

Supplementary material

High-purity fucoxanthin can be efficiently prepared from *Isochrysis zhangjiangensis* by ethanol-based green method coupled with Octadecylsilyl (ODS) column chromatography

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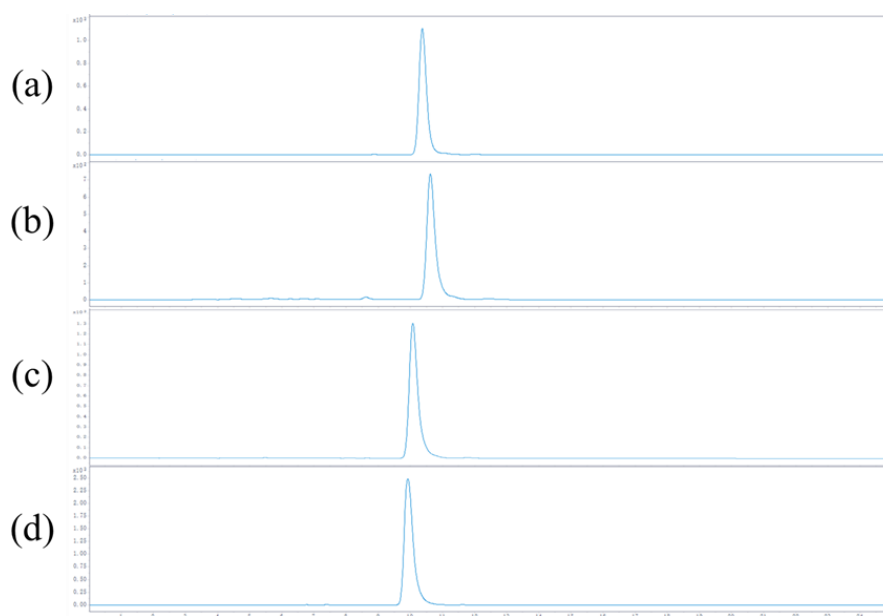


Figure S1 Typical chromatograms of samples obtained in this study. (a) the standard fucoxanthin with a concentration of 100 mg/L; (b) the *I. zhangjiangensis* extract solution; (c) the FX-rich fraction obtained by ethanol/water (85: 15, v/v); (d) the purified fucoxanthin with a concentration of 308 mg/L.

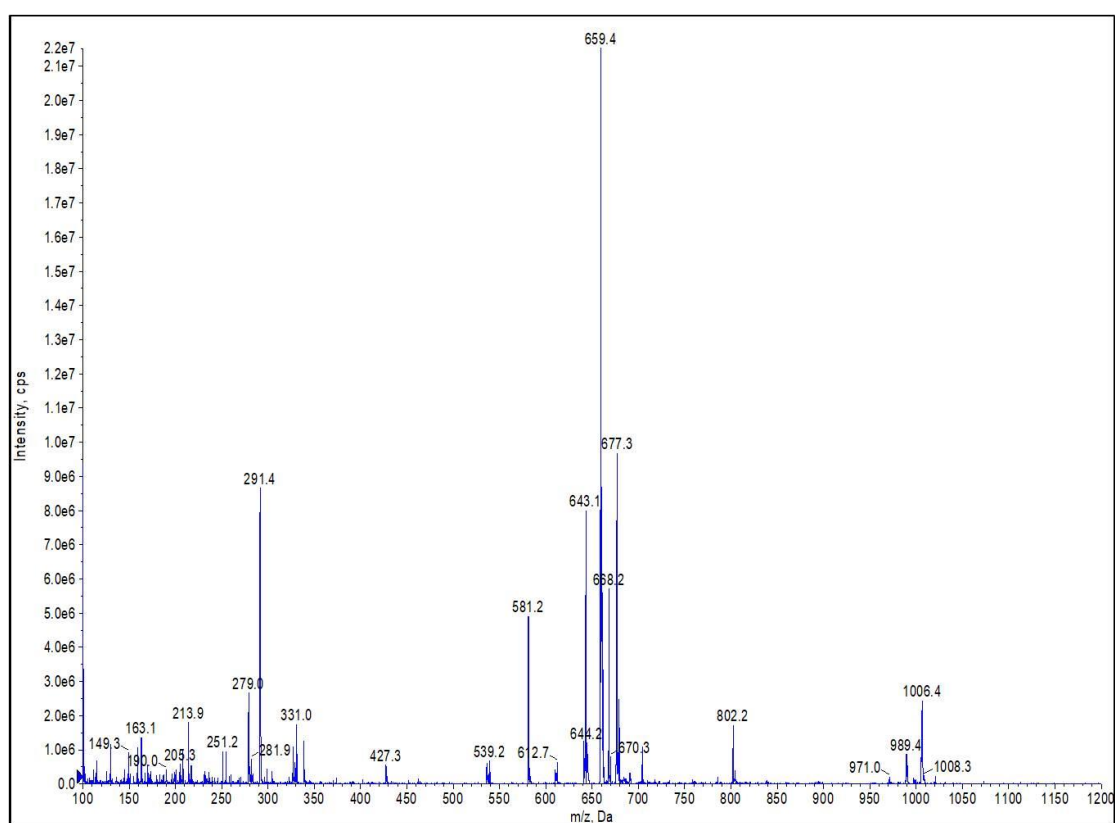


Figure S2 The positive ESIMS spectrum of fucoxanthin derived from the solution with 50% ethanol after storage at 4 °C for 24 h.

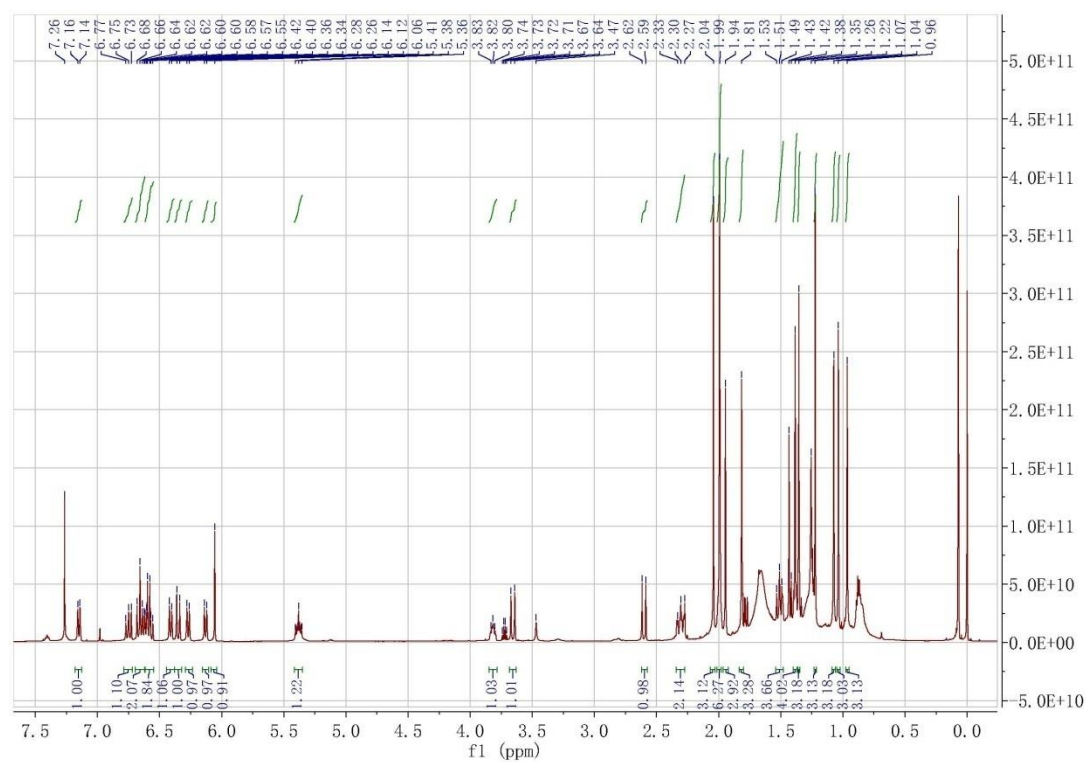


Figure S3 ^1H NMR (600 MHz, CDCl_3) spectrum of fucoxanthin derived from the solution with 50% ethanol after storage at 4 °C for 24 h.

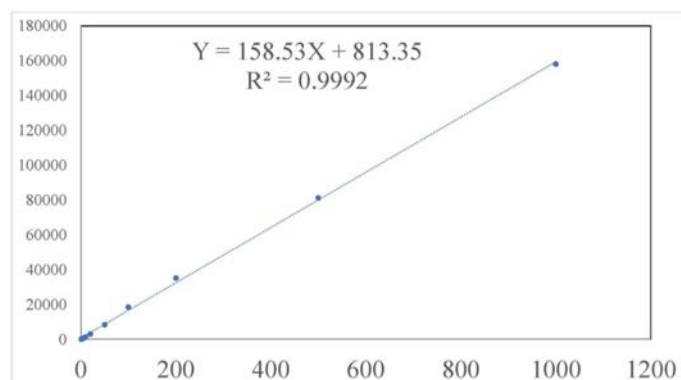


Figure S4 Standard curve of fucoxanthin

The prepared standard solutions were used to construct the calibration curve, and the linearity of the curve was determined by the corresponding correlation coefficient. A calibration curve of fucoxanthin was built within 1-1,000 $\mu\text{g/mL}$. The limit of quantitation was 0.01 $\mu\text{g/mL}$. The mean linear regression equation was $Y=158.53X+813.35$ with a correlation coefficient of 0.9992, where Y is the peak HPLC area for fucoxanthin, and X is the concentration of fucoxanthin ($\mu\text{g/mL}$).