Answer on Question #84280 - Chemistry - Physical Chemistry

Question:

The silver nitrate solution from the central compatiment of a transference cell weighed 36.6 grams and was titrated with 32.7ml of NH4CNS solution, 1 ml of which was equivalent to 0.0085g of AgNO3. the solution from the cathode compatment weighed 43.17g required 24.4ml of NH4CNS solution.im the coloumeter in series, the amount of copper deposited was 0.029g. calculate the transport number of Ag+ and NO3+

Solution:

$$\Delta n_a = \frac{q - t_{Ag^+} q}{F} = (1 - t_{Ag^+}) \frac{q}{F} = t_{NO_3^-} \frac{q}{F}$$

t(Ag+) = 1- t(NO3-);

t(NO3-) = 1/(1+r)

t(NO3-) = 1/(1+0.916) = 0.521

t(Ag+) = 1- 0.521 = 0.479.