

2/ partition coefficient of benzoic acid in water and CH₂Cl₂

part a / procedure

- 1 Place 50 mg of benzoic acid in a 3-mL conical vial. Add 600 μL of CH₂Cl₂ and 600 μL of water. Cap the vial and gently shake until the benzoic acid dissolves.
- 2 Remove the organic layer with a Pasteur pipet and filter through a plug of MgSO₄ into a weighed round-bottomed flask. Rinse the filter pipet with an additional 600 μL of CH₂Cl₂.
- 3 Remove the solvent using the rotary evaporator.
- 4 Record the mass of the benzoic acid recovered from the CH₂Cl₂ layer.

part b / procedure

- 1 Place 50 mg of benzoic acid in a 3-mL conical vial. Add 600 μL of CH₂Cl₂ and 600 μL of 10% aqueous NaHCO₃. Cap the vial and gently invert the vial. Be sure to vent the cap to allow any gas to escape. Repeat until the benzoic acid dissolves.
- 2 Remove the organic layer with a Pasteur pipet and filter through a plug of MgSO₄ into a weighed round-bottomed flask. Rinse the filter pipet with an additional 600 μL of CH₂Cl₂.
- 3 Remove the solvent using the rotary evaporator.
- 4 Record the mass of the benzoic acid recovered from this CH₂Cl₂ layer.

health & safety notes

CH₂Cl₂ is a cancer suspect agent and an irritant.