

Problem Set 2 (IR Spectroscopy)
S343
Summer 2009

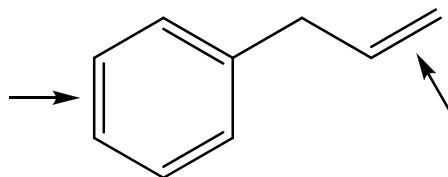
This problem set will help you prepare for Quiz 2.

To help you study, you should look at old quizzes and answer these problems from "Organic Chemistry, 2nd Ed." By Janice Gorzynski Smith:

Chapter 13. Problems 9a, 10-12, 14, 27-32

Additional Problems:

1. Why are some IR signals very intense and some IR signals don't show up at all?
2. Why is IR a good technique for determining which functional groups are present in a molecule?
3. What IR frequencies would be expected for the C=C bonds indicated? Why do they absorb light of different frequencies?



4. Give a physical explanation of why the carbonyls of amides absorb at lower wavenumber than other carbonyls.
5. How would you use IR to distinguish between a compound containing an aldehyde and a compound containing a ketone?