

Pengembangan metode analisis captopril menggunakan screen printed electrode (SPE) termodifikasi tembaga (Cu) dengan sistem alir (flow injection analysis/ FIA) = Development of captopril analysis method using copper (Cu) modified screen printed electrode (SPE) using flow injection analysis (FIA)

Rachel Hardiari Krisjantiarum, author

Deskripsi Lengkap: <https://lib.ui.ac.id/detail?id=20487237&lokasi=lokal>

Abstrak

Using enzymatic sensor to determine the level of captopril is an alternative method that is being widely developed. In research , made in captopril sensor using Screen Printed Electrode (SPE), because of its advantage of being practical and simple. Cu electrodeposition on SPE is being done by potential -0,480 V vs $\text{Ag}^{1/2}\text{AgCl}$ with variation of time deposition of 5, 30 and 60 second. This research finds that the optimum deposition time is 60 second by taking into loading amount of $6,92 \times 10^{-6} \text{ gr.cm}^{-2}$. Cu/SPE is then applied to the Flow Injection Analysis (FIA) system. The optimum result of sensor appears in the FIA system with at the flow rate of 0,5 mL/minute and KOH Concentration of 1 M. Cu/SPE Sensor in FIA system has LOD of $6,530 \times 10^{-6} \text{ M}$ and sensitivity of $308,80 \text{ A.mM}^{-1}\text{.cm}^{-2}$. Cu/SPE sensor has good repeatability with value linearity of 0,9113 and %RSD of 1,75%. Selectivity test on the captopril to the glucose and lactose may produce better sensor. The application of Cu/SPE sensor has value %recovery of 96,29%.