

A novel aqueous micellar two-phase system composed of surfactant and mannitol for purification of polygalacturonase enzyme from *Durio zibethinus Murray* and recycling phase components

ABSTRACT

A novel aqueous micellar two-phase system composed of surfactant and mannitol was employed for the first time to purify polygalacturonase from *Durio zibethinus Murray*. The influences of different parameters such as type of surfactants, composition of surfactant/mannitol, pH and crude load on polygalacturonase partitioning were investigated. The results indicated that the polygalacturonase was recovered in 25% Tween 80 and 22% mannitol, at 68.2% of Tie line length, crude load of 30% at pH 5.0. The enzyme was successfully recovered with a high purification factor of 16.1 and yield of 97.3% while phase components were also recovered and recycled above 95%.

Keyword: *Durio zibethinus Murray*; Mannitol; Novel aqueous micellar two-phase system; Polygalacturonase; Recycling of phase components; Surfactant

