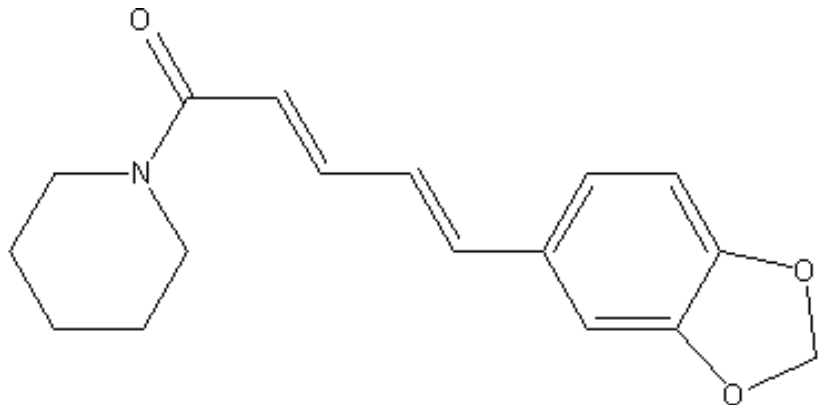


BLACK PEPPER

1-(5-[1,3-benzodioxol-5-yl]-1-oxo-2,4-pentadienyl) piperidine

Practical -8

Date: .../.../.....

MORPHOLOGY OF BLACK PEPPER**Aim:** To identify the morphological characters of given organised drug.**Reference:**.....**Requirements:**.....**Biological Source:** It is obtained from dried unripe fruits of **Piper nigrum Linn.**, also known as black pepper.**Family:** Piperaceae**Morphological characteristics (Black Pepper Fruits):**

S. No.	Morphological Character	Observation
1	Colour	
2	Odour	
3	Taste	
4	Shape	
5	Size	
6	Extra features	

Chemical constituents:

- Black pepper contains **Piperine** that can be extracted from the unripe fruits of black pepper.
- Molecular formula for piperine is **C₁₇H₁₉NO₃**.
- The most important candidate of ***P. nigrum*** is piperine, its concentration varies in different species of ***P. nigrum***. For example, the amount of piperine in long pepper varies up to 1-2% and in white and black pepper, it varies up to 5-10 %.
- The reason behind its very essential therapeutic use is that due to presence of piperine, it increases the bioavailability of many nutrients and drugs by inhibiting various metabolizing enzymes. Thus, it plays an essential role in regulating obesity induced dyslipidemia
- It is present in the concentration of 6-9% in the black pepper.
- It also contains beta-carotene, lauric-acid, palmitic acid, and pepper phellandrene.
- Piperine is such a dominant constituent of ***P. nigrum*** that it is responsible for its pungency i.e., its strong odor and taste property.

Uses: In pharmaceutical sciences, its applications are as follows:

- It works as an analgesic, antipyretic and antioxidant.
- It utilizes as a rubefacient.
- It is also used as a preservative.
- It has application in cosmetic industries and also in the preparation of insecticides.
- It improves appetite, increases digestive power and also has antimicrobial activities.
- It is used in the treatment of fever, colic, dysentery, piles and infections of worms.
- It reduces inflammatory responses by inhibiting lipopolysaccharides.
- Also used as a cure of cold, cough and dyspnea and other diseases of the throat.
- It has a protective effect on the key liver enzymes.

Report: The given organised drug was identified as.....

Questions Bank

1. Write the biological source of Black pepper.
2. What is Hindi name of Black pepper?
3. What are the uses of Black pepper?
4. Write the name of chemical constituent of Black pepper.
5. What are the lipopolysaccharides?
6. What is the rubefacient property?
7. What are the insecticides?
8. Draw the chemical structure of piperine.
9. Write the one chemical test for Black pepper.
10. Paste the one marketed preparation of Black pepper.