

1. Please define and explain the meaning of the following terms in detail and provide examples for their influences in foods. (40%)
  - (1) Bioavailability
  - (2) Glucose/fructose isomerization
  - (3) Reduction of sugar to sugar alcohols and oxidation of sugar to aldonic, dicarboxylic and uronic Acids
  - (4) Amadori rearrangement
  - (5) Waxes, triacylglycerols and glyceroglycolipids
  - (6) Omega 3-family fatty acids with nonconjugated cis double bonds
  - (7) Autoxidation of linolenic acid
  - (8) Antioxidants
  - (9) Condensed tannin
  - (10) Thiamine, riboflavin and nicotinamide
2. Please explain the reactions and their applications in food processing for the following enzymes, (20%)
  - (1) exopolygalacturonate lyase
  - (2) papain
  - (3) beta-fructofuranosidase
  - (4) transglutaminase
3. Some types of pectin can be gelled with calcium ions while another requires high sugar and low pH. What are the chemical difference and their gelation mechanisms between these types of pectin? (20 points)
4. Please describe the structure and properties of carotenoids and anthocyanidins, including a discussion of the stability of these pigments during the storage and processing of food products. (20 %)

試題隨卷繳回