1. Calculate the NMR frequency of
   1) $^1\text{H}$
   2) $^{15}\text{N}$
   atoms in a magnetic field of 3T.

2. How would you use NMR to distinguish a folded protein from an unfolded one?
3. Have a look at the table from the slide titled “Patterns of NOE interactions define protein secondary structure”, explain why α-helices and β-sheets have different NOE interactions.

4. How do long and short mixing time affect NOESY experiments differently?