131) molar mass = $\frac{g}{mol}$

9.03×10^{20} part XeF_n $\frac{1\ mole\ XeF_n}{6.02\times10^{23}\ part\ XeF_n} = 1.50\times10^{-3}$ mole XeF_n

molar mass = $\frac{0.368\ g\ XeF_n}{1.50\times10^{-3}\ mole\ XeF_n} = 245\ \frac{g}{mol}$

$1(131.3) + n(19.00) = 245$

$n = 5.98$

XeF_6

135) $CH = 13.02\ \frac{g}{mol}$ $\frac{104.14}{13.02} = 8$

C_8H_8

$2.00\ g\ C_8H_8 \left|\frac{1\ mole\ C_8H_8}{104.14\ g\ C_8H_8}\right| \frac{8\ mole\ H}{1\ mole\ C_8H_8} \left|\frac{6.02\times10^{23}\ part\ H}{1\ mole\ H}\right| =$

9.25×10^{22} atoms H

137) $17.3\text{g H} \times \frac{1\text{ mole H}}{1.01\text{g H}} = 17.1\text{ mole H}$ ÷ 6.89 = 2.5

$82.7\text{g C} \times \frac{1\text{ mole C}}{12.01\text{g C}} = 6.89\text{ mole C}$ ÷ 6.89 = 1

$C_2H_5 \approx 29\ \frac{g}{mol}$

* 2 x empirical formula will put it in the range = C_4H_{10}

$$2.59\times10^{23}\text{ atoms H} \times \frac{1\text{ part } C_4H_{10}}{10\text{ atoms H}} \times \frac{1\text{ mole } C_4H_{10}}{6.02\times10^{23}\text{ part } C_4H_{10}} =$$

4.30×10^{-2} mole C_4H_{10}

$$4.30\times10^{-2}\text{ mole } C_4H_{10} \times \frac{58.12\text{g } C_4H_{10}}{1\text{ mole } C_4H_{10}} = 2.50\text{g } C_4H_{10}$$

139)

mass of water : 0.755 - 0.483 = 0.272 g H_2O

$$0.483\ g\ CuSO_4 \times \frac{1\ mole\ CuSO_4}{159.62\ g\ CuSO_4} = 3.03 \times 10^{-3}\ mole\ CuSO_4$$

$$0.272\ g\ H_2O \times \frac{1\ mole\ H_2O}{18.02\ g\ H_2O} = 1.51 \times 10^{-2}\ mole\ H_2O$$

$$\frac{1.51 \times 10^{-2}}{3.03 \times 10^{-3}} = 5$$

$CuSO_4 \cdot 5H_2O$

copper II sulfate pentahydrate