## **List of Tables**

| Table | Title   | Page |
|-------|---|------|
| 2.1   | Pharmacological properties and significance of <i>Carica papaya</i> L. compounds.   | 8    |
| 2.2   | Formulation of papaya tissue culture.   | 15   |
| 2.3   | Properties of carpaine compounds.   | 21   |
| 3.1   | Solvent used for soaking.   | 40   |
| 3.2   | Solvent used in supercritical fluid extraction (SFE).   | 42   |
| 3.3   | Solvent's combination used in TLC experiments.  | 43   |
| 4.1   | Response of immature zygotic embryo explants of <i>Carica papaya</i> L. var. Eksotika towards callus initiation and somatic embryo formation in culture media supplemented with and without 250 mg/L carbenicillin. | 48   |
| 4.2   | Response of immature zygotic embryos explant towards embryogenic callus induction in MS solid media with 250 mg/L carbenicillin supplemented media based.   | 51   |
| 4.3   | Relationship between cell volume after sedimentation (CVS) and fresh weight of cells (FW) from three different cell lines of batch suspension cultures of <i>Carica papaya</i> L. var. Eksotika.                    | 59   |
| 4.4   | Response of embryogenic cell multiplication in LM medium with and without 250 mg/L carbenicillin.   | 60   |
| 4.5   | The effects of MS supplemented with 250 mg/L carbenicillin on callus growth, somatic embryo, and 0.2 mg/L BAP and NAA in solid medium measured by the   | 66   |

|      | number of explant which produced callus and shoots.   |     |
|------|---|-----|
| 4.6  | Germination percentage of embryogenic cells from suspension culture.  | 67  |
| 4.7  | The plantlet development via various stages of incubation medium measured by percentage (%) of somatic embryos from liquid culture which produced shoots. | 68  |
| 4.8  | Regeneration percentage of somatic embryos cultured on G medium when transferred to R medium.   | 70  |
| 4.9  | Assessment of roots formation various rooting media.  | 71  |
| 4.10 | A distribution of carpaine extracts from <i>Carica papaya</i> L. var. Eksotika plant components.  | 72  |
| 4.11 | The pooled fractions subjected to thin layer chromatography   | 76  |
| 4.12 | Observed melting points of crystals isolated from various parts of plants.  | 76  |
| 4.13 | A distribution of carpaine extracts from <i>Carica papaya</i> L. var. Eksotika plant components.  | 78  |
| 4.14 | Volume of CO <sub>2</sub> used during the extraction procedures.  | 79  |
| 4.15 | The pooled fractions subjected to thin layer chromatography.  | 81  |
| 4.16 | Observed melting points of crystals isolated from various parts of plants.  | 82  |
| 5.1  | Amount and percentage of carpaine extract from <i>in vivo</i> and <i>in vitro</i> leaf of <i>Carica</i> papaya L. var. Eksotika                           | 116 |