Meet the Guru of Liquid Chromatography and Mass Spectrometry…Senior Scientist, Seyed Sadjadi.

With 26 plus years in the clinical research industry, Mr. Sadjadi is known company-wide for his insights into Liquid Chromatography and Mass Spectrometry, or LC-MS. From working as a chemist in toxicology, to field applications for LC-MS small molecules, and even being here at the beginning of PhenoLogix, Phenomenex's in-house analytical lab that helps customers with their methods, Mr. Sadjadi has harnessed a wide range of knowledge and experience in the field of LC-MS.

Having explored much of the world of toxicology, the question that looms is, what's next? For Seyed, it is the Los Angeles Metropolitan Mass Spectrometry Discussion Group, or LAMMS. It will serve as a platform for academics and scientists alike to get together and discuss a wide range of topics covering mass spectrometry. For more information see: http://www.lamms.org/

Seyed believes in the value of sharing information in the scientific field. So this week, we sat down with Mr. Sadjadi to begin the first of many discussions on LC-MS!

What is the best way to choose an appropriate buffer for LC-MS applications?

The choice of a buffer or MP additive is to help maximize the intensity of the target ion (precursor ion), produce proper peak shape and reproducible. The structure of the compounds and the extent of the functional groups reactivity are key points to consider. So,

for basic compounds a choice of acidic modifiers such as formic acid or acetic acid are ideal. Conversely, acidic compounds may benefit more with a modifier that produces a higher pH in the mobile phases.

How do I go about choosing MRM transitions?

There are no set rules to follow. Non-specific MRM transitions are generally frowned upon (such as water loss), but the nature of the compounds may not yield a more desirable choice(s). A good idea to follow is to optimize several MRM transitions with good intensity (>=20% of precursor ion intensity) and test them all in real samples. The final choice will become very clear.

Top Tips for LC-MS

1. Clean up your samples as much as possible before introduction into LC-MS
2. Reduce the additive/buffer concentration in the MP to a bare minimum
3. Solvents used in the MP can help or destroy your analysis. A clean solvent is priceless!
4. Chromatography is a complimentary partner to MS work, not an inconvenience
5. Be adventurous! Experiment with choices that may not make a lot of sense on paper.

If you have any questions about LC-MS or would like to become a part of the discussion, please comment below.

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