

Selected IBF User Successes.

Droplet based sample input for ESI or for MALDI, SIMS and LDI is believed to be a **breakthrough** for ESI, MALDI, SIMS, LDI and nL dispensing.

IBF used to test RAPID MS screening potential for most Nevada pesticides at CSC, Aug 2018, at a rate of ca. 1 sample per second with SIS & Caltech.

IBF showed droplet based input yields up to 1000 x increase in the molar sample input rate compared to sprays, ASMS 2018 with SIS and INL.

IBF demoed at Asilomar '16 & ASMS '17 **100% input efficient ESI UPLC MS of nucleosides via an ANDROID device**, w/U Cin., P. Limbach, et al, **an international first!**

IBF was used by G. Groenewold, et al, at INL, for **the introduction of Li+ battery electrolyte DIRECTLY from and operating Li+ battery into a HRMS!** How cool is that?

IBF used by the **US Army** for classified agent dispensing projects and MS R&D w/ GoPro camera. Accuracy verified from 5-500nLs, J. Olyer, et al. Air Force uses IBF too!

IBF is being used for MS Analysis of Oligonucleotides. NEW!!! JMS paper w/ **U of Cincinnati** yields most sensitive ESI analysis for oligonucleotides!

US Department of Energy is using IBF in the field to analyze Lanthanide and Actinide elements at fg levels WITHOUT an ICP using a cheap ion trap!

IBF, using nLs, increases MALDI, SIMS, LDI, DART mass spectrometry sensitivity by 10,20-100x **LITERALLY**. **USF, NIH, NIST & JEOL**.

University of Wisconsin has published IBF for single cell MALDI identifying six new ocular proteins. Other work ongoing.

University of Illinois published using IBF to study flying nanoLiters of liquids into levitated microliters, for wall-less kinetics. Scheeline. et al.

nanoLiter LLC using IBF dispenses PVA, w/ave. MW, ca. 300,000 for Abbott PLC for LO pseudo 3D "printing."

At Genentech, nanoLiter demonstrates 20 x improvement in MALDI sensitivity for proteins, peptides.

USF used IBF to make electrets, and for polymer MALDI.

In it's first application of IBF at **NIH**, PTM's of tublin in actual brain cancer samples were identified.

Sciex offered to license IBF for LC/MALDI, as nanoLiter morphs Roche and Spark Holland's systems for single channel, parallel ms. nL dispensing.

See more here. <http://www.nanoliter.com/nanoliterhasdone121213ver3.pdf> and see our references, <http://nanoliter.com/references2019.pdf>

