

Activity of *Phyllanthus amarus* against COVID 19 through deactivation of SARS-CoV-2 nucleocapsid protein N-terminal RNA binding domain (6M3M)

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Abstract: An in-silico study was performed to determine the activity of *Phyllanthus amarus* against COVID 19. Molecular docking using Biovia Discovery Studio was performed to identify the phytochemical responsible to deactivate SARS-CoV-2 nucleocapsid protein N-terminal RNA binding domain (6M3M) enzyme. It was found that Ellagic acid and Campesterol helped to prevent COVID 19.

Introduction: *Phyllanthus amarus* is known for its medicinal activities. *P. amarus* is an important plant of Indian Ayurvedic system of medicine which is used in the problems of stomach, genitourinary system, liver, kidney and spleen. It is bitter, astringent, stomachic, diuretic, febrifuge and antiseptic. The whole plant is used in gonorrhoea, menorrhagia and other genital affections.

The plant is classified as follows:

Kingdom	Plantae
Division	Tracheophyta
Class	Magnoliopsida
Order	Malpighiales
Family	Phyllanthaceae
Genus	<i>Phyllanthus</i>
Species	<i>amarus</i>

Major phytochemicals present in the plant are:

- Pelletierine
- Daidzein
- Ellagic acid
- Campesterol

One of the major enzymes required for the survival of the organism causing COVID 19 is SARS-CoV-2 nucleocapsid protein N-terminal RNA binding domain (6M3M) enzyme. The objective of this work is to find the phytochemical that can deactivate the enzyme, thereby preventing the physiological activity of the organism.