

# Qualitative Analysis of Cations

Name: \_\_\_\_\_

Section: \_\_\_\_\_

Date: \_\_\_\_\_

Unknown Number: \_\_\_\_\_

Based on your observations and conclusions, circle the cations present in your unknown solution and answer the post-lab questions:



On a separate piece of paper, write a **formal report** (2 pages or less) of this experiment. Type your report; if you need to use a third page, you should go back and rewrite the report. The report should include a title, an abstract, an experimental procedure and a results/discussion section. In most cases, combining results and discussion in a single section will give a clearer, more compact presentation, rather than using separate sections. For additional information, read the appendix in your lab manual, but follow the instructions given in this handout. Make sure you write a different **title** (different than lab manual).

- The **abstract** (100 words maximum) should briefly and clearly describe the purpose of the experiment, the main results and conclusions. Be concise and write complete sentences.
- The **experimental methods (procedure)** section should be brief (150-250 words); do not write every detail of the procedure. Offer a general overview of the experimental procedure/methods without repeating the information presented in the abstract.
- The **results and discussion** section should be concise and present the interpretation of the experimental observations. Write complete sentences and present your observations in a logical manner. Include balanced chemical equations for each of the reactions performed in this experiment. Discuss the positive tests (for cations circled above) and negative tests (for cations excluded above). Make sure that you correlate your observations with chemical reactions.
- The **conclusion** section (2-4 sentences) should highlight the important results; do not use the same sentences written in the abstract.

## Post Lab Questions

1. Suppose your unknown contains  $Ba^{2+}$  ions. Why do you need to remove the  $Ba^{2+}$  ions before performing the test for  $Sr^{2+}$  ions?

2. Suppose your unknown contains  $Sr^{2+}$  ions. Why do you need to remove the  $Sr^{2+}$  ions before performing the test for  $Ca^{2+}$  ions?