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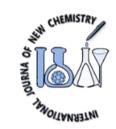


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## **Original Research Article**

## Isolation, Purification and Identification of β-carotene from *Azolla*Pinnata R. Br. as a New Carotenoid Wealthy Source

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## **ABSTRACT**

Azolla is a wealthy source of β-carotene. The purpose of this study was to isolate, purify and identify the β-carotene in Azolla Pinnata R. Br. plant. In this order, dry and fresh of A. Pinnata R. Br. were used and their β-carotene was extracted using the Acetone/Hexane solvent system. For the purification of β-carotene extracted, the column chromatography was used. In the following, an HPLC technique optimized for β-carotene designation and compared with a spectrophotometric standard method. The most appropriate sample conditions were: extraction with Hexane/Acetone 60:40 (v/v) and MeOH/THF/Water 67:27:6 (v/v) as mobile phase. The results indicated that the fresh sample has almost two times higher β-carotene comparing to the dried sample. So due to the importance of β-carotene as an antioxidant in one hand and the free of cost of mass production of A. Pinnata on another hand, the application of the water fern can be feasible for commercially β-carotene purification.

**Keywords:** *Azolla*, β-carotene, Column chromatography, HPLC, Natural product

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