

ABSTRACT

Isolation, identification and synthesis of pheromone of *Drosophila melanogaster* was studied. The pheromone was identified by GCMS and then synthesized by chemical as well as enzymatic methods. The esterification of citronellol with palmitic acid was carried in the presence of concentrated sulphuric acid and lipase Novozyme 435 by *Candida Antarctica* immobilized onto macroporous acrylic resin. The enzymatic results were better than chemical method. Different parameters like reaction medium, temperature, substrate concentrations, time were optimized during the synthesis of citronellyl palmitate. The enzyme was repeatedly used in batch reactions and found to be highly efficient and have reasonable operational stability. The optimum temperature in chemical method was 90°C and in enzymatic synthesis 30°C was observed.