MALDI-TOF Mass Spectrometry

Department of Chemistry, University of the Pacific

3601 Pacific Avenue, Stockton, CA 95211; contact: Dr. Andreas Franz (afranz@pacific.edu)
https://www.pacific.edu/liberalarts/academics/departments-and-programs/chemistry

Instrument: Shimadzu Performance MALDI-TOF instrument

Linear and high resolution curved field reflectron mode.

Near-axis laser irradiation.

Proteomics, polymers, oligonucleotides, SNPs, metabolites, carbohydrates and small molecules.

Mass range 1-500kDa in linear mode; 1-80kDa in reflectron mode.
Mass resolution 5000 FWHM (ACTH 18-39, linear); 20000 FWHM (ACTH 7-38, reflectron).
Sensitivity 250 amol (Glu-fibrinopeptide) in reflectron mode.
Mass accuracy <5ppm in reflectron mode.
Precursor ion resolution >400 FWHM.
High energy MS/MS using helium collision gas
Flexible target formats - ranging from 48 well microscope slide format targets to 384 well microtitre plate targets
Remote access enabled. (https://www.ssi.shimadzu.com/products/maldi/ms/axima-performance/index.html)

Made possible by an NSF-MRI grant in 2025

(co-PIs: Dr. Liang Xue, Dr. Skylar Carlson, Dr. George Pantouris, Dr. Nejat Duzgunes, Dr. Geoff Lin-Cereghino)