(12) PATENT APPLICATION PUBLICATION
(19) INDIA
(22) Date of filing of Application :24/11/2024

(21) Application No.202431091464 A
(43) Publication Date : 29/11/2024

(54) Title of the invention : "Optimizing Guaiacol Oxidation: Activators of Watermelon Peel Peroxidase"

(51) International classification	:C12Q0001280000, A61K0047120000, A61K0036420000, A61P0035000000, C12N0009960000
(86) International Application No Filing Date	:NA :NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
(62) Divisional to Application Number Filing Date	:NA :NA

(71)**Name of Applicant :**
1)SWAMI VIVEKANANDA UNIVERSITY
Address of Applicant :Telinipara, Barasat - Barrackpore Rd, Bara Kanthalia, West Bengal – 700121 Barasat ---------- ----------
Name of Applicant : NA
Address of Applicant : NA
(72)**Name of Inventor :**
1)DR. TANMOY SARKAR
Address of Applicant :SWAMI VIVEKANANDA UNIVERSITY Telinipara, Barasat - Barrackpore Rd,Bara Kanthalia, West Bengal – 700121 Barasat ---------- ----------
2)DR. AVISHEK CHATTERJEE
Address of Applicant :SWAMI VIVEKANANDA UNIVERSITY Telinipara, Barasat - Barrackpore Rd,Bara Kanthalia, West Bengal – 700121 Barasat ---------- ----------

(57) Abstract :
The invention relates to a method for enhancing the activity of peroxidase enzymes extracted from watermelon peel, utilizing metallic chlorides as activators in the oxidation of guaiacol. The study investigates the effects of metallic chloride salts, including $CuCl_2$, $FeCl_3$, KCl, and $MgCl_2$, at concentrations ranging from 0.5 mM to 2 mM. The reaction mixtures consist of crude peroxidase extract, sodium acetate buffer (pH 5.4), guaiacol, hydrogen peroxide, and the respective metallic chloride salt. The enzyme activity is measured spectrophotometrically at 470 nm by monitoring guaiacol oxidation. Results demonstrate that all tested metallic chlorides enhance peroxidase activity, with each exhibiting an optimal concentration for maximum activation. This invention provides a sustainable and cost-effective approach for utilizing agricultural waste, such as watermelon peel, to develop efficient biocatalysts with potential applications in industrial processes, environmental remediation, and biotechnological advancements.

No. of Pages : 9 No. of Claims : 10