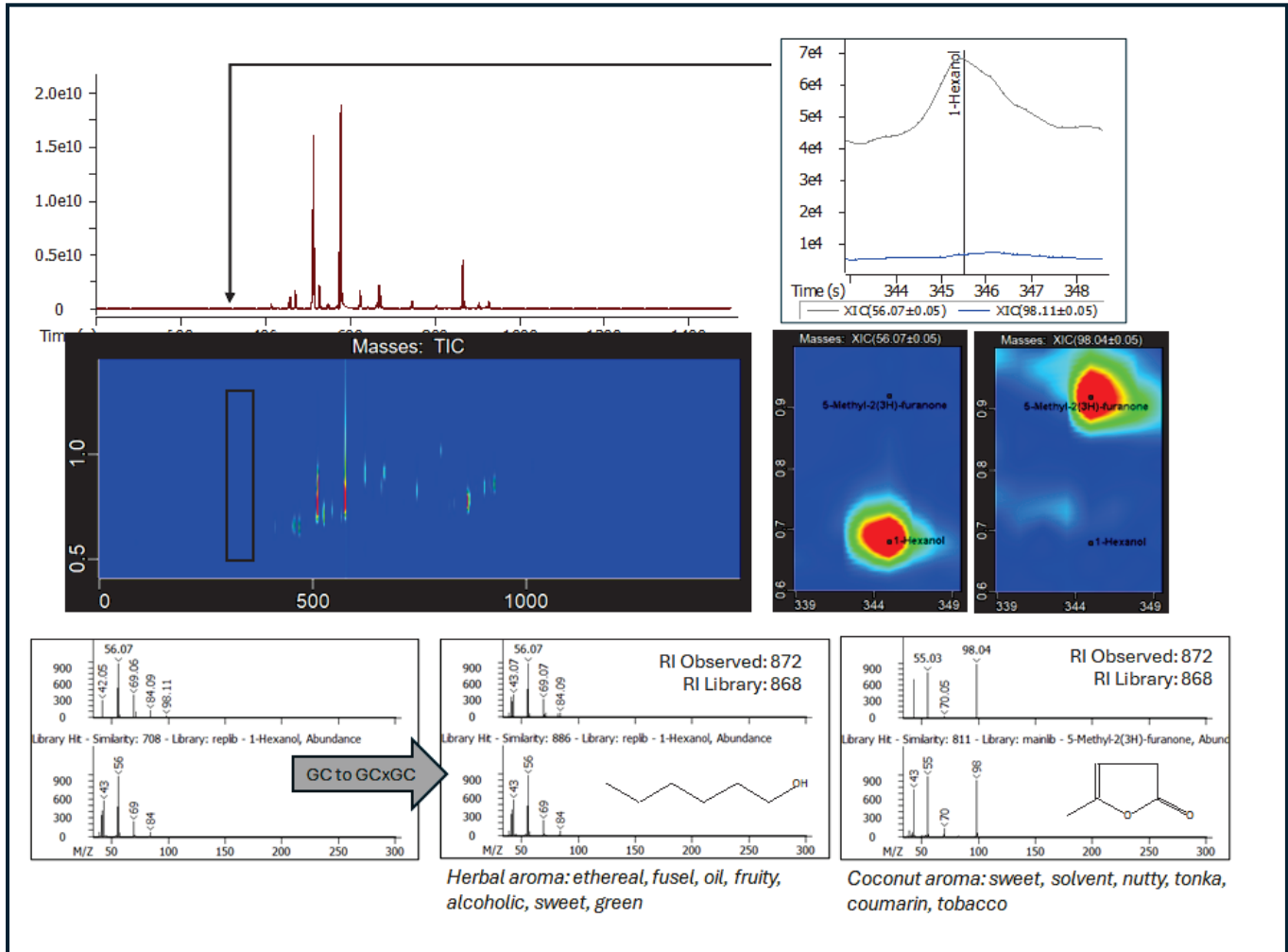


Instrument: LECO Pegasus BTX 4D

Detecting Low-Level Features and Separating Coelutions with GCxGC to Reveal More in Basil

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Key Words: Basil, Herbs, Food Flavor Fragrance, GC, GCxGC, Peak Capacity, TOFMS, Coelutions, Aroma



Two analytes, 1-hexanol and 5-methyl-2(3H)-furanone, coelute in a GC-TOFMS separation of basil. These analytes appeared together as one peak with a combined spectrum. The enhanced peak capacity of GCxGC chromatographically separated these compounds in the second dimension, improving the similarity score for 1-hexanol and revealing the previously obscured furanone. Both analytes have interesting aroma properties that may contribute to the aroma profile of the basil.

The Pegasus BTX 4D is an excellent tool for uncovering additional features in complex data. GCxGC has increased peak capacity and chromatographically separates more individual features compared to GC. The time-of-flight (TOFMS) adds enhanced sensitivity to detect lower-level features. Together, these tools help reveal more analytes, leading to a better understanding of the aroma characteristics of complex samples like basil and other herbs.