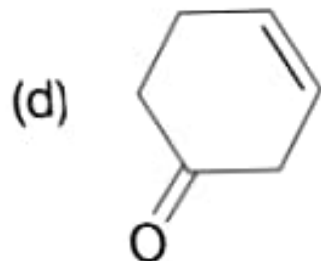
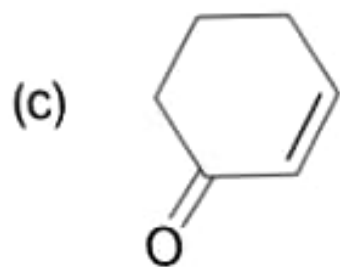
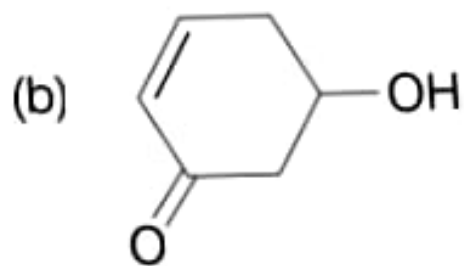
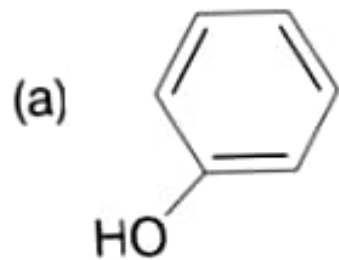
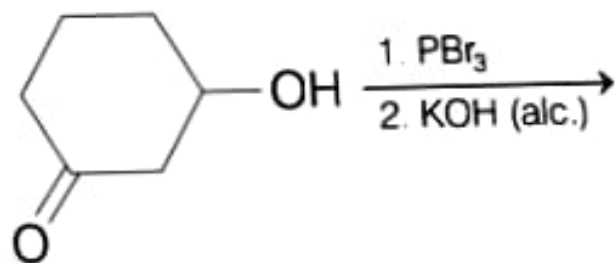


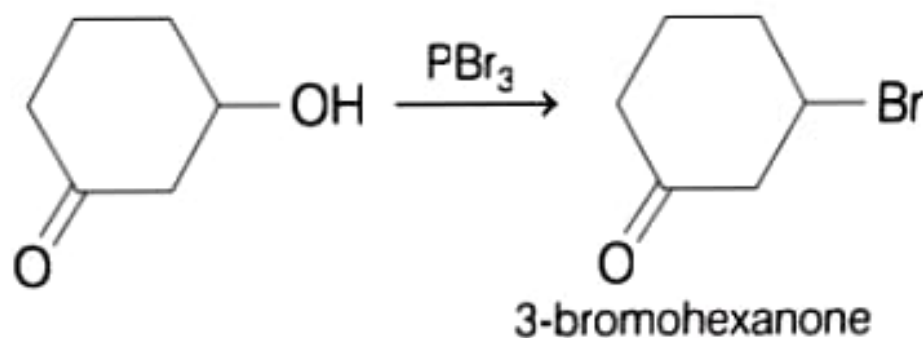
4. The major product of the following reaction is
(2019 Main, 9 April I)



Key Idea PBr_3 reagent is used for the substitution of $-\text{Br}$ group while alc. KOH reagent is used to carry out elimination reaction.

The given reaction proceed in following manner:

Step I In presence of PBr_3 , alcohols undergo substitution reactions to give halides. Reagent PBr_3 is usually generated *insitu* by the reaction of red phosphorus with bromine.



Step II 3-bromocyclohexanone in presence of alc. KOH undergoes elimination reaction and gives cyclohex-2-en-1-one.

