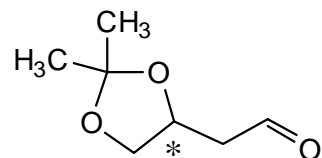


**In-Class Exercise:
Resonances With Multiple Coupling Constants**

The ^1H NMR spectrum on the next page corresponds to the racemic acetonide shown at right. (There is one asterisked stereocenter in the molecule that I haven't specified stereochemistry for; this typically denotes that the molecule is a 50:50 mixture of the two possible stereoisomers at that position.)



1. How many inequivalent sets of protons would you expect for this molecule? Keep in mind the possibility of enantiotopic (equivalent) and diastereotopic (inequivalent) protons.
2. Illustrate which protons are coupled to which, and assign coupling constants to each coupling relationship.

