

NAME REACTIONS

1. The composition of "Lindlar catalyst" is: [GPAT-2024]

- (a) Amalgamated Zinc and HCl
(b) Palladium with Sodium carbonate
(c) Palladium with calcium carbonate
(d) NH_2NH_2 and KOH

2. Conversion of cyclic ketone to ring expanded cyclic ester takes place by [GPAT-2023 SHIFT-11]

- (a) Willgerodt rearrangement
(b) Michael rearrangement
(c) Lossen rearrangement
(d) Baryer Villiger rearrangement

3. Replacement of the diazonium group by halogen in presence of copper powder is [GPAT-2023 SHIFT-11]

- (a) Sandmeyer reaction
(b) Gattermann reaction
(c) Hofmann reaction
(d) Gabriel reaction

4. Which is an example of aromatic nucleophilic substitution reaction [GPAT-2023 SHIFT-I]

- (a) Chichibabin
(b) Guttermann Koch reaction
(c) Kolbe's reaction
(d) Friedel-Crafts reaction

5. Insertion of an oxygen in a carbonyl compound to form an ester is known as [GPAT-2022]

- (a) Baeyer Villiger oxidation
(b) Sharpless epoxidation
(c) Prevost oxidation
(d) Lossen rearrangement

6. Controlled alkylation of a ketone via an enamine intermediate is named as [GPAT-2022]

- (a) Mannich reaction
(b) Robinson annulation
(c) Stork reaction
(d) Bamford Stevens reaction

7. An epoxy ring can be prepared by (GPAT-2021)

- (a) DCC oxidation of alcohol (b) Prevost reaction
(c) Drzen's glycidic ester synthesis (d) Swern oxidation

8. The condensation of an active methylene compound with formaldehyde and an amine to form β -amino carbonyl compound is known as [GPAT-2020]

- (a) Mannich reaction (b) Knoevenagel condensation
(c) Stobbe condensation (d) Beckmann rearrangement

9. Which of the following rearrangement involves migration of a group from carbon to electron deficient nitrogen. (GPAT-2020)

- (a) Willgerodt rearrangement (b) Bayer villiger rearrangement
(c) Pinacol-pinacolone rearrangement (d) Beckmann rearrangement

10. Reaction of α -halo ester with an aldehyde or ketone in the presence of a base like NaNH_2 , gives a β -epoxy carboxylic ester. This reaction is referred as. [GPAT-2019]

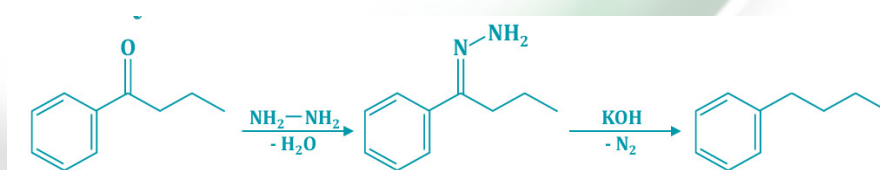
- (a) Willgerodt rearrangement (b) Bamford Steven reaction
(c) Drzen's glycidic synthetis (d) Bayer villiger rearrangement

11. Conversion of a carbonyl functionality directly to its hydrocarbon in basic media can be achieved by [GPAT-2019]

- (a) Lithium aluminum hydride reduction (b) Clemmensen reduction
(c) Sodium borohydride reduction (d) Wolff-kishner reduction

12. Identify the named reaction (GPAT-2019)

- (a) Curtius Rearrangement
(b) Clemmensen reduction
(c) Wolff-Kishner reduction
(d) Wolff-Rearrangement

**13. Which of the following is a 3,3-sigmatropic reaction which converts a 1,5-diene to an isomeric 1,5-diene [GPAT-2018]**

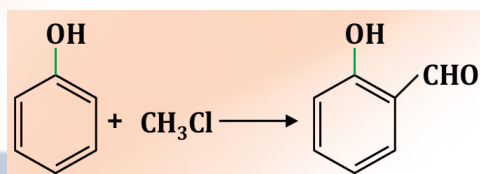
- (a) Cope rearrangement (b) Claisen rearrangement
(c) Photochemical (2+2) reaction (d) Diels-Alder reaction

14. Conversion of phenyl acetate into o-hydroxyl acetophenone or ortho hydroxyl acetophenone in presence of anhydrous AlCl_3 , the reaction known as [GPAT-2016]

- (a) Friedel crafts reaction (b) Fries rearrangement
(c) Reimer-Tiensen reaction (d) Oppenauer oxidation

15. Identify the named reaction (GPAT-2016)

- (a) Perkin's reaction
(b) Hell, volhardzelinsky reaction
(c) Reimer tiemann reaction
(d) Hoffmann bromamide reaction



16. Best reagent for the following conversion [GPAT-2016]

- (a) Li/liq. NH_3 (b) Raney-Ni
(c) LiAlH_4 (d) None of these

17. Baryer's reagent is (GPAT-2015)

- (a) Alkaline KMnO_4 solution (b) Acidic KMnO_4 solution
(c) Neutral KMnO_4 solution (d) Aqueous bromine solution

18. Perkin reaction is used for the synthesis of [GPAT-2015]

- (a) α, β -unsaturated Aldehyde (b) α, β - unsaturated Acid
(c) α, β - unsaturated Ester (d) α, β - unsaturated Ketone

19. The conversion of acetamide to methylamine by the reaction of Br_2/KOH is an example of [GPAT-2014]

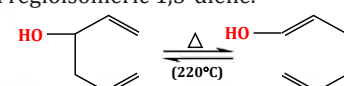
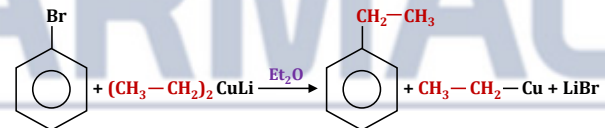
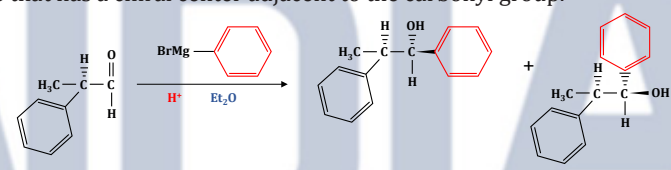
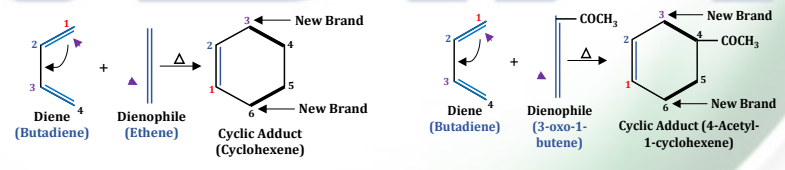
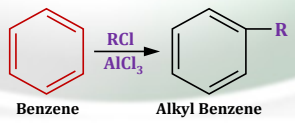
- (a) Cannizzaro reaction (b) Esterifications
(c) Hofmann reaction (d) Bromoform reaction

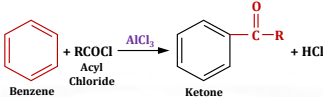
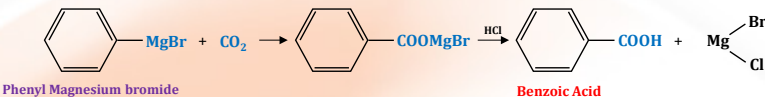
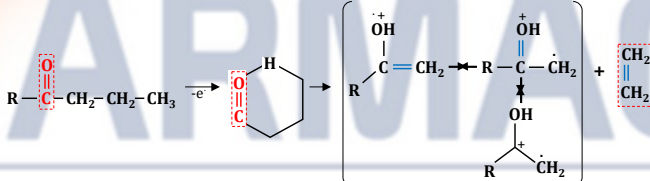
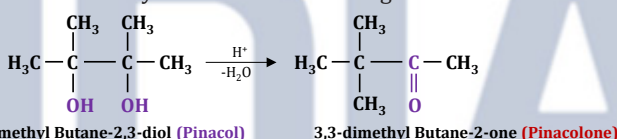
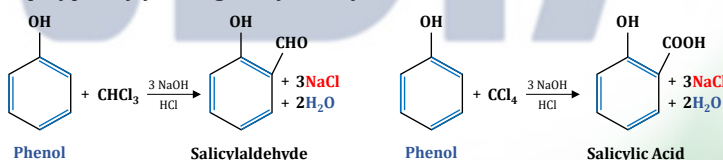
20. In which rearrangement reaction, Isocyanate is formed [GPAT-2014]

- (a) Curtius rearrangement (b) Lossen rearrangement
(c) Both (a) and (b) (d) None of these

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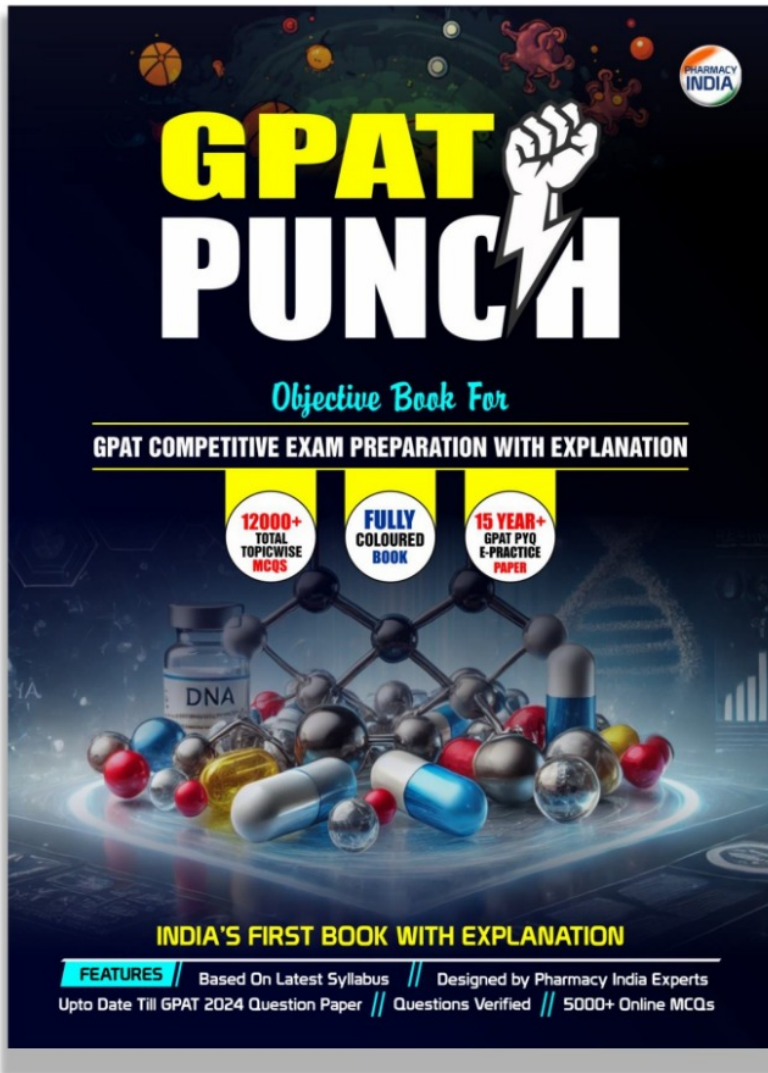
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Baeyer-Villiger Reaction	<p>The oxidation of a ketone to an ester, or a cyclic ketone to a lactone, using a peroxy acid (like RCO_3H) or peroxide as the oxidant.</p> $\text{R}-\overset{\text{O}}{\parallel}{\text{C}}-\text{R}' \xrightarrow{\text{CF}_3\text{CO}_3\text{H}} \text{R}-\overset{\text{O}}{\parallel}{\text{C}}-\text{O}-\text{R}'$ <p style="text-align: center;">Ketone Ester</p>
Cannizzaro's Reaction	<p>A redox reaction involving two molecules of an aldehyde that lacks an alpha-hydrogen. In the presence of a strong base, one molecule is oxidized to a carboxylic acid salt, and the other is reduced to a primary alcohol.</p> $2\text{HCHO} \xrightarrow[\text{(50\%)}]{\text{NaOH}} \text{HCOONa} + \text{CH}_3\text{OH}$ <p style="text-align: center;">Formaldehyde Sodium Formate Methanol</p> $2\text{C}_6\text{H}_5\text{CHO} + \text{NaOH} \xrightarrow[\text{(50\%)}]{} \text{C}_6\text{H}_5\text{CH}_2\text{OH} + \text{C}_6\text{H}_5\text{COONa}$ <p style="text-align: center;">Benzaldehyde Benzyl Alcohol Sod. Benzoate</p>
Cope Rearrangement/Reacton	<p>The thermal isomerization of a 1,5-diene via a 3,3-sigmatropic shift. This reaction involves the concerted reorganization of electrons to form a regioisomeric 1,5-diene.</p> 
Corey-House Synthesis	<p>A method for synthesizing alkanes. An alkyl halide is converted to a lithium dialkyl cuprate (LiR_2Cu), which then reacts with a second alkyl halide to form a higher alkane.</p> 
Cram's Rule	<p>A rule used to predict the stereochemistry of the major product when an achiral nucleophile adds to a chiral aldehyde or ketone that has a chiral center adjacent to the carbonyl group.</p> 
Diels-Alder Reaction	<p>A cycloaddition reaction between a conjugated diene and a substituted alkene (the dienophile) to form a six-membered ring. It can be used to detect the presence of a conjugated system of double bonds</p> 
Friedel-Crafts Alkylation	<p>An electrophilic aromatic substitution reaction that introduces an alkyl group onto a benzene ring using an alkyl halide and a Lewis acid catalyst like AlCl_3.</p> 

<p>Friedel-Crafts Acylation</p>	<p>An electrophilic aromatic substitution reaction where an acyl group (from an acid chloride or acid anhydride) is introduced onto a benzene ring using a Lewis acid catalyst like AlCl_3 to give an aromatic ketone.</p> 
<p>Grignard Reaction</p>	<p>The addition of an organomagnesium halide (Grignard reagent, RMgX) to a carbonyl group. The example shows the reaction with CO_2 to form a benzoic acid after acidic workup.</p> 
<p>Hell-Volhard-Zelinsky Reaction</p>	<p>The alpha-halogenation of a carboxylic acid that possesses an alpha-hydrogen. The reaction uses a halogen and a catalytic amount of phosphorus.</p>
<p>Kolbe's Method (Kolbe's Electrolysis)</p>	<p>The electrolysis of an aqueous solution of a sodium or potassium salt of a carboxylic acid. It results in the formation of a higher alkane at the anode through a radical coupling mechanism.</p> $2\text{CH}_3\text{COOK} + 2\text{H}_2\text{O} \xrightarrow{\text{Electrolysis}} \text{CH}_3-\text{CH}_3 + 2\text{CO}_2 + \text{KOH}$ <p style="text-align: center;">Alkyl Halide Ethane</p>
<p>McLafferty Rearrangement</p>	<p>A fragmentation reaction observed in mass spectrometry. It involves the cleavage of a bond beta to a keto-group, accompanied by the transfer of a gamma-hydrogen atom to the carbonyl oxygen.</p> 
<p>Pinacol-Pinacolone Rearrangement</p>	<p>The acid-catalyzed rearrangement of a fully substituted 1,2-diol (a pinacol) into a ketone (a pinacolone). The process involves dehydration followed by a carbocation rearrangement.</p> 
<p>Reimer-Tiemann Reaction</p>	<p>The ortho-formylation of a phenol. The reaction uses chloroform (CHCl_3) in a basic solution to introduce a formyl ($-\text{CHO}$) group, typically yielding salicylaldehyde.</p> 
<p>Rosenmund Reduction</p>	<p>The catalytic reduction of an acid chloride to an aldehyde. The reaction uses hydrogen gas (H_2) with a palladium catalyst that has been "poisoned" by suspending it on barium sulphate.</p> $\text{CH}_3\text{COCl} + \text{H}_2 \xrightarrow{\text{Pd, BaSO}_4 \text{ Poisoned}} \text{CH}_3\text{CHO} + \text{HCl}$ <p style="text-align: center;">Acetyl Chloride Acetaldehyde</p>
<p>Wurtz Reaction</p>	<p>A coupling reaction for the synthesis of higher alkanes. It involves the reaction of two molecules of an alkyl halide with sodium metal in the presence of dry ether. The resulting alkane is symmetrical.</p> $2\text{CH}_3-\text{I} + 2\text{Na} \xrightarrow{\text{Dry Ether}} \text{CH}_3-\text{CH}_3 + 2\text{NaI}$ <p style="text-align: center;">Methyl Iodide Ethane</p>



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