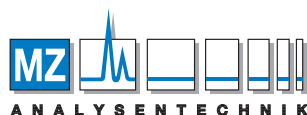


Shodex
HPLC Columns



menu



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MZ-Analysetechnik GmbH, Barcelona-Allee 17 • D-55129 Mainz
Tel +49 6131 880 96-0, Fax +49 6131 880 96-20
e-mail: info@mz-at.de, www.mz-at.de

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ATP and its related substances in fish and shellfish were analyzed using Asahipak GS-320 HQ, a multimode column.

Quantification of ATP and its related substances provide a quantitative evaluation of seafood's' freshness, as endogenous enzymes degrade ATPs in dead seafoods rapidly. Please also check [the application](#) describing the K value, another indicator of seafood's freshness.

This method is listed as "Testing method of K-value as a freshness index for fish - High performance liquid chromatographic method" in the Japanese Agricultural Standard (JAS), stated on March 31 2022.



Sample: 20 μ L

Fish extracts and Standards

A: Very fresh Okhotsk atka mackerel (*Pleurogrammus azonus*)

B: Very fresh Rainbow trout (*Oncorhynchus mykiss*)

C: Fresh Japanese amberjack (*Seriola quinqueradiata*)

D: Not fresh Chum salmon (*Oncorhynchus keto*)

E: 10 ppm Standards

1. ATP

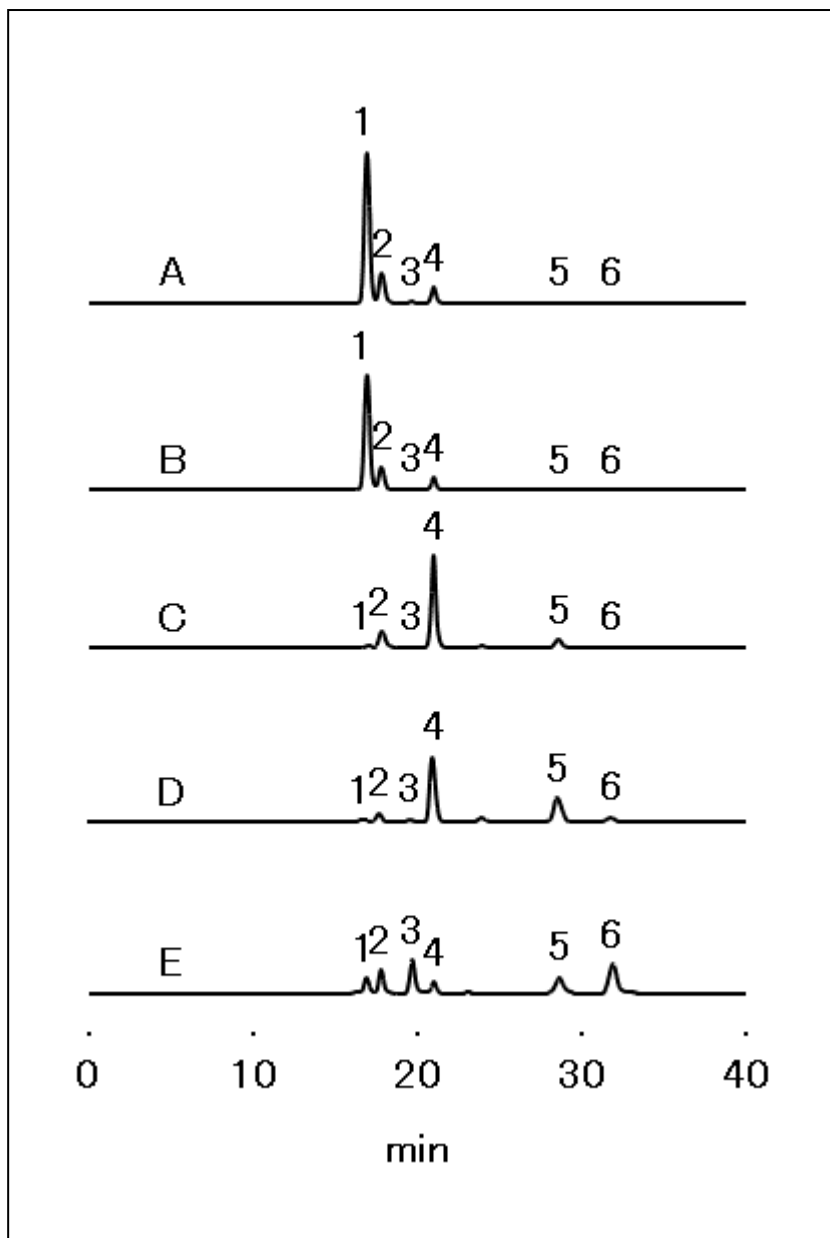
2. ADP

3. AMP

4. IMP

5. Inosine

6. Hypoxanthine



Sample provided by: Dr. Takeya Yoshioka, Hokkaido Industrial Technology Center (Hakodate Regional Industry Promotion Organization)

Column : Shodex Asahipak GS-2G 7B (7.5 mm I.D. x 50 mm) + GS-320 HQ (7.5 mm I.D. x 300 mm)

Eluent : 0.2 M Phosphate buffer (pH2.9)

Flow rate : 0.6 mL/min

Detector : UV (260 nm)

Column temp. : 40 °C

Sample Name Index

Adenosine diphosphate, ADP

Adenosine triphosphate, ATP

Adenylic acid, Adenosine monophosphate, AMP

Hypoxanthine