ABSTRACT

KHADIZAH SOENDOESS. 2023. ***In Silico Analysis of Rambusa Plant (Passiflora foetida L.) As an antidiabetic candidate and a source of learning biology on the concept of plantae.*** *Department of Biology Education, Faculty of Teacher Training and Education, Siliwangi University, Tasikmalaya*.

Rambusa plants are wild plants and creepers and grow in the tropics. Fibrous roots, yellowish-brown in color. The stems of rambusa plants grow creeping or grow climbing, tendrils of buyers branches for climbing. The leaf blades on the rambusa plant are heart-shaped, perfect flowers with double strands, oblong petals, detached. Rambusa fruit is covered by leaves that resemble moss, round in shape, green, dark green and yellow red when ripe. This plant can be used as an herbal tea and the fruit can be consumed when it is ripe although it is still limited in use, besides that this plant is useful as a medicine to treat bones, kidney disorders, and stress. Because in rambusa plants there are calcium, iron, antioxidants, minerals and vitamin C. the purpose of this study is to describe the results of molecular docking analysis of Rambusa plants (Passiflora foetida L.) as candidates for diabetes. The research method used is molecular docking with in silico deposition of 5-Hydroxy-7,4'-dimethoxyflavone compounds, Deidaclin, Linamarin, Volkenin, (1S,4S)-Tetraphyllin B, (S)-Tetraphyllin A and Passifloricin A. The result of this study is that almost all active compounds Passiflora foetida L. meet the law of five lipinski so that it can be said to be a drug candidate. Of the 4 compounds namely Deidaclin, Linamarin, (S)-Tetraphyllin A and Passifloricin A have good intestinal absorption and can be absorbed by water while passifloricin A has another ability, namely penetrating the intestinal cell membrane optimally. Compounds Deidaclin, Volkenin. (1S,4S)-Tetraphyllin B, and (S)-Tetraphyllin A are relatively safer, not mutagen and not toxic to liver, because these compounds have a safer level of toxicity compared to comparison drugs, namely metformin, Linamarin compounds have toxicity class 6. All test compounds that have a better affinity binding value than metformin are 5-Hydroxy-7.4 dimethoxyflavone, with a sequential affinity binding value of -10.4 kcal/mol. The valid test compound compared to metformin in certain poses is 5-Hydroxy-7,4-dimethoxyflavone with binding affinity values of -9.7 kcal/mol and RMSD l.b 2.090 and RMSD u.b 2.586.

Key words: In Silico, Passiflora foetida L., *5-Hydroxy-7,4'dimethoxyflavone. Passifloricin A, and Antiabetes*