

Bartlett and the Levene's tests of homoscedasticity of the modified Gompertz model used in fitting of Burkholderia sp. strain Neni-11 growth on acrylamide

ABSTRACT

Most often than not, microorganism's growth curve is sigmoidal in characteristics. The modified Gompertz model via nonlinear regression using the least square method is one of the most popular methods to describe the growth curve. One of the assumptions of a good model is that the variance of the data must be homogenous (homoscedasticity). In this work, two statistical diagnostics; the Bartlett and the Levene's tests was performed to a modified Gompertz model utilized to model the growth of the bacterium Burkholderia sp. strain Neni-11 on acrylamide in order to satisfy the requirement above and found that data conformed to the requirement indicating the modified Gompertz model is a robust model for modelling the bacterial growth process.

Keyword: Modified Gompertz; Bacterial growth; Homoscedasticity; Bartlett's test; Levene's test