

Aqueous extraction of blue dye from butterfly pea flower

Malarvili Rajan, Siti Kholijah Abdul Mudalib and Izirwan Izhab

Faculty of Chemical & Natural Resources Engineering,

Universiti Malaysia Pahang,

26300 Gambang, Pahang, MALAYSIA.

Email: izirwan@ump.edu.my,

ABSTRACT:

Dyes are widely used in industries such as textiles, leather, paper and plastics to colour their final products. In this research, *Clitoria Ternatea* flower was used as the source of natural dyes. The objective of this study is to determine the optimum condition of extraction natural dye where the parameters for extraction of natural dye are temperature: 30°C, 40°C, 60°C, 70°C and 90°C, solid to liquid ratio: 1:20, 1:30, 1:40, 1:50 and 1:60 and time: 30 min, 40 min, 60 min, 70 min and 90 min with one factor at one time (OFAT). The extraction temperature at 60°C, solid-to-liquid ratio at 1:30 g/ml and extraction time at 60 min contributed to the maximum yield of extraction. The dry weight of *Clitoria Ternatea* flower also determined. The results showed that with an adequate operating condition, it was possible to reach good yields using a simple extraction process.

Keywords: *Natural dyes, Clitoria Ternatea, Extraction, One factor at One time (OFAT)*