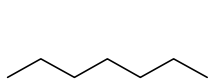
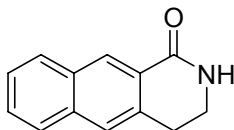


Mass Spectrometry Problems

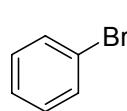
1) Calculate the exact mass and average mass for these structures.



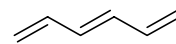
C_7H_{16}
Exact Mass: 100.1252
Mol. Wt.: 100.2019



$C_{13}H_{11}NO$
Exact Mass: 197.0841
Mol. Wt.: 197.2326

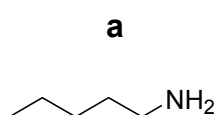


C_6H_5Br
Exact Mass: 155.9575
Mol. Wt.: 157.0079

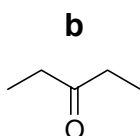


C_6H_8
Exact Mass: 80.0626
Mol. Wt.: 80.1277

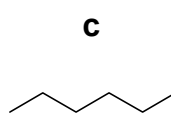
2) Match each structure to one of the following mass spectra.



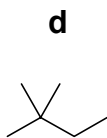
$C_5H_{13}N$
Exact Mass: 87.1



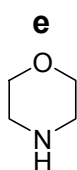
$C_5H_{10}O$
Exact Mass: 86.1



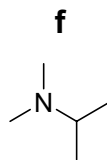
C_6H_{14}
Exact Mass: 86.1



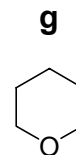
C_6H_{14}
Exact Mass: 86.1



C_4H_9NO
Exact Mass: 87.1

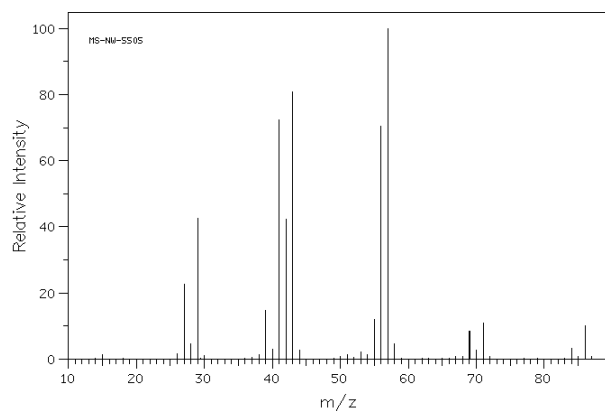


$C_5H_{13}N$
Exact Mass: 87.1

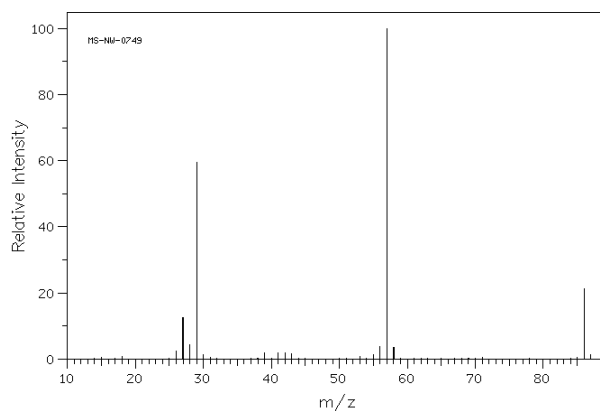


$C_5H_{10}O$
Exact Mass: 86.1

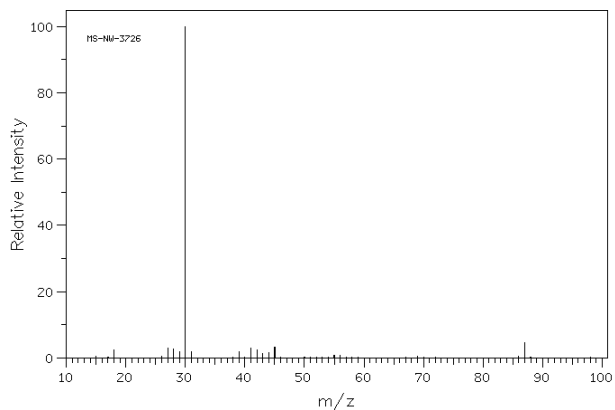
c
mass = 86, unbranched, M-15 (CH_3)



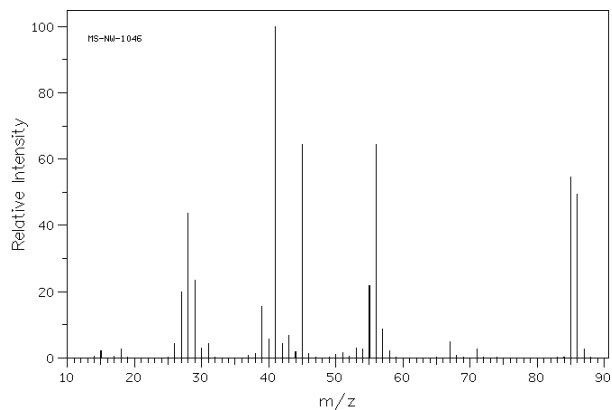
b
mass = 86, unsaturated, M-29 (CH_2CH_3)



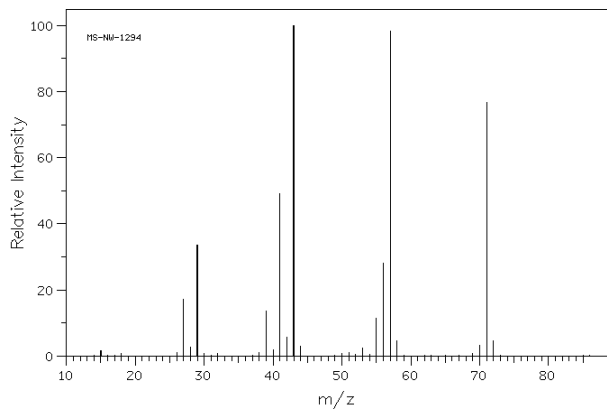
a
mass = 87, unbranched



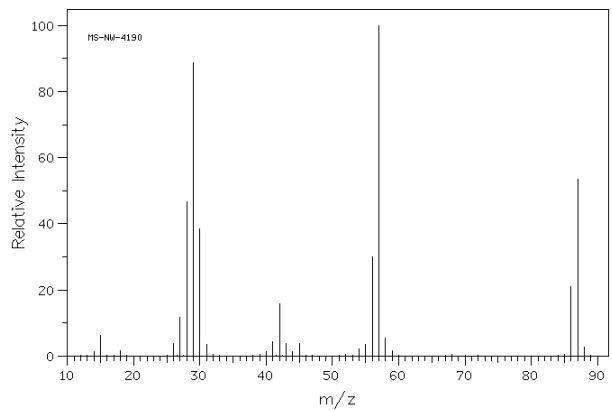
b
mass = 86, ring, M-30 (CH3CH3)



d
mass = 86, branched, large M-15 (CH3)



e
mass = 87, ring, M-30 (CH3CH3)



f
mass = 87, branched, large M-15 (CH3)

