

Atmospheric Pressure Electron Capture Dissociation: Localization of Labile Post-Translational Modifications on Sulfopeptides

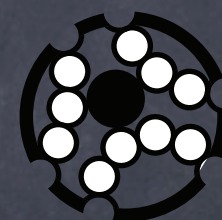
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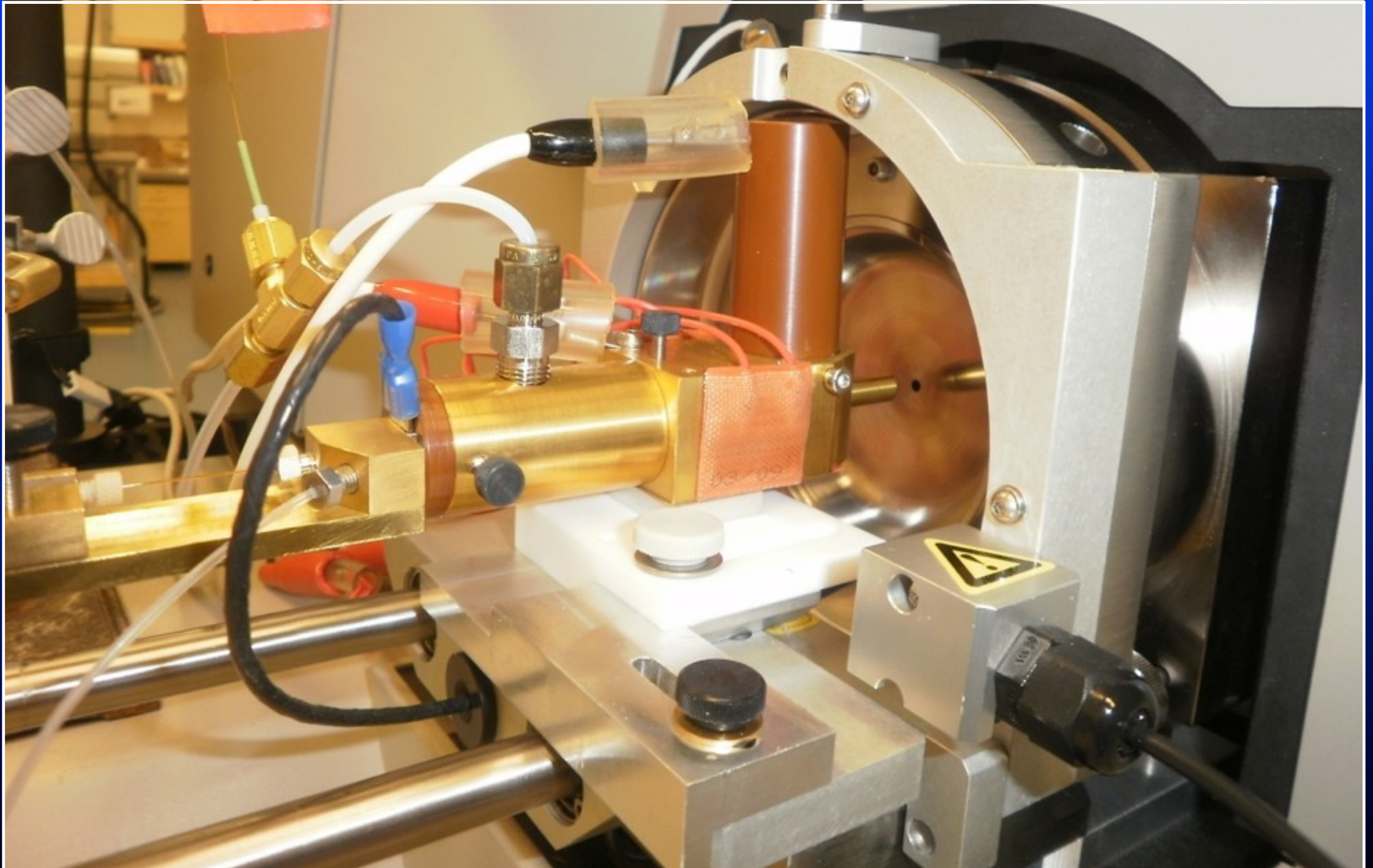
a place of mind

BCPN Symposium
Feb. 20, 2012



BCPproteomicsNetwork

**Atmospheric Pressure - Electron Capture Dissociation
Mass Spec hardware design - like a plumber on a small scale**



Atmospheric Pressure - Electron Capture Dissociation

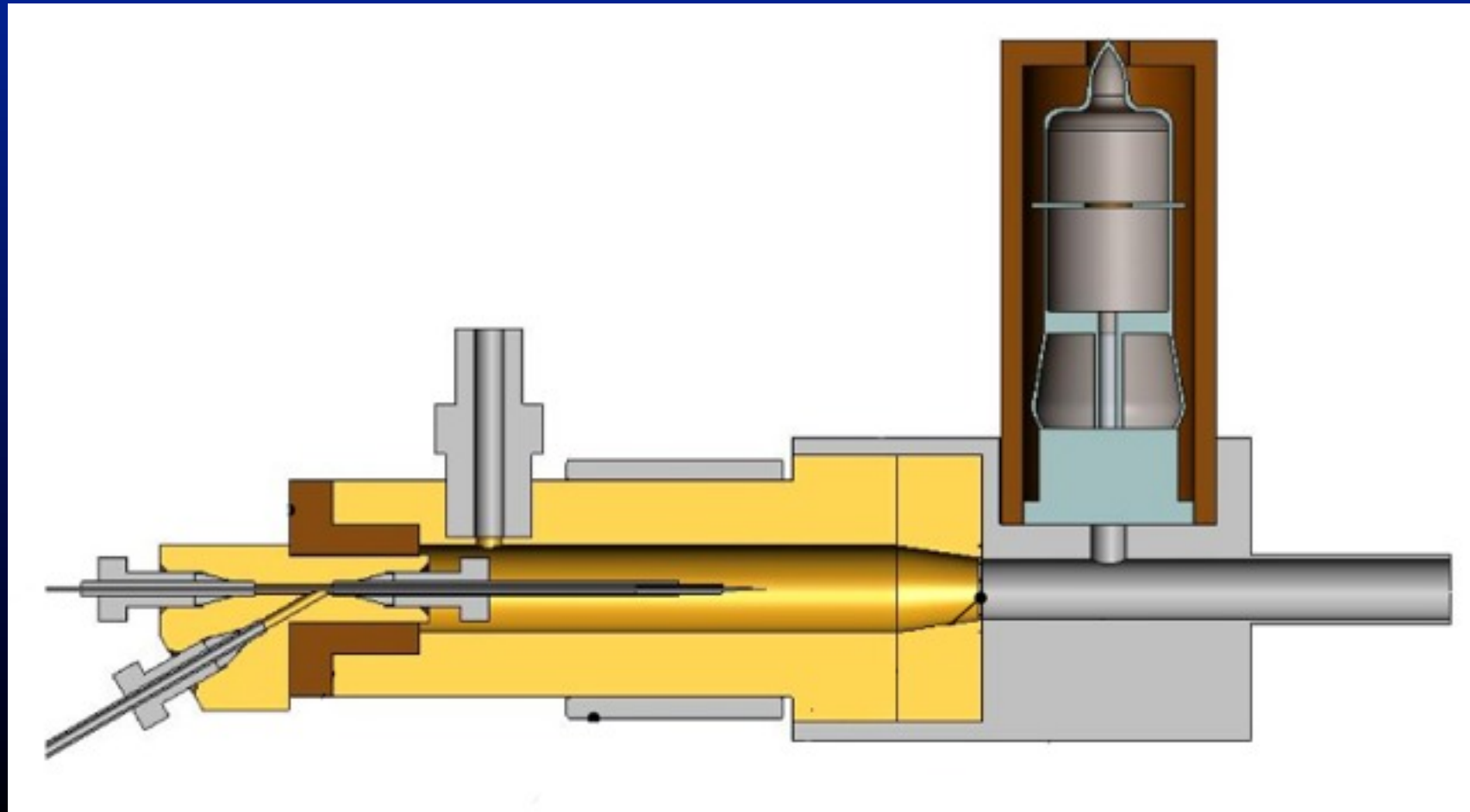
Previous work

≈ 1 fmol LOD

BSA mixture using chromatography

Reproducible (>1 week)

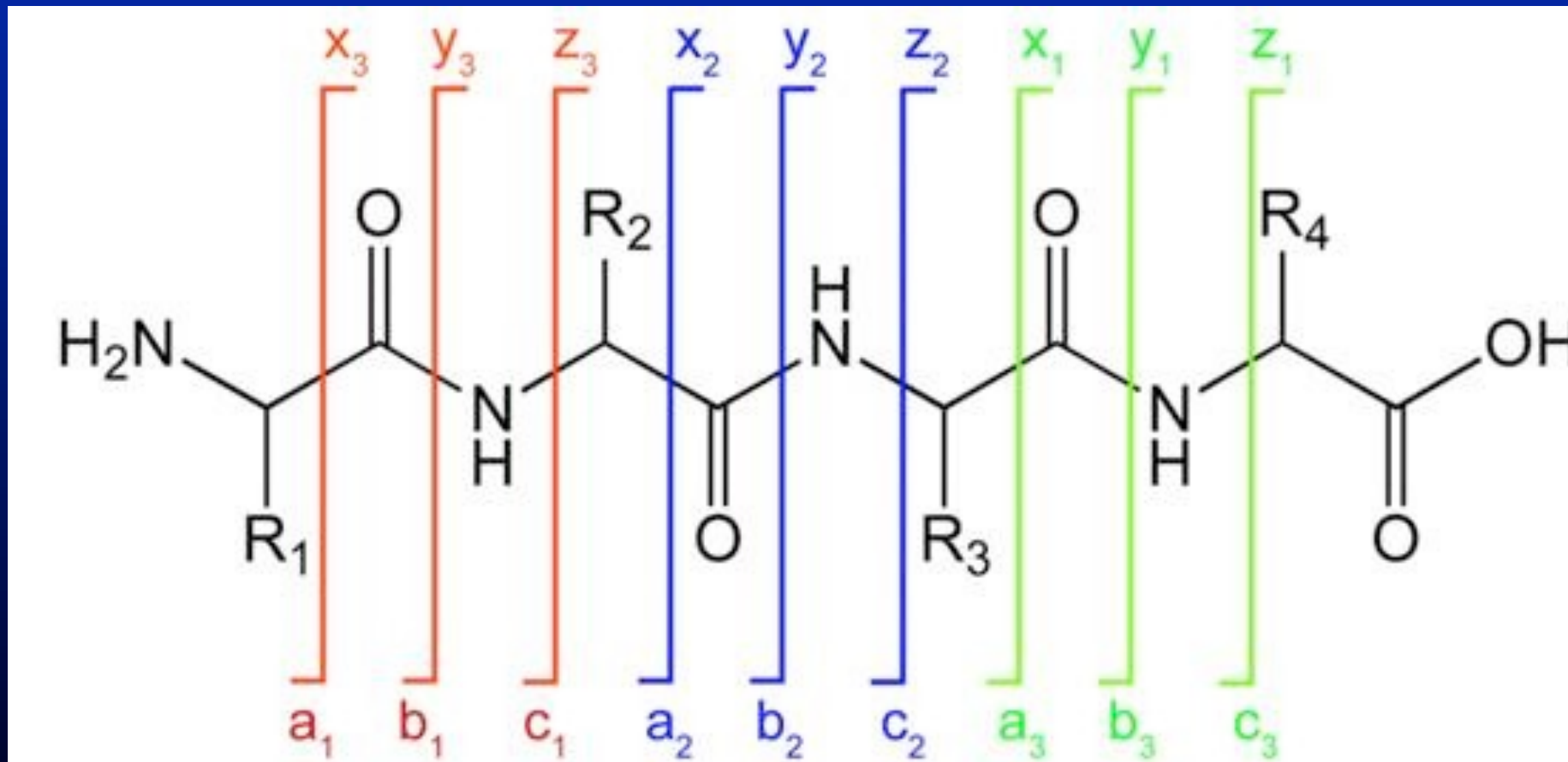
Glyco & Phospho peptides



Atmospheric Pressure - Electron Capture Dissociation

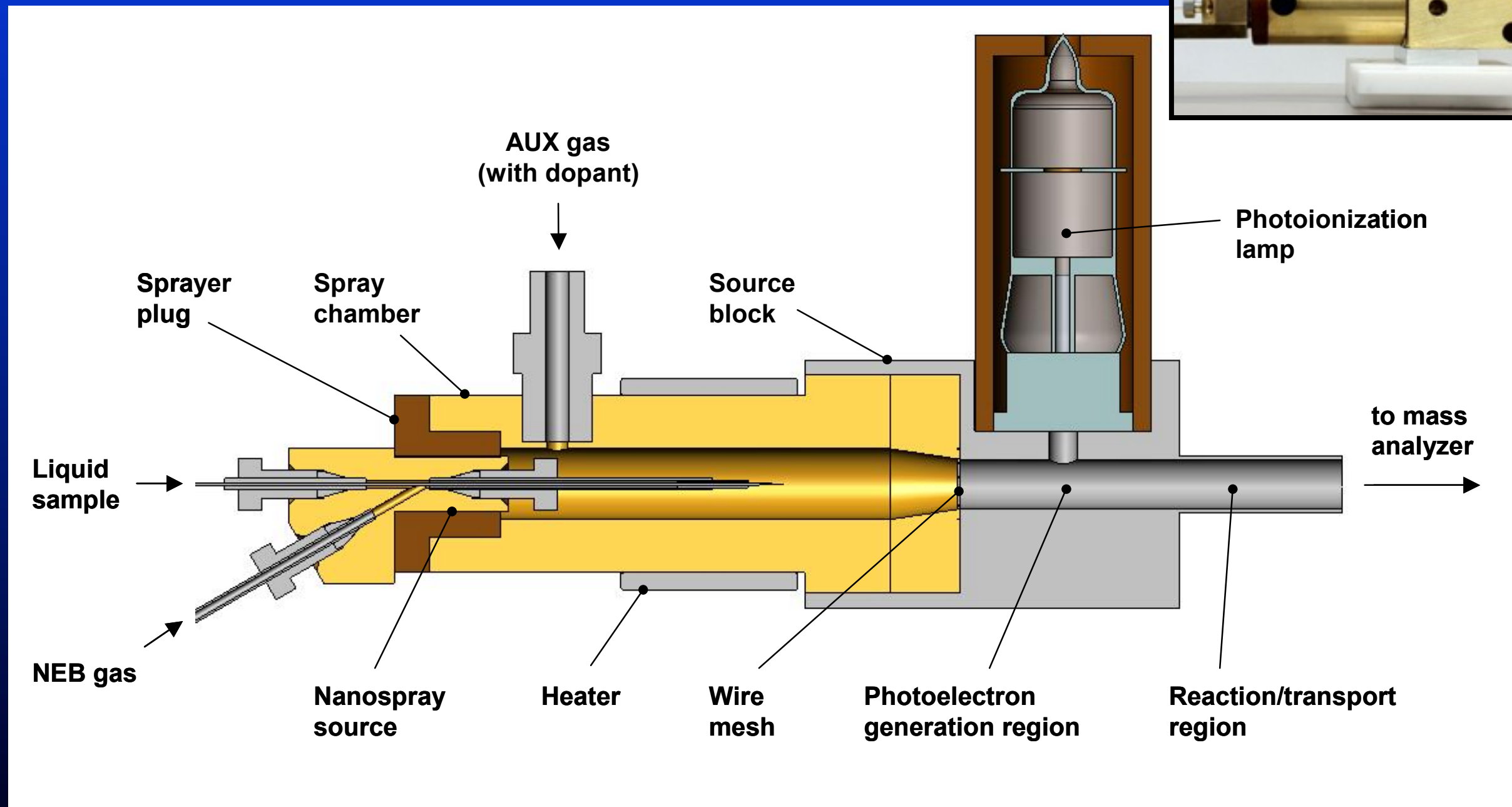
Why?

Add ECD capacity on our instrument
fuller coverage
localize labile modifications



b & y ions: Collision Induced Dissociation
c & z ions: Electron Capture Dissociation

Atmospheric Pressure - Electron Capture Dissociation How?



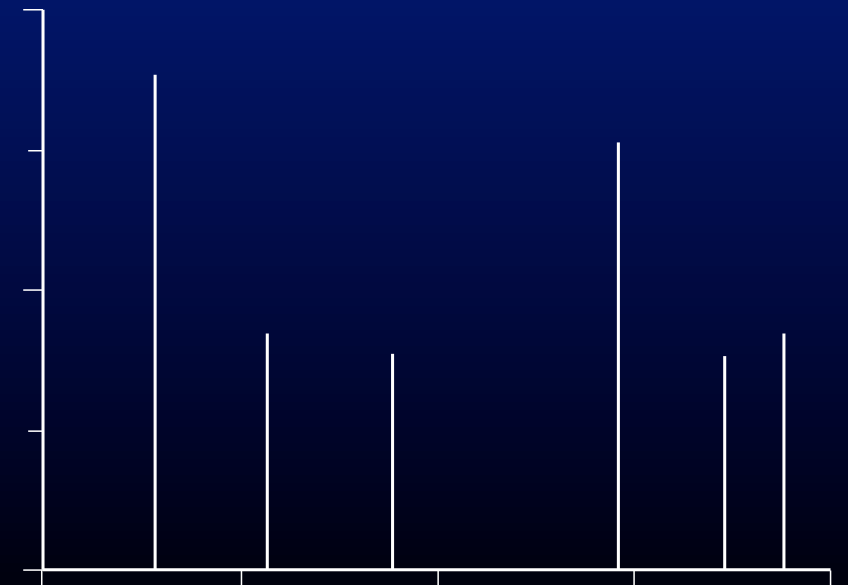
Atmospheric Pressure - Electron Capture Dissociation

Goals

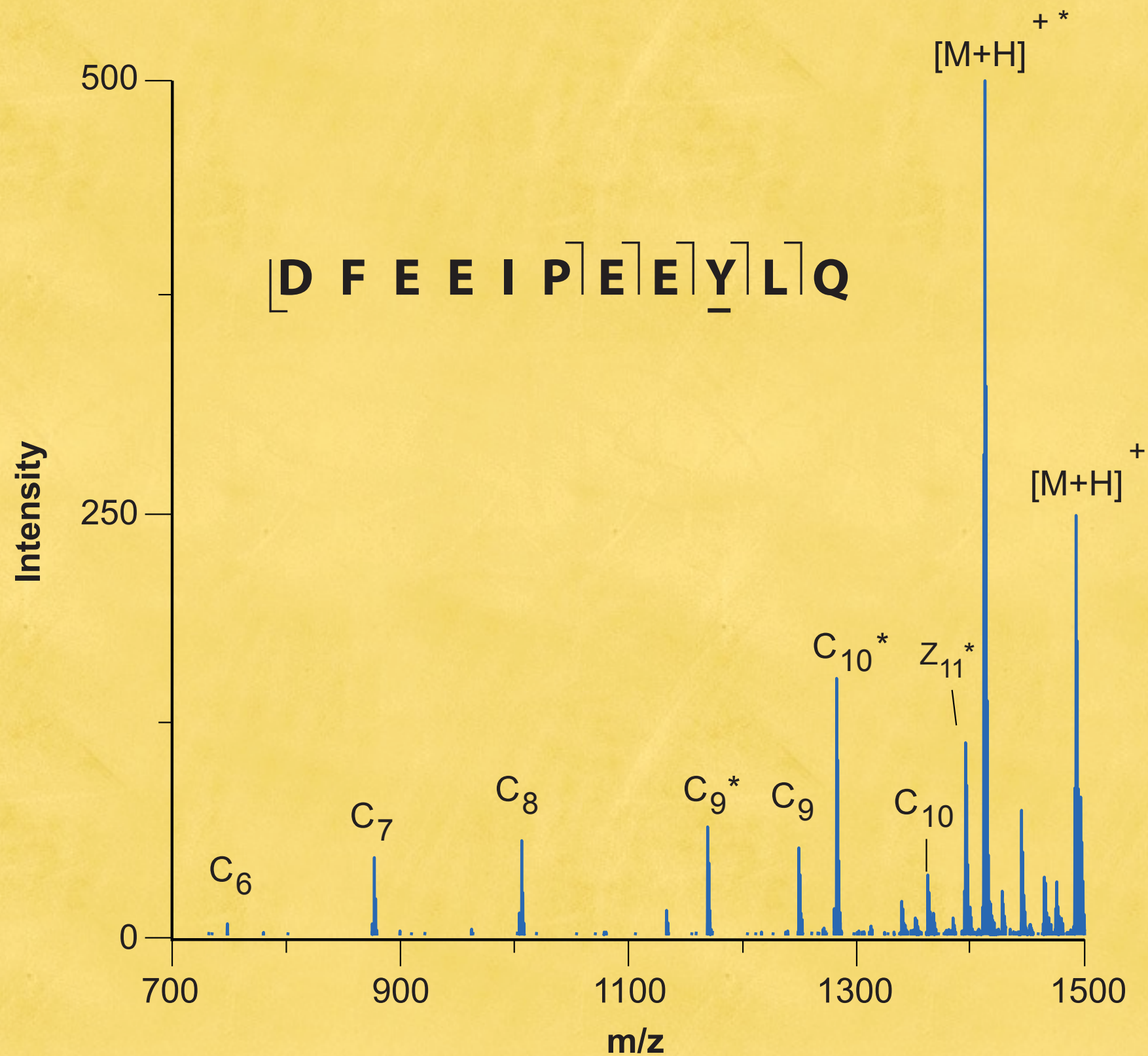
Commercialize

make it robust (sensitive, reliable, turn-key)

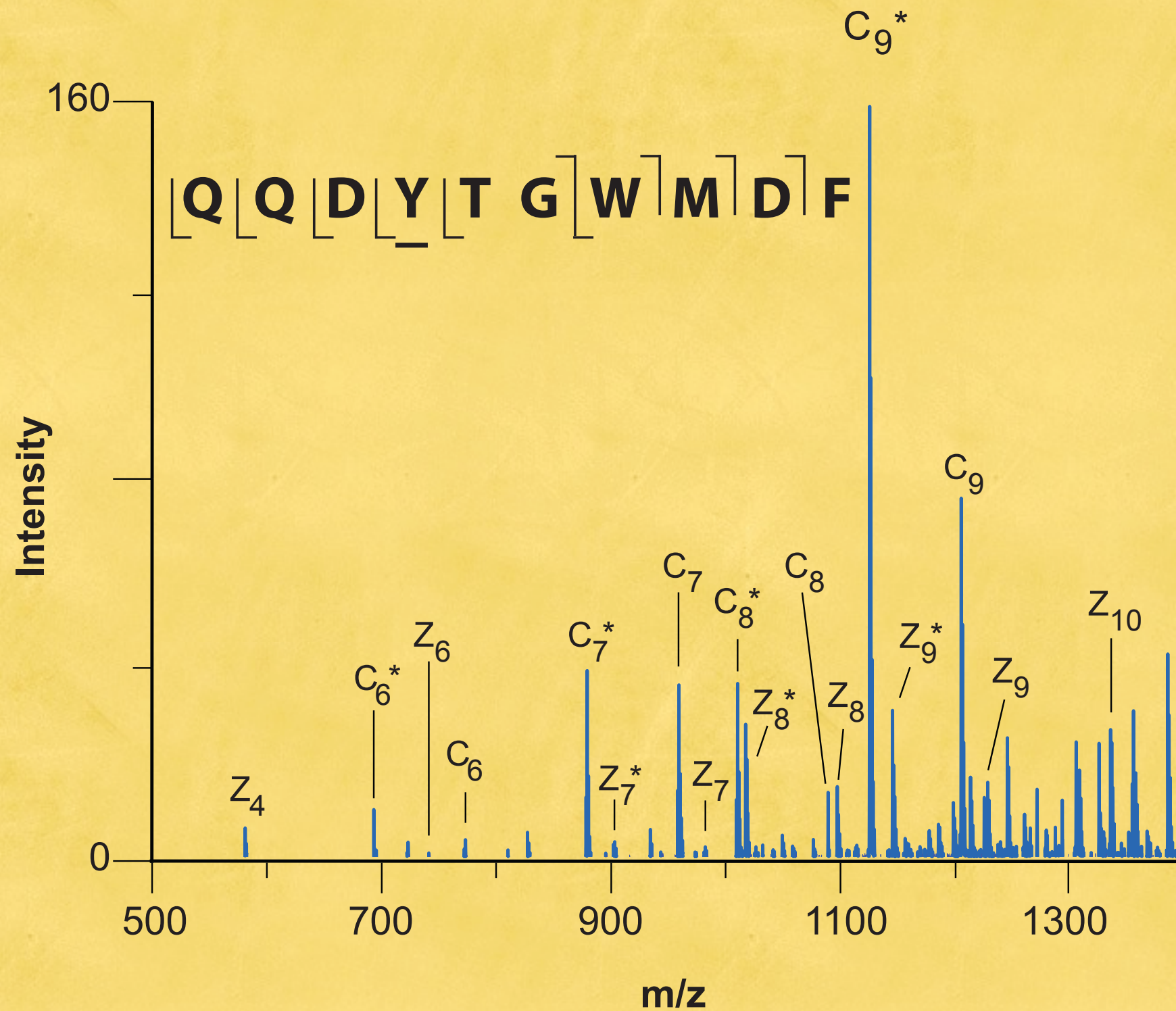
Generate biological data



Atmospheric Pressure - Electron Capture Dissociation Sulfopeptide Hirudin



Atmospheric Pressure - Electron Capture Dissociation Sulfopeptide Caerulein



Atmospheric Pressure - Electron Capture Dissociation

AP-ECD Checklist



Peptide mixtures



Reproducible



Phosphopeptide



Glycopeptide

Sulfopeptide

Atmospheric Pressure - Electron Capture Dissociation

AP-ECD Checklist



Peptide mixtures



Reproducible



Phosphopeptide



Glycopeptide



Sulfopeptide

Coming up.....

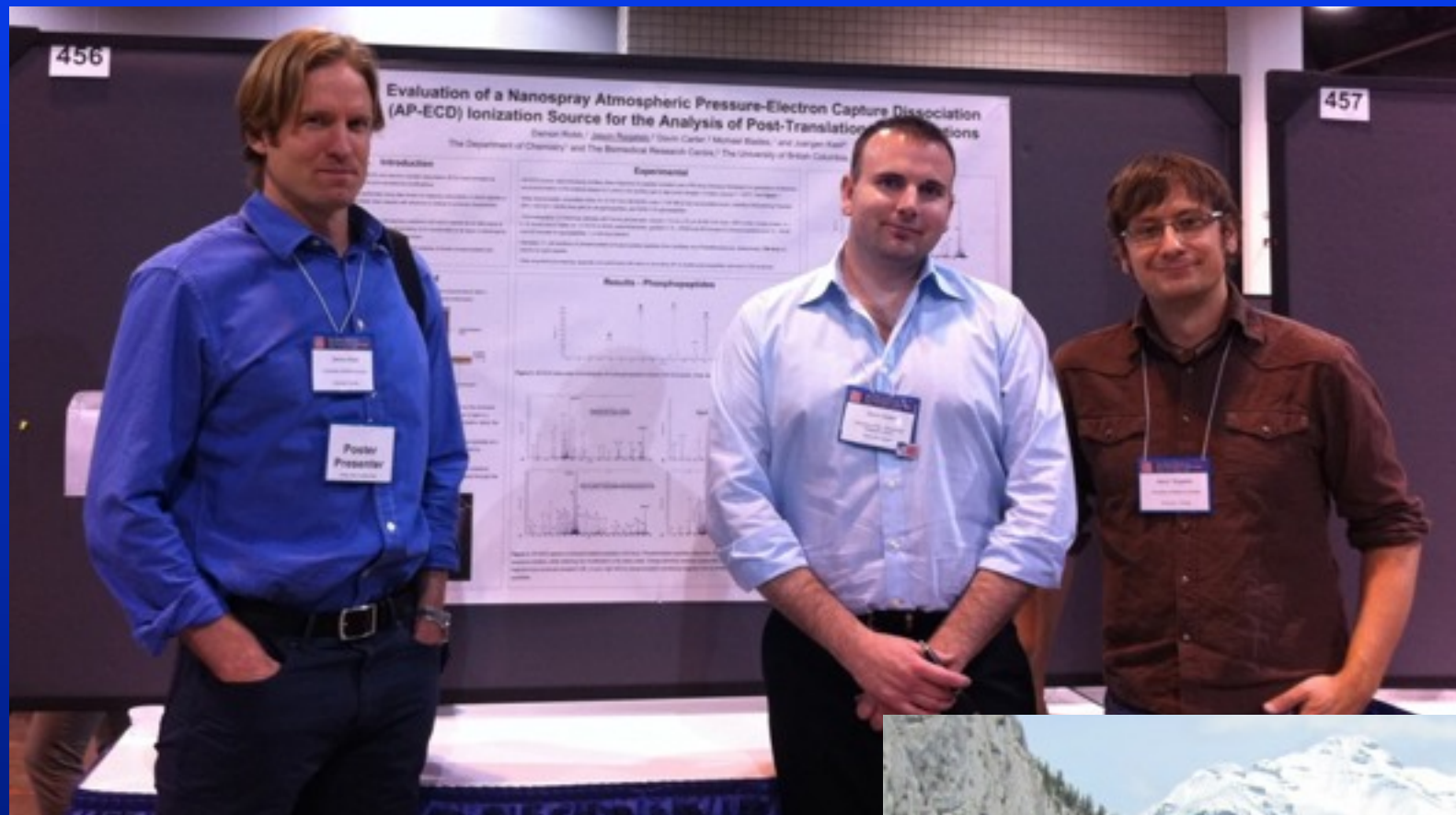
more sulfo peptides

ECD combined with CID screening

biological samples

Acknowledgements

Kast Lab



Thanks.....



a place of mind