

Data Tables

Part 1. Standardization of Potassium Permanganate Solution

Molarity of Fe²⁺ _____ M

	Trial 1	Trial 2	Trial 3
Volume of Fe ²⁺ solution titrated	mL	mL	mL
Initial volume of MnO ₄ ⁻ solution	mL	mL	mL
Final volume of MnO ₄ ⁻ solution	mL	mL	mL
Volume of MnO ₄ ⁻ added	mL	mL	mL

Part 2. Determination of Concentration of Oxalic Acid Solution

Molarity of MnO₄⁻ solution _____ M

	Trial 1	Trial 2
Volume of $H_2C_2O_4$ solution titrated	mL	mL
Initial volume of MnO ₄ ⁻ solution	mL	mL
Final volume of MnO ₄ ⁻ solution	mL	mL
Volume of MnO ₄ ⁻ added	mL	mL

Molarity of $H_2C_2O_4$ solution _____ M

Post-Laboratory Review Questions

1. From the Part 1 standardization data, calculate the molarity of the MnO_4^- solution for each trial. Average the values and enter the average in the Part 2 Data Table.

2. From the Part 2 titration data, calculate the molarity of the $H_2C_2O_4$ solution for each trial. Average the values and enter the average in the Part 2 Data Table.

3. How many moles of Fe^{2+} ions and MnO_4^- ions were titrated in each Part 1 trial?

4. How many moles of oxalic acid, $H_2C_2O_4$ were titrated in each Part 2 trial?