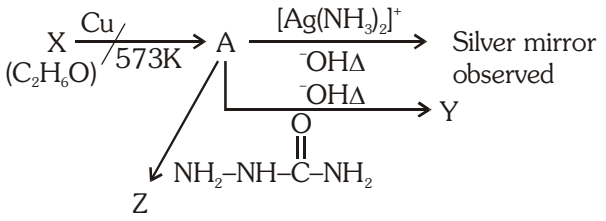
173. Consider the reactions :-



Identify A, X, Y and Z

(1) A-Methoxymethane, X-Ethanol, Y-Ethanoic acid, Z-Semicarbazide.

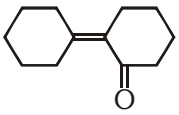
(2) A-Ethanal, X-Ethanol, Y-But-2-enal, Z-Semicarbazone

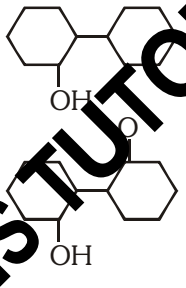
(3) A-Ethanol, X-Acetaldehyde, Y-Butanone, Z-Hydrazone

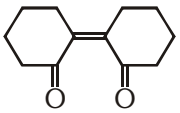
(4) A-Methoxymethane, X-Ethanoic acid, Y-Acetate ion, Z-hydrazine

Ans. (2)

174. Of the following, which is the product formed when cyclohexanone undergoes aldol condensation followed by heating ?:-

(1) 

(2) 

(3) 

(4)

Ans. (1)

175. Which of the following pairs of species have the same bond order ?

(1) O_2, NO^+ (2) CN^-, CO

(3) N_2 , O_2^- (4) CO, NO

Ans. (2)

176. Extraction of gold and silver involes leaching with CN^- ion. Silver is later recovered by :-

(1) distillation

(2) zone refining

(3) displacement with Zn

(4) liquation

Ans. (3)

177. A 20 litre container at 400 K contains $CO_2(g)$ at pressure 0.4 atm and an excess of SrO (neglect the volume of solid SrO). The volume of the container is now decreased by moving the movable piston fitted in the container. The maximum volume of the container, when pressure of CO_2 attains its maximum value, will be :-

(Given that : $SrCO_3(s) \rightleftharpoons SrO(s) + CO_2(g)$, Kp = 1.6atm)

(1) 10 litre (2) 4 litre

(3) 2 litre (4) 5 litre

Ans. (4)

178. Pick out the correct statement with respect to $[Mn(CN)_6]^{3-}$:-

(1) It is sp^3d^2 hybridised and tetrahedral

(2) It is d^2sp^3 hybridised and octahedral

(3) It is dsp^2 hybridised and square planar

(4) It is sp^3d^2 hybridised and octahedral

Ans. (2)

179. The reason for greater range of oxidation states in actinoids is attributed to :-

(1) actinoid contraction

(2) 5f, 6d and 7s levels having comparable energies

(3) 4f and 5d levels being close in energies

(4) the redioactive nature of actinoids

Ans. (2)

180. Which of the following statements is not correct :-

(1) Ovalbumin is a simple food reserve in egg-white

(2) Blood proteins thrombin and fibrinogen are involved in blood clotting

(3) Denaturation makes the proteins more active

(4) Insulin maintanis sugar level in the blodd of a human body

Ans. (3)

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