

Abstracts

COVID-19, which is caused by the SARS-CoV-2 virus, first appeared in Wuhan, China, in late 2019 and soon spread worldwide. Total six extracts of *Breynia oblongifolia* were prepared using cold percolation method. Further six extracts were screen against papain like protease of SARS-COVID-2 in *invitro*. Among the six extracts two extracts named BMEF and BEEF are showing significant activity. Further dose dependent *in-vitro* test of two active extract were performed and found that BMEF showing strong activity having IC_{50} value $20\mu\text{g/ml}$ and BEEF showing moderate activity having IC_{50} value $102\mu\text{g/ml}$. LC-MS experiment of BMEF was performed to understand what are the compounds present in it. Total 5 compound were identified from LC-MS study of active BMEF. Further molecular docking study was carried out to find out the molecule responsible for the activity of BMEF against papain like protease. Among the five polyphenolic compounds breyniaionoside B shows more binding affinity towards PLpro having $\Delta G = -8.4 \text{ Kcal/mol}$.

Key words: *Breynia oblongifolia*, SARS-COVID-2, Papain like protease, LC-MS, Molecular docking