

# LC/MS 101

## *(Basics for Non-Technical Personnel)*

### **I. DRUGS IN BIOLOGICAL SAMPLES**

1. Drug Discovery and Development – A Long and Expensive Process.
2. Sample Preparation – From Cradle to Grave Sample Handling.

### **II. COMBINING HPLC WITH MS**

3. Liquid Chromatography – A separation Techniques for Chemicals in Solution.
4. Chemical Polarity and Ions – Chemicals Separate due to their Polarity.
5. Mass Spectrometry – The Ultimate ‘Truth Machine.’

### **III. APPLICATIONS FOR LC/MS**

6. Qualitative Analysis – What is this chemical?
7. Principles of Quantitative Analysis – The Beginnings of LC / MS / MS.
8. Jelly Bean Analogy – The Use of Internal Standards to Calculate Chemical Unknowns.
9. LC / MS / MS – Tandem Mass Spectrometry.

### **IV. MINIATURIZATION OF ELECTROSPRAY**

10. Nanoelectrospray – The ESI Chip.
11. Method Development for Chemical Terrorism – LC/MS/MS without the LC.