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# Multiplexed Inductive Nanoelectrospray Ionization Mass Spectrometry System

**Automated high throughput nanoelectrospray ionization mass spectrometry (nESI-MS) sample pre-treatment drastically cuts screening time from one minute to 1.4 seconds, accelerating pharmaceutical bio-assay and chemical analysis.**

Mass spectrometry has many applications including: pharmaceutical development, environmental sampling analysis, and investigative forensics. One growing application of mass spectrometry is high throughput screening is bio-assaying in pharmaceuticals. The lengthy sample pre-treatment in traditional mass spectrometry methods creates a challenging bottleneck for its users.

Researchers at Purdue University have developed an automated high throughput design for nanoelectrospray ionization mass spectrometry (nESI-MS) sample pre-treatment. The pre-treatment time has been reduced from 1 minute in traditional LC-MS to 1.4 seconds for each sample.. This design requires a minimum of 100 nL and can be loaded into a 384 well plate for multiplexed detection. The technology has been used to quantify peptide BACE1 at concentrations as low as 300 nM.

**Advantages**:

-Faster screening of mass spectrometry samples

-Small volume samples

Potential Applications:

-High throughput mass spectrometry

-Chemical structure analysis

-Bio-assay in pharmaceuticals

**TRL:** 4

**Technology ID**
2018-COOK-68329

**Category**
Pharmaceuticals/Drug Discovery & Development
Biotechnology & Life Sciences/Analytical & Diagnostic Instrumentation

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**Intellectual Property:**

Provisional-Patent, 2019-05-31, United States | Utility Patent, 2020-05-28, United States | CON-Patent, 2021-09-01, United States

**Keywords:** Mass spectrometry, high throughput screening, bio-assaying, pharmaceuticals, nanoelectrospray ionization, nESI-MS, sample pre-treatment, faster screening, small volume samples, chemical structure analysis, Chemistry and Chemical Analysis, Mass Spectrometry, Pharmaceuticals, Proteins