

## Exploration, Isolation, and Analysis of Components from Aquatic Organisms



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| <b>Status</b>                   | Ph.D. in Fisheries Sciences                                                                                                                                                                                                                                                                                               |               |                          |
| <b>Affiliations</b>             | The Japanese Society of Fisheries Science / The Chemical Society of Japan / Japan Society for Marine Education                                                                                                                                                                                                            |               |                          |
| <b>Keywords</b>                 | Fisheries Chemistry / Aquatic Organisms / Component Analysis / Isolation and Purification / Proteins / Pigments / Freshness Evaluation                                                                                                                                                                                    |               |                          |
| <b>Technical Support Skills</b> | <ul style="list-style-type: none"> <li>▪ Analysis of components from aquatic organisms</li> <li>▪ Extraction, isolation, and purification of biological compounds</li> <li>▪ Analysis of proteins, pigments, and small molecules</li> <li>▪ Biochemical evaluation of seafood, including K-value determination</li> </ul> |               |                          |

### Research Contents Exploring, isolating, and understanding components in aquatic organisms

Our laboratory mainly studies aquatic invertebrates and investigates characteristic components in biological samples, particularly water-soluble compounds. We use chromatography, electrophoresis, and spectroscopic methods to analyze, isolate, and purify proteins, pigments, and small molecules. We also conduct biochemical evaluations of aquatic organisms and seafood, including K-value determination for fish freshness.

Beyond component analysis, we investigate their origin, distribution, and biological significance by comparing tissues, species, and developmental or reproductive stages.

#### © Research Example: Carotenoproteins in Japanese Scallop Ovaries

We identified carotenoproteins associated with the pink coloration of mature scallop ovaries and developed a method for extracting and isolating them as water-soluble protein complexes.

### Available Facilities and Equipment

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