

Chapter 3

- 18) The listed mass of 10.81 amu is the average mass of boron atoms.
- 22) Atomic mass = 207.2; Pb
- 24) mass ^{185}Re = 185 amu
- 28) 8.953 mol Fe; 5.391×10^{24} atoms Fe
- 32) CH_2FCF_3 : 102.04 g/mol
 CHClFCF_3 136.48 g/mol
- 34)
- | | | | | | |
|----|------------------------------|--------------|----|---------------------------|--------------|
| a) | P_4O_6 | 219.88 g/mol | c) | Na_2HPO_4 | 141.96 g/mol |
| b) | $\text{Ca}_2(\text{PO}_4)_2$ | 310.18 g/mol | | | |
- 36)
- | | | | |
|----|--|----|---|
| a) | 3.55×10^{-3} mol P_4O_6 | c) | 7.04×10^{-3} mol Na_2HPO_4 |
| b) | 3.22×10^{-3} mol $\text{Ca}_2(\text{PO}_4)_2$ | | |
- 42)
- | | |
|----|--|
| a) | 2.74×10^{21} molecules P_4O_6 |
| b) | 1.94×10^{21} formula units $\text{Ca}_2(\text{PO}_4)_2$ |
| c) | 4.24×10^{21} formula units Na_2HPO_4 |
- 44)
- | | | | |
|----|-----------------------------|----|-----------------------------|
| a) | 1.10×10^{22} atoms | c) | 4.24×10^{21} atoms |
| b) | 3.88×10^{21} atoms | | |
- 46)
- | | |
|----|--|
| a) | 180.15 g/mol |
| b) | 2.78×10^{-3} mol; 1.67×10^{21} molecules |
- 62)
- | | | | |
|----|-----------------------------------|----|-----------------------------------|
| a) | $\text{S}_4\text{N}_4\text{H}_4$ | c) | $\text{Co}_2\text{C}_8\text{O}_8$ |
| b) | $\text{N}_3\text{P}_3\text{Cl}_6$ | d) | S_4N |
- 68) S_4N_4
- 106) $\text{C}_8\text{H}_6\text{O}_4$
- 108) $E = 28.1$ amu
- 124) $\text{NaCl} = 42.3\%$; $\text{KCl} = 57.7\%$