

Title Effect of ultra high pressure on polyphenoloxidase of jujube fruit
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Abstract

To study the effect of ultra high pressure (UHP) treatment on the activity of polyphenoloxidase (PPO) under different conditions, the PPO was extracted from jujube fruit and was ultra highly pressured alone or combined heating, then, the activity of polyphenoloxidase was assayed. As the pressure used increased, the activity of PPO reduced slowly in the pressure scope of 200~500 MPa and the effect of pressure on activity was insignificant when the pressure was 300 MPa. The effect of pressure on PPO inactivation became remarkable when pressured above 600 MPa. PPO added vitamin C was activated when pressured below 500 MPa and was inactivated when pressured above 600 MPa or combined with heating. The activity of PPO decreased step by step as the increasing of heating temperature and pressure holding time. The treatment of 400 MPa above 50°C could inactivate PPO by 63% activity and for 750 MPa above 50°C by more than 92% activity. UHP above 600 Mpa or combined 50°C could inactivate PPO in jujube fruit and could be potential for pasteurization of jujube juice or jujube fruit.