FTIR Component Designation Guidelines

Designate the relative concentration of each substance as major, minor, trace, or unknown. The relative ratio for each substance is based on the relative heights of the peaks compared to one another.

If you would like another technician to review the spectrum please contact Abby (abbyedelmann@brandeis.edu) or Cole (colejarczyk@brandeis.edu) with the sample ID.

1. Major*
    2. The substance appears to contribute substantially to the overall composition of the sample.
    3. The substance has clear peaks and are the tallest peaks within the spectrum.
    4. Substances in major amounts in a sample likely make up more than ~50% of the overall sample composition.
5. Minor*
    6. The substance appears to contribute notably to the overall composition of the sample, but not as substantially as a major component.
    7. The substance has clearly identifiable peaks but are not the tallest peaks within the spectrum.
    8. Substances in minor amounts in a sample likely make up 10-50% composition of the sample.
9. Trace*
    10. The substance is barely visible on the original sample spectrum.
    11. Substances in trace amounts in a sample likely make up 5-10% composition of the sample and is near the limit of detection (LOD)**.
    12. There are indications of the substance but it is very hard to determine. Typically a substance with very small peaks but are visible above the noise of the baseline.
13. Unknown
    14. The technician is **NOT** confident in the presence of the substance in the sample.
    15. Unknown refers to the technician being uncertain if the compound is in the sample at all. There are indications of the substance in the spectrum but the technician has doubts if the substance is actually present.
    16. The uncertainty in the identification can be due to the substance being near the LOD**, noise inhibition, swamping of identification from other substances, etc.

*The technician is **confident** in the presence of the substance based on the FTIR spectrum.

**Limit of Detection (LOD) for the Bruker ALPHA II is ~5%. Substances under ~5% composition in a sample will not be detectable on FTIR.