

January, 2024

Time Allowed: 1Hr

Section A

- 1a. A sample of vegetable oil was analyzed and found to contain 40 % oleic acid and 60 % of conjugated C18:2 $\Delta^9, 11$ acid. When this oil was thermally abused under low oxygen tension, the analysis of the oil revealed it to contain tetra substituted cyclohexene compound, account for the formation of the compound.
- b. An advanced stage of auto-oxidation of vegetable oil revealed the presence of Malonaldehyde using TBA – method, assuming that the compound that decomposed to form the Malonaldehyde is $\text{CH}_3\text{CH}_2\text{CH}=\text{CH}-\text{CHO}$, account for the formation of this TBA reactive compound.
- c. Provide the names and structures of vitamins responsible for the following deficient diseases:
(i) Chelosis (ii) Beriberi and (iii) Rickets (weak bones).

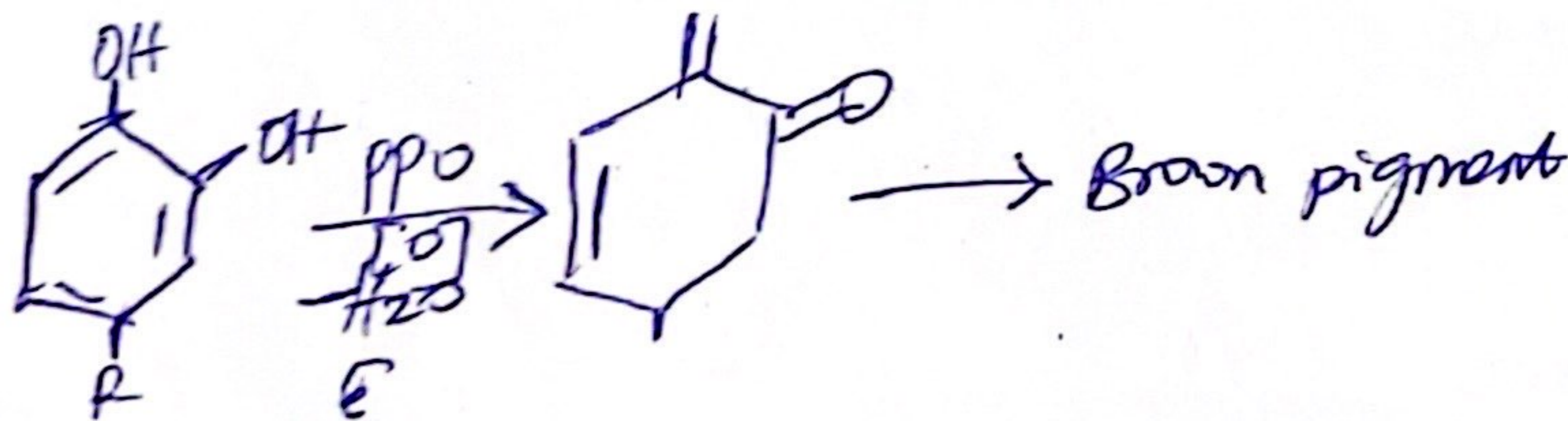
15marks

Thiamine

Section B

- 2 (a) Explain with chemical equations how Polyphenol Oxidase catalyze spoilage in fruits.
- (b) List some factors that could enhance the activities of Polyphenol Oxidase in fruits and discuss ways by which activities of Polyphenol Oxidase could be controlled.
- (c) Discuss two methods each of traditional and modern methods of food preservation.

15marks



C18:0

