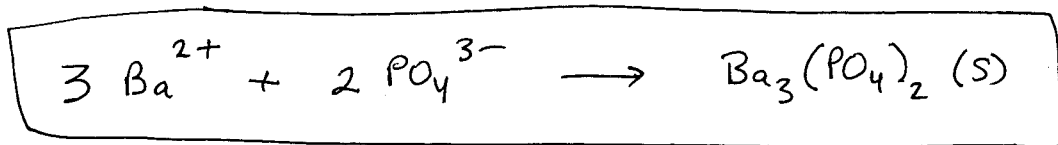
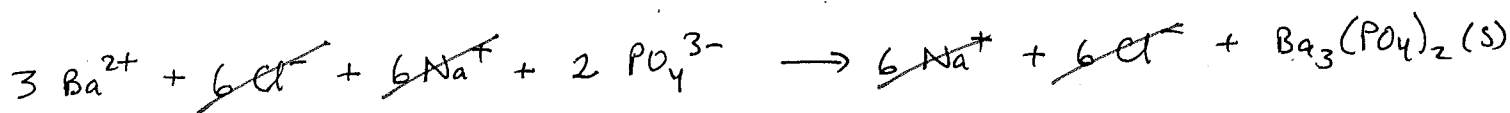


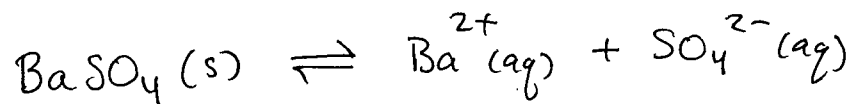
Name: Key SB#: 007

1. Write the net ionic equation that shows the chemical reaction that occurs when a solution of barium chloride is mixed with a solution of sodium phosphate, yielding a white precipitate.



(all charged species are in the aqueous phase)

2. The K_{sp} for BaSO_4 is 1.1×10^{-10} . How many grams of BaSO_4 will dissolve in 1.00 L of water? (Show your setup—including a balanced chemical equation—and your work.)



$$K_{sp} = 1.1 \times 10^{-10} = [\text{Ba}^{2+}]_{eq} [\text{SO}_4^{2-}]_{eq}$$

$$\text{let } x = [\text{Ba}^{2+}]_{eq} = [\text{SO}_4^{2-}]_{eq}$$

$$x^2 = 1.1 \times 10^{-10}$$

$$x = (1.1 \times 10^{-10})^{1/2}$$

$$x = 1.049 \times 10^{-5}$$

so, conc'n of Ba^{2+} is $1.049 \times 10^{-5} \text{ M}$ } the conc'n of the
 SO_4^{2-} is $1.049 \times 10^{-5} \text{ M}$ } " BaSO_4 " unit is
 $1.049 \times 10^{-5} \text{ M}$

Ba	137.327
S	32.065
4 x O	4 x (15.9994)
BaSO_4	233.3896

$$1.049 \times 10^{-5} \frac{\text{mol}}{\text{L}} \times \frac{233.3896 \text{ g}}{\text{mol}}$$

$$\text{conc'n is } 2.448 \times 10^{-3} \text{ g/L}$$

two sig figs

$$2.4 \times 10^{-3} \text{ g/L}$$