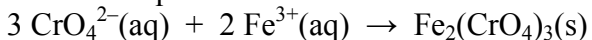


Answer to example problem provided in lecture...

Problem:

Carry out a complete a material balance for the precipitation reaction that results when 7.97 mL of 0.340 M K_2CrO_4 is mixed with 6.48 mL of 0.245 M $Fe(NO_3)_3$.

Net ionic equation:



Answer:

| Species | Initial mmol | Final mmol | Final molarity or mass |
|--------------------|--------------|------------|------------------------|
| $CrO_4^{2-}(aq)$ | 2.71 | 0.33 | 0.023 M |
| $Fe^{3+}(aq)$ | 1.59 | 0 | 0 M |
| $Fe_2(CrO_4)_3(s)$ | 0 | 0.794 | 0.365 g |
| $K^+(aq)$ | 5.42 | 5.42 | 0.374 M |
| $NO_3^-(aq)$ | 4.76 | 4.76 | 0.328 M |

Note: to receive full credit on a quiz or exam you would be required to show your work/reasoning for the solution. This must include clearly showing how you determined which reactant was limiting. Space outside of the table will be provided.