

CLASSIFYING EQUATIONSBalance the following reactions and state what type of reaction is occurring.

1. Comb $1 \text{ C}_3\text{H}_8 + 5 \text{ O}_2 \rightarrow 3 \text{ CO}_2 + 4 \text{ H}_2\text{O}$
2. SR $2 \text{ Al} + 1 \text{ Fe}_3\text{N}_2 \rightarrow 2 \text{ AlN} + 3 \text{ Fe}$
3. Syn $2 \text{ Na} + 1 \text{ Cl}_2 \rightarrow 2 \text{ NaCl}$
4. Decomp $2 \text{ H}_2\text{O}_2 \rightarrow 2 \text{ H}_2\text{O} + 1 \text{ O}_2$
5. Comb $1 \text{ C}_6\text{H}_{12}\text{O}_6 + 6 \text{ O}_2 \rightarrow 6 \text{ H}_2\text{O} + 6 \text{ CO}_2$
6. Comb $4 \text{ H}_2\text{O} + 7 \text{ CO}_2 \rightarrow 1 \text{ C}_7\text{H}_8 + 9 \text{ O}_2$
7. Decomp $2 \text{ NaClO}_3 \rightarrow 2 \text{ NaCl} + 3 \text{ O}_2$
8. DR $4 (\text{NH}_4)_3\text{PO}_4 + 3 \text{ Pb}(\text{NO}_3)_4 \rightarrow 1 \text{ Pb}_3(\text{PO}_4)_4 + 12 \text{ NH}_4\text{NO}_3$
9. DR $2 \text{ BF}_3 + 3 \text{ Li}_2\text{SO}_3 \rightarrow 1 \text{ B}_2(\text{SO}_3)_3 + 6 \text{ LiF}$
10. Comb $4 \text{ C}_7\text{H}_{17} + 45 \text{ O}_2 \rightarrow 28 \text{ CO}_2 + 34 \text{ H}_2\text{O}$
11. DR $3 \text{ CaCO}_3 + 2 \text{ H}_3\text{PO}_4 \rightarrow 1 \text{ Ca}_3(\text{PO}_4)_2 + 3 \text{ H}_2\text{CO}_3$

12. Decomp $8 \text{ Ag}_2\text{S} \rightarrow 16 \text{ Ag} + 1 \text{ S}_8$
13. DR $3 \text{ KBr} + 1 \text{ Fe}(\text{OH})_3 \rightarrow 3 \text{ KOH} + 1 \text{ FeBr}_3$
14. DR $2 \text{ KNO}_3 + 1 \text{ H}_2\text{CO}_3 \rightarrow 1 \text{ K}_2\text{CO}_3 + 2 \text{ HNO}_3$
15. DR $1 \text{ Pb}(\text{OH})_4 + 2 \text{ Cu}_2\text{O} \rightarrow 1 \text{ PbO}_2 + 4 \text{ CuOH}$
16. DR $1 \text{ Cr}(\text{NO}_2)_2 + 1 (\text{NH}_4)_2\text{SO}_4 \rightarrow 1 \text{ CrSO}_4 + 2 \text{ NH}_4\text{NO}_2$
17. DR $6 \text{ KOH} + 1 \text{ Co}_3(\text{PO}_4)_2 \rightarrow 2 \text{ K}_3\text{PO}_4 + 3 \text{ Co}(\text{OH})_2$
18. DR $3 \text{ Sn}(\text{NO}_2)_4 + 1 \text{ Pt}_3\text{N}_4 \rightarrow 1 \text{ Sn}_3\text{N}_4 + 3 \text{ Pt}(\text{NO}_2)_4$
19. DR $1 \text{ B}_2\text{Br}_6 + 6 \text{ HNO}_3 \rightarrow 2 \text{ B}(\text{NO}_3)_3 + 6 \text{ HBr}$
20. DR $3 \text{ ZnS} + 2 \text{ AlP} \rightarrow 1 \text{ Zn}_3\text{P}_2 + 1 \text{ Al}_2\text{S}_3$

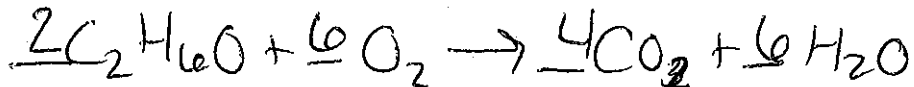
Questions 21-30: For each of the following

a) classify the reaction

b) write chemical equation

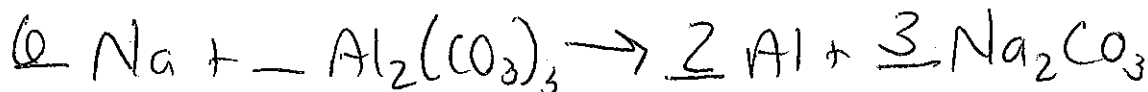
21. ethyl alcohol ($\text{CH}_3\text{CH}_2\text{OH}$) burns in air

Comb



22. sodium reacts with aluminum carbonate

SR



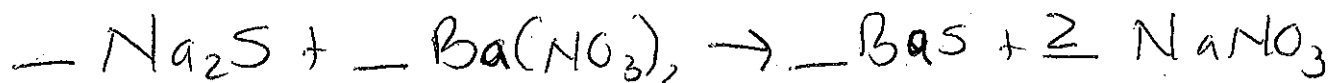
23. zinc reacts with oxygen

Syn



24. sodium sulfide reacts with barium nitrate

DR



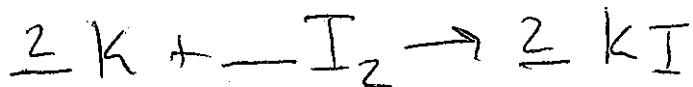
25. copper (II) carbonate reacts to form copper (II) oxide and a gas

Decomp



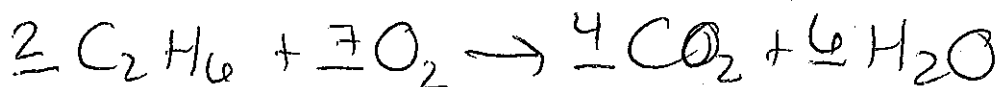
26. potassium reacts with iodine

Syn



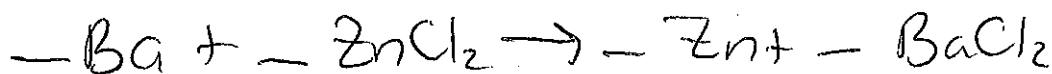
27. ethane (C_2H_6) burns in air

Comb



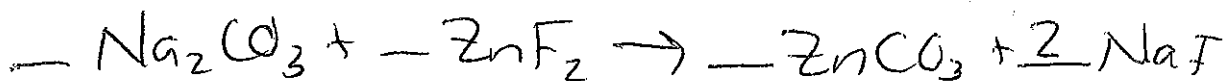
28. barium reacts with zinc (II) chloride

SR



29. sodium carbonate reacts with zinc (II) fluoride

DR



30. lead (II) oxide decomposes

Decomp

