

## Phytochemicals from Enantia Chlorantha Stem Bark Inhibits the Activity ?-Amylase and ?-Glucosidase: Molecular Docking Studies

**Authors :** Hammed Tanimowo Aiyelabegan, Oluchukwu Franklin Aladi, Mutiu Adewumi Alabi, Raliat Abimbola Aladodo, Emmanuel Oladipupo Ajani, Abdulganiyu Giwa, Esther Owolabi

**Abstract :** The study aimed to evaluate the inhibitory activities of ligands from Enantia chlorantha stem bark on  $\alpha$ -amylase and  $\alpha$ -glucosidase. In silico pharmacokinetic properties and docking scores were employed to analyse the inhibition using SwissADME and Autodock4.2, respectively. Results revealed that drug-likeness, pharmacokinetics and bioavailability radar of all the ligands except jatrorrhizine and acarbose falls within the radar according to the Lipinski rule of 5. The binding energies of the protein-ligand interactions also show that the ligand fits into the active site. The results obtained from this study show that the chemical constituents from Enantia chlorantha stem bark may bring about positive physiological changes in a patient suffering from diabetes mellitus. Further in vitro studies on diabetes cell lines and in vivo studies on the animal may validate these compounds for diabetes treatment. These phytoconstituents could help in the development of novel anti-diabetic molecules.

**Keywords :** diabetes mellitus, ?-amylase, ?-glucosidase, in silico, Enantia chlorantha stem bark

**Conference Title :** ICAB 2022 : International Conference on Agriculture and Biotechnology

**Conference Location :** Melbourne, Australia

**Conference Dates :** February 07-08, 2022