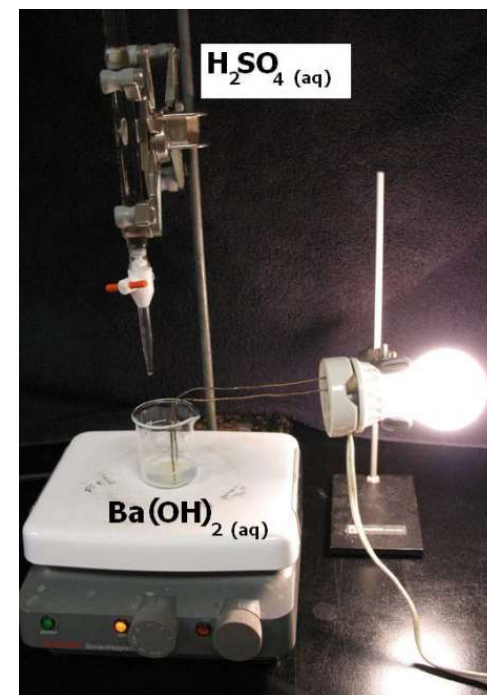




Barium Hydroxide Sulfuric Acid Reaction

Please view the titration movie
before viewing this presentation



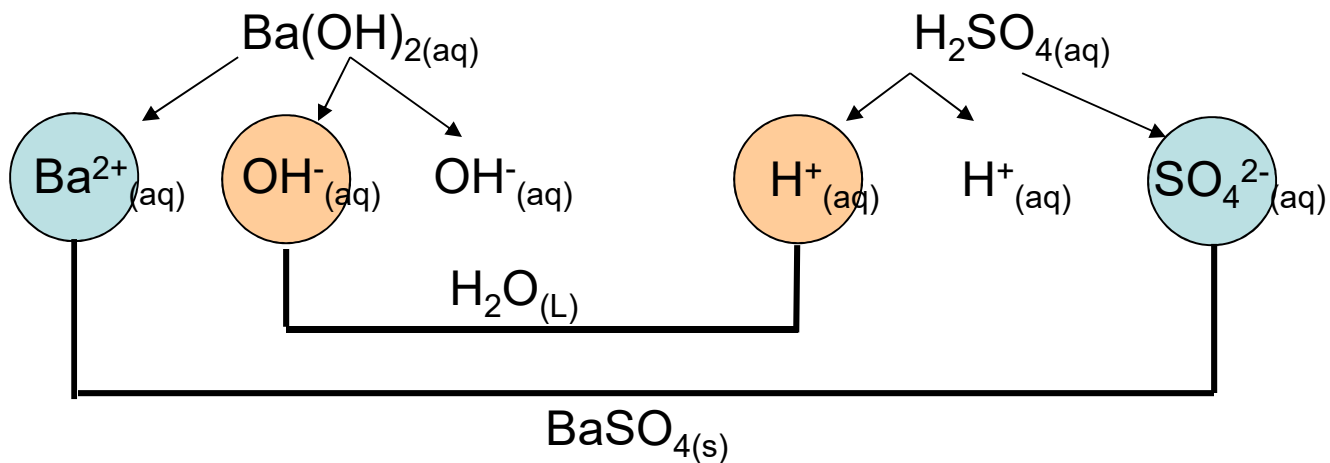
Problem

Aqueous **barium hydroxide** and **sulfuric acid** solutions are mixed together.

- What products are formed?
- What are the molecular, total ionic and net ionic reactions?

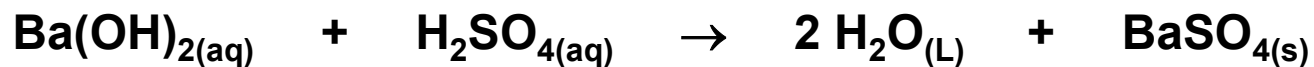
Solubility Rules

Soluble	Exceptions
Group 1A, NH_4^+	
NO_3^- , CH_3COO^- , most ClO_4^-	
Cl^- , Br^- , I^-	Ag^+ , Pb^{2+} , Cu^+ , Hg_2^{2+}
F^-	Pb^{2+} , Group 2A
SO_4^{2-}	Ca^{2+} , Sr^{2+} , Ba^{2+} , Ag^+ , Pb^{2+}
Insoluble	Exceptions
OH^-	Group 1A, larger members of Group 2A
CO_3^{2-} , PO_4^{3-}	Group 1A and NH_4^+
S^{2-}	Group 1A, Group 2A and NH_4^+

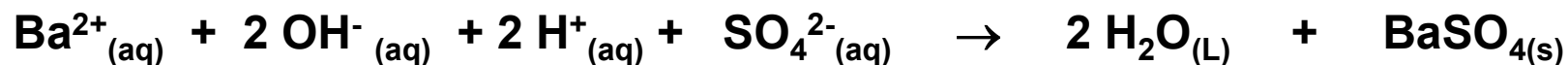


Equations:

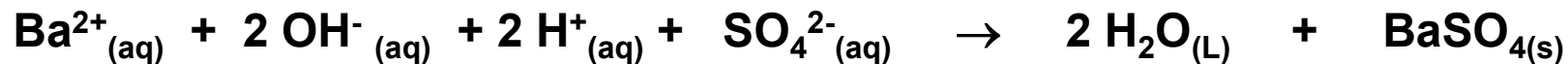
Molecular Equation:



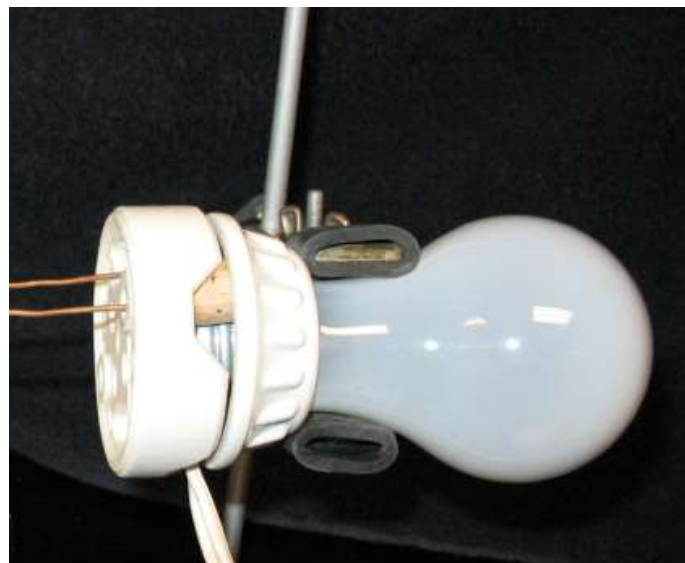
Total Ionic Equation:



Net Ionic Equation: NO Spectator ions!



Why did the light bulb go out?



No Ions Present!

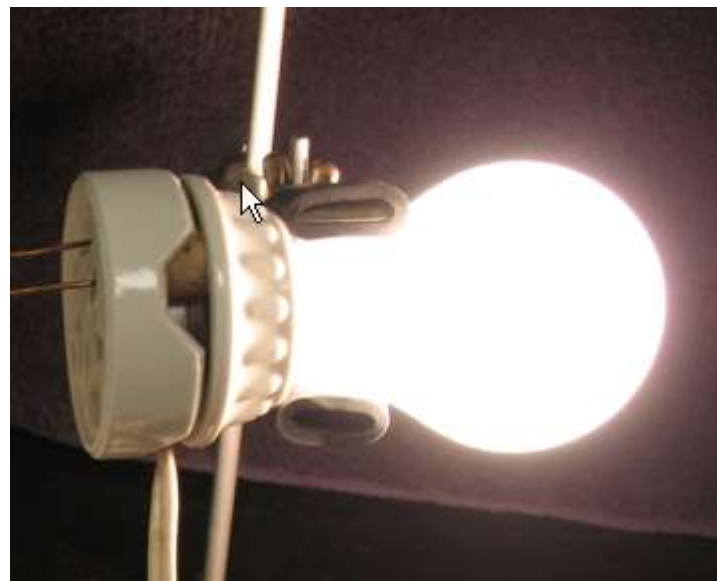
At the titrations equivalence, all ions had combined to form $\text{BaSO}_{4(s)}$ and $\text{H}_2\text{O}_{(L)}$



Adding more H_2SO_4 : Why did the light bulb relight?

Ions are again present!

No $\text{Ba}(\text{OH})_2$ left.



The ions from excess H_2SO_4 had nothing to react with and thus increased the ion content of the solution

