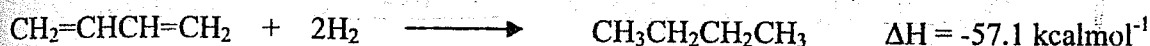
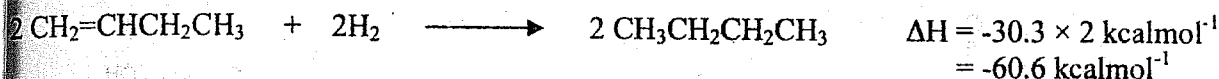


Answer Guide

	Whether aromatic or not	Reason
A	Non aromatic	Does not obey Hückel rule/ does not have $(4n+2)$ number of π electrons
B	Aromatic	Obeys Hückel rule/ has $(4n+2)$ number of π electrons, monocyclic, Planar
C	Non aromatic	Not a cyclic compound
D	Aromatic	obeys Hückel rule/ has $(4n+2)$ number of π electrons, monocyclic, Planar

A, B, D



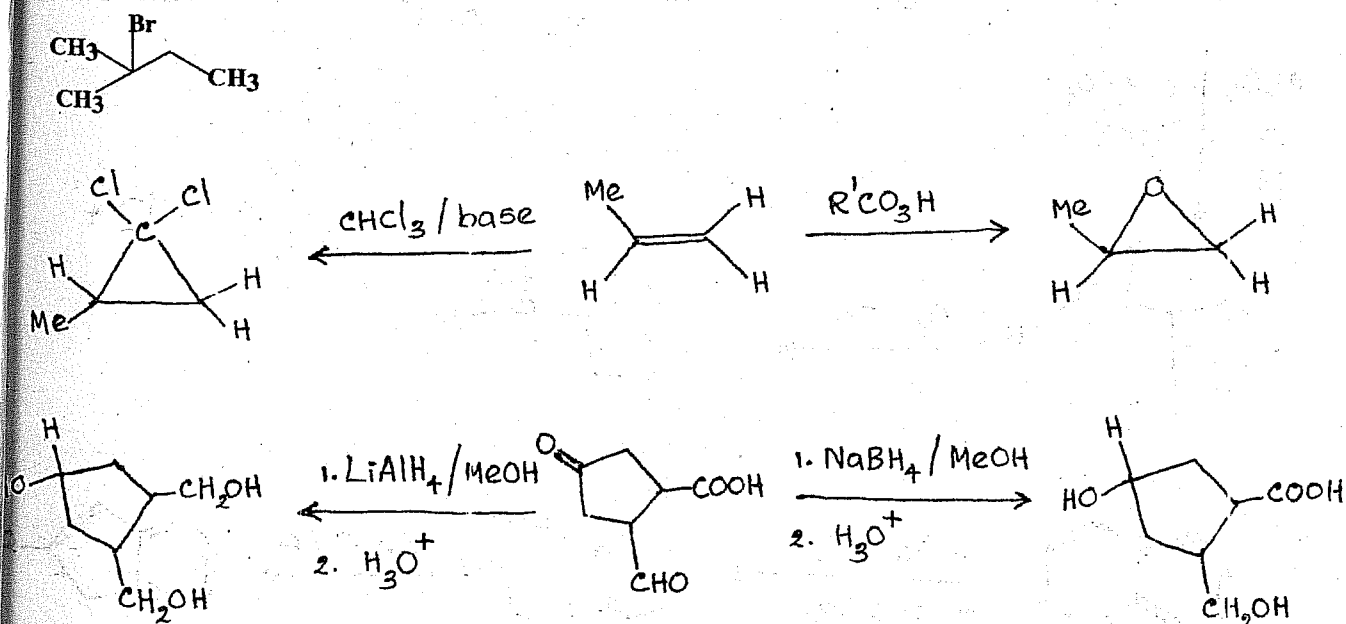
$$\text{Extra stability} = -57.1 \text{ kcalmol}^{-1} - (-60.6 \text{ kcalmol}^{-1}) \\ = 3.5 \text{ kcalmol}^{-1}$$

a, d

- (a) 4-bromo-7-ethyl-2,5cycloheptadienone
 (b) 6-hydroxy-8,8-dimethylbicyclo(3,2,1)-3-octanone

B, C

3
2



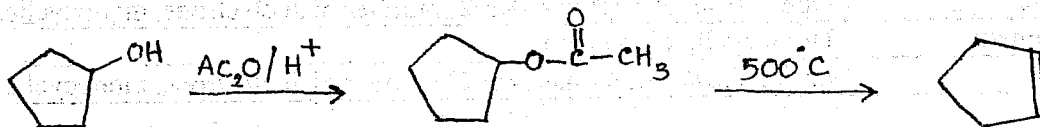
12. Iodoform test

Only (B) gives yellow colored precipitate / forms CHI_3

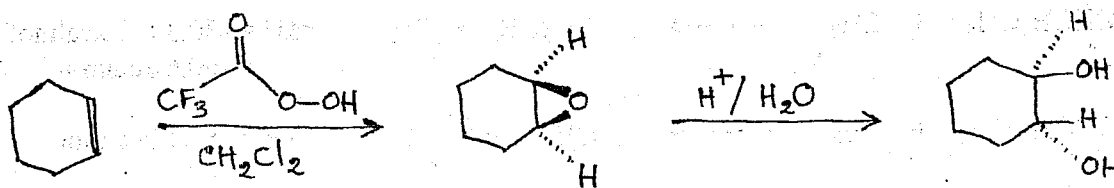
13. P - Methyl group is in para position. The lone pair of electrons on N atom delocalized to the ring. So it is less available for abstracting a proton, and less basic.

Q - Methyl group is in ortho position. Due to the steric hindrance, two methyl groups on N atom cannot exist in the same plane as the benzene ring. Therefore the lone pair of electrons on N atom does not delocalize to the ring. So it is more available for abstracting a proton, and more basic than P.

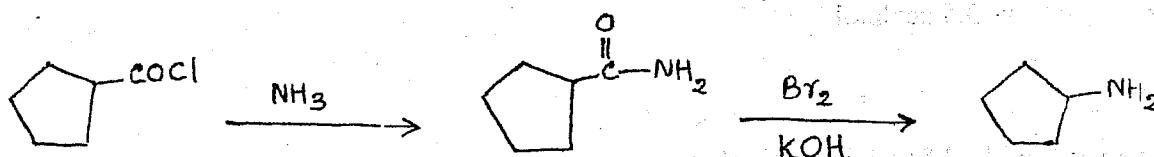
14. (a)



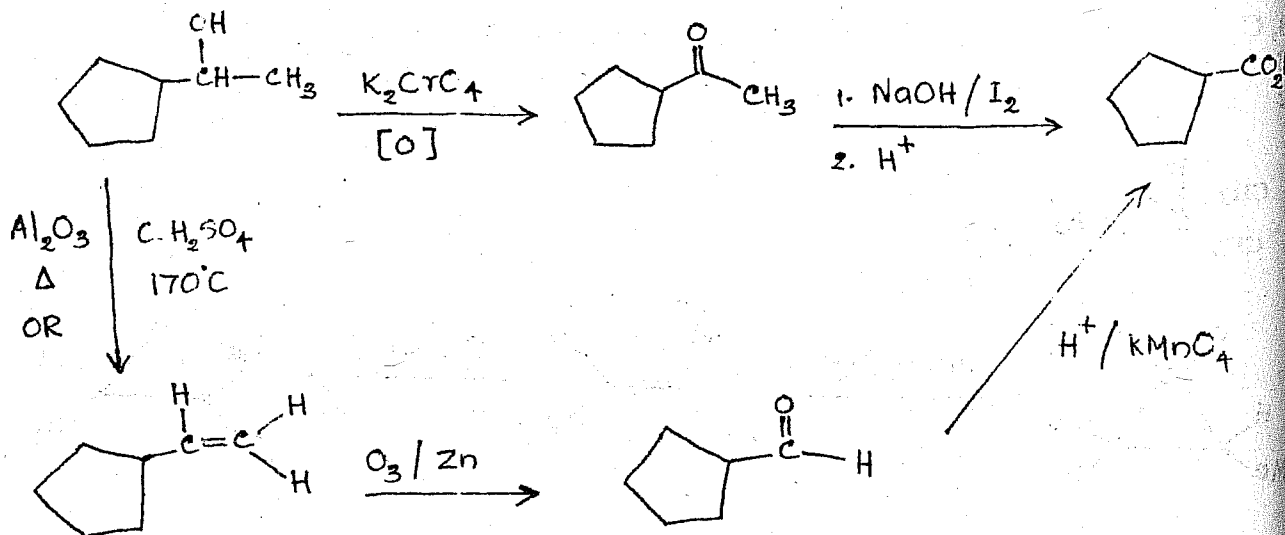
(b)



(c)



15. i



ii

