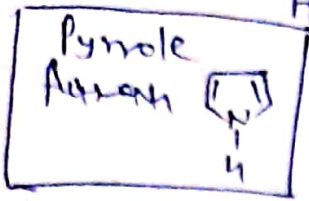
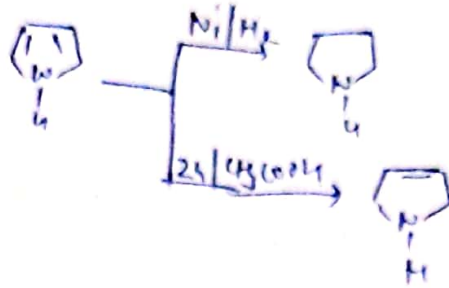


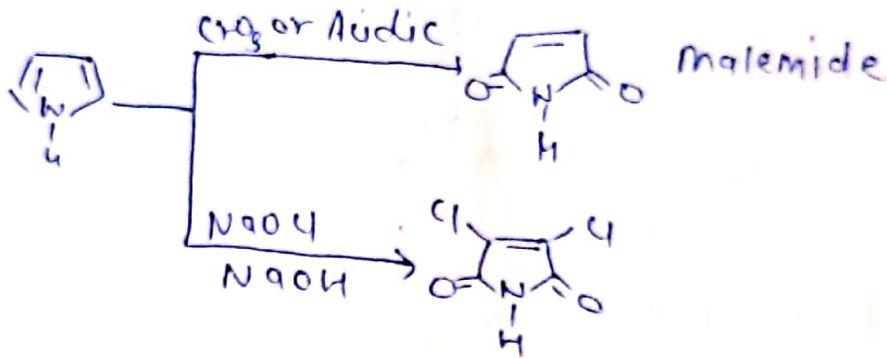
Heteronuclear Aromatic compounds (1)



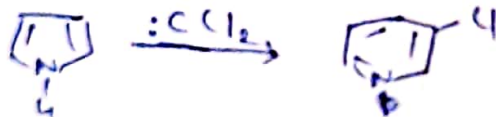
Rxⁿ of Pyrrrole (1) Reduction



(2) Oxidation



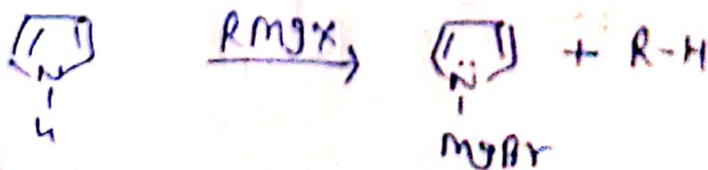
(3) Ring expansion



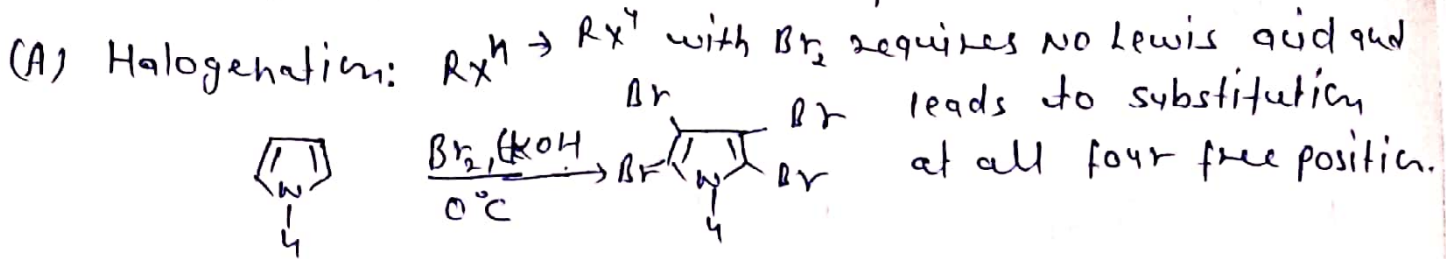
(4) Rxⁿ with Acid



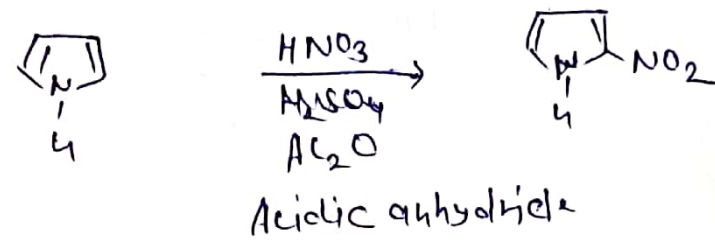
(5) Rxⁿ with RMgX



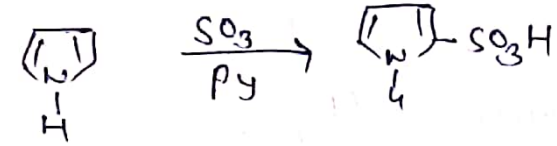
G) Electrophilic substitution Rxⁿ of Pyrrole:-



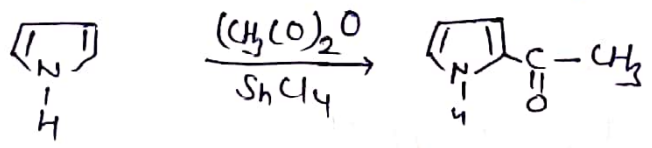
(B) Nitration:



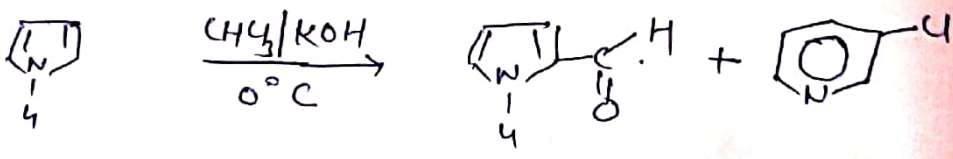
(C) Sulfonation:



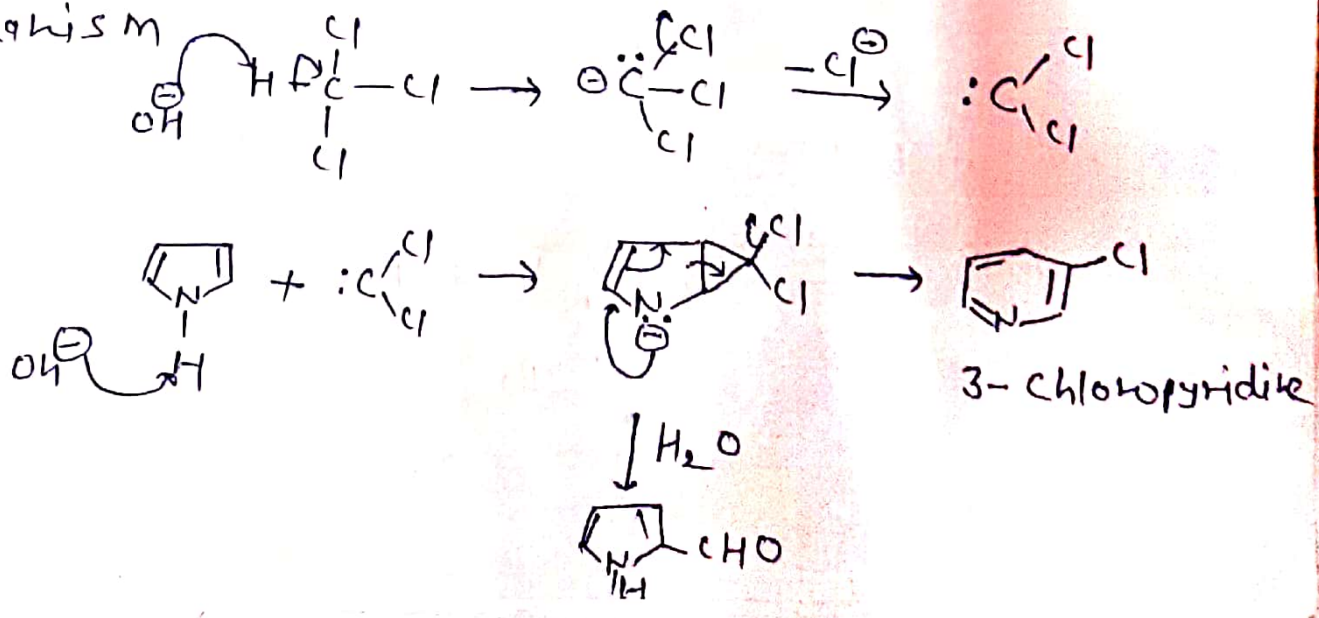
(d) Friedel Craft acylation:



(e) Reimer-Tiemann reaction.

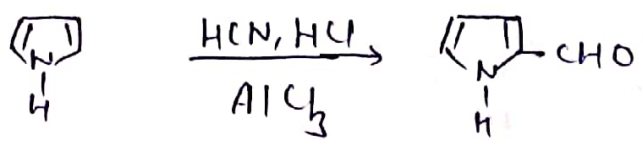


Mechanism

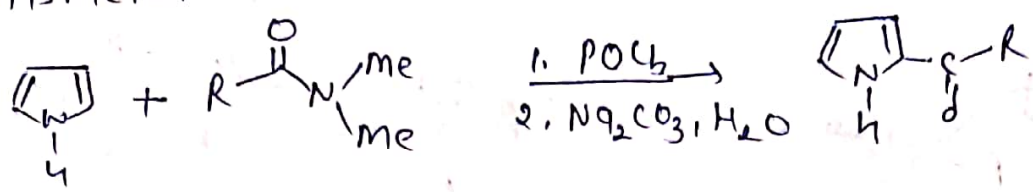


(F) Grattermann synthesis

(3)



(g) Vilsmeier Reaction



Mechanism

