

### Example question: Phase equilibrium

In a bottle containing 490 mL water, 490 mL air, and 20 mL octanol, 42.1 mg of 1-hexene is spiked. Assuming that the bottle is a closed system and equilibrium partitioning is established for 1-hexene, determine the mass of 1-hexene partitioned in each phase (in mg) and the 1-hexene fugacity (in atm) value in the bottle. (40 points)