Mass partitioning between air & water

We do not have Henry's constant for 1-hexene anywhere in the note, what we have is p^{sat} & C^{sat}

p^{sat} – partial pressure in equilibrium with the pure phase

C^{sat} – aqueous concentration in equilibrium with the pure phase

If we assume an ideal behavior, then:

$$H_{pc} = \frac{p^{sat}}{C^{sat}} = \frac{10^{-0.60}\ atm}{10^{-3.15}\ mole/L} = 10^{2.55}\ atm - L/mole$$

At 25°C, 1 atm:

$$H_{cc} = \frac{H_{pc}}{24.47} = 14.5$$

Mass partitioning between air & water

$$R_{g/aq} = \frac{H_{cc} \times V_g}{V_{aq}} = 14.5$$

$$M_g = M_{tot} \times \frac{R_{g/aq}}{1 + R_{g/aq}} = 42.1\, mg \times \frac{14.5}{1 + 14.5} = 39.4\, mg$$

$$M_g = M_{tot} \times \frac{1}{1 + R_{g/aq}} = 42.1\, mg \times \frac{1}{1 + 14.5} = 2.7\, mg$$