



## Chemical Composition and Biological Activity of Momordica Charantia (Bitter Melon)

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**Abstract**—Phytochemical analysis and biological activities of *Momordica charantia* have been studied. Two parts of plant were used in this study such as fruit and seed. Plant sample has been extracted by using three different polarity of solvents such as n-hexane, chloroform and methanol through the cool extraction method. The result has shown that the highest percentage yield was methanol fruit extract with 15.29%. The phytochemical analysis has revealed there are many secondary metabolites in *M. charantia* fruit and seed such as alkaloid, flavonoid, saponin, phenol, tannin, terpenoid, steroid and glycoside while for seed part saponin was absence. Antibacterial study has been conducted by using disc diffusion method on *Bacillus subtilis*, *Staphylococcus aureus*, *Salmonella typhimurium* and *Escherichia coli*. In addition, the result has shown that the highest inhibition zone for fruit and seed was on *Staphylococcus aureus* in the range of 16 to 17 mm. Meanwhile, the antioxidant study revealed that the fruit and seed of *M. charantia* do not have antioxidant activity with percentage inhibition less than 50%. The results of this study conclude that *M. charantia* extract contains medicinally important bioactive compounds with efficient biological activities.

**Keywords**—**KEYWORDS:** *Momordica charantia*, Chemical composition, Antibacterial, Antioxidant