

3. Exercise General Chemistry

08.11.2022

WS 2022/23

3.1

Calculate the mass fraction and mole fraction of all elements in thiophenol.

3.2

The tin content of 3.7692 g SnCl_4 is 1.7170 g. The molar mass of Cl is 35.453 g/mol. Calculate the molar mass of tin.

3.3

Give the Lewis formulas including lone pairs of electrons for the following molecules or ions: CCl_4 , CH_2O , NO_3^- , N_2O_5 , NH_4Cl

3.4

Discuss the bonds and geometry of the acetic acid molecule (CH_3COOH): involved atomic orbitals, molecular orbitals, single and multiple bonds, lone pairs of electrons, formal charges, and bond angles.

3.5

How many molecules does 1 μg of pentane contain?