

For Question No. 55 to 58



- (A) Statement-1 is True, Statement-2 is True; Statement-2 is a correct explanation for Statement-1  
 (B) Statement - 1 is True, Statement-2 is True; Statement - 2 is NOT a correct explanation for Statement-1  
 (C) Statement - 1 is True, Statement - 2 is False  
 (D) Statement - 1 is False, Statement - 2 is True

55. **Statement I** : Addition of bromine to trans-2-butene yields meso-2, 3-dibromo butane.

**Statement II** : Addition of bromine to an alkene is an electrophilic addition.

(2001)

56. **Statement I** : Dimethyl sulphide is commonly used for the reduction of an ozonide of an alkene to get the carbonyl compound.

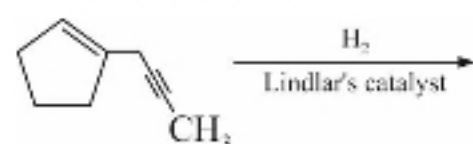
**Statement II** : It reduces the ozonide giving water soluble dimethyl sulfoxide and excess of it evaporates.

(2001)

57. What would be the major product in the following reaction ?



(2001)

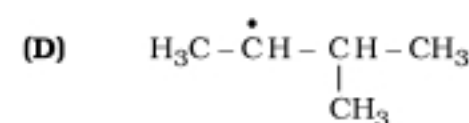
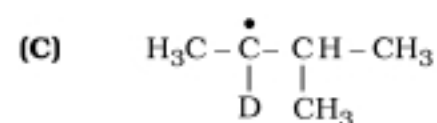
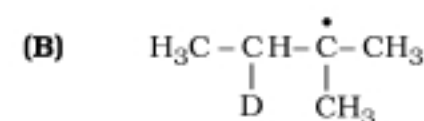
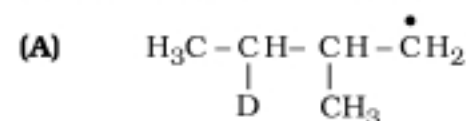


58. Consider the following reaction  $\text{H}_3\text{C}-\underset{\text{D}}{\text{CH}}-\underset{\text{CH}_3}{\text{CH}}-\text{CH}_3 + \text{Br}^\bullet \longrightarrow \text{X} + \text{HBr}$



Identify the structure of the major product X :

(2002)



59. Identify a reagent from the following list which can easily distinguish between 1-butyne and 2-butyne.

(A) bromine,  $\text{CCl}_4$

(B)  $\text{H}_2$ , Lindlar catalyst

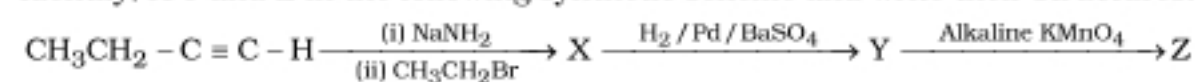


(2002)

(C) dilute  $\text{H}_2\text{SO}_4$ ,  $\text{HgSO}_4$

(D) ammonical  $\text{Cu}_2\text{Cl}_2$  solution

60. Identify, X Y and Z in the following synthetic scheme and write their structures.



Is the compound Z optically active? Justify your answer.

(2002)