LIVE

JEE MAIN 2024

ATTEMPT – 01, 29TH JAN 2024 , SHIFT – 02

PAPER DISCUSSION

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INORGANIC CHEMISTRY

Best reducing agent among the given ions are:

A Gd^{2+}

B Ce^{4+}

C Nd^{3+}

D Lu^{3+}

How many of the following compounds have zero dipole moment.

NH_3, H_2O, HF, CO_2, SO_2, BF_3, CH_4

What is the oxidation state of Fe in complex formed in Brown ring Test.

A 1

B 2

C 3

D 4

Why does oxygen show anomalous behaviour

A Large size, high electronegativity

B Small size, small electronegativity

C Small size, high electronegativity, absence of vacant d-orbital

D Large size, high electronegativity, presence of vacant d-orbital

Which of the following has highest Ionisation Enthalpy?

A N

B C

C Si

D Al

Nessler's reagent gives brown colour with

A CO_2

B NH_3

C SO_2

D CO

Which of the following will give brilliant red ppt. with dmg?

A Ni^{2+}

B CO^{2+}

C Mn^{2+}

D Fe^{2+}

Statement-1: 'F' has maximum negative electron gain enthalpy in its group.

Statement-2: 'O' has least negative electron gain enthalpy in its group.

A Statement-1 is true, statement-2 is false

B Statement-1 is false, statement-2 is true

C Statement-1 is true, statement-2 is true

D Statement-1 is false, statement-2 is false

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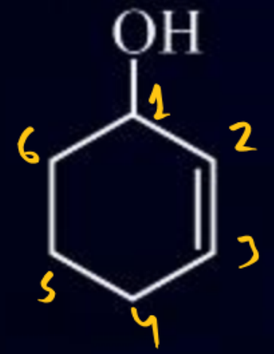
ORGANIC CHEMISTRY

IUPAC name of the given compound.



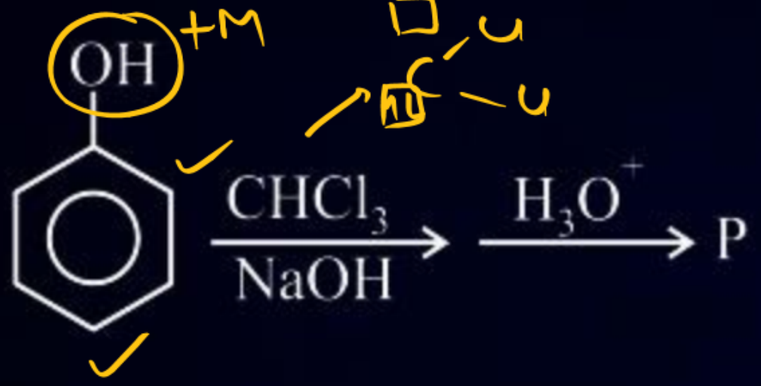
cyclohex-2-en-1-ol

(A) Hex-2-en-1-ol

(B) Cyclohex-2-en-1-ol ✓

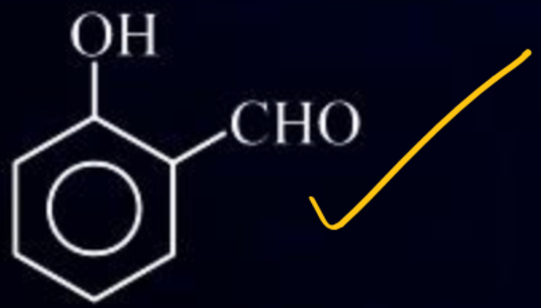
(C) 3-Hydroxycyclohexene

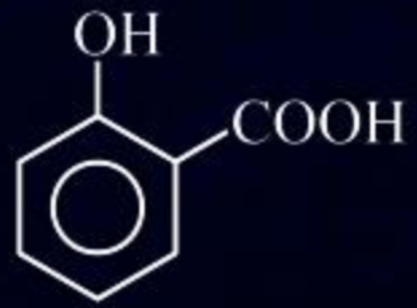
(D) Cyclohex-1-en-3-ol

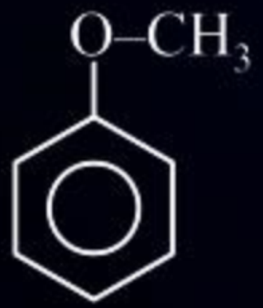


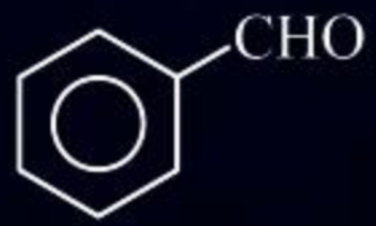
O-salicylaldehyde

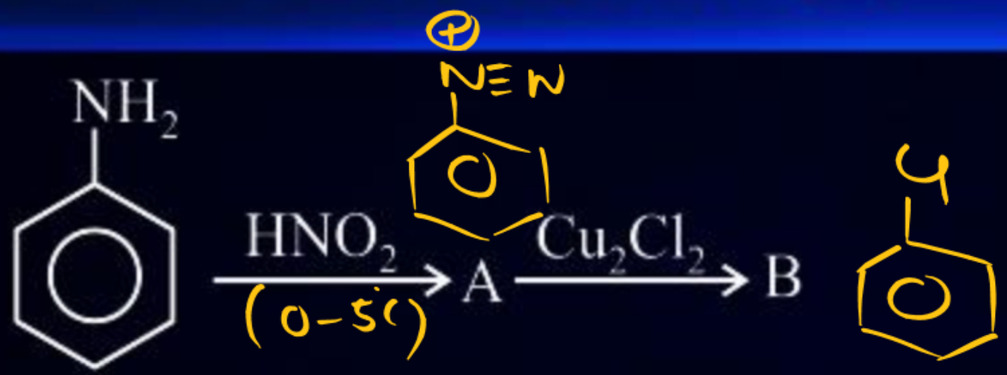
Product P is

A 

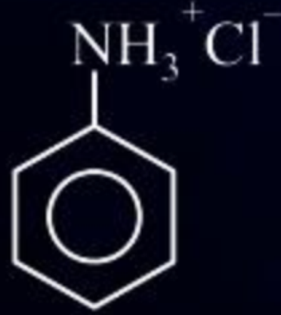
B 

C 

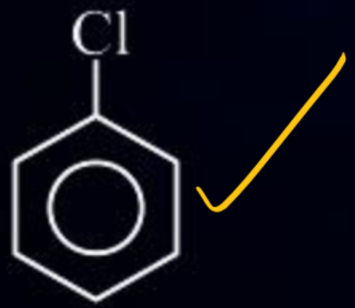
D 

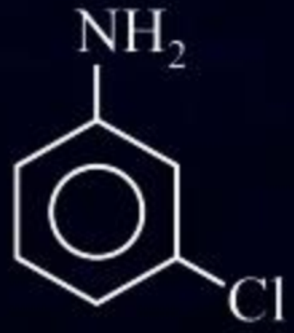


Product B is

A 

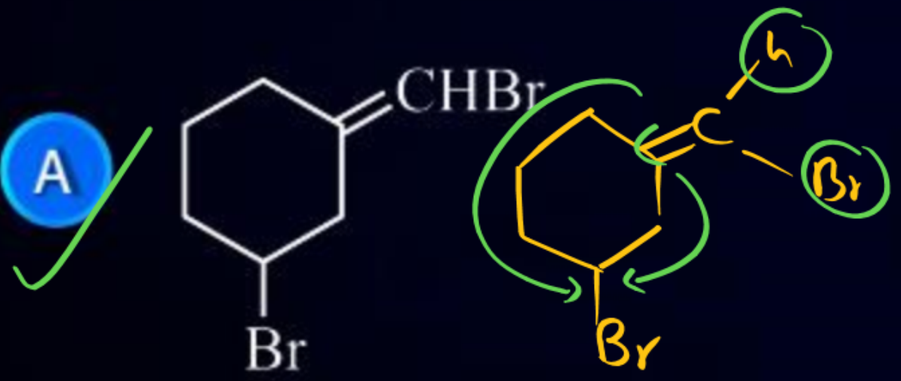
B 

C 

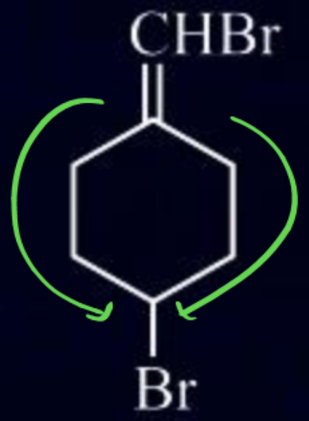
D 

Which of the following compounds show & Geometrical Isomerism

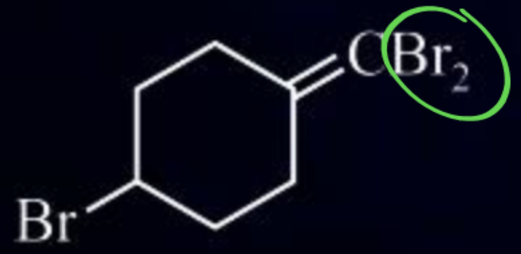
A



B



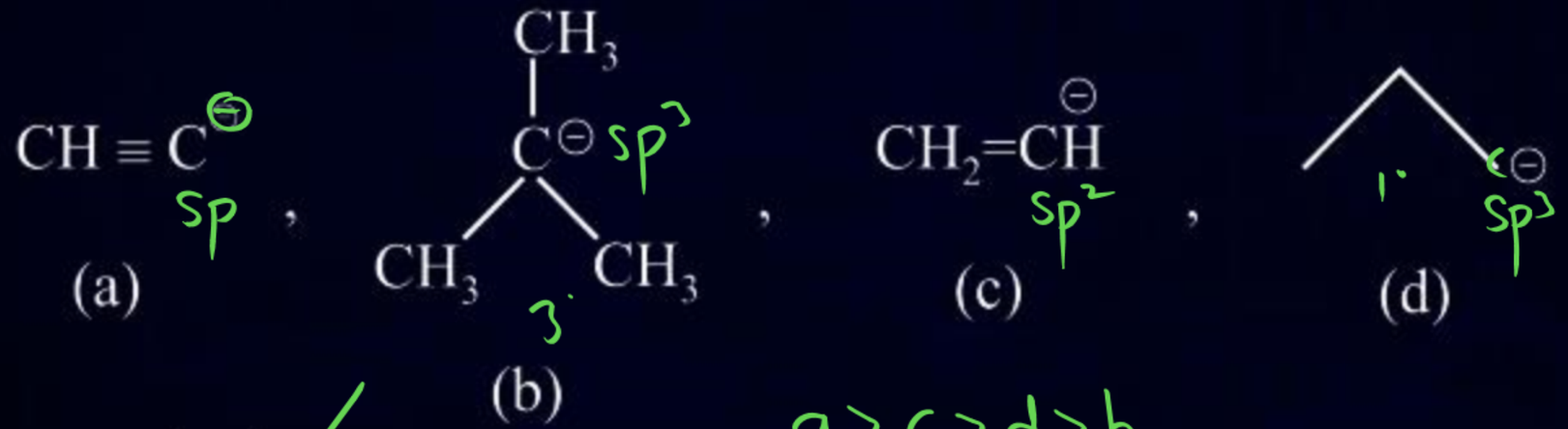
C



D

Among the following carbanions, correct stability order.

E.N :- $(sp) > (sp^2) > (sp^3)$



a > c > d > b

A. a > c > d > b

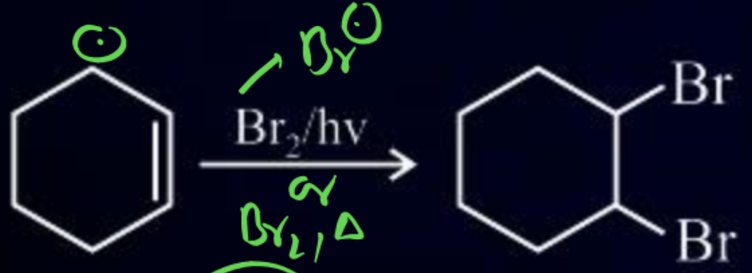
B. a > d > c > b

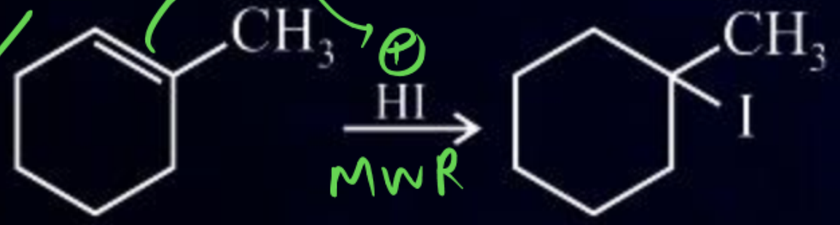
C. d > c > b > a

D. b > c > d > a

Which of the following represent correct reaction

A $CH_3-CH_2-CH_2-NH_2 \xrightarrow{NaNO_2/HCl} CH_3-CH_2-OH$

B 

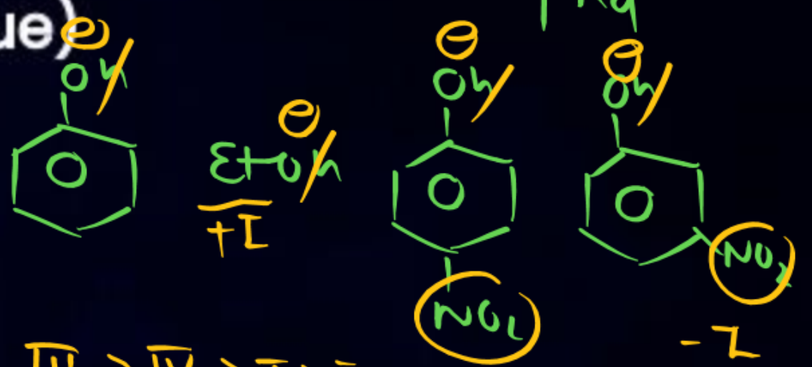
C 

D $CH_3-CH_2-\overset{\overset{O}{\|}}{C}-NH_2 \xrightarrow{Br_2/NaOH} CH_3-CH_2-CH_2-NH_2 + Na_2CO_3$

Match the column

Column-I (Compounds)	Column-II (pK_a value)
(I) Phenol (Q)	(P) 15.9
(II) Ethanol (P)	(Q) 10
(III) p-nitrophenol (S)	(R) 8.3
(IV) m-nitrophenol (R)	(S) 7.1

A.S. $\propto K_a \propto \frac{1}{pK_a}$



A.S. → II > IV > I > III

(A) I-(Q), II-(P), III-(S), IV-(R)

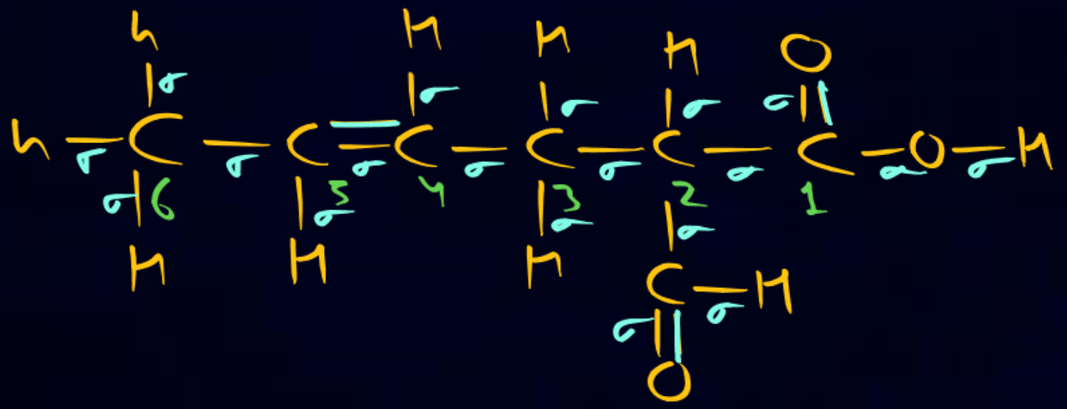
(B) I-(S), II-(R), III-(Q), IV-(P)

(C) I-(P), II-(Q), III-(R), IV-(S)

(D) I-(Q), II-(P), III-(R), IV-(S)

pK_a → II > I > IV > III

Sum of number of π-bond and σ-bond in 2-formyl-hex-4-enoic acid



$\pi \rightarrow 3$

$\sigma \rightarrow 19$

22

For Differential adsorption method which type of chromatography is used

X → T.L.C

Y → Column chromatography } adsorption

Z → Paper chromatography → Partition

A Only X

B Only Y

C Only Z

D X and Y both ✓

$$R{-}X \xrightarrow{\text{Reagent}} \underset{\text{(Major)}}{R - NC}$$

For given reaction reagent is:

A AgCN $Ag-C\equiv\ddot{N}$

B KCN $K^{\oplus}\ {}^{\ominus}C\equiv\ddot{N}$

C NH_4CN

D NaCN

Match the column.

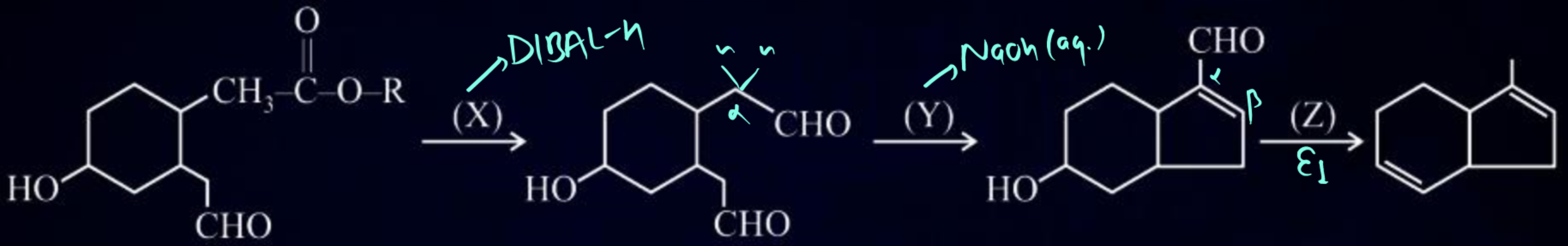
List-I	List-II
(I) Protein (S)	(P) α-D-glucose
(II) Nucleic acid (R)	(Q) β-D-glucose
(III) Starch (P)	(R) Nucleotide
(IV) Cellulose (Q)	(S) Amino acid

A. I→S, II→R, III→P, IV→Q

B. I→S, II→P, III→R, IV→Q

C. I→Q, II→R, III→P, IV→S

D. I→P, II→Q, III→R, IV→S



For give reaction reagent X, Y and Z are respectively

A DIBALH, $NaOH_{(aq)}/\Delta$, Zn-Hg-Conc. HCl/Δ

B DIBALH, $NaOH_{(alc)}/\Delta$, NH_2-$NH_2/OH^-/\Delta$

C $LiAlH_4$, $NaOH_{(aq)}/\Delta$, Zn-Hg-Conc. HCl/Δ

D $LiAlH_4$, $NaOH_{(alc)}/\Delta$, NH_2-$NH_2/OH^-/\Delta$

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PHYSICAL CHEMISTRY

Match the following:

Column-I	Column-II
(A) Lyman	(i) IR
(B) Balmer	(ii) IR
(C) Paschen	(iii) Visible
(D) p-fund	(iv) UV

A (A) – (iv); (B) – (iii); (C) – (i); (D) – (ii)

B (A) – (iv); (B) – (ii); (C) – (iii); (D) – (i)

C (A) – (i); (B) – (ii); (C) – (iii); (D) – (iv)

D (A) – (ii); (B) – (iii); (C) – (iv); (D) – (i)

If standard enthalpy of vaporization of CCl_4 is 30.5 kJ/mol, find heat absorbed for vaporization of 294 gm of CCl_4. [Nearest integer] [in kJ/mol]

50 mL of 0.5M oxalic acid is completely neutralized by 25 mL of NaOH solution. Find out the amount of NaOH (in gm) present in 25 mL of given NaOH solution.

For the reactions the value of K_c

$$2NH_3 \rightleftharpoons N_2 + 3H_2$$

If at equilibrium concentration of NH_3, N_2, H_2 are:
$[1.5 \times 10^{-2}, 2 \times 10^{-6}\,M, 2 \times 10^{-2}\,M]$

A 7.11×10^{-11}

B 8.11×10^{-11}

C 1.11×10^{-11}

D 10.11×10^{-11}

Calculate molality of 0.8 M H_2SO_4 solution given $d_{solution}$ = 1.6 gm/cc.

Radioactive sample Half life is 36 hours. How much fraction remains after 24 hours. [Antilog (0.2) = 1.587]


THANK
YOU