

Chem!stry

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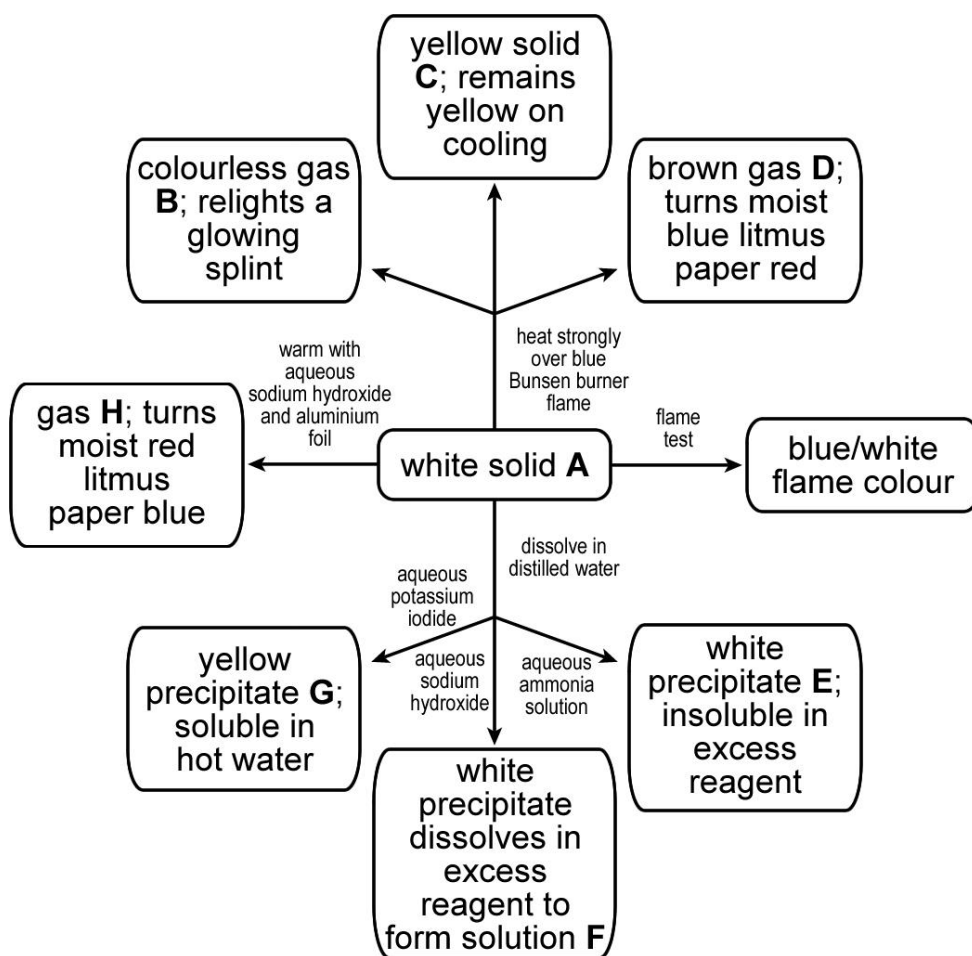
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Questions on Qualitative Analysis – Assignment 3

Question One:

Study the reaction sequence given below:



a) Give the name and formula of the element, compound or ion:

- | | |
|---------|---------|
| A | B |
| C | D |
| E | F |
| G | H |

b) Write the balanced chemical equation for the formation of C:

.....

c) Write the ionic equation for the formation of G:

.....

Question Two:

A student has been provided with five reagent bottles, each containing one of the following solutions:

Nitric acid – $\text{HNO}_{3(\text{aq})}$

Barium chloride – $\text{BaCl}_{2(\text{aq})}$

Sodium chloride – $\text{NaCl}_{(\text{aq})}$

Sodium carbonate – $\text{Na}_2\text{CO}_{3(\text{aq})}$

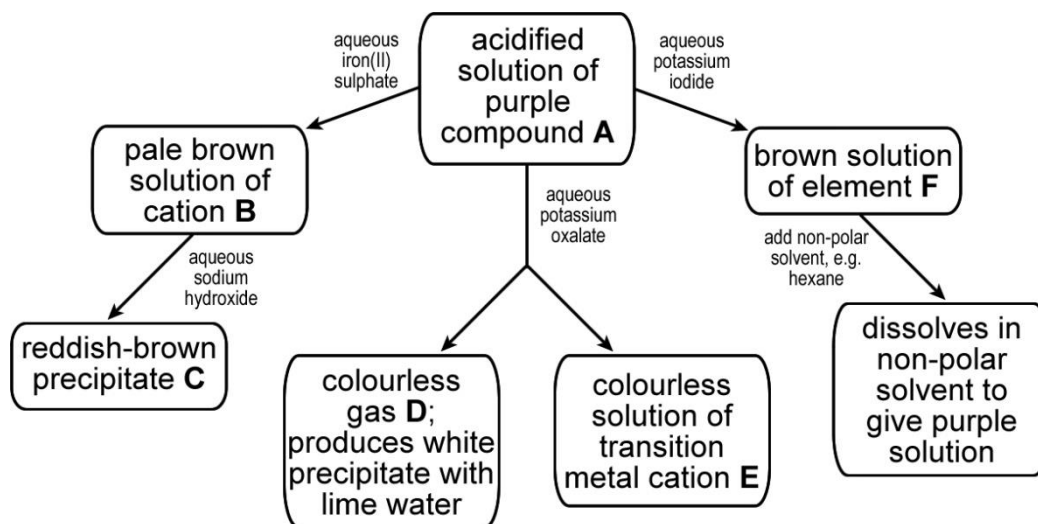
Potassium sulfate – $\text{K}_2\text{SO}_{4(\text{aq})}$

Only the bottle of *nitric acid* is labelled. With only test tubes, and a test tube rack at your disposal, explain how you will correctly identify the four unknown laboratory reagents in only *three steps*. Write a balanced chemical equation to describe the essential reaction that is taking place in each of the three steps.

	Procedure:	Observation:	Inference:
Step One:			
Step Two:			
Step Three:			

Question Three:

Study the reaction sequence given below. **Note:** potassium oxalate has the formula $\text{K}_2\text{C}_2\text{O}_4$.



a) Give the name and formula of the element, compound or ion:

- A B
- C D
- E F

b) Write the ionic equation for the formation of *either B, E or F*:

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- Scan the QR code below for the answers to this assignment.



http://www.chemist.sg/qualitative_analysis/qa_assignment_3_ans.pdf