in concentration for 2-methylpentane and 3-methylpentane



Cape Verde

Cape Verde

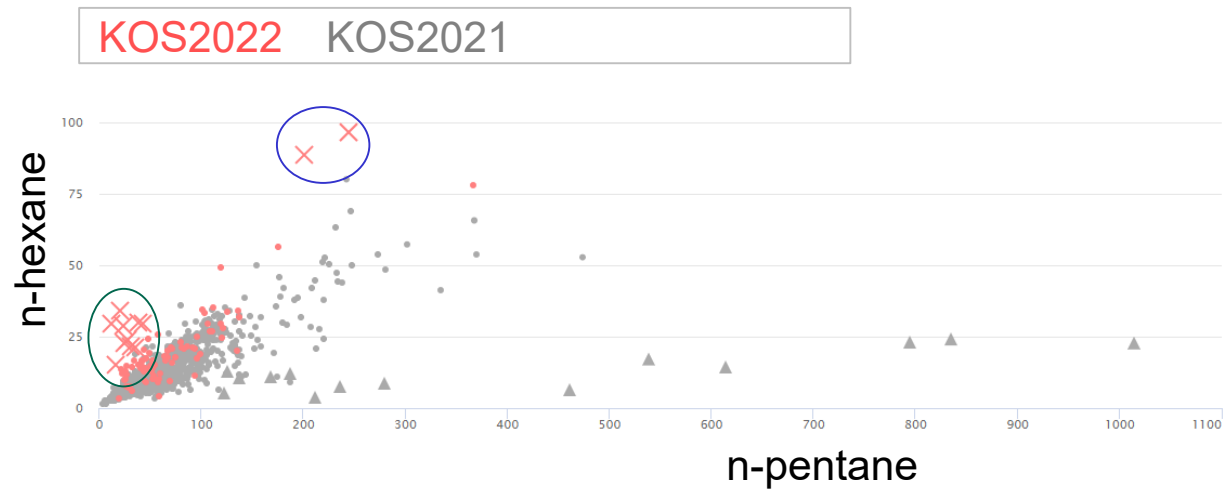
General Problem: Propane vs n-butane as an example



- Wind from Africa is not a local event
- All point of a local event need to be flagged
- A local event doesn't affect all substances

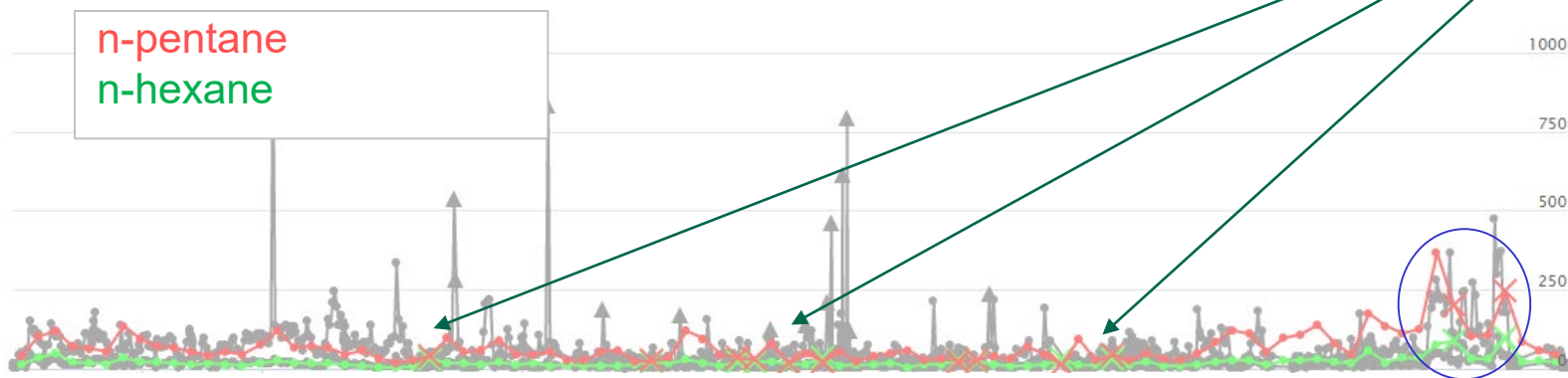
Košetice

Kosetice

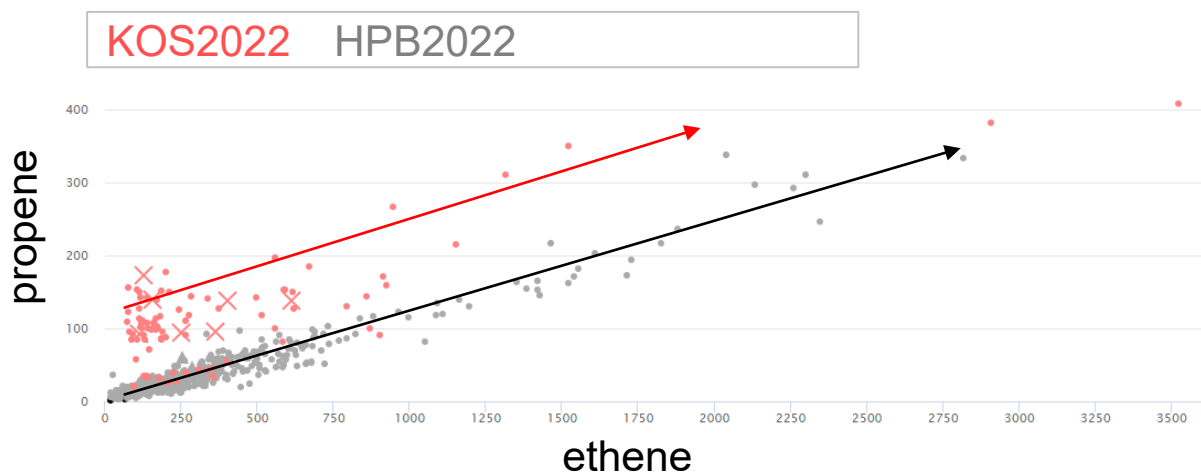


In General: Nothing was flagged

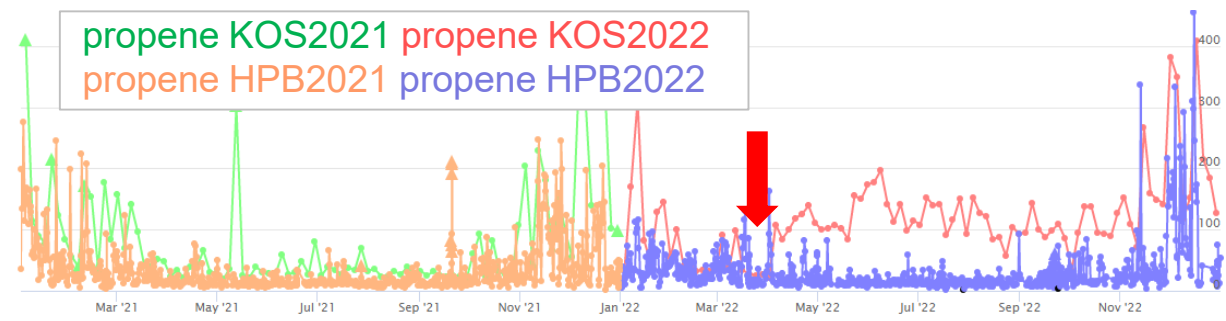
Outliers where hexane is higher than pentane.



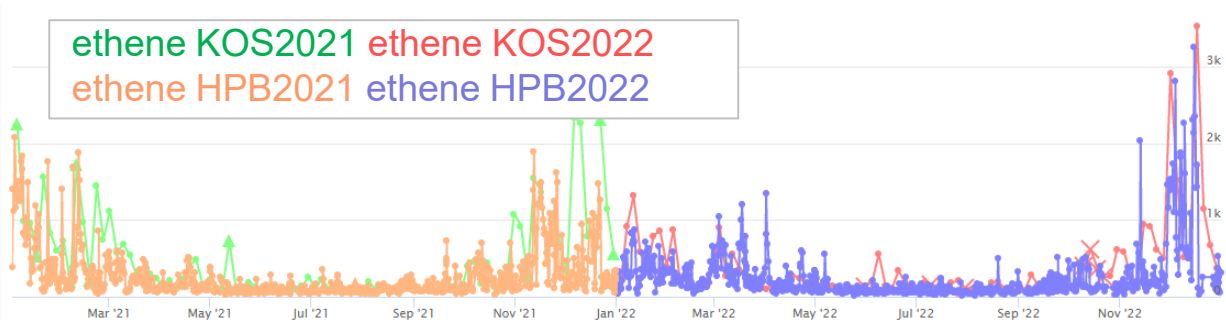
Kosetice



Propene too high starting in April!



Ethene OK

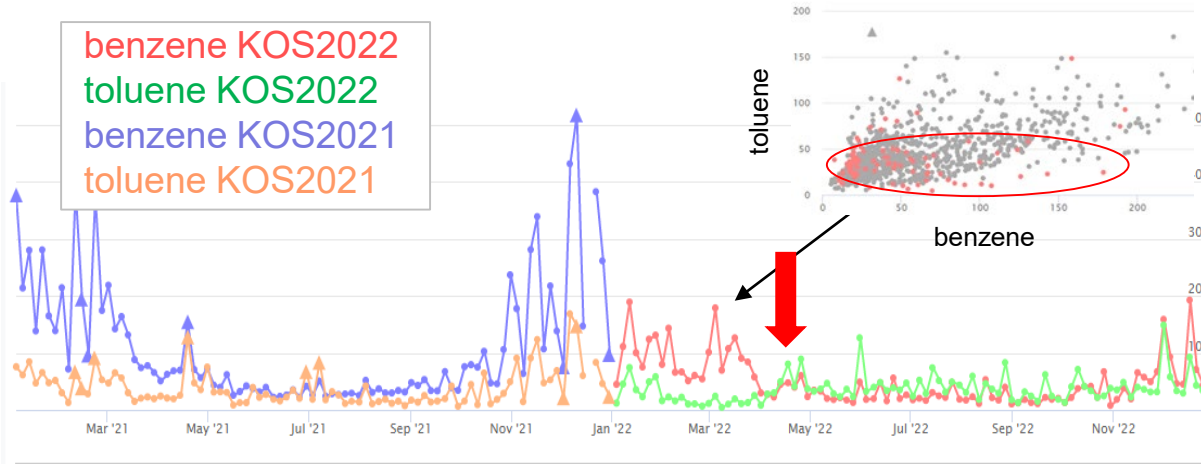


Kosetice

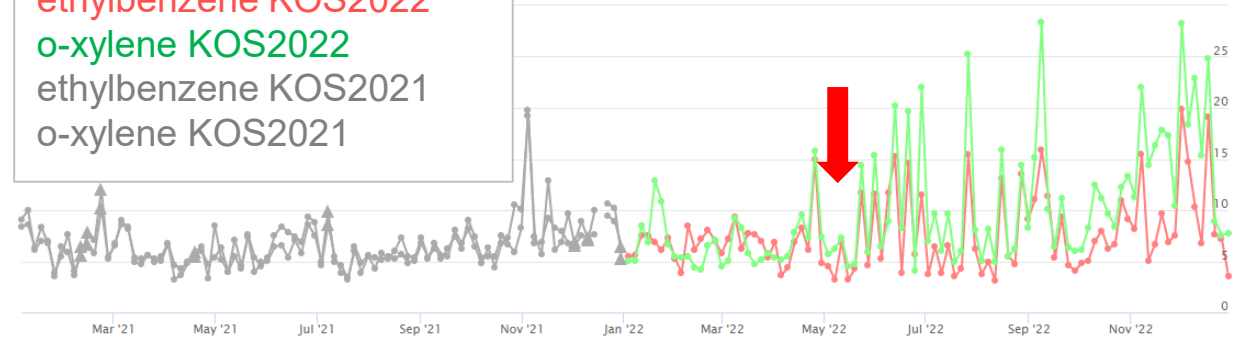
In general: Did you change something in April/May?
Too high concentrations or high deviations!

Here: Benzene also too low

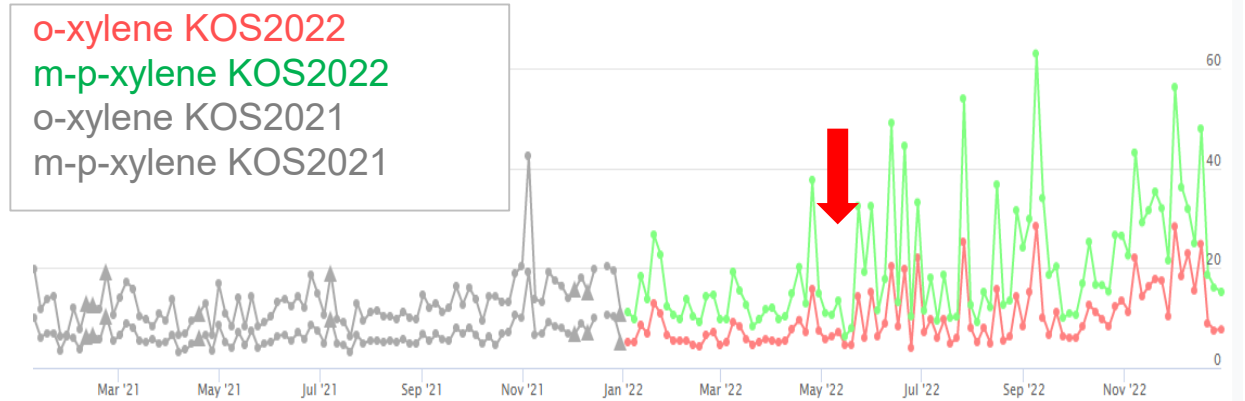
benzene KOS2022
toluene KOS2022
benzene KOS2021
toluene KOS2021



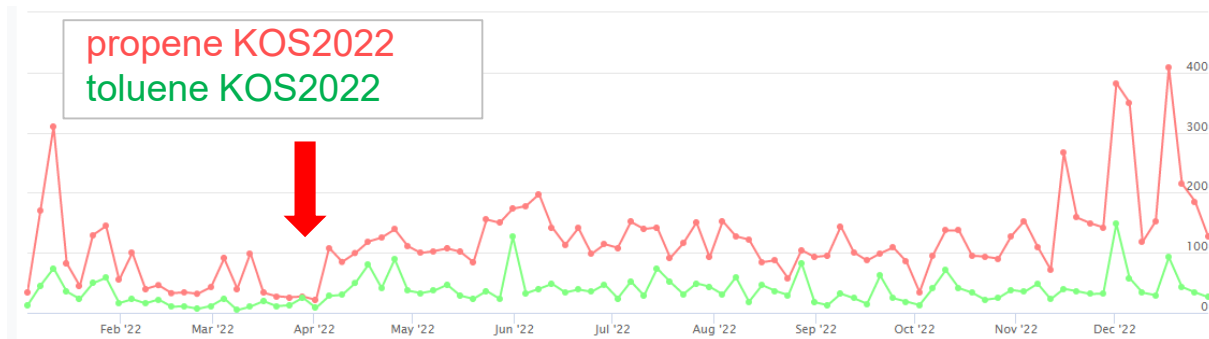
ethylbenzene KOS2022
o-xylene KOS2022
ethylbenzene KOS2021
o-xylene KOS2021



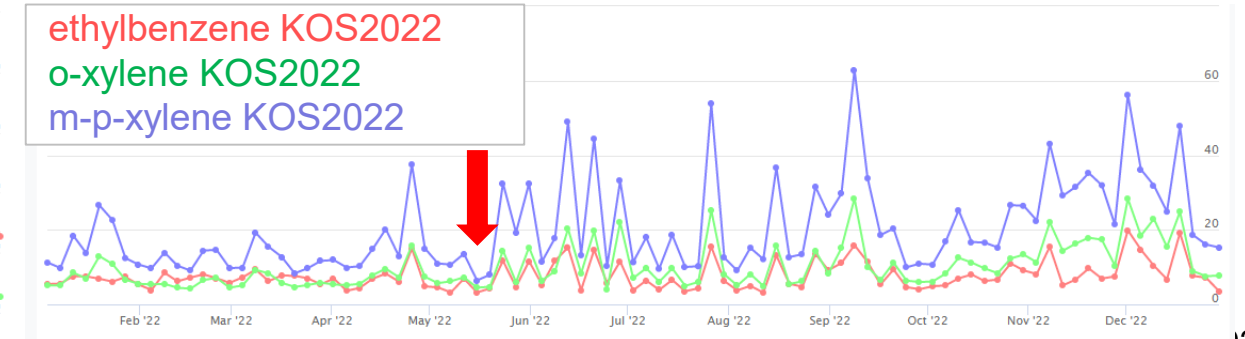
o-xylene KOS2022
m-p-xylene KOS2022
o-xylene KOS2021
m-p-xylene KOS2021



propene KOS2022
toluene KOS2022

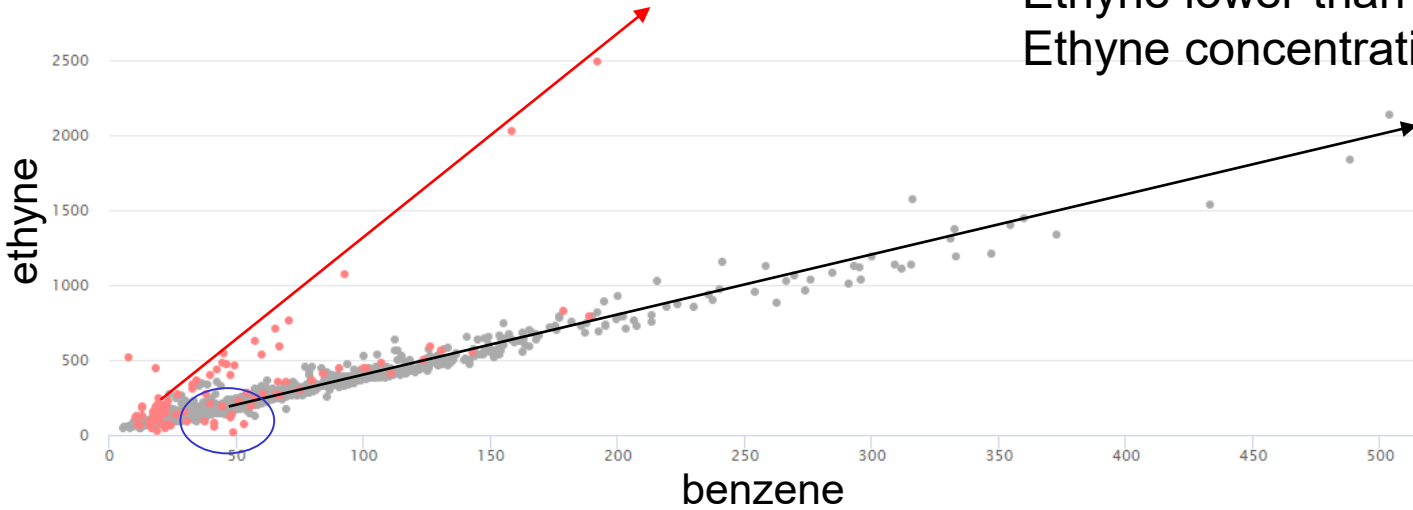


ethylbenzene KOS2022
o-xylene KOS2022
m-p-xylene KOS2022



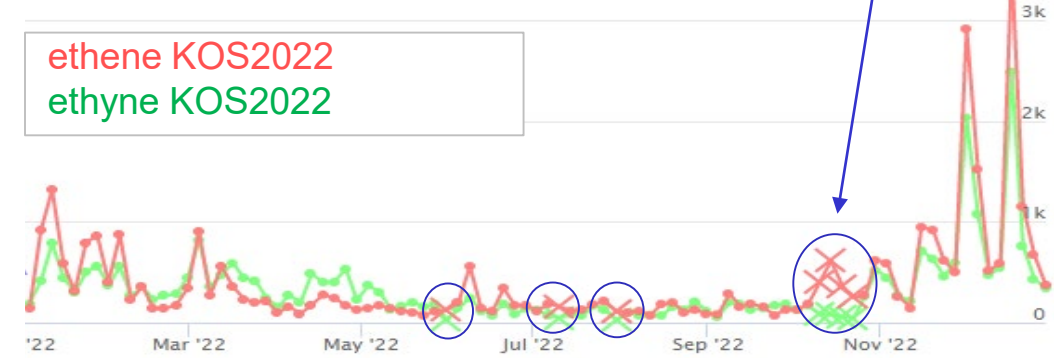
Kosetice

KOS2022 HPB2022

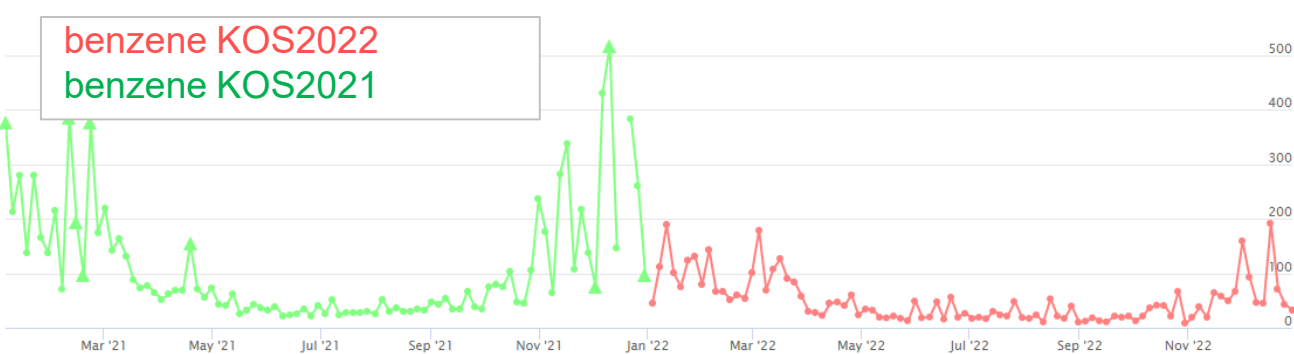


Benzene lower than usual
Ethyne lower than last year but Nov/Dez higher
Ethyne concentration drops at some points when ethene increases

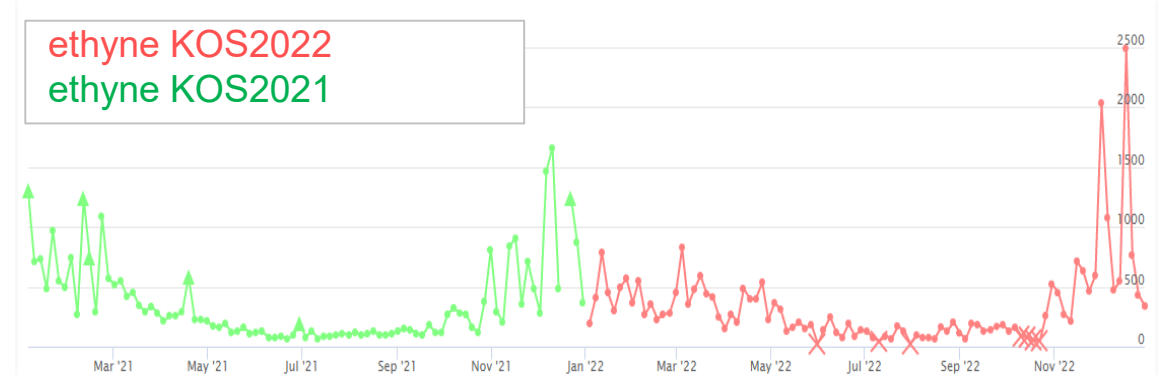
ethene KOS2022
ethyne KOS2022



benzene KOS2022
benzene KOS2021



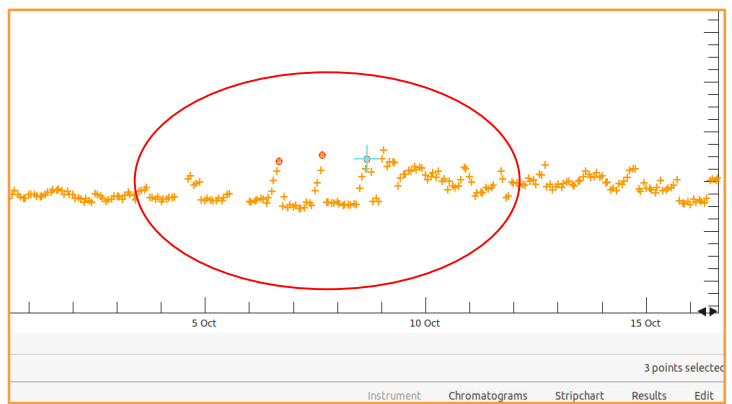
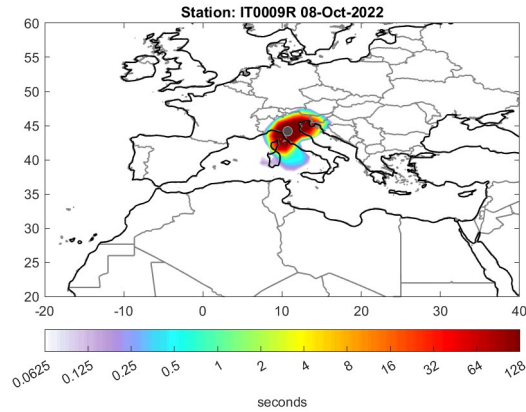
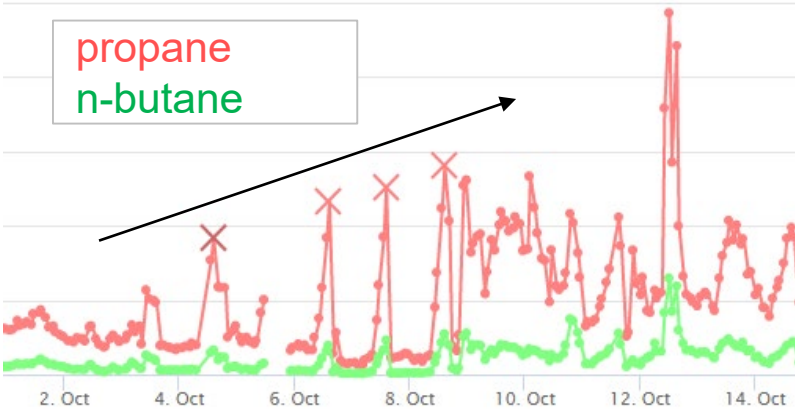
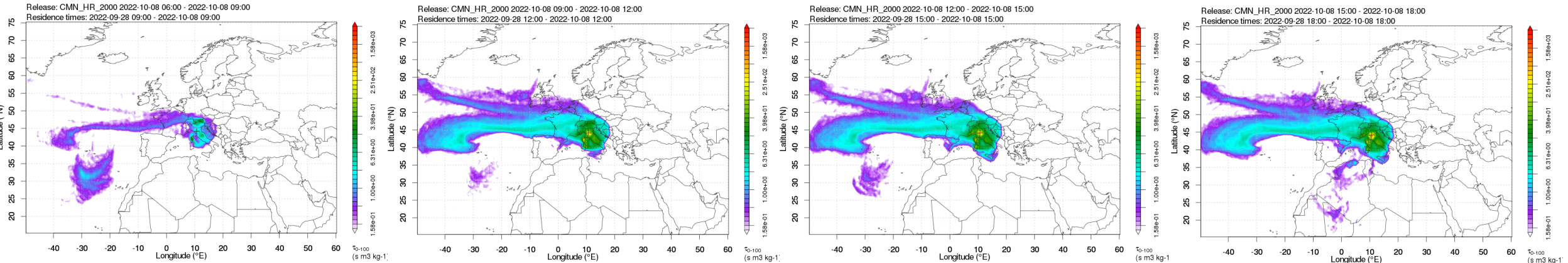
ethyne KOS2022
ethyne KOS2021



Monte Cimone

Monte Cimone

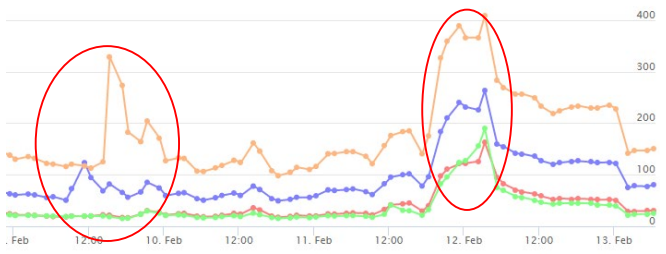
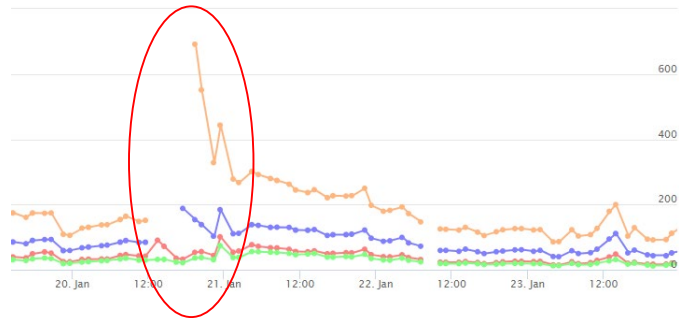
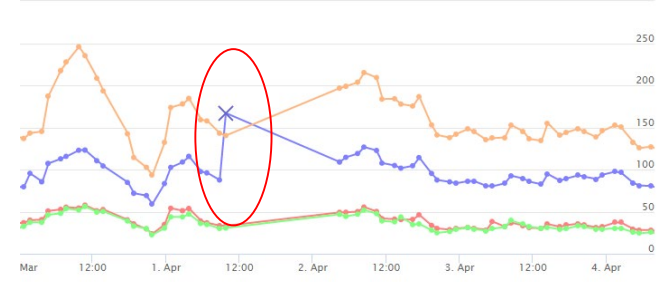
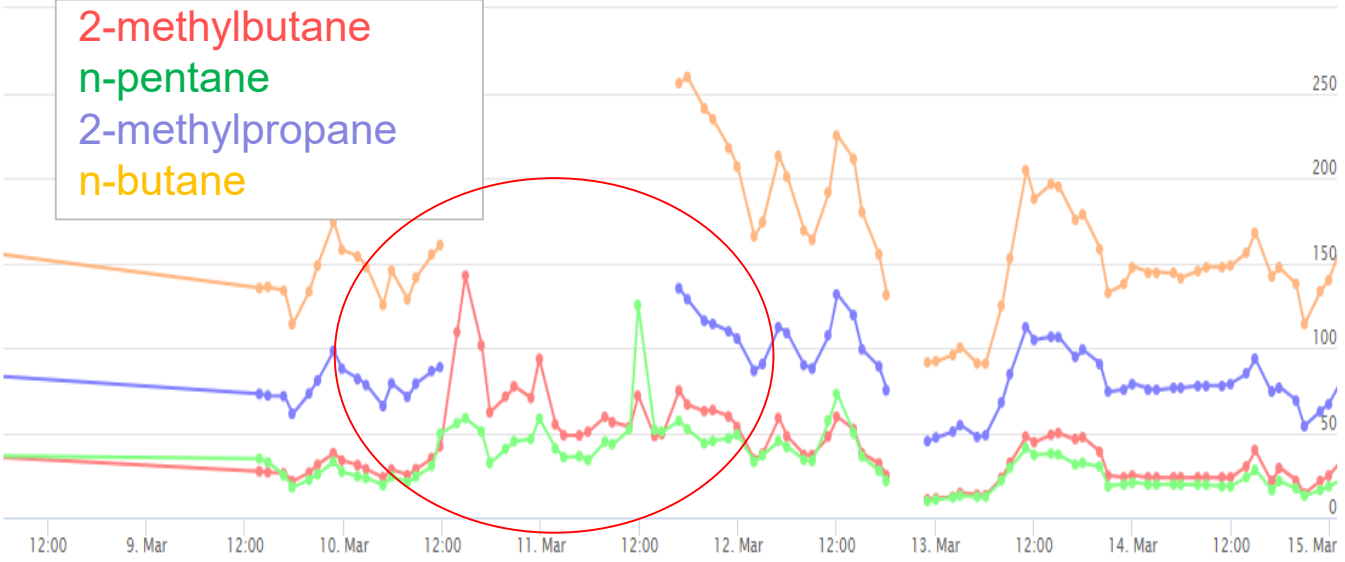
Increasing peaks in October with max concentration at 4:30 pm. Visible in nearly all substances including **HFC-134a**



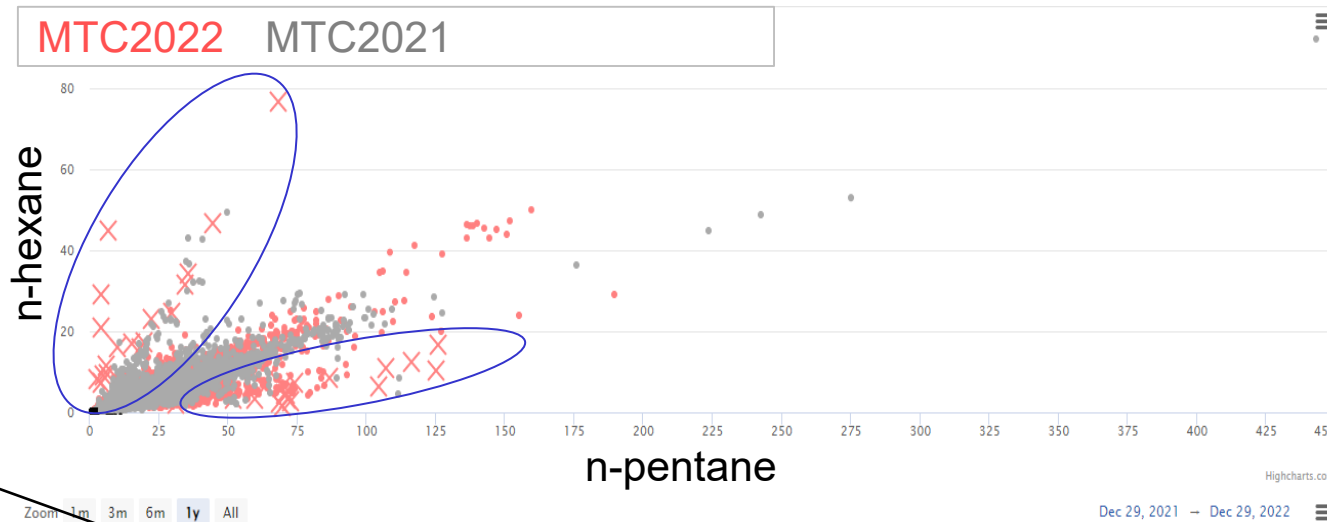
Monte Cimone

n-pentane vs n-butane vs 2-methylbutane vs 2-methylpentane: Several outliers

MTC2021 MCT2020

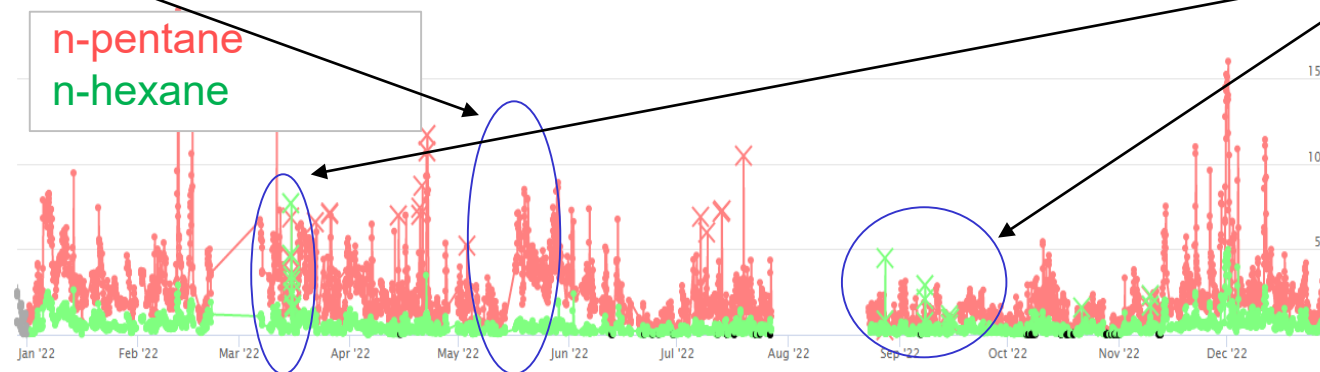


Monte Cimone n-hexane vs n-pentane



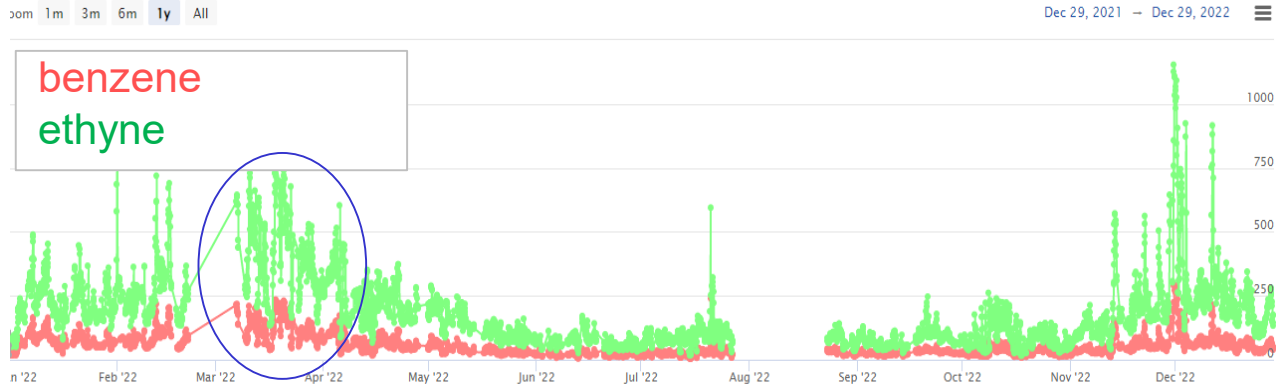
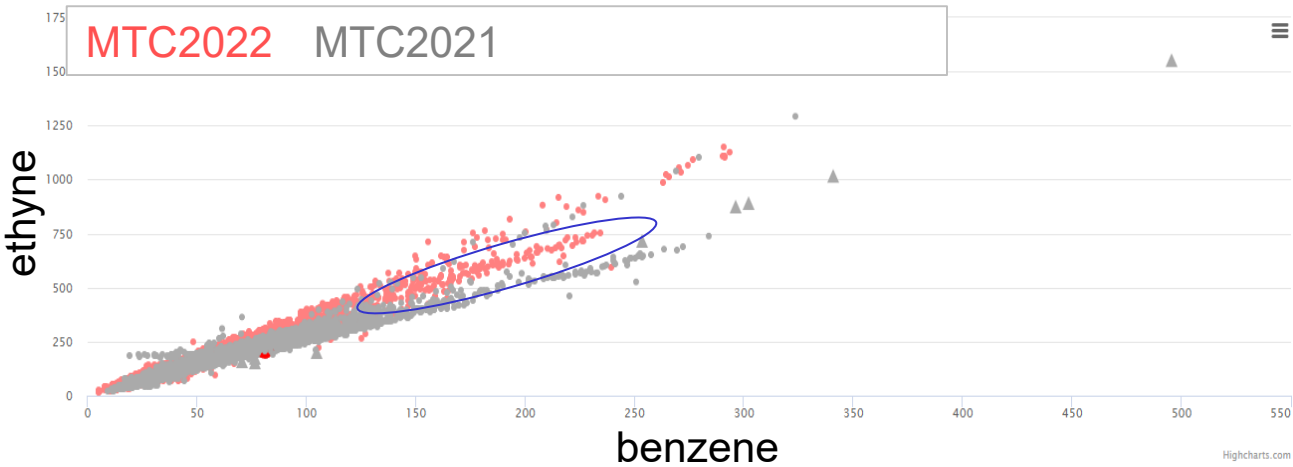
Some outliers
and jumps after
a break

Hexane should be
lower than pentane



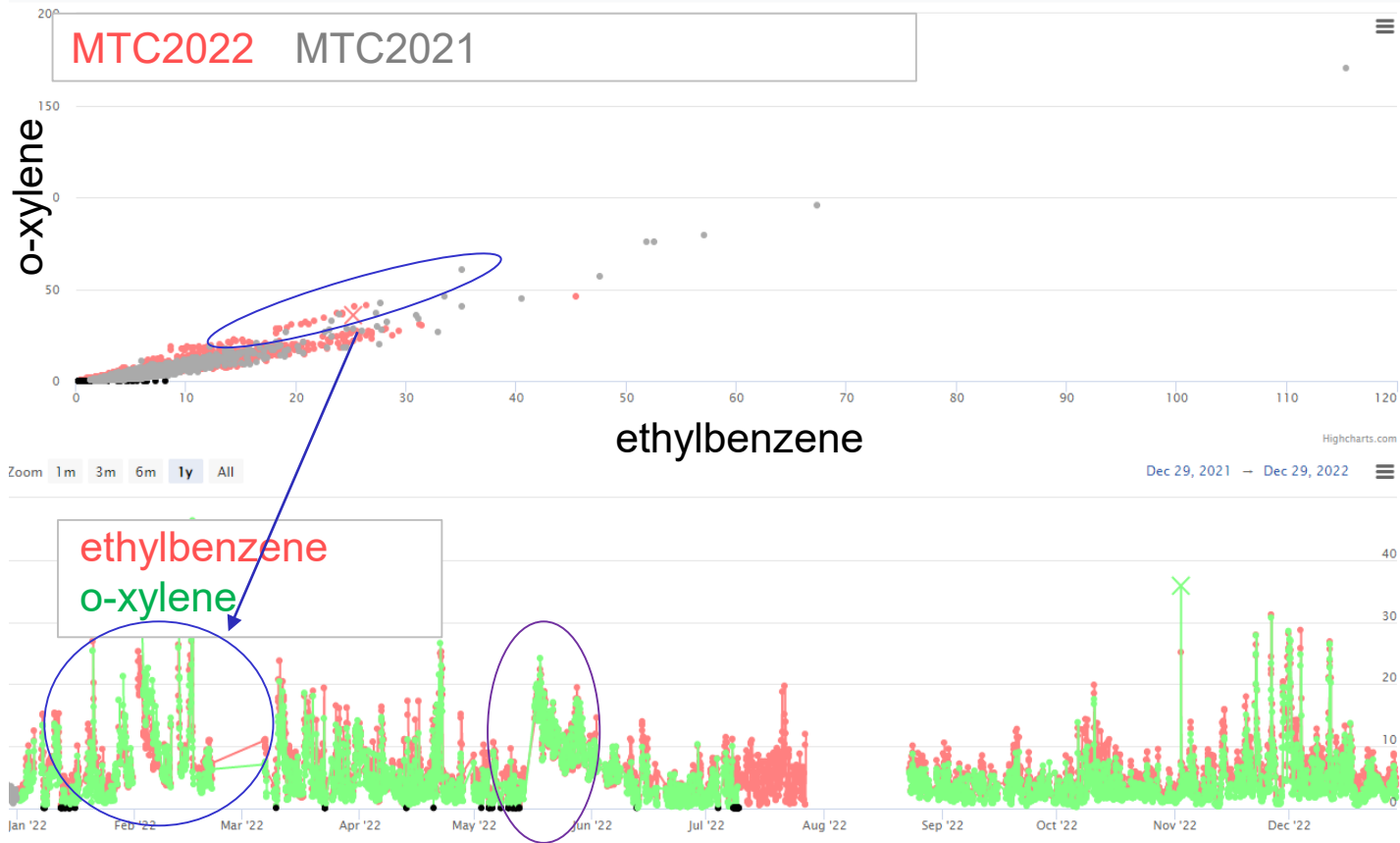
Monte Cimone

Ethyne vs benzene:
This part sticks out



Monte Cimone

Ethylbenzene vs o-xylene:
This part sticks out and jump in May/June
Also visible in m-p-xylene

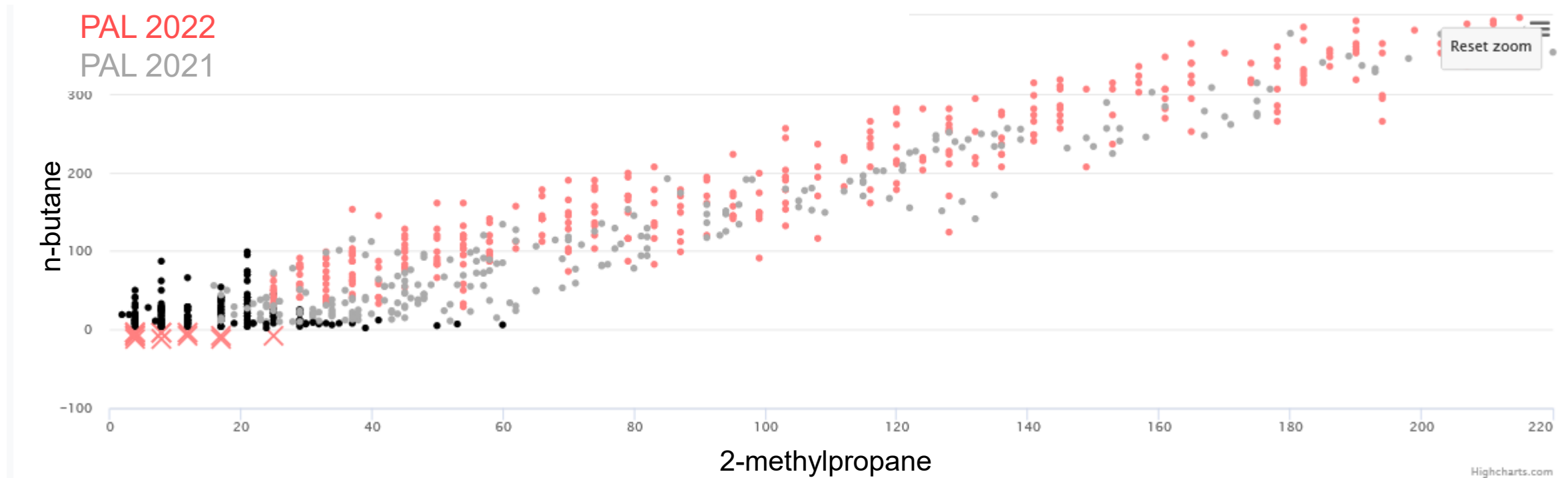


Pallas

Pallas

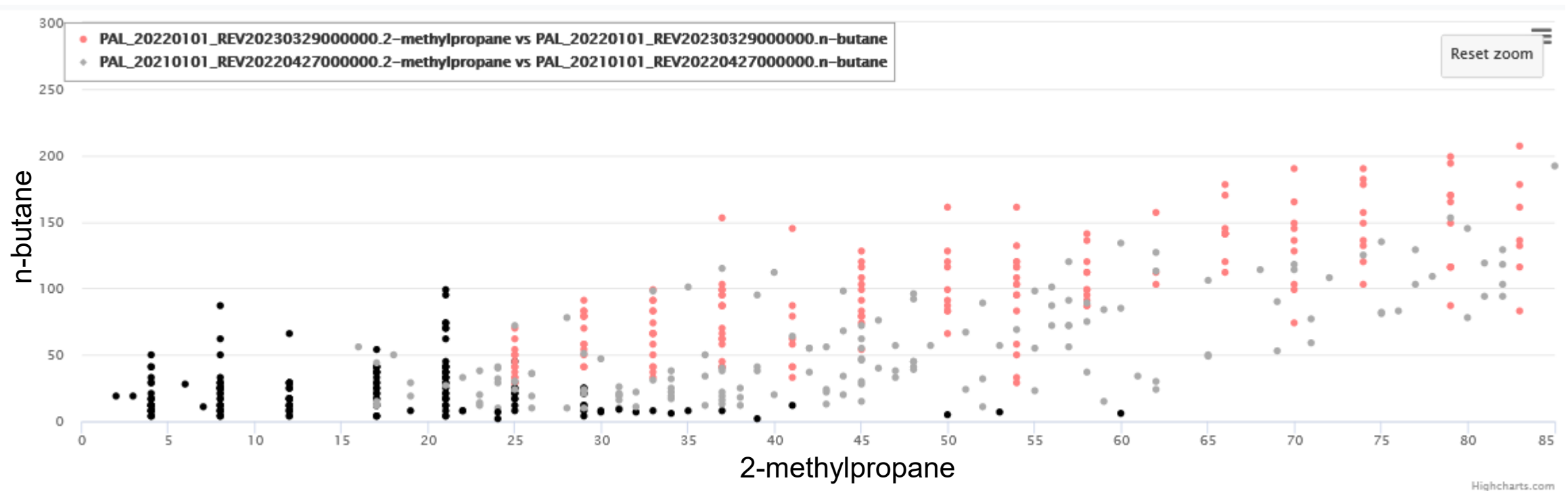
Concentrations below zero with GC, e.g. n-butane

→ do negative values with GC make sense? Same problem as 2021?

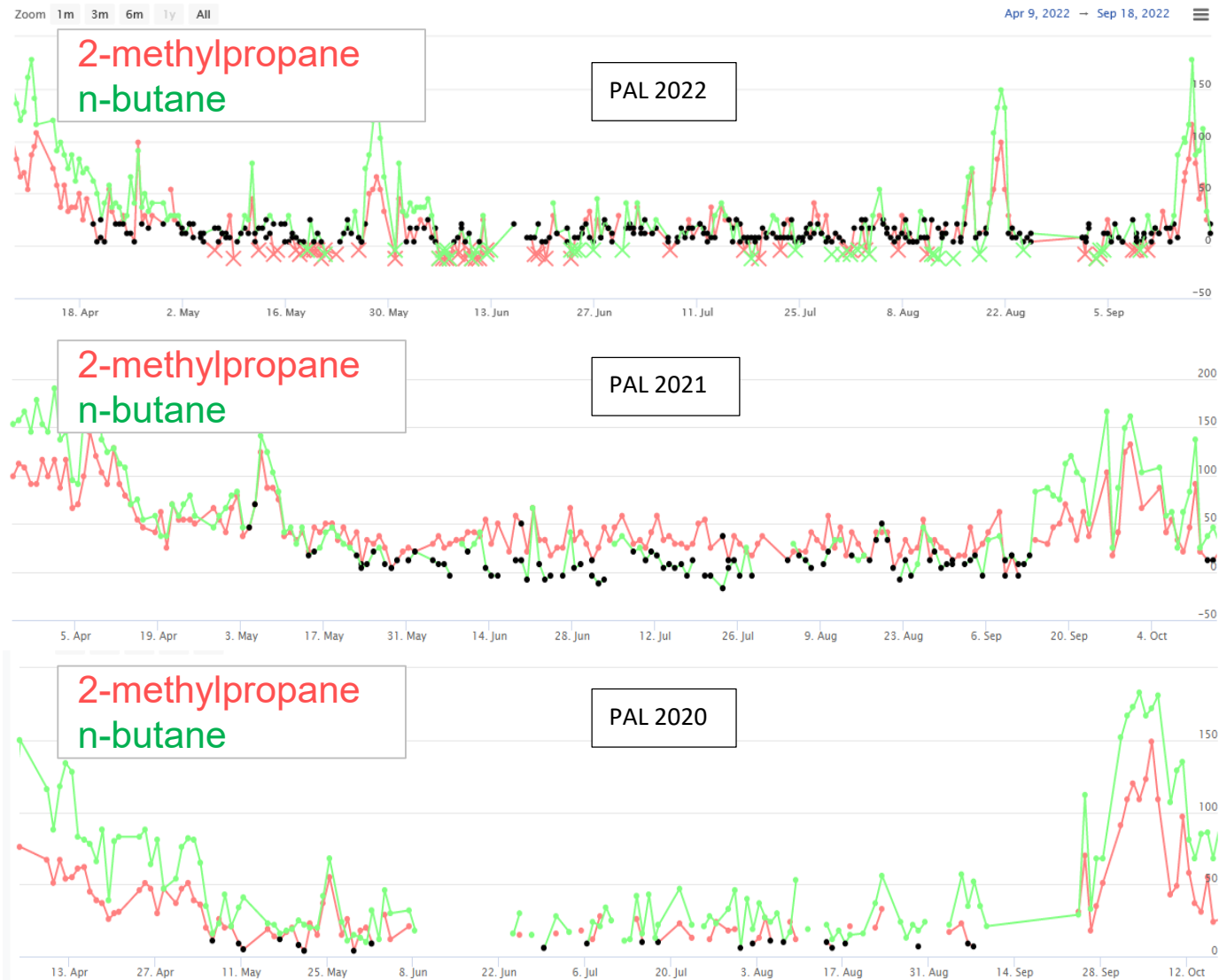


Pallas

A lot of 2-methylpropane values are the same value and form "lines" in the scatter plot. The steps of the lines are always 4 nmol/mol Are you sure those are correct? 2021 doesn't show this pattern. Did you round differently?



Pallas



Comment 2021:
2-methylpropane higher than n-butane in May to September 2021 but not in 2020. Also in BRM 2021, n-butane always higher.

For 2022, it looks like n-butane is mostly higher than 2-methylpropane even in summer.

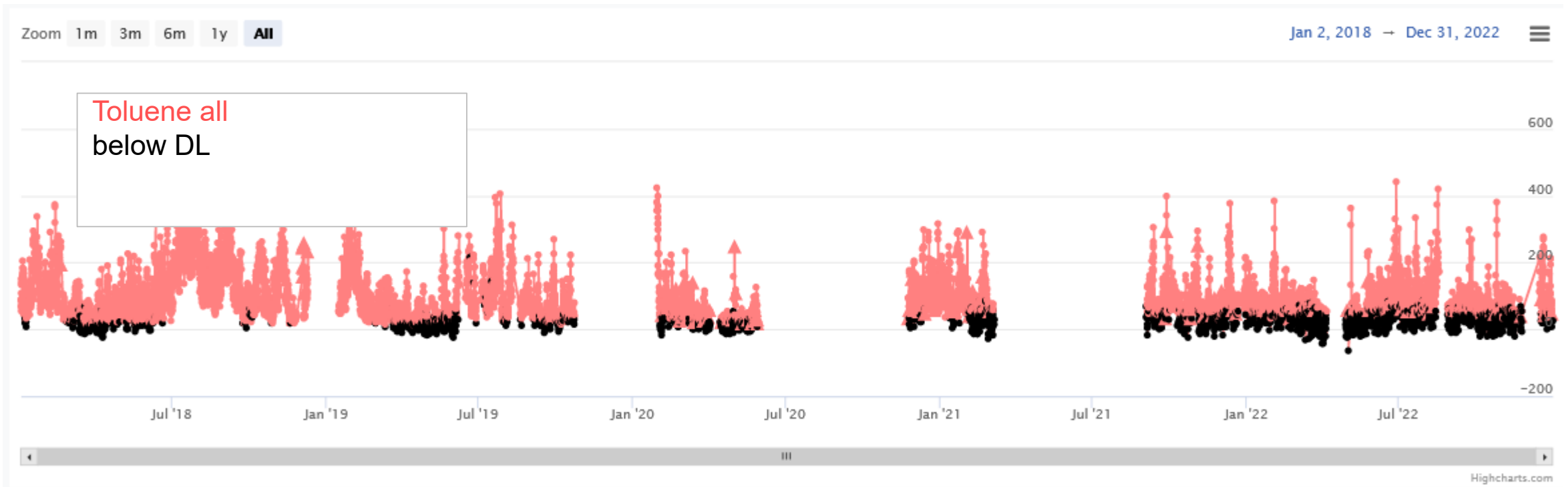
Hyytiälä

Hyytiälä

General:

Nice, you have again been able to give a dataset for a whole year!

- Ethanal is missing
- Many values below DL and negative values



Hyytiälä

Nothing else to say. Well done!



Peyrusse

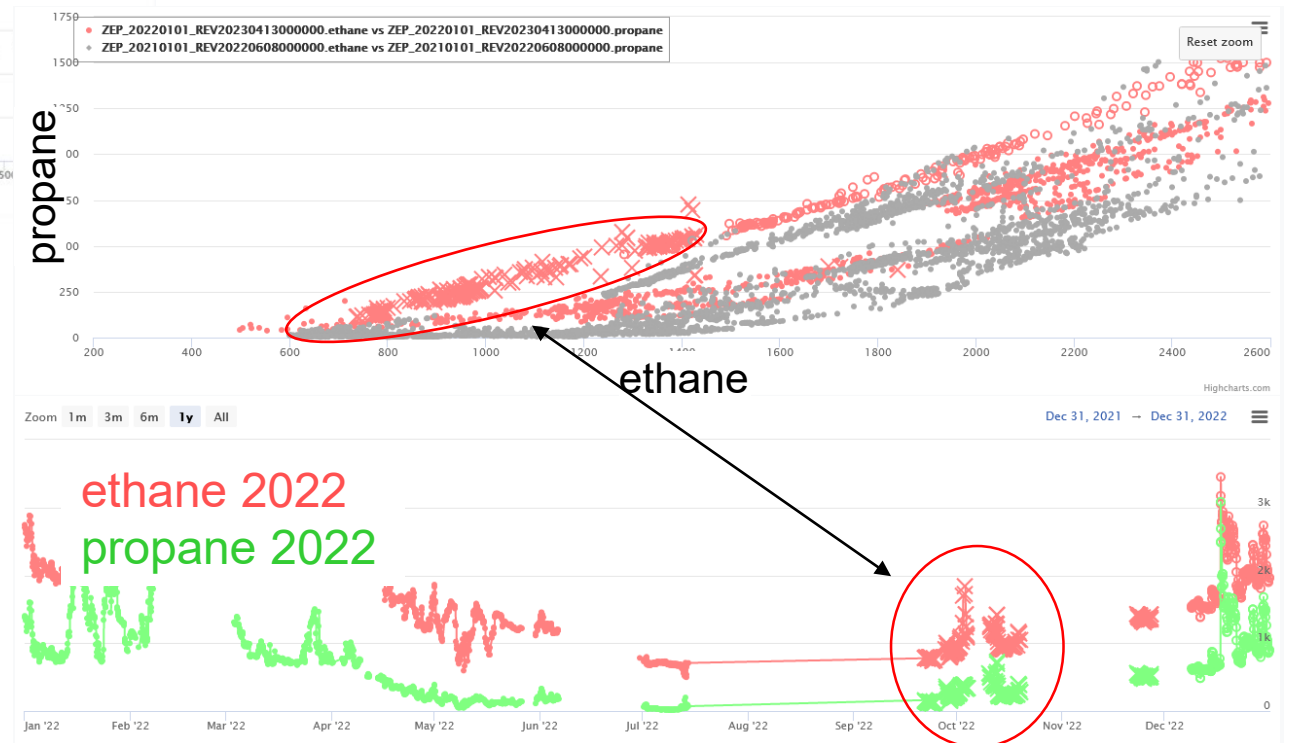
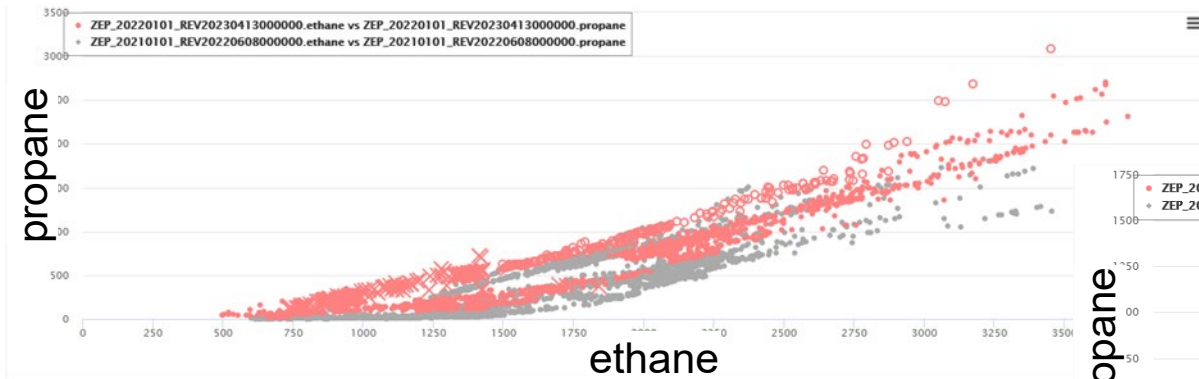
Peyrusse

According to the data provider (Thérèse Salameh), this EMEP station will not submit the 2022 VOC data to the ACTRIS In-situ Data Centre unit this year

Zeppelin/Ny-Alesund

Ny-Alesund

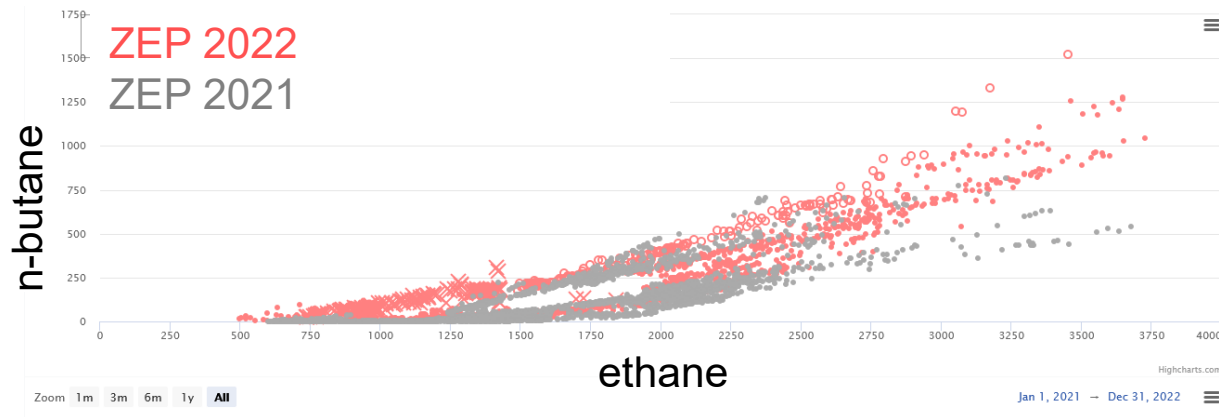
Propane vs ethane: additional "cloud" in 2022 (red) compared to 2021 (grey).



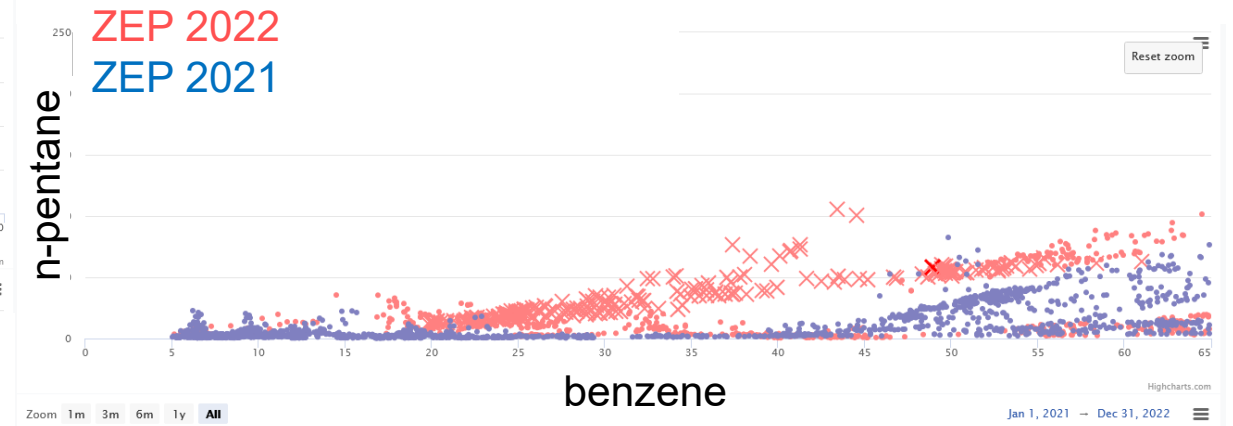
all crosses: values in October, after the big break in summer.

Ny-Alesund

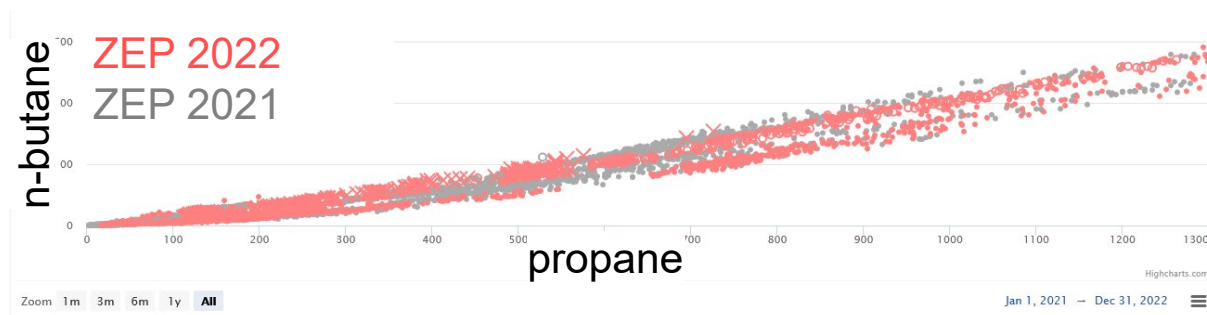
Also visible for n-butane vs ethane or



benzene vs n-pentane

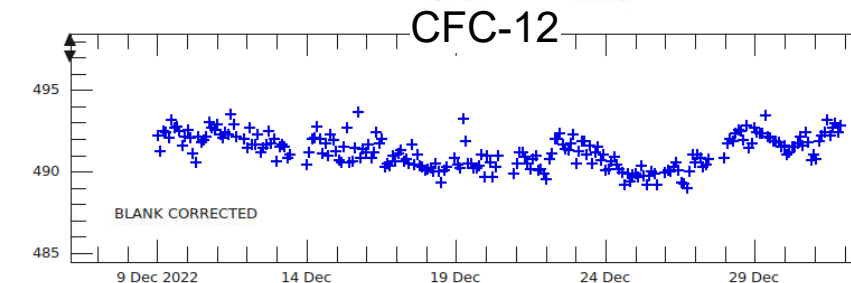
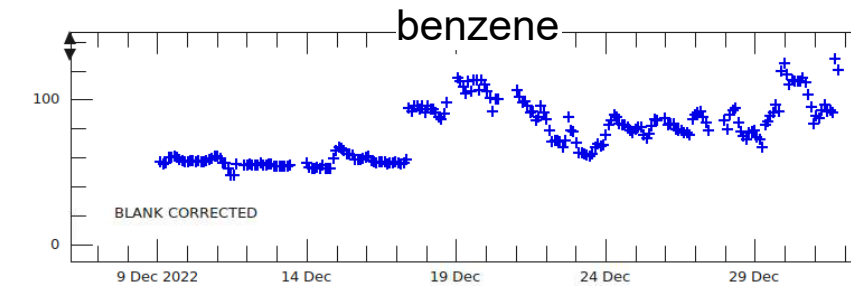
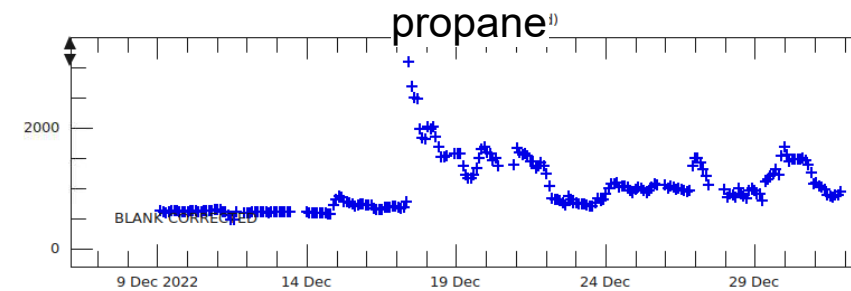
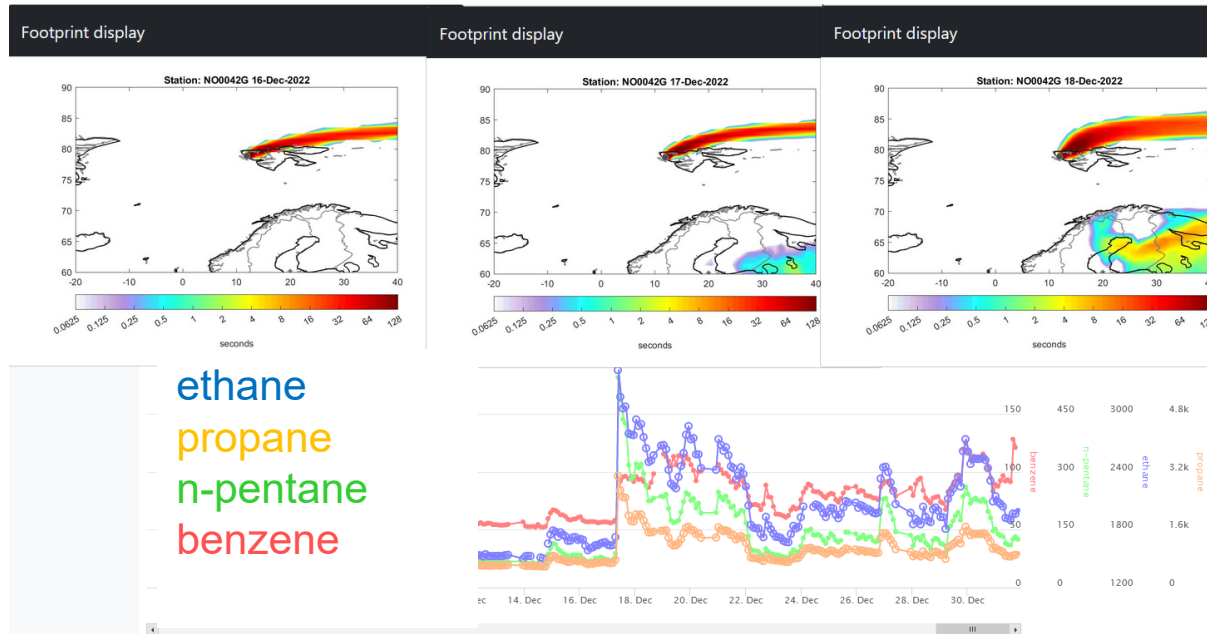


n-butane vs propane ok



Ny-Alesund

Interesting event on the 17th of December: for all substances, the concentration doubles within two hours. Although the footprints say that the wind always comes from the same direction.

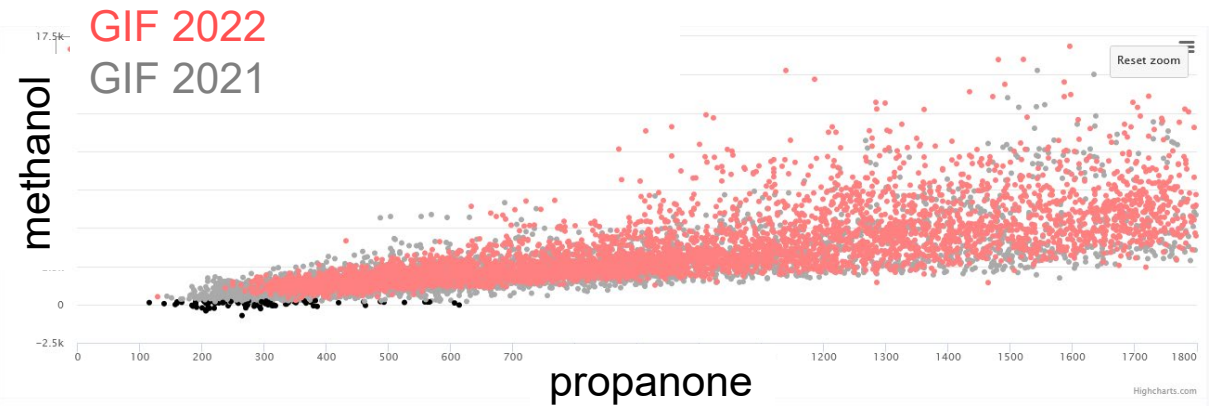
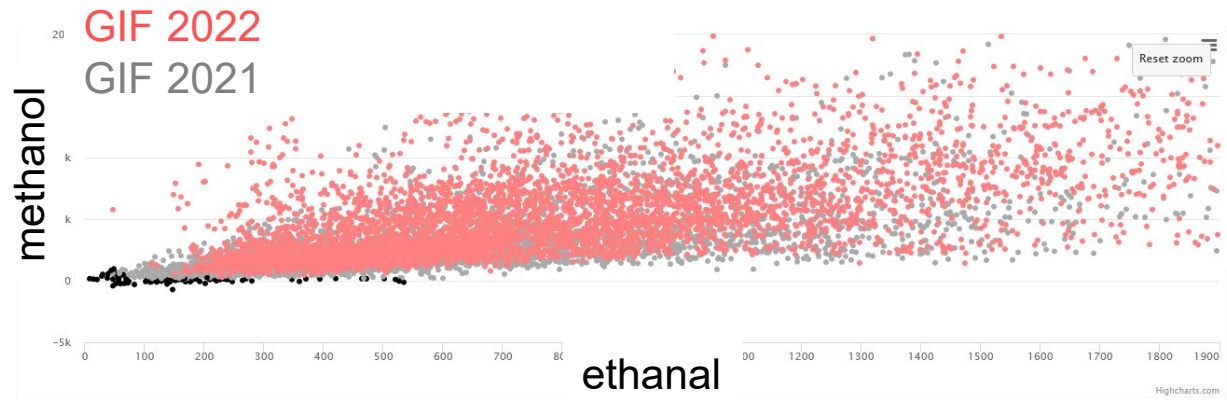


For substances with a constant concentration (e.g. CFC-12), the values do not increase. This means that the instrument has worked properly.

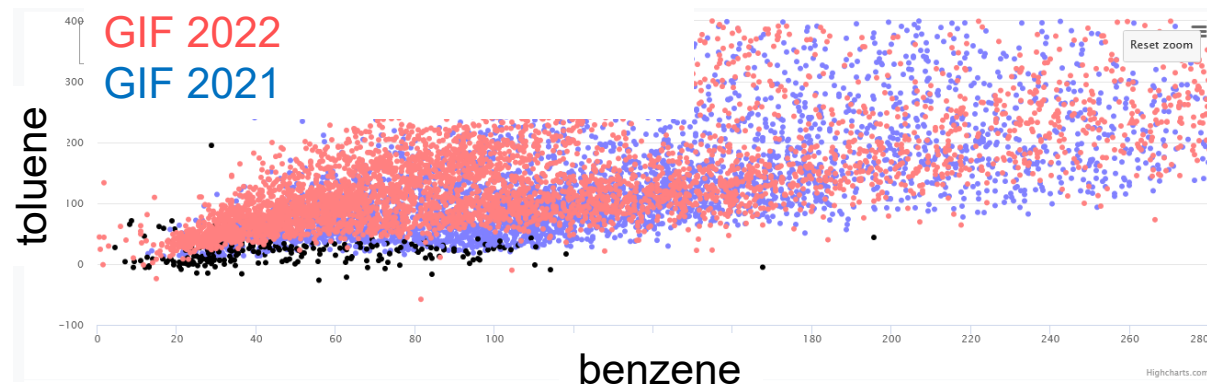
GIF

GIF

It looks as if ethanal and propanone does not reach the background concentration (GIF 2021 grey dots)

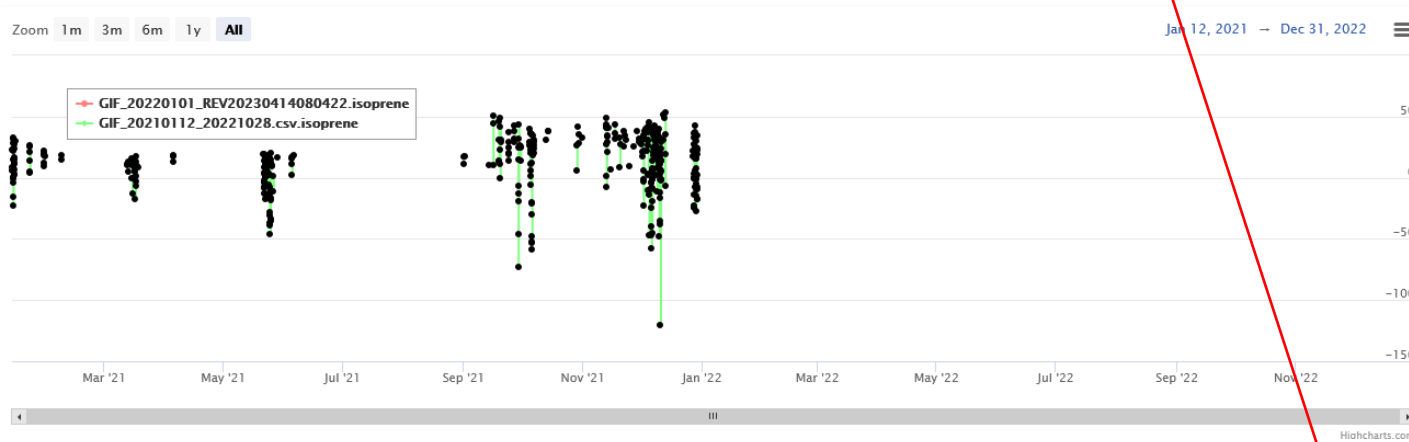


While toluene to benzene match the year 2021.

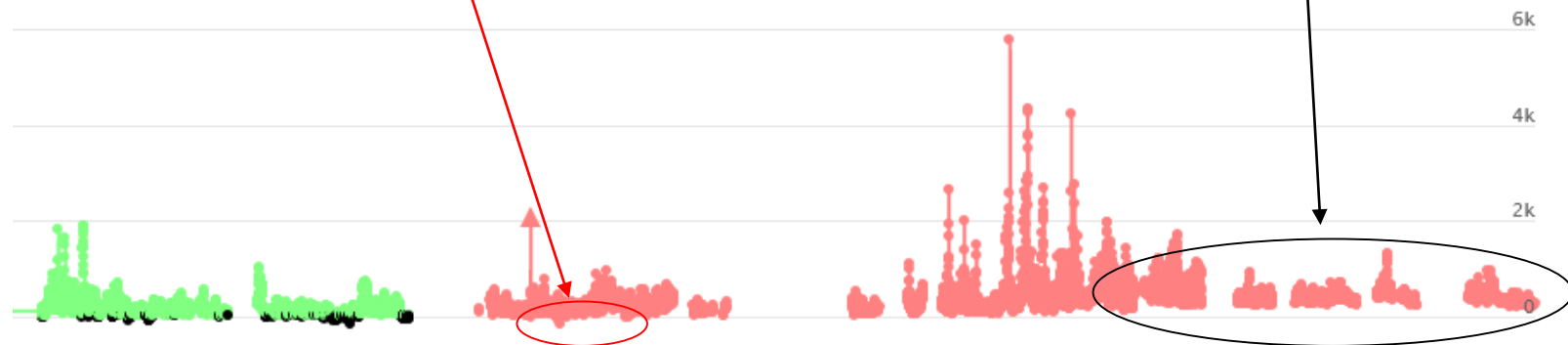


GIF

No values below DL (e.g isoprene) but there are values below zero



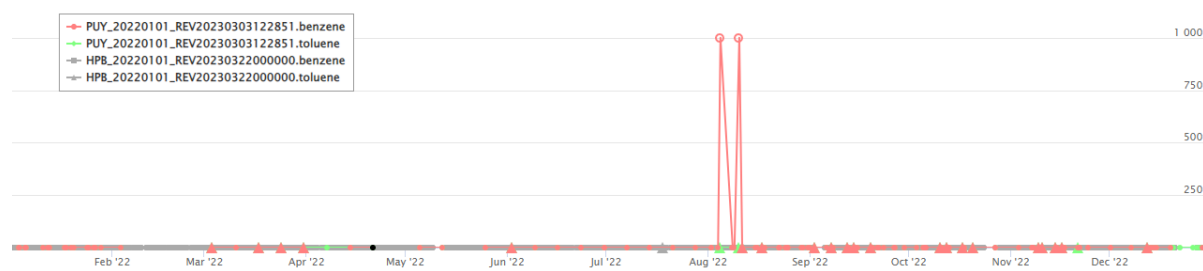
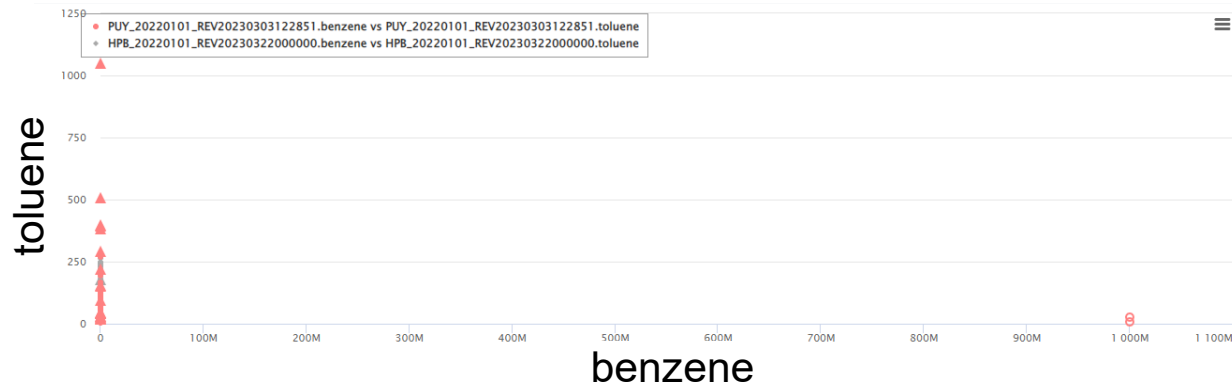
Isoprene do not reach the background



Puy de Dôme

Puy de Dome

In general: Points with the value 999999999 are obviously wrong. It is difficult to check the data with outliers this big (wrong rounded flag?). Be consistent with the marking of local events.



Puy de Dome

Inconsistencies with the local events (about 25% of the values have the flag for local event).



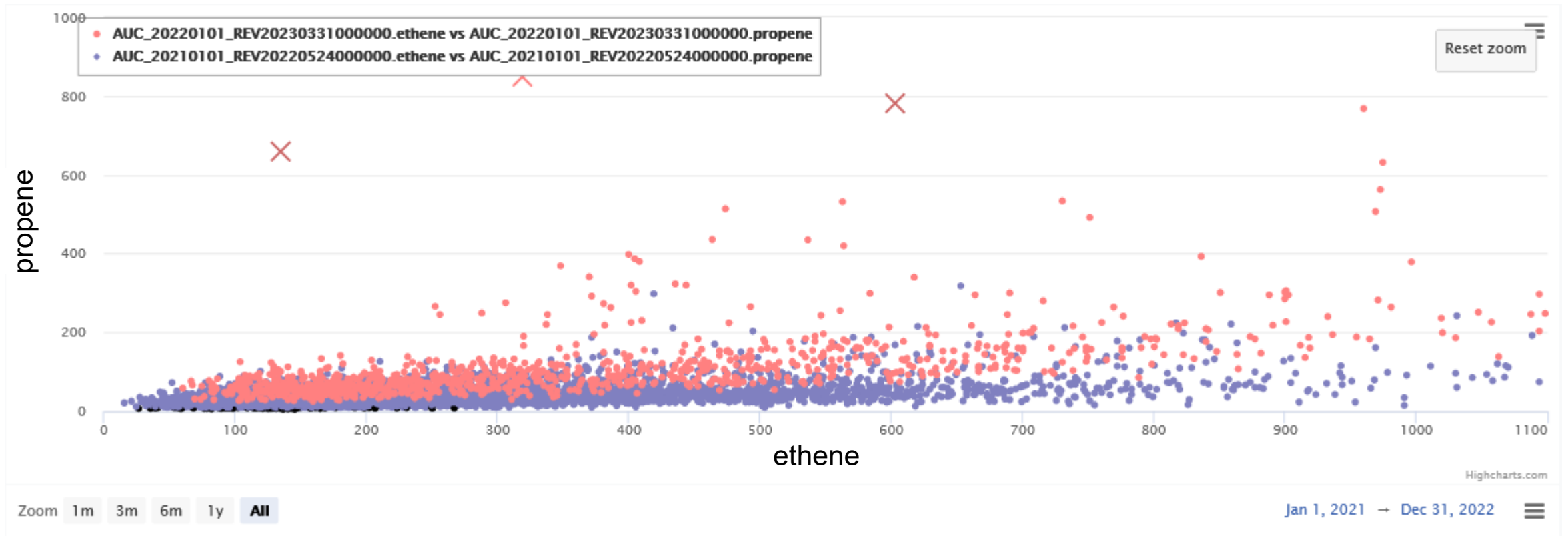
ethylbenzene
o-xylene

Auchencorth

Auchencorth

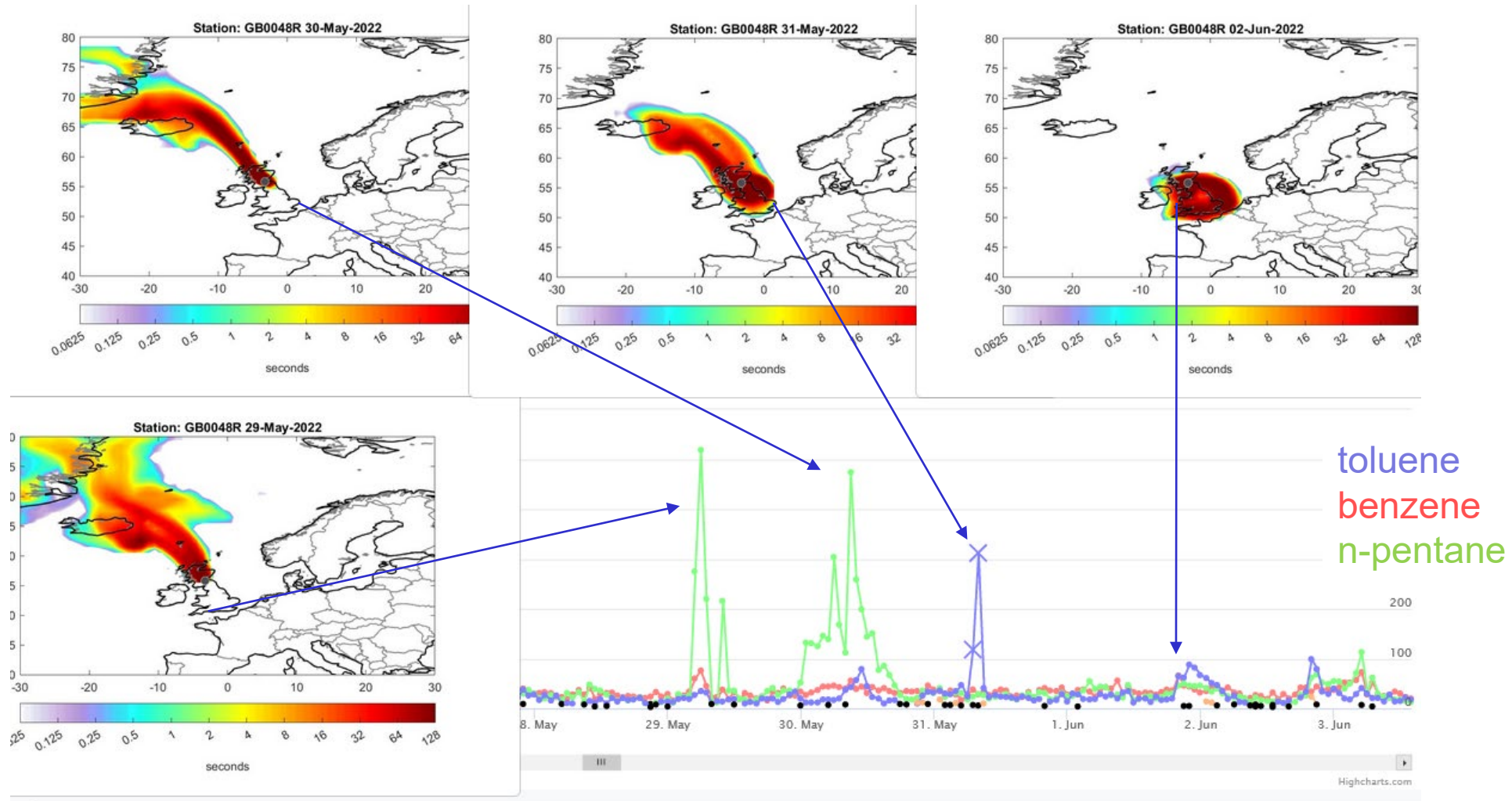
Propene vs ethene:

Significantly higher variability compared to 2021 and at the upper end of the correlation. For propene, only December data are available.



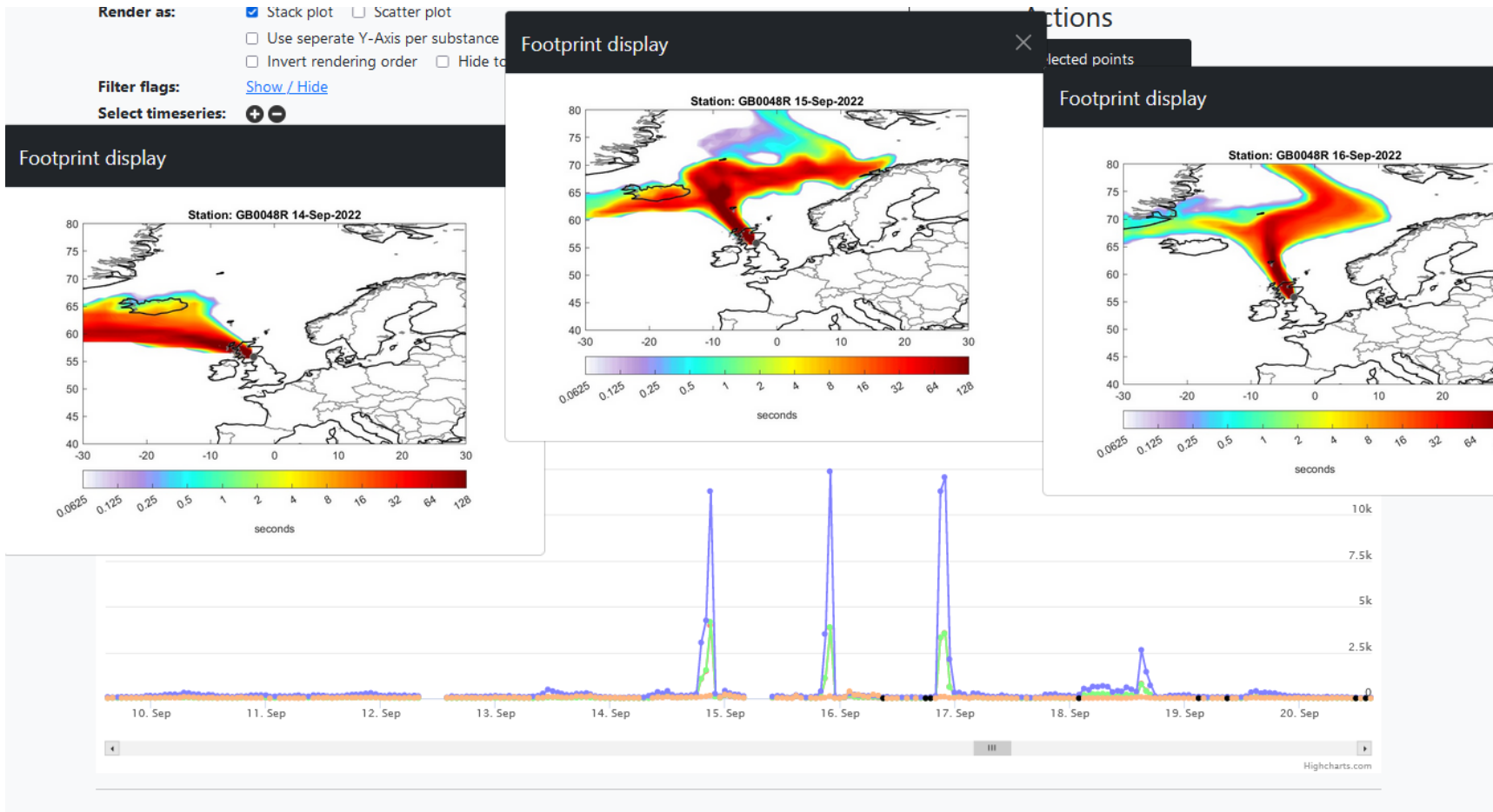
Auchencorth

Only toluene high. Something local?



Auchencorth

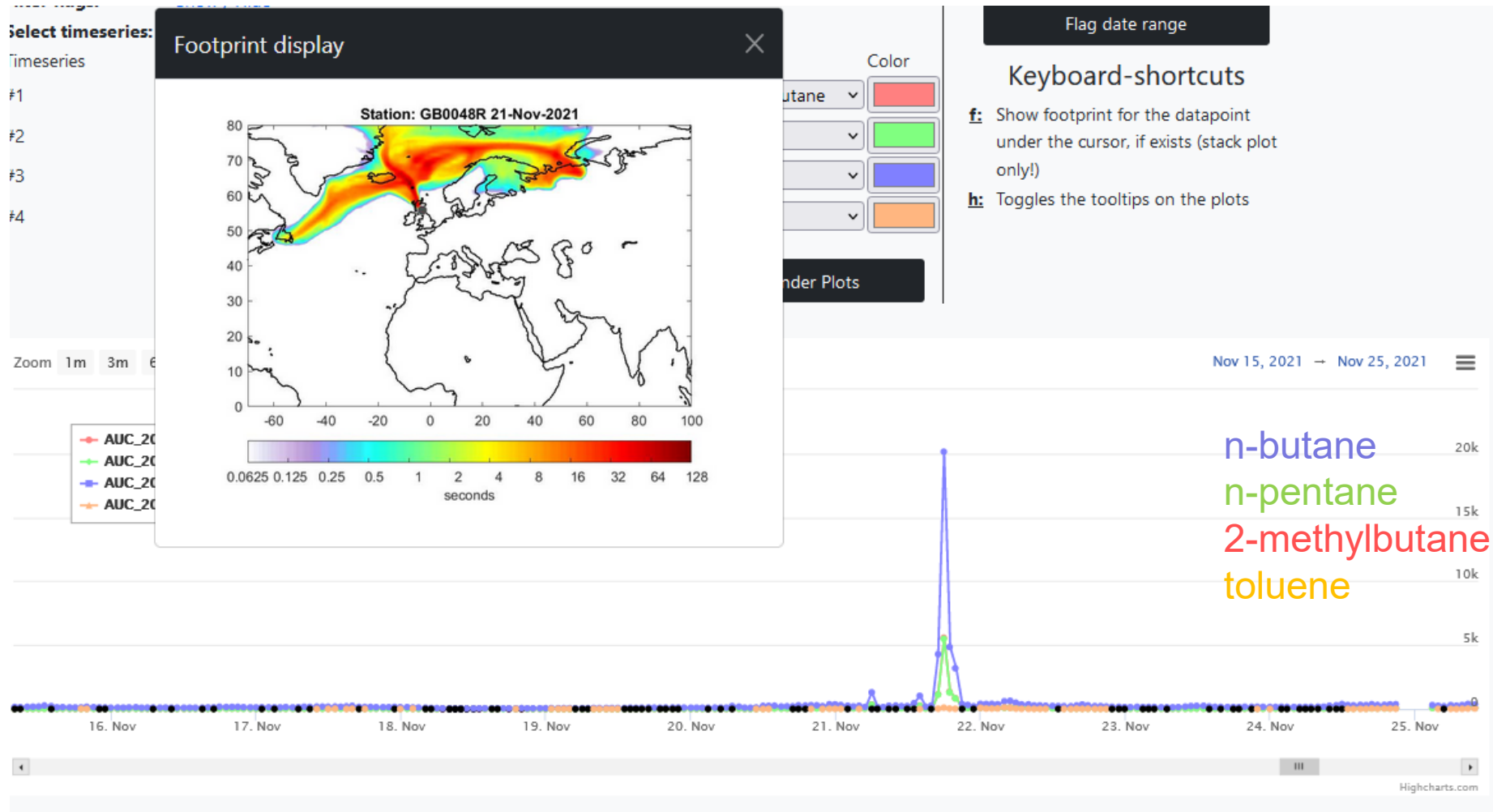
High concentrations for several substances... Any ideas where this is coming from?



n-butane
n-pentane
2-methylbutane
toluene

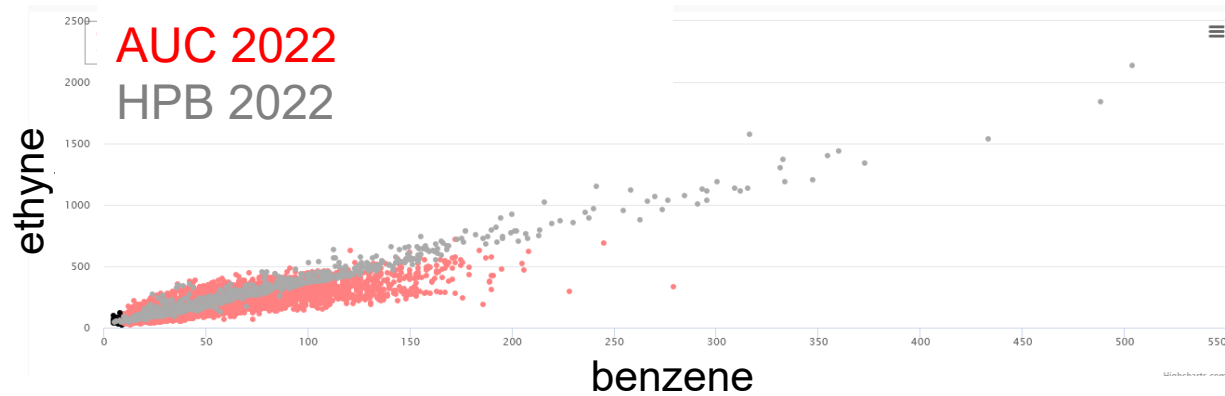
Auchencorth

. this can also be seen in 2021, with the similar footprint



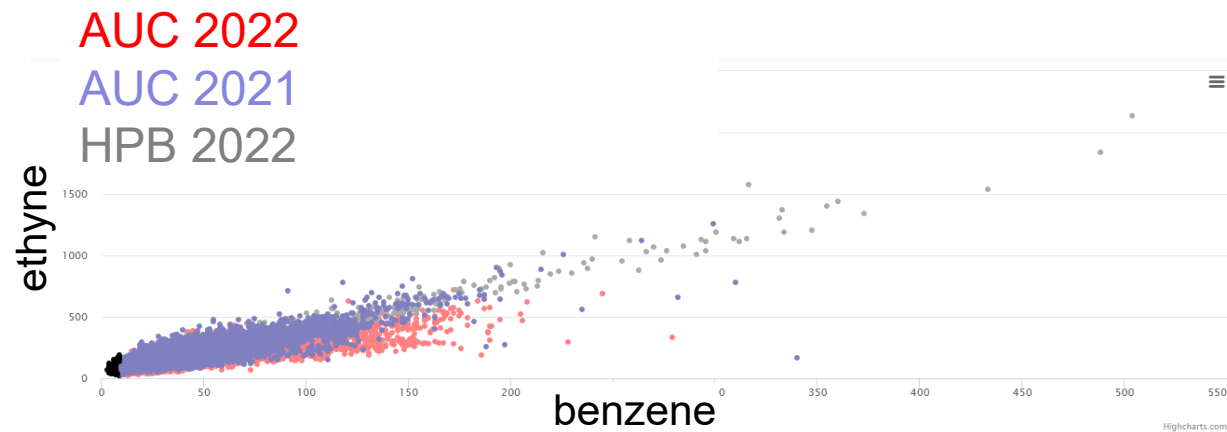
Auchencorth

Ethyne vs benzene:



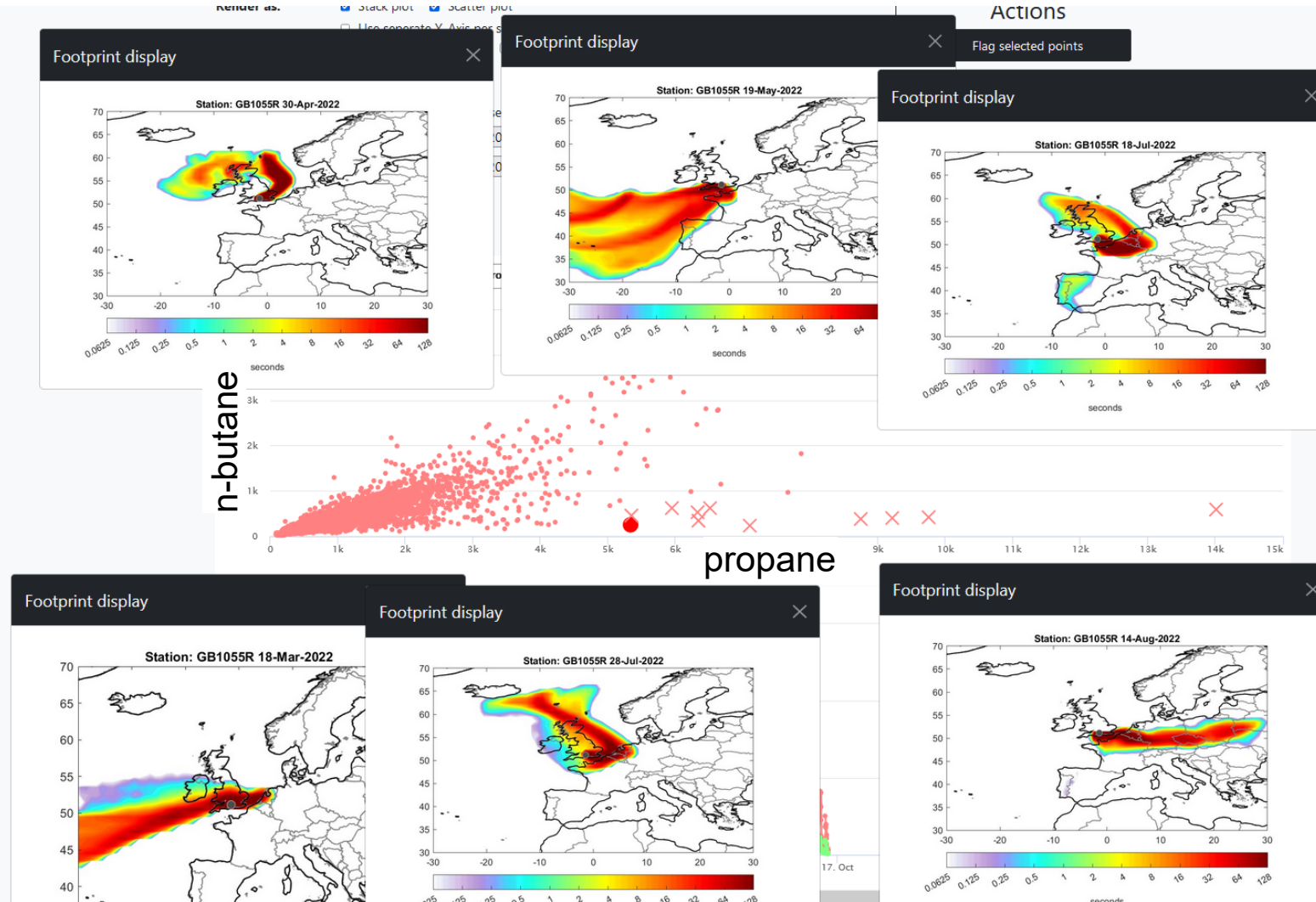
Different slope for benzene versus ethyne compared to Hohenpeisenberg.

slightly different slope compared with AUC 2021



Chibolton

Chibolton



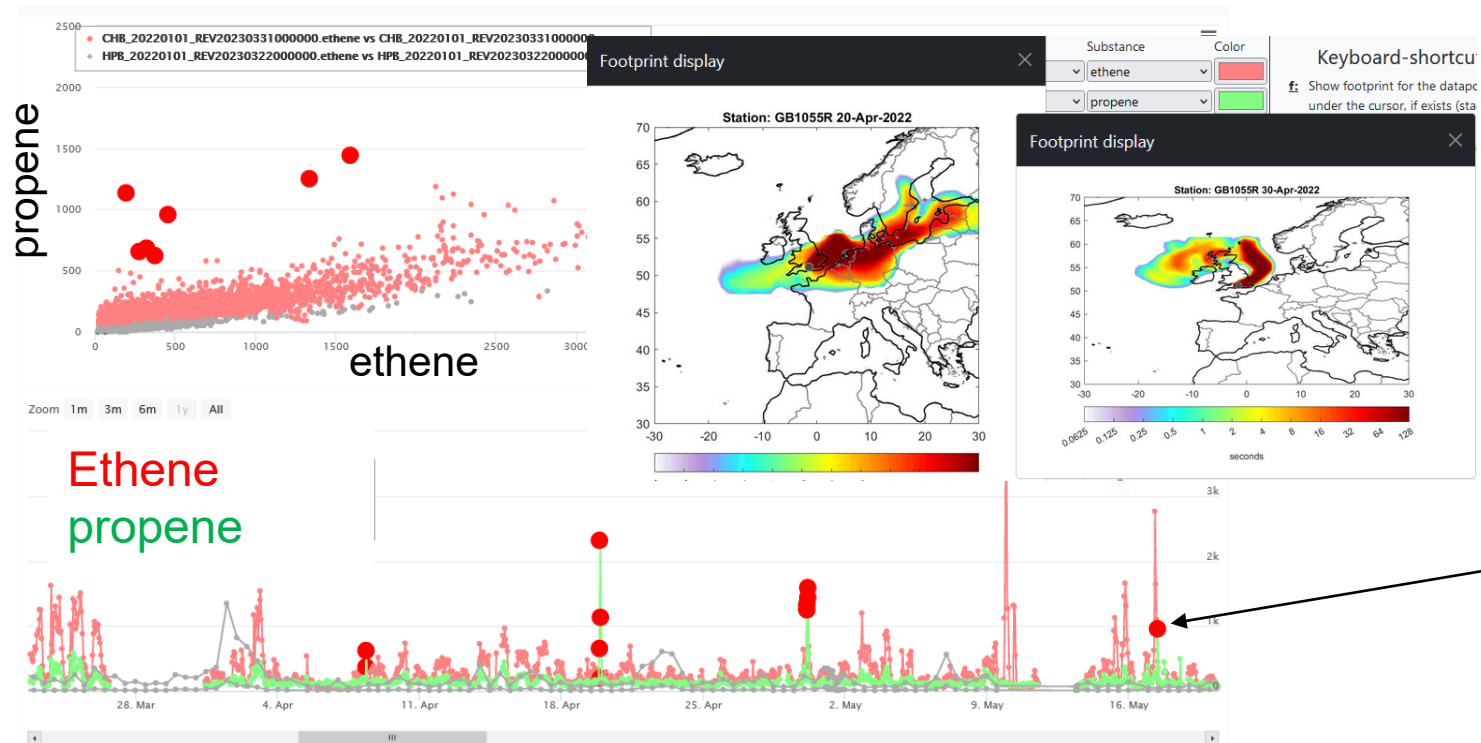
Some very high propane values.

- these high values are also seen in the correlation with ethane.
- Different footprints

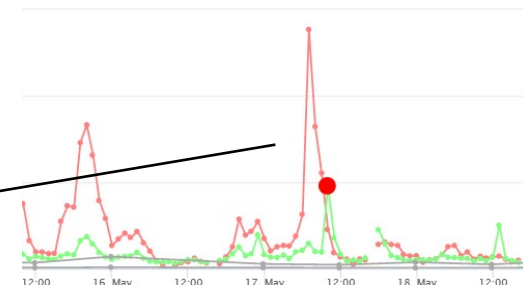
Chibolton

propene vs ethene

Very high concentrations for propene...

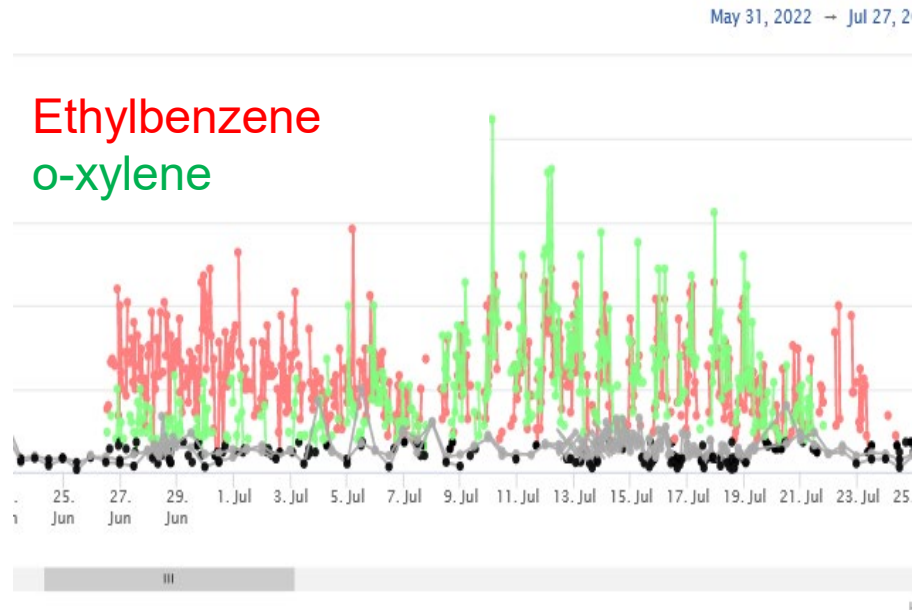


but also very high ethene just one hour before the high propene value.

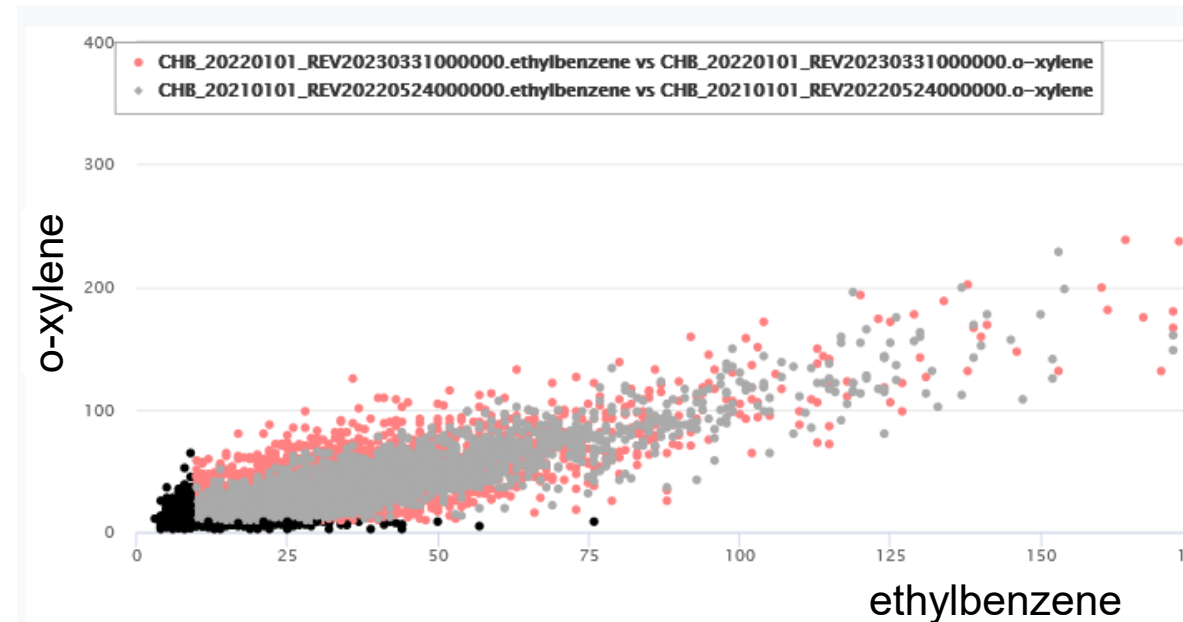


Chibolton

From June 27 to July 7 something went wrong. Ethylbenzene is much higher than o-xylene...



... and the spread is larger than 2021 (grey dots). Have you made any changes to the instrument (column...)?



End