DNA MASS SPECTROMETRY AT THE NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY

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Time-of-flight mass spectrometry (TOF-MS) is a rapid, accurate analysis technique that is amenable to high-throughput sample processing in conjunction with robotic sample preparation and automated data collection. Through a National Institute of Justice-funded project, we are developing DNA mass data spectrometry technology with an emphasis on markers that will be of value to the forensic community. Potential forensic assays include Y-chromosome single nucleotide polymorphisms (SNPs) and minisequencing the control region of mitochondrial DNA. Additionally, we are using TOF-MS for quality control of PCR primer synthesis and analysis of primer components contained in STR kits.