

Extraction of Malabar Spinach Fruit as Natural Acid-Base Indicator

Mangal Jagtap and Priyanka Wanjul

Student, Department of Pharmaceutical Analysis
SCSSS's Sitabai Thite College of Pharmacy, Shirur, Pune, India
mahijagtap2070@gmail.com

Abstract: Today synthetic indicators are the choice of acid-base titration. But due to environmental pollution, availability and cost, the search for natural compounds as an acid-base indicator was started. The present vocation highlights the exploit of Malabar Spinach extract of the fruits of plants as an acid-base indicator in titration. This natural indicator is easy to extract and non-toxic in nature. This investigation shows that the extract of Malabar spinach fruit as a natural indicator has great potential and shows promising results when compare to synthetic indicator. In the acid base titration this natural indicator gives sharp color change at equivalence point. According to all the evidence obtained after titrimetric analysis that natural indicator shows effective and accurate results as compare to synthetic indicator. The advantage of using natural indicator is that they can be prepared freshly, economical as well as ecofriendly.

Keywords: Malabar Spinach fruit extract, Acid-base titration, Natural Indicator.

REFERENCES

- [1] Mingbo Zhao, Yoichiro Ito and Pengfei Tu. J. of Chromatography A, 2005, 1090(1-2), 193-196.
- [2] Navindra P Seeram et al. Food Chemistry, 2006, 97(1), 1-11.
- [3] Jia-Ping Lai, Journal of Chromatography B, 2007, 848(2), 215-225.
- [4] Zafar Iqbal, et al. Journal of Ethno pharmacology, 2005, 102(2), 256-261.
- [5] Maribel Herrera-Ruiz, et al. Journal of Ethno pharmacology, 2006, 107(1), 53-58.
- [6] Adam J Matich, et al. Phytochemistry, 2006, 67(8), 759-763.
- [7] Maria Inês Soares Melecchi, et al. Ultrasonics Sonochemistry, 2006, 13(3), 242-250.
- [8] Sancun Hao, Jihuai Wu, Yunfang Huang and Jianming Lin. Solar Energy, 2006, 80(2), 209-214.
- [9] Xiang-Yu Cui, et al. Journal of Ethnopharmacology, 2006, 103(2), 223-228.
- [10] Evelise F Pietrovski, et al. Pharmacology Biochemistry and Behavior, 2006, 83(1), 90-99.
- [11] Nayak BS, Vinutha B, Geetha B and Sudha B. Fitoterapia, 2005, 76(7-8), 671-675.
- [12] Mangathayaru K et al. J. Fitoterapia, 2005, 76(7-8), 752-754.
- [13] Zoran Maksimović, et al. Fitoterapia, 2007, 78(3), 265-267
- [14] Mitra A, Das SK. Use of Basella Alba fruit extract as a potent natural acid-base indicator. Journal of Chemical and Pharmaceutical Research 2016; 8(1):663-667
- [15] Saroj V, Rao PS, Rao SK, Krunal S. Pharmacognostical study of Basella Alba stem. Int J Pharm Biol Sci 2012; 3:1093-1094.
- [16] Harold FW. Ceylon Spinach (Basella rubra), Economic Botany, New-York Botanical Garden Press 1963; 17(3):195-199.
- [17] Shade A, Jacques MA, Barret M. Ecological patterns of seed micro biome diversity, transmission, and assembly. Current Opinion in Microbiology 2017; 37:15-22. Doi: 10.1016/j.mib.2017.03.010.
- [18] Haskell MJ, Jamil KM, Hassan F, Peerson JM, Hassain MI, Fuchs GJ, et al. Daily consumption of Indian spinach (B. Alba) or sweet potato has positive effect on total-body vitamin A store in Bangladeshi men. Am. J Clin. Nutr 2004; 80(3):705-714.
- [19] Mitra A, Das SK. Journal of Chemical and pharmaceutical Research 2015; 7(12):1117.

- [20] Mitra A, Das SK. Use of Basella Alba fruit extract as a potent natural acid-base indicator. Journal of Chemical and Pharmaceutical Research 2016; 8(1):663-667.
- [21] Patil SB, Magdum CS. Use of Flower Extracts as an Indicator in Acid-Base Titrations. Res J Pharm Tech. 2009; 2(2): 421- 422.
- [22] Kadam S, Yadav A, Raje V, Waghmare K. Comparative study of natural and synthetic indicators. Der Pharma Chemica, 2013; 5 (1): 296-299.