Answer on Question # 68839, Chemistry / General Chemistry

1) Two cells A and B are connected in series to a supply of electricity and 0.04 faraday of electricity are passed through each cell, each cell contains an aqeous solution of copper II tetraoxosulphate VII of the same concentration but cell A has copper electrodes and cell B has platinum electrode what happens at the anode in A and the cathode in B?

2) Also if cathode A as increased in mass by 1.25g, calculate the mass which would have been deposited by one Faraday of electricity at A.

Solution:

$$CuSO_4 \leftrightarrows Cu^{2+} + {SO_4}^{2-}$$

1) Anode:

$$Cu^{2+} + 2\bar{e} \Rightarrow Cu$$

Cathode:

$$2H_2O \Rightarrow O_2 \uparrow + 4H^+$$

2)

$$m = \frac{1.25\ g \times 1\ Faraday}{0.04\ Faraday} = 31.25\ (g)$$

Answer: 31.25 g.