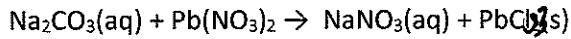


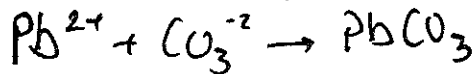
Chemistry
Stoichiometric solution

This worksheet is designed to be done without a calculator.

1. 100mL of 0.1 Na₂CO₃ is added to 100mL of 0.1M Pb(NO₃)₂



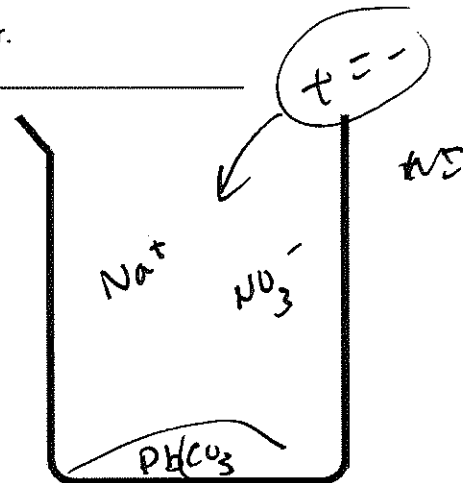
- a. Write out the net-ionic equation.



- b. What is the concentration of Na⁺ ions after the reaction?

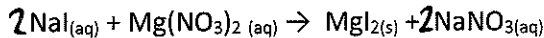
-spectator
Before dilute (vol. x2)
 $.1 \times 2 = 0.2\text{M} \rightarrow 0.1\text{M}$

- c. Draw a picture of the reaction after the reaction.

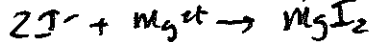


No Limiting
used
same moles

2. 100 mL of .2M NaI is added to 110ml .1M Mg(NO₃)₂



- a. Write out the net-ionic equation.



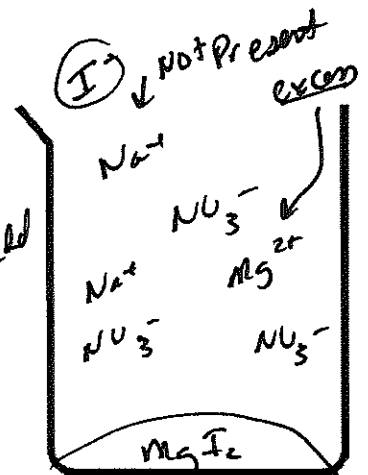
LR: Yes, I⁻ due to slightly less moles. 100ml of would equal

- b. What is the concentration of the spectator ions after the reaction?

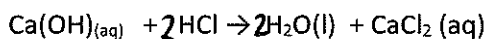
(Approximate) Na⁺ 0.2M (2x vol) 0.1M (little less)

$0.1 \times 2 = \text{NO}_3^- 0.2 \times 2 \text{ vol} = 0.1\text{M}$ (little less)

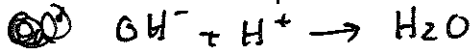
- c. Draw a picture of the reaction after the reaction.



3. 50 mL of .2M Ca(OH)₂ is added to 100ml 0.1M HCl



- a. Write out the net-ionic equation.



- b. ~~What is the limiting reactant?~~

Need 50mL to match

- c. What is the concentration of the spectator ions after the reaction?

Ca²⁺ .2 M_{Ca} V₁ = M_{Cl} V₂
 $.2 \times 50 = x \times 150$

Cl⁻ ion
 $x = 0.0667\text{M} \rightarrow \times 2 = 0.133\text{M}$

- d. Draw a picture of the reaction after the reaction emphasizing limiting /excess.

