

Supplementary Materials

Article

Insightful Valorization of the Biological Activities of Pani Heloch Leaves through Experimental and Computer-aided Mechanisms

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1. Qualitative Phytochemical Screening

The qualitative phytochemical analysis of the *MEAM* was carried out by the standard methodology for testing the alkaloid, flavonoids, proteins, cholesterol, resins, phenols, terpenoids, steroids, emodins, tannins, and glycosides [1-3].

1.1. Test for Alkaloids

Two milliliters of extract solution was added with the 2-3 drops of Mayer's reagent, whereas the white precipitates considered as the presence of alkaloids.

1.2. Test for Flavonoid

One milliliter of extract solution was added with the few mL of lead acetate (10%) in a test tube, whereas the yellow precipitates indicated the presence of flavonoids.

1.3. Test for Proteins

Two milliliter of extract solution was added with the two mL of water and few drops of conc. HNO_3 in a test tube, whereas the yellow color indicated the presence of proteins.

1.4. Test for Cholesterol

Two milliliter of extract solution was added with the two mL of CHCl_3 and ten drops of acetic anhydride and 2-3 drops conc. H_2SO_4 in a test tube, whereas the red-rose color indicated the presence of cholesterol.

1.5. Test for Resins

One milliliter of extract solution was added with the few mL of $\text{C}_4\text{H}_6\text{O}_3$ and 1 mL of conc. H_2SO_4 in a test tube, whereas the conversation of orange to yellow color indicated the presence of resins.

1.6. Test for Phenols

Five milliliter of extract solution was added with the 3 mL of lead acetate (10%) in a test tube and mixed very gently, whereas the white precipitates indicated the presence of phenols.

1.7. Test for Terpenoids

Three milliliter of extract solution was added with the 1 mL of chloroform and 2 mL of conc. H_2SO_4 in a test tube, whereas the reddish brown color indicated the presence of terpenoids.

1.8. Test for Steroids

Two milliliter of extract with 2 ml of chloroform and 2 ml of concentrated H_2SO_4 are added, the appearance of red color and yellowish green fluorescence indicates the presence of steroids.

1.9. Test for Emodins

To 5ml of extract, 2ml of NH_3OH and 3ml of benzene are added. The production of red color indicates the presence of emodins.

1.10. Test for Tannins

Five milliliters of extract solution was added with the few drops of ferric chloride solution (5%), whereas the dark green color considered as the presence of tannins.

1.11. Test for Glycosides

The Borntrager's methodology was followed, whereas 2 mL of extract solution was added with 3 mL of chloroform and shaken well. After shaking, the layer of chloroform was separated and added ammonia solution (10%), whereas the pink color indicates the presence of glycosides.

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