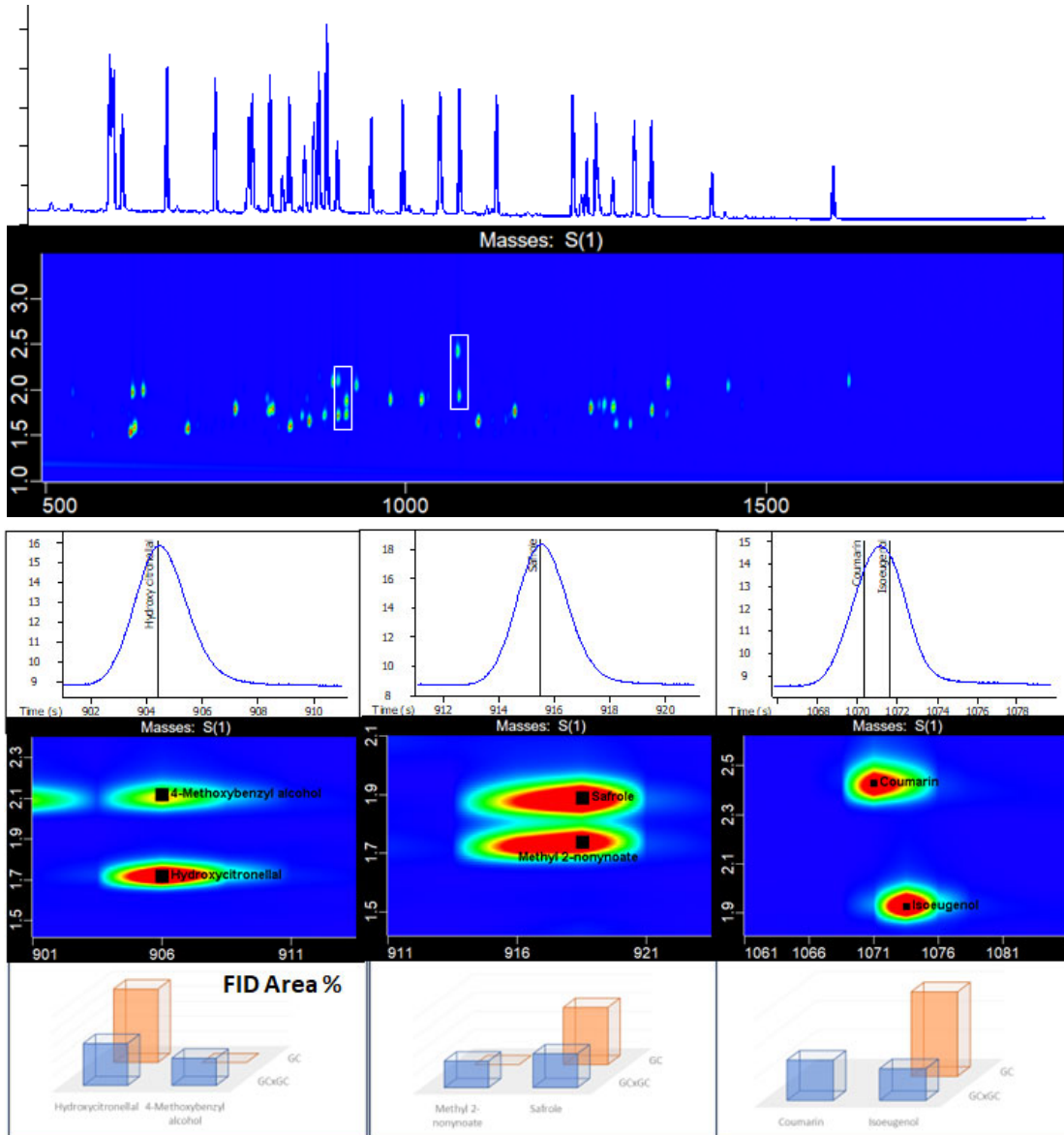


Instrument: Pegasus® BT 4D with Paradigm Shift

GCxGC to Resolve First Dimension Coelutions and Improve Area % Information from FID/MS Dual Detection Data

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Key Words: : GCxGC, TOFMS/FID, RFF Modulation, Area%, Peak Capacity Increase



GC and GCxGC separations of a fragrance mixture are shown. GCxGC chromatographically resolved 3 analyte pairs that coelute in the associated GC separation, improving FID Area % information for these analytes and the sample

A fragrance mixture was analyzed with GCxGC-TOFMS/FID to determine analyte identifications with MS and relative composition by FID Area %. Three analyte pairs coeluted in the associated 1D GC separation of the sample leading to over-counting of one analyte and completely missing the other in each instance. GCxGC resolved these coelutions in the second dimension so independent peak areas could be determined for each analyte, improving the Area % information. A GCxGC flow modulator allowing full transfer of analytes from the first dimension to the second dimension and a splitter capable of maintaining a constant split ratio between the MS and FID during the entire length of the run, further enhances quantification accuracy.