

Properties of GOD-immobilized Poly(acrylamide) Membranes

Suk Kyu Jung, Soo Min Park

Dept. of Textile Eng., Pusan Univ.

To immobilize enzyme (Glucoseoxidase, GOD) into polyacrylamide, mixture solution was prepared with acryamide aqueous solution containing GOD, and then N,N-methylenebisacrylamide, N,N,N',N'-tetramethylenediamine (TMEA) and Ammonium persulfate (APS) were added to the solution. The polymerization was initiated immediately and the membrane with transparent gel state was obtained. The reactions between GOD-immobilized membrane and glucose were investigated at various reaction conditions (reaction time, glucose concentration and pH). The hydrogen peroxide was evolved with the reaction of enzyme.

Amount of evolved hydrogen peroxide increased almost proportionally with time and increased with increasing glucose concentration.

pH range for the maximum reaction of immobilized enzyme and glucose was 4.5 - 8.0 at 36.5°C.