

Phytochemical Characterization of Natural Dye Extracted from *Senna siamea* Pods

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Abstract : An increasing eco-consciousness among peoples has been shifting the use of natural dyes for textile dyeing and in other realms too as food, pharmaceuticals and cosmetics. The present study was focussed on aqueous extraction of natural dye from the pod husk of *Senna siamea* (Lam.) H.S. Irwin & Barneby, its characterization through spectroscopic (UV-VIS and FT-IR) and chromatographic (GC-MS/ LC-MS) technique. It was noticed that the percent recovery was 16%, while FTIR results indicates different functional groups present in the dye, total 16 constituents were identified in the GC-MS analysis of *Senna* dye such as D-Fructose, 3-O-methyl-, Stigmast-5-en-3-ol, oleate, Benzaldehyde, 2-hydroxy-4-methyl-, 3'-Methoxybenzo[1',2'-b]-1,4-, Tetrapentacontane, n-Hexadecanoic acid, 2,3-Dihydroxypropyl elaidate 3-Hydroxy-4-methoxybenzoic acid, 4H-Pyran-4-one, 2,3-dihydro-3,5-dihydroxy-6, 4-Hydroxy-2-methylacetophenone, Hexadecanoic acid, 2-hydroxy-1-(hydroxymethyl), Maltol, Methyl 14-methyl-eicosanoate, Bis(2-ethylhexyl) phthalate, 9,12-Octadecadienoic acid (Z,Z)-, 2,3-dihydro, Benzeneacetaldehyde, and the LCMS analysis exhibits the presence of 20 major bioactive compounds among these N-Cyclohexane carbonyl pentadecylamine, Docosanedioic acid, Emmotin A, 3 α ,12 α -Dihydroxy-5 β -chol-7-en-24-oic Acid, 4-Hydroxyphenylglyoxylate, Hexadecyl Acetyl Glycerol, 2-oxo-nonadecanoic acid, 1-Monopalmitin, Spisulosine and N,N-dimethyl-Safingol showed highest retention time. Thus the *Senna* dye is a rich source of natural bioactive compounds.

Keywords : Natural dye, UV-VIS, FTIR, GC-MS, LCMS.

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