

# **Analysis and Identification of Astaxanthin and its Carotenoid Precursors from *Xanthophyllomyces dendrorhous* by High-Performance Liquid Chromatography**

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This study presents an HPLC method for simultaneous analysis of astaxanthin and its carotenoid precursors from *Xanthophyllomyces dendrorhous*. The HPLC method is accomplished by employing a C<sub>18</sub> column and the mobile phase methanol/water/acetonitrile/dichloromethane (70:4:13:13, v/v/v/v). Astaxanthin is quantified by detection at 480 nm. The carotenoid precursors are identified by LC-APCI-MS and UV-vis absorption spectra. Peaks showed in the HPLC chromatogram are identified as carotenoids in the monocyclic biosynthetic pathway or their derivatives. In the monocyclic carotenoid pathway, 3,3'-dihydroxy-, -carotene-4,4'-dione (DCD) is produced through -carotene and torulene.

*Key words:* Carotenoids, HPLC, *Xanthophyllomyces dendrorhous*