



Application of Red Mangrove Plant (*Rhizophora racemosa*) Extract as an Indicator in Titration

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Introduction

Recent years have seen an increase in the threat posed by environmental challenges. The demand for numerous sorts of research that aims to address these environmental problems has increased as a result. Thus, the need to implement sustainable development goal 12. It is crucial to substitute eco-friendly materials for synthetic substances as titration indicators.

Goal Addressed

Sustainable Development Goal 12

- Target 12.1
- Target 12.4
- Target 12 a

Materials and Methods



Collection of Sample



Preparation of the Plant Sample

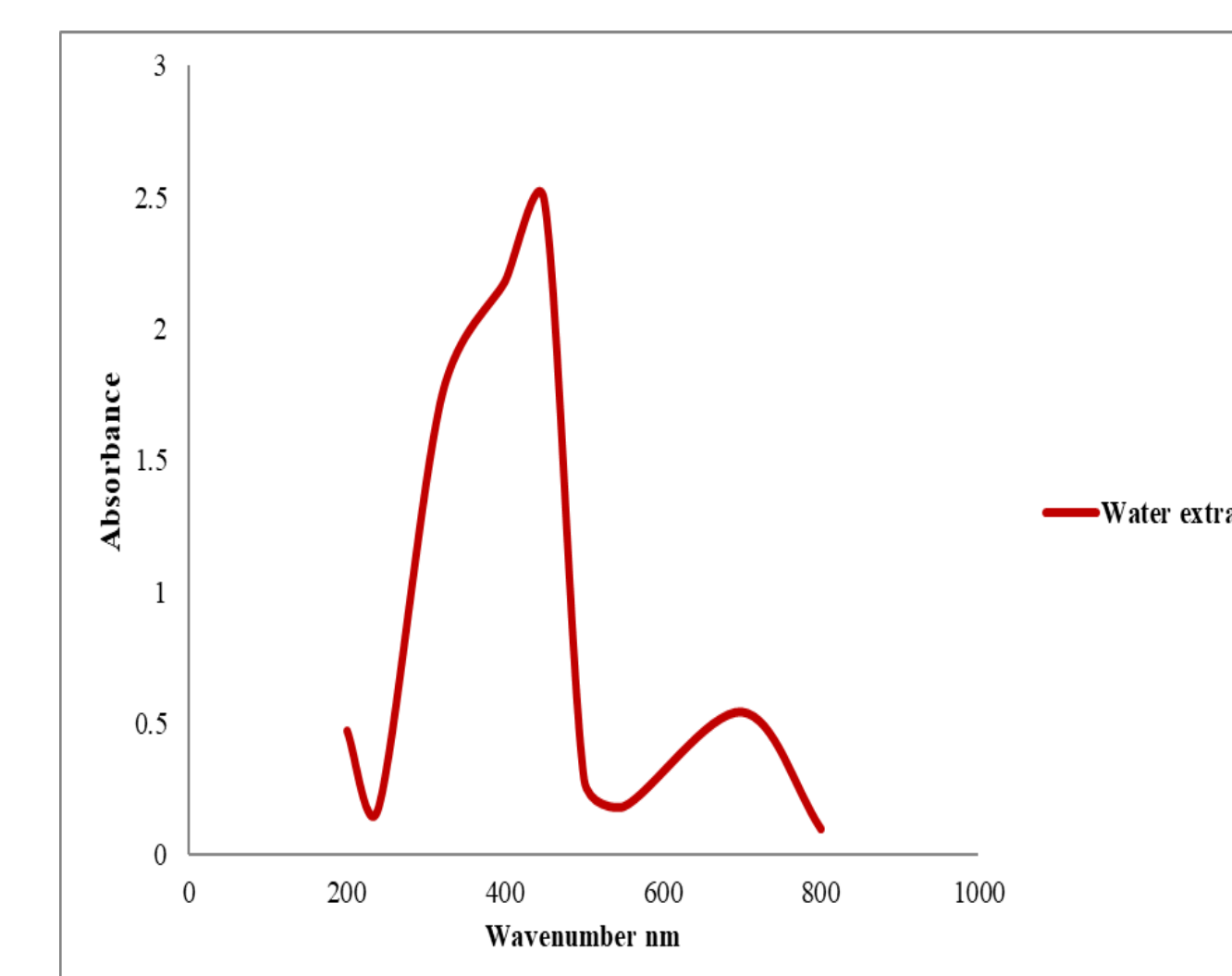


Extraction of Dyes from the Plant

Results and Discussion

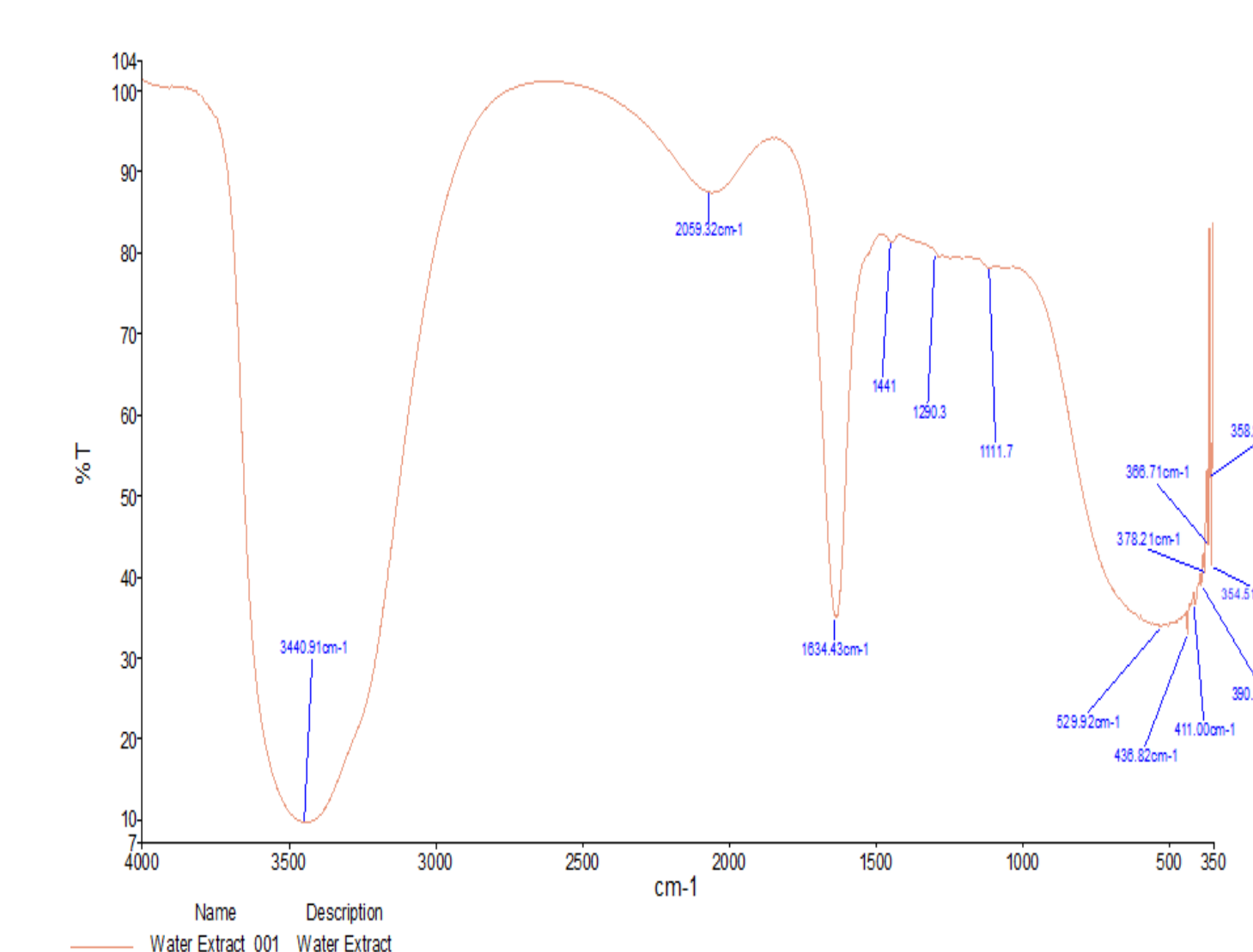


End point color changes



UV-Visible Spectrum for Water Extract

The red mangrove plant extract was sensitive to changes in pH and showed a red wine colour change at alkaline pH and a yellow colour at acidic pH. It acted reversibly and gave distinct colour changes in both directions.



FT-IR Result of the Water Extract

Conclusion

The results of this study showed that Red Mangrove Plant (*Rhizophora racemosa*) extract met the requirements of good indicators. The I.R. spectrum showed the presence of some functional groups in the dye extracted from the plant. This also supports the suitability of the plant extracts as indicators.

Reference

Korfii, U., Boisa, N. Ideriah, T.J.K. (2021). Application of red mangrove plant (*Rhizophora racemosa*) extracts as pH indicator. Asian Journal of Green Chemistry, 5(1), 111-124. DOI: 10.22034/ajgc.2021.113192