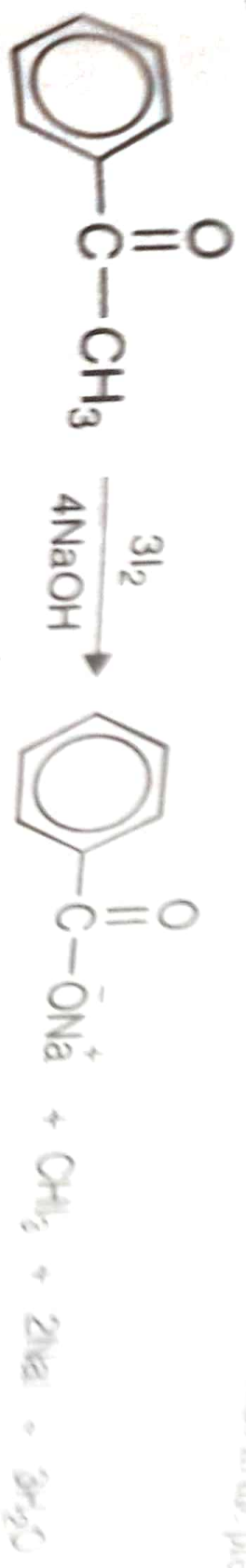


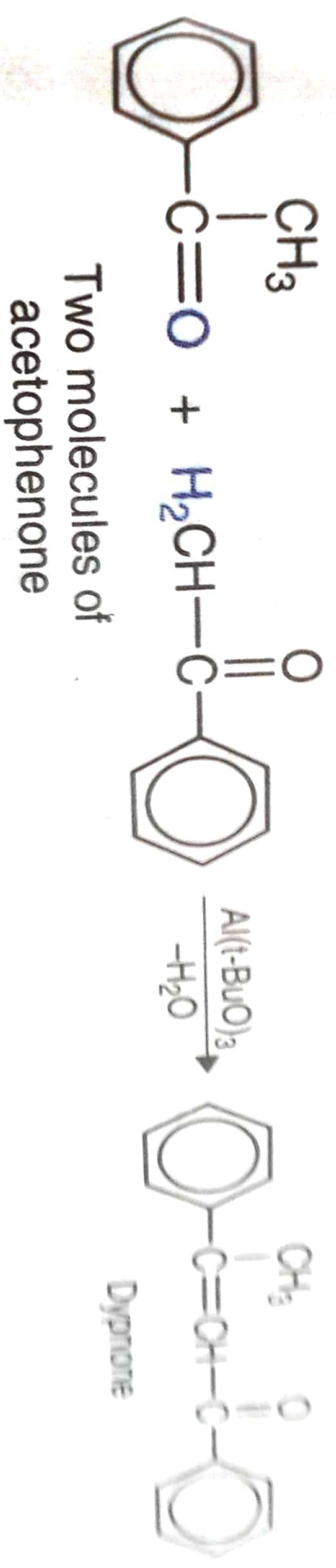
Acetophenone also reacts with phenylhydrazine to form phenylhydrazone.  
 (7) **Iodoform Reaction.** Acetophenone is a methyl ketone and reacts with iodine in the presence of sodium hydroxide to form iodoform.



Acetophenone

Iodoform

(8) **Aldol-Type Condensation.** Acetophenone undergoes self-addition in the presence of aluminum hydroxide to form **Dypnone**.





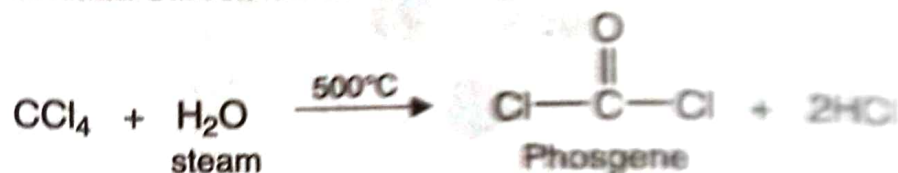
(2) **From Methane.** By chlorination of methane with excess of chlorine at 400°C



**Properties (Physical).** Carbon tetrachloride is a colorless liquid, but soluble in ethanol and ether. It is an excellent solvent for oils, waxes, etc. Carbon tetrachloride is used as a fire-extinguisher under the name **Pyrene** because when a spray of carbon tetrachloride is directed at fire, its dense vapors prevent from reaching the burning articles. However, carbon tetrachloride also forms phosgene using **Pyrene** to extinguish a fire, the room should be well ventilated.

**(Chemical).** Carbon tetrachloride is inert to most organic reagents. It gives the following reactions:

(1) **Reaction with Steam.** Carbon tetrachloride vapors react with steam at 500°C



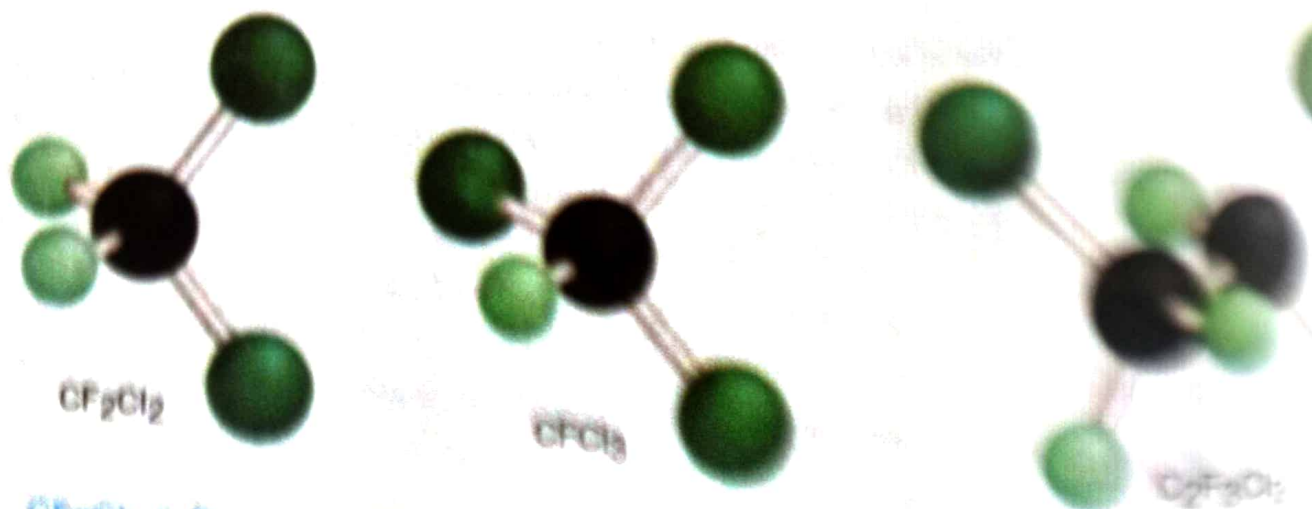
(2) **Reduction.** Carbon tetrachloride can be reduced by moist iron filings to give



(3) **Reaction with HF.** Carbon tetrachloride reacts with hydrogen fluoride and antimony pentafluoride to form dichlorodifluoromethane (**Freon-12**).



**Freon-12** ( $bp -29^\circ\text{C}$ ) is widely used as a refrigerant and propellant in aerosol sprays.



$\text{CF}_2\text{Cl}_2$  is Freon-12. Other CFCs include  $\text{CFCl}_3$  (Freon-11) and  $\text{C}_2\text{F}_3\text{Cl}_3$  (Freon-113).

**UNSATURATED HALIDES**