

TOTAL SOLUTIONS FOR HIGH-THROUGHPUT ANALYSIS AND PURIFICATIONS

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Chromatographic tool has taken the major role in high throughput analysis and purifications for its sophistications, high efficiency and fast turnaround to productivity.

With integration of high end mass spectrometry, mass-directed LC-platform technique, with its well-designed Boolean detection and collection logarithm, has shown the excellent performance to handle the complicated and diversified nature of drug discovery discipline.

The success rate for such single chromatographic platform (HPLC) based strategy has been reported in the range of 50% to 70% across the industrial practices. While this benchmark confirms the effectiveness of the technique, it is also obvious that it will be beneficial to have complementary and alternative technique for further improvement for overall success rate.

In this study, we will demonstrate a complementary technique by integrating the versatile detection and collection functionalities through a supercritical fluid chromatography (SFC) platform, to work together to offer the total solution package.

The implemented functionalities on this SFC platform include hyphenated detection tools such as MS-UV-PDA-ELSD for sophisticated determination and triggering; stacked injections and collections to improve throughput/productivity, automatic column switching for versatility, and added wasteline detection and collection to prevent sample loss. Implementation of these functionalities across several different scales of platforms will also be discussed.

The industrial data has shown this combined strategy can increase the success rate of high throughput analysis to 85%-90%, which is significant.