FROG-5000

BTEX and Chlorinated Alkenes Settings

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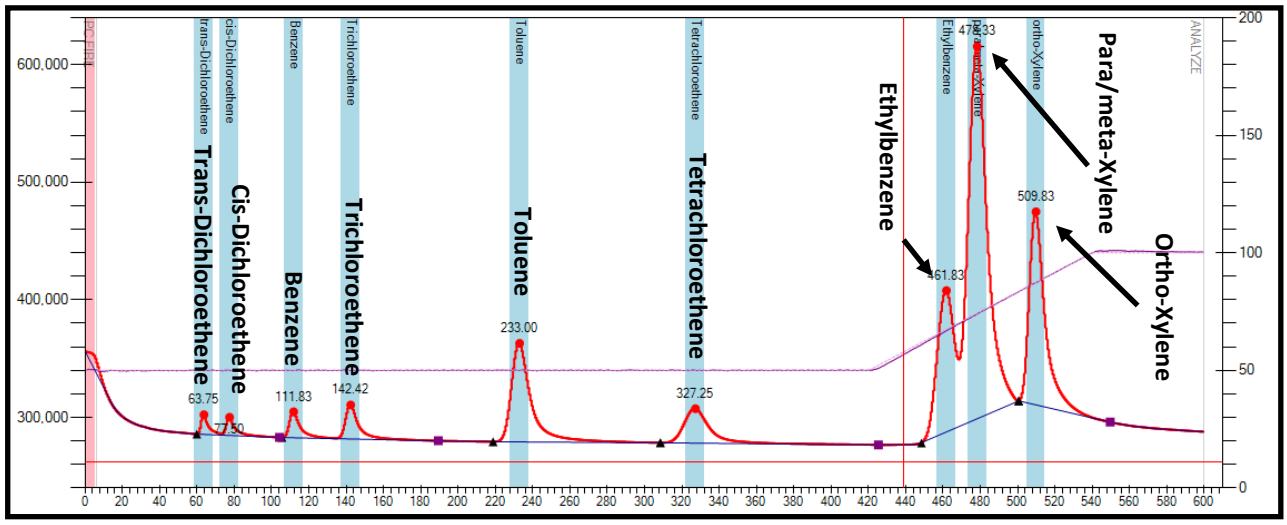
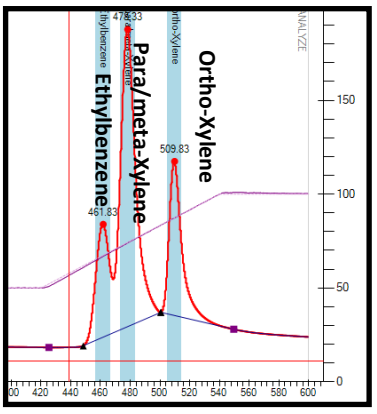


Parameter	Value
Ta	420
Tb	120
Tc	60
Ct	50
Ht	100
Collect	30 (water) 60 (air)
Clean	6
Presettle	4
Settle	2
Fire	6

When analyzing for chlorinated alkenes and BTEX on the FROG-5000, the parameters on the left serve as an appropriate starting point. Vinyl chloride is a difficult chemical to analyze even under perfect conditions. We recommend the following. If water samples are being collected from a grab sampler, pour the water directly into the end of the syringe and insert the plunger. This will minimize loss of volatile compounds. After loading the sample through the introduction valve as normal, immediately secure the sparge bottle and begin the analysis.

The elution order for the chlorinated alkenes and BTEX can be seen in the chromatogram above. As you can see from the above chromatogram, para-xylene and meta-xylene coelute. During calibration, these two chemicals are combined under the name p/m-xylene. Combining them means that for every calibration concentration level, their concentrations will be added together. For example, if the calibration standard contains 100ppb of p-xylene and 100ppb of m-xylene, then the combined concentration as p/m-xylene is 200ppb.



Hint 1: If better retention and separation are desired for the early eluting compounds, the cold temperature can be lowered if ambient conditions allow for it. We recommend that the cold temperature be at least 5 C hotter than the ambient temperature.

Hint 2: When identifying peaks, it may be easier to start with the last peaks. The picture on the right shows the feature that application support looks for when we are identifying the various peaks in MTBE/BTEX. Then, we go backwards in elution next looking for toluene, benzene, and finally MTBE if it is present. This trio of peaks is ethylbenzene, pm-xylene, and o-xylene. This set of peaks is distinctive in a chromatogram and can often help if peaks at the beginning are confusing.