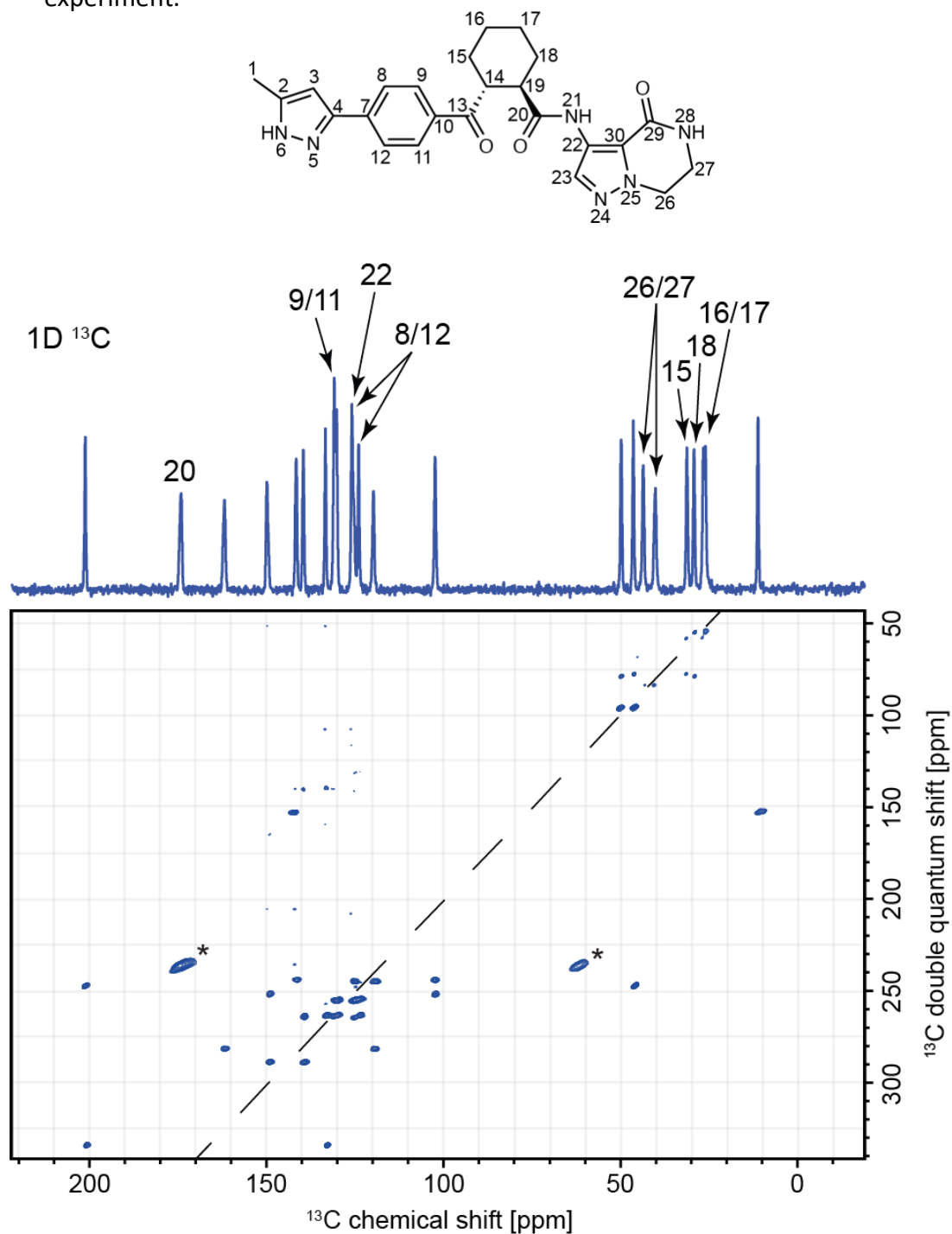


## Jigsaw 4C

- [From Past Exam] Below is a  $^{13}\text{C}$ - $^{13}\text{C}$  INADEQUATE spectrum of the molecule shown. The INADEQUATE experiment correlates the shifts of bonded  $^{13}\text{C}$ , such that the chemical shift on the y-axis corresponds to the sum of the two chemical shifts of the two correlated carbons. Peaks indicated with a (\*) are artifacts and should not be considered in the analysis. Assign the unlabeled  $^{13}\text{C}$  peaks using the INADEQUATE experiment.



2. [Keeler Section 12.2 and Hore Section 3.3] For each of the following compounds determine whether the protons are magnetically or chemically equivalent. Explain why.

