INVESTIGATION OF PROTEIN EXPRESSION FOR THE KT2440 STRAIN OF *PSEUDOMONAS PUTIDA* GROWN ON BENZOIC ACID UTILIZING TWO DIMENSIONAL ELECTROPHORESIS

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As a way of developing a new method for determining the presence and toxicity of carcinogenic and mutagenic compounds through protein expression, we are investigating these effects on the KT2440 strain of the bacteria *Pseudomonas putida* (PpKT2440). The growth of the bacteria on benzoic acid was monitored by visible spectroscopy in order to construct a growth curve. The growth curve was utilized to determine the time at the mid-log phase of growth, which was found to be 435 ± 28.71 minutes. PpKT2440 was then grown and harvested at the mid-log and analyzed by sodium dodecyl sulfate polyacrylamide gel electrophoresis (SDS-PAGE) to determine protein expression. This expression was then compared to previous data involving PpKT2440 grown on succinic acid using the Phoretix software.