

California State University of Bakersfield, Department of Chemistry

The Chemical Chameleon

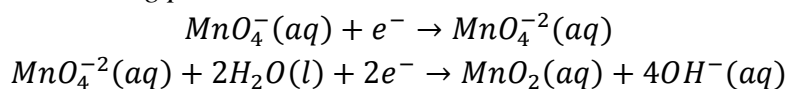


Standards:

HS-PS1-6. Define the design of a chemical system by specifying a change in conditions that would produce increased amounts of products at equilibrium.

Introduction:

This experiment is a bright and colorful way to demonstrate the properties of an oxidation-reduction reaction. When a tiny amount of potassium permanganate reacts with sugar and sodium hydroxide (commonly used for soap making), multiple reactions occur within a minute. The rapid chemical reactions create vibrant colors that can be observed by students. The following reactions are taking place:



Materials:

- 6 mg Potassium permanganate (KMnO₄)
- 750 mL Deionized water
- 6 g Sugar
- 10 g Sodium Hydroxide (NaOH)
- 1 L Erlenmeyer flask
- Magnetic stir bar
- Hot plate with stirring feature

