

Marks
6

- A champagne bottle is filled with 750 mL of wine, leaving 10.0 mL of air at atmospheric pressure when it is sealed with a cork. After fermentation, the pressure inside the bottle is 6.0 atm at 20 °C. Assume that the gas produced is entirely CO₂ and that its solubility in the wine is the same as in water. What mass of CO₂ has been produced by the fermentation?

Data: The mole fraction solubility of CO₂ in water is 7.1×10^{-4} at 293 K and 1.0 atm.

Answer:

After the bottle has been opened and all of the bubbles have been released, what volume of CO₂ has escaped? Assume all the CO₂ produced escapes.

Answer: