## Aldehyde and Ketone

		Aldehyde		Ketone
	Name	Acetaldehyde	Benzaldehyde	Acetone
	Mol. Formula	C <sub>2</sub> H <sub>4</sub> O	C <sub>7</sub> H <sub>6</sub> O	C <sub>3</sub> H <sub>6</sub> O
	Mol. Structure	H CH <sub>3</sub>	D H	H <sub>3</sub> C CH <sub>3</sub>
	Physical state	Colorless-Liquid	Colorless-Liquid	Colorless-Liquid
	Solubility	Soluble(Miscible) in water and acidize	Insoluble(immiscible) in water and HCl ,NaOH and natural	Soluble(Miscible) in water and natural
Carbonyl group	Nickelophilic addition 2,4DNPH 1ml of Aldehyde or Ketone+ 2,4DNPH (But Ketone before add 2,4DNPH mixed with water)	+ Ve result Yellow-orange Precipitate	+ Ve result Yellow-orange Precipitate	+ Ve result Yellow-orange Precipitate
Oxidation and Reduction	Oxidation and Reduction 1-KMnO4 1ml of Aldehyde +NaOH+∆	+Ve result disappearance of the purple color of KMnO4 appearance of a brown precipitate	+Ve result disappearance of the purple color of KMnO4 appearance of a brown precipitate	-Ve result
	2-Fehling,s (A+B) 1ml of Aldehyde +Fehling,s + $\Delta$	+Ve result Red ppt of copper oxide appears	+Ve result Red ppt of copper oxide appears (Long time)	-Ve result
	3-Ammonical silver Nitrate(Tollen,s) drop of silver Nitrate+ 10% NaOH black ppt+ NH4OH add to of Aldehyde +∆	+Ve result Silver mirror	+Ve result Silver mirror	-Ve result