$\text{C}_6\text{H}_{13}\text{Br}$

Based on integration of 6, the molecule likely has two equivalent methyl groups (based on small # of atoms + the # of other peaks)

$D,0,u, = (2C + 2 - X + N) - H$

$\frac{2}{2}$

$\text{C}_6\text{H}_{10}\text{O}$

$\delta 5.79, \text{br}, 1H$

$\delta 5.02, \text{dd}, 1H$

$\delta 4.14, \text{dd}, 2H$

$\delta 2.34, \text{dd}, 2H$

$\delta 2.149, 3H$

$D,0,u \rightarrow 2$: $C=C; C=O + C=C; C=O + \text{ring}$

$C=C + \text{ring}; \text{ring} + \text{ring}$

Singlet!
This molecule likely contains an alkene, since:
- There are multiple peaks with δ = 5, each of which only integrates to 1.
- The alkene would be terminal, since that is the only way to have 3 individual hydrogens.

The compound also appears to have a carbonyl, based on the singlet that integrates to 3 H/20 ≤ δ ≤ 213.

Any time electron density is provided to a C=O by either hyperconjugation or delocalization, the δ on the C=O carbon is reduced, meaning the delocalization of a neighboring Ω charge is less favorable, meaning an enolate would be more difficult to form meaning the corresponding Ω- hydrogen would be less acidic.

Lab #2: Robinson Annihilation Theory 625-628 Expt 628-629