

**COMPARISON OF APPLICATION OF RESPONSE SURFACE METHODOLOGY  
AND TAGUCHI METHOD, IN THE OPTIMISATION OF EXTRACTION  
PARAMETERS, FOR PRODUCTION OF BIOPIGMENT FROM  
A NEW ISOLATE OF DISTILLERY EFFLUENT**

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**ABSTRACT**

This study was done to determine the apt optimization tool, for a particular experiment that is to find out the effects of factors like temperature, solvent type and concentration and extraction time on pigment obtained from *Planococcusmaritimus*AHJ\_2. As per single factor experiments and L16 orthogonal multiple factors design of experiment, the optimum conditions were identified with respect to maximum pigment yield obtained. Methanol was identified as the suitable solvent at 80% concentration and optimum temperature is 80°C, with an optimum extraction time of 10 minutes while according to response surface method, optimum extraction would happen with methanol at 55% concentration, in 9.06 minutes at 75°C. But, the bio pigment yield that would be obtained according to response surface methodology is lower than that according to taguchi method.

**KEYWORDS:** *Planococcusmaritimus*ahj\_2, Response Surface Methodology, Single Factor Experiments & Orthogonal Multiple Factors Design of Experiment