

PHYTOCHEMICAL INVESTIGATION

Test for Carbohydrate	<ol style="list-style-type: none">1. Molisch's test2. Fehling's test3. Benedict's test
Test for cardiac glycoside	<ol style="list-style-type: none">1. Keller-killiani test
Test for anthraquinone glycoside	<ol style="list-style-type: none">1. Borntrager test
Test for proteins	<ol style="list-style-type: none">1. Biuret test2. Millon's test
Test for amino acids	<ol style="list-style-type: none">1. Ninhydrin test
Test for steroid	<ol style="list-style-type: none">1. Salkowski reaction2. Liebermann-Burchard reaction
Test for flavonoid	<ol style="list-style-type: none">1. Shinoda test
Test for alkaloid	<ol style="list-style-type: none">1. Dragendorff's test2. Mayer's test3. Hager's test4. Wagner's test

TEST FOR CARBOHYDRATE

Chemical test	Observation	Inference

<p>TEST-1: Molisch's test: To 2-3 ml of ethanol extract, few drops of α-naphthol solution was added and shaken well. Con. H_2SO_4 was added slowly from side of the test tube.</p>	<p>Violet ring at the junction of two liquids</p>	<p>Present</p>
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TEST FOR CARBOHYDRATE

Chemical test	Observation	Inference
<p>TEST-2:Fehling's test: Each 1 ml of Fehling's A and Fehling's B was mixed and boiled for one minute. Equal volume of test solution was added and heated on water bath for 5-15 minutes.</p>	<p>Brick red precipitate</p>	<p>Present</p>

TEST FOR CARBOHYDRATE

Chemical test	Observation	Inference
TEST-3:Benedict's test: Equal volume of Benedict's reagent and test solution was mixed in test tube and heated on water bath for 5 minutes.	Solution may appear green, yellow or red	Present

TEST FOR PROTEIN

Chemical test	Observation	Inference
TEST-1:Biuret test: To 3 ml test solution, few ml of 4 % NaOH and few drops of 1 % CuSO ₄ solution was added.	Violet or pink color	Present

TEST FOR PROTEIN

Chemical test	Observation	Inference
TEST-2:Millon's test: 3 ml of test solution was mixed with 5 ml of Millon's reagent.	White precipitate. Warm precipitate turns brick red or ppt dissolves giving red colour solution	Present

TEST FOR AMINO ACIDS

Chemical test	Observation	Inference
TEST-1:Ninhydrin test: 3 ml of test solution was mixed with 3 drops of 5 % Ninhydrin solution and heated on water bath for 10 minutes.	Purple or bluish color	Present

TEST FOR STEROID

Chemical test	Observation	Inference
TEST-1:Salkowski reaction: Each 2 ml chloroform and con. H ₂ SO ₄ was added to 2 ml of test solution and shaken well.	Chloroform layer appears red and acid layer shows greenish yellow fluorescence	Present

TEST FOR STEROID

Chemical test	Observation	Inference
TEST-2:Liebermann-Burchard reaction: 2 ml of test solution was mixed with chloroform. 1-2 ml of acetic anhydride and 2 drops of con.H ₂ SO ₄ from the side of the test tube.	First red, then blue and finally green color appears	Present

TEST FOR CARDIAC GLYCOSIDE

Chemical test	Observation	Inference
TEST-1:Keller-killiani test: 2 ml of extract was mixed with glacial acetic acid. One drop of 5 % FeCL ₃ was mixed and 1 ml of con.H ₂ SO ₄ was slowly added from side of the test tube.	Reddish brown color appears at junction of two liquid layers and upper layer appears bluish green	Present

TEST FOR ANTHRAQUINONE GLYCOSIDE

Chemical test	Observation	Inference
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<p>TEST-1:Borntrager test: To 3 ml of extract dil. H₂SO₄ was added. Then it was boiled and filtered. To the filtrate equal volume of benzene or chloroform was added and shaken well. Organic solvent layer was separate out and mixed with ammonia.</p>	<p>Ammonical layer turns pink or red</p>	<p>Present</p>
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TEST FOR FLAVONOIDS

Chemical test	Observation	Inference
<p>TEST-1:Shinoda test: 5 ml of 95 % ethanol or tertiary butyl alcohol was added to dry powder or extract followed by few drops of con. HCL and 0.5 g magnesium turnings.</p>	<p>Pink color observed</p>	<p>Present</p>

TEST FOR ALKALOIDS

Chemical test	Observation	Inference
TEST-1:Dragendorff's test: Few drops of Dragendorff's reagent were added to 2-3 ml of filtrate.	Orange brown precipitate is formed	Present

TEST FOR ALKALOIDS

Chemical test	Observation	Inference
TEST-2:Mayer's test: Few drops of Mayer's reagent were added to 2-3 ml filtrate.	Cream color precipitate	Present

TEST FOR ALKALOIDS

Chemical test	Observation	Inference
TEST-3:Hager's test: Few drops of Hager's reagent were added to 2-3 ml filtrate.	Yellow color precipitate	Present

TEST FOR ALKALOIDS

Chemical test	Observation	Inference
TEST-4:Wagner's test: Few drops of Wagner's reagent were added to 2-3 ml of filtrate.	Reddish brown precipitate	Present