

List of Figures

| Figure | Title | Page # |
|--------|--|--------|
| 2.1 | Types of diabetes and metabolic syndromes | 08 |
| 2.2 | Diabetes mellitus integrates with a host of cellular pathways controlled by oxidative stress | 10 |
| 2.3 | Chemical structure of alloxan | 16 |
| 2.4 | Chemical structure of streptozotocin | 17 |
| 2.5 | Chemical structure of dexamethasone | 17 |
| 4.1 | DPPH scavenging activity of <i>B. tulda</i> leaf extract compared to standard ascorbic acid | 36 |
| 4.2 | Ferric reducing power assay of <i>B. tulda</i> leaf extract compared to standard BHT | 37 |
| 4.3 | Hydrogen peroxide scavenging activity of <i>B. tulda</i> leaf extract compared to standard ascorbic acid | 38 |
| 4.4 | Correlation between different antioxidant parameters of <i>Bambusa tulda</i> leaf | 39 |
| 4.5a | GC–MS of hydromethanolic fraction of <i>Bambusa tulda</i> showing the presence of p- hydroxy benzoic acid and salicylic acid | 42 |
| 4.5b | GC–MS of hydromethanolic fraction of <i>Bambusa tulda</i> showing the presence of 2,4-dihydroxy benzoic acid | 42 |
| 4.5c | GC–MS of hydromethanolic fraction of <i>Bambusa tulda</i> showing the presence of p-coumaric acid and o-coumaric acid | 43 |
| 4.5d | GC–MS of hydromethanolic fraction of <i>Bambusa tulda</i> showing the presence of vanillic acid | 43 |
| 4.5e | GC–MS of hydromethanolic fraction of <i>Bambusa tulda</i> showing the presence of ferulic acid | 44 |
| 4.6 | Effect of hydromethanolic extract of <i>Bambusa tulda</i> leaf on body weight in different experimental groups | 44 |
| 4.7 | Effect of <i>B. tulda</i> leaf extract on fasting blood glucose | 45 |
| 4.8 | Effect of <i>B. tulda</i> leaf extract supplementation on glutathione peroxidase in liver of experimental rats. | 46 |
| 4.9 | Effect of <i>B. tulda</i> leaf extract supplementation on superoxide dismutase in liver of experimental rats. | 46 |
| 4.10 | Effect of <i>B. tulda</i> leaf extract supplementation on lipid peroxidation in liver of experimental rats | 47 |
| 4.11 | Histopathology of pancreas | 48 |