

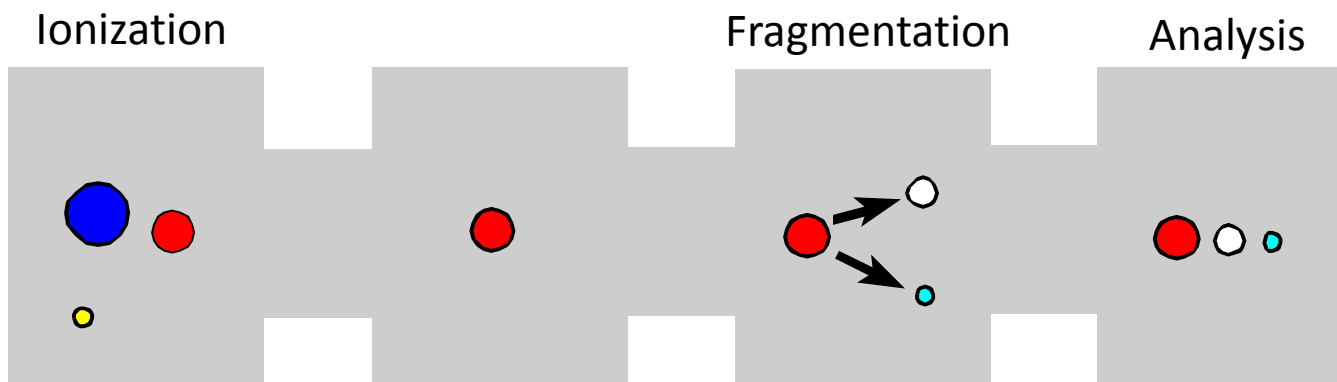
An Introduction to MS/MS

Linda Brechi, George Tsaprailis

University of Arizona, Tucson, AZ

Arpad Somogyi, Professor Vicki H. Wysocki

Ohio State University, Columbus, OH

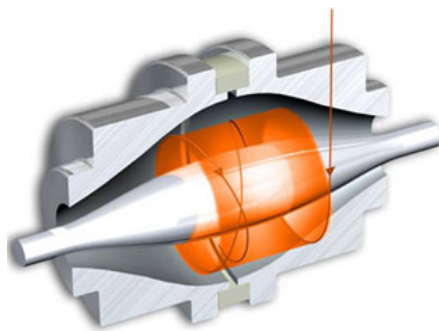
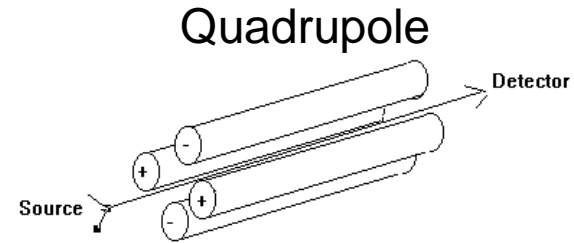
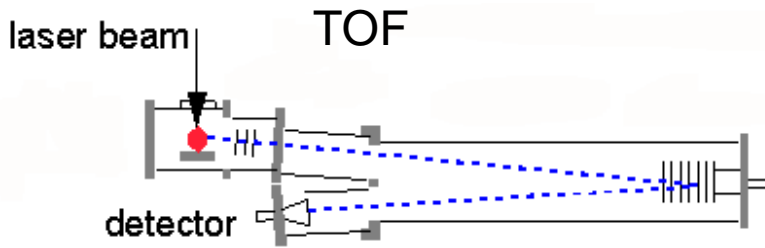




MS/MS Analyzers

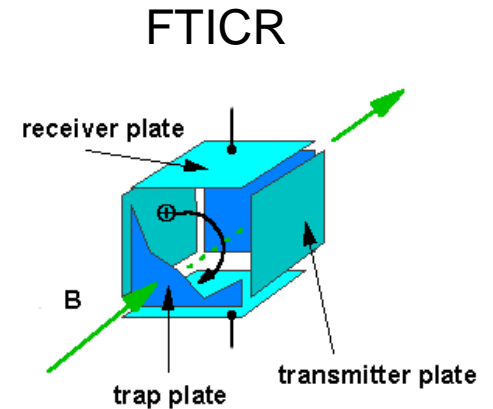
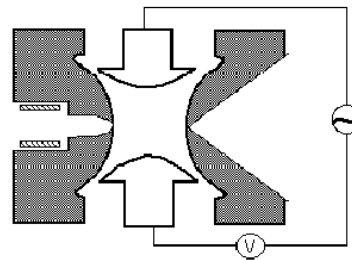


So many to choose from...what is right for me?

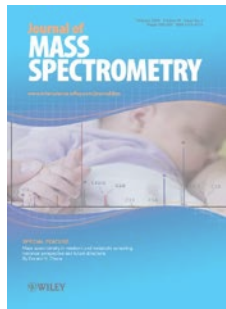


Orbitrap

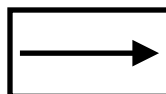
Quadrupole Ion trap



MS/MS Scan Modes and Applications



Product Ion Scan



Select



Dissociate



Scan

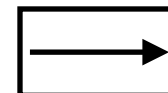
Precursor Ion Scan



Scan

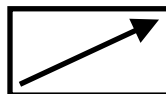


Dissociate



Select

Neutral Loss Scan



Scan

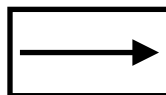


Dissociate



Scan Δ

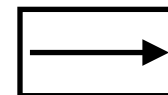
Selected Reaction Monitoring (SRM)



Select



Dissociate

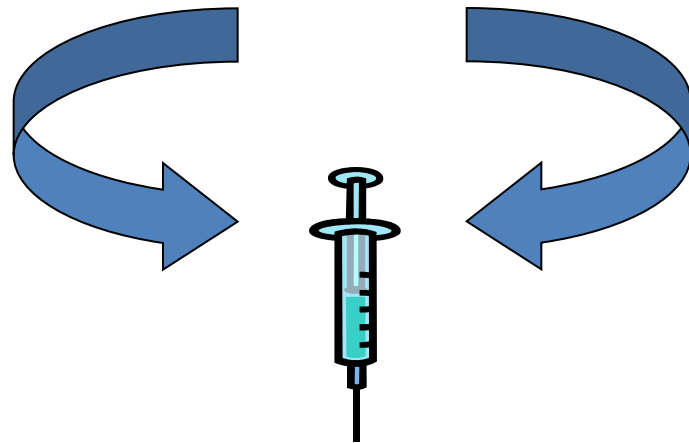


Select

Sample Preparation for MS/MS



**Analytes of interest found in
variety of matrices**

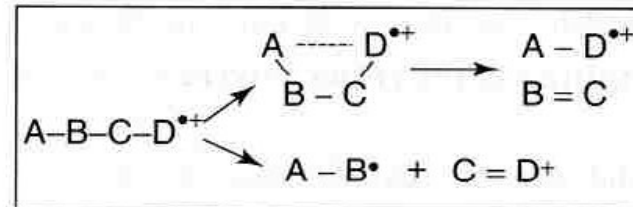
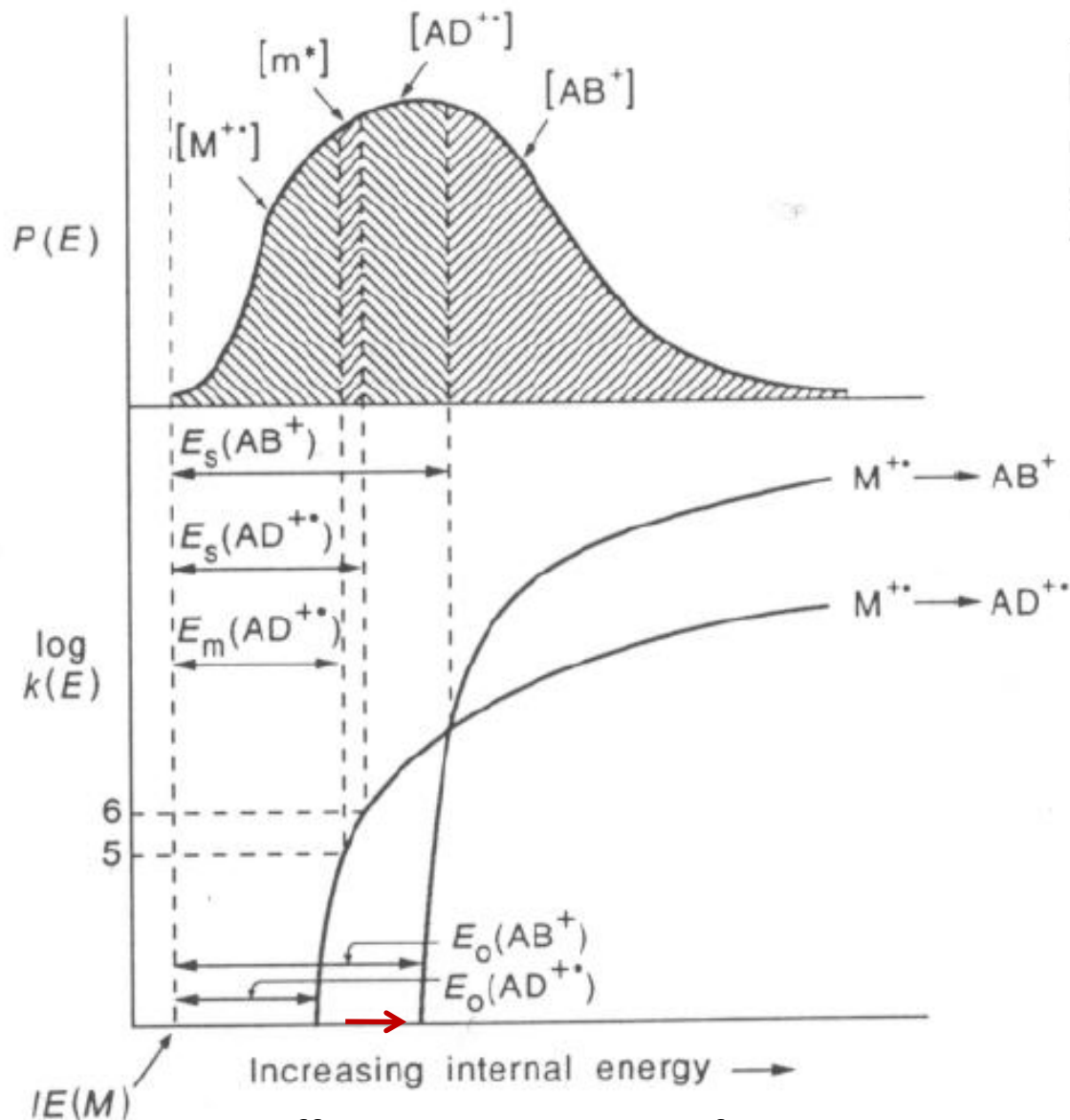


**extraction/purification/
derivatization/cleanup**



MS/MS Analysis

MS/MS Rate Theory

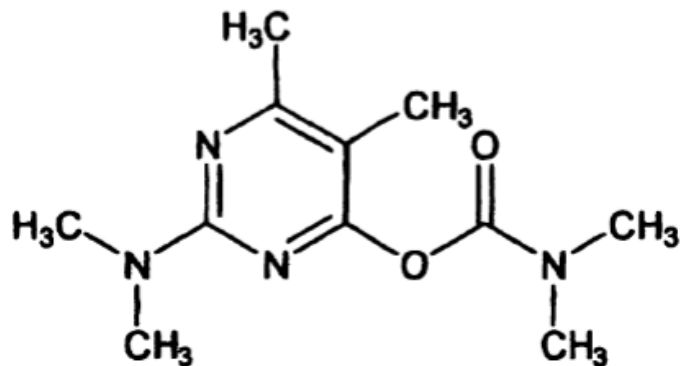


Direct bond cleavage

Rearrangement

$$k(E) = (\sigma/h) \{G^\#(E-E_0)/\rho(E)\}$$

Pirimicarb-I



MS/MS →

?

Nitrogen Rule

Peptide MS/MS

