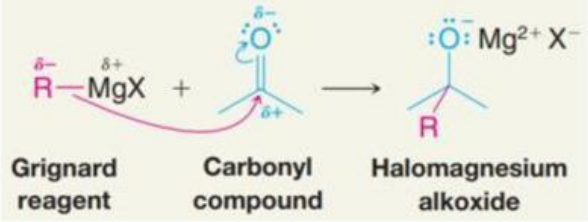
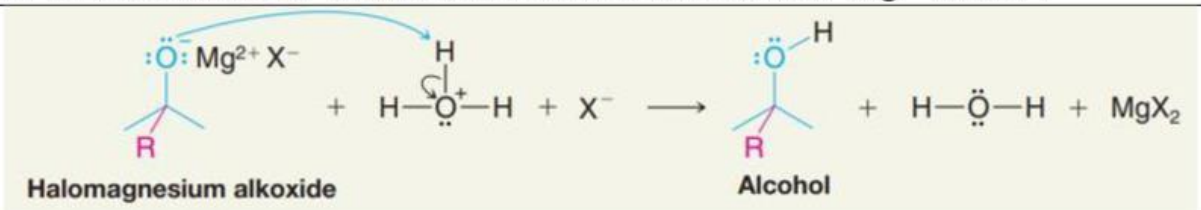
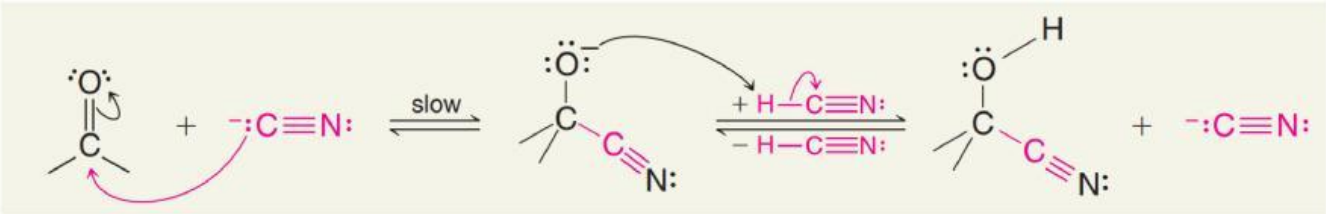
Fill in the blanks:

Grignard Reagent Mechanism

Step	Mechanism
Step 1	
	The strongly *electrophilic/nucleophilic* Grignard reagent uses the electron pair to form a bond to the carbon atom. One electron pair to form a bond to the carbon atom. One electron pair of the carbonyl group shifts out to the *carbon/oxygen*. This reaction is a *electrophilic/nucleophilic* addition to the carbonyl group, and it results in the formation of an alkoxide ion associated with Mg^{2+} and X^{-}.
Step 2	
	In the second step, the addition of aqueous HX causes *protonation/deprotonation* of the alkoxide ion; this leads to the formation of the alcohol and MgX_2

Reaction mechanism of Carbonyl with Cyanide ion to form Cyanohydrin.



Cyanide ion as a/an *electrophile/nucleophile* uses the electron pair to form a bond to the carbonyl carbon atom.	*Deprotonation/Protonation* of the alkoxide ion by HCN forming cyanohydrin.

LIVEWORKSHEETS