

The theoretical modeling for the electrochemical determination of antioxidants hydroquinone and guaiacic acid in drink and juices

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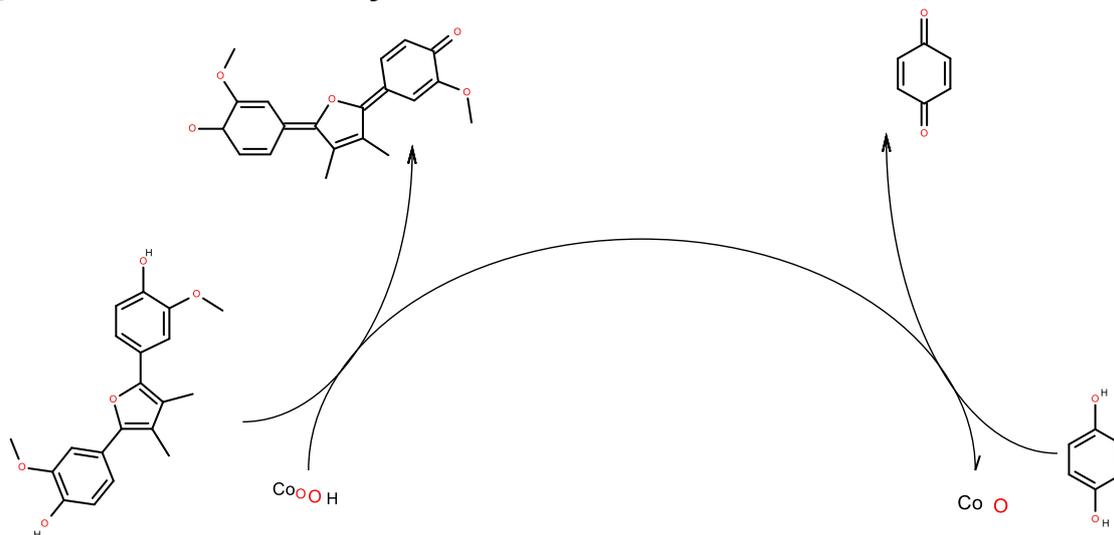
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Guaiac resin is one of the most widespread food additive with the preservative and antioxidant value. It is registered with the code E314, and its principal compound is guaiacic acid, which is a polyphenolic compound with the electrochemical behavior similar to that of hydroquinone. For this reason the electrochemical detection of guaiacic acid and hydroquinone is really important for the antioxidant value determination.

Taking into account that both of the compounds are electrochemically active, and both of the electrochemical reactions are proton-leaving, the electroanalytical process will be schematically described below:



Two models, describing the presence and the absence of the electropolymerization scenario for CoO(OH)-assisted determination of hydroquinone and guaiacic acid have been proposed and both of them confirm the efficiency of the electroanalytical process.

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