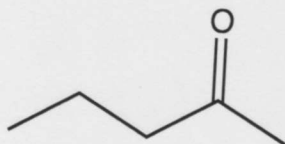
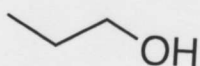


1. Predict the ^1H NMR (chemical shift, splitting, and integration for each signal) and ^{13}C NMR spectrum (chemical shift) of the following compounds.

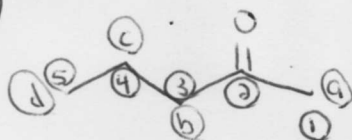
a)



b)



a)



^1H -NMR - 4 peaks. One for each letter on the structure to the left.

Peak a: $\sim 2-2.5$ ppm, singlet, integration = 3

Peak b: $\sim 2-2.5$ ppm, triplet, integration = 2

Peak c: $1.2-1.5$ ppm, hexet, integration = 2

Peak d: ~ 1 ppm, Triplet, integration = 3

^{13}C -NMR - 5 peaks. One for each number on the structure to the left

Peak 1: ~ 30 ppm

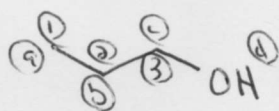
Peak 2: $140-220$ ppm

Peak 3: ~ 50 ppm

Peak 4: $15-55$ ppm $\sim 20-25$ ppm

Peak 5: $0-30$ ppm $\sim 15-20$ ppm

b)



^1H -NMR - 4 peaks. One for each letter on the structure to the left

Peak a: $0.8-1.0$ ppm, triplet, integration = 3

Peak b: $1.2-1.5$, hexet, integration = 2

Peak c: $3.1-3.8$, triplet, integration = 2

Peak d: $2-7$ ppm, singlet, integration = 1

^{13}C -NMR - 3 peaks. One for each number on the structure to the left

Peak 1: $15-30$ ppm ~ 20 ppm

Peak 2: $15-55$ ppm ~ 30 ppm

Peak 3: $50-80$ ppm