

CHAPTER 7	Thought Lab 7.1: Identifying Unknown Aqueous Solutions Answer Key	BLM 7.1.6A
ANSWER KEY		

Answers to Analysis Questions

1. $\text{Ca}^{2+}(\text{aq})$
2. $\text{Ca}^{2+}(\text{aq})$ and $\text{Sr}^{2+}(\text{aq})$
3. The flame will appear yellow, as aqueous sodium ions have been added at Steps 2 and 4.
4. ■ Solution 1: a colourless solution that produces a yellow flame and does not produce a precipitate when either $\text{HCl}(\text{aq})$ or $\text{NaOH}(\text{aq})$ is added.
 - Solution 2: a blue solution that produces a blue-green flame and does not produce a precipitate when $\text{HCl}(\text{aq})$ is added, but does produce a precipitate when $\text{NaOH}(\text{aq})$ is added.
 - Solution 3: a colourless solution that produces a yellow flame and produces a precipitate when either $\text{HCl}(\text{aq})$ or $\text{NaOH}(\text{aq})$ is added.
 - Solution 4: a blue solution that produces a blue-green flame, a precipitate when $\text{HCl}(\text{aq})$ is added, and a precipitate when $\text{NaOH}(\text{aq})$ is added.