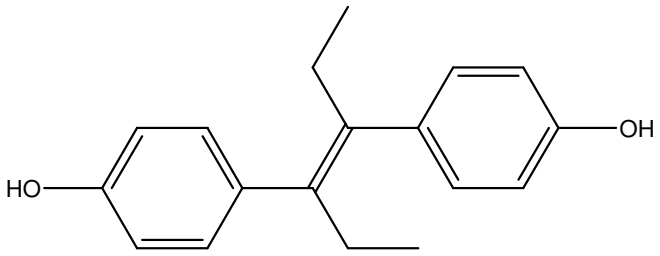
PROTEOMIC ANALYSIS OF *PSEUDOMONAS PUTIDA* KT2440 IN THE PRESENCE OF DIETHYLSTILBESTROL. *J. Kohn, P. Craig and Laura Ellen Tubbs*, Department of Chemistry, jooles1285@yahoo.com, letsch@rit.edu*

The RIT Proteomics lab has been using a 2D-Gel Electrophoresis analysis of proteins to studying different carcinogens and there effects on the protein expression in the bacteria *Pseudomonas Putida*. The current screening test for a carcinogen is called the Ames Salmonella Assay. The problem with this assay is that it is only looking at cell growth and not at protein expression, and it also gives false negatives and false positives. Looking at the protein expression allows for a more precise view of whether the compounds being tested are a carcinogen by seeing its effects on the protein level. The strain being studied is KT2440 and is grown on a 5mM succinic acid carbon source. The carcinogen being studied is diethylstilbestrol (DES). DES is a synthetic estrogen that was given to women between 1930s and 1970s and was believed to prevent premature births as well as miscarriages. Later results determined that DES actually caused a rare vaginal cancer in the women who were born from a mother that was given DES. DES is also one of the carcinogens that give a false negative in the Ames Test. Analysis of the effect of the concentration of DES on KT2440 was performed and analyzed, showing an effect on the length of the growth curve as well as an effect on the amount of cells that were able to grow. Growth curves for KT2440 in the presence of .0025mM DES and succinic acid have been performed and also the mid-log phase of growth was determined. Initial gels are being run to look at the changes in the protein expression.



Diethylstilbestrol