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Nathan Adams

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Nathan A. Adams (Curtiss D. Hanson), Department of Chemistry, University
of Northern Iowa, Cedar Falls, IA 50614

Time of flight mass spectrometry (*TOF-MS*) has become a valuable technique for the study of high mass biomolecules since the introduction of matrix assisted laser desorption ionization (*MALDI*) methods. The use of a pulsed electrostatic particle guide permits selective ion isolation in a linear TOF mass spectrometer. This increases both the sensitivity and dynamic range by selectively directing low abundance, high molecular weight ions to the detector. This improvement provides a means of detecting trace levels of high molecular weight compounds using a matrix assisted ionization technique.

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