

Question #51738, Chemistry, Physical Chemistry

Give a brief discussion about all type of reactions with examples.

Answer:

| By the number of substances and substances formed | Oxidation state | |
|---|---|--|
| | Without a change in the oxidation state | With the change in oxidation state |
| reaction of the compound $A + B = AB$ | $CaO + H_2O = Ca(OH)_2$ $PbO + SiO_2 = PbSiO_3$ | $H_2 + Cl_2 = 2HCl$ $4Fe(OH)_2 + 2H_2O + O_2 = 4Fe(OH)_3$ |
| decomposition reaction $AB = A + B$ | $Cu(OH)_2 = CuO + H_2O$ $CaCO_3 = CaO + CO_2$ $NH_4Cl = NH_3 + HCl$ | $4HNO_3 = 2H_2O + 4NO_2 + O_2$ $4KClO_3 = 3KClO_4 + KCl$ |
| replacement reaction $A + BC = AC + B$ | | $CuSO_4 + Fe = FeSO_4 + Cu$ $2KBr + Cl_2 = 2KCl + Br_2$ |
| exchange reaction $AB + CD = AD + CB$ | $AgNO_3 + KBr = AgBr \downarrow$ $NaOH + HCl = NaCl + H_2O$ | |