CH-314 Structural Analysis
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Jigsaw 1C

Keeler Section 2.3. Scalar coupling

[From Past Exam] Consider 3 spins, A, B, and C. The chemical shift of A is 120 Hz, and J_{AB} = 12 Hz, J_{AC} = 4 Hz, and J_{BC} = 6 Hz. The chemical shifts of B and C are 1000 and 2000 Hz, respectively.

1. Draw the multiplet pattern that would be seen for spin A. Label the frequencies of each peak.

2. Repeat step (1) for J_{AB} = 10 Hz and J_{AC} = 10 Hz. What special feature arises when J_{AB} = J_{AC}?