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Phytochemical Investigation and Fingerprinting of *Gymnosporia spinosa* Leaves Using Sophisticated Chromatographic Techniques

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Abstract : *Gymnosporia spinosa* leaves are often consumed by Indians for treatment of liver diseases. They also possess analgesic, anti-inflammatory and anticancer activity, along with uses in gastrointestinal, tooth and eye disorders. The present work focuses on developing an HPTLC fingerprint of *G. spinosa* leaves and detecting phytochemical constitution of the same using GC-MS. Methanolic extract of the leaves was prepared by maceration. This extract was used to develop a suitable mobile phase for fingerprinting. After mobile phase development involving several pilot TLC, the mobile phase showing distinct spots in TLC was found to be Chloroform: Methanol (9:1). The extract was further subjected to HPTLC fingerprinting where R_f and Area Under Curve were calculated. The extract was also analyzed using GC-MS. HPTLC fingerprinting of the methanolic extract showed five peaks at 254nm and eight peaks at 366nm, whereas GC-MS study structurally identified five phytoconstituents. This work provides simple techniques for the Pharma industry which can be utilized for standardization, quality control and detection of adulteration of *Gymnosporia spinosa* leaf formulations.

Keywords : Celastraceae, GC-MS, *Gymnosporia montana*, HPTLC, *Maytenus emarginata*, *Maytenus senegalensis*, Quality control.

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