

Optimized extraction conditions of astaxanthin from Marine plants

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Extraction of astaxanthin from Marine plants as *Fenneropenaus chinensis* (shrimp), *Portunus trituberculatus* (crab waste), *Laminaria japonica* and *Undaria pinnatifida* by the methods of dipping, ultrasonic and heating with liquid chromatography separation. By utilizing different extraction method, extraction time, extraction ratio and extraction temperature, the optimum extraction conditions were established. The extract was separated by a C₁₈ column with a mobile phase consisting of Dichloromethane/methanol/acetonitrile/water (5:85:5.5:4.5, v/v). As a result, 23.44 µg/g of astxanthin were obtained from *Portunus trituberculatus* (crab waste) in the condition of heating at 100 °C 10 min and solid/liquid ratio 1:10 finally is turned out to be the maximum from these four different kinds of Marine plants.