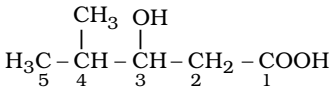
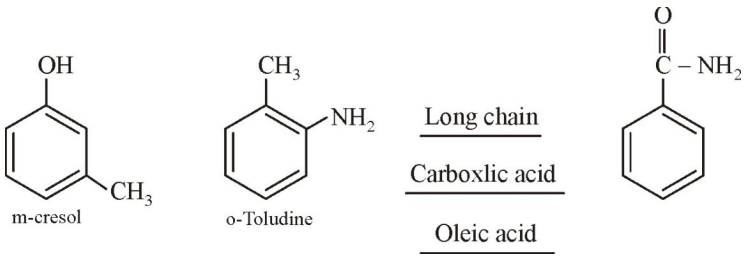
61.(C) 

Carboxylic group has high priority than hydroxyl group so numbering starts from carbon of carboxylic group.

3-hydroxy-4-methylpentanoic acid.

62.(A) X should be a weak acid as it is soluble in 10% NaOH only.



Oleic acid > Benzamide > o-toluidine > m-cresol

Order of decreasing acidic strength

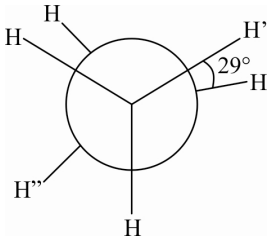
$\therefore$ X is m-cresol (weakest of all)

63.(3) $Na_3PO_4 + 3HNO_3 \longrightarrow H_3PO_4 + 3NaNO_3$

$H_3PO_4 + 12(NH_4)_2MoO_4 + 21HNO_3 \longrightarrow (NH_4)_3PO_4 \cdot 12\ MoO_3$ (Yellow ppt)

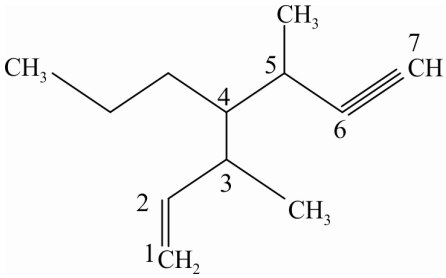
64.(B) $(CH_3)_3C - Cl + AgNO_3 \longrightarrow AgCl\downarrow + (CH_3)_3C^+NO_3^-$

65.(B)



Dihedral angle $= 120° + 29° = 149°$

66.(B)

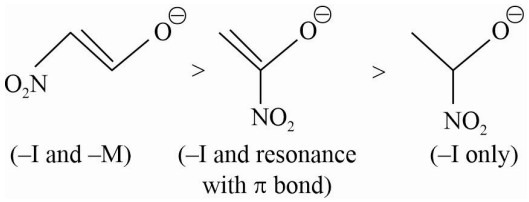


3, 5-dimethyl-4-propyl hept-1-en-6-yne.

67.(B) Higher R_f value means higher volatile means low adsorption.

68.(B) Since in acylic compound angle strain is not present so option (B) is correct.

69.(C)



70.(C) Theory based

71.(D) Kjeldahl's method can't be used for nitro compounds.

72.(C) Resonance form of $Cl-CH=CH-NO_2$ is more stable than resonance form of any other given compounds. Hence double bond character in $C-Cl$ bond is maximum and bond length is minimum

73.(D) Vapours of the liquid with higher boiling point condense before the vapours of the liquid with lower boiling point. Hence isohexane will be distilled out first.
If the difference in boiling points of two liquids is not much, simple distillation cannot be used to separate them.

74.(B) Ethyl acetate $(CH_3-\overset{\overset{O}{\|}}{C}-O-C_2H_5)$ is polar molecule, so dipole-dipole and London dispersion forces are present in it.