ABSTRACT

The present study reveals the production of *L*-phenylacetylcarbinol (*L*-PAC) by *Candida utilis* in 250 ml shake flask. Different fermentation media supplemented with various carbon sources, different incubation temperatures and inocula were optimized to achieve the optimum level of biomass. M1 medium containing (g/L) clarified molasses (30.0 Brix) 250.0, urea 10.0 and $MgSO_4$ 20.0 (pH 6.0) gave the optimum biomass level ($240x10^6$ cells/ml) after the inoculation of 14 hours old vegetative inoculum (15.0% v/v containing $240x10^6$ cells/ml) after 6.0 hours at 30°C. Biotransformation of benzaldehyde into *L*-PAC was then carried out with different dose patterns along with supplementation with acetaldehyde. Maximum *L*-PAC production (4.15 g/L) was observed when 316µl of benzaldehyde was fed in six instalments such as 68, 62, 56, 50, 43, 37 µl in equal interval of 60 minutes at 30°C with orbital shaking of 150 rpm.