



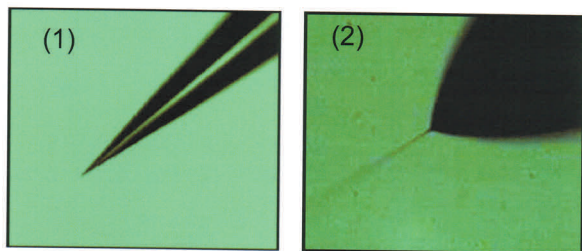
# Mass Spectrometry Technology

## AC Electrospray Ionization

Pat. Pending—at allowance

### Background

DC electrospray techniques are employed with a great deal of success the formation of aerosols for various uses such as drug delivery and compound analysis. Researchers at the University of Notre Dame have uncovered the unique characteristics of operating an AC electrospray device. The AC spray produces encapsulated compounds for drug delivery or synthesis of bio-fibers and tissues.



(1) AC Electrospray Cone

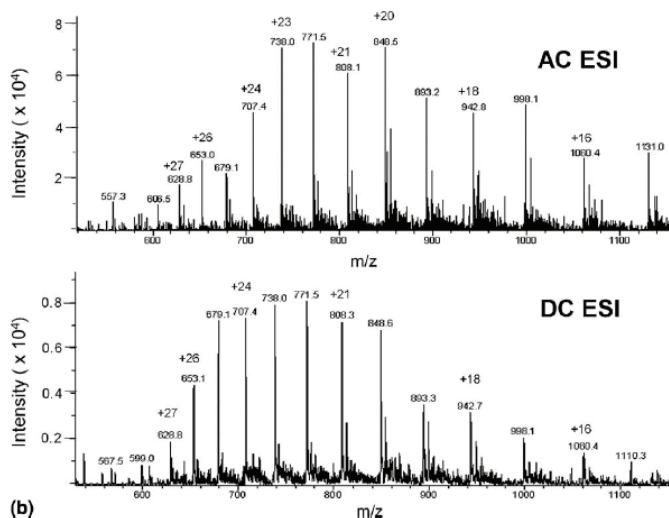
(2) DC Electrospray Cone

## AC Electrospray Ionization for Mass Spectrometry

Pat. Pending

### Background

AC electrosprays have been found to produce analyte sprays with an electro neutral charge and better signal-to-noise ratio than DC sprays. AC ESI overcomes the disadvantages of negative mode DC electrospray analysis by operating at frequencies higher than the drop emission which entrains low mobility ions in the unique meniscus cone. This in turn leads to 'cone ionization' of the sample. This technique is useful in protein analysis and characterization.



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## 255, 10-030 AC ESI

this technologies made possible by the efforts of students, researchers and faculty at . . .

### UNIVERSITY of NOTRE DAME Department of Chemical and Biomolecular Engineering and Department of Aerospace and Mechanical Engineering

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#### PATENT RIGHTS AVAILABLE

255		Method and Apparatus for AC Electrospray					
<u>Patent Title</u>	<u>Type</u>	<u>Ctry</u>	<u>Status</u>	<u>Serial No.</u>	<u>File Date</u>	<u>Patent No.</u>	<u>Issue Date</u>
Method and Apparatus for AC Electrospray	Utility	US	Filed	10/965,834	10/18/2004		

10-030		High Frequency Alternating Current Electrospray Ion Source for Mass Spectrometry					
<u>Patent Title</u>	<u>Type</u>	<u>Ctry</u>	<u>Status</u>	<u>Serial No.</u>	<u>File Date</u>	<u>Patent No.</u>	<u>Issue Date</u>
Methods and Apparatus for Mass Spectrometry Utilizing an AC Electrospray Device	Utility	US	Filed	13/095,288	4/27/2011		
Methods and Apparatus for Mass Spectrometry Utilizing an AC Electrospray Device	PCT	WO	Filed	PCT/US11/34119	4/27/2011		

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Contact the Office or Technology Transfer  
940 Grace Hall  
Notre Dame, IN 46556

P: 574-631-4551 | E: ott@nd.edu | W: ott.nd.edu