



## Characterization of Few Fabaceous Plants towards their Medicinal Application

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**Abstract:** The chemical characterization of the leaves of *Bahunia variegata*, *Cassia fistula* and *Dalbergia sissoo* of Fabaceae family were carried out to evaluate its bioactive potential. Fresh leaves of these plants were collected, dried and powdered for analysis. The proximate analysis of the leaves showed that the proportion of moisture content, volatile matter, ash content and fixed carbon were 5, 63, 18 and 14% respectively in *Bahunia variegata*. 4, 48.47, 11.88 and 35.65% respectively in *Cassia fistula* and 4, 70.25, 15.84 and 9.91% respectively in *Dalbergia sissoo*. The results of FTIR revealed the strong bonds between C-H, C-H, C=C, N-O, O-H, S=O, C-H, C-Br in *Bahunia variegata*, C-H, C-H, C=C, N-O, C-N, S=O, C-Cl, C-Br in *Cassia fistula*. C-H, C-H, C=C, N-O, S=O, C-O, S=O, C-H in *Dalbergia*. Moreover the result of TGA depicts that the highest weight loss occurred at temperature of 489.09°C in *Bahunia*, 497.91°C in *Cassia* and at 487.51°C in *Dalbergia* with a degradation rate of 10.00 K/min. The samples were also subjected to SEM and EDS analysis which is used to investigate the microstructure and the chemistry of range of material. With the execution of all these studies, the medicinal plants might become pharmacologically important and also confirm the medicinal practices used by earlier studies.

**Keywords:** Proximate analysis, FTIR, TGA, SEM, *Bahunia variegata*, *Cassia fistula*, *Dalbergia sissoo*

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