

HALOALKANES & HALOARENES

Chemistry.
Class -XII
Unit-10

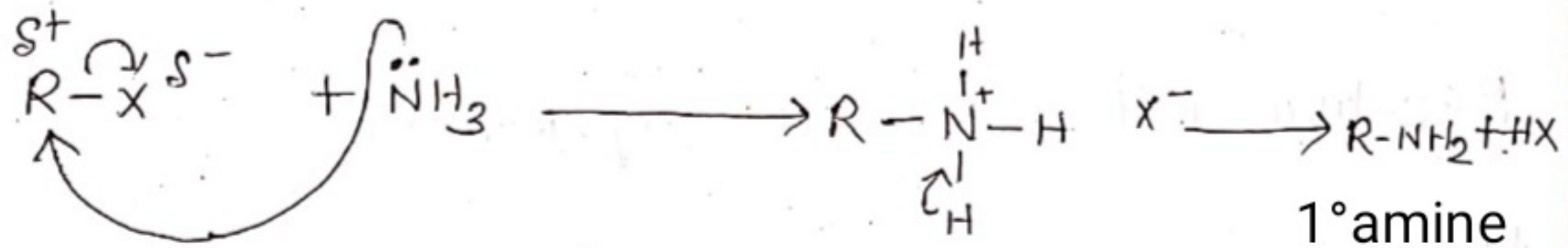
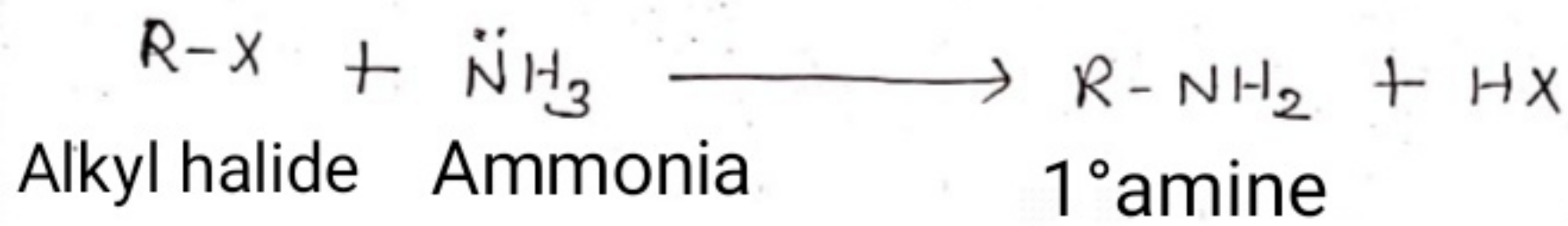
18-05-2020

Lecture - 7

Topic - Chemical Properties of Haloalkanes & Haloarenes

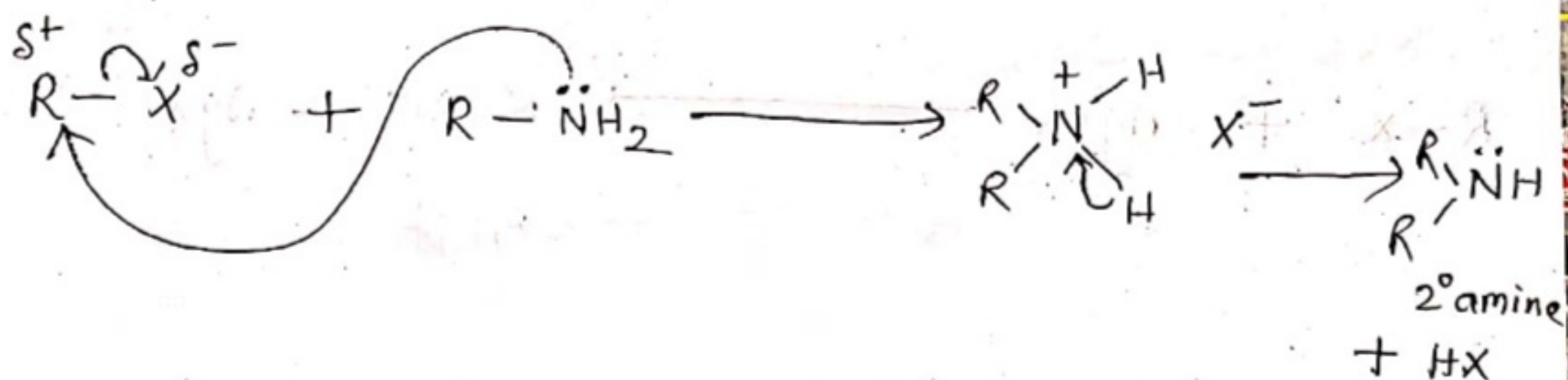
Reaction with Ammonia

continued & Completed.



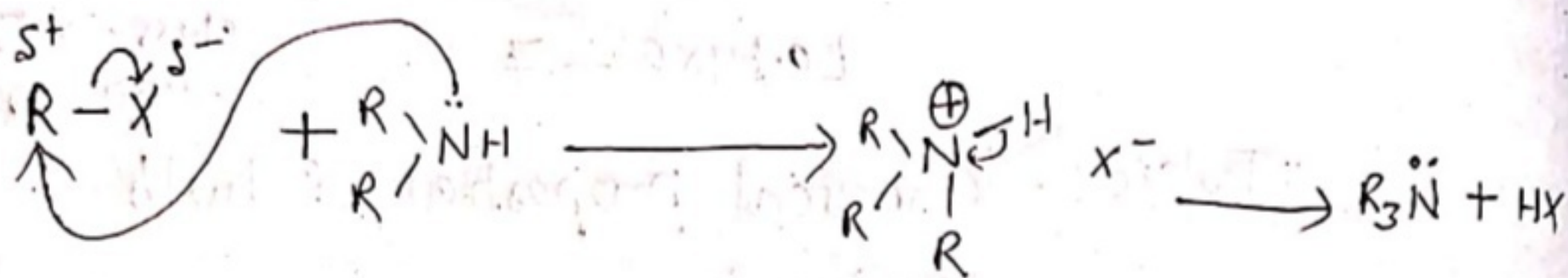
(If alkyl halide is excess)

Reaction with 1° amine

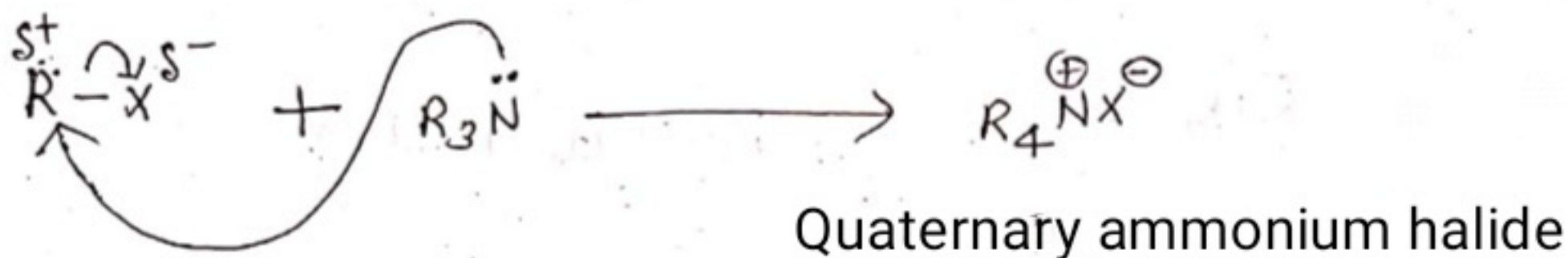


Reaction with 2° amine

2.



Reaction with 3° amine



Reaction with KCN (NUCLEOPHILE CN^-)



Reaction with AgCN



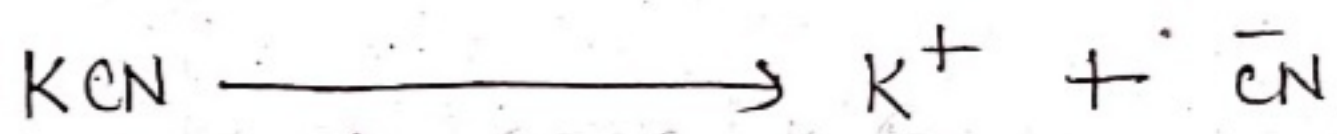
Example 10.5 (NCERT)

3.

Haloalkanes react with KCN to form alkyl cyanides as main product while AgCN forms isocyanide as the chief product. Explain.

Solution

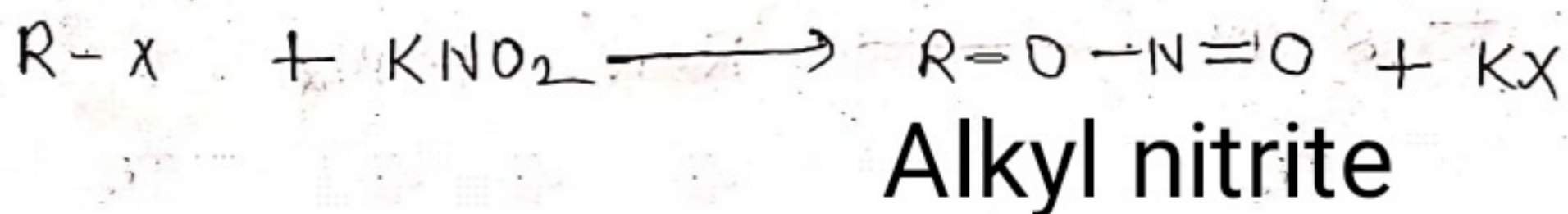
KCN is predominantly ionic and provides cyanide ions in solution.



Since, CN^- is ambident nucleophile, both carbon and nitrogen atoms are in a position to donate electron pairs, since C-C bond is more stable than C-N bond, the attack takes place through carbon atom and not through nitrogen atom.

However AgCN is mainly covalent in nature and nitrogen is free to donate electron pair forming isocyanide as the main product.

Reaction with KNO_2



Reaction with AgNO₂

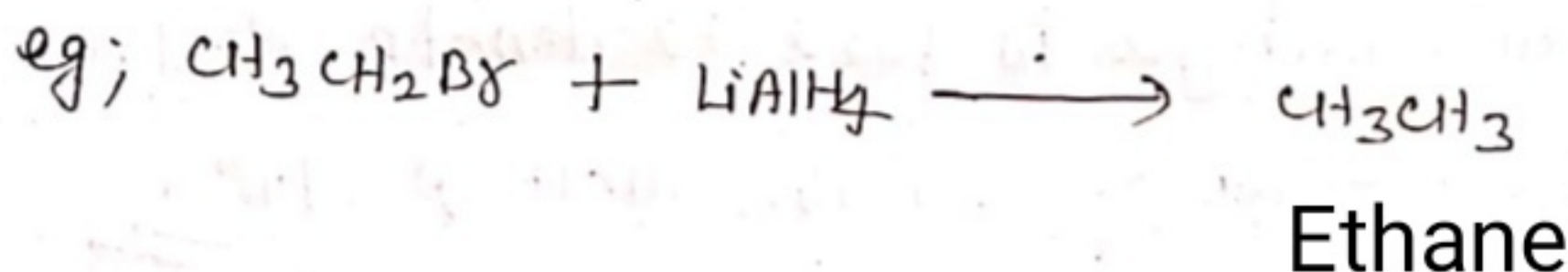
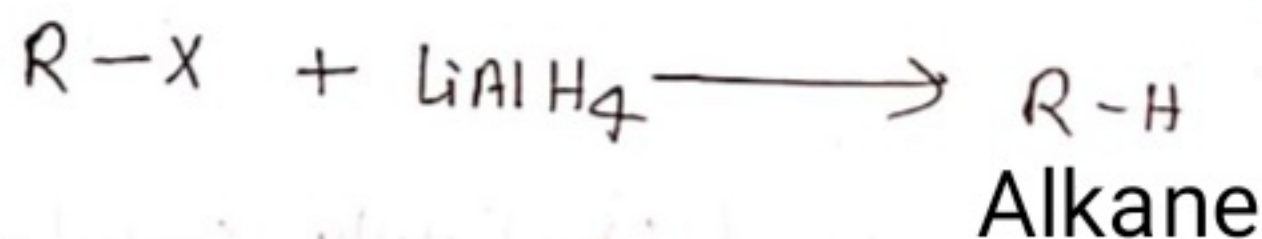
4.



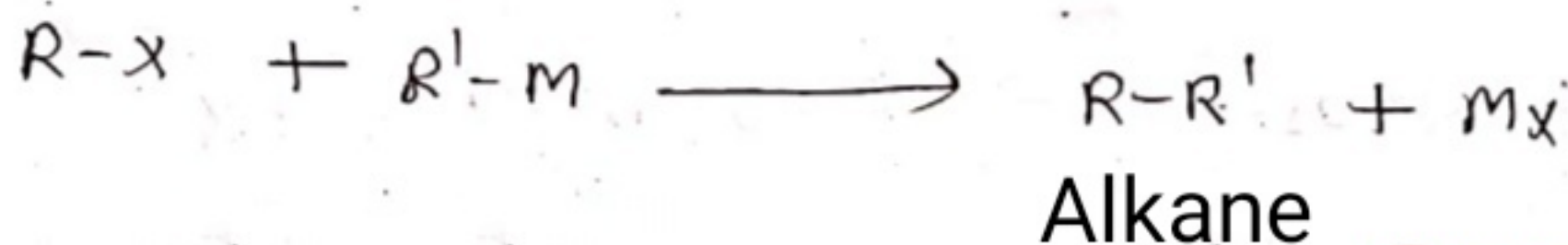
Reaction with R'COOAg



Reaction with LiAlH₄



Reaction with R'-M



Completed..