" Sheel, Sharir, Adhyayan "
Aundh Shikshan Mandal, Aundh

Raja Shripatrao Bhagawantrao Mahavidyalaya, Aundh. (Satara)

Experiential Learning
PROJECT WORK
B.Sc. Part 3
Subject: Chemistry

2019-2020

RAJA SHRIPATRAO BHAGWANTRAO MAHAVIDYLAYA, AUNDH

Department of Chemistry B.Sc. III Project Data 2019-2020

Roll No.	Name of Students	PRN No.	Title of Project	Name of Project Guide
1	* Bagal Santoshi Shankar	2017055984	Preparation of Chalcone from acetophenone	Kumbhar K. S.
2	* Gaikwad Aditi Chandrakant	2017056084	Use of paper chromatography for separation of coloured pigments	Bhise S.N.
3	* Gaikwad Madhuri Laxman	2017056082	Chocolate Analysis	Kalekar.D.G.
4	* Gosavi Harshada Shrikant	2017056082	Chocolate Analysis	Kalekar.D.G.
5	* Jadhav Ankita Adikrao	2016063436	Dissolving rate of salt in water at different temperature	Kalekar.D.G.
6	* Jadhav Poonam Vishnu	2017056143	Use of paper chromatography for separation of coloured pigments	Bhise S.N.
7	* Jadhav Prajakta Yashwant	2017056151	Quantative determination of the acid content of different types of fruit juice	Bagal J V
8	* Jagdale Arti Dhanaji	2017055864	Dissolving rate of salt in water at different temperature	Kalekar.D.G.
9	* Jankar Pallavi Shivaji	2017056158	Comparative study of natural indicator	Kharatmol R M.
10	* Jathar Tejashri Rajendra	2017056155	Colorimetric Estimation of protein From Different Germinating Seed.	Bhujabal G.R.
11	* Kale Pratiksha Arjun	2017056210	Qualitative determination of the acid contain of different type of fruit juice.	Bagal J V
12	* Langade Aishwarya Shivling	2017056257	Use of paper chromatography for separation of coloured pigments	Bhise S.N.
13	* Madane Madhuri Gorakh	2017056286	Comparative study of natural indicator	Kharatmol R M.
14	* Makar Gauri Mohan	2017066276	Dissolving rate of salt in water at different temperature	Kalekar.D.G.
15	* Mane Amruta Gorakhnath	2017056278	Colorimetric Estimation of protein From Different Germinating Seed.	Bhujabal G.R.
16	* Mulani Shahin	2017056284	Colorimetric Estimation of protein From Different Germinating Seed.	Bhujabal G.R.
17	* Mulani Yasmin Ramjan	2017056281	Preparation of Azodyes from simple chemical (Aniline)available in laboratory and E	Bhujabal G.R.
18	* Nagmal Rupali Popat	2017056309	Preparation of Chalcone from acetophenone	Kumbhar K. S.
19	* Nikam Mrunali Ashok	2017055965	"Prepration of Azodyes from simlpe chemical(Aniline) available in labortory and Ex	Bhujabal G.R.
20	* Nikam Pooja Kisan	2017055970	Preparation of Azodyes from simple chemical (Aniline)available in laboratory and E	Bhujabal G.R.
21	* Pawar Dipali Laxman	2017066642	Chocolate Analysis	Kalekar.D.G.
22	* Pawar Dnyaneshwari Vijay	2017056386	Preparation of Chalcone from acetophenone	Kumbhar K. S.
23	* Pawar Rani Ramdas	2017056376	Preparation of Chalcone from acetophenone	Kumbhar K. S.
24	* Pawar Shivani Sanjay	2017056359	Use of paper chromatography for separation of coloured pigments	Bhise S.N.
25	* Pisal Pratiksha Arjun	2017056368	Comparative study of natural indicator	Kharatmol R M.
26	* Salunkhe Gouri Sadashiv	2017055801	Quantative determination of the acid content of different types of fruit juice	Bagal J V
27	* Salunkhe Priyanka Madhukar	2017056968	Comparative study of natural indicator	Kharatmol R M.
28	* Shendage Pooja Mahadev	2017065748	Chocolate Analysis	Kalekar.D.G.
29	* Shinde Chandralekha Ravikant	2016064591	Dissolving rate of salt in water at different temperature	Kalekar.D.G.
30	* Vadgave Prachiti Devidas	2017057092	Colorimetric Estimation of protein From Different Germinating Seed.	Bhujabal G.R.
31	* Velhal Mitakshi Hanmant	2017057104	Preparation of Azodyes from simple chemical (Aniline)available laboratory and Ex	Bhujabal G.R.
32	* Wagh Komal Navnath	2017059542	Quantative determination of the acid content of different types of fruit juice	Bagal J V
33	Chavan Akash Rupsing	2017056022	Determination of Caffeine in Tea Samples	Gharge S.V
34	Deshmukh Ganesh Rajendra	2017056029	Determination of Caffeine in Tea Samples	Gharge S.V
35	Deshmukh Prakash Sanjay	2017056032	Water analysis	Kharatmol R M.
36	Deshmukh Shambhuraj Mansing	2016064601	Analysis of Cold Drinks	Ghadge S.V
37	Ghadge Ganesh Deepak	2017056098	Determination of Caffeine in Tea Samples	Gharge S.V
38	Ghadge Prajwal Sanjay	2017056078	Water analysis	Kharatmol R M.
39	Gharge Akash Arun	2017056075	Estimation of iron from pharmaceutical tablet	Gharge S.V
40	Gharge Chaitanya Tanaji	2017056104	Estimation of iron from pharmaceutical tablet	Gharge S.V.
41	Gharge Krishnat Sambhaji	2016064458	Presence of insecticides or Pesticides (nitrogen containing) in various fruit and ve	Kumbhar k.s
42	Gharge Rushikesh Eknath	2017056101	Water analysis	Kharatmol R M.
43	Gharge Vishal Sanjay	2017056113	To determine the oxalate ion in guava fruit at the different stages of ripening	Bagal J V
44	Ingale Akshay Suresh	2017056134	To determine the oxalate ion in guava fruit at the different types of ripening	Bagal J V
45	Jagadale Sandip Dattatray	2016063474	Presence of insecticides or Pesticides (nitrogen containing) in various fruit and ve	Kumbhar K. S.
46	Kale Hrishikesh Mahesh	2017054281	Presence of insecticides or Pesticides (nitrogen containing) in various fruit and ve	Kumbhar K. S.
47	Madane Dhanaji Gorakh	2017055110	Estimation of iron from pharmaceutical tablet	Gharge S.V
48	Mohite Prashant Dattatray	2.01502E+15	To determine the oxalate ion in guava fruit at the different types of ripening	Bagal J V
49	Pawar Dhiraj Sharad	2017055808	Presence of insecticides or Pesticides (nitrogen containing) in various fruit and ve	Kumbhar K. S.
50	Pawar Harshad Himmat	2017056350	Analysis of Cold Drinks	Gharge S V
51	Pawar Kartik Laxman	2017056350	Analysis of Cold Drinks	Gharge S V
52	Pawar Mahesh Sunil	2017056363	Analysis of Cold Drinks	Gharge S V
53	Pawar Somnath Changdev	2017056331	Water analysis	Kharatmol R M.
54	Surve Digambar Krishnat	2017057027	Presence of insecticides or Pesticides (nitrogen containing) in various fruit and ve	Kumbhar K. S.
55	Suryavanshi Shubham Rajendra	2017057039	Determination of Caffeine in Tea Samples	Gharge S V
56	Wadekar Suraj Ajit	2017057123	To determine the oxalate ion in guava fruit at the different types of ripening	Bagal J V

Head of department
RSBM Aundh
HEAD
Department of CHEMISTRY
R. B. M. Aundh.

Principal
RSBM Aundh
I/C PRINCIPAL
Raja Shripatrao Bhagwantrao
Mahavidyalaya, Aundh (Satara)

Sample Project

Exam seat no.

PRN NO. 2017056376

Aundh Shikshan Mandal, Aundh

RAJA SHRIPATRAO BHAGWANTRAO MAHAVIDYALAYA, AUNDH

Arts & Science

(NAAC 'B' Grade, NIRF MHRD Rank band 151-200) (Established on 19th September 1994 - recognized by UGC U/s 2 (f) and 12 (B))

CERTIFICATE

This is to certified that

1 NAGMAL RUPALI POPAT
2 PAWAR RANI RAMDAS
3 PAWAR DNYANESHVARI VIJAY
4 BAGAL SANTOSHI SHANKAR

Has satisfactorily completed project in chemistry for B.Sc. Part 3 (as prescribed by Shivaji university, Kolhapur) entitled " "preparation of chalcone or benzal acetophenone from acetophenone" in the year 2019-20.

07/03/2020

Mr. Kumbhar K.S.

Project Guide

16/3/20

Examiner

23/3/20

HEAD

Department of CHEMISTRY

R. B. M. Aundh.

Department Of chemistry

PREPARATION OF CHALCONE OR BENZAL ACETOPHENONE FROM ACETOPHENONE

INDEX

ABSTRACT

Chalcones are precursor compounds for flavonoids biosynthesis in plants, and they can also be synthesized in laboratory. Chalcones possess a broad spectrum of biological activities including antioxidative, antibacterial, antihelmintic, amoebicidal, antiulcer, antiviral, insecticidal, antiprotozoal, anticancer, cytotoxic and immunosuppressive. Changes in their structure have offered a high degree of diversity that has proven useful for the development of new medicinal agents having improved potency and lesser toxicity and good pharmacological actions. Chalcones became an object of continued interest in both academia and industry. Nowadays, several chalcones are used for treatment of viral disorders, cardiovascular diseases, parasitic infections, pain, gastritis, and stomach cancer, as well as like food additives and cosmetic formulation ingredients. However, much of the pharmacological potential of chalcones is still not utilized. The purpose of this review is to describe the recent efforts of scientists in pharmacological screening of synthetic chalcones, studying importance of chalcones, and synthesis of pharmacologically active chalcones and their biological activities.

INTRODUCTION

The chemistry of chalcones has generated intensive scientific studies throughout the world. The name "Chalcones" was given by Kostanecki and Tambor [1]. Chalcones are also known as benzyl acetophenone or benzylidene acetophenone. In chalcones, two aromatic rings are linked by an aliphatic three carbon chain. Chalcones (trans-1, 3-diaryl-2-propen-1-ones) are α, β-unsaturated ketones consisting of two aromatic rings (ring A and B) having diverse array of substituents. Rings are interconnected by a highly electrophonic three carbon α, β-unsaturated carbonyl system that assumes linear or nearly planar structure [2-4]. They contain the ketoethylenic group (–CO–CH=CH-). Chalcones possess conjugated double bonds and a completely delocalized π-electron system on both benzene rings. Chalcones have been used as intermediate for the preparations of compounds having therapeutic value [5-7]. Chalcones have been identified as interesting compounds that are associated with several biological activities. The most common chalcones found in foods are phloretin and its glucoside phloridzin (phloretin 2′-0-β-glucopyranoside), and chalconaringenin.

Chalcone bears a very good synthon so that variety of novel heterocycles with good pharmaceutical profile can be designed.

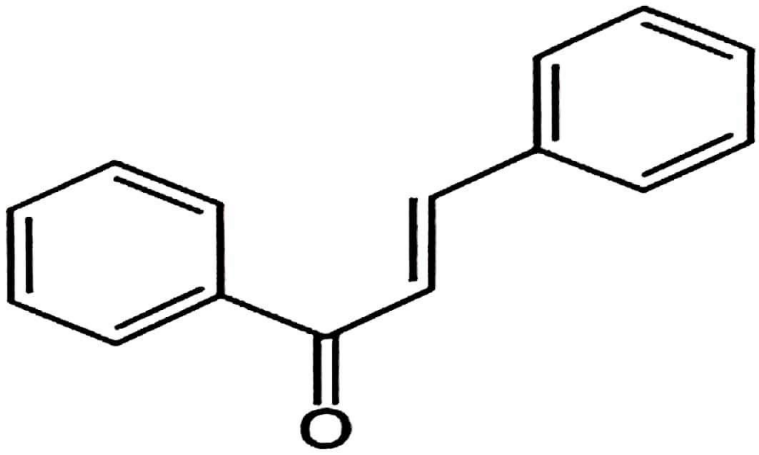
BIOLOGICAL ACTIVITIES OF CHALCONES

Xia and co – workers were the first to demonstrate improved antiproliferative activity of chalcones with substituted amino groups

Le Blance et al have shown that methoxylated chalcones with a 3' – amino groups had sub-micromolar IC_{50} values against murine melanoma B16 cells[26]

Dimmock and co- workers proposed that the presence of amino fuction increases the reactivity of chalcones as the michael accepteors and subsequently there antiproliferative activity. They postulated that the amino function would be protonated at low PH environment normally encountered in tumor. The electron withdrawing effect of the protonated ammonium function would enhance the electrophilicity of the beta carbon in the enone linkage, hence increasing its reactivity as the Michael acceptor.

STRUCTURE OF CHALCONE



Structure of chalcone

IMPORTANCE OF CHALCONES

1) They have close relationship with flavones, aurones, retralones and aziridines.

(2) Chalcones and their derivatives find application as artificial sweeteners [21], scintillator, polymerization catalyst, fluorescent whitening agent, organic brightening agent, stabilizer against heat, visible light, ultraviolet light and aging [22].

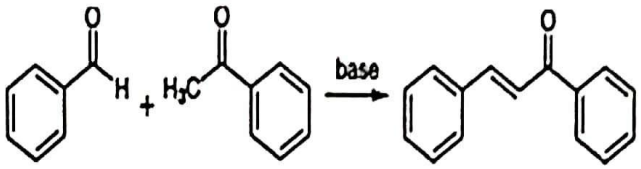
(3) 3, 2', 4', 6'-tetrahydroxy-4-propoxy-dihydrochalcone-4-β'-neohesperdoside [23] has been used as synthetic sweetener and is 2200 times sweeter than glucose.

(4) They contain a keto-ethylenic group and are therefore reactive towards several reagents e.g. (a) phenyl hydrazine, (b) 2-amino thiophenol etc.

(5) The chalcones have been found useful in elucidating structure of natural products like hemlock tannin, cyanomachurin, phloretin, eriodictyol and homo eriodictyol, naringenin [24] etc.

SYNTHESIS

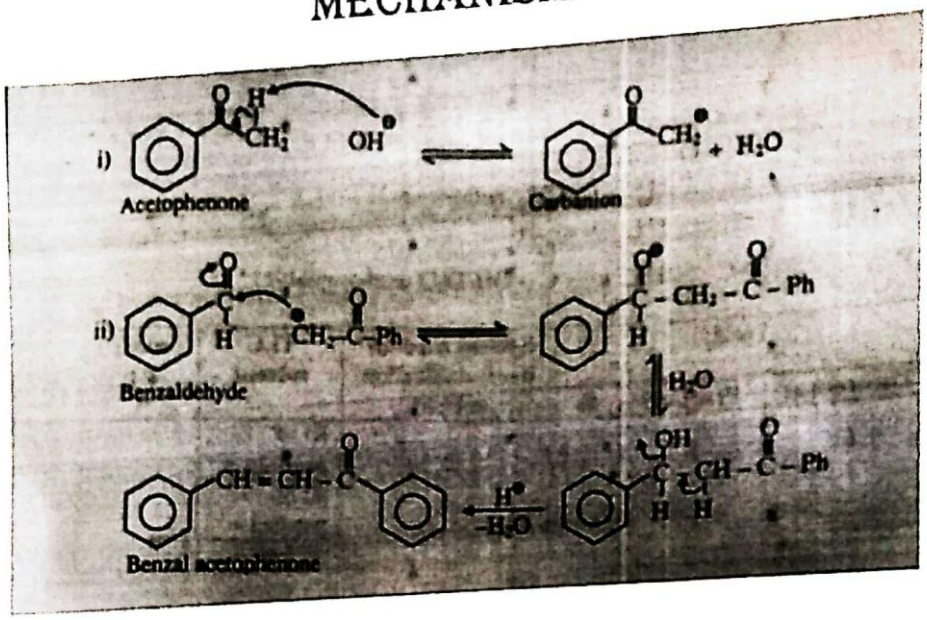
Chalcones can be prepared by an aldol condensation between benzaldehyde and acetophenone in the presence of sodium hydroxide as a catalyst.



This reaction can be carried out without any solvent as a solid-state reaction.[4] The reaction between substituted benzaldehydes and acetophenones can be used as an example of green chemistry in undergraduate education.[5] In a study investigating green syntheses, chalcones were synthesized from the same starting materials in high-temperature water (200 to 350 °C).[6]

Substituted chalcones were also synthesised by piperidine-mediated condensation to avoid side reactions such as multiple condensations, polymerizations, and rearrangements.[7]

MECHANISM



PRINCIPLE

This single stage conversion involves Claisen Schmidt condensation. This is a condensation of ketone having α – hydrogen with more commonly aromatic aldehydes in alkaline medium. First step is carbanion formation followed by nucleophilic addition and then elimination of water molecule.

Example -: Acetophenone when reacted with benzaldehyde in aqueous NaOH undergoes condensation to form benzal acetophenone. Phenone commonly called as Chalcone. This preparation is asked quite often.

PROCEDURE

1) Prepare a solution of 5ml acetophenone and 5ml benzaldehyde in 25ml ethanol in a hard glass test tube.
2) To the above solution add 25ml of 50% NaOH dropwise with vigorous stirring with a glass rod.
3) Warm this reaction mixture for about 30 minutes at 60^0C.
4) Pour the content from this test tube over crushed ice or 30 ml cold water stir well cool yellow coloured solid separates .
5) Filter this product and wash with cold water. The recrystaline from ethyl alcohol.
6) Record yield and M.P.

PHYSICAL PROPERTIES OF REACTANT AND PRODUCT

compound	M.W.	Wt/vol.	m. mol	M.P. ^{0}C	B.P. ^{0}C	D
Acetophenone	120	5 ml	4.2	---	202	1.030
Benzaldehyde	106	5ml	5.0	---	179	1.044
NaOH solution	40	25 gm in 25 ml water	---	---	---	---
Alcohol	46	25 ml	---		78	0.785
chalcone	208	5.202 gm	---	56	---	---

"Preparation of Azodyes from simple chemical (Aniline) available in laboratory and Extraction of Natural Dyes from Rose (Rosa)"

A project submitted to

Shivaji University, Kolhapur

For the partial Fulfillment Bachelor of Science

In

Chemistry

By

1) Miss Mulani Yasmin Ramjan
2) Miss Velhal Mitakshi Hanmant
3) Miss Nikam Pooja Kisan
4) Miss Nikam Mrunali Ashok

Under the Guidance of

BHUJABAL G. R.

Raja Shripatrao Bhagwantrao Mahavidyalaya, Aundh
Maharashtra, India.

(2019-2020)

"SHEEL SHARIR ADHYAYAN"

AUNDH SHIKSHAN MANDAL'S AUNDH

RAJA SHRIPATRAO BHAGAWANTRAO MAHAVIDYALAY, AUNDH
Tal. Khatav, Dist. Satara

DEPARTMENT OF CHEMISTRY

CERTIFICATE

This is to certify that, Miss Velhal Mitakshi Hanmant of class **B.Sc.III (2019-2020)** has satisfactorily carried out required project work entitled **"Preparation of Azodyes from simple chemical (Aniline) available in laboratory and Extraction of Natural Dyes from Rose (Rosa)"** for **B.Sc.III Chemistry** in the year **2019-2020**. The project is done under my guidance and supervision.

Prof. Bhujabal G. R.
Project Guide

Examiner 16/3/2020

Prof. Kalekar D.G.
Department of Chemistry
HEAD
Department of CHEMISTRY
R. B. M. Aundh.

Introduction :

Nature would have been dull without the colour in flowers, leaves, fruits, animals, birds, insects, soil, sky, rock etc. So colour has always fascinated man. Initially natural colour extracted from plants and animals were used as dyes. But as they were costly only rich people could afford them. In 1856 perkin by chance synthesized a dyes called mauve. This was followed by some basic research by Graebe, Lieberman, Bayer & other. Their success led to the development of dyes industry & Germany because, the leader Later USA, England & Japan joined the race. They are brighter more permanent cheaper, easy to use & offer a range of about 70,000 shades.

From recent past years, the use of synthetic dye exponentially increases in many important industries, such as textile, pharmaceutical, food processing etc. The synthetic dye are easy available and show superior fastness properties over natural dye. However, though synthetic dye exhibit superior

Fastness properties, it produces many side effects on human body causing allergic reaction. Synthetic dye is not easily degradable and bio-accumulated in natural environment. It has been estimated that, nearly 10, 00,000 tones of synthetic dye were used per annum (1). The synthetic dye may cause pollution, skin diseases, health hazards to human and other important organisms (2). Hence the use of ecofriendly and biodegradable dye has main concern in worldwide. The natural dyes from plants were traced long time ago. In India 450 plants are found to be good source of natural dye. For the extraction of natural dye different plant parts are used such as seeds, flowers, leaves and barks. In the present study, an alternative dye yielding plant red rose flower were studied for its potentiality for obtaining natural dye. Red rose is a one of the most attractive and cut flower, which is mainly used as an ornamental flower.

Defination of Dyes:

A coloured organic compound which can be fixed to the substrate to impart its colour that does not wear out easily with water, soap or sunlight is called as dyes.

By definition dyes can be said to be coloured ionizing & aromatic organic compounds which shows an affinity towards the substrate to which it is being applied. It is generally applied in a solution that is queous. Dyed may also require a mordant to better the fastness of the dye on the material on which it is applied.

Classification of Dyes :

The main classes of dyes based on constitution are as under dyes in each class may be subgrouped on the basis of number of chromophores, acidic or basic nature.

1) Nitro dyes
2) Nitroso dyes
3) Azo dyes
4) Stilbene dyes
5) Triphnyl methane dyes
6) Phthalein dyes
7) Xanthene dyes
8) Phthalocyanin dyes
9) Anthraquinone dyes
10) Indigo dyes
11) Thiazine dyes
12) Parazolone dyes

Synthesis of 1-Phenylazo 2-Napthol

Procedure:

1. Dissolve 5.0g of aniline in 16 ml of conc. HCl and 16 ml of water in small beaker or conical.
2. Diazotise by addition solution 4.0g of sodium nitrite in 20 ml of H_2O (0.658mol)
3. Prepare solution 7.8g of 2-napthol in 45 ml of 10% sodium solution in 250ml beaker, cool the direct addition about 25g of crushed ice.
4. Stir naphthol solution and add cold diazonium salt solution very slowly (red colour develop and red crysral 1-phenenylazo 2-naphthol soon seprate)
5. All diazonium salt solution added allow the mixture to stand in an ice bath 30 min. with stirring.
6. Filtewr so;ution by funnel wash well H_2O and drain thoroughly by pressing crystl with large glass stopper.
7. Recrystallise $1/4^{th}$ produt from glacial acetic acid retain reduction by stannous chloride.
8. Filter recrystallised product with suction wash with ethanol to eliminate acetic acid and dry filter paper.
9. Yield deep red crystal is about 3g pure 1-Phenylazo – 2 – napthol m.p - 131^0c.
10. M.P is low recrystallise dry product from rthanol.

Result

1. Weight of crude product - 11.280g
2. M.P of crude product – 130^0c

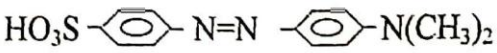
Azo dyes :

They contain diazo (-N=N-) chromophoric group & form a largest family of commercially important dyes. They are prepared by diazotizing an aromatic primary amine followed by coupling with suitable aromatic amine or phenol or their derivatives.

On the basis of nature of auxochrome they are grouped into acidic azodyes containing acidic auxochromes like $-SO_3H$, -COOH, -OH etc. and basic auxochromes like $-NH_2$, -NHR, $-NHR_2$ etc.

The more common & important azo dyes are as under

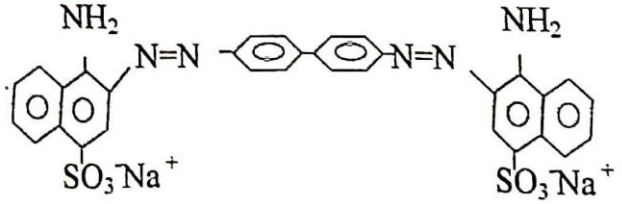
a) Monoazo dyes : They are the ddyes containing only one azogroup



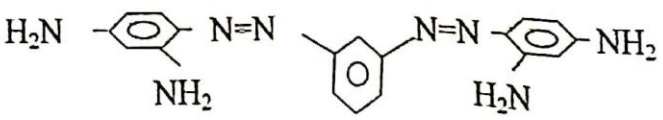
Methyl orange

b) Bisazo dyes : They are the dyes containing two azo group

1) Congored :- The disodium salt of acid has red color & is capable of dyeing cotton directly.



2) Bismark brown :- It is brown coloured dye used primarily for dyeing leather.

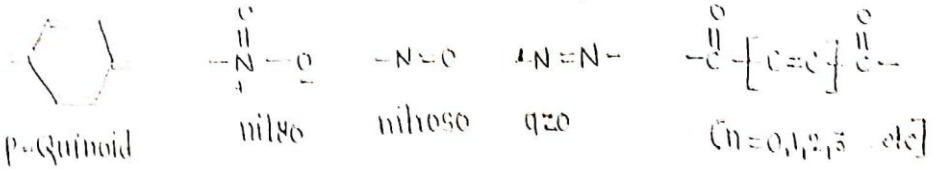


Witt's Theory (1876)

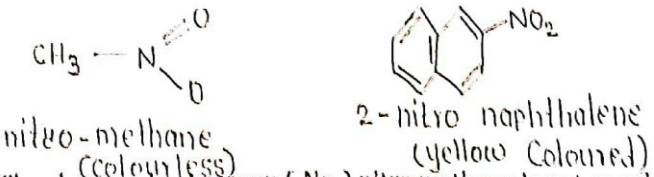
It is the first of the theories explained also reffred as chromophore auxochrome theory. Two impacts of this theory are as under.

1) Chromophore -

The colour of dye due to the presence certain unsaturated group called chromophore present in it. A compound containing chromophoric group is called chromogen. Few chromophores are as under.



However, the presence of a chromophore is not just sufficient cause for the compound to act dye. But chromophore needs to br coupled to extended conjugated system eg



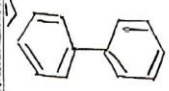
The chromophoric group ($-NO_2$) nitro methane is not coupled to conjugated system so it is colourless

2) Auxochrome -

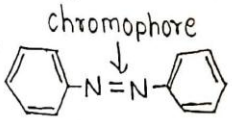
An acidic or basic group or an group atom indepented of chromophore that intensifes of depends the colour of a chromogen and fixes the chromogen to the substrate called auxochrome.

Acidic -	$-OH$ hydroxy	$-SO_3H$ Sulphonic acid	$-COOH$ Carboxylic acid
Basic -	$-NH_2$ amino	$-NHR$ alkyl amino	$-NR_2$ dialkyl amino

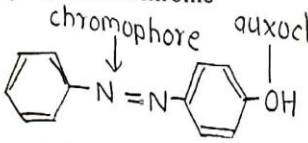
Thus, it follows a dye is a chromogen carrying an auxochrome

1) 

Diphenyl
(Colourless)
No chromo-phore.

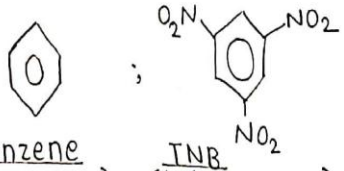
2) 

azobenzene
(red in Colour)
chromogen

3) 

p-hydroxyazobenzene
(bright red Colour)

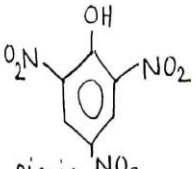
Similarly, consider following structures



Benzene
(Colourless)

TNB
(bright yellow) chromogen

Phenol
(Colourless)



picric acid (yellow dye)

Both benzene and phenol are colourless is they lack chromophore bright yellow phenol can bind substrate because –OH group but not benzene. Nitro-benzene coloured it carry chromophore ($-NO_2$) Joined to conjugated system. However Nitro benzene cannot actg as dye it lack auxochrome and auxochrome so it coloured and bind to the substrate so it dye.

Properties of Azodyes

1) Azo dyes give bright, high intensity colour much more so than the next most common dye.
2) They have fair to good fastness properties but not so good as the carbonyl & phthalocyanine classes.
3) Then biggest advantages it their cost effectiveness. Which is due to the process involved in manufacture.
4) The general formula for making an azo dye require two organic comp. a coupling component & a diazo component.
5) As other dye classes less viable from either an environmental or economic reasons, azo dyes become even more attractive option.

Qualities of a good dyes

A good dye is one which,

1) It has attractive colour & offers wide range of shade.
2) Fixes by itself or allows to be fixed to variety of substrates.
3) It is held more or less permanently to the substrate.
4) On washing or exposure to sunlight does not fade away.
5) It is cheap & easy to handle.
6) It does not harm the consumer health in any ways.

Extraction of Natural Dyes from Rose (Rosa)

Materials:

Substrate-

The 100 % soft cotton fabric was used as substrate.

Chemicals-

The different chemicals such as Ferrous Sulphate ($FeSO_4$), Stannus Chloride ($SnCl_2$), Copper Sulphate ($CuSO_4$), 95 % ethanol were used and purchased from Merck.

Procedure

Method:

Extraction of dye from petals-

Extraction of colour dye was carried out by four different methods.

Aqueous extraction method-

10 gm fresh petals of red rose were boiled in 100 ml distilled water at 1000 C for 30 minutes. The decolorized petals were taken out from extraction solvent.

Alkaline extraction methods-

In alkaline extraction method, 10 gm fresh petals were boiled in 1 % Sodium hydroxide for 30 minutes.

The decolorized petals were taken out from extraction solvent. Finally, filter the solution and used for further study.

Acidic methods-

In acidic extraction method, 10 gm fresh petals were treated with 1 % of acidic solution boil at 1000 C for few minutes. Finally, filter the solution and used for further study.

Scouring of cotton cloth-

Cotton cloths used for dyeing were boiled in 10 % NaOH solution for 10 min. to remove starch and other impurities from the cloth. The NaOH treated cotton cloths were then thoroughly washed with cold distilled water (3).

Dyeing and Mordanting-

The clean scouring cotton cloths were treated with different Mordent such as Ferrous Sulphate ($FeSO_4$), Stannous Chloride ($SnCl_2$) and Copper Sulphate ($CuSO_4$).

Uses :

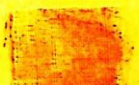
1) These colouring substance are used in different types of industries. These are used in textile, paper, leather, wood & food industries etc.
2) In food industry natural dyes are generally used but now federal agency has allowed.
3) The use of synthetic dyes are generally used but now federal agency has allowed the use of synthetic dyes but within a permissible level.
4) The variety of petroleum based items such as lubricating oils, waxes, gasoline & polishes use these colouring substance.
5) To colourfull, hair & other biological samples you can use various types of colouring substance.
6) Artificial or ready made colour, dyes intermidiates are used garments, spices cold, drinks, syrup, medicine, tooth paste, modern foods, cosmetics & beverages.
7) Dyes & intermidiates were earlier made from tar oil but now these are artificially produced from petroleum.
8) Artificial flavors are also used to enhance the flavor of a food product vanillin is one such comp. Most of these colours, flavors & preservative contain ingredients which are hardly harmful in our body.

Result and Discussion:

The different colour shades were obtained from various extracts of red rose flower. The extracts shows variation in colour and which is mainly depends upon the extraction solvents. The Rating of fastness properties of dye and Mordent are given in the Table-1.

Table-1 Rating of fastness properties of dye and Mordent.

Sr. No.	Solvents	Cotton fabrics
1.	Aqueous	Good
2.	Alkaline	Good
3.	Acidic	Good

Extract of natural dye from Rose Petal	Ferrous sulphate ($FeSO_4$)	Stannous Chloride ($SnCl_2$)	Copper sulphate ($CuSO_4$)
Aqueous method			
Alkaline method			
Acidic method			

Conclusion:

Thus, results obtained from present investigation revealed that, the red rose flower has the dying potential as a source for cotton dying. Dyes obtained from red rose flower can be used as cost effective and economically commercial for various industries such as textile, cosmetics, leather, food and pharmaceuticals.

Conclusion:-

1) Dyes is bulk chemical used in various types of industries, textile, food, leather, wood etc. The variety of petroleum based items such as lubricating oils, waxes, gasoline and polishes use these colouring substances.
2) Azo dyes give bright, high intensity colour much more so than the next most common dye.
3) In this project we prepared various two dyes having colour orange and red by using simple substrate.