

ORTHOGONAL INJECTION MALDI-QqTOFMS: A POWERFUL TOOL FOR PROTEOMIC ANALYSIS

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Collisional cooling produces a dramatic improvement in the overall quality of a MALDI or ESI beam injected orthogonally into a TOF instrument[1,2]. Resolution and sensitivity are improved, and m/z discrimination is greatly reduced. In the MALDI case [3,4], the original pulsed beam is transformed into a quasi-continuous beam that can be injected at a much higher repetition rate (~10 kHz) than the original laser provides (~20 Hz). Ion production is almost completely decoupled from the mass measurement, so the performance of the instrument is nearly independent of ion source conditions. Similar advantages are obtained when MALDI ions are injected into a hybrid quadrupole-TOF spectrometer [2,4,5], with the important additional benefit that daughter ions can be measured with high resolution and high mass accuracy in the same instrument in which mass mapping is carried out [6]. Results obtained in this configuration will be reported.

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