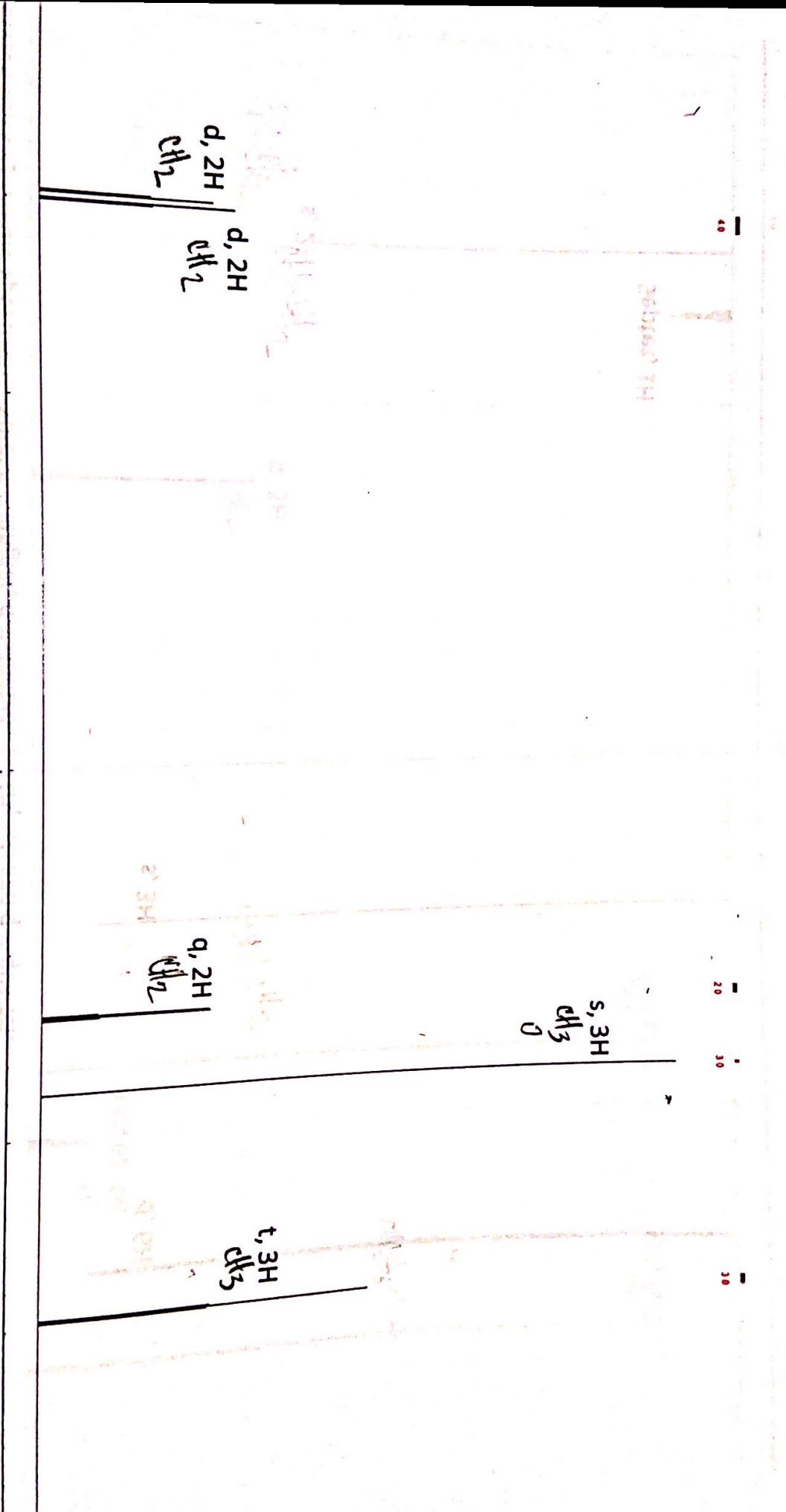


3. Draw the structure that would have the following  $^1\text{H-NMR}$  spectrum and assign the protons to your structure. The chemical formula is  $\text{C}_9\text{H}_{12}$ .



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4. Two structures both have the same chemical formula:  $C_6H_{12}O_2$ . Both contain a  $C=O$  and **do not** contain an  $OH$  bond based on their IR spectrum. Using the following two  $^1H$ -NMR spectra, draw and label the protons of both compounds. You may draw and label the structure directly on the spectrum. Note: s = singlet, d = doublet, t = triplet, and q = quartet.

