

Net Ionic Equations and Precipitation Reactions

Name - _____

1. Use a Table of Solubilities to predict whether or not the following compounds are soluble in water.

Compound	Soluble (yes or no)
CaI ₂	
MgSO ₄	
AlPO ₄	
Pb(NO ₃) ₂	
Ag ₂ SO ₄	
Ca(OH) ₂	

2. Write formulas for the following compounds, and using a Table of Solubilities, predict whether or not the compound is soluble in water.

Formula

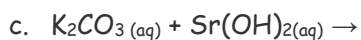
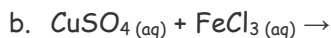
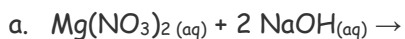
Soluble (y/n)

- potassium phosphate
- calcium carbonate
- Copper (II) bromide
- aluminium sulphide

3. For each of the following reactions, predict the products of the reaction. Be sure to write **balanced equations**.

Then determine if any of the products forms a precipitate.

- If no precipitate forms, write **NR** (for "No Reaction").
- If a precipitate forms, write the **net ionic equation** for the reaction.

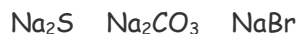


4. An aqueous solution contains a mixture of Ba^{2+} , Pb^{2+} and Ca^{2+} . Select the **ONE** negative ion listed below which could be used to separate Pb^{2+} from the other two positive ions in the mixture.
- NO_3^-
 - S^{2-}
 - OH^-
 - PO_4^{3-}
 - SO_4^{2-}

5. An aqueous solution containing the following cations:



In order to separate them, the following solutions are available:



If we wish to separate the cations by causing only one cation to precipitate out of solution as a time:

- in what order should the solutions Na_2S , Na_2CO_3 , and NaBr be added?
- identify the three precipitates that form after the addition of those solutions.
- which one cation will remain in solution?