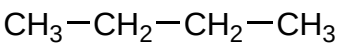
Library of Organic Chemistry Active Learning (LOCAL) Resources

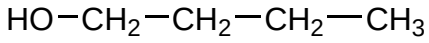
Mass Spectrometry Discussion Questions

Name:_____ Section: _____ (day/time)

For the given molecule (M=58), do you expect the more abundant peak to be *m/z* 15 or *m/z* 43? Explain.

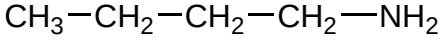


For the given molecule (M=74), which peak do you expect to be most abundant: *m/z* 31, *m/z* 45 or *m/z* 59? Explain.

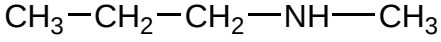


Explain why the mass spectra of methyl ketones typically have a peak at *m/z* 43. Provide the structure of this fragment.

How could you use mass spectrometry to distinguish between the following two compounds (M=73)? Provide structures (and *m/z* values) for the significant fragments expected.



and



What would be the *m/z* ratio for the fragment resulting from a McLafferty Rearrangement for the following molecule (M=114)? What fragment accounts for its base peak at *m/z* 57?