Chemical Reactions(Grp.13)

Date:21/12/2022

$B(OH)_2 + 4HF$ <==========>

$H_3BO_3 + C_5H_5OH$ ——————————>

$H_3BO_3 + Na_2CO_3$ ——————————>

$BF_3 + NH_3$ ——————————>

$2BF_3 + 6NaH$ ——180° C——>

$BF_3 + H_2O$ ——————————>

$BF_3 + LiAlH_4$ ——ether——>

BF_3 ——CH3 Mg I——>

$BF_3 + NHMe_2$ ——————————>

$4BF_3 + 3H_3O$ ——————————>

$8BF_3 + 6LiH$ ——————————>

$2BCl_3 + 2Hg$ ——electric discharge——>

$2BCl_3 + 6H_2$ ——electric discharge——>

$BCl_3 + H_2O$ ——————————>

$GaCl_3 + Ga$ ——————————>

$In + 2HCl(g)$ ——————————>

$2GaCl_2$ ——————————>

$2InCl_2$ ——————————>

$2NaBH_4 + I_2$ ——diglyme——>

$2NaBH_4 + H_2SO_4$ ——————————>

$NaBH_4 + 4[Et_2OBF_3]$ ——————————>

$6NaBH_4 + 2H_3PO_4$ ——————————>

$Mg_3B_2 + H_3PO_4$ ——> Mixture of Boranes ——Δ——>

$B_2H_6 + O_2$ ——————————>

$B_2H_6 + H_2O$ ——————————>

$B_2H_6 + ROH$ ——————————>

B_2H_6 ——Red hot——>

$B_2H_6 + HCl$ ——————————>

$B_2H_6 + 6Cl_2$ ——————————>

$B_2H_6 + 4MeCl$ ——————————>

B_2H_6 ——Na / Hg——>

$B_2H_6 + 6Cl_2$ (excess) ——————————>

$B_2H_6 + 2NH_3$ ——————————>

$2N(CH_3)_3 + B_2H_6 \longrightarrow$

$2PMe_3 + B_2H_6 \longrightarrow$

$2SEt_2 + B_2H_6 \longrightarrow$

$2CO + B_2H_6 \xrightarrow{470atm\ 20bar}$

$THF / Me_2O / Et_2O + B_2O_3 \longrightarrow$

$B_2H_6 + 2NH_3^{(excess)} \xrightarrow{Low\ temp}$

$B_2H_6 + 2NH_3^{(excess)} \xrightarrow{High\ temp}$

$B_2H_6 + 2NH_3 \xrightarrow{NH3 : B2H6 :: 2 : 1 \quad High\ temp}$

$B + N_2 \xrightarrow{\Delta}$

$B + NH_3 \xrightarrow{\Delta}$

$B_2H_6 + NH_3^{(excess)} \xrightarrow{High\ temp}$

$BF_3 \xrightarrow{CH3\ Mg\ I}$

$BCl_3 + NH_4Cl \xrightarrow{140^{\circ}C}$

$\xleftarrow{Me\ Mg\ Br} \quad | \quad \xrightarrow{NaBH4}$

$B_3N_3H_6 + 9H_2O \longrightarrow$

$Al_2O_3^{(impure)} \xrightarrow{leaching} \qquad \longrightarrow$

$Al + air \longrightarrow \quad + \quad \xrightarrow{H2O}$

$Al + H_2SO_4 \longrightarrow$

$Al + Mn_2O_3 \longrightarrow$

$Al + MnO_2 \xrightarrow{\Delta}$

$Al + Cr_2O_3 \longrightarrow$

$Al + HCl \longrightarrow$

$Al + HNO_3(conc.) \longrightarrow$

$Al + NaOH \longrightarrow$

$Al_2(SO_4)_3 \xrightarrow{\Delta}$

$2Al(OH)_3 \xrightarrow{\Delta}$

$(NH_4)_2SO_4 \cdot Al_2(SO_4)_3 \cdot 24H_2O \xrightarrow{\Delta}$

$Al_2O_3 + HCl \longrightarrow$

$Al_2O_3 + NaOH \longrightarrow$

$LiH + AlCl_3 \xrightarrow{LiCl} \qquad \xrightarrow{LiH(excess)}$

$LiAlH_4 + H_2SO_4 \longrightarrow$

$AlH_3 + H_2O \longrightarrow$

$B + NaOH \longrightarrow$

$Al_2O_3 + 3C + 3Cl_2 \xrightarrow{\Delta}$

$Al_2O_3 + HCl \longrightarrow$

$8Al_2O_3 \xrightarrow{1000\ C}$

$Al(OH)_3 + HCl \longrightarrow$

$AlCl_3 \cdot 6H_2O \xrightarrow{Hydrolysis}$

$AlCl_3 \cdot H_2O \longrightarrow$

$[Al(H_2O)_6]^{3+} \longrightarrow$

$AlCl_3 + 6NH_3 \longrightarrow$

$AlCl_3 + NaOH \longrightarrow \xrightarrow{NaOH(excess)}$

$AlCl_3 + NH_4OH \longrightarrow \xrightarrow{NH4OH(excess)}$

$Zn^{2+} + NH_4OH \longrightarrow \xrightarrow{NH4OH(excess)}$

$LiH + AlCl_3 \longrightarrow$

$Al + B_2O_3 \longrightarrow$

$Mg + B_2O_3 \longrightarrow$

$Na_2B_4O_7 + HCl / Na_2SO_4 \longrightarrow$

$Na_2B_4O_7 + H_2O \longrightarrow$

$H_2B_4O_7 + 5H_2O \longrightarrow$

$H_2B_4O_7 + H_2O \longrightarrow$

$H_3BO_3 \longrightarrow$

$B_2O_3 + Na / K / Mg / Al \longrightarrow$

$B_2O_3 + H_2O \longrightarrow$

$B_2O_3 + Na_2O \longrightarrow$

$B_2O_3 + P_2O_5 \longrightarrow$

$B_2O_3 + As_2O_5 \longrightarrow$

$B_2O_3 + Cr_2(SO_4)_3 \longrightarrow$

$B_2O_3 + Cu(NO_3)_2 \longrightarrow$

$B_2O_3 + CaF_2 + H_2SO_4(conc.) \longrightarrow$

$B_2O_3 + 3H_2 + 2Al \xrightarrow{750atm\ 150^{0}C}$

$B_2O_3 + HF + H_2SO_4 \longrightarrow$

$B_2O_3 + HF \longrightarrow$

$BI_3 \xrightarrow{Red\ hot\ tungsten\ tantalum}$

$B_2H_6 \xrightarrow{\Delta}$

$KBF_4 + K \longrightarrow$

$2E + 3/2\ O_2 \longrightarrow$

$2Al + 3/2\ O_2 \longrightarrow$

$E + N_2 \longrightarrow$

$E + X_2 \longrightarrow$

$B + H_2SO_4 \longrightarrow$

$B + HNO_3 \longrightarrow$

$Mg + B \longrightarrow$

$Ca + B \longrightarrow$

$B + SiO_2 \longrightarrow$

$B + CO_2 \longrightarrow$

$Ca_2B_6O_{11}\cdot 5H_2O + 2Na_2CO_3 \longrightarrow$

Filter the above product $\longrightarrow$

Crytaliasation of $Na_2B_4O_7 + NaBO_2 \longrightarrow$

Filter the above product $\longrightarrow$

$NaBO_2 \xrightarrow{CO2}$

$NaOH + H_3BO_3 \Longleftrightarrow$

Glassy Bead $\xrightarrow{CuO}$

$\xrightarrow{CaO}$

$[B(OH)_4]^- + H_3O^+ \longrightarrow$

$B(OH)_3 + H_2O \longrightarrow$

$Na[B(OH)_4] + H_3O^+ \Longleftrightarrow$

Borax + HCl $\longrightarrow$

$Ca_2B_6O_6 + 2Na_2CO_3 \longrightarrow \longrightarrow$

$Na_2B_4O_7 \xrightarrow{\Delta} \longrightarrow$

$Na_2B_4O_7 + NaBO_2 \xrightarrow{HCl}$

$Na_2B_4O_7 + H_2SO_4 \longrightarrow$

$Na_2B_4O_7\cdot 10H_2O \xrightarrow{\Delta\ \text{Swells}}$

$Na_2B_4O_7 \xrightarrow{740^{\circ}C}$

$Na_2B_4O_7 \xrightarrow{\text{Crystalize}}$

$HBO_2 \longrightarrow$

$BX_3 + 3H_2O \longrightarrow$

$BH_3 + 3H_2O \longrightarrow$

$M^{n+} + 6NH_3 \longrightarrow$

$CaF_2 + H_2SO_4(\text{conc.}) \longrightarrow$

$H_3BO_3 + \text{MeOH(or)EtOH} \longrightarrow$

$M \xrightarrow{NaOH} M(OH)_2 \xrightarrow{NaOH(excess)}$