

* How many possible trisubstituted derivatives C6H3X2Y can be btained from the meta disubstituted benzene C6H4X2? (Ignore directive effects of the substituents X and assume that all positions on the ring are accessible to the reagent Y+).

1. One 2. Two 3. Three 4. four

* In assigning priorities according to R,S convention, which group ranks highest?

1. –CH2(CH2)10CH3
2. –CH(CH3)2
3. –C(CH3)3
4. –CH2Cl
5. –CH2(CH2)10Cl

* Which of the following compounds reacts with cyclopentanone to yield and amine?

1. NaNH2
2. (CH3)2CHNH2
3. (CH3)3N
4. (CH3)2NH

* In a strongly acidic solution the amino acid lysine exists as the dication:

+

H3N(CH2)4CHOOH

⏐+

NH3

As the pH is raised what monocation is formed from the loss of the proton from the dication?

O

⏐⏐

1. H2N(CH2)4CHC OH

⏐

+ NH3

O

+ ⏐⏐

H3N(CH2)4C OH

⏐

NH2

3.

O

+ ⏐⏐

H3N(CH2)4C OH-

⏐

+NH3

4.

O

+ ⏐⏐

H3N(CH2)4C OH

⏐

+NH3