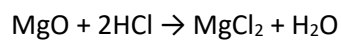
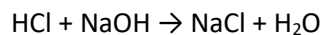
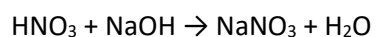


Back Titrations Practice

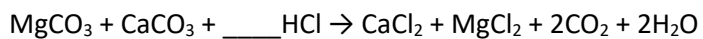
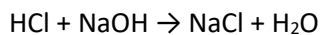
1. 3.55g of impure magnesium oxide (MgO, molar mass = 40.30) was completely dissolved in 80ml of 1.6M HCl (in excess). The excess acid required 15.8ml of 0.20M NaOH for neutralisation. Calculate the % purity of the magnesium oxide.



2. 195ml of 0.30M nitric acid (HNO₃) was added to 3.142g of impure CaCO₃ (100.09g/mol). The excess acid was back titrated with 0.15M NaOH, it required 98.2ml to reach the end point. Calculate the percentage mass of CaCO₃ in the sample.



3. A 6.64g sample of dolomite, containing CaCO_3 and MgCO_3 , is dissolved in 100ml of 3M HCl solution. 20ml of this solution requires 24ml of 1.3M NaOH solution for complete neutralisation. Calculate the % composition of the sample.
(molar mass of $\text{CaCO}_3 = 100.09$, molar mass of $\text{MgCO}_3 = 84.31$)



4. An impure sample of 4.00g CaCO_3 was dissolved in 80ml of 3M HCl solution. What was the CaCO_3 percentage in the original sample, if 80.3ml of 0.7M $\text{Al}(\text{OH})_3$ was used to titrate excess HCl? (molar mass of $\text{CaCO}_3 = 100.09$)