

## Qualitative Phytochemical Comparison between Fresh and Dry Leaf Extracts of *Aegle marmelos*

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**Background:** *Aegle marmelos*, commonly known as ‘Bael tree’ is a sacred plant that belongs to the family Rutacea. Different parts of the plant such as root, bark, seed, fruit, and leaves are used in traditional medicine for the treatment of various disease conditions.

**Objective:** To compare the phytochemicals contained in fresh and dry leaf extracts of *Aegle marmelos*

**Methods:** Fresh and dry leaves (50 g each) of *A. marmelos* were refluxed sequentially using hexane, ethyl acetate, ethanol, and Dichloromethane (DCM):methanol (1:1). The crude extracts were concentrated using a rotary evaporator for the qualitative analysis of alkaloids, phenols, tannins, saponins, terpenoids, cardiac glycosides, steroids, proteins, and carbohydrates.

**Results:** Alkaloids and phenols were present in both dry and fresh leaves extracts except in the hexane extracts. Tannins were present in both dry and fresh leaf extracts of ethanol and DCM:methanol (1:1), and in the fresh leaf extract of ethyl acetate. Terpenoids were present in both dry and fresh leaf extracts of ethyl acetate, ethanol, and DCM:methanol (1:1) and in the fresh leaf extract of hexane. Cardiac glycosides were present in fresh leaf extracts of hexane, ethyl acetate, and DCM:methanol (1:1) while it was present only in the dry leaf extract of DCM:methanol (1:1). Steroids were present in both dry and fresh leaf extracts of hexane, ethanol, and DCM:methanol (1:1). Carbohydrates were slightly present in fresh leaf extracts. Proteins and saponins were not present in any extract.

**Conclusions:** *A. marmelos* leaf extracts consist of phytochemicals that are important for many pharmacological activities. The qualitative analysis of *A. marmelos* extracts showed the presence of phytochemicals such as alkaloids, phenols, tannins, terpenoids, cardiac glycosides, and carbohydrates. According to the results, the phytochemical content is higher in fresh leaf extracts than in dry leaf extracts. Moreover, most of the phytochemicals were extracted into high polarity extracts such as ethanol and DCM:methanol (1:1).

**Keywords:** *Aegle marmelos*, Bael, fresh and dry leaves, Phytochemicals, Qualitative analysis.