Stability of microbial pigments produced by isolated Serratia Marcescens DYU
Wu Jane Yii
E-mail: jywu@mail.dyu.edu.tw

ABSTRACT

Background
The aim of this study was to present new data on the thermal stability of red pigment produced by Serratia marcescens DYU in submerged fermentation. The stability of red pigment in the solution during dark / light storage were studying at various temperature, pH and light sources. The degradation of the red pigment was collected and submitted to measurement of the absorbance at 540 nm. The thermal degradation of the red pigment followed a first-order kinetic reaction.

Results
The empirical results described the behavior of the responses of color degradation and half-life on the red pigment, and the temperature dependence of the degradation constants followed the Arrhenius model. On the other hand, the degradation of the color of pigment solution was also evaluated chromametrically by measuring the L *, a *, and b * values.

Conclusions
With increasing temperature, decompositing pigment is also fast. At various light source condition, strong light faster than low light to decompose pigment. Prodigiosin is yellow in color in an alkaline environment and red in color in an acidic environment. The heat degradation constants of the red pigment decreased with increasing pH, indicating that the red color was retained at higher pH values, and the orange pigment showed greater stability in the lower pH range. At 4℃, pH 5-7 and dark was the best strange condition of Prodigiosin.

Keywords: Serratia Marcescens

REFERENCES

Francielo Vendruscolo, Bruna Luise Müller, Denise Esteves Moritz, Débora de Oliveira, Willibaldo Schmidell Jorge Luiz Ninow, 2013. T...