

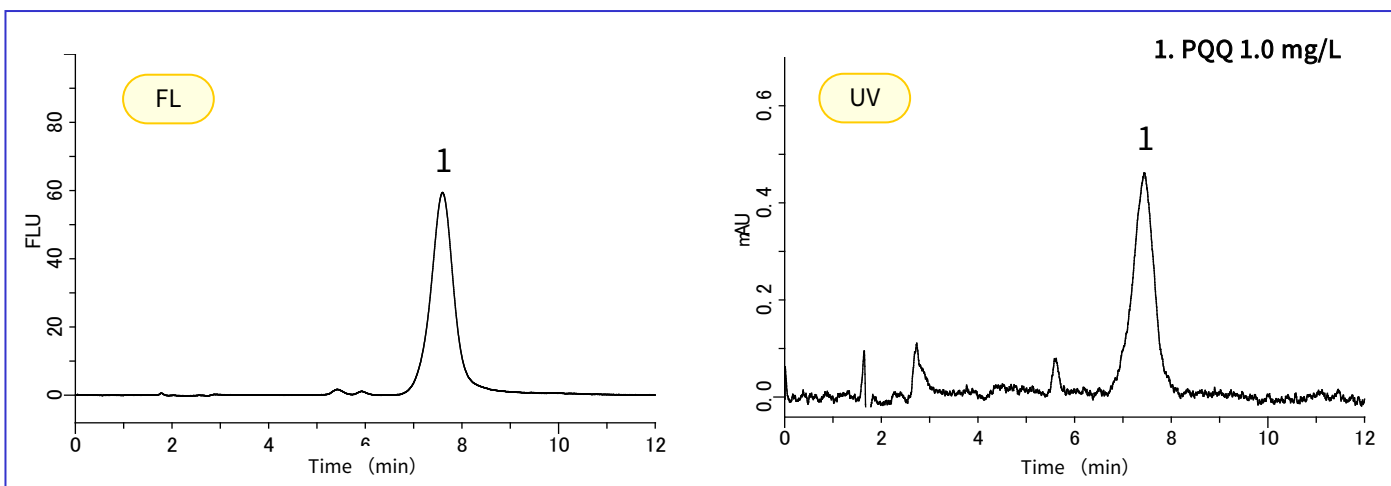
Analysis of a New Vitamin Pyrroloquinoline Quinone (PQQ) in Soft Drinks and Cosmetics

Pyrroloquinoline Quinone (PQQ) was found in bacteria in 1979. Subsequently, in April 2003, the role of PQQ as a vitamin was declared by the Institute of Physical and Chemical Research at the World Health Organization

It became the 14th vitamin when it was recognized by the World Health Organization (WHO), and was the first to be discovered in 55 years, since vitamin B12 in 1948.

In this application, the target components were separated by reversed-phase HPLC using an eluent containing an ion pair agent, and detected with fluorescence and UV detectors.

Example: Measurement of standard



HPLC conditions

Column : Inertsil ODS-3
(4 μm , 150 x 4.6 mm I.D.)

Eluent : A) CH_3OH
B) 15 mM TBA aqueous

solution A / B = 50 / 50, v/v
(gradient mixer)

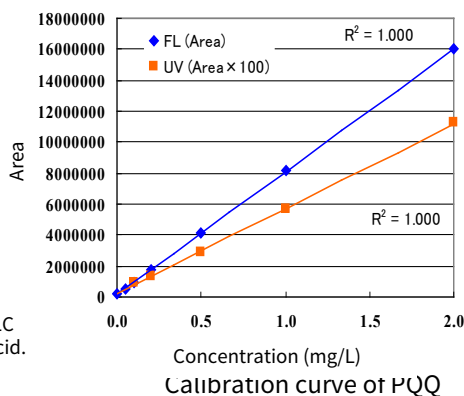
Flow rate : 1.0 mL/min

Column temperature : 40 $^\circ\text{C}$

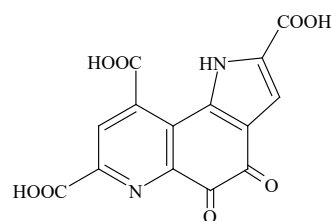
Detected : UV 250 nm
FL Ex 360 nm Em 455 nm

Injection volume : 5 μL

15 mM TBA aqueous solution:
Dissolve 4.8 g of tetrabutylammonium in 1 L of HPLC grade water, and adjusted to pH 3.5 with phosphoric acid.



Structural Formula



Pyrroloquinoline quinone (PQQ)

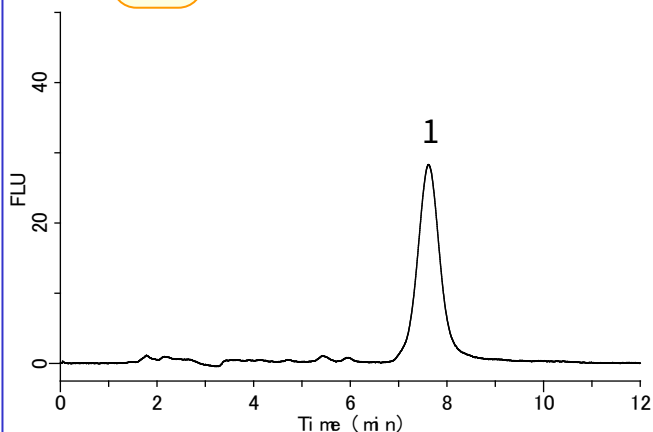
Structures created using Chemistry 4-D Draw provided by ChemInnovation Software, Inc.

Example: Sample measurement

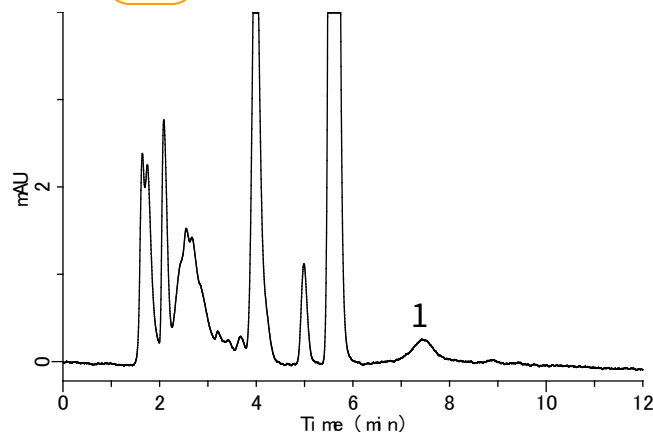
Soft drinks

1. PQQ Added Concentration 0.5 mg/L

FL

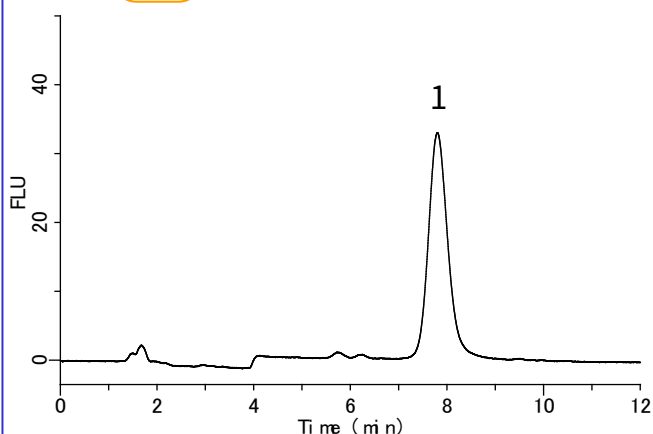


UV

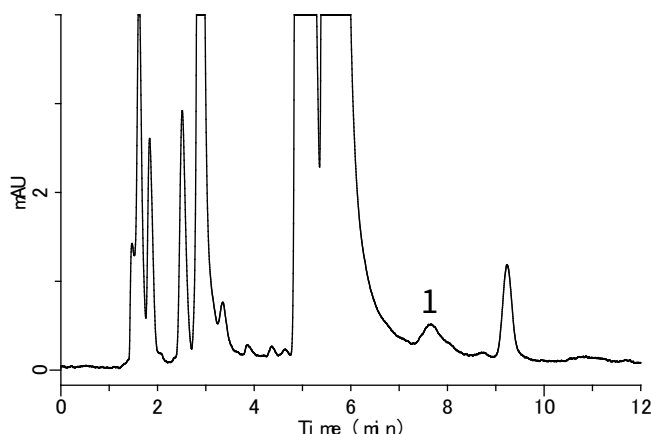


Lotion

FL



UV



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