



GCxGC Plug-in Module for MS Host application

Client Overview

The client has been at the forefront of innovation for enhancing the measurement of trace-level volatile and semi-volatile organic compounds (VOCs and SVOCs) by gas chromatography (GC). The client's wide range of thermal desorption products over a decade set the benchmark in the field for quality and reliability. By lowering detection limits and increasing the options open to the analyst the thermal desorbers facilitate automation, and greatly extend the application range of GC.

Challenges

The client was looking to develop an autonomous offline data analysis package for GC X GC-MS data in their proprietary file format and a plug-in application to enable 3D plotting in an existing 2D module. The requirement included-

- Extensive visualization techniques to be implemented so that the user could analyze the 'cube of data' through multiple charts like surface chart, line chart, and mass cube.
- Concept of 'folding' to be implemented along with writing algorithm for peak finding which required peak merging, peak subtraction.

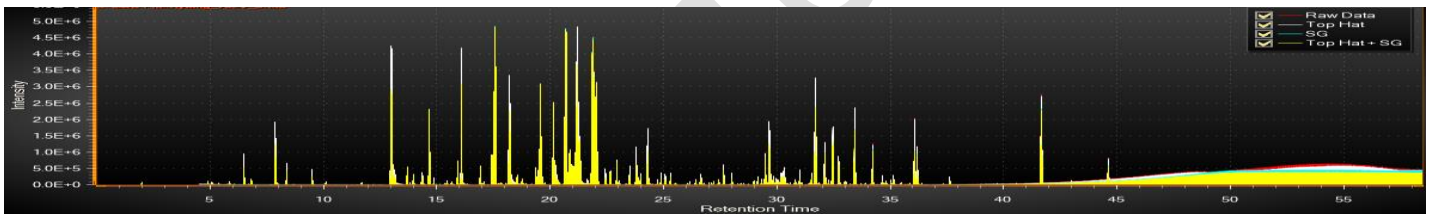
Optra was found to be a perfect partner with requisite experience and capabilities to deliver client's expectations.

Solution (GCxGC data analysis plug-in module for MS host application)

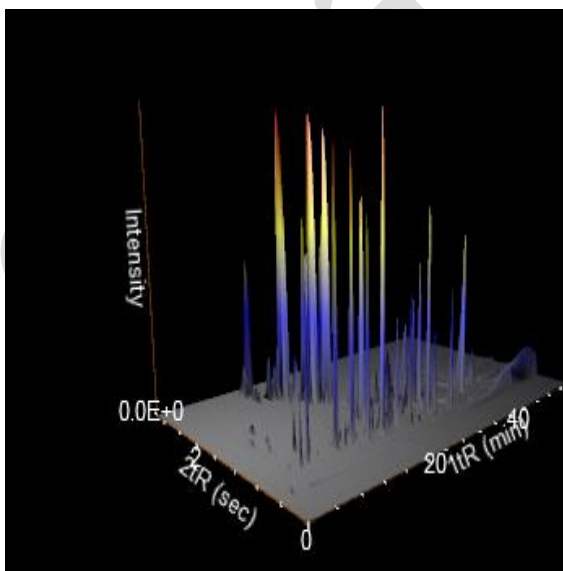
Optra proposed and delivered a suitable solution to suit the client's need wherein objective was to create a GC X GC data analysis plug-in on the client's host MS application so that it could support all functionalities- Qualitative & quantitative along with 3 dimensional graphical displays.

Optra team studied various 3rd party charting tools which can be further modified to suit the needs and requirements. Tool was finalized after doing performance testing on huge data and multiple chart options. Optra team studied the GCxGC data structure and manipulated the data by using the folding concept which needed to be represented in various charts. Interpolation and binning of data was done before binding the data to charts. Data representation in Chart for 4th dimension was also accomplished. The peak finding algorithm "Savitzky-Golay filters" was utilized with the user configurable window size and polynomial degree.

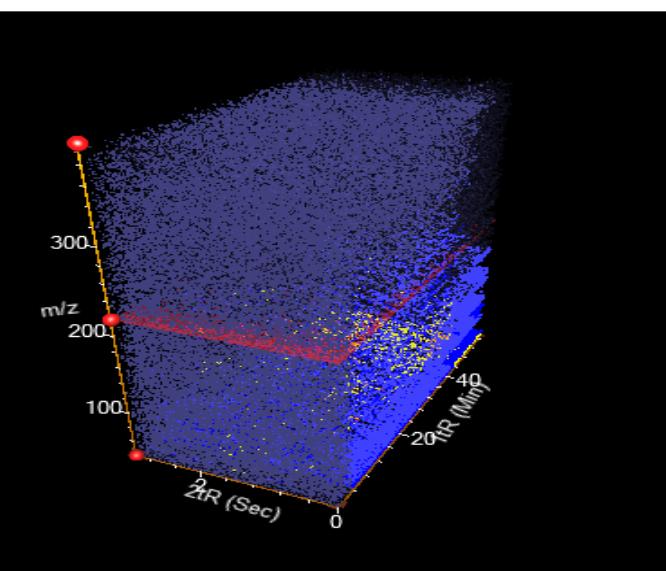
Line charts



Surface charts



Mass cube



Optra Systems, Inc.

530 Lakeside Drive, Ste 250, Sunnyvale, CA 94085

Tel: +1-408-524-5300, Fax: +1-408-524-5302, Email: info@optrasystems.com

Technology Environment

- C#, WPF 4.0
- C++ for algorithms
- Third party Charting tool library

Benefits

- Better and accurate Peak finding algorithm with advance options for peak merging.
- Easy plugin and play to existing host application along with smart UI design.
- Faster charting for multiple requirements including extraction of metadata from raw data.
- Global delivery model ensured 50% costs savings with 100% assured quality and 200% enhanced production cycle.
- “Work for Hire” model facilitated Client to own code and Intellectual Property Rights without increasing their headcount.

About Optra Systems

Optra Systems is an ISO-certified global organization with deep domain expertise in medical devices, lab automation, life science informatics and healthcare IT solutions. The company provides a fully-scalable, cost-effective OptiShore™ delivery model. This enables customers to choose the optimal balance between on-site, on-shore, and off-shore development that will best address their budget and collaboration requirements. With Optra Systems, customers are able to shrink their time-to-market by leveraging practical, building-block based solutions. Committed to clear communication and total transparency, the company consistently meets or exceeds its clients' expectations. Offering a full complement of expert engineering and consulting services, Optra Systems is aligned to real business needs applied over the entire product development lifecycle. The robust, scalable and efficient IT infrastructure of the company, together with its outstanding project management team, consistently ensures superior results. Optra Systems 's

Optra Systems, Inc.

530 Lakeside Drive, Ste 250, Sunnyvale, CA 94085

Tel: +1-408-524-5300, Fax: +1-408-524-5302, Email: info@optrasystems.com

global delivery model helps its customers cut costs by about 50% without compromising on quality and realize a 200% improved production cycle.

Visit Optra Systems today: <http://www.optrasystems.com>

Contact Optra Systems Today

Optra Systems, Inc.

530 Lakeside Drive, Ste 250

Sunnyvale, CA 94085

Tel: +1-408-524-5300

Fax: +1-408-524-5302

Email: info@optrasystems.com

Optra Systems, Inc.

Optra Systems, Inc.

530 Lakeside Drive, Ste 250, Sunnyvale, CA 94085

Tel: +1-408-524-5300, Fax: +1-408-524-5302, Email: info@optrasystems.com