Section B

201/B

Phytochemical content and antioxidant capacity of different parts of *Aegle marmelos* (L.) Correa.

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Aegle marmelos (L.) Correa, locally known as *Beli,* is an important medicinal plant, which belongs to family Rutaceae. Different parts of the*A. marmelos* plant have been used for the treatment of several diseases, including cancer, diabetes, and cardiovascular disease, in traditional and *Ayurveda* systems of medicine since ancient times. Although *A. marmelos* is a multipurpose plant, information on the presence of secondary metabolites in different parts of the plant are scattered or less available. Therefore, the present study was undertaken to determine the Total Phenolic Content (TPC), Total Flavonoid Content (TFC) and Total Antioxidant Capacity (TAC) of different parts (flowers, fruit peel (skull), leaves, stem bark, immature fruits (4-5 weeks after fruit initiated), roots, and mature fruits (5-6 months after fruit initiated)) of *A. marmelos.* The TAC, TPC and TFC were determined using the Ferric Reducing Antioxidant Power Assay (FRAP), modified Folin-Ciocalteu method, and calorimetric method respectively. All tested parts demonstrated the presence of TAC, TPC and TFC. However, significantly higher TAC, TPC, and TFC were reported in immature fruits (658 ± 38 mg TE/ g DW, 301 ± 23 mg GAE /g DW, and 252.1 ± 1.6 mg RE/g DW respectively). Order of increase of total antioxidant capacity was fruit skull < flowers < stem bark < roots < leaves< mature fruits <immature fruits. According to the results, immature fruits of *A. marmelos* are rich in all tested phytochemicals and bioactive compounds. Therefore, immature fruits can be recommended as raw materials for manufacture of nutraceutical or pharmaceutical products.

Keywords: *Aegle marmelos*, antioxidant capacity, flavonoids, phenolic contents, Rutaceae

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