

Smart Subtract[®]

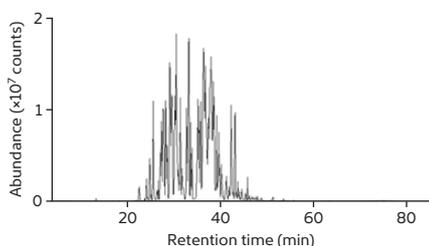
Rapidly and reliably find subtle differences between complex chromatograms

Comparing superficially similar GC(-MS) datasets is a routine task for many analysts – but manual comparison is tedious and time-consuming, and minor but crucial differences are all too easily missed.

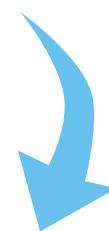
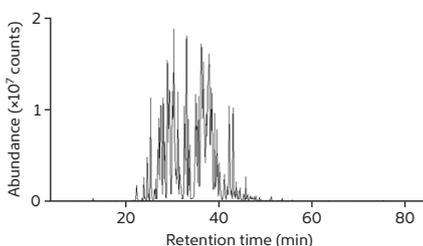
These problems can now be resolved using Smart Subtract, a powerful new tool available within the ChromSpace[®] software platform. Smart Subtract uses a probability-based subtraction algorithm to rapidly highlight only the key differences between pairs of 1D or 2D chromatograms, bringing a new level of efficiency and confidence to your data-comparison workflow.

What difference does Smart Subtract make?

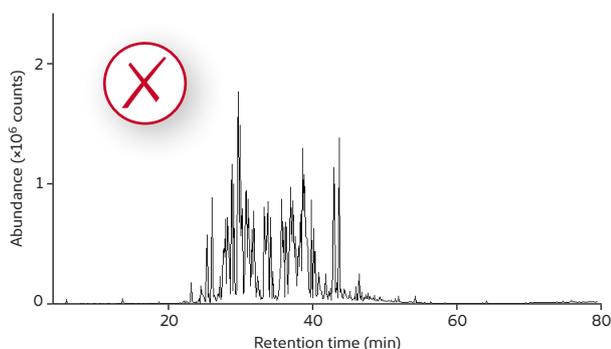
Take a spiked essential oil...



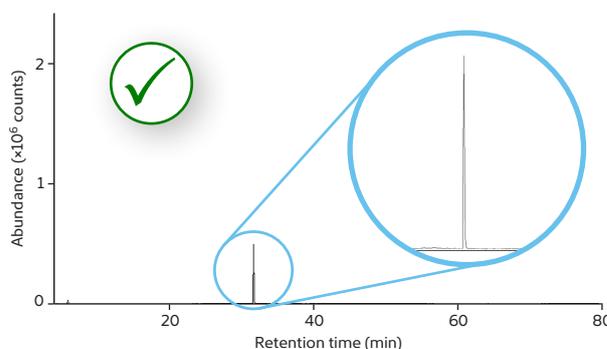
...and subtract an unspiked essential oil:



With simple subtraction, small differences in intense peaks dominate:



But with Smart Subtract, the spiking compound is successfully isolated:



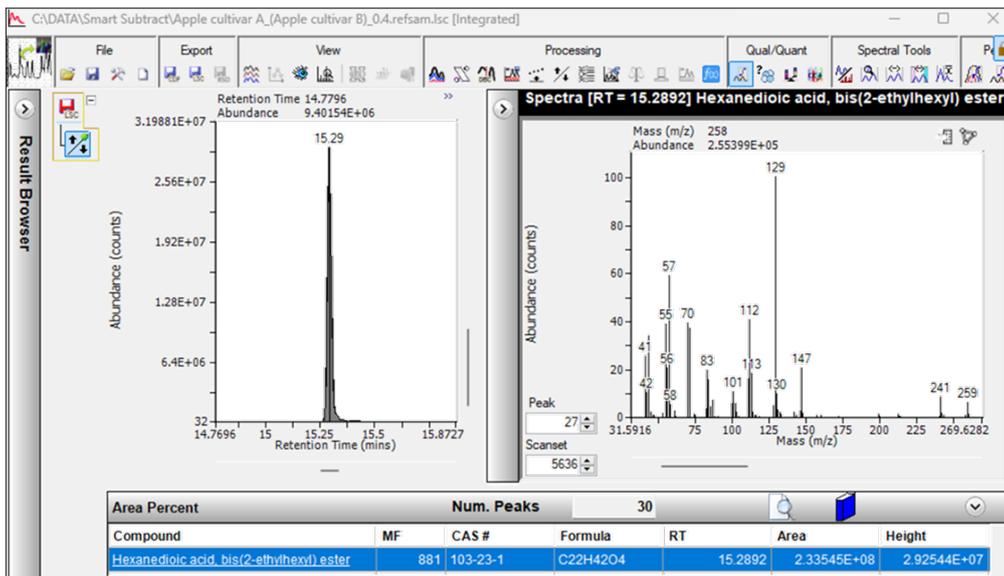
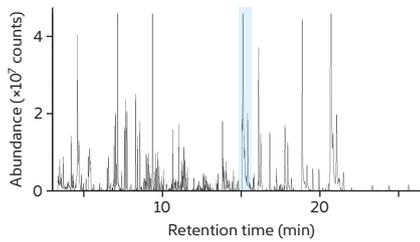
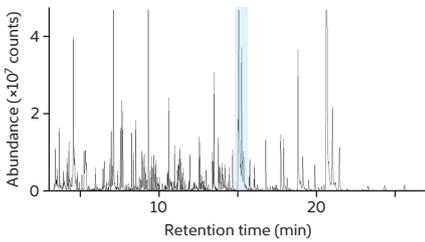
Uncover hidden details effortlessly. As shown by this example, Smart Subtract suppresses small relative changes between chromatograms, resulting in a clean background that reliably highlights only the key differences (in this case the single spiking compound).

Key advantages of Smart Subtract

- ▶ **Fast time to results:** Spectral information is retained, allowing key differences to be identified quickly using automated integration and library-searching.
- ▶ **Flexible:** The Smart Subtract tool is compatible with both 1D and 2D GC(-MS), offering easy integration into any workflow.
- ▶ **User-friendly:** Thanks to the simplified output from Smart Subtract, results can be easily communicated to non-chemists and stakeholders, without need for expertise in complex statistics, and while remaining within a familiar user interface.

Take a plastic-packaged apple...

...and subtract a paper-packaged apple:



Identify contaminants quickly and confidently. Smart Subtract reveals a plasticiser (DEHP) in the extract of a plastic-packaged apple, but not in a paper-packaged apple.

Discover what Smart Subtract could do for you

Email hello@sepsolve.com to request a demo