



PharmTech

International Journal of PharmTech Research

CODEN (USA): IJPRIF, ISSN: 0974-4304, ISSN(Online): 2455-9563
Vol.12, No.04, pp 13-21, 2019

Bioactive Components from Flowers of *Sesbania grandiflora* L.: Extraction and Optimization Studies

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Abstract : Plant based extracts are attractive sources of nutraceutical which have been shown to produce promising results in the treatment of curing many diseases and disorders. *Sesbania grandiflora* Linn is one such plant commonly known as Agathi belongs to the family, Fabaceae native to tropical region that has been used medicinally for centuries. The present study deals with bioactive components extraction from the flowers of *Sesbania grandiflora* using different solvents namely ethanol, methanol, petroleum ether, acetone, and n-hexane using soxhlet apparatus. Response surface methodology is applied to optimize the extraction process of bioactive components from *Sesbania grandiflora* flower. The effect of process parameters such as temperature (40 °C to 60°C), time (8hr to 10hr) and the quantity of sample (10gm to 20gm) on extraction yield was studied. Among the five solvents used in the study, a maximum yield 9.95% was found when ethanol is used. Phytochemical constituents of the extract were analyzed using phytochemical screening methods. The extraction yield is optimized for different process variables using design of experiments.

Key words : *Sesbania grandiflora*, Extraction, Soxhlet, Response surface methodology.

S.Sujithra /International Journal of PharmTech Research, 2019,12(4): 13-21.

DOI: <http://dx.doi.org/10.20902/IJPTR.2019.120403>
