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Syzygium samarangense as a great successor to acid-base indicator in 21st centurySoh Ann Ching, Gan Lui Nam, Siti Norsyuhada Binti Mat Husin, Aisah Binti Azhar and Khoo Chun An
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Past research has consistently found that plants with anthocyanin pigment is sensitive towards pH. This research introduced a newly, environmental friendly method to determine the pH of a substance with the use of *Syzygium samarangense*. *S. samarangense* has been chosen as an alternative way to replace artificial acid-base indicator which is expensive and rarely found as compare with *S. samarangense* which is an increasingly popular fruit in the Asian region and it is cheap. It is commonly known as Samarang Rose Apple with a pH of 4.9, a reddish pink colour fruit that containing anthocyanin pigment which acts as an acid-base indicator. This research starts with the boiling process of *S. samarangense* after peeling off the fruit's skin, followed by the filtration process. Anthocyanin pigments are extracted through the boiling process. The filtrate is then added into different test tubes that filled with neutral solution, acidic solution, and base solution respectively. The pH of the solution is determined by observing the change in colour of different solutions with the use of *S. samarangense* juice as an acid-base indicator. The results show that, there is no observable colour change in distilled water. A colourless vinegar with a pH 3 is turned into a faint pink solution with pH 4. A colourless eggwhite with pH 9 is turned into faint green solution with pH 8. Besides that, a colorless of 0.1M sodium hydroxide with pH 12 is changed to yellowish green solution with pH 11. A colourless of 1.0M sodium hydroxide with pH 14 is changed to yellow solution with pH 12. The colourless of 0.1M and 1.0M of hydrochloric acid with pH 0 is turned to dark pink with pH 2 and dark red with pH 1 respectively. These colour changes showed *Syzygium samarangense* juice are suitable for the application in acid-base indicators.

Biography

Soh Ann Ching, Gan Lui Nam, Siti Norsyuhada Binti Mat Husin, Aisah Binti Azhar and Khoo Chun An are the research team from Pusat Tingkatan 6 SMK Johor Jaya 1. They are really have a deep interest in science. They always keen on discover new things in our daily routine. By doing this study, it is a golden opportunity for them to brighten up their skill in science. This research is about finding new acid-base indicator using natural plant and the main materials that has been used is *Syzygium Samarangense* (java apple). The research is done in the wish that the cost of acid-base indicator using commonly can be reduced.

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