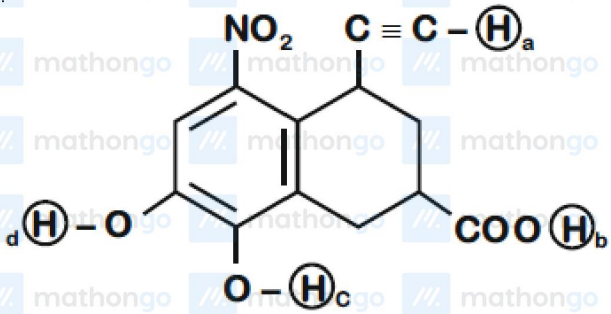
Q1 JEE Main 2020 - 9 January (Evening)

Which of the following has the shortest C-Cl bond?

(A) $Cl-CH=CH-NO_2$
(B) $Cl-CH=CH-CH_3$
(C) $Cl-CH=CH_2$
(D) $Cl-CH=CH-OCH_3$

Q2 JEE Main 2020 - 2 September (Evening)

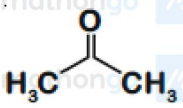
Arrange the following labelled hydrogens in decreasing order of acidity



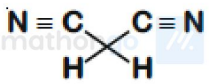
(A) $b>c>d>a$
(B) $\mathrm{b>a>c>d}$
(C) $c>b>d>a$
(D) $c>b>a>d$

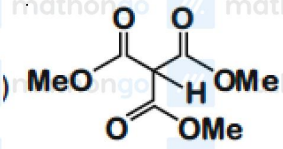
Q3 JEE Main 2020 - 3 September (Morning)

Which one of the following compounds possesses the most acidic hydrogen?

(A) 

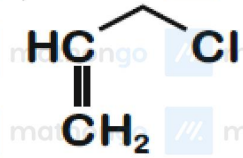
(B) $\mathrm{H_3C-C\equiv C-H}$

(C) 

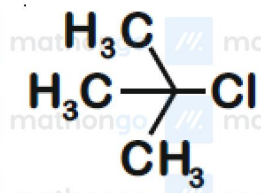
(D) 

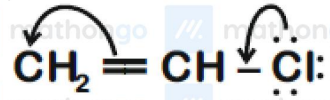
Q4 JEE Main 2020 - 4 September (Evening)

Among the following compounds, which one has the shortest $C-Cl$ bond?

(A) 

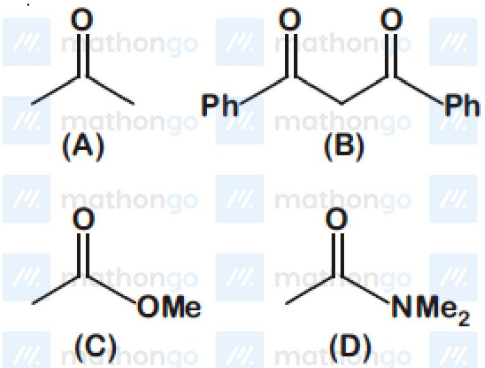
(B) 

(C) 

(D) 

Q5 JEE Main 2020 - 5 September (Morning)

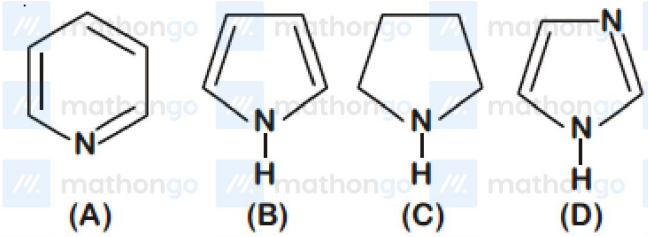
The increasing order of the acidity of the α -hydrogen of the following compounds is



(A) $(\mathrm{C}) < (\mathrm{A}) < (\mathrm{B}) < (\mathrm{D})$
(B) $(B) < (C) < (A) < (D)$
(C) $(A) < (C) < (D) < (B)$
(D) $(\mathrm{D}) < (\mathrm{C}) < (\mathrm{A}) < (\mathrm{B})$

Q6 JEE Main 2020 - 5 September (Morning)

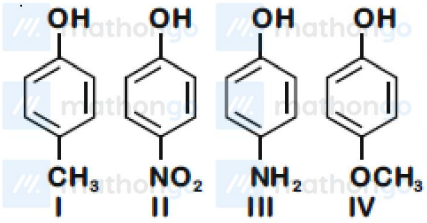
The increasing order of basicity of the following compounds is



(A) $(B) < (A) < (D) < (C)$
(B) $(\mathrm{D}) < (\mathrm{A}) < (\mathrm{B}) < (\mathrm{C})$
(C) $(B) < (A) < (C) < (D)$
(D) $(\mathrm{A}) < (\mathrm{B}) < (\mathrm{C}) < (\mathrm{D})$

Q7 JEE Main 2020 - 5 September (Evening)

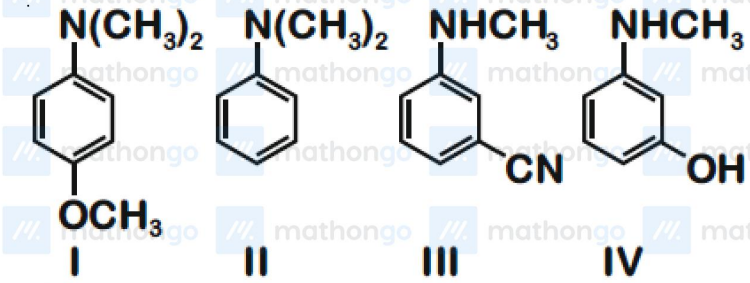
The increasing order of boiling points of the following compounds is



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

Q8 JEE Main 2020 - 6 September (Morning)

The increasing order of $\mathrm{pK_b}$ values of the following compounds is



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

Q9 JEE Main 2020 - 7 January (Morning)

The number of chiral centers in chloramphenicol is :

Q10 JEE Main 2020 - 7 January (Morning)

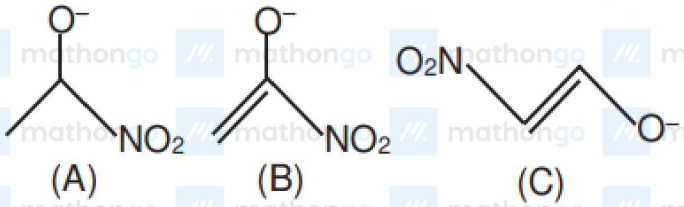
The dipole moments of $CHCl_3$, CCl_4 and CH_4 are in the order :

(A) $CHCl_3 > CCl_4 = CH_4$

(B) $CHCl_3 > CCl_4 > CH_4$
(C) $CCl_4 > CHCl_3 > CH_4$
(D) $CCl_4 = CH_4 > CHCl_3$

Q11 JEE Main 2020 - 7 January (Evening)

Stability order of following alkoxide ions is



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

Q12 JEE Main 2020 - 8 January (Morning)

Arrange the following compounds in increasing order of C-OH bond length

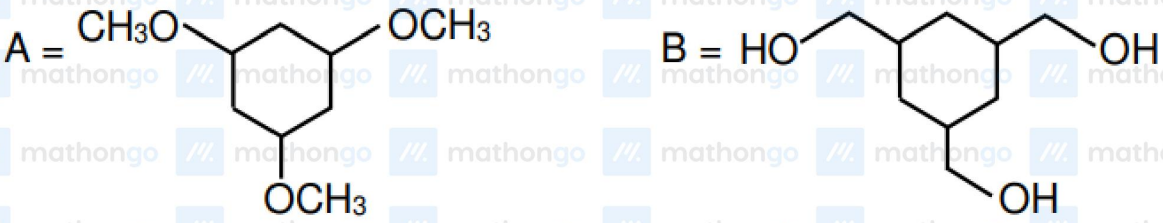
$$\underset{(A)}{\text{Methanol}} \quad \underset{(B)}{\text{Phenol}} \quad \underset{(C)}{p\text{-Ethoxyphenol}}$$

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

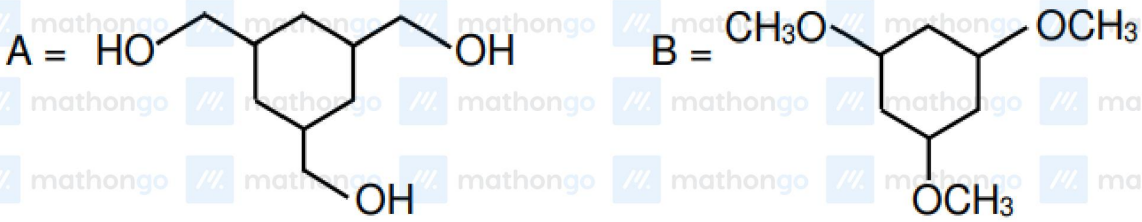
Q13 JEE Main 2020 - 8 January (Evening)

Among the compound A and B with molecular formula $C_9H_{18}O_3$, A is having higher boiling point than B. The possible structures of A and B are :

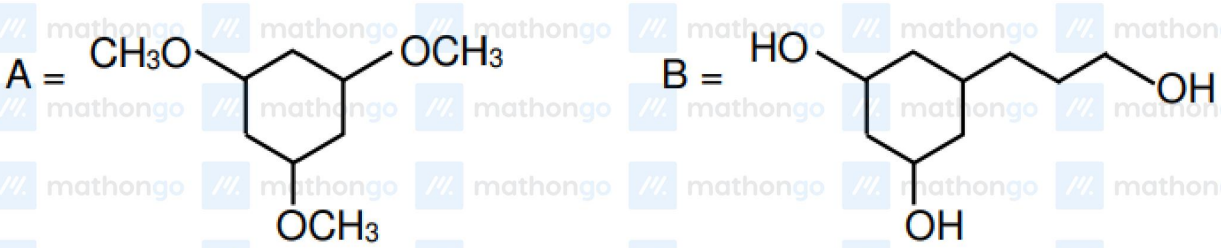
(A)



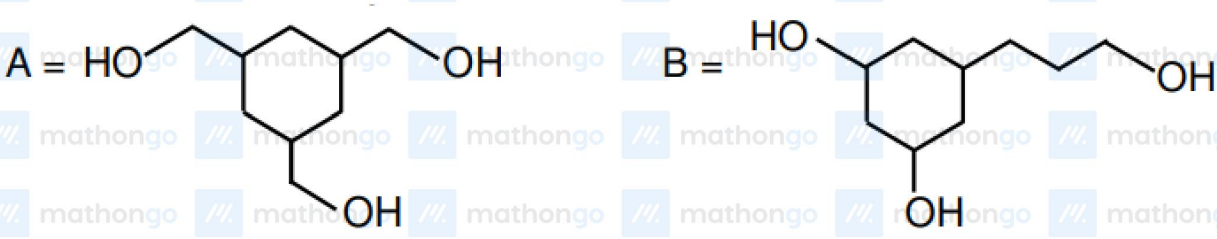
(B)



(C)



(D)



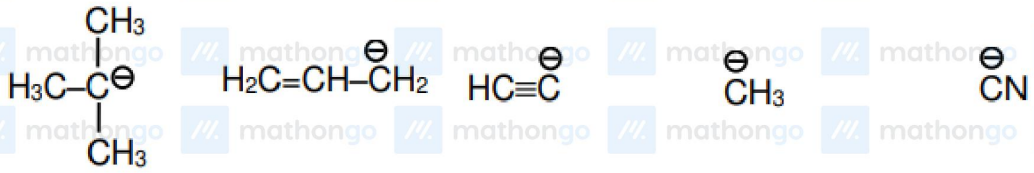
Q14 JEE Main 2020 - 9 January (Morning)

A chemist has 4 samples of artificial sweetener A, B, C and D. To identify these samples, he performed certain experiments and noted the following observations :
(i) A and D both form blue-violet colour with ninhydrin.
(ii) Lassaigne extract of C gives positive $AgNO_3$ test and negative $Fe_4\left[Fe(CN)_6\right]_3$ test.
(iii) Lassaigne extract of B and D gives positive sodium nitroprusside test.
Based on these observations which option is correct ?

(A) A - Saccharine, B - Aspartame, C - Sucralose, D - Alitame
(B) A - Aspartame, B - Saccharine, C - Sucralose, D - Alitame
(C) A - Saccharine, B - Aspartame, C - Alitame, D - Sucralose
(D) A - Aspartame, B - Sucralose, C - Saccharine, D - Alitame

Q15 JEE Main 2020 - 9 January (Morning)

The increasing order of basicity for the following intermediates is (from weak to strong)



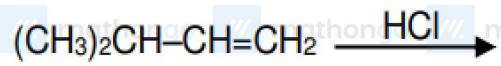
(i) (ii) (iii) (iv) (v)

(A) $(iii) < (iv) < (ii) < (i) < (v)$
(B) $(iii) < (i) < (ii) < (iv) < (v)$
(C) $(v) < (iii) < (ii) < (iv) < (i)$
(D) $(v) < (i) < (iv) < (ii) < (iii)$

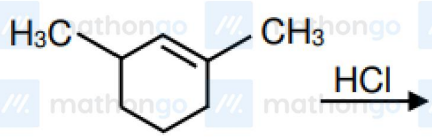
Q16 JEE Main 2020 - 9 January (Evening)

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

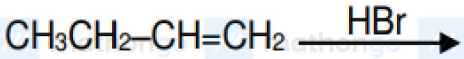
(A)



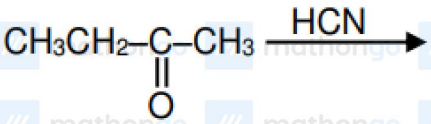
(B)



(C)



(D)



Answer Key

Q1 (A)	**Q2** (A)	**Q3** (D)	**Q4** (B)
Q5 (D)	**Q6** (C)	**Q7** (None)	**Q8** (A)
Q9 (2)	**Q10** (A)	**Q11** (A)	**Q12** (B)
Q13 (B)	**Q14** (B)	**Q15** (C)	**Q16** (A)