

## XAFS analysis of heavy elements in accumulators

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Bioaccumulators having a special ability to concentrate a specific elements at a high level have been discovered by many researchers. For examples, it has been reported that *Laminaria japonicus* (MACONBU) contains a great amount of iodine. Although many biologists and chemists are interesting in the biological significance of iodine in *L. japonicus*, the reason of the high concentration of iodine in *L. japonicus* remains unknown. The chemical form of iodine provide the useful information toward solving the mystery of the high accumulation or physiological roles of iodine in *L. japonicus*. Therefore, we applied XAFS method to the living specimen of *L. japonicus* to clarify the chemical species of iodine.

XAFS measurements were carried out about Iodine K absorption edge by transmission method using BL01. Silicon (111) standard monochromator was used. Absorption spectra were taken over the photon energy range from 32.366 keV to 35.483 keV.

The observed X-ray absorption spectra are shown in fig.1.  $k^3$ -weighted EXAFS spectra for *L. japonicus* is shown in fig.2. It is found that good quality spectra were obtained for trace amount of iodine (several hundred ppm) in *L. japonicus* by transmission method. Further analysis is in progress.

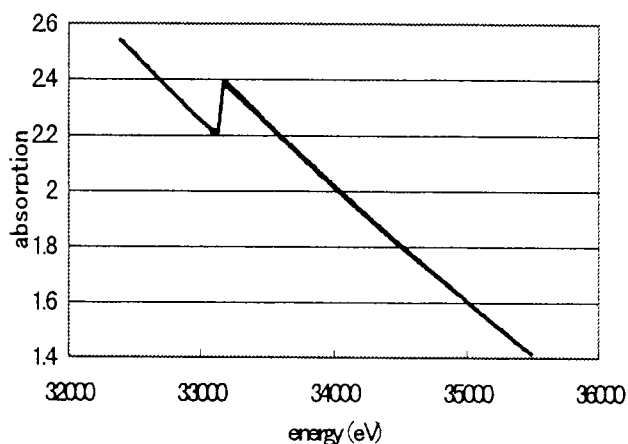


fig.1 X-ray absorption spectrum for *Laminaria japonicus*

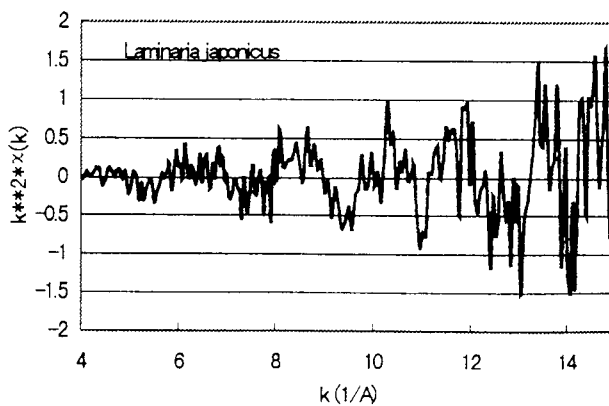


fig.2 EXAFS oscillation for fig.1