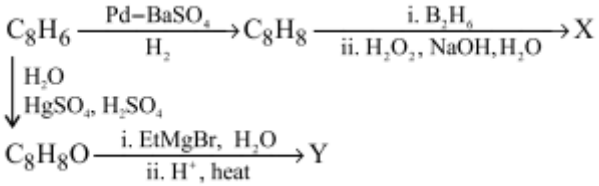
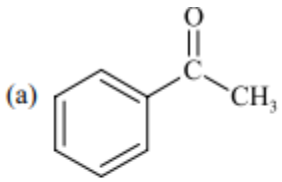
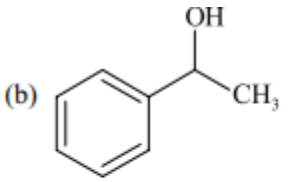
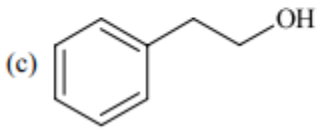
previous years jee problems with solutions on hydrocarbons

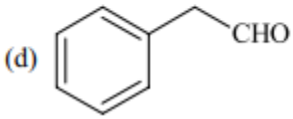
1 In the following reactions compound x is;









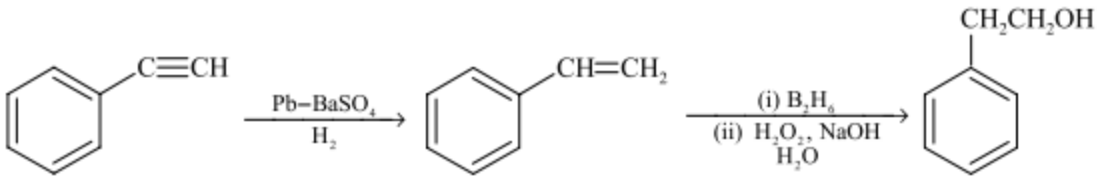


Solution: (C)

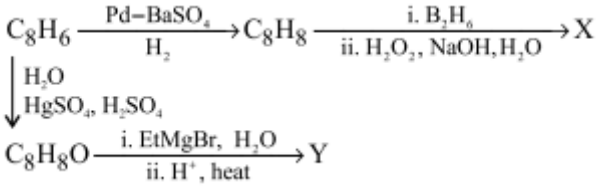
The compound X is 2-phenylethanol.

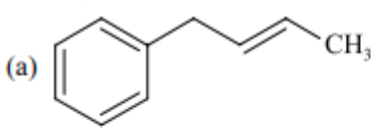
The triple bond of ethynylbenzene is selectively hydrogenated to double bond by using Lindlar's catalyst to obtain styrene.

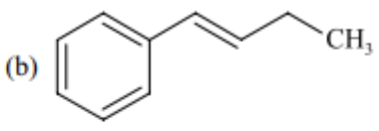
Hydroboration oxidation of styrene gives 2-phenylethanol (compound X).

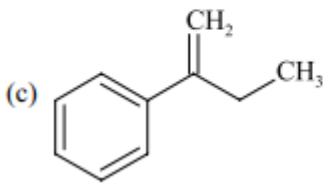


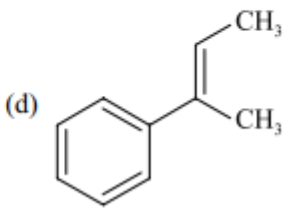
Question 2. In the following reactions compound y is;



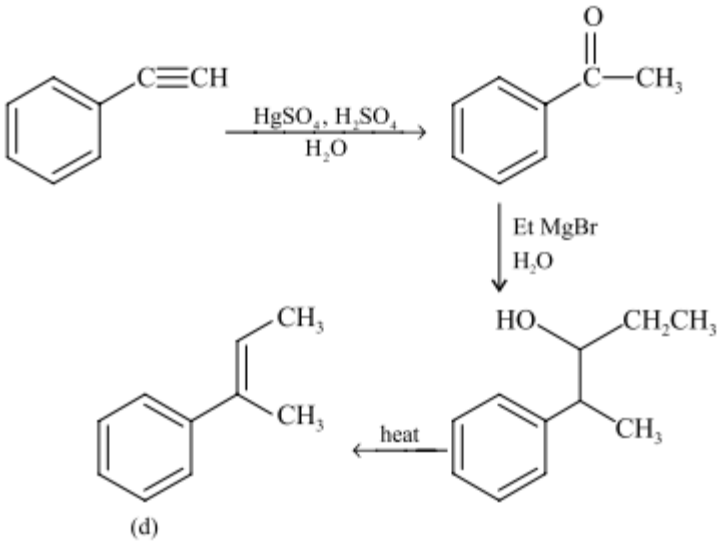






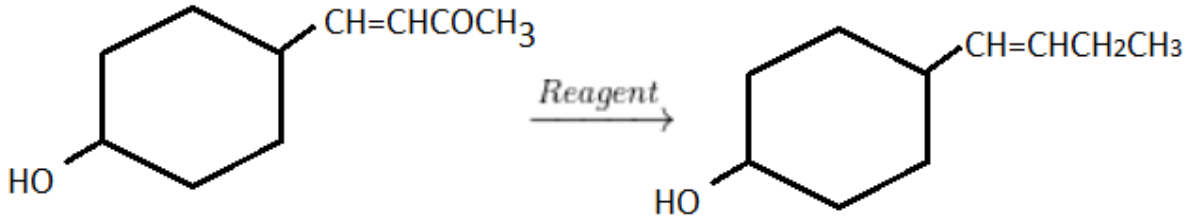


Solution: (D)



(d)

. In the given transformation, which of the following is the most appropriate reagent?



(1) $NaBH_4$

(2) NH_2-NH_2, OH

(3) Zn – Hg / HCl

(4) Na, Liq.NH_3

Solution:

In NH_2-NH_2, OH, the medium is basic so it will not have any effect on the OH group in the reagent.

Hence option (2) is the answer.