



**CALIFORNIA STATE SCIENCE FAIR
2015 PROJECT SUMMARY**

Name(s) Lachlan K. Signa	Project Number J0699
Project Title SFI: Science Fair Investigation	
Objectives/Goals How does the concentration of bleach solution affect the effectiveness of the chemiluminescence of luminol on surfaces of varying type and with varying degrees of hydrophobia?	
Abstract Methods/Materials Bleach and water solutions of varying mixtures Chemically Synthetic Blood Luminol (chemical compound C ₈ H ₇ N ₃ O ₂) Sponges Spray Bottle Surfaces: Jeans, Clean wood, Concrete block, Vinyl, Tile, Polyester Rug	
Results The effectiveness of the chemiluminescence of the luminol was affected by two factors: the materials and the bleach concentration. The higher the amount of bleach in the distilled water mixture, and the lower the hydrophobia of the material, the more effective the luminol worked to show blood evidence.	
Conclusions/Discussion Higher concentrations of bleach have a negative impact on the effectiveness of luminol universally, regardless of the surface. However, variables in the hydrophobic properties of surfaces do impact the degree of chemiluminescence that can be detected with bleach solutions.	
Summary Statement How does concentration of bleach affect the detection of chemiluminescence of luminol on surfaces with varyiant hydrophobic properties?	
Help Received My mom took photos of me when I was mixing luminol, bleach solution, and spraying surfaces	