CALIFORNIA STATE SCIENCE FAIR
2008 PROJECT SUMMARY

Name(s)
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Project Number
J1627

Project Title
Faraday's Second Law of Electrolysis

Abstract

Objectives/Goals
To verify Faraday's 2nd law of electrolysis. m = zIt, where m is the mass transfered from the solution to the electrod measured in g, z is the electrochemical constant in g/C, I is current measured in A, t is time measured in second.

Methods/Materials
Sulfuric Acid, Copper Sulfate, Distilled Water, HCl, Copper Voltameter Model GS-432, 6203B DC Power Supply, Model CS 200 Capacity 200g*0.1g Electronic Balance, Weighing paper, Electrical Cable, 10 ohm 50 watt Rheostat, two DT9508 Multimeters, and Stop Watch.

Results
I verify the Faraday's 2nd law of electrolysis by manipulating current, voltage, time, initial CuSO4 concentration, and catalyses. The result is that the Faraday's 2nd law of electrolysis is correct, where m is directly proportional to I and t, while other factors also affect the mass transfered.

Conclusions/Discussion
All my measurements fit the theoretical yield in the range of 6.8% up to 10.5%.

Summary Statement
Verifying Faraday's 2nd Law of Electrolysis.

Help Received
Worked at Ribet Academy's Lab