

	Specific Reaction/Named Reaction	Purpose Reactant ---->Products	Reagent/Conditions
1.	Sandmeyer reaction	Benzene diazonium chloride → Chloro/Bromo/Cyano benzene	CuCl/HCl CuBr/HBr CuCN/KCN
2.	Gattermann reaction	Benzenediazonium chloride → Chlorobenzene/Bromobenzene	Cu powder/HCl Cu powder/HBr
3.	Balz-Schiemann reaction	Benzene diazonium chloride → Fluorobenzene	HF ₄ /Heat
4.	Finkelstein reaction	Chloroalkane/Bromoalkane → Iodoalkane	NaI/acetone
5.	Swarts reaction	Chloroalkane Bromoalkane → Fluoro alkane	Metallic fluoride (AgF, Hg ₂ F ₂ , COF ₂ SbF ₃) / heat
6.	Wurtz reaction	Haloalkane → Higher alkane (double no. of C)	Na/dry ether
7.	Fittig reaction	Haloarenes → Diphenyl	Na/dry ether
8.	Wurtz fittig reaction	Haloalkane + Haloarene → alkyl benzene	Na/dry ether
9.	Kolbe's reaction	Phenol → Salicylic acid	(i) NaOH (ii) CO ₂ (iii) H ⁺
10.	Reimer-Tiemann reaction	Phenol → Salicylaldehyde	(i) NaOH (ii) CHCl ₃ (iii) H ⁺
11.	Williamson synthesis	Alkylhalide + Sodium alkoxide/Sodium phenoxide → ether (symmetrical and asymmetrical)	Heat
12.	(i) Friedel Craft Alkylation (ii) Friedal craft Acylation	Benzene/Benzene derivative → Alkyl benzene/Alkyl substituted benzene Benzene/Benzene derivative → Acyl benzene/Acyl substituted benzene	Anhydrous AlCl ₃ Anhydrous AlCl ₃
13.	Rosenmund reduction	Acid chloride → Aldehyde	H ₂ /PCl-BaSO ₄
14.	Stephen reduction	Alkylcyanide (Nitrile) → Aldehyde	SnCl ₂ /HCl
15.	Etard reaction	Toluene → Benzaldehyde	(i) CrO ₂ Cl ₂ /CS ₂ (ii) H ⁺
16.	Gatterman-Koch reaction	Benzene/ benzene derivative → Benz aldehyde/Substituted Benzaldehyde	CO, HCl /Anhyd AlCl ₃
17.	Tollen's Test (silver mirror test)	Aldehyde → Corresponding carboxylic acid	Ammonical silver nitrate
18.	Fehling's Test	Aldehyde → Corresponding	Alkaline CuSO ₄

		carboxylic acid	
19.	Kolbe Electrolysis	Alkali metal salt of carboxylic acid → Hydrocarbon (double C-atoms)	Electrolysis
20.	Hell-Volhard-Zelinsky Reaction (HVZ)	Carboxylic acid (having α -H atom) → α -hydrogenated carboxylic acid	(i) X_2 /Red phosphorus (ii) H_2O
21.	Gabriel phthalimide synthesis	Phthalimide → Primary amine	(i) KOH (ii) RX (iii) NaOH
22.	Hoffman Bromamide degradation reaction	Amide → Primary amine (1-C less)	Br_2 /NaOH
23.	Carbylamine reaction	Primary amine → Carbylamine (Isocyanide)	$CHCl_3$ /NaOH
24.	Hinsberg reaction	Primary amine/Secondary → Sulphonamide	Benzene Sulphonyl chloride
25.	Coupling reaction	Phenol/Aniline + Benzene diazonium chloride → azo dye (p-hydro/P-amino azobenzene)	NaOH or HCl
26.	Clemmensen Reduction	Aldehyde/ketone → Alkane	Zn-Hg/HCl
27.	Wolff-Kishner Reduction	Aldehyde/ketone → Alkane	(i) $NH_2 NH_2$ (ii) KOH/ Ethylene glycol
28.	(i) Aldol reaction (ii) Aldol Condensation	Aldehyde/ketone (α -H containing) → Aldol/Ketol Aldehyde/ketone → Aldol condensation product (α , β , unsaturated carbonyl of compound)	Dilute NaOH/ KOH Heat
29.	Cannizzaro reaction	Aldehyde (Lacking α -H) → Alcohol + salt of carboxylic acid	Conc NaOH/ KOH
30.	Iodoform reaction	Aldehyde/ketone/Alcohol (Containing CH_3OH , CH_3CO → Sodium salt of corresponding carboxylic acid + Iodoform	I_2 + NaOH