



**CALIFORNIA STATE SCIENCE FAIR
2009 PROJECT SUMMARY**

Name(s) Alexandra Maloof	Project Number J1714
Project Title Will Colloidal Silver Work as an Antibacterial?	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The objective is to find out if colloidal silver would eliminate the bacteria colonies of Escherichia coli, Pseudomonas aeruginosa and Staphylococcus aureus.</p> <p>Methods/Materials In the initial colony tube, the organism was diluted to 0.5 McFarland standard using the turbidity meter. I used Staphylococcus aureus ATCC 29213, Escherichia coli ATCC 25922 and Pseudomonas aeruginosa ATCC 27853. The initial colony tube was diluted to 100μ added to 25ml of silver solution to subculture plates (BAP) at 0 hrs. of incubation, at 2 hrs. of incubation (at 36.8° 6%CO²) and at 24 hrs (at 36.8° 6%CO²). The amount of fluid used to inoculate plates was 100μ of organisms to the center of the plate, streaked in three different directions across the plates. I ended up with three plates used as my "Control" and three plates as my "Variable." Results were read at 0 hrs (full fields), 24 hrs and 48 hrs.</p> <p>Results The results of this experiment proved that colloidal silver has properties that disable the production and terminates the growth of bacteria. Escherichia coli colonies were killed after 2 hours of incubation, 24 hours readings. Pseudomonas aeruginosa and Staphylococcus aureus colonies were completely killed after 24 hours of incubation, 48 hours readings.</p> <p>Conclusions/Discussion This project had an exciting outcome since colloidal silver is used only as a dietary supplement. In the future more research can be done so that it can be used as an antibiotic to kill fungi, viral and bacterial diseases. In addition to the benefits of colloidal silver, the cost would be very minimal since it could be made at home.</p>	
Summary Statement This project proves that colloidal silver, used as a dietary supplement, is an effective antibacterial to kill Pseudomonas aeruginosa, Staphylococcus aureus and Escherichia coli.	
Help Received Used lab equipment at El Centro Regional Medical Hospital under the supervision of Magda Rumbout-Clinical Lab Scientist.	