

Shimadzu Solutions in Biotransformations and Metabolomics

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Shimadzu supports the development and proliferation of biotransformations technologies by providing solutions combining mass spectrometers, imaging mass microscopes, databases, and software, which cover quantitative metabolomics, non-target analysis, imaging and multi-omics. With the capability to acquire up to 200 high resolution spectra per second we can create MS and MS/MS methods for targeted and untargeted metabolomics using a single DIA method. This workflow creates cycle times of <1 second for a mass range of m/z 50-1000 with high resolution accurate mass MS and MS/MS data.

Core ion beam technologies first developed and fully optimized on the Shimadzu triple quadrupole LC-MS/MS systems delivering class leading sensitivity at very fast acquisition rates. The same ion beam focusing and ion transfer innovations are part of the LCMS-9050 creating a high sensitivity QTOF.

The combination of highly sensitive and stable Q-TOF LC/MS and multivariate analysis software provides an effective workflow for non-target/target metabolomic analysis. The combination of triple-quadrupole MS and database with a wide range of registered primary metabolite analysis conditions makes it possible to obtain large amounts of information efficiently, including simultaneous quantitative analysis of 475 compounds. Currently available are such method packages as:

- Primary metabolites
- Metabolic enzymes
- D/L amino acids
- Cell culture profiling
- Lipid mediators
- Phospholipid profiling
- Short chain fatty acids
- Bile acids etc.

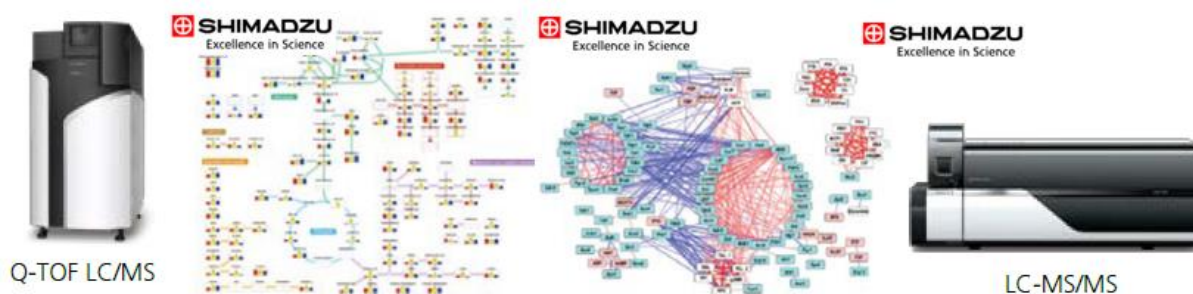


Figure 1. Shimadzu Solutions in Biotransformations and Metabolomics.