



Essential Oil Composition of Solvent Extract of *Hibiscus rosasinensis* Flower

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ABSTRACT

Fresh flowers of *Hibiscus Rosasinensis* obtained from Kanpur and Kannauj and were extracted by using solvent hexane. Oil thus obtained has medicinal value in the pharmaceutical industry. The oil was analysed by GC-MS technique. Many constituents were identified. The oils were rich in polyphenols, flavonoids and anthocyanins.

Key words: Pharmaceutical industry, GC-MS technique, polyphenols, Flavonoids, anthocyanins.

INTRODUCTION

Hibiscus rosasinensis belongs to family Malvaceae. There are many colours of 'Hibiscus rosa sinensis', like Red, White and Yellow with Red being the most popular. Several articles and ancient literature have shown that the flowers of this plant possess anti-fertility activity. Those flowers collected during the winter show the greatest potency, followed by those collected in the spring, rainy season and summer in decreasing order. "Hibiscus rosa - sinensis is considered to have a number of medicinal uses in Chinese herbology.

Many chemical compounds like, Cyanadin, quercetin, Hentriacontane, Calcium oxalate, Thiamine, Riboflavin, niacin and ascorbic acid have been isolated from flowers of "Hibiscus rosa-sinensis".

MATERIALS AND METHODS

Fresh flowers of *Hibiscus Rosa sinensis* (500 gms) collected from Kanpur and Kannauj. These flowers were crushed and extracted from Soxhlet apparatus and Clevenger apparatus using solvent n-hexane. The oil extracted was dark brown in colour. The oil sample so obtained was dried over anhydrous sodium sulphate prior to analysis.

GC and GC-MS analysis

The oil sample was analysed with Perkin Elmer Clarus 500 (TurboMass software Ver. 5.0.0) data handling system with manual injection with mass detector. The column used Rtx⁵-5 capillary column (60m x 0.32mm ID x film thickness 0.25 µm) crossbond 5% diphenyl siloxane. The carrier gas was Helium gas flow rate 1 ml/min. The injection volume is 0.2 µl. The column over temperature is

60° for 2 min. ramp. 3°C/min. to 22°C for 5 min. The split ratio is 1:50.

Identification of the components were identified by comparison of their mass spectra with those of computer library search (NIST) and confirmed by comparison of their retention indices either with those of authentic compounds.

RESULTS AND DISCUSSION

The essential oils from the sample extracted yielded 0.30 - 0.50% v/w on fresh weight basis and the chemical composition was determined by GC & GC-MS. The oils were brown in colour.

Table 1: The components found by GC-GC-MS analysis

S. No.	RT	Name of the Components	% Area
1.	49.108	1 - iodoundecane	50.568
2.	49.289	Neopentane	7.641
3.	49.501	2, 2, 4 - Trimethyl 3-pentanone	1.556
4.	56.175	1,2-Benzenedicarboxylicacid isodecyl octyl ester	11.056
5.	57.222	2-Cyclopentylethanol	2.404
6.	57.896	2-Propeonic acid, 1-4 butanediyl ester	1.543
7.	57.896	2-Propenamide	1.543
8.	58.349	1-Tetrazol-2-ylethanone	3.993
9.	58.802	4-Trifluoroacetoxyoctane	1.480
10.	58.349	Amylnitrite	3.993

In both the samples many components were found in traces.

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