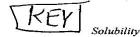
|  | Chemistry | 12 - | Unit | 3 |
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An aqueous solution of rubidium phosphate (Rb<sub>3</sub>PO<sub>4</sub>) is mixed with an aqueous solution of magnesium nitrate and a precipitate forms.

|   | a) | Draw an | (ion-box) with | the four ion | s involved | with this | reaction. | (1 mark) |
|---|----|---------|----------------|--------------|------------|-----------|-----------|----------|
| ) |    | Rb+     | Mg2+           |              |            | 69        |           |          |

b) Write a balanced formula equation for this reaction. Include all subscripts and coefficients. (2 marks)

Rb<sub>3</sub> PO<sub>4</sub> (ag) +3 Mg(NO<sub>3</sub>)<sub>2</sub> (aq) — Mg (PO<sub>4</sub>) + 6 Rb NO<sub>3</sub> (ag)

c) Write a balanced, complete (total) ionic equation for this reaction. Include all subscripts, coefficients and ion charges where necessary. (2 marks)

6 Rb<sup>+</sup>(ag) + 2 PO<sub>4</sub>(ag) + 3Mg<sup>2</sup>(ag) + 6 NO<sub>3</sub>(ag) - Mg<sub>2</sub>(PO<sub>4</sub>)<sub>2</sub>(s) + 6 Rb<sup>+</sup>(ag) + 6 NO<sub>3</sub>(ag)

(ag)

(b)

Write a net ionic equation for this reaction. Include all subscripts, coefficients and ion charges where necessary. (2 marks)

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