



**CALIFORNIA STATE SCIENCE FAIR
2003 PROJECT SUMMARY**

Name(s) David H. Franson	Project Number J1309
Project Title Antibiotic Properties in Herbal Tinctures	
Abstract Objectives/Goals Selected herbal tinctures were tested to see if they could inhibit the growth of the E. coli. Methods/Materials The herbal tinctures were applied to petri dishes, which were then inoculated with E. coli. Gentamicin sulfate was used as a positive control and plates with only E. coli were used as a negative control. Results Two herbal tinctures, chaparral and thyme were as effective as the gentamicin sulfate in controlling e. coli growth. Chaparral, thyme and gentamicin sulfate allowed no colonies to form. Shepherds purse, spilanthes, echinacea, and pau d'arco appeared to aid the growth of the E. coli. Conclusions/Discussion Two herbal tinctures, chaparral and thyme were as effective as the gentamicin sulfate in controlling e. coli growth. Chaparral, thyme and gentamicin sulfate allowed no colonies to form. Some of the tinctures, shepherds purse, spilanthes, echinacea, and pau d'arco appeared to aid the growth of the E. coli. These tinctures allowed more colonies to form than what appeared on the negative control plates. The tinctures of thuja, elder, oat grass and goldenseal allowed some e. coli growth. This group of tinctures appears to have some antibiotic activity against e. coli.	
Summary Statement Effectiveness of ten herbal tinctures on DH5 E. coli	
Help Received Used UCSD Rosenfeld lab under the supervision of Charles Nelson	