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HPTLC Fingerprint Profiling of Protorhus longifolia Methanolic Leaf Extract and Qualitative Analysis of Common Biomarkers

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Abstract : Protorhus longifolia is known as a medicinal plant that has been used traditionally to treat various ailments such as hemiplegic paralysis, blood clotting related diseases, diarrhoea, heartburn, etc. The study reports a High-Performance Thin Layer Chromatography (HPTLC) fingerprint profile of Protorhus longifolia methanolic extract and its qualitative analysis of gallic acid, rutin, and quercetin. HPTLC analysis was achieved using CAMAG HPTLC system equipped with CAMAG automatic TLC sampler 4, CAMAG Automatic Developing Chamber 2 (ADC2), CAMAG visualizer 2, CAMAG Thin Layer Chromatography (TLC) scanner and visionCATS CAMAG HPTLC software. Mobile phase comprising toluene, ethyl acetate, formic acid (21:15:3) was used for qualitative analysis of gallic acid and revealed eight peaks while the mobile phase containing ethyl acetate, water, glacial acetic acid, formic acid (100:26:11:11) for qualitative analysis of rutin and quercetin revealed six peaks. HPTLC sillica gel 60 F254 glass plates (10 × 10) were used as the stationary phase. Gallic acid was detected at the R_f = 0.35; while rutin and quercetin were not evident in the extract. Further studies will be performed to quantify gallic acid in Protorhus longifolia leaves and also identify other biomarkers.

Keywords : biomarkers, fingerprint profiling, gallic acid, HPTLC, Protorhus longifolia
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