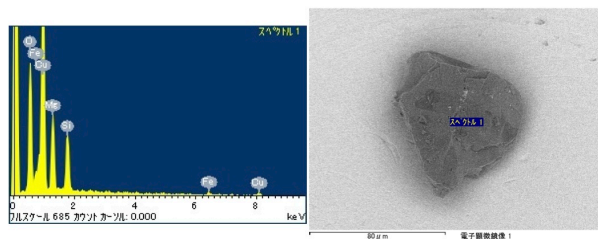


## Sample handling

### Samples returned from Initial analysis

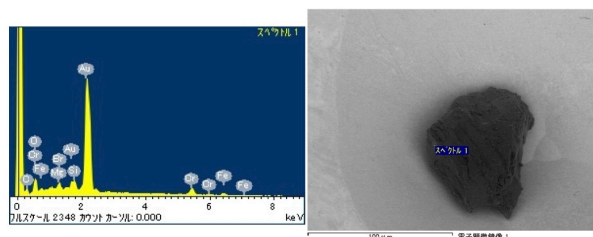
Samples were picked up one by one in a clean chamber filled with purified N<sub>2</sub> with an electrostatic micromanipulator system from a quartz disk, on which they had been fallen from a sample catcher of the Hayabusa spacecraft to be recovered. Then they were set to a sample holder made of copper and analyzed with an secondary electron microscope equipped with electron dispersive X-ray spectrometer (SEM-EDS) for their initial characterization based on their SEM images and EDS spectra. Therefore, their EDS spectra in the sample catalog show artifact copper peaks coming from their backgrounds (Figure).



The current condition of the sample is summarized in the sample catalog list, and its recent pictures are also shown in each sample PDF file. You can also check possible damages to the samples given by principal investigators of the initial analysis in “Sample Results Summary Sheet” in the PDFs.

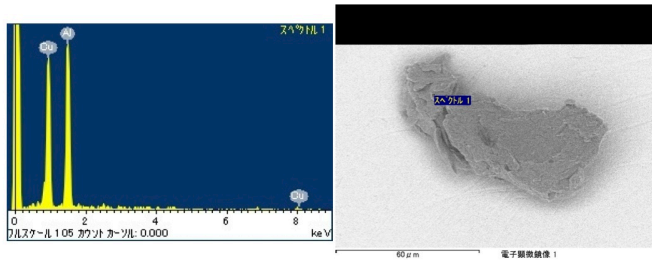
### New samples for the AO

Samples were picked up as same as those for the initial analyses, and set to a sample holder made of gold and analyzed with SEM-EDS, so that their EDS spectra in the sample catalog show artifact gold peaks coming from their backgrounds (Figure)



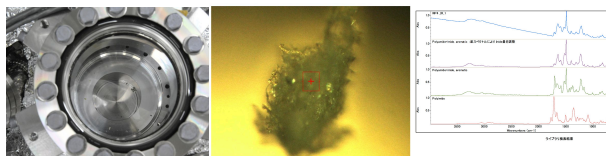
## Possible contaminations

### Aluminum



These figures show an EDS spectrum and an SEM image of an aluminum grain recovered from the quartz disk. These platy aluminum grains are understood to be fragments of pure aluminum coating on inside walls of the sample catcher of the Hayabusa spacecraft

### White objects in sample container



These figures show an inside view of the sample container of the Hayabusa spacecraft (left), an optical microscope image (center) and an infrared spectrum (right, top) of one of a white particle found in the container. The white particles consist of polyamide including small amount of imide structure. Polyamide seems to be a reaction product of polyimide and hydrazine, which used as propellant of the Hayabusa spacecraft and had leaked from the spacecraft after the touchdown onto the asteroid Itokawa. Its optical microscopic image and IR spectra are courtesy for Prof. E. Nakamura in Okayama Univ.