



AP[®] Chemistry

Guided-Inquiry Experiments:

Applying the Science Practices

Supplement to the First Printing

The College Board
New York, NY





■ ABOUT THE COLLEGE BOARD

The College Board is a mission-driven not-for-profit organization that connects students to college success and opportunity. Founded in 1900, the College Board was created to expand access to higher education. Today, the membership association is made up of over 6,000 of the world's leading educational institutions and is dedicated to promoting excellence and equity in education. Each year, the College Board helps more than seven million students prepare for a successful transition to college through programs and services in college readiness and college success — including the SAT® and the Advanced Placement Program®. The organization also serves the education community through research and advocacy on behalf of students, educators and schools. For further information, visit www.collegeboard.org.

■ AP® Equity and Access Policy Statement

The College Board strongly encourages educators to make equitable access a guiding principle for their AP programs by giving all willing and academically prepared students the opportunity to participate in AP. We encourage the elimination of barriers that restrict access to AP for students from ethnic, racial and socioeconomic groups that have been traditionally underserved. Schools should make every effort to ensure their AP classes reflect the diversity of their student population. The College Board also believes that all students should have access to academically challenging course work before they enroll in AP classes, which can prepare them for AP success. It is only through a commitment to equitable preparation and access that true equity and excellence can be achieved.

AP Chemistry Guided-Inquiry Experiments: Applying the Science Practices

Student Manual

Supplement to the First Printing

This document provides:

- **Corrections**
- **Clarifications to lab procedures and equipment needs**

Page	Investigation	Change
21	Investigation 1	<i>In Question 2, change 0.26 M to 0.26.</i>
24	Investigation 2	<i>Delete 10 96-well reaction plates from the Materials list.</i>
30	Investigation 3	<i>Insert the following note after Question 3:</i> Note: Make sure to click "Hard Water and Soap Scum" on the left hand side of the screen to go to the animation.
48	Investigation 5	<i>Replace the fifth sentence in the first paragraph with:</i> Some of the food dyes used in this lab are azo dyes, which means that they contain a double-bonded nitrogen connecting multiple aromatic carbons.
48	Investigation 5	<i>Replace Figure 2, "Molecular structure of food dyes," with the figure in Insert A, later in this document. (The new figure correctly presents the anions in the SO₃ groups in all molecules.)</i>
49	Investigation 5	<i>Replace (hexane/ether mix) in the second sentence of the paragraph under Investigation to (petroleum ether/acetone mix).</i>
53	Investigation 6	<i>Change the melting point of metallic zinc in Table 1 to 420°C.</i>
88	Investigation 11	<i>Insert the following sentence at the end of the first paragraph under Prelab Guiding Questions/Simulations:</i> A simulation (Matsumoto 2012) may be useful in addressing Questions 1, 4, and 8.
101	Investigation 12	<i>In the equation in Question 1a, replace the subscript text hot with the subscript text cold in all three instances.</i> <i>In the equation in Question 1b, replace the subscript text cold with the subscript text hot in all three instances.</i>
110	Investigation 13	<i>In the Materials table, move the silver nitrate solution from the tray 6 column to the tray 5 column.</i>
113	Investigation 13	<i>Replace the equation after the first full paragraph under Hydrated Cobalt Complex Ions in Alcohol Solution Equilibrium with:</i> $\text{pink} \qquad \qquad \qquad \text{blue}$ $[\text{Co}(\text{H}_2\text{O})_6]^{2+}(\text{alc}) + 4 \text{Cl}^{-}(\text{alc}) + \text{Energy} \rightleftharpoons [\text{CoCl}_4]^{2-}(\text{alc}) + 6 \text{H}_2\text{O}(\text{alc})$
113	Investigation 13	<i>Replace "Figure 1. Large syringe with Luer Lock valve" with the figure shown in Insert B, later in this document. (The new figure correctly shows a nail through the shaft to hold it open.)</i>

INSERT A

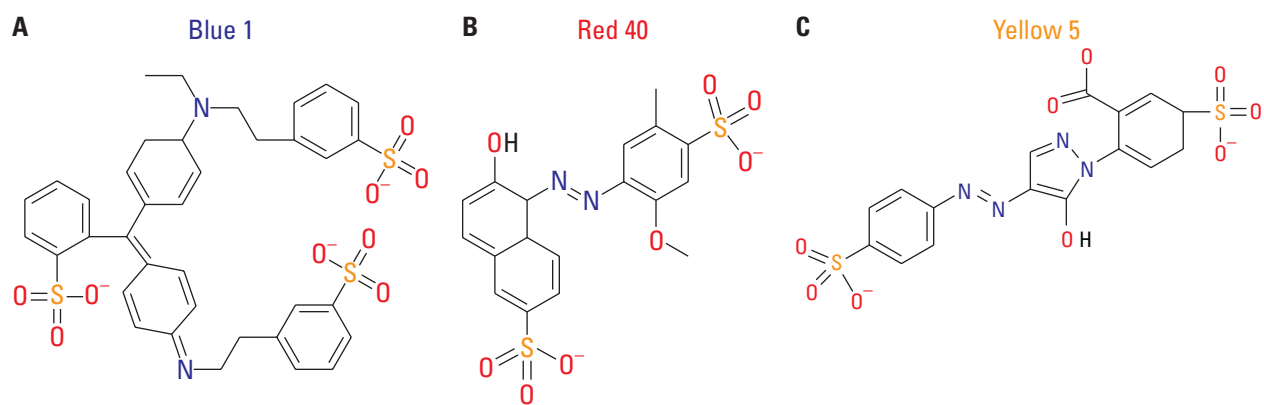


Figure 2. Molecular structure of food dyes

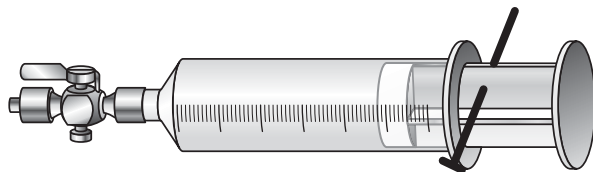


Figure 1. Large syringe with a Luer Lock valve