# CHAPTER FOUR

# RESULTS

## 4.1 Evaluation of physicochemical parameters of *Spondias mombin* leaves

### 4.1.1 Determination of extractive values

The results of the chloroform water and ethanol extractive values are as seen in Table 4.1 and figure 4.1

### 4.1.2 Determination of moisture content

The results of the moisture content of *Spondias mombin Linn* leaves is as seen in Table 4.1.

4.2 **Preliminary phytochemical screening**

The result of preliminary phytochemical screening is as seen in table 4.2

### 4.3. Determination of ash value

4.2.1 Determination of total ash value

The results of the total ash value of *Spondias mombin* leaves is as seen in Table 4.3

4.2.3 Determination of water-soluble ash value

Results of sulphated ash value of *Spondias mombin* as seen in Table 4.3

4.2.4 Determination of alcohol insoluble ash value

Results of alcohol insoluble ash value as seen in Table 4.3

4.4 **Evaluation of lethal dose**

The results of the lethal dose of Spondias mombin using brine shrimp is as seen in Table 4.4

4.5 **Determination of heavy metal toxicity**

The results of the level of metals in leaves of Spondias mombin is as seen in Table 4.5

4.6 **Fluorescence analysis**

The result of the fluorescence examination of *Spondias mombin* is as seen in Table 4.5

4.7 **Chromatography**

S/N Parameter Percentage

**1** Moisture content 5.0±0.2

2 Chloroform water 12.29

3 Ethanol 14.93

**Table 4.1: Physicochemical analysis of *Spondias mombin* leaves**

Ethanol

Chloroform water

**Figure 4.1: Dried extracts of *Spondias mombin*  leaves obtained from different solvent**

4.2 Phytochemical screening of the extract

The results of the phytochemical screening of *Spondias mombin* Linn leaves is as seen in Table 4.2

|  |  |  |
| --- | --- | --- |
| **S/N** | **PHYTOCHEMICALS** | **RESULTS** |
| **1.**  **2.**  **3.**  **4.**  **5.**  **6.**  **7.**  **8.** | **Alkaloid**  **Carbohydrate**  **Fixed oil**  **Glycoside**  **Phenolic compound and Tannins**  **Phytosterol**  **Gum and Mucilage**  **Saponin** | **+**  **+**  **-**  **+**  **+**  **+**  **+**  **+** |

**Table 4.2: The Phytochemical constituents Of *Spondias mombin* extract**

S/N Parameters value (%)

1 water soluble ash value 1.498302

2 Alcohol insoluble ash value 5.341731

3 total ash value 12.740905

**Table 4.3: the ash values of Spondias mombin**

## 4.3 Acute toxicity testing

The results of the acute toxicity testing of *Spondias mombin Linn* leaves extract on Brine- Shrimp according to……………………..

**Table 4.4: Acute Toxicity Tests of *Spondias mombin* Extract using Brine- Shrimp**

|  |
| --- |
| S/N DOSE (mcg/ml) NUMBER OF NAUPLII NUMBER OF DEATHS IN 24 HOURS   1. 1000 10 10 2. 500 10 1 3. 100 10 8 4. 10 10 7 5. 1 10 3 6. 0 10 0 |

S/N Parameters Value (%)

1. PH (H2O) 7.80
2. % O.C 49.91
3. %T/N 5.49
4. Total phosphorus % 0.607
5. Ca 0.921
6. Mg 0.241
7. K 0.390
8. Na 0.050
9. Mn 34.15
10. Fe 389.15
11. Cu 7.95
12. Zn 29.00
13. Pb 0.00
14. Cd 0.00
15. Co 0.00
16. Cr 0.00
17. Ni 17.20
18. E.C (U.S/cm) 812

**Table 4.5: Result showing values for heavy metal analysis of *Spondias mombin* leaves**

Protocol Ordinary light Short wavelength Long wavelength

(254nm) (265nm)

5% NaOH Green Green Green

50% H2SO4 Light green Light green Black

50% HNO3 Brown Black Green

5% FeCl3 Green Green Black

Water Light green Light Green Dark Green

Conc. KOH Green Green Green

66% H2SO4 Green Green Black

Powder Light green Light Green Green

Chloroform Light green Dark Green Light Green

**Table 4.6: Fluorescence analysis of powder of *Spondias mombin***