

CHEM 150 - GENERAL CHEMISTRY II - LABORATORY REPORT

Experiment 11. Qualitative Analysis: Anions

Name Marianna Wrona Lab Partner's Name Alagna

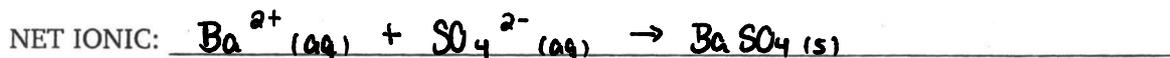
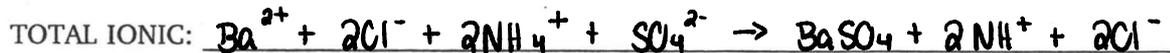
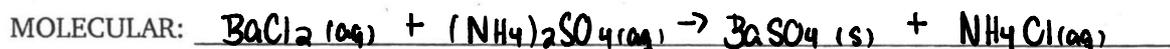
Section _____ Date April 24, 2023 Instructor Dr. Ghatal

Part I - Individual Tests using Known Solutions

1. Sulfate ions

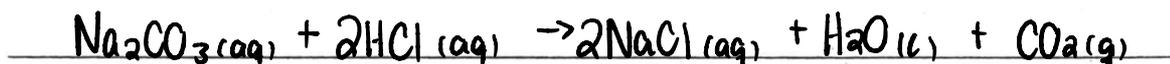
a. What result was obtained? White precipitate is formed.

b. Write the balanced chemical equations for this reaction:



2. Carbonate ions

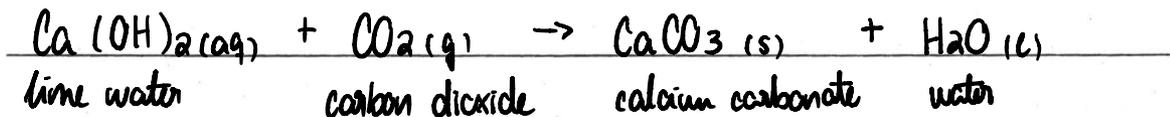
a. Write the balanced chemical equation (molecular form) for the reaction of sodium carbonate with hydrochloric acid (in the generator):



b. What happens to the limewater?

The lime water turns milky (white precipitate) due to the production of CO_2 .

c. Write the balanced chemical equation (molecular form) for the reaction of carbon dioxide gas with limewater:



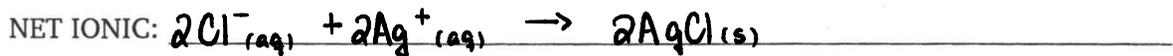
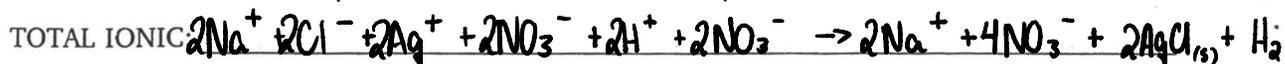
3. Phosphate ions

Describe the results. The presence of phosphate ions is indicated by

the formation of a bright yellow precipitate layer of ammonium phosphomolybdate.

4. Chloride ions

- a. What result was obtained? Solid white precipitate is formed.
- b. Write the balanced chemical equations for this reaction:



5. Nitrate ions

Describe the results. Formation of two layers with a brown ring in between them which is a result from the detection of nitrate ions.

Part II - Analysis of Unknown

Unknown Number: _____

6. Results of analysis of unknown:

	Present	Absent
Sulfate ions	_____	_____
Carbonate ions	_____	_____
Phosphate ions	_____	_____
Chloride ions	_____	_____
Nitrate ions	_____	_____