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CHEMISTRY · JEE MAIN

Hydrocarbons

Previous Year Questions with answers

287 questions · **166** papers · **2002–2026** · newest paper first

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What is in this PDF: every Hydrocarbons question we hold from past JEE Main and AIEEE papers, with its options and answer. Where an answer comes from a source other than the official final key, it says so next to the answer.

Step-by-step solutions for every question are free in the EdLoop JEE app (Google Play) and on app.edloop.in. More chapters: pyq.edloop.in/free-pdfs/

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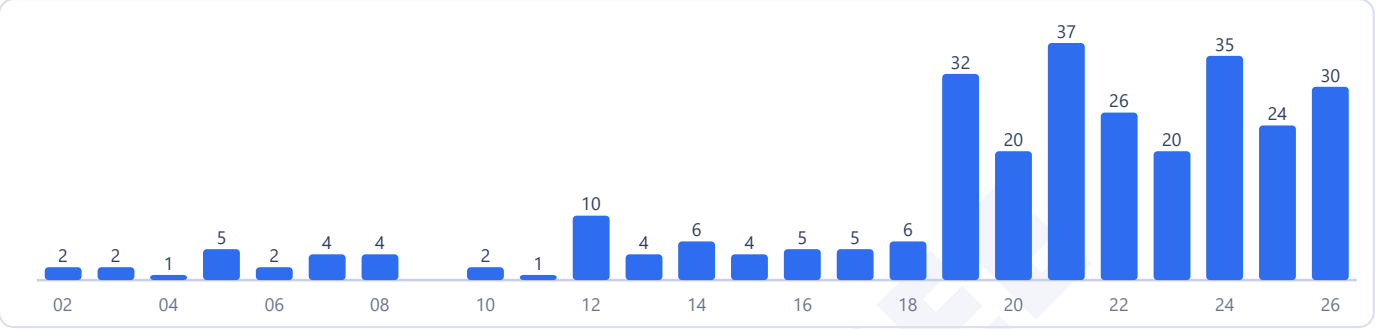
Chapter at a glance

4.9%	287	134 of 162	255 / 32
of Chemistry questions, 2019–2026	questions, 2002–2026	papers asked it, 2019–2026	MCQ / numerical, 2002–2026

Trend. Steady: 1.5 questions per paper in 2024–2026 against 1.3 in 2019–2023.

Questions per year



Counts are the questions we hold: 287 in 166 papers. No question in this chapter was found repeated across papers.

Most-asked topics in this chapter (2002–2026)



How often it comes up

Hydrocarbons forms the core reaction groundwork for organic chemistry under Unit 15: Hydrocarbons in the Class 11 curriculum, holding rank 3 of 31 chapters with a 4.9% share of the chemistry section. Between 2019 and 2026, Hydrocarbons yielded 224 questions across 162 exam papers, making up 4.9% of the chemistry section and holding rank 3 of 31 chapters. In the earlier 2002 to 2018 era, it accounted for 63 questions across 38 papers with a 4.7% share. Across the recent 2024 to 2026 test cycles, it contributed 89 questions across 58 papers, capturing a 5.7% share. Its testing frequency has trended up across recent shifts.

Questions have appeared every year from 2019 to 2026. Across 2019 to 2026, candidates faced an average of 1.4 questions per paper, rising to 1.5 questions per paper during 2024 to 2026. Examiners included 32 numerical answer questions between 2019 and 2026, often requiring calculation of elemental percentages or product degree of unsaturation.

Most-asked topics

The chapter divides across four primary hydrocarbon classes:

- Alkenes: The highest-volume topic with 120 total questions (93 in 2019 to 2026), examined continuously through 2026. Key areas test Markovnikov addition of hydrogen halides, peroxide-induced free radical additions (Kharasch effect), anti-addition of halogens via cyclic halonium ions, reductive and oxidative ozonolysis to identify double bond positions, and hydroboration-oxidation versus oxymercuration-demercuration.
- Aromatic Hydrocarbons: Generated 87 total questions (74 in 2019 to 2026), tested through 2026. Focuses on electrophilic aromatic substitution mechanisms on benzene and substituted benzenes, ortho/para versus meta directing effects, activating versus deactivating substituent influences on nitration and halogenation rates, and limitations of Friedel-Crafts reactions on strongly deactivated rings.

- Alkynes: Produced 40 total questions (29 in 2019 to 2026), active through 2026. Core concepts evaluate terminal alkyne acetylide formation with sodamide, stereoselective hydrogenations (cis-alkenes via Lindlar palladium catalyst versus trans-alkenes via sodium in liquid ammonia), and mercuric ion catalyzed hydration producing ketones.
- Alkanes: Yielded 40 total questions (28 in 2019 to 2026), evaluated through 2026. Coverage includes free radical chlorination and bromination selectivities, Wurtz reaction coupling limitations, decarboxylation of carboxylic acids, and controlled catalytic oxidations.

What the questions look like

Examiners regularly present multi-step synthesis roadmaps. A typical question starts with an alkyne, treats it with sodium amide and an alkyl halide to extend the chain, reduces it stereoselectively using Lindlar catalyst or Birch reduction, and follows with halogen addition or ozonolysis to identify the final product.

In aromatic chemistry, questions frequently ask students to compare relative rates of electrophilic aromatic substitution across anisole, toluene, chlorobenzene, and nitrobenzene. Ozonolysis problems require working backward from fragments (such as glyoxal, acetone, or formaldehyde) to reconstruct the starting symmetrical or unsymmetrical diene.

How to practise it

Because Hydrocarbons ranks third in overall chemistry weight, focus on mechanism distinctions and reagent catalogs:

1. Master alkene stereospecific additions: Know that addition of bromine to trans-alkenes yields meso products, while addition to cis-alkenes produces racemic enantiomeric pairs. 2. Differentiate alkyne reduction reagents: Remember that H_2 with Lindlar catalyst ($Pd/CaCO_3$ poisoned with quinoline) delivers syn addition yielding cis-alkenes, while sodium in liquid ammonia yields trans-alkenes via radical anions. 3. Master directing effects on benzene: Activating groups and halogens are ortho/para directing; deactivating groups (except halogens) are meta directing. Halogens are unique because they are deactivating yet ortho/para directing due to competing resonance and induction. 4. Practise reverse ozonolysis: Cleave C=O double bonds on paper and fuse the carbons back together with a C=C double bond to determine original alkene structures. 5. Review terminal alkyne acidity: Terminal alkynes react with sodamide or ammoniacal cuprous chloride, whereas internal alkynes do not react.

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Q1 JEE Main 2026 · 8 Apr · Shift 2 MCQ

n-Butane on monochlorination under photochemical condition gives an optically active compound "P". "P" on further chlorination gives dichloro compounds.

The number of dichloro compounds obtained (ignore stereoisomers) is :

(A) 3
(B) 4
(C) 5
(D) 6

Answer: (B) 4 · Official NTA final key

Q2 JEE Main 2026 · 6 Apr · Shift 1 MCQ

Given below are two statements:

Statement I: Methane can be prepared by decarboxylation of sodium ethanoate, Kolbe's electrolysis of sodium acetate and reaction of CH_3MgBr with water.

Statement II: Methane cannot be prepared from unsaturated hydrocarbons and by Wurtz reaction.

In the light of the above statements, choose the *__correct__* answer from the options given below

(A) Both Statement I and Statement II are true
(B) Both Statement I and Statement II are false
(C) Statement I is true but Statement II is false
(D) Statement I is false but Statement II is true

Answer: (D) Statement I is false but Statement II is true · Official NTA final key

Q3 JEE Main 2026 · 6 Apr · Shift 1 MCQ

Given below are two statements:

Statement I: 3-phenylpropene reacts with HBr and gives secondary alkyl bromide having a chiral carbon atom as the major product.

Statement II: Aryl chlorides and aryl cyanides can be prepared by Sandmeyer reaction as well as Gattermann reaction.

In the light of the above statements, choose the *__correct__* answer from the options given below

(A) Both Statement I and Statement II are true
(B) Both Statement I and Statement II are false
(C) Statement I is true but Statement II is false
(D) Statement I is false but Statement II is true

Answer: (C) Statement I is true but Statement II is false · Official NTA final key

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Q4 JEE Main 2026 · 6 Apr · Shift 2 MCQ

An optically active alkyl bromide C_4H_9Br, reacts with ethanolic KOH to form major compound [A] which reacts with bromine to give compound [B]. Compound [B] reacts with ethanolic KOH and sodamide to give compound [C]. One molecule of water adds to compound [C] on warming with mercuric sulphate and dilute sulphuric acid at 333 K to form compound [D]. The functional group in compound D will be confirmed by :

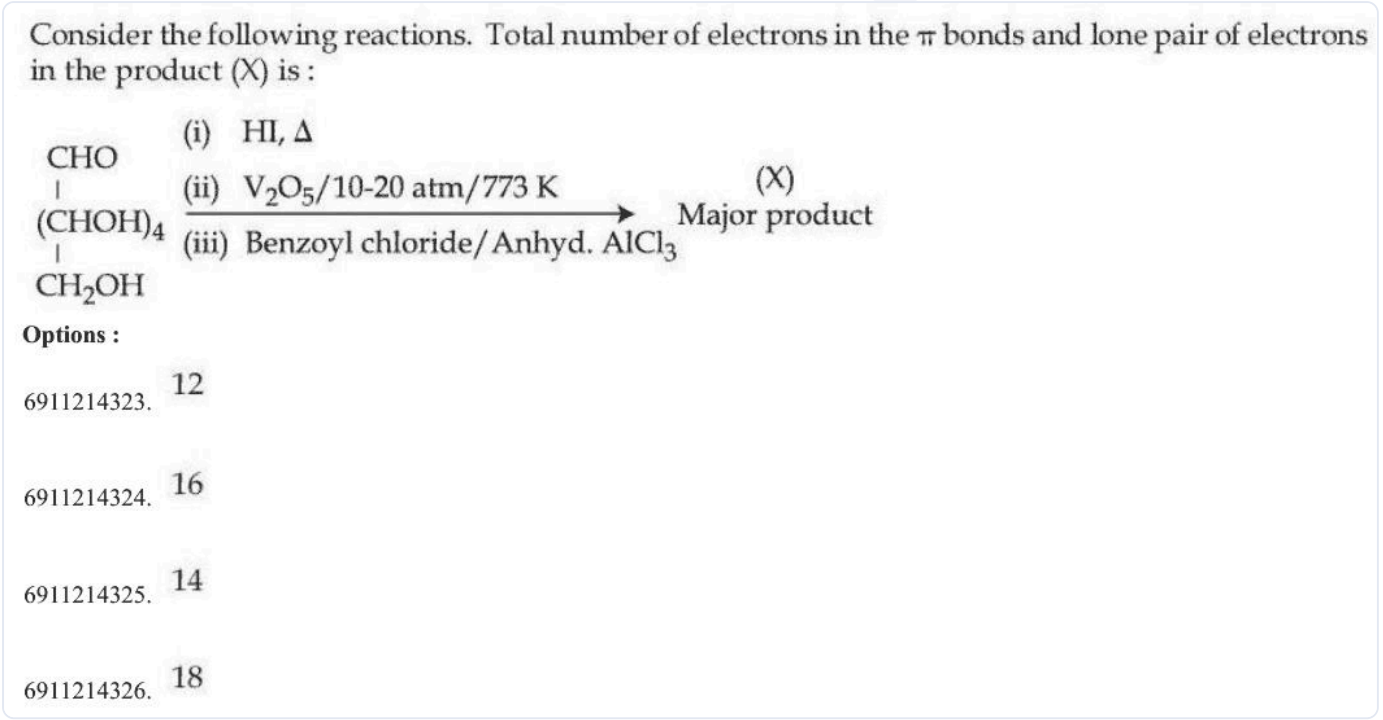
(A) Haloform test
(B) Lucas test
(C) Silver mirror test
(D) Benedict test

Answer: (A) Haloform test · Official NTA final key

Q5 JEE Main 2026 · 6 Apr · Shift 2 MCQ

Consider the following reactions. Total number of electrons in the π bonds and lone pair of electrons in the product (X) is :

(see the figure above)



(A) 12
(B) 16
(C) 14
(D) 18

Answer: (D) 18 · Official NTA final key

Q6 JEE Main 2026 · 6 Apr · Shift 2 Numerical

An alkane (Y) requires 8 moles of oxygen for complete combustion and on chlorination with $Cl_2/h\nu$, (Y) gives only one monochlorinated product (Z). The total number of primary carbon atoms in (Y) is _____.

Numerical value type: the answer is a number.

Answer: 4. · Official NTA final key

Q7 JEE Main 2026 · 5 Apr · Shift 1 MCQ

For the following Friedel Craft's alkylation reaction, which of the statements are **correct**?

(see the figure above)

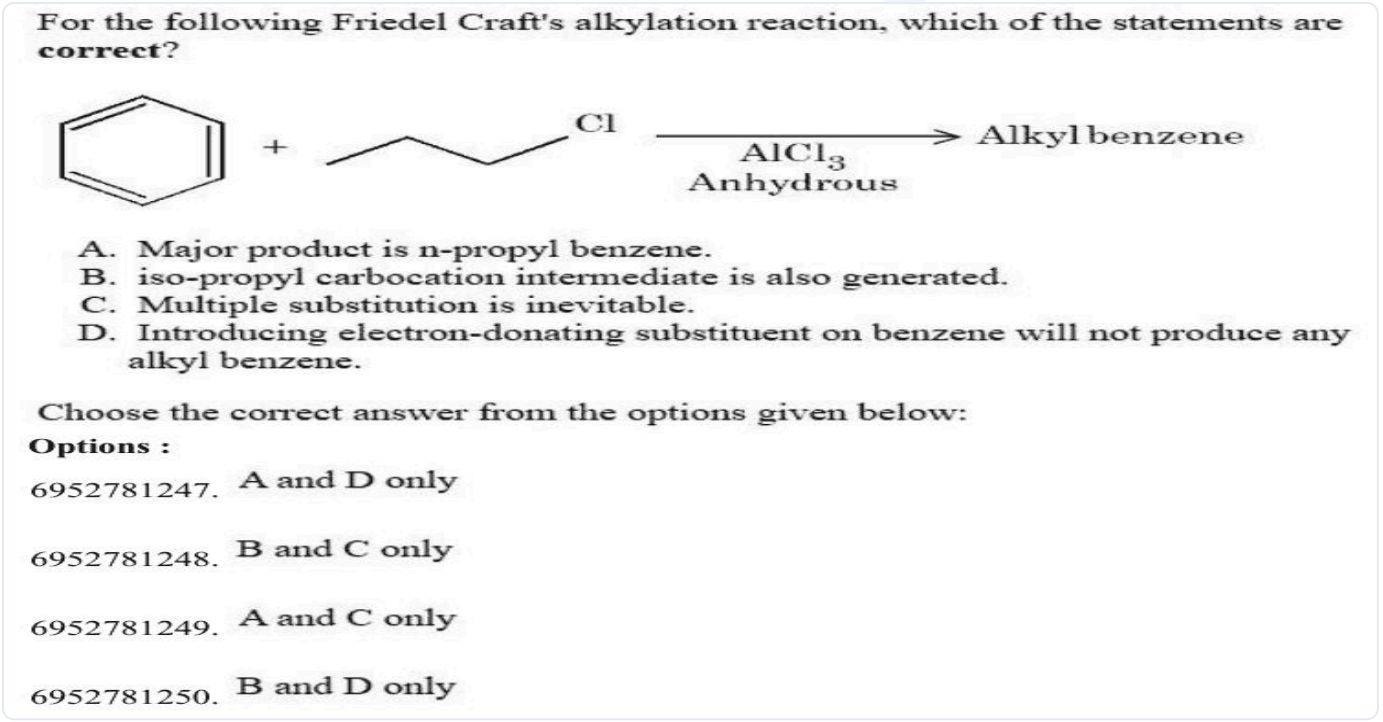
A. Major product is n-propyl benzene.

B. iso-propyl carbocation intermediate is also generated.

C. Multiple substitution is inevitable.

D. Introducing electron-donating substituent on benzene will not produce any alkyl benzene.

Choose the correct answer from the options given below:



(A) A and D only
(B) B and C only
(C) A and C only
(D) B and D only

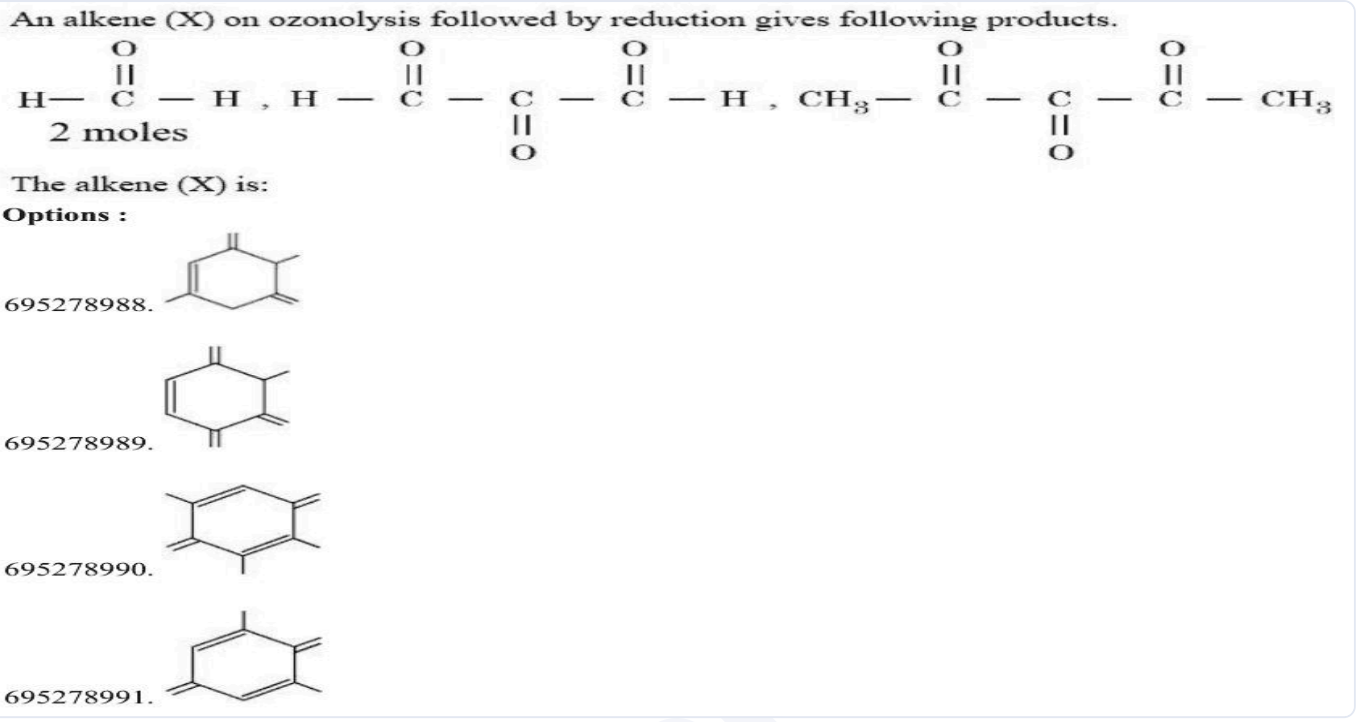
Answer: (B) B and C only · Official NTA final key

Q8 JEE Main 2026 · 4 Apr · Shift 1 MCQ

An alkene (X) on ozonolysis followed by reduction gives following products.

(see the figure above)

The alkene (X) is:



(A) *see figure*

(B) *see figure*

(C) *see figure*

(D) *see figure*

Answer: (D) · Official NTA final key

Q9 JEE Main 2026 · 4 Apr · Shift 1 Numerical

Consider the following sequence of reactions to give the major product (X)

(see the figure above)

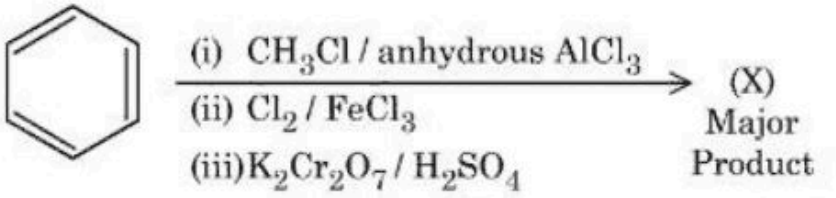
P g of the major product (X) formed is reacted with $NaHCO_3$ solution to liberate a gas which occupied 11.2 dm^3 at STP.

P = _____ g.

(Given molar mass in g mol^{-1} H:1, C:12, O:16, Cl:35.5)

Inscript

Consider the following sequence of reactions to give the major product (X)



P g of the major product (X) formed is reacted with $NaHCO_3$ solution to liberate a gas which occupied 11.2 dm^3 at STP.

P = _____ g.

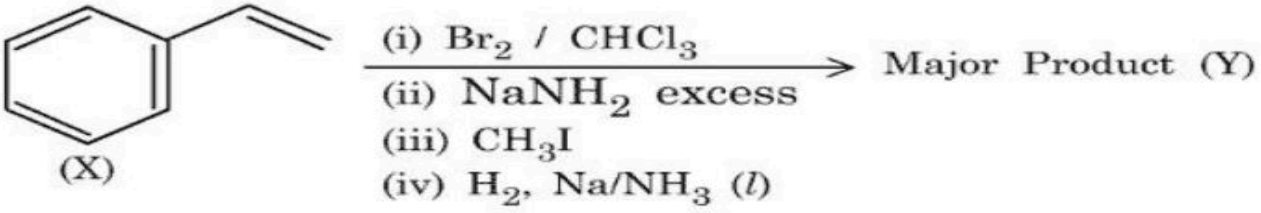
(Given molar mass in g mol^{-1} H:1, C:12, O:16, Cl:35.5)

Numerical value type: the answer is a number.

Answer: 78. · Official NTA final key

Q10 JEE Main 2026 · 4 Apr · Shift 2 MCQ

see figure



Compound (X) is subjected to the sequence of reactions as shown above. Molar mass of the major product (Y) formed is _____ g mol^{-1}.

(Given molar mass in g mol^{-1} C:12, H: 1, O: 16)

Options :

6952781498. 90

6952781499. 118

6952781500. 160

6952781501. 125

(A) 90
(B) 118
(C) 160
(D) 125

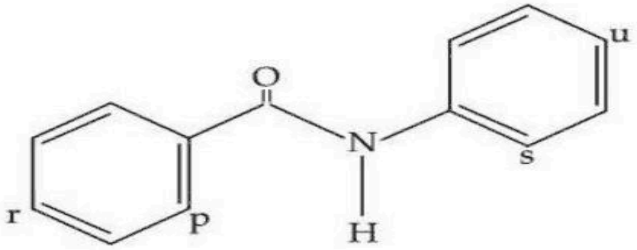
Answer: (B) 118 · Official NTA final key

Q11 JEE Main 2026 · 2 Apr · Shift 1 MCQ

For the given molecule, "x", the preferred site for the attack of the electrophile is :

$x =$ *(see the figure above)*

For the given molecule, "x", the preferred site for the attack of the electrophile is :

$x =$ 

Options :

691121231. Predominantly at "r"

691121232. "r" and "u"

691121233. "p" and "s"

691121234. Predominantly at "u"

(A) Predominantly at "r"

(B) "r" and "u"

(C) "p" and "s"

(D) Predominantly at "u"

Answer: (D) Predominantly at "u" · Official NTA final key

Q12 JEE Main 2026 · 2 Apr · Shift 1 Numerical

Consider the isomers of hydrocarbon with molecular formula C_5H_{10}. These isomers do not decolourise $KMnO_4$ solution. These isomers are subjected to chlorination with chlorine in presence of light to give monochloro compounds. The total number of monochloro compounds (structural isomers only) formed is _____.

Numerical value type: the answer is a number.

Answer: 14. · Official NTA final key

Q13 JEE Main 2026 · 2 Apr · Shift 2 MCQ

The compound (X) on

(i) on heating in the presence of anhydrous $AlCl_3$ and HCl gas gives 2,4-dimethyl pentane

(ii) aromatization gives toulene and

(iii) cyclisation gives methyl cyclohexane

The correct name of compound (X) is :

(A) Hept-2-ene
(B) Hept-1,3,5-triene
(C) Heptane
(D) Hept-2,4,6-triene

Answer: (C) Heptane · Official NTA final key

Q14 JEE Main 2026 · 28 Jan · Shift 1 MCQ

Given below are two statements for the following reaction sequence.

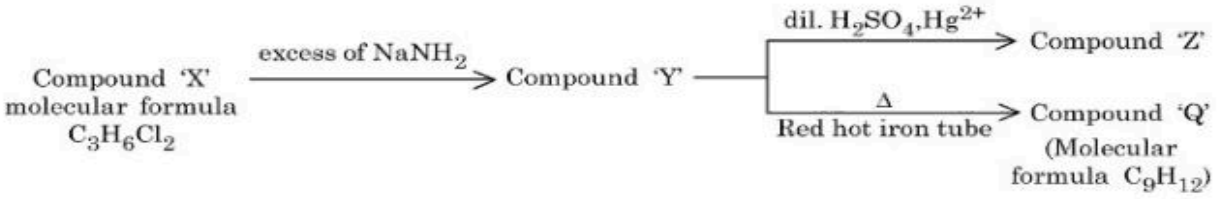
(see the figure above)

Statement I: Compound 'Z' will give yellow precipitate with NaOI.

Statement II: Compound 'Q' has two different types of 'H' atoms (aromatic : aliphatic) in the ratio 1:3.

In the light of the above statements, choose the *__correct__* answer from the options given below:

Q.54 Given below are two statements for the following reaction sequence.



Statement I: Compound 'Z' will give yellow precipitate with NaOI.

Statement II: Compound 'Q' has two different types of 'H' atoms (aromatic : aliphatic) in the ratio 1:3.

In the light of the above statements, choose the ***correct*** answer from the options given below:

Options
1. Both Statement I and Statement II are true
2. Statement I is false but Statement II is true
3. Statement I is true but Statement II is false
4. Both Statement I and Statement II are false

(A) Both Statement I and Statement II are true
(B) Statement I is false but Statement II is true
(C) Statement I is true but Statement II is false
(D) Both Statement I and Statement II are false

Answer: (A) Both Statement I and Statement II are true · Official NTA final key

Q15 JEE Main 2026 · 28 Jan · Shift 1 MCQ

$$\mathrm{Ph-CH=CH_2} \xrightarrow[\mathrm{HBr}]{(\mathrm{PhCOO})_2} \text{Product}$$

Consider the above reaction.

A. The reaction proceeds through a more stable radical intermediate.

B. The role of peroxide is to generate $H^{\bullet}$ (Hydrogen radical).

C. During this reaction, benzene is formed as a byproduct.

D. 1−Bromo−2−phenylethane is formed as the minor product.

E. The same reaction in absence of peroxide proceeds via carbocation intermediate.

Identify the correct statements. Choose the *__correct__* answer from the options given below:

(A) A, B & D Only
(B) C, D & E Only
(C) A, C & E Only
(D) A & E Only

Answer: (C) A, C & E Only · Official NTA final key

Q16 JEE Main 2026 · 28 Jan · Shift 2 MCQ

The reactions which produce alcohol as the product are :

A. $CH_4 + O_2 \xrightarrow[\Delta]{Mo_2O_3}$

B. $2CH_3CH_3 + 3O_2 \xrightarrow[\Delta]{(CH_3COO)_2\,Mn}$

C. $(CH_3)_3CH \xrightarrow{KMnO_4}$

D. $2CH_4 + O_2 \xrightarrow{Cu/523\,K/100\,atm.}$

E. $CH_3 - CH = CH - CH_3 \xrightarrow{KMnO_4/H^+}$

Choose the **correct** answer from the options given below :

(A) A and D Only
(B) C and D Only
(C) A, C and E Only
(D) B, D and E Only

Answer: (B) C and D Only · Official NTA final key

Q17 JEE Main 2026 · 28 Jan · Shift 2 MCQ

Which of the following reaction is NOT correctly represented ?

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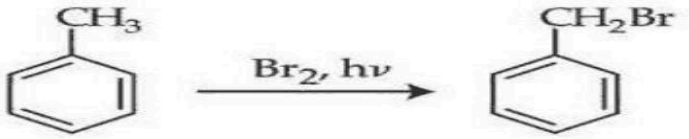
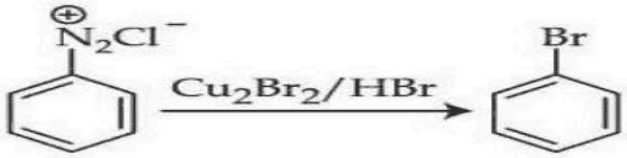
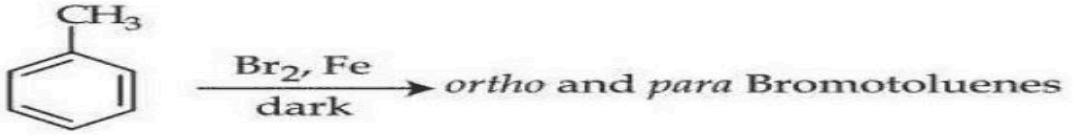
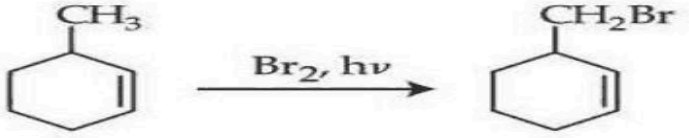
Q.67 Which of the following reaction is NOT correctly represented ?

Options

1. 

2. 

3. 

4. 

(A) *see figure*

(B) *see figure*

(C) *see figure*

(D) *see figure*

Answer: (D) · Official NTA final key

Q18 JEE Main 2026 · 28 Jan · Shift 2 MCQ

Identify the **correct** statements :

The presence of $-NO_2$ group in benzene ring

A. activates the ring towards electrophilic substitutions.

B. deactivates the ring towards electrophilic substitutions.

C. activates the ring towards nucleophilic substitutions.

D. deactivates the ring towards nucleophilic substitutions.

Choose the **correct** answer from the options given below :

(A) A and D Only

(B) B and C Only

(C) C and A Only

(D) B and D Only

Answer: (B) B and C Only · Official NTA final key

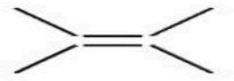
Q19 JEE Main 2026 · 24 Jan · Shift 1 MCQ

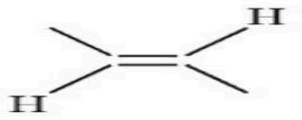
Arrange the following alkenes in decreasing order of stability.

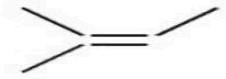
(see the figure above)

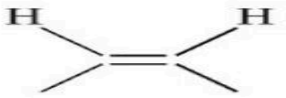
Choose the ***correct*** answer from the options given below:

Q.63 Arrange the following alkenes in decreasing order of stability.

I. 

II. 

III. 

IV. 

Choose the *correct* answer from the options given below:

Options
1. III > II > I > IV
2. I > III > II > IV
3. III > I > II > IV
4. I > III > IV > II

(A) III > II > I > IV

(B) I > III > II > IV

(C) III > I > II > IV

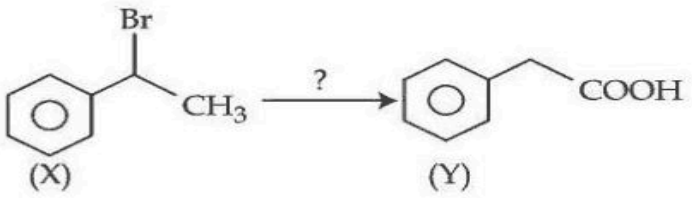
(D) I > III > IV > II

Answer: (B) I > III > II > IV · Official NTA final key

Q20 JEE Main 2026 · 23 Jan · Shift 1 MCQ

see figure

Q.59



The correct sequence of reagents for the above conversion of X to Y is :

Options

1. (i) NaOH (aq) (ii) Jones reagent (iii) H_3O^+

2. (i) NaOEt (ii) B_2H_6/H_2O_2 (iii) Jones reagent

3. (i) B_2H_6/H_2O_2 (ii) NaOEt (iii) Jones reagent

4. (i) Jones reagent (ii) NaOEt (iii) Hot $KMnO_4$/KOH

(A) (i) NaOH (aq) (ii) Jones reagent (iii) H_3O^+

(B) (i) NaOEt (ii) B_2H_6/H_2O_2 (iii) Jones reagent

(C) (i) B_2H_6/H_2O_2 (ii) NaOEt (iii) Jones reagent

(D) (i) Jones reagent (ii) NaOEt (iii) Hot $KMnO_4$/KOH

Answer: (B) (i) NaOEt (ii) B_2H_6/H_2O_2 (iii) Jones reagent · Official NTA final key

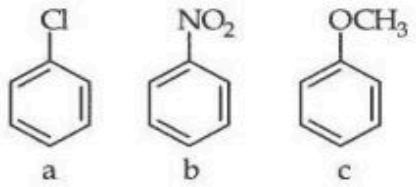
Q21 JEE Main 2026 · 23 Jan · Shift 1 MCQ

Consider the following compounds

(see the figure above)

Arrange these compounds in the increasing order of reactivity with nitrating mixture.

Q.63 Consider the following compounds



Arrange these compounds in the increasing order of reactivity with nitrating mixture.

Options

1. $c < b < a$
2. $b < c < a$
3. $b < a < c$
4. $c < a < b$

(A) c < b < a
(B) b < c < a
(C) b < a < c
(D) c < a < b

Answer: (C) b < a < c · Official NTA final key

Q22 JEE Main 2026 · 23 Jan · Shift 1 MCQ

But-2-yne and hydrogen (one mole each) are separately treated with (i) Pd/C and (ii) Na/liq. NH_3 to give the products X and Y respectively.

(see the figure above)

Identify the **incorrect** statements.

A. X and Y are stereoisomers.

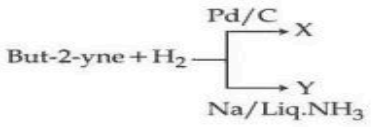
B. Dipole moment of X is zero.

C. Boiling point of X is higher than Y.

D. X and Y react with $O_3/Zn + H_2O$ to give different products.

Choose the **correct** answer from the options given below :

Q.66 But-2-yne and hydrogen (one mole each) are separately treated with (i) Pd/C and (ii) Na/ liq. NH_3 to give the products X and Y respectively.



Identify the **incorrect** statements.
A. X and Y are stereoisomers.
B. Dipole moment of X is zero.
C. Boiling point of X is higher than Y.
D. X and Y react with $O_3/Zn + H_2O$ to give different products.
Choose the **correct** answer from the options given below :

Options
1. A and B Only
2. A and C Only
3. B and C Only
4. B and D Only

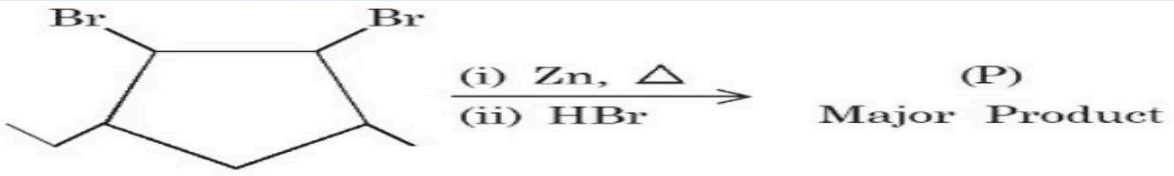
(A) A and B Only
(B) A and C Only
(C) B and C Only
(D) B and D Only

Answer: (D) B and D Only · Official NTA final key

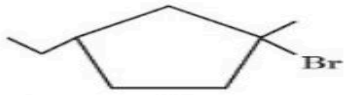
Q23 JEE Main 2026 · 23 Jan · Shift 2 MCQ

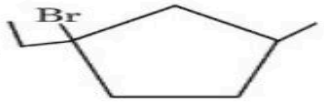
see figure

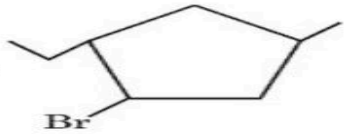
Q.58

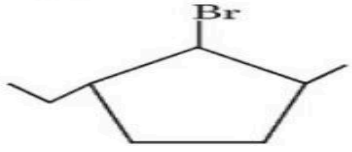


Identify (P)

Options
1. 

2. 

3. 

4. 

(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

Answer: (A) · Official NTA final key

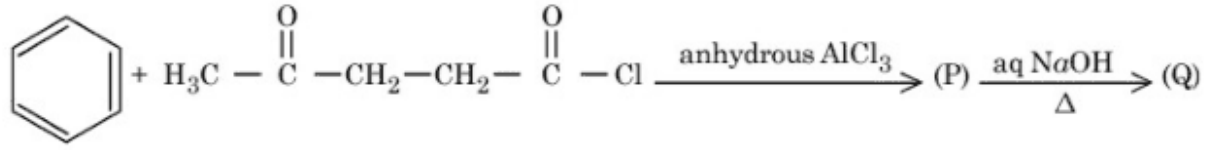
Q24 JEE Main 2026 · 23 Jan · Shift 2 Numerical

Consider the following reaction of benzene.

(see the figure above)

In compound (Q), the percentage of oxygen is _____ %. (Nearest integer)

Q.72 Consider the following reaction of benzene.



In compound (Q), the percentage of oxygen is _____%. (Nearest integer)

Numerical value type: the answer is a number.

Answer: 10. · Official NTA final key

Q25 JEE Main 2026 · 22 Jan · Shift 1 MCQ

Given below are two statements:

Statement I: Benzene is nitrated to give nitrobenzene, which on further treatment with CH_3COCl / $AlCl_3$ will give

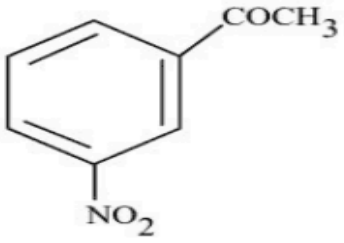
(see the figure above)

Statement II: $-NO_2$ group is a m-directing, and deactivating group.

In the light of the above statements, choose the **most appropriate** answer from the options given below

Q.57 Given below are two statements:

Statement I: Benzene is nitrated to give nitrobenzene, which on further treatment with $CH_3COCl / AlCl_3$ will give



Statement II: $-NO_2$ group is a *m*-directing, and deactivating group.

In the light of the above statements, choose the ***most appropriate*** answer from the options given below

Options
1. Statement I is correct but Statement II is incorrect
2. Both Statement I and Statement II are incorrect
3. Statement I is incorrect but Statement II is correct
4. Both Statement I and Statement II are correct

(A) Statement I is correct but Statement II is incorrect
(B) Both Statement I and Statement II are incorrect
(C) Statement I is incorrect but Statement II is correct
(D) Both Statement I and Statement II are correct

Answer: (C) Statement I is incorrect but Statement II is correct · Official NTA final key

Q26 JEE Main 2026 · 22 Jan · Shift 1 Numerical

The cycloalkene (X) on bromination consumes one mole of bromine per mole of (X) and gives the product (Y) in which C:Br ratio is 3:1. The percentage of bromine in the product (Y) is _____ %. (Nearest integer)

(Given : molar mass in g mol^{-1} H : 1, C : 12, O : 16, Br : 80)

Numerical value type: the answer is a number.

Answer: 66. · Official NTA final key

Q27 JEE Main 2026 · 22 Jan · Shift 2 MCQ

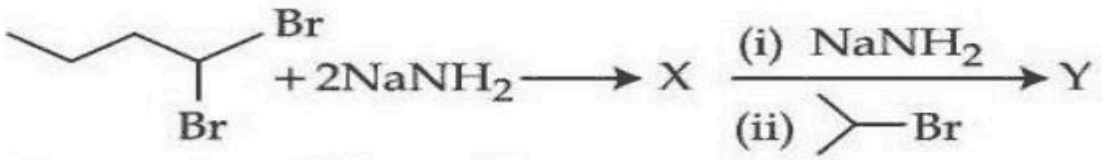
Consider the following reaction :

(see the figure above)

The product Y formed is :

Q.52

Consider the following reaction :



The product Y formed is :

Options

1. 2-methylhex-3-yne
2. 2-methylhex-2-yne
3. 5-methylhex-2-yne
4. Isopropylbut-1-yne

(A) 2-methylhex-3-yne
(B) 2-methylhex-2-yne
(C) 5-methylhex-2-yne
(D) Isopropylbut-1-yne

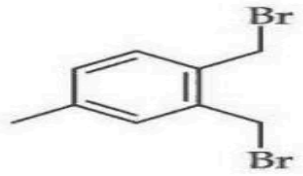
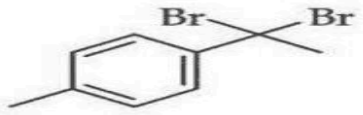
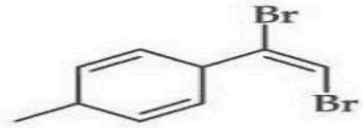
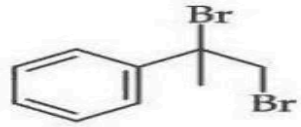
Answer: (A) 2-methylhex-3-yne · Official NTA final key

Q28 JEE Main 2026 · 22 Jan · Shift 2 MCQ

The dibromo compound [P] (molecular formula : $C_9H_{10}Br_2$) when heated with excess sodamide followed by treatment with dilute HCl gives [Q]. On warming [Q] with mercuric sulphate and dilute sulphuric acid yield [R] which gives positive Iodoform test but negative Tollen's test. The compound [P] is :

Q.70 The dibromo compound [P] (molecular formula : $C_9H_{10}Br_2$) when heated with excess sodamide followed by treatment with dilute HCl gives [Q]. On warming [Q] with mercuric sulphate and dilute sulphuric acid yield [R] which gives positive Iodoform test but negative Tollen's test. The compound [P] is :

Options

1. 
2. 
3. 
4. 

(A) *see figure*

(B) *see figure*

(C) *see figure*

(D) *see figure*

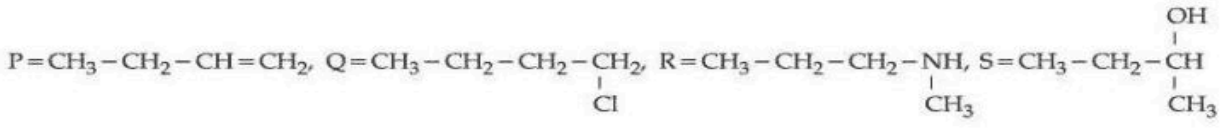
Answer: (B) · Official NTA final key

Q29 JEE Main 2026 · 21 Jan · Shift 1 MCQ

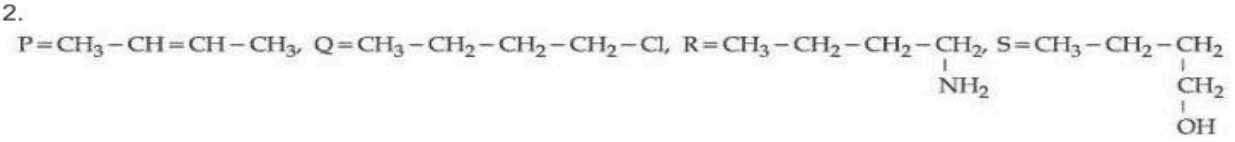
A hydrocarbon 'P' (C_4H_8) on reaction with HCl gives an optically active compound 'Q' (C_4H_9Cl) which on reaction with one mole of ammonia gives compound 'R' ($C_4H_{11}N$). 'R' on diazotization followed by hydrolysis gives 'S'. Identify P, Q, R and S.

Q.60 A hydrocarbon 'P' (C_4H_8) on reaction with HCl gives an optically active compound 'Q' (C_4H_9Cl) which on reaction with one mole of ammonia gives compound 'R' ($C_4H_{11}N$). 'R' on diazotization followed by hydrolysis gives 'S'. Identify P, Q, R and S.

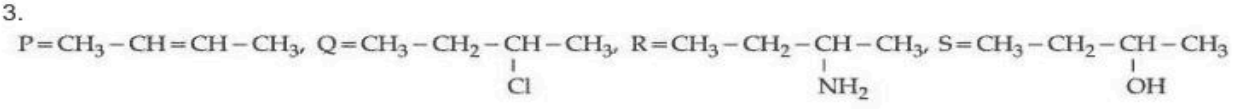
Options 1.

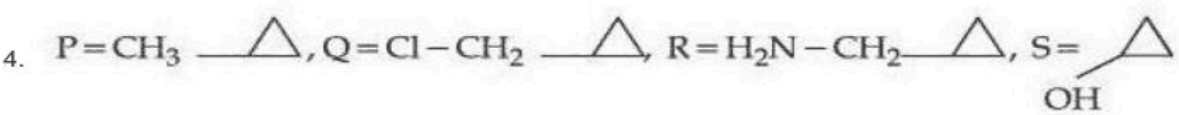


2.



3.



4. 

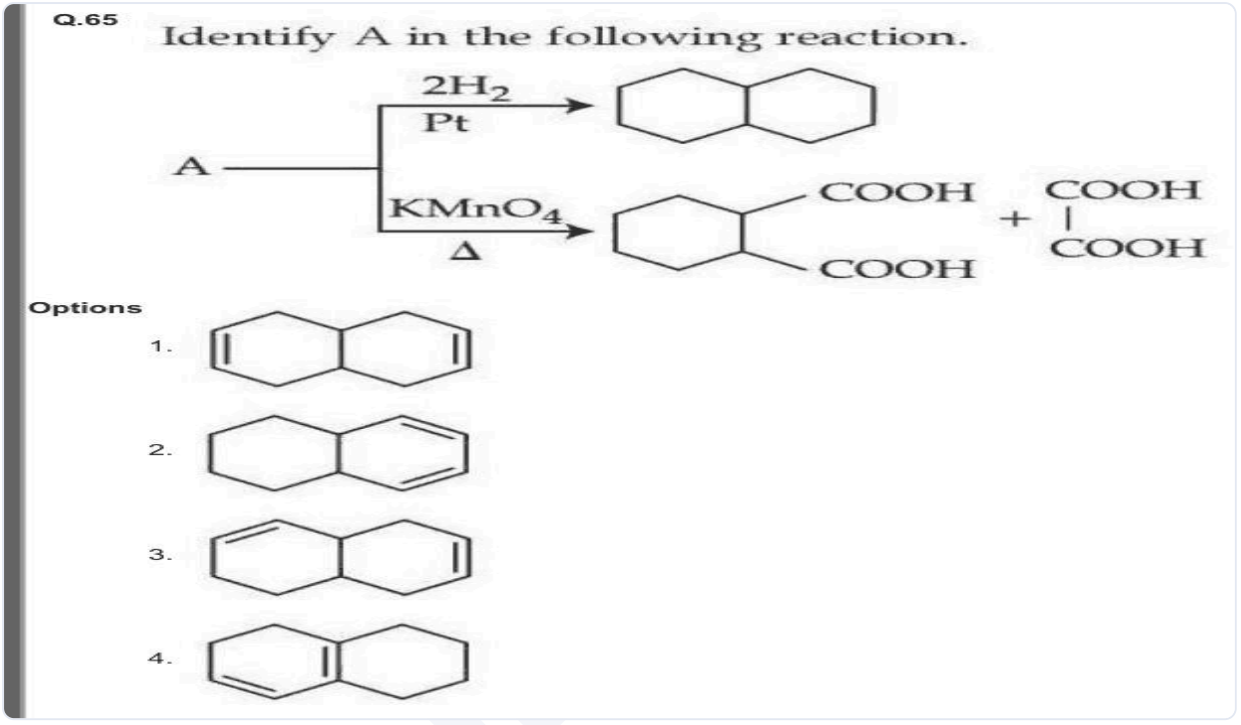
(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

Answer: (C) · Official NTA final key

Q30 JEE Main 2026 · 21 Jan · Shift 1 MCQ

Identify A in the following reaction.

(see the figure above)



(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

Answer: (B) · Official NTA final key

Q31 JEE Main 2025 · 8 Apr · Shift 2 MCQ

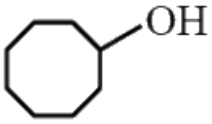
1, 2-dibromocyclooctane $\xrightarrow[\text{(ii) } NaNH_2 \text{ (iii) } Hg^{2+}/H^+ \text{ (iv) Zn-Hg/H}^+]{\text{(i) KOH (alc.)}}$ P (Major product)

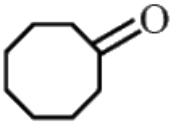
'P' is

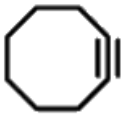
6. 1, 2-dibromocyclooctane $\xrightarrow[\text{(ii) } NaNH_2 \\ \text{(iii) } Hg^{2+}/H^+ \\ \text{(iv) Zn-Hg/H}^+]{\text{(i) KOH (alc.)}}$ P (Major product)

'P' is

(1) 

(2) 

(3) 

(4) 

(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

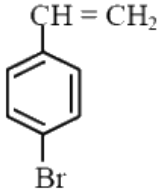
Answer: (A) · Key from source paper

Q32 JEE Main 2025 · 8 Apr · Shift 2 MCQ

Choose the correct set of reagents for the following conversion.

Ethyl benzene $\longrightarrow$ *(see the figure above)*

11. Choose the correct set of reagents for the following conversion.

Ethyl benzene $\longrightarrow$ 

(1) Cl_2 / Fe; Br_2 / anhy. $AlCl_3$; aq. KOH

(2) Cl_2 / anhy. $AlCl_3$; Br_2 / Fe ; alc. KOH

(3) Br_2 / Fe; Cl_2, Δ ; alc. KOH

(4) Br_2 / anhy. $AlCl_3$; Cl_2, Δ ; aq. KOH

(A) Cl_2 / Fe; Br_2 / anhy. $AlCl_3$; aq. KOH
(B) Cl_2 / anhy. $AlCl_3$; Br_2 / Fe ; alc. KOH
(C) Br_2 / Fe; Cl_2, Δ ; alc. KOH
(D) Br_2 / anhy. $AlCl_3$; Cl_2, Δ; aq. KOH

Answer: (C) Br_2 / Fe; Cl_2, Δ ; alc. KOH · Key from source paper

Q33 JEE Main 2025 · 7 Apr · Shift 1 MCQ

Given below are two statements:

Statement I: Ozonolysis followed by treatment with Zn, H_2O of cis-2-butene gives ethanal.

Statement II: The product obtained by ozonolysis followed by treatment with Zn, H_2O of 3, 6-dimethyloct-4-ene has no chiral carbon atom.

In the light of the above statements, choose the correct answer from the options given below

(A) Both Statement I and Statement II are False

(B) Statement I is false but Statement II are true

(C) Statement I is true but Statement II is false

(D) Both Statement I and Statement II are true

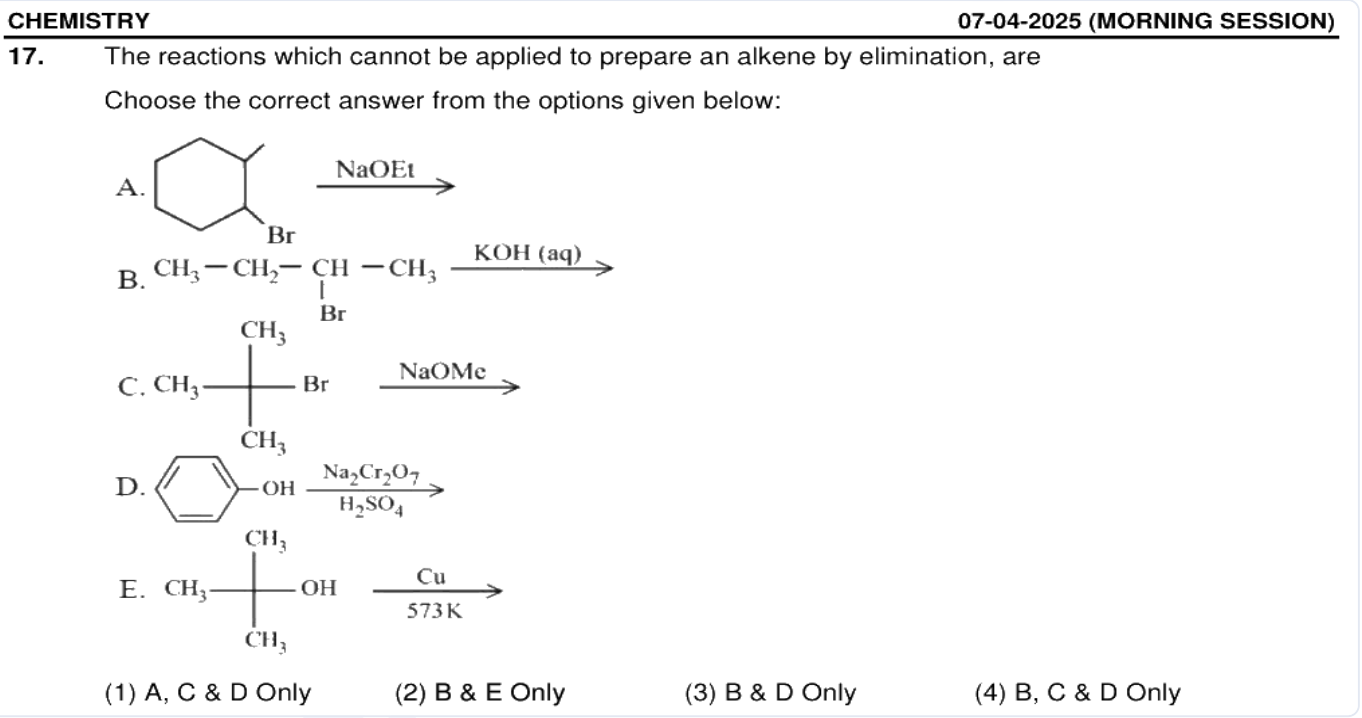
Answer: (C) Statement I is true but Statement II is false · Key from source paper

Q34 JEE Main 2025 · 7 Apr · Shift 1 MCQ

The reactions which cannot be applied to prepare an alkene by elimination, are

Choose the correct answer from the options given below:

(see the figure above)



(A) A, C & D Only

(B) B & E Only

(C) B & D Only

(D) B, C & D Only

Answer: (C) B & D Only · Key from source paper

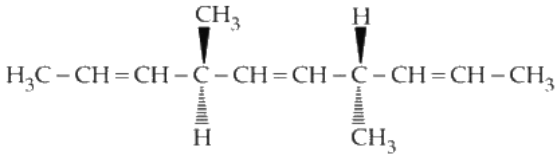
Q35 JEE Main 2025 · 7 Apr · Shift 2 MCQ

The number of optically active products obtained from the complete ozonolysis of the given compound is

(see the figure above)

CHEMISTRY **07-04-2025 (EVENING SESSION)**

5. The number of optically active products obtained from the complete ozonolysis of the given compound is



(1) 2 (2) 0 (3) 1 (4) 4

(A) 2
(B) 0
(C) 1
(D) 4

Answer: (B) 0 · Key from source paper

Q36 JEE Main 2025 · 7 Apr · Shift 2 Numerical

Identify the structure of the final product (D) in the following sequence of the reactions :

$$Ph - C(=O) - CH_3 \xrightarrow[\Delta]{PCl_5} A \xrightarrow{3\ eq.\ NaNH_2/NH_3} B \xrightarrow{Acidify} C \xrightarrow[2.\ H_2O_2/OH^-]{1.\ B_2H_6} D$$

Total number of sp^2 hybridised carbon atoms in product D is _____ .

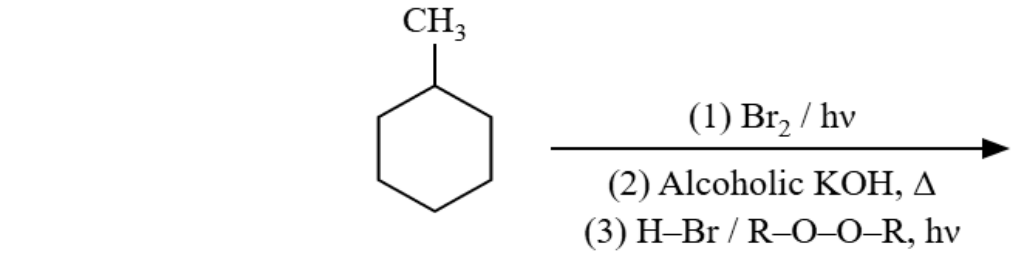
Numerical value type: the answer is a number.

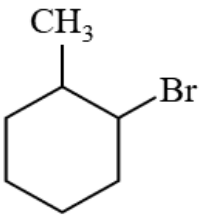
Answer: 7. · Key from source paper

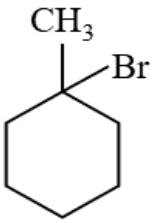
Q37 JEE Main 2025 · 4 Apr · Shift 1 MCQ

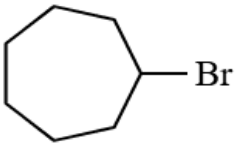
Predict the major product of the following reaction sequence:-

(see the figure above)



(1) 

(2) 

(3) 

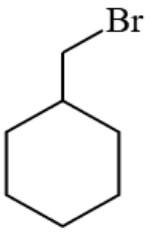
(4) 

Figure redrawn by EdLoop

(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

Answer: (A) · Key from source paper

Q38 JEE Main 2025 · 4 Apr · Shift 2 MCQ

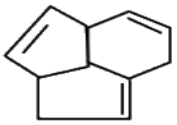
Consider the following molecule (X).

(see the figure above)

The structure of X is

The major product formed when the given molecule (X) is treated with HBr (1 eq) is :

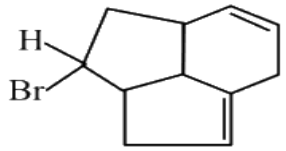
16. Consider the following molecule (X).

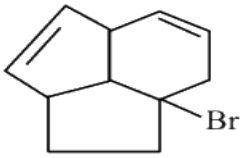


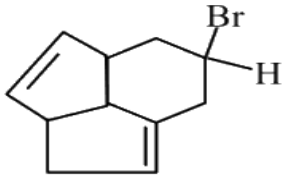
(X)

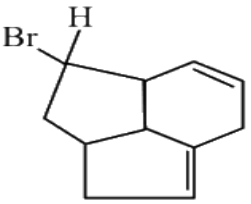
The structure of X is

The major product formed when the given molecule (X) is treated with $HBr\ (1\ eq)$ is :

(1) 

(2) 

(3) 

(4) 

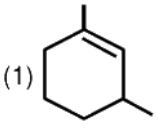
(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

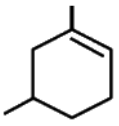
Answer: (B) · Key from source paper

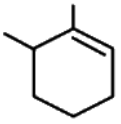
Q39 JEE Main 2025 · 3 Apr · Shift 1 MCQ

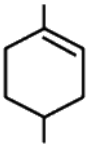
Which compound would give 3-methyl-6-oxoheptanal upon ozonolysis?

20. Which compound would give 3-methyl-6-oxoheptanal upon ozonolysis?

(1) 

(2) 

(3) 

(4) 

SECTION-B

(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

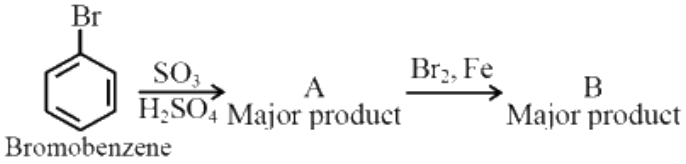
Answer: (D) · Key from source paper

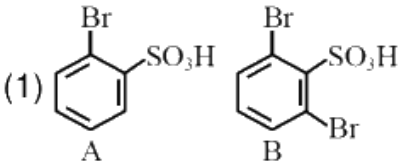
Q40 JEE Main 2025 · 3 Apr · Shift 2 MCQ

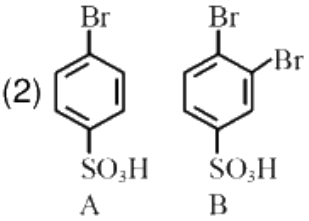
In the following series of reactions identify the major products A & B respectively

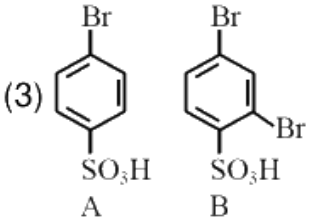
(see the figure above)

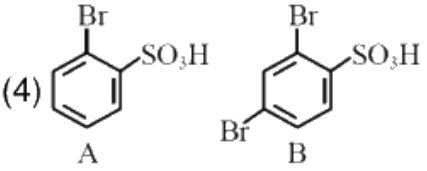
7. In the following series of reactions identify the major products A & B respectively



(1) 

(2) 

(3) 

(4) 

(A) *see figure*

(B) *see figure*

(C) *see figure*

(D) *see figure*

Answer: (B) · Key from source paper

Q41 JEE Main 2025 · 2 Apr · Shift 1 MCQ

An optically active alkyl halide $C_4H_9Br[A]$ reacts with hot KOH dissolved in ethanol and forms alkene [B] as major product which reacts with bromine to give dibromide [C]. The compound [C] is converted into a gas [D] upon reacting with alcoholic $NaNH_2$. During hydration 18 gram of water is added to 1 mole of gas [D] on warming with mercuric sulphate and dilute acid at 333 K to form compound [E]. The IUPAC name of compound [E] is :

(A) Butan-2-one

(B) Butan-2-ol

(C) But-2-yne

(D) Butan-1-al

Answer: (A) Butan-2-one · Key from source paper

Q42 JEE Main 2025 · 2 Apr · Shift 2 MCQ

Given below are two statements :

Statement (I) : Neopentane forms only one monosubstituted derivative.

Statement (II) : Melting point of neopentane is higher than n-pentane.

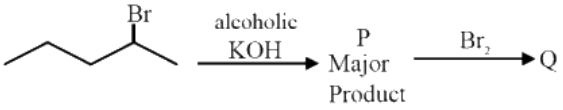
In the light of the above statements, choose the most appropriate answer from the options given below :

(A) Statement I is incorrect but Statement II is correct
(B) Statement I is correct but Statement II is incorrect
(C) Both Statement I and Statement II are incorrect
(D) Both Statement I and Statement II are correct

Answer: (D) Both Statement I and Statement II are correct · Key from source paper

Q43 JEE Main 2025 · 2 Apr · Shift 2 Numerical

see figure

21. 

Consider the above sequence of reactions. 151 g of 2-bromopentane is made to react. Yield of major product P is 80% whereas Q is 100%.

Mass of product Q obtained is ___ g.

(Given molar mass in $gmol^{-1} H:1, C:12, O:16, Br:80$)

Numerical value type: the answer is a number.

Answer: 184. · Key from source paper

Q44 JEE Main 2025 · 29 Jan · Shift 2 MCQ

Given below are two statements : Statement (I) : On nitration of m-xylene with HNO_3, H_2SO_4 followed by oxidation, 4-nitrobenzene-1,3-dicarboxylic acid is obtained as the major product. Statement (II) : $-CH_3$ group is o/p-directing while $-NO_2$ group is m-directing group. In the light of the above statements, choose the correct answer from the options given below :

(A) Both Statement I and Statement II are false
(B) Statement I is false but Statement II is true
(C) Statement I is true but Statement II is false
(D) Both Statement I and Statement II are true

Answer: (D) Both Statement I and Statement II are true · Key from source paper

Q45 JEE Main 2025 · 28 Jan · Shift 2 MCQ

Identify product [A], [B] and [C] in the following reaction sequence.

$$CH_3 - C \equiv CH \xrightarrow[H_2]{Pd/C} [A] \xrightarrow[(ii)\ Zn,\ H_2O]{(i)\ O_3} [B] + [C]$$

(A) [A] : $CH_2 = CH_2$, [B] : $H_3C - C(= O) - CH_3$, [C] : HCHO

(B) [A] : $CH_3 - CH = CH_2$, [B] : CH_3CHO, [C] : CH_3CH_2OH

(C) [A] : $CH_3 - CH = CH_2$, [B] : CH_3CHO, [C] : HCHO

(D) [A] : $CH_3CH_2CH_3$, [B] : CH_3CHO, [C] : HCHO

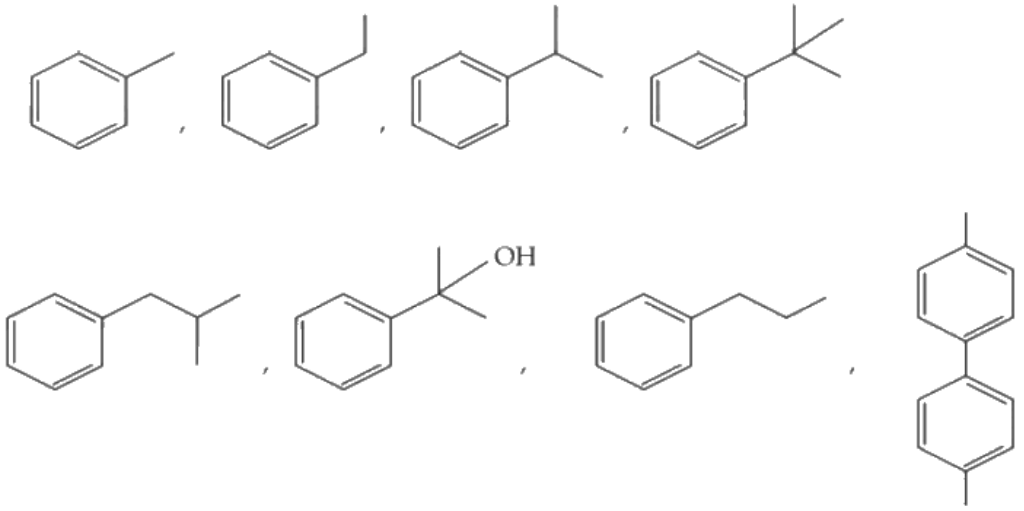
Answer: (C) [A] : $CH_3 - CH = CH_2$, [B] : CH_3CHO, [C] : HCHO · Key from source paper

Q46 JEE Main 2025 · 28 Jan · Shift 2 MCQ

The total number of compounds from below when treated with hot $KMnO_4$ giving benzoic acid is :

(see the figure above)

Q54. The total number of compounds from below when treated with hot $KMnO_4$ giving benzoic acid is :



(1) 6 (2) 3

(3) 5 (4) 4

(A) 6

(B) 3

(C) 5

(D) 4

Answer: (C) 5 · Key from source paper

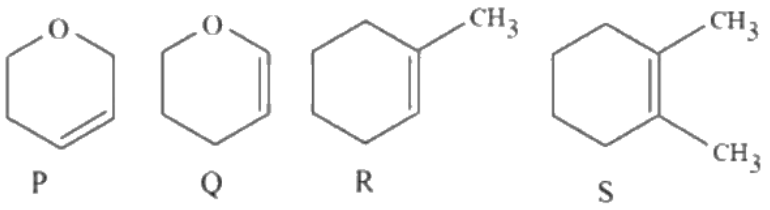
Q47 JEE Main 2025 · 24 Jan · Shift 1 MCQ

Following are the four molecules "P", "Q", "R" and "S". Which one among the four molecules will react with

(see the figure above)

$H - Br_{(aq)}$ at the fastest rate?

Q66. Following are the four molecules "P", "Q", "R" and "S". Which one among the four molecules will react with



$H - Br_{(aq)}$ at the fastest rate?

(1) R
(2) P
(3) Q
(4) S

(A) R
(B) P
(C) Q
(D) S

Answer: (C) Q · Key from source paper

Q48 JEE Main 2025 · 24 Jan · Shift 2 MCQ

Identify correct statement/s : (A) $-OCH_3$ and $-NHCOCH_3$ are activating group. (B) -CN and -OH are meta directing group. (C) -CN and $-SO_3H$ are meta directing group. (D) Activating groups act as ortho - and para directing groups. (E) Halides are activating groups. Choose the correct answer from the options given below :

(A) (A) only
(B) (A), (B) and (E) only
(C) (A) and (C) only
(D) (A), (C) and (D) only

Answer: (D) (A), (C) and (D) only · Key from source paper

Q49 JEE Main 2025 · 23 Jan · Shift 1 MCQ

Propane molecule on chlorination under photochemical condition gives two di-chloro products, " x " and " y ". Amongst " x " and " y ", " x " is an optically active molecule. How many tri-chloro products (consider only structural isomers) will be obtained from " x " when it is further treated with chlorine under the photochemical condition?

(A) 2
(B) 5
(C) 4
(D) 3

Answer: (D) 3 · Key from source paper

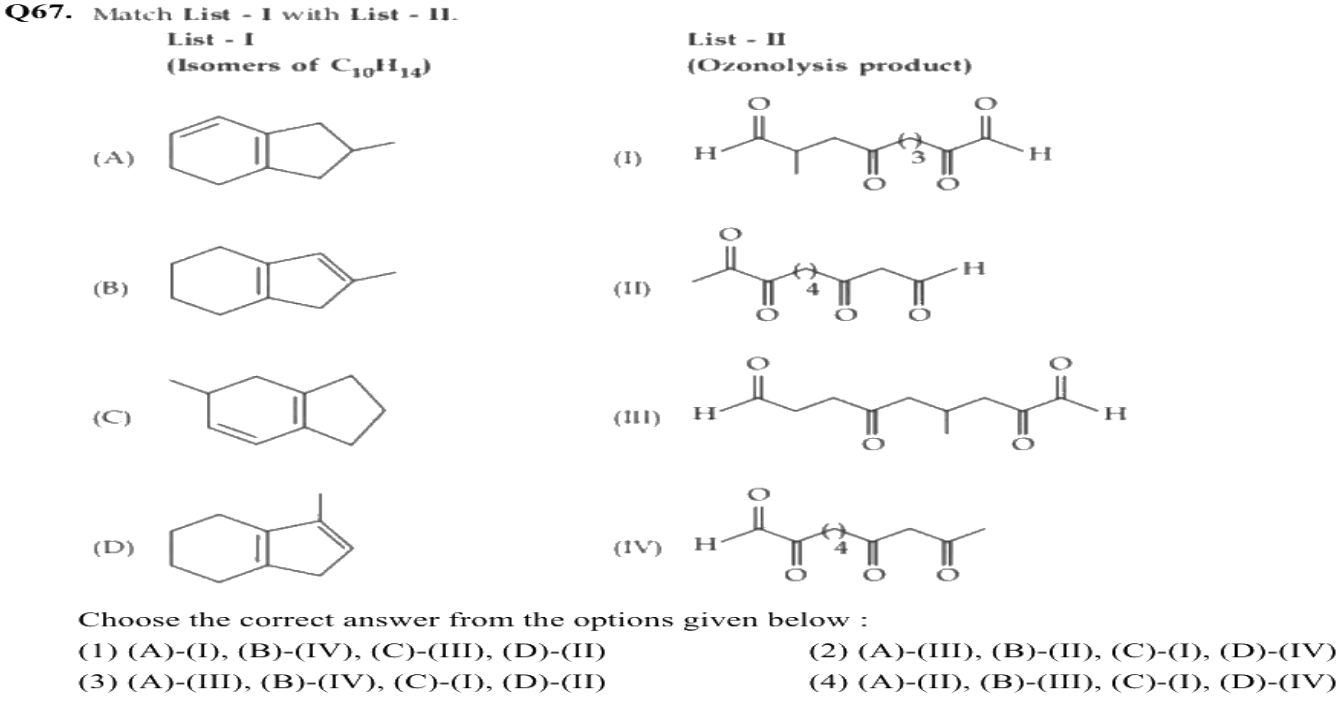
Q50 JEE Main 2025 · 23 Jan · Shift 2 MCQ

Match List - I with List - II.

(see the figure above)

Choose the correct answer from the options given below :

Q67. Match List - I with List - II.



(A) (A)-(I), (B)-(IV), (C)-(III), (D)-(II)

(B) (A)-(III), (B)-(II), (C)-(I), (D)-(IV)

(C) (A)-(III), (B)-(IV), (C)-(I), (D)-(II)

(D) (A)-(II), (B)-(III), (C)-(I), (D)-(IV)

Answer: (C) (A)-(III), (B)-(IV), (C)-(I), (D)-(II) · Key from source paper

Q51 JEE Main 2025 · 23 Jan · Shift 2 Numerical

A compound ' X' absorbs 2 moles of hydrogen and ' X' upon oxidation with $\mathrm{KMnO_4} \mid \mathrm{H^+}$ gives $\mathrm{CH_3-\overset{\overset{O}{\|}}{C}-CH_3}$, $\mathrm{CH_3-\overset{\overset{O}{\|}}{C}-OH}$ and $\mathrm{CH_3-\overset{\overset{O}{\|}}{C}-CH_2CH_2-\overset{\overset{O}{\|}}{C}-OH}$. The total number of σ bonds present in the compound ' X' is _____ .

Numerical value type: the answer is a number.

Answer: 27. · Key from source paper

Q52 JEE Main 2025 · 22 Jan · Shift 1 MCQ

Given below are two statements : Statement I : One mole of propyne reacts with excess of sodium to liberate half a mole of $\mathrm{H_2}$ gas. Statement II : Four g of propyne reacts with $\mathrm{NaNH_2}$ to liberate $\mathrm{NH_3}$ gas which occupies 224 mL at STP. In the light of the above statements, choose the most appropriate answer from the options given below:

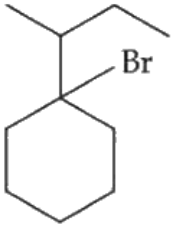
(A) Statement I is incorrect but Statement II is correct
(B) Both Statement I and Statement II are correct
(C) Statement I is correct but Statement II is incorrect
(D) Both Statement I and Statement II are incorrect

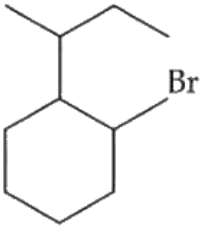
Answer: (C) Statement I is correct but Statement II is incorrect · Key from source paper

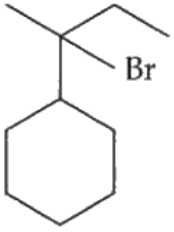
Q53 JEE Main 2025 · 22 Jan · Shift 2 MCQ

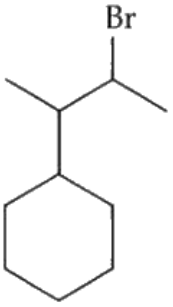
When sec-butylcyclohexane reacts with bromine in the presence of sunlight, the major product is :

Q66. When sec-butylcyclohexane reacts with bromine in the presence of sunlight, the major product is :

(1) 

(2) 

(3) 

(4) 

(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

Answer: (C) · Key from source paper

Q54 JEE Main 2025 · 22 Jan · Shift 2 Numerical

The compound with molecular formula C_6H_6, which gives only one monobromo derivative and takes up four moles of hydrogen per mole for complete hydrogenation has _____ = electrons.

Numerical value type: the answer is a number.

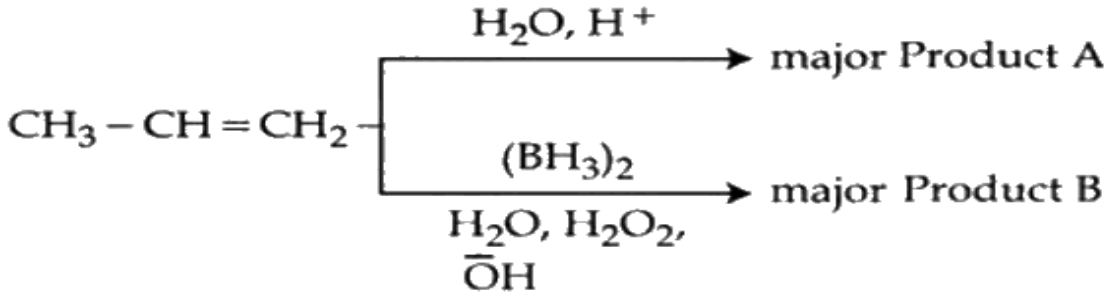
Answer: 8. · Key from source paper

Q55 JEE Main 2024 · 9 Apr · Shift 1 MCQ

Identify the product A and product B in the following set of reactions.

(see the figure above)

Q39. Identify the product A and product B in the following set of reactions.



(1) A - $CH_3CH_2CH_2-OH$ B - $CH_3\underset{\underset{OH}{|}}{CH}-CH_3$

(2) A - $CH_3CH_2CH_3$ B $-$ $CH_3CH_2CH_3$

(3) A $-$ $CH_3CH_2CH_2-OH$ B $-$ $CH_3CH_2CH_2-OH$

(4) A - $CH_3-\underset{\underset{OH}{|}}{CH}-CH_3$ B - $CH_3CH_2CH_2-OH$

(A) A - $CH_3CH_2CH_2-OH$ B - CH_3CH-CH_3 with OH attached below the middle carbon

(B) A - $CH_3CH_2CH_3$ B $-$ $CH_3CH_2CH_3$

(C) A $-$ $CH_3CH_2CH_2-OH$ B $-$ $CH_3CH_2CH_2-OH$

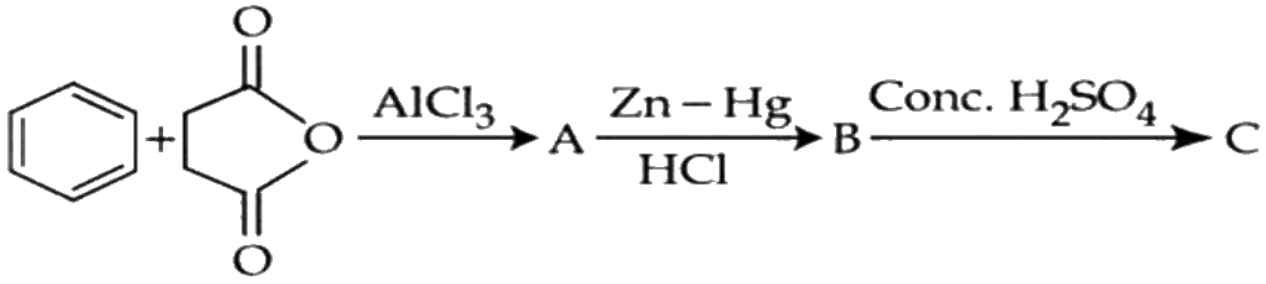
(D) A - $CH_3-CH-CH_3$ with OH attached below the middle carbon B - $CH_3CH_2CH_2-OH$

Answer: (D) A - $CH_3-CH-CH_3$ with OH attached below the middle carbon B - $CH_3CH_2CH_2-OH$ ·
Key from source paper

Q56 JEE Main 2024 · 9 Apr · Shift 1 MCQ

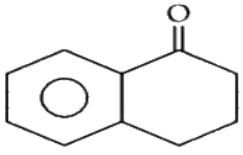
see figure

Q50.

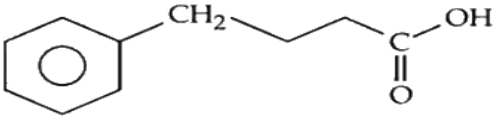


What is the structure of C

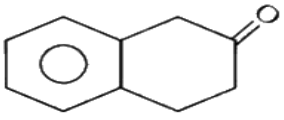
(1)



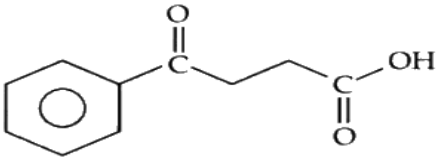
(2)



(3)



(4)



(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

Answer: (A) · Key from source paper

Q57 JEE Main 2024 · 9 Apr · Shift 2 Numerical

Number of compounds from the following which cannot undergo Friedel-Crafts reactions is: _____.

toluene, nitrobenzene, xylene, cumene, aniline, chlorobenzene, m-nitroaniline, m-dinitrobenzene

Numerical value type: the answer is a number.

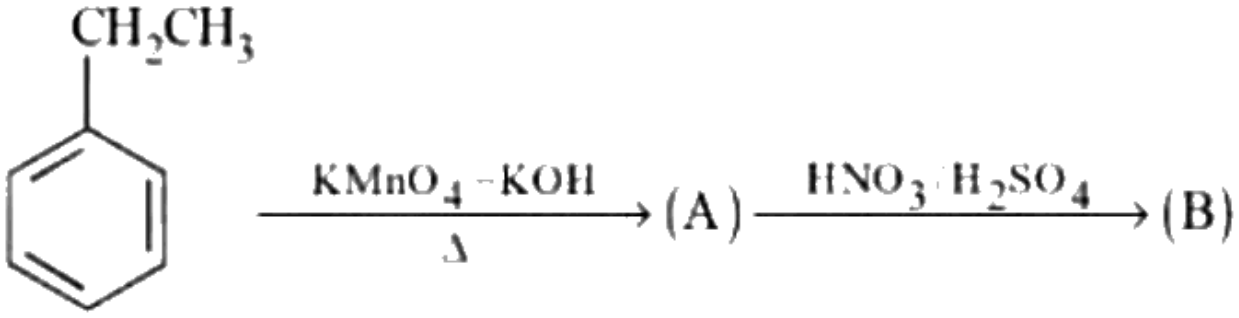
Answer: 4. · Key from source paper

Q58 JEE Main 2024 · 8 Apr · Shift 1 Numerical

Major product B of the following reaction has _____ π-bond.

(see the figure above)

Q58. Major product B of the following reaction has _____ π-bond.



Numerical value type: the answer is a number.

Answer: 5. · Key from source paper

Q59 JEE Main 2024 · 6 Apr · Shift 1 Numerical

The major product of the following reaction is P. $CH_3C=C-CH_3 \xrightarrow[\text{(ii) dil. } KMnO_4,\ 273\ K]{\text{(i) Na/ ing } NH_3}$ " Number of oxygen atoms present in product ' P ' is _____ (nearest integer)

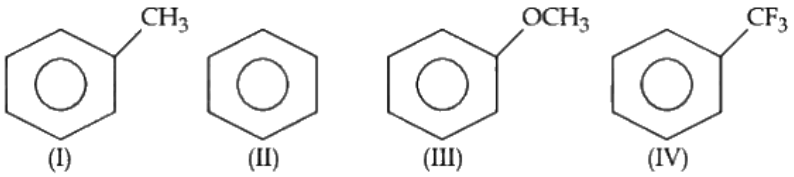
Numerical value type: the answer is a number.

Answer: 2. · Key from source paper

Q60 JEE Main 2024 · 6 Apr · Shift 2 MCQ

see figure

Q43.



The correct arrangement for decreasing order of electrophilic substitution for above compounds is :

(1) (III) > (I) > (II) > (IV)
(2) (IV) > (I) > (II) > (III)
(3) (III) > (IV) > (II) > (I)
(4) (II) > (IV) > (III) > (I)

(A) (III) > (I) > (II) > (IV)
(B) (IV) > (I) > (II) > (III)
(C) (III) > (IV) > (II) > (I)
(D) (II) > (IV) > (III) > (I)

Answer: (A) (III) > (I) > (II) > (IV) · Key from source paper

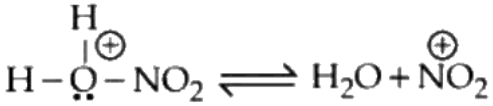
Q61 JEE Main 2024 · 5 Apr · Shift 1 MCQ

Given below are two statements: Statement I : Nitration of benzene involves the following step -

(see the figure above)

Statement II : Use of Lewis base promotes the electrophilic substitution of benzene. In the light of the above statements, choose the most appropriate answer from the options given below :

Q41. Given below are two statements: Statement I : Nitration of benzene involves the following step -



Statement II : Use of Lewis base promotes the electrophilic substitution of benzene. In the light of the above statements, choose the most appropriate answer from the options given below :

(1) Statement I is correct but Statement II is incorrect
(2) Statement I is incorrect but Statement II is correct
(3) Both Statement I and Statement II are correct
(4) Both Statement I and Statement II are incorrect

(A) Statement I is correct but Statement II is incorrect
(B) Statement I is incorrect but Statement II is correct
(C) Both Statement I and Statement II are correct
(D) Both Statement I and Statement II are incorrect

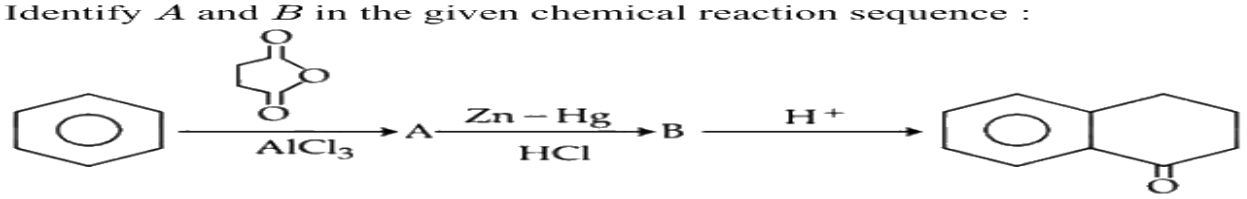
Answer: (A) Statement I is correct but Statement II is incorrect · Key from source paper

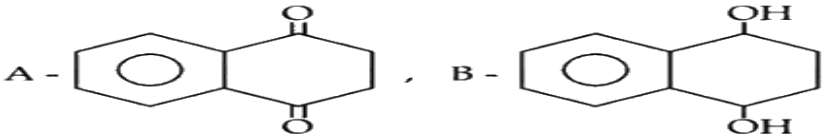
Q62 JEE Main 2024 · 5 Apr · Shift 2 MCQ

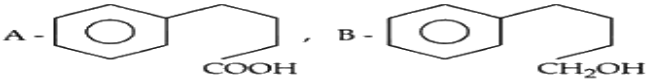
Identify A and B in the given chemical reaction sequence :

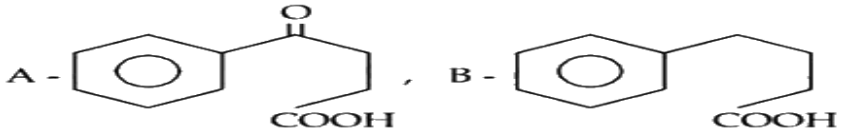
(see the figure above)

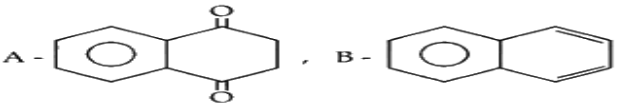
Q39. Identify A and B in the given chemical reaction sequence :



(1) 

(2) 

(3) 

(4) 

(A) A - *(see the figure above)* 1,4-dione of tetralin type: a benzene ring fused to a six-membered ring with C=O at the two positions next to the fusion on the right side (one up, one down); B - *(see the figure above)* the same fused skeleton with an OH at the top and an OH at the bottom position instead of the C=O groups

(B) A - *(see the figure above)* a phenyl ring with a zigzag chain going up-right and ending in COOH; B - *(see the figure above)* a phenyl ring with a similar chain ending in CH_2OH

(C) A - *(see the figure above)* a phenyl ring attached to a carbon bearing C=O (O above), followed by a chain ending in COOH; B - *(see the figure above)* a phenyl ring with a chain (no C=O) ending in COOH

(D) A - *(see the figure above)* the fused skeleton with C=O at the top and bottom positions (as in option 1); B - *(see the figure above)* a fused naphthalene skeleton in which the right ring is fully aromatic (with double bonds drawn)

Answer: (C) A - *(see the figure above)* **a phenyl ring attached to a carbon bearing C=O (O above), followed by a chain ending in COOH; B -** *(see the figure above)* **a phenyl ring with a chain (no C=O) ending in COOH** · Key from source paper

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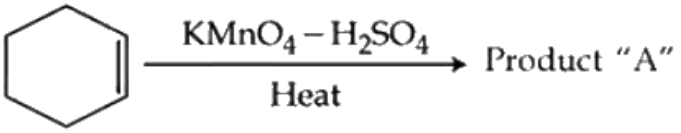
Q63 JEE Main 2024 · 5 Apr · Shift 2 MCQ

Consider the given chemical reaction :

(see the figure above)

Product " A " is :

Q40.



Consider the given chemical reaction :

Product " A " is :

(1) picric acid (2) acetic acid

(3) adipic acid (4) oxalic acid

(A) picric acid
(B) acetic acid
(C) adipic acid
(D) oxalic acid

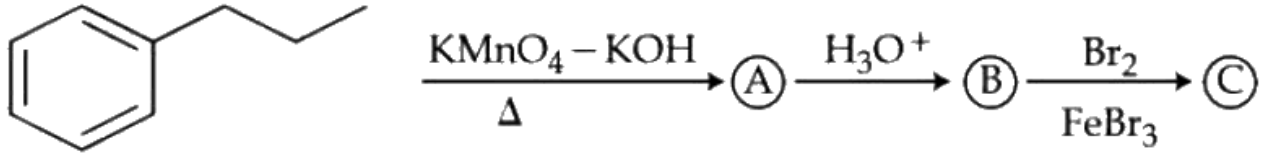
Answer: (C) adipic acid · Key from source paper

Q64 JEE Main 2024 · 5 Apr · Shift 2 Numerical

The product (C) in the following sequence of reactions has _____ π bonds.

(see the figure above)

Q59. The product (C) in the following sequence of reactions has _____ π bonds.



Numerical value type: the answer is a number.

Answer: 4. · Key from source paper

Q65 JEE Main 2024 · 4 Apr · Shift 1 MCQ

Identify the correct set of reagents or reaction conditions ' X ' and ' Y ' in the following set of transformation

$$CH_3-CH_2-CH_2-Br \xrightarrow{'X'} \text{Product} \xrightarrow{'Y'} CH_3-\underset{\underset{Br}{|}}{CH}-CH_3$$

(A) X = dil.aq. NaOH, 20°C, Y = $Br_2/CHCl_3$
(B) X = conc.alc. NaOH, 80°C, Y = $Br_2/CHCl_3$
(C) X = dil.aq. NaOH, 20°C, Y = HBr /acetic acid
(D) X = conc.alc. NaOH, 80°C, Y = HBr/ acetic acid

Answer: (D) X = conc.alc. NaOH, 80°C, Y = HBr/ acetic acid · Key from source paper

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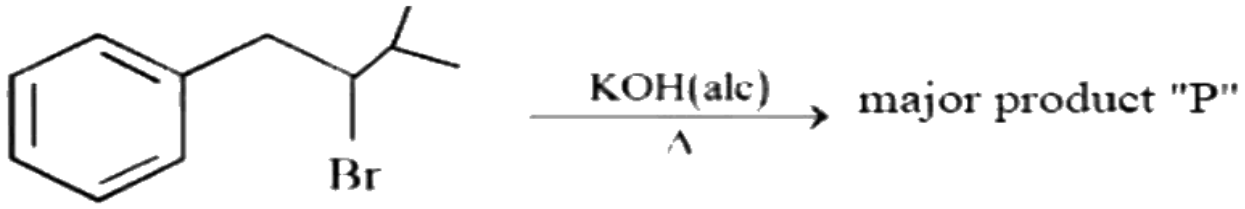
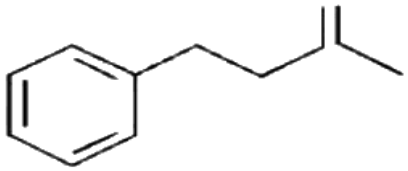
Q66 JEE Main 2024 · 4 Apr · Shift 2 MCQ

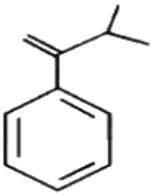
see figure

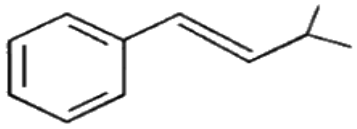
Q40.

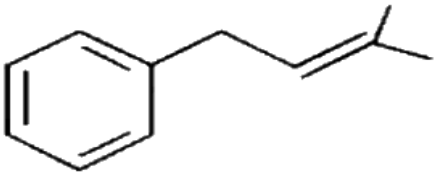


Product P is

(1) 

(2) 

(3) 

(4) 

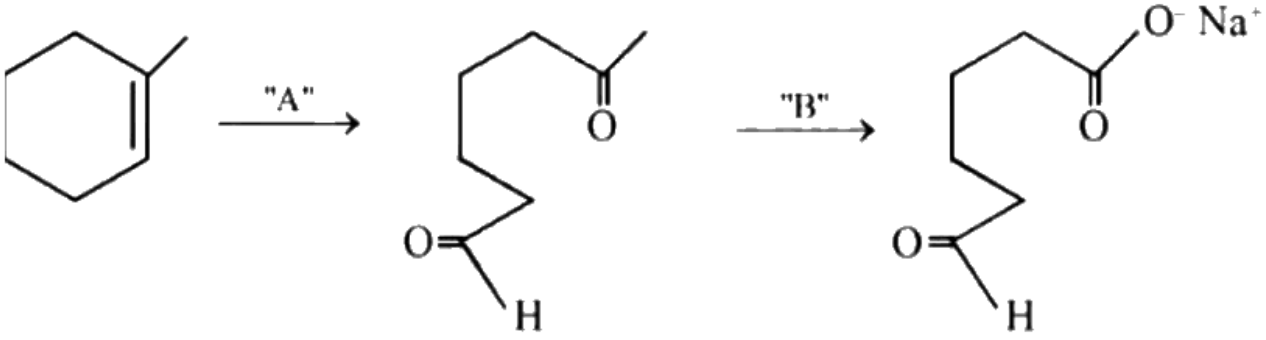
(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

Answer: (C) · Key from source paper

Q67 JEE Main 2024 · 4 Apr · Shift 2 MCQ

see figure

Q41.



In the above chemical reaction sequence " A " and " B " respectively are

(1) H_2O, H^+ and $KMnO_4$

(2) $O_3, Zn/H_2O$ and $NaOH_{(alc)}/I_2$

(3) $O_3, Zn/H_2O$ and $KMnO_4$

(4) H_2O, H^+ and $NaOH_{(alc)}/I_2$

(A) H_2O, H^+ and $KMnO_4$

(B) $O_3, Zn/H_2O$ and $NaOH_{(alc)}$ /I_2

(C) $O_3, Zn/H_2O$ and $KMnO_4$

(D) H_2O, H^+ and $NaOH_{(alc)}/I_2$

Answer: (B) $O_3, Zn/H_2O$ and $NaOH_{(alc)}$ /I_2 · Key from source paper

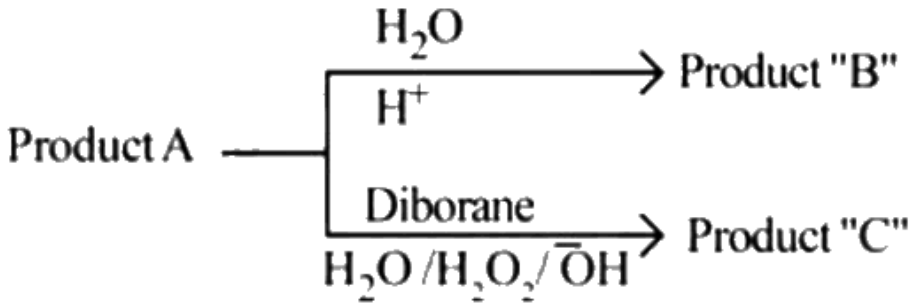
Q68 JEE Main 2024 · 4 Apr · Shift 2 MCQ

$CH_3 - CH_2 - CH_2 - Br + NaOH \xrightarrow{C_2H_5OH}$ Product 'A'

(see the figure above)

Consider the above reactions, identify product B and product C.

Q48. $CH_3 - CH_2 - CH_2 - Br + NaOH \xrightarrow{C_2H_5OH}$ Product 'A'



Consider the above reactions, identify product B and product C.

(1) B = 1-Propanol C = 2-Propanol

(2) B = C = 2-Propanol

(3) B = 2-Propanol C = 1-Propanol

(4) B = C = 1-Propanol

(A) B = 1-Propanol C = 2-Propanol

(B) B = C = 2-Propanol

(C) B = 2-Propanol C = 1-Propanol

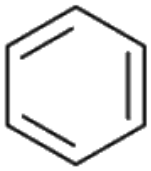
(D) B = C = 1-Propanol

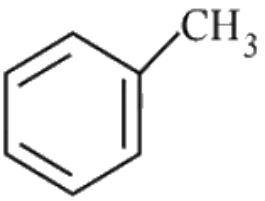
Answer: (C) B = 2-Propanol C = 1-Propanol · Key from source paper

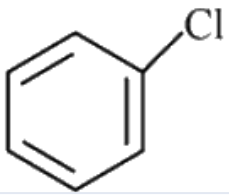
Q69 JEE Main 2024 · 1 Feb · Shift 1 MCQ

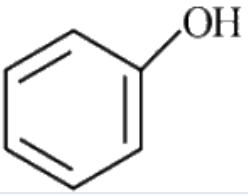
Which of the following compound will most easily be attacked by an electrophile?

Q42. Which of the following compound will most easily be attacked by an electrophile?

(1) 

(2) 

(3) 

(4) 

A *see figure*

B *see figure*

C *see figure*

D *see figure*

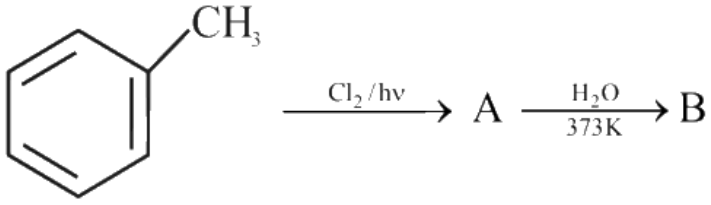
Answer: (D) · Key from source paper

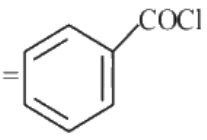
Q70 JEE Main 2024 · 1 Feb · Shift 1 MCQ

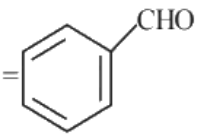
Identify A and B in the following sequence of reaction

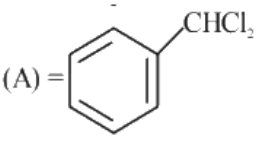
(see the figure above)

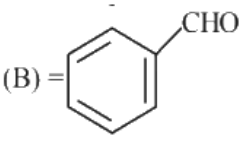
Q47. Identify A and B in the following sequence of reaction

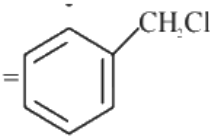


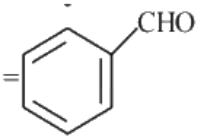
(1) (A) = 

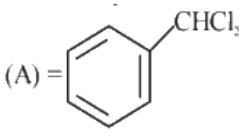
(B) = 

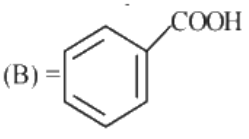
(2) (A) = 

(B) = 

(3) (A) = 

(B) = 

(4) (A) = 

(B) = 

(A) (A) = *(see the figure above)* benzene ring bearing COCl; (B) = *(see the figure above)* benzene ring bearing CHO.

(B) (A) = *(see the figure above)* benzene ring bearing $CHCl_2$; (B) = *(see the figure above)* benzene ring bearing CHO.

(C) (A) = *(see the figure above)* benzene ring bearing CH_2Cl; (B) = *(see the figure above)* benzene ring bearing CHO.

(D) (A) = *(see the figure above)* benzene ring bearing $CHCl_2$; (B) = *(see the figure above)* benzene ring bearing COOH.

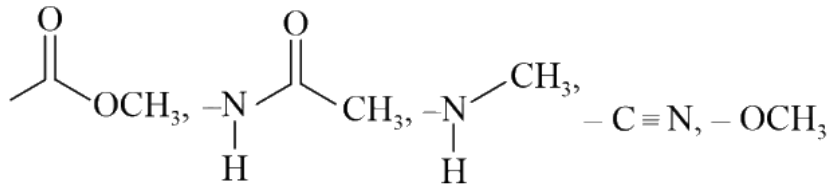
Answer: (B) (A) = *(see the figure above)* **benzene ring bearing $CHCl_2$; (B) = *(see the figure above)* benzene ring bearing CHO.** · Key from source paper

Q71 JEE Main 2024 · 1 Feb · Shift 1 Numerical

Total number of deactivating groups in aromatic electrophilic substitution reaction among the following is

(see the figure above)

Q56. Total number of deactivating groups in aromatic electrophilic substitution reaction among the following is



Numerical value type: the answer is a number.

Answer: 2. · Key from source paper

Q72 JEE Main 2024 · 1 Feb · Shift 2 MCQ

The set of meta directing functional groups from the following sets is:

(A) -CN, - NH_2, - NHR, - OCH_3

(B) -NO_2, - NH_2, - COOH, - COOR

(C) -NO_2, - CHO, - SO_3H, - COR

(D) -CN, - CHO, - $NHCOCH_3$, - COOR

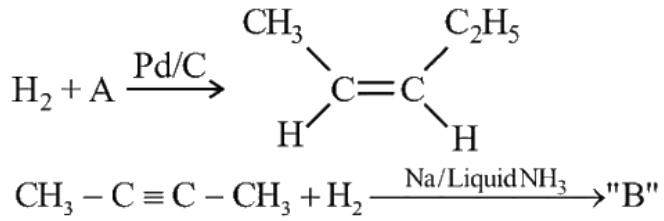
Answer: (C) -NO_2, - **CHO,** - SO_3H, - **COR** · Key from source paper

Q73 JEE Main 2024 · 1 Feb · Shift 2 MCQ

In the given reactions identify A and B .

(see the figure above)

Q42. In the given reactions identify A and B.



$$H_2 + A \xrightarrow{Pd/C} \begin{matrix} CH_3 & & C_2H_5 \\ & C=C & \\ H & & H \end{matrix}$$

$$CH_3 - C \equiv C - CH_3 + H_2 \xrightarrow{Na/Liquid\,NH_3} \text{"B"}$$

(1) A : 2–Pentyne B : trans – 2 – butene
(2) A : n – Pentane B : trans – 2 – butene
(3) A : 2 – Pentyne B : Cis – 2 – butene
(4) A : n – Pentane B : Cis – 2 – butene

(A) A : 2–Pentyne B : trans – 2 – butene
(B) A : n – Pentane B : trans – 2 – butene
(C) A : 2 – Pentyne B : Cis – 2 – butene
(D) A : n – Pentane B : Cis - 2 – butene

Answer: (A) A : 2–Pentyne B : trans – 2 – butene · Key from source paper

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Q74 JEE Main 2024 · 1 Feb · Shift 2 Numerical

Total number of isomeric compounds (including stereoisomers) formed by monochlorination of 2-methylbutane is _____.

Numerical value type: the answer is a number.

Answer: 6. · Key from source paper

Q75 JEE Main 2024 · 31 Jan · Shift 1 Numerical

Number of alkanes obtained on electrolysis of a mixture of CH_3COONa and C_2H_5COONa is _____.

Numerical value type: the answer is a number.

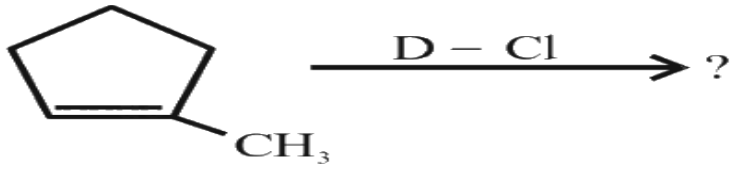
Answer: 3. · Key from source paper

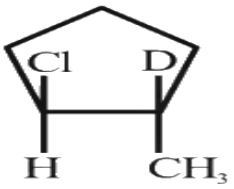
Q76 JEE Main 2024 · 31 Jan · Shift 2 MCQ

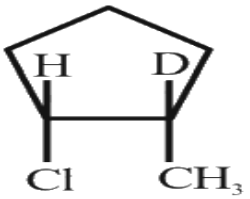
Major product of the following reaction is:

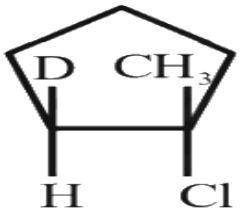
(see the figure above)

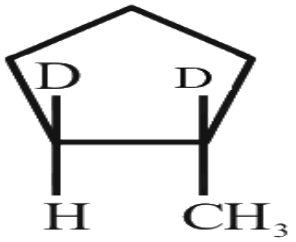
Q40. Major product of the following reaction is:



(1)


(2)


(3)


(4)


(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

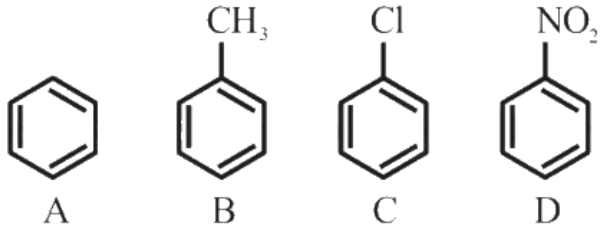
Answer: (C) · Key from source paper

Q77 JEE Main 2024 · 31 Jan · Shift 2 MCQ

The correct order of reactivity in electrophilic substitution reaction of the following compounds is:

(see the figure above)

Q46. The correct order of reactivity in electrophilic substitution reaction of the following compounds is:



(1) B > C > A > D
(2) D > C > B > A
(3) A > B > C > D
(4) B > A > C > D

(A) B > C > A > D
(B) D > C > B > A
(C) A > B > C > D
(D) B > A > C > D

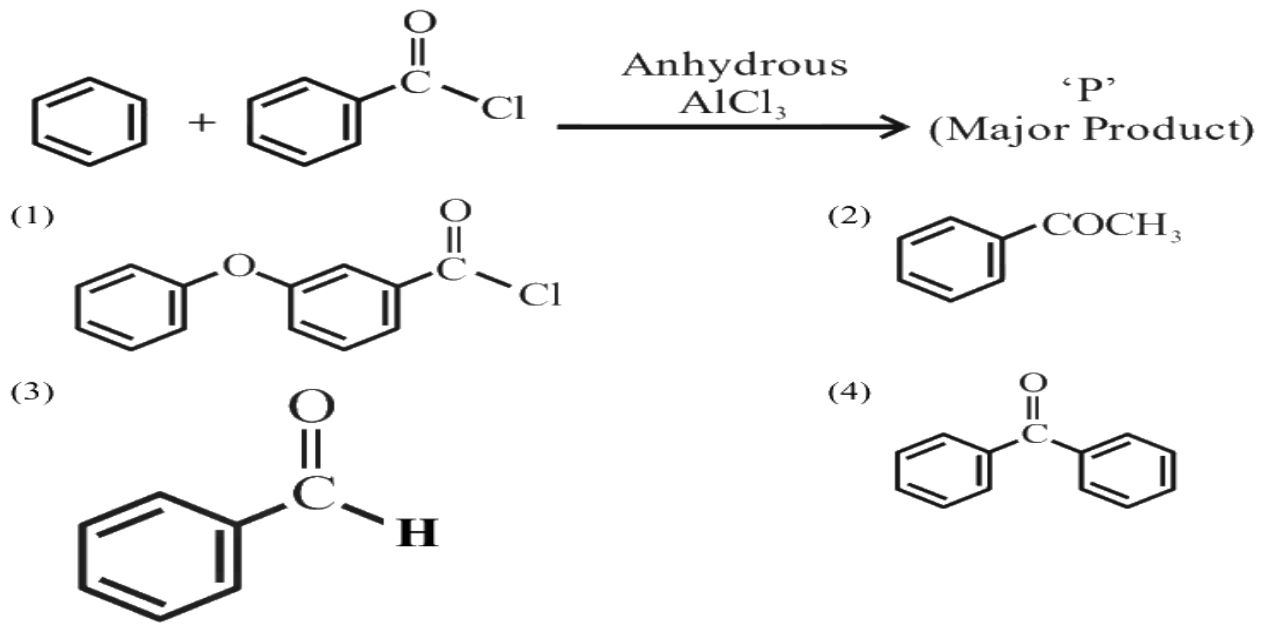
Answer: (D) B > A > C > D · Key from source paper

Q78 JEE Main 2024 · 31 Jan · Shift 2 MCQ

Identify major product 'P' formed in the following reaction.

(see the figure above)

Q48. Identify major product '*P*' formed in the following reaction.



A *see figure*

B *see figure*

C *see figure*

D *see figure*

Answer: (D) · Key from source paper

Q79 JEE Main 2024 · 31 Jan · Shift 2 Numerical

Number of isomeric products formed by monochlorination of 2-methylbutane in presence of sunlight is _____.

Numerical value type: the answer is a number.

Answer: 6. · Key from source paper

Q80 JEE Main 2024 · 30 Jan · Shift 1 MCQ

Compound A formed in the following reaction reacts with B gives the product C. Find out A and B.

$CH_3 - C \equiv CH + Na \rightarrow A \xrightarrow{B} CH_3 - C \equiv C - CH_2 - CH_2 + NaBr$ (C)

(see the figure above)

Q38. Compound A formed in the following reaction reacts with B gives the product C. Find out A and B.

$$CH_3-C\equiv CH+Na\rightarrow A\xrightarrow{B}\underset{(C)}{CH_3-C\equiv C-CH_2-\underset{\displaystyle CH_3}{\underset{|}{CH_2}}}+NaBr$$

(1) $A=CH_3-C\equiv C^-Na^+, B=CH_3-CH_2-CH_2-Br$
(2) $A=CH_3-CH=CH_2,\ B=CH_3-CH_2-CH_2-Br$
(3) $A=CH_3-CH_2-CH_3,\ B=CH_3-C\equiv CH$
(4) $A=CH_3-C\equiv C^-Na^+, B=CH_3-CH_2-CH_3$

(A) $A=CH_3-C\equiv C^-Na^+,\ B=CH_3-CH_2-CH_2-Br$
(B) $A=CH_3-CH=CH_2,\ B=CH_3-CH_2-CH_2-Br$
(C) $A=CH_3-CH_2-CH_3,\ B=CH_3-C\equiv CH$
(D) $A=CH_3-C\equiv C^-Na^+,\ B=CH_3-CH_2-CH_3$

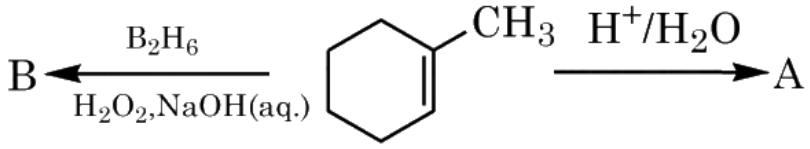
Answer: (A) $A=CH_3-C\equiv C^-Na^+,\ B=CH_3-CH_2-CH_2-Br$ · Key from source paper

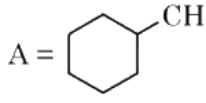
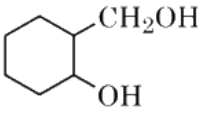
Q81 JEE Main 2024 · 30 Jan · Shift 2 MCQ

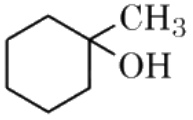
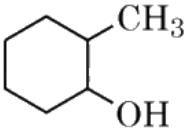
Product A and B formed in the following set of reactions are:

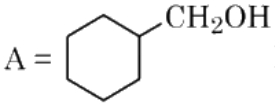
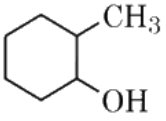
(see the figure above)

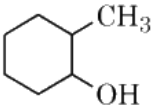
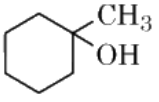
Q37. Product A and B formed in the following set of reactions are:



(1) A =  B = 

(2) A =  B = 

(3) A =  B = 

(4) A =  B = 

(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

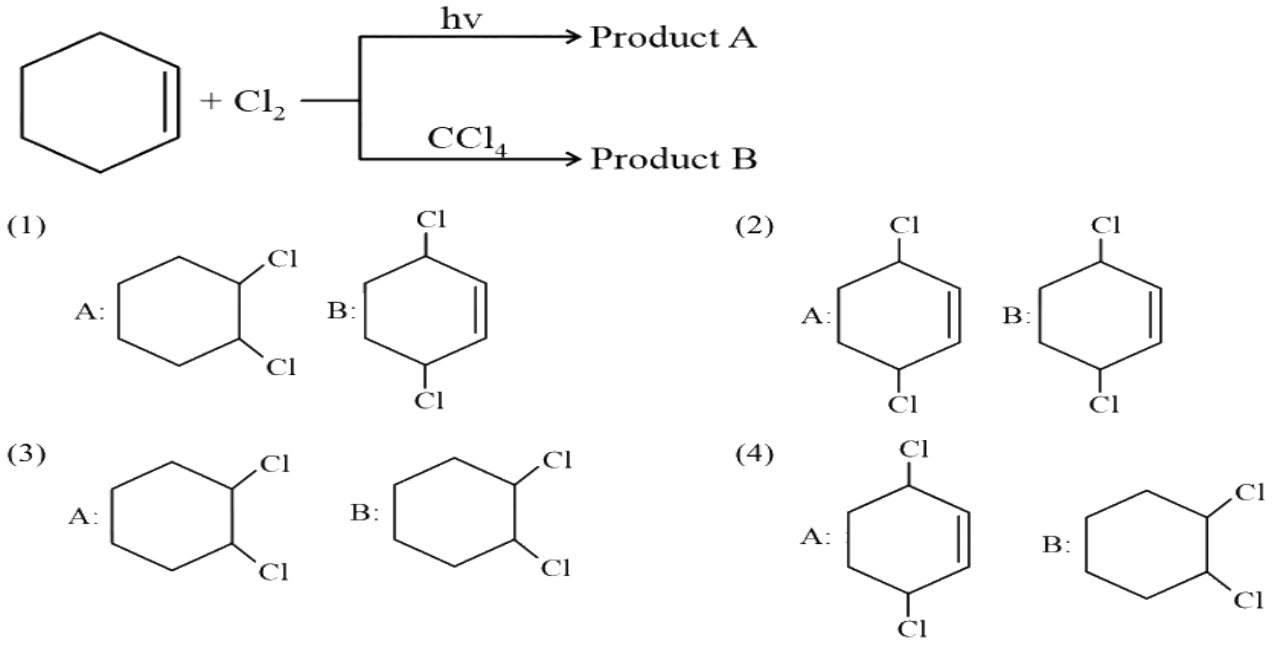
Answer: (B) · Key from source paper

Q82 JEE Main 2024 · 29 Jan · Shift 1 MCQ

Identify product A and product B

(see the figure above)

Q40. Identify product A and product B



(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

Answer: (D) · Key from source paper

Q83 JEE Main 2024 · 29 Jan · Shift 1 MCQ

The arenium ion which is not involved in the bromination of Aniline is

Q42. The arenium ion which is not involved in the bromination of Aniline is



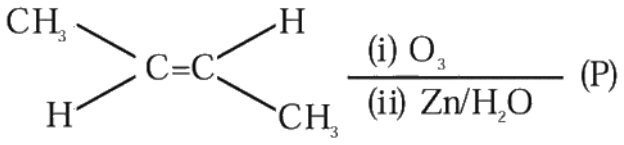
(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

Answer: (C) · Key from source paper

Q84 JEE Main 2024 · 29 Jan · Shift 1 Numerical

Consider the given reaction. The total number of oxygen atoms present per molecule of the product (P) is _____.

(see the figure above)

Q55. 

Consider the given reaction. The total number of oxygen atoms present per molecule of the product (P) is _____.

Numerical value type: the answer is a number.

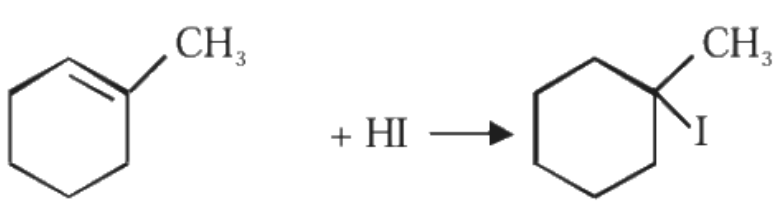
Answer: 1. · Key from source paper

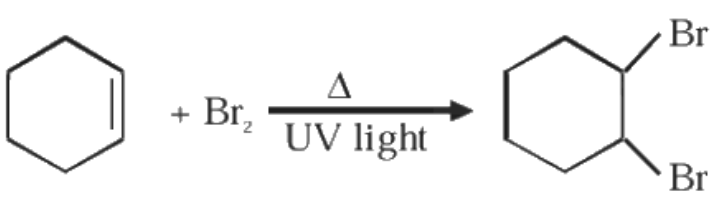
Q85 JEE Main 2024 · 29 Jan · Shift 2 MCQ

Which of the following reaction is correct?

Q46. Which of the following reaction is correct?

(1) $CH_3CH_2CH_2NH_2 \xrightarrow[H_2O]{HNO_2,0^\circ C} CH_3CH_2OH + N_2 + HCl$

(2) 

(3) 

(4) $C_2H_5\,CONH_2 + Br_2 + NaOH \rightarrow C_2H_5\,CH_2\,NH_2 + Na_2\,CO_3 + NaBr + H_2O$

(A) $CH_3CH_2CH_2NH_2 \xrightarrow[H_2O]{HNO_2,\ 0^\circ C} CH_3CH_2OH + N_2 + HCl$

(B) *see figure*

(C) *see figure*

(D) $C_2H_5\,CONH_2 + Br_2 + NaOH \rightarrow C_2H_5\,CH_2\,NH_2 + Na_2\,CO_3 + NaBr + H_2O$

Answer: (B) · Key from source paper

Q86 JEE Main 2024 · 27 Jan · Shift 1 Numerical

Among the following, total number of meta directing functional groups is (Integer based)

$-OCH_3$, $-NO_2$, $-CN$, $-CH_3$ $-NHCOCH_3$, $-COR$, $-OH$, $-COOH$, $-Cl$

Numerical value type: the answer is a number.

Answer: 4. · Key from source paper

Q87 JEE Main 2024 · 27 Jan · Shift 1 Numerical

3 − Methylhex-2-ene on reaction with HBr in presence of peroxide forms an addition product (A). The number of possible stereoisomers for ' A ' is _____.

Numerical value type: the answer is a number.

Answer: 4. · Key from source paper

Q88 JEE Main 2024 · 27 Jan · Shift 2 MCQ

The incorrect statement regarding conformations of ethane is:

(A) Ethane has infinite number of conformations

(B) The dihedral angle in staggered conformation is 60°

(C) Eclipsed conformation is the most stable conformation.

(D) The conformations of ethane are interconvertible to one-another

Answer: (C) Eclipsed conformation is the most stable conformation. · Key from source paper

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Q89 JEE Main 2024 · 27 Jan · Shift 2 MCQ

The final product A, formed in the following reaction sequence is:

$$Ph{-}CH{=}CH_2 \xrightarrow{\text{(i) } BH_3;\ \text{(ii) } H_2O_2,\ \overset{\ominus}{O}H;\ \text{(iii) HBr; (iv) Mg, ether, then } HCHO/H_3O^+} A$$

(A) $Ph - CH_2 - CH_2 - CH_3$

(B) $Ph - CH(CH_3) - CH_3$

(C) $Ph - CH(CH_2OH) - CH_3$

(D) $Ph - CH_2 - CH_2 - CH_2 - OH$

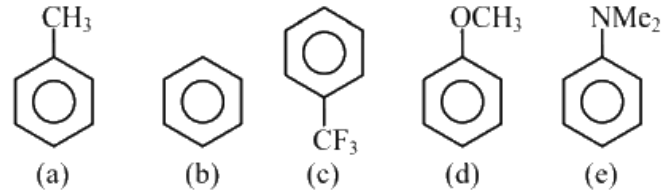
Answer: (D) $Ph - CH_2 - CH_2 - CH_2 - OH$ · Key from source paper

Q90 JEE Main 2023 · 15 Apr · Shift 1 MCQ

Decreasing order of reactivity towards electrophilic substitution for the following compounds is:

(see the figure above)

Q38. Decreasing order of reactivity towards electrophilic substitution for the following compounds is:



(1) d > a > e > c > b
(2) e > d > a > b > c
(3) a > d > e > b > c
(4) c > b > a > d > e

(A) d > a > e > c > b
(B) e > d > a > b > c
(C) a > d > e > b > c
(D) c > b > a > d > e

Answer: (B) e > d > a > b > c · Key from source paper

Q91 JEE Main 2023 · 15 Apr · Shift 1 MCQ

The product formed in the following multistep reaction is:

$$CH_3-CH=CH_2 \xrightarrow[\text{iii) PCC}]{\text{i) } B_2H_6;\ \text{ii) } H_2O_2,NaOH;\ \text{iv) } CH_3MgBr} \rightarrow$$

(see the figure above)

Q39. The product formed in the following multistep reaction is:

$$CH_3-CH=CH_2 \xrightarrow[\text{iii) PCC}]{\text{i) } B_2H_6 \\ \text{ii) } H_2O_2,NaOH \\ \text{iv) } CH_3MgBr} \rightarrow$$

(1) $CH_3-CH_2-\overset{\overset{O}{\|}}{C}-OCH_3$

(2) $CH_3-\overset{\overset{OH}{|}}{\underset{\underset{CH_3}{|}}{C}}-CH_3$

(3) $CH_3-CH_2-\overset{\overset{OH}{|}}{CH}-CH_3$

(4) $CH_3-CH_2-CH_2-CH_2-OH$

(A) $CH_3-CH_2-C(=O)-OCH_3$
(B) $CH_3-C(OH)(CH_3)-CH_3$
(C) $CH_3-CH_2-CH(OH)-CH_3$
(D) $CH_3-CH_2-CH_2-CH_2-OH$

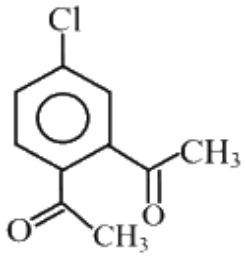
Answer: (C) $CH_3-CH_2-CH(OH)-CH_3$ · Key from source paper

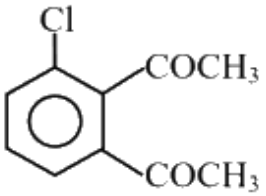
Q92 JEE Main 2023 · 15 Apr · Shift 1 MCQ

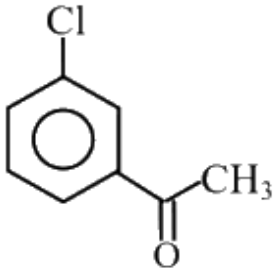
The major product formed in the Friedel-Craft acylation of chlorobenzene is

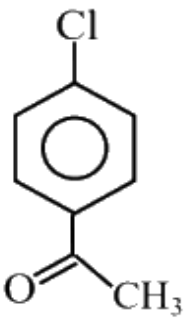
(see the figure above)

Q45. The major product formed in the Friedel-Craft acylation of chlorobenzene is

(1) 

(2) 

(3) 

(4) 

(A) (structure drawn, see figure)
(B) (structure drawn, see figure)
(C) (structure drawn, see figure)
(D) (structure drawn, see figure)

Answer: (D) (structure drawn, see figure) · Key from source paper

Q93 JEE Main 2023 · 13 Apr · Shift 1 MCQ

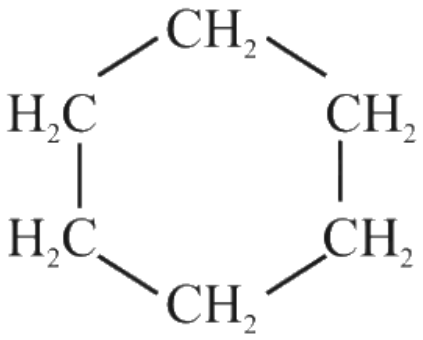
In the following reaction X is

$CH_3\,(CH_2)_4\,CH_3 \xrightarrow[\Delta]{\text{Anhy.}AlCl_3/HCl} X$ major product

(see the figure above)

Q44. In the following reaction \X/ is

$$CH_3(CH_2)_4CH_3 \xrightarrow[\triangle]{\text{Anhy.}AlCl_3 \atop HCl} \underset{\text{major product}}{X}$$

(1) 

(2) $CH_3CH(CH_3)(CH_2)_2CH_3$

(3) $CH_3(CH_2)_4CH_2Cl$

(4) $Cl-CH_2-(CH_2)_4-CH_2-Cl$

(A) (structure drawn, see figure)

(B) $CH_3CH(CH_3)(CH_2)_2CH_3$ with a CH_3 on the CH

(C) $CH_3(CH_2)_4CH_2Cl$

(D) $Cl-CH_2-(CH_2)_4-CH_2-Cl$

Answer: (B) $CH_3CH(CH_3)(CH_2)_2CH_3$ **with a** CH_3 **on the CH** · Key from source paper

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Q94 JEE Main 2023 · 12 Apr · Shift 1 MCQ

$$2-\text{hexene} \xrightarrow[(ii)\ H_2O]{(i)\ O_3} \text{Products}$$

The two products formed in above reaction are

(A) Butanal and acetaldehyde

(B) Butanoic acid and acetaldehyde

(C) Butanal and acetic acid

(D) Butanoic acid and acetic acid

Answer: (D) Butanoic acid and acetic acid · Key from source paper

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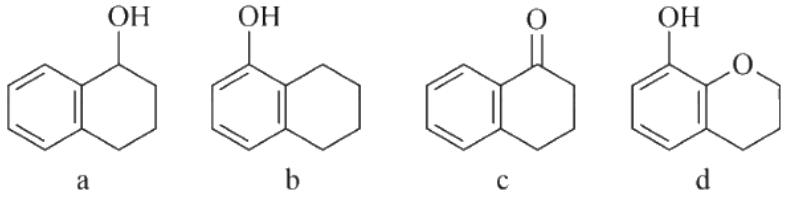
Q95 JEE Main 2023 · 11 Apr · Shift 1 MCQ

Arrange the following compounds in increasing order of rate of aromatic electrophilic substitution reaction.

(see the figure above)

Q39. Arrange the following compounds in increasing order of rate of aromatic electrophilic substitution reaction.



(1) d, b, c, a
(2) d, b, a, c
(3) b, c, a, d
(4) c, a, b, d

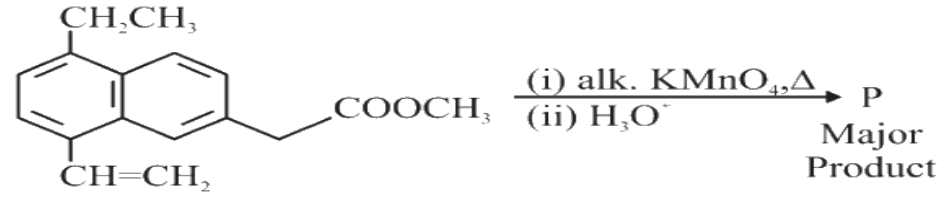
(A) d, b, c, a
(B) d, b, a, c
(C) b, c, a, d
(D) c, a, b, d

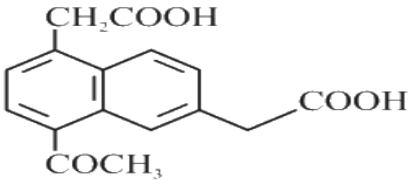
Answer: (D) c, a, b, d · Key from source paper

Q96 JEE Main 2023 · 10 Apr · Shift 1 MCQ

The major product 'P' formed in the given reaction is
(see the figure above)

Q39. The major product 'P' formed in the given reaction is



(1)


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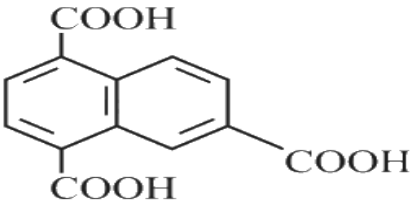

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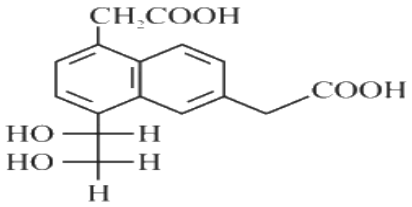

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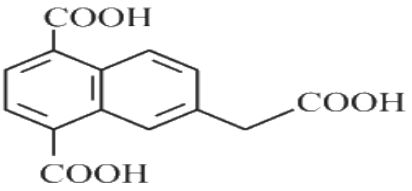


(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

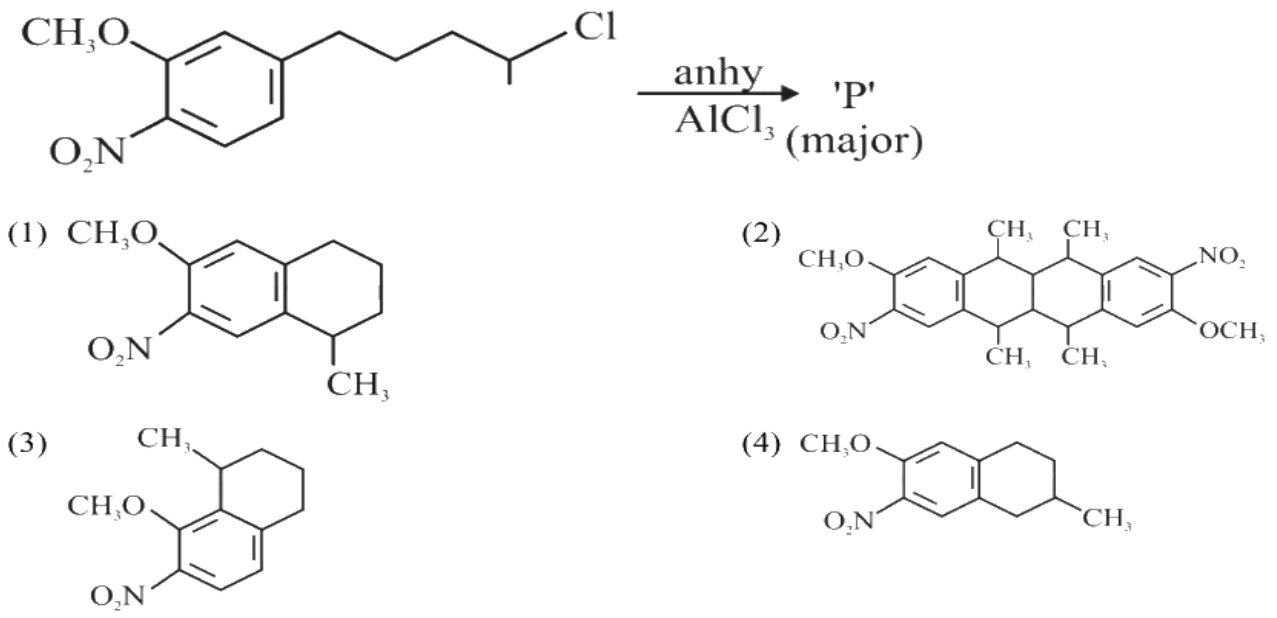
Answer: (B) · Key from source paper

Q97 JEE Main 2023 · 10 Apr · Shift 2 MCQ

The major product 'P' formed in the given reaction is

(see the figure above)

Q46. The major product 'P' formed in the given reaction is



(A) *see figure*

(B) *see figure*

(C) *see figure*

(D) *see figure*

Answer: (A) · Key from source paper

Q98 JEE Main 2023 · 8 Apr · Shift 1 Numerical

Molar mass of the hydrocarbon (X) which on ozonolysis consumes one mole of O_3 per mole of (X) and gives one mole each of ethanal and propanone is _____ $g\,mol^{-1}$ (Molar mass of C : 12 $g\,mol^{-1}$, H : 1 $g\,mol^{-1}$)

Numerical value type: the answer is a number.

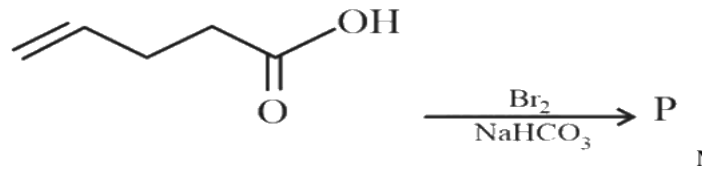
Answer: 70. · Key from source paper

Q99 JEE Main 2023 · 8 Apr · Shift 2 MCQ

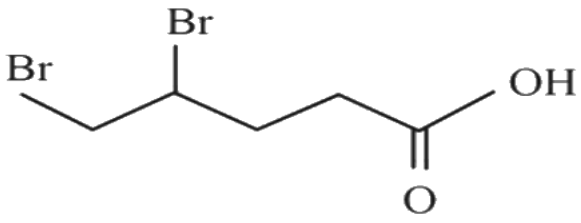
Major product 'P' formed in the following reaction is

(see the figure above)

Q58. Major product 'P' formed in the following reaction is



Major product

(1)


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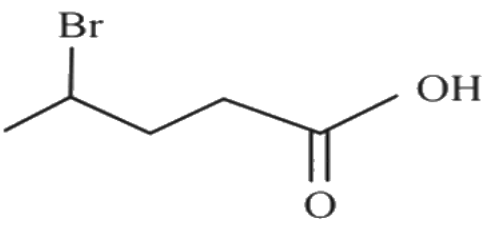

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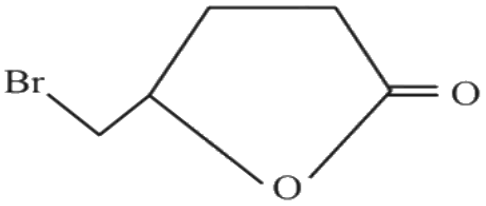

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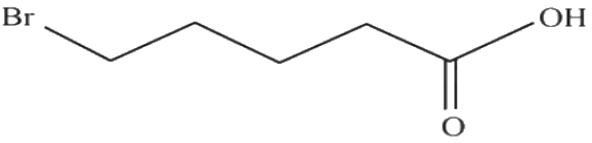


(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

Answer: (C) · Key from source paper

Q100 JEE Main 2023 · 6 Apr · Shift 1 Numerical

Number of bromo derivatives obtained on treating ethane with excess of Br_2 in diffused sunlight is

_____

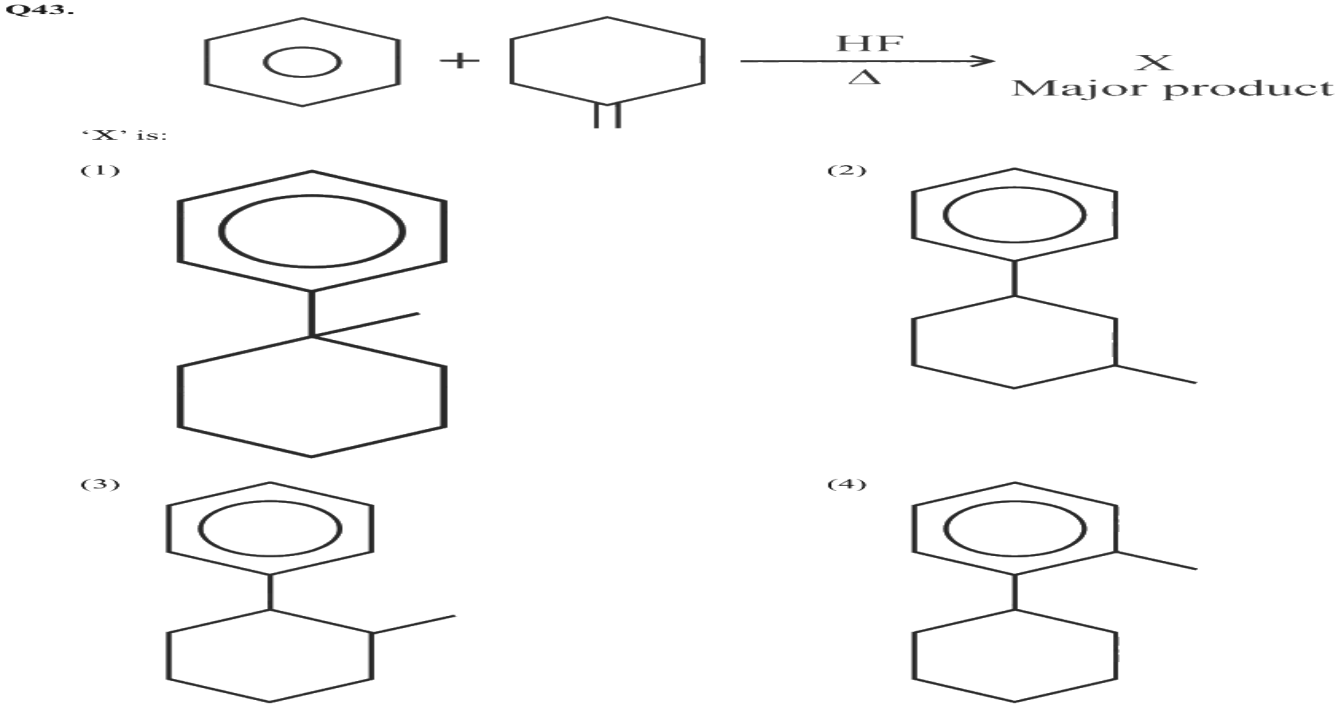
Numerical value type: the answer is a number.

Answer: 9. · Key from source paper

Q101 JEE Main 2023 · 1 Feb · Shift 2 MCQ

see figure

Q43.



(A) *see figure*

(B) *see figure*

(C) *see figure*

(D) *see figure*

Answer: (A) · Key from source paper

Q102 JEE Main 2023 · 31 Jan · Shift 1 MCQ

Choose the correct set of reagents for the following conversion

transPh - CH = CH - $CH_3 \rightarrow$ cis Ph - CH = CH - CH_3

(A) Br_2, alc KOH, $NaNH_2$, $NaLiqNH_3$

(B) Br_2, alc KOH, $NaNH_2$, H_2 Lindlar Catalyst

(C) Br_2, aqKOH, $NaNH_2$, H_2 Lindlar Catalyst

(D) Br_2, aq KOH, $NaNH_2$, $NaLiqNH_3$

Answer: (B) Br_2, alc KOH, $NaNH_2$, H_2 **Lindlar Catalyst** · Key from source paper

Q103 JEE Main 2023 · 31 Jan · Shift 2 MCQ

A hydrocarbon 'X' with formula C_6H_8 uses two moles of H_2 on catalytic hydrogenation of its one mole. On ozonolysis, 'X' yields two moles of methane dicarbaldehyde. The hydrocarbon 'X' is :

(A) hexa-1, 3, 5-triene
(B) 1-methylcyclopenta-1, 4—diene
(C) cyclohexa—1, 3—diene
(D) cyclohexa—1, 4—diene

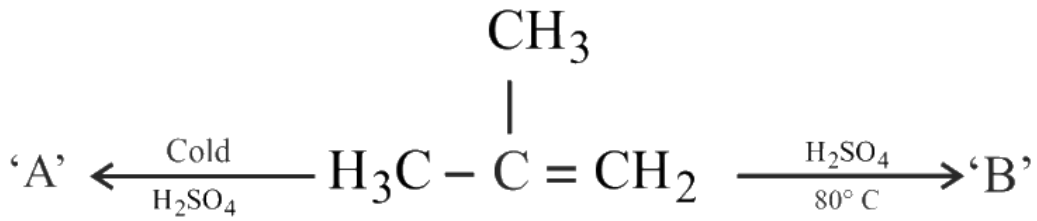
Answer: (D) cyclohexa—1, 4—diene · Key from source paper

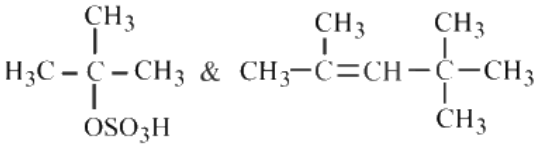
Q104 JEE Main 2023 · 30 Jan · Shift 1 MCQ

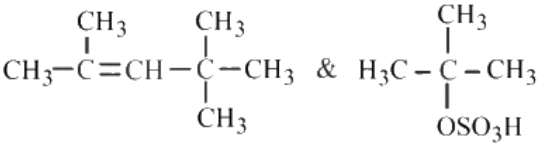
The major products 'A' and 'B', respectively, are

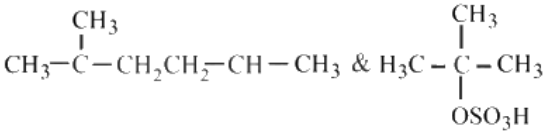
(see the figure above)

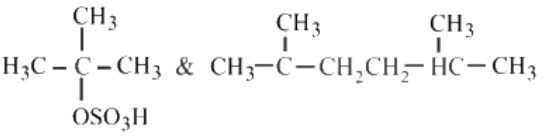
Q38. The major products 'A' and 'B', respectively, are



(1) 

(2) 

(3) 

(4) 

(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

Answer: (A) · Key from source paper

Q105 JEE Main 2023 · 29 Jan · Shift 1 Numerical

17 mg of a hydrocarbon (M.F. $C_{10}H_{16}$) takes up $8.40\ mL$ of the H_2 gas measured at $0^{\circ}C$ and $760\ mm$ of Hg. Ozonolysis of the same hydrocarbon yields

$$CH_3-\overset{\overset{O}{\|}}{C}-CH_3,\ H-\overset{\overset{O}{\|}}{C}-H,\ H-\overset{\overset{O}{\|}}{C}-CH_2-CH_2-\overset{\overset{O}{\|}}{C}-\overset{\overset{O}{\|}}{C}-H$$

The number of double bond/s present in the hydrocarbon is

Numerical value type: the answer is a number.

Answer: 3. · Key from source paper

Q106 JEE Main 2023 · 29 Jan · Shift 2 MCQ

The one giving maximum number of isomeric alkenes on dehydrohalogenation reaction is (excluding rearrangement)

(A) 1-Bromo-2-methylbutane
(B) 2-Bromopropane
(C) 2-Bromopentane
(D) 2-Bromo-3, 3-dimethylpentane

Answer: (C) 2-Bromopentane · Key from source paper

Q107 JEE Main 2023 · 24 Jan · Shift 2 MCQ

Given below are two statements, one is labelled as **Assertion A** and the other is labelled as **Reason R**.

Assertion A : Benzene is more stable than hypothetical cyclohexatriene.

Reason R : The delocalized π electron cloud is attracted more strongly by nuclei of carbon atoms.

In the light of the above statements, choose the correct answer from the options given below:

(A) A is true but R is false.
(B) A is false but R is true.
(C) Both A and R are correct and R is the correct explanation of A.
(D) Both A and R are correct but R is NOT the correct explanation of A.

Answer: (C) Both A and R are correct and R is the correct explanation of A. · Key from source paper

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Q108 JEE Main 2023 · 24 Jan · Shift 2 Numerical

Maximum number of isomeric monochloro derivatives which can be obtained from 2,2,5,5-tetramethylhexane by chlorination is _____.

Numerical value type: the answer is a number.

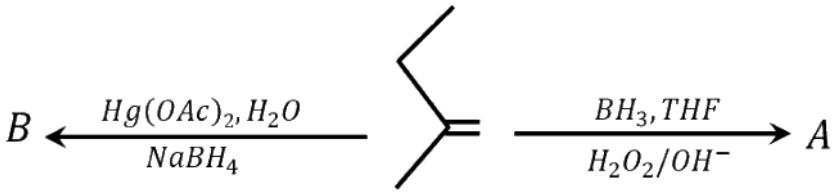
Answer: 3. · Key from source paper

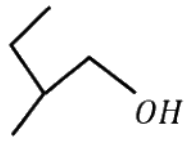
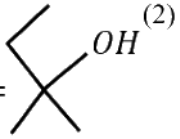
Q109 JEE Main 2023 · 24 Jan · Shift 2 MCQ

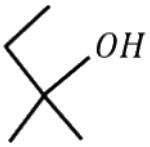
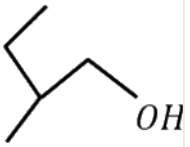
Find out the major products from the following reactions.

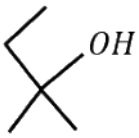
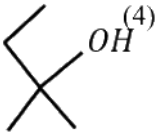
(see the figure above)

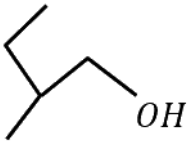
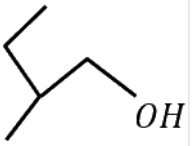
Q55. Find out the major products from the following reactions.



(1) $A =$  , $B =$ 

(2) $A =$  , $B =$ 

(3) $A =$  , $B =$ 

(4) $A =$  , $B =$ 

(A) $A =$ *(see the figure above)* , $B =$ *(see the figure above)*

(B) $A =$ *(see the figure above)* , $B =$ *(see the figure above)*

(C) $A =$ *(see the figure above)* , $B =$ *(see the figure above)*

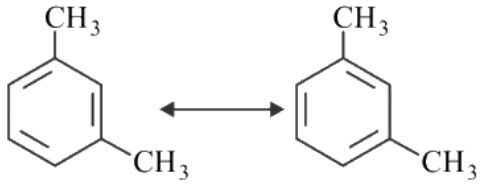
(D) $A =$ *(see the figure above)* , $B =$ *(see the figure above)*

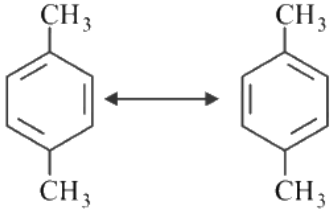
Answer: (A) $A =$ *(see the figure above)* , $B =$ *(see the figure above)* · Key from source paper

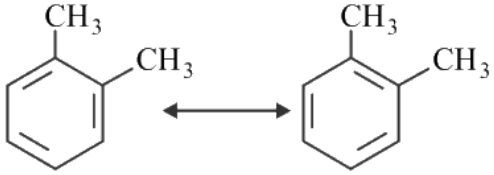
Q110 JEE Main 2022 · 29 Jul · Shift 1 MCQ

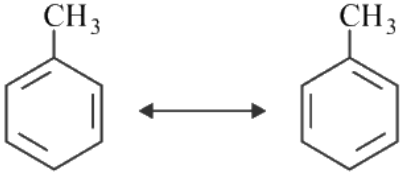
Which among the following pairs of the structures will give different products on ozonolysis? (Consider the double bonds in the structures are rigid and not delocalized.)

Q37. Which among the following pairs of the structures will give different products on ozonolysis? (Consider the double bonds in the structures are rigid and not delocalized.)

(1) 

(2) 

(3) 

(4) 

(A) *see figure*

(B) *see figure*

(C) *see figure*

(D) *see figure*

Answer: (C) · Key from source paper

Q111 JEE Main 2022 · 29 Jul · Shift 2 MCQ

When enthanol is heated with conc. H_2SO_4, a gas is produced. The compound formed, when this gas is treated with cold dilute aqueous solution of Baeyer's reagent, is

(A) Formaldehyde
(B) Formic acid
(C) Glycol
(D) Ethanoic acid

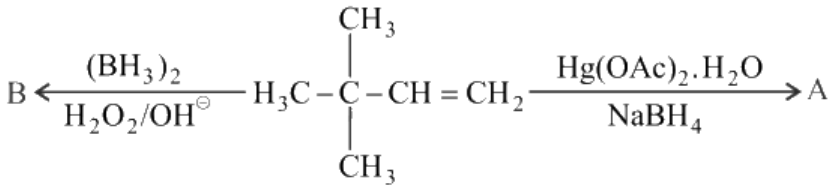
Answer: (C) Glycol · Key from source paper

Q112 JEE Main 2022 · 28 Jul · Shift 1 MCQ

Choose the correct option for the following reactions.

(see the figure above)

Q39. Choose the correct option for the following reactions.



(1) 'A' and 'B' are both Markovnikov addition products.
(2) 'A' is Markovnikov product and 'B' is antiMarkovnikov product.
(3) 'A' and 'B' are both anti-Markovnikov products.
(4) 'B' is Markovnikov and 'A' is anti-Markovnikov product.

(A) 'A' and 'B' are both Markovnikov addition products.
(B) 'A' is Markovnikov product and 'B' is antiMarkovnikov product.
(C) 'A' and 'B' are both anti-Markovnikov products.
(D) 'B' is Markovnikov product and 'A' is anti-Markovnikov product.

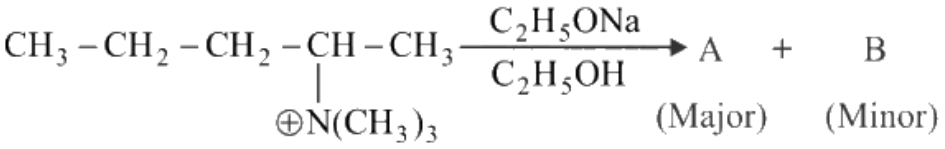
Answer: (B) 'A' is Markovnikov product and 'B' is antiMarkovnikov product. · Key from source paper

Q113 JEE Main 2022 · 28 Jul · Shift 1 MCQ

Identify the correct statement for the below given transformation.

(see the figure above)

Q40. Identify the correct statement for the below given transformation.



(1) A - $CH_3CH_2CH = CH - CH_3$,
B - $CH_3CH_2CH_2CH = CH_2$, Saytzeff products

(2) A - $CH_3CH_2CH = CH - CH_3$,
B - $CH_3CH_2CH_2CH = CH_2$,
Hafmann products

(3) A - $CH_3CH_2CH_2CH = CH_2$,
B - $CH_3CH_2CH = CHCH_3$,
Hofmann products

(4) A - $CH_3CH_2CH_2CH = CH_2$,
B - $CH_3CH_2CH = CHCH_3$,
Saytzeff products

(A) A - $CH_3CH_2CH = CH - CH_3$, B - $CH_3CH_2CH_2CH = CH_2$, Saytzeff products
(B) A - $CH_3CH_2CH = CH - CH_3$, B - $CH_3CH_2CH_2CH = CH_2$, Hafmann products
(C) A - $CH_3CH_2CH_2CH = CH_2$, B - $CH_3CH_2CH = CHCH_3$, Hofmann products
(D) A - $CH_3CH_2CH_2CH = CH_2$, B - $CH_3CH_2CH = CHCH_3$, Saytzeff products

Answer: (C) A - $CH_3CH_2CH_2CH = CH_2$, B - $CH_3CH_2CH = CHCH_3$, **Hofmann products** · Key from source paper

Q114 JEE Main 2022 · 28 Jul · Shift 2 MCQ

Arrange the following in increasing order of reactivity towards nitration
A. p-xylene
B. bromobenzene
C. mesitylene
D. nitrobenzene
E. benzene
Choose the correct answer from the options given below

(A) $C < D < E < A < B$
(B) $D < B < E < A < C$
(C) $D < C < E < A < B$
(D) $C < D < E < B < A$

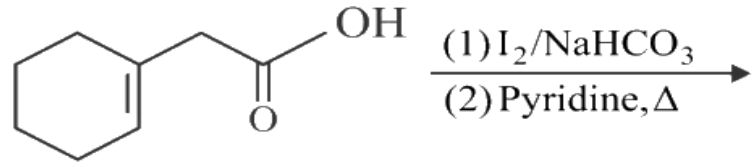
Answer: (B) $D < B < E < A < C$ · Key from source paper

Q115 JEE Main 2022 · 28 Jul · Shift 2 MCQ

see figure

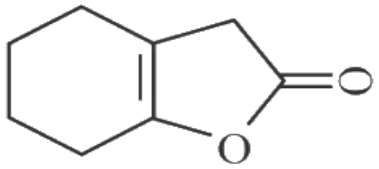
EdLoop JEE

Q46.

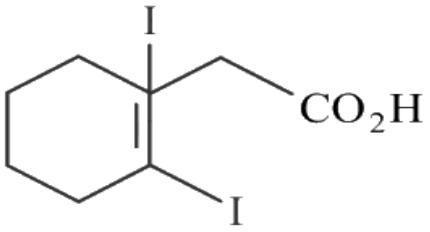


Find out the major product for the above reaction.

(1)



(2)



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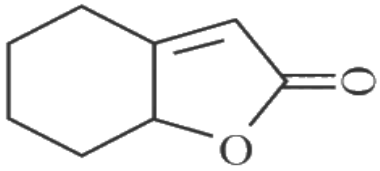

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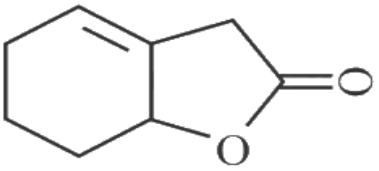


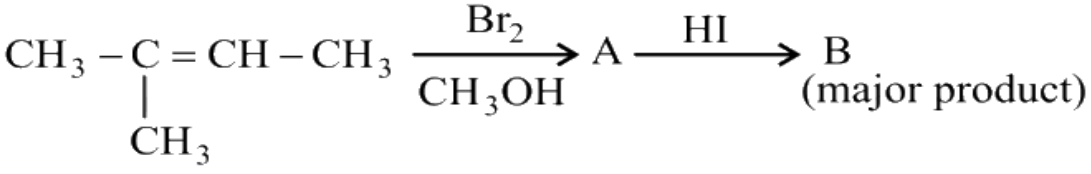
(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

Answer: (C) · Key from source paper

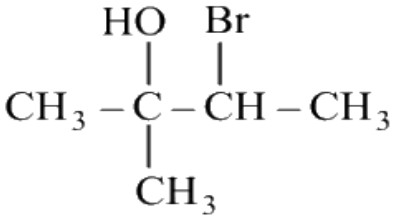
Q116 JEE Main 2022 · 27 Jul · Shift 2 MCQ

Major product 'B' of the following reaction sequence is
(see the figure above)

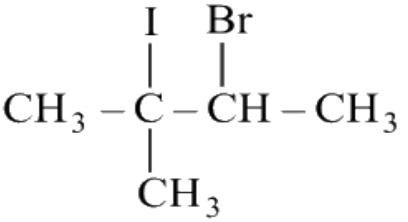
Q45. Major product 'B' of the following reaction sequence is



(1)



(2)



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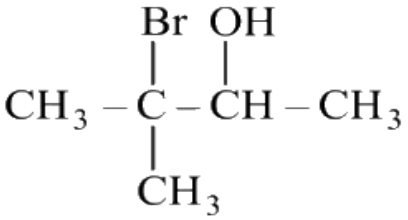
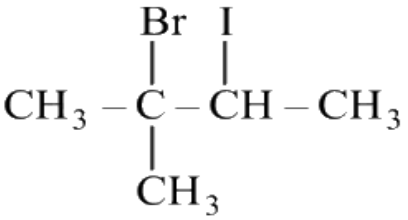


(4)

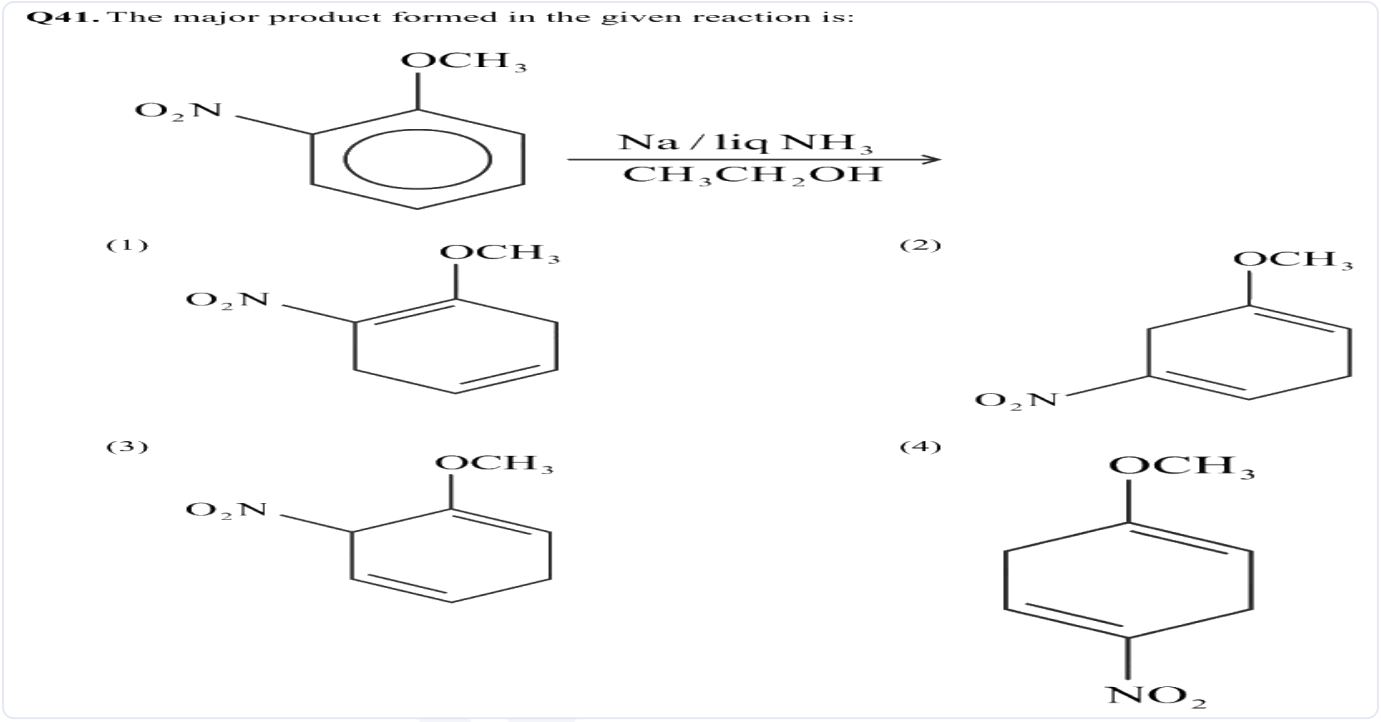


(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

Answer: (B) · Key from source paper

Q117 JEE Main 2022 · 26 Jul · Shift 1 MCQ

The major product formed in the given reaction is:
(see the figure above)



(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

Answer: (C) · Key from source paper

Q118 JEE Main 2022 · 26 Jul · Shift 1 Numerical

In the presence of sunlight, benzene reacts with Cl_2 to give product, X. The number of hydrogens in X is

Numerical value type: the answer is a number.

Answer: 6. · Key from source paper

Q119 JEE Main 2022 · 26 Jul · Shift 2 Numerical

Total number of isomers (including stereoisomers) obtain on monochlorination of methylcyclohexane is

Numerical value type: the answer is a number.

Answer: 12. · Key from source paper

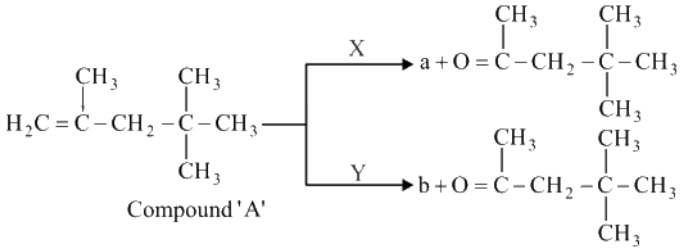
Q120 JEE Main 2022 · 25 Jul · Shift 1 MCQ

A compound 'A' on reaction with 'X' and 'Y produces the same major product but different by product 'a' and 'b'. Oxidation of 'a' gives a substance produced by ants.

(see the figure above)

'X' and 'Y' respectively are

Q39. A compound 'A' on reaction with 'X' and 'Y produces the same major product but different by product 'a' and 'b'. Oxidation of 'a' gives a substance produced by ants.



'X' and 'Y' respectively are

(1) $KMnO_4$ / H^+ and dil. $KMnO_4$, 273 K

(2) $KMnO_4$,(dilute), 273 K and $KMnO_4$ / H^+

(3) $KMnO_4$ / H^+ and O_3, H_2O / Zn

(4) O_3, H_2O / Zn and $KMnO_4$ / H^+

(A) $KMnO_4/H^+$ and dil. $KMnO_4$, 273 K

(B) $KMnO_4$,(dilute), 273 K and $KMnO_4/H^+$

(C) $KMnO_4/H^+$ and $O_3, H_2O/Zn$

(D) $O_3, H_2O/Zn$ and $KMnO_4/H^+$

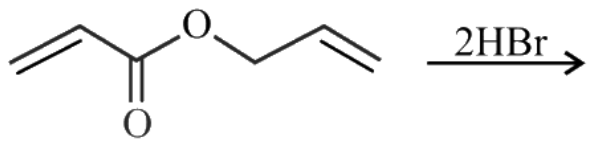
Answer: (D) $O_3, H_2O/Zn$ and $KMnO_4/H^+$ · Key from source paper

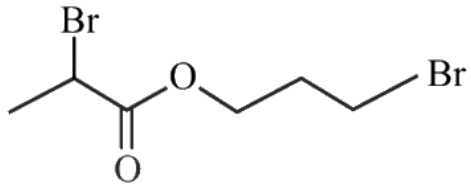
Q121 JEE Main 2022 · 25 Jul · Shift 2 MCQ

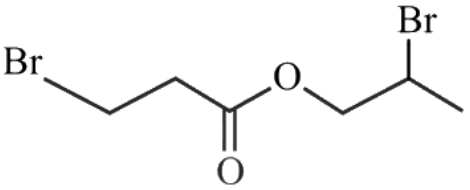
Major product of the following reaction is

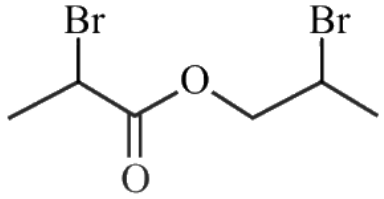
(see the figure above)

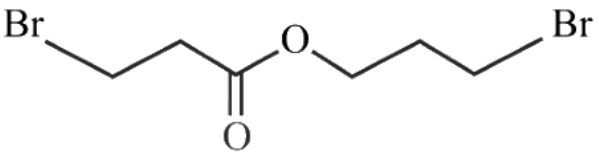
Q38. Major product of the following reaction is



(1) 

(2) 

(3) 

(4) 

(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

Answer: (B) · Key from source paper

Q122 JEE Main 2022 · 25 Jul · Shift 2 Numerical

The total number of monobromo derivatives formed by the alkanes with molecular formula C_5H_{12} is (excluding stereo isomers)

Numerical value type: the answer is a number.

Answer: 8. · Key from source paper

Q123 JEE Main 2022 · 29 Jun · Shift 1 MCQ

Two isomers 'A' and 'B' with molecular formula C_4H_8 give different products on oxidation with $KMnO_4$ in acidic medium. Isomer 'A' on reaction with $KMnO_4/H^+$ results in effervescence of a gas and gives ketone. The compound 'A' is

(A) But-1-ene.
(B) cis-But-2-ene.
(C) trans-But-2-ene.
(D) 2-methyl propene.

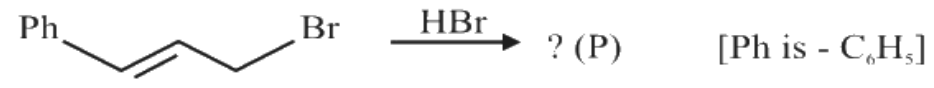
Answer: (D) 2-methyl propene. · Key from source paper

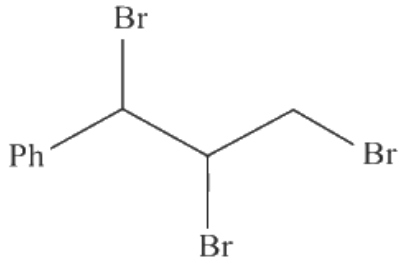
Q124 JEE Main 2022 · 28 Jun · Shift 1 MCQ

The major product (P) in the reaction

(see the figure above) $\xrightarrow{HBr}$? (P) [Ph is - C_6H_5]

Q44. The major product (P) in the reaction



(1)


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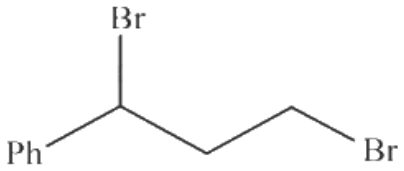

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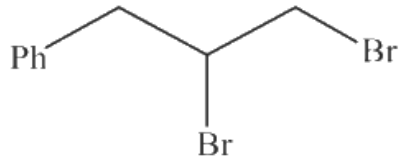

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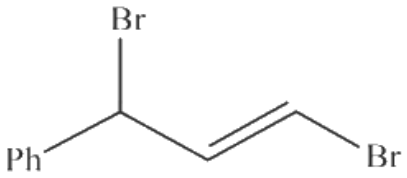


(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

Answer: (B) · Key from source paper

Q125 JEE Main 2022 · 28 Jun · Shift 2 MCQ

Consider the following reaction,

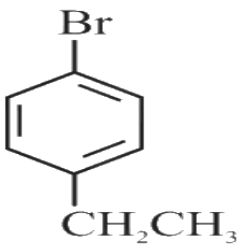
A $\xrightarrow[2.\ CN^-]{1.\ Cl_2\ /\ hv}$ $\xrightarrow{3.\ H_2O/H^+/\Delta}$ 4 − bromophenylacetic acid

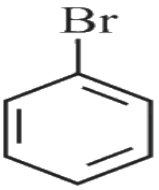
What is A in the above reaction?

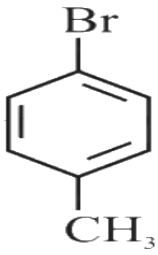
Q44. Consider the following reaction,

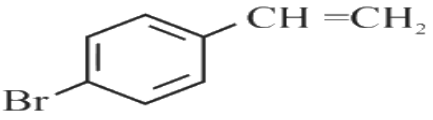
$$A \xrightarrow[2.\ CN\\3.\ H_2O/H^{\oplus}/\Delta]{1.\ Cl_2/hv} 4-\text{bromophenylacetic acid}$$

What is A in the above reaction?

(1) 

(2) 

(3) 

(4) 

(A) *see figure*

(B) *see figure*

(C) *see figure*

(D) *see figure*

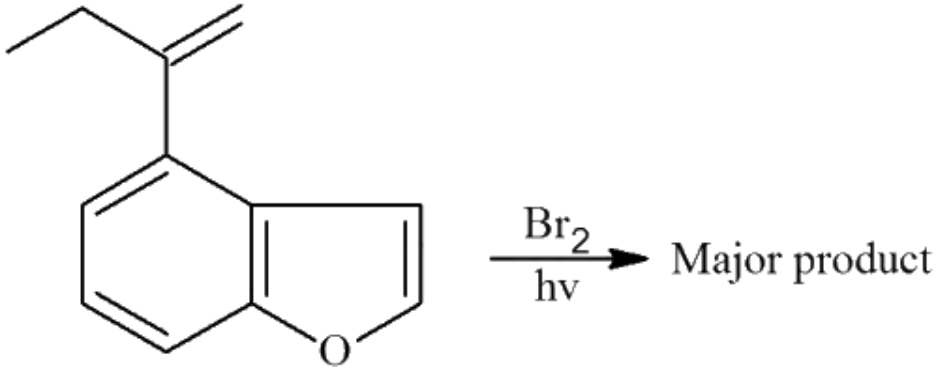
Answer: (C) · Key from source paper

Q126 JEE Main 2022 · 28 Jun · Shift 2 Numerical

The major product of the following reaction contains _____ bromine atom(s).

(see the figure above)

Q59. The major product of the following reaction contains____bromine atom(s).



Numerical value type: the answer is a number.

Answer: 1. · Key from source paper

Q127 JEE Main 2022 · 27 Jun · Shift 1 MCQ

'A' and 'B' respectively are

A. $\xrightarrow[(2)\text{Zn-H}_2\text{O}]{(1)\text{O}_3}$ Ethane-1, 2-dicarbaldehyde +Glyoxal/Oxaldehyde

B $\xrightarrow[(2)\text{Zn-H}_2\text{O}]{(1)\text{O}_3}$ 5— -oxohexanal

(A) 1-methylcyclohex-1, 3-diene & cyclopentene.

(B) Cyclohex-1, 3-diene & cyclopentene

(C) Cyclohex-1, 3-diene & 1-methylcyclopent-1-ene

(D) 1-methylcyclohex- 1, 4-diene & 1-methylcyclopent-1-ene

Answer: (C) Cyclohex-1, 3-diene & 1-methylcyclopent-1-ene · Key from source paper

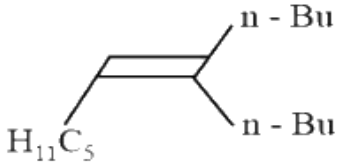
Q128 JEE Main 2022 · 27 Jun · Shift 2 MCQ

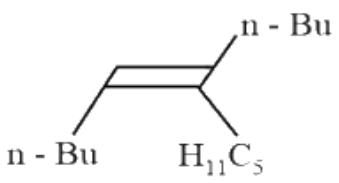
What will be the major product of following sequence of reactions?

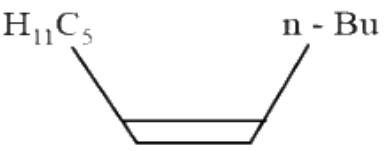
$\text{n} - \text{Bu} - \equiv \xrightarrow{\text{(i) n - BuLi, n - } C_5H_{11}Cl;\ \text{(ii) Lindlar cat, } H_2}$

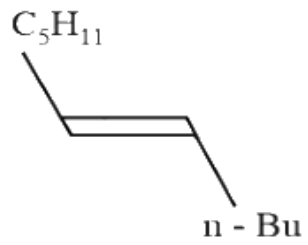
Q36. What will be the major product of following sequence of reactions?

$$\text{n - Bu - } \equiv \frac{\text{(i) n - BuLi,}\ \text{n - } C_5H_{11}Cl}{\text{(ii) Lindlar cat, } H_2}$$

(1) 

(2) 

(3) 

(4) 

(A) *see figure*

(B) *see figure*

(C) *see figure*

(D) *see figure*

Answer: (C) · Key from source paper

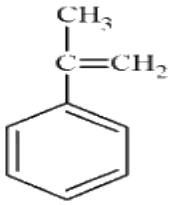
Q129 JEE Main 2022 · 27 Jun · Shift 2 MCQ

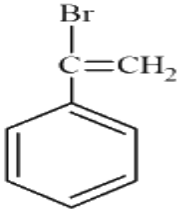
Product 'A' of following sequence of reactions is

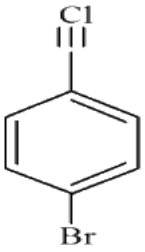
Ethylbenzene $\xrightarrow{\text{(a) } Br_2, \text{Fe; (b) } Cl_2, \Delta; \text{(c) alc. KOH}}$ 'A' (Major product)

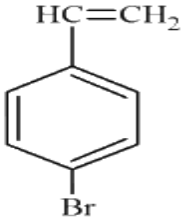
Q37. Product 'A' of following sequence of reactions is

Ethylbenzene $\xrightarrow[\text{(b) } Cl_2, \Delta \\ \text{(c) alc. KOH}]{\text{(a) } Br_2, Fe}$ 'A' (Major product)

(1) 

(2) 

(3) 

(4) 

(A) *see figure*

(B) *see figure*

(C) *see figure*

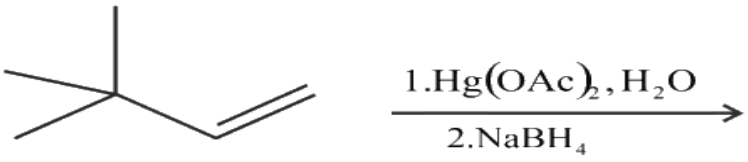
(D) *see figure*

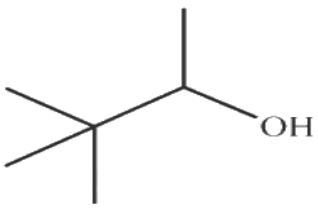
Answer: (D) · Key from source paper

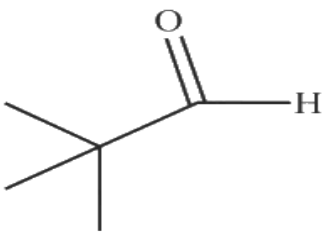
Q130 JEE Main 2022 · 26 Jun · Shift 2 MCQ

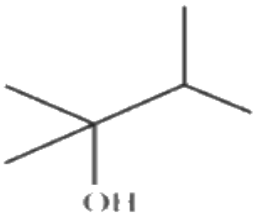
see figure

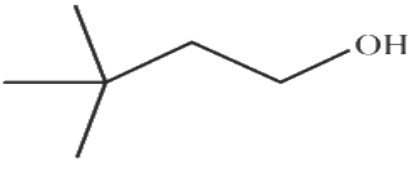
Q38.



(1) 

(2) 

(3) 

(4) 

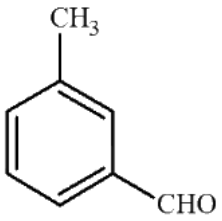
(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

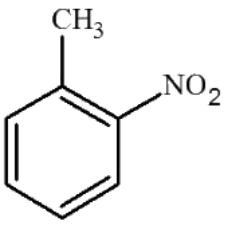
Answer: (A) · Key from source paper

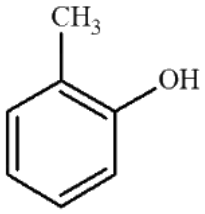
Q131 JEE Main 2022 · 26 Jun · Shift 2 MCQ

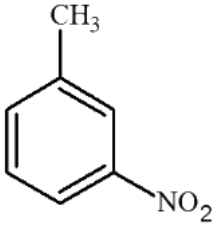
Halogenation of which one of the following will yield m-substituted product with respect to methyl group as a major product?

Q39. Halogenation of which one of the following will yield m-substituted product with respect to methyl group as a major product?

(1) 

(2) 

(3) 

(4) 

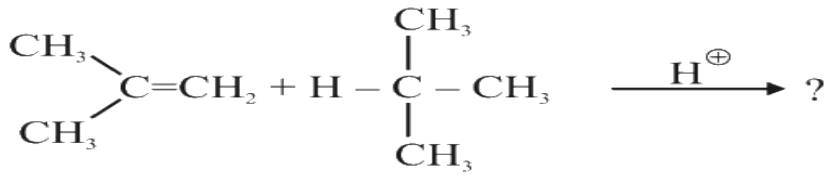
(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

Answer: (C) · Key from source paper

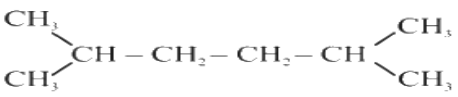
Q132 JEE Main 2022 · 25 Jun · Shift 1 MCQ

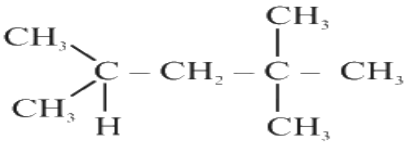
The product formed in the following reaction.
(see the figure above)
is:

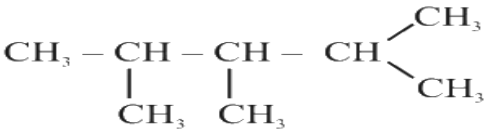
Q38. The product formed in the following reaction.

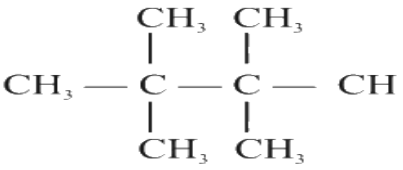


is:

(1) 

(2) 

(3) 

(4) 

(A) *see figure*

(B) *see figure*

(C) *see figure*

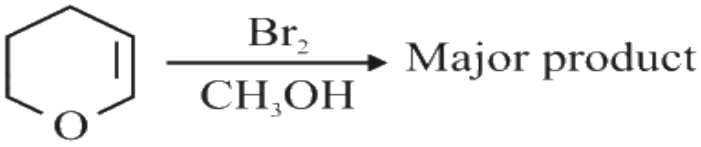
(D) *see figure*

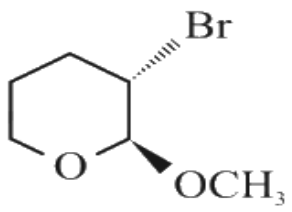
Answer: (B) · Key from source paper

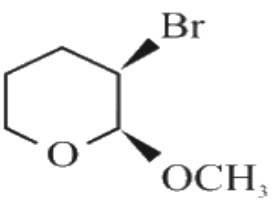
Q133 JEE Main 2022 · 25 Jun · Shift 2 MCQ

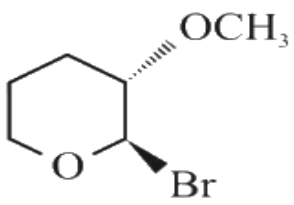
Amongst the following, the major product of the given chemical reaction is
(see the figure above)

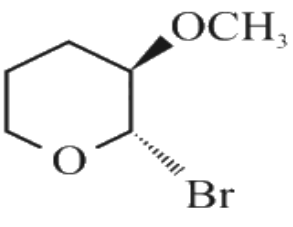
Q44. Amongst the following, the major product of the given chemical reaction is



(1) 

(2) 

(3) 

(4) 

(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

Answer: (A) · Key from source paper

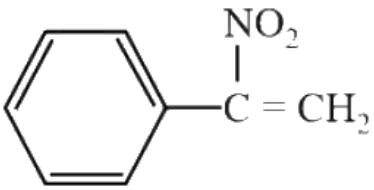
Q134 JEE Main 2022 · 24 Jun · Shift 1 MCQ

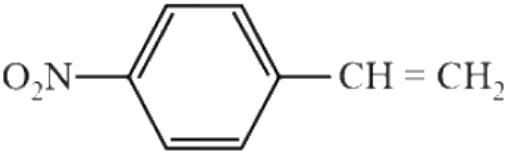
In the given reaction sequence, the major product 'C' is :

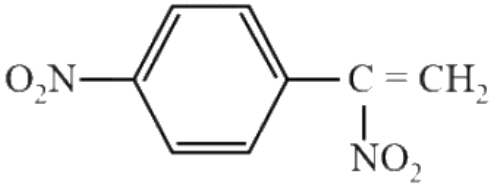
$$C_8H_{10} \xrightarrow[H_2SO_4]{HNO_3} A \xrightarrow[\Delta]{Br_2} B \xrightarrow[KOH]{\text{alcoholic}} C$$

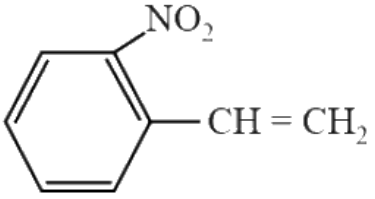
Q38. In the given reaction sequence, the major product 'C' is :

$$C_8H_{10} \xrightarrow[H_2SO_4]{HNO_3} A \xrightarrow[\Delta]{Br_2} B \xrightarrow[KOH]{\text{alcoholic}} C$$

(1) 

(2) 

(3) 

(4) 

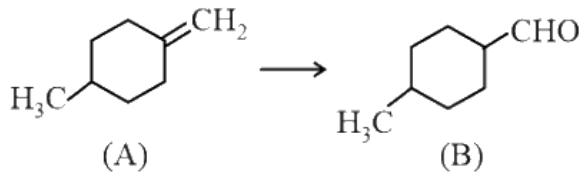
(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

Answer: (B) · Key from source paper

Q135 JEE Main 2022 · 24 Jun · Shift 2 MCQ

Which of the following reagents / reactions will convert 'A' to 'B'?
(see the figure above)

Q39. Which of the following reagents / reactions will convert 'A' to 'B'?



(A) (B)

(1) PCC oxidation
(2) Ozonolysis
(3) $BH_3, H_2O_2/-OH$ followed by PCC oxidation
(4) HBr, hydrolysis followed by oxidation by $K_2Cr_2O_7$.

(A) PCC oxidation
(B) Ozonolysis
(C) $BH_3, H_2O_2/-OH$ followed by PCC oxidation
(D) HBr, hydrolysis followed by oxidation by $K_2Cr_2O_7$.

Answer: (C) $BH_3, H_2O_2/-OH$ **followed by PCC oxidation** · Key from source paper

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Q136 JEE Main 2021 · 1 Sep · Shift 2 MCQ

Experimentally reducing a functional group cannot be done by which one of the following reagents ?

(A) Zn/H_2O
(B) $Pt-C/H_2$
(C) $Pd-C/H_2$
(D) Na/H_2

Answer: (D) Na/H_2 · Key from source paper

Q137 JEE Main 2021 · 31 Aug · Shift 1 MCQ

Given below are two statements : one is labelled as Assertion (A) and the other is labelled as Reason (R).
Assertion (A): Treatment of bromine water with propene yields 1-bromopropan-2-ol.
Reason (R) : Attack of water on bromonium ion follows Markovnikov rule and results in 1-bromopropan-2-ol.
In the light of the above statements, choose the most appropriate answer from the options given below :

(A) Both (A) and (R) are true but (R) is NOT the correct explanation of (A).
(B) (A) is false but (R) is true.
(C) Both (A) and (R) are true and (R) is the correct explanation of (A).
(D) (A) is true but (R) is false.

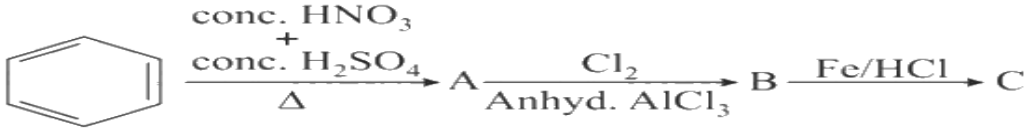
Answer: (C) Both (A) and (R) are true and (R) is the correct explanation of (A). · Key from source paper

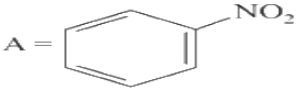
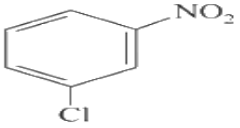
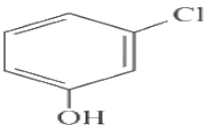
Q138 JEE Main 2021 · 31 Aug · Shift 2 MCQ

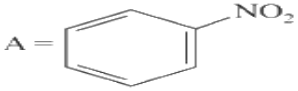
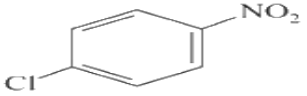
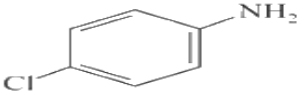
Identify correct A, B and C in the reaction sequence given below :

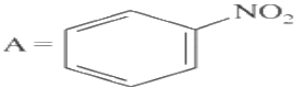
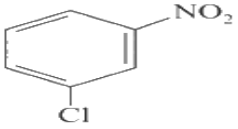
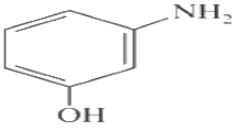
(see the figure above)

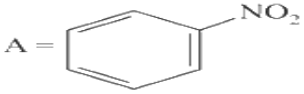
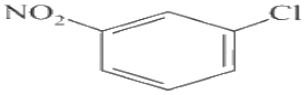
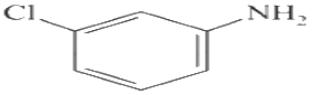
Q37. Identify correct A, B and C in the reaction sequence given below :



(1) A =  , B =  , C = 

(2) A =  , B =  , C = 

(3) A =  , B =  , C = 

(4) A =  , B =  , C = 

(A) *see figure*

(B) *see figure*

(C) *see figure*

(D) *see figure*

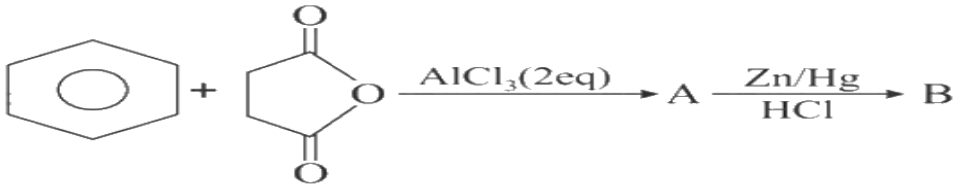
Answer: (D) · Key from source paper

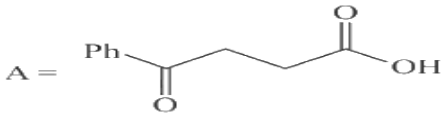
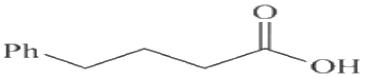
Q139 JEE Main 2021 · 31 Aug · Shift 2 MCQ

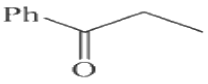
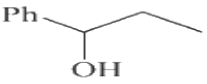
The structures of A and B formed in the following reaction are : $\mathrm{Ph} = -\mathrm{C_6H_5}$

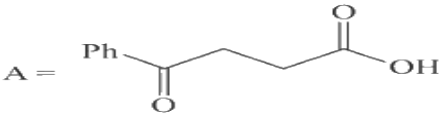
(see the figure above)

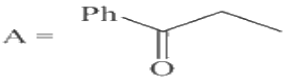
Q47. The structures of A and B formed in the following reaction are : Ph = - C_6H_5



(1) A =  , B = 

(2) A =  , B = 

(3) A =  , B = 

(4) A =  , B = 

(A) *see figure*

(B) *see figure*

(C) *see figure*

(D) *see figure*

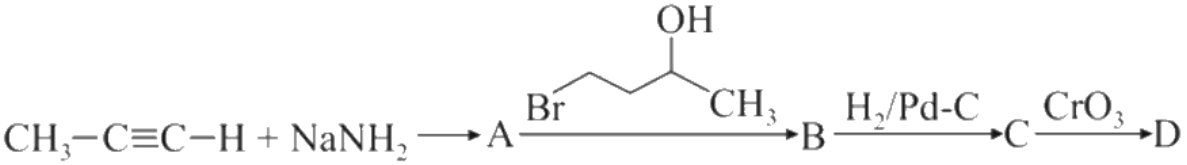
Answer: (A) · Key from source paper

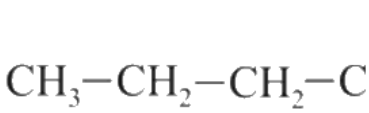
Q140 JEE Main 2021 · 27 Aug · Shift 1 MCQ

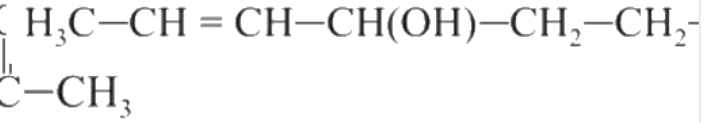
In the following sequence of reactions, the final product D is:

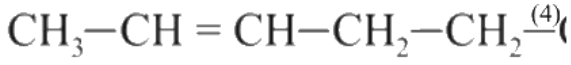
(see the figure above)

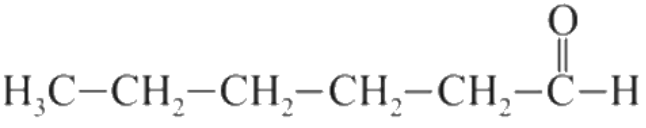
Q47. In the following sequence of reactions, the final product D is:



(1) 

(2) 

(3) 

(4) 

(A) $CH_3-CH_2-CH_2-CH_2-CH_2-C-CH_3$ (the central carbon has a vertical bond going upward, which is overprinted by the label of option 2 in the copy)

(B) $H_3C-CH=CH-CH(OH)-CH_2-CH_2-$ (the formula runs to the right edge of the crop and is not completed in what is shown)

(C) $CH_3-CH=CH-CH_2-CH_2-$ (the formula is overprinted by the label of option 4 and is not completed in what is shown)

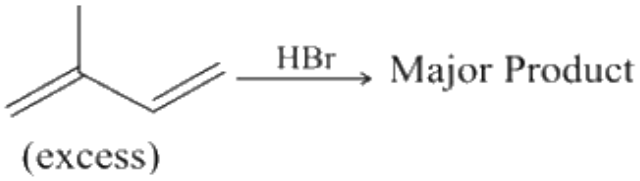
(D) $H_3C-CH_2-CH_2-CH_2-CH_2-CHO$ drawn as an aldehyde: the last carbon carries =O above it and H at the right.

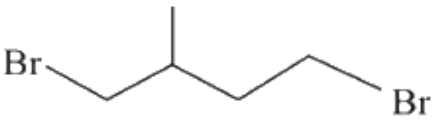
Answer: (A) $CH_3-CH_2-CH_2-CH_2-CH_2-C-CH_3$ **(the central carbon has a vertical bond going upward, which is overprinted by the label of option 2 in the copy)** · Key from source paper

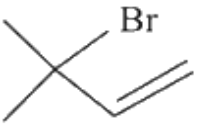
Q141 JEE Main 2021 · 26 Aug · Shift 1 MCQ

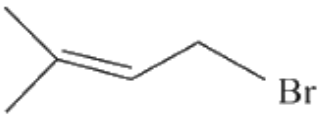
The major product formed in the following reaction is:
(see the figure above)

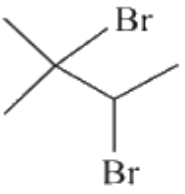
Q35. The major product formed in the following reaction is:



(1)


(2)


(3)


(4)


(A) *see figure*

(B) *see figure*

(C) *see figure*

(D) *see figure*

Answer: (C) · Key from source paper

Q142 JEE Main 2021 · 26 Aug · Shift 1 MCQ

Excess of isobutane on reaction with Br_2 in presence of light at $125^\circ C$ gives which one of the following, as the major product?

(A) $CH_3 - CH - CH_2Br$ with CH_2Br attached below the CH (2-methyl chain carrying CH2Br twice)

(B) $CH_3 - CH - CH_2Br$ with CH_3 attached below the CH

(C) $CH_3 - C - CH_2 - Br$ with Br attached above and CH_3 below the central carbon

(D) $CH_3 - C - Br$ with CH_3 attached above and CH_3 below the central carbon

Answer: (D) $CH_3 - C - Br$ **with** CH_3 **attached above and** CH_3 **below the central carbon** · Key from source paper

Q143 JEE Main 2021 · 26 Aug · Shift 1 MCQ

The correct sequential addition of reagents in the preparation of 3−nitrobenzoic acid from benzene is:

(A) $Br_2/AlBr_3, HNO_3/H_2SO_4, Mg/ether, CO_2, H_3O^+$

(B) $Br_2/AlBr_3, NaCN, H_3O^+, HNO_3/H_2SO_4$

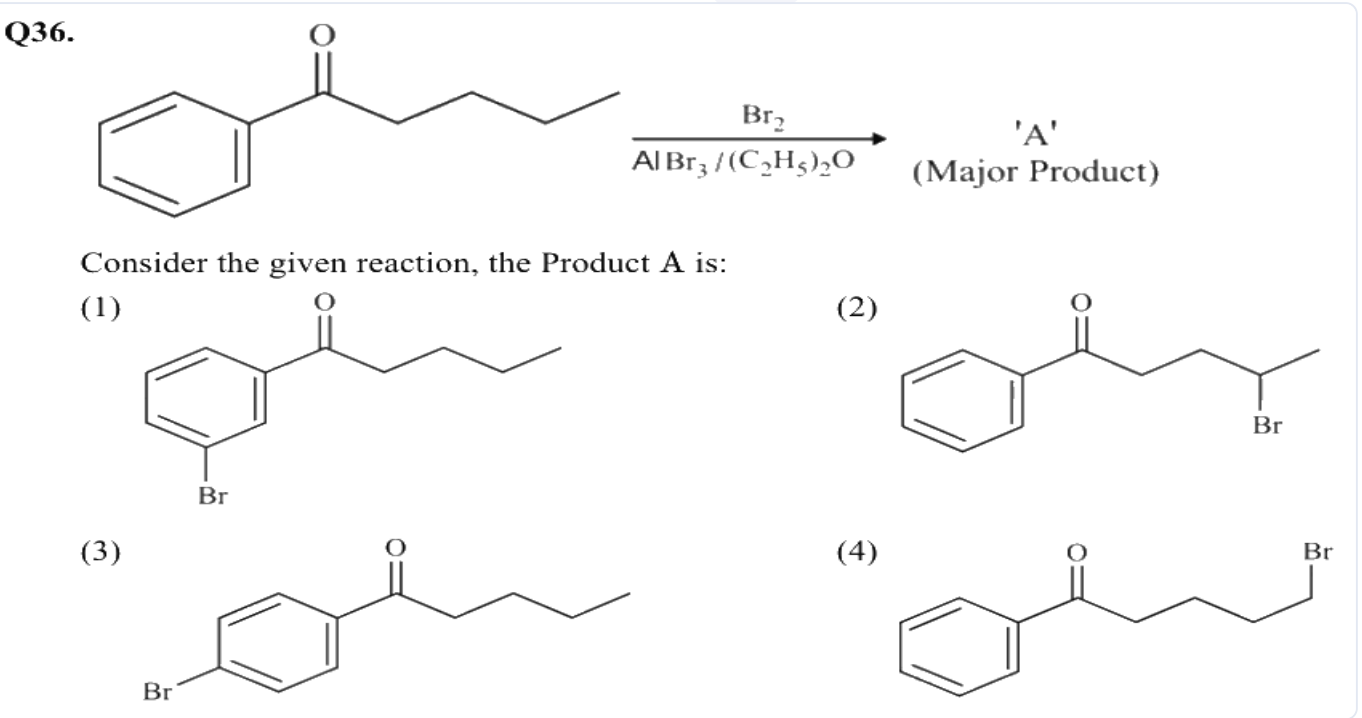
(C) $Br_2/AlBr_3, HNO_3/H_2SO_4, NaCN, H_3O^+$

(D) $HNO_3/H_2SO_4, Br_2/AlBr_3, Mg/ether, CO_2, H_3O^+$

Answer: (D) $HNO_3/H_2SO_4, Br_2/AlBr_3, Mg/ether, CO_2, H_3O^+$ · Key from source paper

Q144 JEE Main 2021 · 26 Aug · Shift 2 MCQ

see figure



(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

Answer: (A) · Key from source paper

Q145 JEE Main 2021 · 26 Aug · Shift 2 Numerical

A chloro compound "A".
(i) forms aldehydes on ozonolysis followed by the hydrolysis.
(ii) when vaporized completely $1.53\ \mathrm{g}$ of A, gives $448\ \mathrm{mL}$ of vapour at STP. The number of carbon atoms in a molecule of compound A is

Numerical value type: the answer is a number.

Answer: 3. · Key from source paper

Q146 JEE Main 2021 · 27 Jul · Shift 1 MCQ

Presence of which reagent will affect the reversibility of the following reaction, and change it to a irreversible reaction :

$$\mathrm{CH_4 + I_2 \underset{\text{Reversible}}{\overset{h\nu}{\rightleftharpoons}} CH_3 - I + HI}$$

(A) HOCl
(B) dilute $\mathrm{HNO_2}$
(C) Liquid $\mathrm{NH_3}$
(D) Concentrated $\mathrm{HIO_3}$

Answer: (D) Concentrated $\mathrm{HIO_3}$ · Key from source paper

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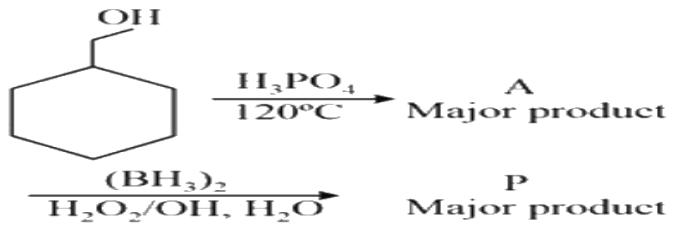
Q147 JEE Main 2021 · 27 Jul · Shift 1 MCQ

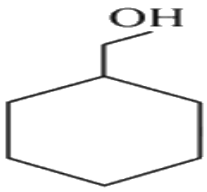
see figure

Q47.

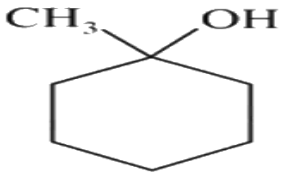


Consider the above reaction and identify the Product P :

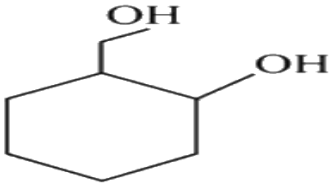
(1)



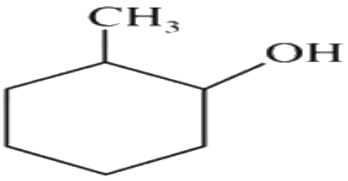
(2)



(3)



(4)



(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

Answer: (D) · Key from source paper

Q148 JEE Main 2021 · 25 Jul · Shift 1 MCQ

An organic compound 'A' C_4H_8 on treatment with $KMnO_4/H^+$ yields compound 'B' C_3H_6O. Compound 'A' also yields compound 'B' an ozonolysis. Compound 'A' is :

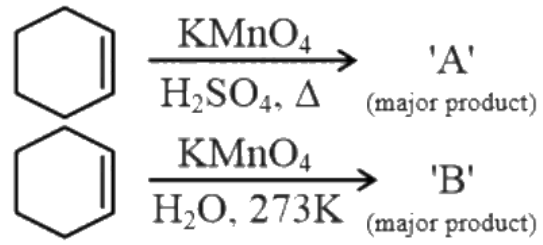
(A) 2-Methylpropene
(B) 1-Methylcyclopropane
(C) But-2-ene
(D) Cyclobutane

Answer: (A) 2-Methylpropene · Key from source paper

Q149 JEE Main 2021 · 20 Jul · Shift 1 MCQ

see figure

Q37.



For above chemical reactions, identify the correct statement from the following:

(1) Both compound 'A' and compound 'B' are dicarboxylic acids

(2) Both compound 'A' and compound 'B' are diols

(3) Compound 'A' is diol and compound 'B' is dicarboxylic acid

(4) Compound 'A' is dicarboxylic acid and compound 'B' is diol

(A) Both compound 'A' and compound 'B' are dicarboxylic acids

(B) Both compound 'A' and compound 'B' are diols

(C) Compound 'A' is diol and compound 'B' is dicarboxylic acid

(D) Compound 'A' is dicarboxylic acid and compound 'B' is diol

Answer: (D) Compound 'A' is dicarboxylic acid and compound 'B' is diol · Key from source paper

Q150 JEE Main 2021 · 20 Jul · Shift 2 MCQ

Metallic sodium does not react normally with:

(A) gaseous ammonia

(B) But-2-yne

(C) Ethyne

(D) tert-butyl alcohol

Answer: (B) But-2-yne · Key from source paper

Q151 JEE Main 2021 · 20 Jul · Shift 2 MCQ

Benzene on nitration gives nitrobenzene in presence of HNO_3 and H_2SO_4 mixture, where:

(A) both H_2SO_4 and HNO_3 act as a bases

(B) HNO_3 acts as an acid and H_2SO_4 acts as a base

(C) both H_2SO_4 and HNO_3 act as acids

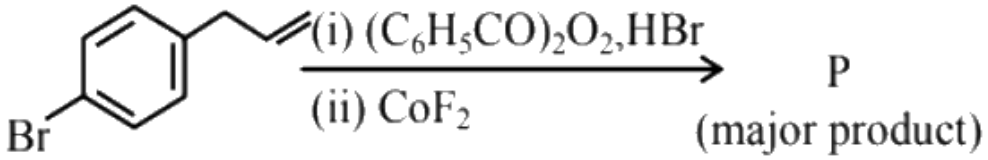
(D) HNO_3 acts as a base and H_2SO_4 acts as an acid

Answer: (D) HNO_3 acts as a base and H_2SO_4 acts as an acid · Key from source paper

Q152 JEE Main 2021 · 20 Jul · Shift 2 MCQ

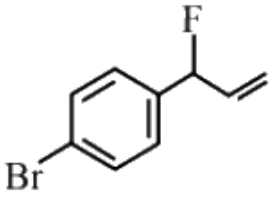
see figure

Q41.

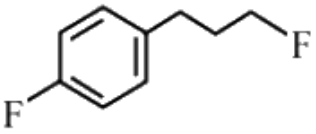


Major product P of above reaction, is:

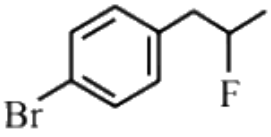
(1)



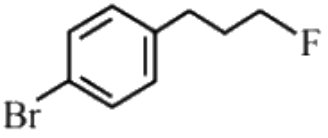
(2)



(3)



(4)



(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

Answer: (D) · Key from source paper

Q153 JEE Main 2021 · 18 Mar · Shift 1 MCQ

Match List–I with List–II :
List–I (Chemicals)
List– II (Use / Preparation / Constituent)
(a) Alcoholic potassium hydroxide (i) Electrodes in batteries
(b) Pd / $BaSO_4$ (ii) Obtained by addition reaction
(c) BHC (Benzene hexachloride) (iii) Used for β–elimination reaction
(d) Polyacetylene (iv) Lindlar's catalyst
Choose the most appropriate match

(A) a – ii, b – i, c – iv, d – iii
(B) a – iii, b – iv, c – ii, d – i
(C) a – iii, b – i, c – iv, d – ii
(D) a – ii, b – iv, c – i, d – iii

Answer: (B) a – iii, b – iv, c – ii, d – i · Key from source paper

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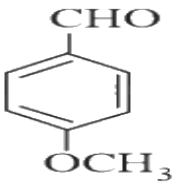
Q154 JEE Main 2021 · 18 Mar · Shift 1 MCQ

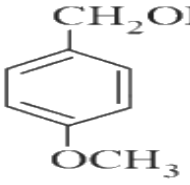
see figure

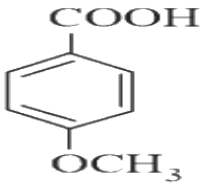
Q46.

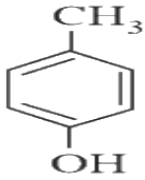


Considering the above chemical reaction, identify the product X :

(1) 

(2) 

(3) 

(4) 

(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

Answer: (C) · Key from source paper

Q155 JEE Main 2021 · 17 Mar · Shift 2 MCQ

Given below are two statements:
Statement-I : 2 -methylbutane on oxidation with $KMnO_4$ gives 2 -methylbutan-2-ol.
Statement-II : n -alkanes can be easily oxidised to corresponding alcohol with $KMnO_4$.
Choose the correct option :

(A) Both statement I and statement II are correct
(B) Both statement I and statement II are incorrect
(C) Statement I is correct but Statement II is incorrect
(D) Statement I is incorrect but Statement II is correct

Answer: (C) Statement I is correct but Statement II is incorrect · Key from source paper

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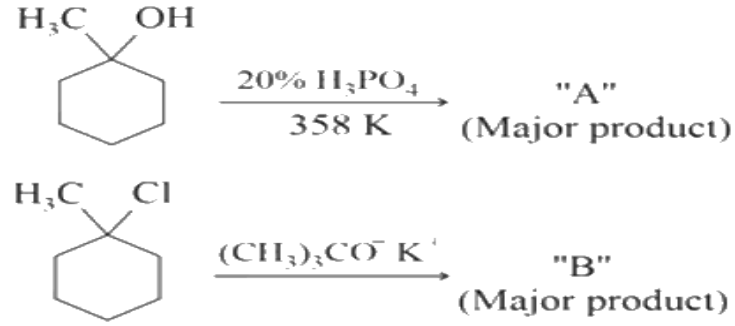
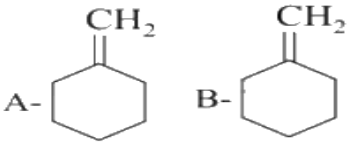
Q156 JEE Main 2021 · 16 Mar · Shift 1 MCQ

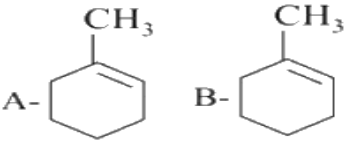
see figure

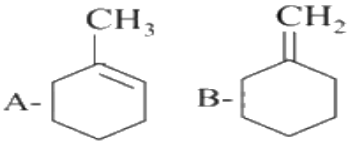
Q38.

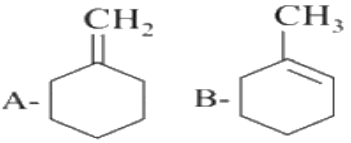


The product "A" and "B" formed in above reactions are

(1) 

(2) 

(3) 

(4) 

(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

Answer: (C) · Key from source paper

Q157 JEE Main 2021 · 16 Mar · Shift 1 MCQ

Which of the following is Lindlar catalyst?

(A) Zinc chloride and HCl
(B) Cold dilute solution of $KMnO_4$
(C) Sodium and Liquid NH_3
(D) Partially deactivated palladised charcoal

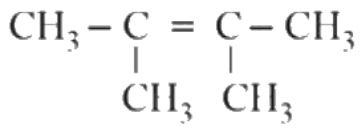
Answer: (D) Partially deactivated palladised charcoal · Key from source paper

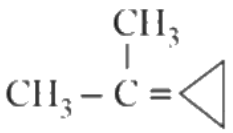
Q158 JEE Main 2021 · 16 Mar · Shift 2 MCQ

An unsaturated hydrocarbon X on ozonolysis gives A. Compound A when warmed with ammoniacal silver nitrate forms a bright silver mirror along the sides of the test tube. The unsaturated hydrocarbon X is :

(see the figure above)

Q37. An unsaturated hydrocarbon X on ozonolysis gives A. Compound A when warmed with ammoniacal silver nitrate forms a bright silver mirror along the sides of the test tube. The unsaturated hydrocarbon X is :

(1) 

(2) 

(3) $HC \equiv C - CH_2 - CH_3$

(4) $CH_3 - C \equiv C - CH_3$

(A) *see figure*

(B) *see figure*

(C) $HC \equiv C - CH_2 - CH_3$

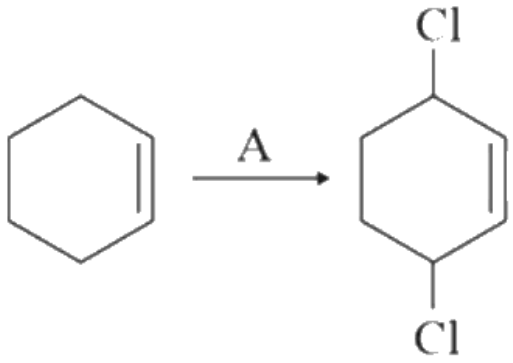
(D) $CH_3 - C \equiv C - CH_3$

Answer: (C) $HC \equiv C - CH_2 - CH_3$ · Key from source paper

Q159 JEE Main 2021 · 16 Mar · Shift 2 MCQ

see figure

Q43.



Identify the reagent(s) 'A' and condition(s) for the reaction :

(1) A = HCl; Anhydrous $AlCl_3$

(2) A = HCl, $ZnCl_2$

(3) A = Cl_2; UV light

(4) A = Cl_2; dark, Anhydrous $AlCl_3$

(A) A = HCl; Anhydrous $AlCl_3$

(B) A = HCl, $ZnCl_2$

(C) A = Cl_2; UV light

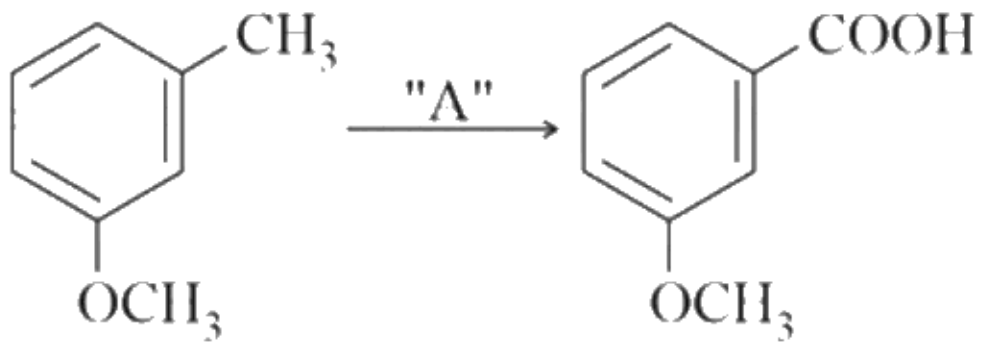
(D) A = Cl_2; dark, Anhydrous $AlCl_3$

Answer: (C) A = Cl_2; UV light · Key from source paper

Q160 JEE Main 2021 · 16 Mar · Shift 2 MCQ

see figure

Q44.



In the above reaction, the reagent "*A*" is :

(1) $NaBH_4, H_3O^+$ (2) $LiAlH_4$

(3) Alkaline $KMnO_4, H^+$ (4) $HCl, Zn - Hg$

(A) $NaBH_4$, H_3O^+

(B) $LiAlH_4$

(C) Alkaline $KMnO_4$, H^+

(D) HCl, Zn – Hg

Answer: (C) Alkaline $KMnO_4$, H^+ · Key from source paper

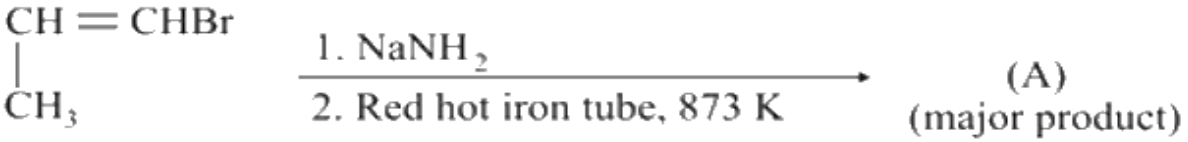
Q161 JEE Main 2021 · 26 Feb · Shift 1 MCQ

For the given reaction:

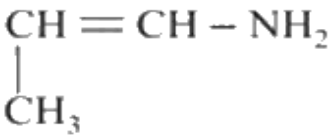
(see the figure above)

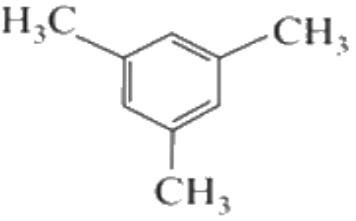
What is A?

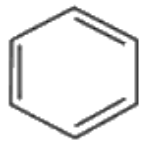
Q44. For the given reaction:



What is A?

(1) 

(2) 

(3) 

(4) $CH_3\,CH_2\,CH_2\,NH_2$

(A) *see figure*

(B) *see figure*

(C) *see figure*

(D) $CH_3CH_2CH_2NH_2$

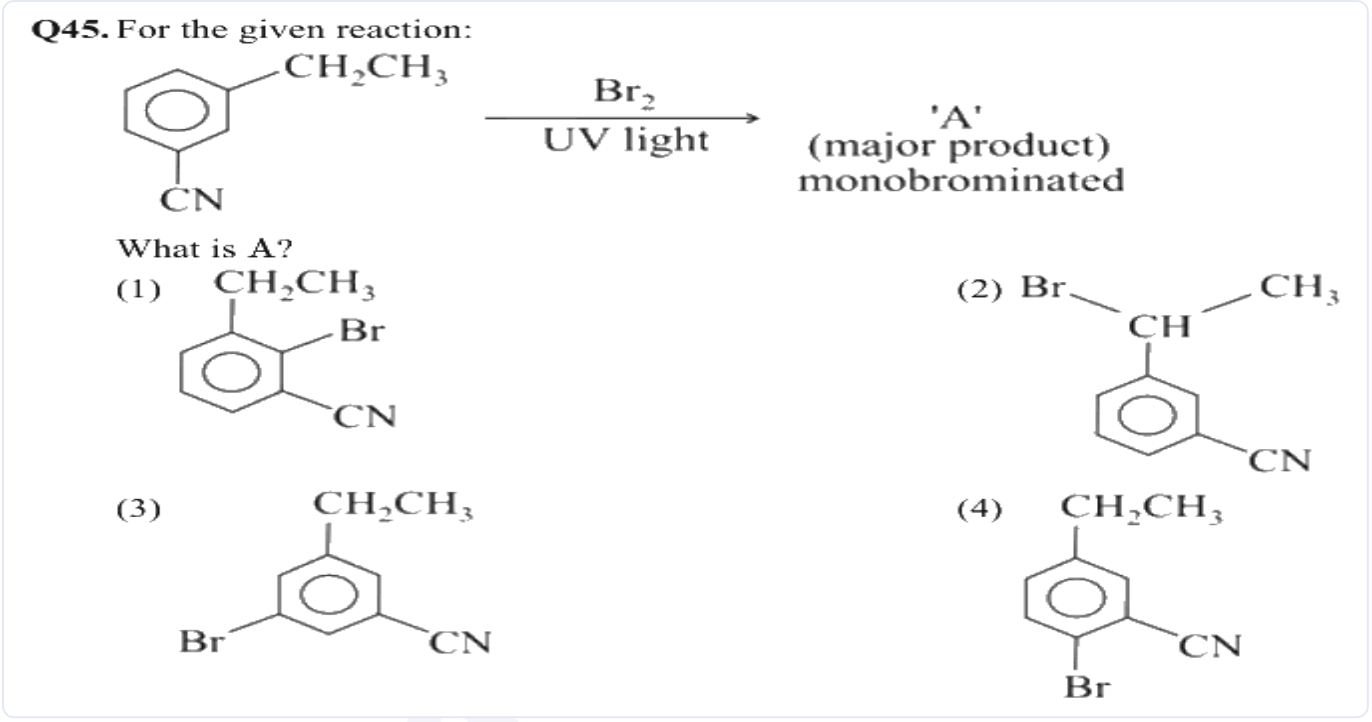
Answer: (B) · Key from source paper

Q162 JEE Main 2021 · 26 Feb · Shift 1 MCQ

For the given reaction:

(see the figure above)

What is A?



(A) *see figure*

(B) *see figure*

(C) *see figure*

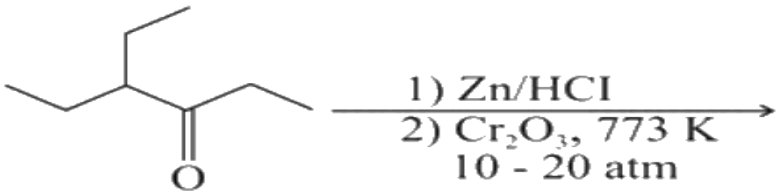
(D) *see figure*

Answer: (B) · Key from source paper

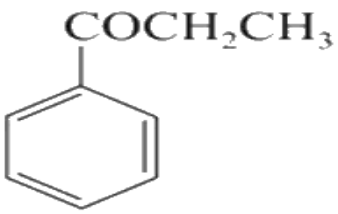
Q163 JEE Main 2021 · 26 Feb · Shift 2 MCQ

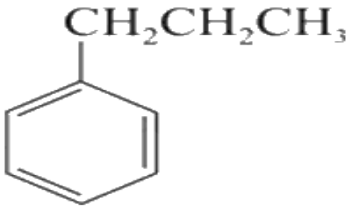
see figure

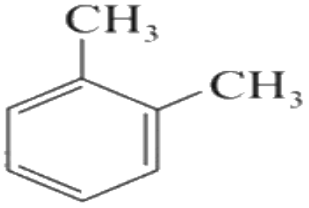
Q43.

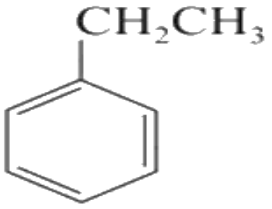


Considering the above reaction, the major product among the following is:

(1) 

(2) 

(3) 

(4) 

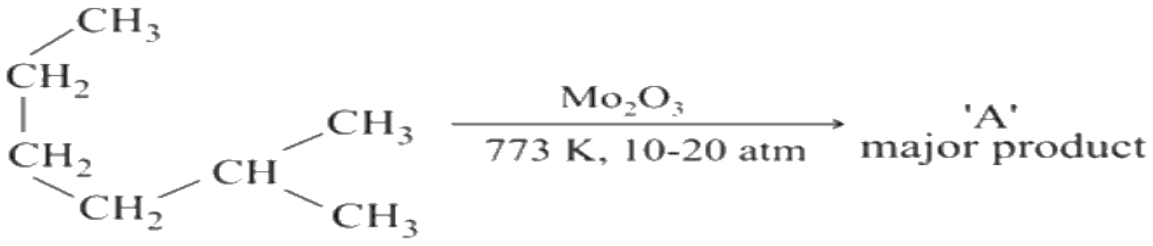
(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

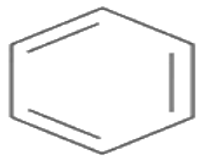
Answer: (D) · Key from source paper

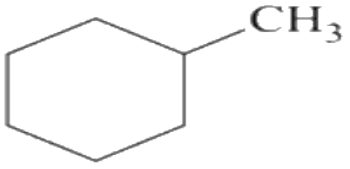
Q164 JEE Main 2021 · 25 Feb · Shift 1 MCQ

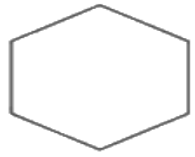
Identify A in the given chemical reaction.
(see the figure above)

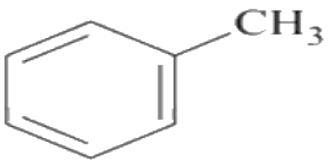
Q38. Identify A in the given chemical reaction.



(1) 

(2) 

(3) 

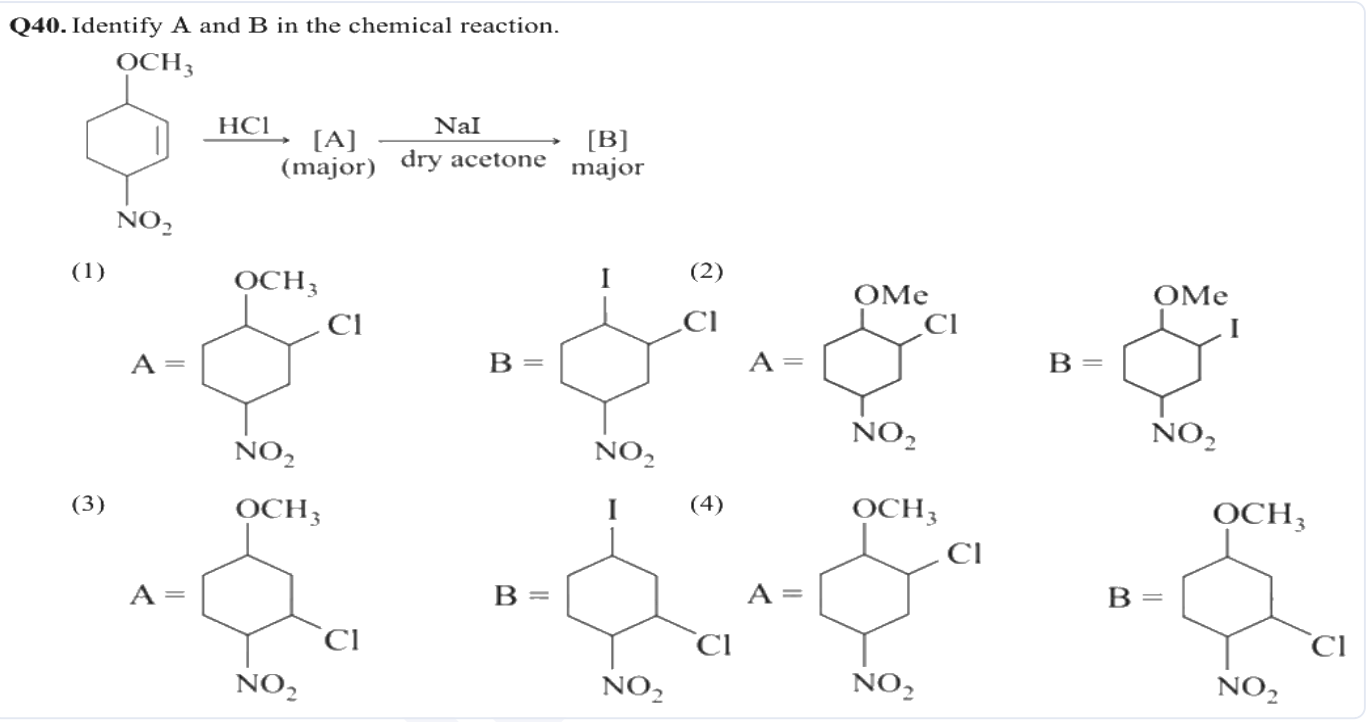
(4) 

(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

Answer: (D) · Key from source paper

Q165 JEE Main 2021 · 25 Feb · Shift 1 MCQ

Identify A and B in the chemical reaction.
(see the figure above)



(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

Answer: (B) · Key from source paper

Q166 JEE Main 2021 · 25 Feb · Shift 1 Numerical

Consider the following chemical reaction.

$$CH \equiv CH \xrightarrow[2)\ CO,HCl,AlCl_3]{1)\ \text{Red hot Fe tube, 873 K}} \text{Product}$$

The number of sp^2 hybridized carbon atom(s) present in the product is

Numerical value type: the answer is a number.

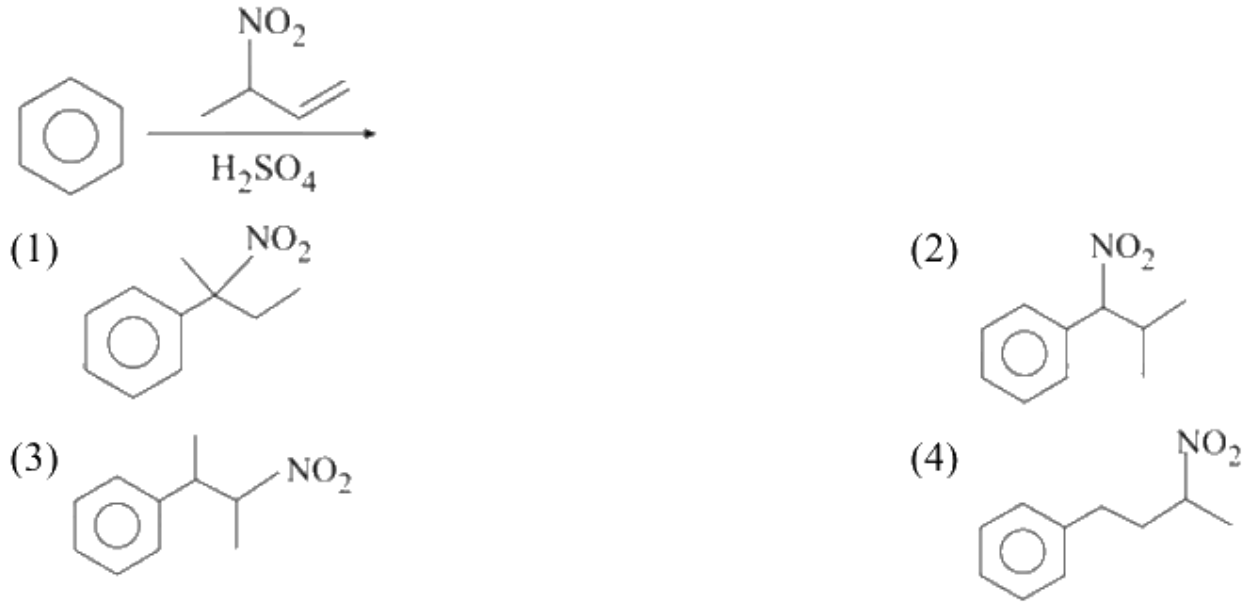
Answer: 7. · Key from source paper

Q167 JEE Main 2021 · 25 Feb · Shift 2 MCQ

The major product of the following reaction is :

(see the figure above)

Q37. The major product of the following reaction is :



(A) *see figure*

(B) *see figure*

(C) *see figure*

(D) *see figure*

Answer: (C) · Key from source paper

Q168 JEE Main 2021 · 25 Feb · Shift 2 MCQ

The correct sequence of reagents used in the preparation of 4 -bromo-2-nitroethylbenzene from benzene is :

(A) $CH_3\ COCl/AlCl_3,\ Br_2/AlBr_3,\ HNO_3/H_2\ SO_4,\ Zn/HCl$

(B) $CH_3\ COCl/AlCl_3,\ Zn-Hg/HCl,\ Br_2/AlBr_3,\ HNO_3/H_2\ SO_4$

(C) $HNO_3/H_2\ SO_4,\ Br_2/AlCl_3,\ CH_3\ COCl/AlCl_3,\ Zn-Hg/HCl$

(D) $Br_2/AlBr_3,\ CH_3\ COCl/AlCl_3,\ HNO_3/H_2\ SO_4,\ Zn/HCl$

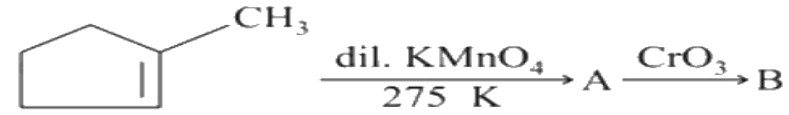
Answer: (B) $CH_3\ COCl/AlCl_3,\ Zn-Hg/HCl,\ Br_2/AlBr_3,\ HNO_3/H_2\ SO_4$ · Key from source paper

Q169 JEE Main 2021 · 24 Feb · Shift 1 MCQ

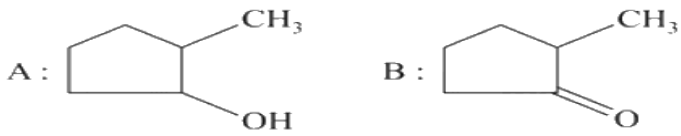
Identify products A and B.

(see the figure above)

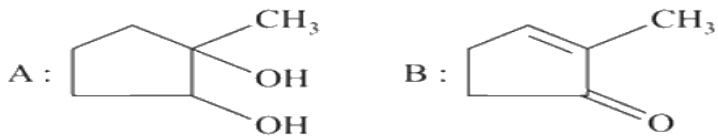
Q35. Identify products A and B .



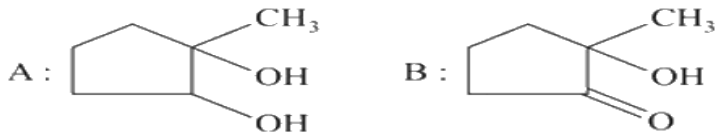
(1)



(2)



(3)



(4)

A : $OHC-CH_2CH_2CH_2-\overset{\overset{\displaystyle O}{\|}}{C}-CH_3$ B : $HOOC-CH_2CH_2CH_2-\overset{\overset{\displaystyle O}{\|}}{C}-CH_3$

(A) *see figure*

(B) *see figure*

(C) *see figure*

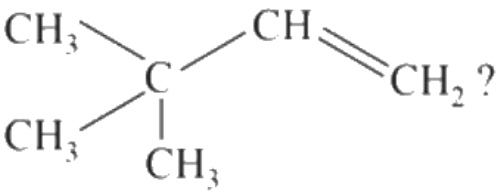
(D) A: $OHC-CH_2CH_2CH_2-C(=O)-CH_3$ B: $HOOC-CH_2CH_2CH_2-C(=O)-CH_3$

Answer: (C) · Key from source paper

Q170 JEE Main 2021 · 24 Feb · Shift 1 MCQ

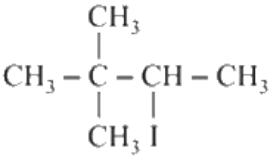
see figure

Q44.

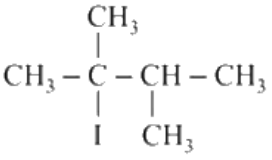


What is the major product formed by HI on reaction with

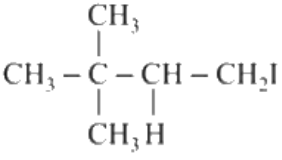
(1)



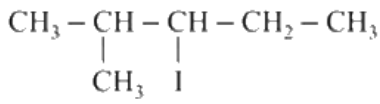
(2)



(3)



(4)



(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

Answer: (B) · Key from source paper

Q171 JEE Main 2021 · 24 Feb · Shift 1 MCQ

Which of the following reagent is used for the following reaction?

$CH_3CH_2CH_3 \xrightarrow{?} CH_3CH_2CHO$

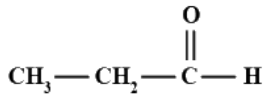
(A) Copper at high temperature and pressure
(B) Manganese acetate
(C) Molybdenum oxide
(D) Potassium permanganate

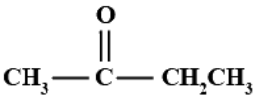
Answer: (C) Molybdenum oxide · Key from source paper

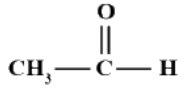
Q172 JEE Main 2021 · 24 Feb · Shift 2 MCQ

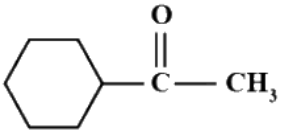
Which one of the following carbonyl compounds cannot be prepared by addition of water on an alkyne in the presence of $HgSO_4$ and H_2SO_4?

Q46. Which one of the following carbonyl compounds cannot be prepared by addition of water on an alkyne in the presence of $HgSO_4$ and H_2SO_4?

(1) 

(2) 

(3) 

(4) 

(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

Answer: (A) · Key from source paper

Q173 JEE Main 2020 · 6 Sep · Shift 1 MCQ

Consider the following reactions:

$'A'\ (C_7H_{14}) \xrightarrow{\text{ozonolysis}} 'B' + 'C'$

$'B' \xrightarrow[\Delta]{(I_2+NaOH)}$ yellow ppt; $'B' \xrightarrow[\Delta]{Ag_2O}$ silver mirror

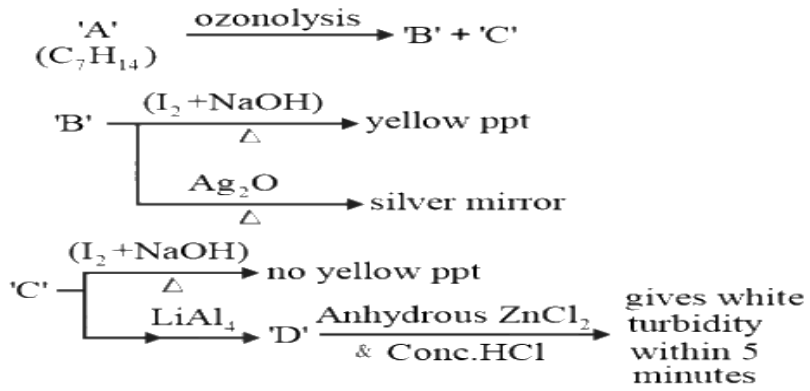
$'C' \xrightarrow[\Delta]{(I_2+NaOH)}$ no yellow ppt; $'C' \xrightarrow{LiAlH_4} 'D'$, and $'D' \xrightarrow[\&\ \text{Conc.HCl}]{\text{Anhydrous } ZnCl_2}$ gives white turbidity within 5

minutes

'A' is

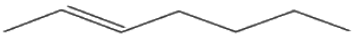
(see the figure above)

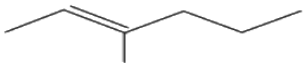
Q32. Consider the following reactions:

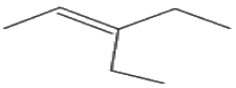


'A' is

(1) 

(2) 

(3) 

(4) 

(A) *see figure*

(B) *see figure*

(C) *see figure*

(D) *see figure*

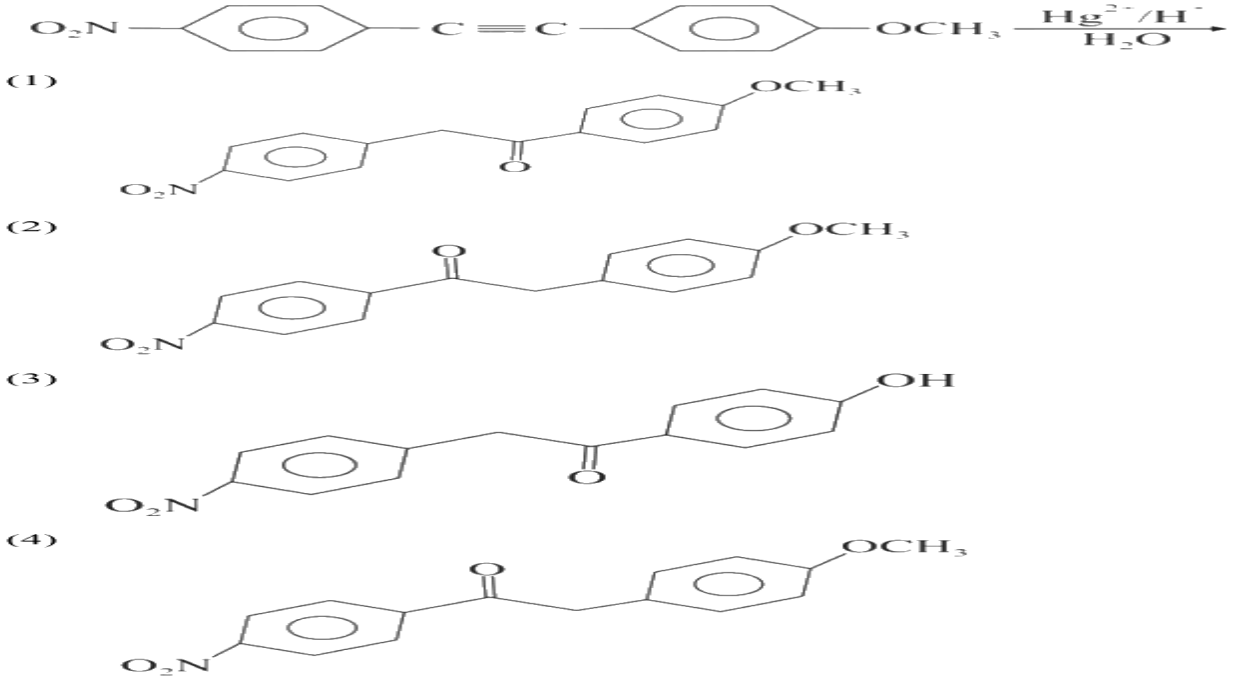
Answer: (D) · Key from source paper

Q174 JEE Main 2020 · 6 Sep · Shift 1 MCQ

The major product obtained from the following reaction is :

(see the figure above)

Q33. The major product obtained from the following reaction is :



(A) *see figure*

(B) *see figure*

(C) *see figure*

(D) *see figure*

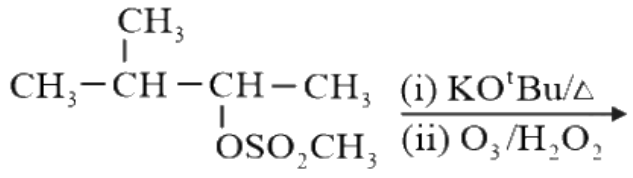
Answer: (A) · Key from source paper

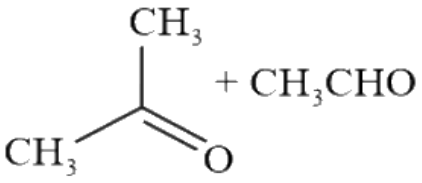
Q175 JEE Main 2020 · 6 Sep · Shift 1 MCQ

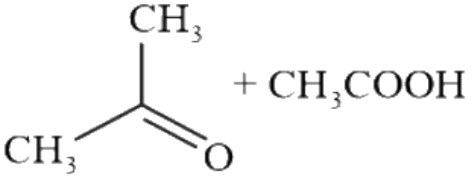
The major products of the following reaction are :

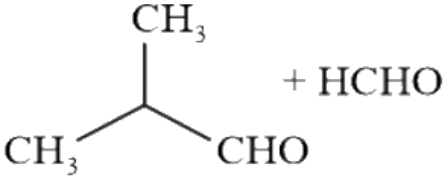
(see the figure above)

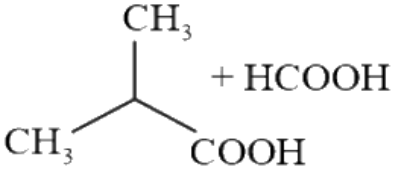
Q34. The major products of the following reaction are :



(1) 

(2) 

(3) 

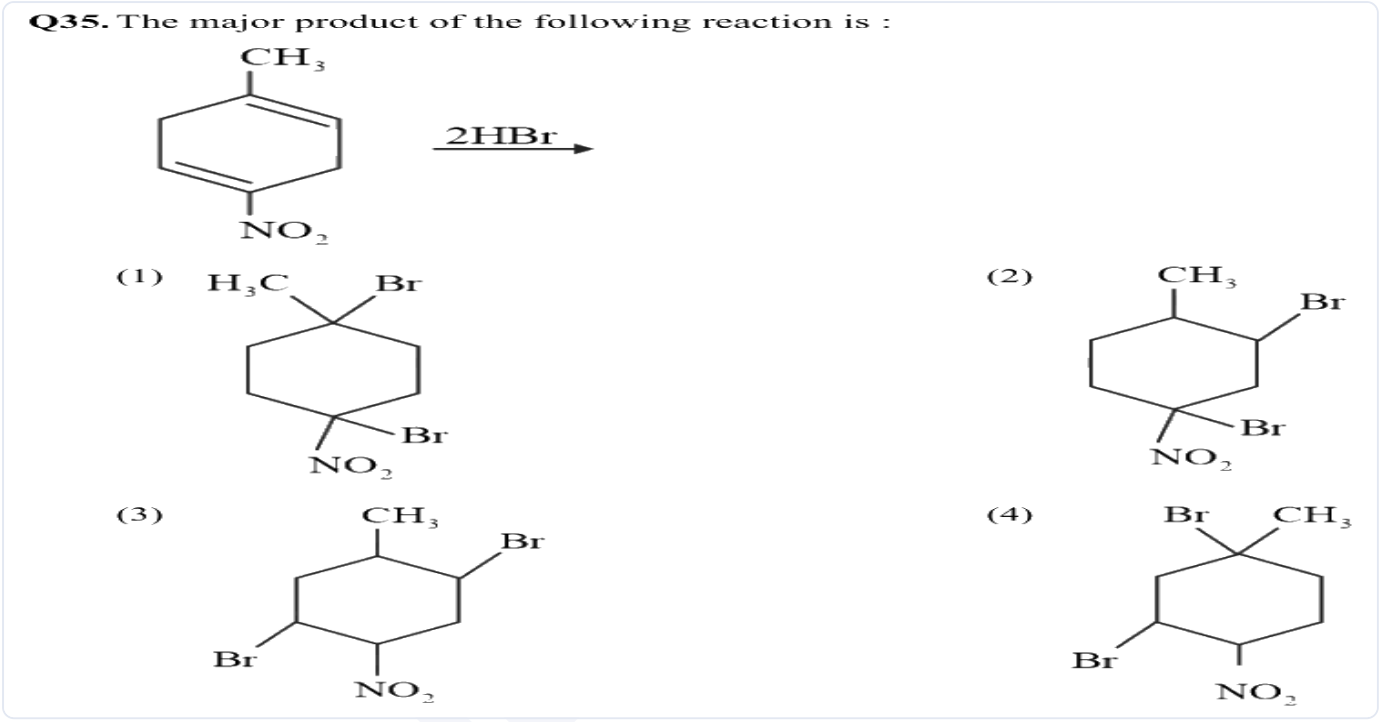
(4) 

(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

Answer: (D) · Key from source paper

Q176 JEE Main 2020 · 6 Sep · Shift 1 MCQ

The major product of the following reaction is :
(see the figure above)



(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

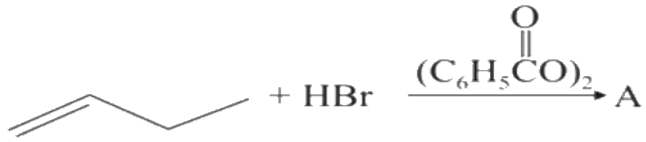
Answer: (D) · Key from source paper

Q177 JEE Main 2020 · 6 Sep · Shift 2 MCQ

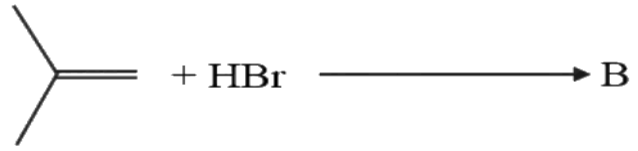
The increasing order of the boiling points of the major products A, B and C of the following reactions will be :
(see the figure above)

Q41. The increasing order of the boiling points of the major products A, B and C of the following reactions will be :

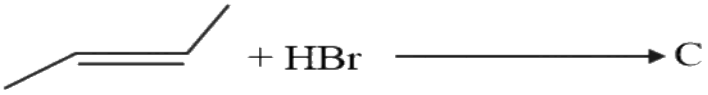
(a)



(b)



(c)



(1) $B < C < A$
(2) $C < A < B$
(3) $A < B < C$
(4) $A < C < B$

(A) $B < C < A$
(B) $C < A < B$
(C) $A < B < C$
(D) $A < C < B$

Answer: (A) $B < C < A$ · Key from source paper

Q178 JEE Main 2020 · 5 Sep · Shift 1 MCQ

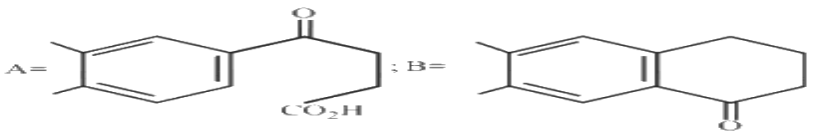
In the following reaction sequence the major products A and B are :

(see the figure above)

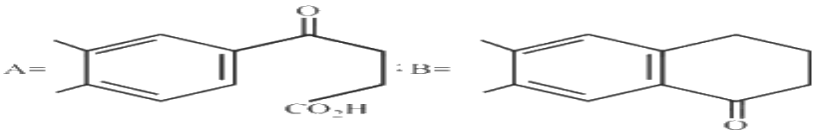
Q32. In the following reaction sequence the major products A and B are :



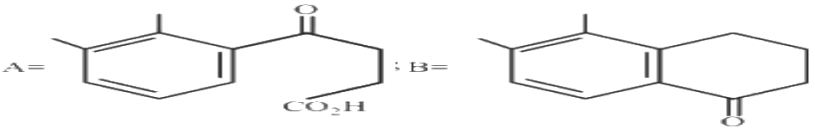
(1)



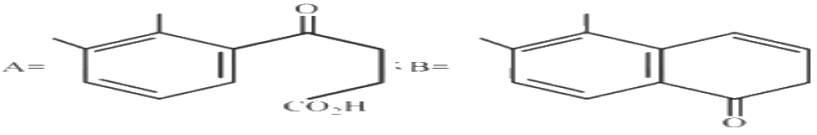
(2)



(3)



(4)



(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

Options (2) or (1) were accepted. More than one answer was accepted. · Key from source paper

Q179 JEE Main 2020 · 5 Sep · Shift 2 MCQ

The major product formed in the following reaction is :

$CH_2CH{=}CHCH(CH_3)_2 \xrightarrow{HBr}$

(A) $CH_3CH_2CH(Br)CH(CH_3)_2$
(B) $CH_3CH(Br)CH_2CH(CH_3)_2$
(C) $Br(CH_2)_3CH(CH_3)_2$
(D) $CH_3CH_2CH_2C(Br)(CH_3)_2$

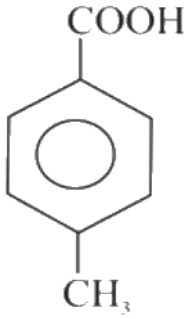
Answer: (D) $CH_3CH_2CH_2C(Br)(CH_3)_2$ · Key from source paper

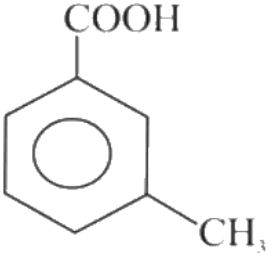
Q180 JEE Main 2020 · 4 Sep · Shift 1 MCQ

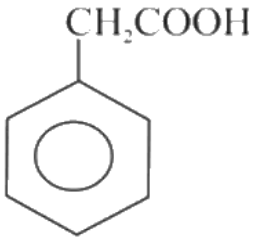
[P] on treatment with Br_2 / $FeBr_3$ in CCl_4 produced a single isomer $C_8H_7O_2Br$ wile heating [P] with sodalime gives toluene. The compound [P] is:

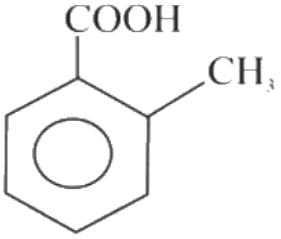
(see the figure above)

Q43. [P] on treatment with Br_2 / $FeBr_3$ in CCl_4 produced a single isomer $C_8H_7O_2Br$ wile heating [P] with sodalime gives toluene. The compound [P] is:

(1) 

(2) 

(3) 

(4) 

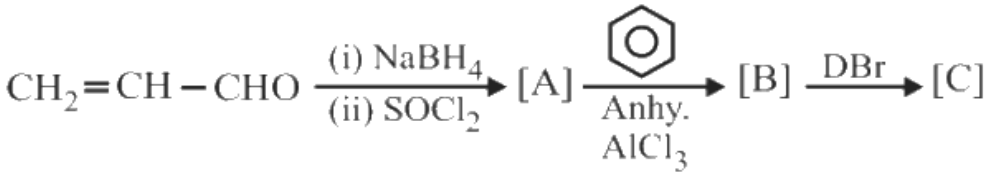
(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

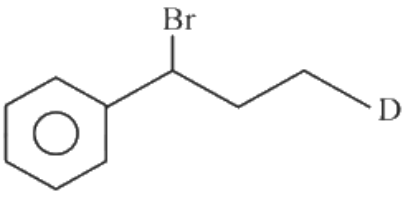
Answer: (A) · Key from source paper

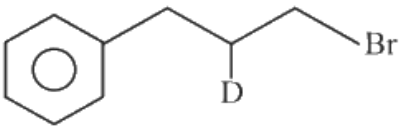
Q181 JEE Main 2020 · 4 Sep · Shift 2 MCQ

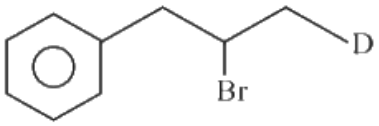
The major product [C] of the following reaction sequence will be :
(see the figure above)

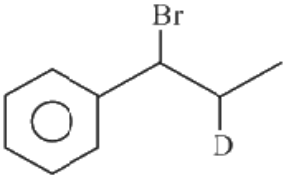
Q43. The major product [C] of the following reaction sequence will be :



(1) 

(2) 

(3) 

(4) 

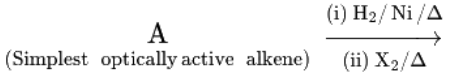
(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

Answer: (A) · Key from source paper

Q182 JEE Main 2020 · 3 Sep · Shift 1 Numerical

The total number of monohalogenated organic products in the following (including stereoisomers) reaction is
(see the figure above)

Q48. The total number of monohalogenated organic products in the following (including stereoisomers) reaction is



Numerical value type: the answer is a number.

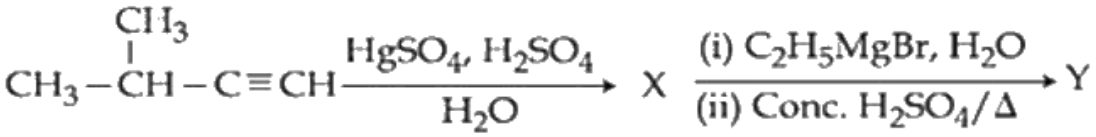
Answer: 8. · Key from source paper

Q183 JEE Main 2020 · 9 Jan · Shift 1 MCQ

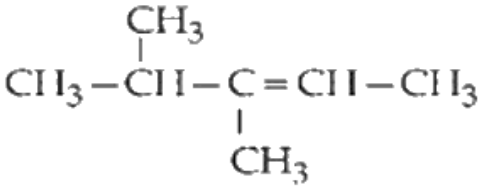
The major product (Y) in the following reactions is:

(see the figure above)

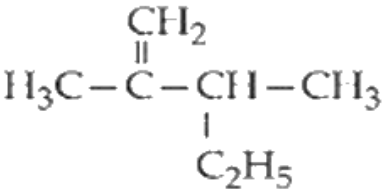
Q36. The major product (Y) in the following reactions is:



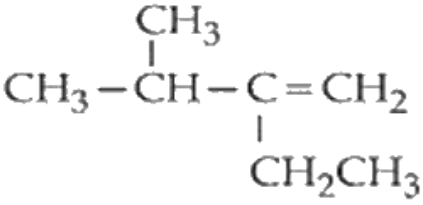
(1)



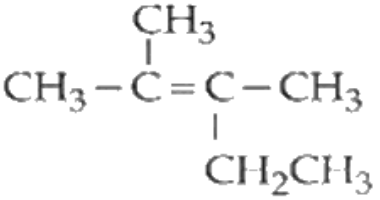
(2)



(3)



(4)



(A) *see figure*

(B) *see figure*

(C) *see figure*

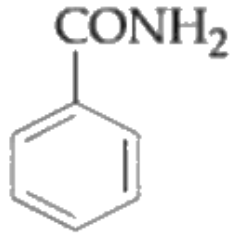
(D) *see figure*

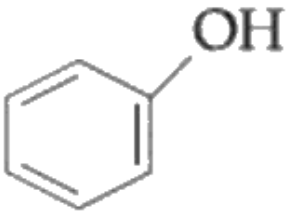
Answer: (D) · Key from source paper

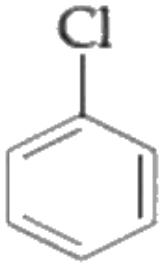
Q184 JEE Main 2020 · 9 Jan · Shift 1 MCQ

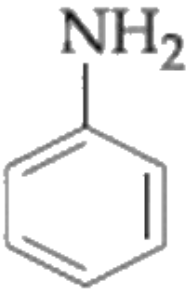
Which of these will produce the highest yield Friedel Crafts reaction?

Q42. Which of these will produce the highest yield Friedel Crafts reaction?

(1) 

(2) 

(3) 

(4) 

(A) *see figure*

(B) *see figure*

(C) *see figure*

(D) *see figure*

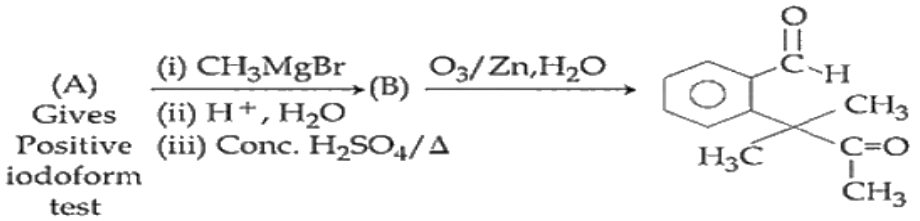
Answer: (B) · Key from source paper

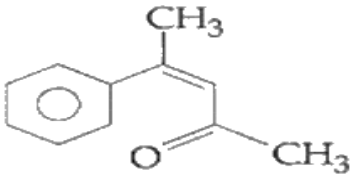
Q185 JEE Main 2020 · 9 Jan · Shift 1 MCQ

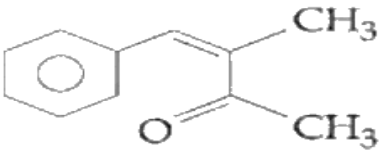
Identify (A) in the following reaction sequence:

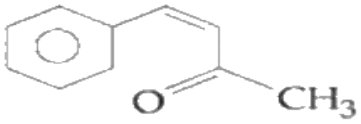
(see the figure above)

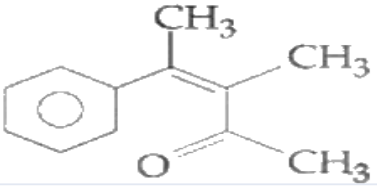
Q43. Identify (A) in the following reaction sequence:



(1) 

(2) 

(3) 

(4) 

(A) *see figure*

(B) *see figure*

(C) *see figure*

(D) *see figure*

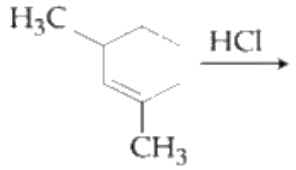
Answer: (B) · Key from source paper

Q186 JEE Main 2020 · 9 Jan · Shift 2 MCQ

Which of the following reactions will not produce a racemic product ?

Q35. Which of the following reactions will not produce a racemic product ?

(1) $CH_3-\overset{\overset{O}{\|}}{C}CH_2CH_3 \xrightarrow{HCN}$

(2) 

(3) $CH_3CH_2CH=CH_2 \xrightarrow{HBr}$

(4) $CH_3-\overset{\overset{CH_3}{|}}{\underset{\underset{H}{|}}{C}}-CH=CH_2 \xrightarrow{HCl}$

(A) *see figure*

(B) *see figure*

(C) $CH_3CH_2CH=CH_2$ with HBr above the arrow

(D) *see figure*

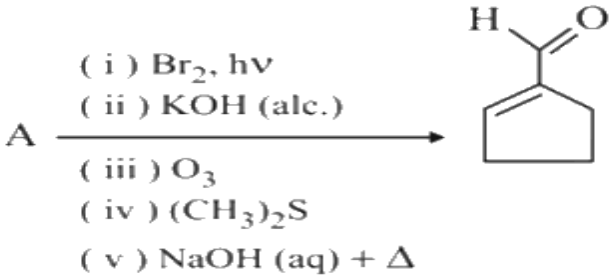
Answer: (D) · Key from source paper

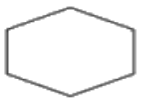
Q187 JEE Main 2020 · 9 Jan · Shift 2 MCQ

In the following reaction A is

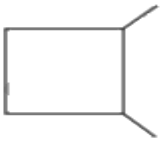
(see the figure above)

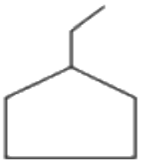
Q41. In the following reaction A is



(1) 

(2) 

(3) 

(4) 

(A) *see figure*

(B) *see figure*

(C) *see figure*

(D) *see figure*

Answer: (A) · Key from source paper

Q188 JEE Main 2020 · 8 Jan · Shift 2 MCQ

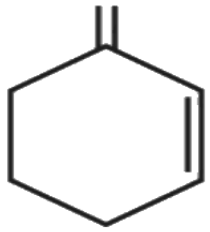
An unsaturated hydrocarbon X absorbs two hydrogen molecules on catalytic hydrogenation, and also gives following reaction:

$X \xrightarrow[\text{(ii) Zn, } H_2O]{\text{(i)}O_3} A \xrightarrow{[Ag(NH_3)_2]^+} B$ (3-oxo-hexanedicarboxylic acid) X will be:

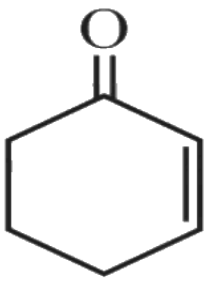
Q35. An unsaturated hydrocarbon X absorbs two hydrogen molecules on catalytic hydrogenation, and also gives following reaction:

$$X \xrightarrow[\substack{\text{(ii) Zn}\\ H_2O}]{\text{(i)}O_3} A \xrightarrow{[Ag(NH_3)_2]^+} B$$ (3-oxo-hexanedicarboxylic acid) X will be:

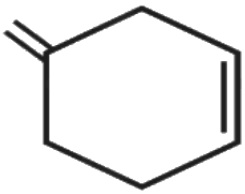
(1)



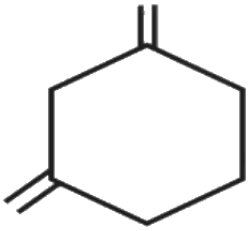
(2)



(3)



(4)



(A) *see figure*

(B) *see figure*

(C) *see figure*

(D) *see figure*

Answer: (C) · Key from source paper

Q189 JEE Main 2020 · 8 Jan · Shift 2 MCQ

The major product [B] in the following sequence of reactions is:

$$CH_3 - \underset{CH(CH_3)_2}{C} = CH - CH_2CH_3 \xrightarrow[\text{(ii) } H_2O_2,\ \overset{\ominus}{O}H]{\text{(i) } B_2H_6} [A] \xrightarrow[\Delta]{\text{dil. } H_2SO_4} [B]$$

(A) $CH_2 = \underset{CH(CH_3)_2}{C} - CH_2CH_2CH_3$

(B) $CH_3 - C(-CH_2CH_2CH_3) = C(CH_3)_2$

(C) $CH_3 - \underset{CH(CH_3)_2}{C} = CH - CH_2CH_3$

(D) $CH_3 - CH - CH = CH - CH_3$ with $CH(CH_3)_2$ below the second carbon

Answer: (B) $CH_3 - C(-CH_2CH_2CH_3) = C(CH_3)_2$ · Key from source paper

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Q190 JEE Main 2020 · 8 Jan · Shift 2 Numerical

In the following sequence of reactions the maximum number of atoms present in molecule ' C ' in one plane is_____

$$A \xrightarrow[\text{Cu tube}]{\text{Red hot}} B \xrightarrow[\text{Anhydrous } AlCl_3]{CH_3Cl(1.eq)} C$$

(A is a lowest molecular weight alkyne)

Numerical value type: the answer is a number.

Answer: 13. · Key from source paper

Q191 JEE Main 2020 · 7 Jan · Shift 1 MCQ

Consider the following reactions:

(a) $(CH_3)_3CCH(OH)CH_3 \xrightarrow{conc.H_2SO_4}$

(b) $(CH_3)_2CHCH(Br)CH_3 \xrightarrow{alc.KOH}$

(c) $(CH_3)_2CHCH(Br)CH_3 \xrightarrow{(CH_3)_3O^{\ominus}K^{\oplus}}$

(d) $(CH_3)_2\underset{OH}{C} - CH_2 - CHO \xrightarrow{\Delta}$

Which of the reaction(s) will not produce Saytzeff product?

(A) (a), (c) and (d)

(B) (d) only

(C) (c) only

(D) (b) and (d)

Answer: (C) (c) only · Key from source paper

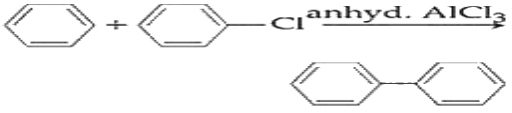
Q192 JEE Main 2020 · 7 Jan · Shift 2 MCQ

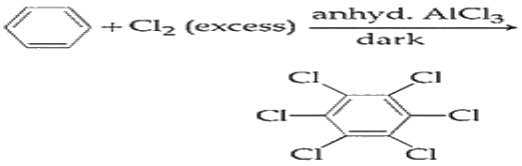
Consider the following reactions:

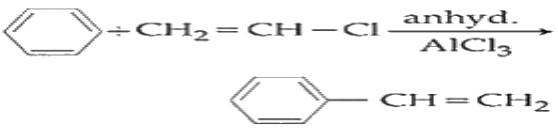
(see the figure above)

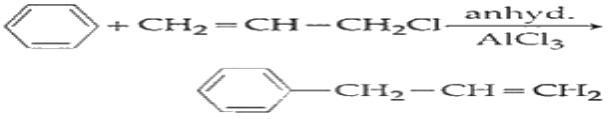
Which of these reactions are possible?

Q42. Consider the following reactions:

(a) 

(b) 

(c) 

(d) 

Which of these reactions are possible?

(1) (a) and (b)
(2) (a) and (d)
(3) (b), (c) and (d)
(4) (b) and (d)

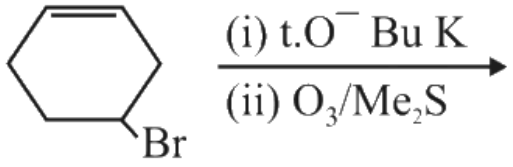
(A) (a) and (b)
(B) (a) and (d)
(C) (b), (c) and (d)
(D) (b) and (d)

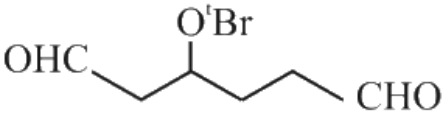
Answer: (D) (b) and (d) · Key from source paper

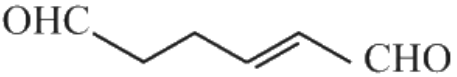
Q193 JEE Main 2019 · 12 Apr · Shift 1 MCQ

The major product (s) obtained in the following reaction is/are:

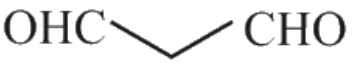
Q43. The major product (s) obtained in the following reaction is/are:



(1) 

(2) 

(3) 

(4) 

(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

Answer: (C) · Key from source paper

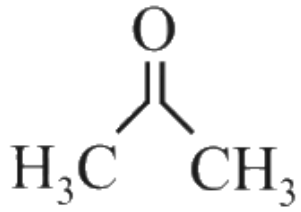
Q194 JEE Main 2019 · 12 Apr · Shift 1 MCQ

The major product of the following addition reaction is

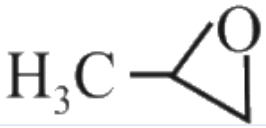
$H_3C - CH = CH_2 \xrightarrow{Cl_2/H_2O}$

Q44. The major product of the following addition reaction is

$$H_3C - CH = CH_2 \xrightarrow{Cl_2/H_2O}$$

(1) 

(2) $H_3C - \underset{\underset{OH}{|}}{CH} - \underset{\underset{Cl}{|}}{CH_2}$

(3) 

(4) $CH_3 - \underset{\underset{Cl}{|}}{CH} - \underset{\underset{OH}{|}}{CH_2}$

(A) *see figure*

(B) $H_3C - \underset{OH}{CH} - \underset{Cl}{CH_2}$

(C) *see figure*

(D) $CH_3 - \underset{Cl}{CH} - \underset{OH}{CH_2}$

Answer: (B) $H_3C - \underset{OH}{CH} - \underset{Cl}{CH_2}$ · Key from source paper

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Q195 JEE Main 2019 · 12 Apr · Shift 1 MCQ

But-2-ene on reaction with alkaline $KMnO_4$ at elevated temperature followed by acidification will give:

(A) 2 molecules of CH_3COOH

(B) $CH_3 - \underset{OH}{CH} - \underset{OH}{CH} - CH_3$

(C) 2 Molecules of CH_3CHO

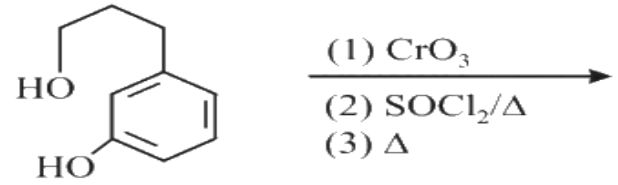
(D) One molecular of CH_3CHO and one molecular of CH_3COOH

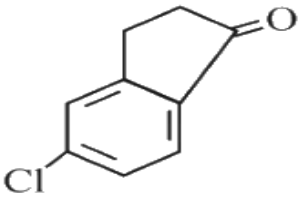
Answer: (A) 2 molecules of CH_3COOH · Key from source paper

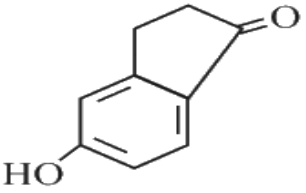
Q196 JEE Main 2019 · 12 Apr · Shift 1 MCQ

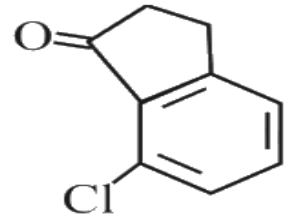
The major product of the following reaction

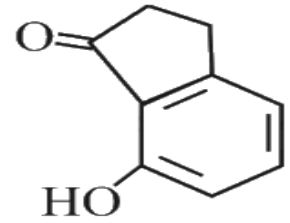
Q56. The major product of the following reaction



(1) 

(2) 

(3) 

(4) 

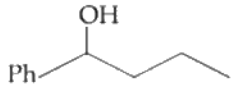
(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

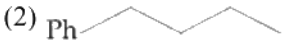
Answer: (B) · Key from source paper

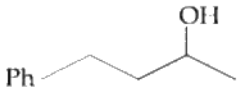
Q197 JEE Main 2019 · 12 Apr · Shift 2 MCQ

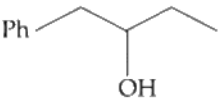
Heating of 2-chloro-1-phenylbutane with EtOK/EtOH gives X as the major product. Reaction X with $Hg(OAc)_2/H_2O$ followed by $NaBH_4$ gives Y as the major product. Y is:

Q43. Heating of 2-chloro-1-phenylbutane with EtOK/EtOH gives X as the major product. Reaction X with $Hg(OAc)_2/H_2O$ followed by $NaBH_4$ gives Y as the major product. Y is:

(1) 

(2) 

(3) 

(4) 

(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

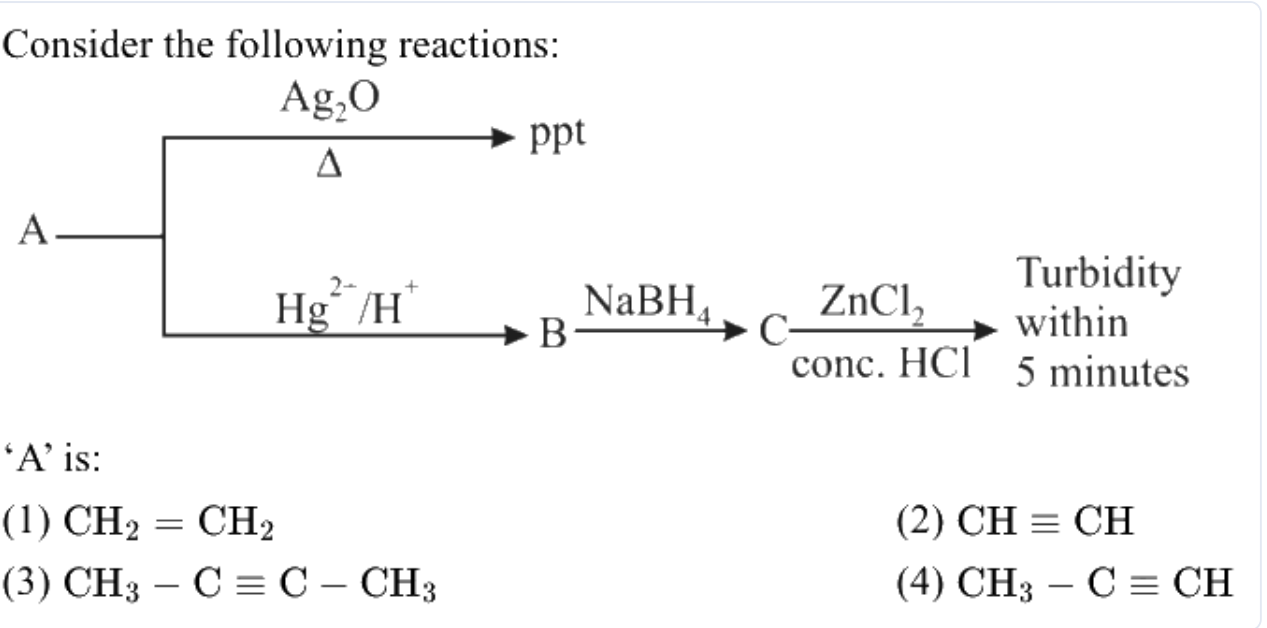
Answer: (A) · Key from source paper

Q198 JEE Main 2019 · 12 Apr · Shift 2 MCQ

Consider the following reactions:

(see the figure above)

'A' is:



(A) $CH_2 = CH_2$

(B) $CH \equiv CH$

(C) $CH_3 - C \equiv C - CH_3$

(D) $CH_3 - C \equiv CH$

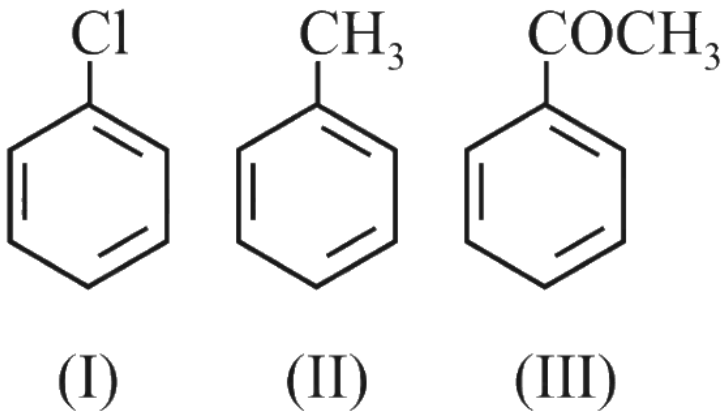
Answer: (D) $CH_3 - C \equiv CH$ · Key from source paper

Q199 JEE Main 2019 · 10 Apr · Shift 1 MCQ

The increasing order of the reactivity of the following compounds towards electrophilic aromatic substitution reactions is:

(see the figure above)

Q42. The increasing order of the reactivity of the following compounds towards electrophilic aromatic substitution reactions is:



(I) (II) (III)

(1) II < I < III
(2) III < II < I
(3) III < I < II
(4) I < III < II

(A) II < I < III
(B) III < II < I
(C) III < I < II
(D) I < III < II

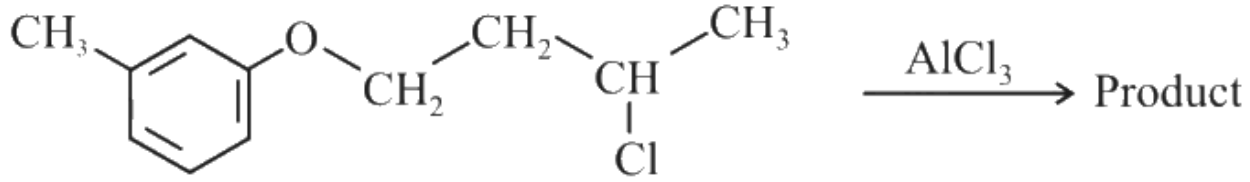
Answer: (C) III < I < II · Key from source paper

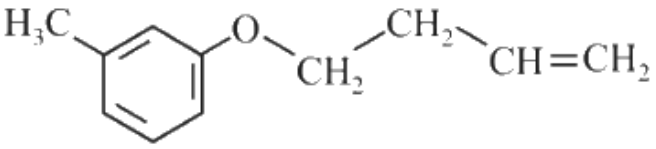
Q200 JEE Main 2019 · 10 Apr · Shift 2 MCQ

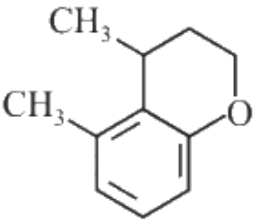
The major product obtained in the given reaction is:

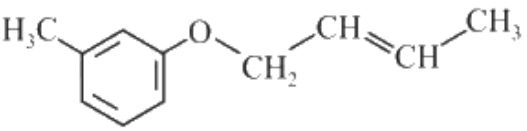
(see the figure above)

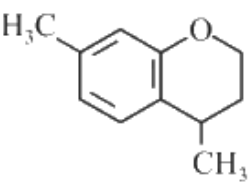
Q44. The major product obtained in the given reaction is:



(1) 

(2) 

(3) 

(4) 

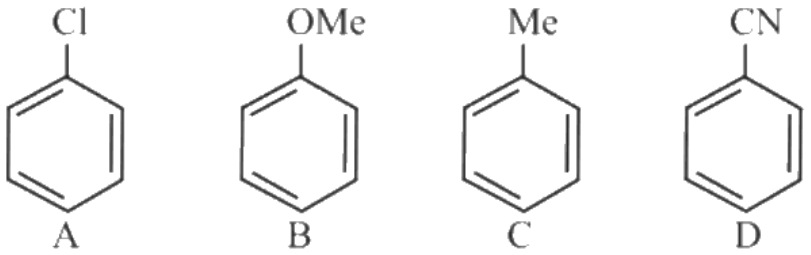
(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

Answer: (D) · Key from source paper

Q201 JEE Main 2019 · 9 Apr · Shift 1 MCQ

The increasing order of reactivity of the following compounds towards aromatic electrophilic substitution reaction is:
(see the figure above)

Q40. The increasing order of reactivity of the following compounds towards aromatic electrophilic substitution reaction is:



(1) A < B < C < D
(2) B < C < A < D
(3) D < B < A < C
(4) D < A < C < B

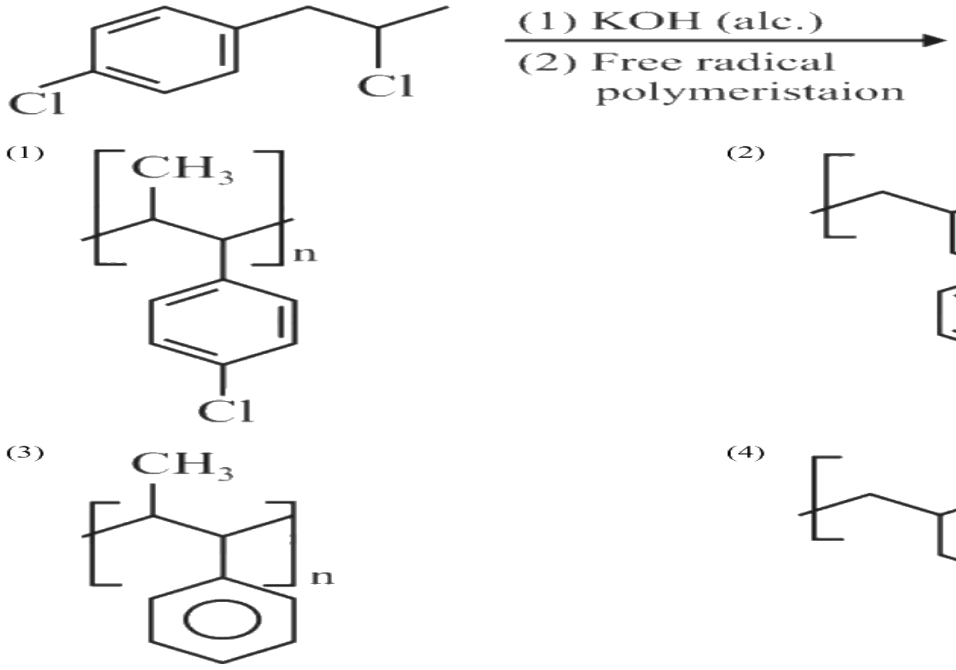
(A) A < B < C < D
(B) B < C < A < D
(C) D < B < A < C
(D) D < A < C < B

Answer: (D) D < A < C < B · Key from source paper

Q202 JEE Main 2019 · 9 Apr · Shift 1 MCQ

The major product of the following reaction is
(see the figure above)

Q41. The major product of the following reaction is



(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

Answer: (A) · Key from source paper

Q203 JEE Main 2019 · 9 Apr · Shift 1 MCQ

The major product of the following reaction is
(see the figure above)

Q42. The major product of the following reaction is

$$CH_3C \equiv CH \xrightarrow[\text{(ii) DI}]{\text{(i) DCl (1 equiv.)}}$$

(1) $CH_3CD(I)CHD(Cl)$
(2) $CH_3CD(Cl)CHD(I)$
(3) $CH_3CD_2CH(Cl)(I)$
(4) $CH_3C(I)(Cl)CHD_2$

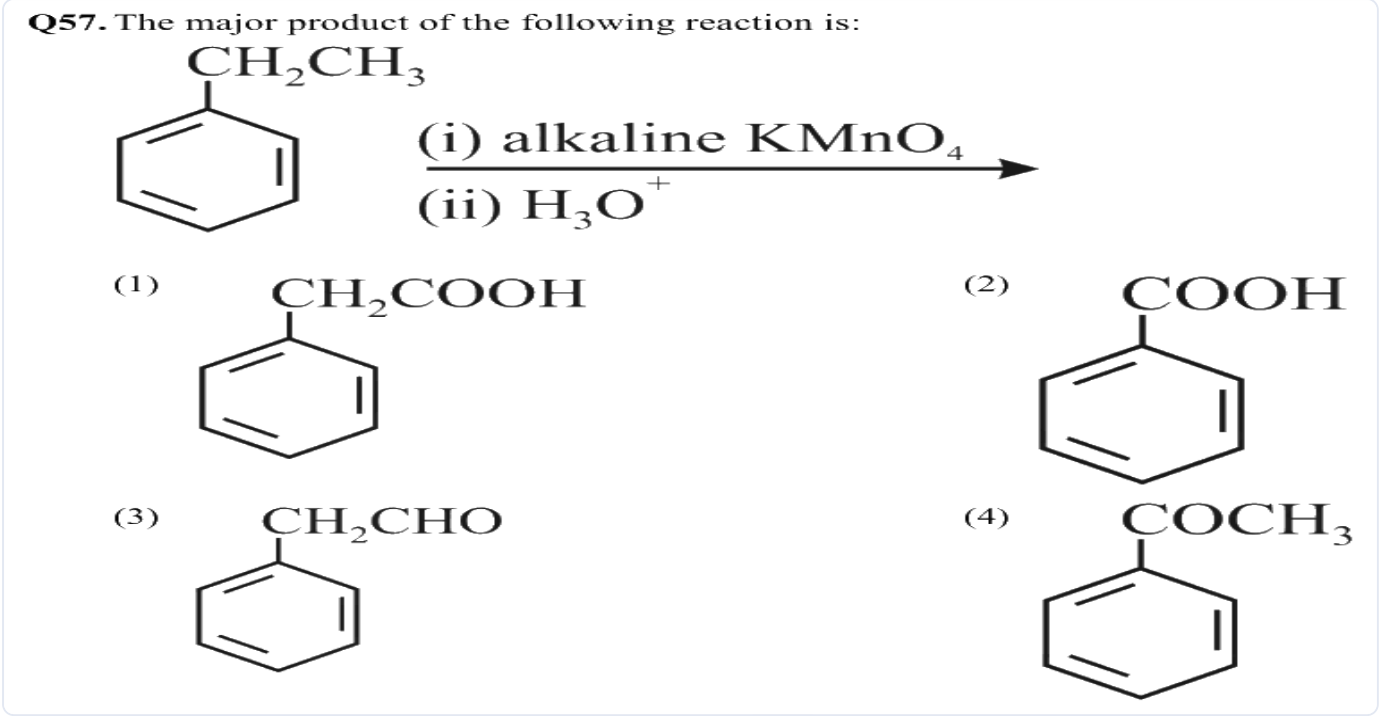
(A) $CH_3CD(I)CHD(Cl)$
(B) $CH_3CD(Cl)CHD(I)$
(C) $CH_3CD_2CH(Cl)(I)$
(D) $CH_3C(I)(Cl)CHD_2$

Answer: (D) $CH_3C(I)(Cl)CHD_2$ · Key from source paper

Q204 JEE Main 2019 · 9 Apr · Shift 1 MCQ

The major product of the following reaction is:

(see the figure above)



(A) *see figure*

(B) *see figure*

(C) *see figure*

(D) *see figure*

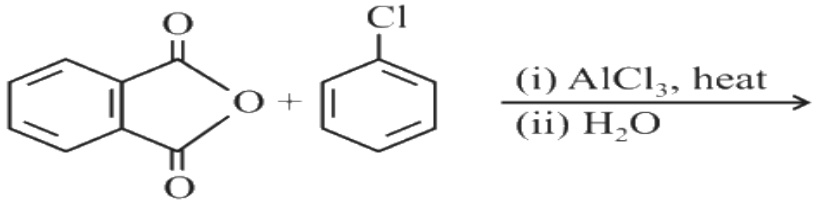
Answer: (B) · Key from source paper

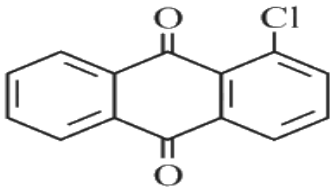
Q205 JEE Main 2019 · 8 Apr · Shift 1 MCQ

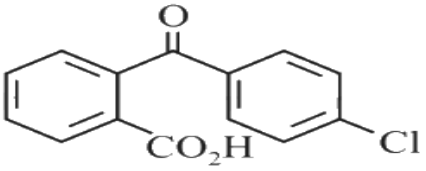
The major product of the following reaction is:

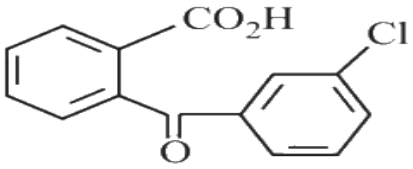
(see the figure above)

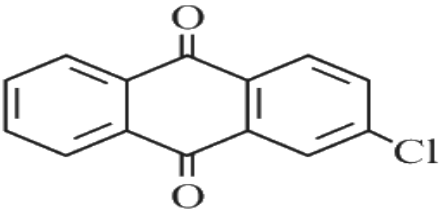
Q43. The major product of the following reaction is:



(1)


(2)


(3)


(4)


(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

Answer: (B) · Key from source paper

Q206 JEE Main 2019 · 8 Apr · Shift 2 MCQ

Polysubstitution is a major drawback in:

(A) Reimer Tiemann reaction
(B) Friedel Craft's alkylation
(C) Acetylation of aniline
(D) Friedel Craft's acylation

Answer: (B) Friedel Craft's alkylation · Key from source paper

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Q207 JEE Main 2019 · 8 Apr · Shift 2 MCQ

Which one of the following alkenes when treated with HCl yields majorly an anti Markovnikov product?

(A) CH_3O - $CH = CH_2$
(B) Cl - $CH = CH_2$
(C) H_2N - $CH = CH_2$
(D) F_3C - $CH = CH_2$

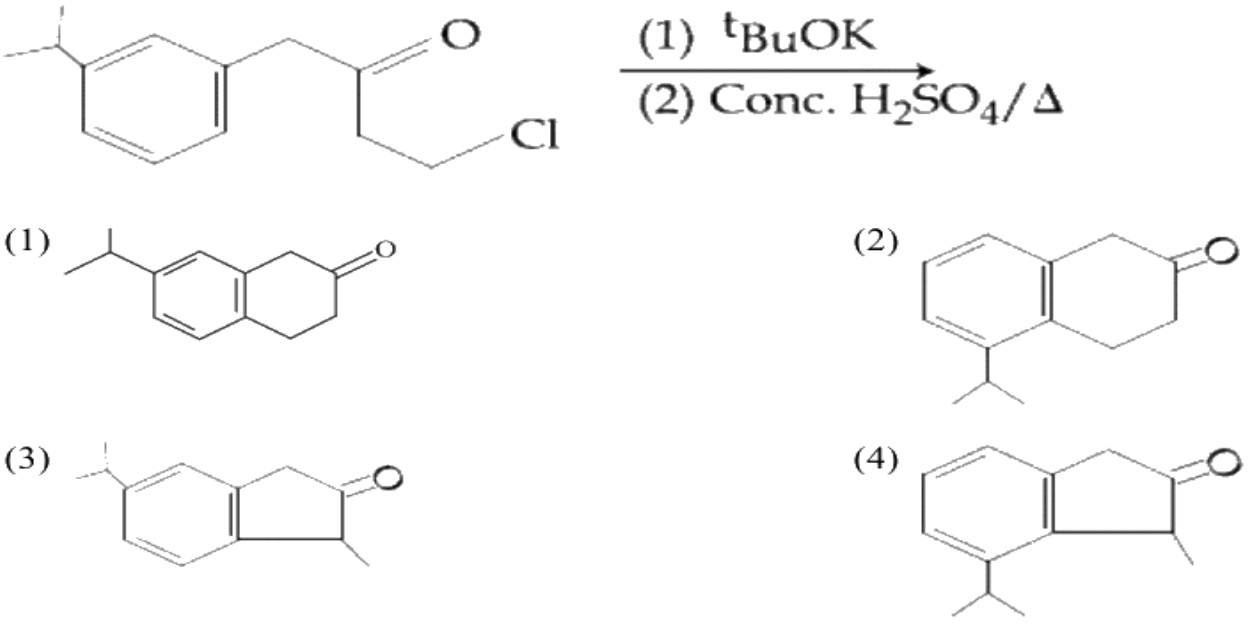
Answer: (D) F_3C - $CH = CH_2$ · Key from source paper

Q208 JEE Main 2019 · 8 Apr · Shift 2 MCQ

The major product of the following reaction is:

(see the figure above)

Q54. The major product of the following reaction is:



(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

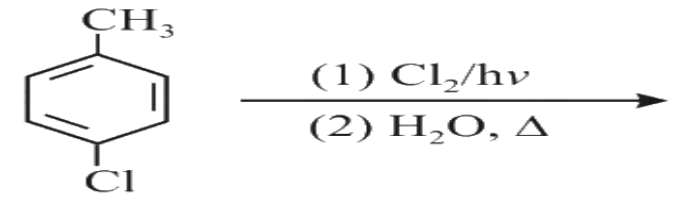
Answer: (A) · Key from source paper

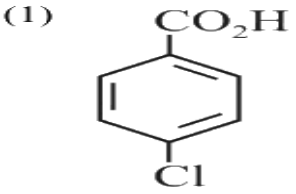
Q209 JEE Main 2019 · 8 Apr · Shift 2 MCQ

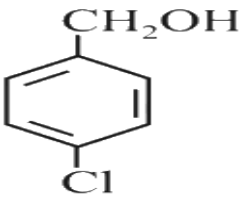
The major product of the following reaction is:

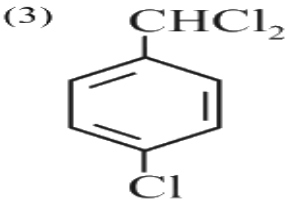
(see the figure above)

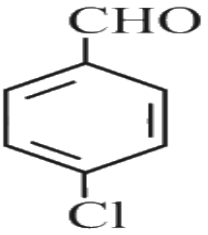
Q55. The major product of the following reaction is:



(1) 

(2) 

(3) 

(4) 

(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

Answer: (D) · Key from source paper

Q210 JEE Main 2019 · 12 Jan · Shift 1 MCQ

The correct order for acid strength of compounds $CH \equiv CH$, $CH_3 - C \equiv CH$ and $CH_2 = CH_2$ is as follows:

(A) $CH_3 - C \equiv CH > CH \equiv CH > CH_2 = CH_2$
(B) $HC \equiv CH > CH_3 - C \equiv CH > CH_2 = CH_2$
(C) $CH \equiv CH > CH_2 = CH_2 > CH_3 - C \equiv CH$
(D) $CH_2 - C \equiv CH > CH_2 = CH_2 > HC \equiv CH$

Answer: (B) $HC \equiv CH > CH_3 - C \equiv CH > CH_2 = CH_2$ · Key from source paper

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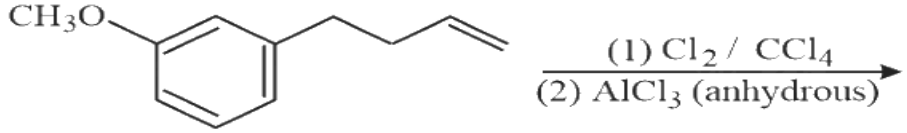
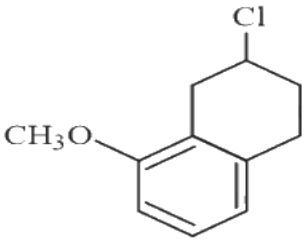
Q211 JEE Main 2019 · 12 Jan · Shift 1 MCQ

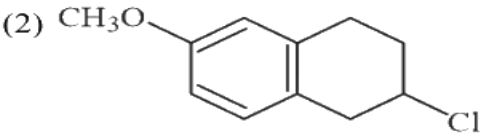
The major product of the following reaction is:

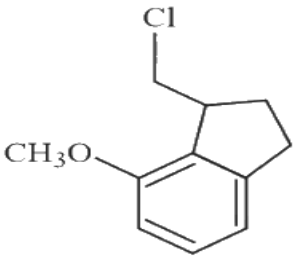
(see the figure above)

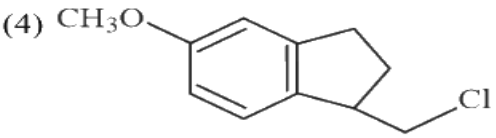
Q43. The major product of the following reaction is:



(1) 

(2) 

(3) 

(4) 

(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

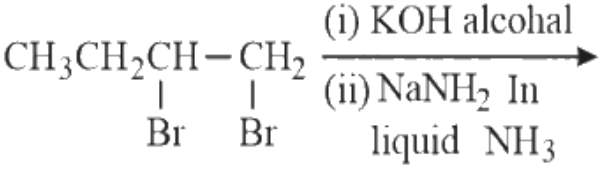
Answer: (D) · Key from source paper

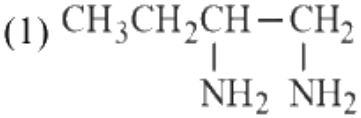
Q212 JEE Main 2019 · 12 Jan · Shift 2 MCQ

The major product of the following reaction is:

(see the figure above)

Q41. The major product of the following reaction is:



(1) 

(2) $CH_3CH=CHCH_2NH_2$

(3) $CH_3CH_2C\equiv CH$

(4) $CH_3CH=C=CH_2$

(A) *see figure*

(B) $CH_3CH{=}CHCH_2NH_2$

(C) $CH_3CH_2C{\equiv}CH$

(D) $CH_3CH{=}C{=}CH_2$

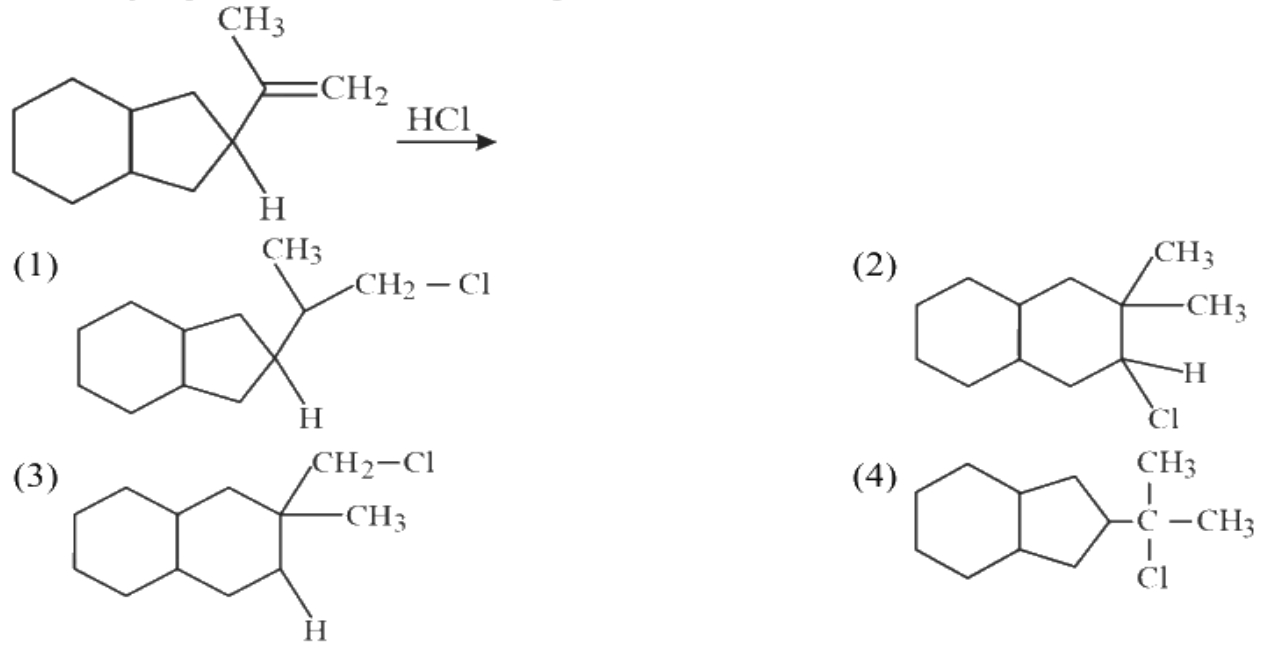
Answer: (C) $CH_3CH_2C{\equiv}CH$ · Key from source paper

Q213 JEE Main 2019 · 12 Jan · Shift 2 MCQ

The major product of the following reaction is:

(see the figure above)

Q52. The major product of the following reaction is:



(A) *see figure*

(B) *see figure*

(C) *see figure*

(D) *see figure*

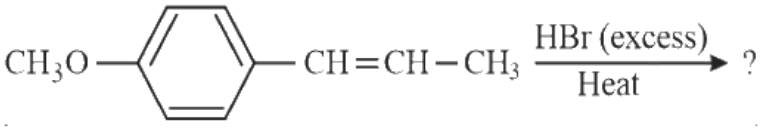
Answer: (D) · Key from source paper

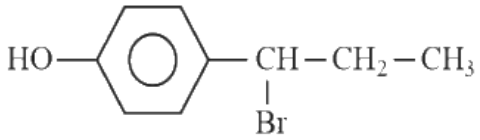
Q214 JEE Main 2019 · 12 Jan · Shift 2 MCQ

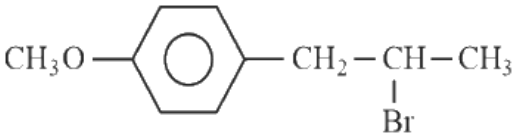
The major product in the following conversion is

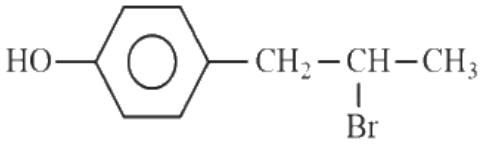
(see the figure above)

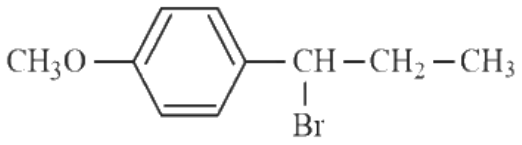
Q53. The major product in the following conversion is



(1) 

(2) 

(3) 

(4) 

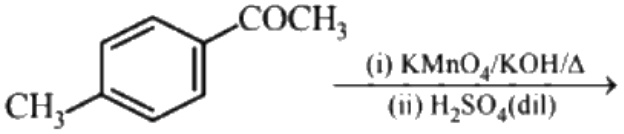
(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

Answer: (A) · Key from source paper

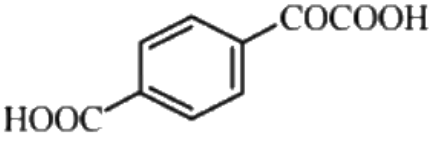
Q215 JEE Main 2019 · 11 Jan · Shift 1 MCQ

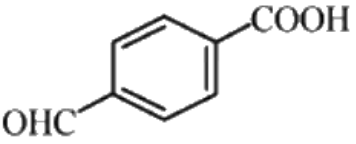
see figure

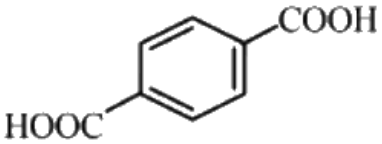
Q56.

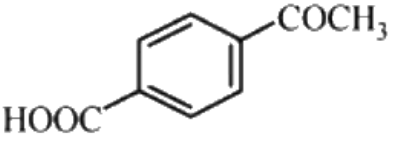


The major product of the following reaction is :

(1) 

(2) 

(3) 

(4) 

(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

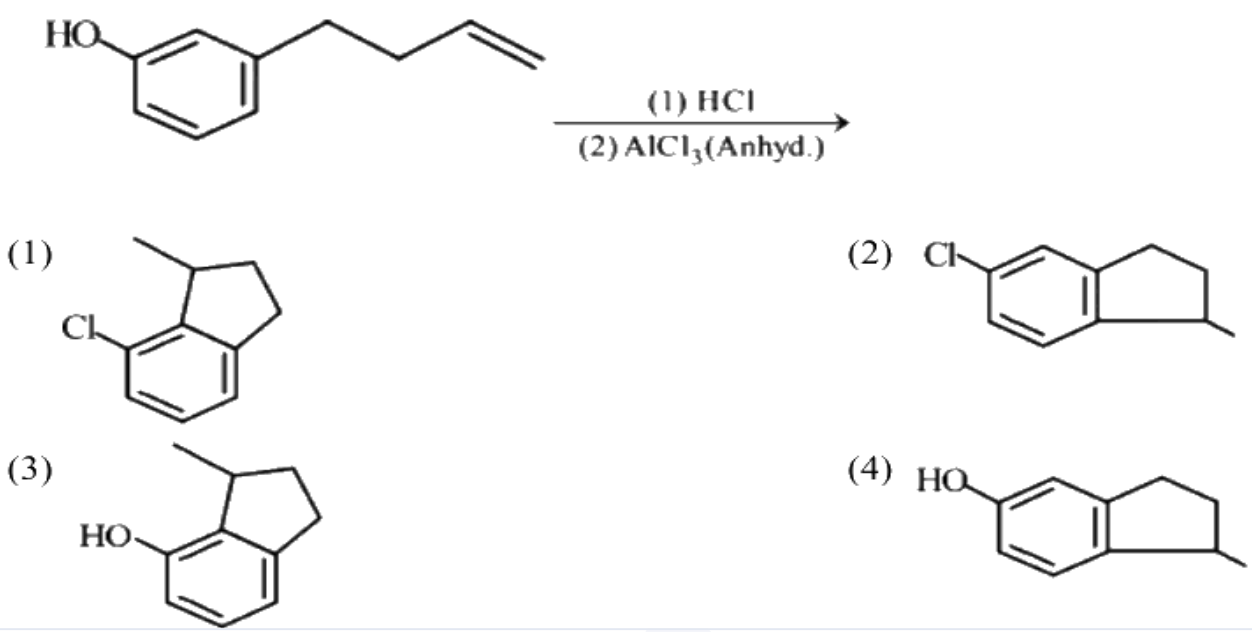
Answer: (C) · Key from source paper

Q216 JEE Main 2019 · 11 Jan · Shift 2 MCQ

The major product of the following reaction is:

(see the figure above)

Q53. The major product of the following reaction is:



(A) *see figure*

(B) *see figure*

(C) *see figure*

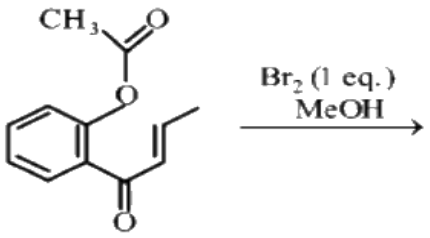
(D) *see figure*

Answer: (D) · Key from source paper

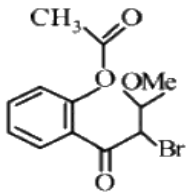
Q217 JEE Main 2019 · 11 Jan · Shift 2 MCQ

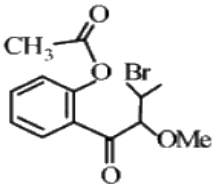
see figure

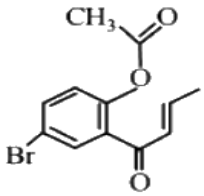
Q54.

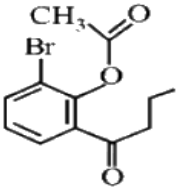


The major product obtained in the following conversion is:

(1) 

(2) 

(3) 

(4) 

(A) *see figure*

(B) *see figure*

(C) *see figure*

(D) *see figure*

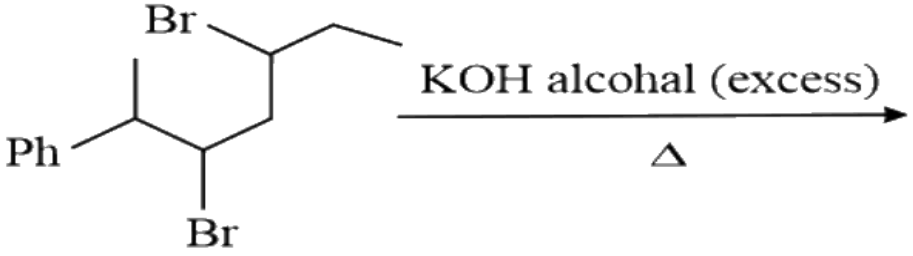
Answer: (A) · Key from source paper

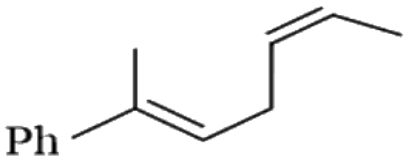
Q218 JEE Main 2019 · 10 Jan · Shift 1 MCQ

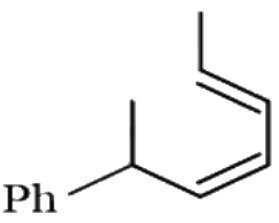
The major product of the following reaction is:

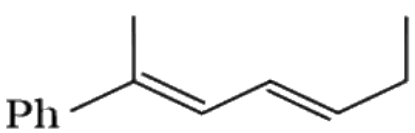
(see the figure above)

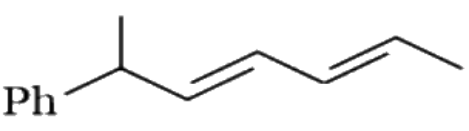
Q43. The major product of the following reaction is:



(1) 

(2) 

(3) 

(4) 

(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

Answer: (C) · Key from source paper

Q219 JEE Main 2019 · 10 Jan · Shift 1 MCQ

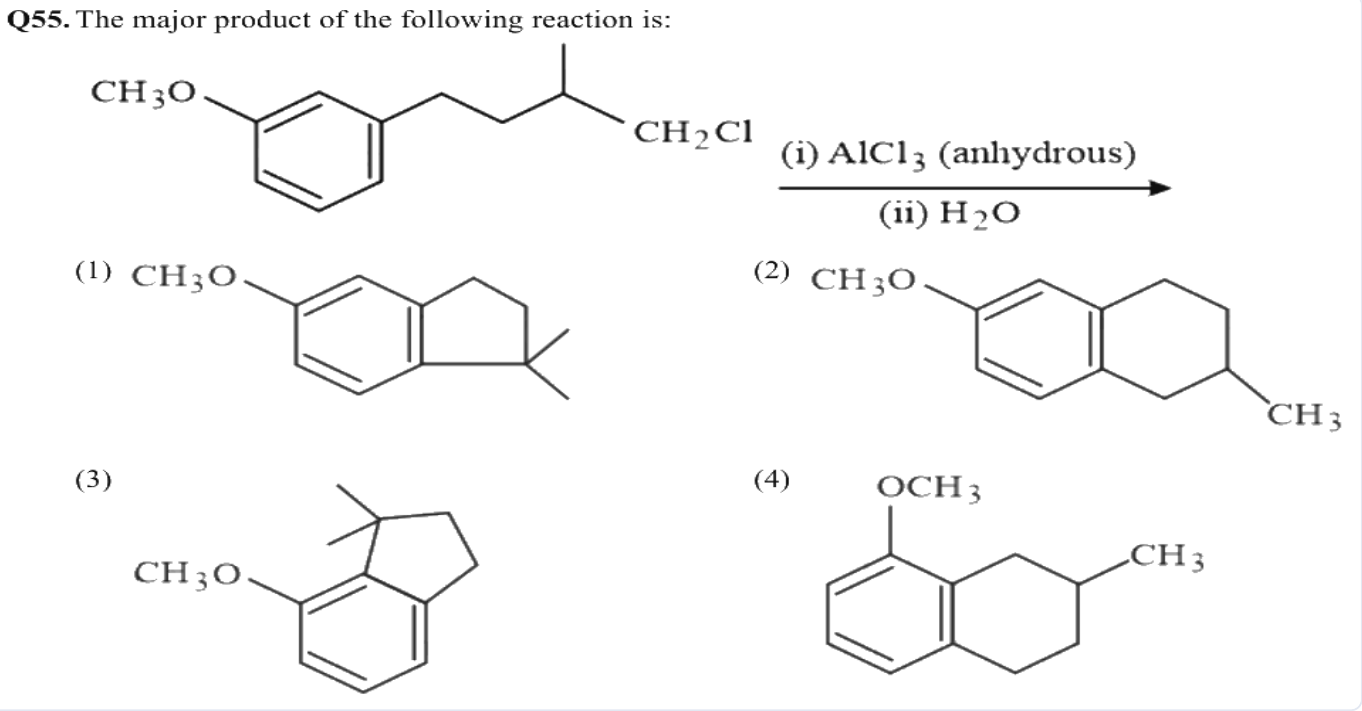
Which hydrogen in compound (E) is easily replaceable during bromination reaction in presence of light ?
$CH_3-CH_2-CH=CH_2$ (E)

(A) β - hydrogen
(B) δ - hydrogen
(C) α -hydrogen
(D) γ - hydrogen

Answer: (D) γ - hydrogen · Key from source paper

Q220 JEE Main 2019 · 10 Jan · Shift 1 MCQ

The major product of the following reaction is:
(see the figure above)



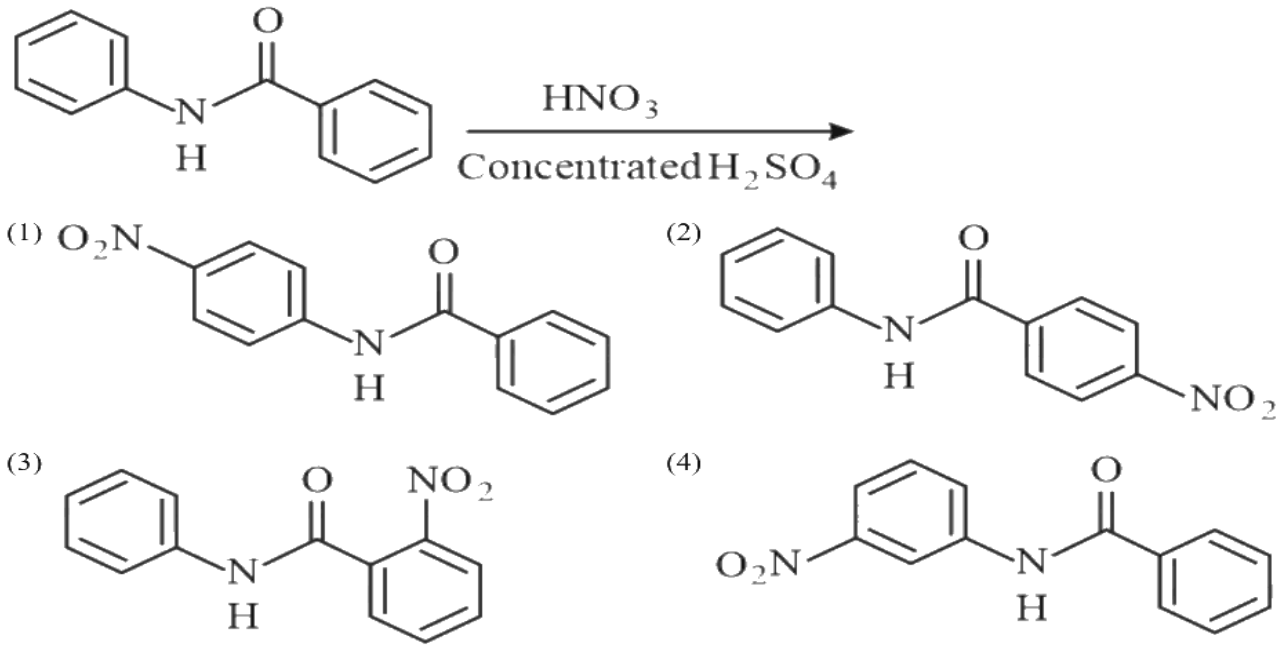
(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

Answer: (A) · Key from source paper

Q221 JEE Main 2019 · 10 Jan · Shift 2 MCQ

What will be the major product in the following mononitration reaction?
(see the figure above)

Q39. What will be the major product in the following mononitration reaction?



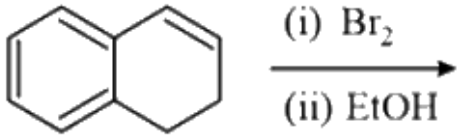
(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

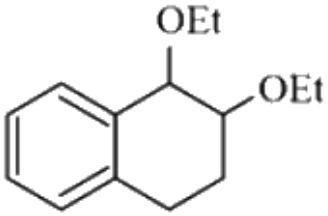
Answer: (A) · Key from source paper

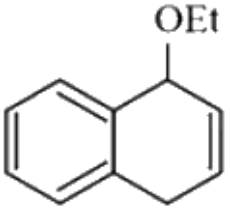
Q222 JEE Main 2019 · 9 Jan · Shift 1 MCQ

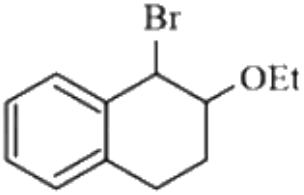
In the reaction given below what will be the major product at the end :
(see the figure above)

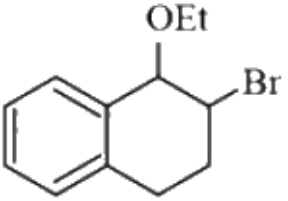
Q54. In the reaction given below what will be the major product at the end :



(1) 

(2) 

(3) 

(4) 

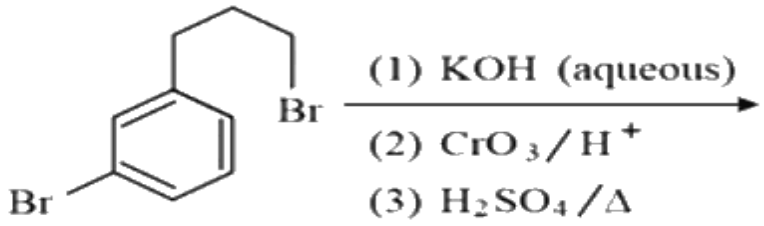
(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

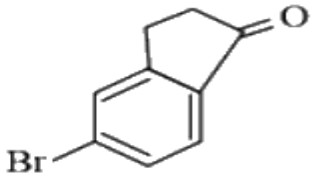
Answer: (D) · Key from source paper

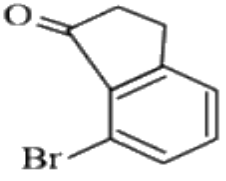
Q223 JEE Main 2019 · 9 Jan · Shift 1 MCQ

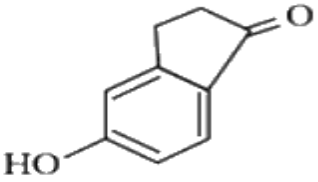
Major product of the given reaction is:
(see the figure above)

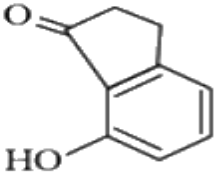
Q55. Major product of the given reaction is:



(1) 

(2) 

(3) 

(4) 

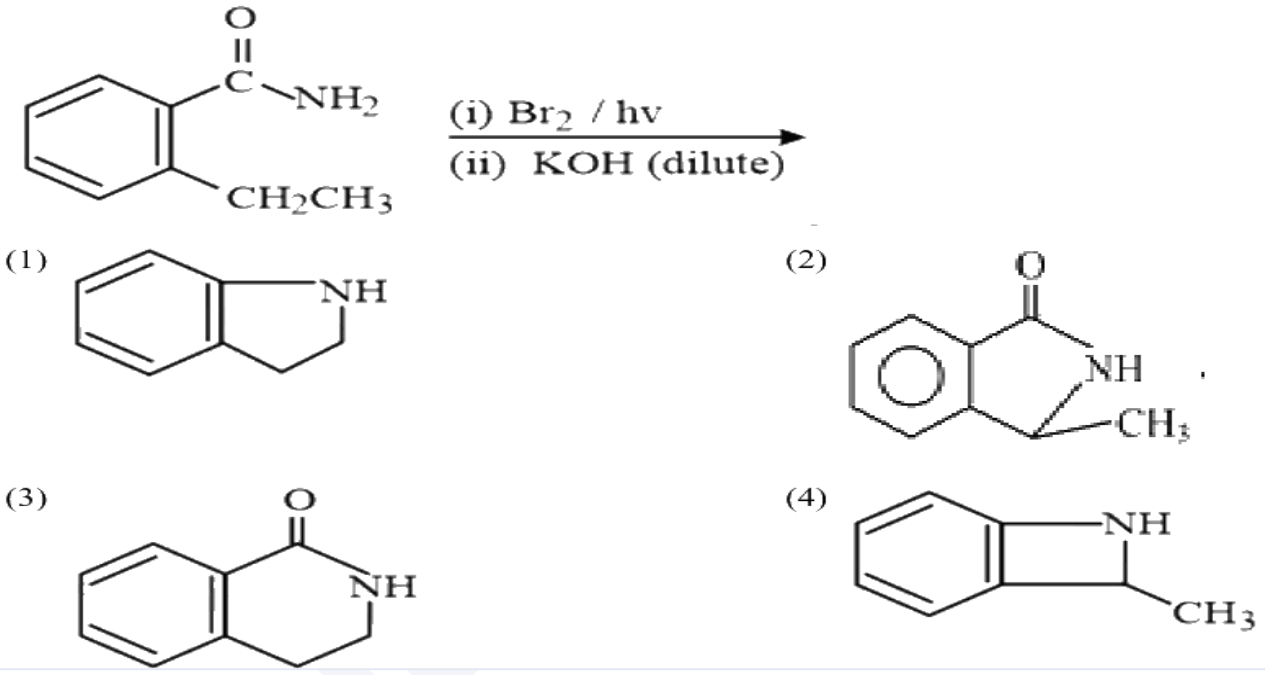
(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

Answer: (A) · Key from source paper

Q224 JEE Main 2019 · 9 Jan · Shift 2 MCQ

The major product of the following reaction is:
(see the figure above)

Q59. The major product of the following reaction is:



(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

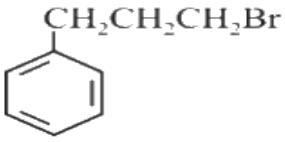
Answer: (B) · Key from source paper

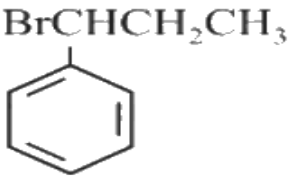
Q225 JEE Main 2018 · 16 Apr · Online MCQ

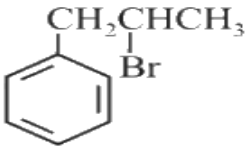
The major product of the following reaction is:
(see the figure above)

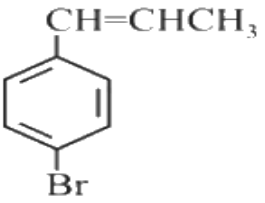
Q54. The major product of the following reaction is:



(1) 

(2) 

(3) 

(4) 

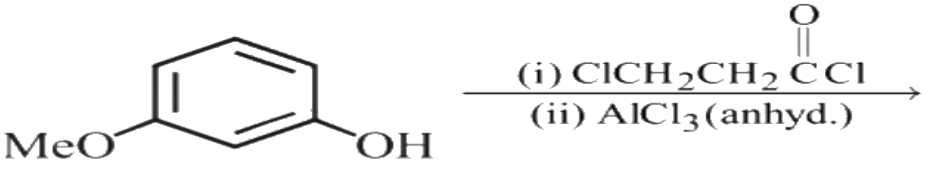
(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

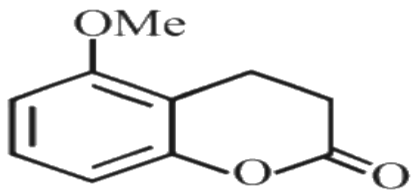
Answer: (B) · Key from source paper

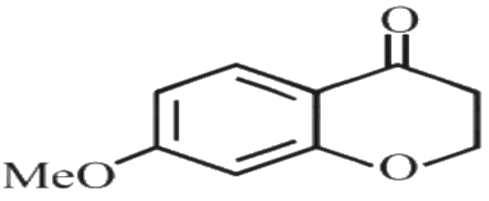
Q226 JEE Main 2018 · 15 Apr · Shift 1 MCQ

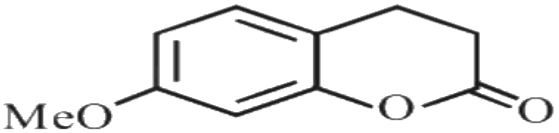
The major product of the following reaction is
(see the figure above)

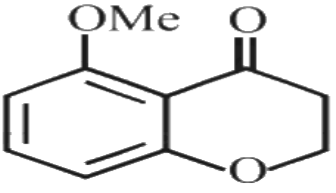
Q48. The major product of the following reaction is



(1) 

(2) 

(3) 

(4) 

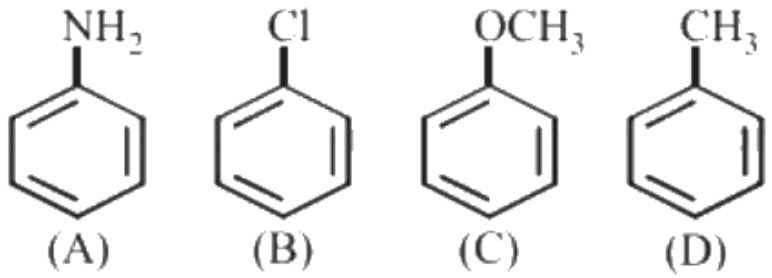
(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

Answer: (C) · Key from source paper

Q227 JEE Main 2018 · 15 Apr · Shift 1 MCQ

The increasing order of nitration of the following compounds is :
(see the figure above)

Q49. The increasing order of nitration of the following compounds is :



(1) $< (B) < (D) < (C)$
(2) $< (B) < (C) < (D)$
(3) $< (A) < (C) < (D)$
(4) $< (A) < (D) < (C)$

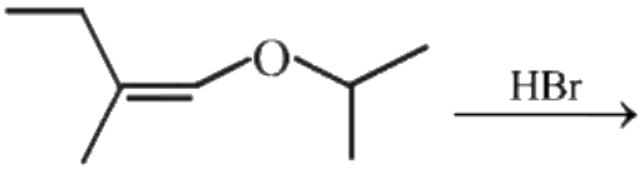
(A) $< (B) < (D) < (C)$
(B) $< (B) < (C) < (D)$
(C) $< (A) < (C) < (D)$
(D) $< (A) < (D) < (C)$

Answer: (A) $< (B) < (D) < (C)$ · Key from source paper

Q228 JEE Main 2018 · 15 Apr · Shift 2 MCQ

The total number of optically active compounds formed in the following reaction is:
(see the figure above)

Q41. The total number of optically active compounds formed in the following reaction is:



(1) Zero
(2) Six
(3) Four
(4) Two

(A) Zero
(B) Six
(C) Four
(D) Two

Answer: (C) Four · Key from source paper

Q229 JEE Main 2018 · 15 Apr · Shift 2 MCQ

When 2-butyne is treated with H_2 /Lindlar's catalyst, compound X is produced as the major product and when treated with Na /liq. NH_3 it produces Y as the major product. Which of the following statements is correct?

(A) Y will have higher dipole moment and higher boiling point than X Y
(B) Y will have higher dipole moment and lower boiling point than X
(C) X will have lower dipole moment and lower boiling point than Y
(D) X will have higher dipole moment and higher boiling point than Y

Answer: (D) X will have higher dipole moment and higher boiling point than Y · Key from source paper

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Q230 JEE Main 2018 · 8 Apr · Offline MCQ

The trans-alkenes are formed by the reduction of alkynes with

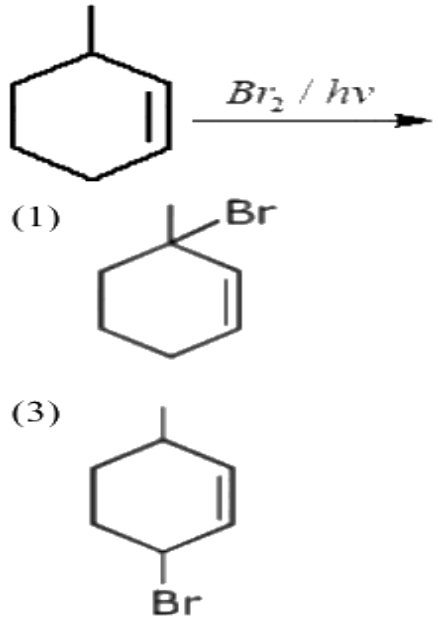
(A) $Sn - HCl$
(B) $H_2 - Pd/C,\ BaSO_4$
(C) $NaBH_4$
(D) $Na / liq.\ NH_3$

Answer: (D) $Na / liq.\ NH_3$ · Key from source paper

Q231 JEE Main 2017 · 9 Apr · Online MCQ

The major product of the following reaction is:
(see the figure above)

Q45. The major product of the following reaction is:



(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

Answer: (A) · Key from source paper

Q232 JEE Main 2017 · 8 Apr · Online MCQ

Which of the following compounds will not undergo Friedel Crafts reaction with benzene?

Q45. Which of the following compounds will not undergo Friedel Crafts reaction with benzene?



(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

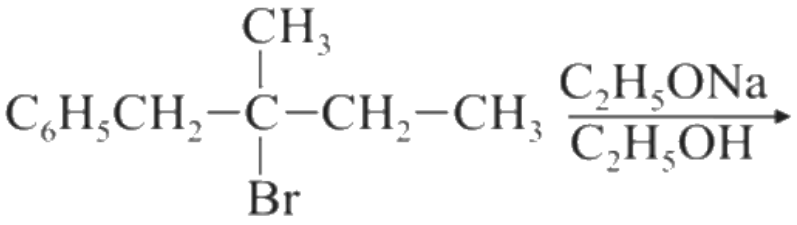
Answer: (A) · Key from source paper

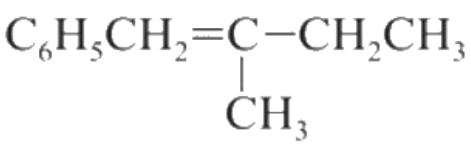
Q233 JEE Main 2017 · 8 Apr · Online MCQ

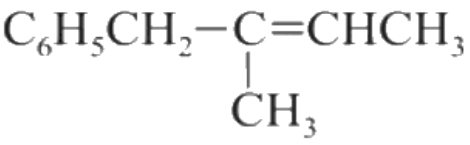
The major product of the following reaction is:

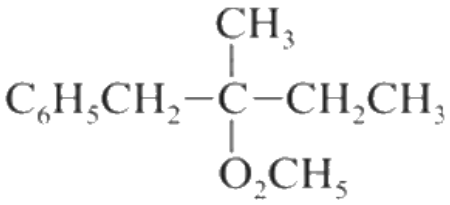
(see the figure above)

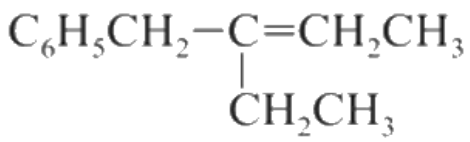
Q55. The major product of the following reaction is:



(1) 

(2) 

(3) 

(4) 

(A) *see figure*

(B) *see figure*

(C) *see figure*

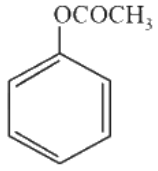
(D) *see figure*

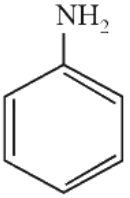
Answer: (A) · Key from source paper

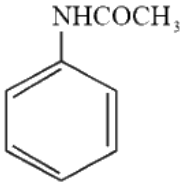
Q234 JEE Main 2017 · 2 Apr · Offline MCQ

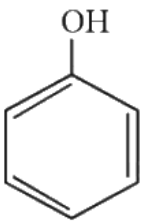
Which of the following compounds will form significant amount of meta product during mono-nitration reaction?

Q41. Which of the following compounds will form significant amount of meta product during mono-nitration reaction?

(1) 

(2) 

(3) 

(4) 

(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

Answer: (B) · Key from source paper

Q235 JEE Main 2017 · 2 Apr · Offline MCQ

3 - Methyl - pent-2 - ene on reaction with HBr in presence of peroxide forms an addition product. The number of possible stereoisomers for the product is

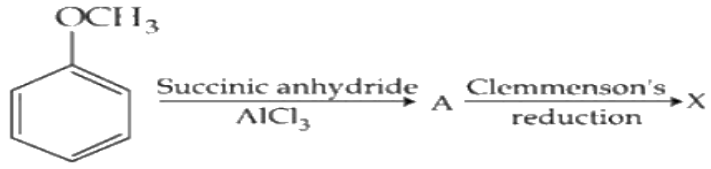
(A) zero
(B) two
(C) four
(D) six

Answer: (C) four · Key from source paper

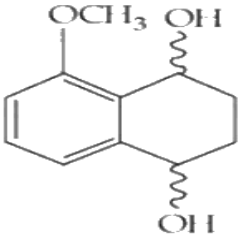
Q236 JEE Main 2016 · 10 Apr · Online MCQ

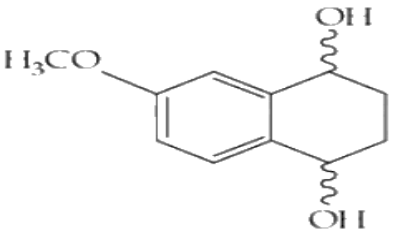
Consider the reaction sequence below:
(see the figure above)
X is :

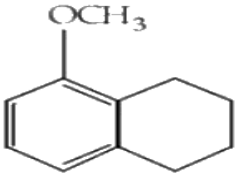
Q42. Consider the reaction sequence below:

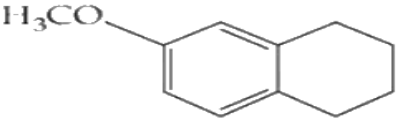


X is :

(1) 

(2) 

(3) 

(4) 

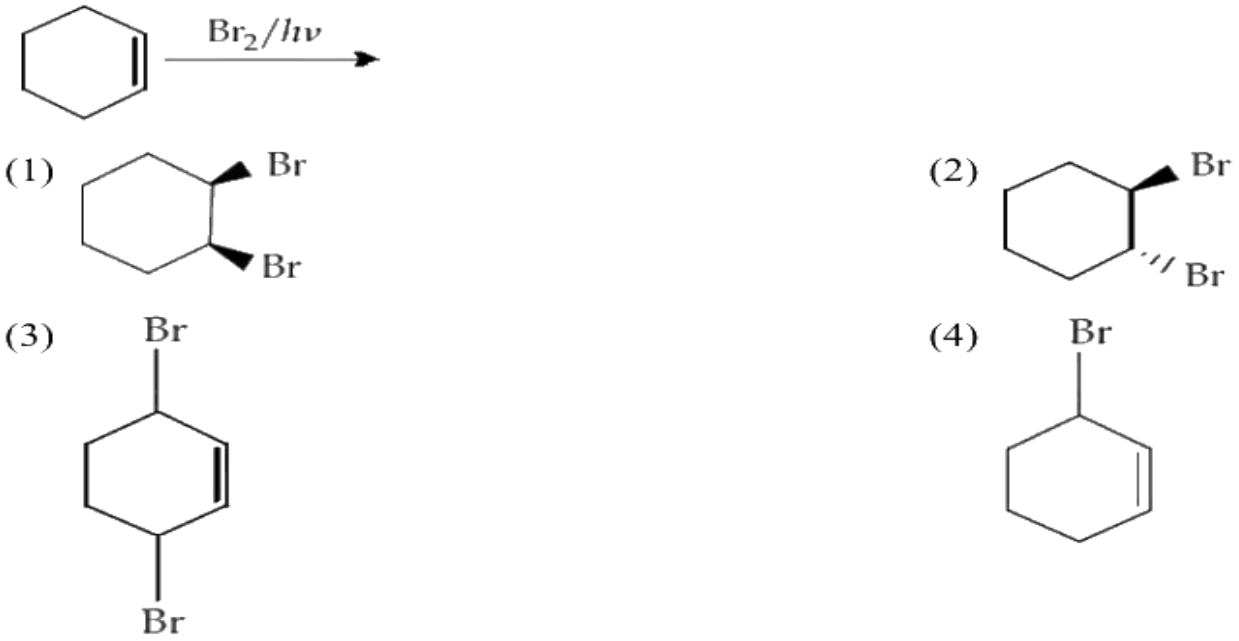
(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

Answer: (D) · Key from source paper

Q237 JEE Main 2016 · 10 Apr · Online MCQ

Bromination of cyclohexene under conditions given below yields:
(see the figure above)

Q55. Bromination of cyclohexene under conditions given below yields:



(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

Answer: (D) · Key from source paper

Q238 JEE Main 2016 · 9 Apr · Online MCQ

Bouveault-Blanc reduction reaction involves:

(A) Reduction of an acyl halide with H_2/Pd.
(B) Reduction of an anhydride with $LiAlH_4$
(C) Reduction of an ester with Na/C_2H_5OH .
(D) Reduction of a carbonyl compound with Na / Hg and HCl.

Answer: (C) Reduction of an ester with Na/C_2H_5OH . · Key from source paper

Q239 JEE Main 2016 · 3 Apr · Offline MCQ

The reaction of propene with HOCl ($Cl_2 + H_2O$) proceeds through the intermediate:

(A) $CH_3 - CH(OH) - CH_2^+$

(B) $CH_3 - CHCl - CH_2^+$

(C) $CH_3 - CH^+ - CH_2 - OH$

(D) $CH_3 - CH^+ - CH_2 - Cl$

Answer: (D) $CH_3 - CH^+ - CH_2 - Cl$ · Key from source paper

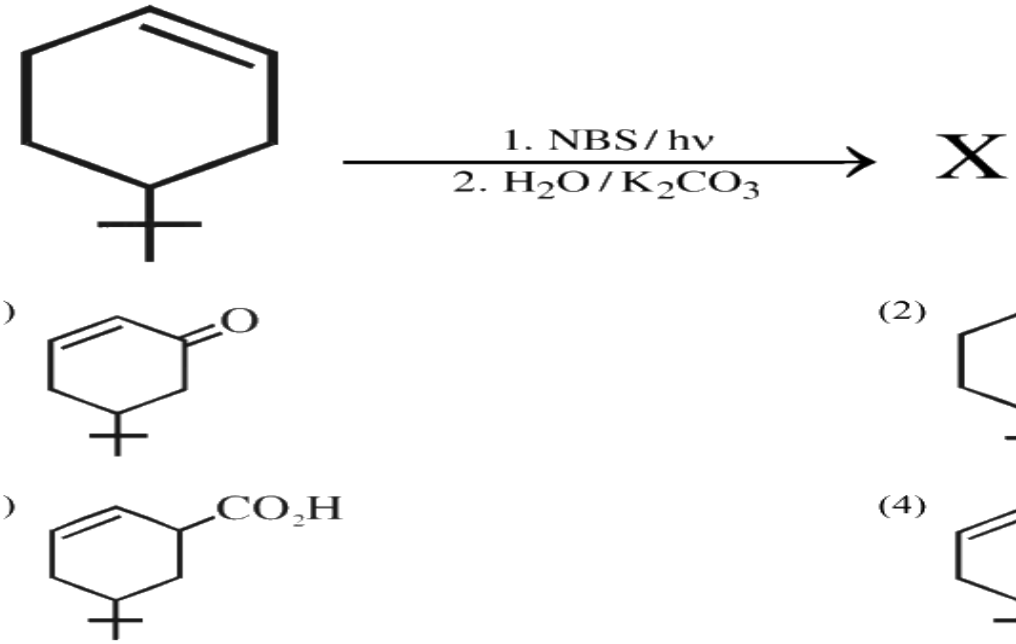
Q240 JEE Main 2016 · 3 Apr · Offline MCQ

The product of the reaction give below is:

(see the figure above)

$\xrightarrow[2.\ H_2O/K_2CO_3]{1.\ NBS/h\nu}$ X

Q55. The product of the reaction give below is:



(A) *see figure*

(B) *see figure*

(C) *see figure*

(D) *see figure*

Answer: (D) · Key from source paper

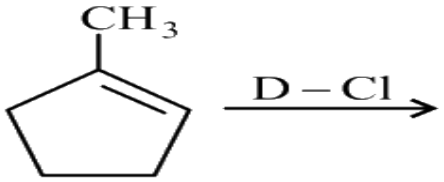
Q241 JEE Main 2015 · 11 Apr · Online MCQ

What is the major product expected from the following reaction?

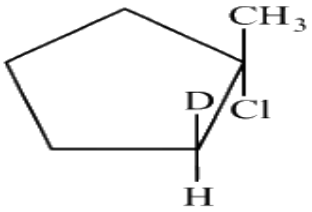
(see the figure above)

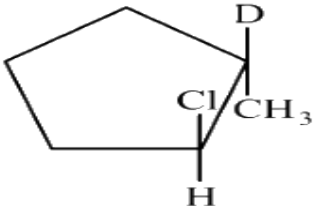
Where D is an isotope of hydrogen.

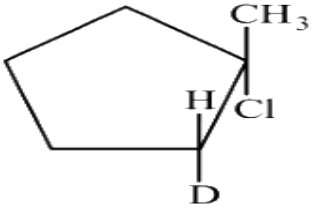
Q56. What is the major product expected from the following reaction?

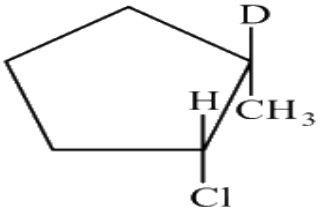


Where D is an isotope of hydrogen.

(1) 

(2) 

(3) 

(4) 

(A) *see figure*

(B) *see figure*

(C) *see figure*

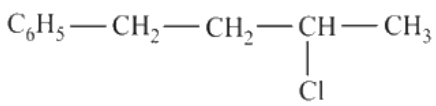
(D) *see figure*

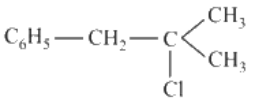
Answer: (A) · Key from source paper

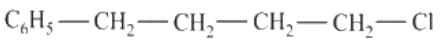
Q242 JEE Main 2015 · 10 Apr · Online MCQ

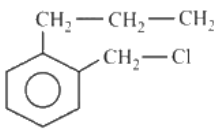
A compound A with molecular formula $C_{10}H_{13}Cl$, gives a white precipitate on adding silver nitrate solution. A on reacting with alcoholic KOH gives compound B as the main product. B on ozonolysis, gives C and D. C gives Cannizaro reaction, but not aldol condensation. D gives aldol condensation, but not Cannizaro reaction. A is

Q43. A compound A with molecular formula $C_{10}H_{13}Cl$, gives a white precipitate on adding silver nitrate solution. A on reacting with alcoholic KOH gives compound B as the main product. B on ozonolysis, gives C and D. C gives Cannizaro reaction, but not aldol condensation. D gives aldol condensation, but not Cannizaro reaction. A is

(1) 

(2) 

(3) 

(4) 

(A) $C_6H_5 - CH_2 - CH_2 - CH(Cl) - CH_3$

(B) $C_6H_5 - CH_2 - C(CH_3)_2Cl$

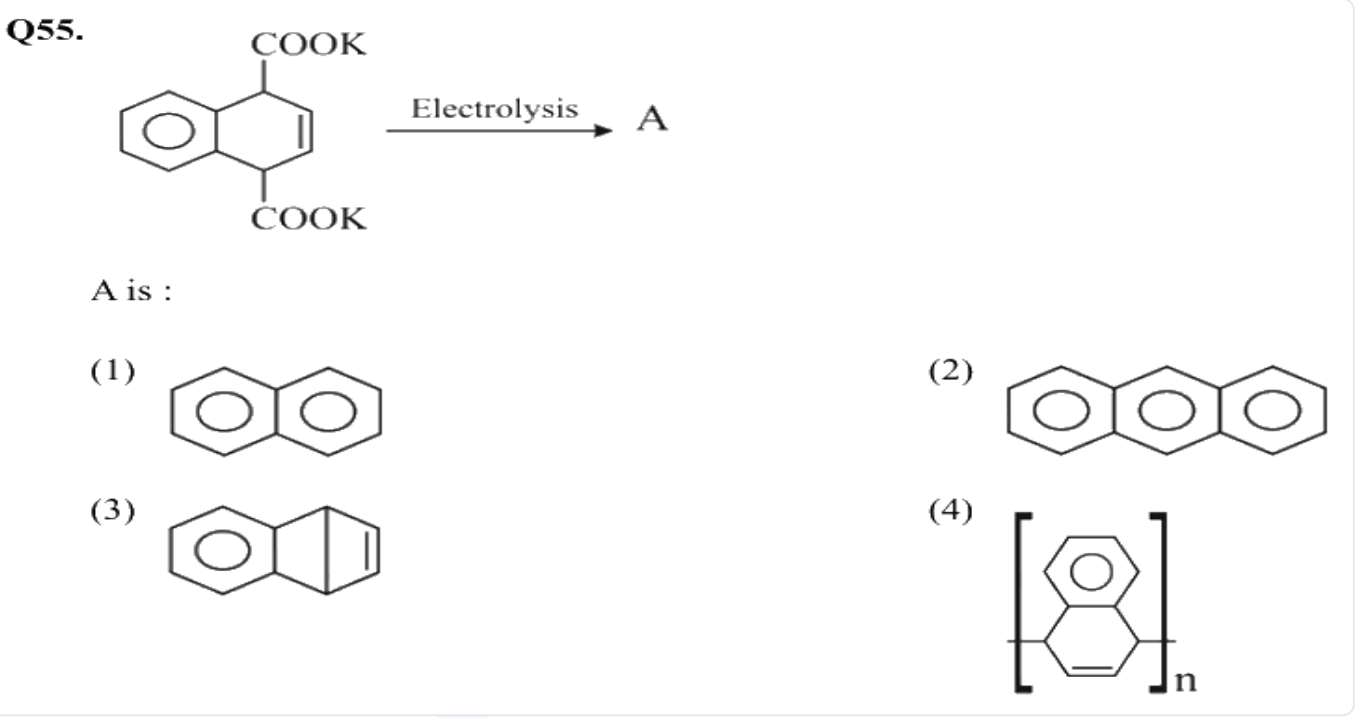
(C) $C_6H_5 - CH_2 - CH_2 - CH_2 - CH_2 - Cl$

(D) *see figure*

Answer: (B) $C_6H_5 - CH_2 - C(CH_3)_2Cl$ · Key from source paper

Q243 JEE Main 2015 · 10 Apr · Online MCQ

see figure



(A) *see figure*

(B) *see figure*

(C) *see figure*

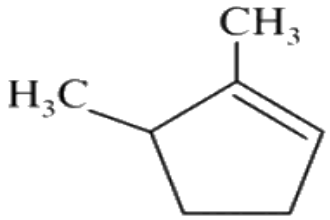
(D) *see figure*

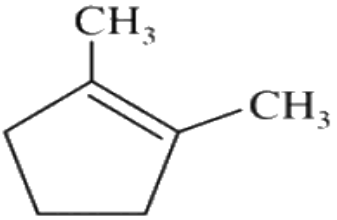
Answer: (A) · Key from source paper

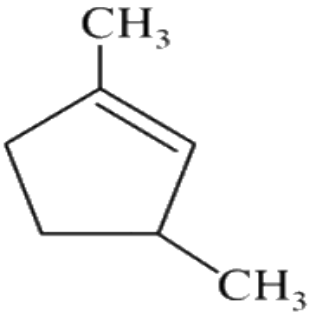
Q244 JEE Main 2015 · 4 Apr · Offline MCQ

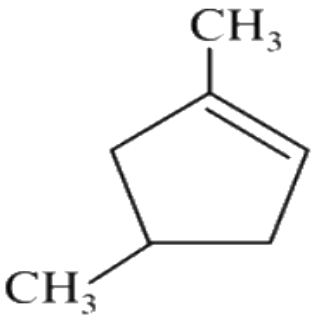
Which compound would give 5-keto-2-methyl hexanal upon ozonolysis?

Q55. Which compound would give 5—keto—2—methyl hexanal upon ozonolysis?

(1) 

(2) 

(3) 

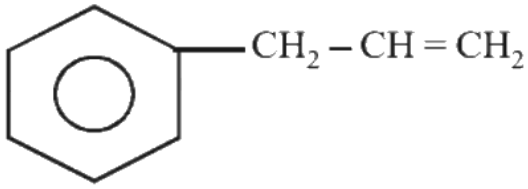
(4) 

(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

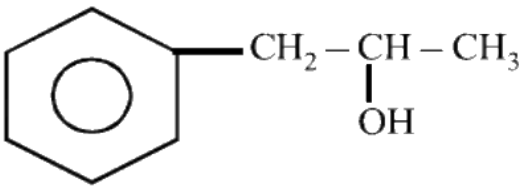
Answer: (C) · Key from source paper

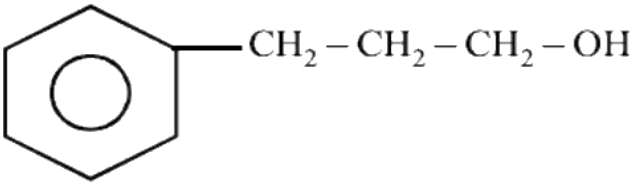
Q245 JEE Main 2014 · 12 Apr · Online MCQ

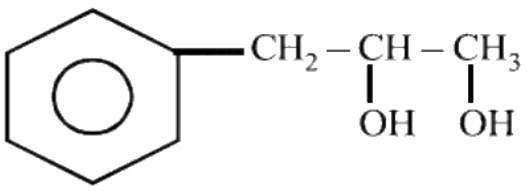
see figure

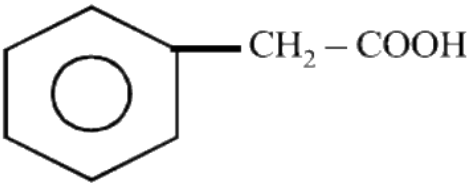
Q44. 

on mercuration-demercuration produces the major product:

(1) 

(2) 

(3) 

(4) 

(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

Answer: (A) · Key from source paper

Q246 JEE Main 2014 · 12 Apr · Online MCQ

In the presence of peroxide, HCl and HI do not give anti-Markownikoff's addition of alkenes because:

(A) One of the steps is endothermic in HCl and HI
(B) Both HCl and HI are strong acids
(C) HCl is oxidizing and the HI is reducing
(D) All the steps are exothermic is HCl and HI

Answer: (A) One of the steps is endothermic in HCl and HI · Key from source paper

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Q247 JEE Main 2014 · 12 Apr · Online MCQ

The major product obtained in the photo catalysed bromination of 2-methylbutane is:

(A) 1-bromo-2-methylbutane
(B) 1-bromo-3-methylbutane
(C) 2-bromo-3-methylbutane
(D) 2-bromo-2-methylbutane

Answer: (D) 2-bromo-2-methylbutane · Key from source paper

Q248 JEE Main 2014 · 11 Apr · Online MCQ

The reagent needed for converting
(see the figure above)

Q43.



The reagent needed for converting

(1) Cat. Hydrogenation
(2) H_2 /Lindlar Cat.
(3) Li/NH_3
(4) $LiAlH_4$

(A) Cat. Hydrogenation
(B) H_2 /Lindlar Cat.
(C) Li/NH_3
(D) $LiAlH_4$

Answer: (C) Li/NH_3 · Key from source paper

Q249 JEE Main 2014 · 11 Apr · Online MCQ

The gas liberated by the electrolysis of Dipotassium succinate solution is:

(A) Ethane
(B) Ethyne
(C) Ethene
(D) Propene

Answer: (C) Ethene · Key from source paper

Q250 JEE Main 2014 · 9 Apr · Online MCQ

In the hydroboration - oxidation reaction of propene with diborane, H_2O_2 and NaOH, the organic compound formed is:

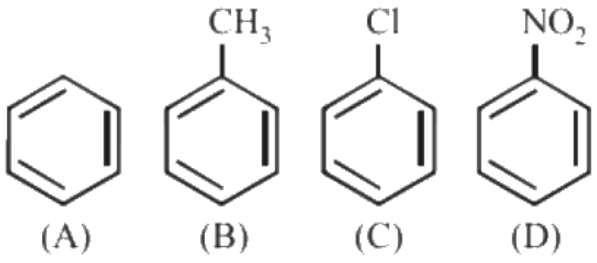
(A) $CH_3\ CH_2\ CH_2\ OH$
(B) $CH_3\ CH_2\ OH$
(C) $CH_3\ CHOHCH_3$
(D) $(CH_3)_3\ COH$

Answer: (A) $CH_3\ CH_2\ CH_2\ OH$ · Key from source paper

Q251 JEE Main 2013 · 25 Apr · Online MCQ

see figure

Q46.



Given

In the above compounds correct order of reactivity in electrophilic substitution reactions will be:

(1) B > A > C > D
(2) D > C > B > A
(3) A > B > C > D
(4) B > C > A > D

(A) B > A > C > D
(B) D > C > B > A
(C) A > B > C > D
(D) B > C > A > D

Answer: (A) B > A > C > D · Key from source paper

Q252 JEE Main 2013 · 22 Apr · Online MCQ

Which of the following would not give 2-phenylbutane as the major product in a Friedel-Crafts alkylation reaction ?

(A) 1-butene $+HF$

(B) 2-butanol $+H_2SO_4$

(C) Butanoyl chloride $+AlCl_3$ then Zn, HCl

(D) Butyl choloride (sic) $+AlCl_3$

Answer: (C) Butanoyl chloride $+AlCl_3$ then Zn, HCl · Key from source paper

Q253 JEE Main 2013 · 9 Apr · Online MCQ

The addition of HI in the presence of peroxide catalyst does not follow anti-Markovnikov's rule because :

(A) HI is a strong reducing agent.

(B) H − I bond is too strong to be broken homolytically.

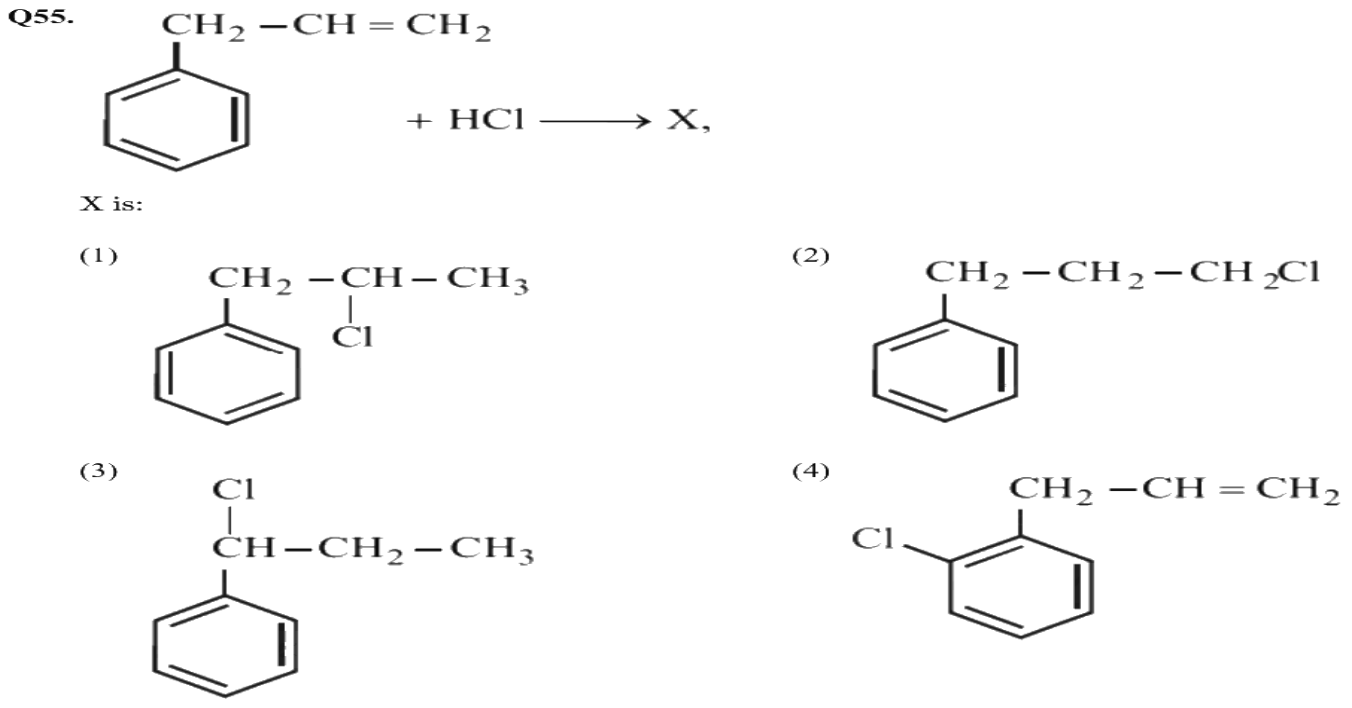
(C) I atom combines with H atom to give back HI.

(D) Iodine atom is not reactive enough to add across a double bond.

Answer: (D) Iodine atom is not reactive enough to add across a double bond. · Key from source paper

Q254 JEE Main 2013 · 9 Apr · Online MCQ

see figure



(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

Answer: (C) · Key from source paper

Q255 AIEEE 2012 · 26 May · Online MCQ

Consider the following sequence of reactions

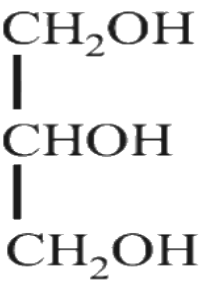
$$CH_3CH=CH_2 \xrightarrow[700\,K]{Cl_2} A \xrightarrow[420\,K,\,12\,atm]{Na_2CO_3} B \xrightarrow[(ii)\ NaOH]{(i)\ HOCl} C$$

Compound 'C' is

Q44. Consider the following sequence of reactions

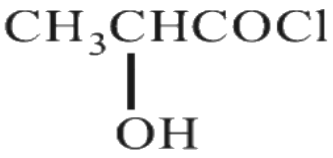
$$CH_3CH=CH_2 \xrightarrow[700K]{Cl_2} A \xrightarrow[420K,12atm]{Na_2CO_3} B \xrightarrow[(ii)\ NaOH]{(i)\ HOCl} C$$

Compound 'C' is

(1) 

(2) 

(3) $HOCH_2-CH=CH_2$

(4) 

(A) *see figure*
(B) *see figure*
(C) $HOCH_2-CH=CH_2$
(D) *see figure*

Answer: (A) · Key from source paper

Q256 AIEEE 2012 · 26 May · Online MCQ

The hydration of propyne results in formation of

(A) Acetone
(B) Propanol-1
(C) Propene
(D) Propanal

Answer: (A) Acetone · Key from source paper

Q257 AIEEE 2012 · 19 May · Online MCQ

The major product obtained in the photobromination of 2-methyl butane is

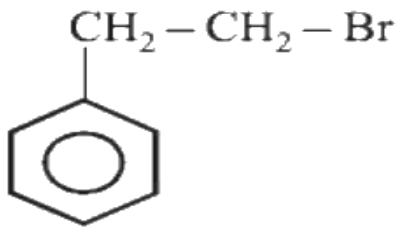
(A) 2-bromo-2-methylbutane
(B) 1-bromo-2-methylbutane
(C) 1-bromo-3-methylbutane
(D) 2-bromo-3-methylbutane

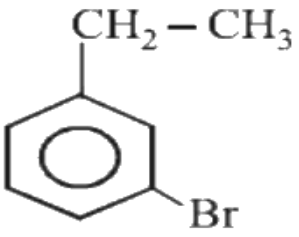
Answer: (A) 2-bromo-2-methylbutane · Key from source paper

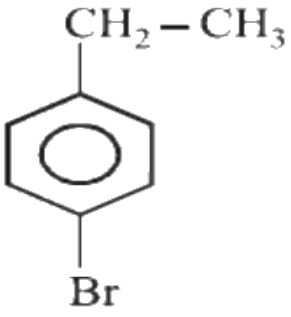
Q258 AIEEE 2012 · 19 May · Online MCQ

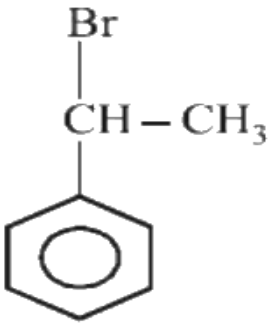
The product of the reaction between ethyl benzene and N-bromosuccinamide is

Q57. The product of the reaction between ethyl benzene and N-bromosuccinamide is

(1) 

(2) 

(3) 

(4) 

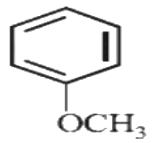
(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

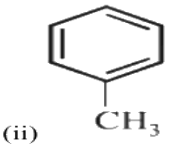
Answer: (D) · Key from source paper

Q259 AIEEE 2012 · 12 May · Online MCQ

In the below mentioned compounds the decreasing order of reactivity towards electrophilic substitution is (i) *(see the figure above)* (ii) *(see the figure above)* (iii) *(see the figure above)* (iv) *(see the figure above)*

Q44. In the below mentioned compounds the decreasing order of reactivity towards electrophilic substitution is (i)





(ii)

(iii)



(iv)

(1) (iv) > (i) > (ii) > (iii)
(2) (ii) > (iii) > (i) > (iv)
(3) (iii) > (i) > (iv) > (ii)
(4) (i) > (ii) > (iii) > (iv)

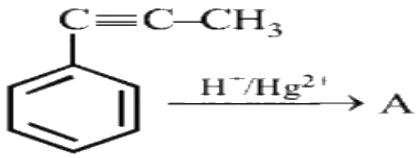
A (iv) > (i) > (ii) > (iii)
B (ii) > (iii) > (i) > (iv)
C (iii) > (i) > (iv) > (ii)
D (i) > (ii) > (iii) > (iv)

Answer: (D) (i) > (ii) > (iii) > (iv) · Key from source paper

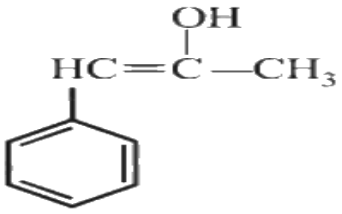
Q260 AIEEE 2012 · 12 May · Online MCQ

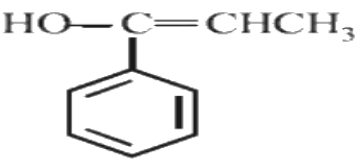
see figure

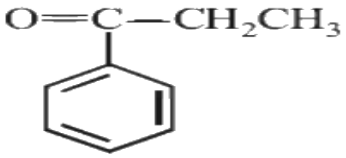
Q56.

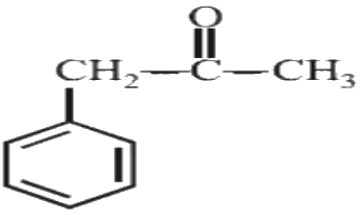


In the given reaction, the product 'A' is

(1) 

(2) 

(3) 

(4) 

(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

Answer: (C) · Key from source paper

Q261 AIEEE 2012 · Offline MCQ

2– Hexyne gives trans–2–Hexene on treatment with :

(A) Pt/H_2
(B) Li/NH_3
(C) $Pd/BaSO_4$
(D) $LiAlH_4$

Answer: (B) Li/NH_3 · Key from source paper

Q262 AIEEE 2012 · Offline MCQ

How many chiral compounds are possible on monochlorination of 2–methyl butane ?

(A) 8
(B) 2
(C) 4
(D) 6

Answer: (C) 4 · Checked by our team

EdLoop JEE

Q263 AIEEE 2012 · Offline MCQ

Which branched chain isomer of the hydrocarbon with molecular mass 72 u gives only one isomer of mono substituted alky halide?

(A) Tertiary butyl chloride
(B) Neopentane
(C) Isohexane
(D) Neohexane

Answer: (B) Neopentane · Key from source paper

Q264 AIEEE 2012 · Offline MCQ

The species which can best serve as an initiator for the cationic polymerization is :

(A) $LiAlH_4$
(B) HNO_3
(C) $AlCl_3$
(D) $BuLi$

Answer: (C) $AlCl_3$ · Key from source paper

Q265 AIEEE 2011 MCQ

Ozonolysis of an organic compound gives formaldehyde as one of the products. This confirms the presence of :

(A) a vinyl group
(B) an isopropyl group
(C) an acetylenic triple bond
(D) two ethylenic double bonds

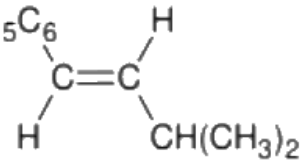
Answer: (A) a vinyl group · Key from source paper

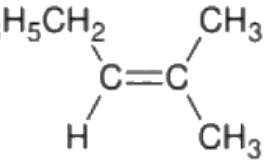
Q266 AIEEE 2010 MCQ

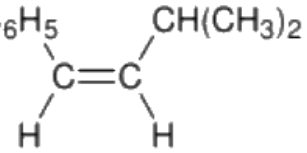
The main product of the following reaction is $C_6H_5CH_2CH(OH)CH(CH_3)_2 \xrightarrow{\text{conc. } H_2SO_4}$?

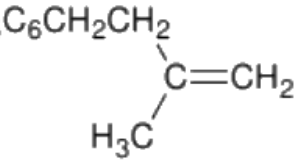
EdLoop JEE

Q42. The main product of the following reaction is $C_6H_5CH_2CH(OH)CH(CH_3)_2 \xrightarrow{\text{conc. } H_2SO_4} ?$

(1) 

(2) 

(3) 

(4) 

(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

Answer: (A) · Key from source paper

Q267 AIEEE 2010 MCQ

One mole of a symmetrical alkene on ozonolysis gives two moles of an aldehyde having a molecular mass of 44u. The alkene is

(A) propene
(B) 1-butene
(C) 2-butene
(D) ethene

Answer: (C) 2-butene · Key from source paper

Q268 AIEEE 2008 MCQ

In the following sequence of reactions, the alkene affords the compound ' B '

$CH_3CH=CHCH_3 \xrightarrow{O_3} A \xrightarrow[Zn]{H_2O} B$. The compound B is

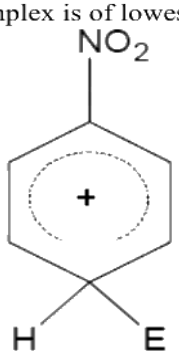
(A) CH_3CH_2CHO
(B) CH_3COCH_3
(C) $CH_3CH_2COCH_3$
(D) CH_3CHO

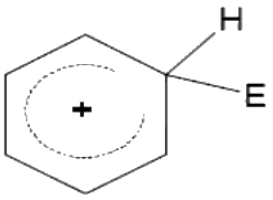
Answer: (D) CH_3CHO · Key from source paper

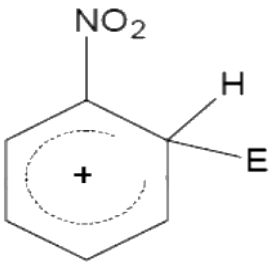
Q269 AIEEE 2008 MCQ

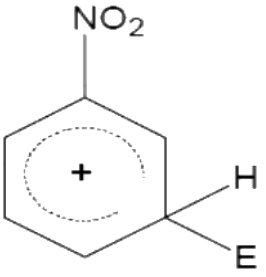
The electrophile, $E^{\oplus}$ attacks the benzene ring to generate the intermediate σ-complex. Of the following, which σ-complex is of lowest energy?

Q52. The electrophile, $E^{\oplus}$ attacks the benzene ring to generate the intermediate σ-complex. Of the following, which σ-complex is of lowest energy?

(1) 

(2) 

(3) 

(4) 

(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

Answer: (B) · Key from source paper

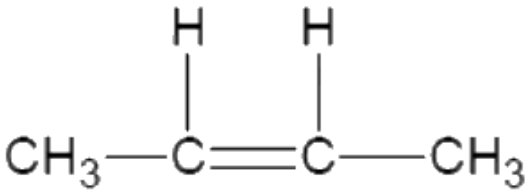
Q270 AIEEE 2008 MCQ

The treatment of CH_3MgX with $CH_3C \equiv C - H$ produces

Q53. The treatment of CH_3MgX with $CH_3C \equiv C - H$ produces

(1) $CH_3 - CH = CH_2$

(2) $CH_3C{\equiv}C{-}CH_3$

(3) 

(4) CH_4

(A) $CH_3 - CH = CH_2$
(B) $CH_3C{\equiv}C{-}CH_3$
(C) *see figure*
(D) CH_4

Answer: (D) CH_4 · Key from source paper

Q271 AIEEE 2008 MCQ

The hydrocarbon which can react with sodium in liquid ammonia is

(A) $CH_3CH_2CH_2C{\equiv}CCH_2CH_2CH_3$
(B) $CH_3CH_2C{\equiv}CH$
(C) $CH_3CH{=}CHCH_3$
(D) $CH_3CH_2C{\equiv}CCH_2CH_3$

Answer: (B) $CH_3CH_2C{\equiv}CH$ · Key from source paper

Q272 AIEEE 2007 MCQ

The reaction of toluene with Cl_2 in presence of $FeCl_3$ gives predominantly

(A) benzoyl chloride
(B) benzyl chloride
(C) $o-$and $p-$chlorotoluene
(D) $m-$chlorotoluene

Answer: (C) $o-$and $p-$chlorotoluene · Key from source paper

Q273 AIEEE 2007 MCQ

Presence of a nitro group in a benzene ring

(A) activates the ring towards electrophilic substitution
(B) renders the ring basic
(C) deactivates the ring towards nucleophilic substitution
(D) deactivates the ring towards electrophilic substitution

Answer: (D) deactivates the ring towards electrophilic substitution · Key from source paper

Q274 AIEEE 2007 MCQ

Which of the following reactions will yield 2, 2$-$dibromopropane?

(A) $CH_3 - C \equiv CH + 2HBr \longrightarrow$
(B) $CH_3CH = CHBr + HBr \longrightarrow$
(C) $CH \equiv CH + 2HBr \longrightarrow$
(D) $CH_3 - CH = CH_2 + HBr \longrightarrow$

Answer: (A) $CH_3 - C \equiv CH + 2HBr \longrightarrow$ · Key from source paper

Q275 AIEEE 2007 MCQ

The compound formed as a result of oxidation of ethyl benzene by $KMnO_4$ is

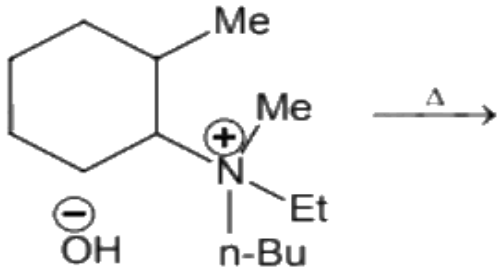
(A) benzophenone
(B) acetophenone
(C) benzoic acid
(D) benzyl alcohol

Answer: (C) benzoic acid · Key from source paper

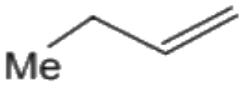
Q276 AIEEE 2006 MCQ

see figure

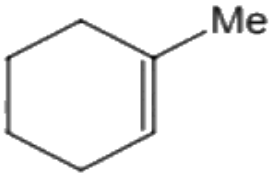
Q83.

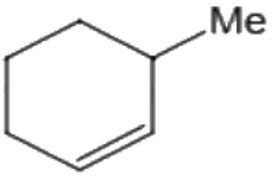


The alkene formed as a major product in the above elimination reaction is

(1) 

(2) $CH_2 = CH_2$

(3) 

(4) 

(A) *see figure*
(B) $CH_2 = CH_2$
(C) *see figure*
(D) *see figure*

Answer: (B) $CH_2 = CH_2$ · Key from source paper

Q277 AIEEE 2006 MCQ

HBr reacts with $CH_2 = CH - OCH_3$ under anhydrous conditions at room temperature to give

(A) CH_3CHO and CH_3Br
(B) $BrCH_2CHO$ and CH_3OH
(C) $BrCH_2 - CH_2 - OCH_3$
(D) $H_3C - CHBr - OCH_3$

Answer: (D) $H_3C - CHBr - OCH_3$ · Key from source paper

Q278 AIEEE 2005 MCQ

Of the five isomeric hexanes, the isomer which can give two monochlorinated compounds is

(A) n-hexane
(B) 2, 3-dimethylbutane
(C) 2,2-dimethylbutane
(D) 2-methylpentane

Answer: (B) 2, 3-dimethylbutane · Key from source paper

Q279 AIEEE 2005 MCQ

2 methylbutane on reacting with bromine in the presence of sunlight gives mainly

(A) 1 – bromo -2 - methylbutane
(B) 2 – bromo -2 - methylbutane
(C) 2 – bromo -3 - methylbutane
(D) 1 – bromo -3 – methylbutane

Answer: (B) 2 – bromo -2 - methylbutane · Key from source paper

Q280 AIEEE 2005 MCQ

Reaction of one molecule of HBr with one molecule of 1,3 -butadiene at $40^{\circ}\mathrm{C}$ gives predominantly

(A) 3-bromobutene under kinetically controlled conditions
(B) 1-bromo-2-butene under thermodymically controlled conditions
(C) 3-bromobutene under thermodynamically controlled conditions
(D) 1-bromo-2-butene under kinetically controlled conditions

Answer: (B) 1-bromo-2-butene under thermodymically controlled conditions · Key from source paper

Q281 AIEEE 2005 MCQ

Elimination of bromine from 2-bromobutane results in the formation of-

(A) equimolar mixture of 1 and 2-butene
(B) predominantly 2-butene
(C) predominantly 1-butene
(D) predominantly 2-butyne

Answer: (B) predominantly 2-butene · Key from source paper

Q282 AIEEE 2005 MCQ

Acid catalyzed hydration of alkenes except ethene leads to the formation of

(A) primary alcohol
(B) secondary or tertiary alcohol
(C) mixture of primary and secondary alcohols
(D) mixture of secondary and tertiary alcohols

Answer: (B) secondary or tertiary alcohol · Checked by our team

Q283 AIEEE 2004 MCQ

Which one of the following has the minimum boiling point?

(A) n-butane
(B) isobutane
(C) 1- butene
(D) 1- butyne

Answer: (B) isobutane · Key from source paper

Q284 AIEEE 2003 MCQ

On mixing a certain alkane with chlorine and irradiating it with ultravioletlight, it forms only one monochloroalkane. This alkane could be

(A) pentane
(B) isopentane
(C) neopentane
(D) propane

Answer: (C) neopentane · Key from source paper

Q285 AIEEE 2003 MCQ

Butene- 1 may be converted to butane by reaction with

(A) $\mathrm{Sn} - \mathrm{HCl}$
(B) $\mathrm{Zn} - \mathrm{Hg}$
(C) $\mathrm{Pd}/\mathrm{H_2}$
(D) $\mathrm{Zn} - \mathrm{HCl}$

Answer: (C) $\mathrm{Pd}/\mathrm{H_2}$ · Key from source paper

Q286 AIEEE 2002 MCQ

Which of these will not react with acetylene ?

(A) NaOH
(B) ammonical $AgNO_3$
(C) Na
(D) HCl

Answer: (A) NaOH · Key from source paper

Q287 AIEEE 2002 MCQ

What is the product when acetylene reacts with hypochlorous acid ?

(A) CH_3COCl
(B) $ClCH_2CHO$
(C) Cl_2CHCHO
(D) $ClCHCOOH$

Answer: (C) Cl_2CHCHO · Key from source paper

EdLoop JEE