LIST OF FIGURES

1.1 Closer view of the plant *Pajanelia longifolia* (Willd.) K. Schuman ................. 8

1.2. View of the plant *Pajanelia longifolia* (Willd.) K. Schuman from distance 8

3.2.1.1. Formation of Cyst like structure in higher dose level [1600mg/kg (E) and 2000 mg/kg (F)] but no any Cyst like structure formed in lower dose level [200 mg/kg (B), 800 mg/kg (C), 1200 mg/kg (D)] compared to control (A) .......................... 39

3.2.1.2 H. Histopathological studies of sections of mice liver for the determination of toxicity level after 21 days of treatment with acetone bark extract. [(a) control group, (b) 200 mg/kg dose, (c) 400 mg/kg dose, (d) 600 mg/kg dose, (e) 800 mg/kg dose, (f) 1000mg/kg dose, (g) 1200 mg/kg dose, (h) 1600 mg/kg dose, (i) 2000 mg/kg dose] ........................................................................................................ 40

3.2.2.1. Formation of Cyst like structure in higher dose level [1600mg/kg (F) and 2000 mg/kg (E)] but no any Cyst like structure formed in lower dose level [200 mg/kg (B), 800 mg/kg (C), 1200 mg/kg (D)] compared to control (A) ......................... 43

3.2.2.2. Histopathological studies of sections of mice liver for the determination of toxicity level after 21 days of treatment with methanol bark extract. [(i) control group, (ii) 200 mg/kg dose, (iii) 400 mg/kg dose, (iv) 600 mg/kg dose, (v) 800 mg/kg dose, (vi) 1000mg/kg dose, (vii) 1200 mg/kg dose, (viii) 1600 mg/kg dose, (ix) 2000 mg/kg dose] ................................................................. 44

3.3. Protective efficacy offered by crude bark extracts of *Pajanelia longifolia* (Willd.) K. Schuman at different dose concentration manner on serum biochemical parameters against CCl₄ induced hepatotoxicity in Swiss albino mice. (A) changes in SGOT level,
3.4. Antioxidant efficacy offered by crude bark extracts of *Pajanelia longifolia* (Willd.) K. Schuman at different dose concentration manner on tissue enzymatic and non enzymatic levels of Swiss albino mice against CCl₄ induced hepatic damage. (A) changes in LPO level, (B) changes in GSH level, (C) changes in CAT level, (D) changes in SOD level, (E) changes in GPx level.

3.5. Histopathological studies of sections of mice liver on 6th day after treatment. (A) Control, (B) CCl₄ (0.5 ml/kg b.w.i.p.), (C) Silymarin (50 mg/kg b.w.p.o.), (D) 100 mg/kg dose of acetone extract, (E) 200 mg/kg dose of acetone extract, (F) 300 mg/kg dose of acetone extract, (G) 100 mg/kg dose of methanol crude extract, (H) 200 mg/kg dose of methanol crude extract, (I) 300 mg/kg dose of methanol crude extract.

4.2.2. TLC fingerprint of different crude extracts of *Pajanelia longifolia* (Willd.) K. Schuman eluted with different concentrations of PE:EA (9.5:0.5), PE:EA (9:1), PE:EA (8.5:1.5), PE:EA (4:1), PE:EA:M (9:0.5:0.5), PE:EA:M (8:1:1), PE:EA:M (7.5:2:0.5) respectively. The plates were visualized under UV light at 370 nm (a) n-hexane crude extract, (b) ethyl acetate crude extract, (c) acetone crude extract, (d) methanol crude extract.

4.4. HPLC result of compound F5A isolated from bark of *Pajanelia longifolia* (Willd.) K. Schuman.

4.5.1. IR Spectra of isolated compound F5A from bark of *Pajanelia longifolia* (Willd.) K. Schuman.

4.5.2. ¹H NMR Spectra of isolated compound F5A from bark of *Pajanelia longifolia* (Willd.) K. Schuman.

4.5.3. ¹³C NMR Spectra of isolated compound F5A isolated from bark of *Pajanelia longifolia* (Willd.) K. Schuman.
5.2. Protective efficacy offered by 2,3,6-trimethyloct-6-enal at different dose concentration manner on serum biochemical parameters against CCl₄ induced hepatotoxicity in Swiss albino mice. (A) changes in SGOT level, (B) changes in SGPT level,(C) changes in SALP level,(D) changes in Bilirubin level.................. 77

5.3. Antioxidant efficacy offered by 2,3,6-trimethyloct-6-enal at different dose concentration manner on tissue enzymatic and non enzymatic levels of Swiss albino mice against CCl₄ induced hepatic damage. (A) changes in LPO level, (B) changes in GSH level,(C) changes in CAT level,(D) changes in SOD level, (E) changes in GPx level................................................................. 80

5.4. Histopathological studies of sections of mice liver on 6th day after treatment. (A) Control, (B) CCl₄ (0.5 ml/kg b.w.i.p.),(C) Silymarin (50 mg/kg b.w.p.o.), (D) 100 mg/kg b.w.p.o. dose of 2,3,6-trimethyloct-6-enal, (E) 200 mg/kg b.w.p.o. dose of 2,3,6-trimethyloct-6-enal, (F) 300 mg/kg b.w.p.o. dose of 2,3,6-trimethyloct-6-enal................................................................. 82