

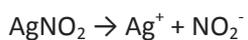
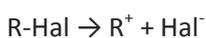
Question #57836, Chemistry / Organic Chemistry |

Treatment of alkyl halides with alcoholic AgNO_2 give mainly nitroalkanes . explain its please.

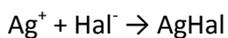
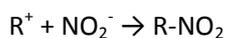
Answer:

This reaction consists of two steps:

1) Dissociation of alkyl halides and AgNO_2 :



2) Produced carbocation(R^+) reacts with NO_2^- and Hal^- forms precipitate with Ag^+ :



It should be noted that only alkyl bromides and iodides give good yields, primary chlorides fail to react. It is conditioned by the weaker C-Hal bond in case of Br and, especially, I, which favors formation of a carbocation which easily reacts with NO_2^- .