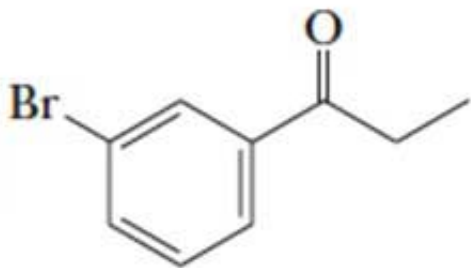


1) Quale composto è un monosaccaride appartenente alla serie sterica D?

- A.
$$\begin{array}{c} \text{CH}_2\text{OH} \\ | \\ \text{HO}-\text{C}-\text{H} \\ | \\ \text{O}=\text{CH} \\ | \\ \text{CH}_2\text{OH} \end{array}$$
- B.
$$\begin{array}{c} \text{H}-\text{C}-\text{OH} \\ | \\ \text{O}=\text{CH} \\ | \\ \text{O}=\text{CH} \end{array}$$
- C.
$$\begin{array}{c} \text{CH}_2\text{OH} \\ | \\ \text{CH}_3\text{C}=\text{O} \\ | \\ \text{H}-\text{C}-\text{OH} \\ | \\ \text{H}-\text{C}-\text{OH} \\ | \\ \text{HO}-\text{C}-\text{H} \end{array}$$
- D.
$$\begin{array}{c} \text{CH}_2\text{OH} \\ | \\ \text{O}=\text{CH} \\ | \\ \text{H}-\text{C}-\text{OH} \\ | \\ \text{HO}-\text{C}-\text{H} \\ | \\ \text{CH}_2\text{OH} \end{array}$$
- E.
$$\begin{array}{c} \text{CH}_2\text{OH} \\ | \\ \text{HO}-\text{C}-\text{H} \\ | \\ \text{H}-\text{C}-\text{OH} \\ | \\ \text{HO}-\text{C}-\text{H} \\ | \\ \text{CH}_2\text{OH} \end{array}$$

2) Quali sono i reagenti attraverso i quali l'1-fenil-1-propanone può essere convertito nel seguente composto?

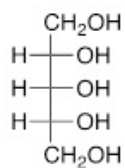


- A. NBS/perossidi
 B. $\text{Br}_2/\text{H}_2\text{O}$
 C. $\text{Br}_2/\text{CH}_3\text{COOH}$

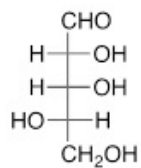
- D. $\text{Br}_2/\text{FeBr}_3$
 E. Br_2/OH^-

3) Qual è la proiezione di Fischer corretta per il D-ribosio?

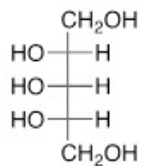
A.



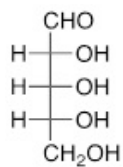
B.



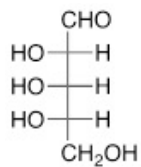
C.



D.



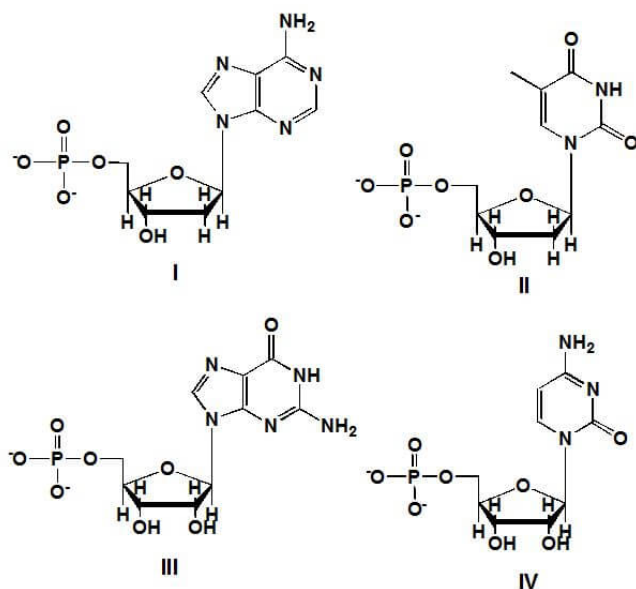
E.



4) Calcolare il numero di insaturazioni per il composto di formula molecolare $\text{C}_4\text{H}_4\text{S}$

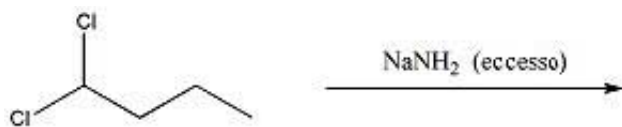
- A. 3
 B. 4
 C. 2
 D. 0
 E. 1

5) Quali dei seguenti composti sono acetali?



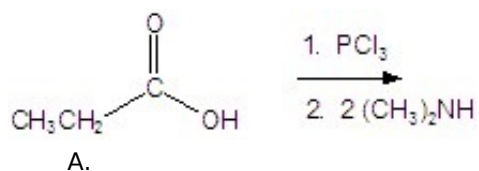
- A. II, III, IV
- B. I, II, III
- C. I, II, III, IV
- D. II, III, IV
- E. II, IV

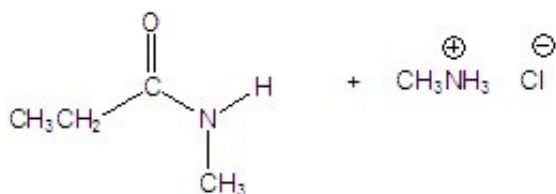
6) Qual è il principale prodotto della reazione?



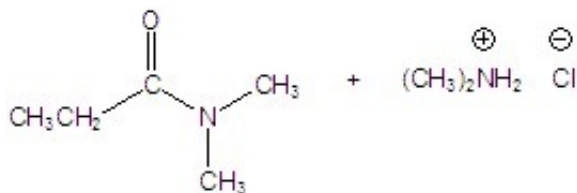
- A. Non avviene alcuna reazione
- B. CCCC#CC
- C. CCCC(N)N
- D. CCCC=CC
- E. CCCC#CC

7) Indicare il prodotto della reazione:

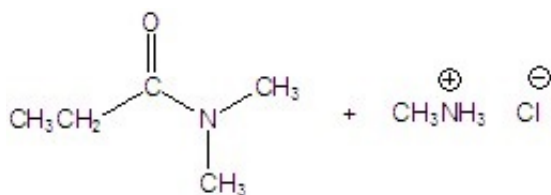




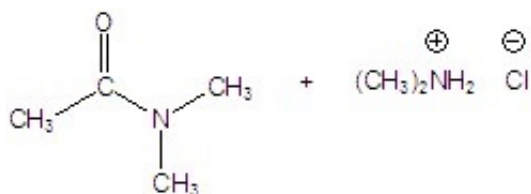
B.



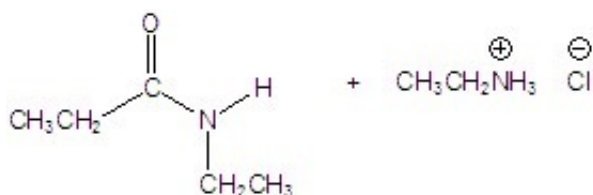
C.



D.



E.

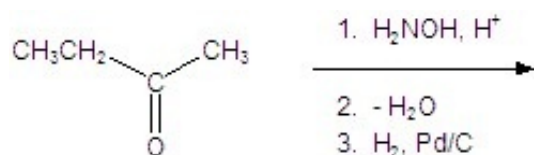


8) A parità del gruppo R, ordinare i seguenti composti in ordine di punto di ebollizione crescente:

- 1) RCOOH;
- 2) ROH;
- 3) RH;
- 4) RX

- A. 3,2,4,1
- B. 4,3,2,1
- C. 2,1,3,4
- D. 3,4,2,1
- E. 1,2,3,4

9) Qual è il prodotto della reazione?



- A. $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_3$
 $\text{CH}_3\text{CH}_2\text{CHNH}_2$
 CH_3
- B.
- C. $\text{CH}_3\text{CH}_2\text{CH}_2\text{NHCH}_3$
 CH_3CH_2
 C
 CH_3
 NOH
- D.
- E. CH_3CH_2
 C
 CH_3
 NH

10) Quanti prodotti si ottengono per reazione del benzene con il Br_2 in presenza di FeCl_3 ?

- A. 1
 B. 2
 C. 4
 D. 5
 E. 3

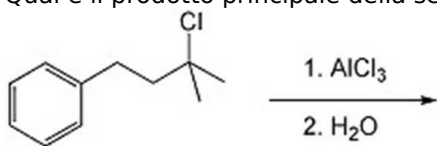
11) La ciclizzazione dei monosaccaridi porta alla formazione di quale gruppo funzionale?

- A. Aldeide
 B. Chetone
 C. Acido Carbossilico
 D. Emiacetale
 E. Acetale

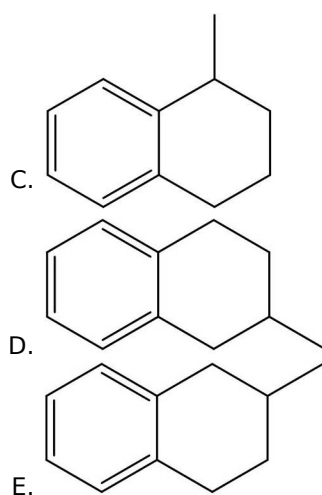
12) La nitratura diretta dell'anilina fornisce:

- A. *o*-nitroanilina, *m*-nitroanilina, *p*-nitroanilina e prodotti di ossidazione dell'anilina
 B. *o*-nitroanilina e *p*-nitroanilina
 C. *o*-nitroanilina e *m*-nitroanilina
 D. *p*-nitroanilina
 E. *o*-nitroanilina

13) Qual è il prodotto principale della seguente reazione?



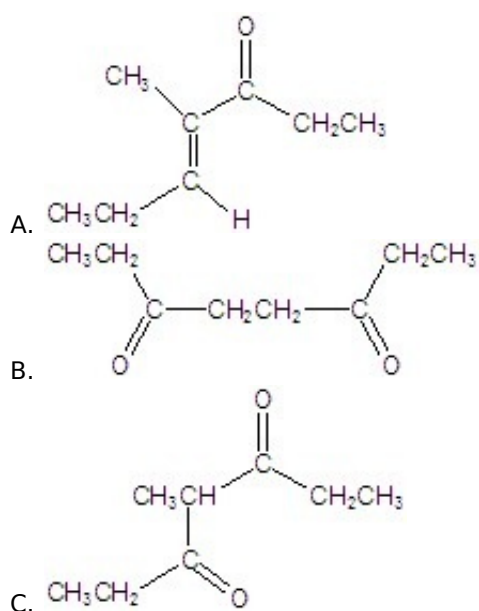
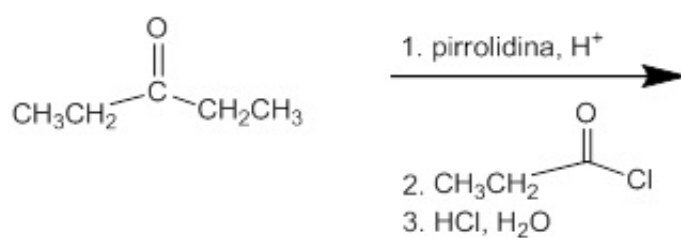
- A.
- B.

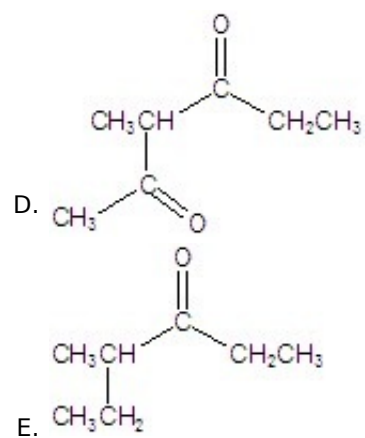


14) Quale composto ha il più basso pK_a ?

- A. $CH_3CH_2O_2CCH_2CHO$
- B. $(CH_3CH_2O_2C)_2CH_2$
- C. $CH_3CH_2COCH_2CHO$
- D. $(NC)_2CH_2$
- E. $PhCOCH_2COCH_3$

15) Indicare il prodotto principale della seguente reazione:

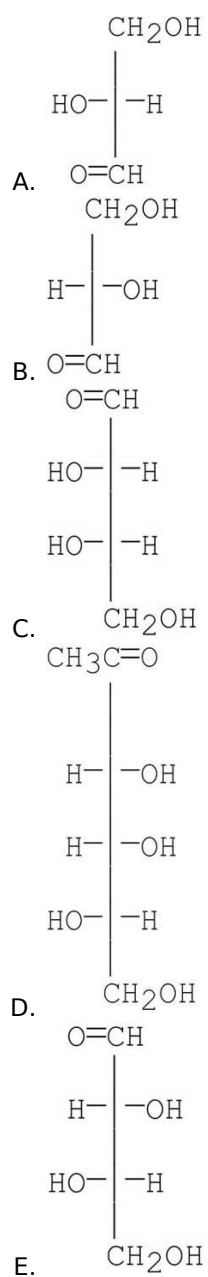




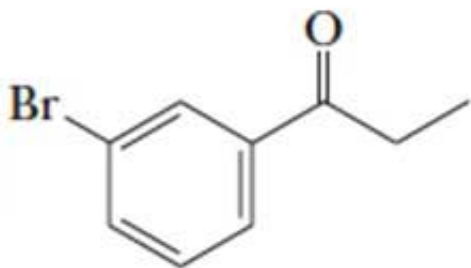
RISPOSTE CORRETTE

- 1) A
- 2) D
- 3) D
- 4) A
- 5) C
- 6) B
- 7) B
- 8) D
- 9) B
- 10) A
- 11) D
- 12) A
- 13) A
- 14) C
- 15) C

1) Quale composto è un monosaccaride appartenente alla serie sterica D?



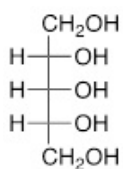
- 2) Quali sono i reagenti attraverso i quali l'1-fenil-1-propanone può essere convertito nel seguente composto?



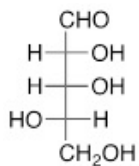
- A. NBS/perossidi
- B. $\text{Br}_2/\text{H}_2\text{O}$
- C. $\text{Br}_2/\text{CH}_3\text{COOH}$
- D. $\text{Br}_2/\text{FeBr}_3$
- E. Br_2/OH^-

- 3) Qual è la proiezione di Fischer corretta per il D-ribosio?

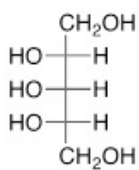
A.



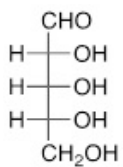
B.



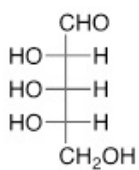
C.



D.



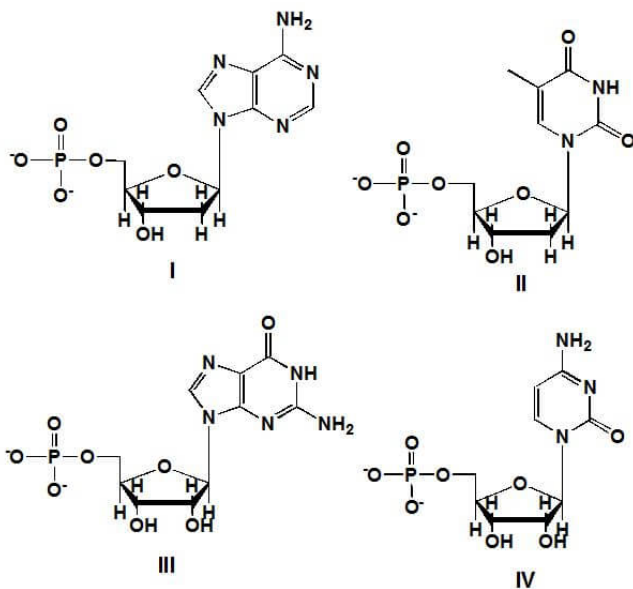
E.



4) Calcolare il numero di insaturazioni per il composto di formula molecolare C_4H_4S

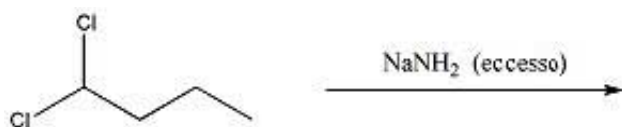
- A. 3
- B. 4
- C. 2
- D. 0
- E. 1

5) Quali dei seguenti composti sono acetali?

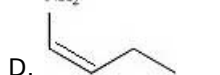
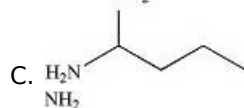


- A. II, III, IV
- B. I, II, III
- C. I, II, III, IV
- D. II, III, IV
- E. II, IV

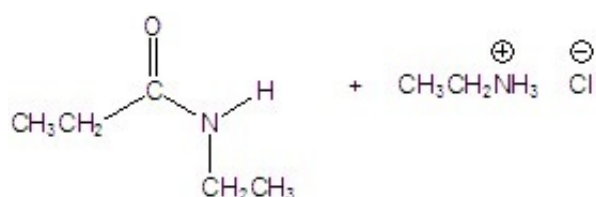
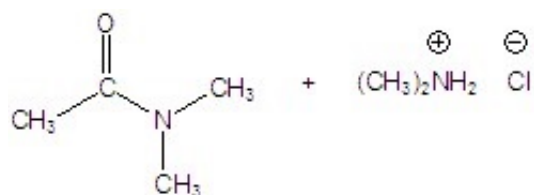
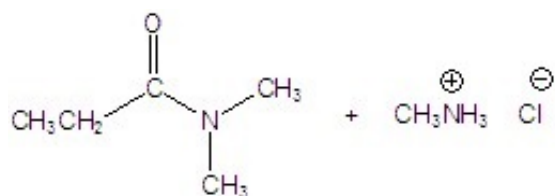
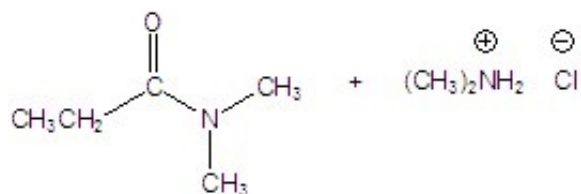
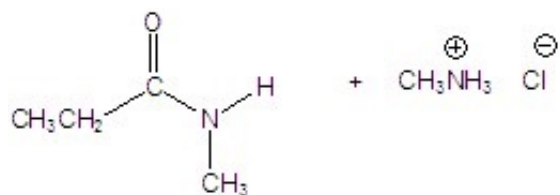
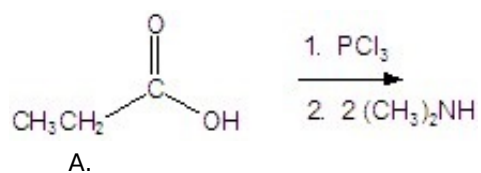
6) Qual è il principale prodotto della reazione?



A. Non avviene alcuna reazione



7) Indicare il prodotto della reazione:

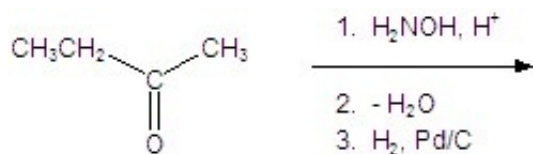


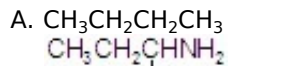
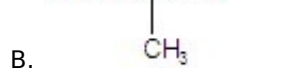
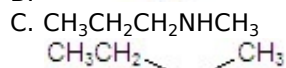
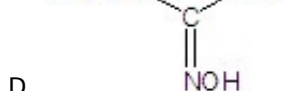
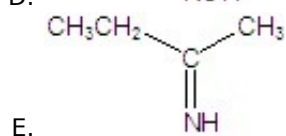
8) A parità del gruppo R, ordinare i seguenti composti in ordine di punto di ebollizione crescente:

- 1) RCOOH;
- 2) ROH;
- 3) RH;
- 4) RX

- A. 3,2,4,1
- B. 4,3,2,1
- C. 2,1,3,4
- D. 3,4,2,1
- E. 1,2,3,4

9) Qual è il prodotto della reazione?



- A. 
B. 
C. 
D. 
E. 

10) Quanti prodotti si ottengono per reazione del benzene con il Br_2 in presenza di FeCl_3 ?

- A. 1
B. 2
C. 4
D. 5
E. 3

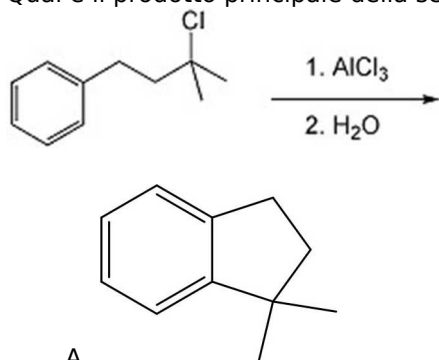
11) La ciclizzazione dei monosaccaridi porta alla formazione di quale gruppo funzionale?

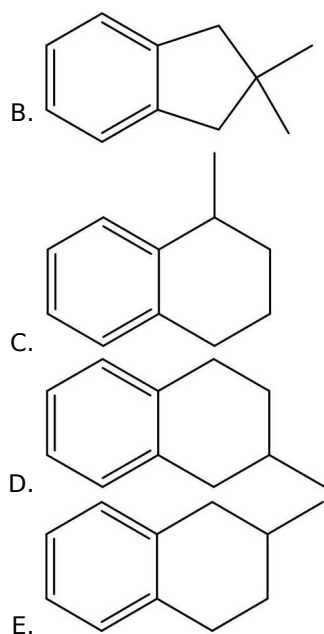
- A. Aldeide
B. Chetone
C. Acido Carbossilico
D. Emiacetale
E. Acetale

12) La nitratura diretta dell'anilina fornisce:

- A. *o*-nitroanilina, *m*-nitroanilina, *p*-nitroanilina e prodotti di ossidazione dell'anilina
B. *o*-nitroanilina e *p*-nitroanilina
C. *o*-nitroanilina e *m*-nitroanilina
D. *p*-nitroanilina
E. *o*-nitroanilina

13) Qual è il prodotto principale della seguente reazione?

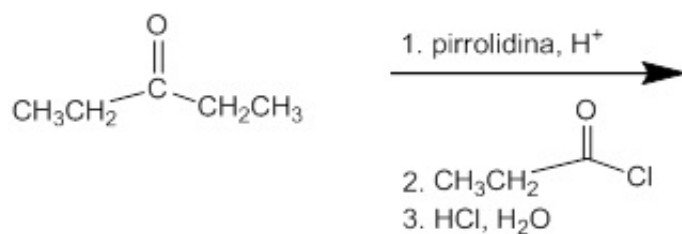




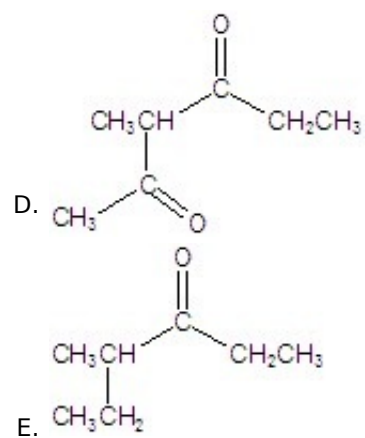
14) Quale composto ha il più basso pK_a ?

- A. $\text{CH}_3\text{CH}_2\text{O}_2\text{CCH}_2\text{CHO}$
- B. $(\text{CH}_3\text{CH}_2\text{O}_2\text{C})_2\text{CH}_2$
- C. $\text{CH}_3\text{CH}_2\text{COCH}_2\text{CHO}$
- D. $(\text{NC})_2\text{CH}_2$
- E. $\text{PhCOCH}_2\text{COCH}_3$

15) Indicare il prodotto principale della seguente reazione:



- A.
- B.
- C.



RISPOSTE CORRETTE

- 1) A
- 2) D
- 3) D
- 4) A
- 5) C
- 6) B
- 7) B
- 8) D
- 9) B
- 10) A
- 11) D
- 12) A
- 13) A
- 14) C
- 15) C