Questions for January 11, 2008 class on MS instrumentation

1. What are the main components of a mass spectrometer?

2. Why are mass spectrometers operated under vaccuum?

3. Name another area instrumentation based research that has more Acronyms than mass spectrometry (I mean MS)?

4. What's the big deal about Fenn and Tanaka?

5. What percentage of ions created by ionization make it into the mass spectrometer? (multiple choice: A. <40% B. 50% C. >50 %)

6. In mass spectrometers, where does the F come from in F=ma (Newton's second law of motion)

7. What does inertia have to do with time-of-flight and mass?

8. What is the difference in a quadrupole and an octopole?

9. How much amplification of a signal can you achieve with an electron multiplier?

10. How can you have high resolution and still have poor mass accuracy?