

(RESEARCH ARTICLE)



## Formulation and evaluation of perfume from locally available flowers

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### Abstract

The abstract should summarize the content of the formulation of perfume from flowers such as *Rose, Crysanthemum, Plumeris, jasmine* essential oil has been conducted. Essential oil from flowers was obtained by solvent extraction. Perfume extraction is the extraction of aromatic compounds from raw materials, using methods such as solvent extraction's essential oils are isolated from flowers. Which are the liquid and strong aromatic components and are a high concentrated oils extracted from aromatic flowers. Extraction is a separation of aromatically active portion of flowers using selective solvent. In this formulation we use solvent extraction process. A literature search was performed to find flowers describing botanical name, genus, species, kingdom etc. The information used is from databases PubMed, Science direct and Google scholar. Evaluation tests were performed such as Hedonic test, Sensory test, Spot test, Skin irritancy test. Based on result of quality evaluation it can be concluded that all flowers essential oil can be used as a perfumery agent in perfume formulation and stable during the storage in room temperature.

**Keywords:** Perfume; Extraction; Flowers; Essential Oil; Fragrance; Petals etc.

### 1. Introduction

Since the starting of recorded history, numerous characteristic and man-made materials have been utilized in endeavor to veil (or improve) body odor called fragrances. Fragrance is a fragrant fluid made from extricates that have been refined in liquor and water. No aroma will fragrance precisely the same on any two individuals, since of contrasts in their body odors, temperature etc. Venkar et al, characterized fragrance as extricates or pith that contains a rate of oil refined in liquor. Numerous old aromas were made by extricating characteristic oils from plants through squeezing and steaming. Oloyede et al. see that perfumery (the craftsmanship of making aromas) started in old Mesopotamia and Egypt and was assisted refined by the Romans and Persians. Customarily, fragrances were made from plant and creature substances and arranged in the shape of water, oils, unguents, powders, and incenses. Most present day fragrances are alcohol-based and contain manufactured fragrances. Advanced perfumery started in the late 19th century with the commercial union of smell compounds such as vanillin, which permitted for the composition of aromas with smells already unattainable exclusively from characteristic aromatics alone. Agreeing to Venkar et al, aroma ordinarily alludes to all shapes of scents (in common, containing over 15% of scent oils) in liquor. Strategies included in aroma extraction from plants incorporate; dissolvable extraction, refining and effleurage strategies among others. These strategies to a certain degree, misshape the odor of the fragrant compounds that are gotten from the crude materials. Key fixings required to deliver aroma are; basic oils (which is extricated from different natural or non-organic sources), alcohols which break down the fundamental oil and fixatives which combine to donate the fragrance of the fragrance. Fundamental oils are fragrant materials that have been extricated from a source fabric specifically through refining or expression; as a rule gotten in the shape of a sleek fluid. Fixatives are any characteristic substances that offer assistance a scent final longer on the skin by bringing down the vanishing rate of the liquor as alcohol-based fragrances are the most brief. So a substance is required to include for "anchor" the scent. Humans have acknowledged the lovely fragrances of blossoms for eras. When individuals scent flower fragrances, they regularly feel more joyful and have a

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more positive viewpoint. The hypothalamus is the portion of the brain mindful for preparing a fragrance, deciding whether you will like or detest it. Fragrances can moreover have a capable interface to sentiments and recollections. Fragrances and colognes are made to offer to the sense of scent. Most aromas contain unstable oils determined from plant sources. Indeed more current engineered scents tend to mirror single flower scents or a combination of fragrances. A refining prepare is utilized to draw out the plant oils to utilize them for aroma and cologne. Aromas by and large utilize liquor as the carrier medium. To make a signature fragrance, producers include basic oils from particular plants. The diverse fundamental oils confer particular fragrances into the blend. A few fragrances vanish more rapidly than others, which decides the speed at which you will scent them. In the combination of fragrances found in most fragrances, the smells that vanish to begin with are the introductory scents recognized, called beat notes. The center fragrances define the fundamental scent of a aroma. The last fragrances that your nose recognizes, the foot notes, are the ones that work to ground all of the fragrances and drag them together into a satisfying combination. Producers may moreover include additives and colorants to perfume.

Perfume is a blend of fragrant fundamental oils or fragrant compounds, fixatives and solvents utilized to provide the human body, creature, nourishment objects and living spaces a charming fragrance.

- It has been utilized for centuries by mankind.
- Feeling of freshness.
- Initially it was as it were utilized for devout reason but presently it has ended up an adornment of sophistication.

### 1.1. Brain research of utilizing perfume

- When we breathe in the odorant atoms of a fragrance, it not as it were makes the sensation of odor but too makes feelings and encounters related with it. For occasion, we center on the wonderful childhood recollections related with the scent of vanilla.
- Stimulation of hippocampus causes emission of development hormone, sex hormone and neurotransmitters.
- Another reason behind fragrance utilize is to increment ones allure in the eyes of other people.
- We wear a fragrance which best communicates our distinction, our tastes and our character.
- Perfume utilizing may gotten to be a propensity and without it a individual may feel incomplete.

Perfumes nowadays are being made and utilized in distinctive ways than in past centuries. Fragrances are being fabricated more and more as often as possible with engineered chemicals or maybe than normal oils. Less concentrated shapes of aroma are moreover getting to be progressively well known. Combined, these components diminish the fetched of the fragrances, empowering more far reaching and visit, frequently every day, utilize. Like fragrance based treatment, more inquire about is being conducted to synthesize human perfume—that is, the body fragrances we deliver to pull in or repulse other people. Unused fragrances are being made to copy the impact of pheromones and invigorate sexual excitement receptors in the brain.

### 1.2. History of perfume

- The Egyptians were the to begin with who utilized fragrance for individual satisfaction, but the generation of fragrance was saved for the clerics and they utilized it in devout purpose.
- The Greek utilized an exceptional sum of fragrance and for each portion of the body they utilized a distinctive scent for cleanliness of the body.
- The history of the Middle easterners is the combination of craftsmanship and science.
- Two skilled Middle eastern chemists-Jābiribn Hayyān and Al – Kind set up the perfume Industry.
- The Romans utilized fragrance as a portion of luxury.
- The most seasoned perfumery was found on the island of Cyprus 4,000 a long time back demonstrating that aroma fabricating was on an mechanical scale.
- The Hungarians presented the to begin with present day aroma, made of scented oils mixed in an alcohol Solution at the command of Ruler Elizabeth of Hungary.
- France is the origin of cutting edge perfumery. France given to develop fragrant plants for aroma industry with crude materials. Indeed nowadays, France remains the middle of the European aroma plan and trade.
- England and Germany too contributed a parcel in modernization of perfumery.

### 1.3. Notes in perfume

Perfume is depicted in a melodic representation as having three sets of notes, making the concordant fragrance accord. These notes are made carefully with information of the vanishing handle of the perfume. The three notes are:

- Top notes
- Center notes
- Base notes

Each of these levels, in any case, has its claim essential reason

- Top notes :- They are by and large the lightest of all notes and recognized instantly after application. Top notes comprise of little, light atoms with tall instability that dissipate quickly. Common scents of best notes incorporate citrus (lemon, orange get-up-and-go), light natural products (grape, berries), and herbs (clary sage, lavender).
- Middle Notes :- The center notes or the heart notes, makes an appearance once the beat notes evaporate. The center note compounds from “heart” or primary body of a aroma and act to cover the often Unpleasant beginning impression of base notes, which gotten to be more wonderful with time. Common scents of center notes incorporates rose, lemon, nutmeg, jasmine etc.
- Base notes: Base notes or foot or dry notes show up whereas center notes are blurring. The base and center notes together are the fundamental subject of a aroma. Base notes bring profundity and robustness to a fragrance. Common scents of base notes incorporate sandalwood, vanilla, golden and musk.

### 1.4. Benefits

- It gives you a new feeling
- It can boost confidence
- It can offer assistance you stand out
- it acts as an aphrodisiac
- it brings back memories
- it can offer assistance you relax

#### *Aim*

The primary point of this inquire about is to define and assess fragrance from locally accessible blooms.

#### *Objectives*

The destinations are as takes after

- To assess the favored strategy of extraction of locally accessible blooms.
- Increasing self offer and self certainty
- Influence mood
- Reduce uneasiness
- Increase cognitive function

### 1.5. Plant/drug profile

#### 1.5.1. *N-hexane*

- Mol. Formula: C<sub>6</sub>H<sub>14</sub>
- Synonym: HEXANE, N-hexane, esalni, Hexane
- Mol. Weight :86. 18 g/mol
- Physical properties
- Colour: colourless
- Odor: slightly disagreeable

#### 1.5.2. *Ethanol*

- Mol. Formula:C<sub>2</sub>H<sub>5</sub>OH

- Synonym: ethanol, ethyl alcohol
- Mol weight: 46.07 g/mol
- Physical properties:
- Colour: colourless
- Odor: characteristic vinous odor
- Density: 6.51 b/gal

## 1.6. Flowers

- Rose
- Chrysanthemum
- plumeria
- . jasmine

### 1.6.1. Rose

- Rose is one of the most beautiful flowers among several others.
- It has beautiful petals and a stem that is usually full of thorns.
- Roses can be found in many colours, out of which red and white are more common.
- Apart from that, there are pink and yellow roses too.



**Figure 1** Rose

- Flower name: *rose*
- Kingdom: *plantae*
- Genus: *Rosa*
- Family: *Rosaceae*
- Division: *Tracheophytes*
- Order: *Rosales*
- Class: *Angiosperms*
- Part used: *petals*

### 1.6.2. Chrysanthemum

- The name chrysanthemum (Chrysanthemum) is derived from the Greek chryos meaning gold and anthemion meaning flower.
- Early depictions of chrysanthemums show them as small, yellow, daisy-like flowers.
- Chrysanthemums belong to the Asteraceae or daisy family.
- It is one of the largest families in the botanical world



**Figure 2** Chrysanthemum

- Flower Name: *chrysanthemum*
- Kingdom: *plantae*
- Genus: *chrysanthemum* L.
- Family: Asteraceae
- Division: *magnoliopsida*
- Order: Asterales
- Class: *Magnoliopsida*
- Part used: petal

### 1.6.3. *Plumeria*

- *Plumeria* is a deciduous plant species belonging to the genus *Plumeria*.
- Originally native to Mexico, Central America, Colombia and Venezuela, it has been widely cultivated in subtropical and tropical climates worldwide and is a popular garden and park plant, as well as being used in temples and cemeteries.



**Figure 3** *Plumeria*

- Flower Name: *plumeria*
- Kingdom: *plantae*
- Genus: *chrysanthemum*
- Family: Asteraceae
- Division : *Magnoliopsida*
- Order: Asterales

- Class: Magnoliopsida
- Part used: Petals

#### 1.6.4. Jasmine

- Common jasmine is a climbing shrub that can grow up to 8 meters tall.
- The leaves are made up of 7 to 9 smaller 'leaflets', which are long, pointed and oval-shaped.
- The flowers are white or very pale pink, with five petals and strongly scented.
- The fruits are small black berries.



**Figure 4** Jasmine

- Flower name: jasmine
- Kingdom : plantae
- Genus: *Jasmine L*
- Family: oleaceae
- Division: mangnoliophyta
- Order: Lamiales
- Class: Dicotyledons
- Part used: Petals

#### Plan Of Work

- Review of literature survey.
- Preparation of herbarium sheet.
- Collection, identification and authentication of ingredients.
- Processing of ingredients
- Extraction(maceration)
- Formulation of perfume
- Evaluation of formulation

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## 2. Material and equipment's

### 2.1. Equipment's

1000ml flask, 500ml beaker, 1000 ml separating funnel, 250 ml beaker, water bath

Chemical n-hexane, ethanol

### 2.2. Method ( Extraction process)

- Step 1: firstly the petals of all flowers are selected for formulation of perfume.
- Step 2: Allow them to dry for few days
- Step 3: Preparation of Extract by solvent Extraction process
- Step 4: Powder dry petals (300g) was added to 600 ml of the solvent ( n-hexane)in a 1000 ml Flask and stopped.

- Step 3: In order to completely extract all oil in the petals, the content was allowed to stand for 38 hrs. After which the Extract was decanted into 500 ml beaker.
- Step 4: Ethanol (200ml) was added to dissolved the extract.
- Step 5: The mixture was added transferred to 1000 ml separating funnel and allowed to come in Equilibrium, which separate into two layers.
- Step 6: The lower ethanol layer extract and upper hexane layer were carefully separated, Collected into two separate 250ml beakers and placed in a water bath at 60 degree. This was done to remove excess ethanol leaving only the natural essential oil.



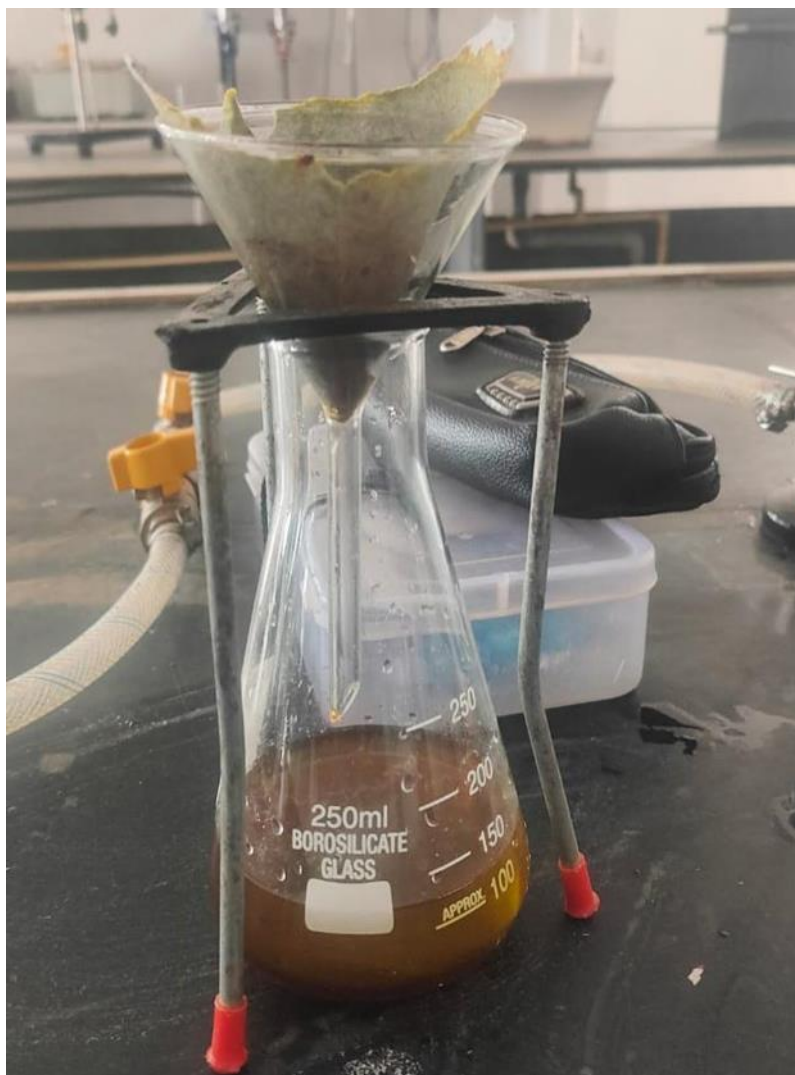
**Figure 5** Collection of dry pet



**Figure 6** Soaked petals of flowers



**Figure 7** Extraction process



**Figure 8** Collection of perfume



## 2.3. Evaluation of perfume

### 2.3.1. Organoleptic evaluation

- Colour
- Fragrance
- Appearance

### 2.3.2. Physical evaluation

- **pH:** pH of perfume is determined by using pH paper
- **Spot testing:** Start by choosing your one to test and then spray either your wrist or back of the hand in a downward motion. Two spritzes should do it. Drop your hand to your side and wait at least 30 seconds for the scent to settle on your skin. Once it has started to dry, bring your hand up and inhale. After testing spot test there is no spot of perfume appear.
- **Hedonic test:** The Hedonic rating test is used to measure the consumer acceptability and preference. The panelist is asked to rate the acceptability of the product on a scale. of 9 points, ranging from "like extremely" to "dislike extremely".
- **Sensorytest:** sensory analysis -based on the assessment of odor sensations perceived by the human sense of smell, the results of which are usually presented in the form of odor intensity, threshold concentration or odor concentration
- **Skin irritancy test :** Skin Irritation Test (SIT) The Skin Ethic Skin irritation Test (SIT) can be used to predict the acute skin irritation potential of chemicals.

### 2.3.3. Physicochemical parameters of perfume

**Table 1** Physicochemical Parameters of perfume

Sr. No	Parameters	Result
1	Colour	Reddish brown
2	Fragrance	Fruity fragrance
3	Appearance	Good
4	PH	8. 9
5	Skin irritancy	No skin irritation
6	Hedonic test	Pleasant

## 3. Result and discussion

Preparation and evaluation of perfume was done. The physicochemical parameters of the prepared perfume were determined. The formulation exhibited good as appearance characteristics as well as the PH was found in range, 8. 9 which determined PH. Other parameters such as Hedonic test, sensory test, spot test were determined.

The present work is concerned with the formulation of perfume using flowers. The formulated perfume had a good fragrance. It didn't cause any irritation to skin.

## 4. Conclusion

This research indicates the importance of flowers as sources of aromatic compound for the Preparation of local perfumes, and their role to improve the livelihood of growers. This Is an attempt To explore the possibility of perfume manufacturing using flowers. The flowers essential oil was Successfully extracted from dry petals of flowers using solvent extraction or maceration Although solvent extraction method gives higher result. The essential oil was used successfully In perfume formulation by using fixating and different solvents (alcohol) as ingredients.

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## Compliance with ethical standards

### *Disclosure of conflict of interest*

No conflict of interest to be disclosed.

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