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1. Introduction

Since May 1981, the National Aeronautics and Space Administration (NASA) has used aircraft to collect cosmic dust (CD) particles from Earth's stratosphere. Specially designed dust collectors are prepared for flight and processed after flight in an ultraclean (Class-100) laboratory constructed for this purpose at the Lyndon B. Johnson Space Center (JSC) in Houston, Texas. Particles are individually retrieved from the collectors, examined and cataloged, and then made available to the scientific community for research. Cosmic dust thereby joins lunar samples and meteorites as an additional source of extraterrestrial materials for scientific study.

This catalog summarizes preliminary observations on particles retrieved from collection surfaces L2047, W7190, U2097, U2098, U2099 and U2100. These surfaces were flat plate collectors which were coated with silicone oil (dimethyl siloxane) and then flown aboard NASA ER-2 and WB-57F aircraft during a series of flights as follows:

L2047: 6.5 hours of flight time off the California coast between December 6 and 8, 1999

W7190: 40 hours of flight time over North America between July 17 and October 3, 1996

U2097 and U2098: 7 hours of flight time between S. California and SW Canada on January 26, 2000

U2099 and U2100: 6.5 hours of flight time off the California coast between December 6 and 8, 1999

Collectors U2097 and U2098 were used in an attempt to collect residual dust from the Tagish Lake meteorite fireball.

All of the collectors were installed in specially constructed wing pylons which ensured that the necessary level of cleanliness

was maintained between periods of active sampling. During successive periods of high altitude (20 km) cruise, the collectors were exposed in the stratosphere by barometric controls and then retracted into sealed storage containers prior to descent.

2. Processing of Particles

Particle mounts designed for the JEOL 100CX scanning transmission electron microscope (STEM) are currently the standard receptacles for CD particles in the JSC laboratory. Each mount consists of a graphite frame (size ~3x6x24 mm) onto which a Nucleopore filter (0.4 μm pore size) is attached. A conductive coat of carbon is vacuum evaporated onto the mount and then a microscopic reference pattern is "stenciled" onto the carbon-coated filter by vacuum evaporation of aluminum through an appropriately sized template. Particles are individually removed from collectors using glass-needle micromanipulators under a binocular stereo- microscope. Each particle is positioned on an aluminum-free area of a Freon-cleaned (Freon 113), carbon-coated filter and washed in place with hexane to remove silicone oil. Each mount is normally limited to 16 particles. All processing and storage of each particle is performed in a Class-100 clean room.

3. Preliminary Examination of Particles

Each rinsed particle is examined, before leaving the Class-100 clean room processing area, with a petrographic research microscope equipped with transmitted, reflected and oblique light illuminators. At a magnification of 500X, size, shape, transparency, color, and luster are determined and recorded for each particle.

After optical description, each mount (with uncoated particles) is examined by scanning electron microscopy (SEM) and X-ray energy-dispersive spectrometry (EDS). Secondary-electron imaging of each particle was performed with an ISI SEM at an accelerating voltage of 20 kV. Images are therefore of relatively low contrast and resolution due to deliberate avoidance of conventionally applied conductive coats (carbon or gold-palladium) which might interfere with later elemental analyses of particles. EDS data are collected with the same SEM. Using an accelerating voltage of 20 kV, each particle is raster scanned and its X-ray spectrum recorded over the 0-10 keV range by counting for 100 sec. No system (artifact) peaks of significance appear in the spectra.

It should be pointed out that the SEM/EDS procedure used in preparing this catalog is different than that used in preparing all previous Cosmic Dust Catalogs.

4. Catalog Format

Each page in the main body of the catalog is devoted to one particle and consists of an SEM image, an EDS spectrum, and a brief summary of preliminary examination data obtained by optical microscopy. The unique identification number assigned to the particle appears at the top of the page. Sources of the descriptive data are as follows:

SIZE (μm) is measured using the original SEM image and its known magnification factor. For an irregularly shaped particle, the minimum dimension in the plane of the field of view is located and determined; then a second (maximum) dimension is measured at a right angle to the first. For a spherical or equidimensional particle, only a single size is recorded.

SHAPE is generalized to be spherical (S), equidimensional (E), or irregular (I).

TRANSPARENCY (abbreviated **TRANS.**) is determined by optical microscopy to be transparent (T), translucent (TL), or opaque (O). Significant variations in transparency within a particle are annotated on the SEM image.

COLOR is determined by optical microscopy using oblique (fiber optic, quartz halogen) illumination supplemented with normal reflected (tungsten-lamp) illumination.

LUSTER is determined by optical microscopy using reflected normal (tungsten-lamp) illumination and supplemented with oblique (fiber optic, quartz halogen) illumination. Commonly applied descriptions, adopted from mineralogical usage, include Dull (D), Metallic (M), Submetallic (SM), Subvitreous (SV), Vitreous (V). Lusters transitional between categories or difficult to identify are indicated accordingly (Dull/Submetallic, etc.).

TYPE indicates a provisional first order identification of each particle based on its morphology (from SEM image), elemental composition (from EDS spectrum), and optical properties. We emphasize that, for catalog purposes, types are defined for their descriptive and curatorial utility, not as scientific classifications. These tentative categorizations, which reflect judgements based on the collective experience of the CDPET, should not be construed to be firm identifications and should not dissuade any investigator from requesting any given particle for detailed study and more complete identification. The precise identification of each particle in our inventory is beyond the scope and intent of our collection and curation program. Indeed, the reliable identification and scientific classification of

cosmic dust is one of many important research tasks that we hope this catalog will stimulate. We indicate particle "TYPE" only to aid the users of this catalog (especially those new to small particle analysis) in distinguishing possible cosmic dust particles from other particles which are invariably collected during stratospheric dust sampling. In this catalog, particles are organized according to their type. Categories used in this catalog are defined as follows:

Cosmic (C): Interplanetary dust (variety unspecified) or other extraterrestrial material. In the strict sense, "cosmic dust" refers only to those particles which have not been modified during passage from interplanetary space to Earth's stratosphere. In this catalog, though, particle type "Cosmic" is used to conveniently group together all particles which are judged to be of extraterrestrial origin, including those that have apparently experienced strong ablatational heating or melting. Type "Cosmic" particles are provisionally identified as those having one of the three following sets of attributes:

- (a) irregular to spherical, opaque, dark-colored particles composed mostly of Fe with minor S and/or Ni.
- (b) irregular to spherical, translucent to opaque, dark-colored particles containing various proportions of Mg, Si, and Fe with traces of S and/or Ni.
- (c) irregular to faceted or blocky, transparent to translucent particles containing mostly Mg, Si, and Fe but with traces S and/or Ni.

Category (a) and (b) particles commonly display either complex, porous aggregate type morphologies or distinctively spherical

shapes and dull to metallic lusters which distinguish them from terrestrial minerals. Their EDS spectra are reminiscent of those exhibited by meteoritic Fe-NiS minerals, or combinations of Fe-Ni-S phases with olivine and/or pyroxene. Category (c) particles display morphologies and EDS spectra which suggest that they are fragments of olivine or pyroxene crystals, neither of which are significant components of stratospheric volcanic ash. Particles which do not fall easily into categories (a), (b), or (c) but which possess some of the same attributes may be classified here as "Cosmic?".

TCA: Terrestrial contamination (artificial or man-made). Particles included in the "TCA" category are commonly irregular in shape (though a few may be spherical) and may be transparent, translucent, or opaque. Their EDS spectra commonly show Al, Fe, or Si as the principal peaks but with a variety of minor peaks including those of Cd, Ti, V, Cr, Mn, Ni, Cu, or Zn and at abundances which are frequently much greater than those expected in common minerals. However, such compositions are similar to those expected for certain metal alloys. In some cases, a high intensity (relative to intensities of characteristic X-ray peaks) of continuum radiation occurs in the EDS spectrum, suggesting that low atomic number elements not detectable by the EDS (e.g., H, C, N, O) are abundant in the particle. Such "TCA" particles are tacitly inferred to be synthetic carbon based materials. (This category probably includes particles produced by or derived from aircraft operation or collector hardware, or possibly spacecraft debris. However, some of these particles are worthy of additional

research and may represent true extraterrestrial "low Z" material).

TCN: Terrestrial contamination (natural). "TCN" particles may be transparent to opaque and may exhibit a variety of colors. However, they are commonly irregular in shape and distinctively rich in Si and Al with minor abundances of Na, K, Ca, or Fe. Some Fe-S particles are classified as TCN despite the fact that they may well be extraterrestrial. This action is due to the lack of conclusive investigations regarding these particular particles. Many particles containing only low-Z elements are also classified TCN for the same reason. Morphologies and EDS spectra of most "TCN" particles compare favorably with respective properties of silica polymorphs, feldspar, or silicic volcanic glass, three materials which are principal components of stratospheric volcanic ash. In addition, platy or porous aggregate-type particles of light color and Si, Al rich composition may be silicic clay minerals, common phases in Earth's surface soils. Irregular, reddish Fe rich particles may also be products of terrestrial rock weathering. Recognition of these and other phases as "TCN" particles is based mostly on CDPET's collective mineralogical experience and comparison with reference samples. Less commonly, the "TCN" category may include distinctive particles with apparently non-random shapes which are rich in low atomic number elements (as inferred from their EDS spectra having high levels of continuum x radiation and relatively small peaks for characteristic X-rays). Those rare particles are distinguished from "TCA" particles by their

unusual, organized morphologies and probably represent biological contaminants.

AOS: Aluminum or aluminum oxide sphere. An AOS is transparent, subvitreous, vitreous to metallic in luster, colorless to pale yellow and at least approximately spherical. However, shape may range from nearly perfect sphericity to pronounced ellipticity and surface texture may range from very smooth to rough. Other spheres or irregularly shaped material may be attached to its surface. Al is the distinctively dominant (or only) peak in its EDS spectrum. A sphere displaying the attributes of an AOS except with major elements in addition to Al may be listed as "AOS?" or "?". Transparent Al rich particles of irregular shape would probably be listed as "TCA". Most AOS particles are products of solid fuel rocket exhausts.

Again, this system for provisional classification of particles is presented only as a first order attempt to distinguish particles which are probably extraterrestrial in origin from those which are probably contaminants. All particles will require careful research examination before they can be satisfactorily identified.

COMMENTS are included for particles with special features or histories. Any large "**cluster**" particles, which have broken apart on the collector, have small portions present in the catalog as different "sibling" grains; the comments reflect these relationships. For example, any particle with a cluster number designation in the comments field represents a much larger parent particle remaining on the collection plate, which is also available for allocation in part or in whole.

5. Sample Requests

Scientists desiring to perform detailed research on particles described in this catalog should apply in writing to:

Curator/Cosmic Dust
Telephone: (281) 483-5128
Code ST
NASA/Johnson Space Center
FAX: (281) 483-5347
Houston, Texas 77058
U.S.A.

Sample requests should refer to specific particle identification numbers and should describe the research being proposed as well as the qualifications and facilities of the investigator making the request. Publication reprints are frequently useful in sample allocation considerations. Additionally, requests for particles not yet passed through preliminary examination will be considered if the requester can demonstrate a strong need for them. NASA will arrange for a review of the scientific merits of each request and will inform the requester of the results. Approval

of a sample request does not imply or include funding for the proposed research. Questions about NASA funding should be directed to:

Discipline Scientist
Cosmochemistry Program
Code SL
NASA Headquarters
Washington, DC 20546

Although foreign scientists are welcome to request samples, NASA cannot provide funds to be spent outside the U.S.A. by citizens of other countries.

6. Acknowledgements

The ER-2 flight personnell at NASA/Dryden Research Center performed the loading and unloading of the cosmic dust collectors on the ER-2 aircraft and provided flight log data and other critical assistance. The WB-57F flight personnell at NASA/Johnson Space Center performed the loading and unloading of the cosmic dust collectors on their aircraft and provided flight log data and other critical assistance.

7. Particle Table of Contents

Since particles are arranged in this catalog by type, rather than sequentially by mount and number as in some previous catalogs, we include a sequential listing of particles and the page on which they may be found, for the user's reading pleasure.

L2047

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| A1 | 3 |
| A2 | 4 |
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| B1 | 113 |
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| C8 | 131 |
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| D5 | 14 |
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| D26 | 16 |
| D27 | 136 |
| D28 | 137 |
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U2097

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| A21 | 362 |
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W7190

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| A2 | 51 |

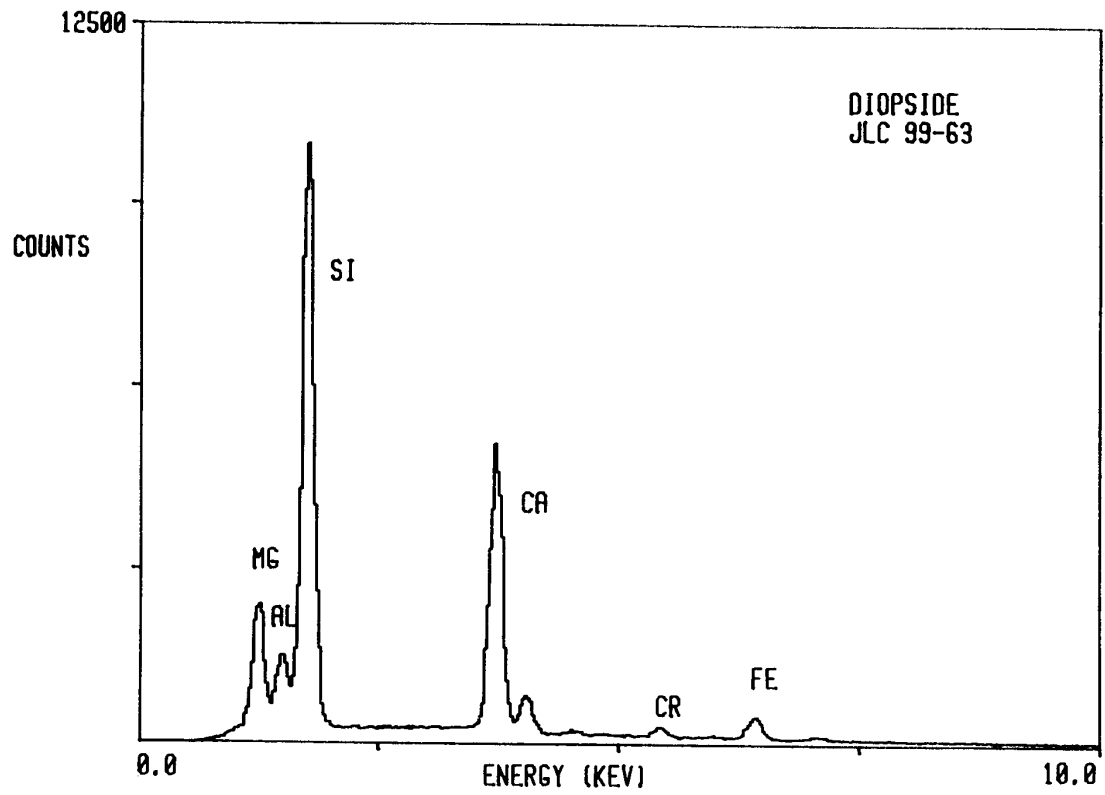
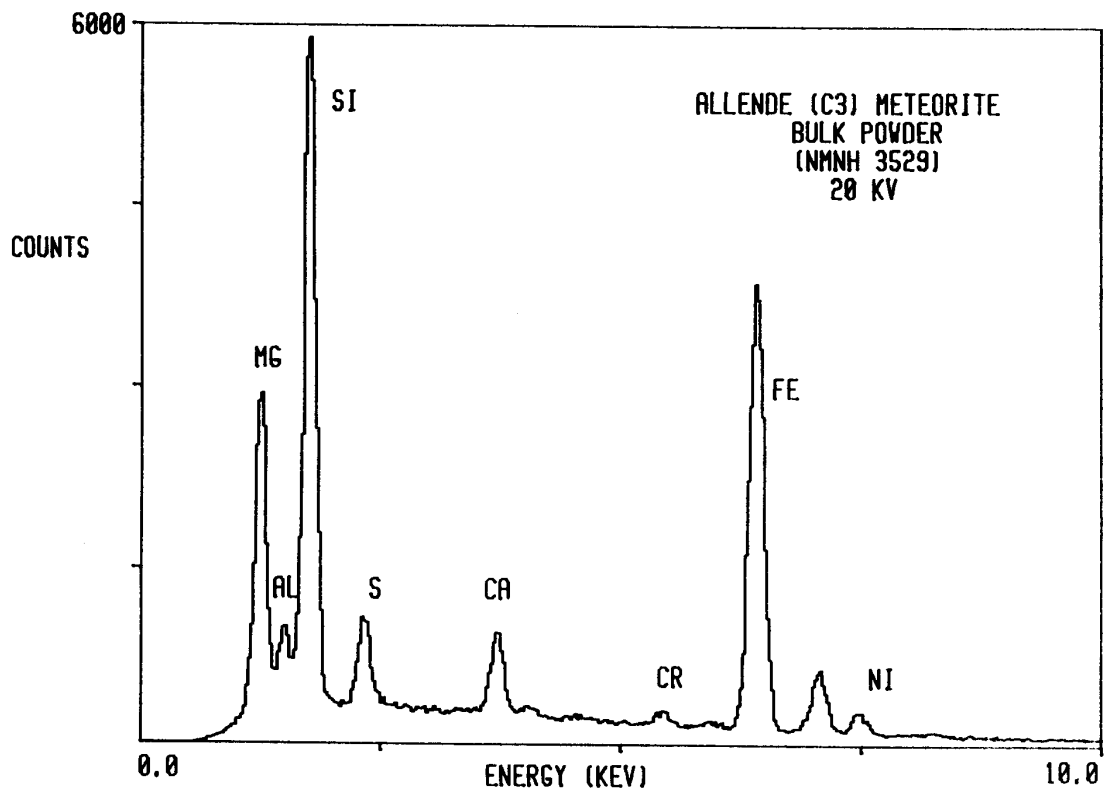
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| D40 | 216 |

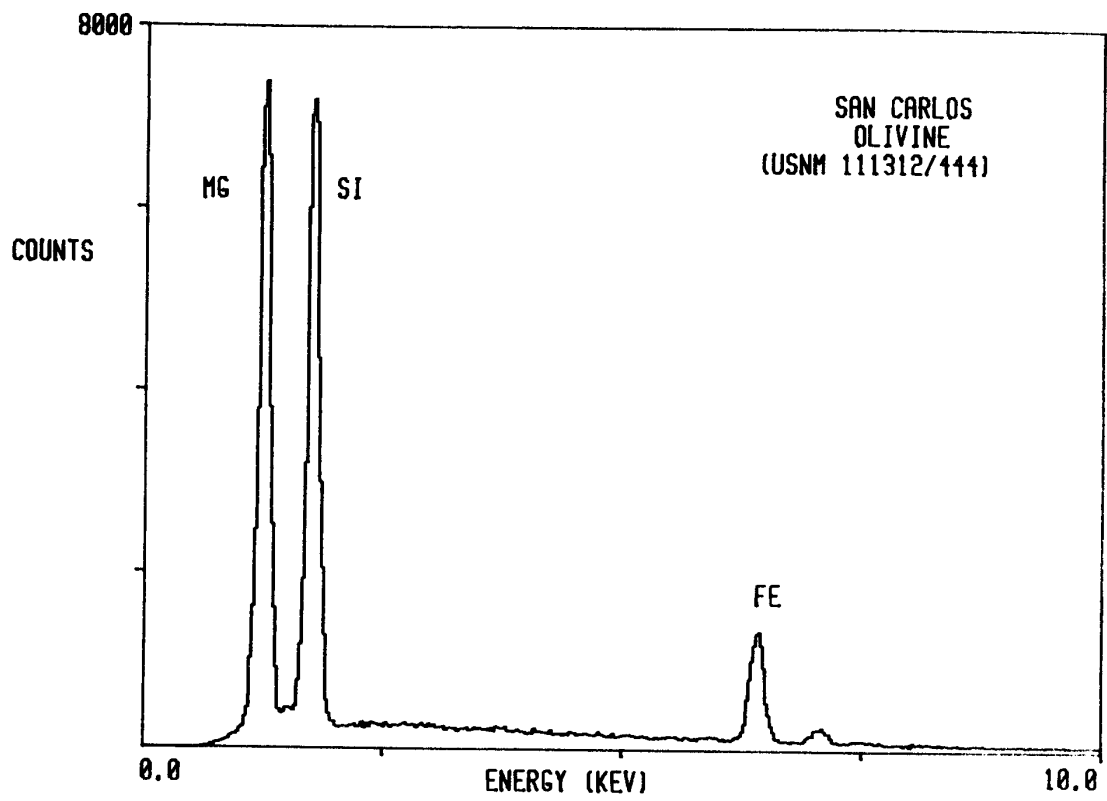
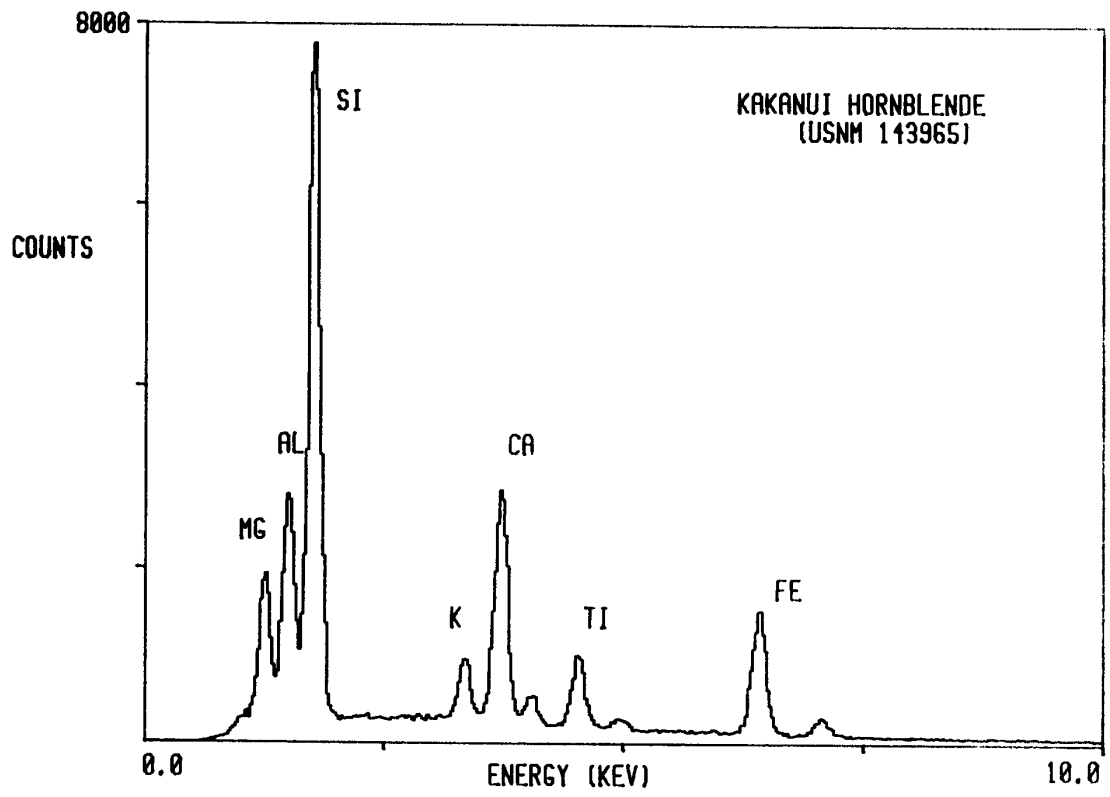
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| G41 | 98 |
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| J11 | 406 |
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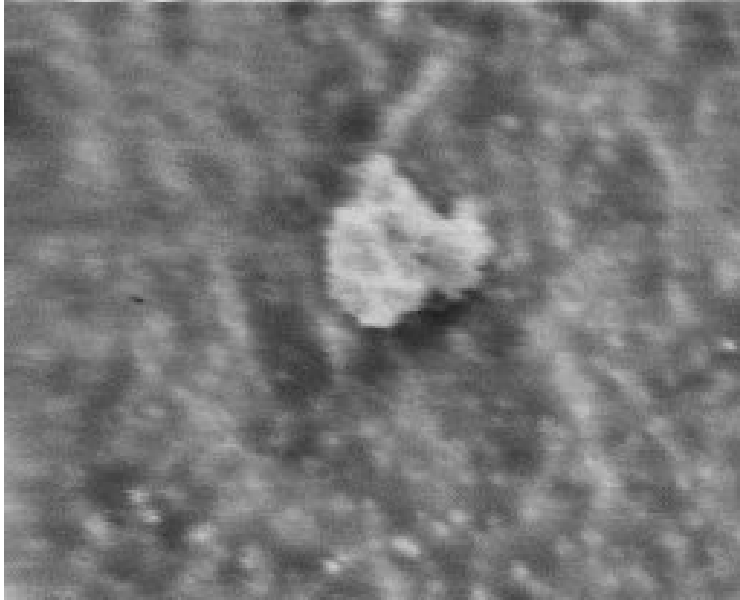
8. Standard Spectra





Particle Descriptions
C Type

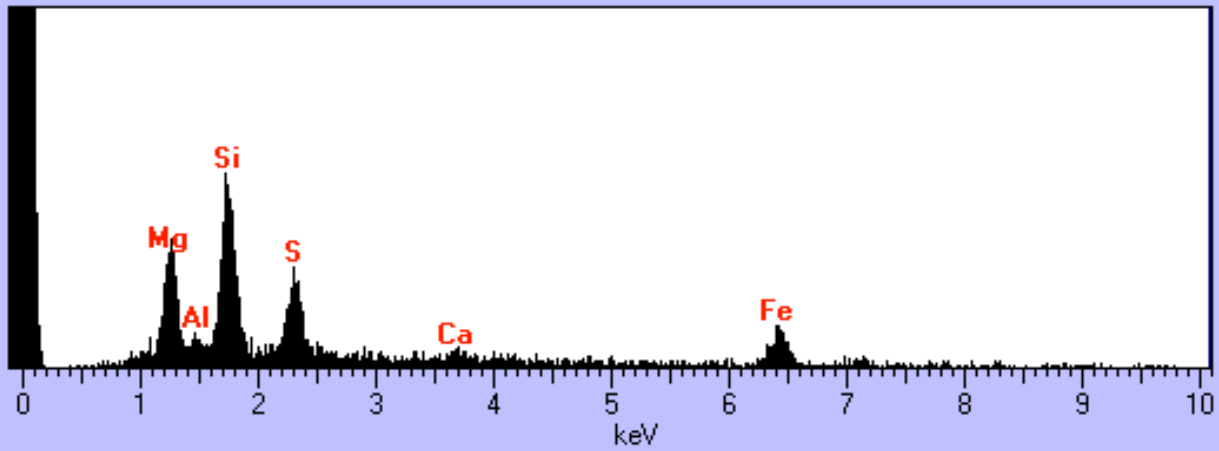
L2047 A1



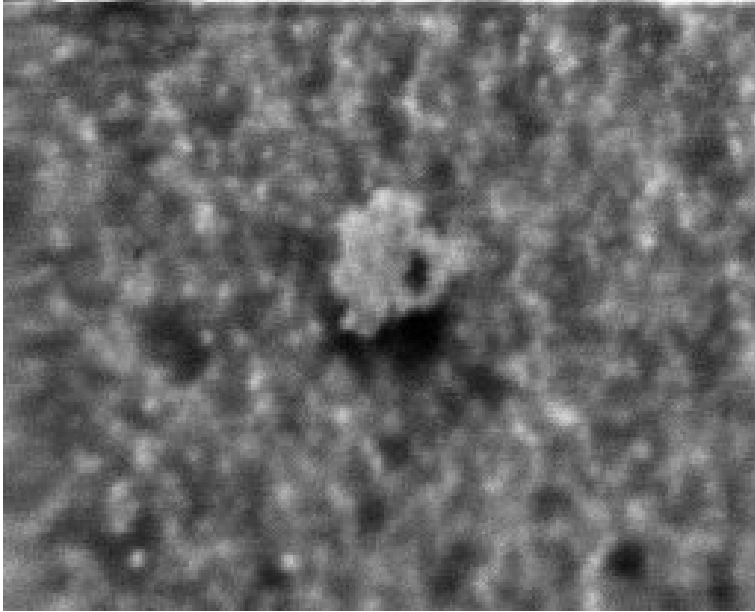
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Luster: Dull/Submetallic
Type: Cosmic
Comments: from Cluster 1

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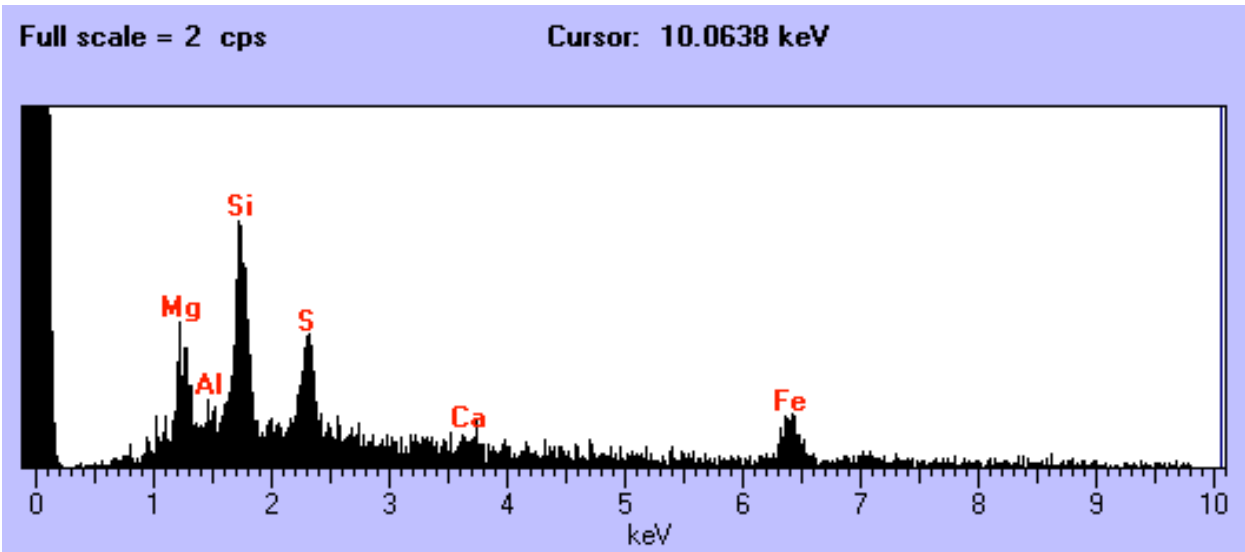
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L2047 A2



Size: 7 um
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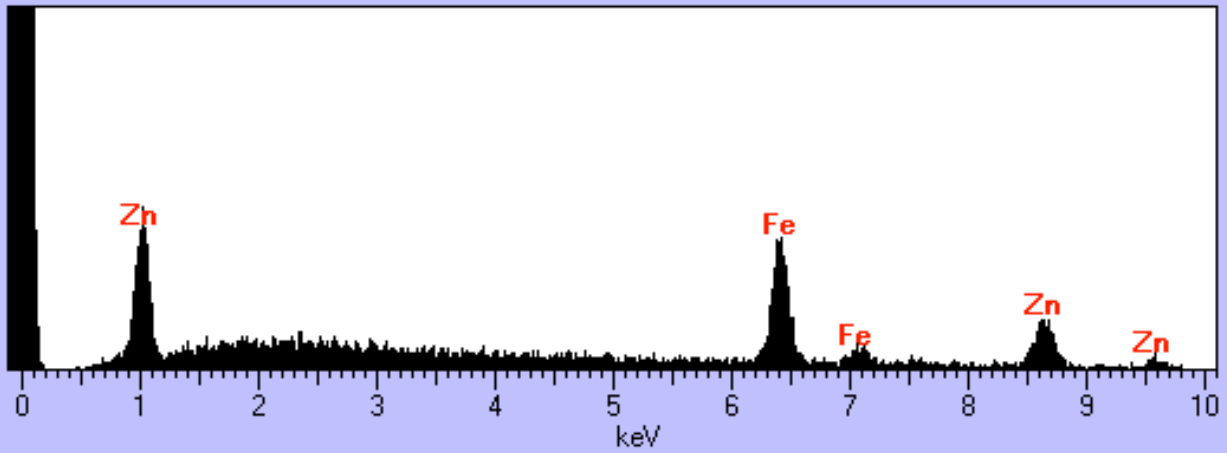
L2047 A3



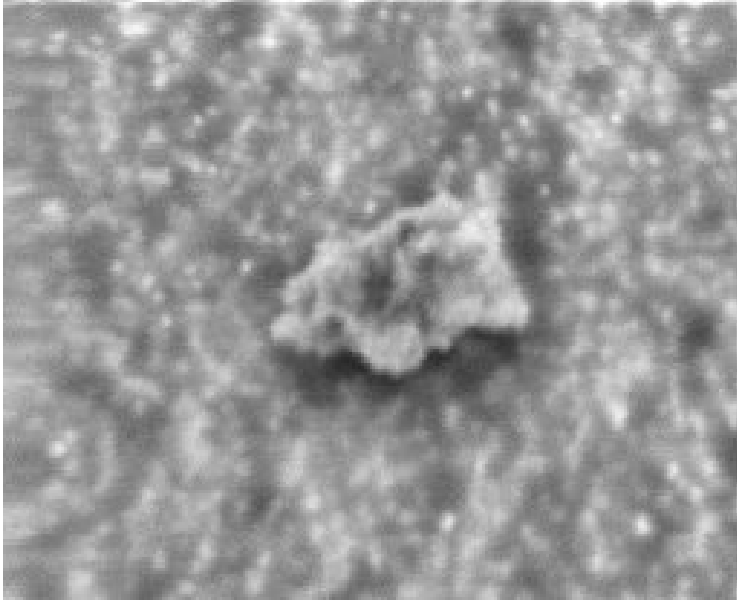
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Luster: Dull/Submetallic
Type: Cosmic
Comments: from Cluster 2

Full scale = 5 cps

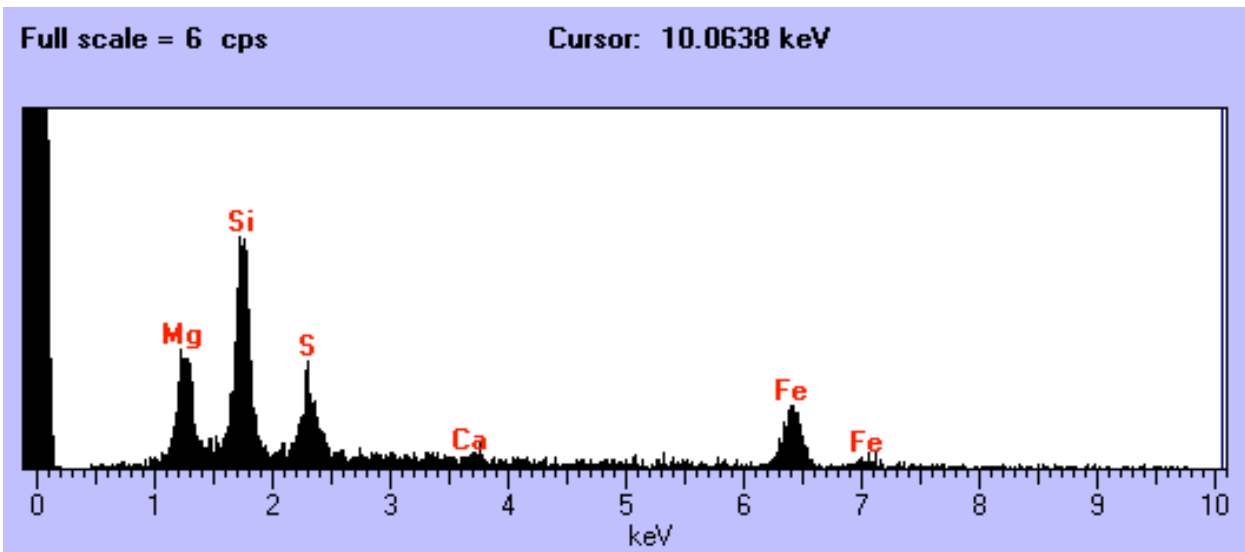
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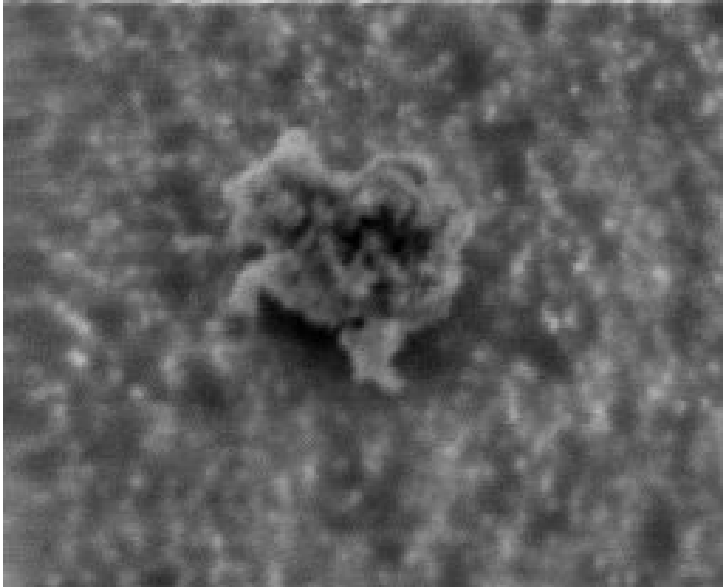
L2047 A5



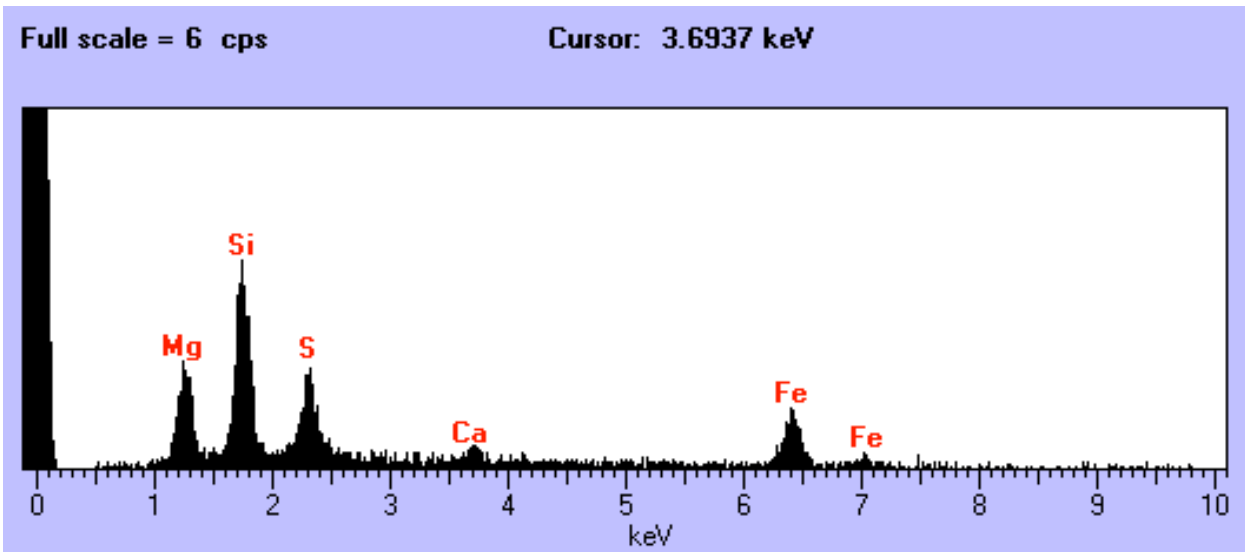
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Type: Cosmic
Comments: from Cluster 3



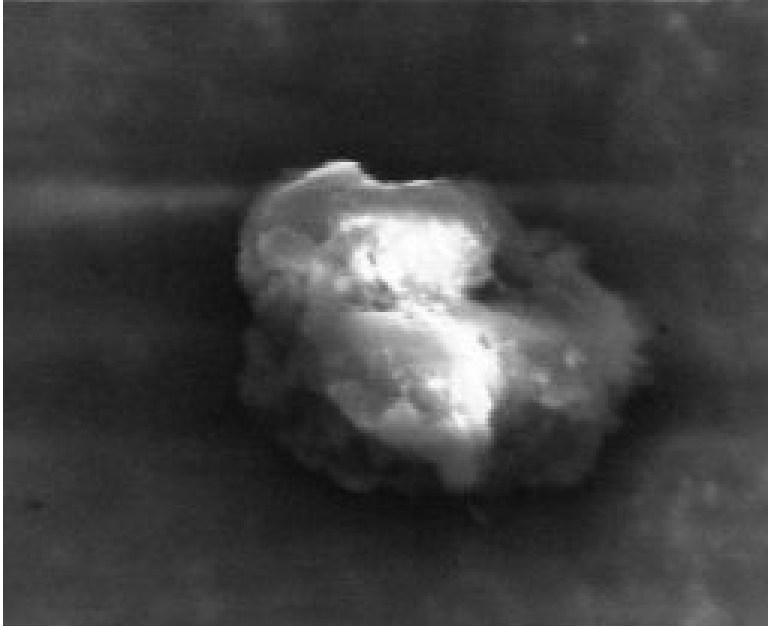
L2047 A6



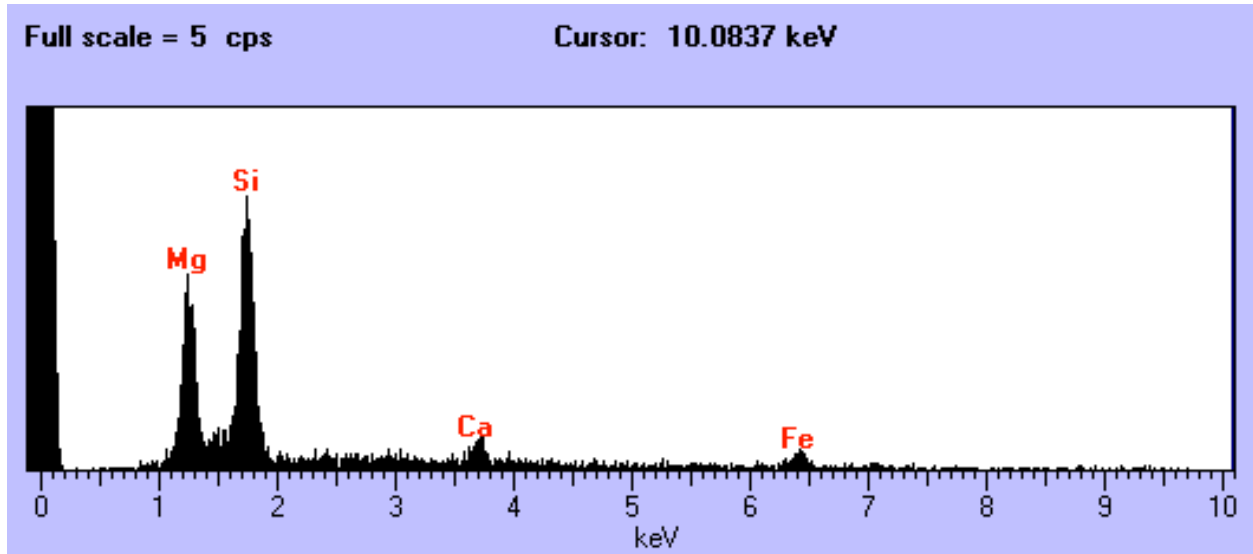
Size: 13 x 11 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull/Submetallic
Type: Cosmic
Comments: from Cluster 3



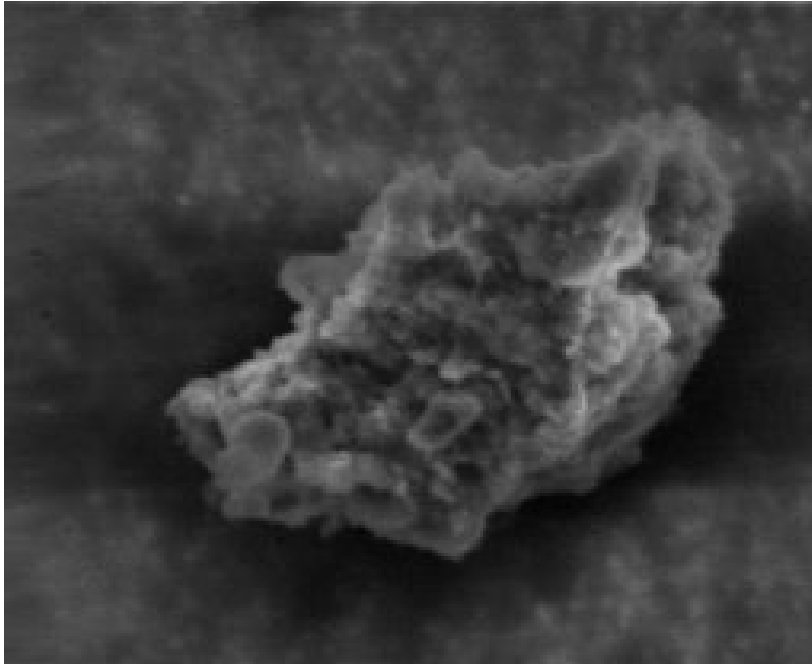
L2047 C1



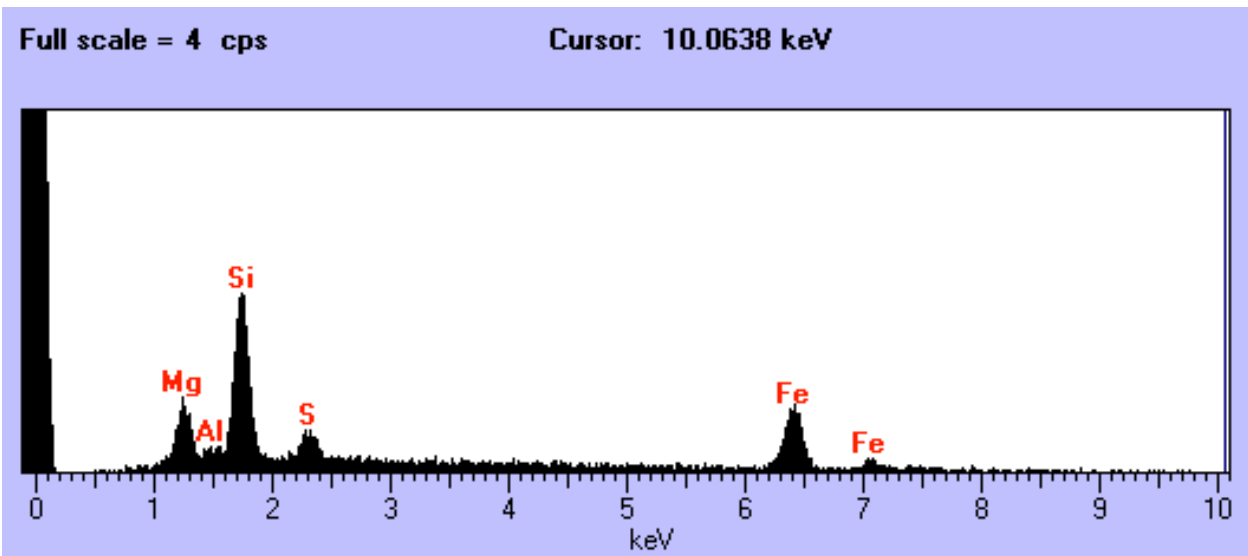
Size: 7 um
Shape: Sphere
Trans: Transparent
Color: Colorless
Luster: Vitreous
Type: Cosmic
Comments:



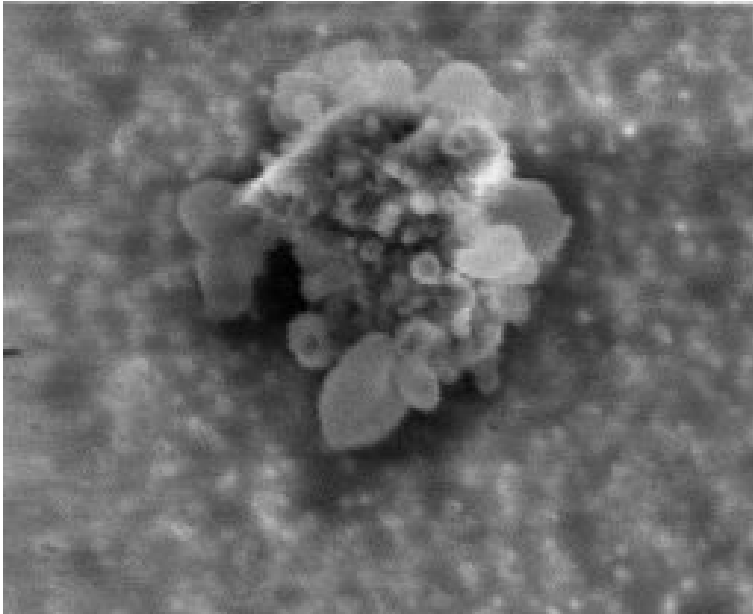
L2047 C9



Size: 30 x 18 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: Cosmic?
Comments:



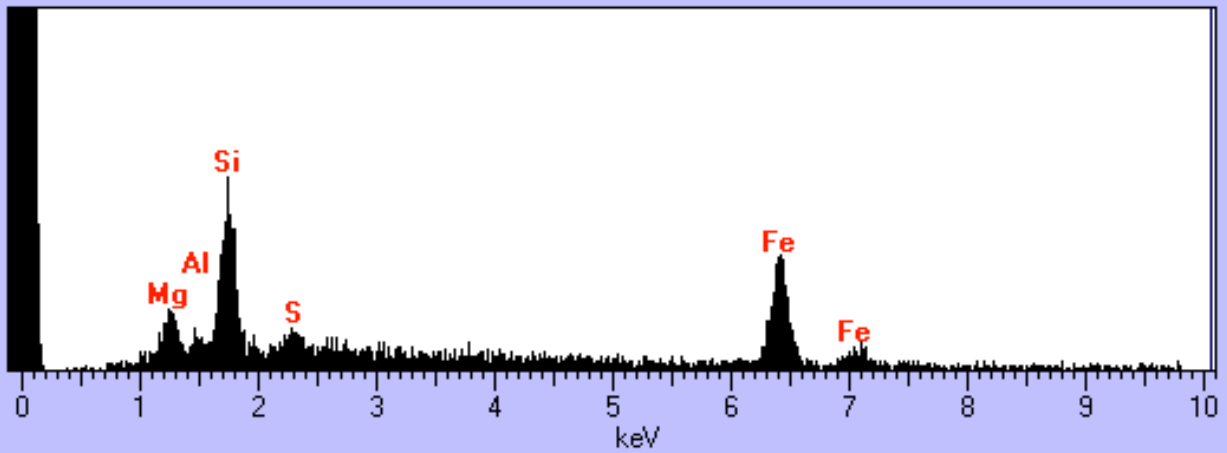
L2047 C16



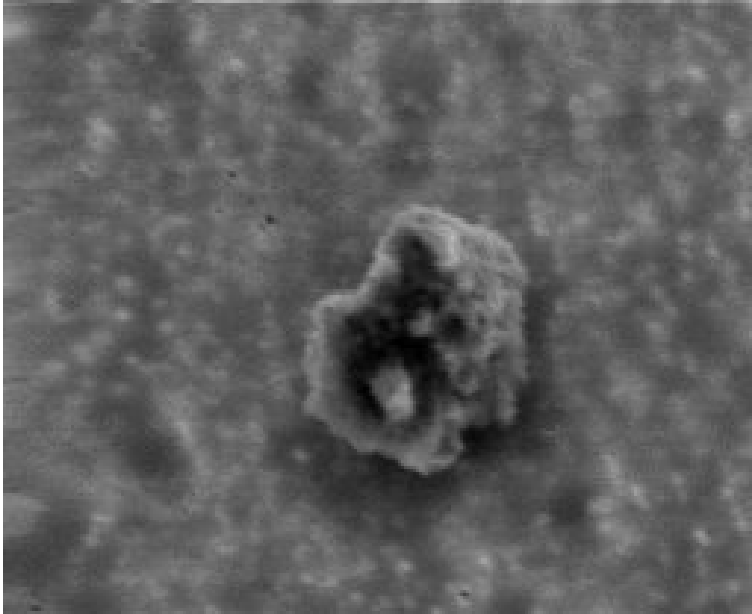
Size: 17 um
Shape: Irregular
Trans: Translucent
Color: Black
Luster: Pearly
Type: Cosmic?
Comments:

Full scale = 3 cps

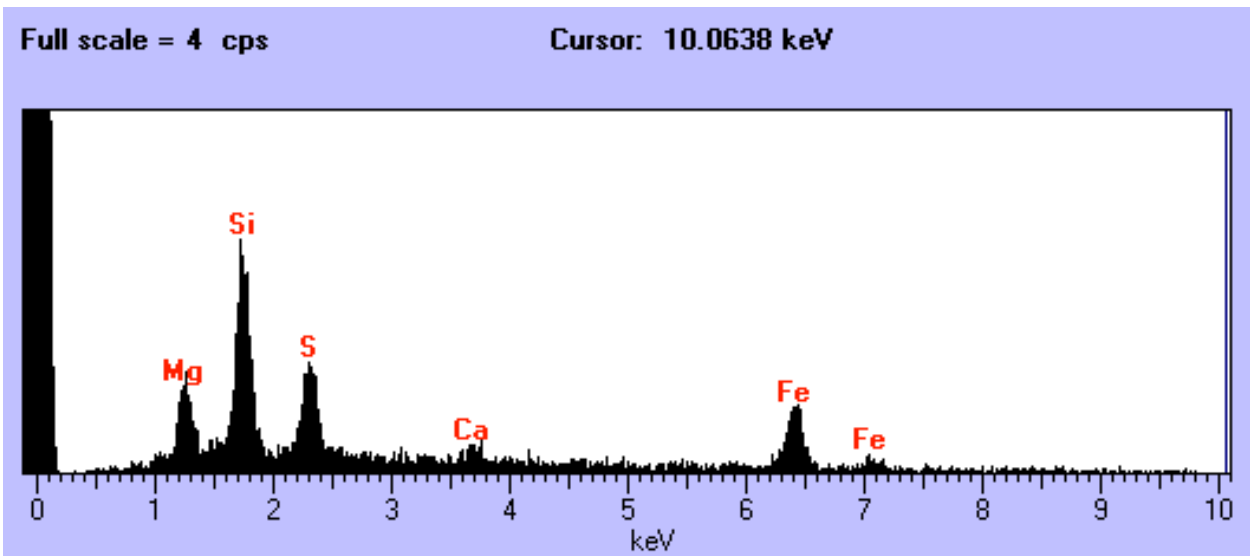
Cursor: 10.0638 keV



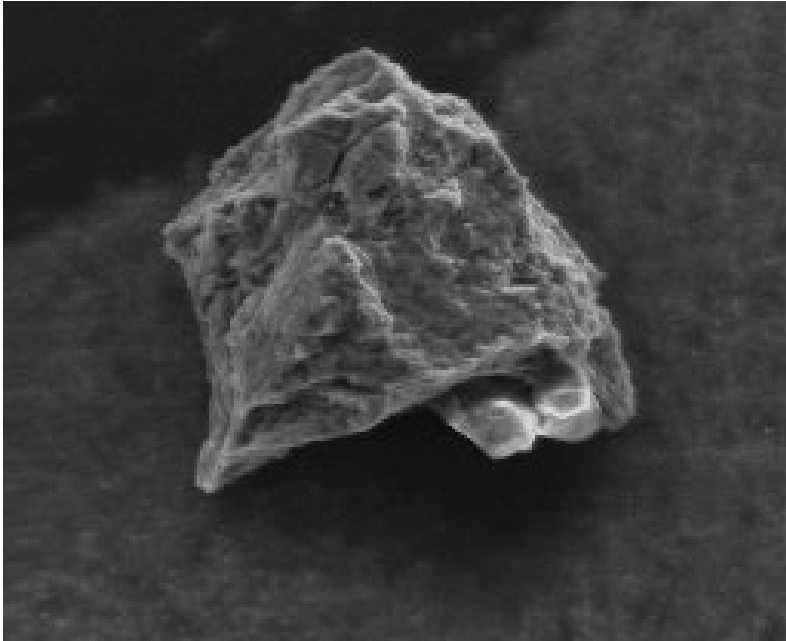
L2047 C22



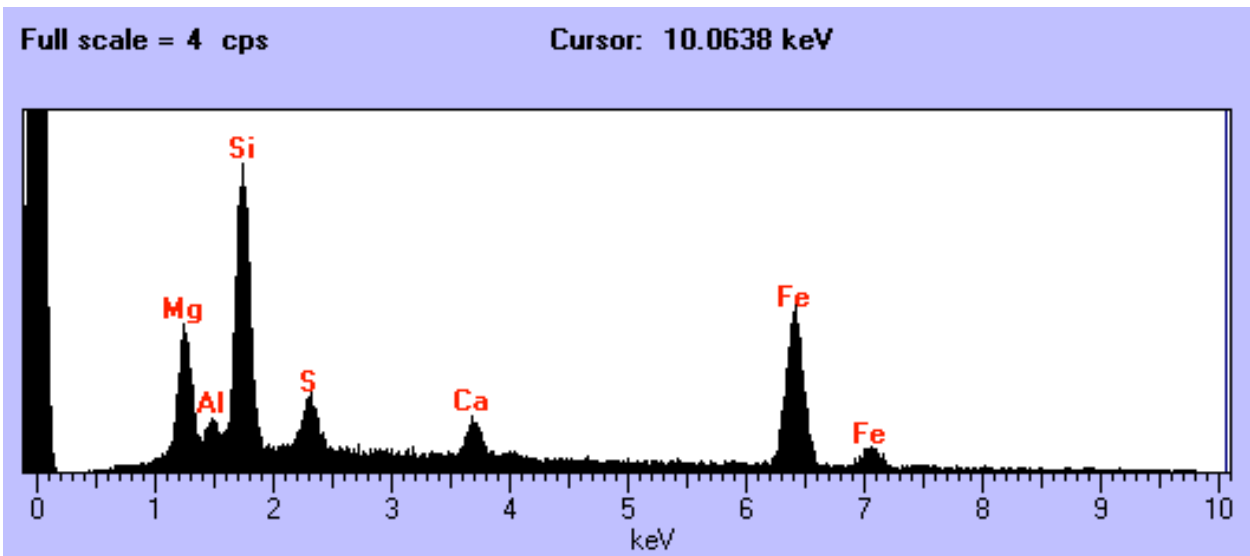
Size: 12 x 10 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull/Submetallic
Type: Cosmic
Comments:



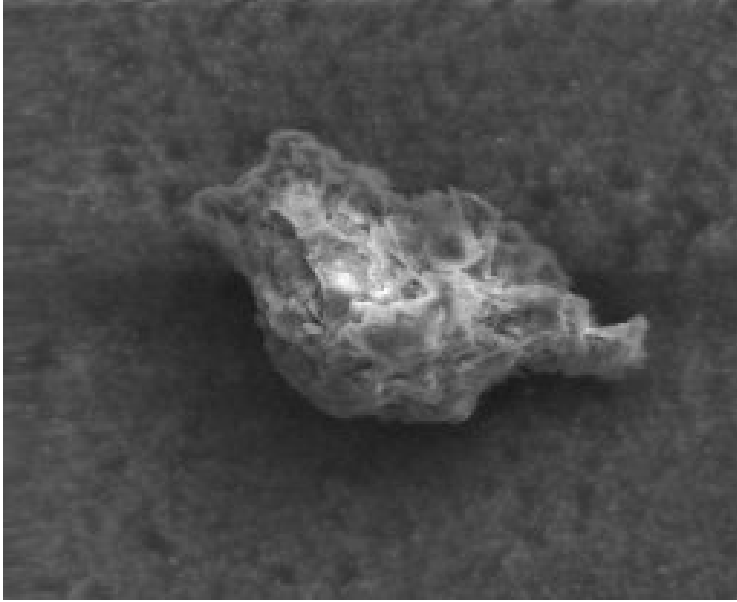
L2047 D1



Size: 10 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: Cosmic
Comments:



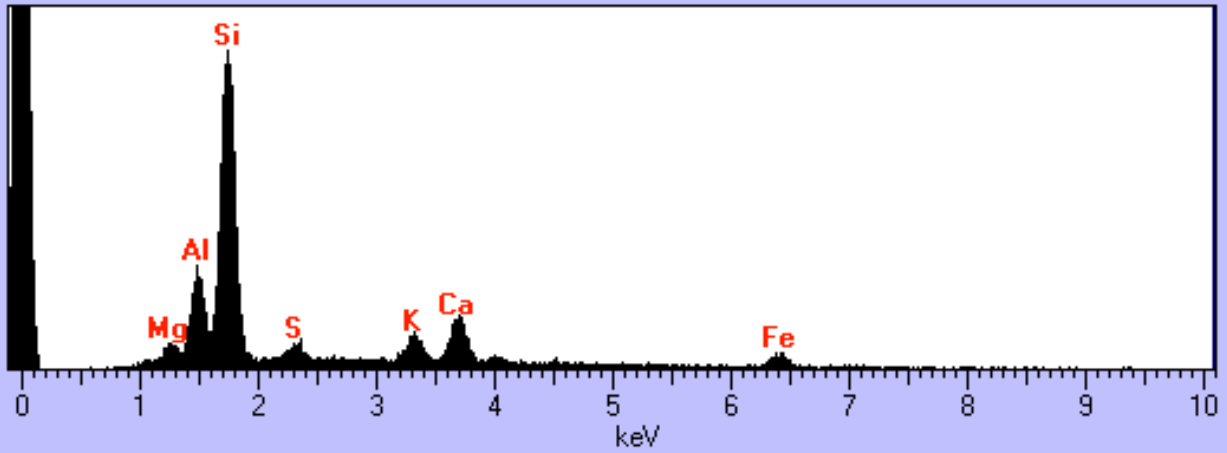
L2047 D2



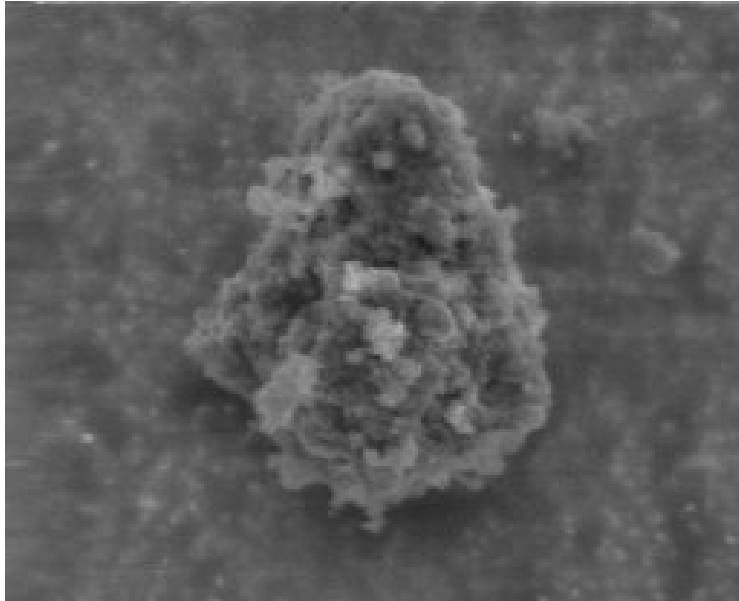
Size: 64 x 38 um
Shape: Irregular
Trans: Translucent
Color: White/Orange
Luster: Subvitreous
Type: cosmic?
Comments:

Full scale = 6 cps

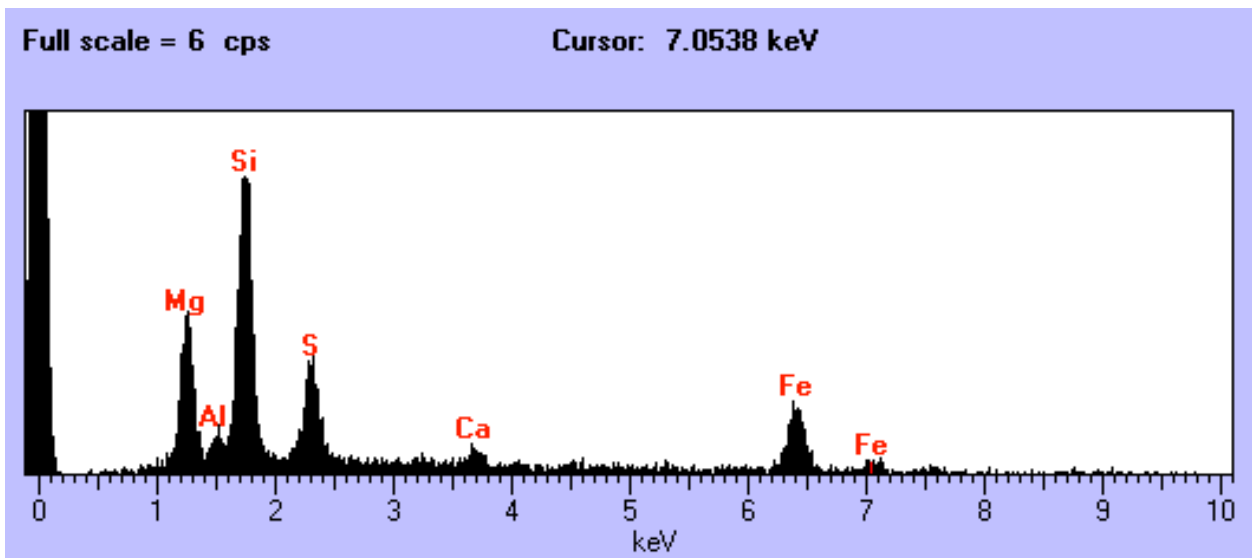
Cursor: 10.0837 keV



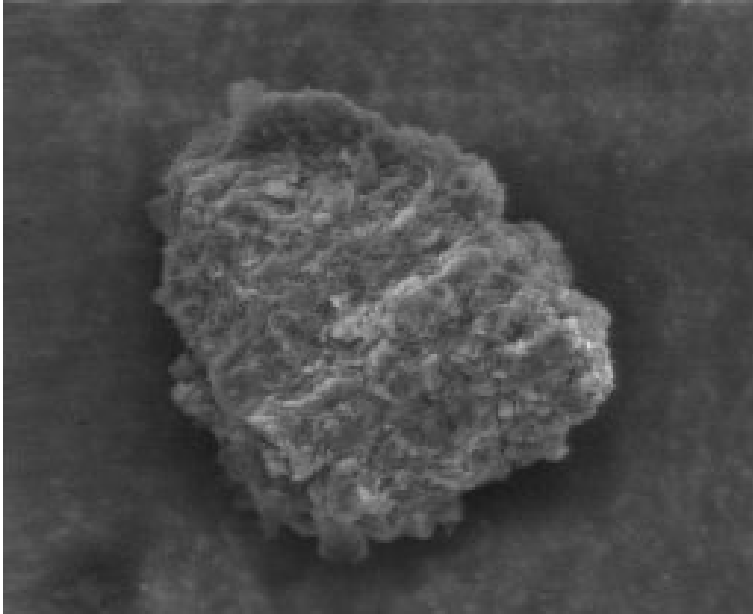
L2047 D5



Size: 28 x 22 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull/Submetallic
Type: Cosmic
Comments:



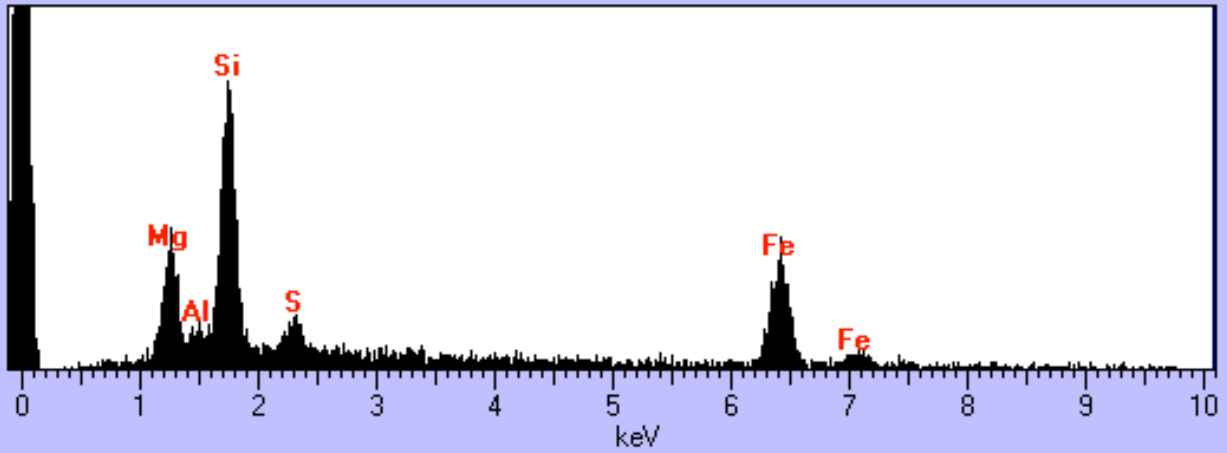
L2047 D23



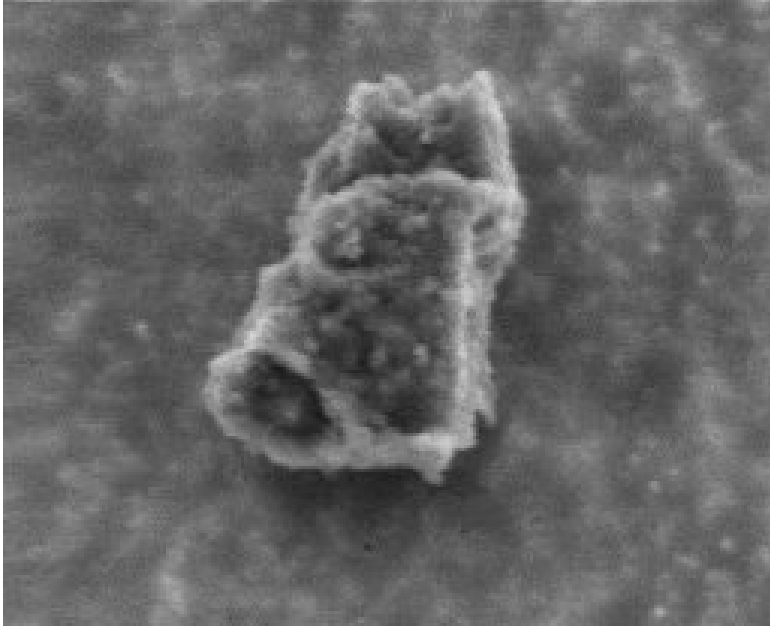
Size: 42 x 34 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull/Submetallic
Type: Cosmic
Comments:

Full scale = 6 cps

Cursor: 10.0837 keV



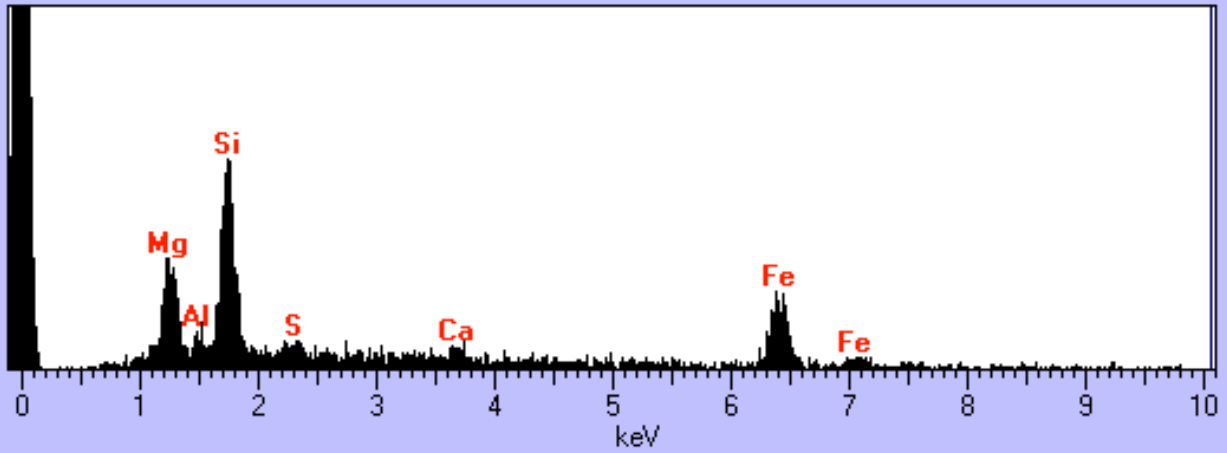
L2047 D26



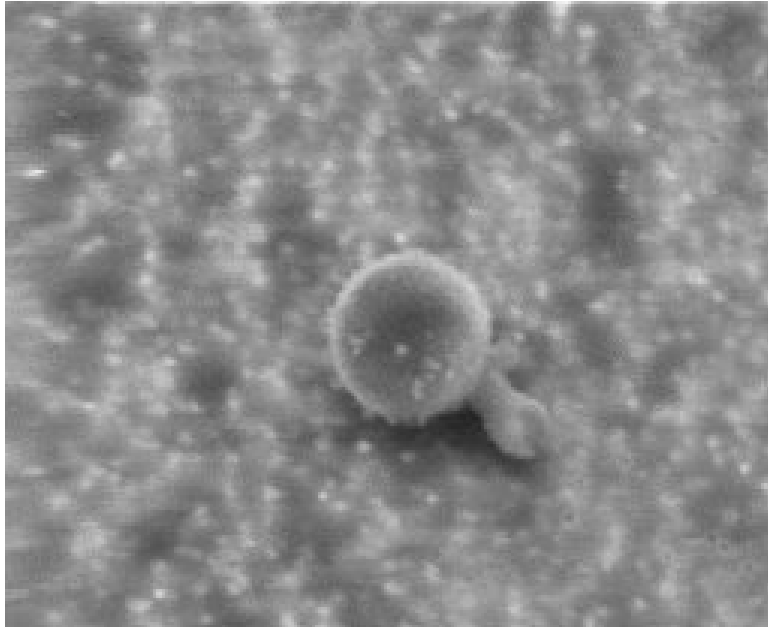
Size: 20 x 12 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull/Submetallic
Type: Cosmic
Comments:

Full scale = 5 cps

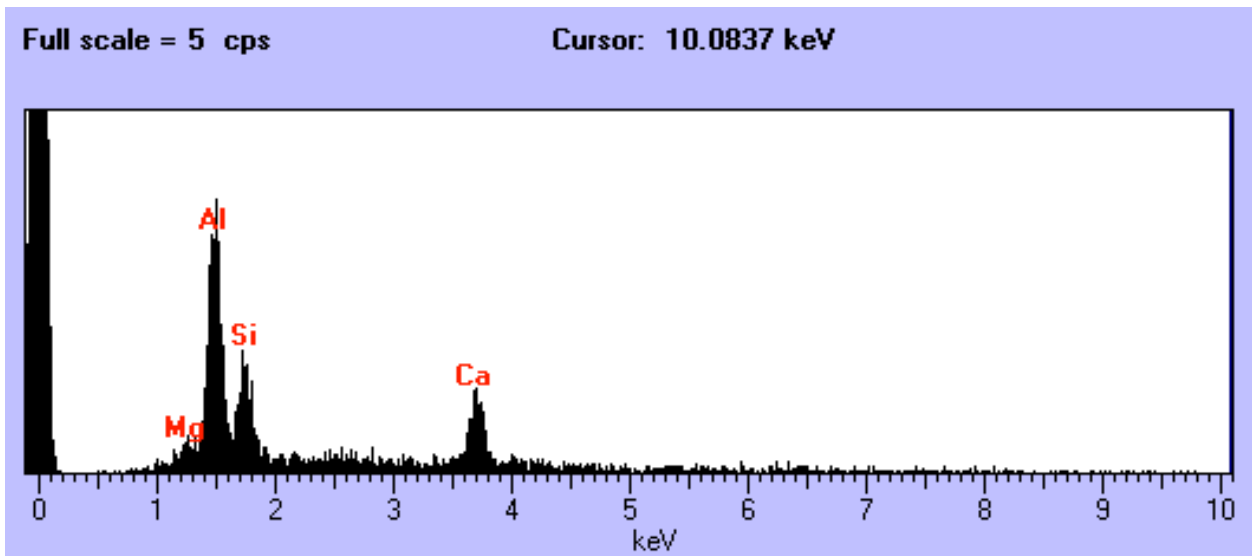
Cursor: 10.0638 keV



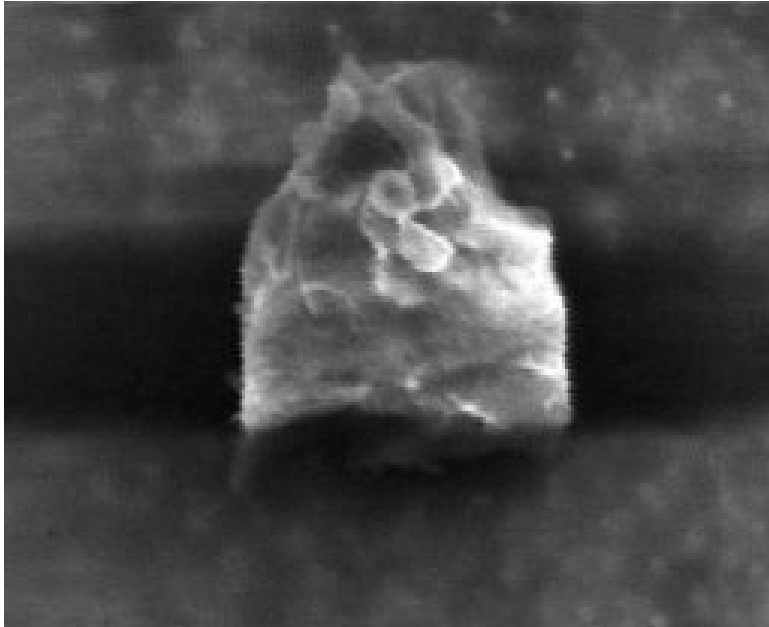
L2047 E4



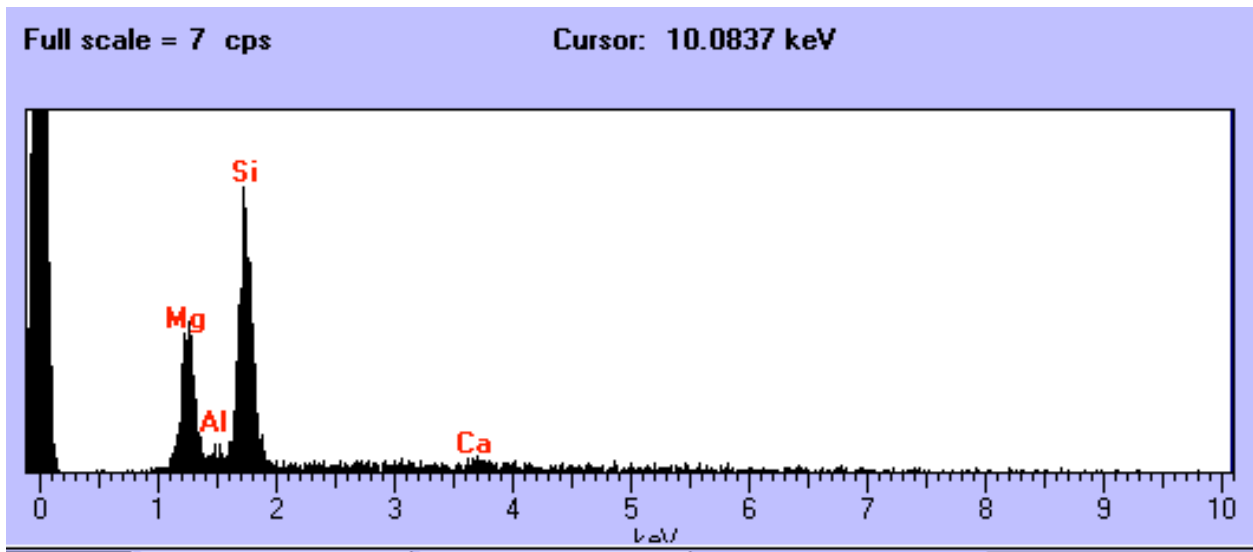
Size: 8 x 6 um
Shape: Sphere
Trans: Opaque
Color: Black
Luster: Dull/Submetallic
Type: Cosmic
Comments:



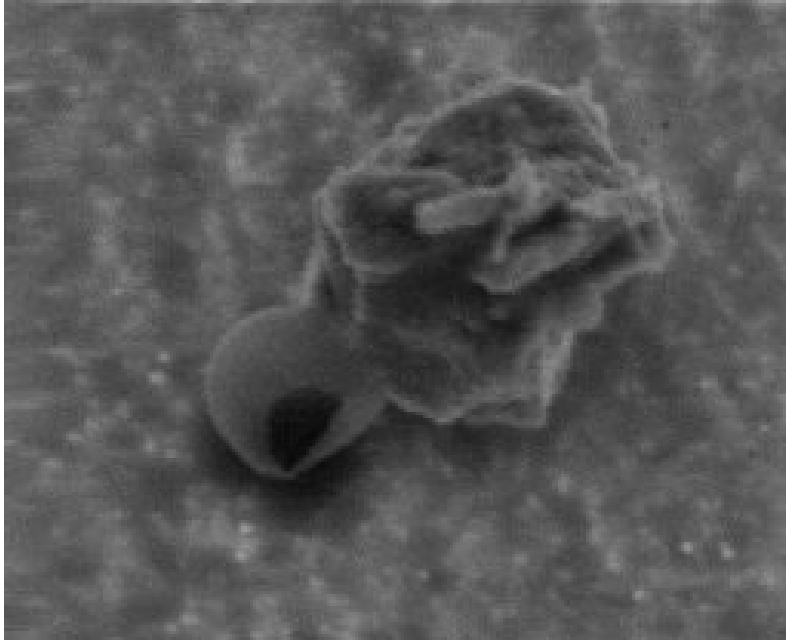
L2047 E12



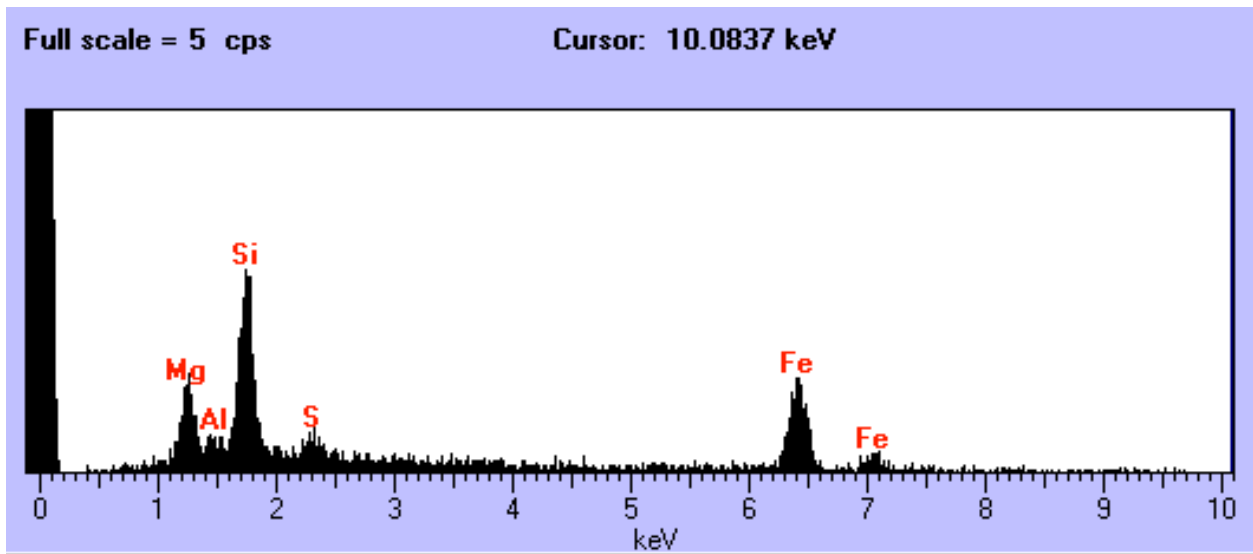
Size: 15 x 12 um
Shape: Irregular
Trans: Translucent
Color: Colorless
Luster: Vitreous
Type: Cosmic?
Comments:



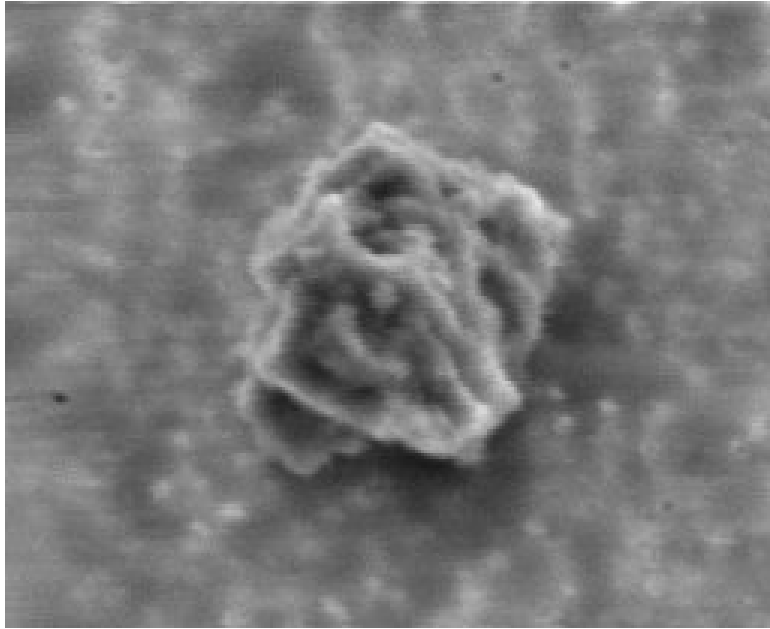
L2047 E20



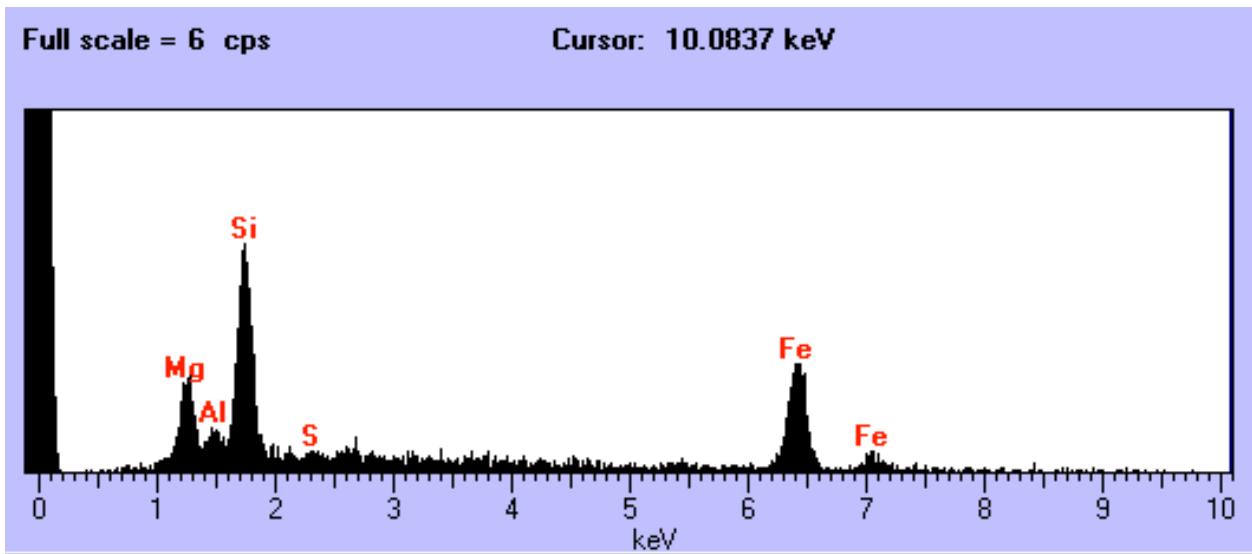
Size: 17 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull/Submetallic
Type: Cosmic
Comments:



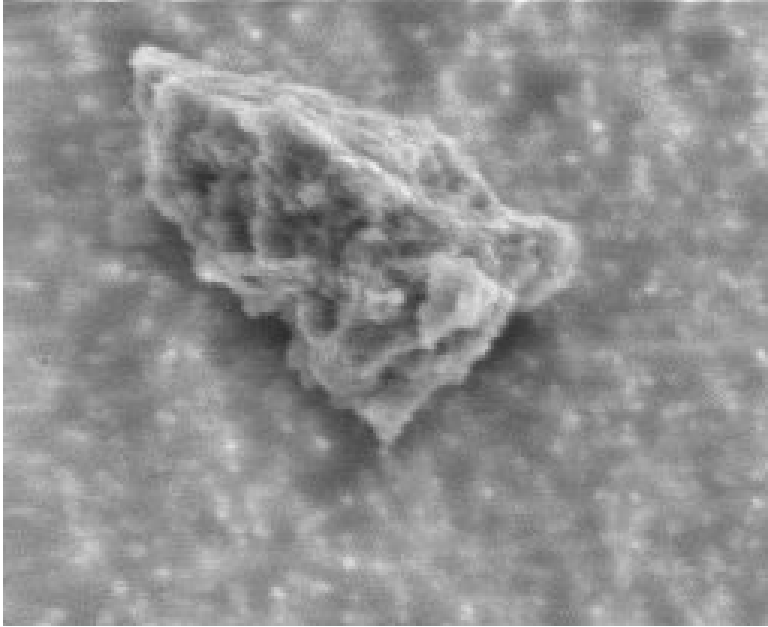
L2047 E26



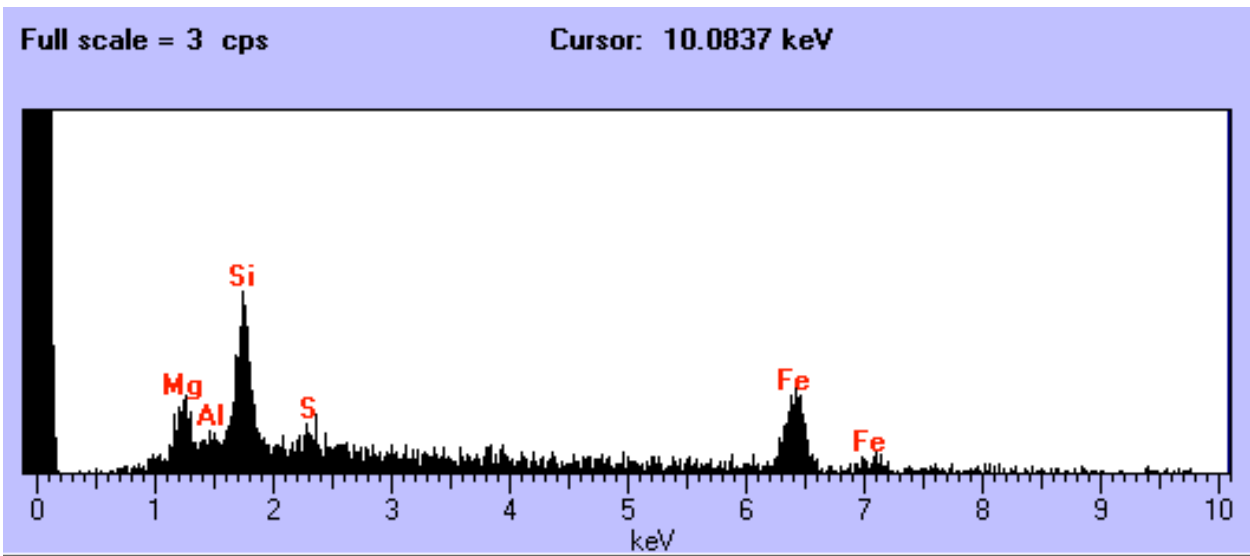
Size: 15 x 10 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull/Submetallic
Type: Cosmic
Comments:



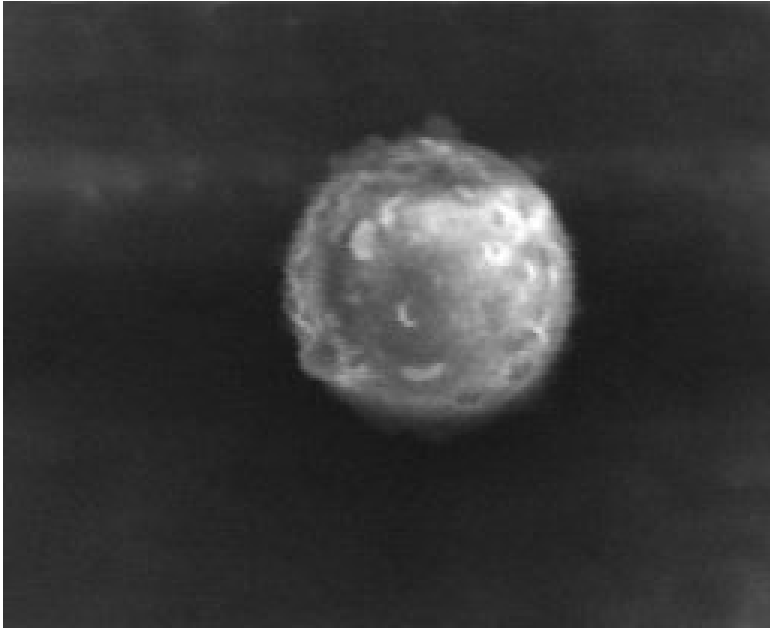
L2047 E38



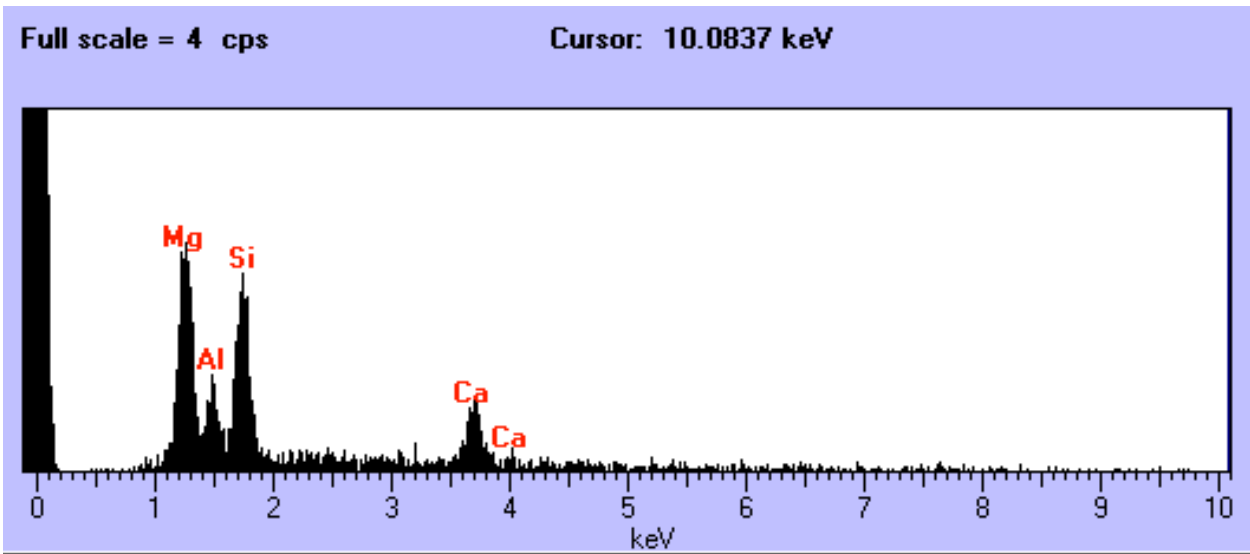
Size: 25 x 12 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull/Submetallic
Type: Cosmic
Comments:



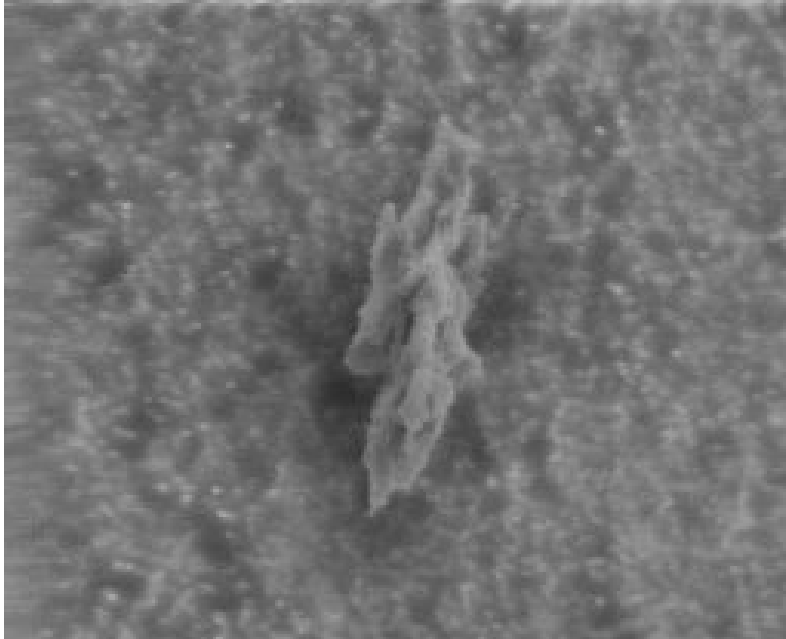
L2047 F11



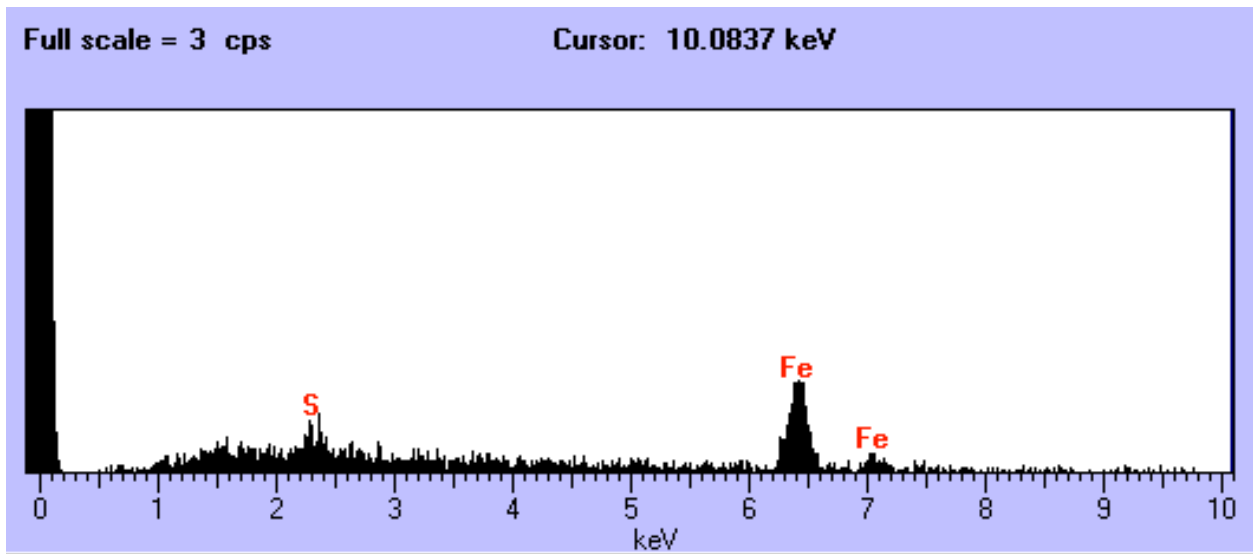
Size: 14 um
Shape: Sphere
Trans: Translucent
Color: Colorless
Luster: Vitreous
Type: Cosmic
Comments:



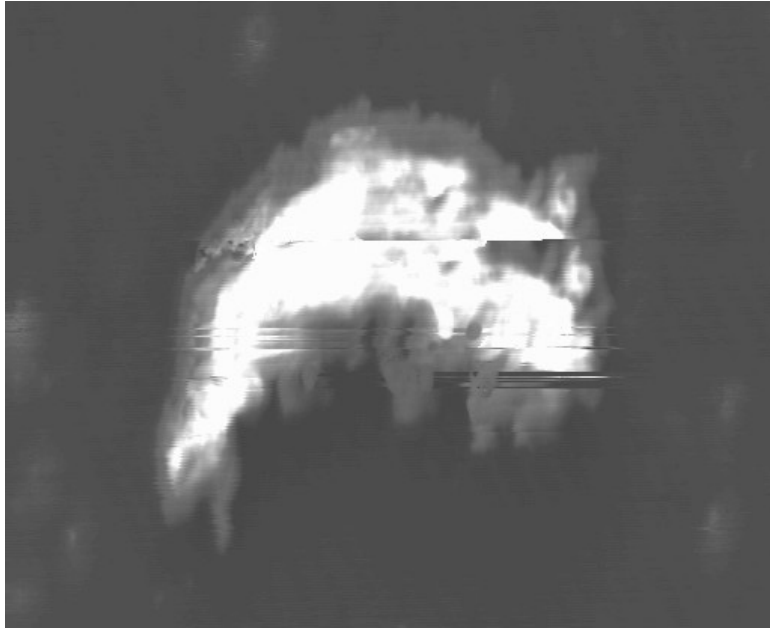
L2047 F12



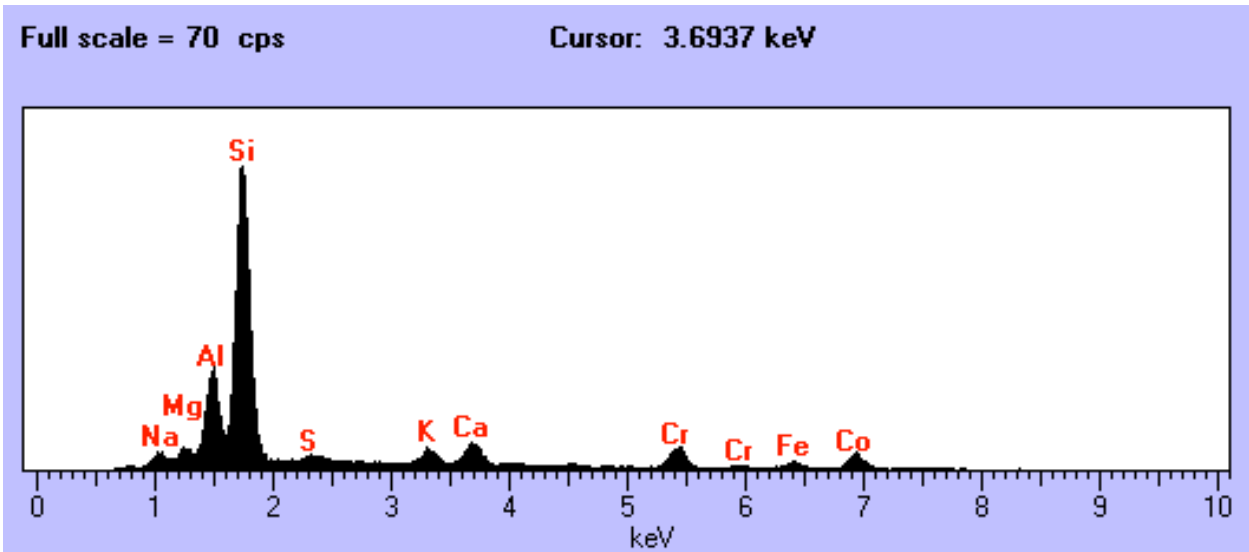
Size: 7 x 3 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull/Submetallic
Type: Cosmic?
Comments:



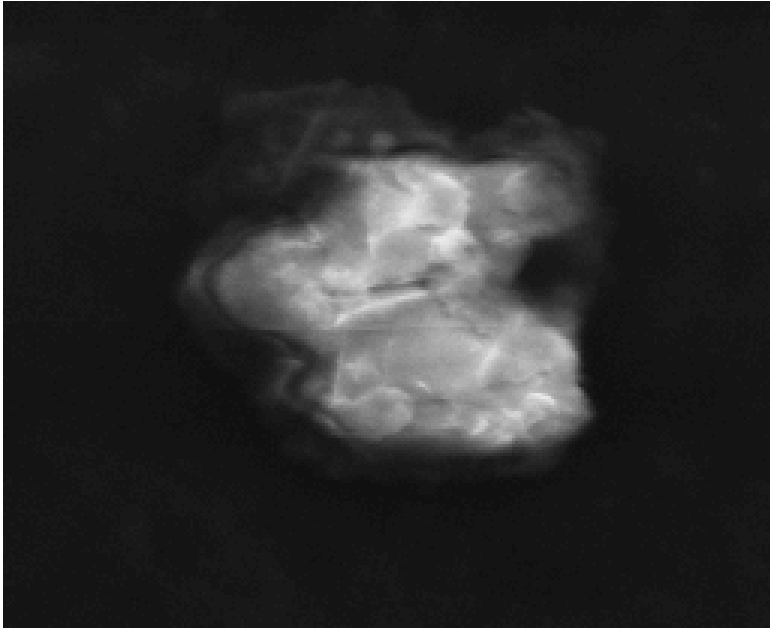
U2098 A4



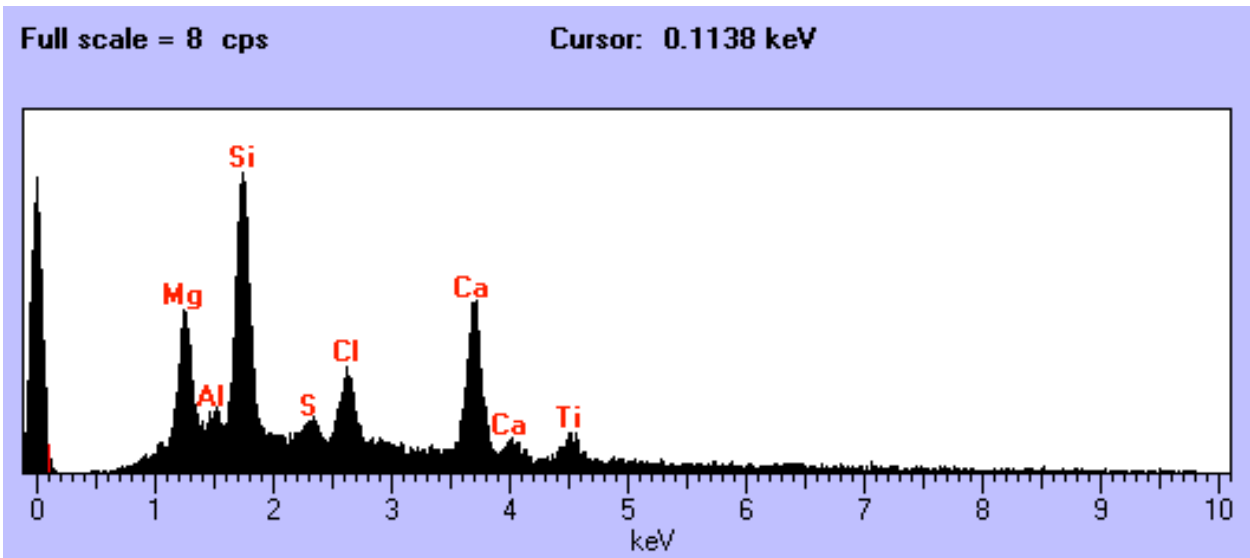
Size: 48 x 15 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: Cosmic?
Comments:



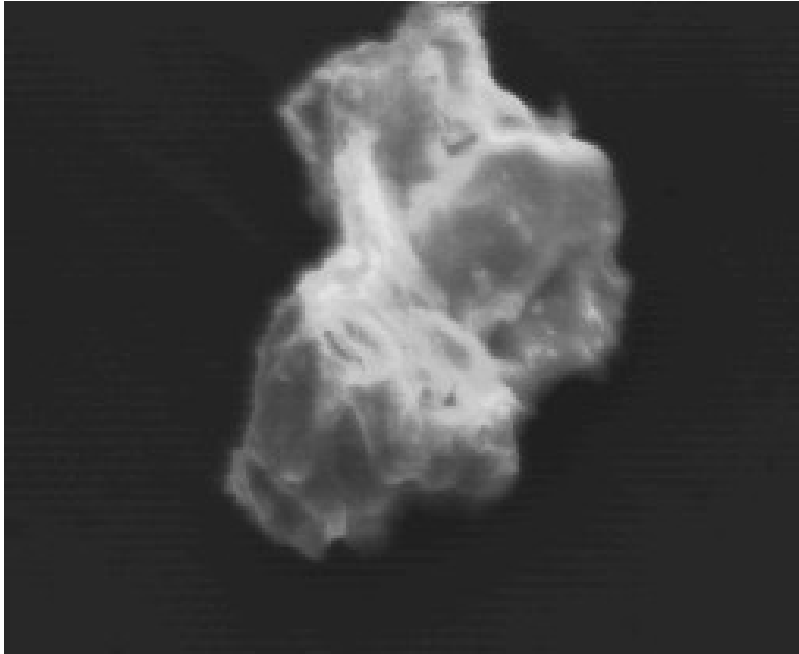
U2098 A14



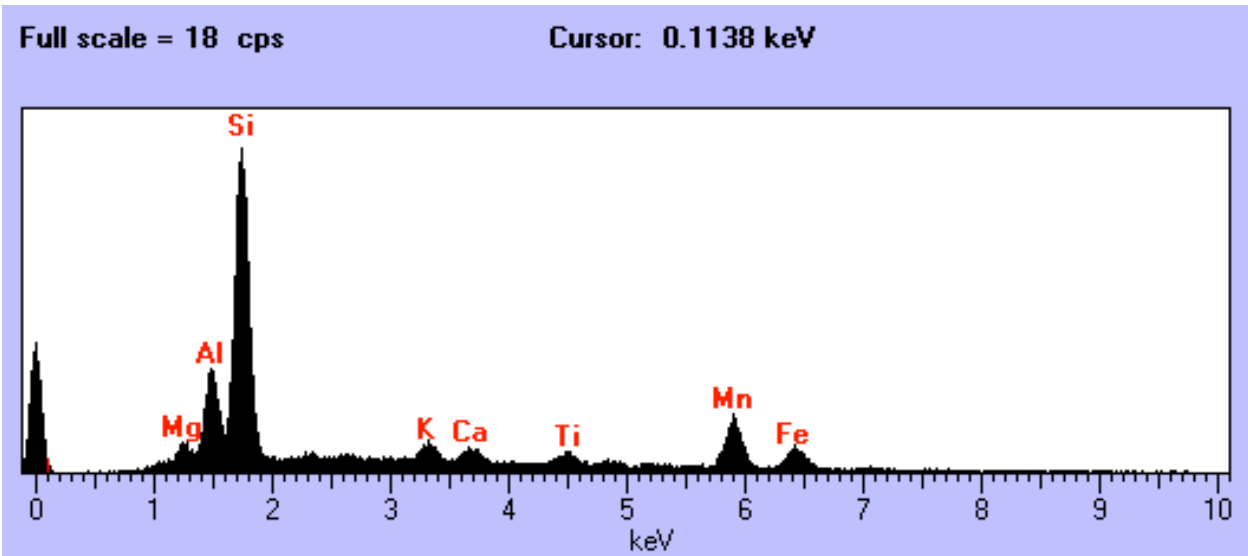
Size: 27 x 22 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: Cosmic?
Comments:



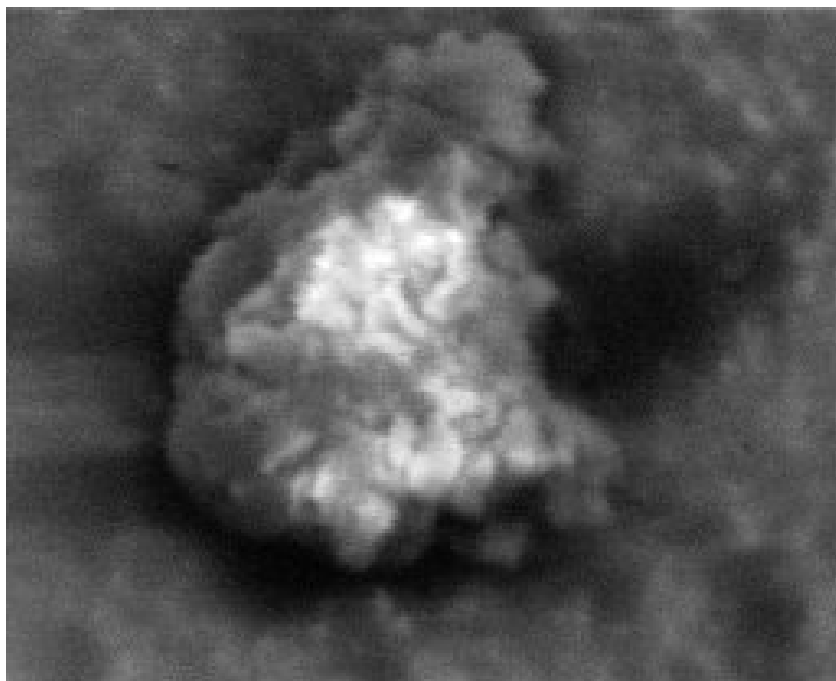
U2098 A16



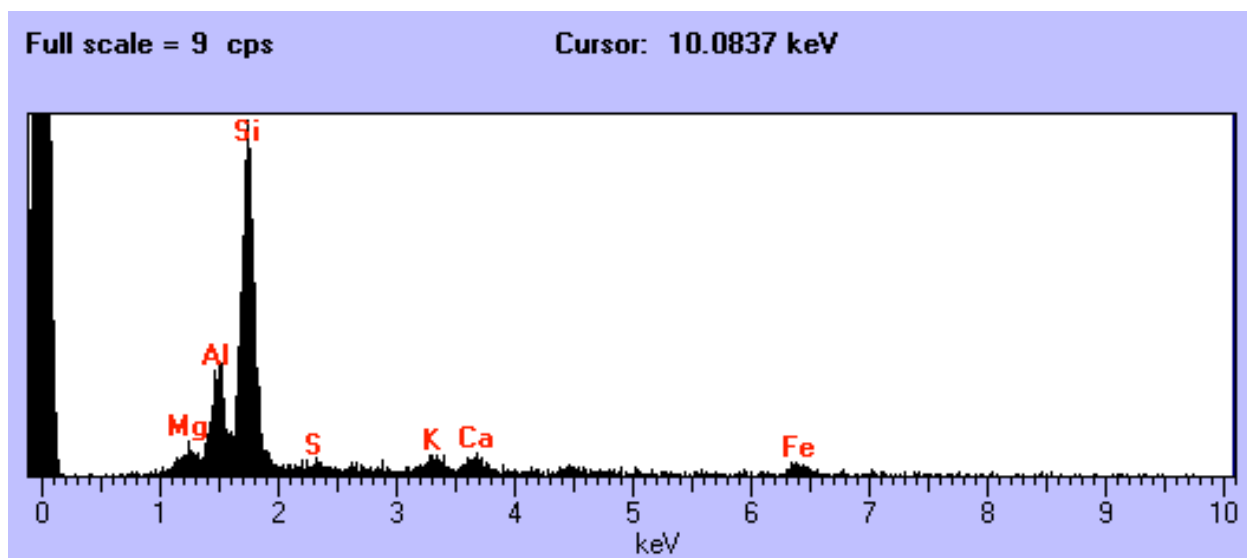
Size: 42 x 38 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull/Submetallic
Type: Cosmic?
Comments:



U2098 B9



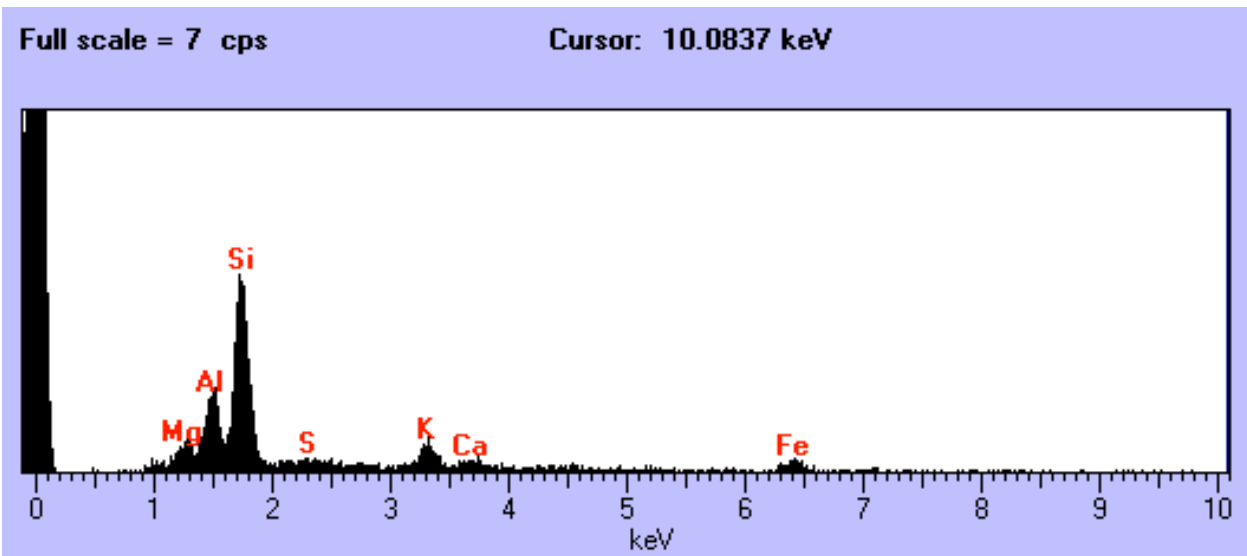
Size: 28 x 22 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Pearly
Type: Cosmic?
Comments:



U2098 B10



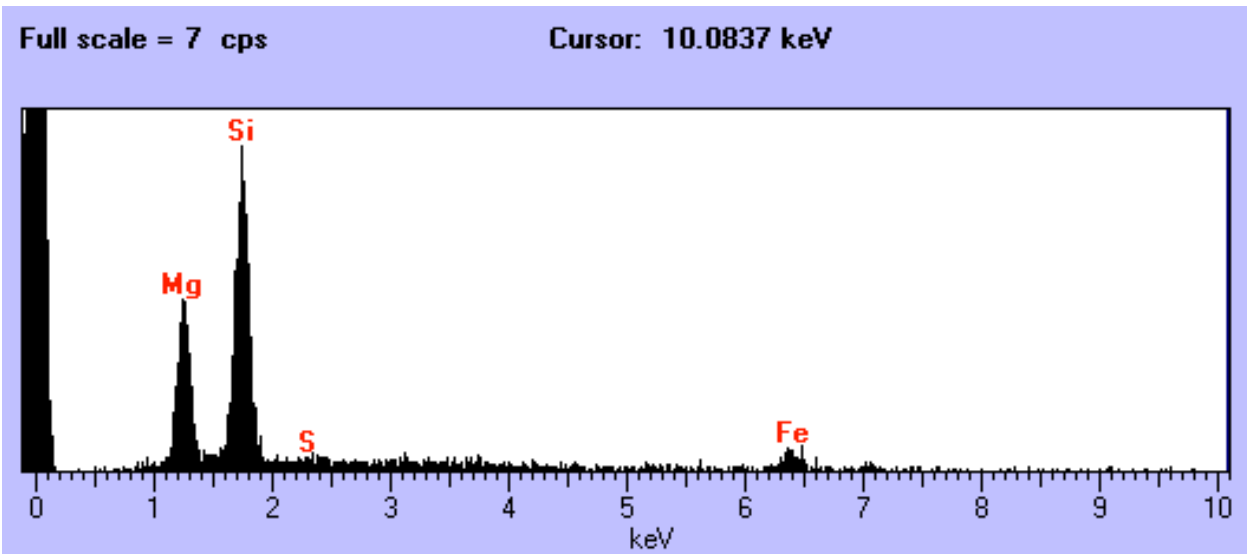
Size: 13 x 11 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Pearly
Type: Cosmic?
Comments:



U2098 B15



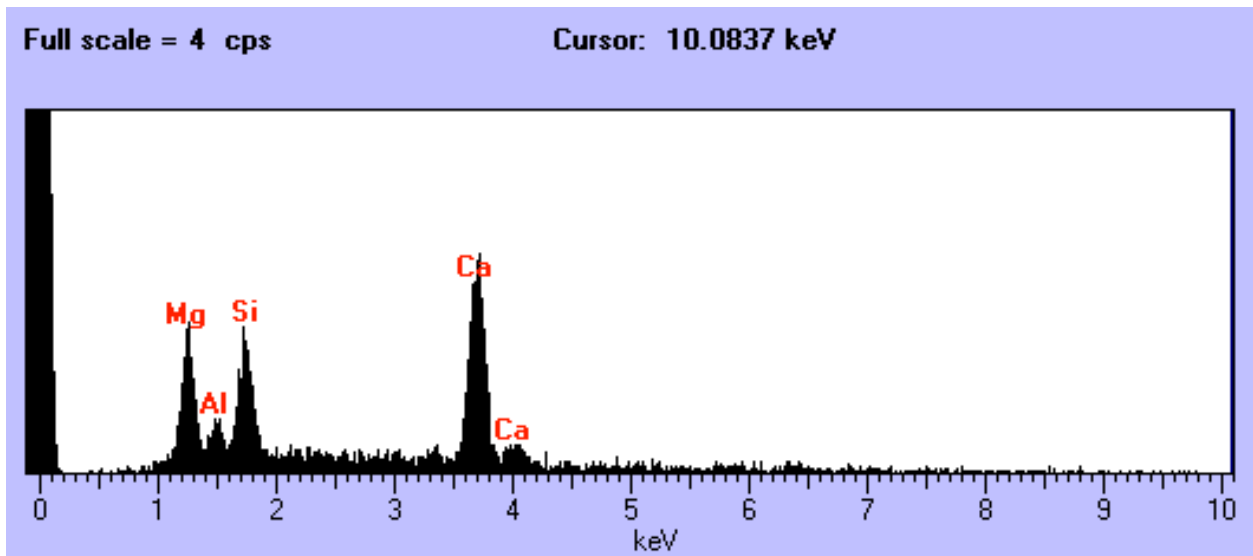
Size: 20 x 15 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: Cosmic
Comments:



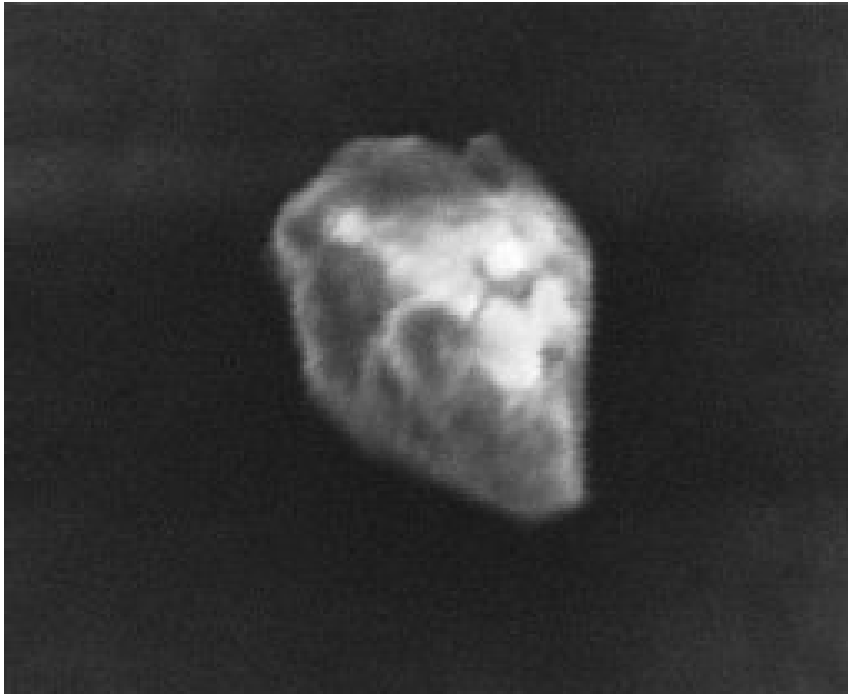
U2098 B16



Size: 40 x 20 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Pearly
Type: Cosmic?
Comments:



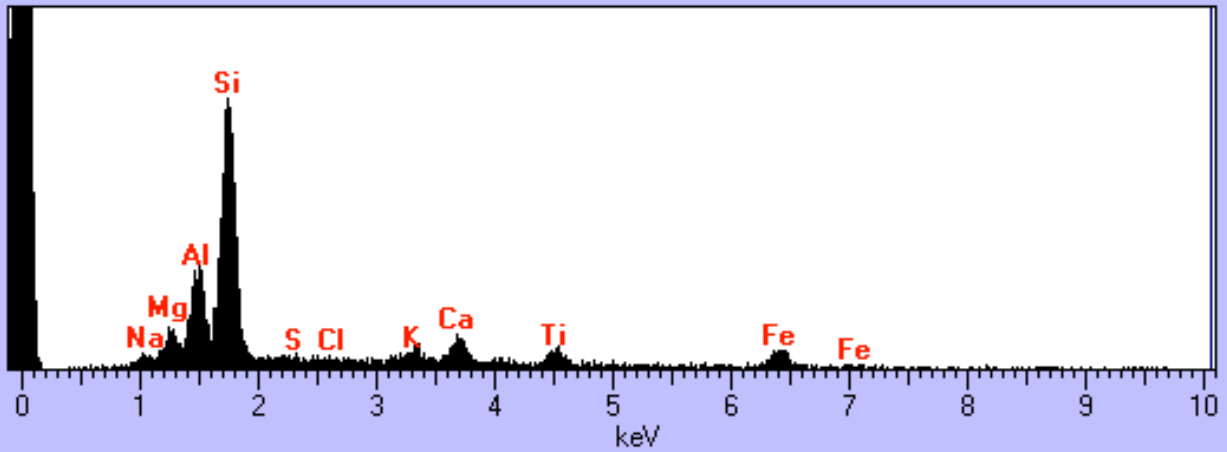
U2098 B27



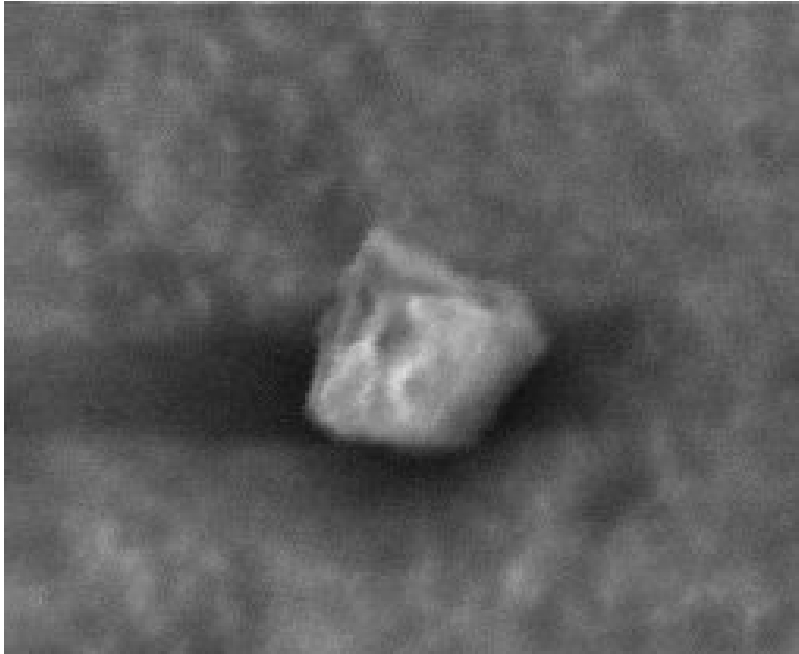
Size: 22 x 17 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: Cosmic?
Comments:

Full scale = 8 cps

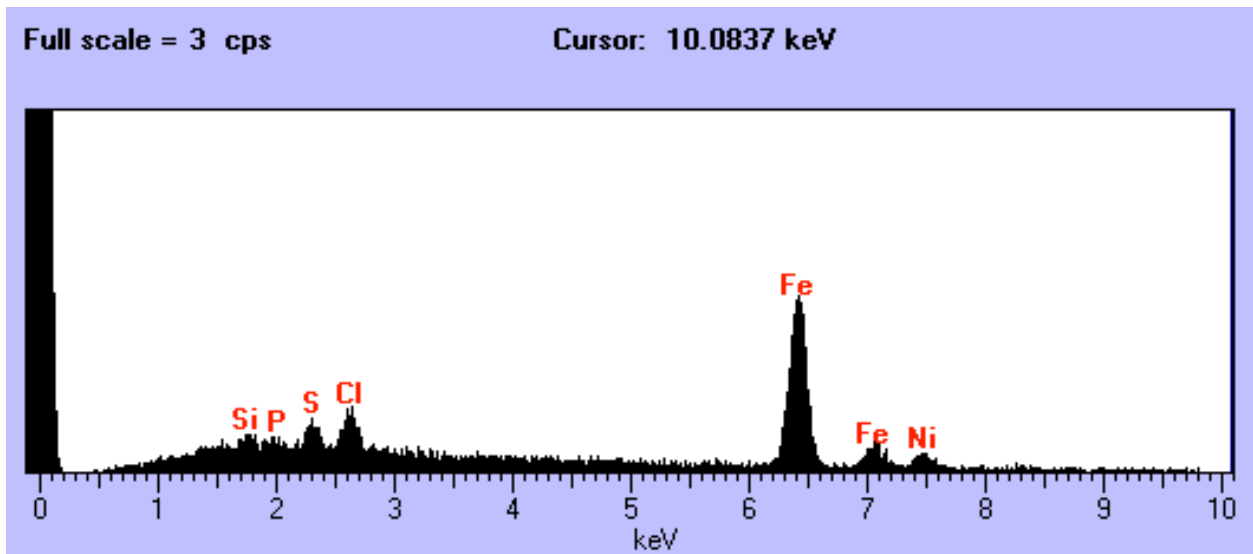
Cursor: 10.0638 keV



U2098 B32



Size: 13 x 12 um
Shape: Irregular
Trans: Translucent
Color: Red
Luster: Subvitreous
Type: Cosmic
Comments:



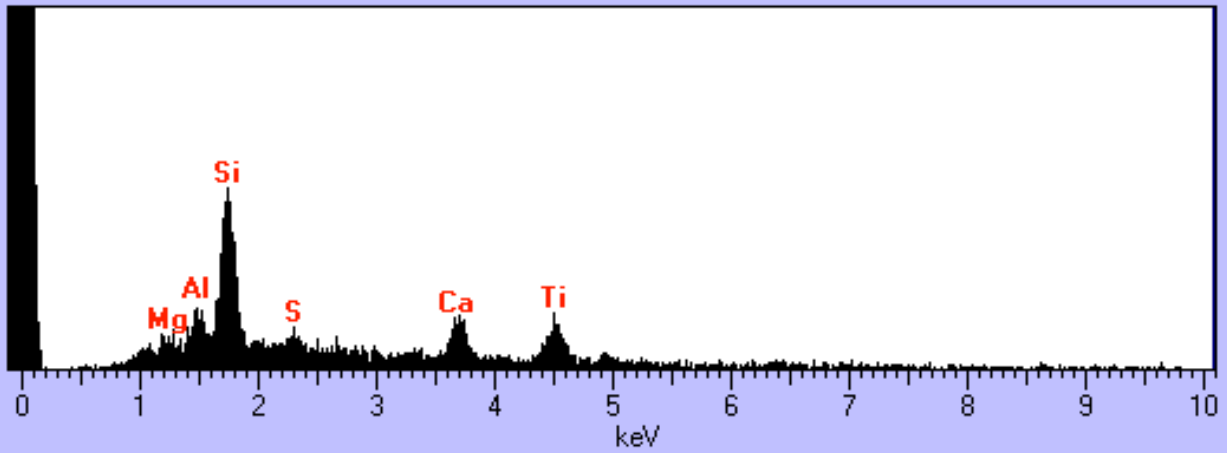
U2098 B34



Size: 32 x 25 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: Cosmic?
Comments:

Full scale = 3 cps

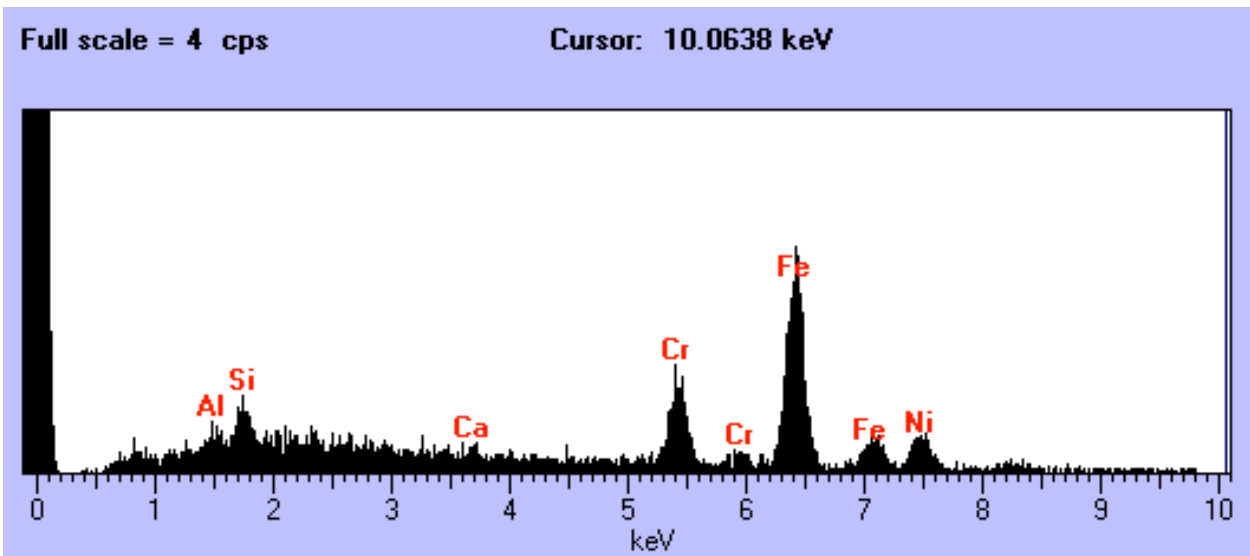
Cursor: 10.0837 keV



U2098 B35



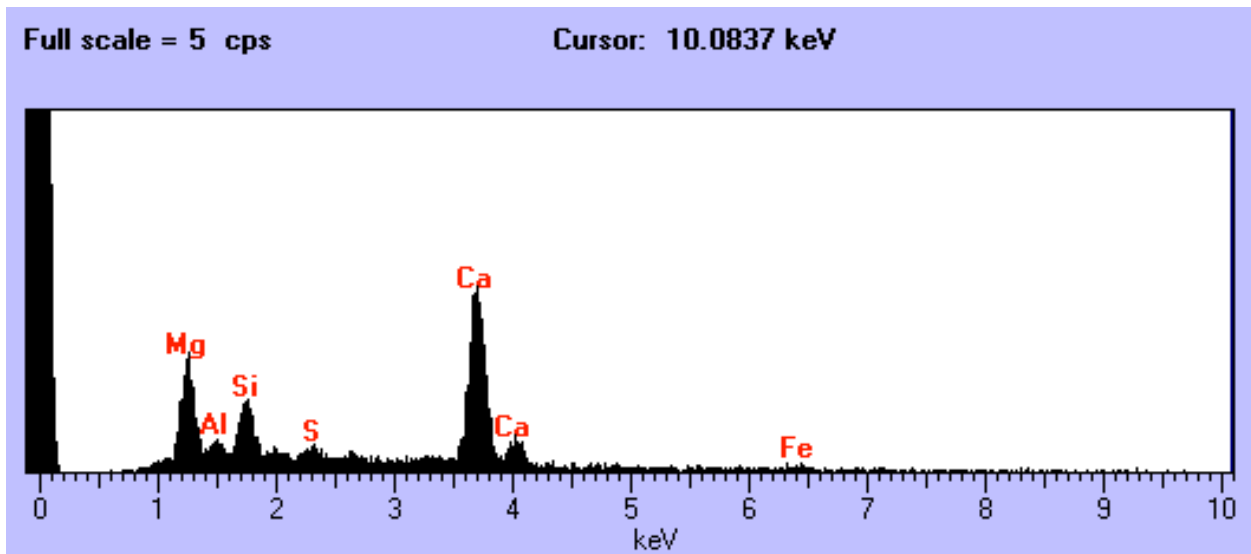
Size: 11 x 10 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull/Submetallic
Type: Cosmic?
Comments:



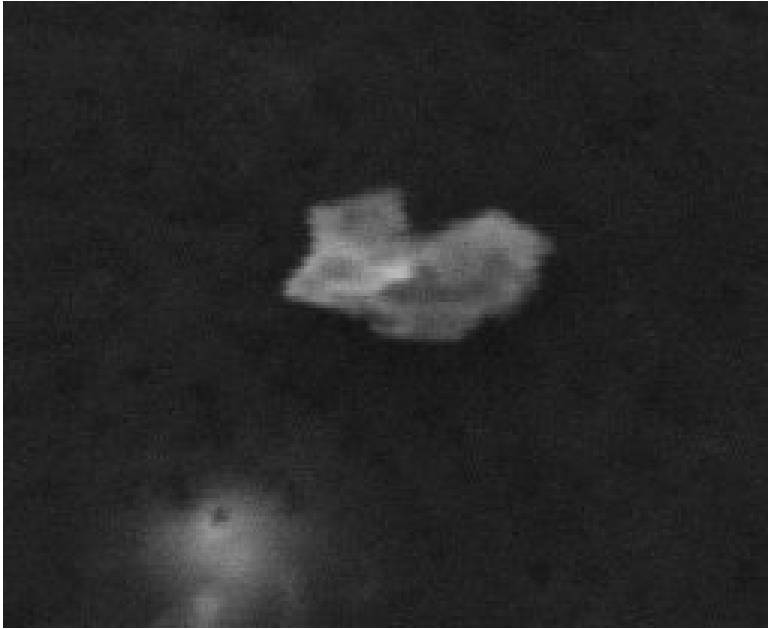
U2098 B37



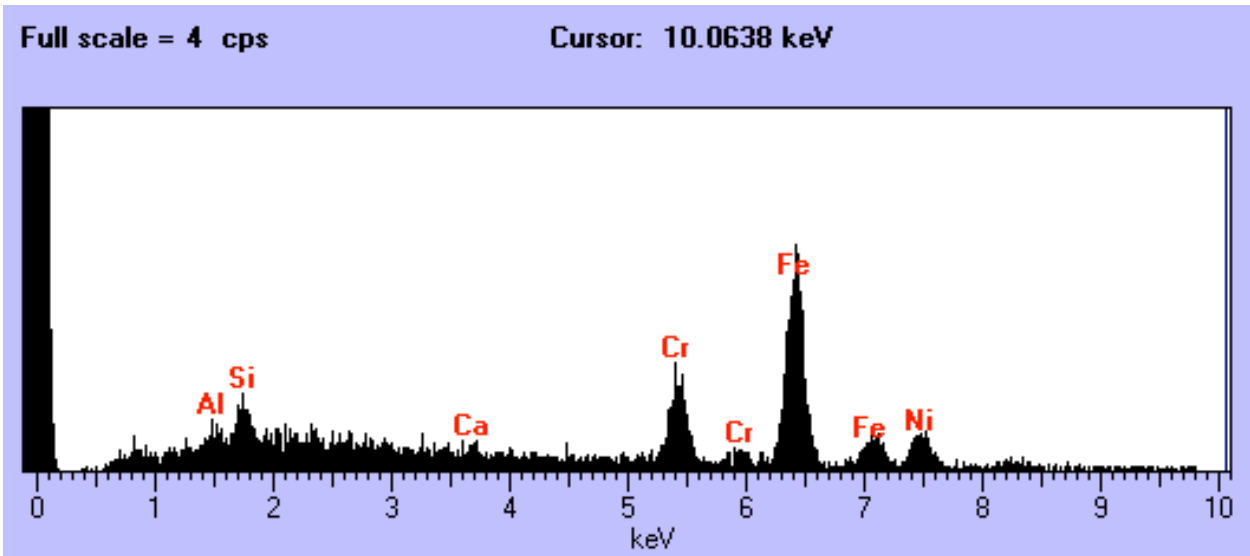
Size: 11 um
Shape: Irregular
Trans: Translucent
Color: Colorless
Luster: Subvitreous
Type: Cosmic?
Comments:



U2098 B38



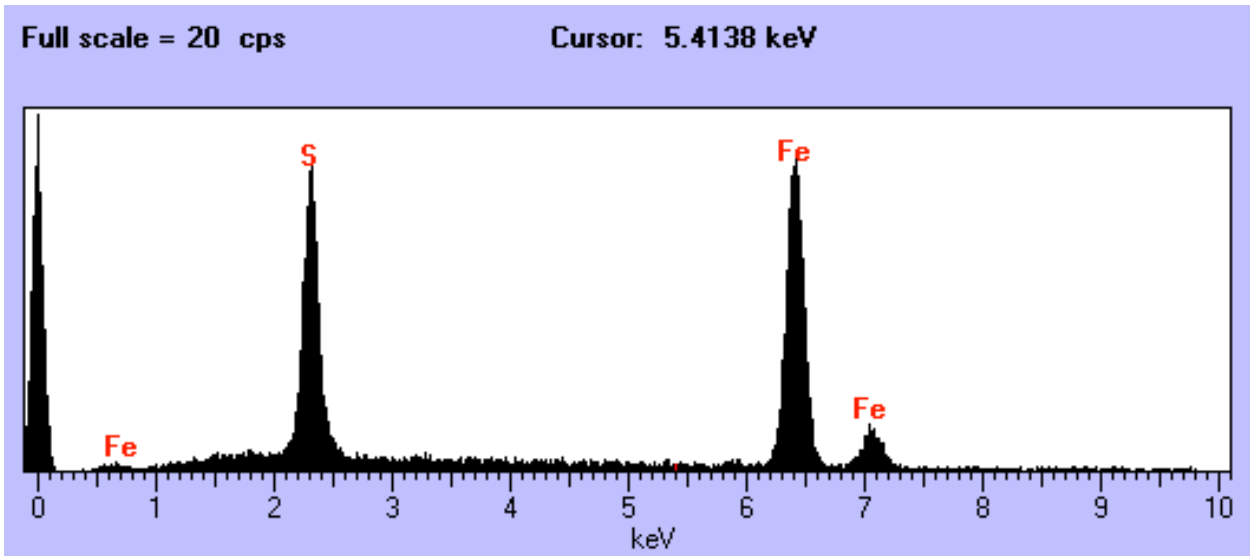
Size: 11 um
Shape: Irregular
Trans: Translucent
Color: Colorless
Luster: Subvitreous
Type: Cosmic?
Comments:



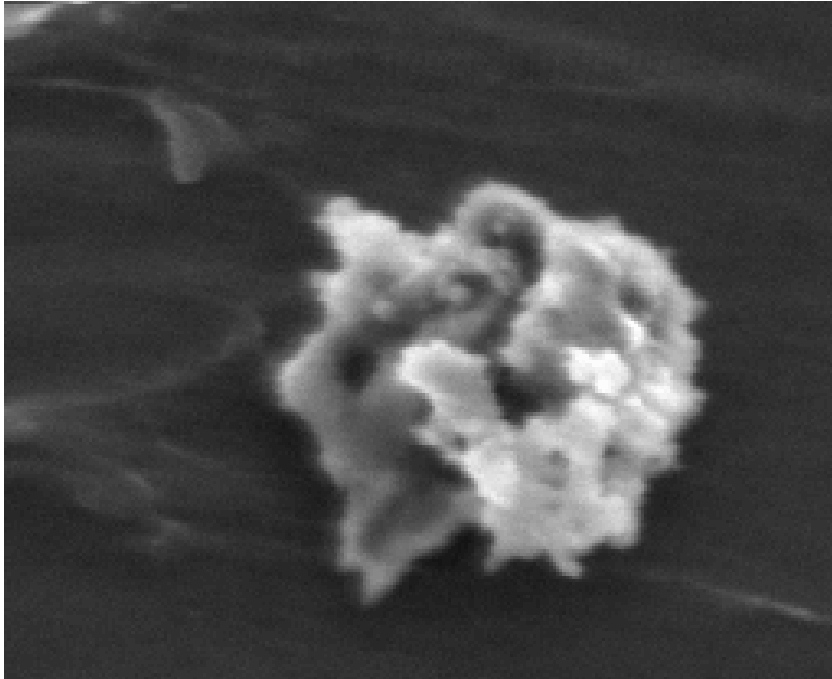
U2097 A2



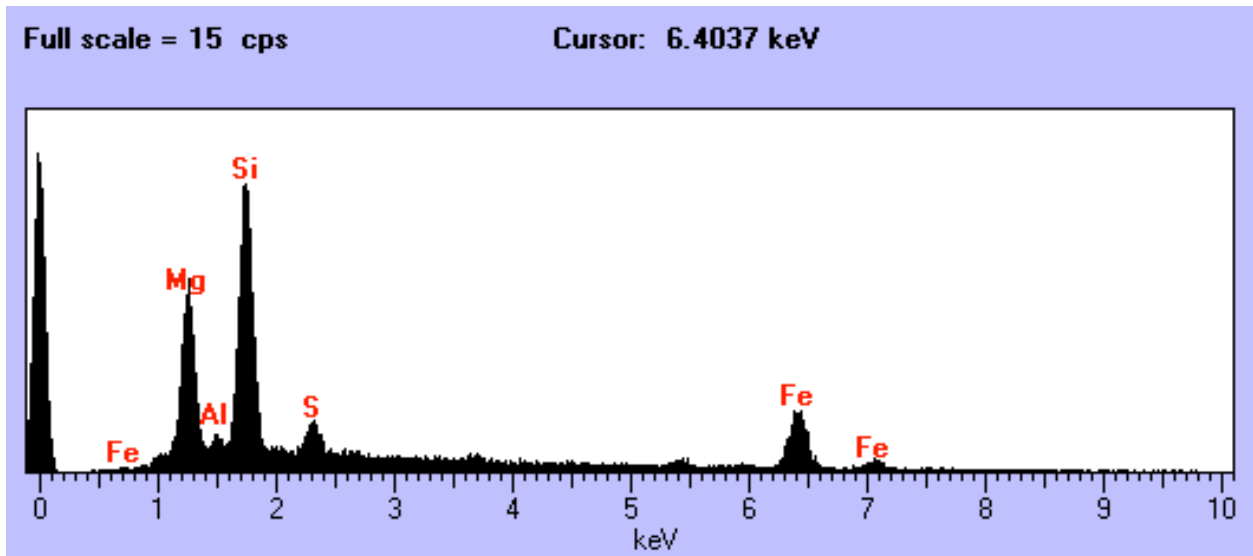
Size: 6 um
Shape: Sphere
Trans: Opaque
Color: Brown
Luster: Submetallic
Type: Cosmic
Comments:



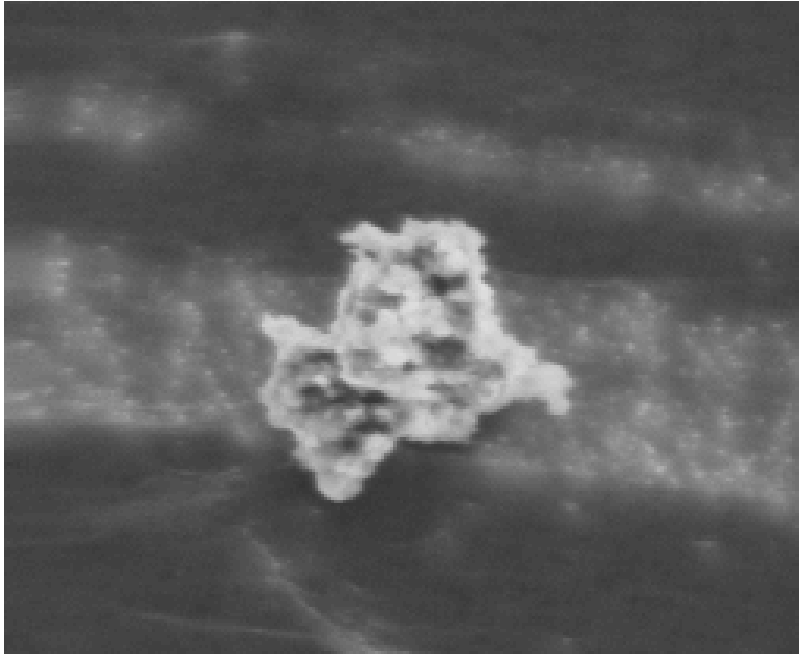
U2097 A8



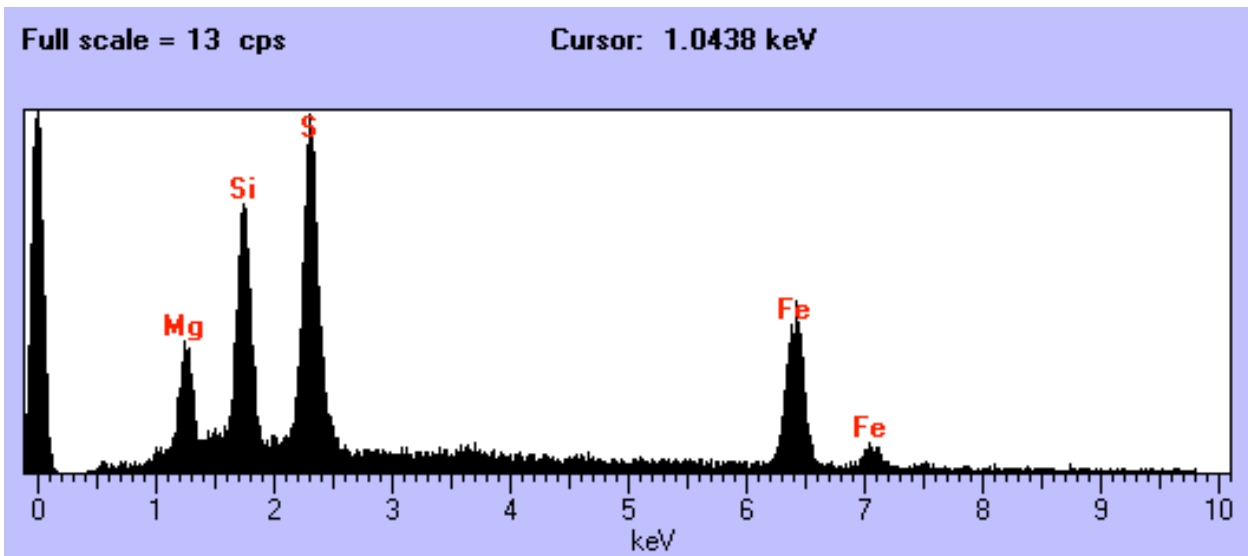
Size: 10 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: Cosmic
Comments:



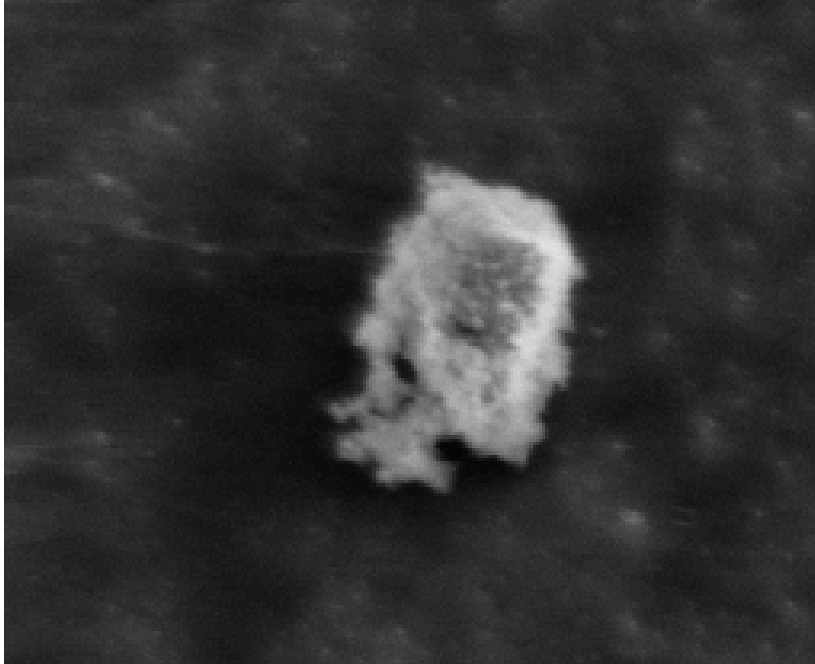
U2097 A10



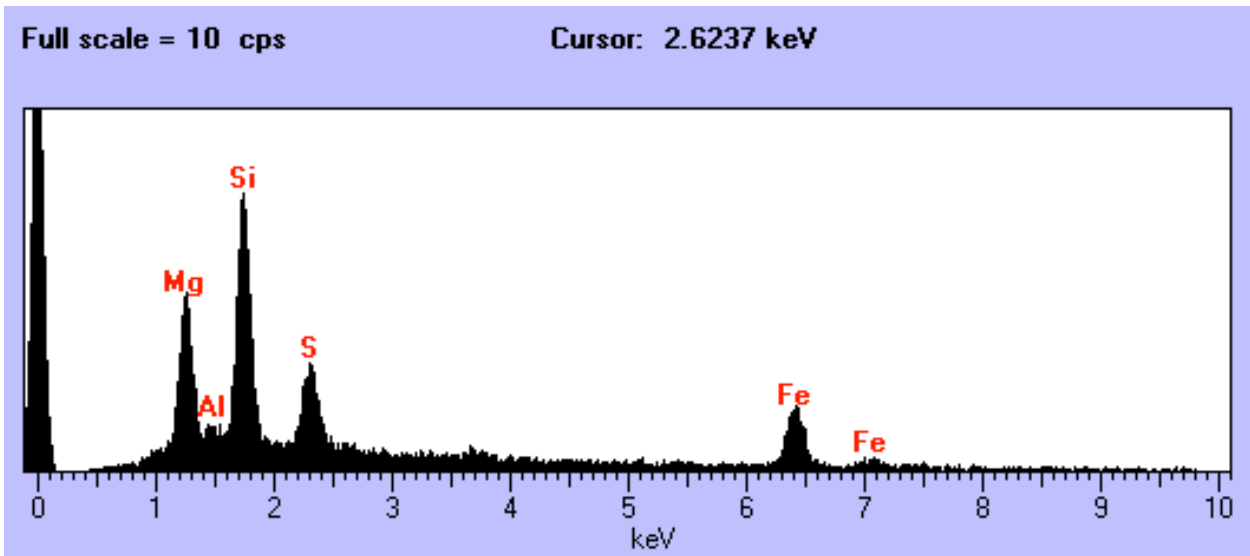
Size: 7 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull/Submetallic
Type: Cosmic
Comments:



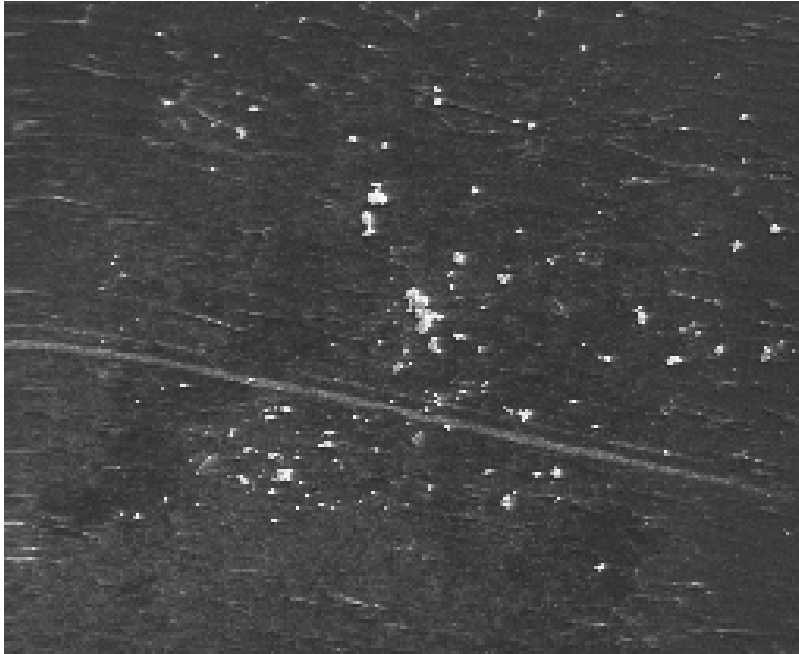
U2097 A19



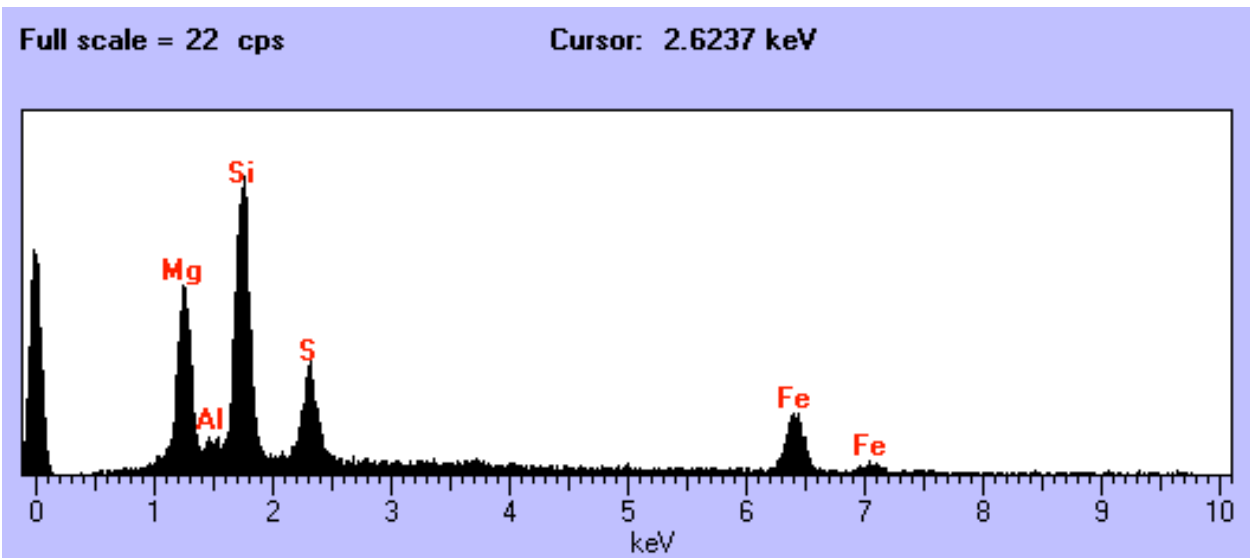
Size: 10 x 8 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull/Submetallic
Type: Cosmic
Comments:



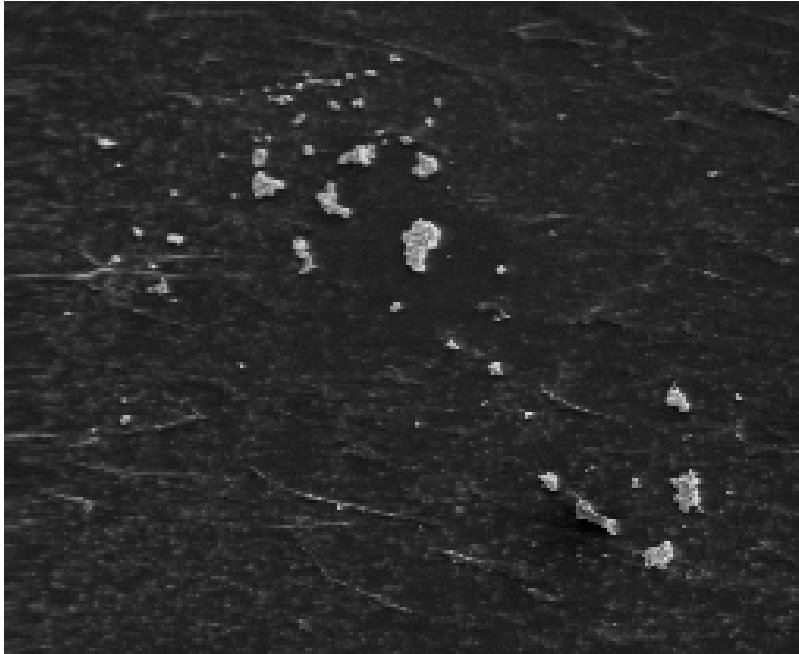
U2097 A17



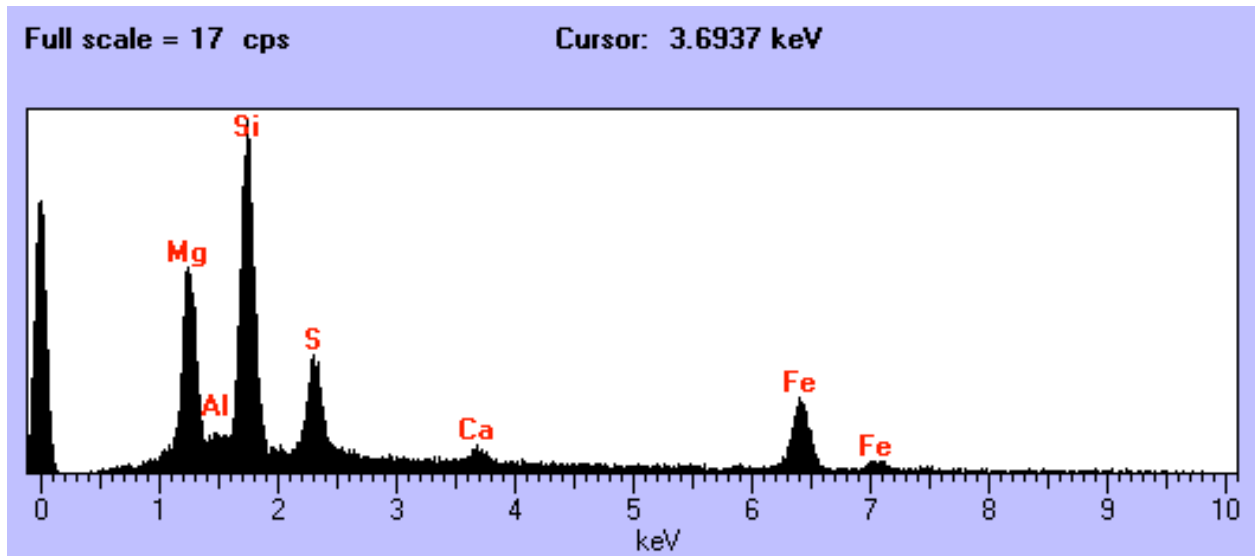
Size: up to 10 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull/Submetallic
Type: Cosmic
Comments: Field of grains



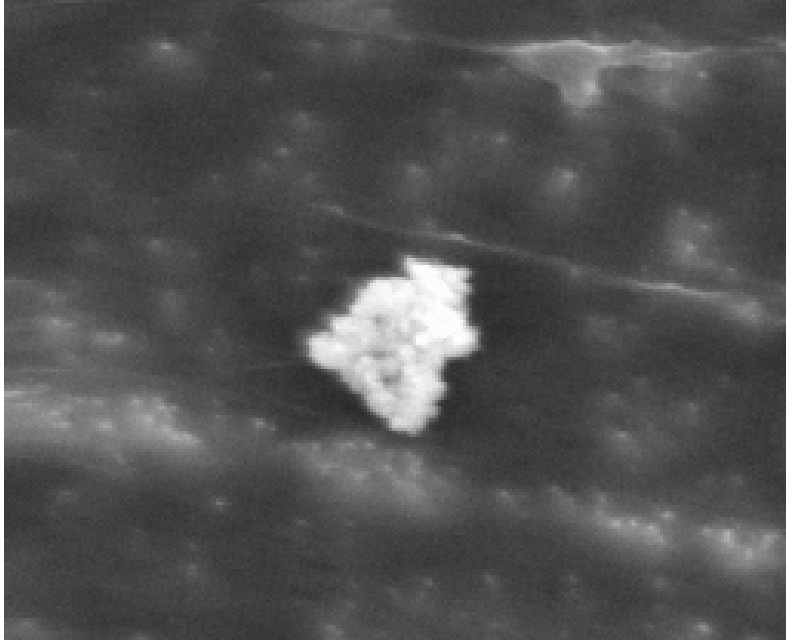
U2097 A18



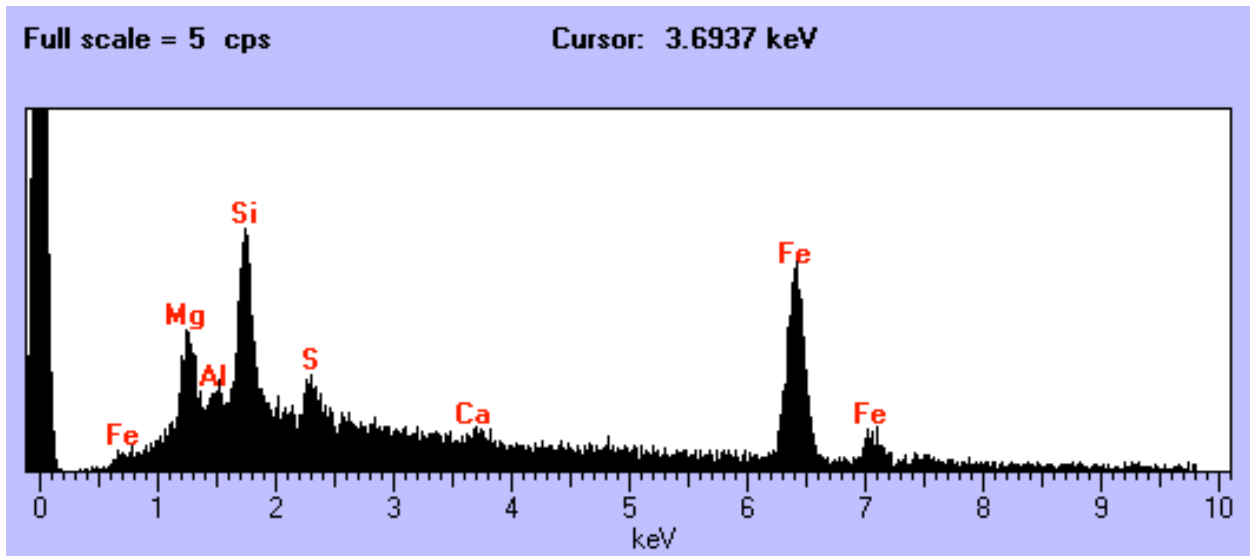
Size: up to 10 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull/Submetallic
Type: Cosmic
Comments: Field of grains



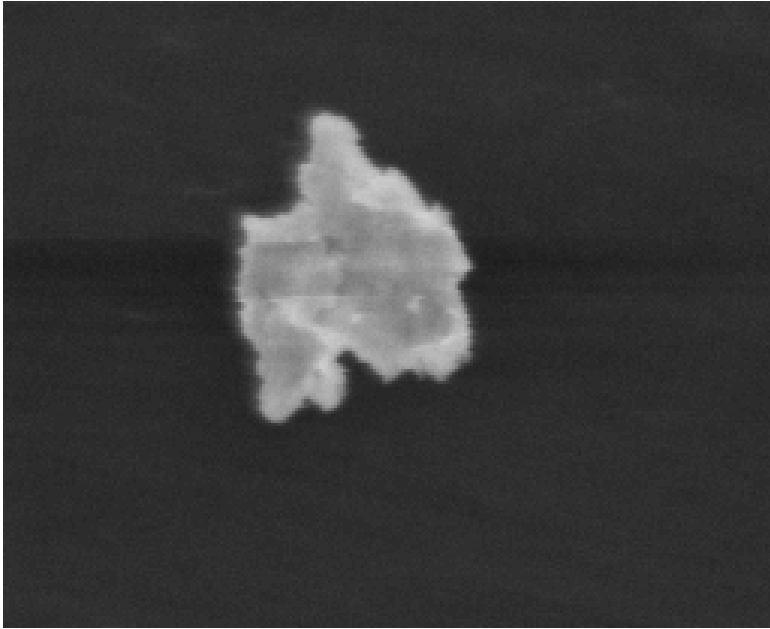
U2097 A15



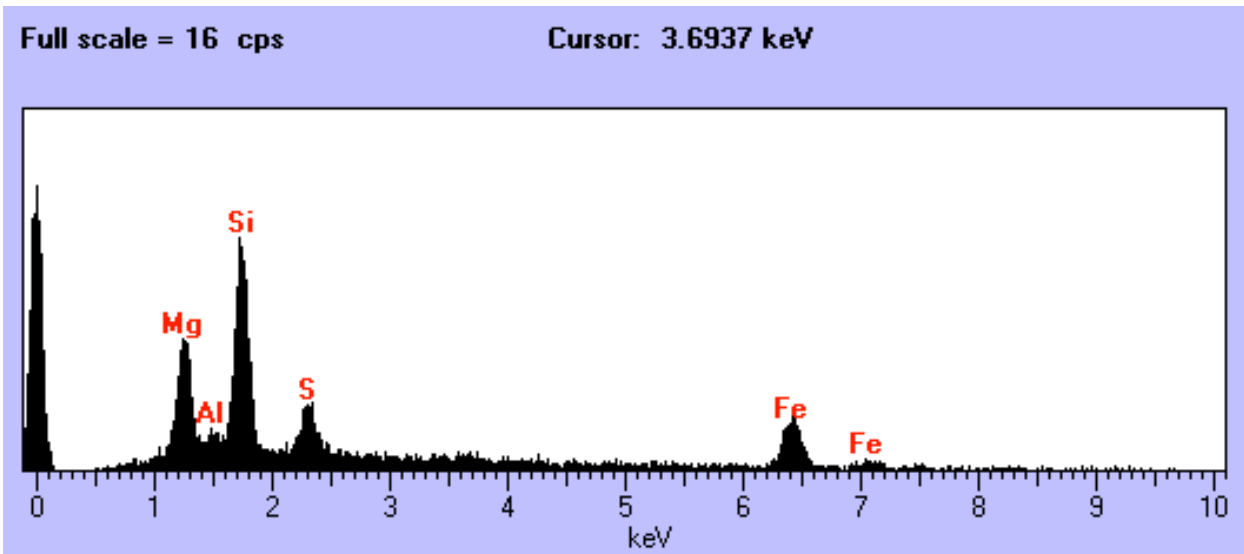
Size: 8 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Subvitreous
Type: Cosmic
Comments:



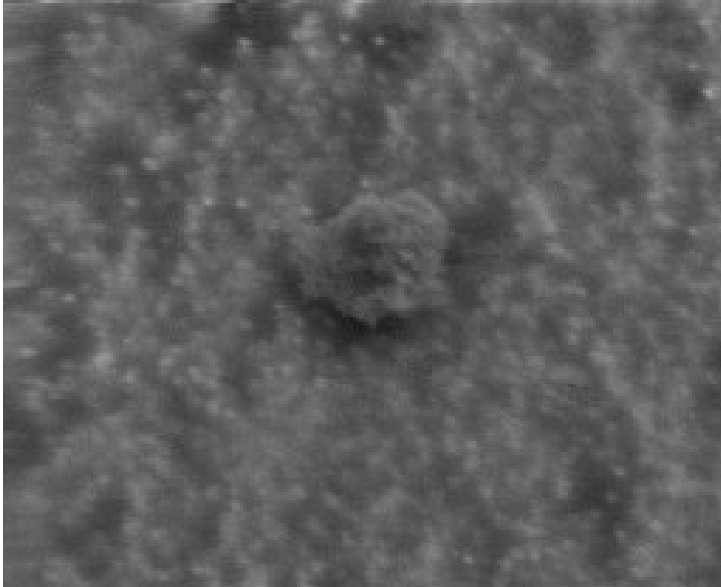
U2097 A16



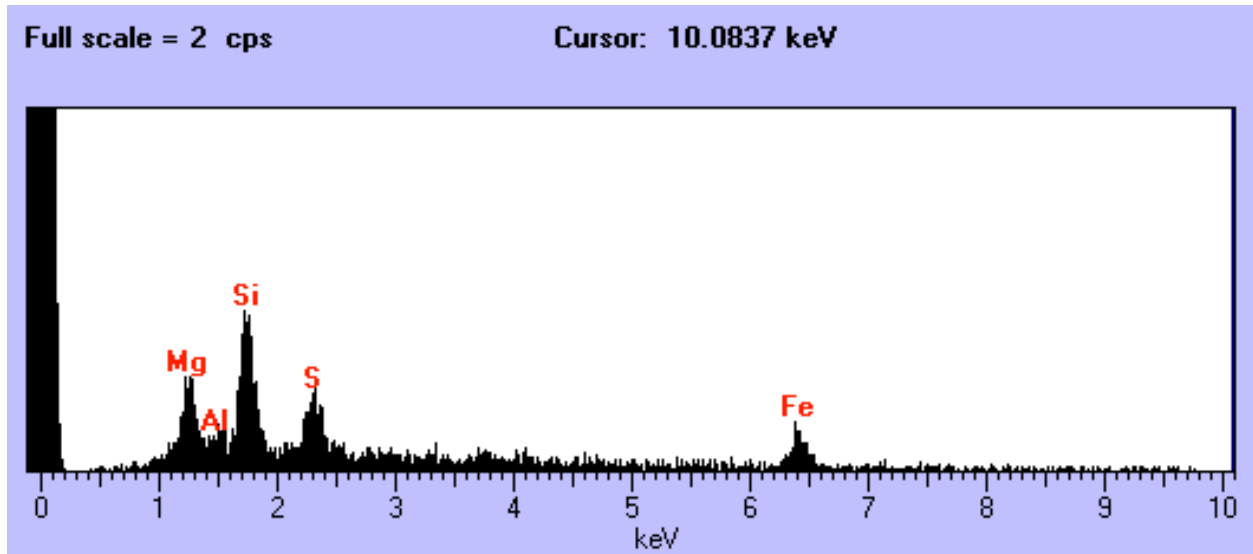
Size: 8 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull/Submetallic
Type: Cosmic
Comments:



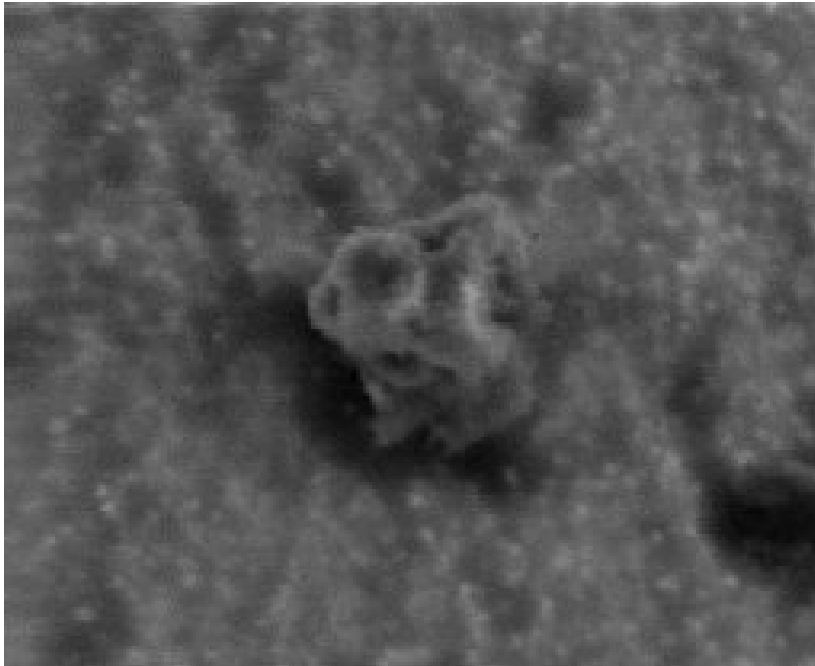
U2097 B1



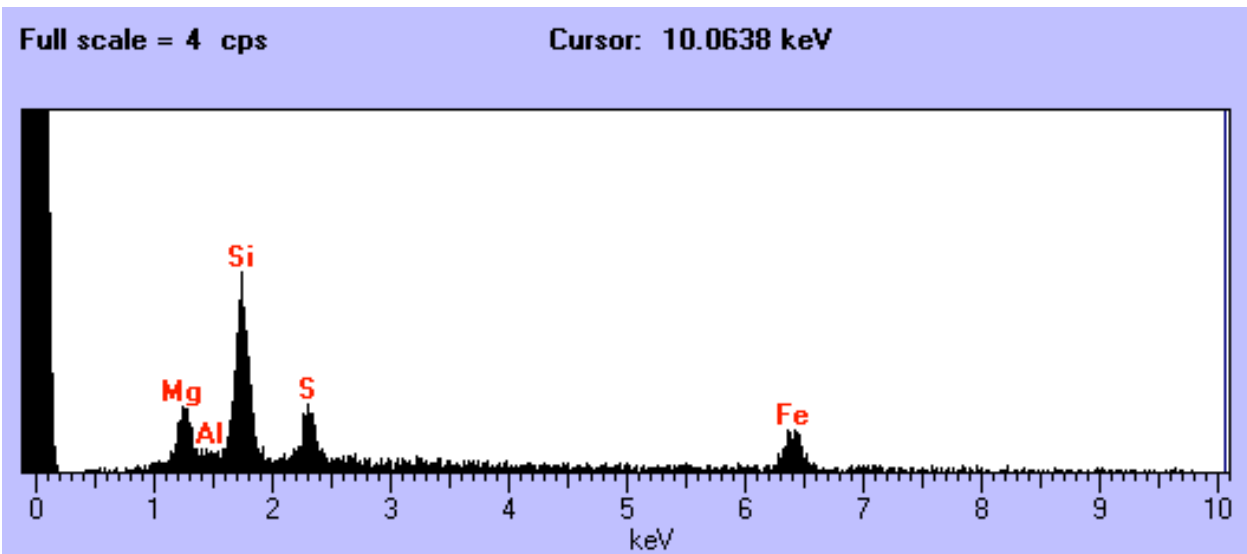
Size: 11 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull/Submetallic
Type: Cosmic
Comments:



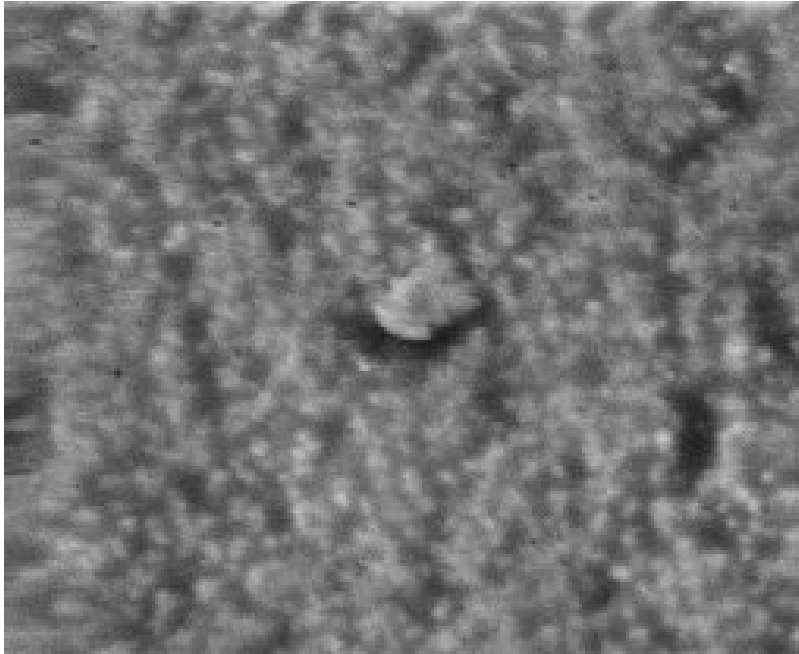
U2097 B15



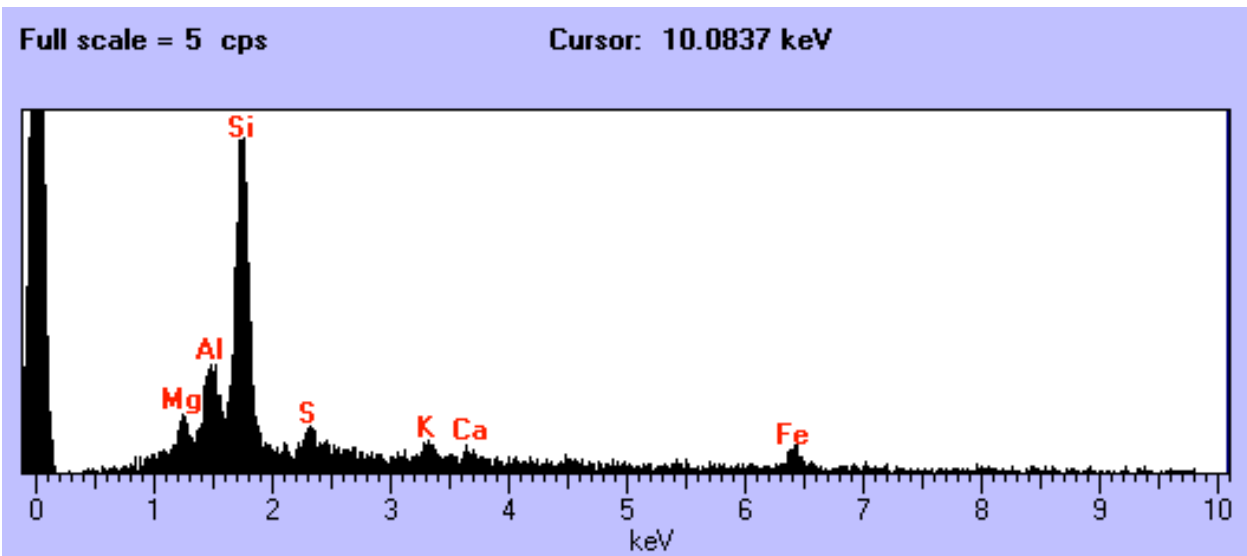
Size: 12 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull/Submetallic
Type: Cosmic
Comments:



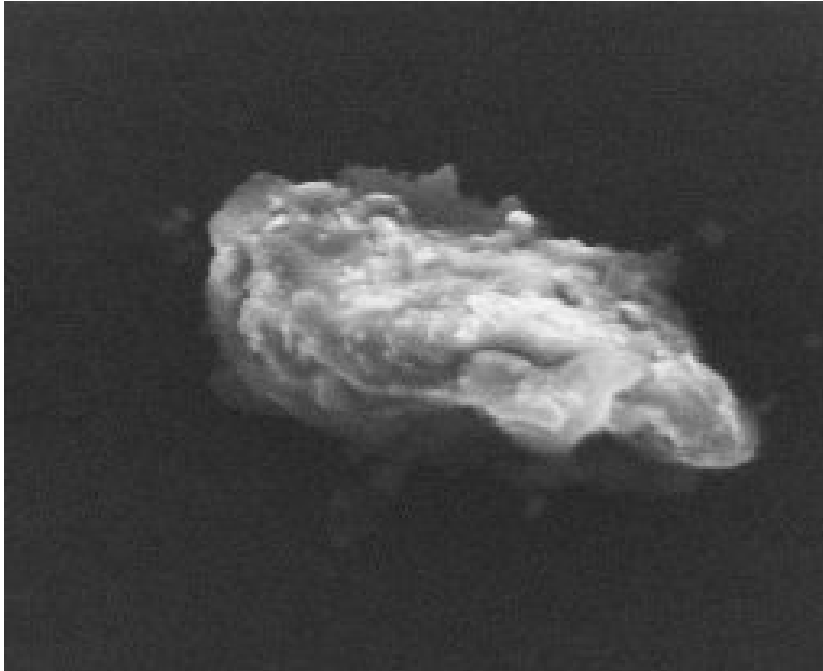
U2099 A2



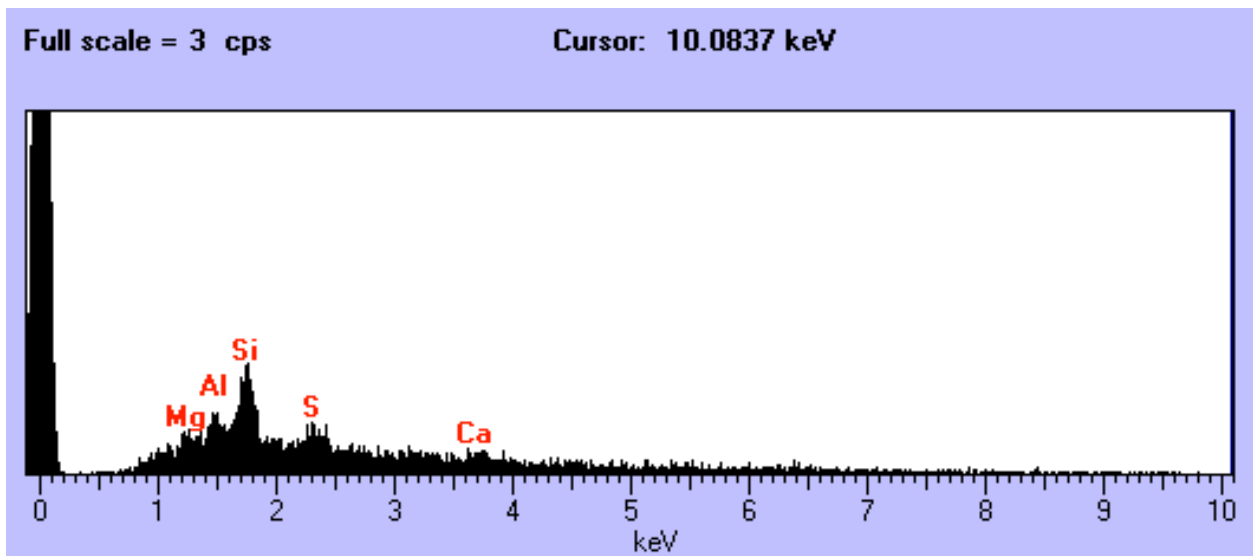
Size: 5 um
Shape: Irregular
Trans: Opaque
Color: White
Luster: Subvitreous
Type: Cosmic
Comments:



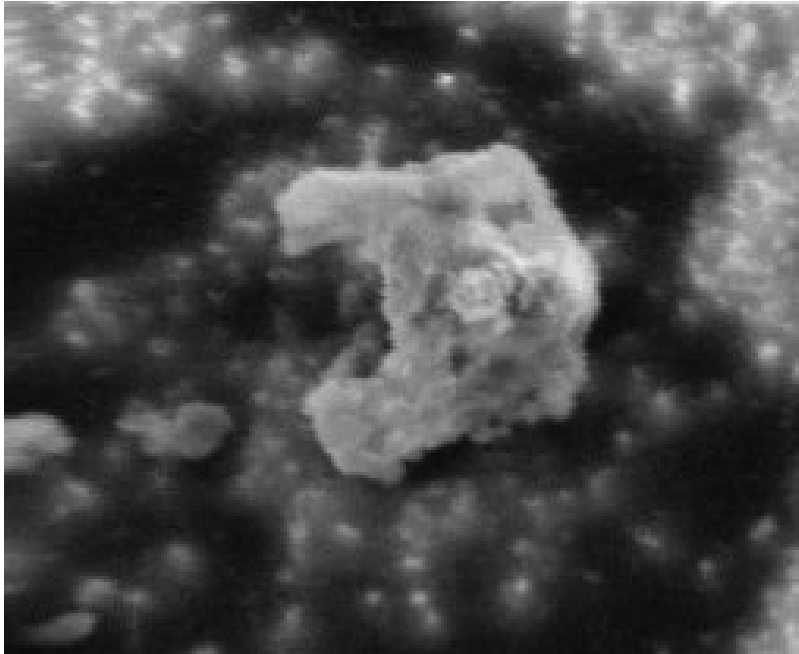
U2099 A4



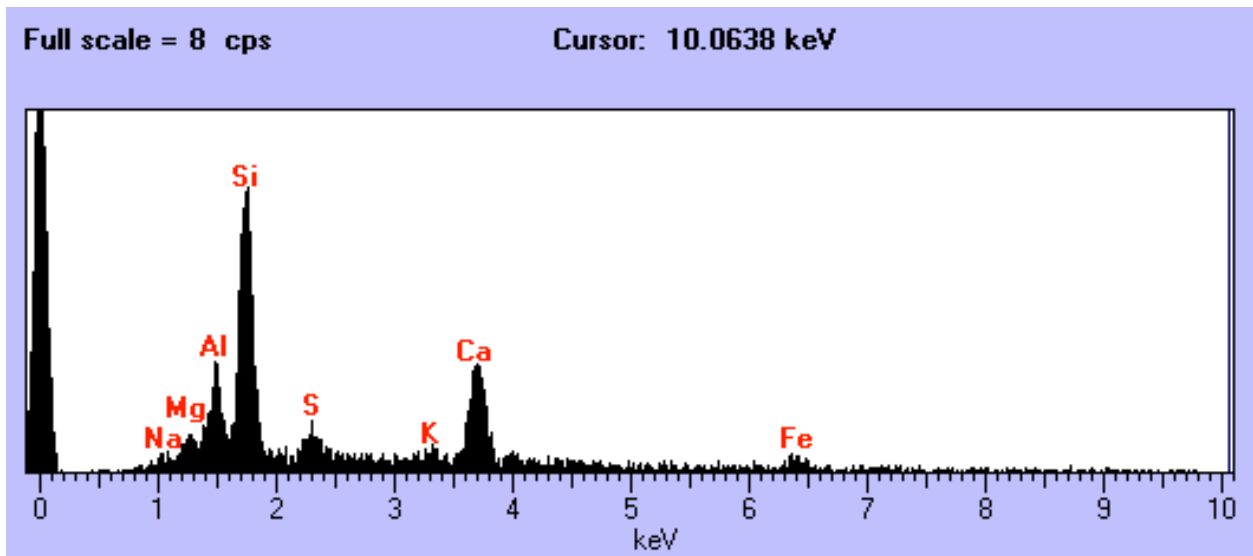
Size: 52 x 30 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: Cosmic
Comments:



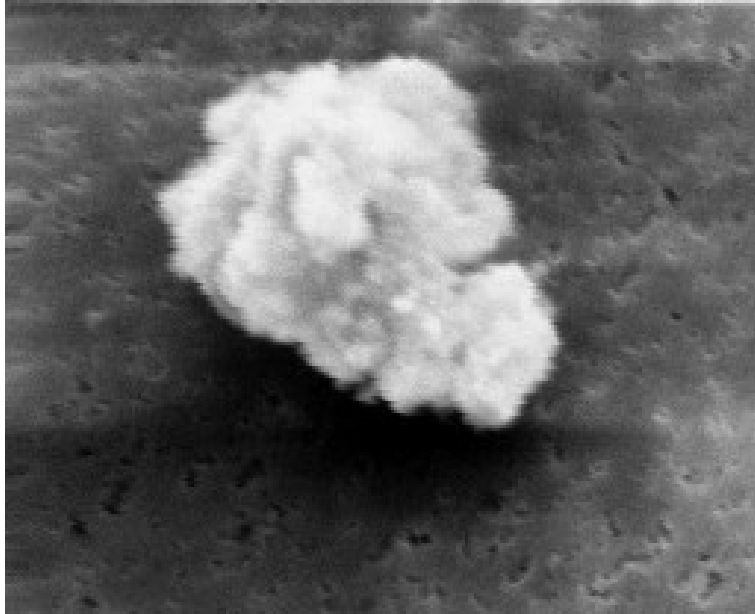
U2100 A19



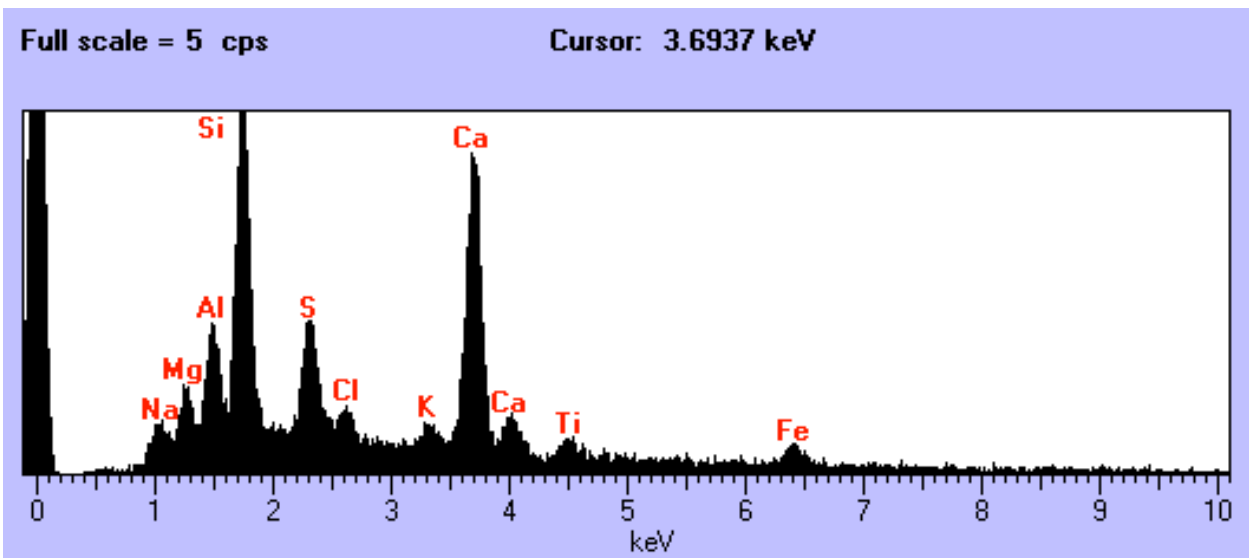
Size: 20 x 18 um
Shape: Irregular
Trans: Opaque
Color: White
Luster: Subvitreous
Type: Cosmic?
Comments:



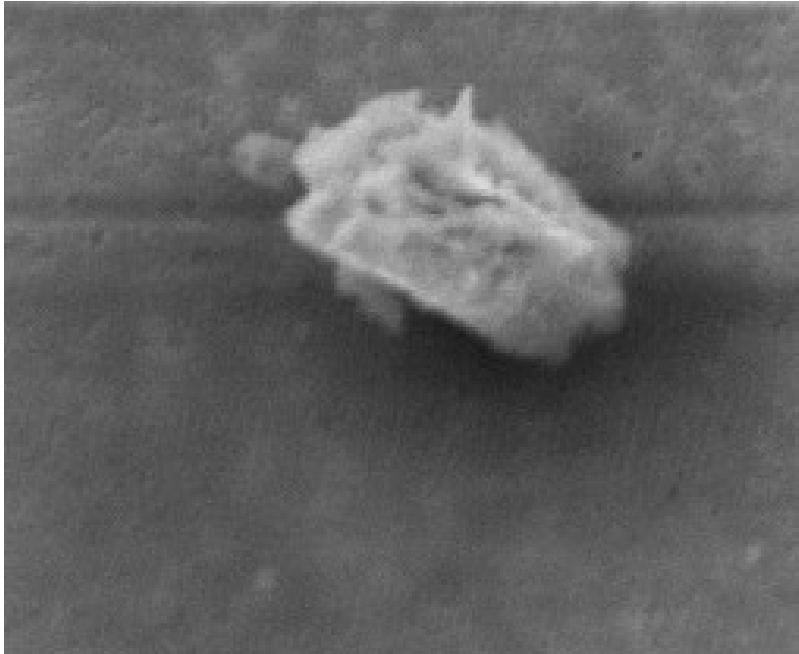
W7190 A1



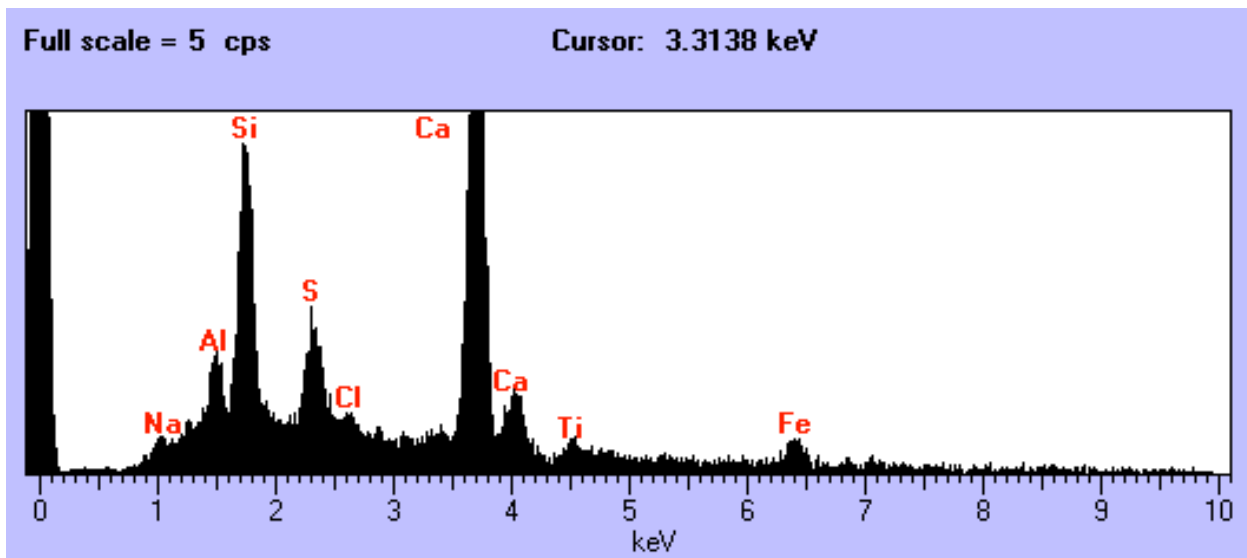
Size: 17 x 13 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: Cosmic
Comments:



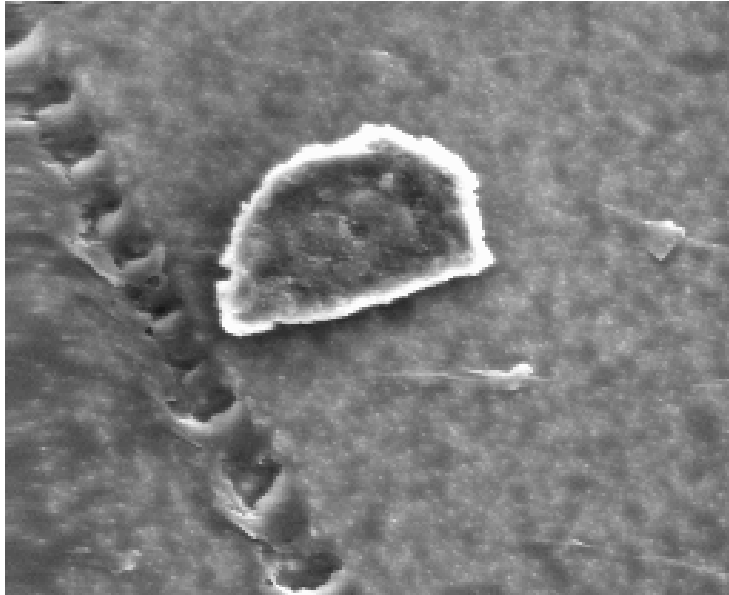
W7190 A2



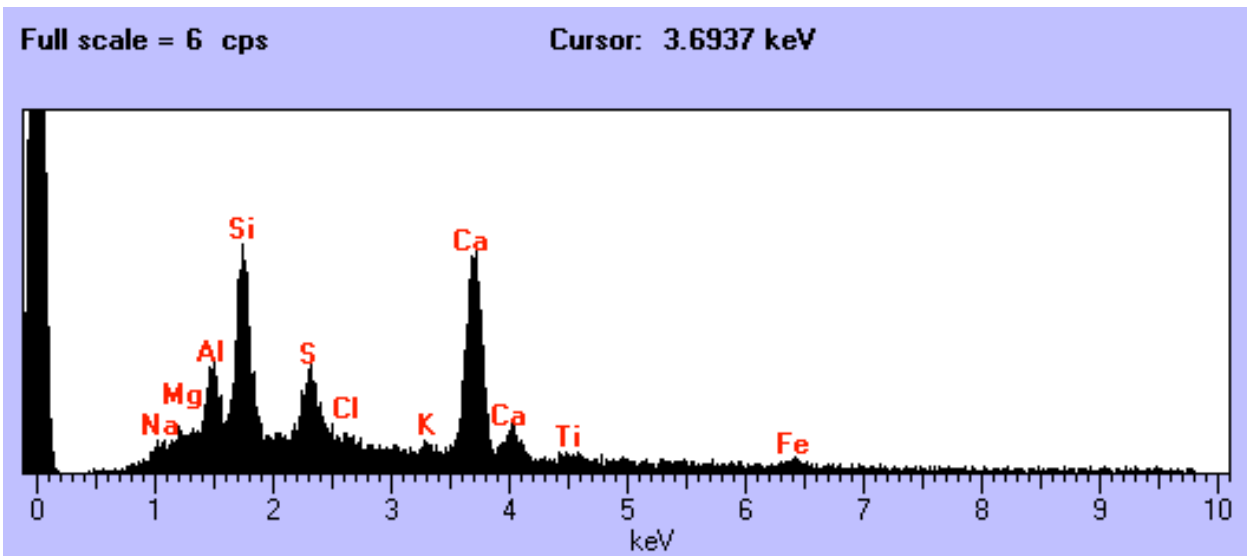
Size: 15 um
Shape: Irregular
Trans: Translucent
Color: White/Black
Luster: Dull/Subvitreous
Type: Cosmic
Comments:



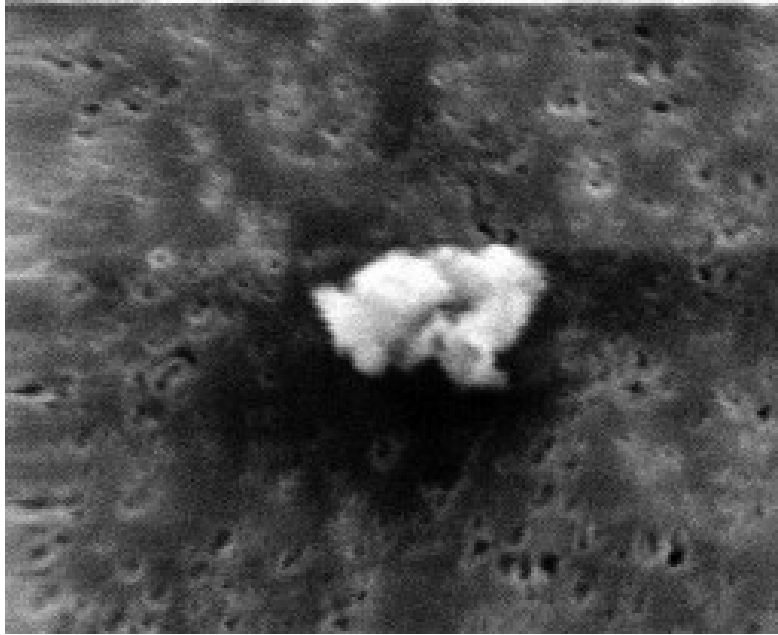
W7190 A3



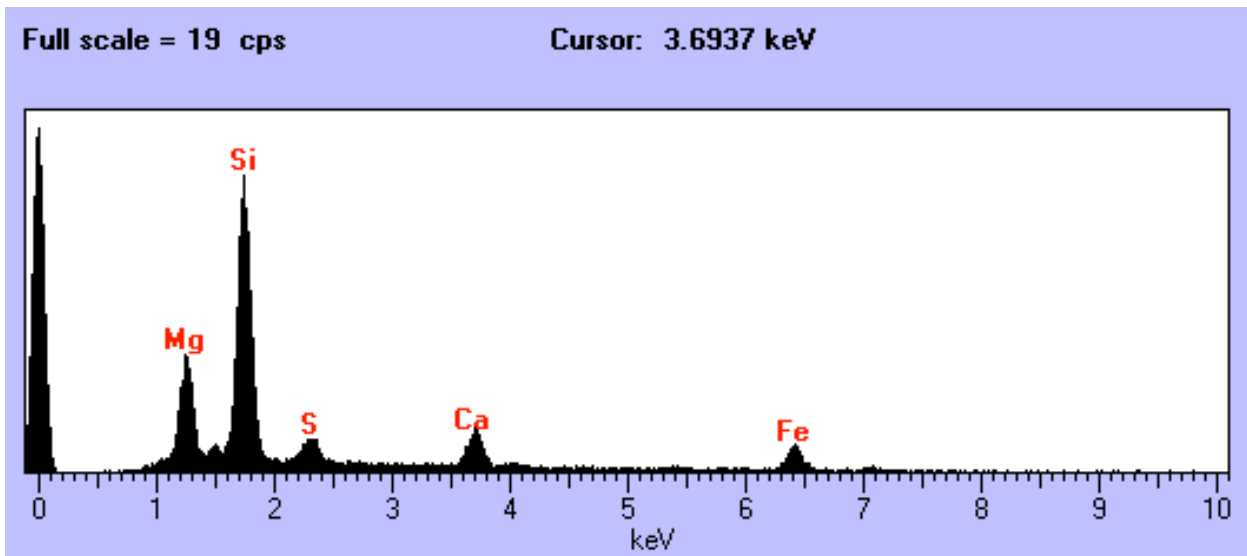
Size: 8 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: Cosmic
Comments:



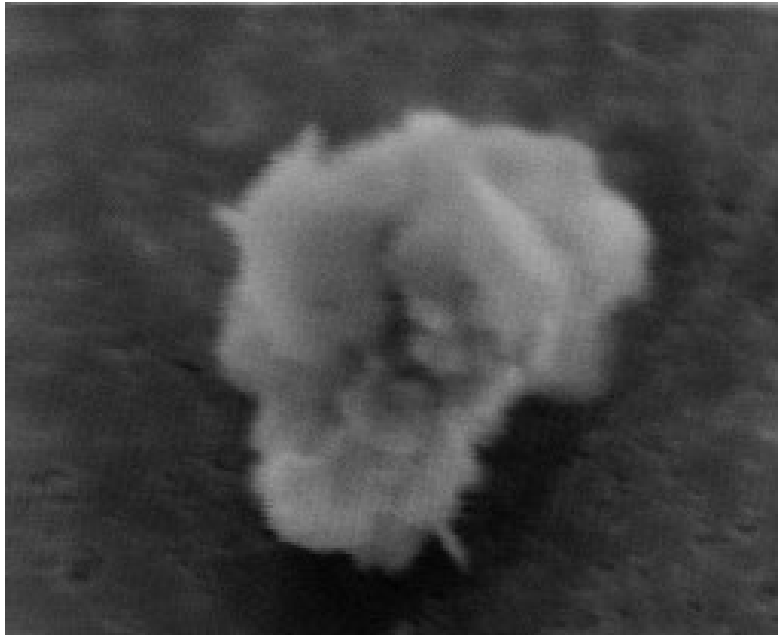
W7190 A4



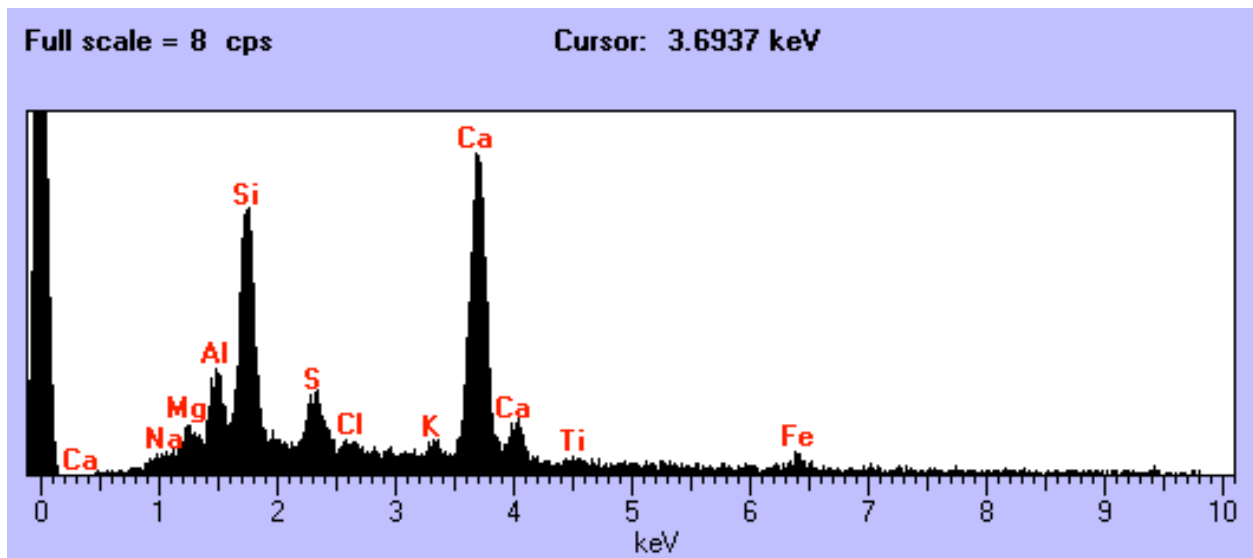
Size: 7 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: Cosmic
Comments:



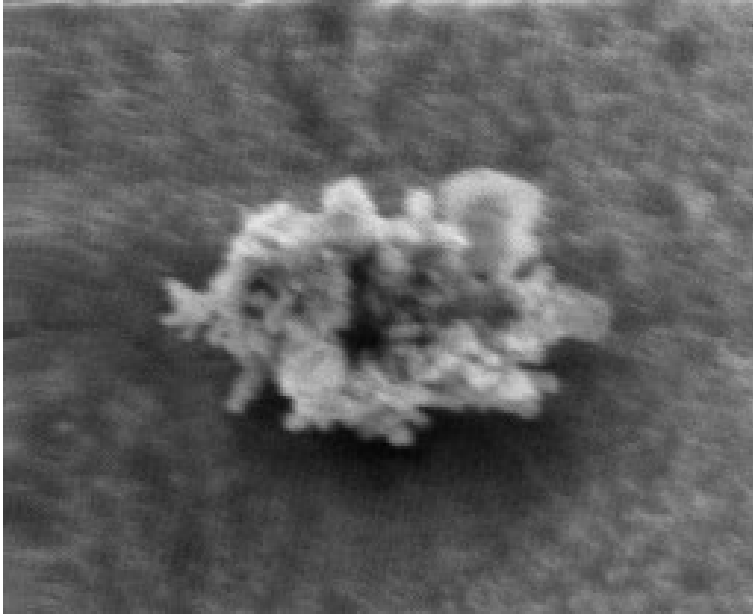
W7190 A6



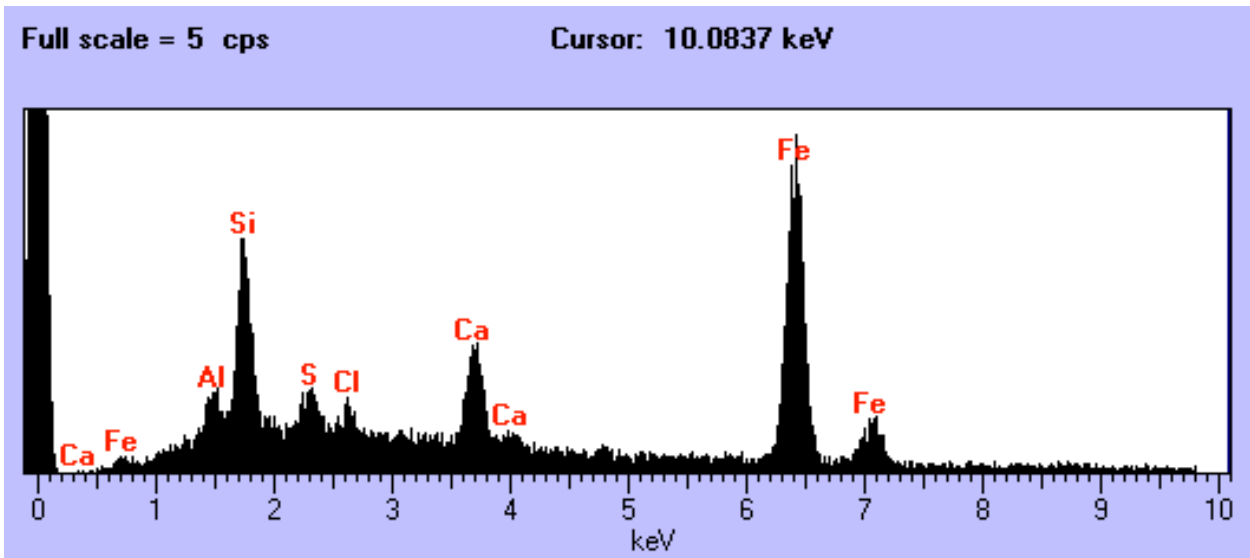
Size: 15 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: Cosmic?
Comments:



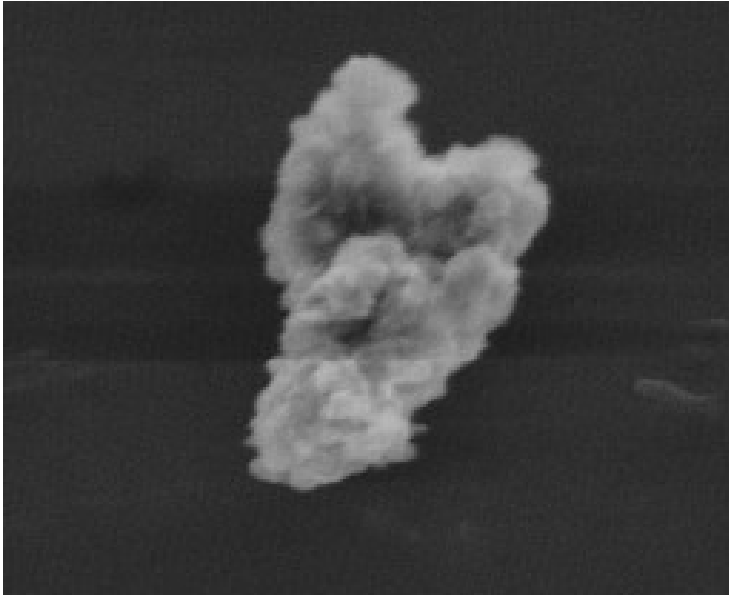
W7190 B14



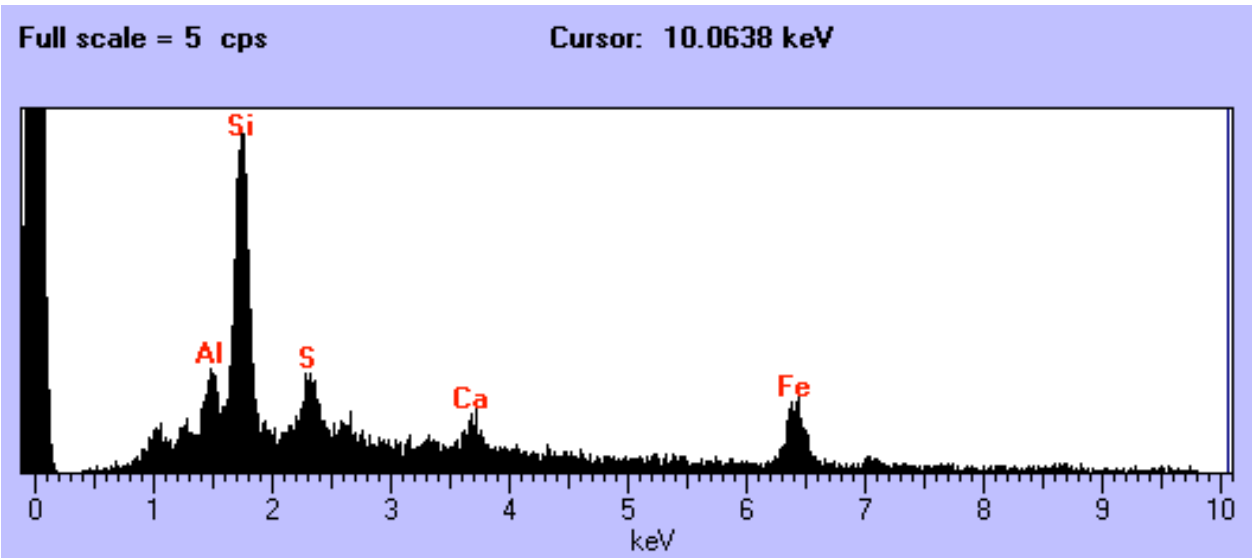
Size: 28 x 18 um
Shape: Irregular
Trans: Translucent
Color: Orange
Luster: Subvitreous
Type: Cosmic?
Comments:



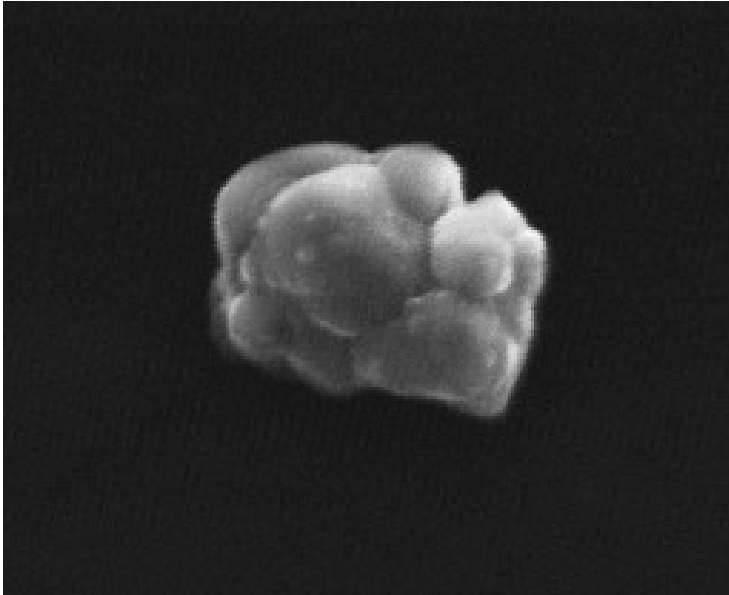
W7190 C23



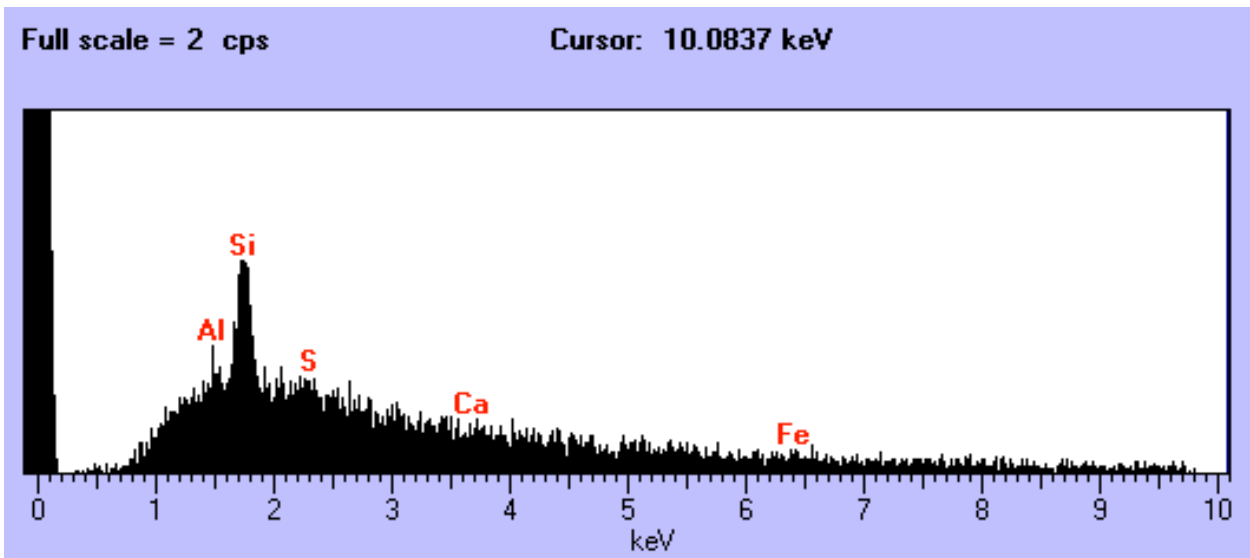
Size: 15 x 12 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: Cosmic
Comments:



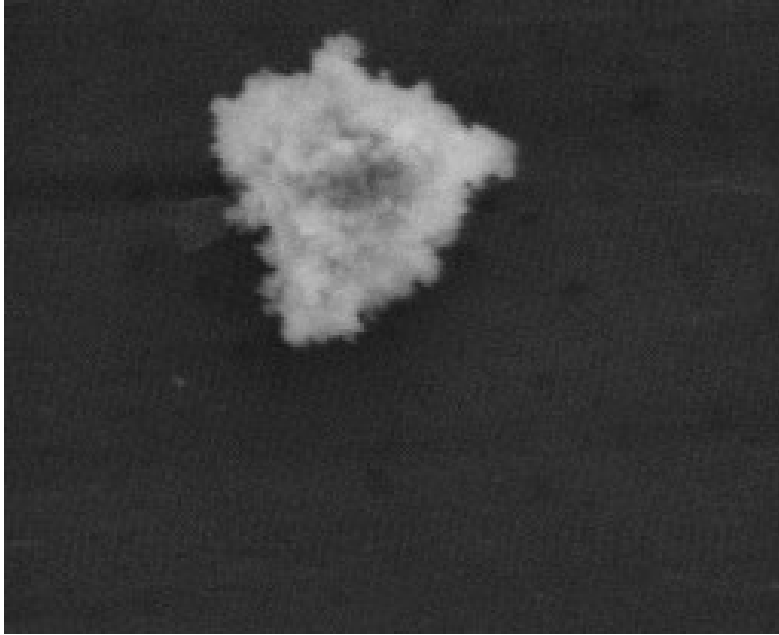
W7190 C24



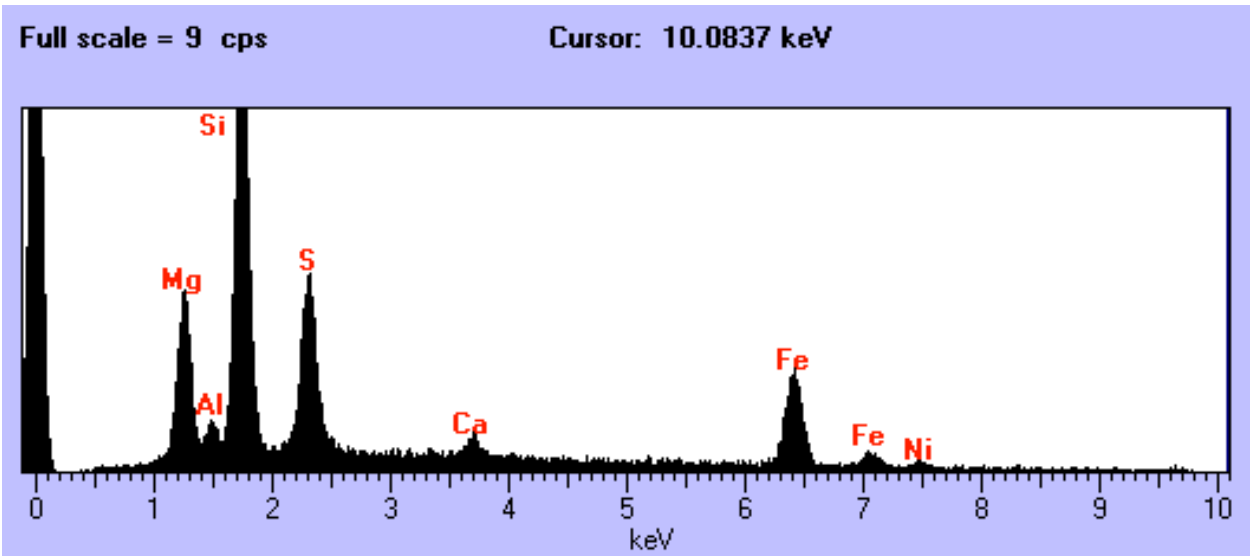
Size: 15 x 15 um
Shape: Equant
Trans: Opaque
Color: Black
Luster: Dull
Type: Cosmic?
Comments:



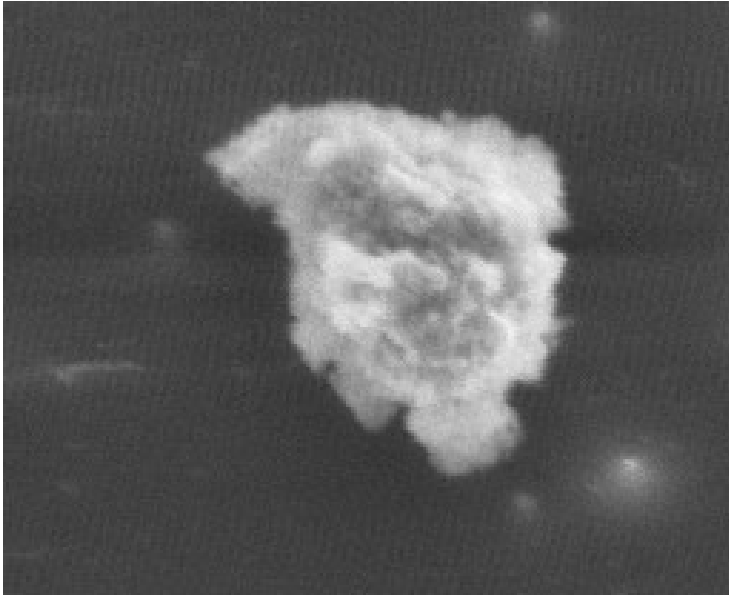
W7190 C28



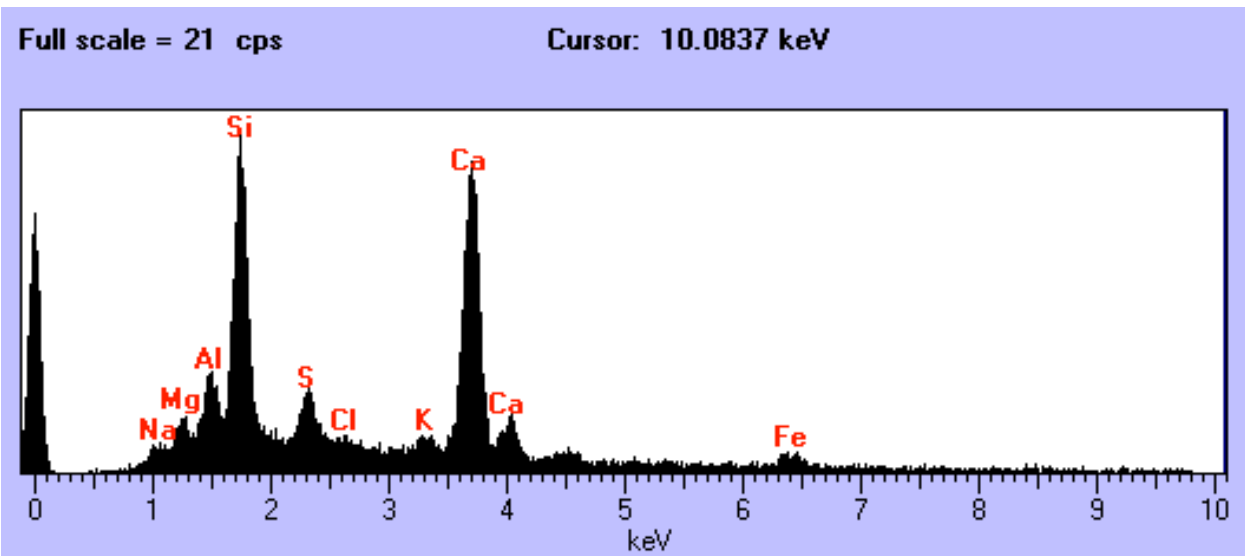
Size: 12 x 10 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: Cosmic
Comments:



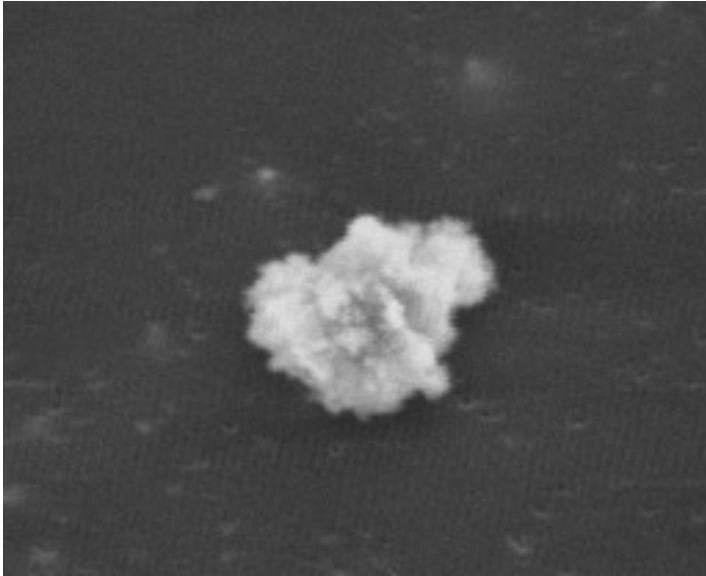
W7190 D2



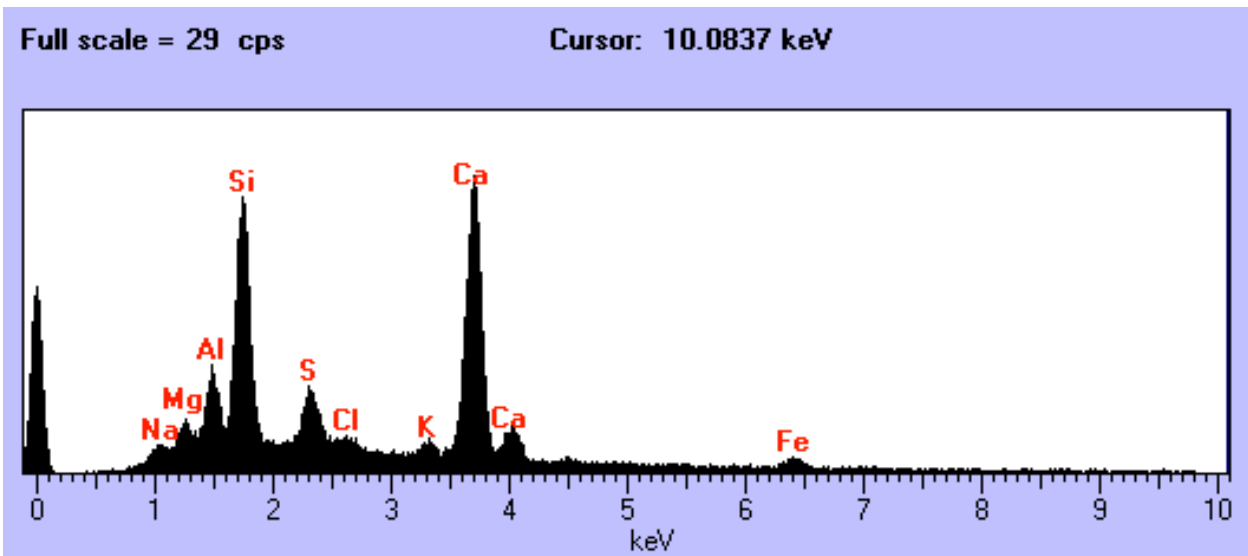
Size: 27 x 12 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: Cosmic
Comments:



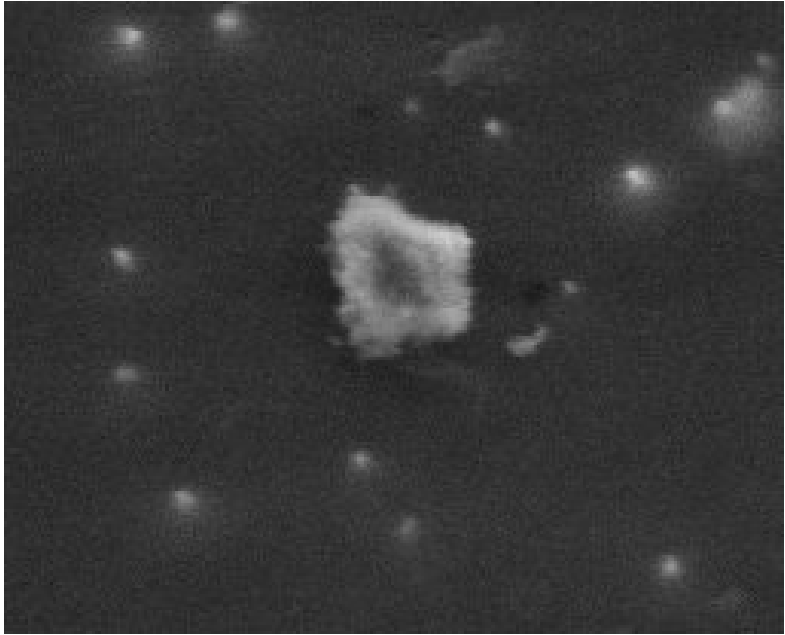
W7190 D3



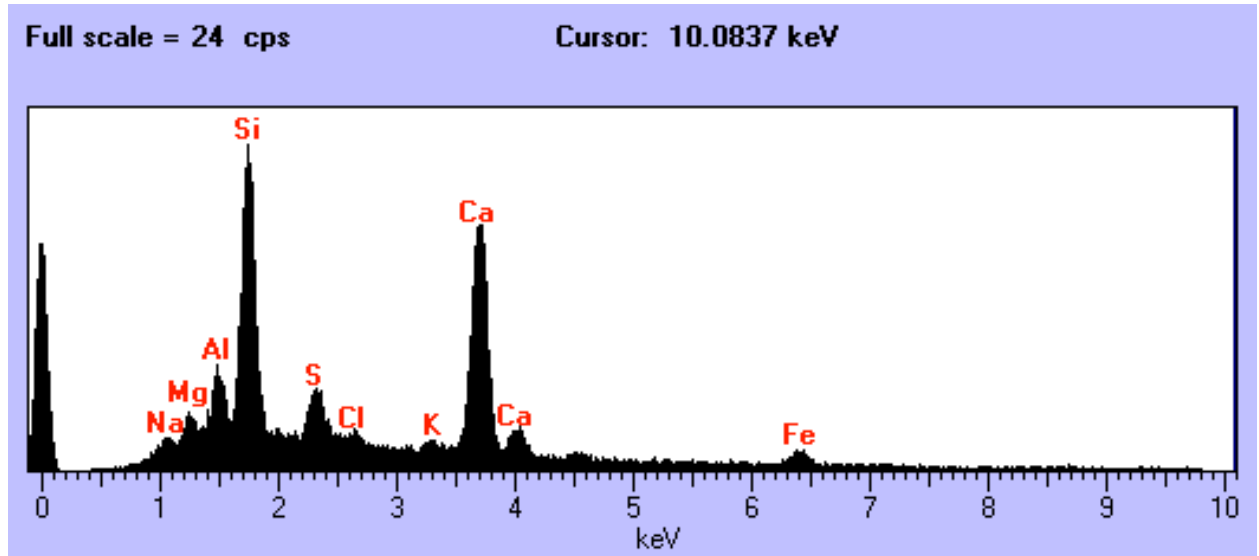
Size: 10 x 8 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: Cosmic
Comments:



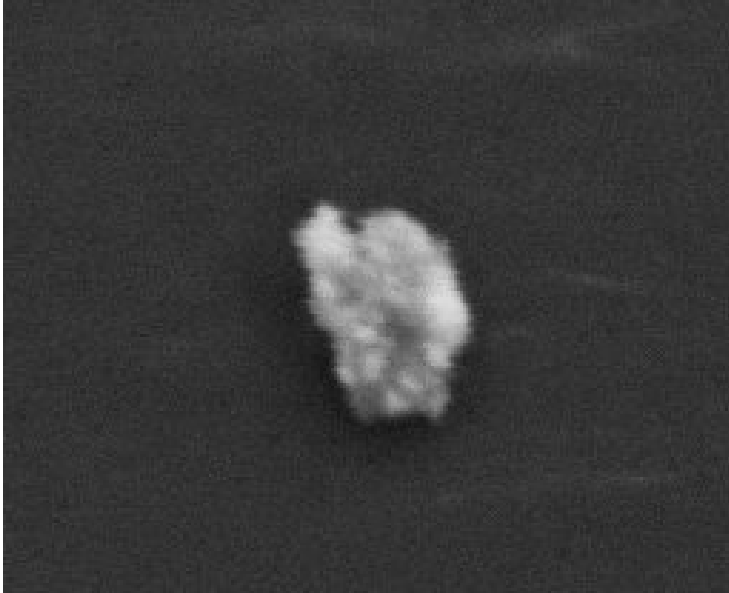
W7190 D4



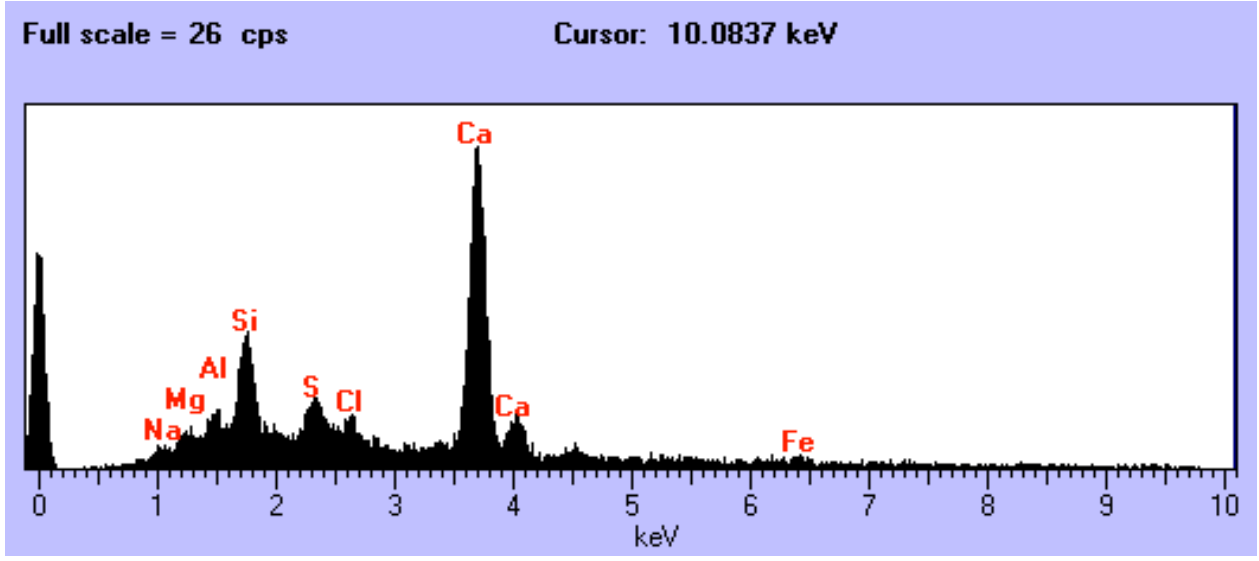
Size: 6 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: Cosmic
Comments:



W7190 D6



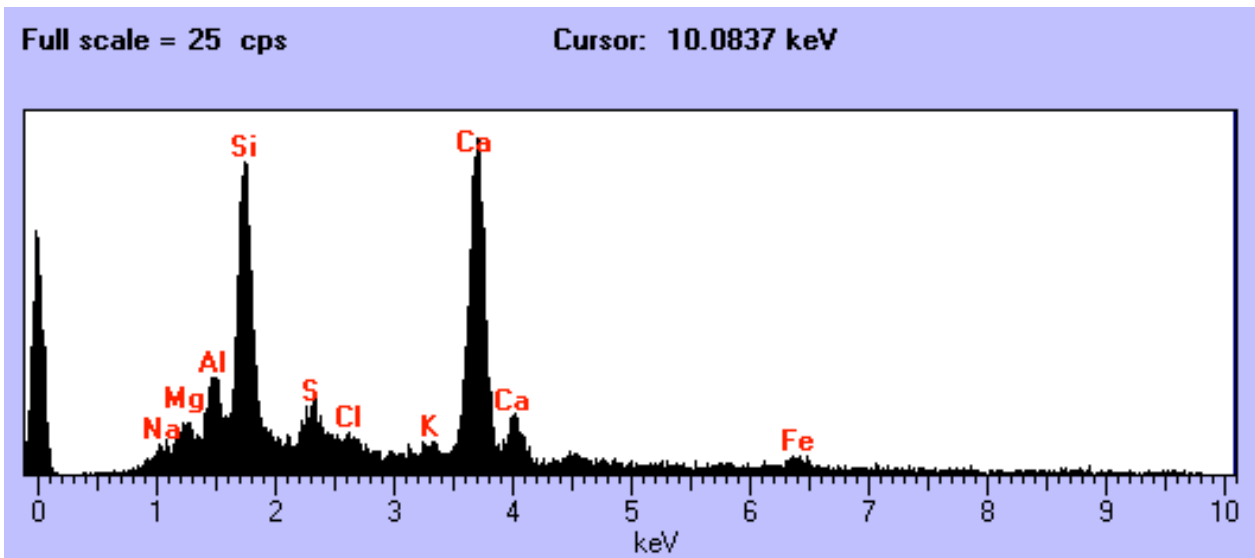
Size: 16 x 13 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: Cosmic
Comments:



W7190 D7



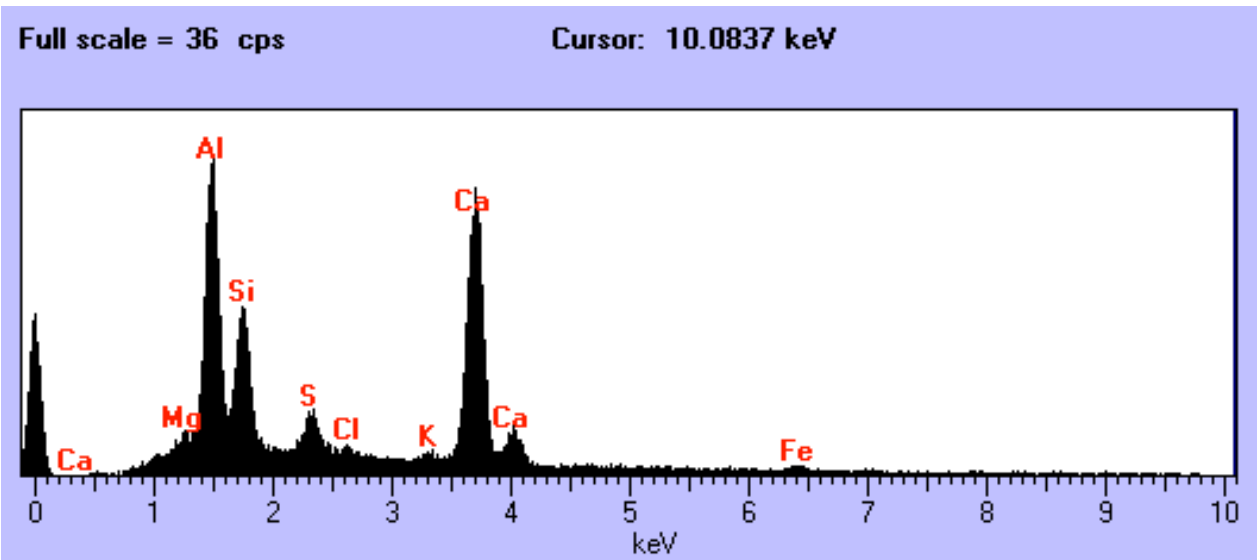
Size: 8 x 6 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: Cosmic
Comments:



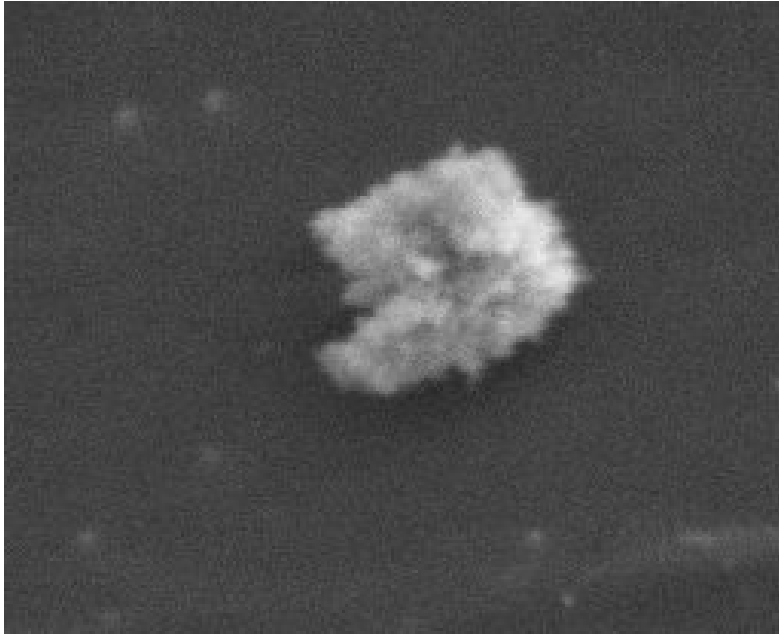
W7190 D8



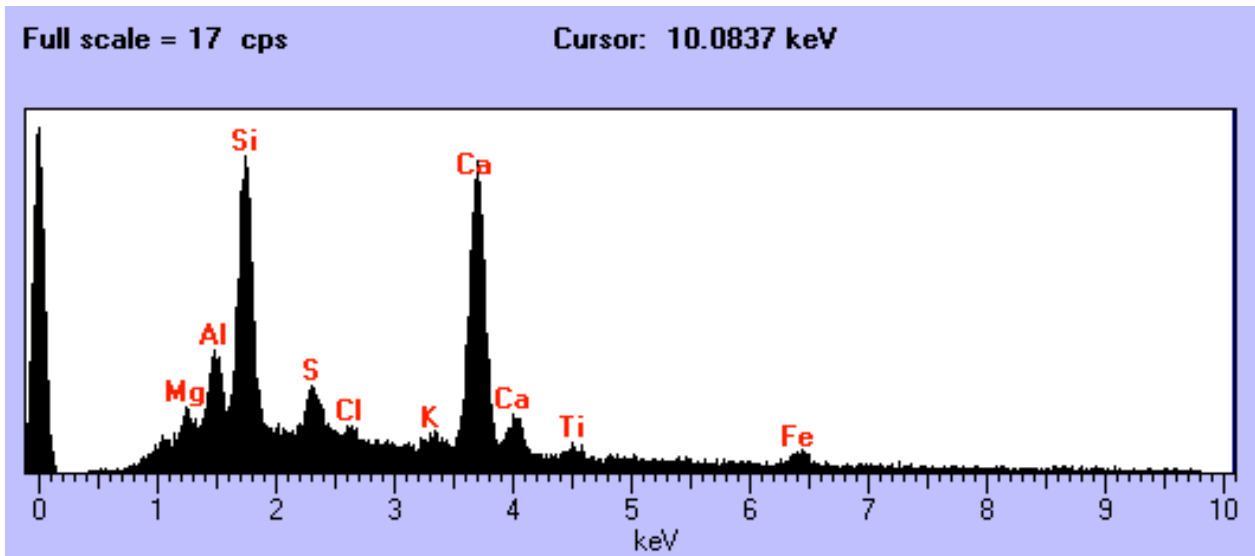
Size: 10 x 10 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: Cosmic
Comments:



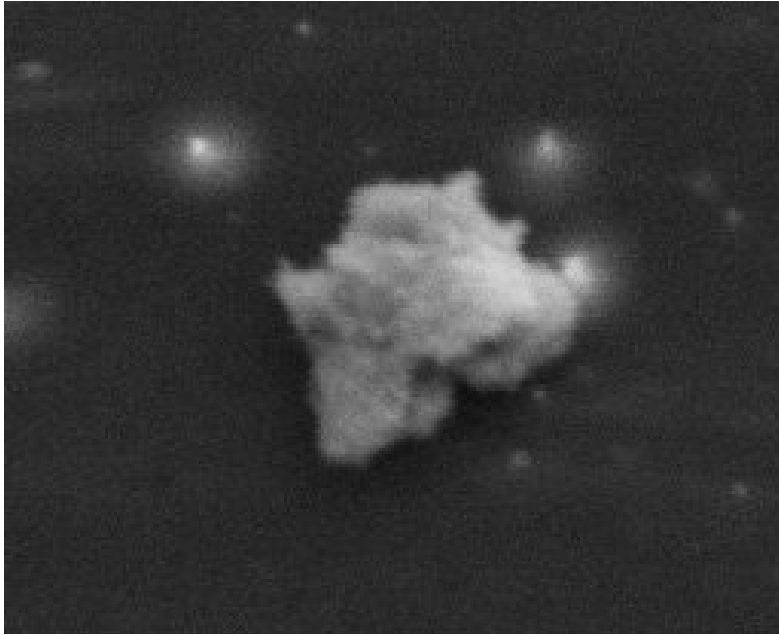
W7190 D9



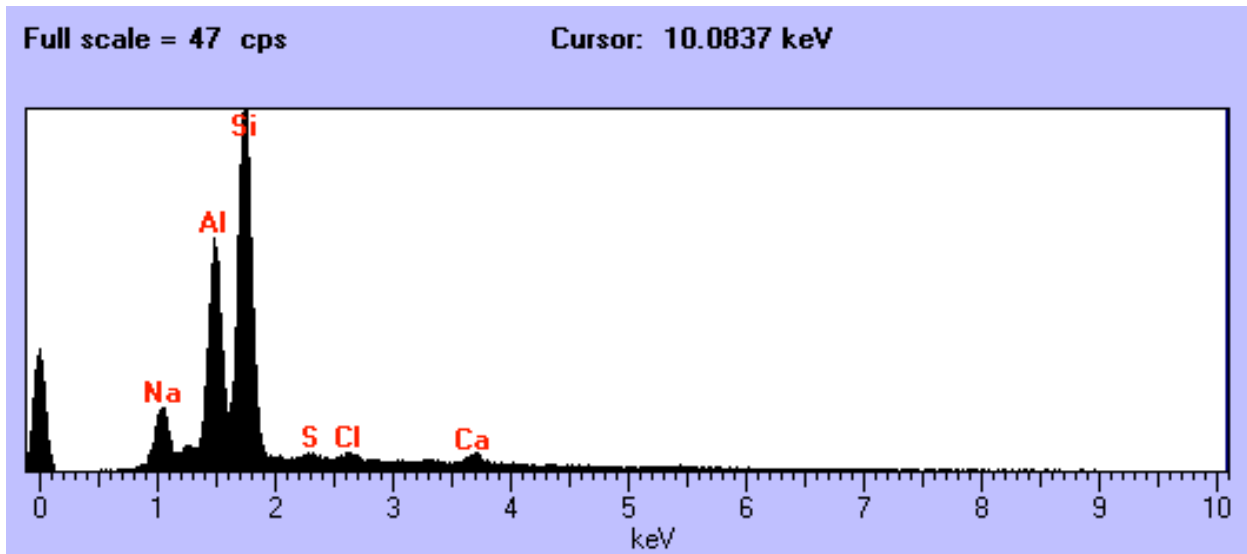
Size: 15 x 11 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: Cosmic
Comments:



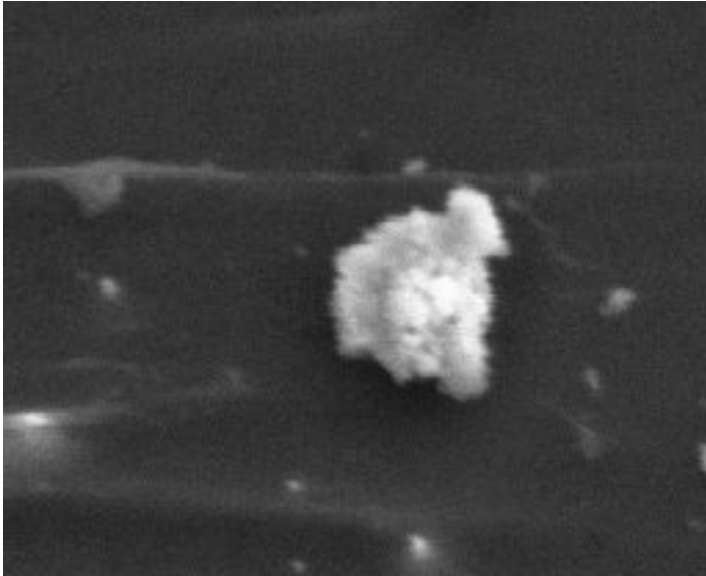
W7190 D11



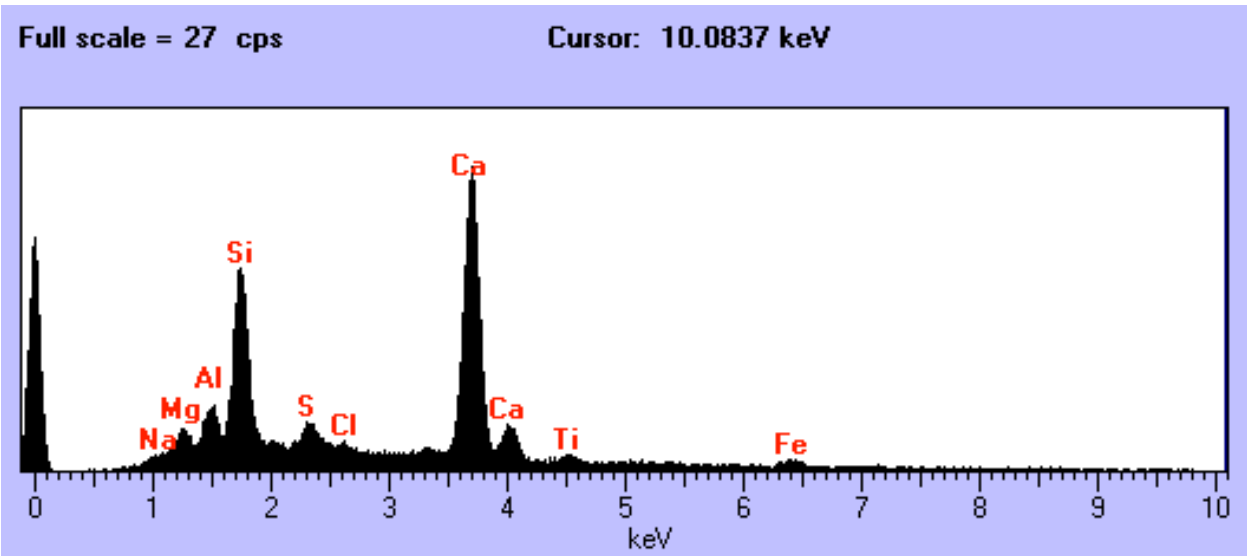
Size: 13 x 11 μm
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: Cosmic
Comments:



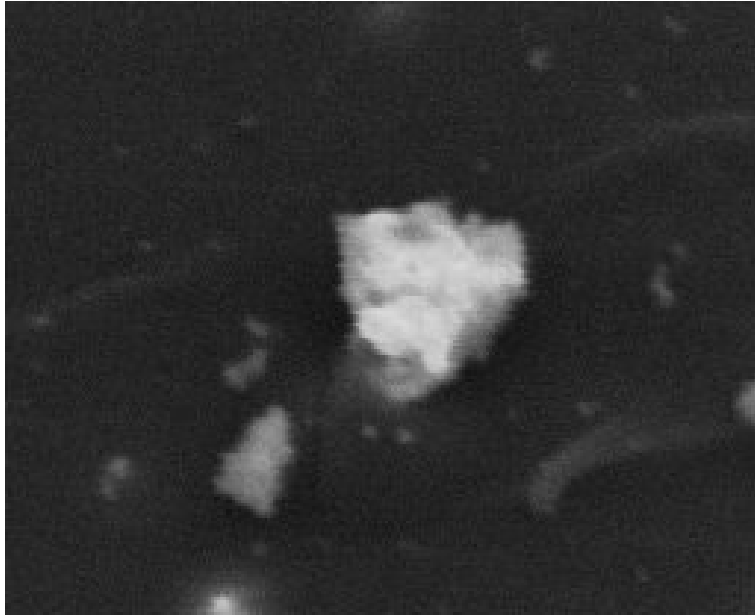
W7190 D12



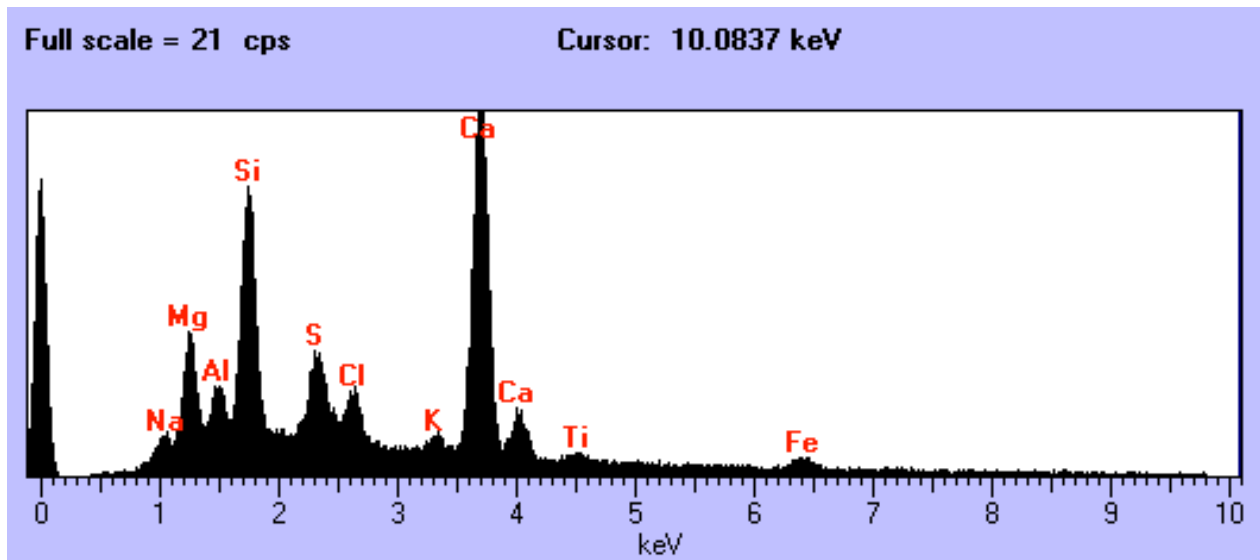
Size: 10 x 9 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: Cosmic
Comments:



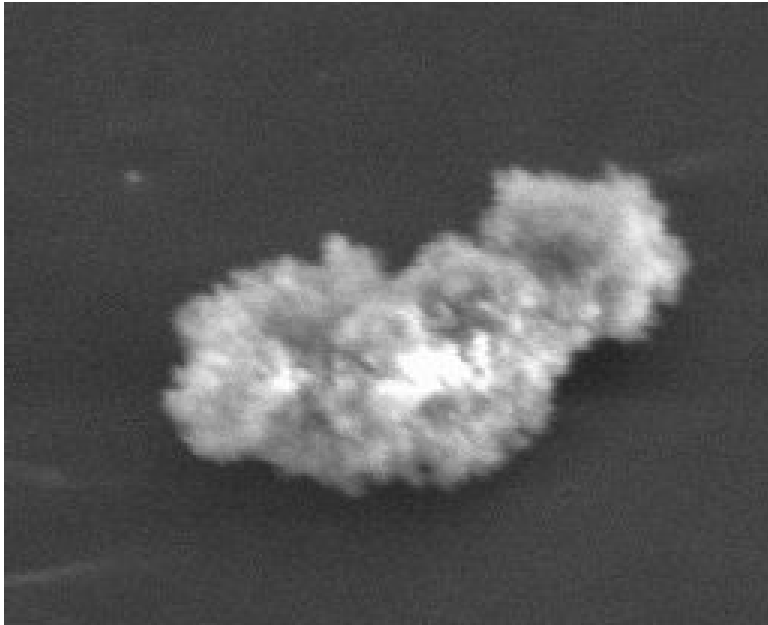
W7190 D13



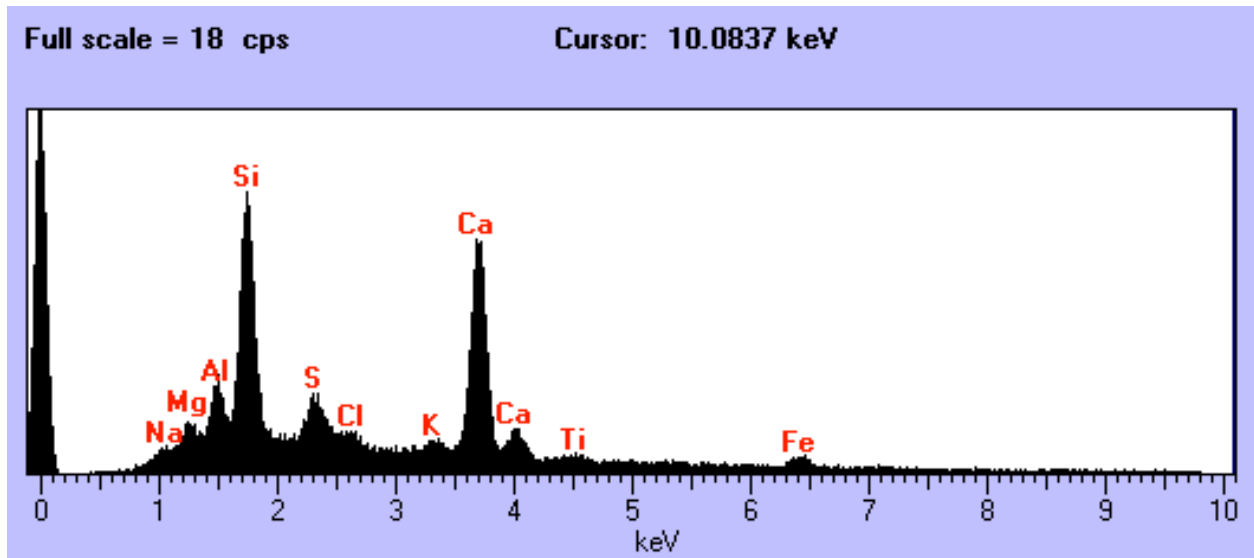
Size: 12 x 10 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: Cosmic
Comments:



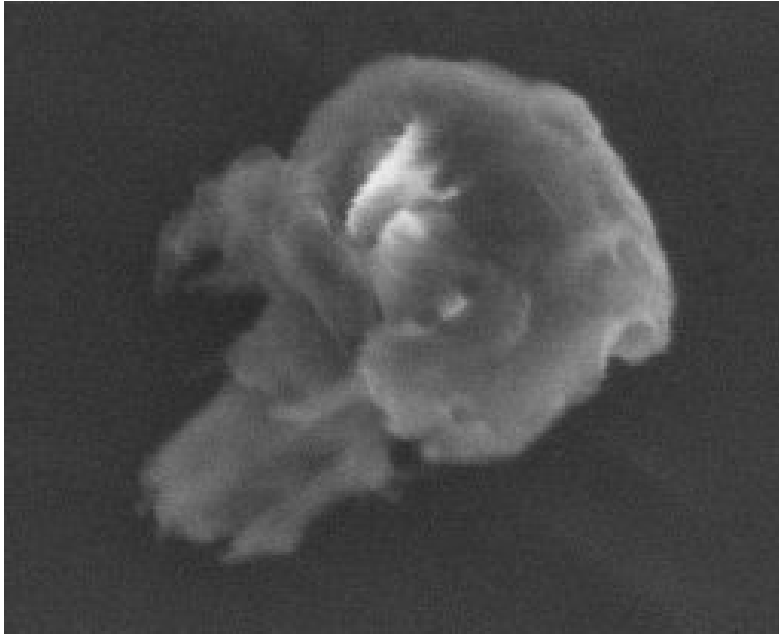
W7190 D14



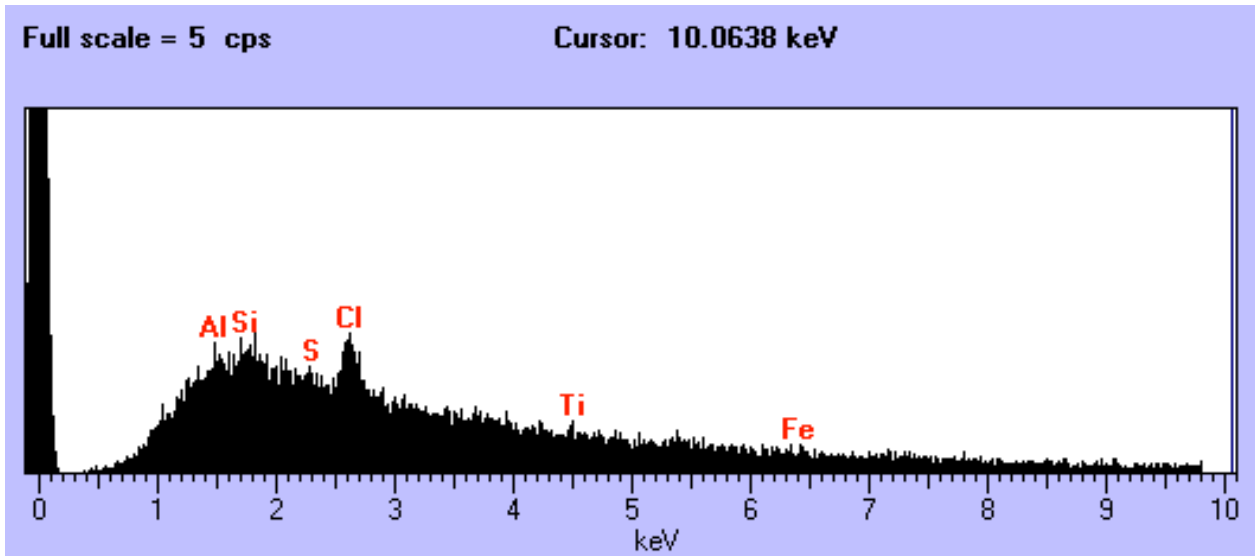
Size: 25 x 15 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: Cosmic
Comments:



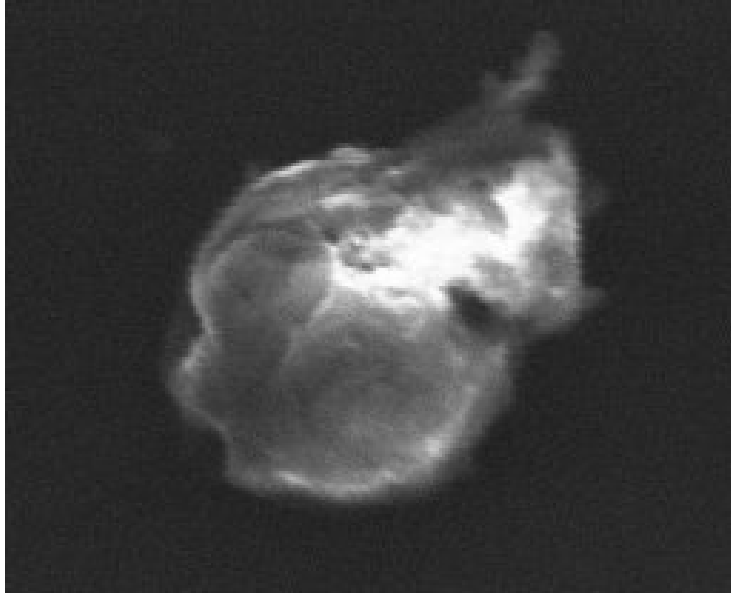
W7190 D15



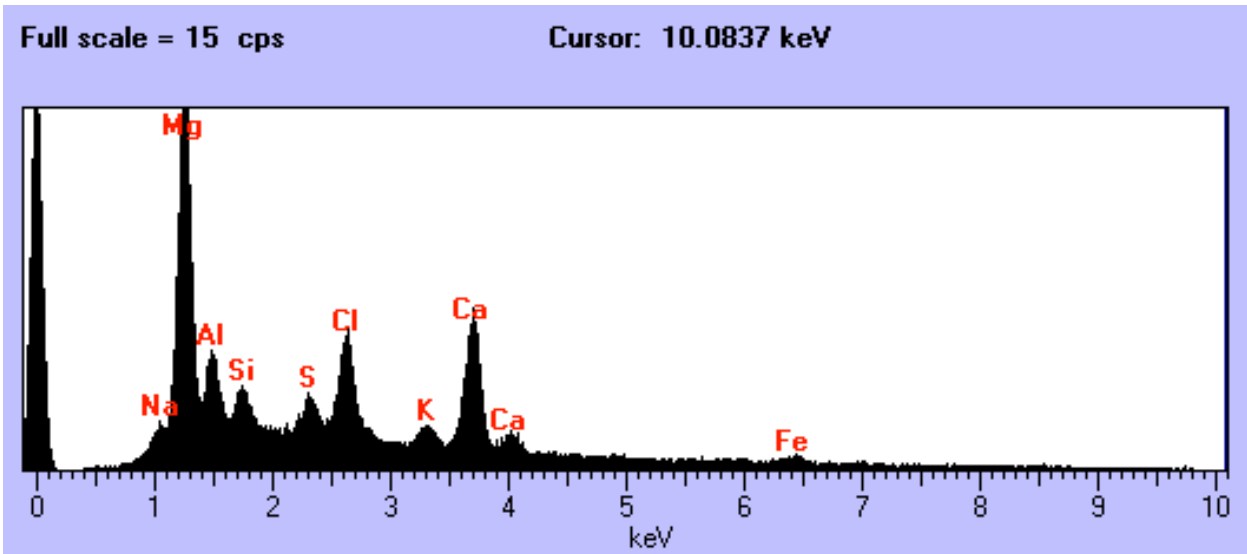
Size: 25 x 20 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Dull
Type: Cosmic
Comments:



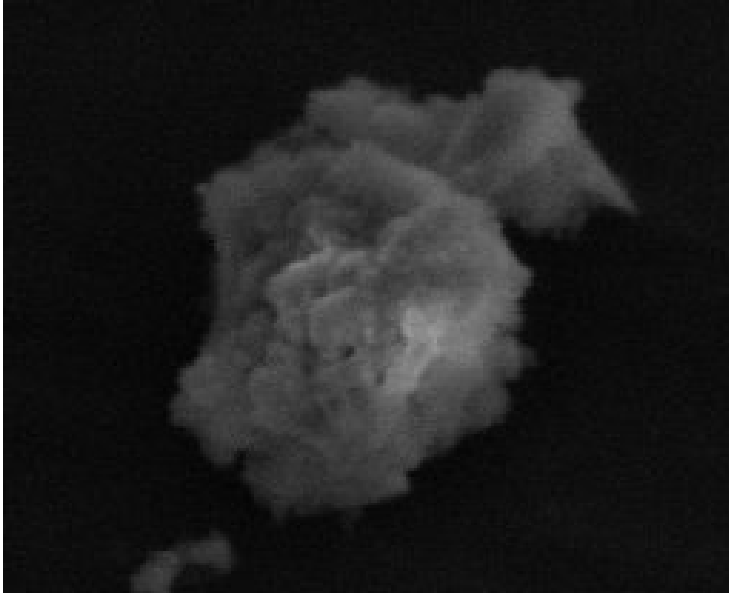
W7190 D16



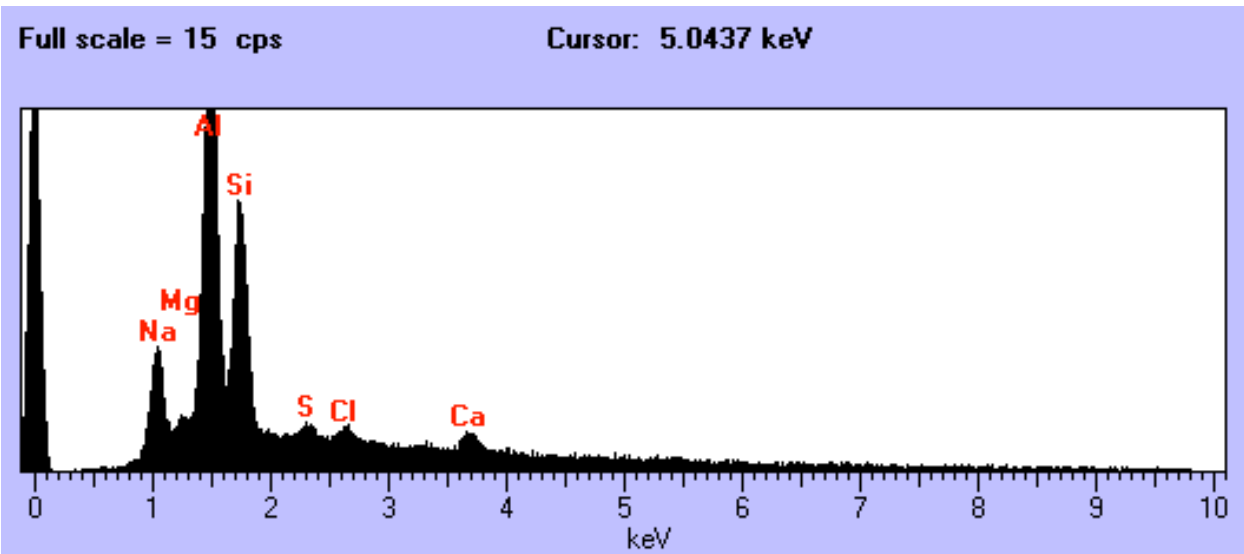
Size: 20 x 16 um
Shape: Irregular
Trans: Translucent
Color: Colorless
Luster: Dull
Type: Cosmic?
Comments:



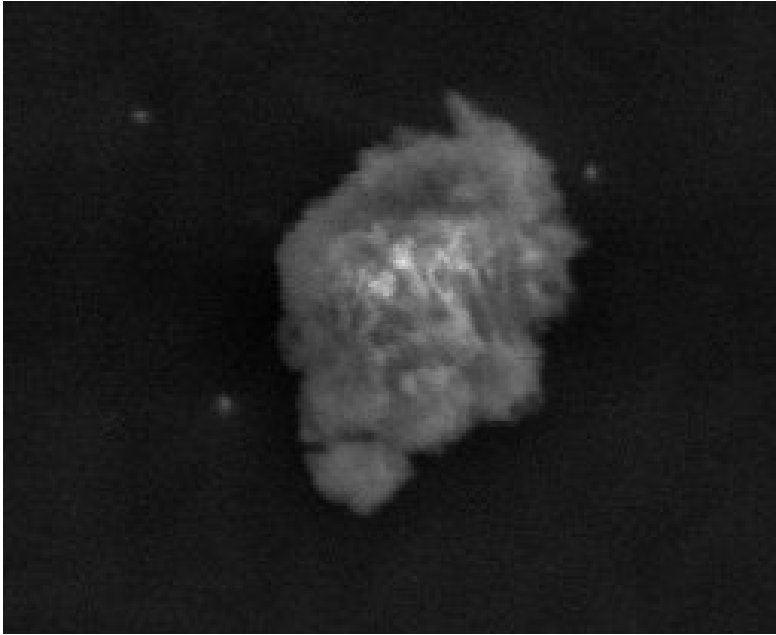
W7190 D22



Size: 30 x 20 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: Cosmic?
Comments:



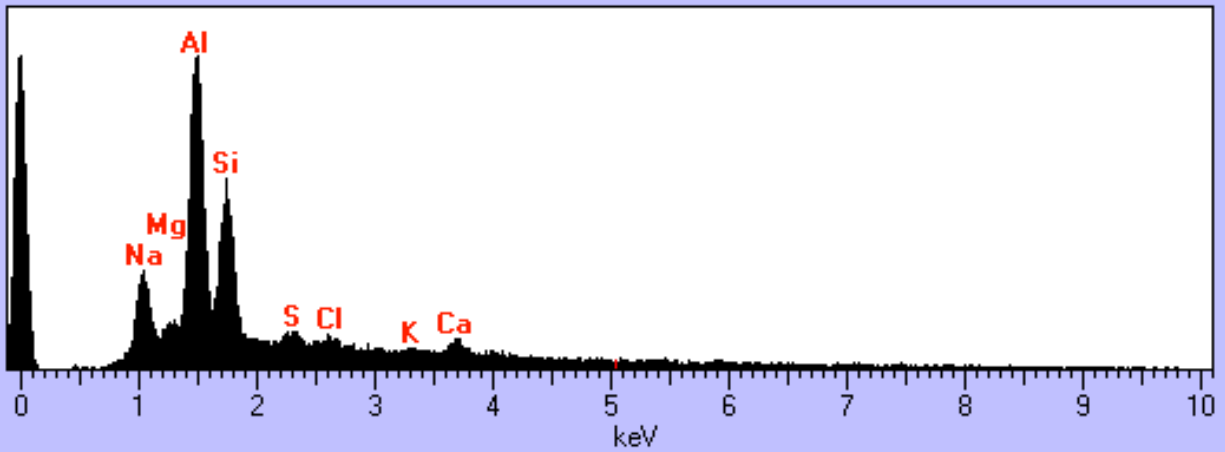
W7190 D23



Size: 20 x 15 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Subvitreous
Type: Cosmic?
Comments:

Full scale = 19 cps

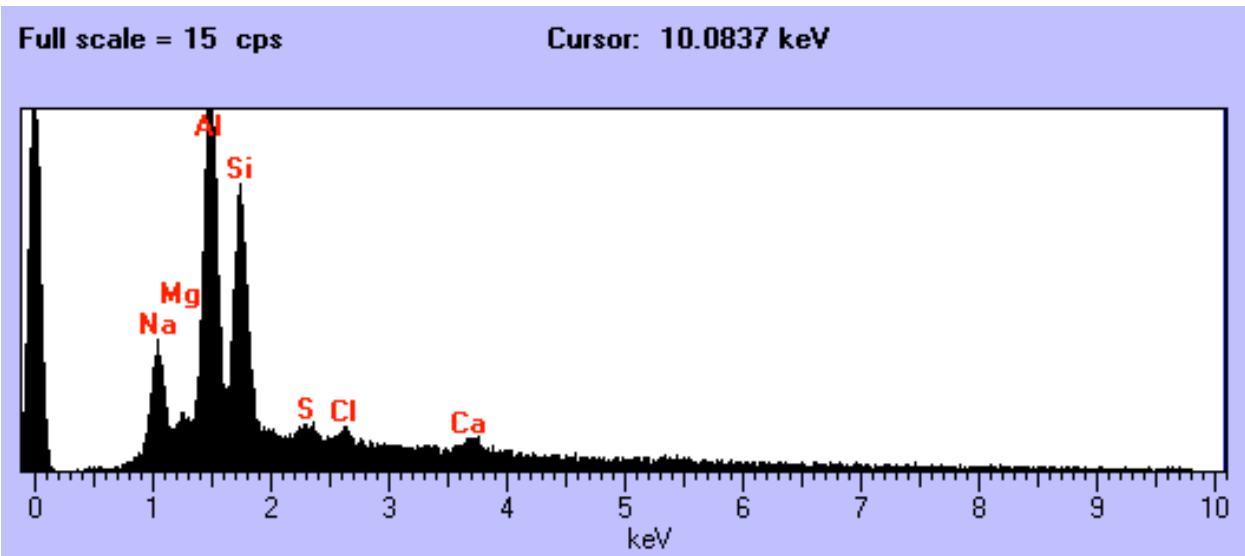
Cursor: 5.0437 keV



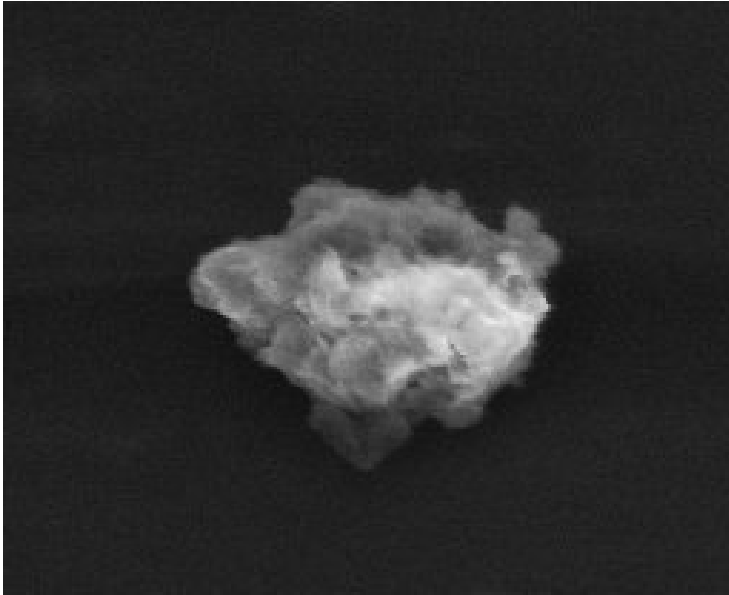
W7190 D24



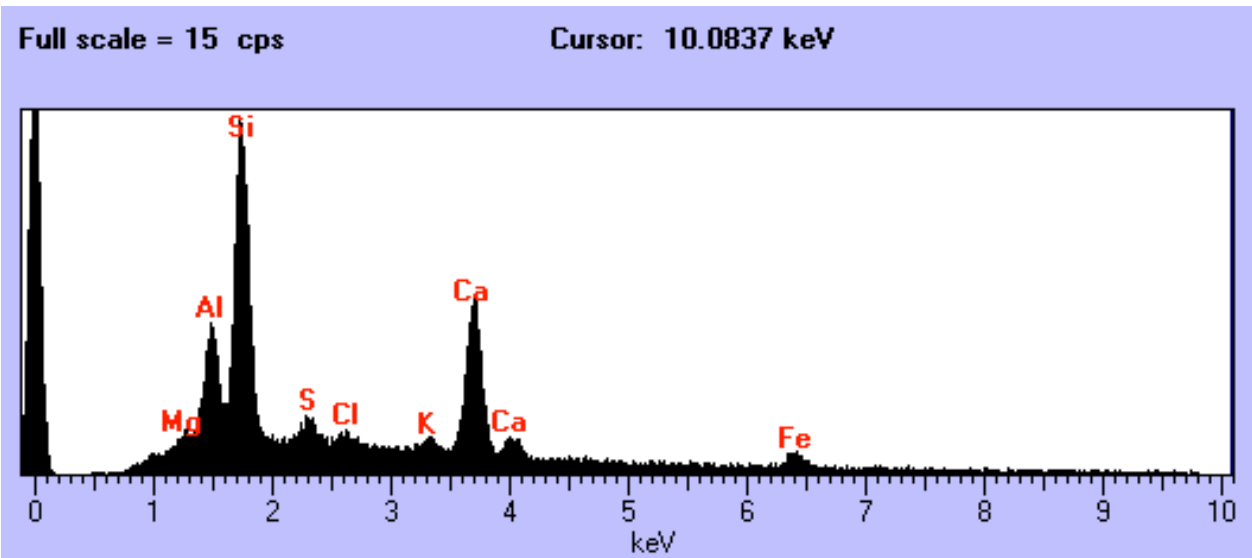
Size: 10 x 10 um
Shape: Irregular
Trans: Opaque/
Translucent
Color: White/Black
Luster: Dull/Subvitreous
Type: Cosmic?
Comments:



W7190 D25



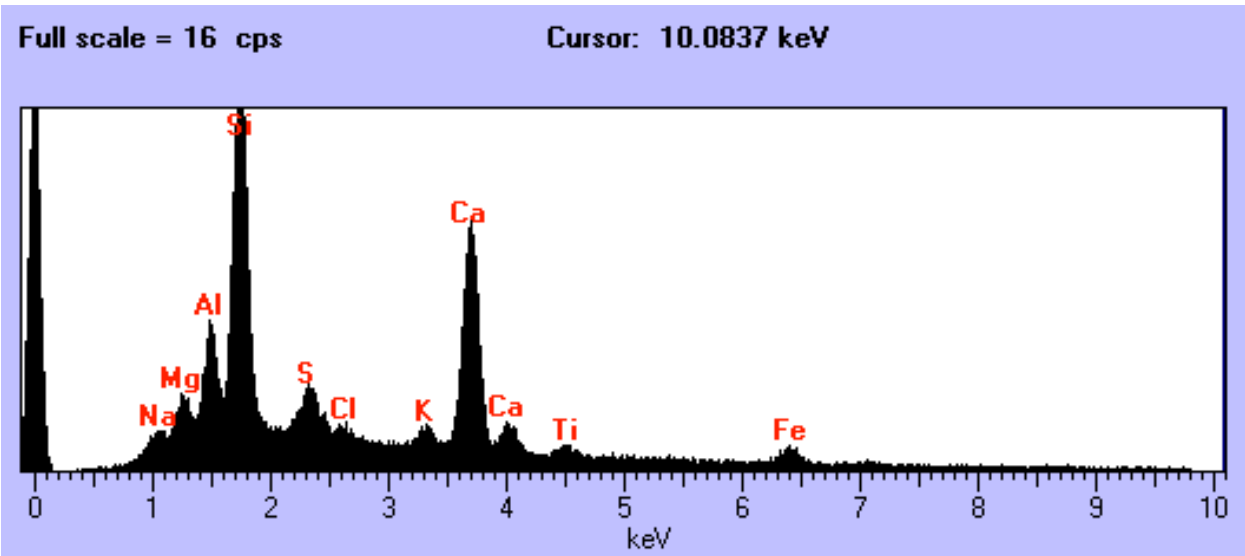
Size: 24 x 20 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Pearly
Type: Cosmic?
Comments:



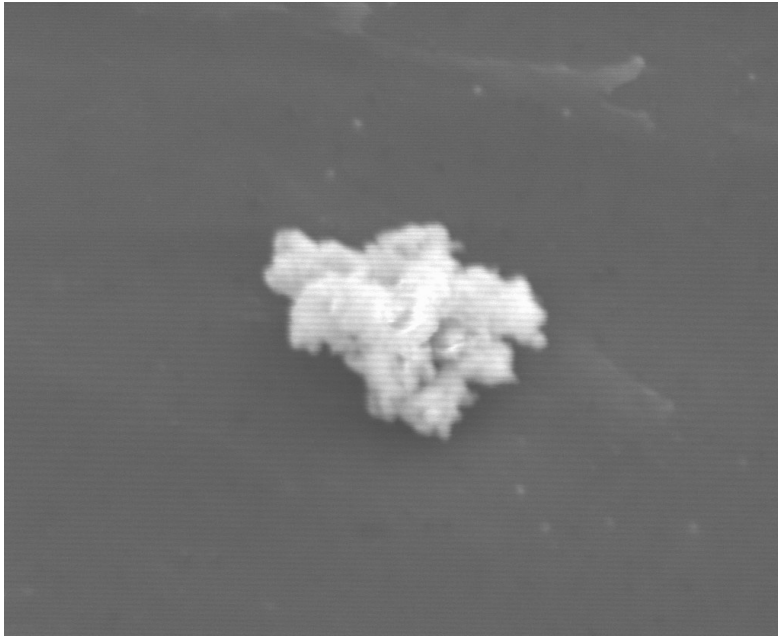
W7190 D38



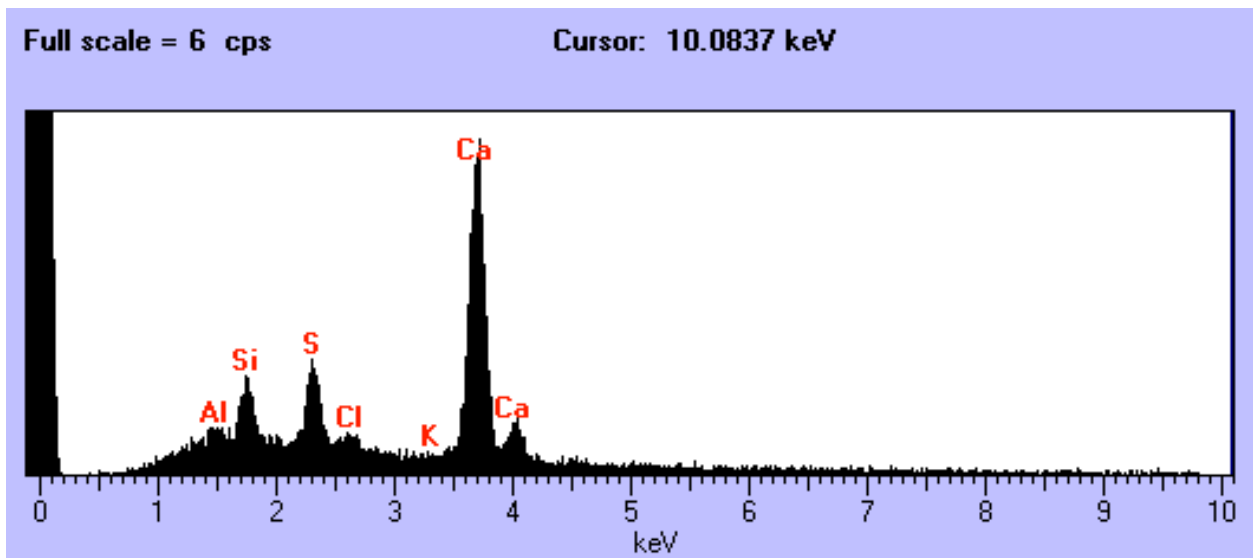
Size: 12 x 9 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: Cosmic
Comments:



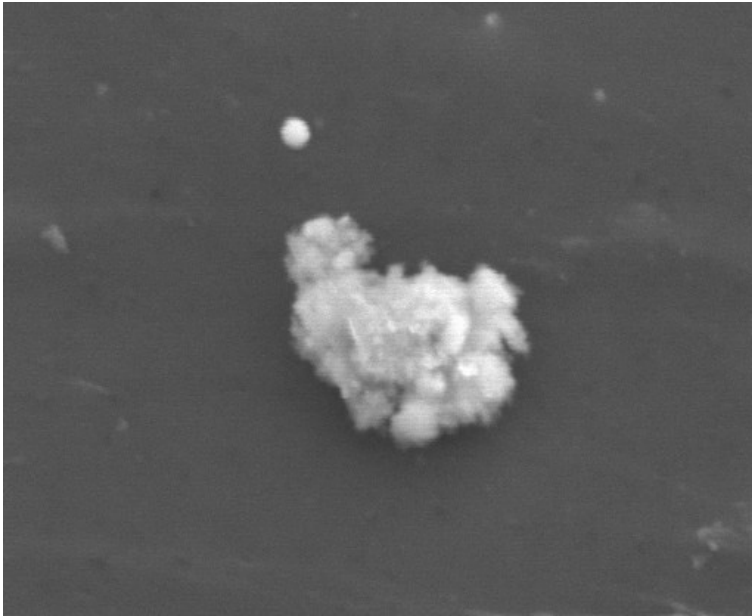
W7190 E11



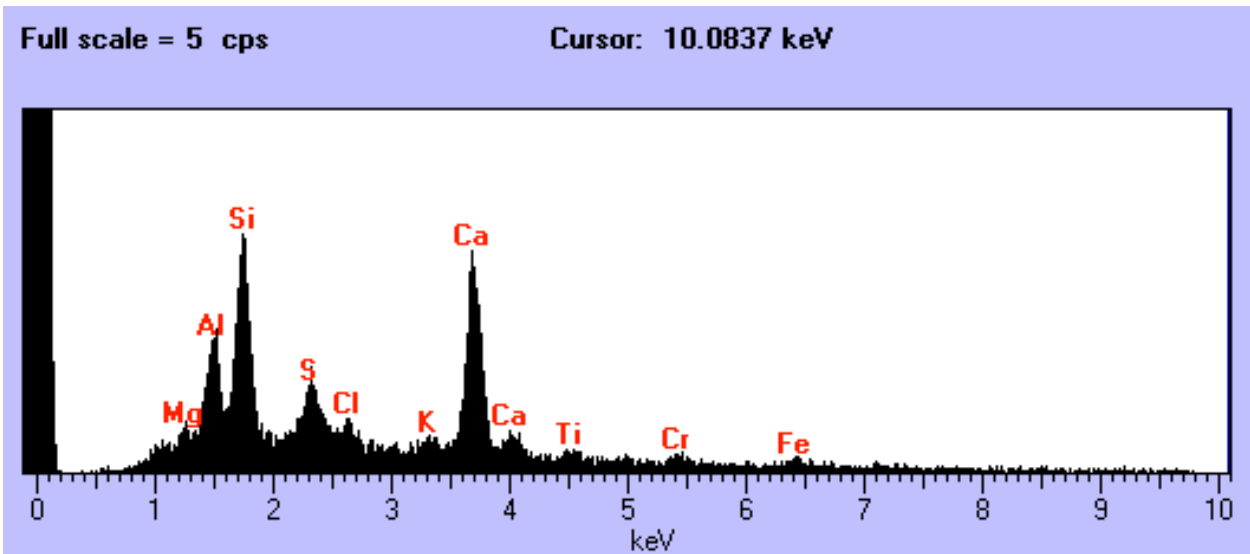
Size: 18 x 13 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: Cosmic
Comments:



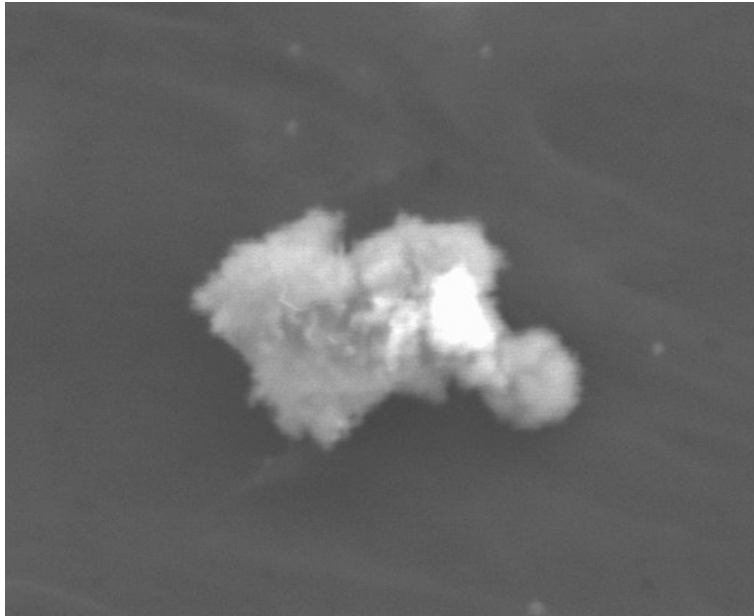
W7190 E16



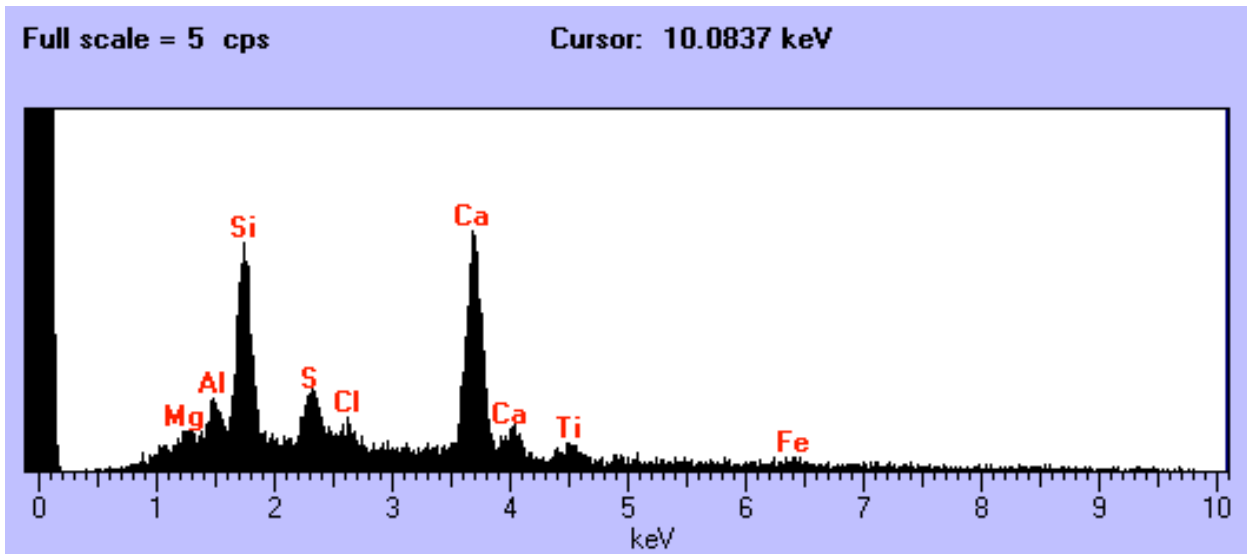
Size: 12 x 10 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: Cosmic
Comments:



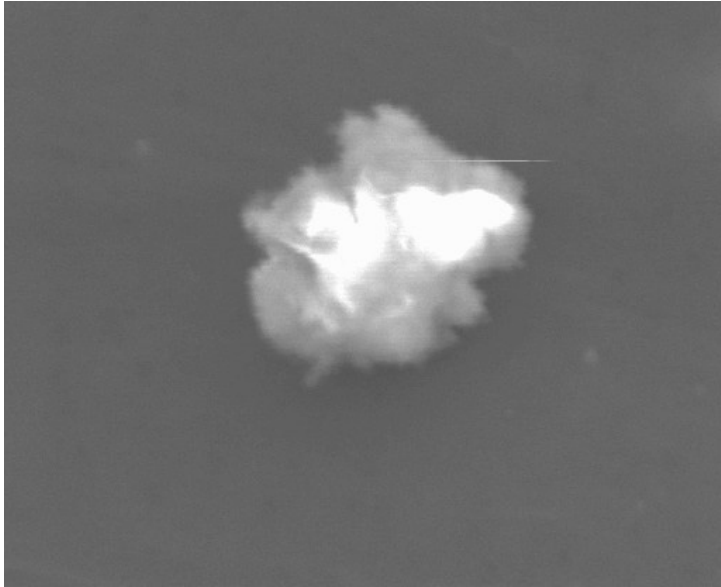
W7190 E23



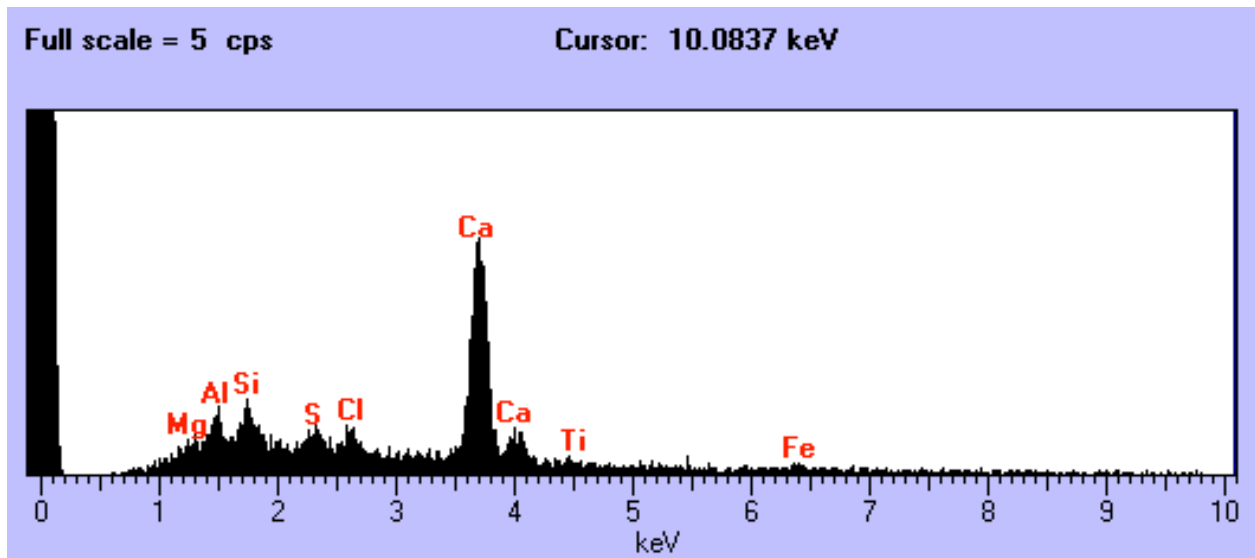
Size: 17 x 10 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: Cosmic?
Comments:



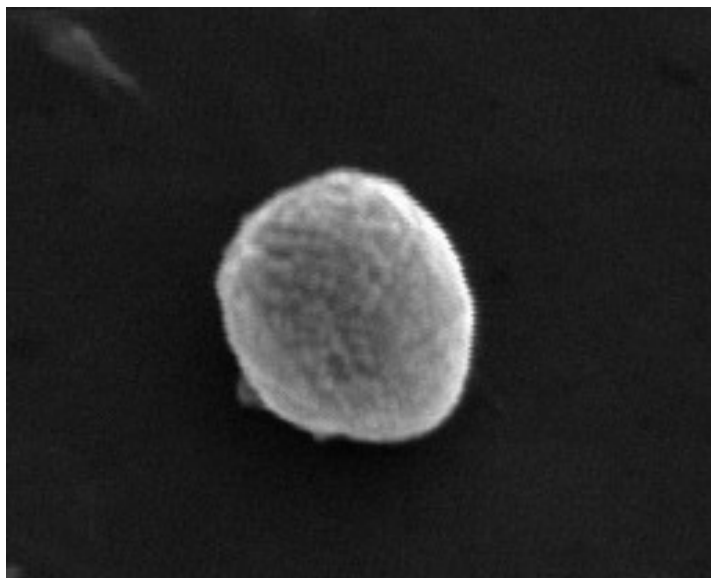
W7190 E24



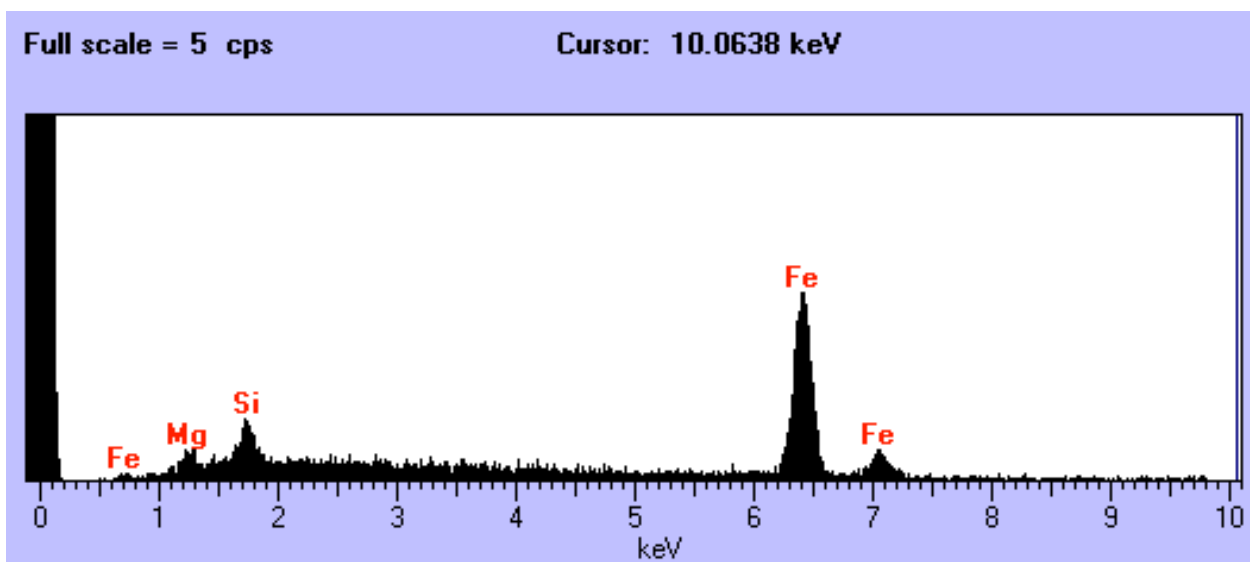
Size: 12 x 11 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: Cosmic?
Comments:



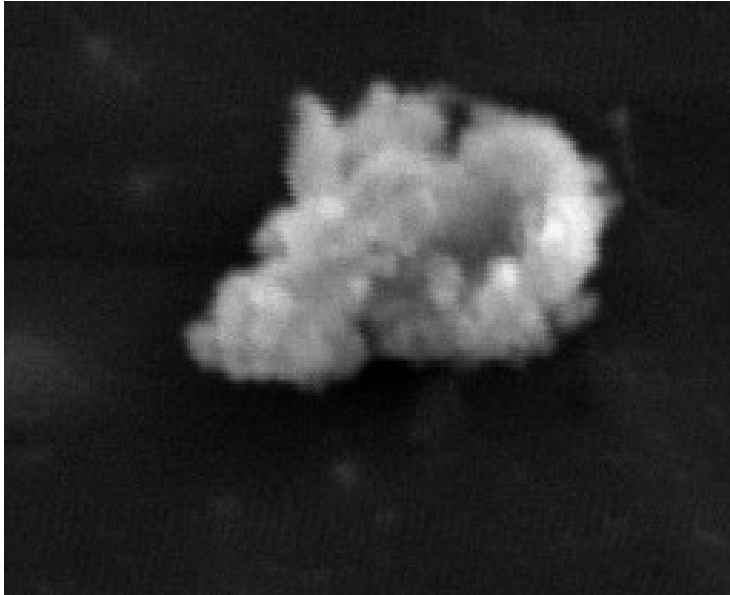
W7190 F2



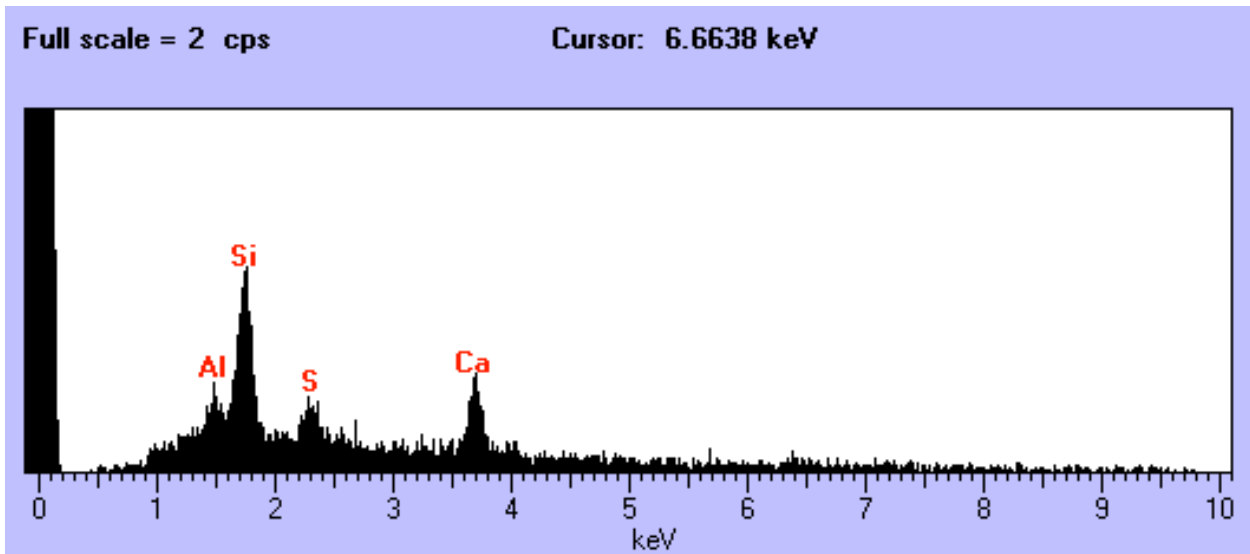
Size: 11 um
Shape: Sphere
Trans: Translucent
Color: White
Luster: Subvitreous
Type: Cosmic?
Comments:



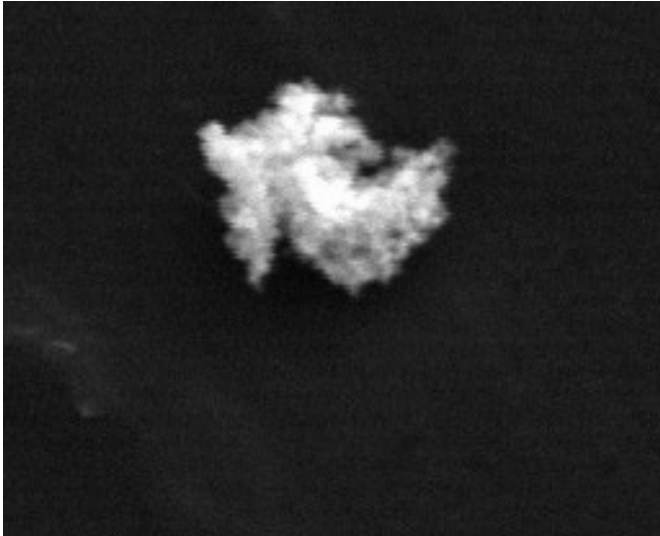
W7190 F4



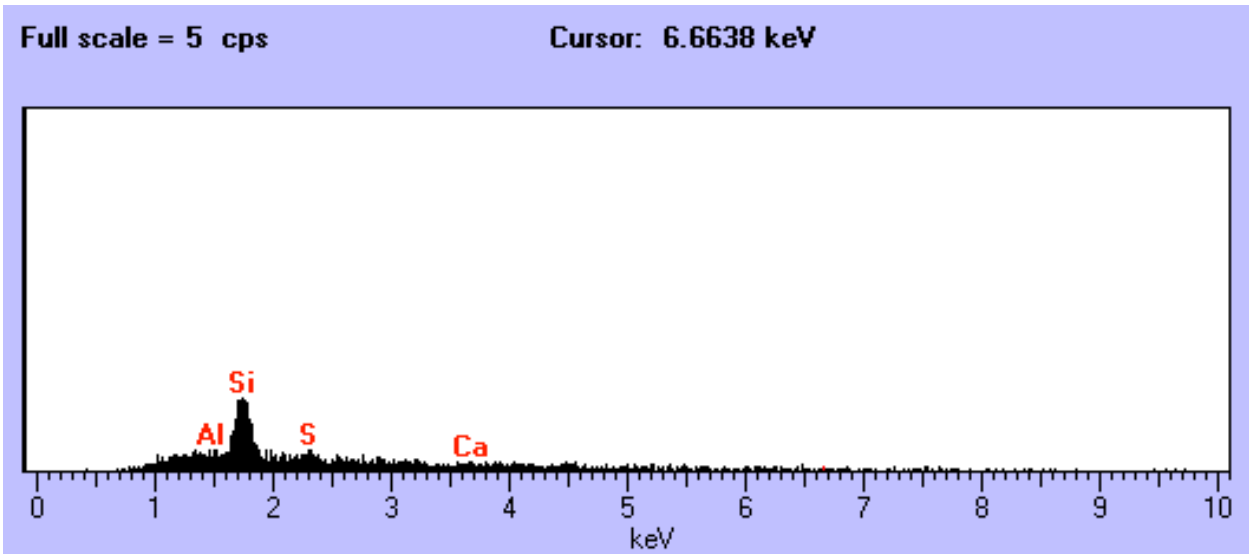
Size: 12 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: Cosmic?
Comments:



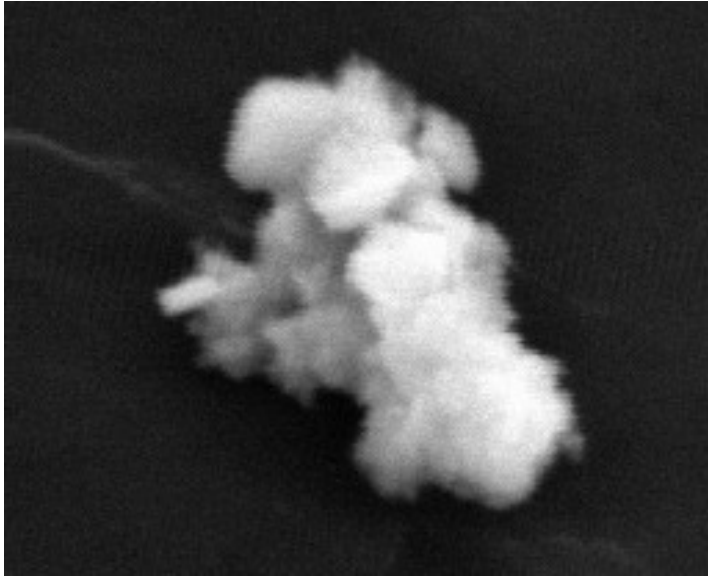
W7190 F5



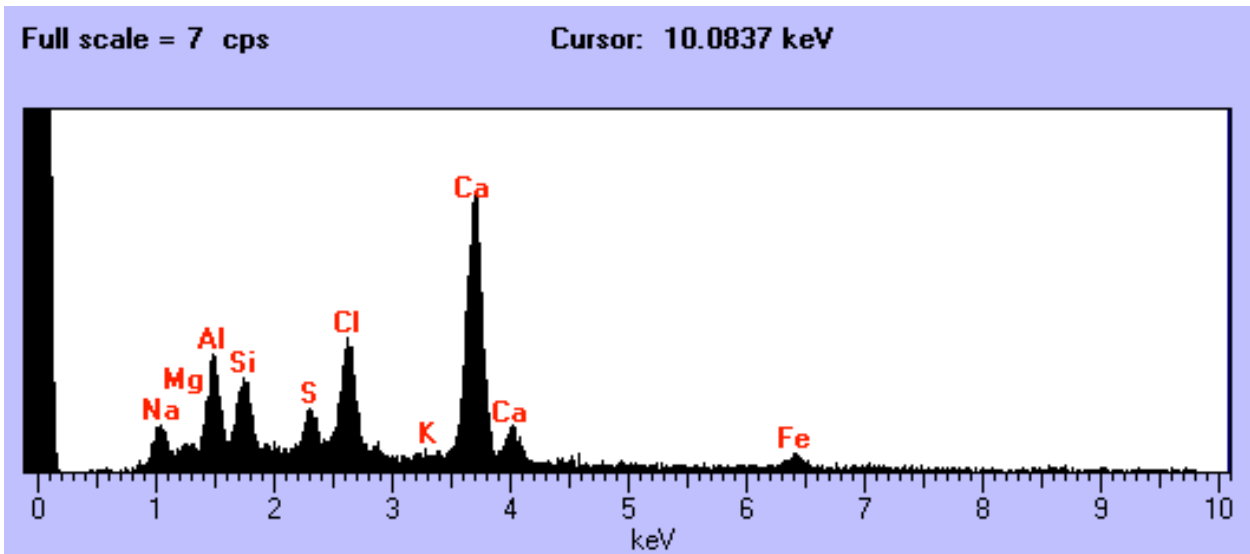
Size: 9 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: Cosmic?
Comments:



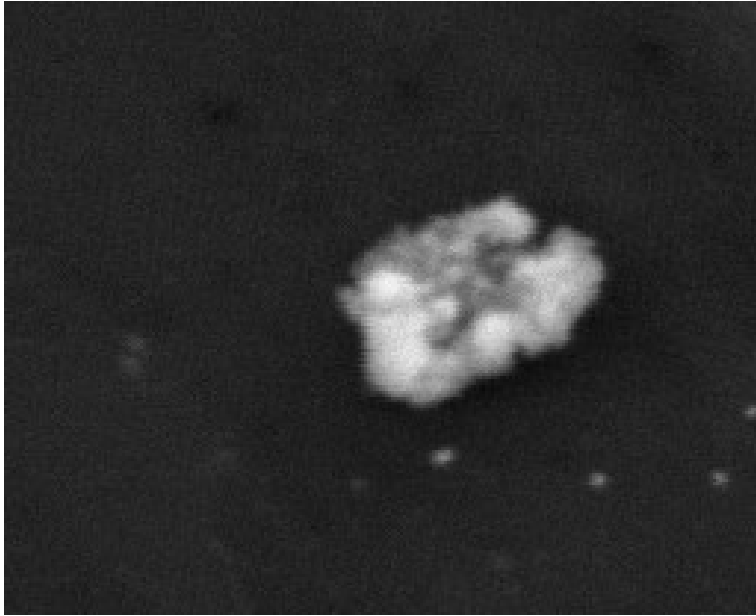
W7190 F16



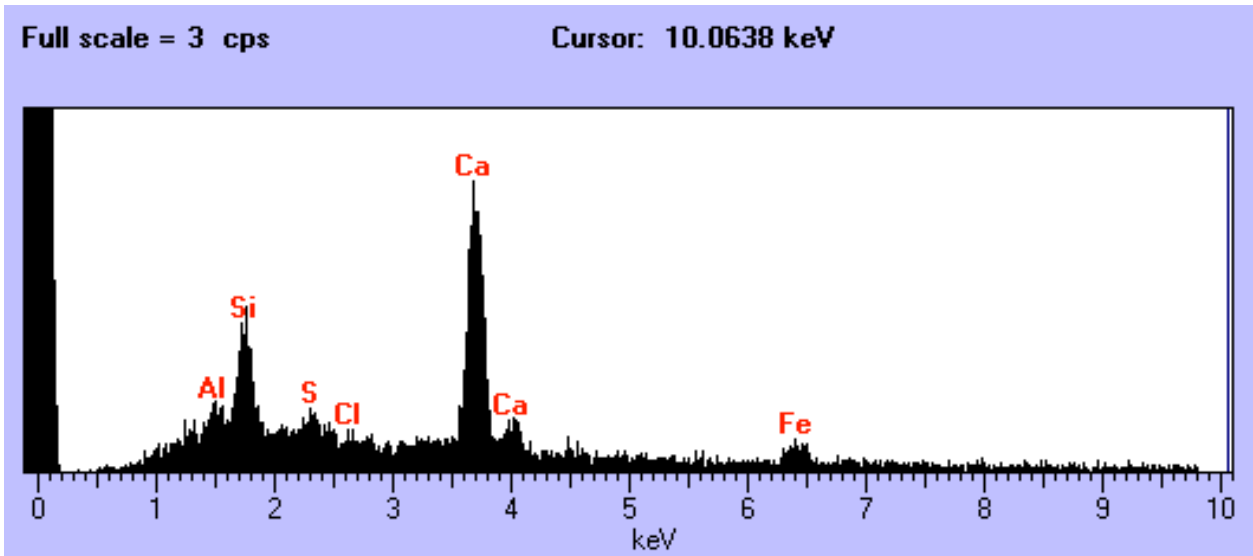
Size: 17 x 14 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Pearly
Type: Cosmic?
Comments:



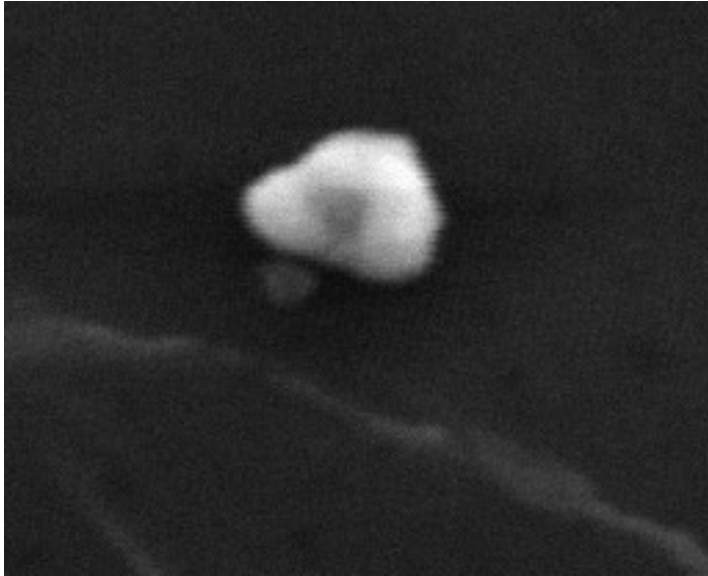
W7190 F17



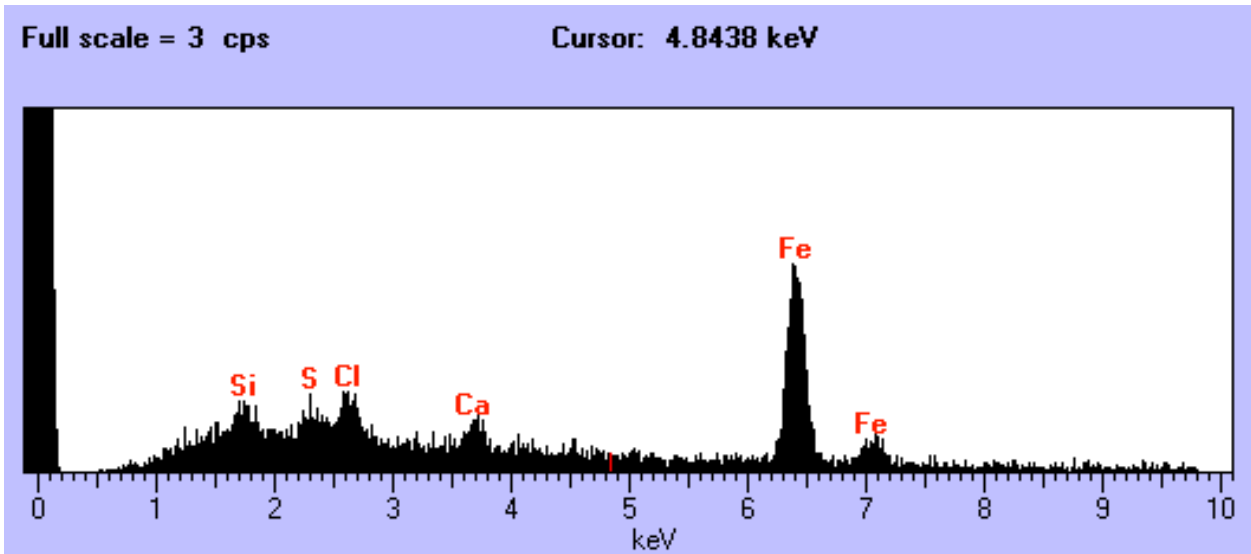
Size: 5 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: Cosmic?
Comments:



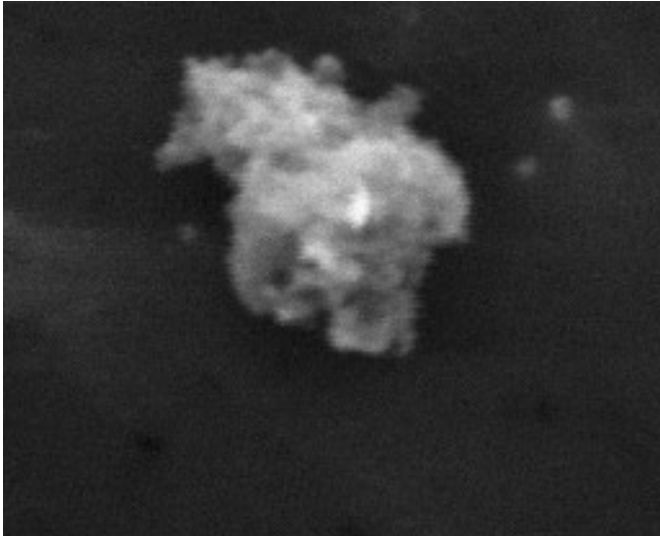
W7190 F18



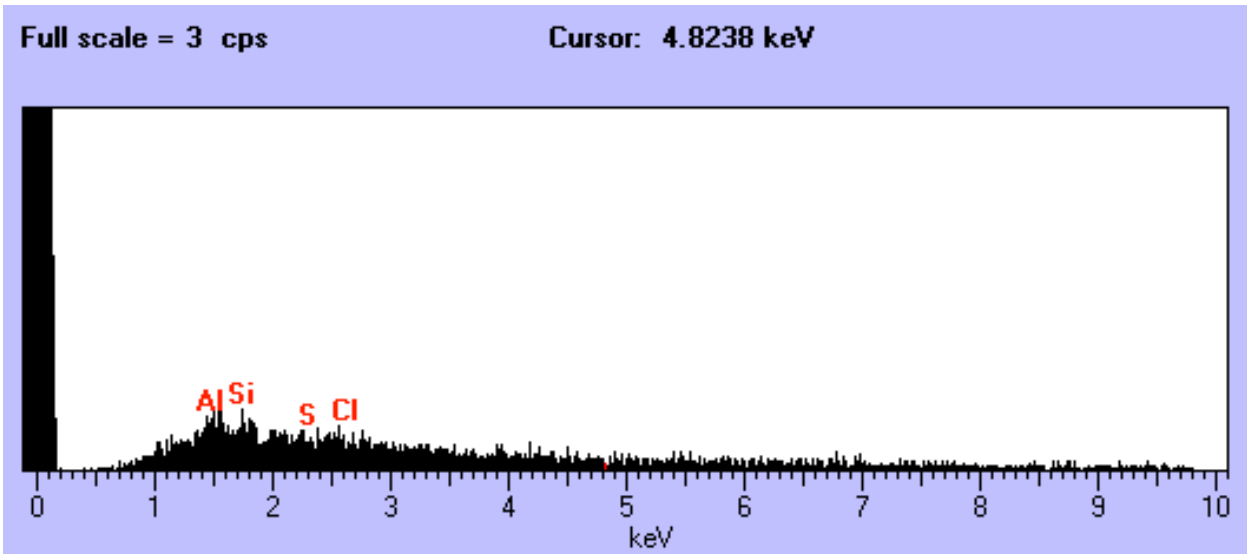
Size: 5 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: Cosmic?
Comments:



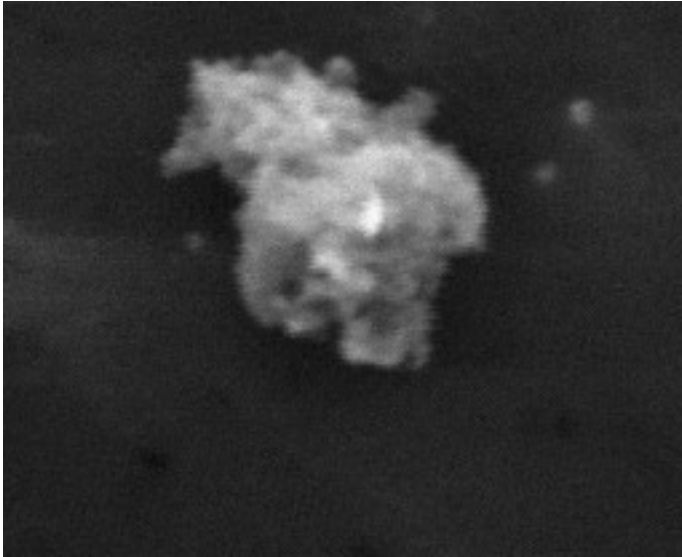
W7190 F19



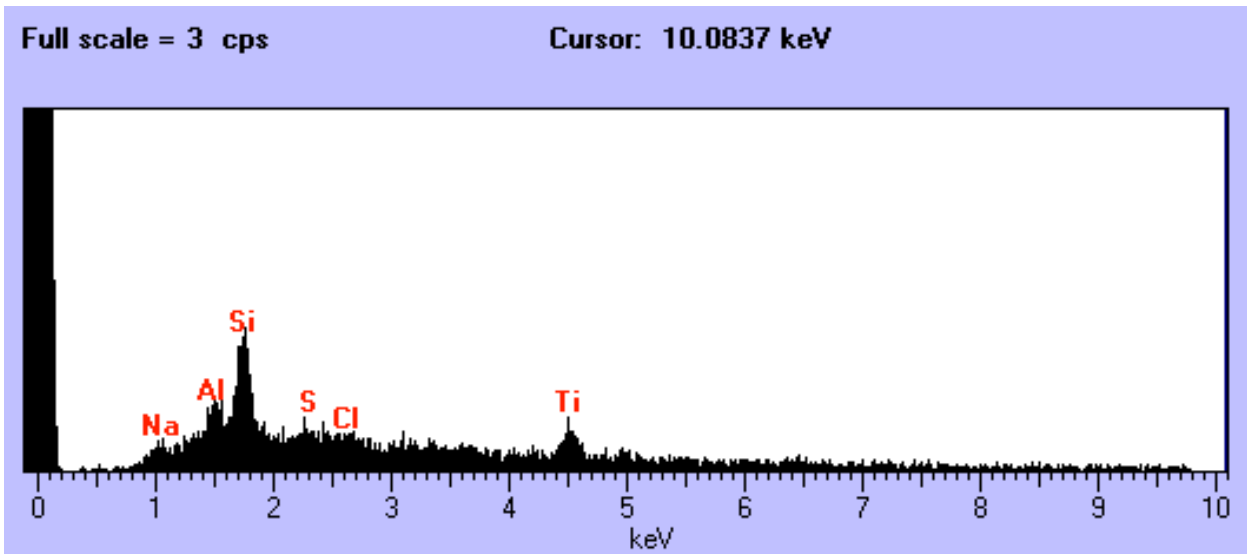
Size: 15 x 9 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: Cosmic?
Comments:



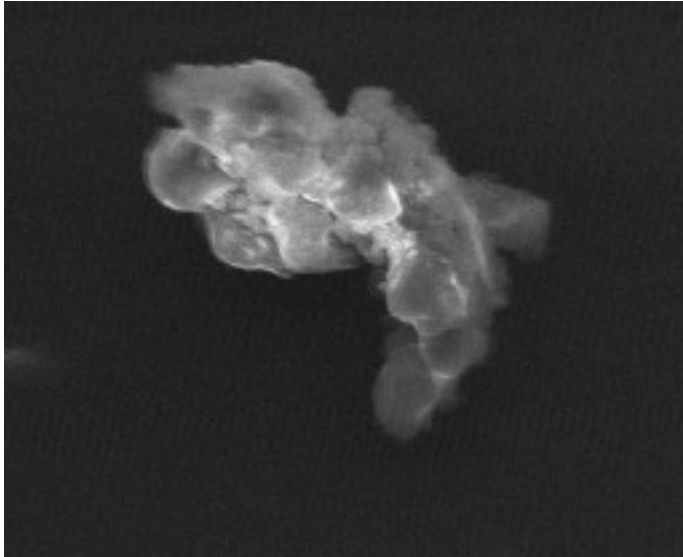
W7190 F20



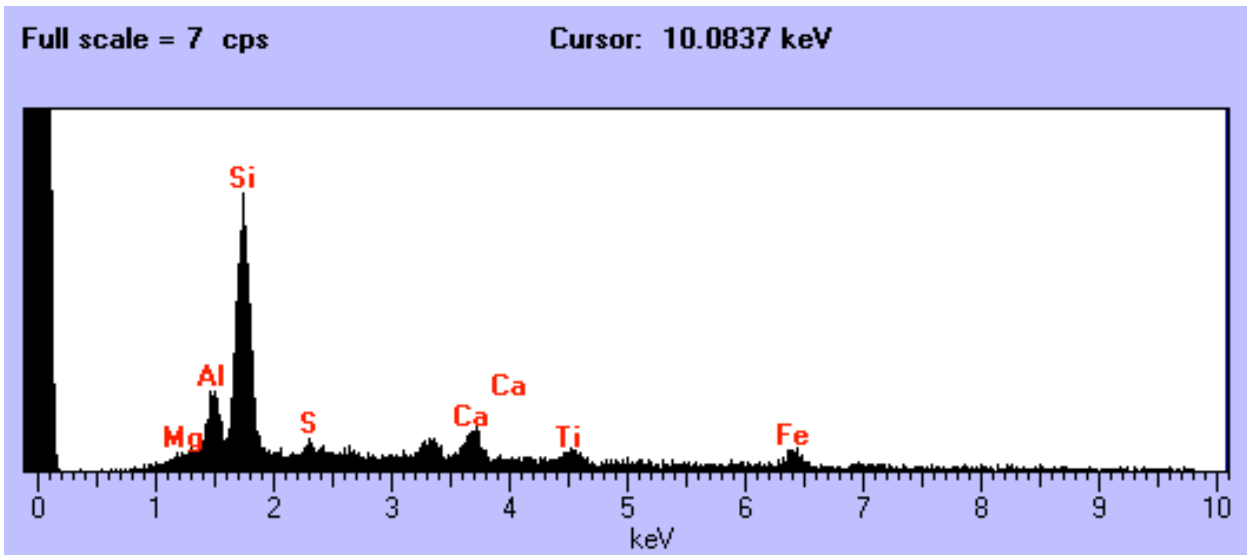
Size: 11 x 5 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: Cosmic?
Comments:



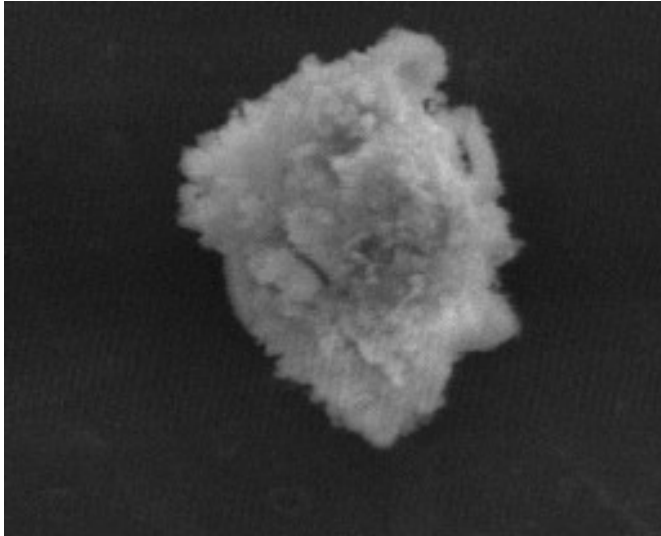
W7190 F24



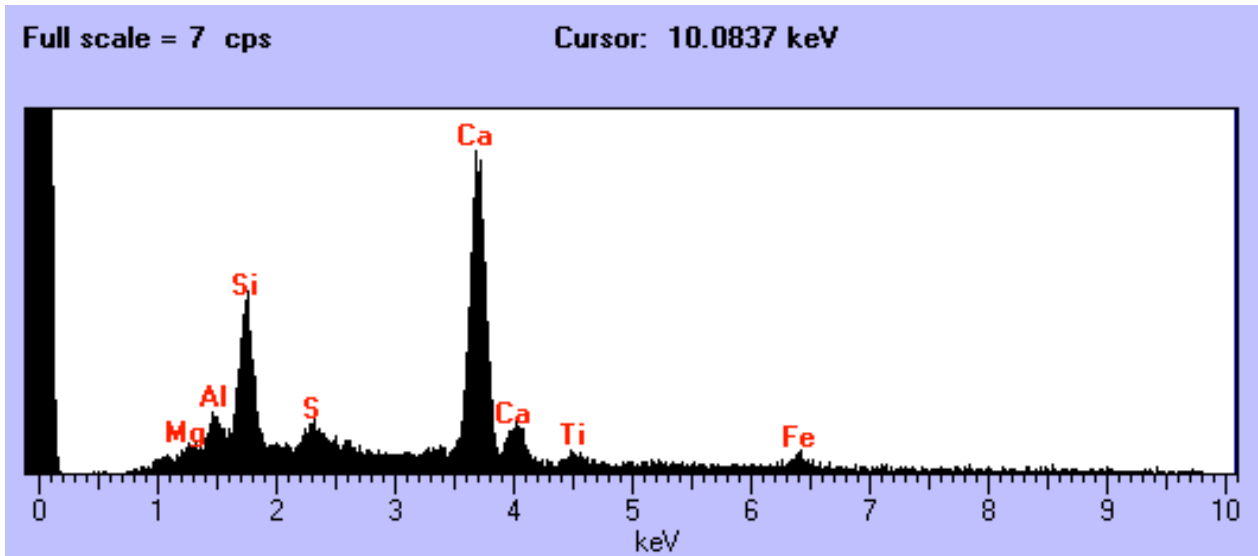
Size: 14 x 9 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: Cosmic?
Comments:



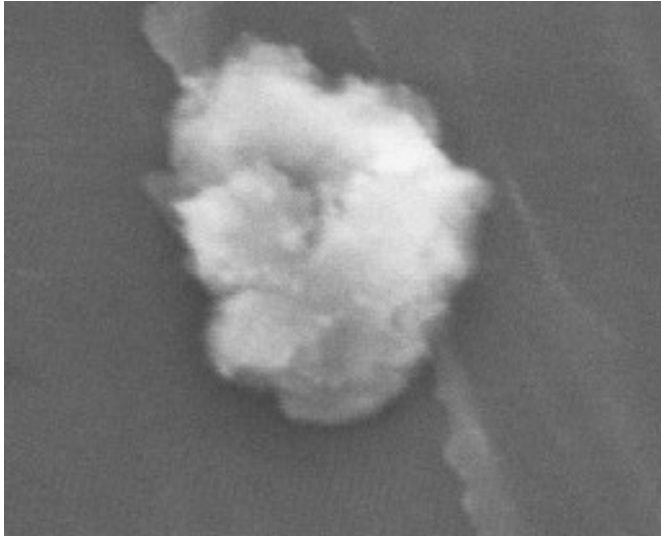
W7190 F25



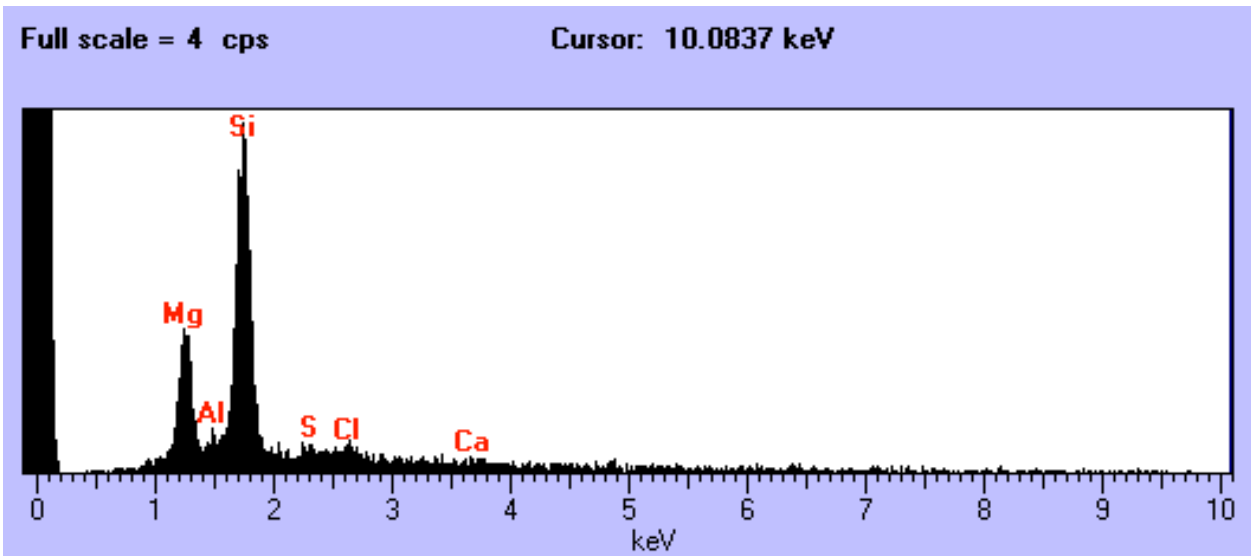
Size: 14 x 9 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: Cosmic?
Comments:



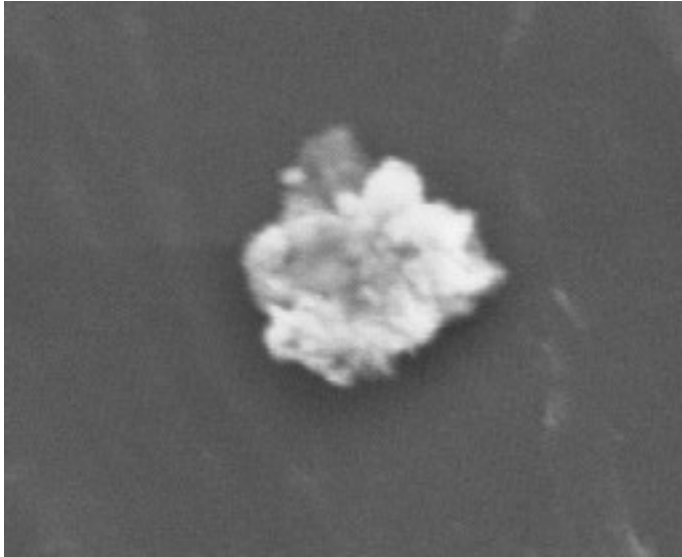
W7190 G5



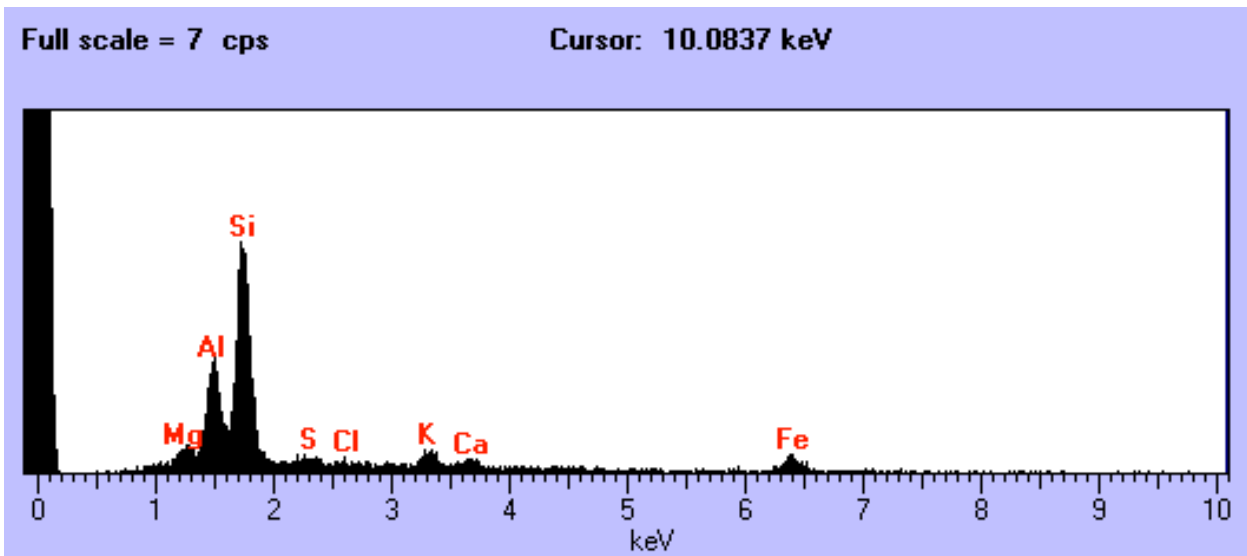
Size: 16 x 14 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: Cosmic?
Comments:



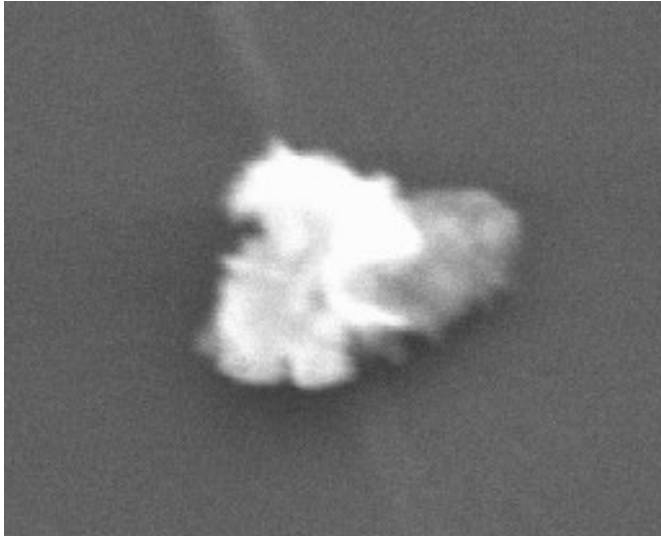
W7190 G6



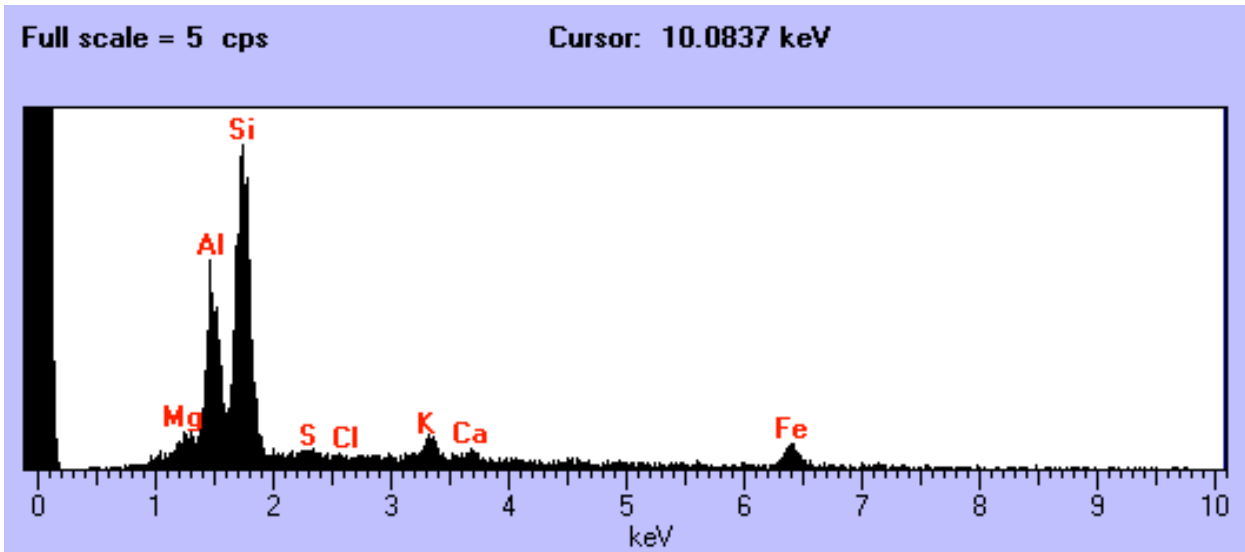
Size: 15 x 12 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: Cosmic?
Comments:



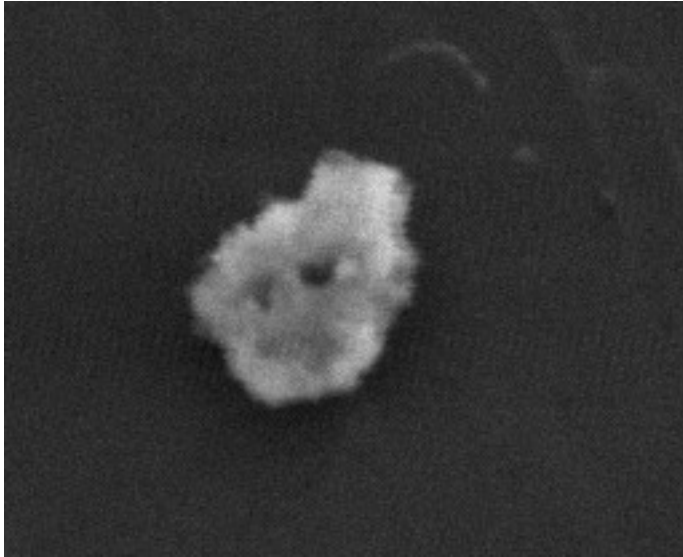
W7190 G7



Size: 12 x 10 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: Cosmic?
Comments:



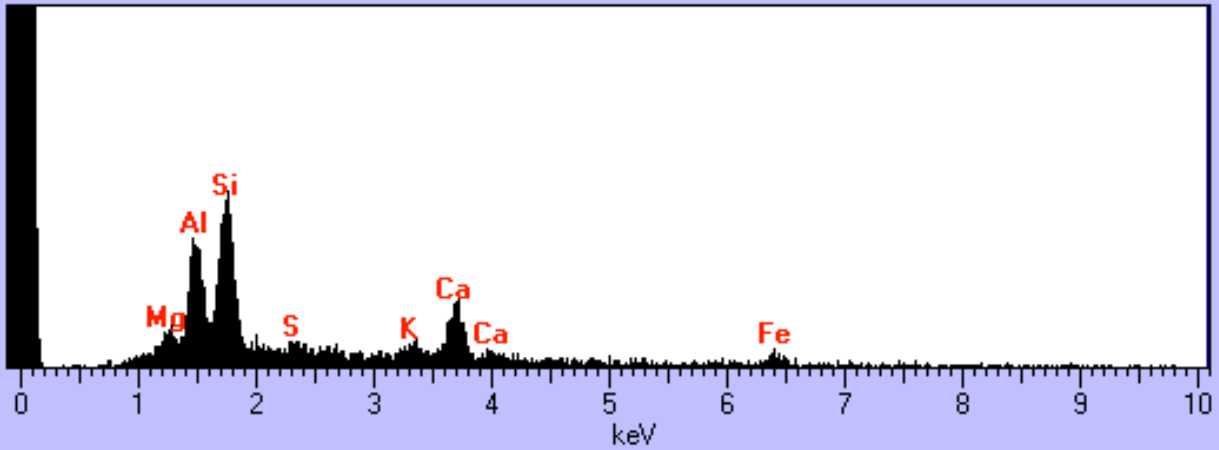
W7190 G16



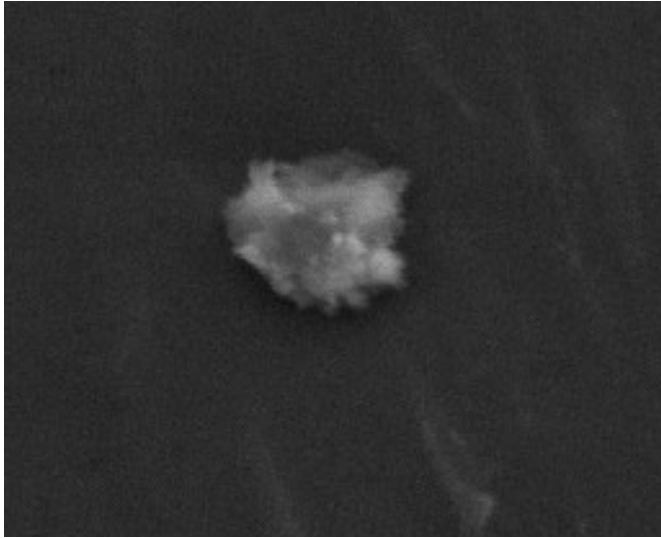
Size: 13 x 11 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: Cosmic
Comments:

Full scale = 4 cps

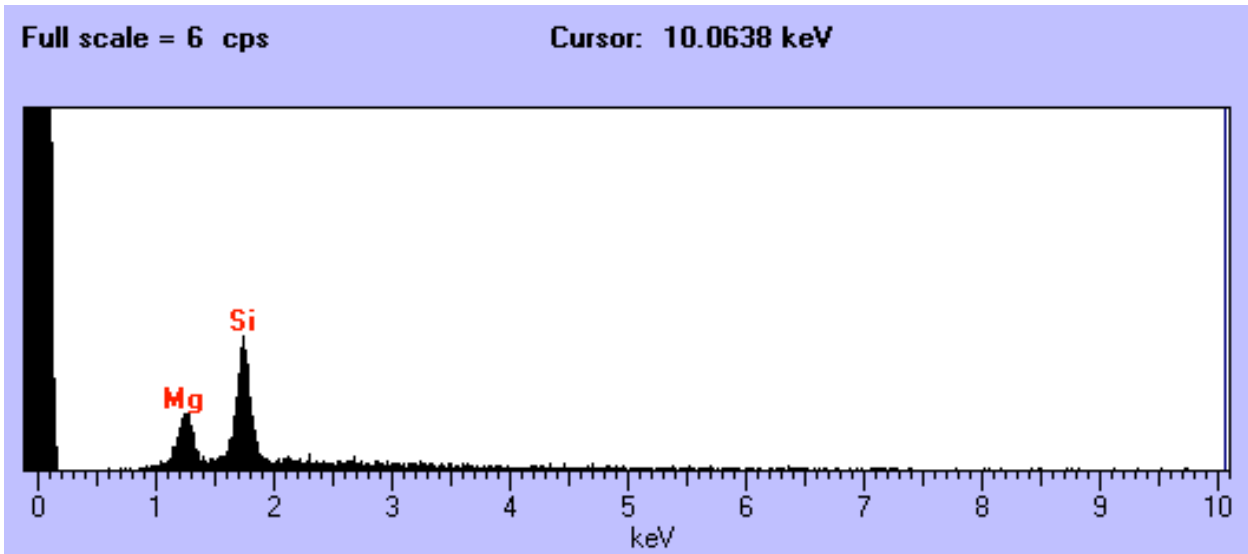
Cursor: 10.0837 keV



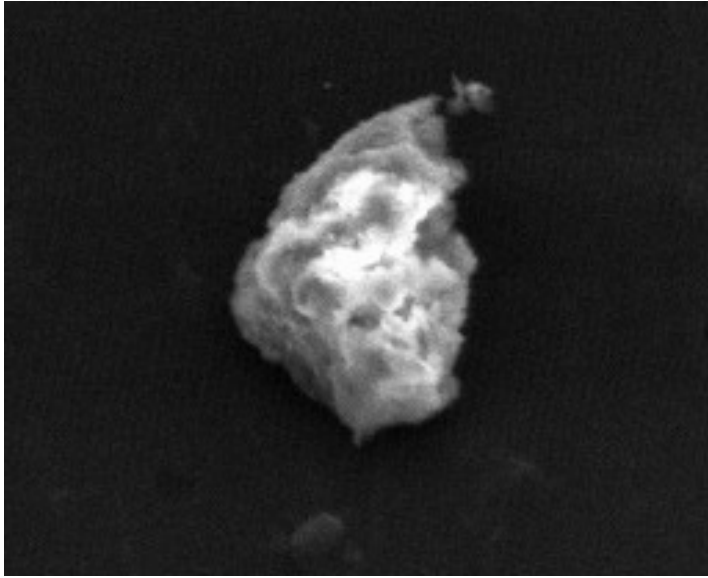
W7190 G17



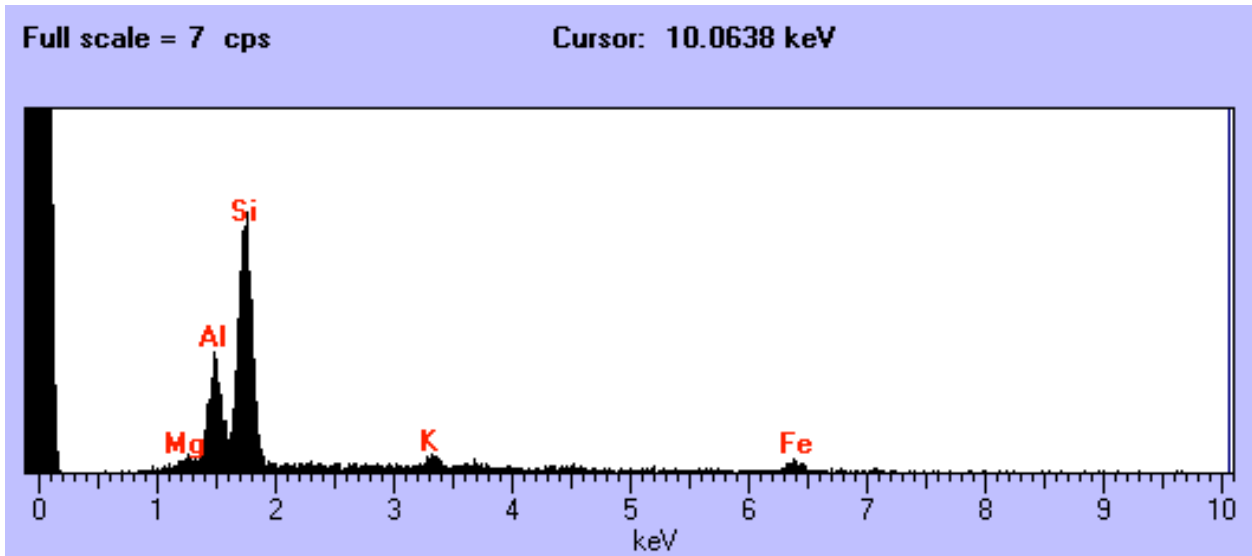
Size: 13 x 12 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: Cosmic?
Comments:



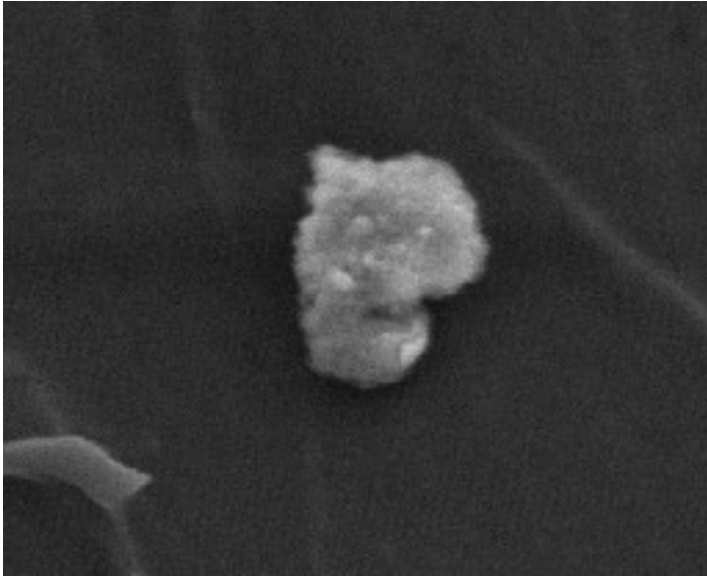
W7190 G20



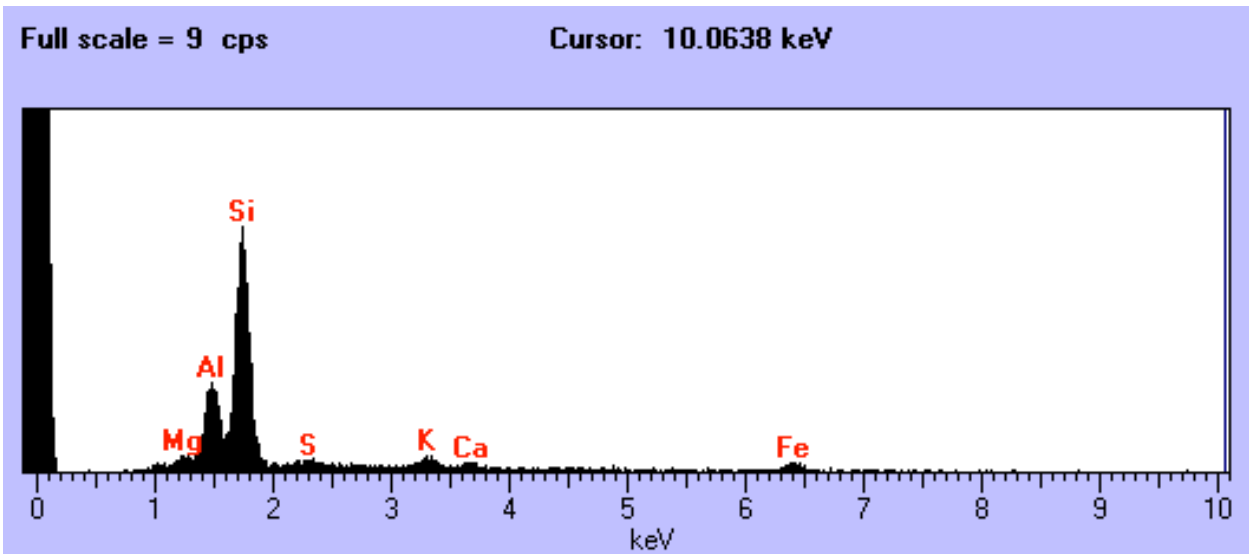
Size: 22 x 10 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Subvitreous
Type: Cosmic?
Comments:



W7190 G21



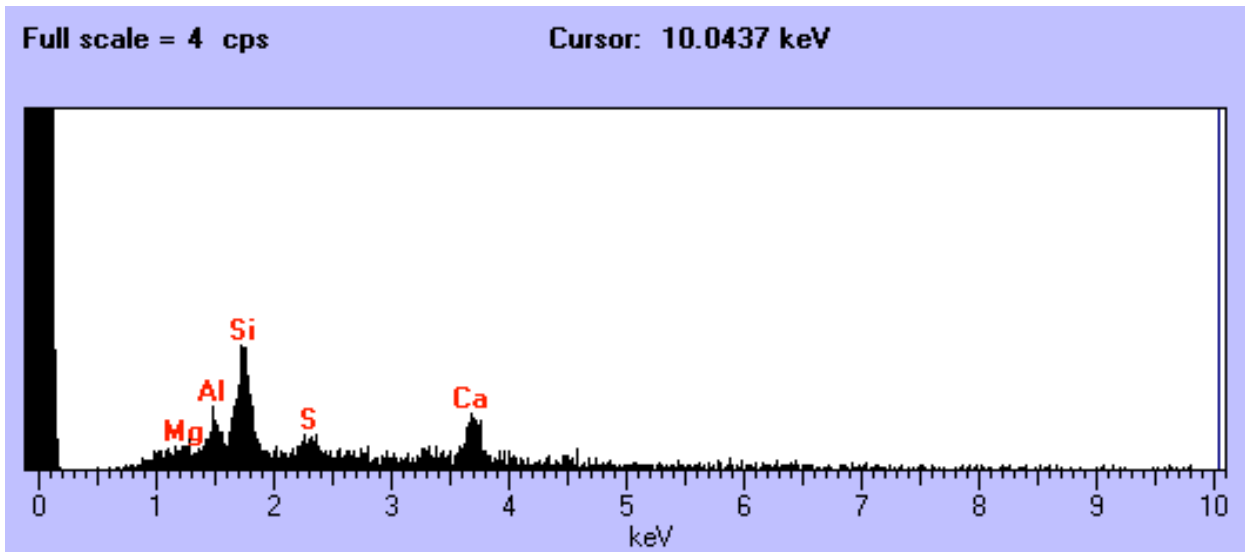
Size: 15 x 12 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: Cosmic?
Comments:



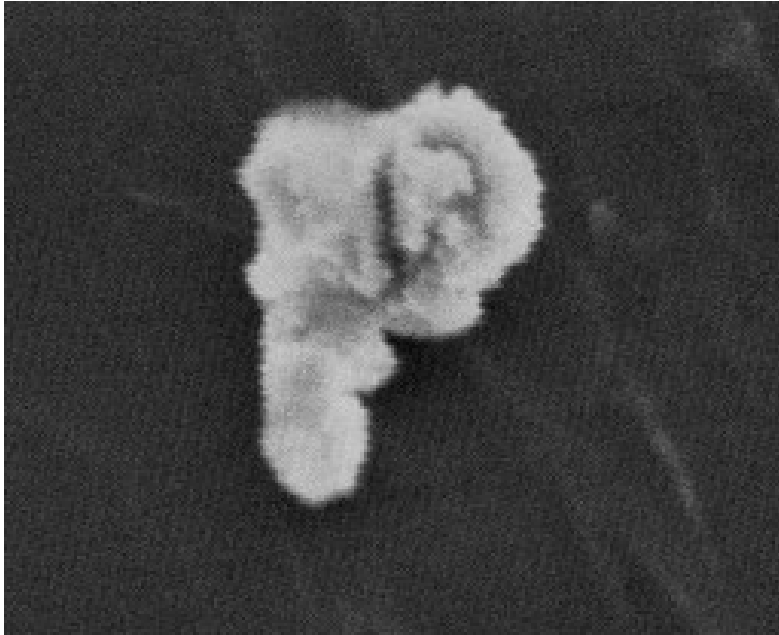
W7190 G41



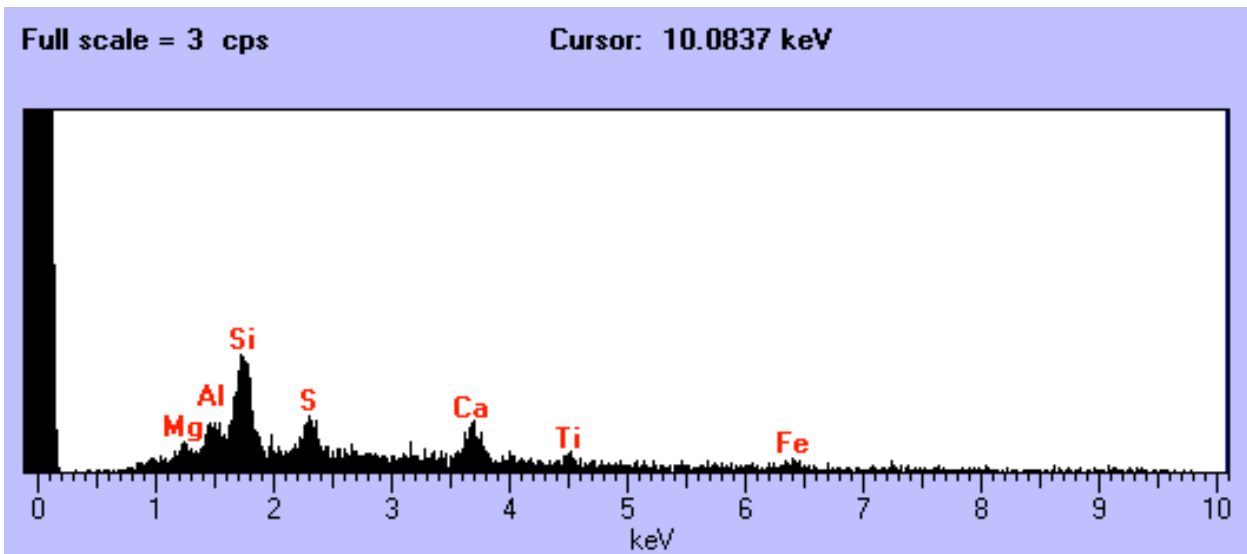
Size: 1 x 1 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: Cosmic?
Comments:



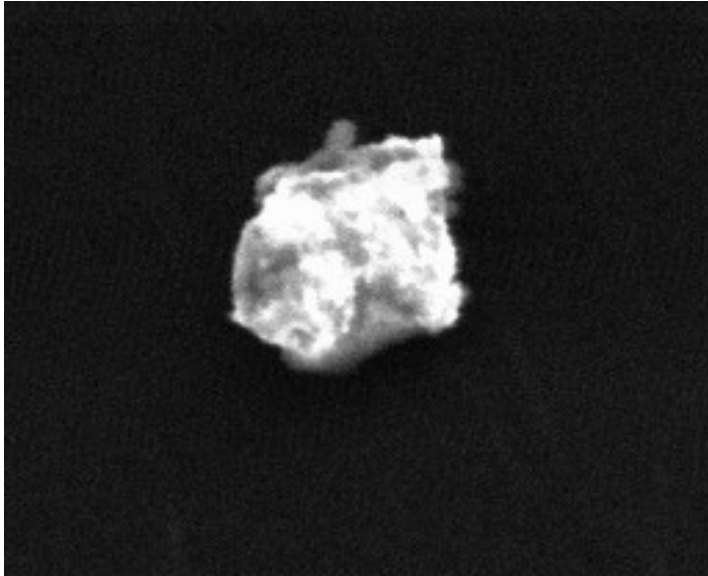
W7190 G42



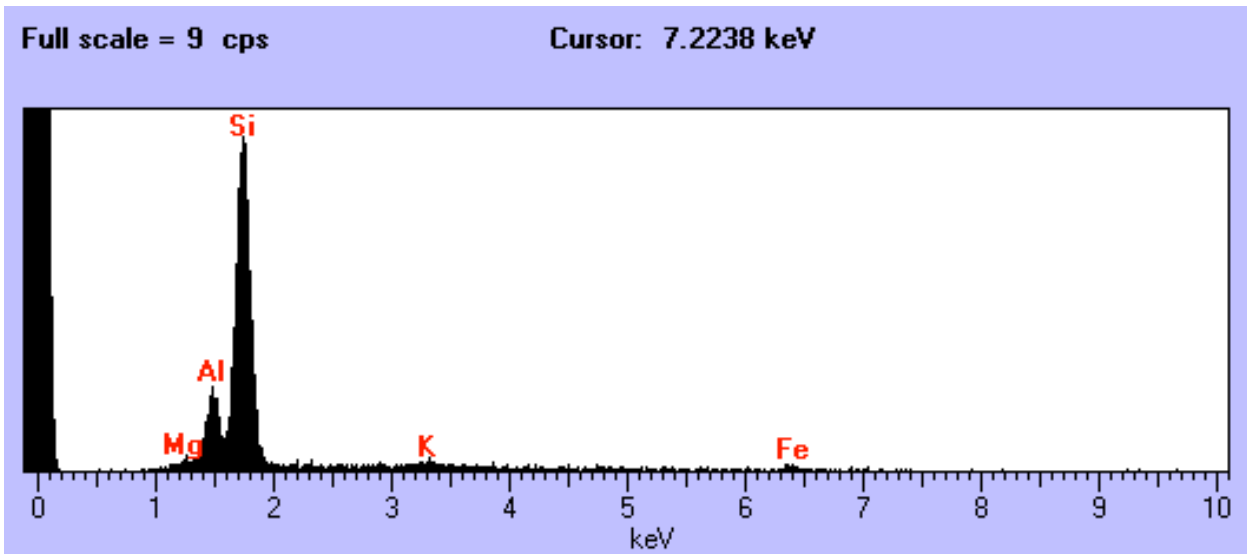
Size: 10 x 10 um
Shape: Irregular
Trans: Opaque
Color: Gray
Luster: Dull
Type: Cosmic?
Comments:



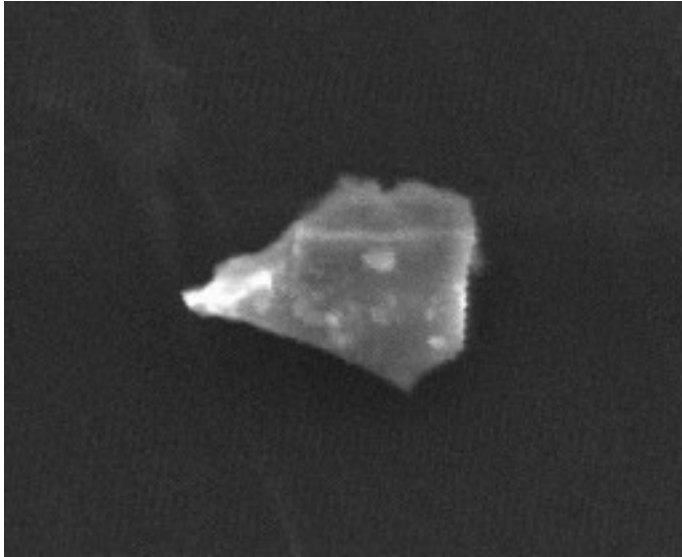
W7190 G48



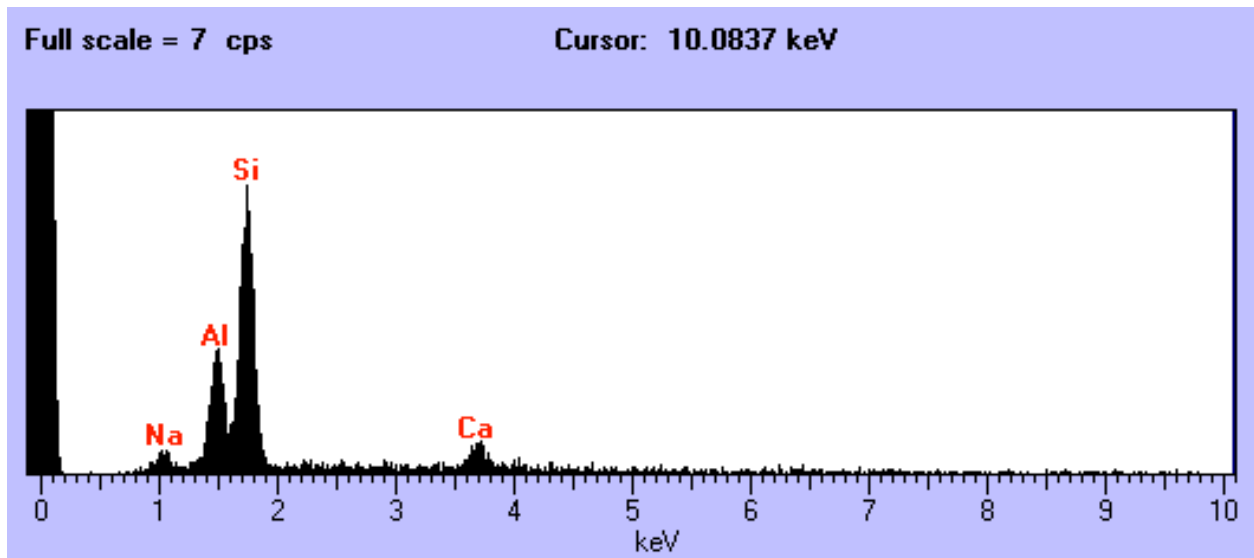
Size: 22 x 19 um
Shape: Irregular
Trans: Transparent
Color: White
Luster: Pearly
Type: Cosmic?
Comments:



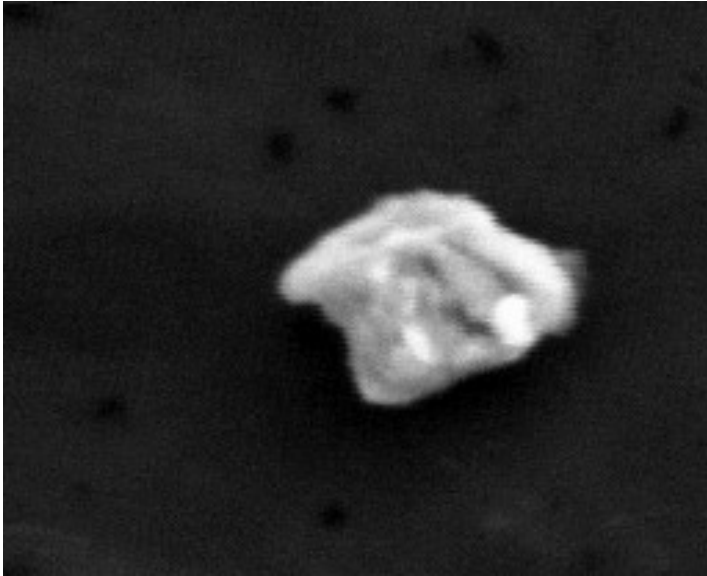
W7190 G49



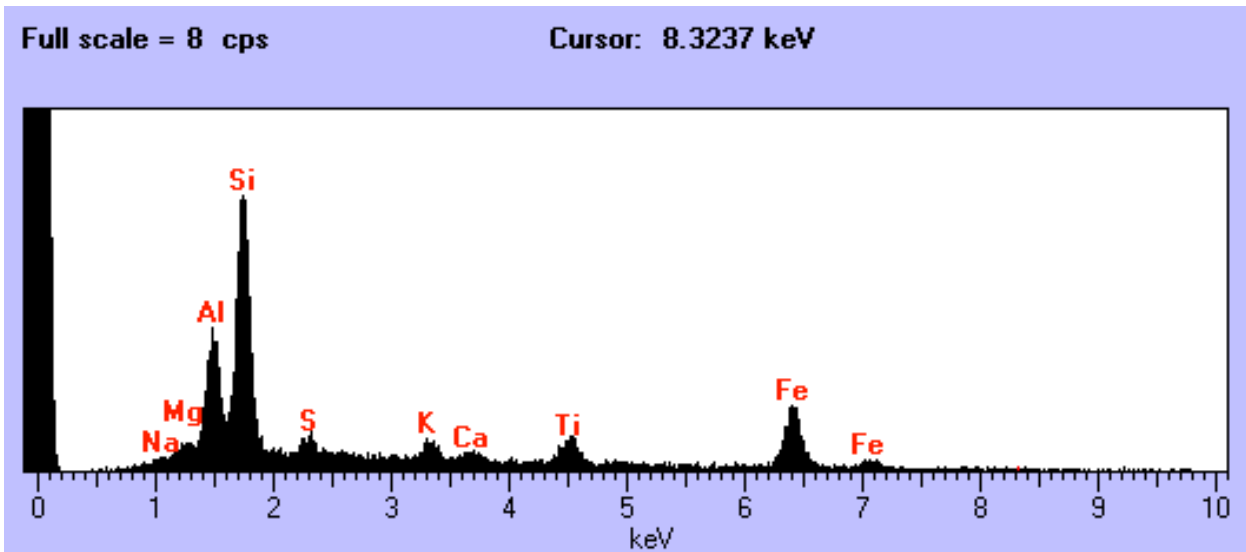
Size: 18 x 13 um
Shape: Irregular
Trans: Transparent
Color: White
Luster: Pearly
Type: Cosmic?
Comments:



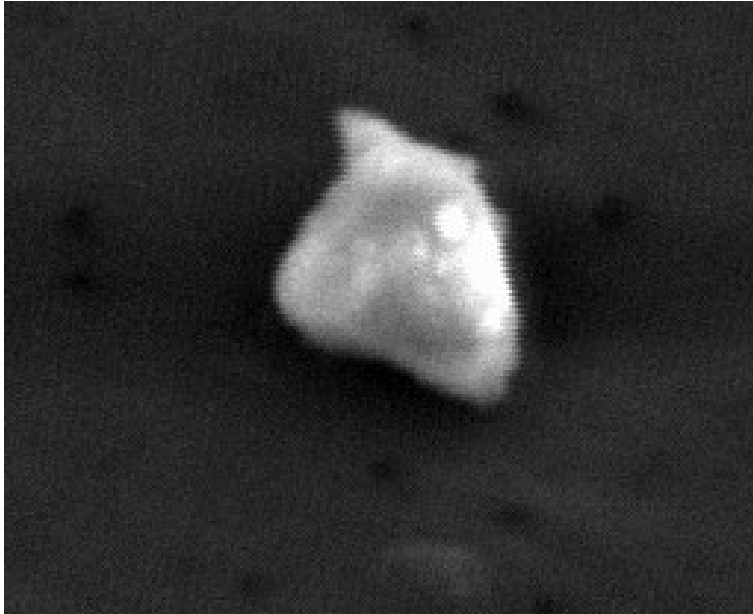
W7190 H2



Size: 10 x 8 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: Cosmic
Comments:



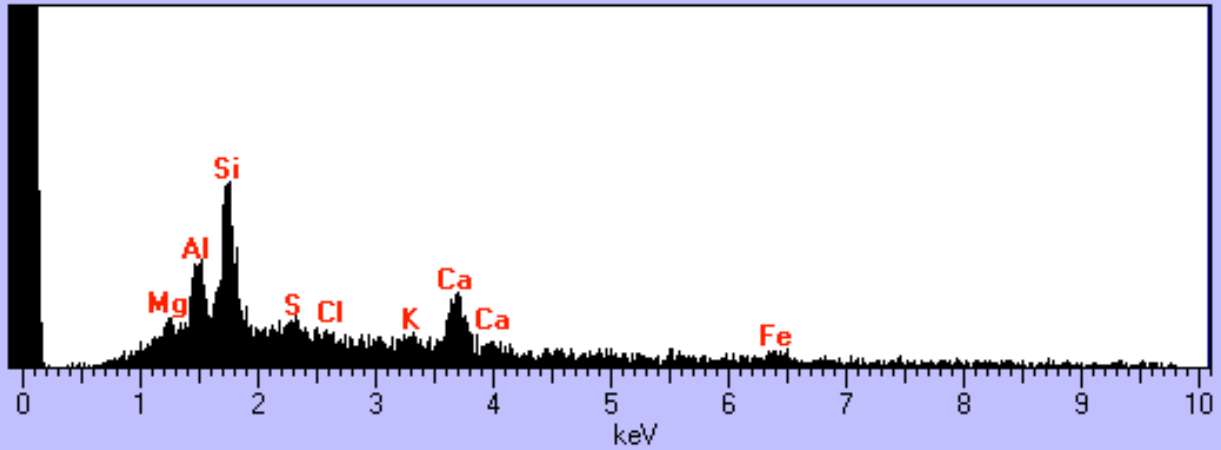
W7190 H6



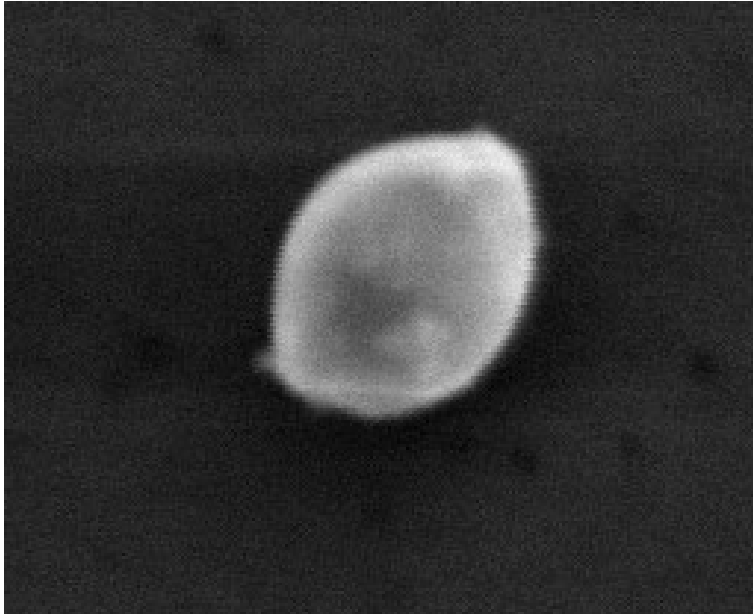
Size: 8 x 7 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: Cosmic?
Comments:

Full scale = 3 cps

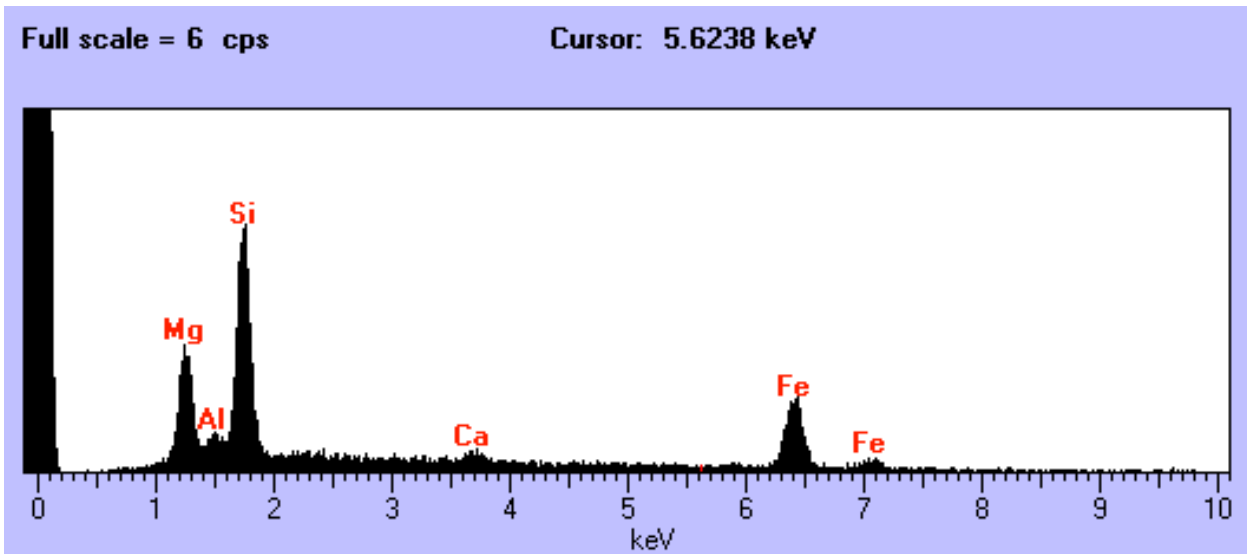
Cursor: 10.0837 keV



W7190 H14



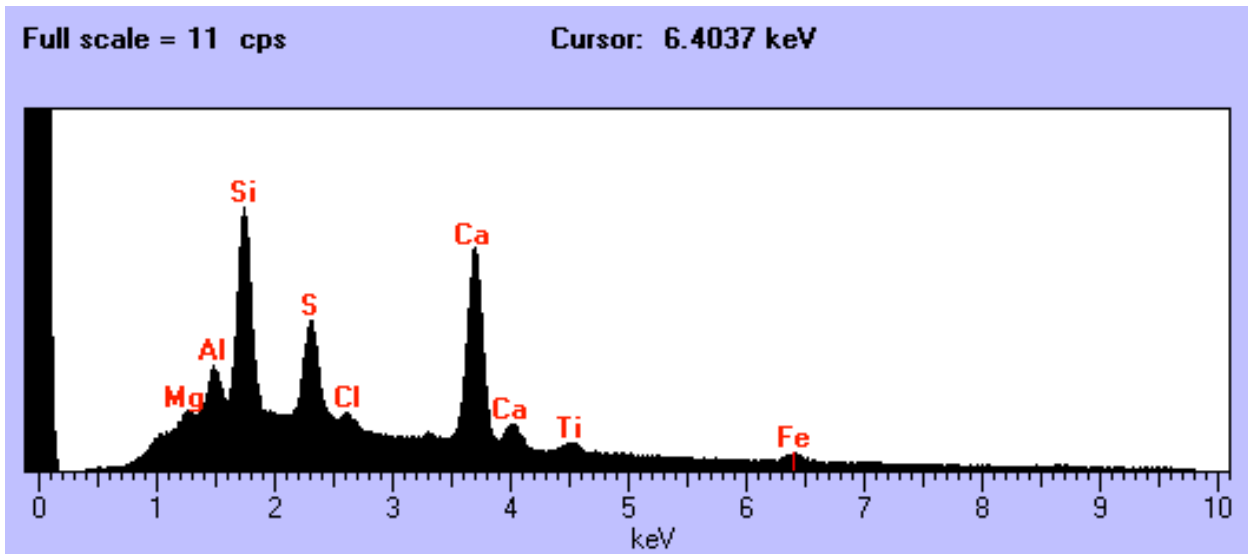
Size: 8 x 7 um
Shape: Sphere
Trans: Translucent
Color: White
Luster: Subvitreous
Type: Cosmic?
Comments:



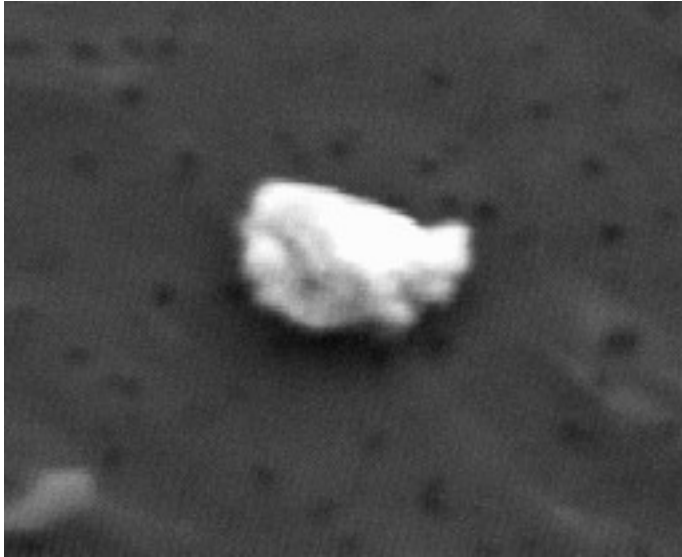
W7190 H21



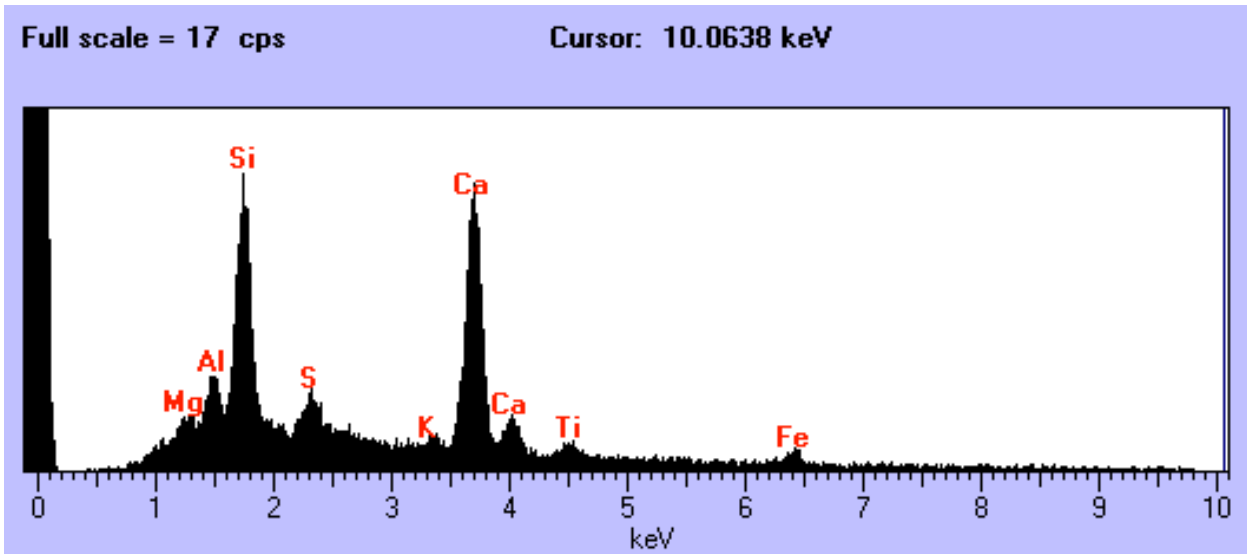
Size: 11 x 10 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: Cosmic?
Comments:



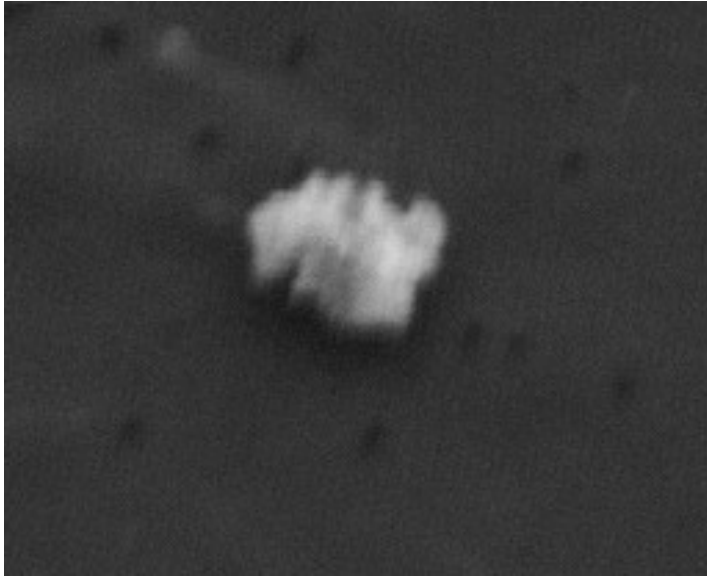
W7190 H23



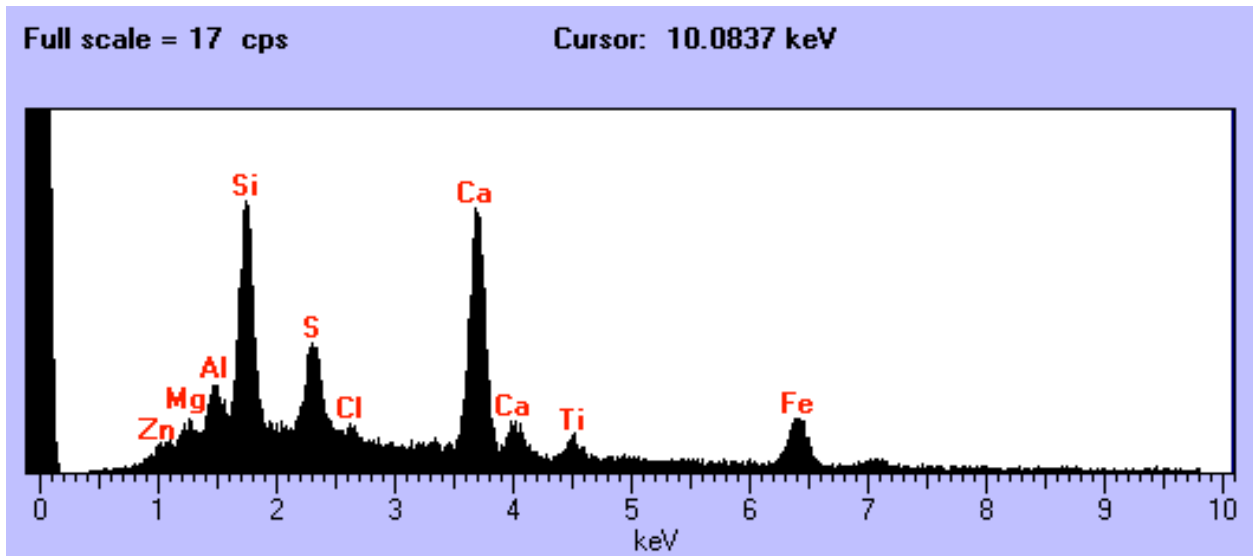
Size: 13 x 10 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: Cosmic?
Comments:



W7190 H24



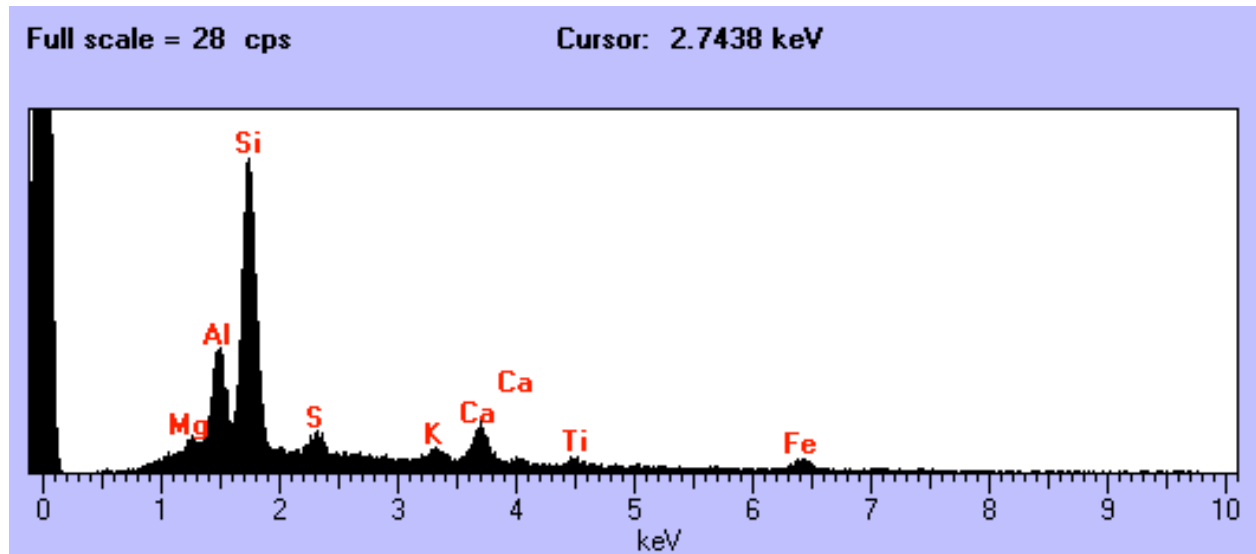
Size: 11 x 8 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: Cosmic?
Comments:



W7190 I11



Size: 9 x 7 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: Cosmic?
Comments:



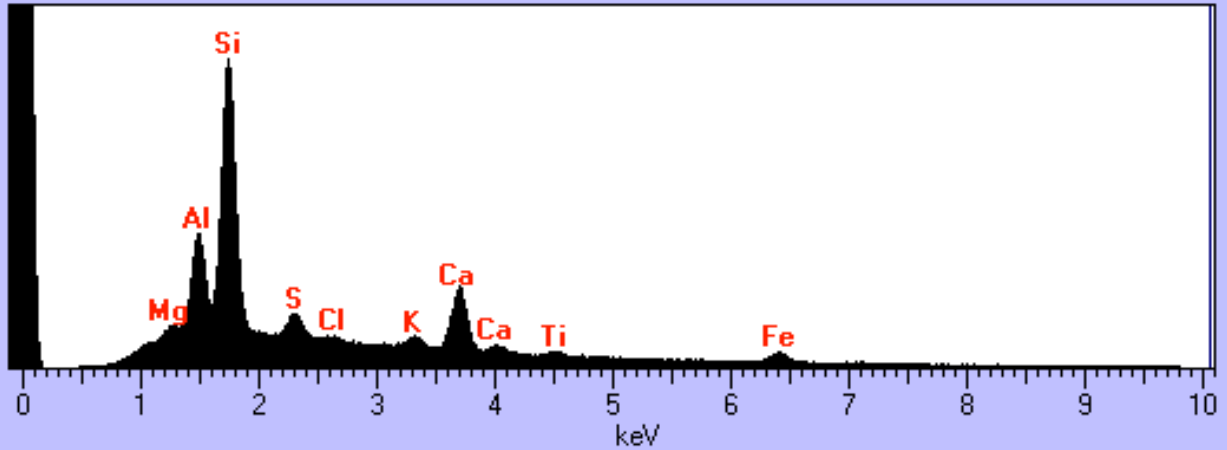
W7190 I13



Size: 10 x 8 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: Cosmic?
Comments:

Full scale = 16 cps

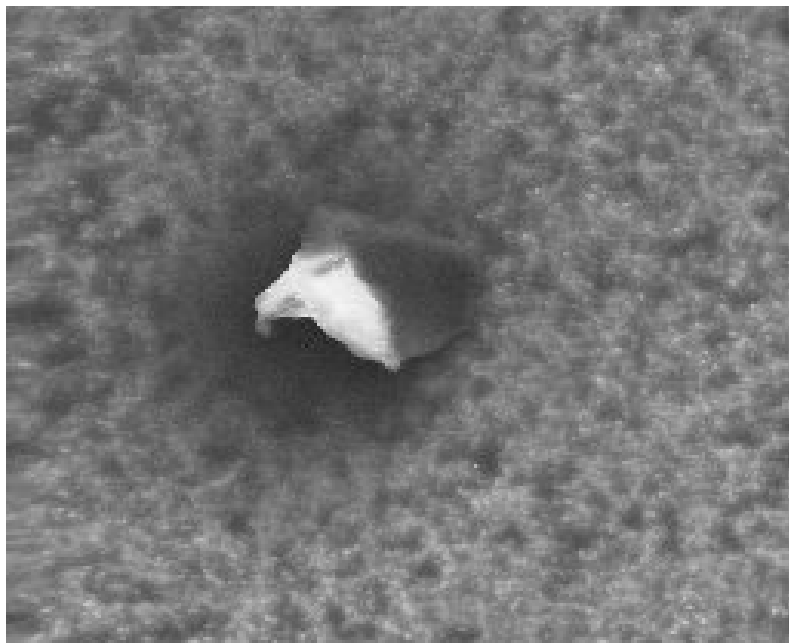
Cursor: 10.0638 keV



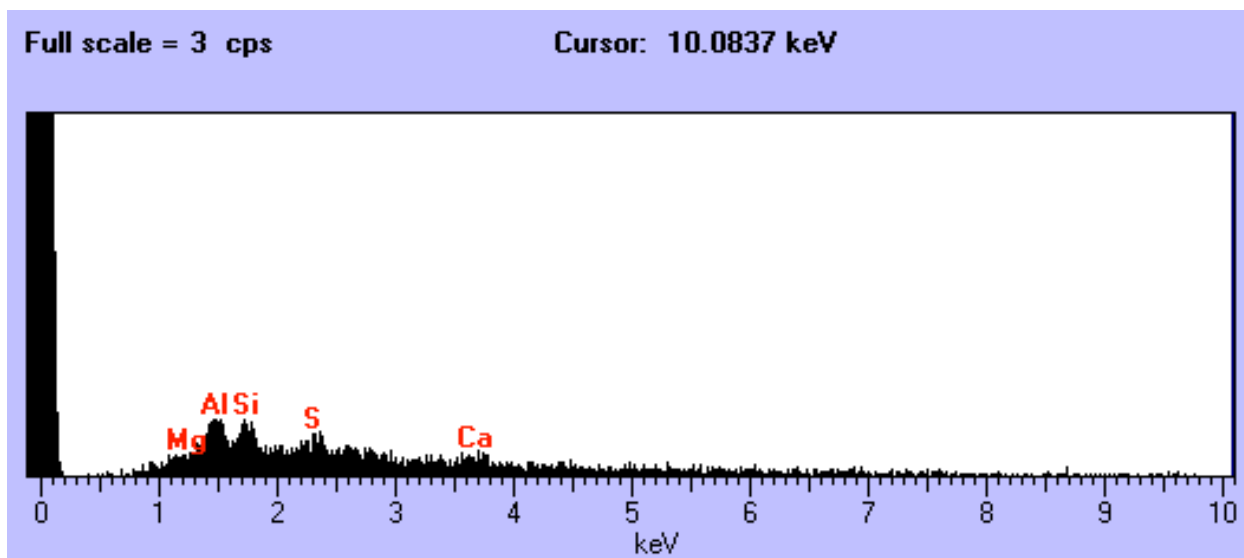
Particle Descriptions

TCN Type

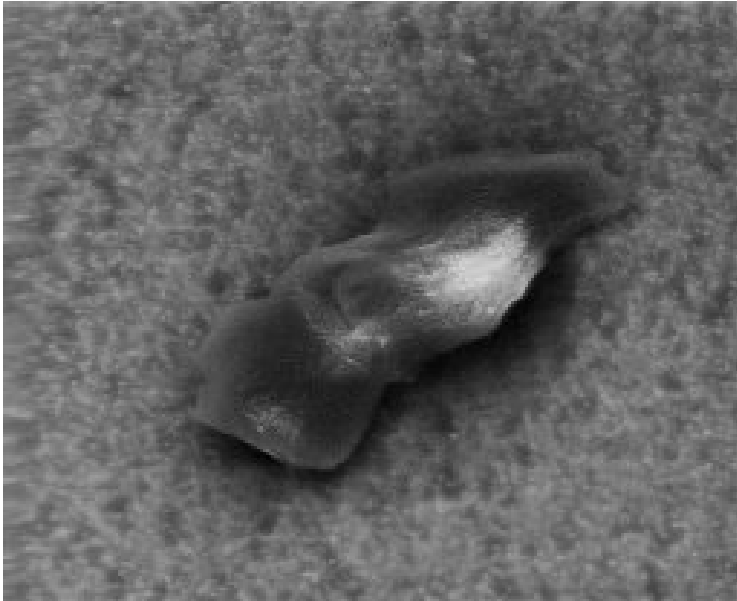
L2047 B1



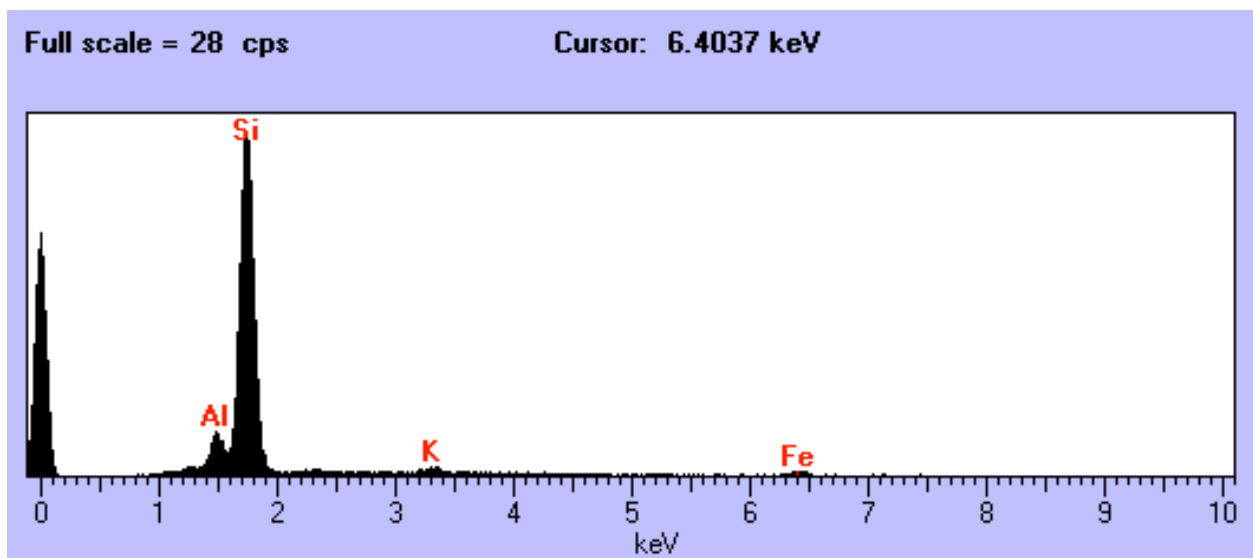
Size: 40 x 32 um
Shape: Irregular
Trans: TL
Color: White
Luster: Dull
Type: TCN
Comments:



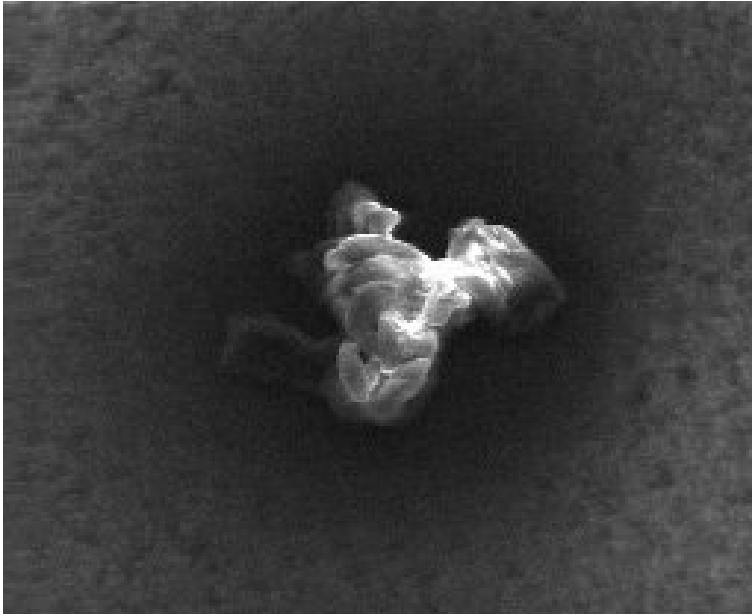
L2047 B2



Size: 50 x 22 um
Shape: Irregular
Trans: Opaque
Color: White
Luster: Dull
Type: TCN
Comments:



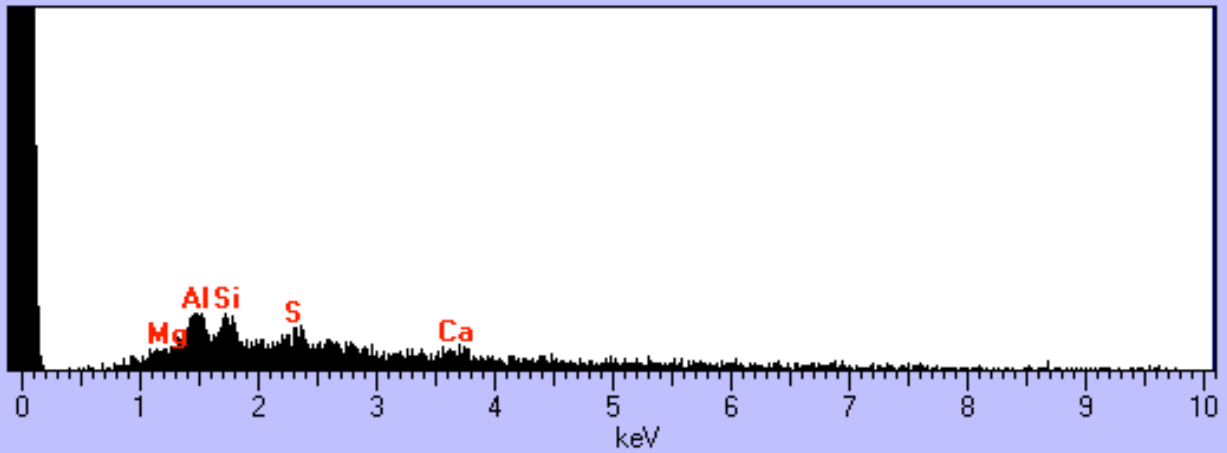
L2047 B3



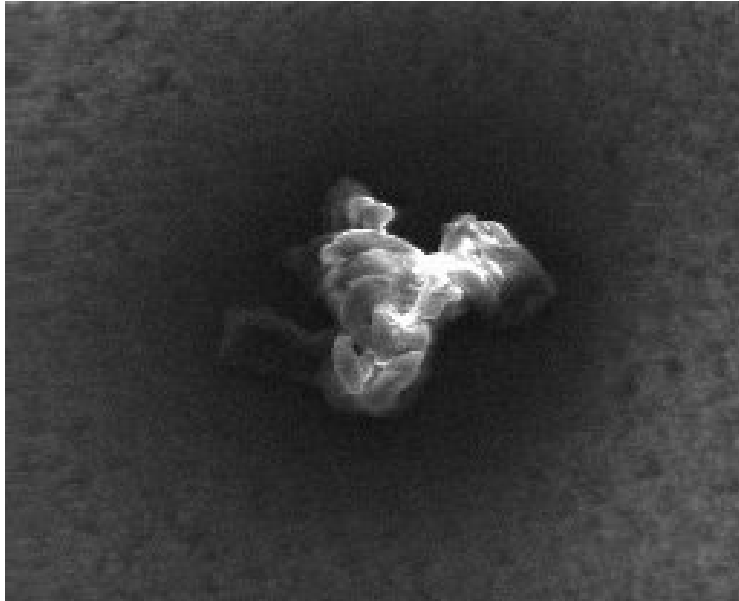
Size: 77 x 32 um
Shape: Irregular
Trans: Opaque
Color: White
Luster: Dull
Type: TCN
Comments:

Full scale = 3 cps

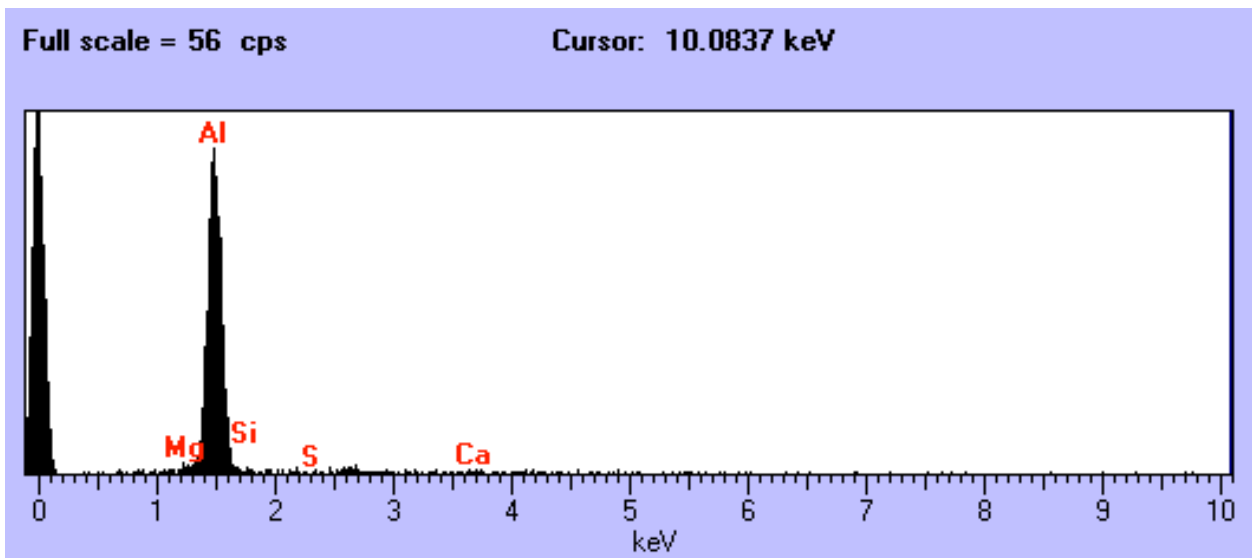
Cursor: 10.0837 keV



L2047 B4



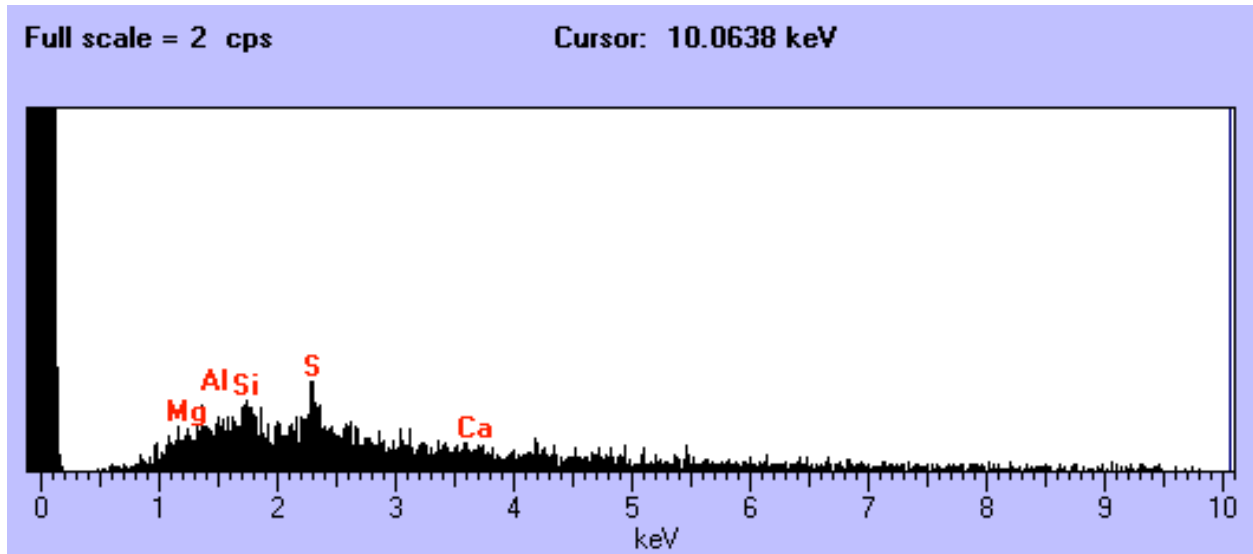
Size: 62 x 50 um
Shape: Irregular
Trans: TL
Color: White
Luster: Dull
Type: TCN
Comments:



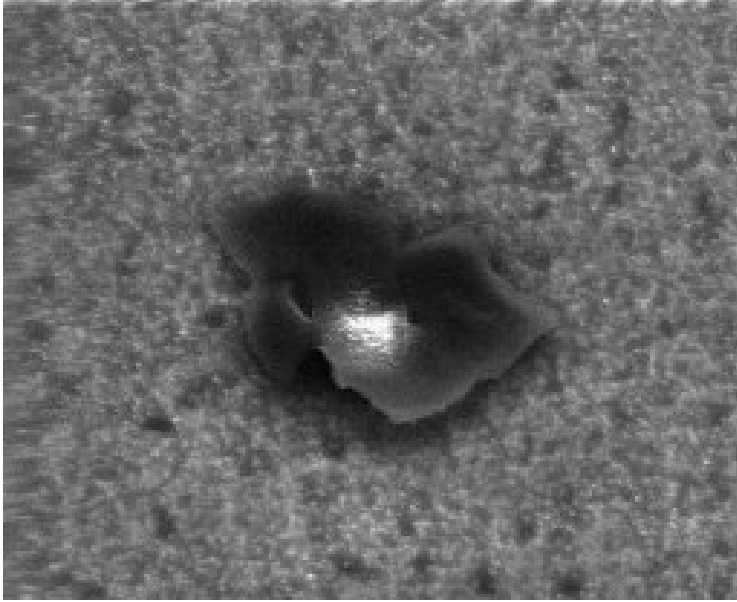
L2047 B5



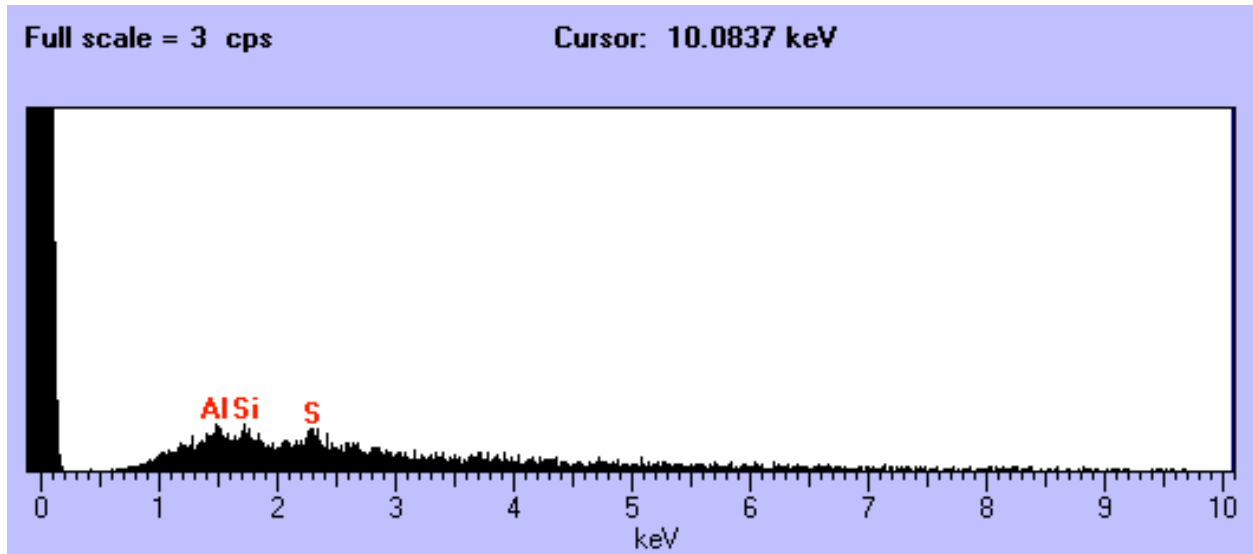
Size: 45 x 32 um
Shape: Irregular
Trans: TL
Color: White
Luster: Dull
Type: TCN
Comments:



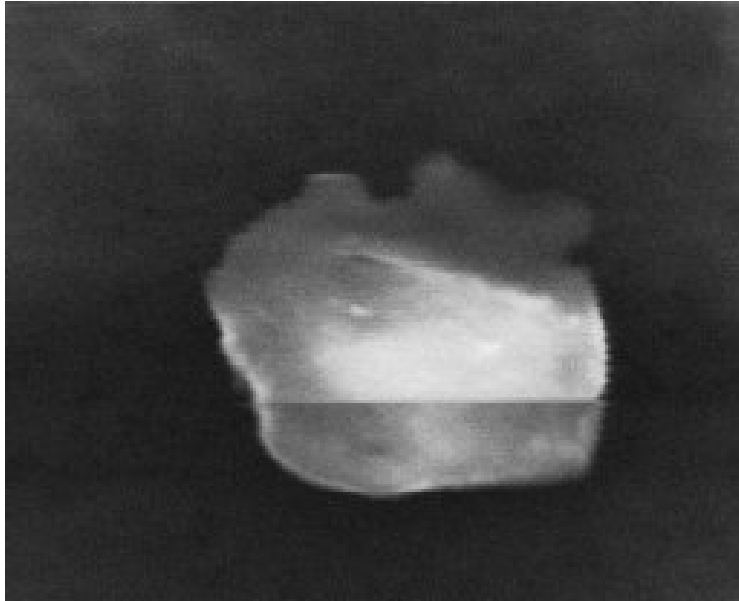
L2047 B8



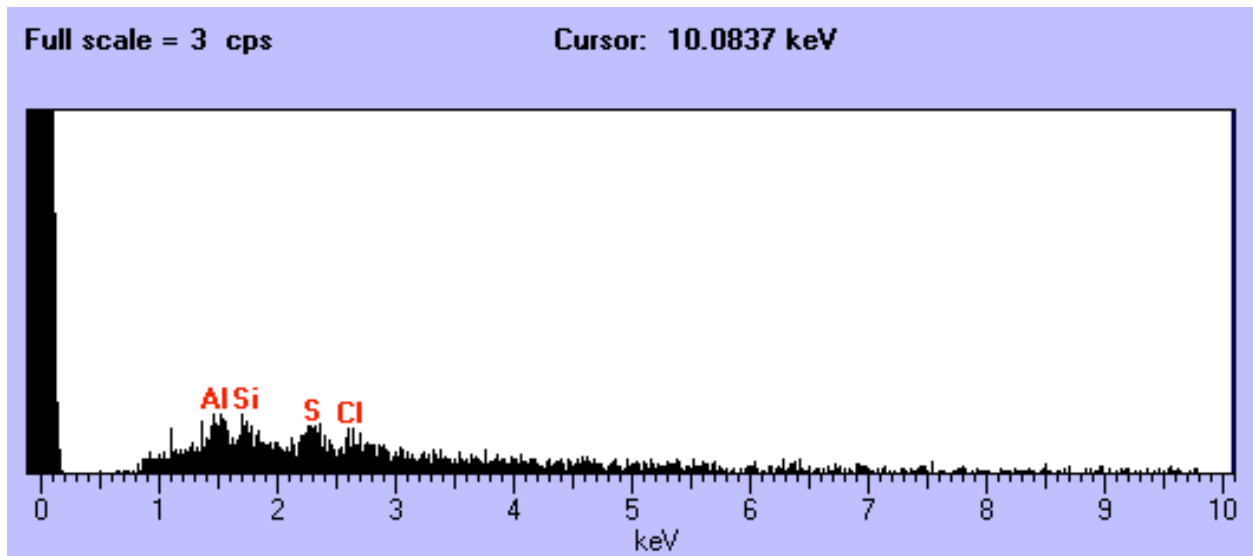
Size: 50 x 35 um
Shape: Irregular
Trans: TL
Color: White
Luster: Dull/Submetallic
Type: TCN
Comments:



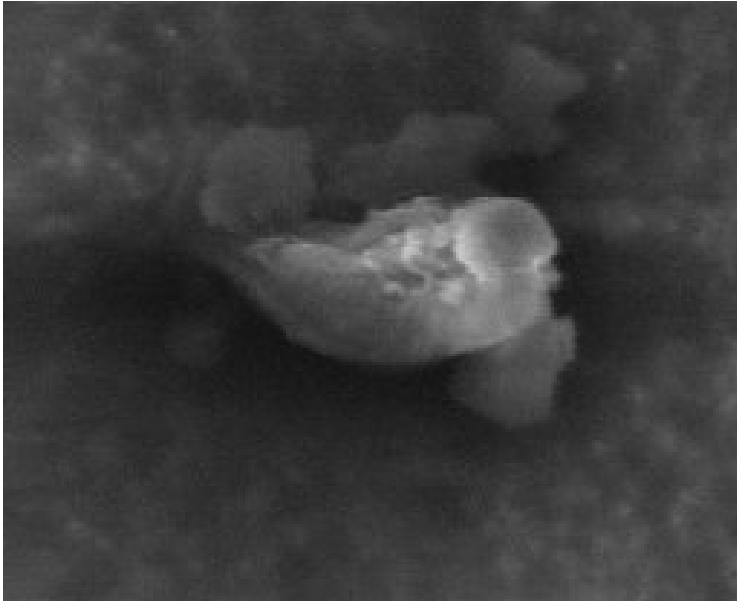
L2047 B10



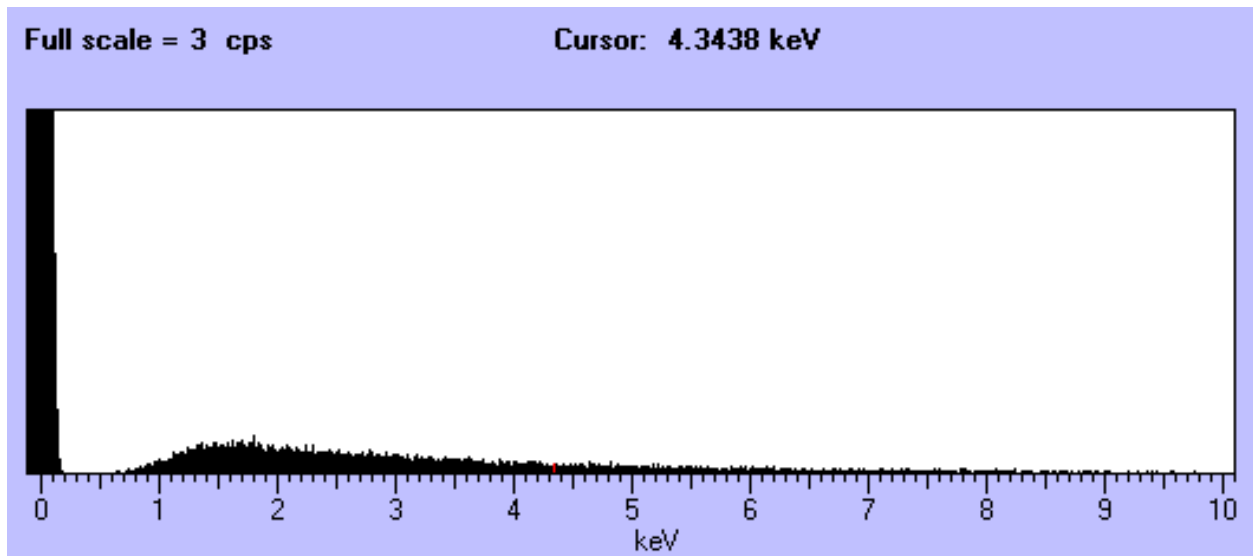
Size: 20 um
Shape: Irregular
Trans: TL
Color: Colorless
Luster: Dull
Type: TCN
Comments:



L2047 B12



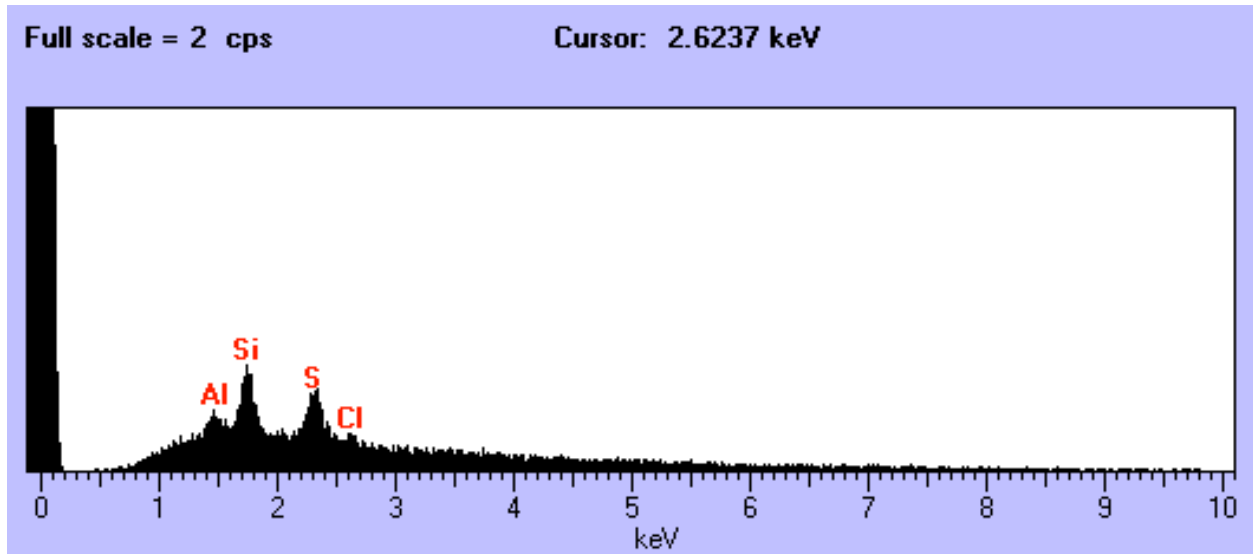
Size: 12 x 10 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull/Submetallic
Type: TCN
Comments:



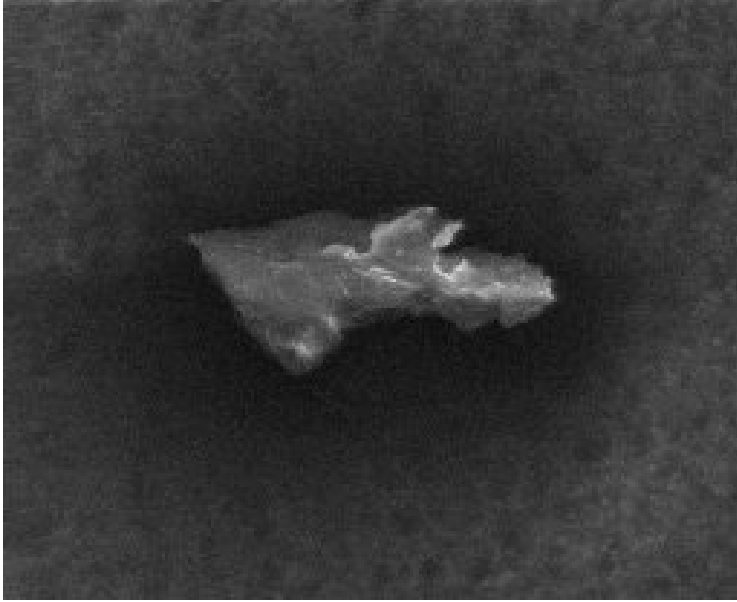
L2047 B13



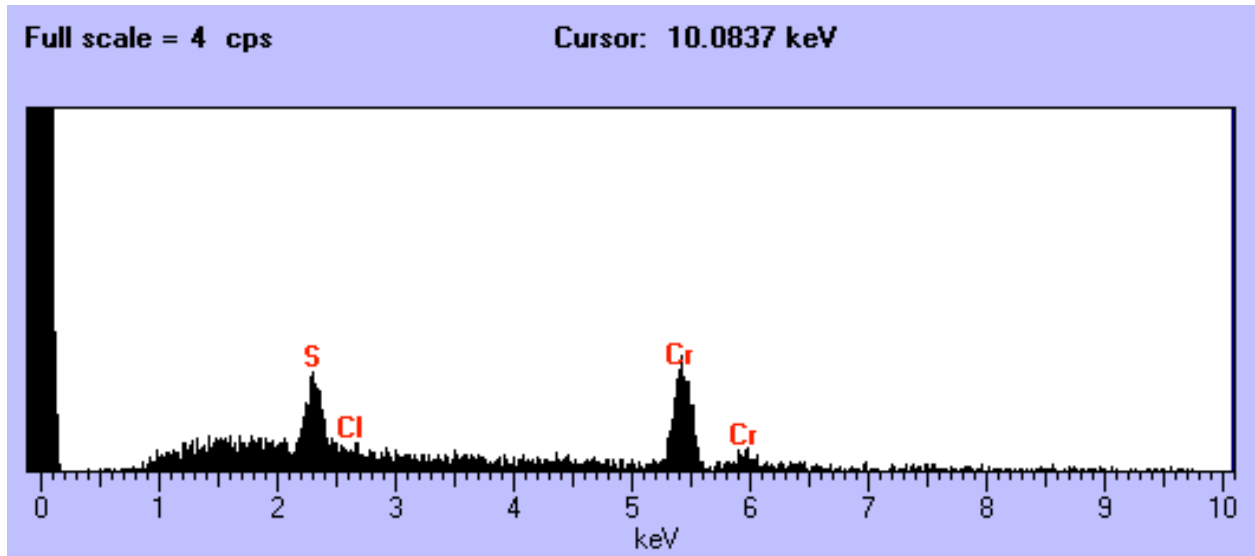
Size: 28 x 25 um
Shape: Irregular
Trans: TL
Color: Colorless
Luster: Dull
Type: TCN
Comments:



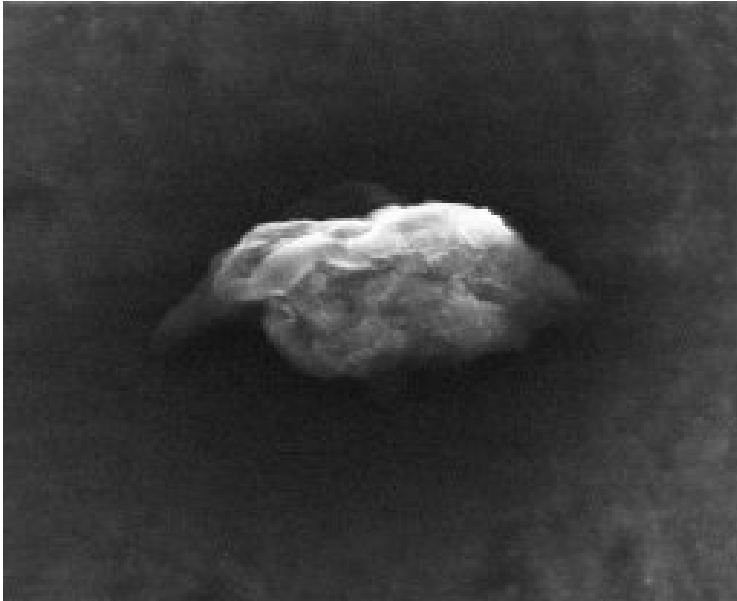
L2047 B14



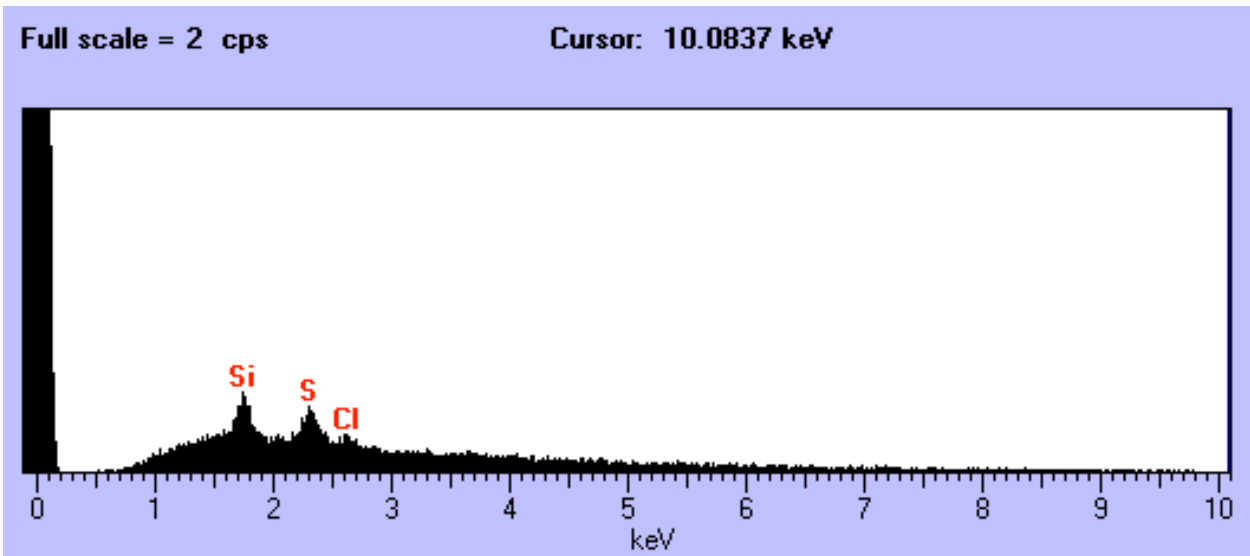
Size: 47 x 22 um
Shape: Irregular
Trans: TL
Color: White
Luster: Dull
Type: TCN
Comments:



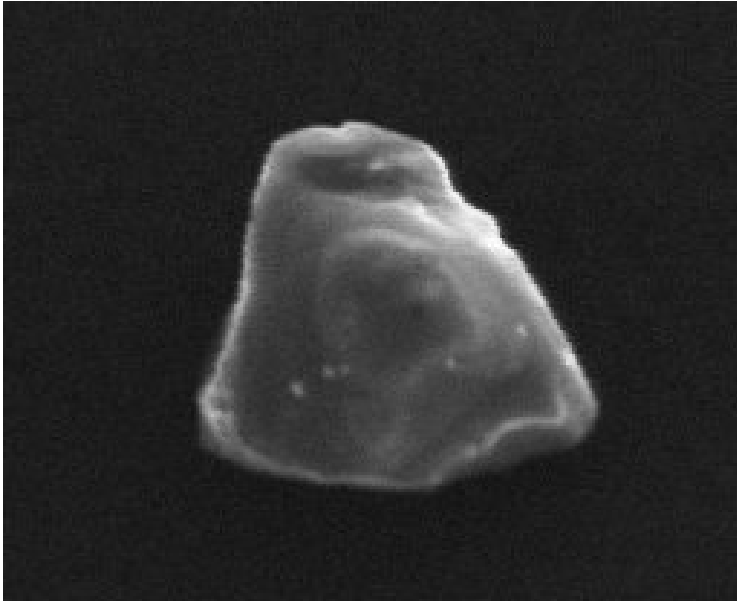
L2047 B15



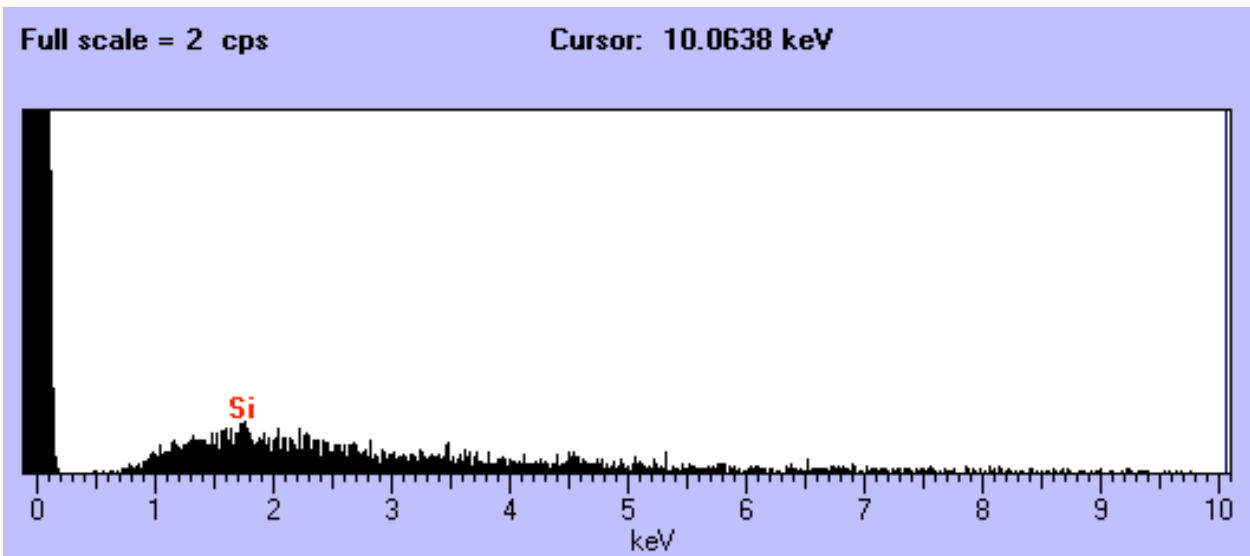
Size: 44 x 25 um
Shape: Irregular
Trans: TL
Color: Colorless
Luster: Dull
Type: TCN
Comments:



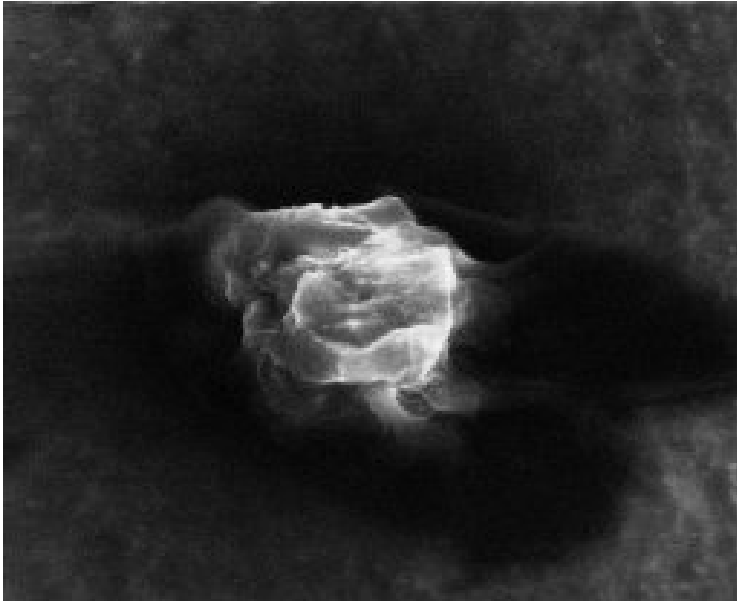
L2047 B19



Size: 30 um
Shape: Irregular
Trans: Transparent
Color: Colorless
Luster: Vitreous
Type: TCN
Comments:



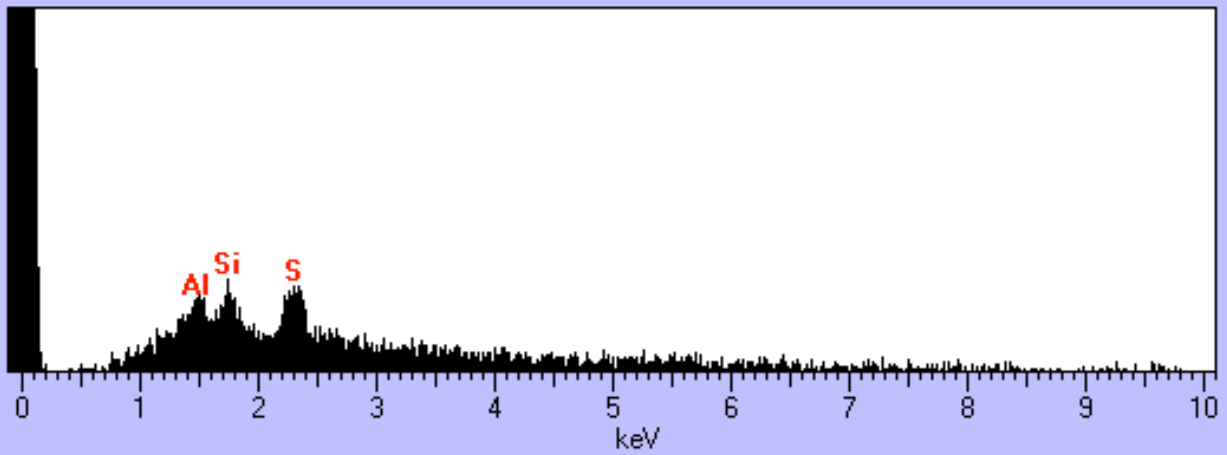
L2047 B22



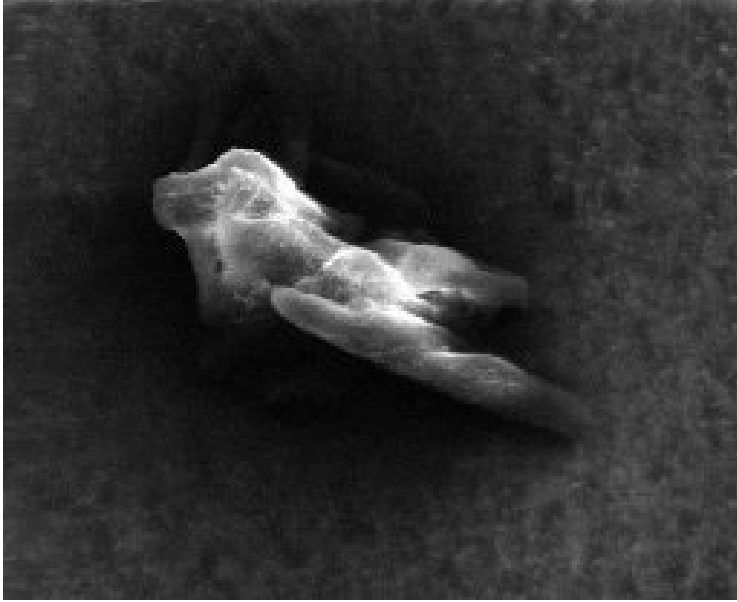
Size: 8 um
Shape: Irregular
Trans: TL
Color: White
Luster: Dull
Type: TCN
Comments:

Full scale = 2 cps

Cursor: 3.6937 keV



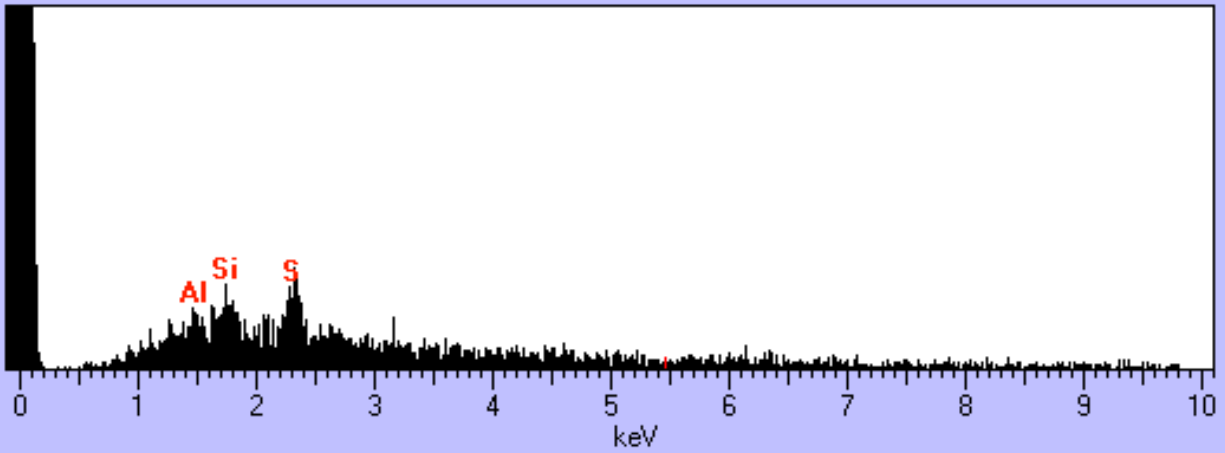
L2047 B24



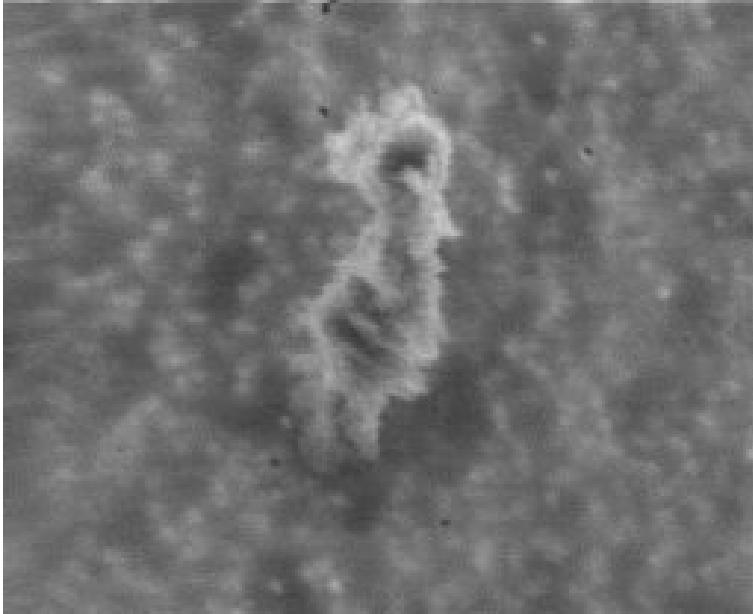
Size: 70 x 38 um
Shape: Irregular
Trans: TL
Color: White
Luster: Dull
Type: TCN
Comments:

Full scale = 2 cps

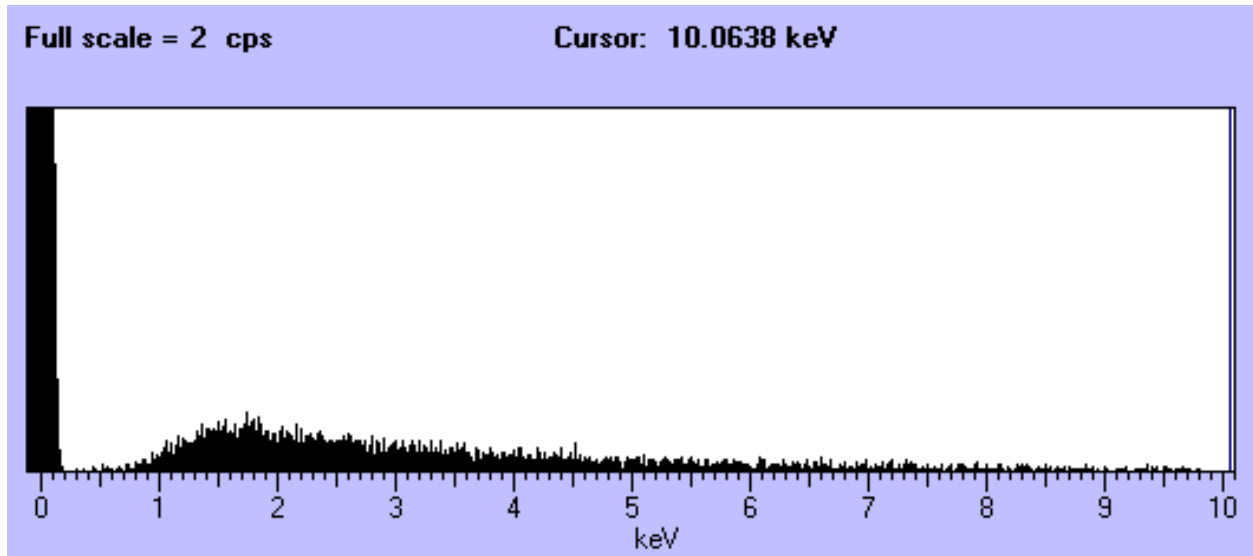
Cursor: 5.4637 keV



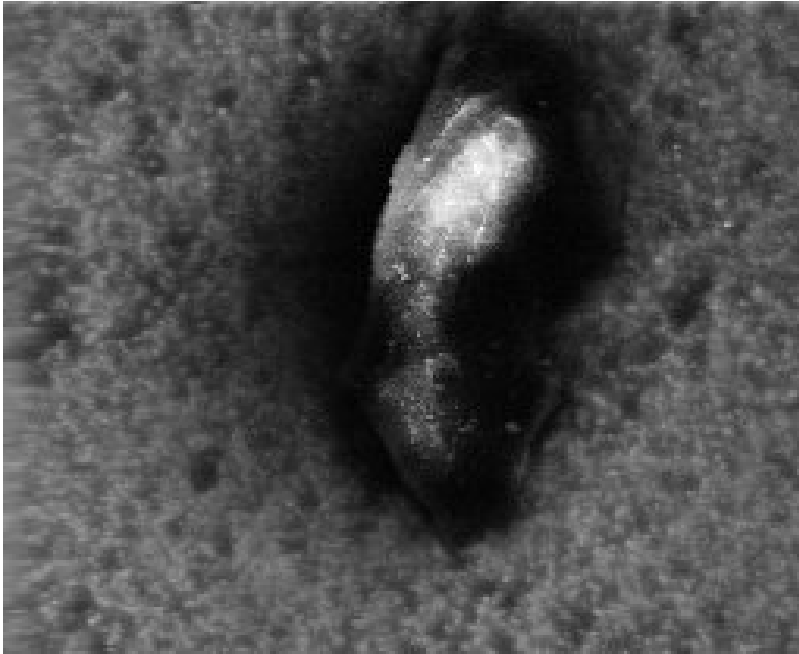
L2047 B29



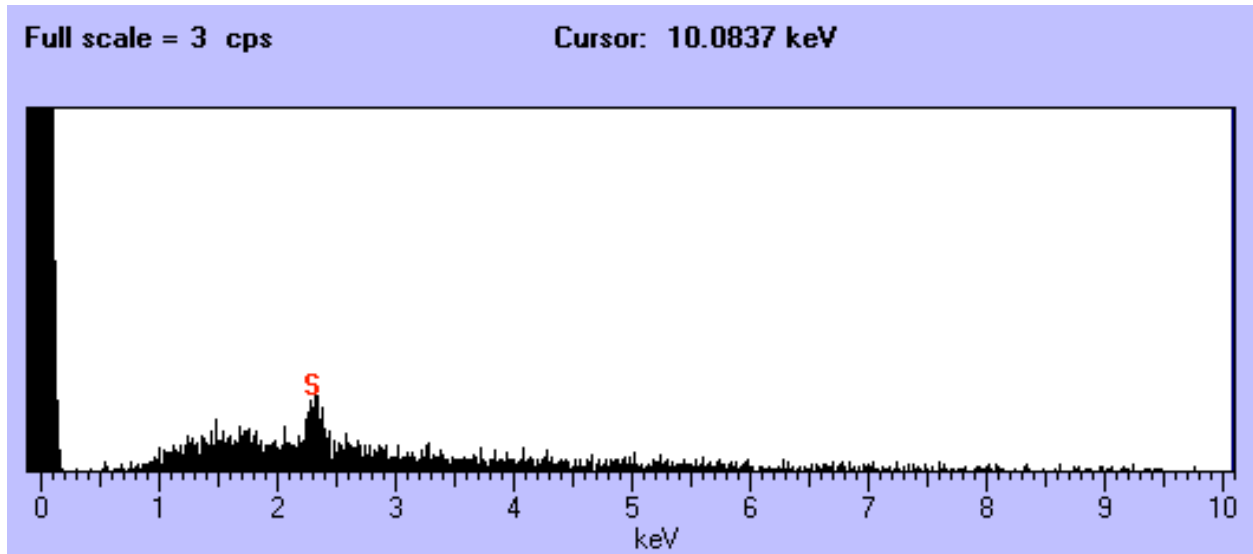
Size: 27 x 17 um
Shape: Irregular
Trans: Opaque
Color: Silver
Luster: Dull/Submetallic
Type: TCN
Comments:



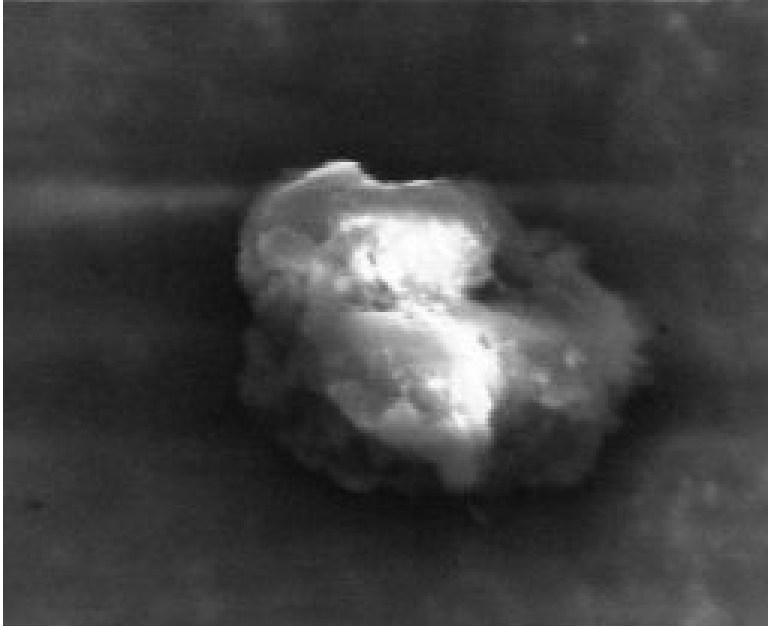
L2047 B30



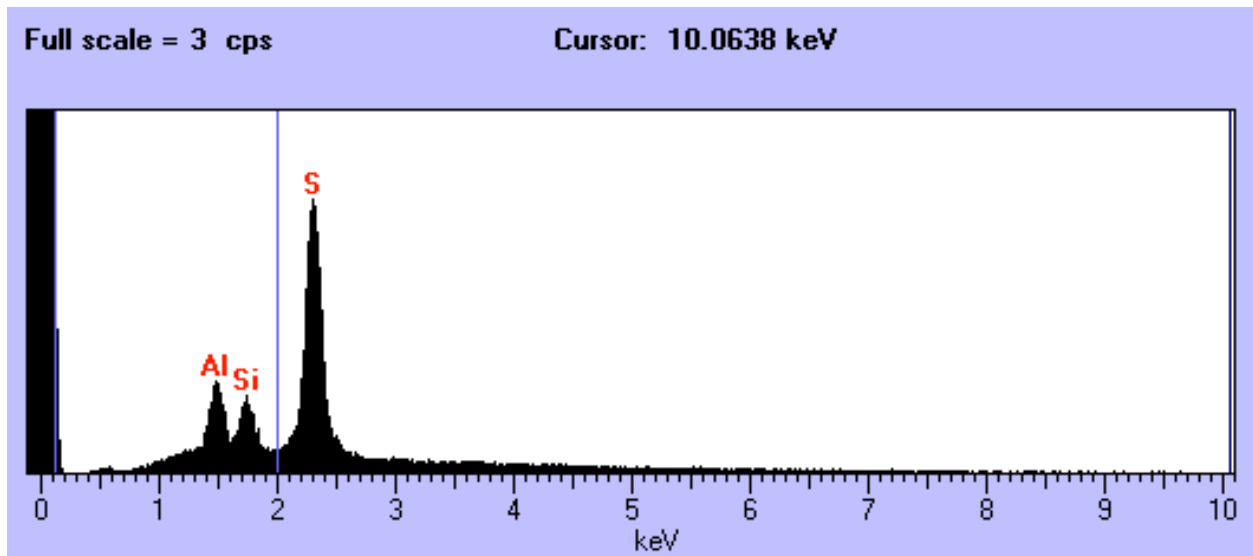
Size: 70 x 30 um
Shape: Irregular
Trans: TL
Color: Black
Luster: Dull/Submetallic
Type: TCN
Comments:



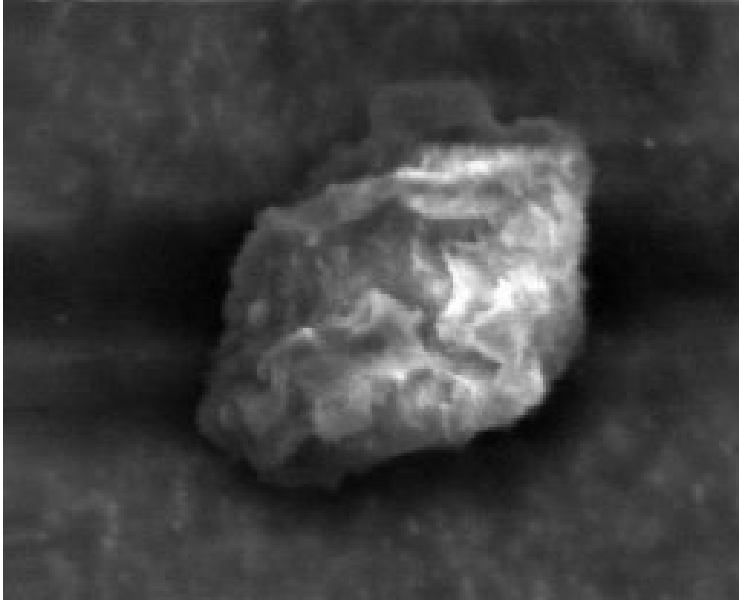
L2047 C2



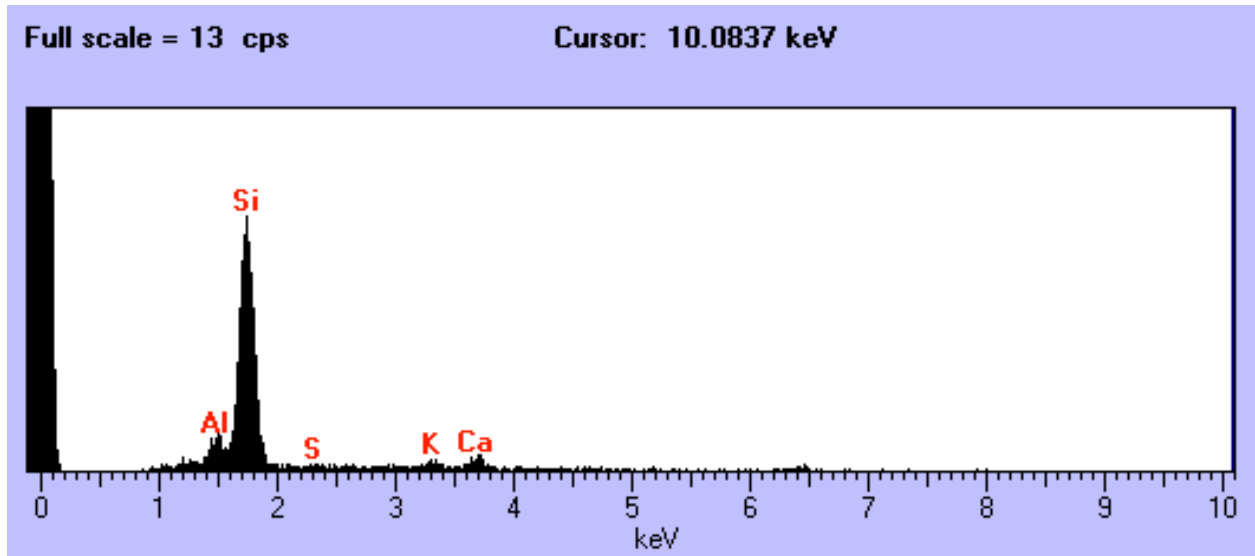
Size: 23 x 17 um
Shape: Irregular
Trans: Translucent
Color: Yellow-Green
Luster: Subvitreous
Type: TCN
Comments:



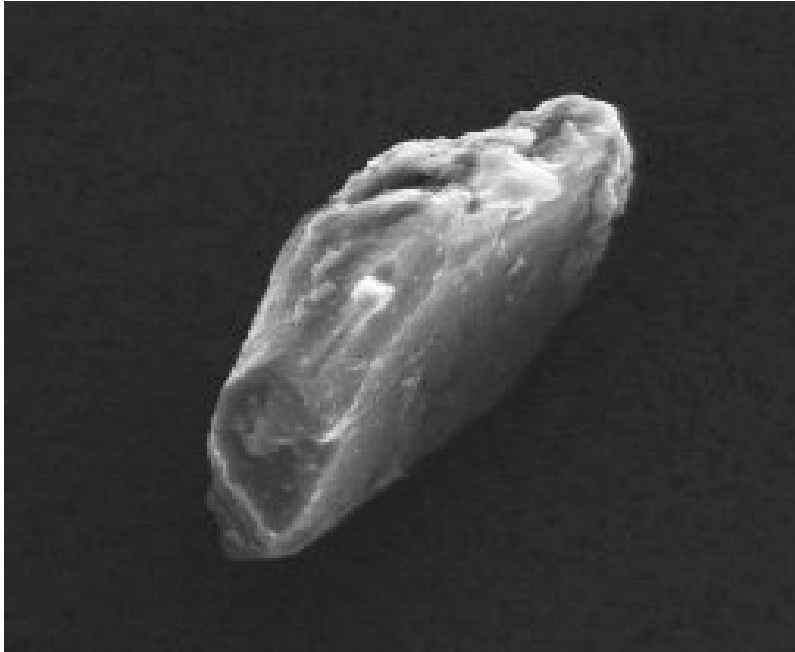
L2047 C3



Size: 27 x 22 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCN
Comments:



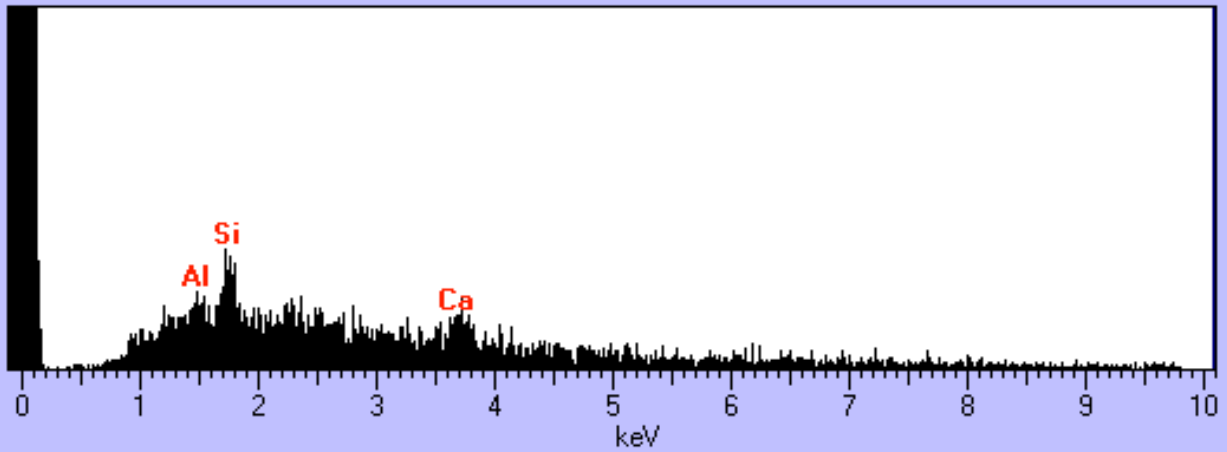
L2047 C8



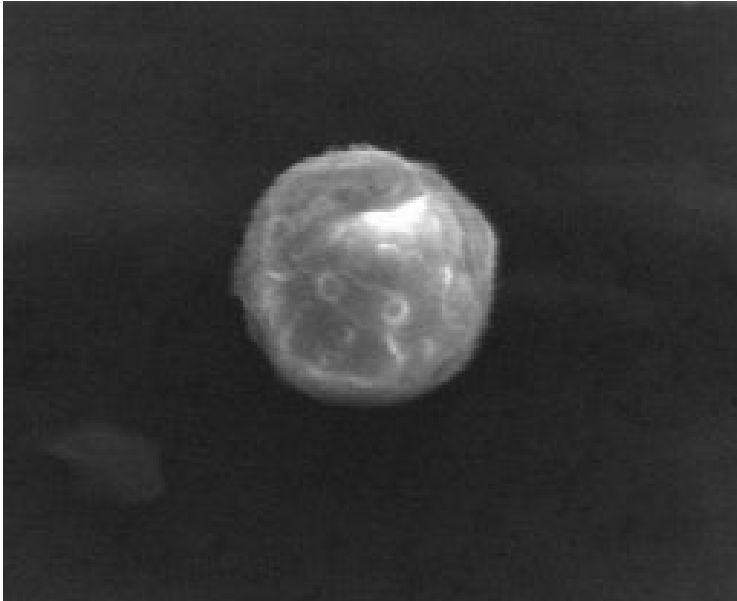
Size: 50 x 38 um
Shape: Irregular
Trans: Opaque
Color: White
Luster: Dull
Type: TCN
Comments:

Full scale = 1 cps

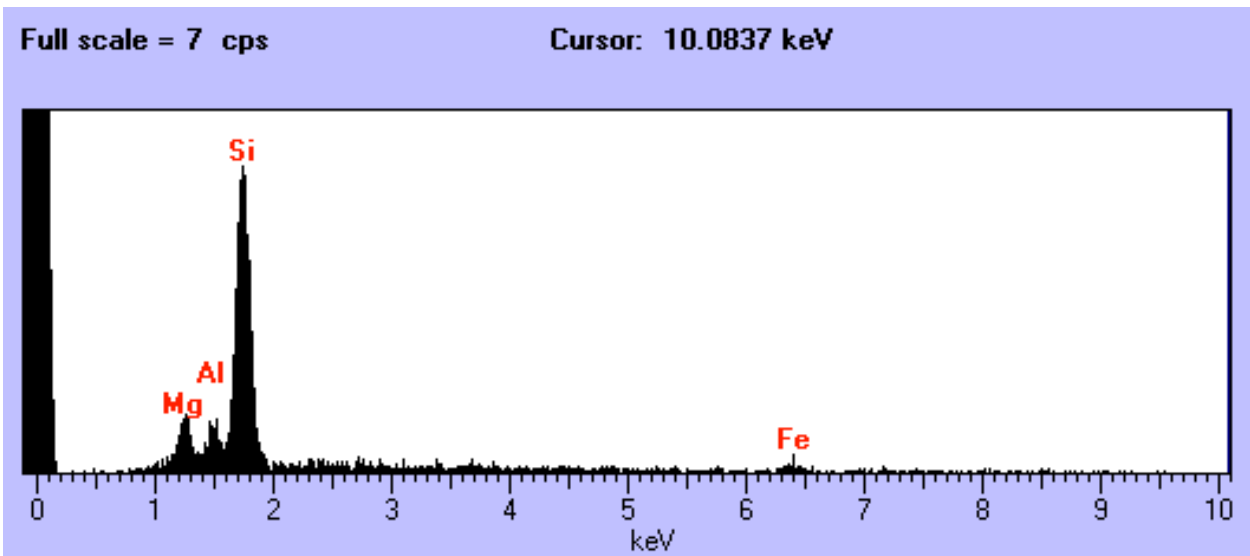
Cursor: 10.0837 keV



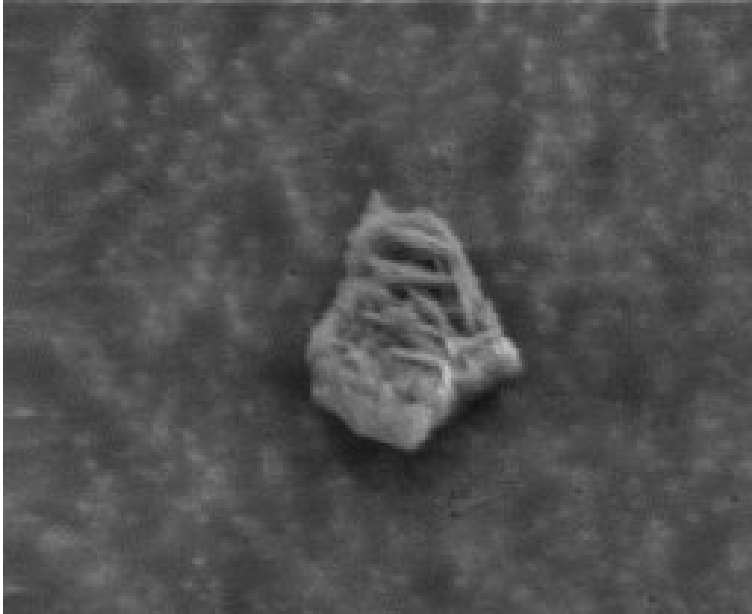
L2047 C19



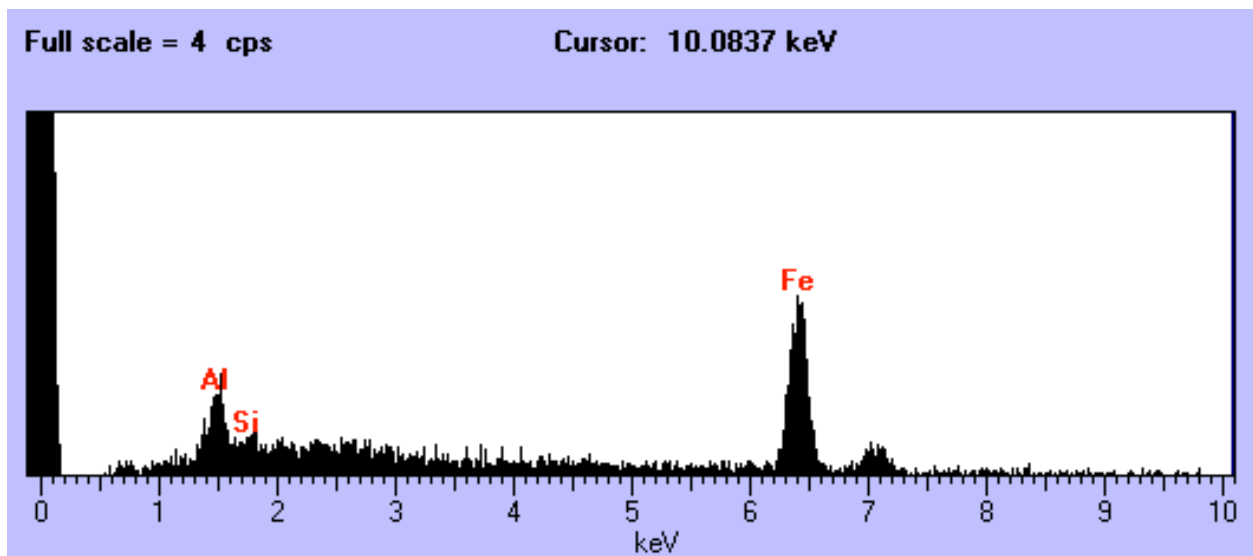
Size: 13 um
Shape: Sphere
Trans: Translucent
Color: White
Luster: Vitreous
Type: TCN
Comments:



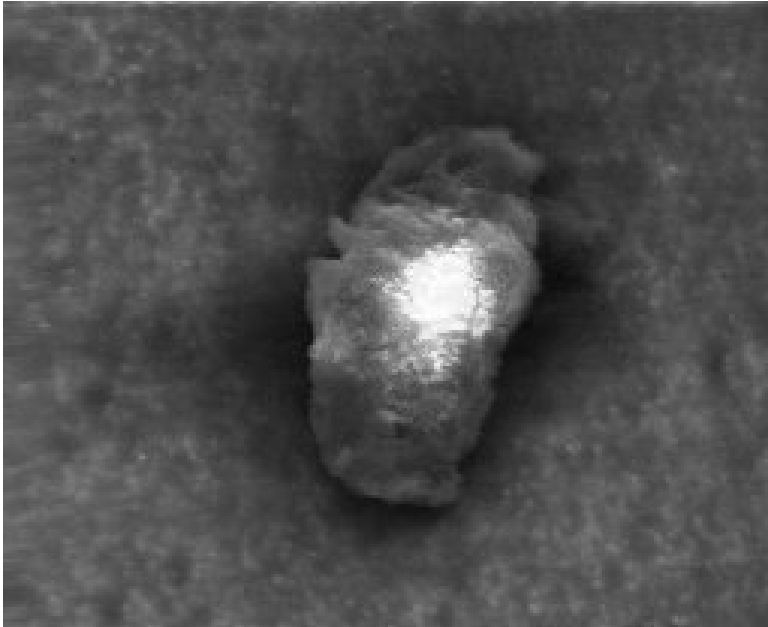
L2047 C20



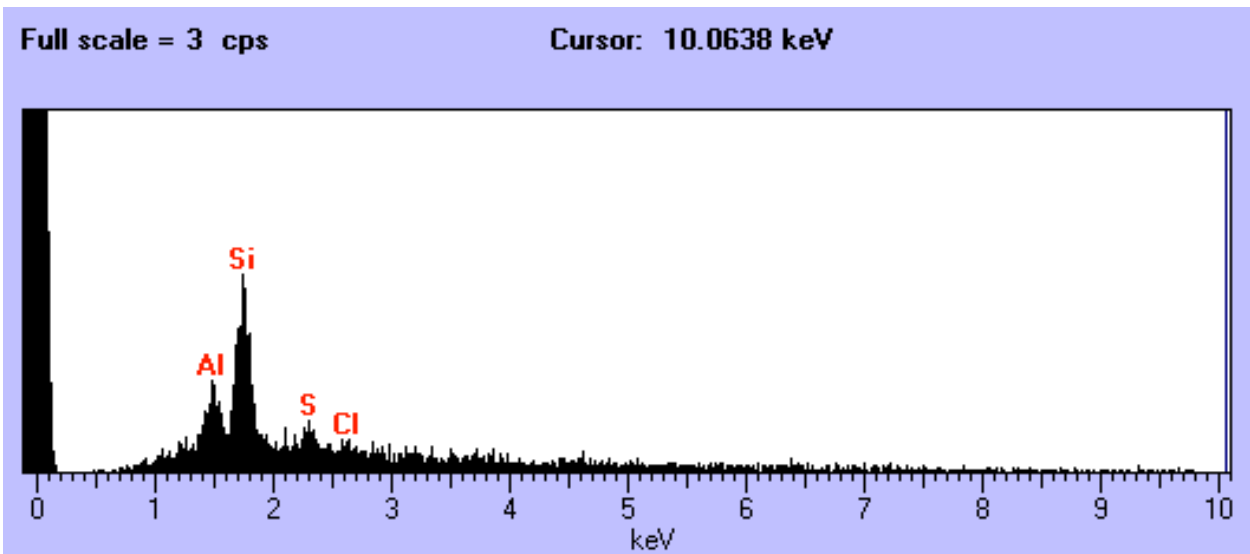
Size: 12 x 10 um
Shape: Irregular
Trans: Opaque
Color: Orange
Luster: Subvitreous
Type: TCN?
Comments:



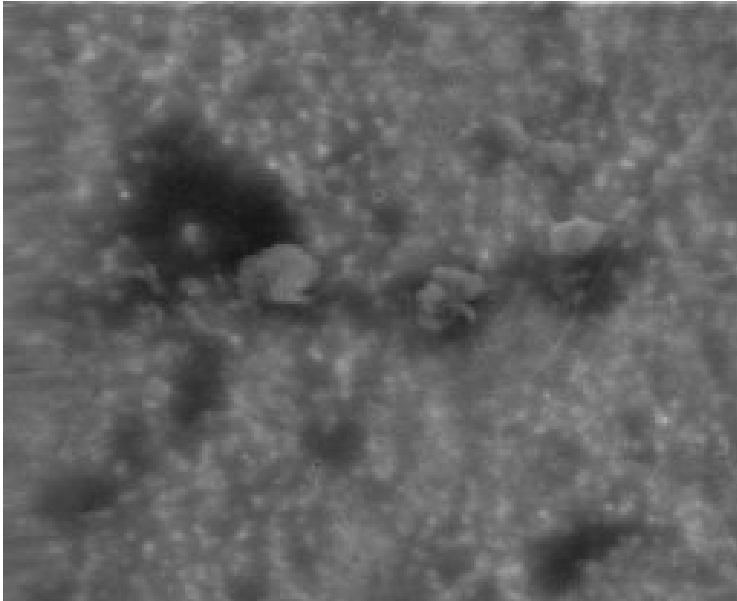
L2047 D10



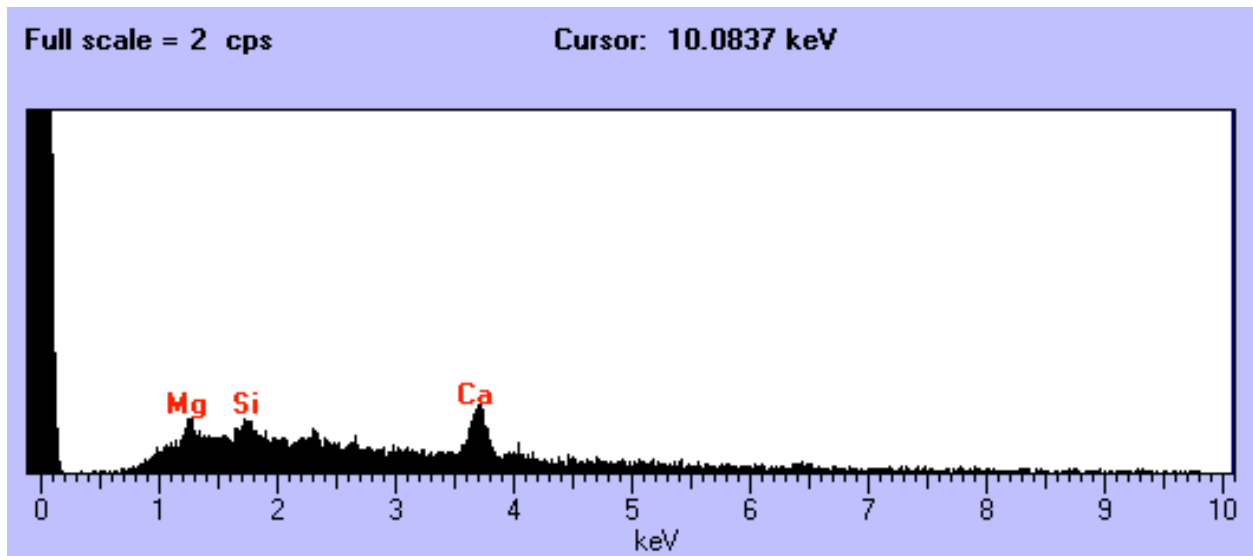
Size: 38 x 17 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCN
Comments:



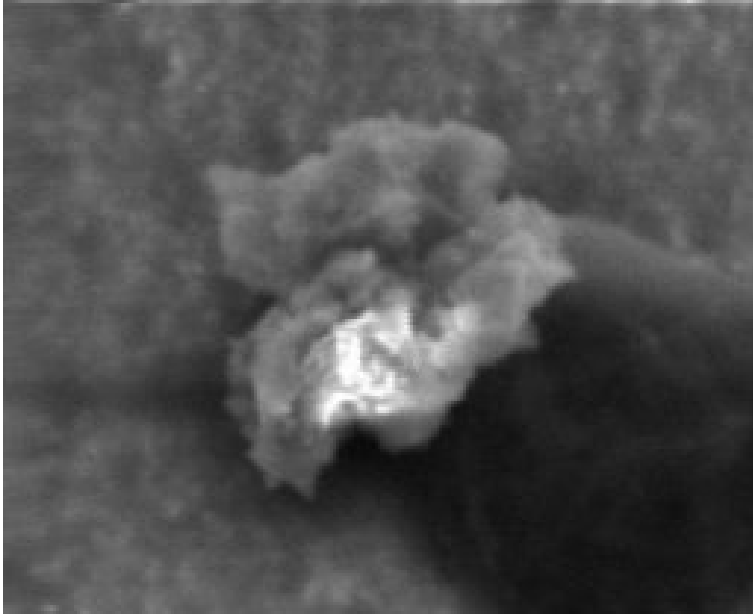
L2047 D25



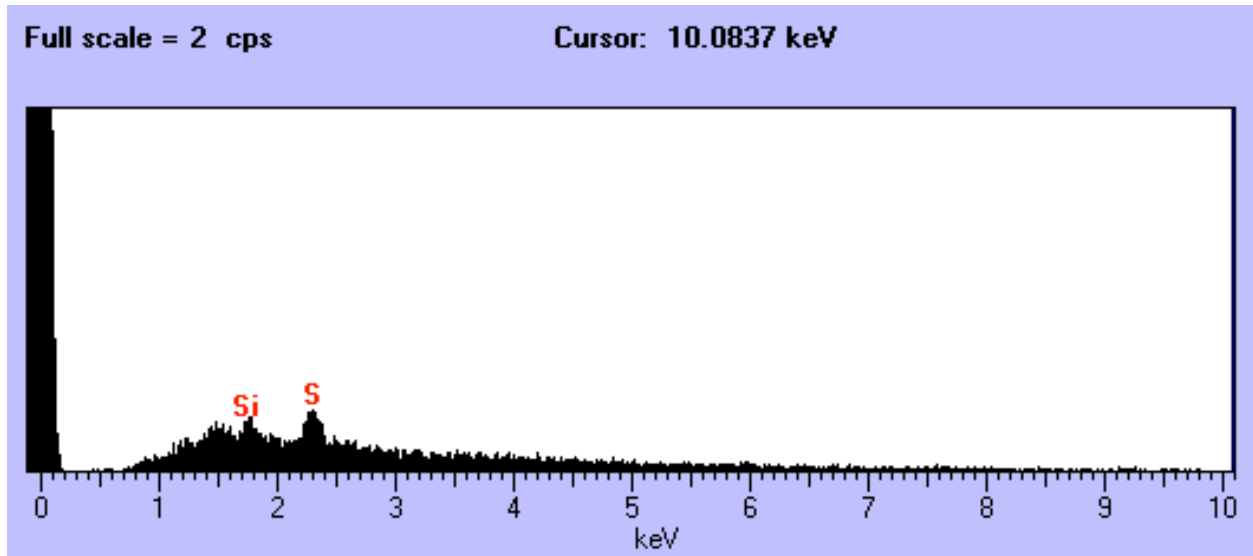
Size: ~5 um each
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull/Submetallic
Type: TCN
Comments:



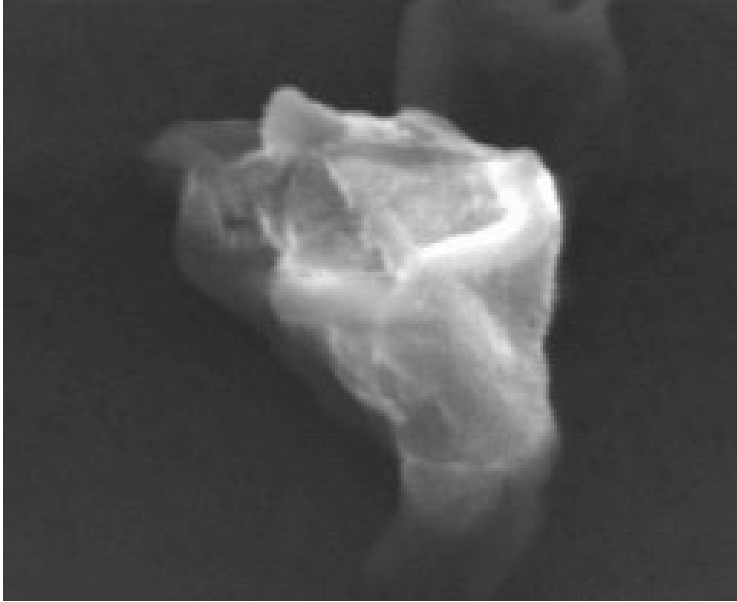
L2047 D27



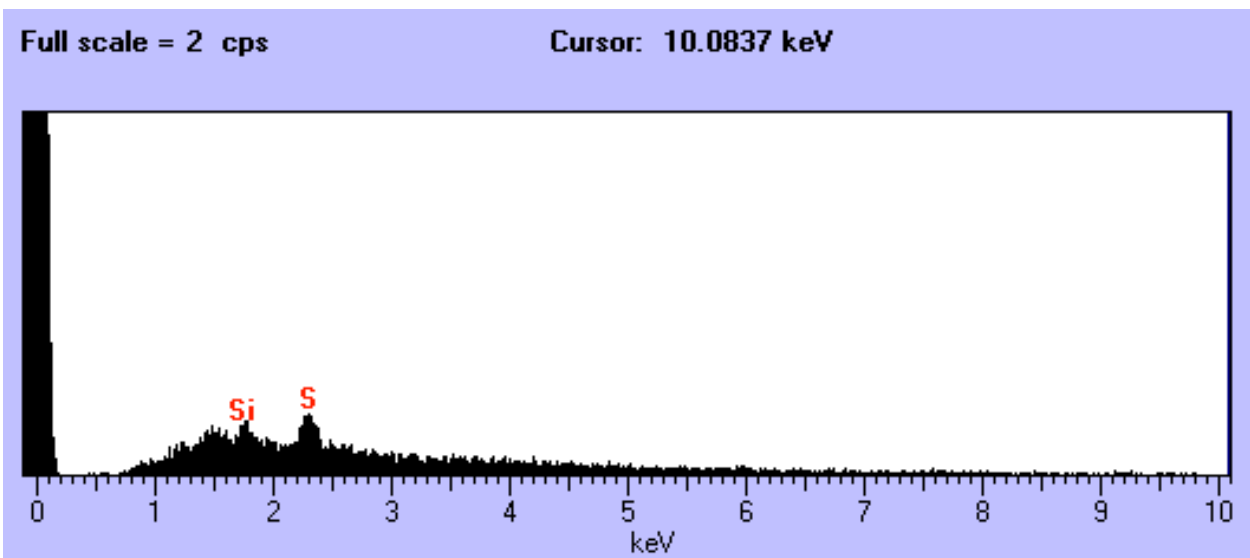
Size: 25 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCN
Comments:



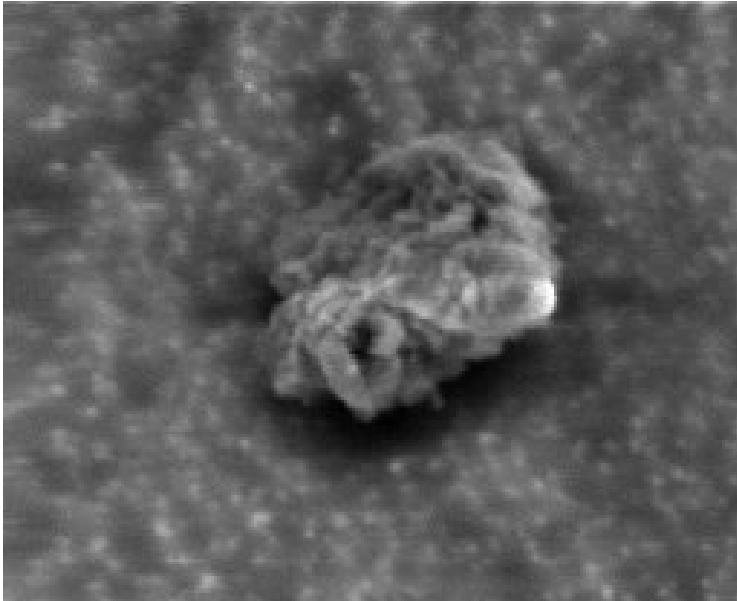
L2047 D28



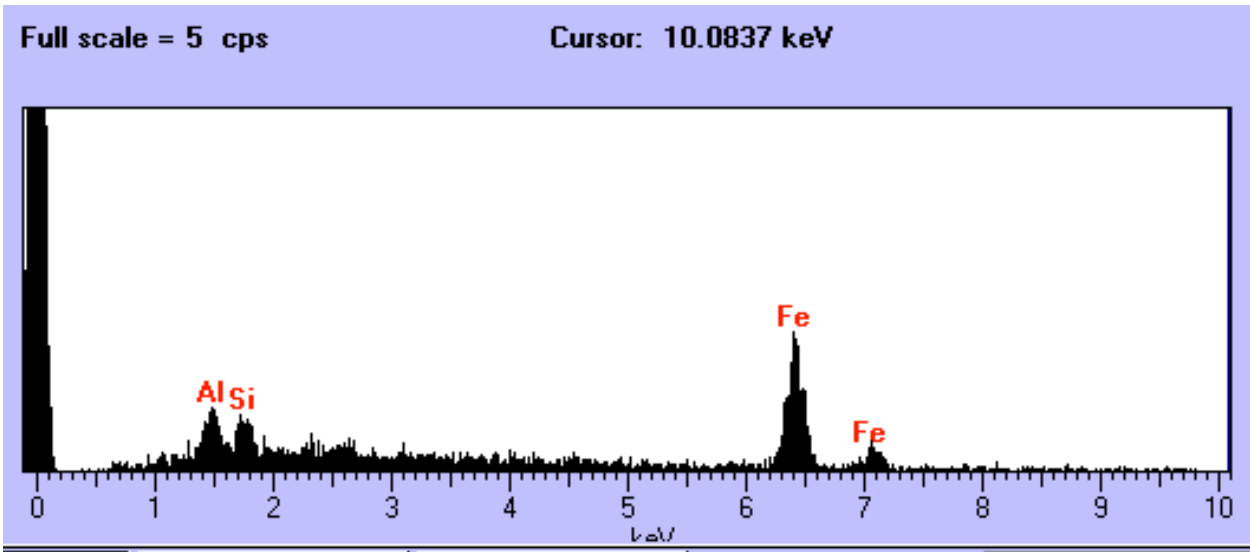
Size: 45 x 27 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCN
Comments:



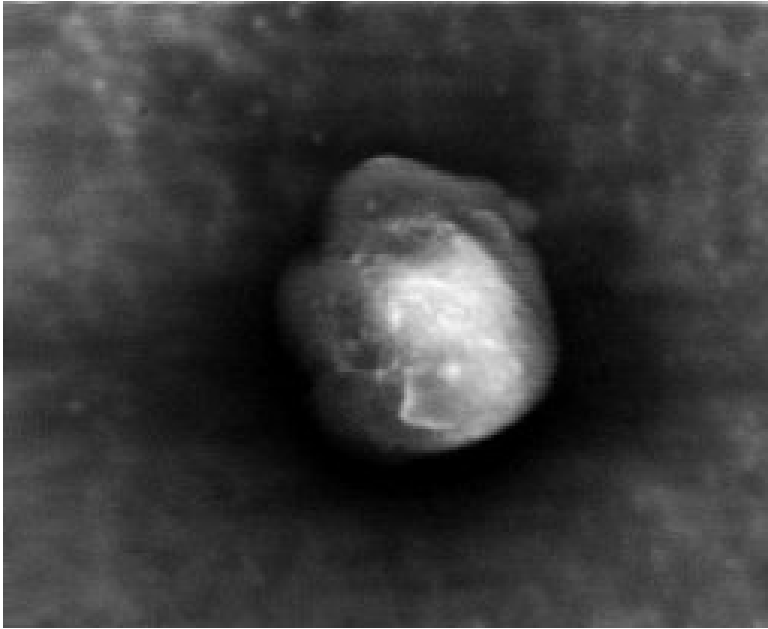
L2047 E5



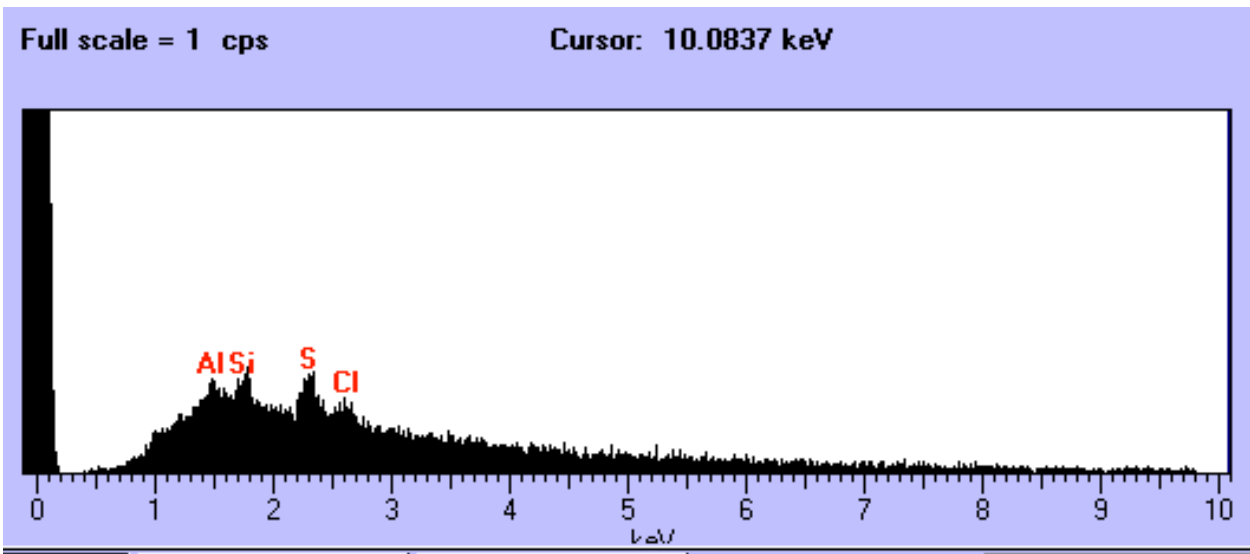
Size: 15 x 12 um
Shape: Irregular
Trans: Translucent
Color: Brown
Luster: Dull
Type: TCN
Comments:



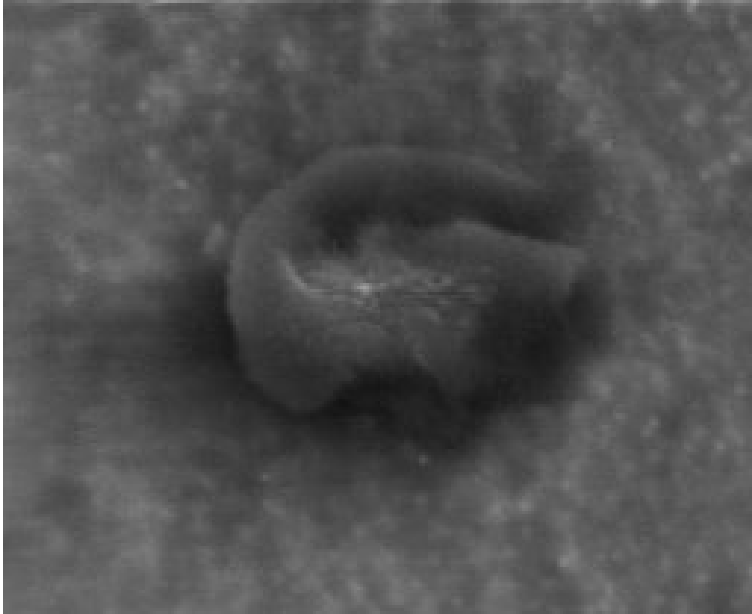
L2047 E6



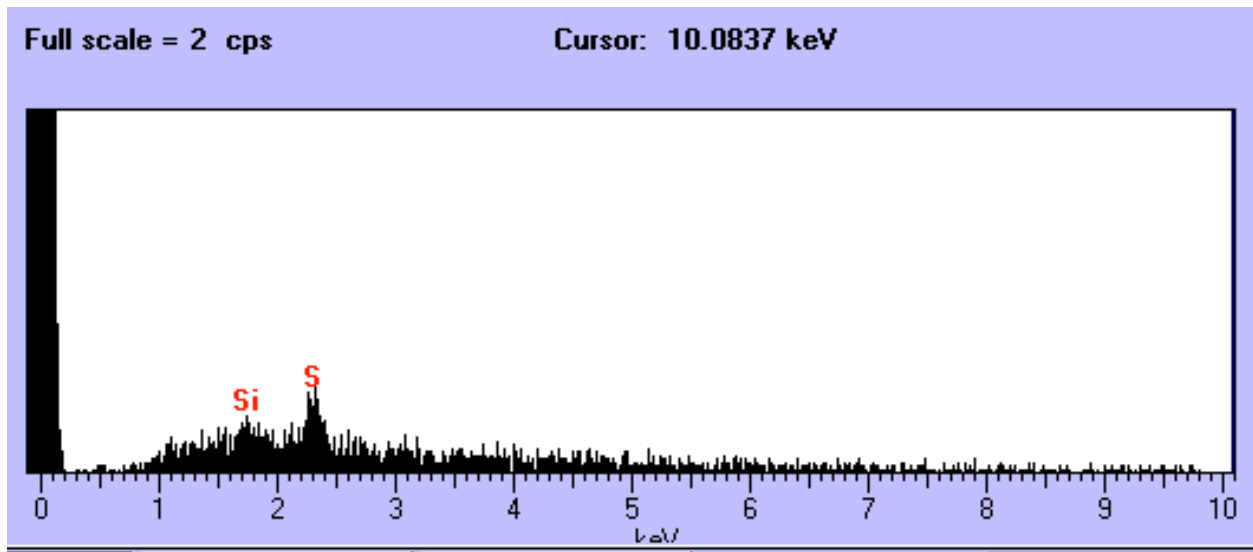
Size: 18 x 15 um
Shape: Irregular
Trans: Translucent
Color: colorless
Luster: Vitreous
Type: TCN
Comments:



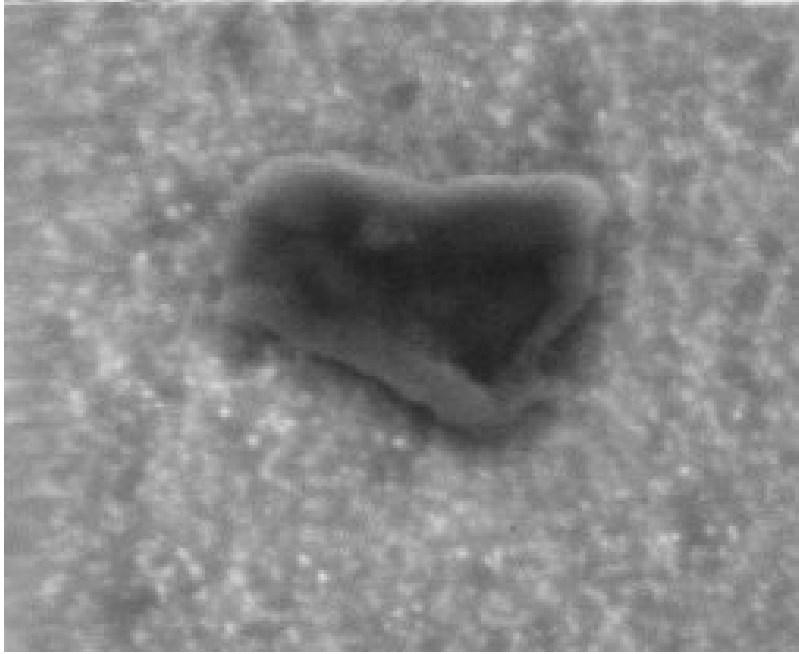
L2047 E13



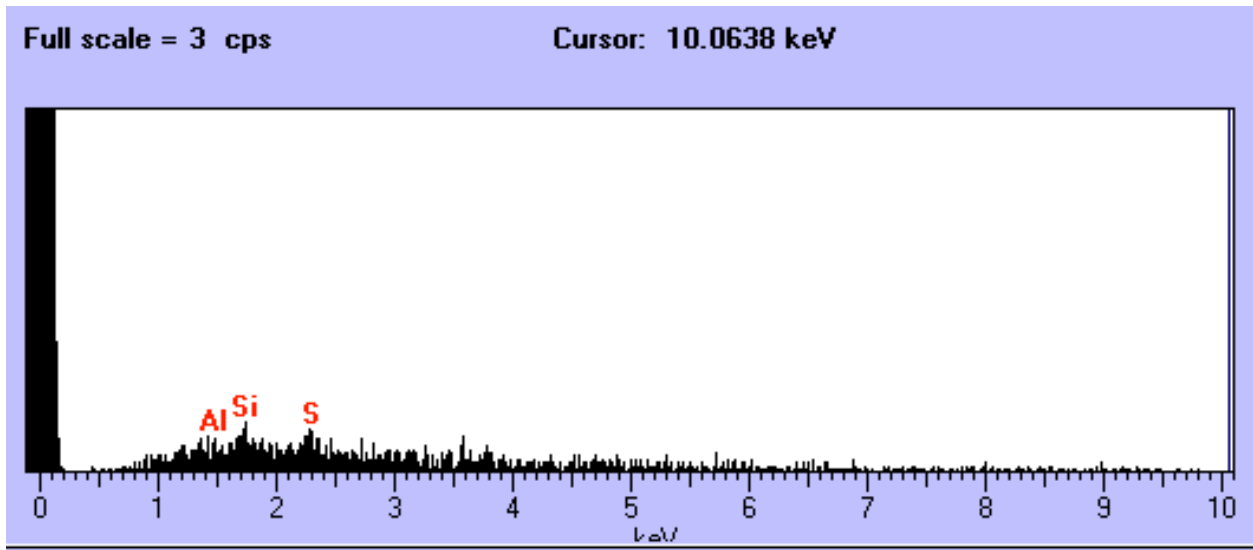
Size: 17 x 15 um
Shape: Irregular
Trans: Translucent
Color: Colorless
Luster: Subvitreous
Type: Cosmic
Comments: TCN



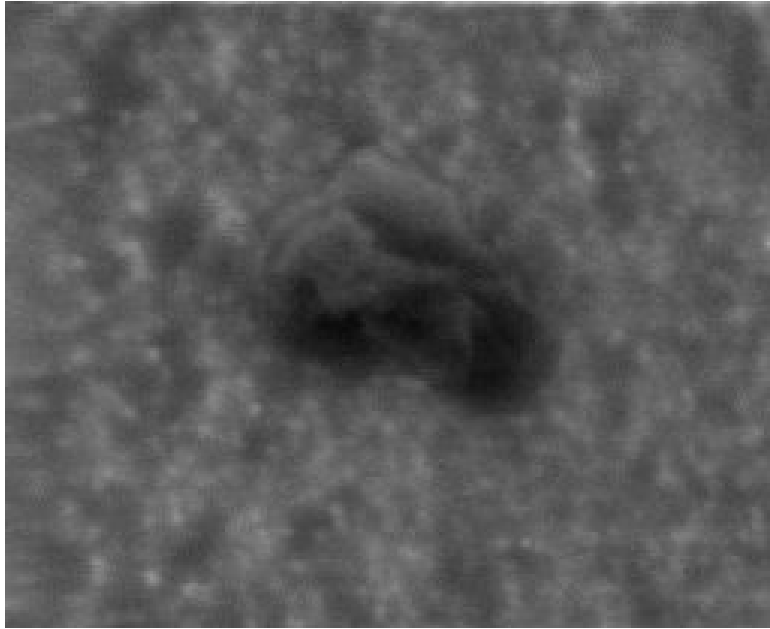
L2047 E16



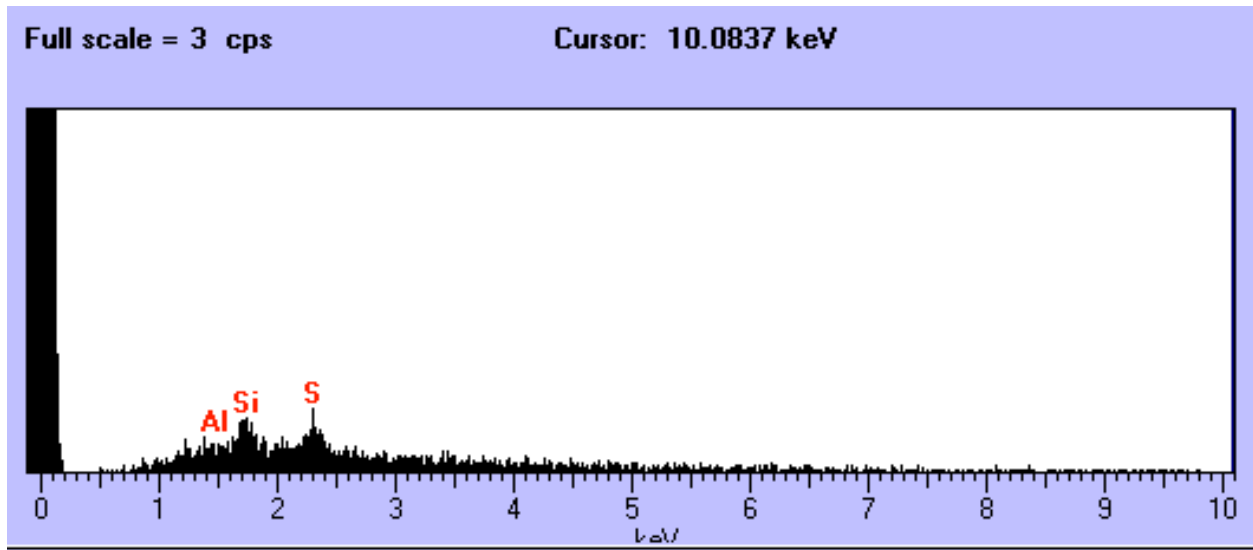
Size: 30 x 22 um
Shape: Irregular
Trans: Translucent
Color: Colorless
Luster: Vitreous
Type: TCN
Comments:



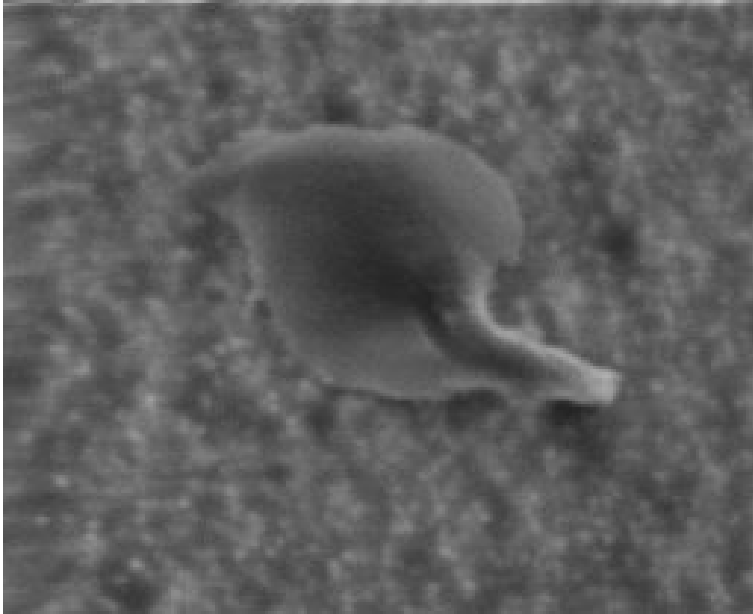
L2047 E17



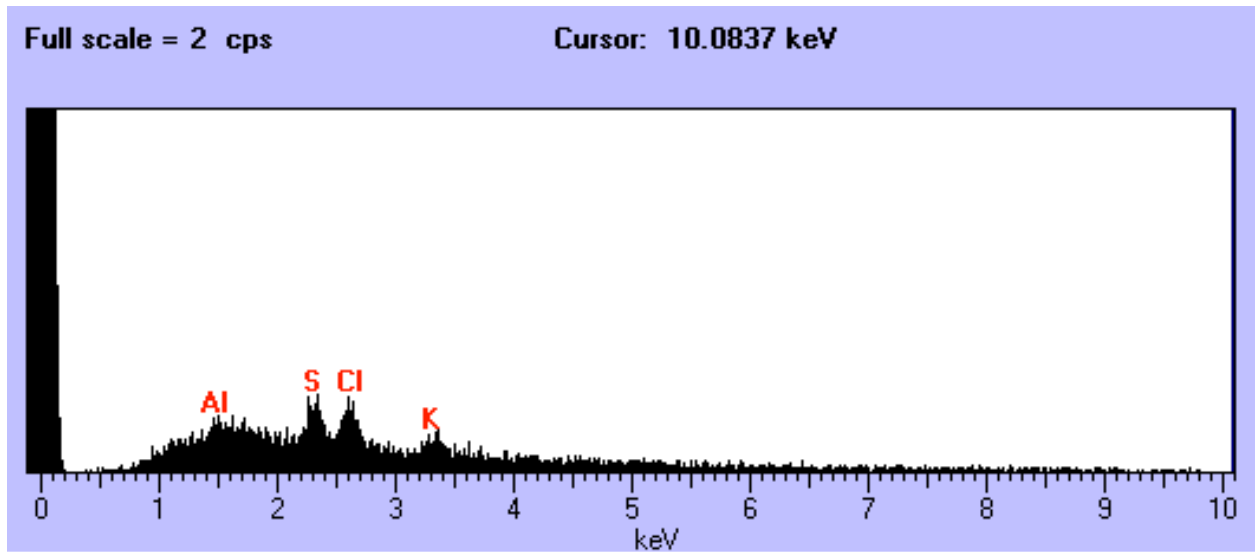
Size: 15 x 12 um
Shape: Irregular
Trans: Transparent
Color: Colorless
Luster: Vitreous
Type: TCN
Comments:



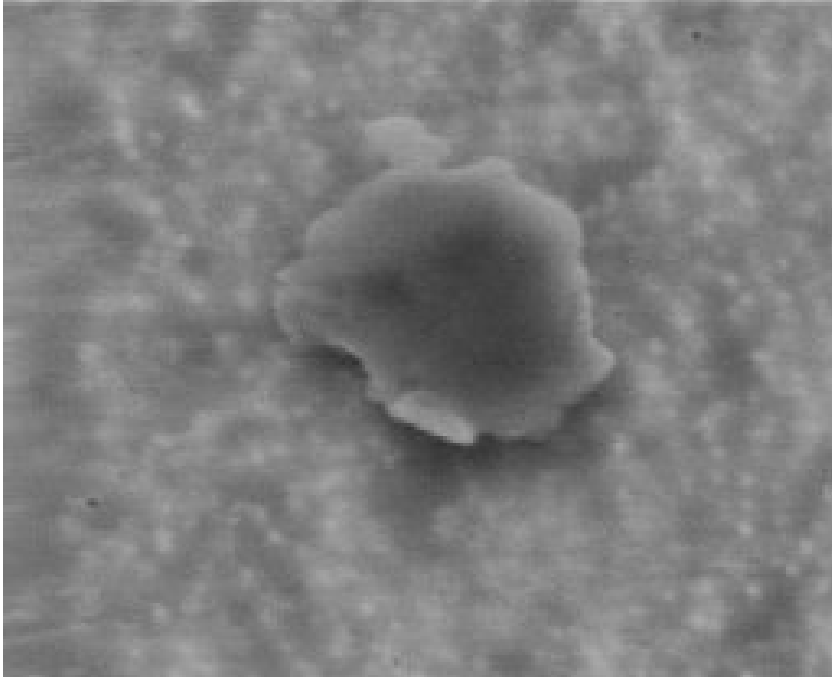
L2047 E22



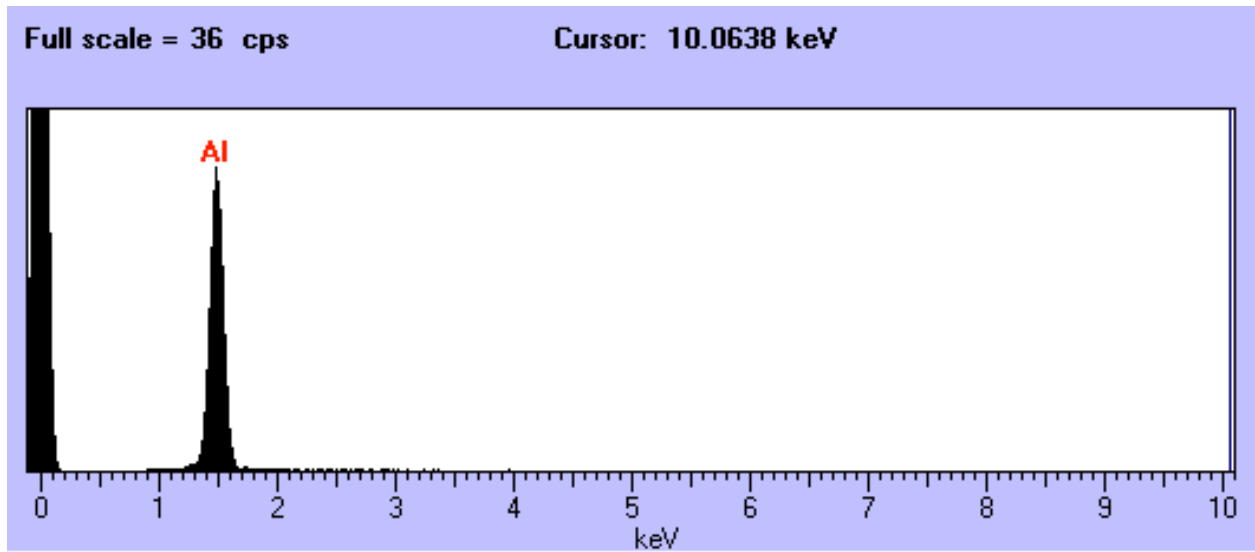
Size: 10 x 8 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull/Submetallic
Type: TCN
Comments:



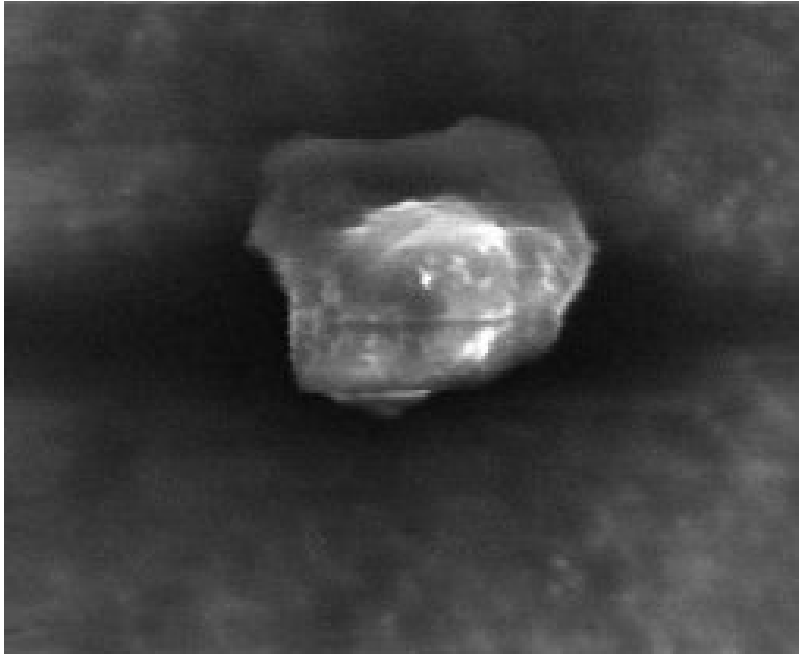
L2047 E24



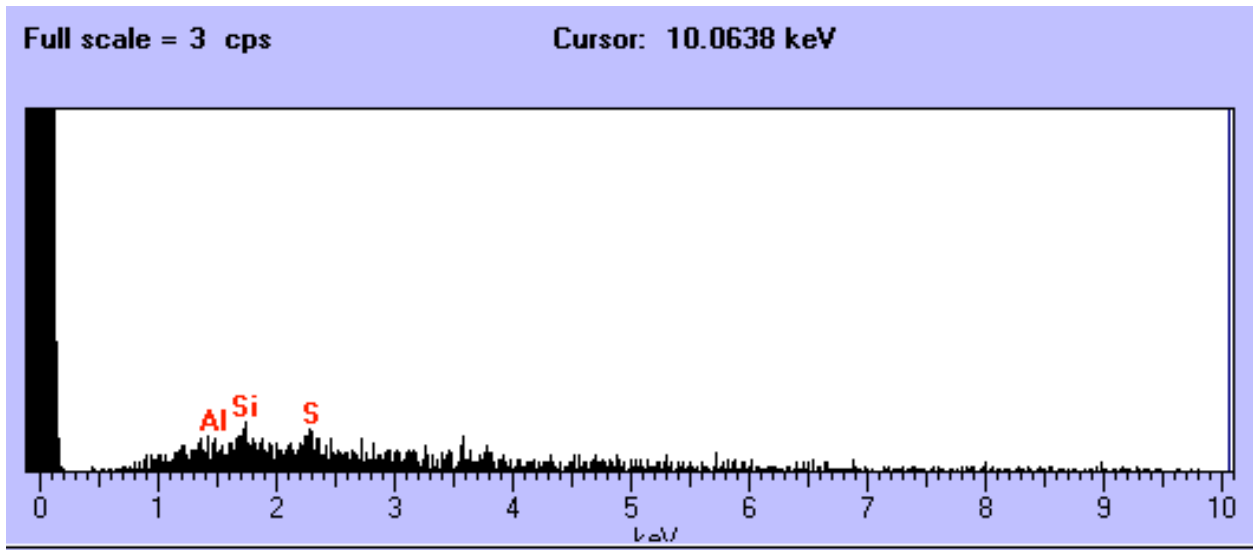
Size: 6 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCN
Comments:



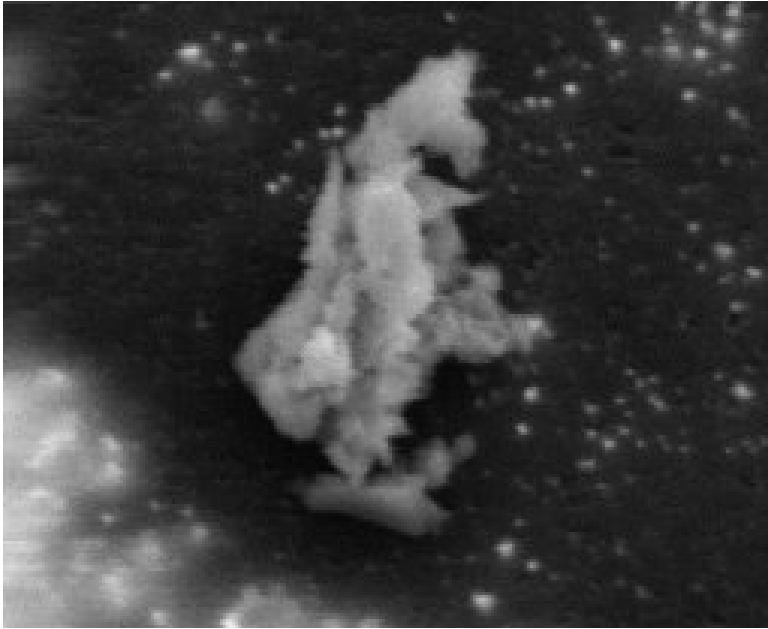
L2047 E27



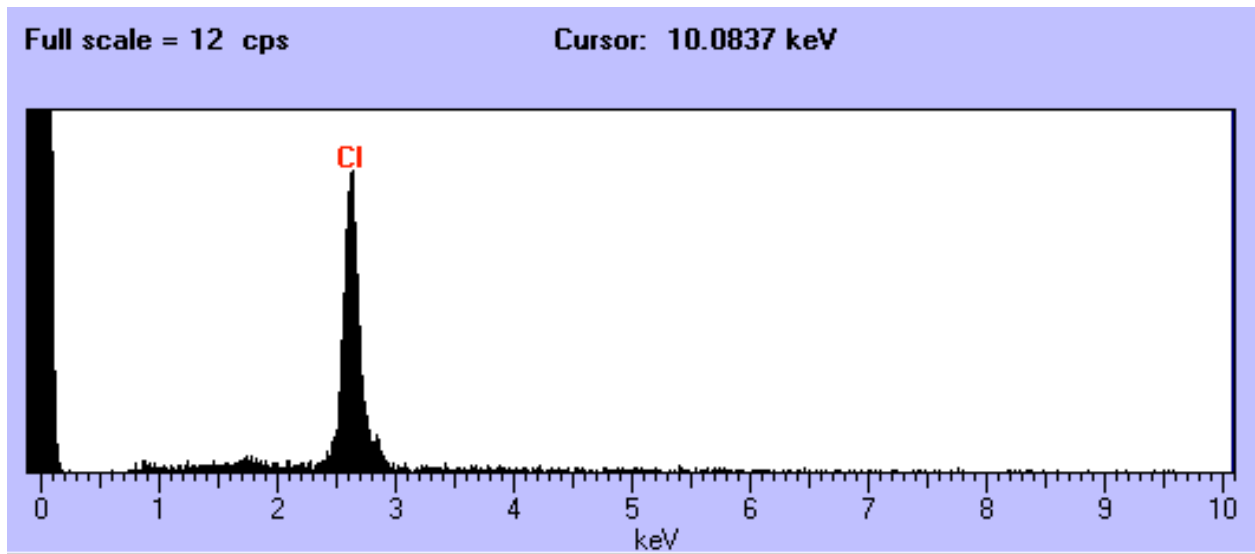
Size: 18 x 15 um
Shape: Irregular
Trans: Translucent
Color: Yellow
Luster: Subvitreous
Type: TCN
Comments:



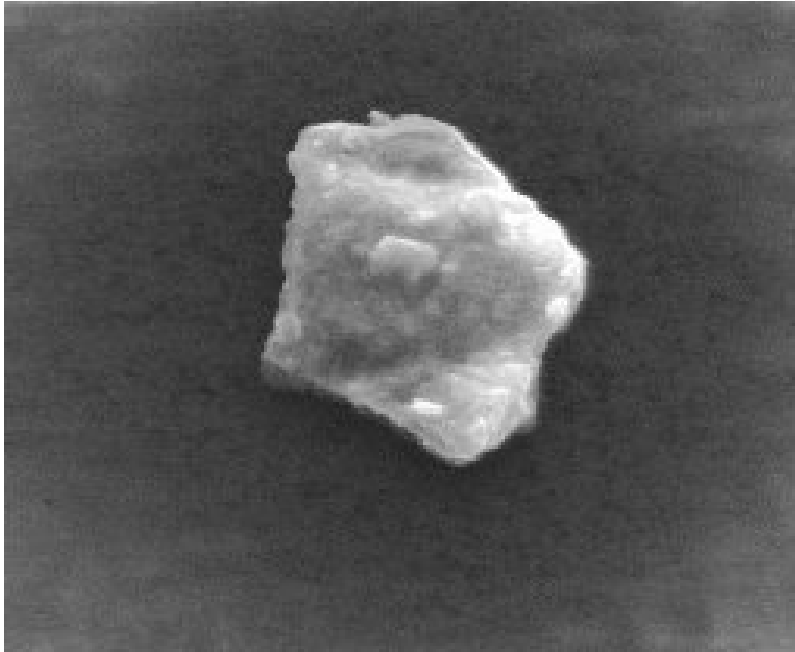
L2047 E28



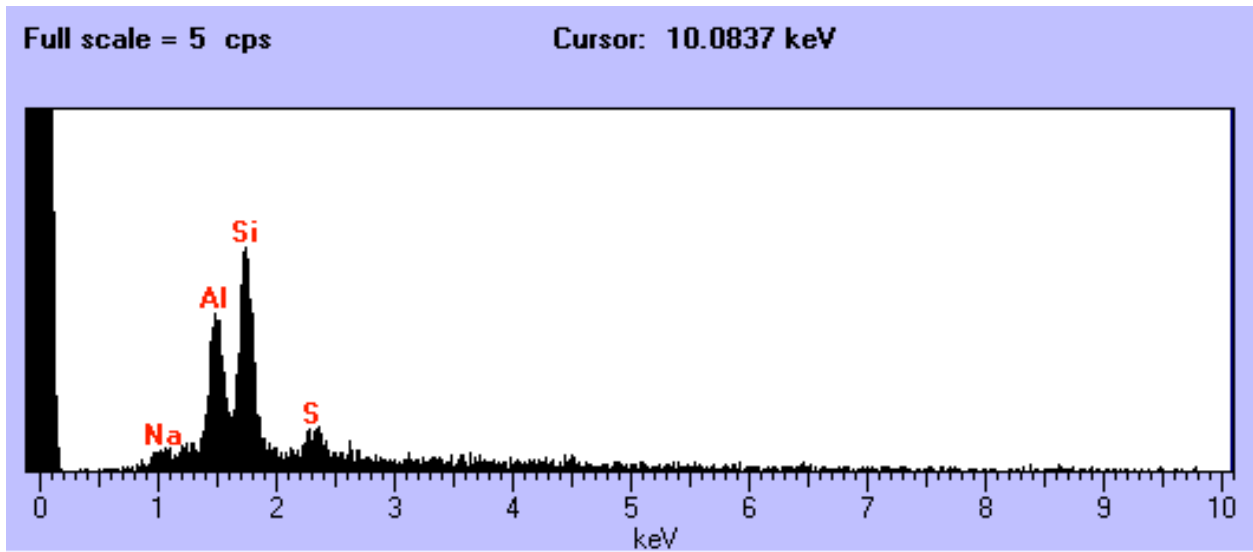
Size: 20 x 15 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCN
Comments:



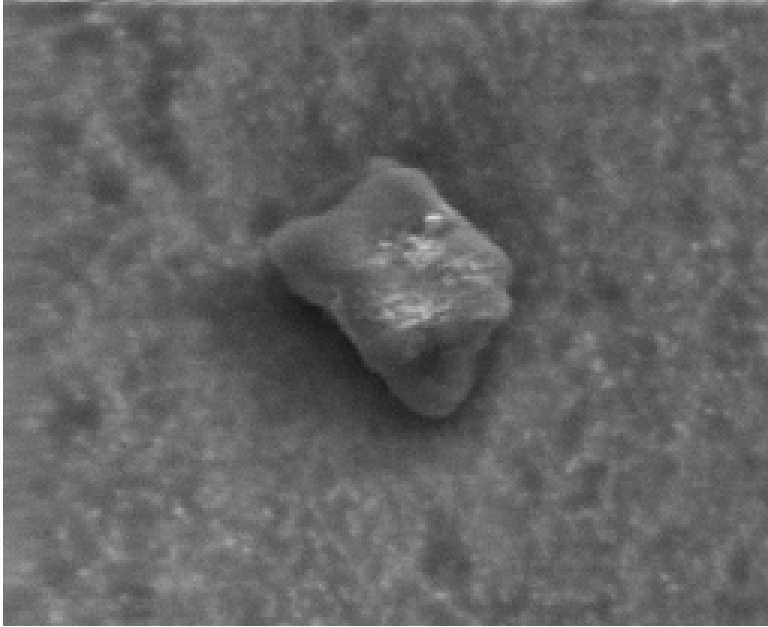
L2047 E30



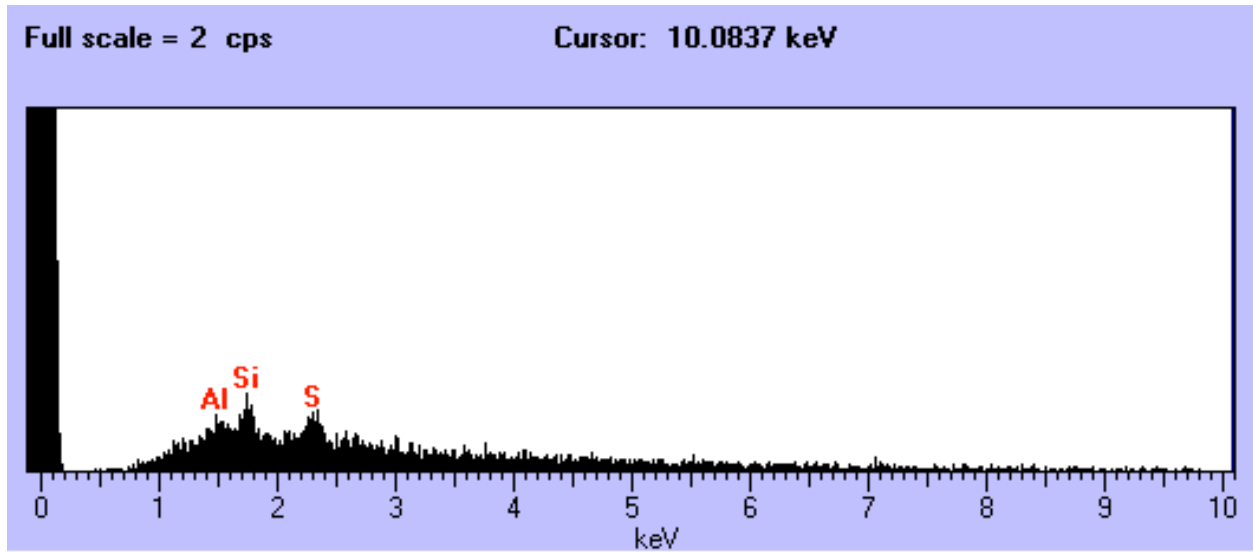
Size: 30 x 25 um
Shape: Irregular
Trans: Translucent
Color: Colorless/Black
Luster: Subvitreous
Type: TCN
Comments:



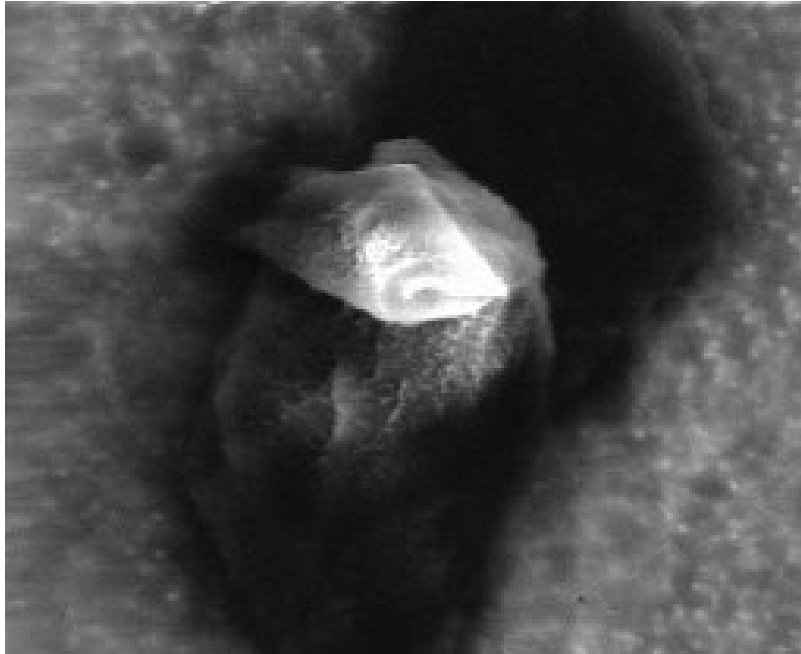
L2047 E32



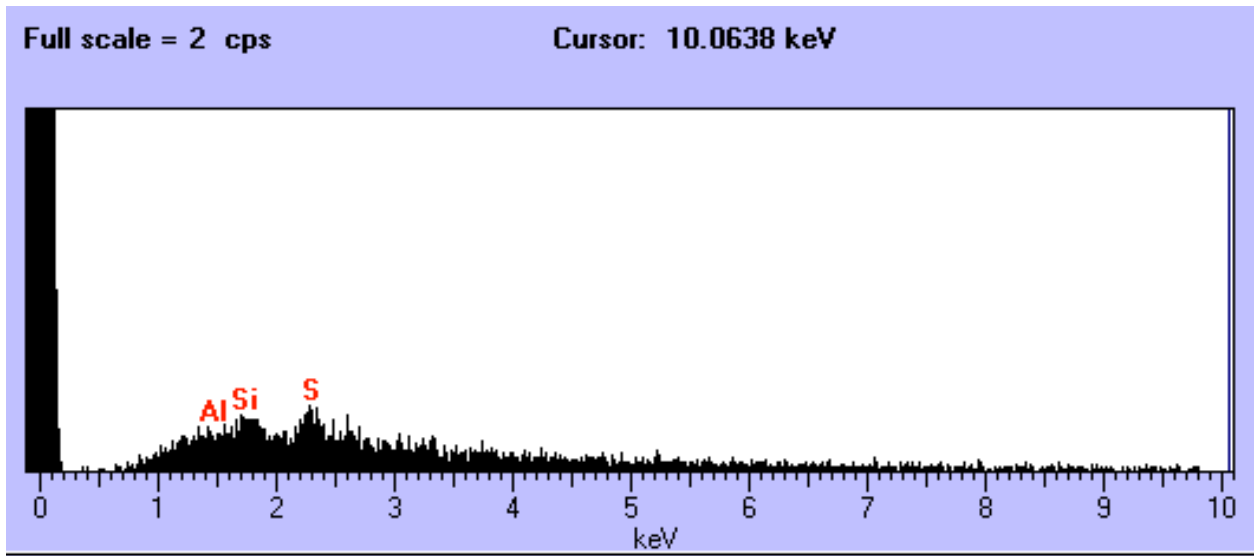
Size: 25 x 20 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCN
Comments:



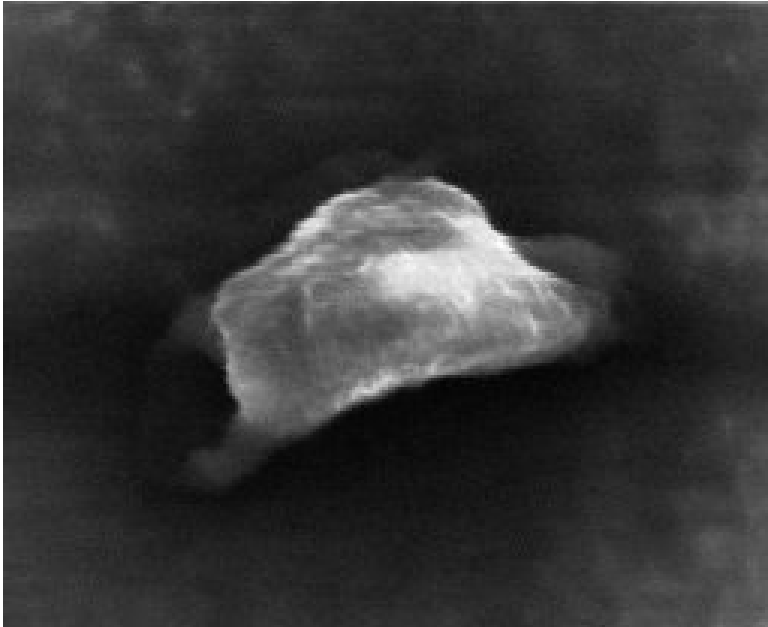
L2047 E36



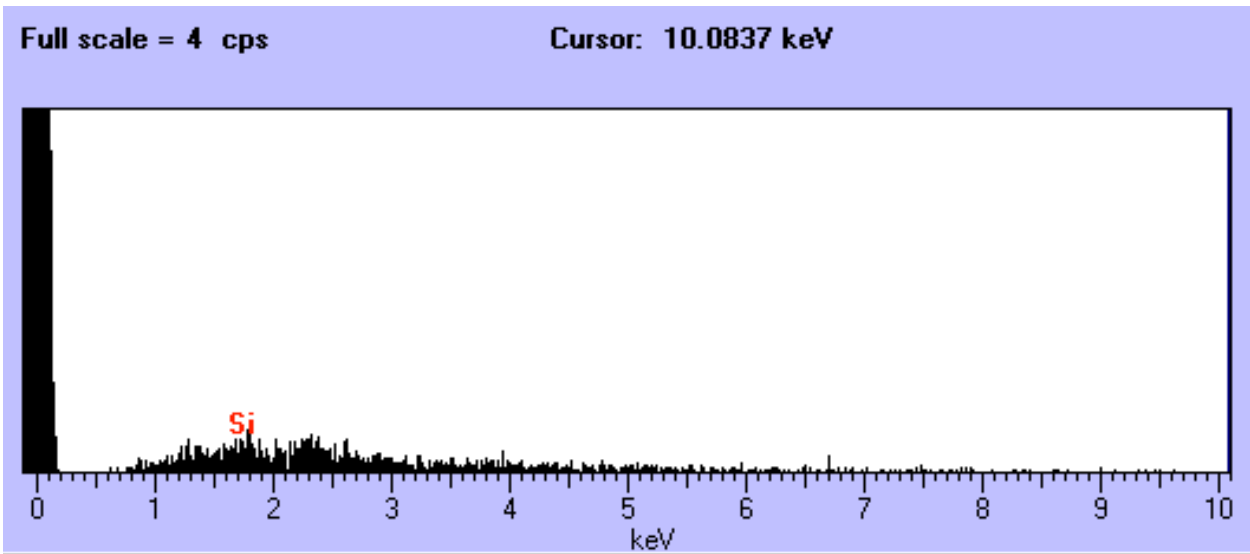
Size: 58 x 30 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCN?
Comments:



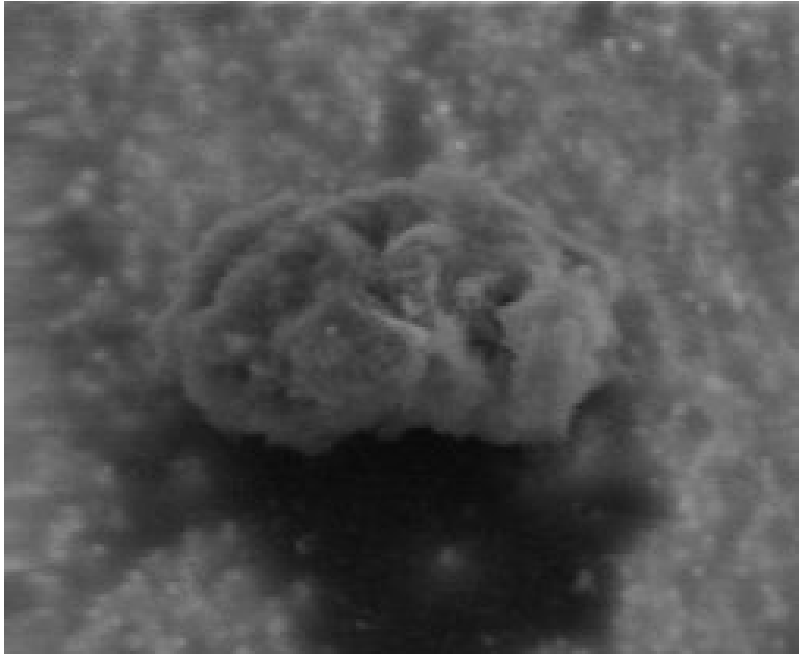
L2047 E39



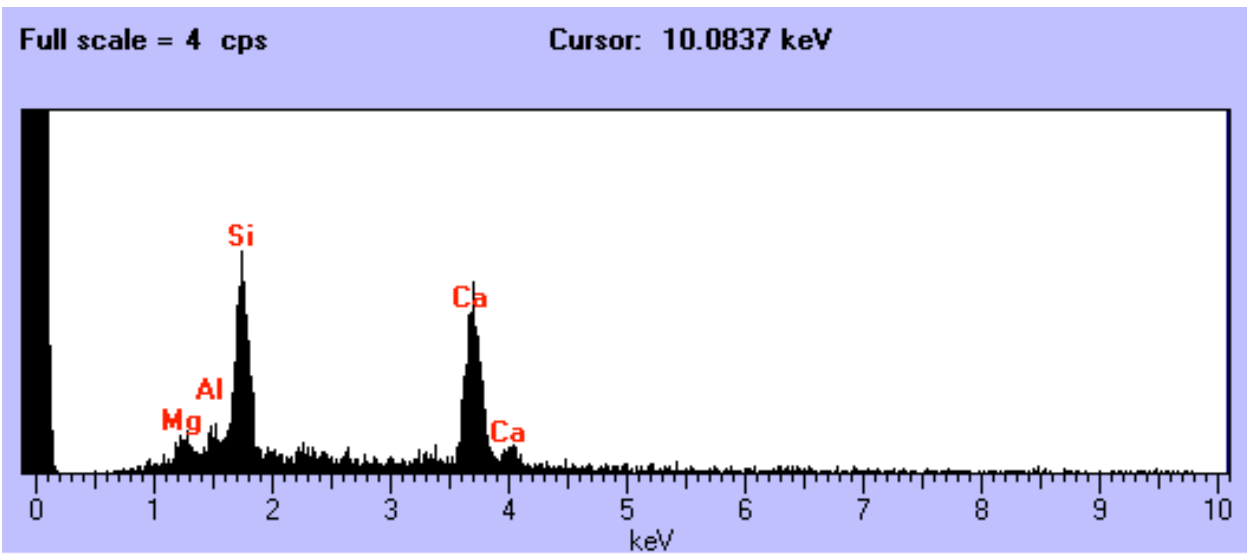
Size: 25 x 20 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCN
Comments:



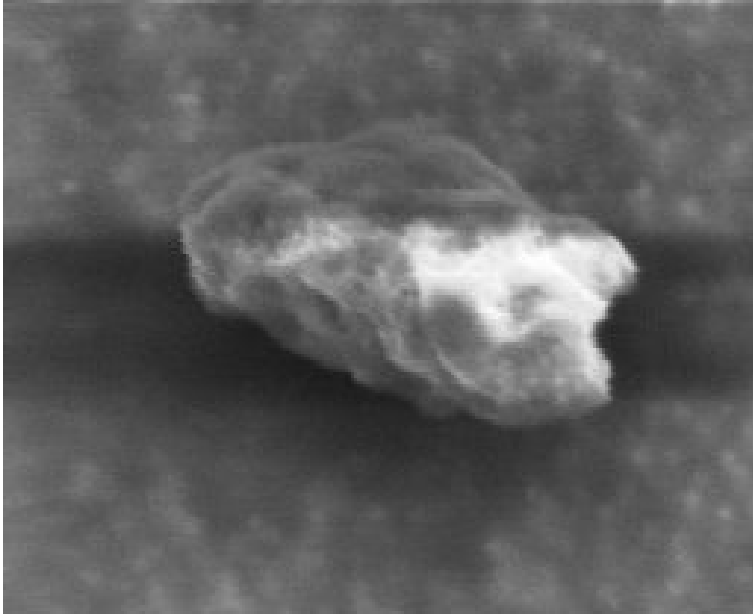
L2047 F10



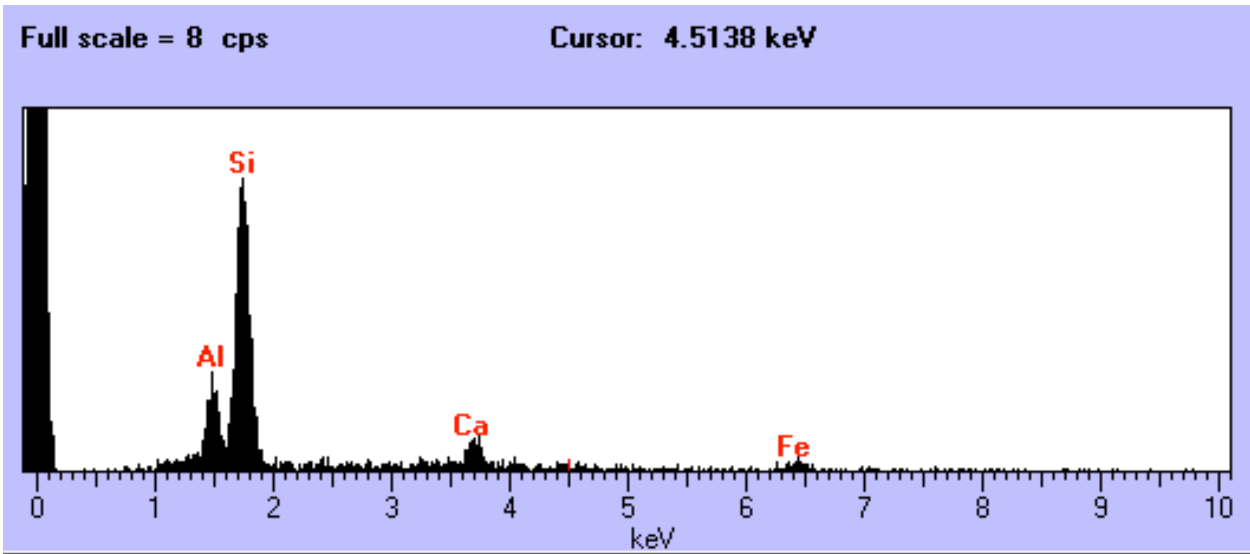
Size: 22 x 17 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCN
Comments:



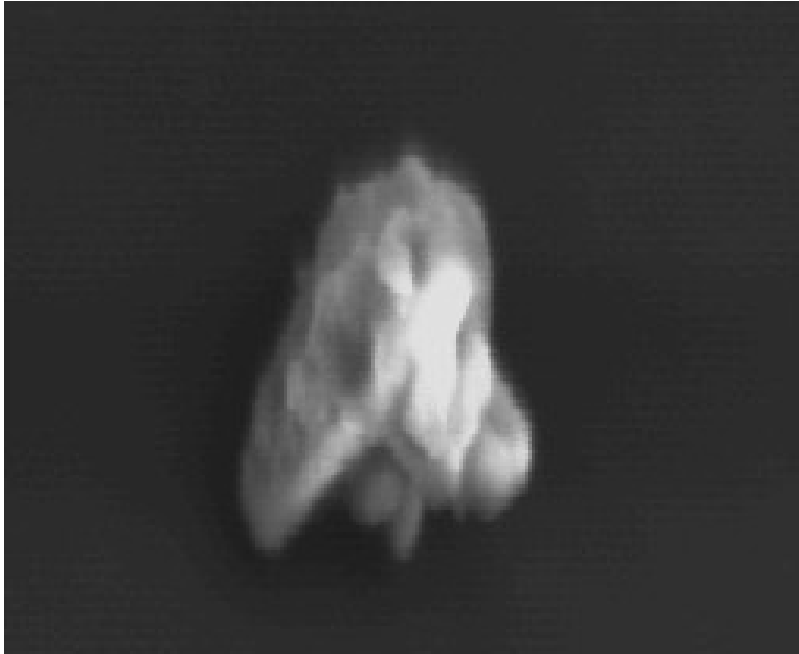
L2047 F36



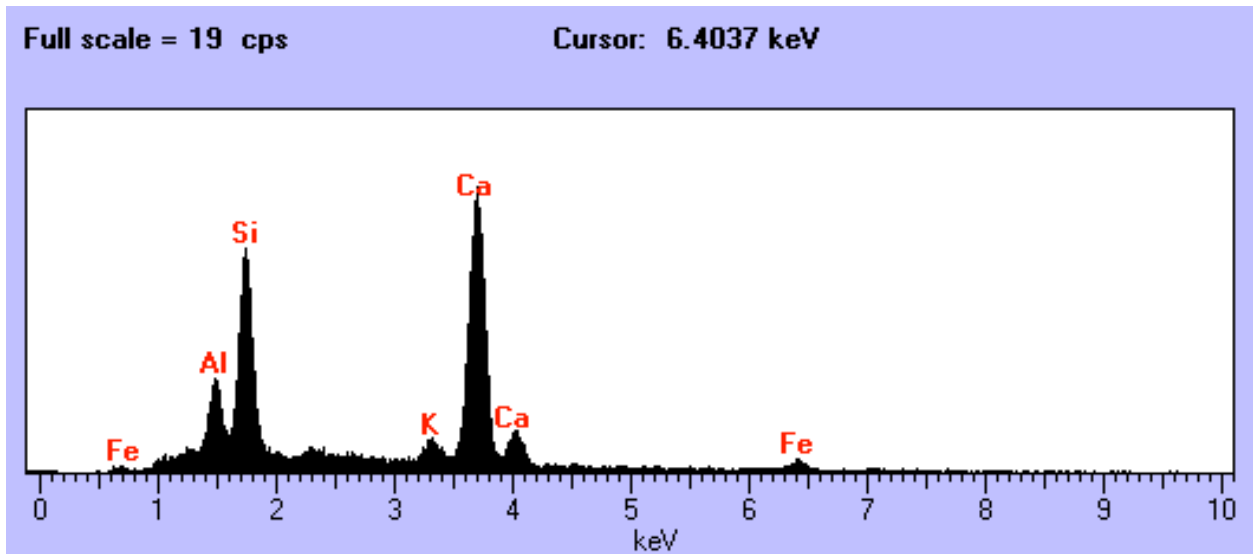
Size: 20 x 13 um
Shape: Irregular
Trans: Translucent
Color: Orange
Luster: Subvitreous
Type: TCN
Comments:



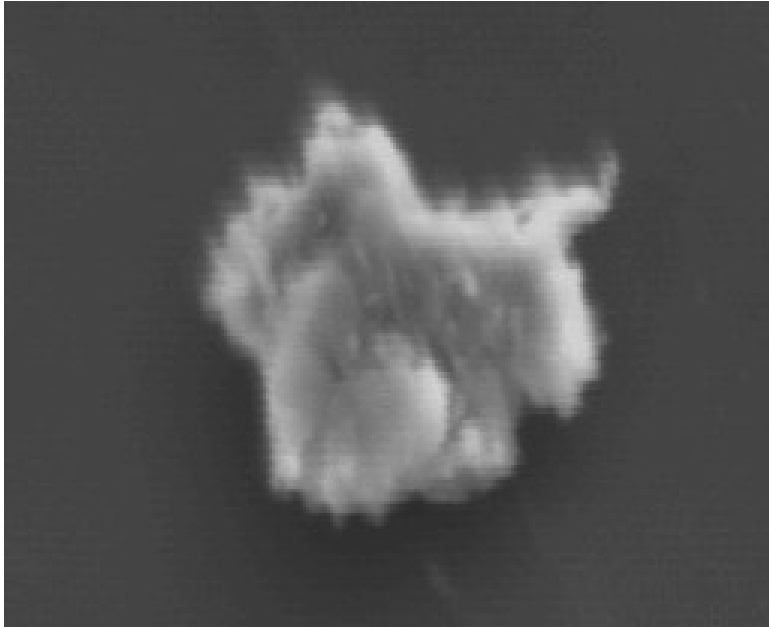
U2098 A6



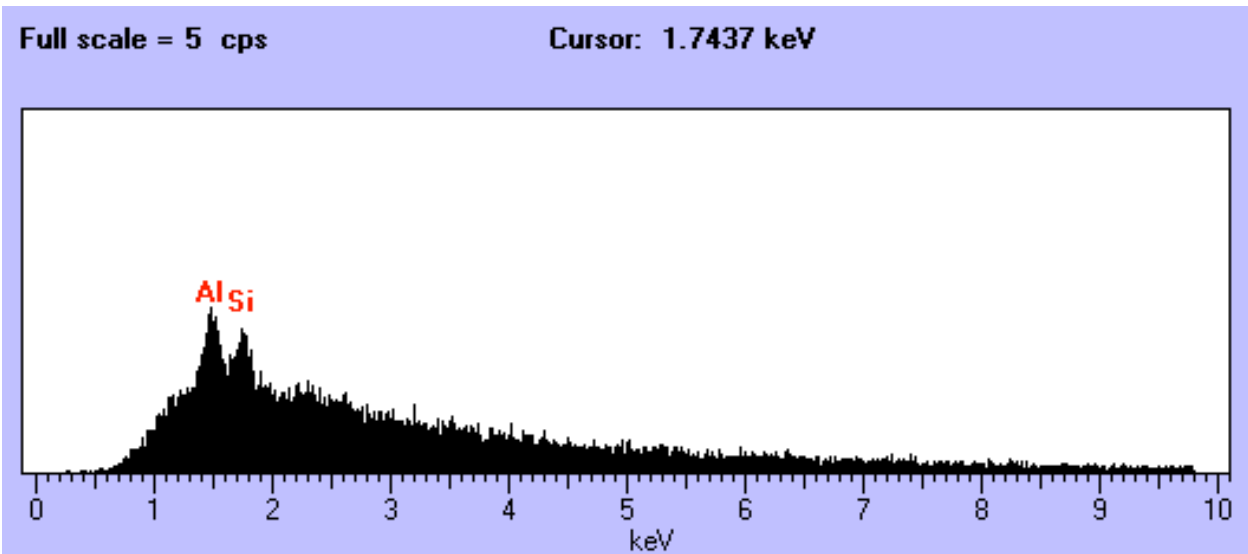
Size: 12 x 7 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Dull
Type: TCN
Comments:



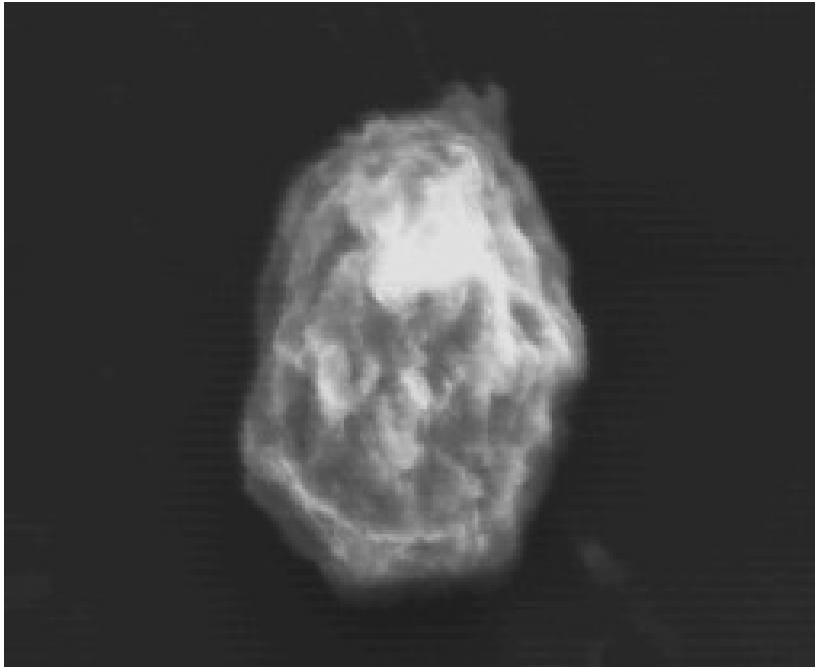
U2098 A5



Size: 20 x 15 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull/Submetallic
Type: TCN
Comments:



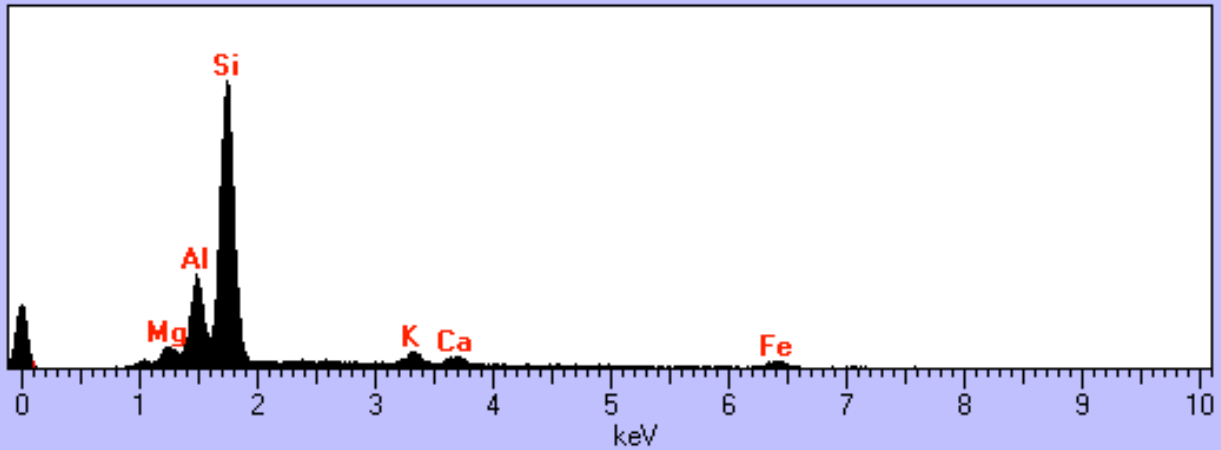
U2098 A7



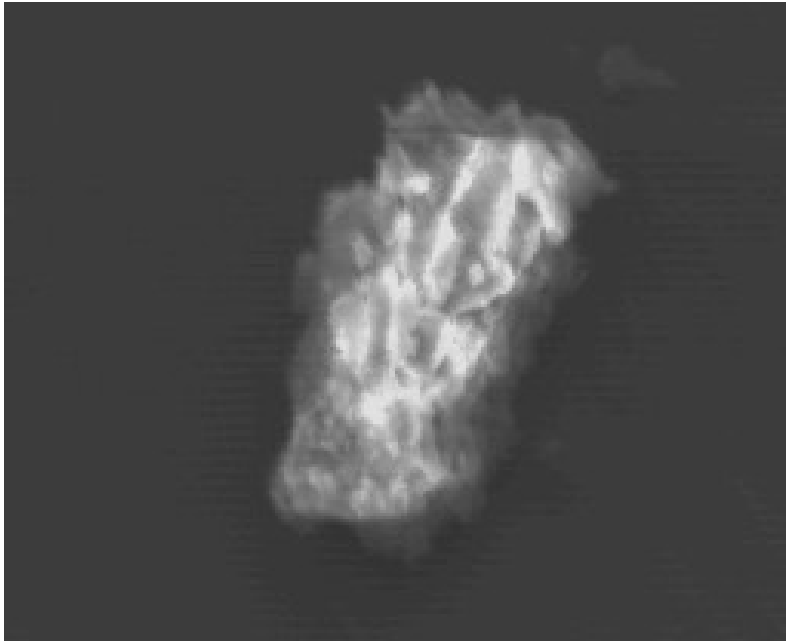
Size: 28 x 26 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Pearly
Type: TCN
Comments:

Full scale = 36 cps

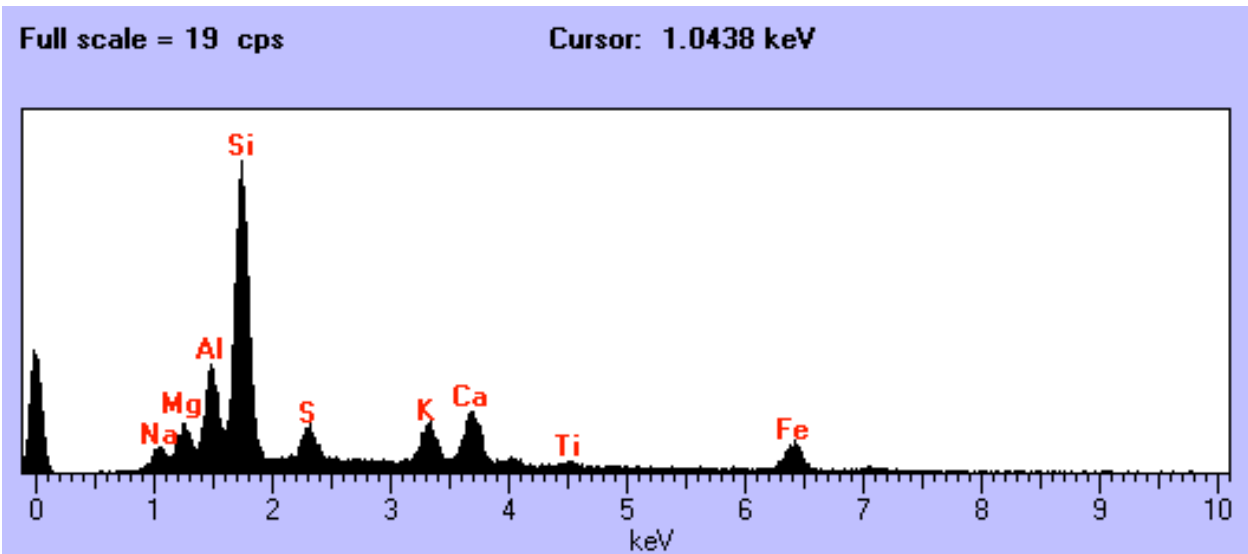
Cursor: 0.1138 keV



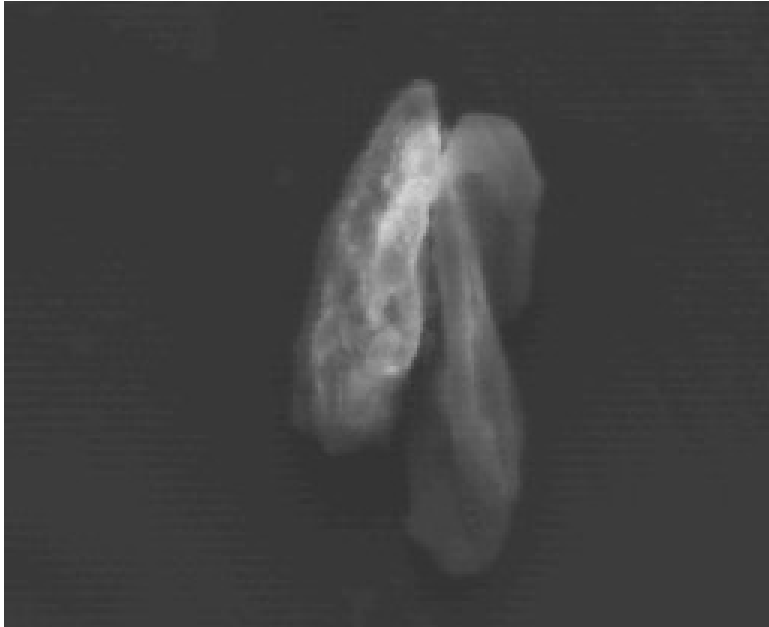
U2098 A8



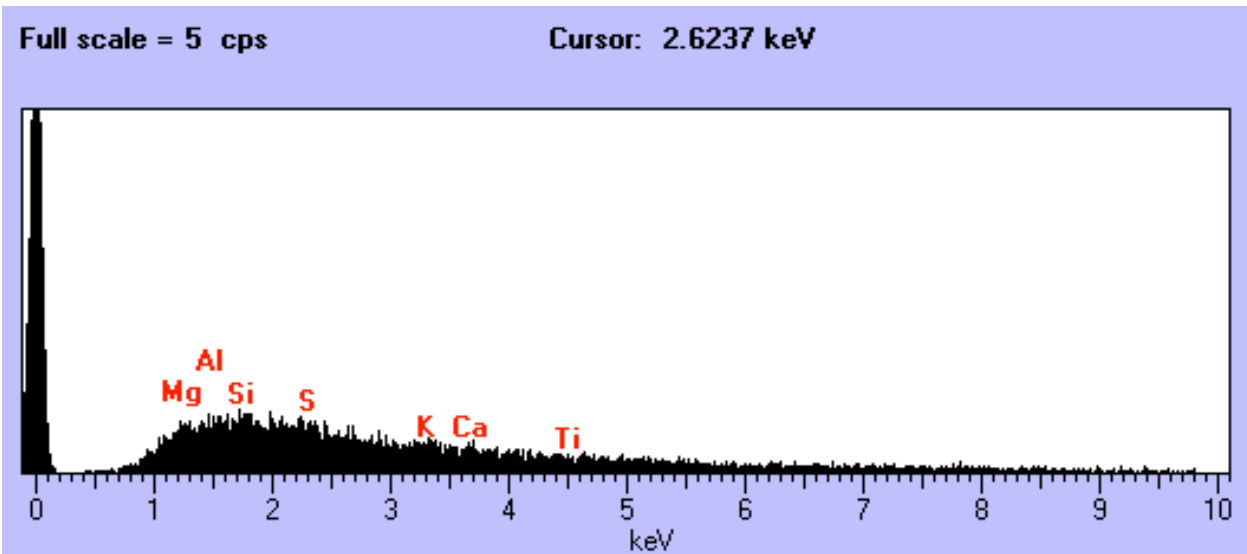
Size: 56 x 40 um
Shape: Irregular
Trans: Translucent
Color: White/Brown
Luster: Pearly
Type: TCN
Comments:



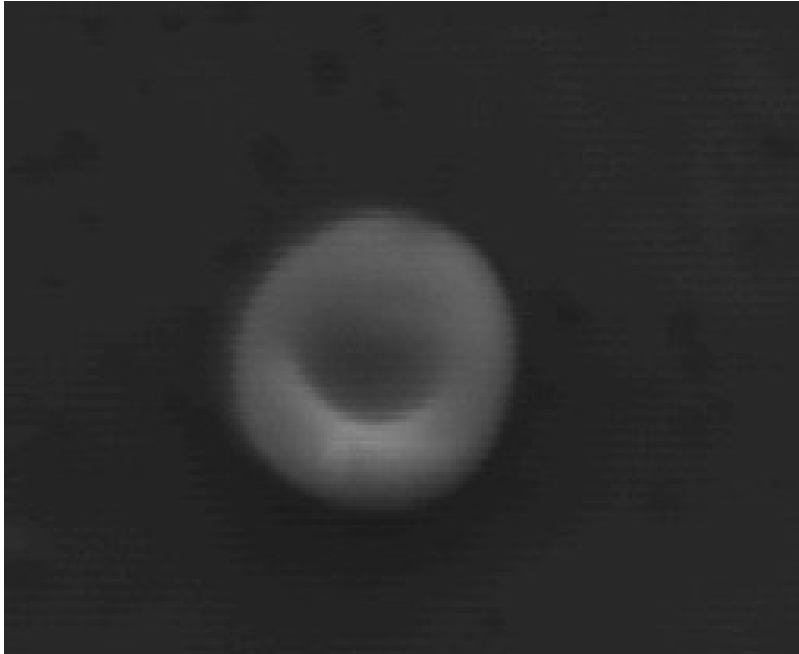
U2098 A9



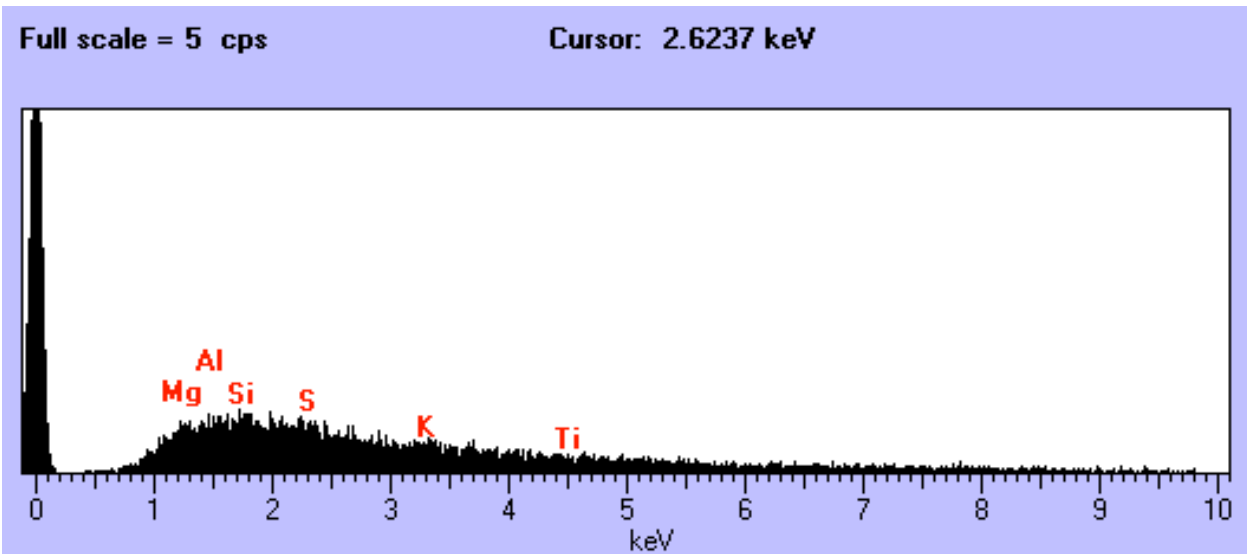
Size: 27 x 25 um
Shape: Irregular
Trans: Translucent
Color: Brown
Luster: Dull
Type: TCN
Comments:



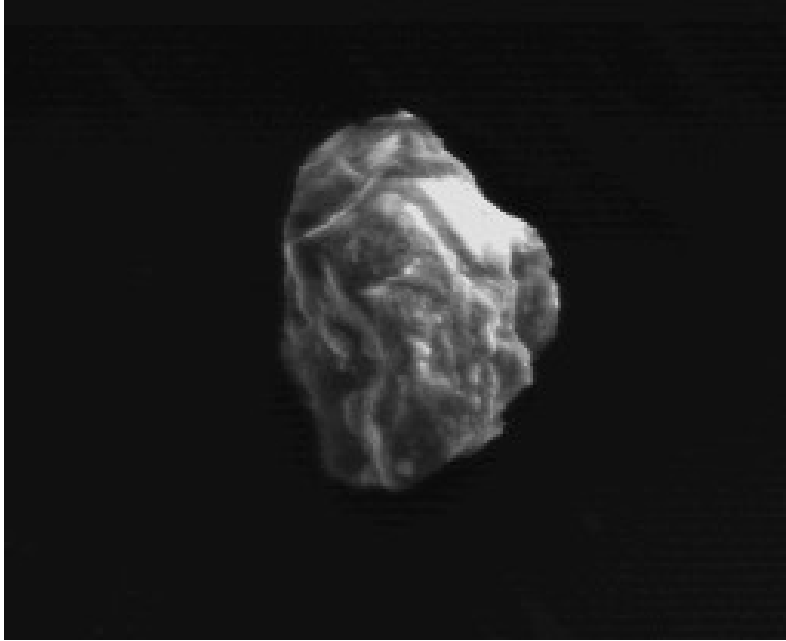
U2098 A10



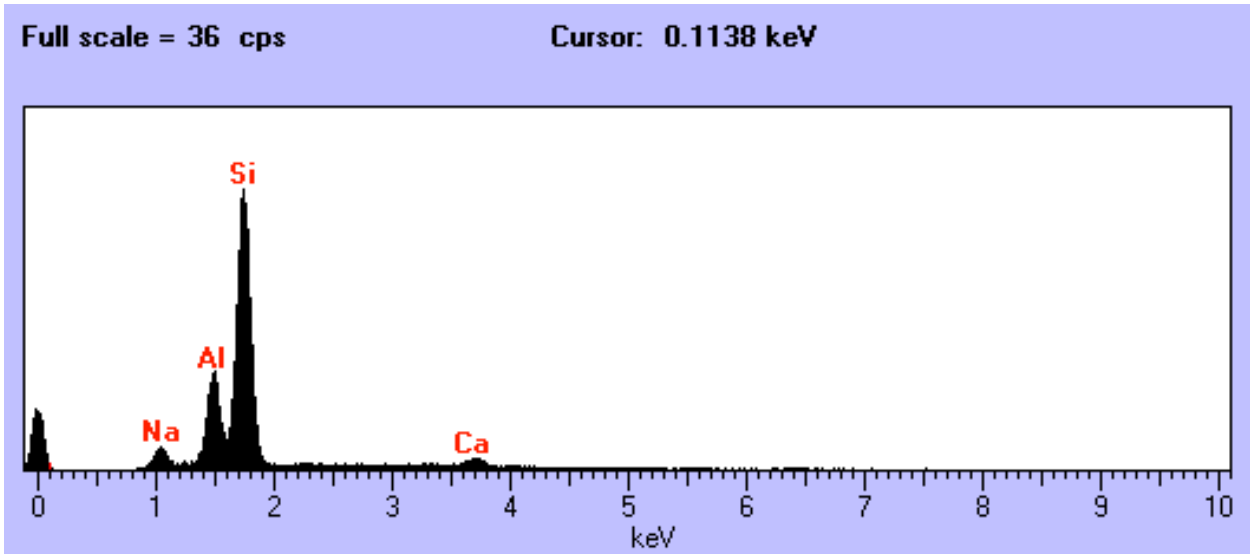
Size: 8 um
Shape: Sphere
Trans: Translucent
Color: Colorless
Luster: Vitreous
Type: TCN
Comments:



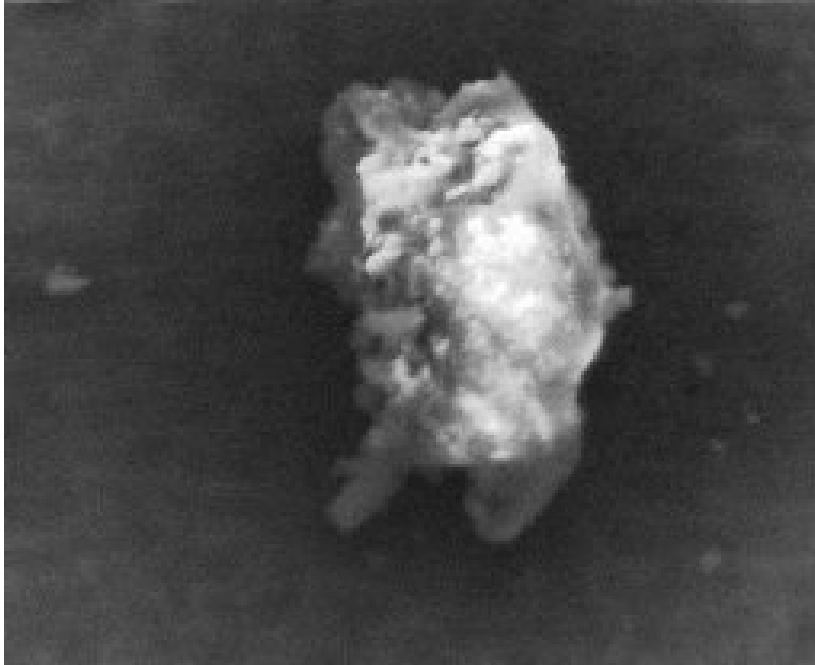
U2098 A12



Size: 30x 25 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCN
Comments:



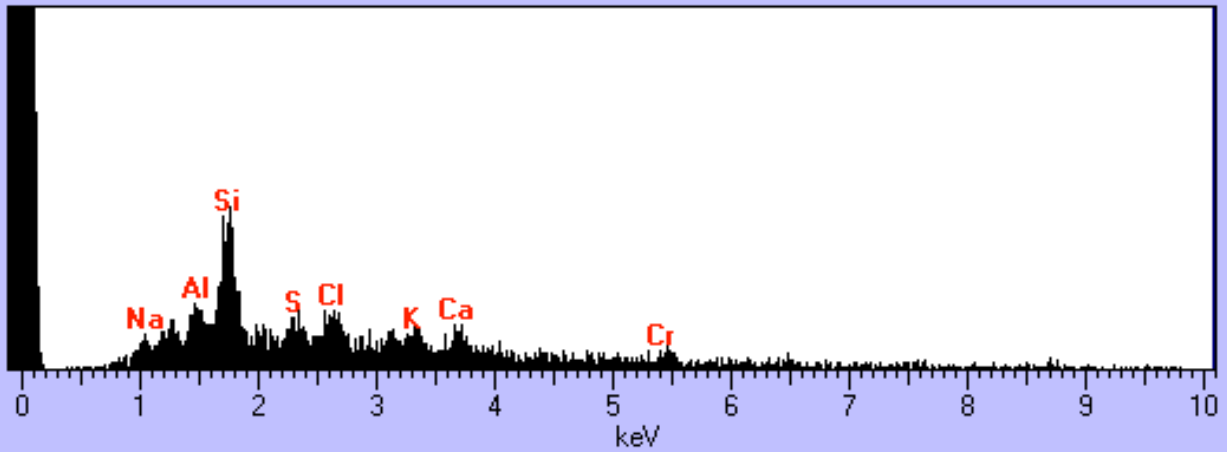
U2098 B5



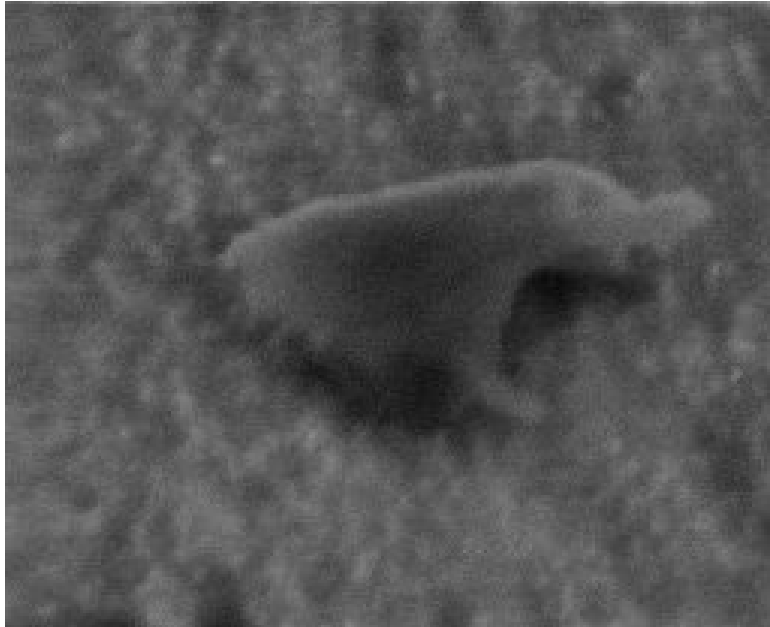
Size: 47 x 30 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCN
Comments:

Full scale = 2 cps

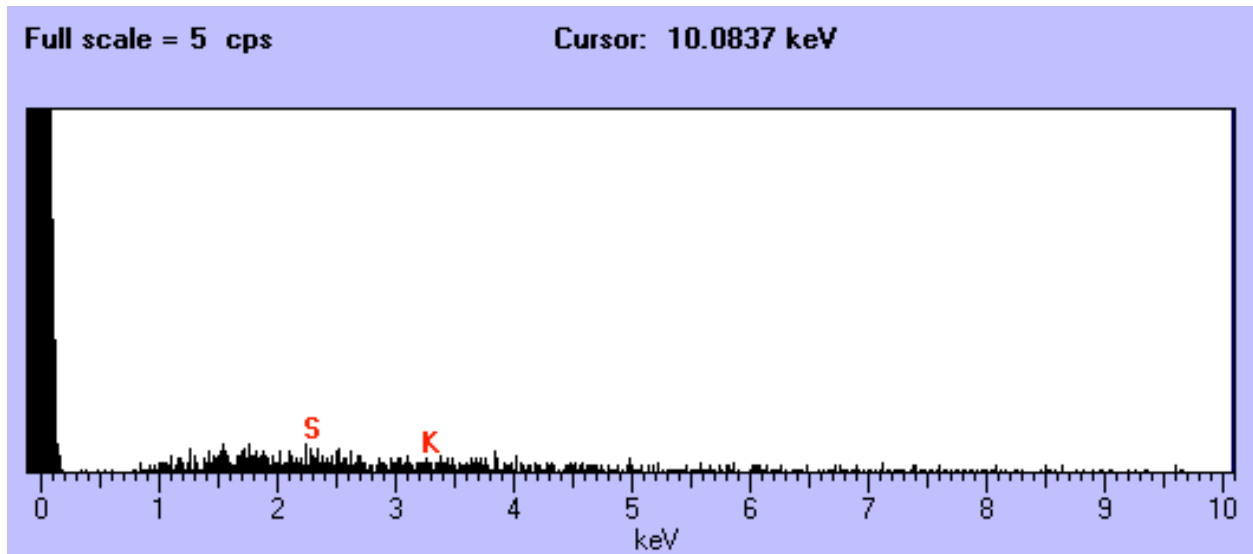
Cursor: 10.0837 keV



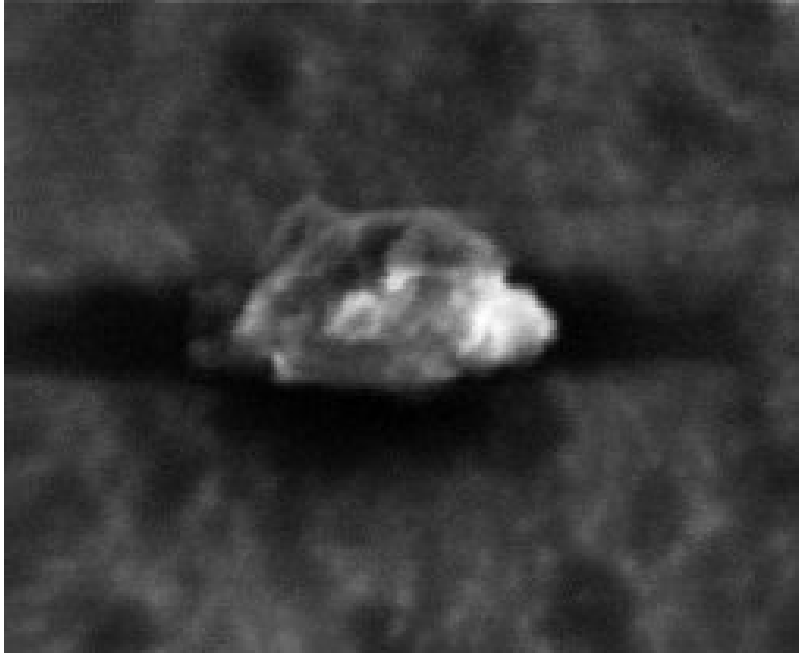
U2098 B7



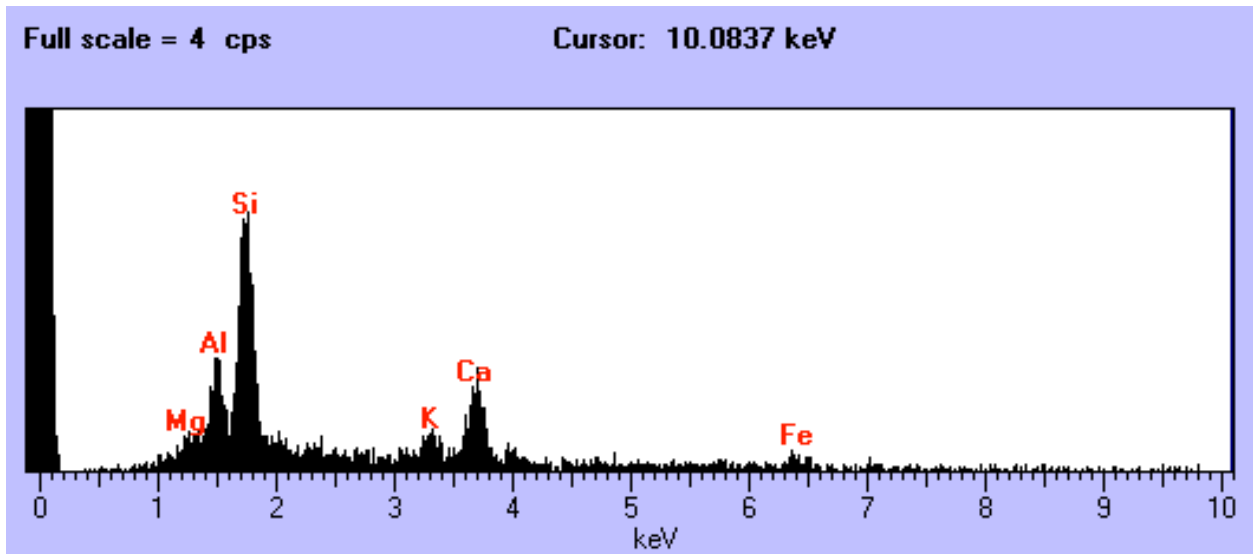
Size: 30 x 18 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCN?
Comments:



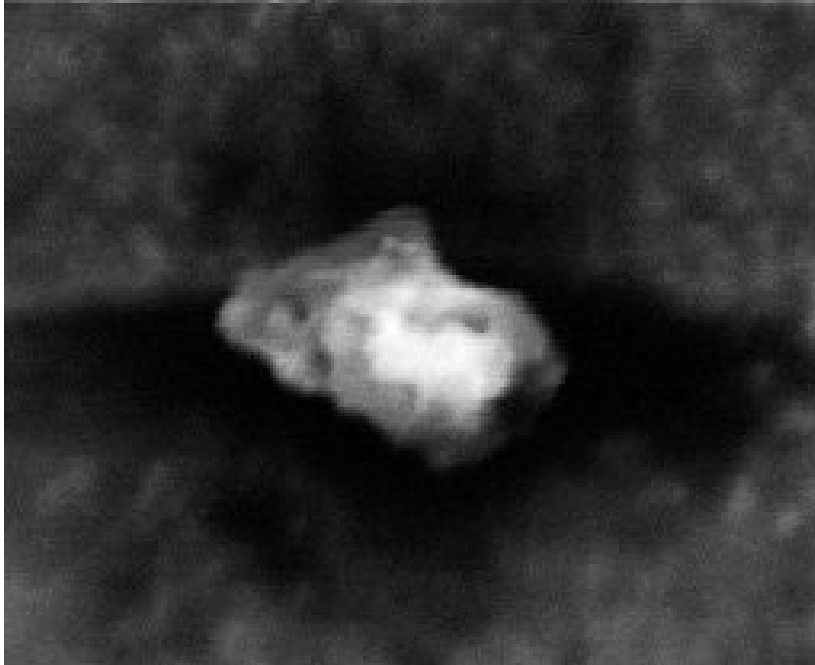
U2098 B11



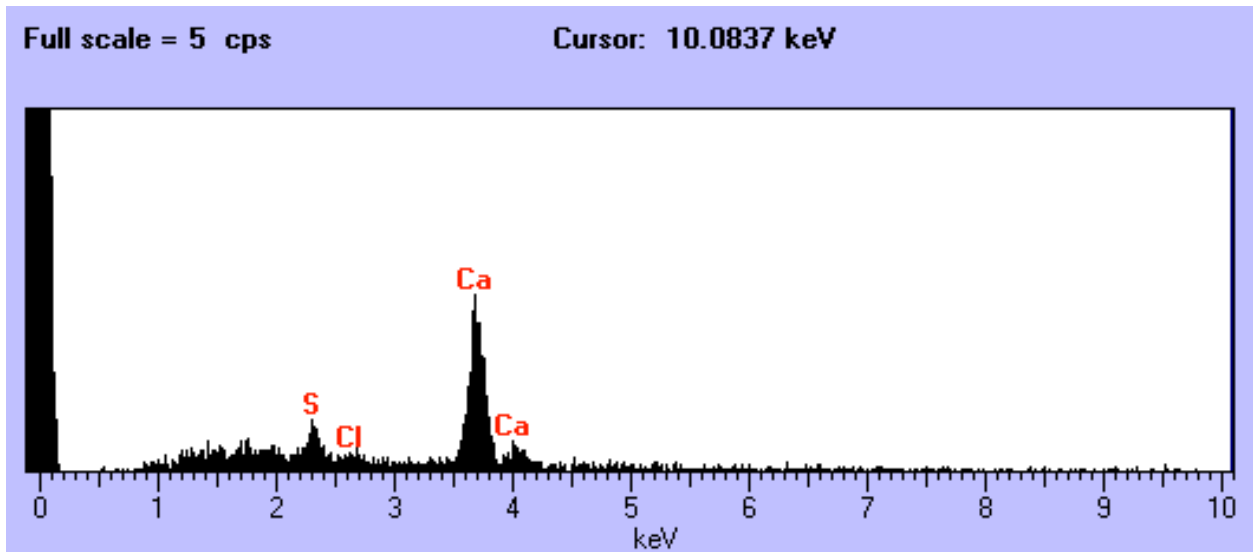
Size: 18 x 10 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCN
Comments:



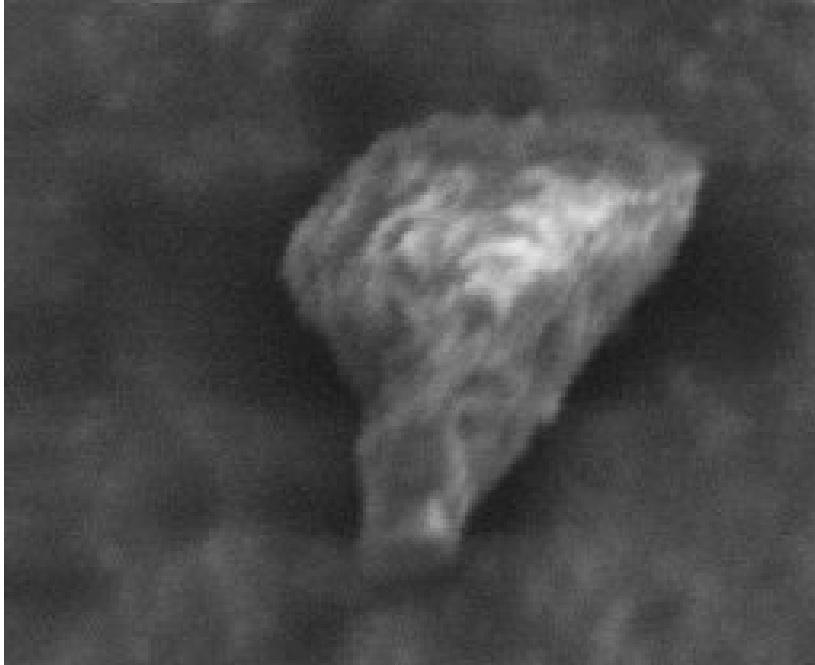
U2098 B13



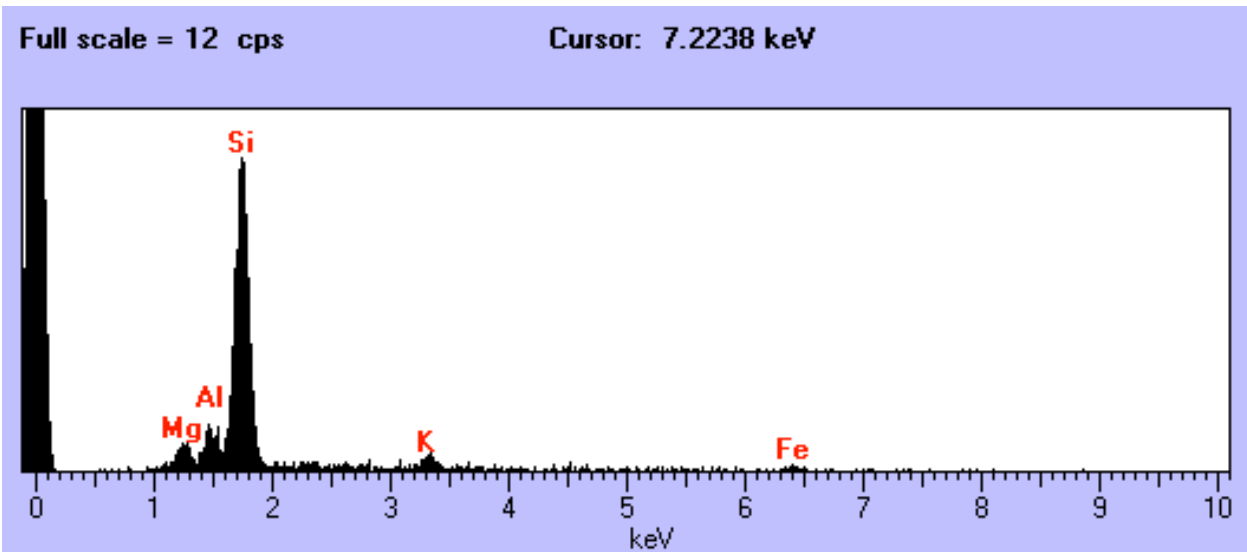
Size: 15 x 12 um
Shape: Irregular
Trans: Translucent
Color: Orange
Luster: Subvitreous
Type: TCN?
Comments:



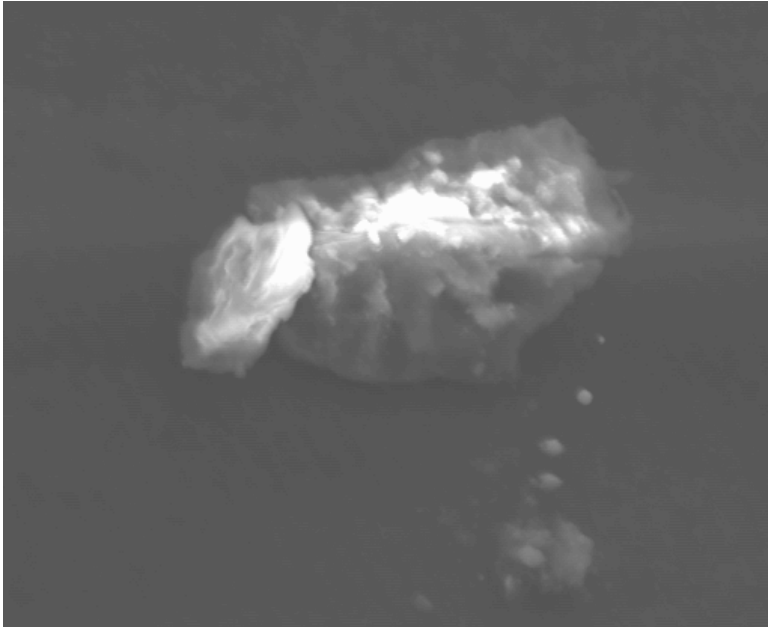
U2098 B17



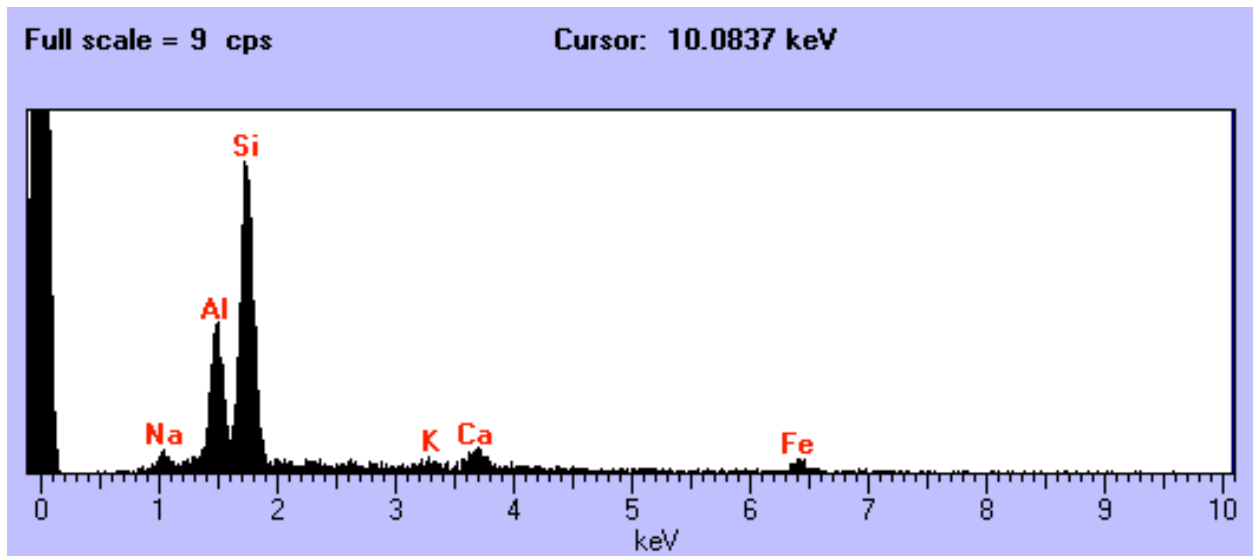
Size: 40 x 17 um
Shape: Irregular
Trans: Translucent
Color: Colorless
Luster: Subvitreous
Type: TCN
Comments:



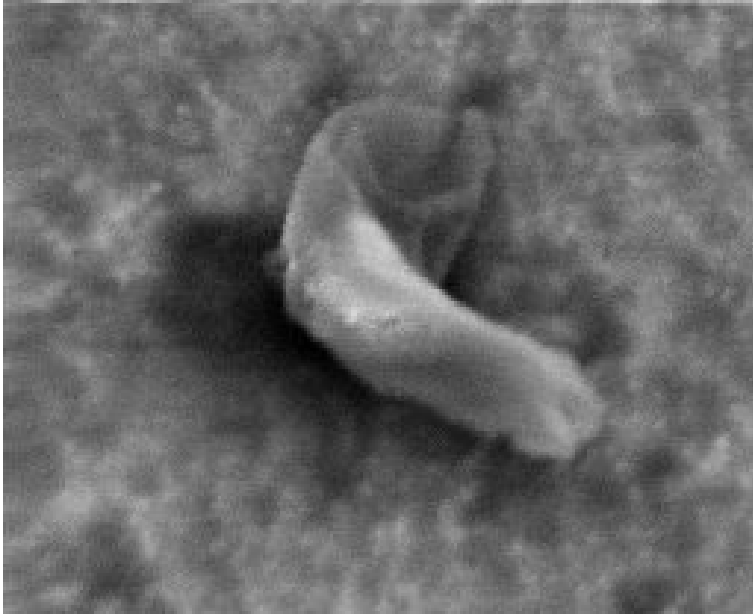
U2098 B18



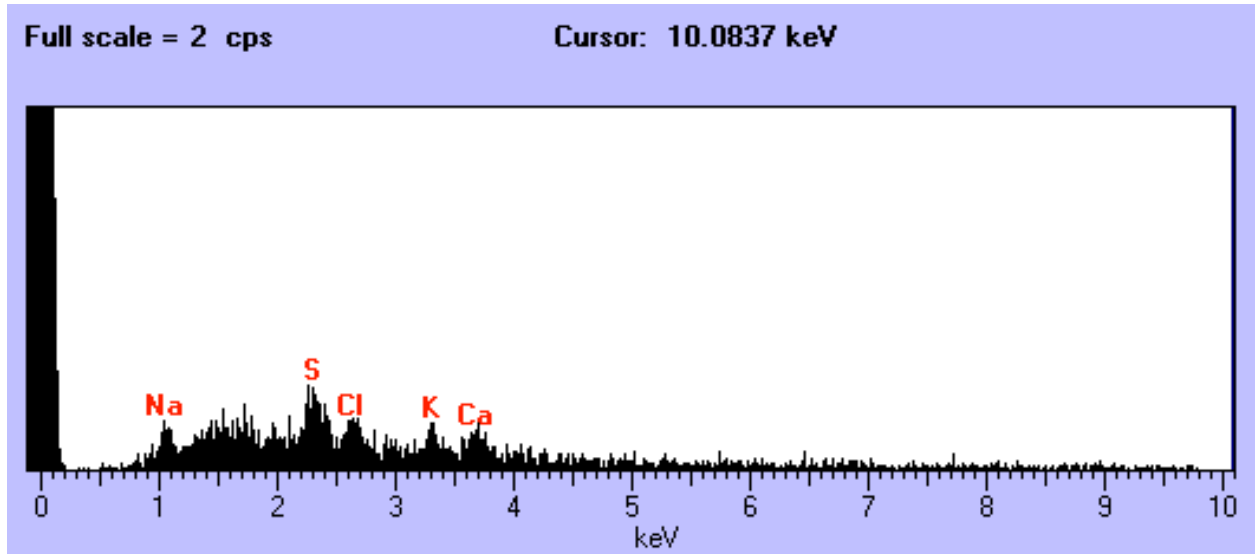
Size: 23 x 20 um
Shape: Irregular
Trans: Translucent
Color: Colorless
Luster: Subvitreous
Type: TCN
Comments:



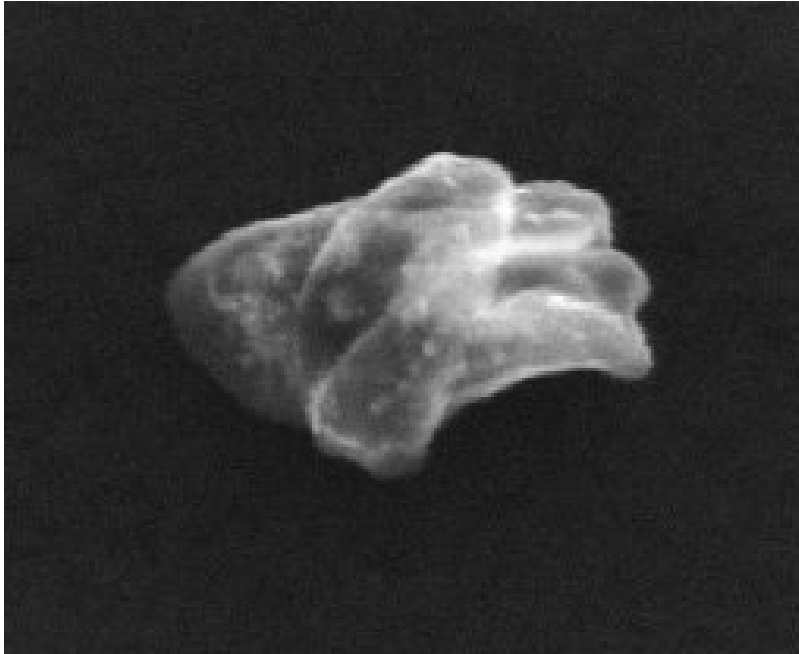
U2098 B19



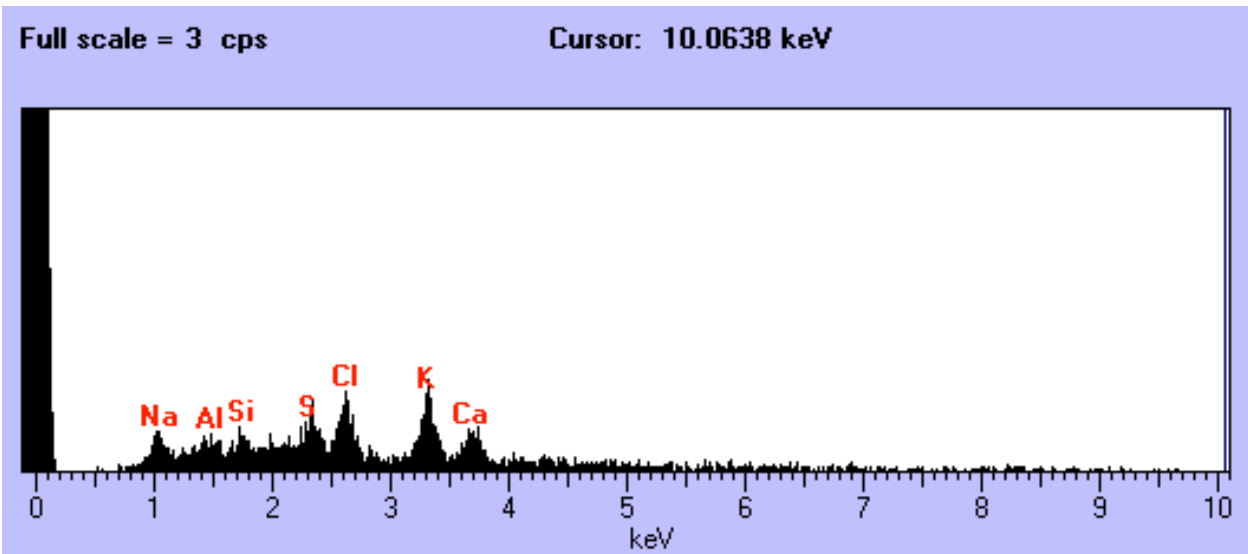
Size: 33 x 15 um
Shape: Irregular
Trans: Translucent
Color: Colorless
Luster: Subvitreous
Type: TCN
Comments:



U2098 B22



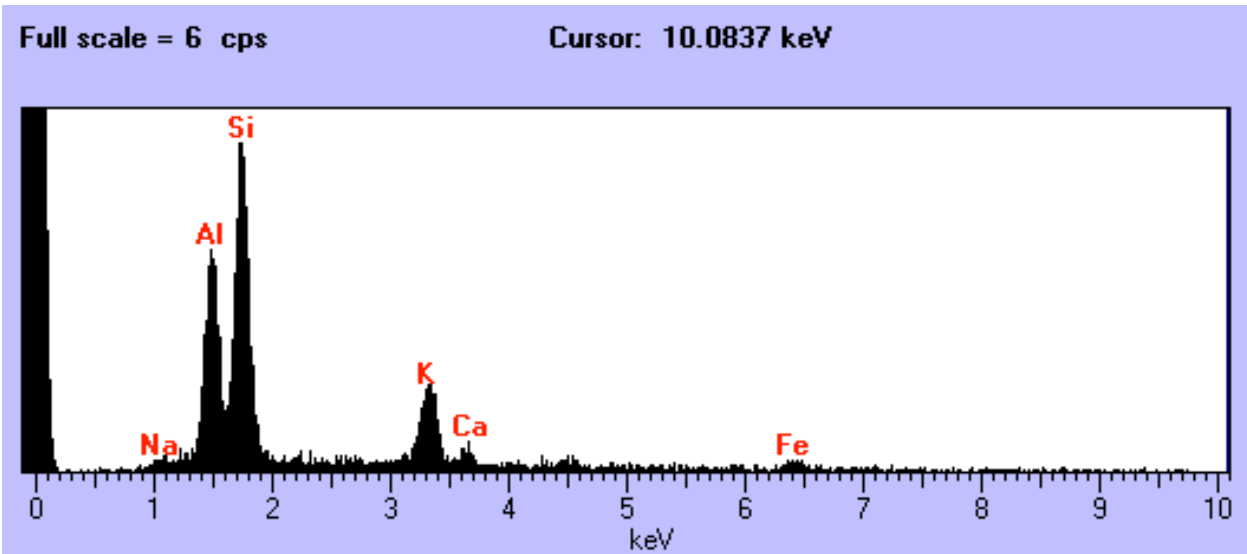
Size: 33 x 18 um
Shape: Irregular
Trans: Transparent
Color: Colorless
Luster: Vitreous
Type: TCN
Comments:



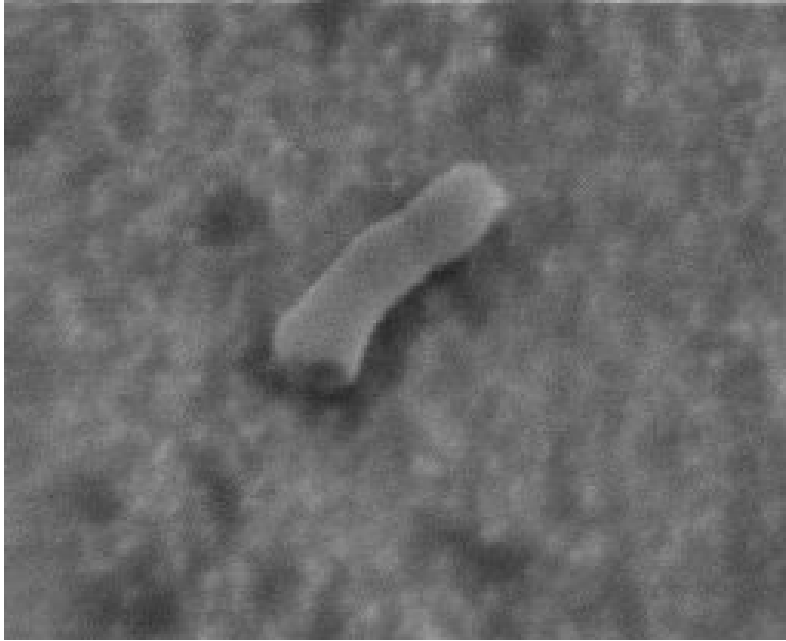
U2098 B23



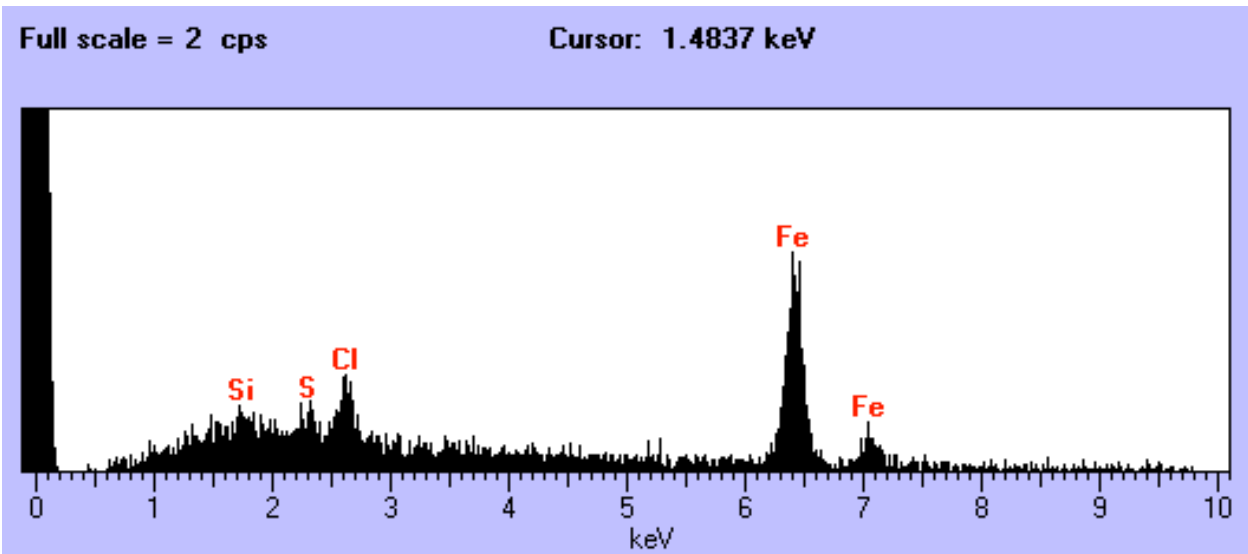
Size: 47 x 22 um
Shape: Irregular
Trans: Transparent
Color: White
Luster: Vitreous
Type: TCN
Comments:



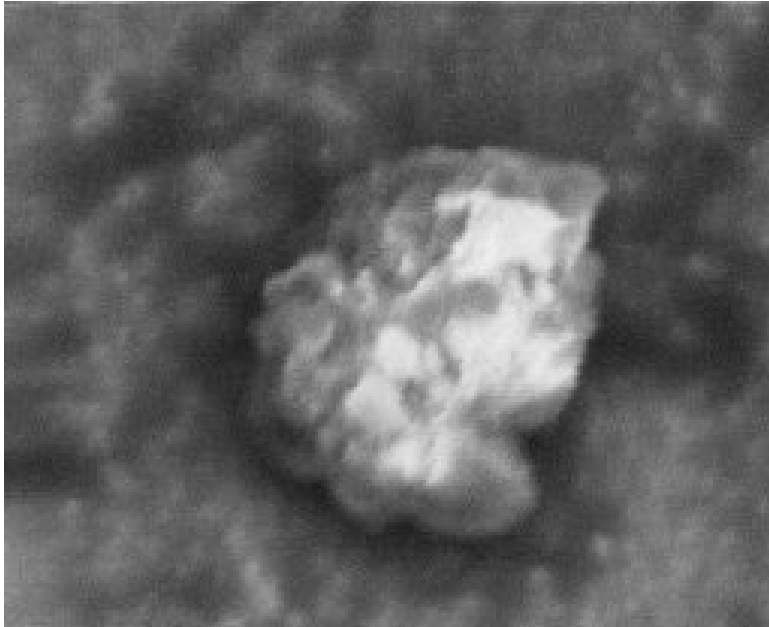
U2098 B26



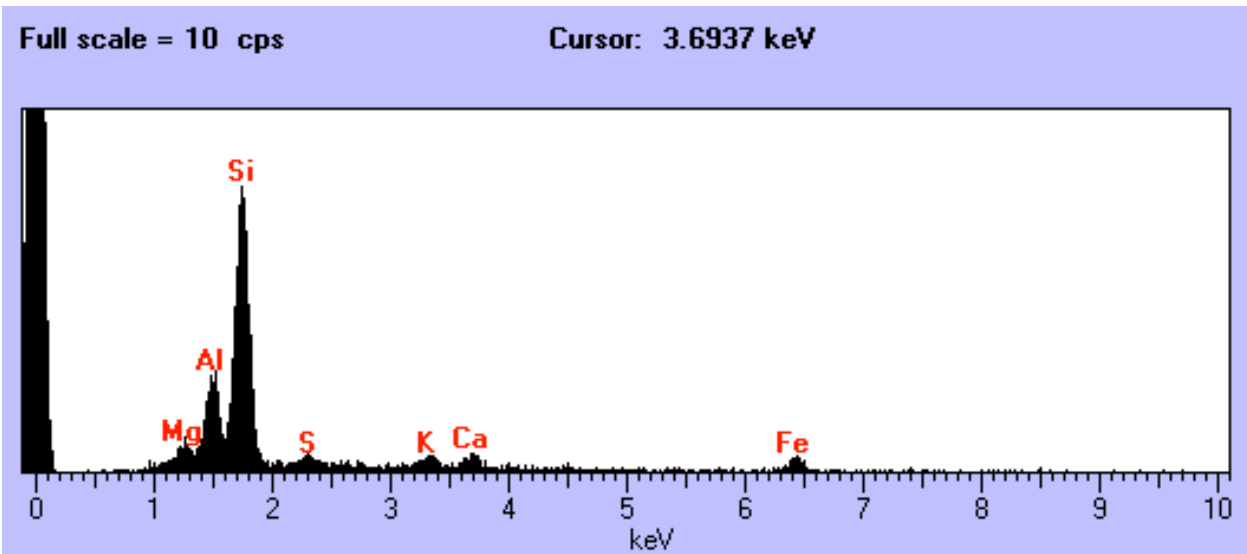
Size: 20 x 8 um
Shape: Irregular
Trans: Opaque
Color: Yellow
Luster: Dull
Type: TCN?
Comments:



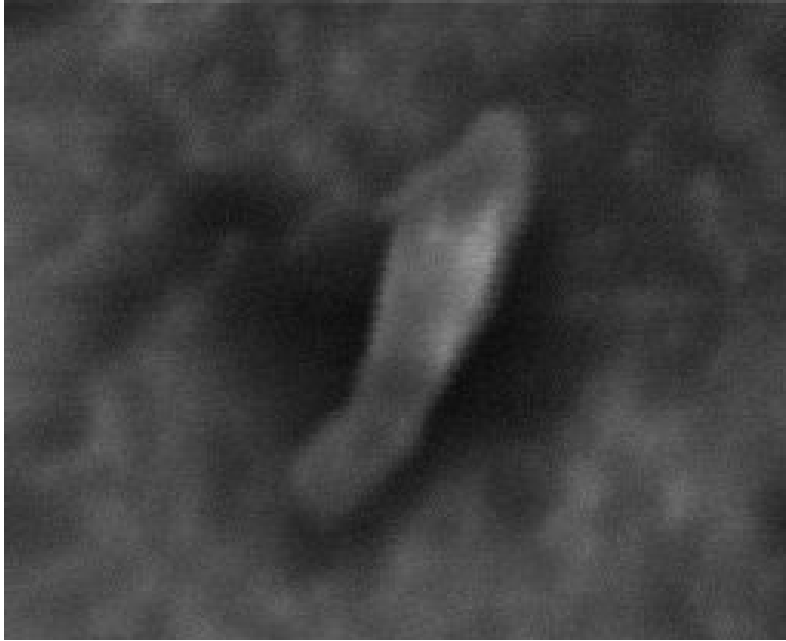
U2098 B29



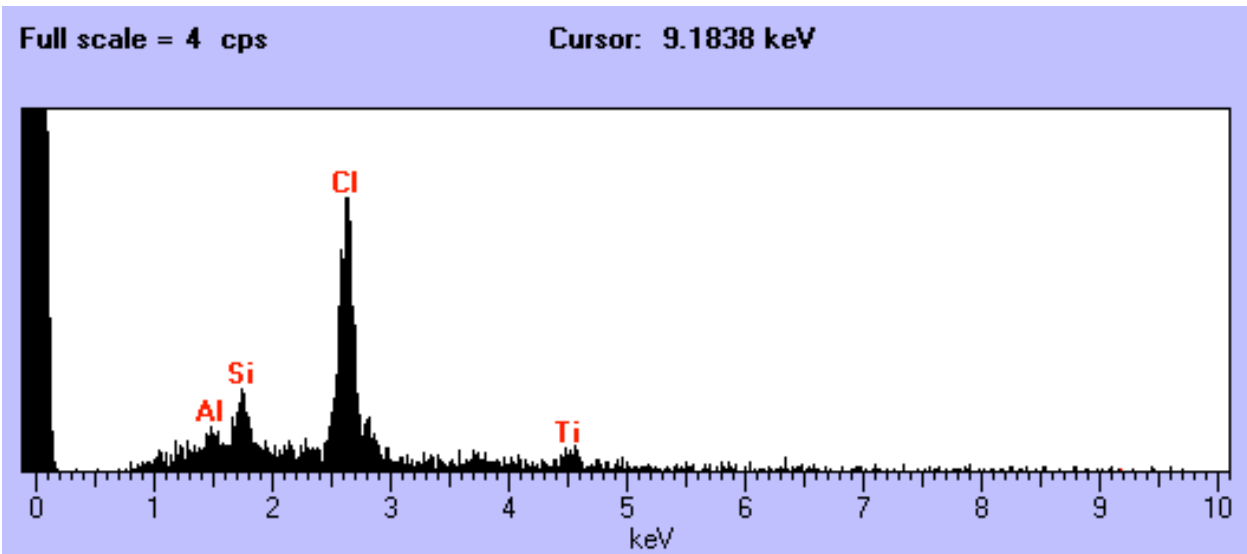
Size: 26 x 22 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCN
Comments:



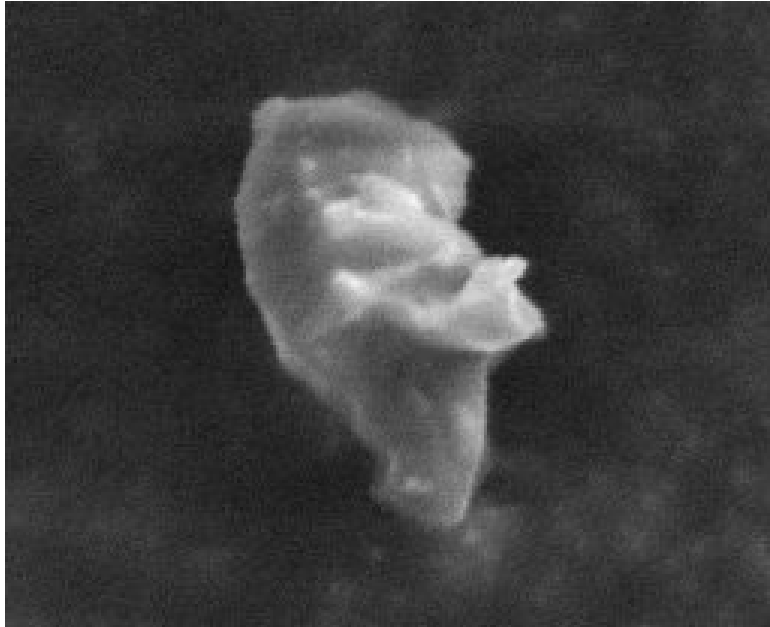
U2098 B31



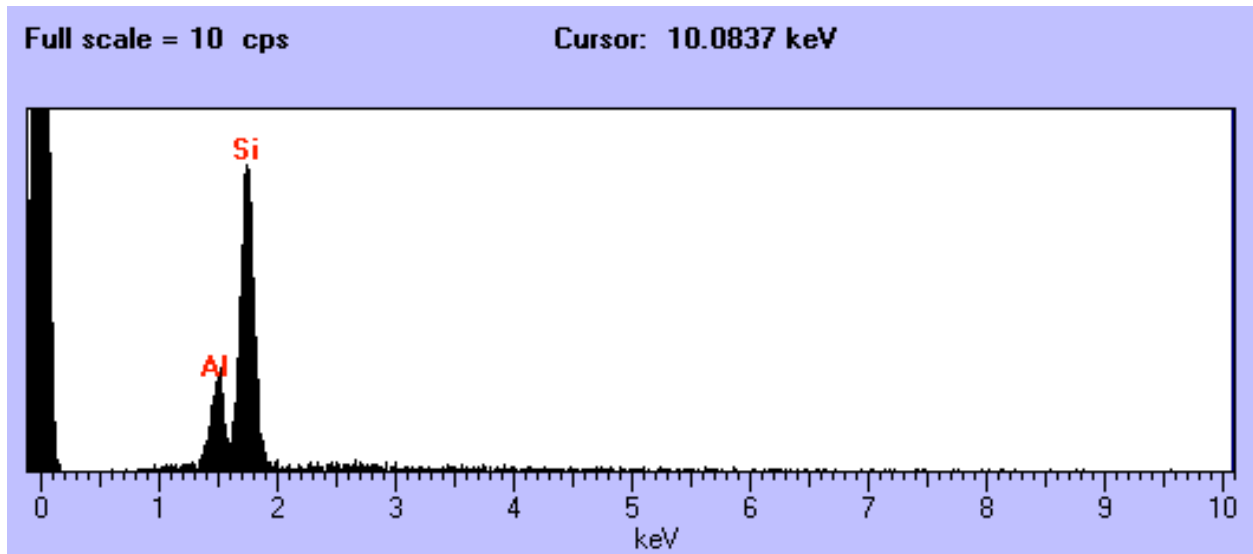
Size: 20 x 9 um
Shape: Irregular
Trans: Translucent
Color: Colorless
Luster: Subvitreous
Type: TCN
Comments:



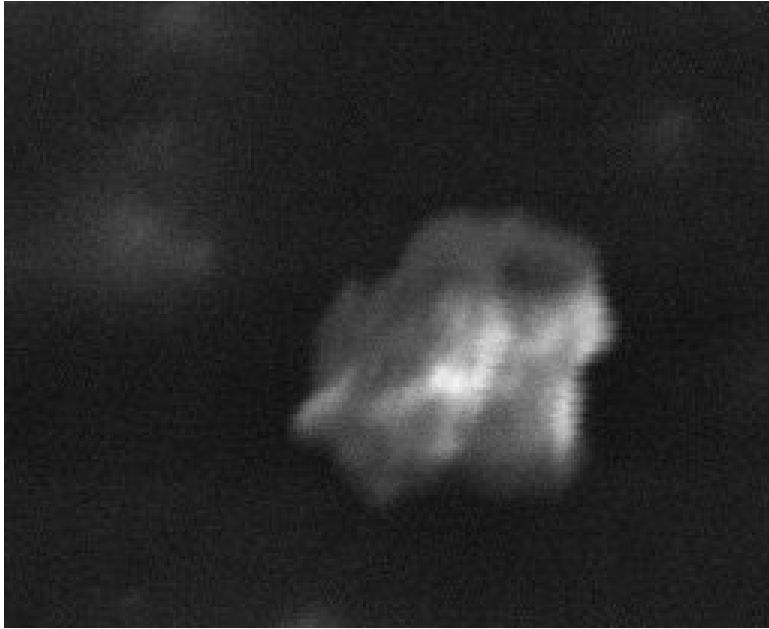
U2098 B33



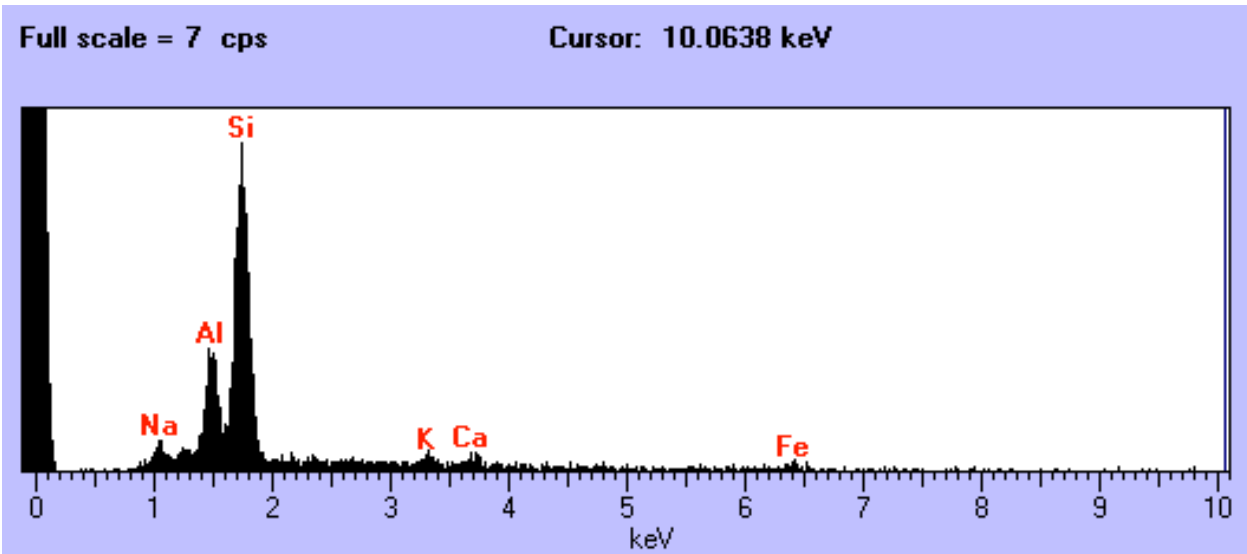
Size: 12 x 10 um
Shape: Irregular
Trans: Translucent
Color: Colorless
Luster: Subvitreous
Type: TCN
Comments:



U2098 B36



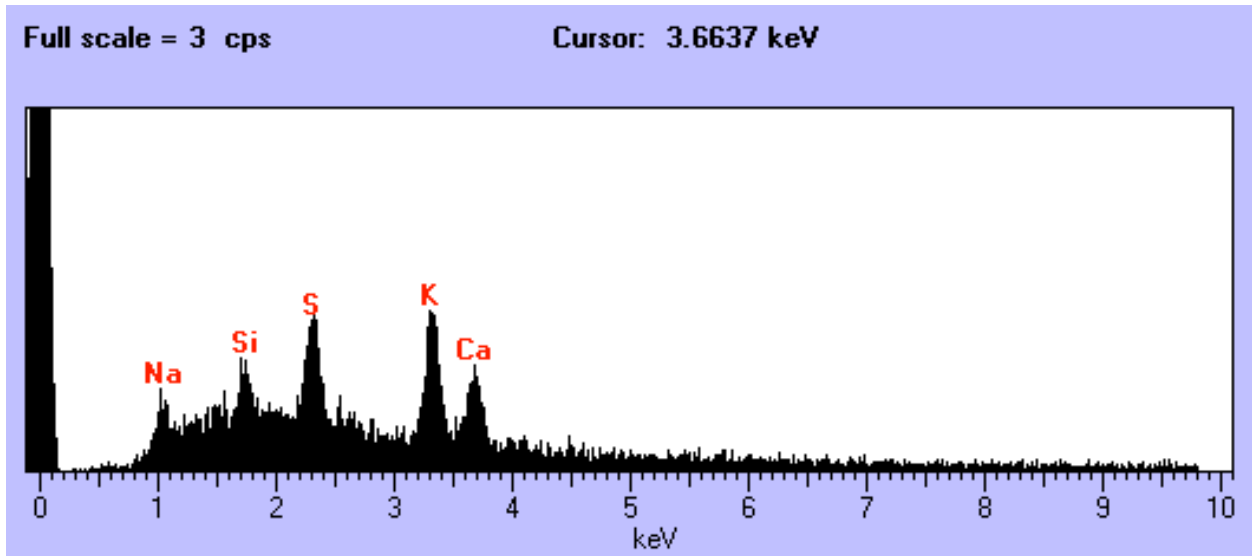
Size: 12 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCN
Comments:



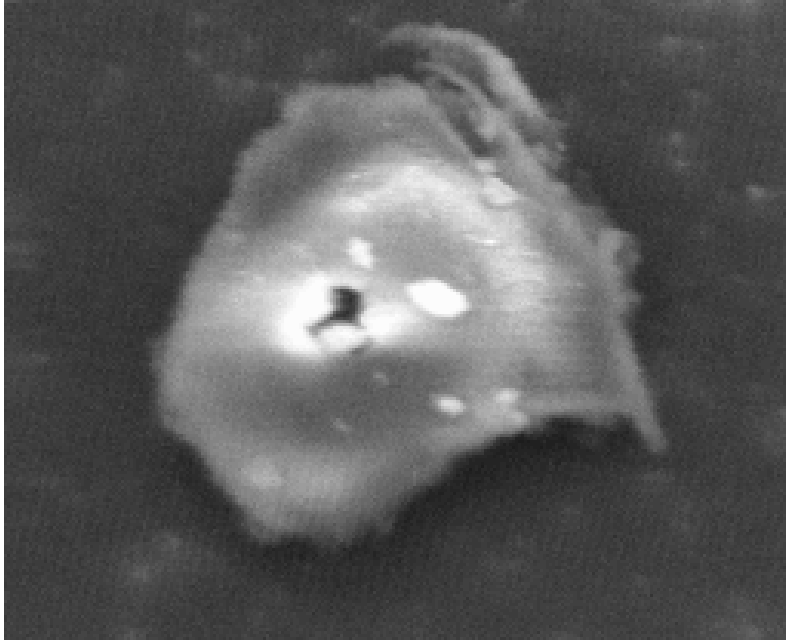
U2097 A4



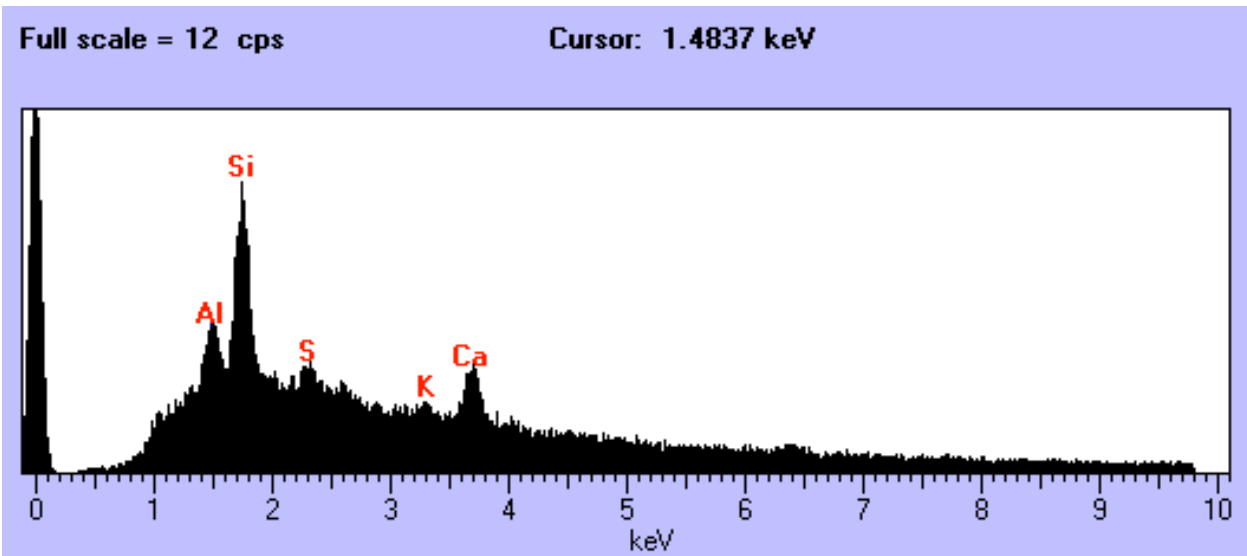
Size: 17 x 16 um
Shape: Irregular
Trans: Opaque
Color: Gold
Luster: Dull/Submetallic
Type: TCN
Comments:



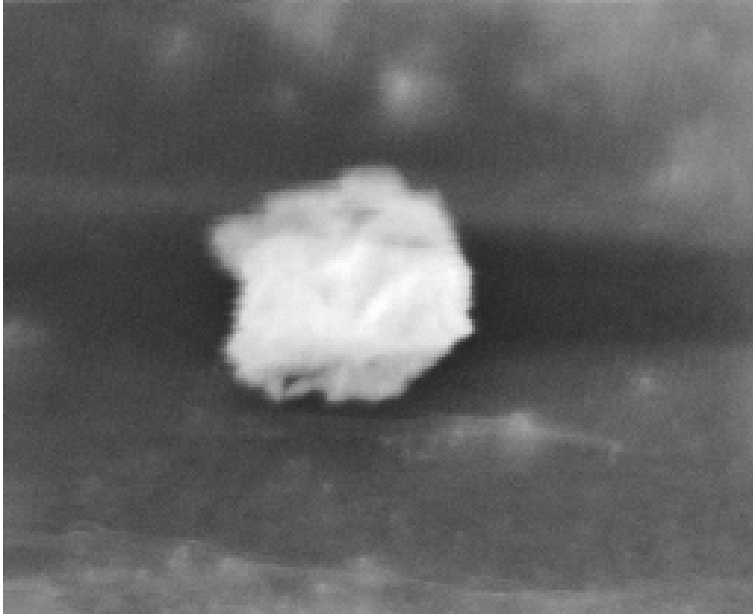
U2097 A5



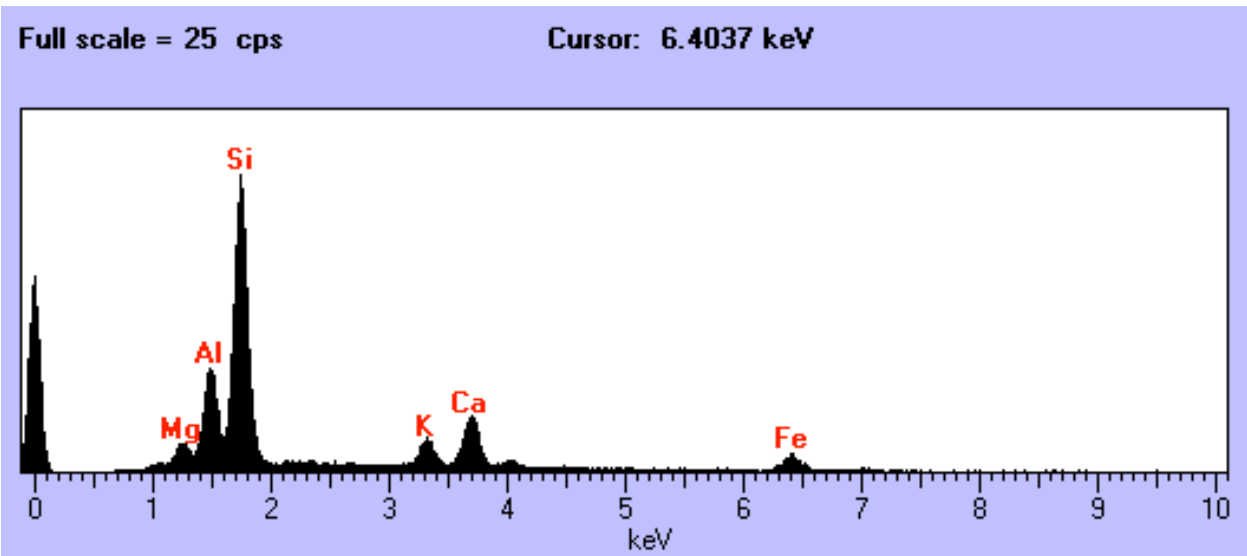
Size: 60 x 55 um
Shape: Irregular
Trans: Translucent
Color: Colorless
Luster: Vitreous
Type: TCN
Comments:



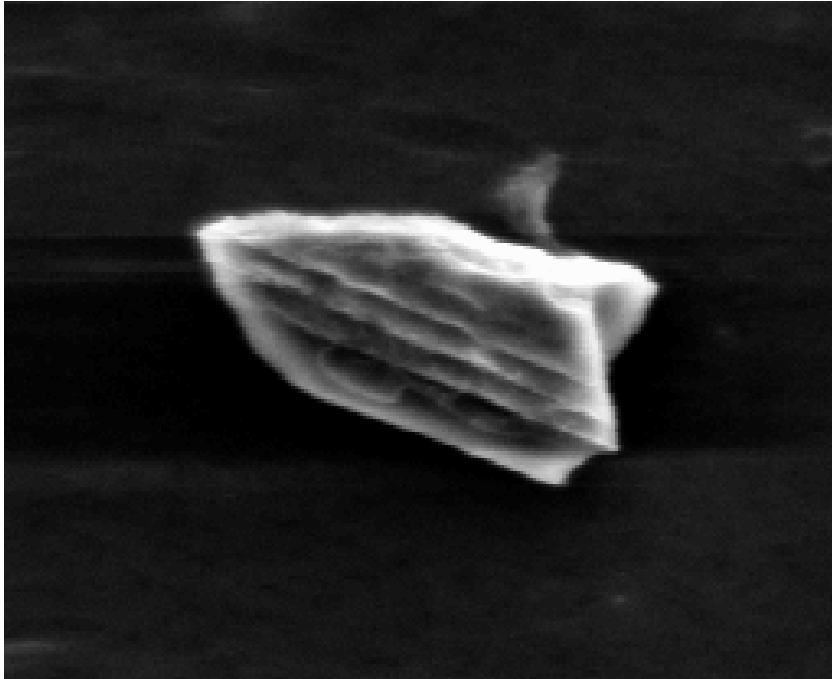
U2097 A6



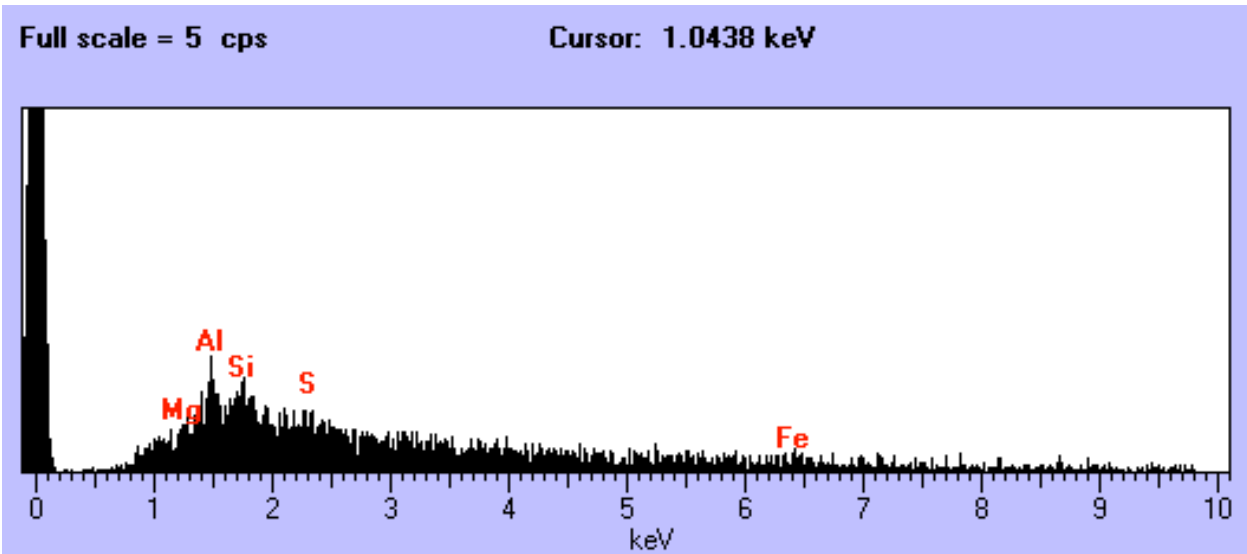
Size: 17 x 15 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCN
Comments:



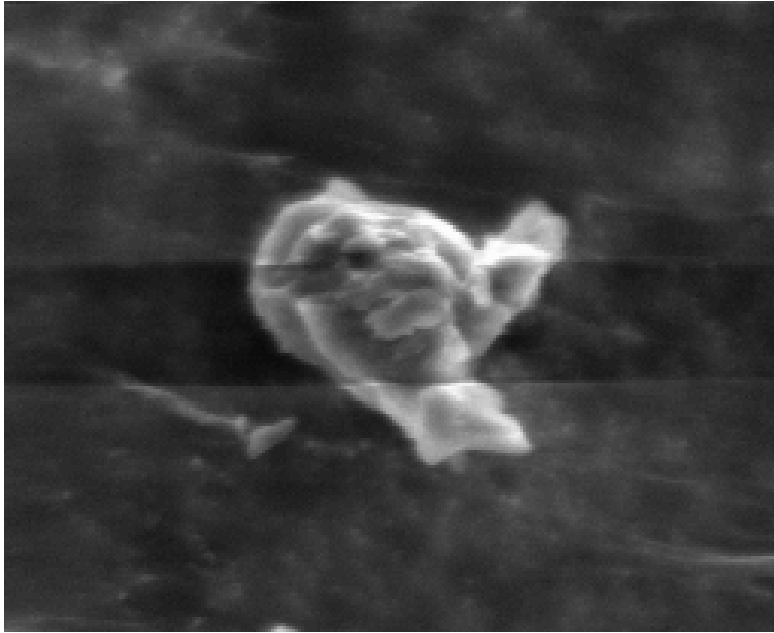
U2097 A11



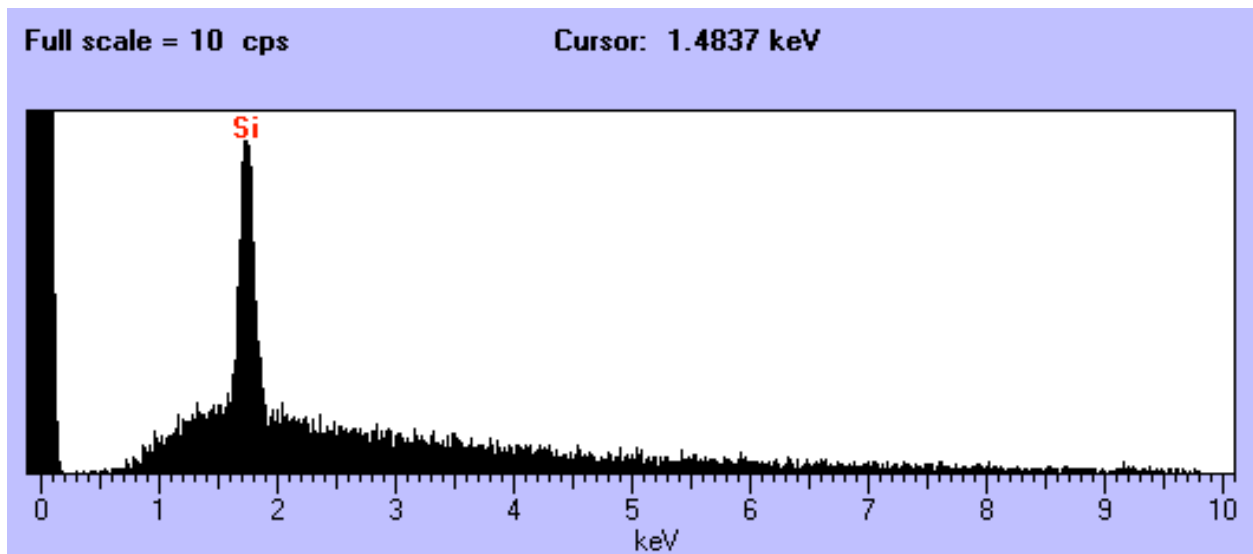
Size: 15 x 10 um
Shape: Irregular
Trans: Opaque
Color: Colorless
Luster: Pearly
Type: TCN
Comments:



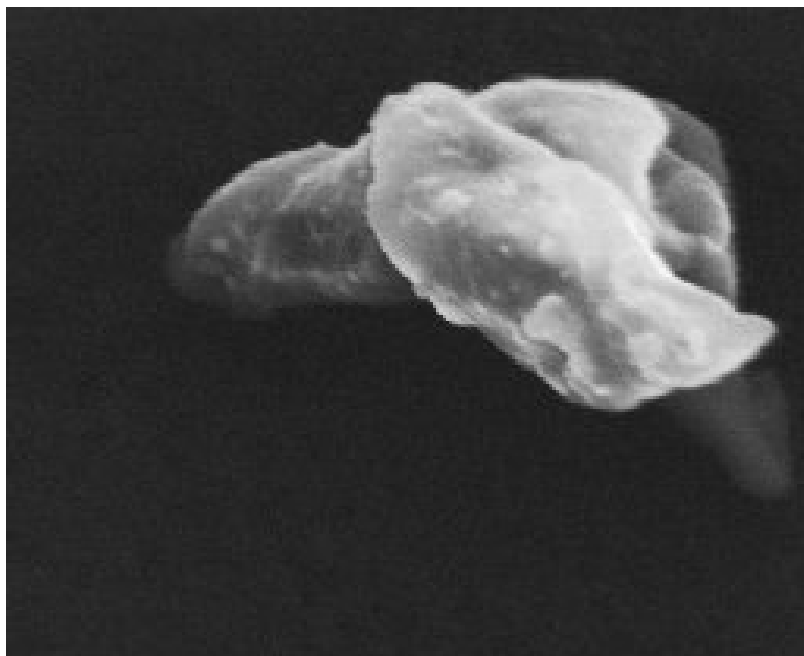
U2097 A12



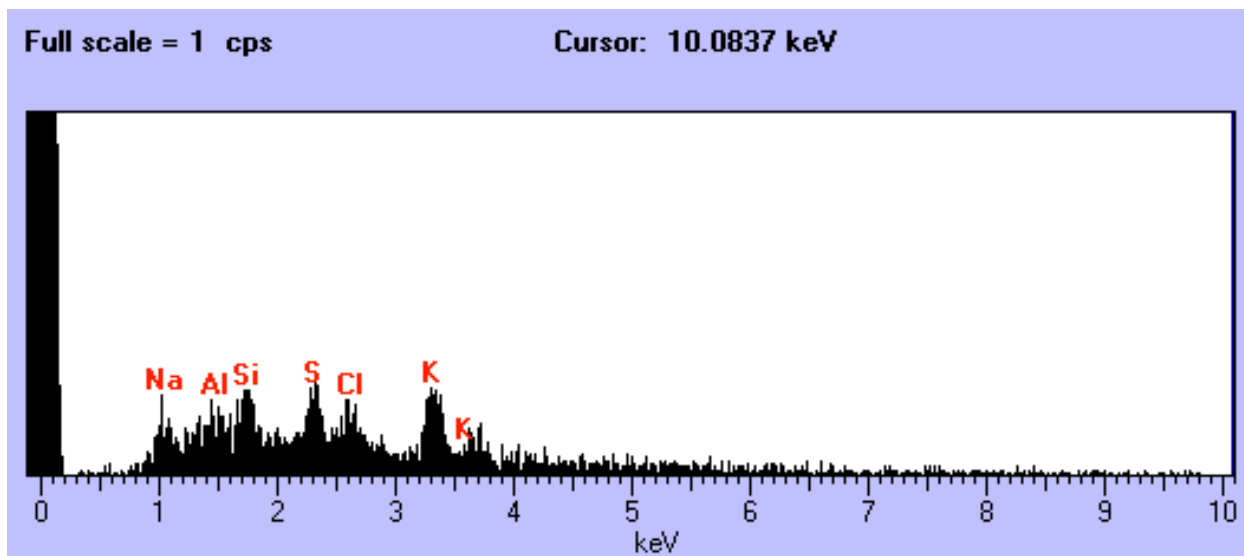
Size: 13 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Pearly
Type: TCN
Comments:



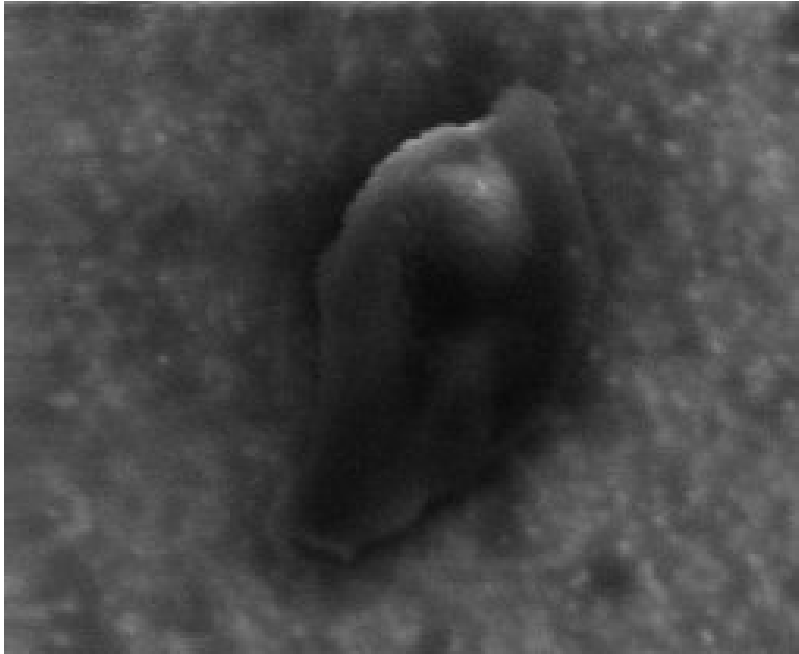
U2097 B3



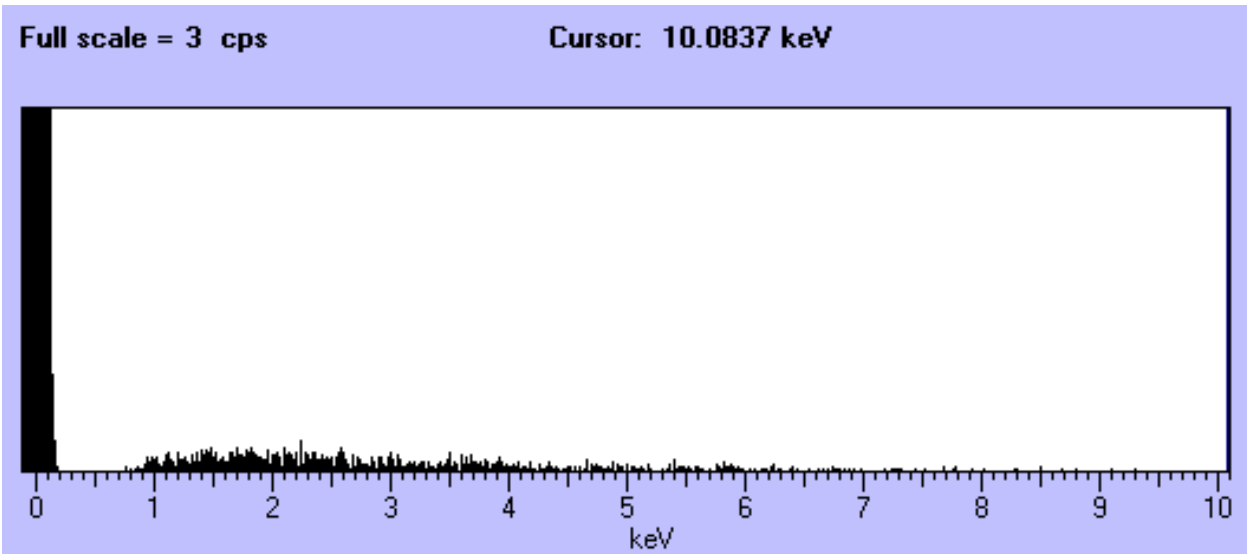
Size: 30 x 18 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Pearly
Type: TCN
Comments:



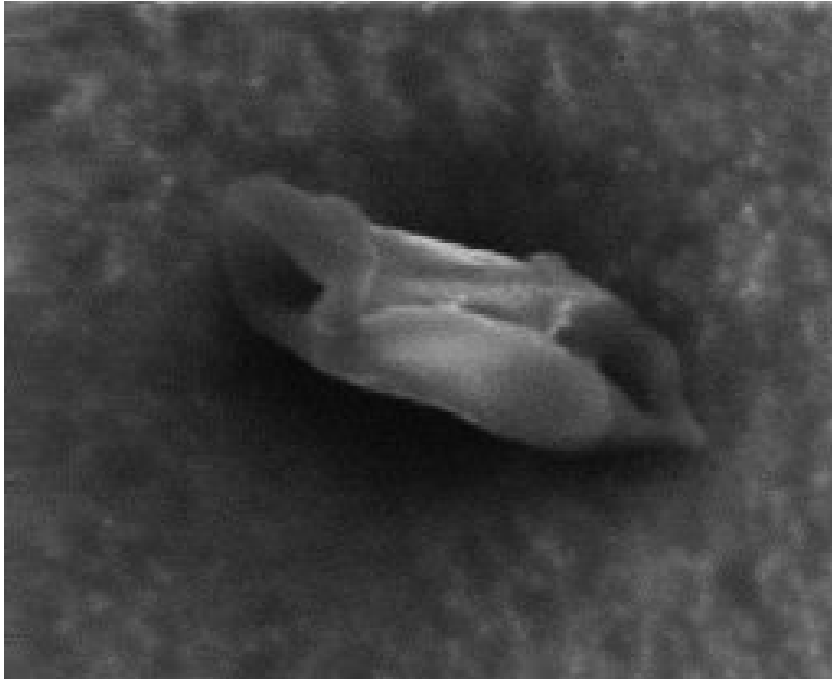
U2097 B5



Size: 30 x 17 um
Shape: Irregular
Trans: Translucent
Color: Colorless
Luster: Subvitreous
Type: TCN?
Comments:



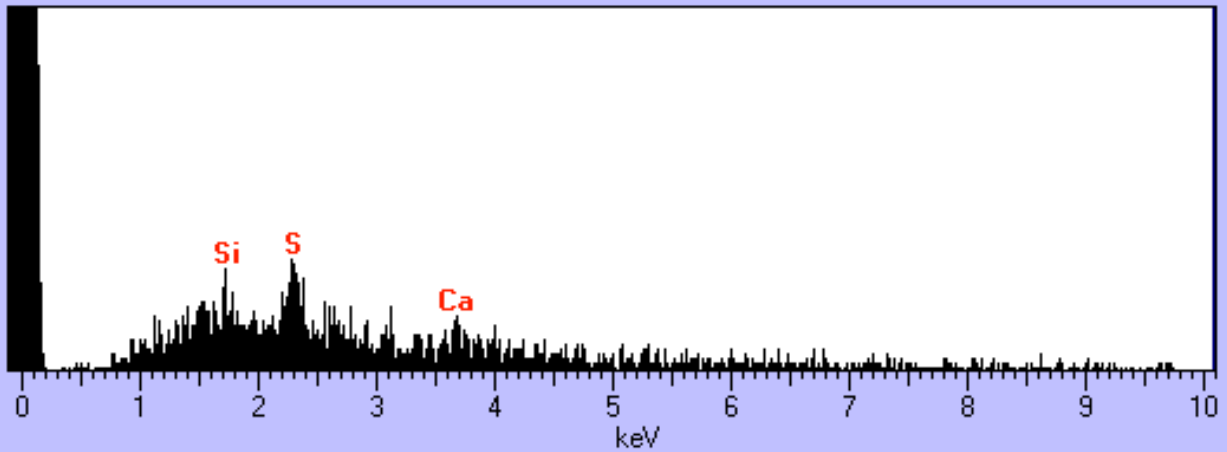
U2097 B6



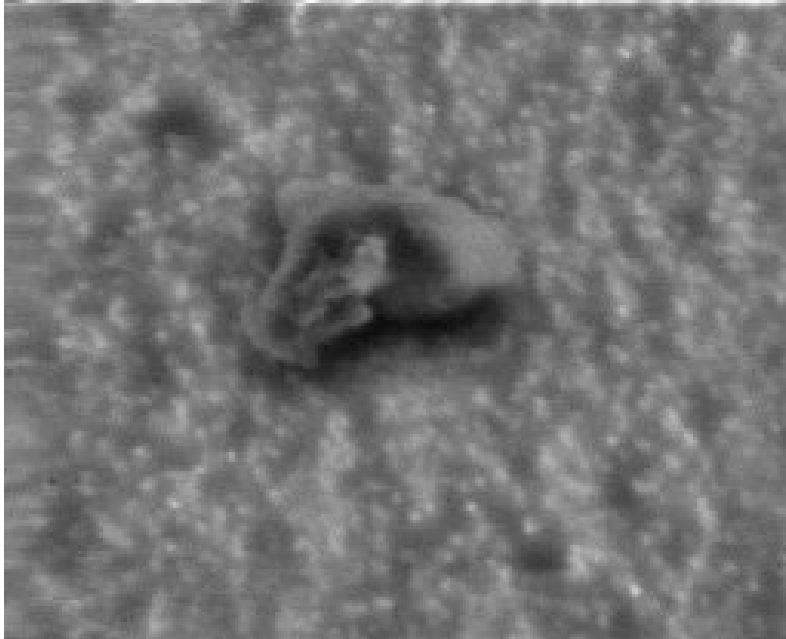
Size: 30 x 13 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCN
Comments:

Full scale = 1 cps

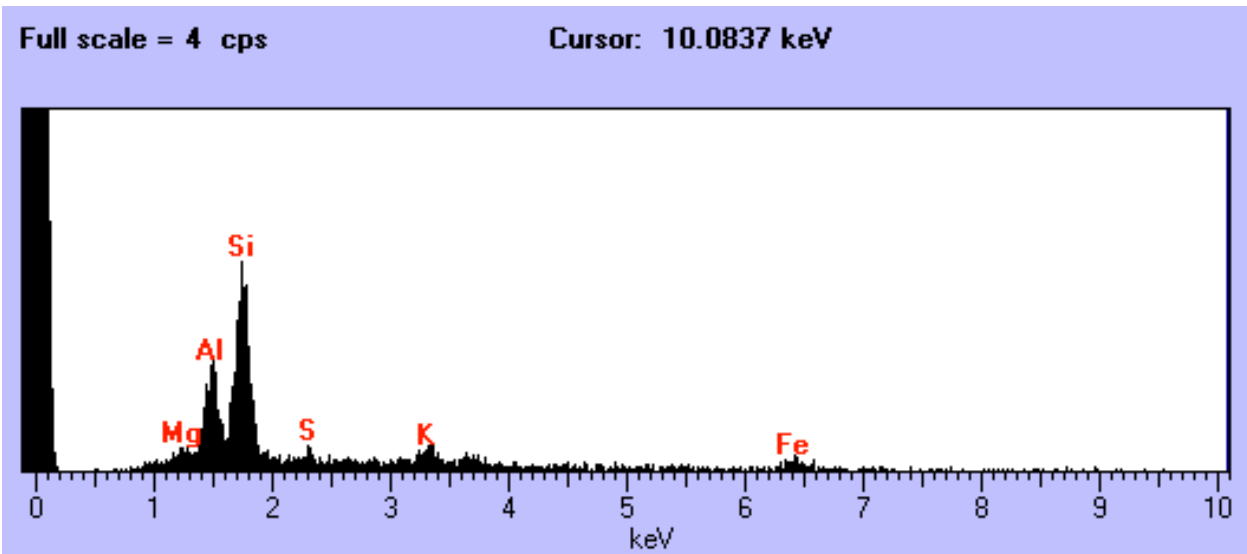
Cursor: 10.0837 keV



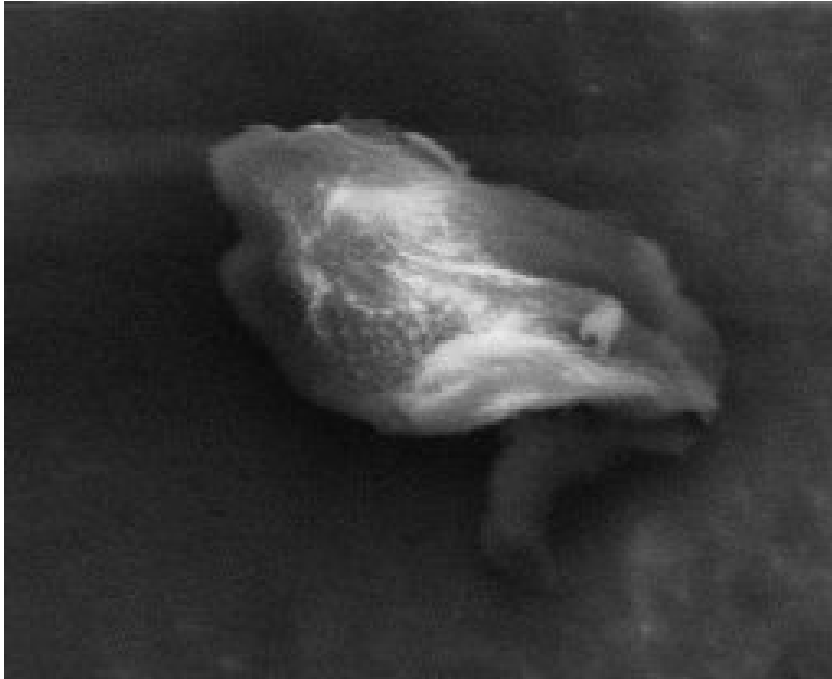
U2097 B7



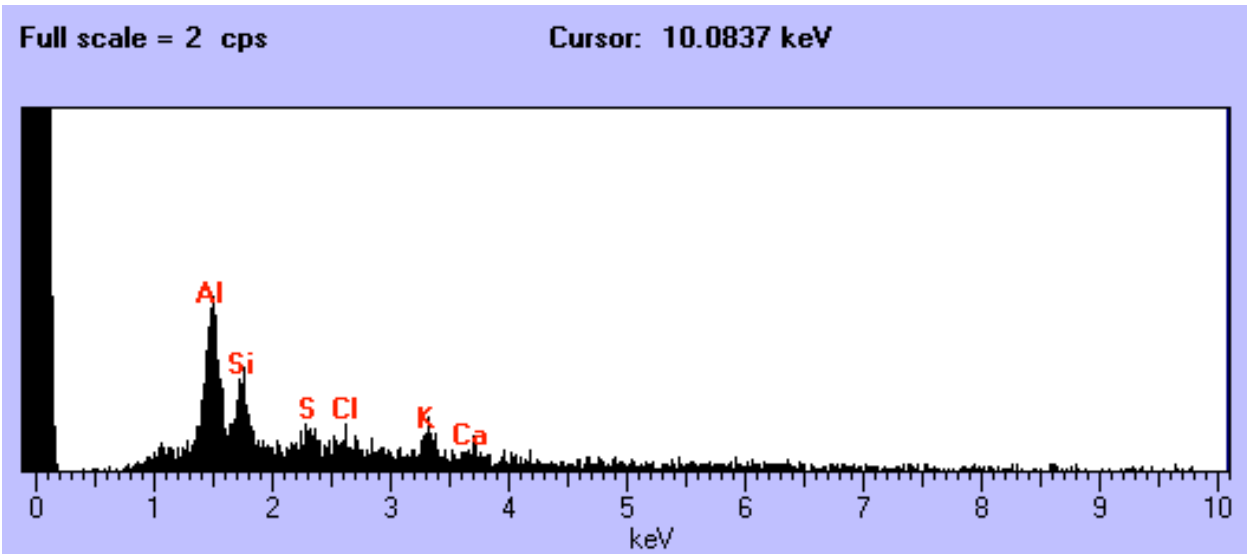
Size: 15 x 13 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCN
Comments:



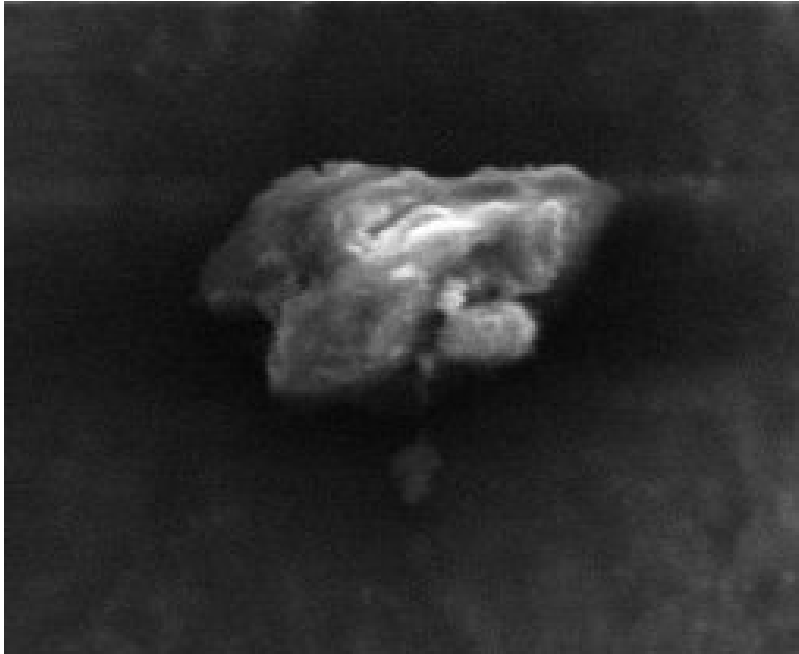
U2097 B10



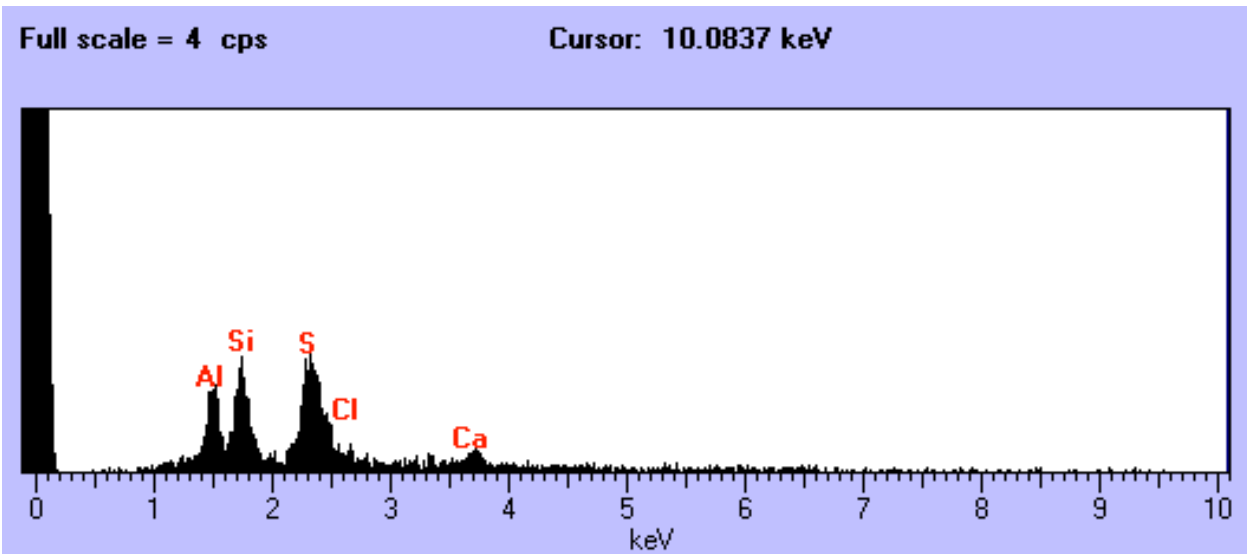
Size: 33 x 15 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCN
Comments:



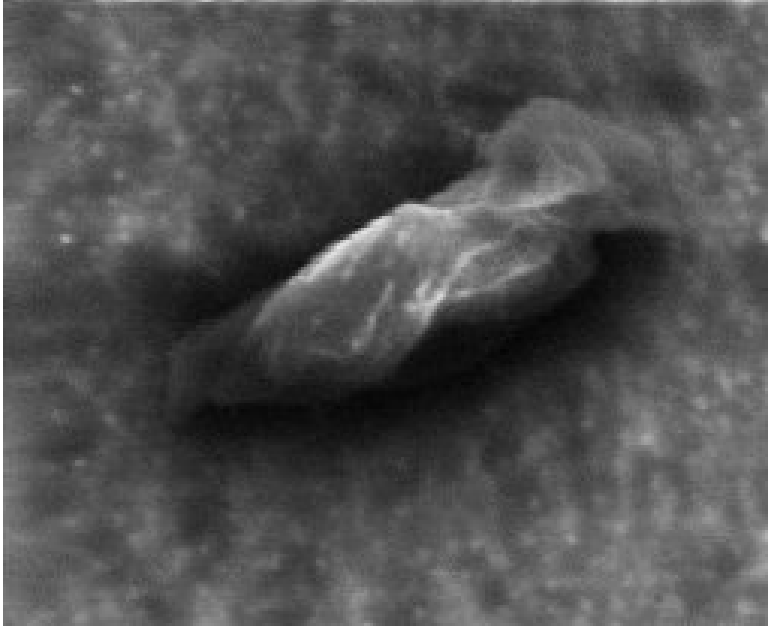
U2097 B13



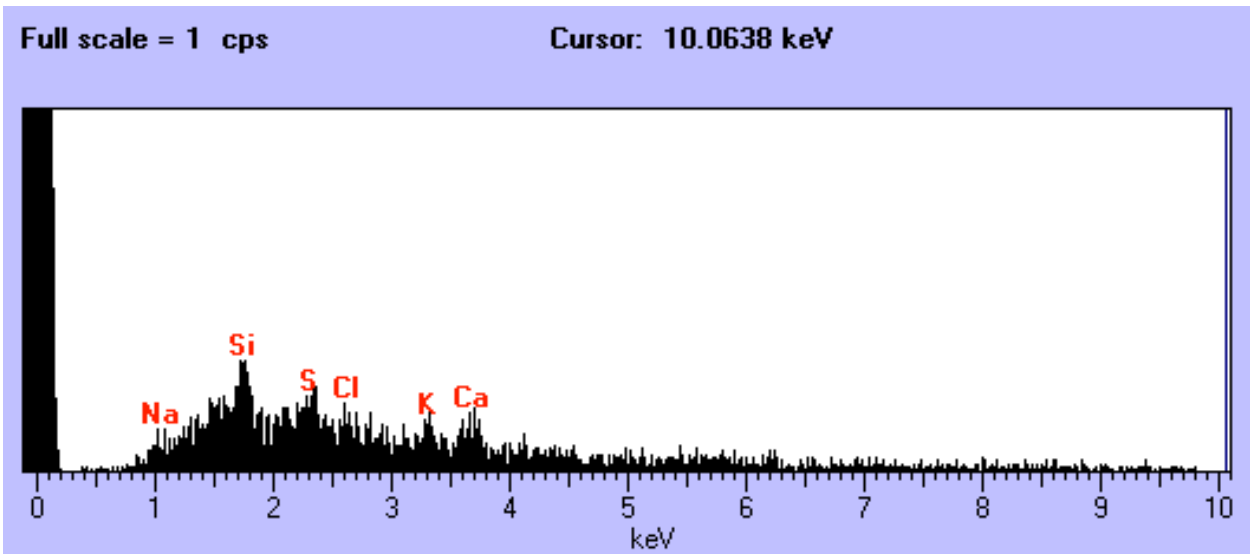
Size: 20 x 10 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull/Submetallic
Type: TCN
Comments:



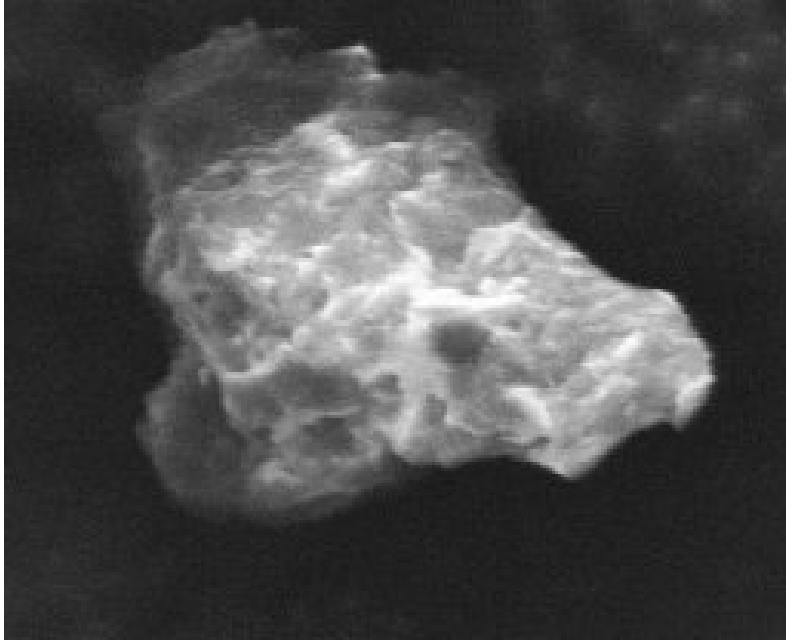
U2097 B14



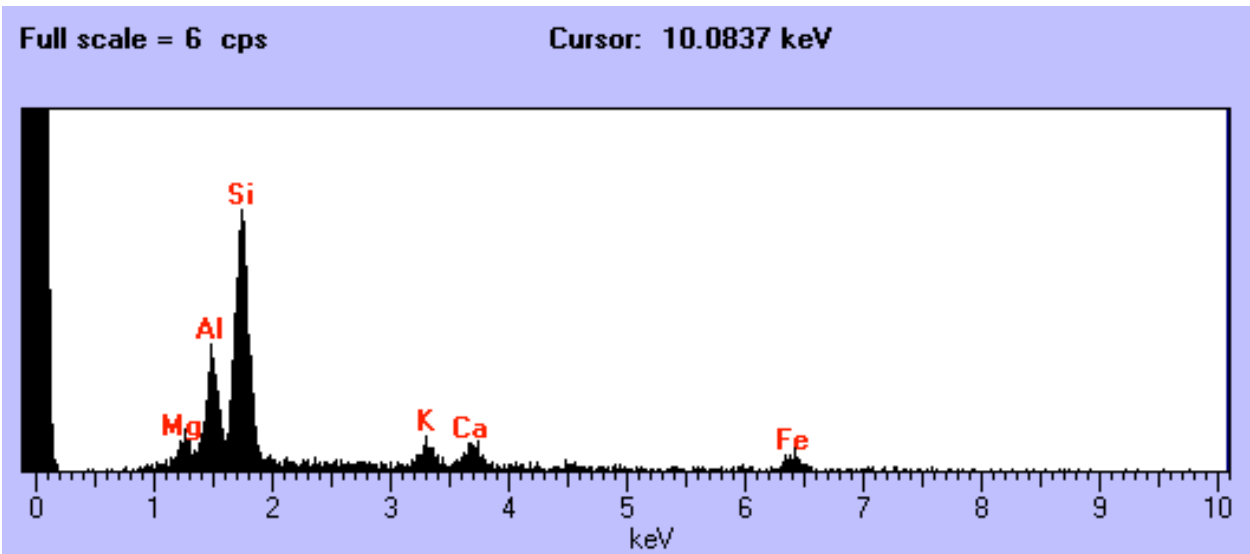
Size: 30 x 13 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCN
Comments:



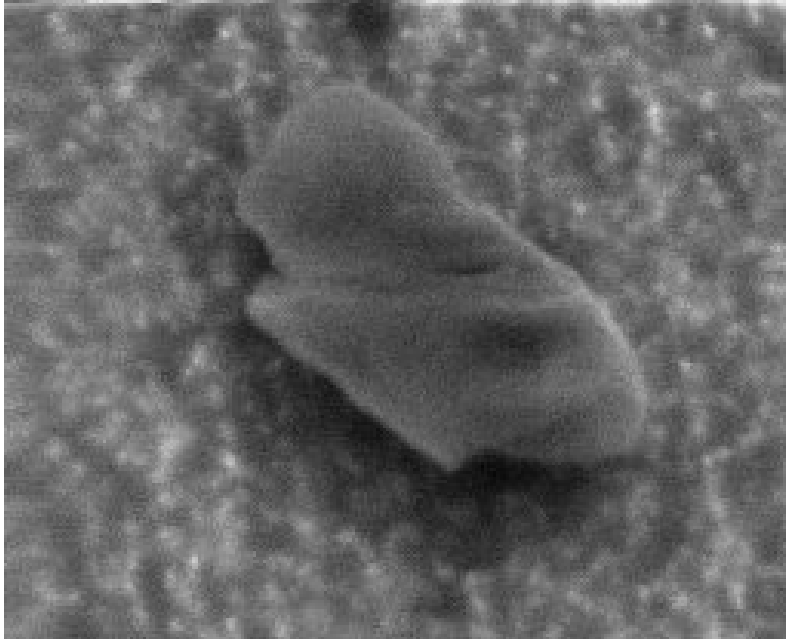
U2097 B18



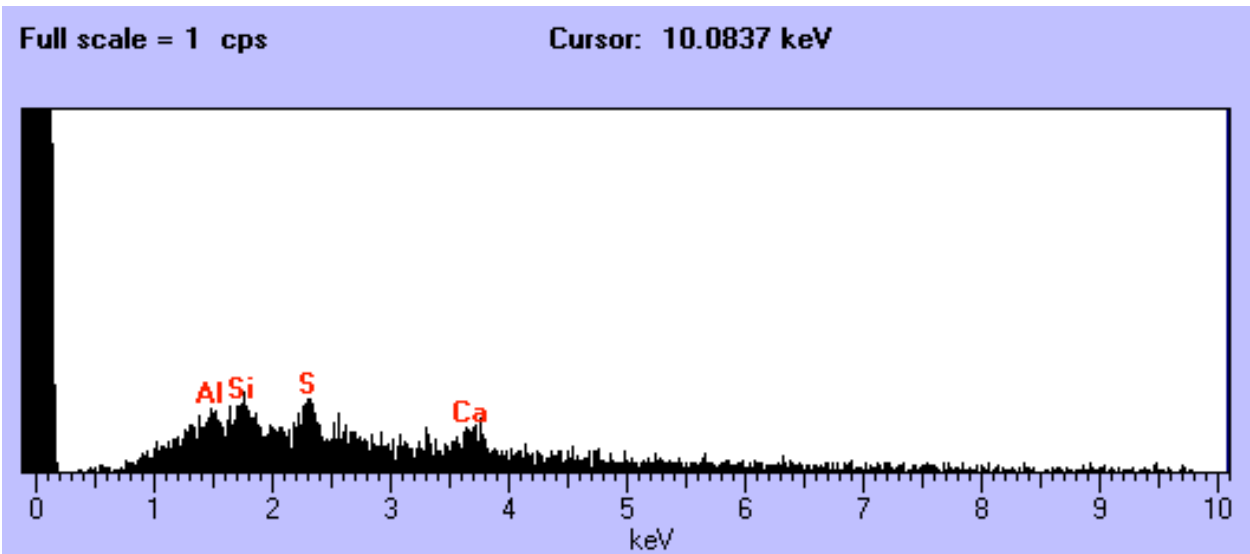
Size: 45 x 30 um
Shape: Irregular
Trans: Translucent
Color: Gold
Luster: Subvitreous
Type: TCN
Comments:



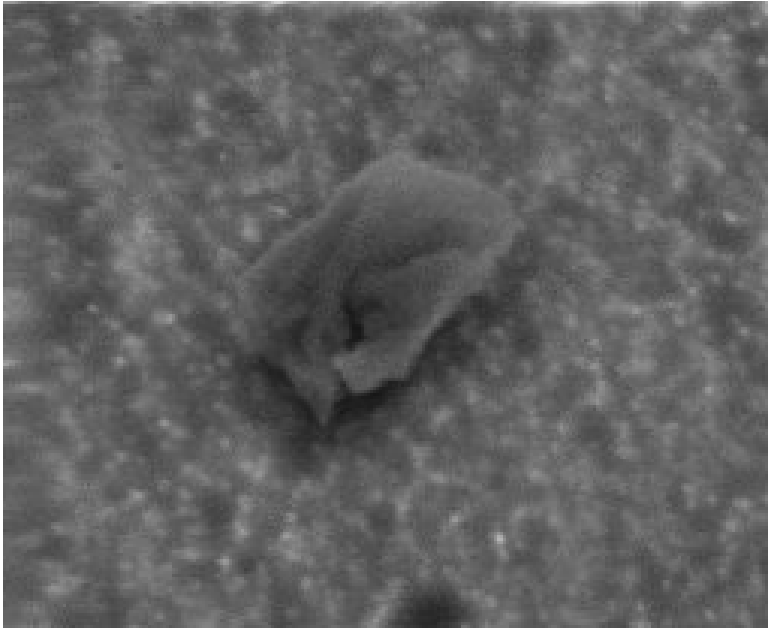
U2097 B19



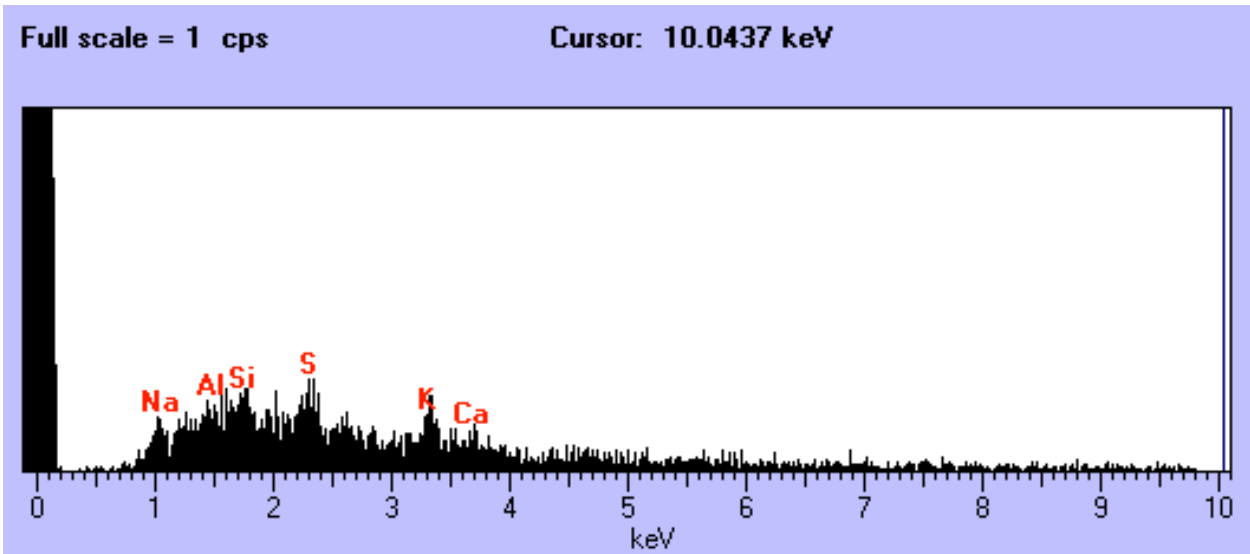
Size: 27 x 18 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCN
Comments:



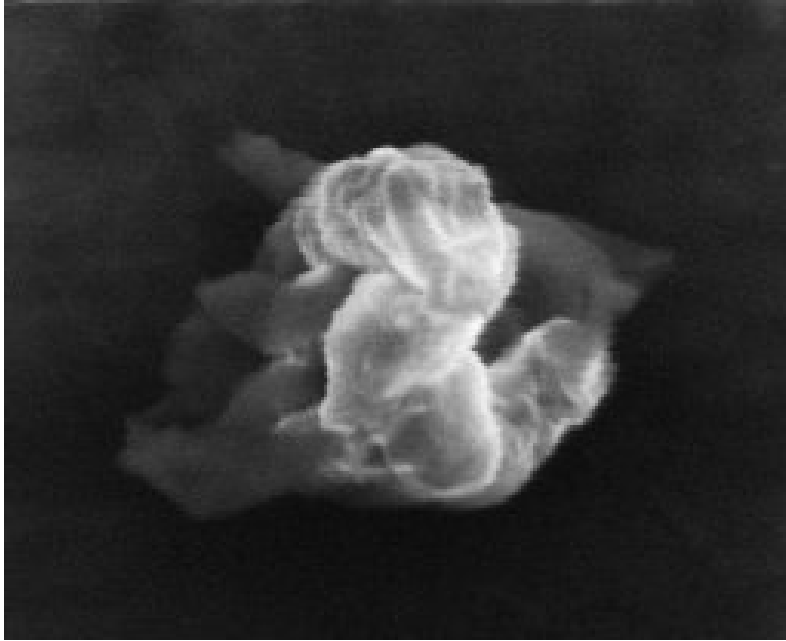
U2097 B20



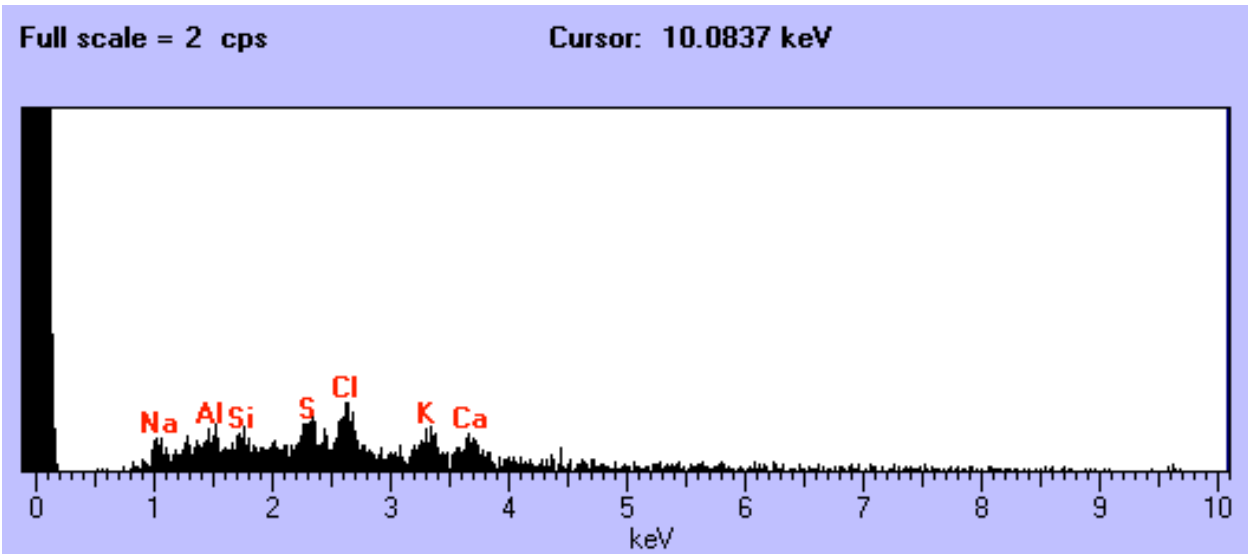
Size: 18 x 13 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCN
Comments:



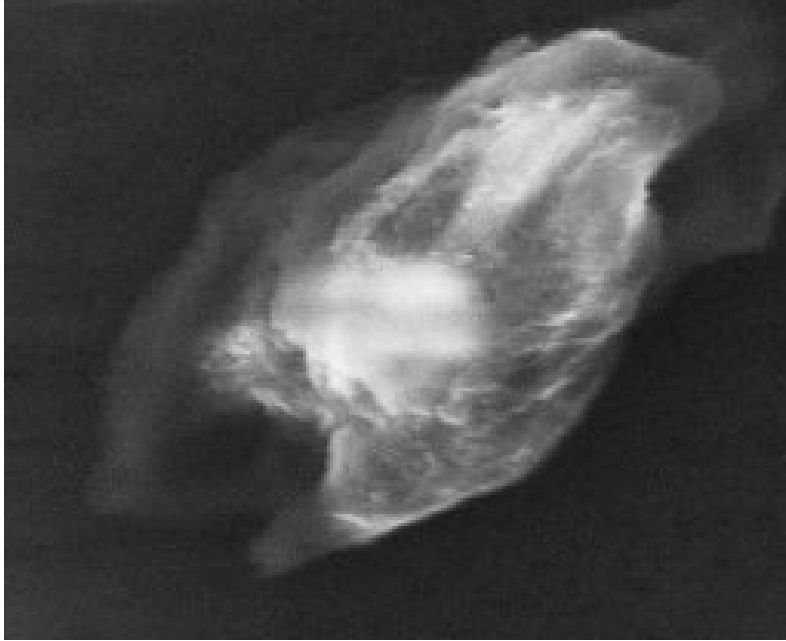
U2097 B22



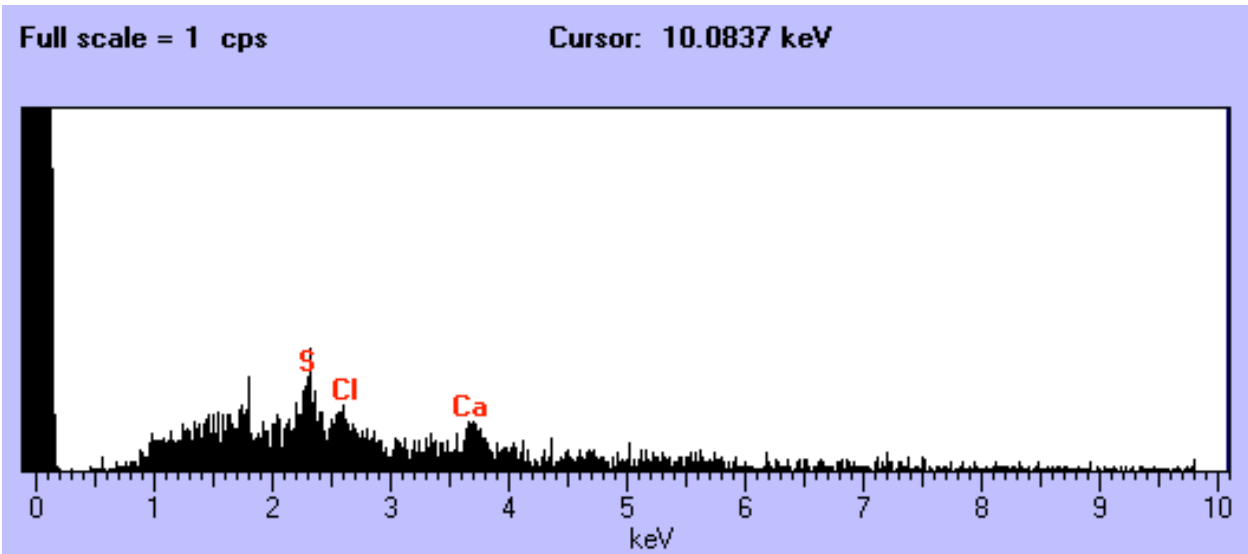
Size: 35 x 31 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Pearly
Type: TCN
Comments:



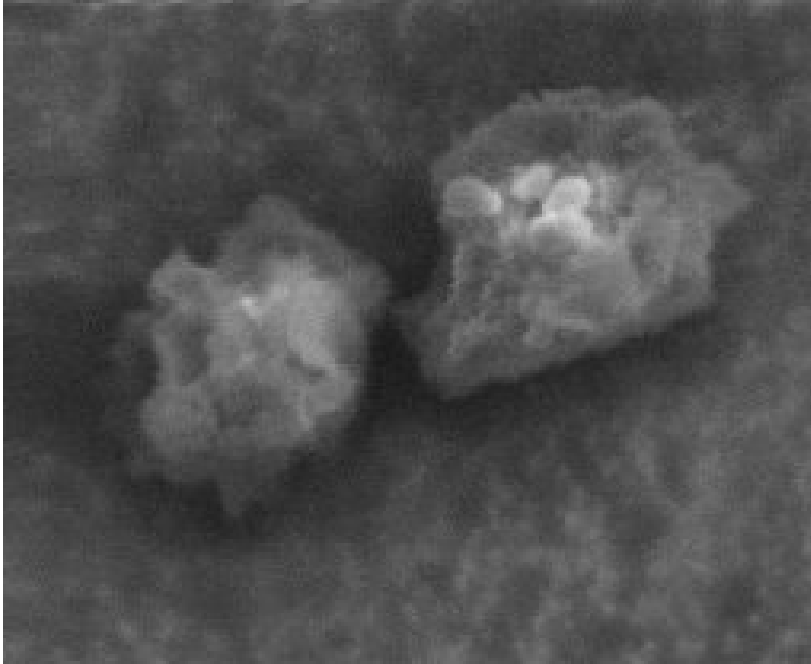
U2097 B28



Size: 32 x 27 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCN
Comments:



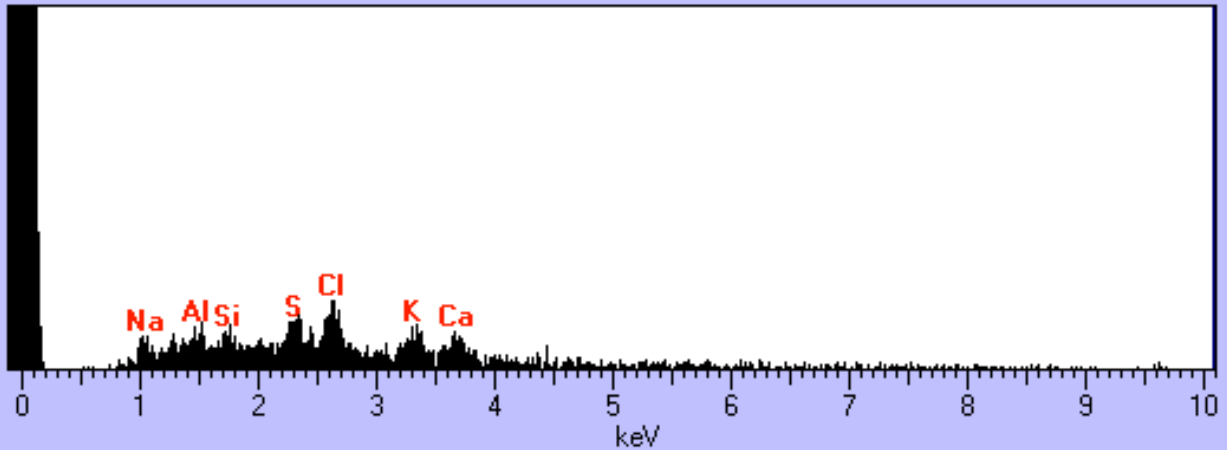
U2097 B31 and B32



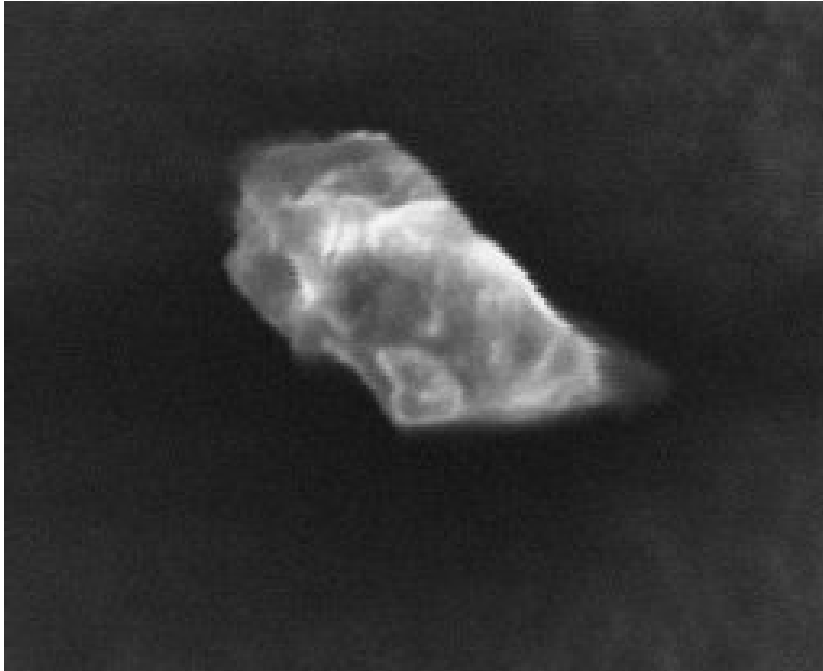
Size: 20 um each
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCN
Comments: B31 on the left,
B32 on the right

Full scale = 2 cps

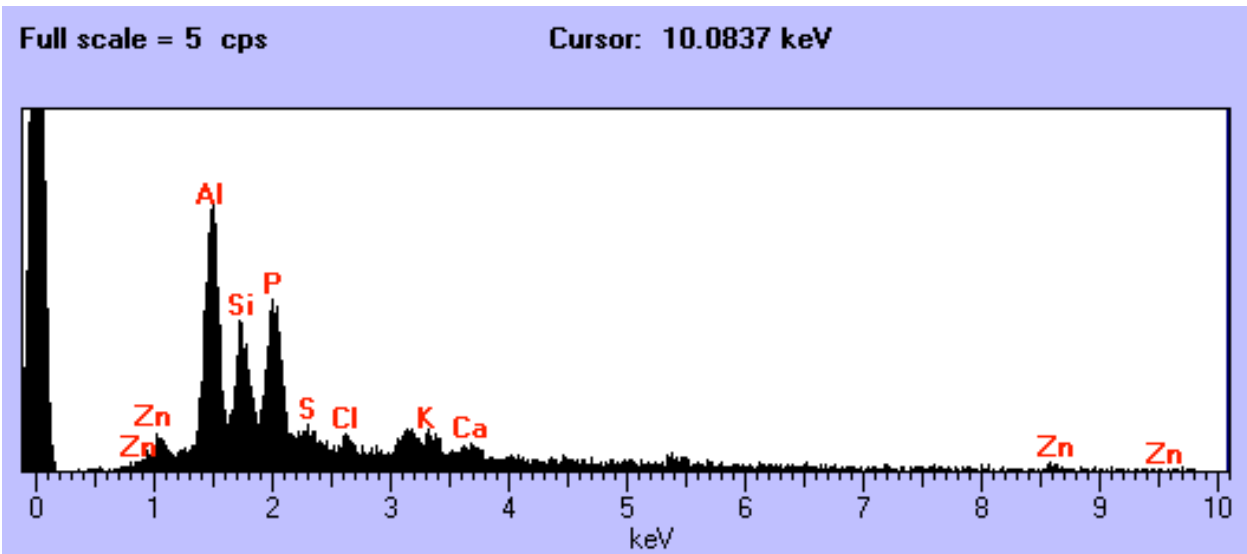
Cursor: 10.0837 keV



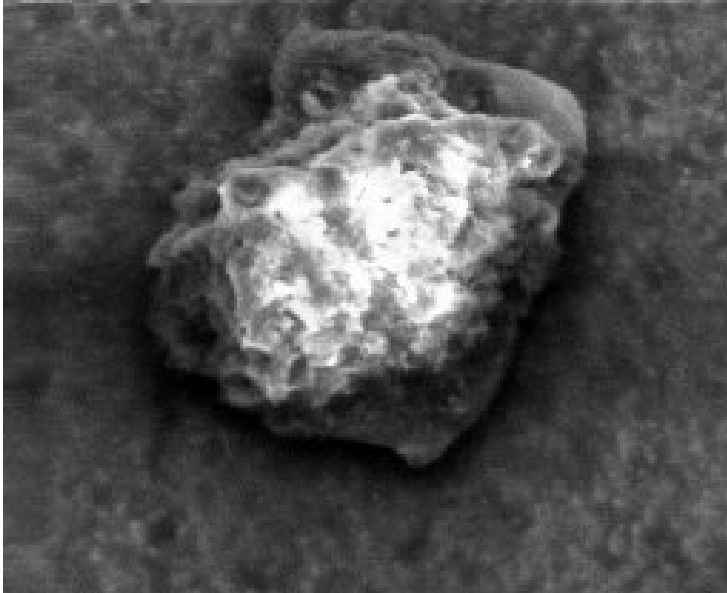
U2099 A5



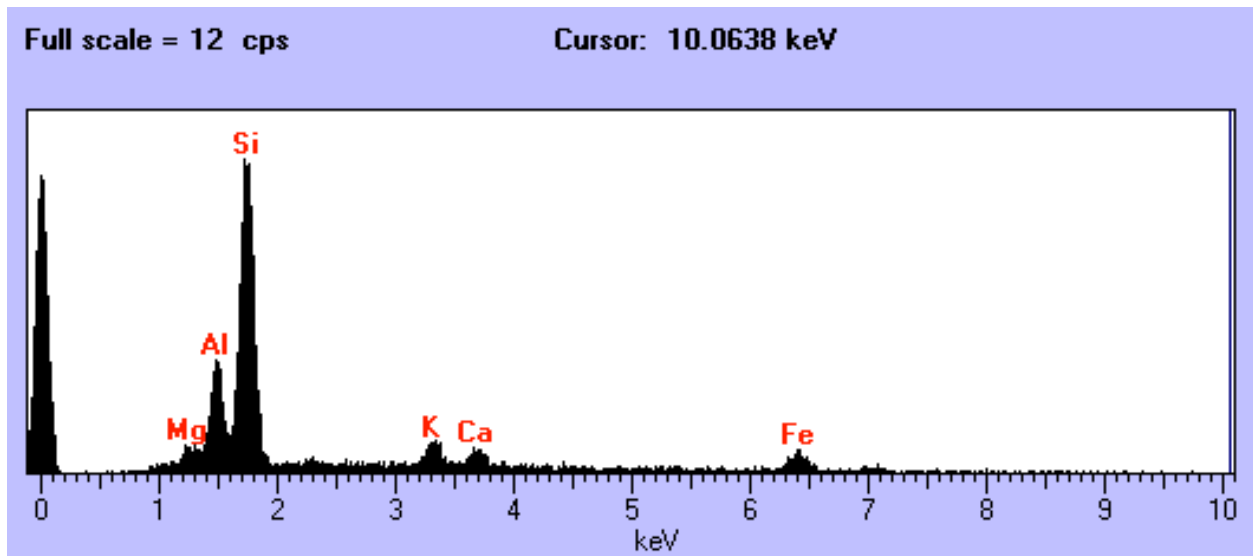
Size: 30 x 15 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCN
Comments:



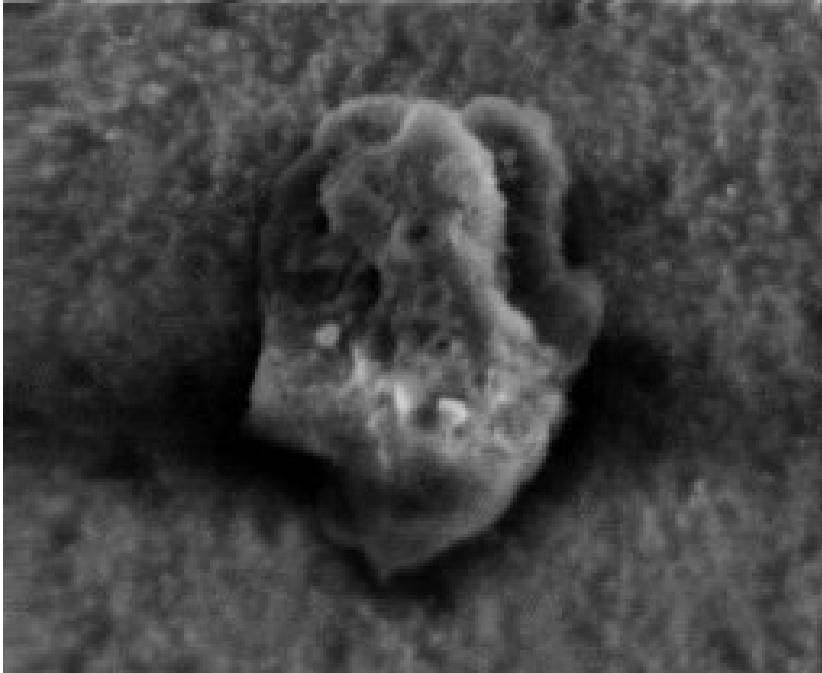
U2100 A6



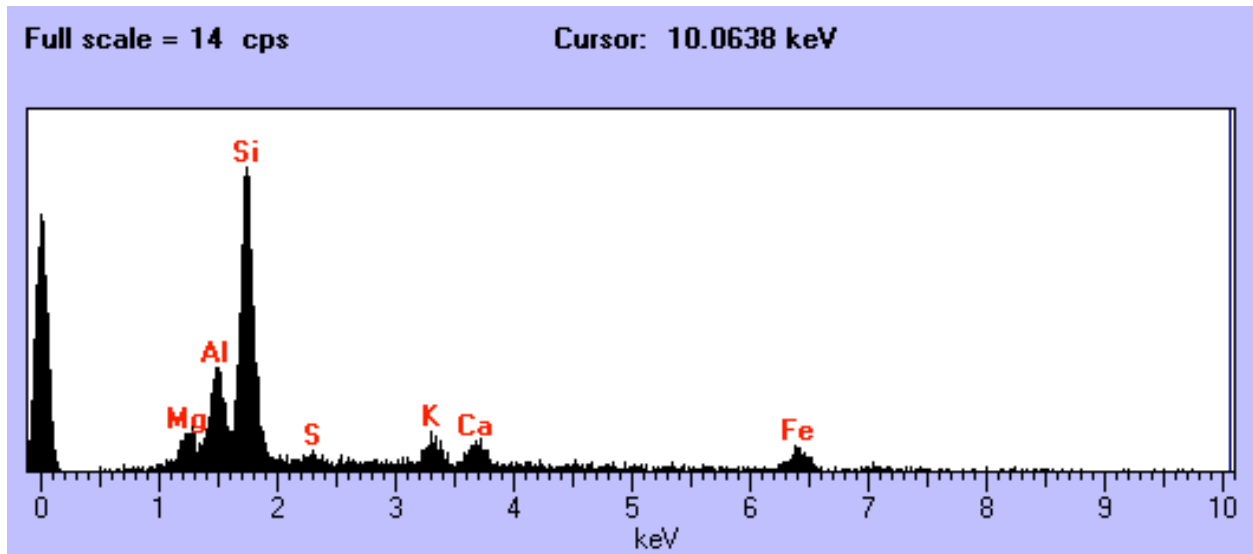
Size: 42 x 36 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCN
Comments:



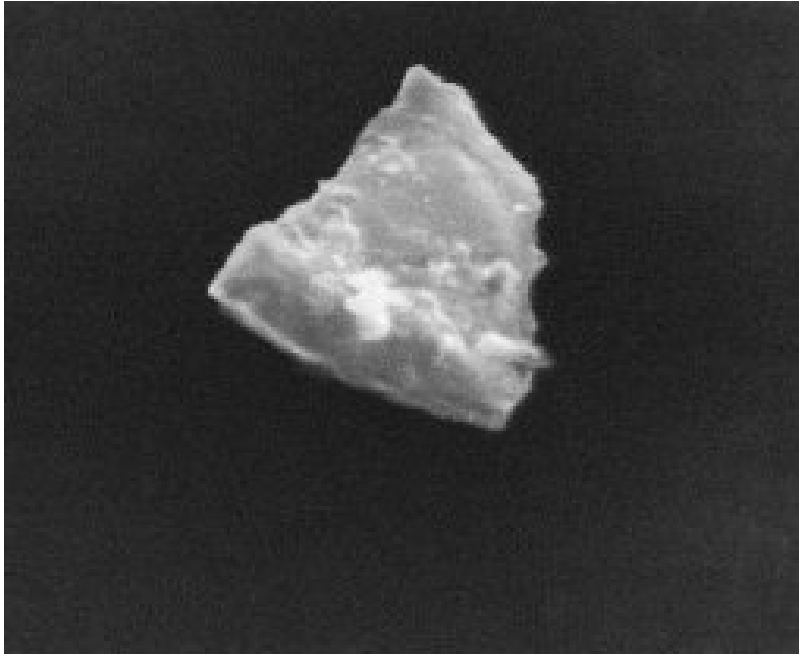
U2100 A7



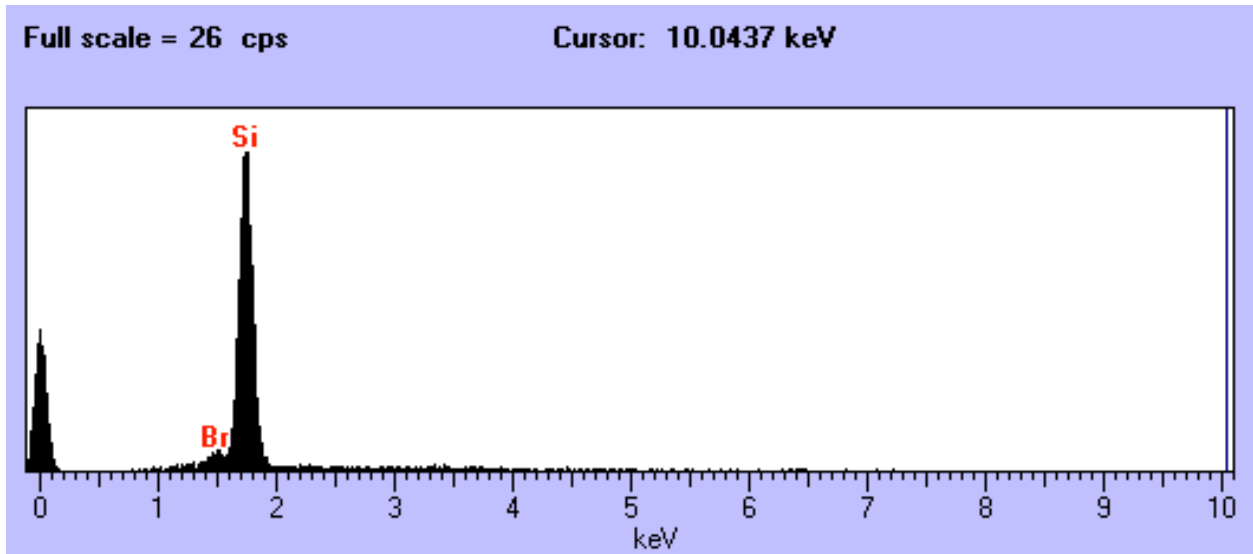
Size: 45 x 30 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCN?
Comments:



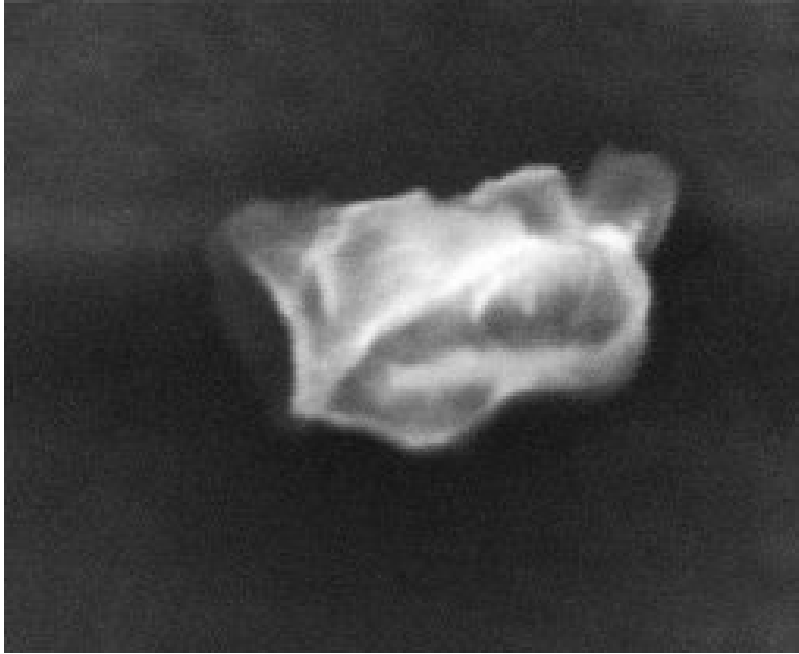
U2100 A10



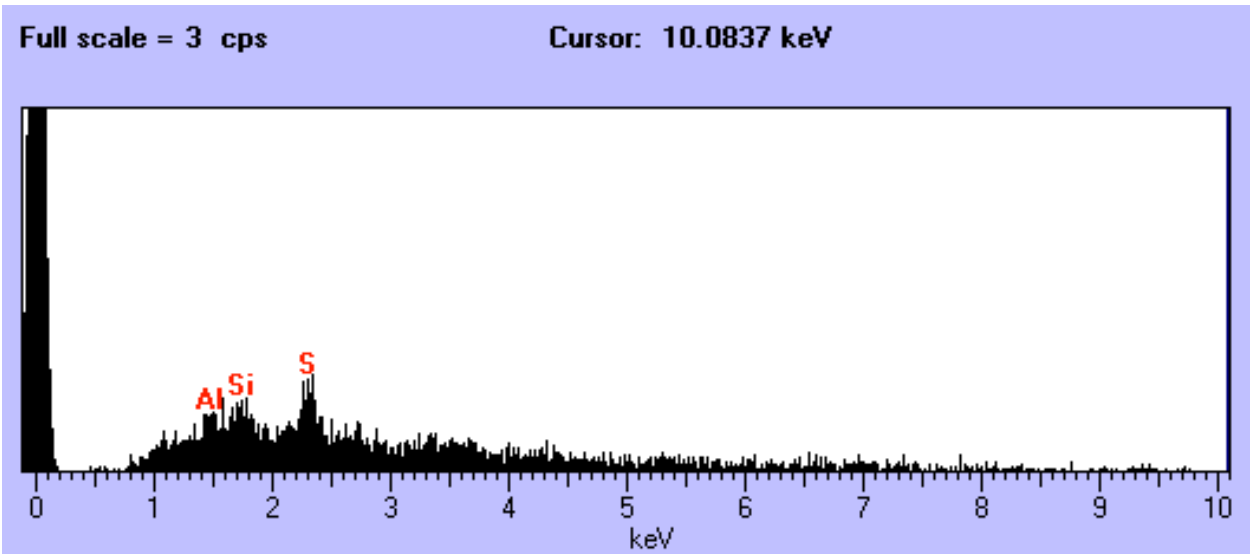
Size: 30 x 26 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCN
Comments:



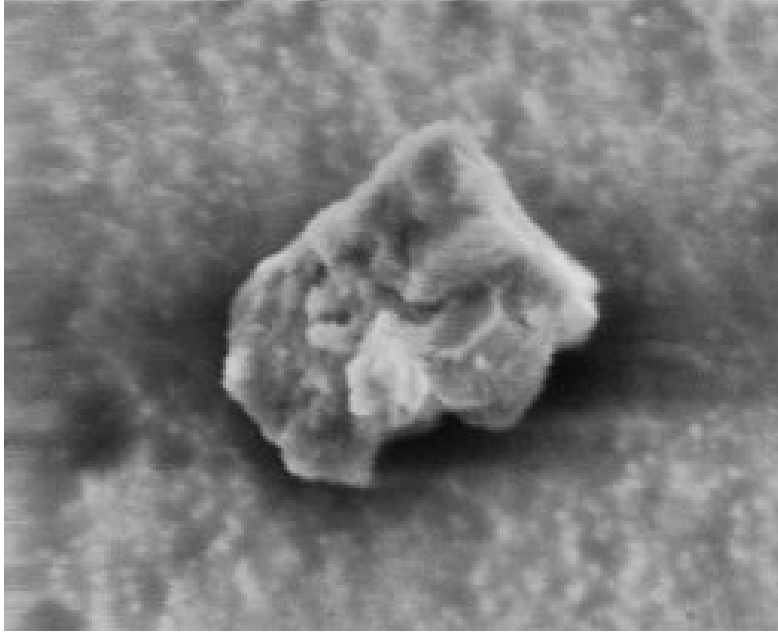
U2100 A14



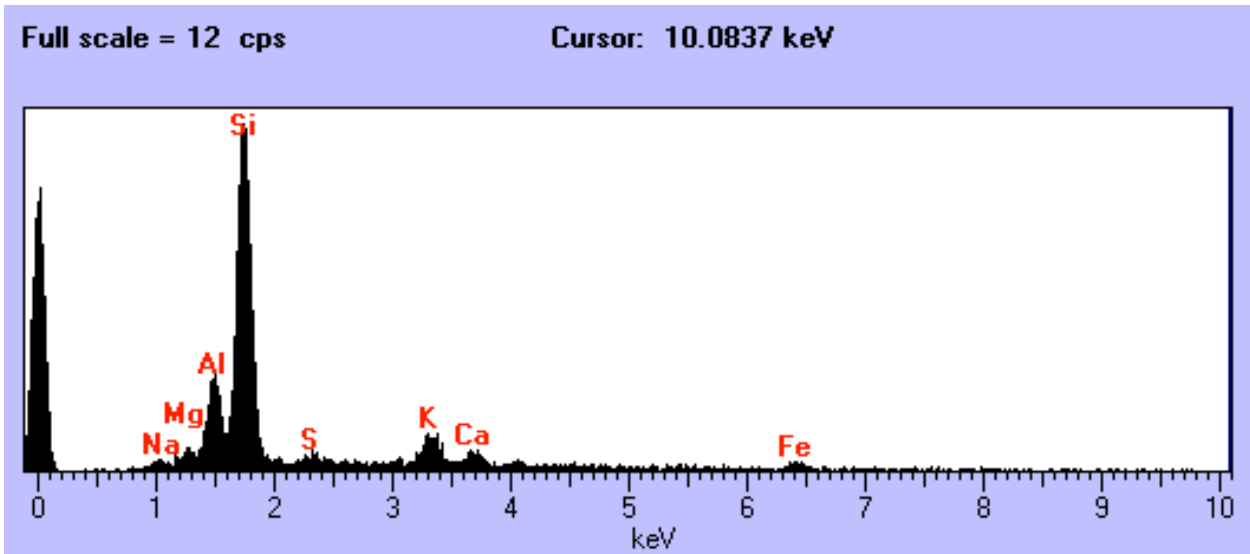
Size: 26 x 17 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Vitreous
Type: TCN
Comments:



U2100 A18



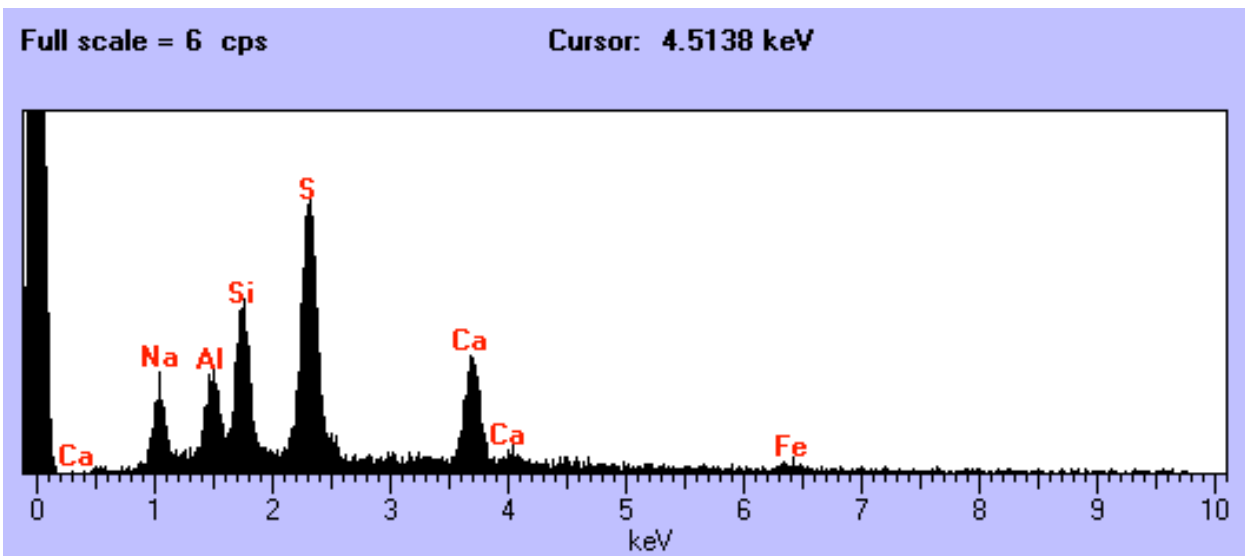
Size: 22 x 18 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCN
Comments:



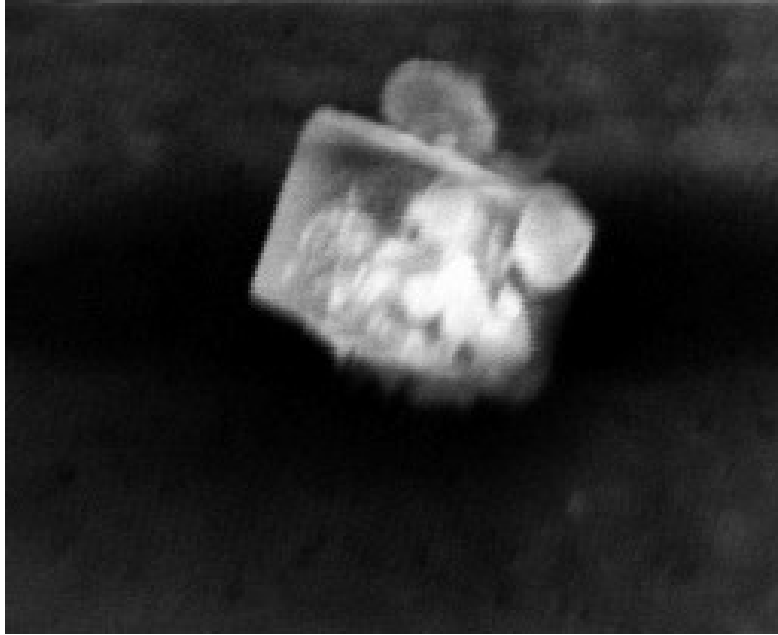
W7190 B4



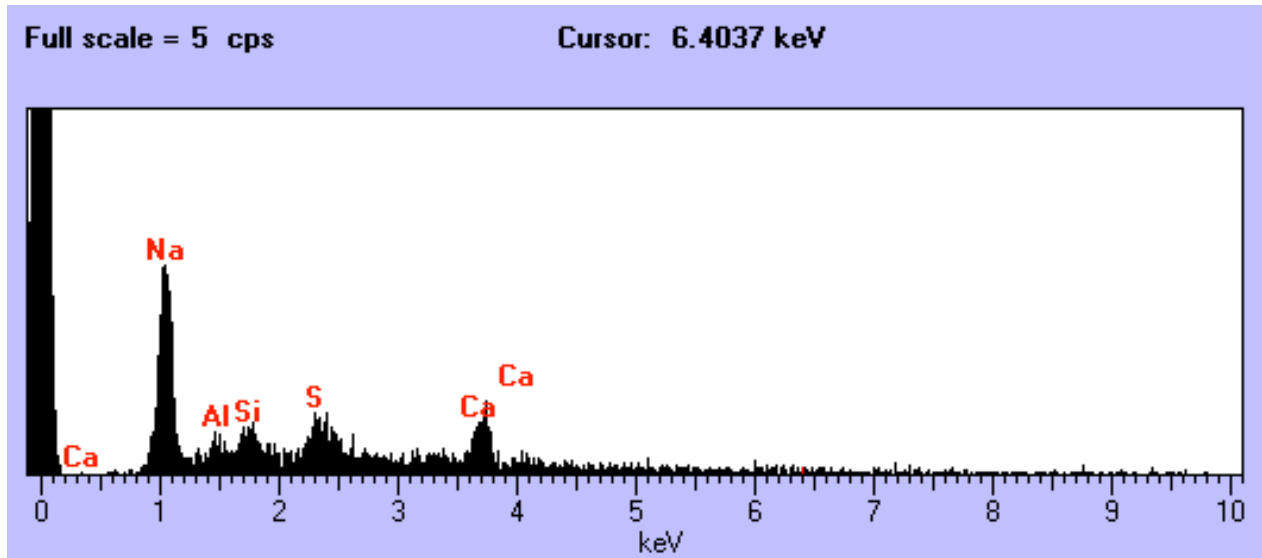
Size: 7 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCN
Comments:



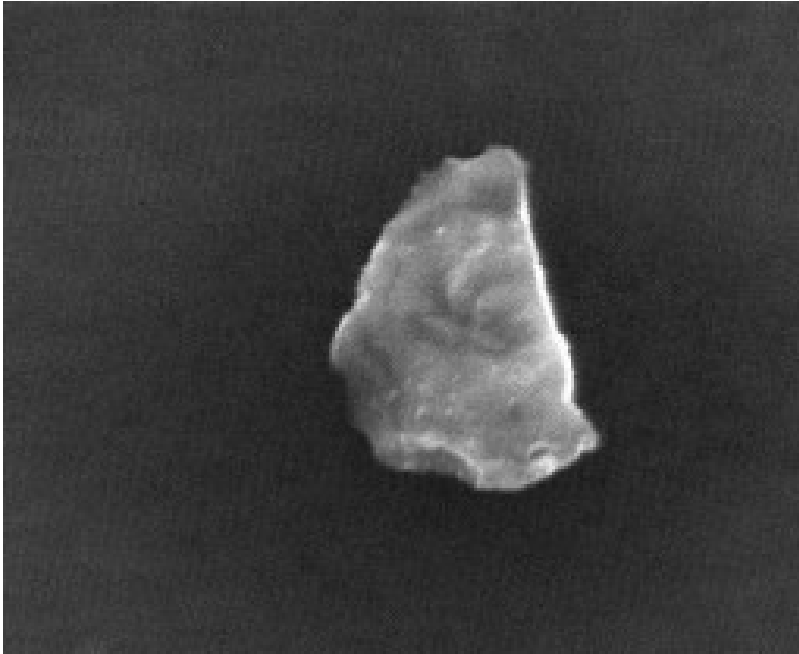
W7190 B6



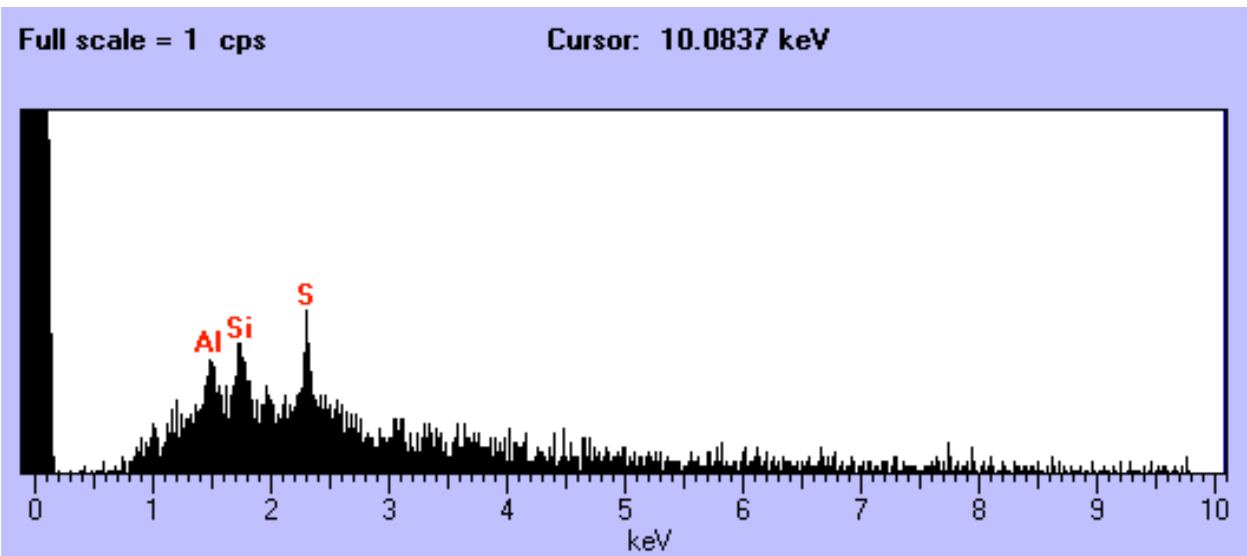
Size: 15 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCN
Comments:



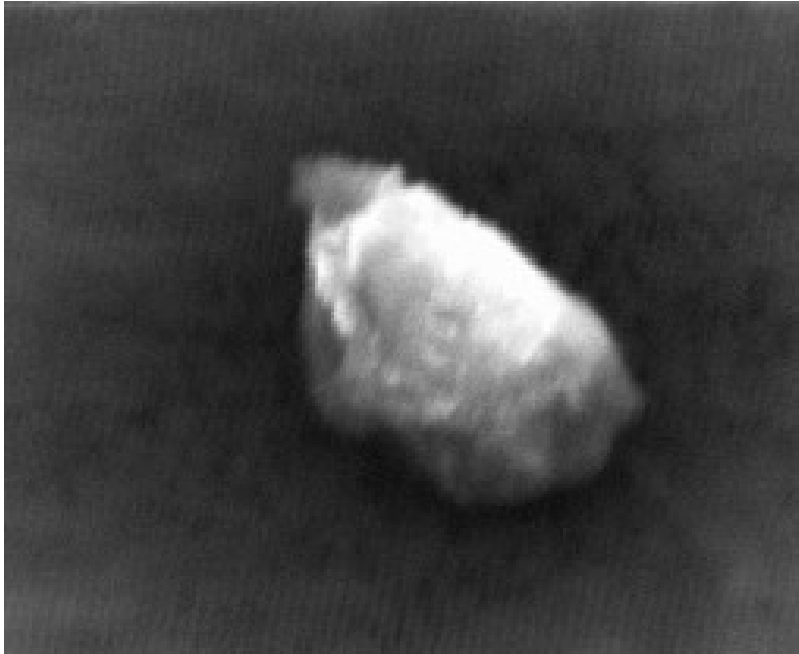
W7190 B9



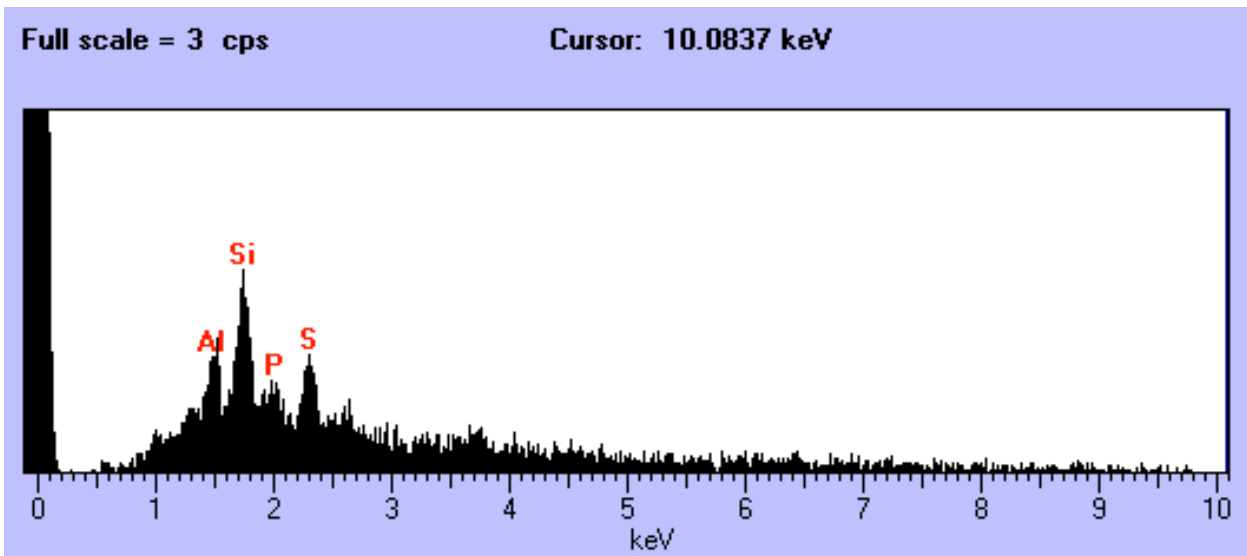
Size: 27 x 17 um
Shape: Irregular
Trans: Translucent
Color: White/Black
Luster: Vitreous/Metallic
Type: TCN
Comments:



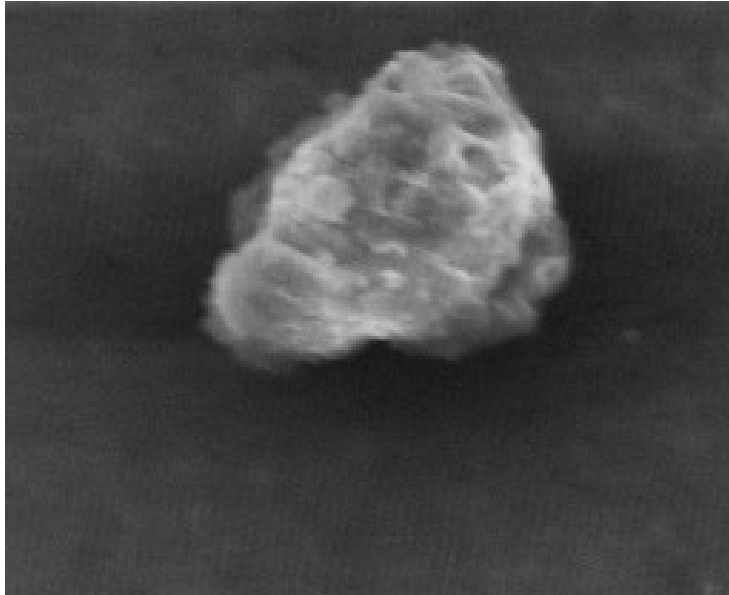
W7190 B10



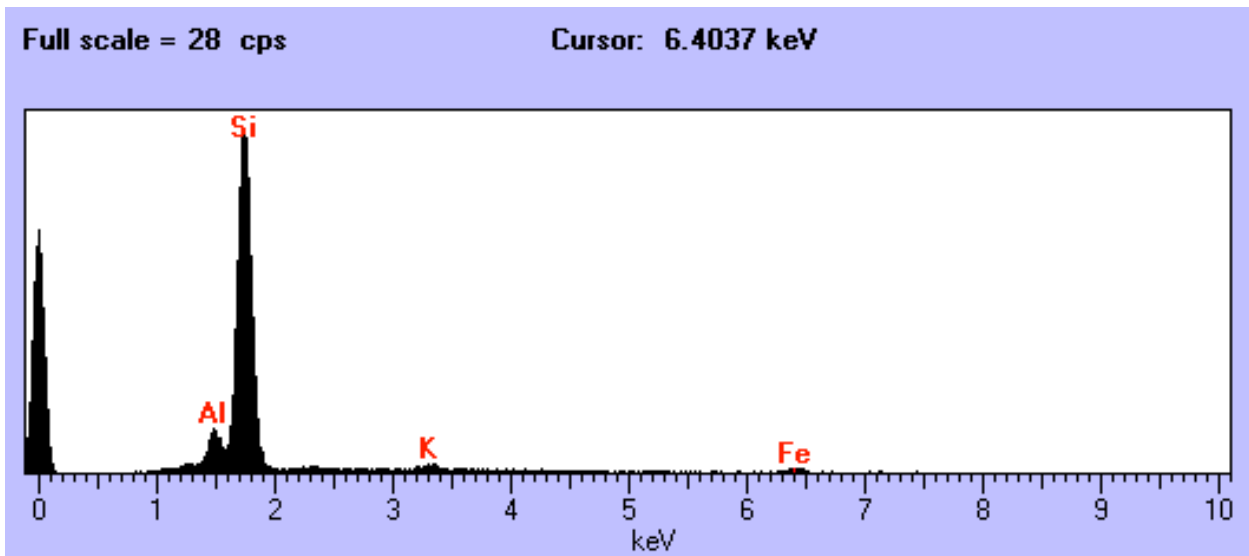
Size: 22 x 12 um
Shape: Irregular
Trans: Translucent
Color: White/Black
Luster: Vitreous/
Submetallic
Type: TCN
Comments:



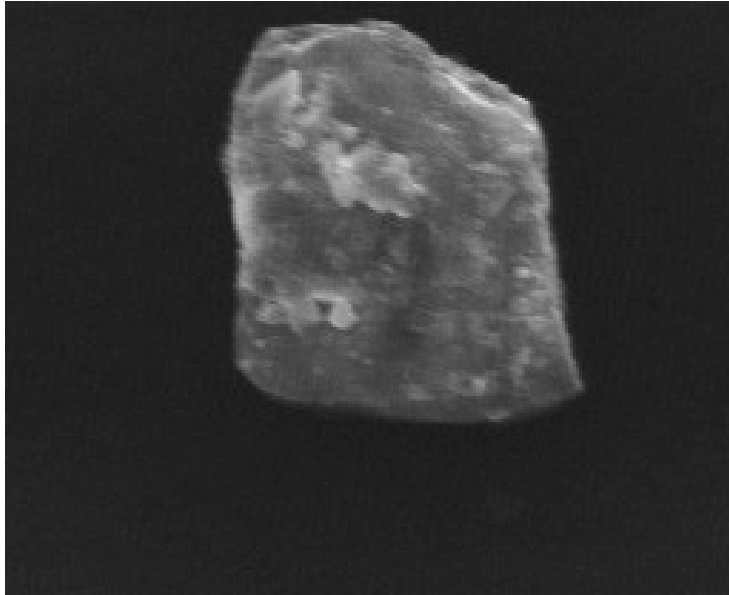
W7190 B11



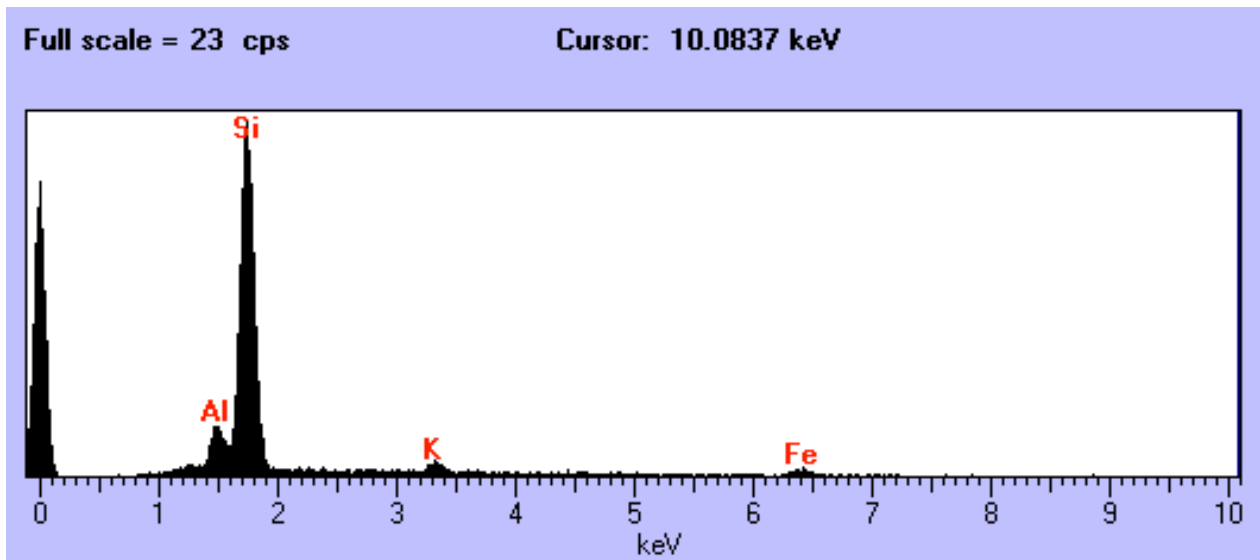
Size: 25 x 12 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Pearly
Type: TCN
Comments:



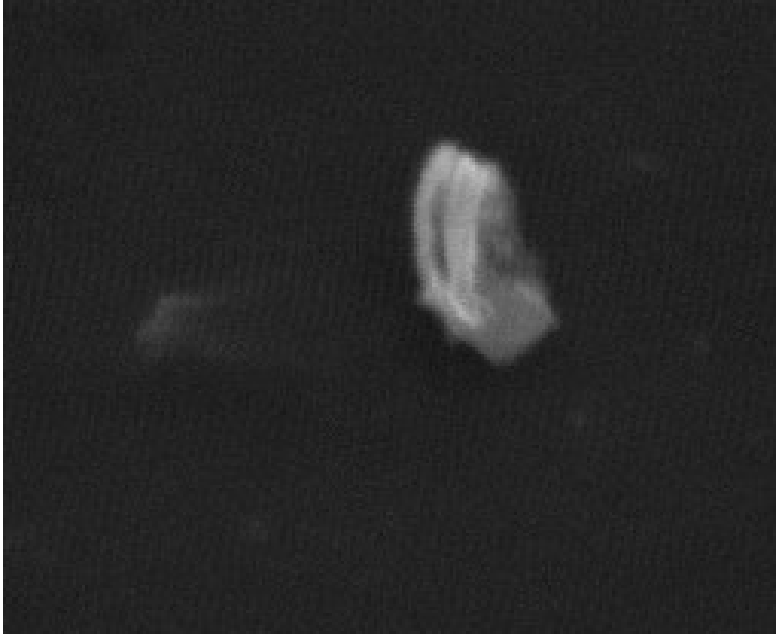
W7190 B16



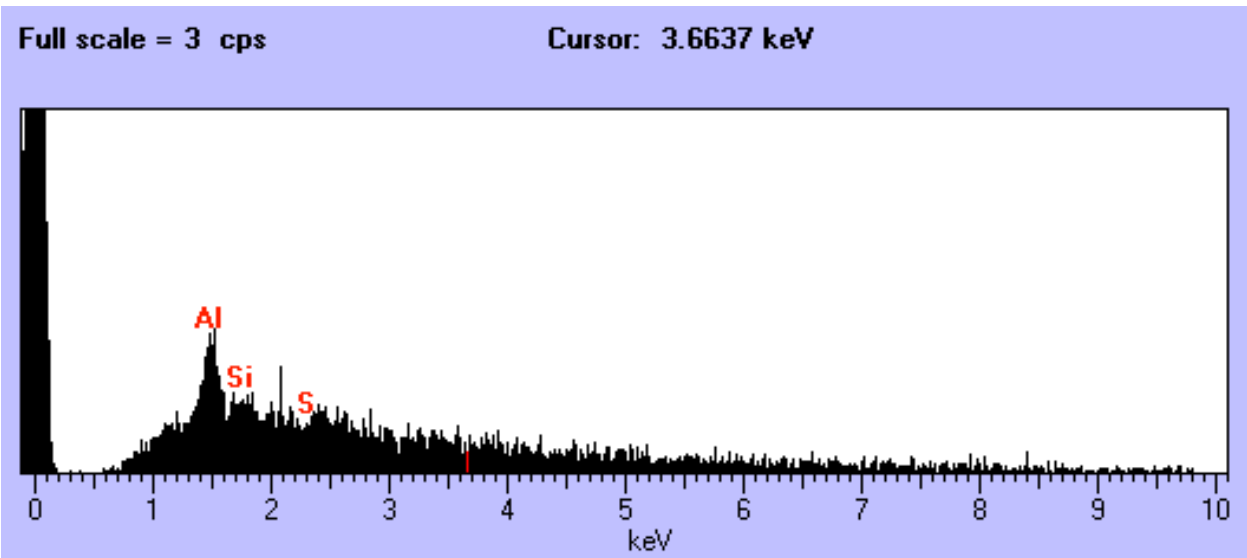
Size: 28 x 15 um
Shape: Equant
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCN
Comments:



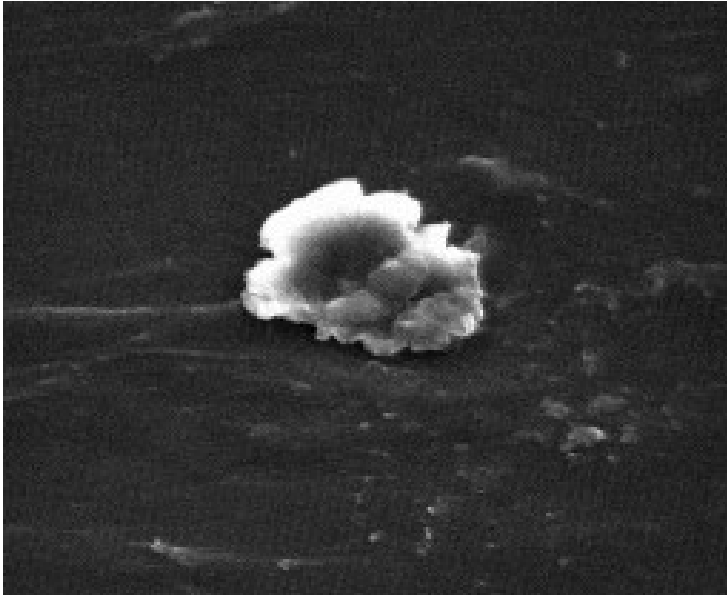
W7190 C3



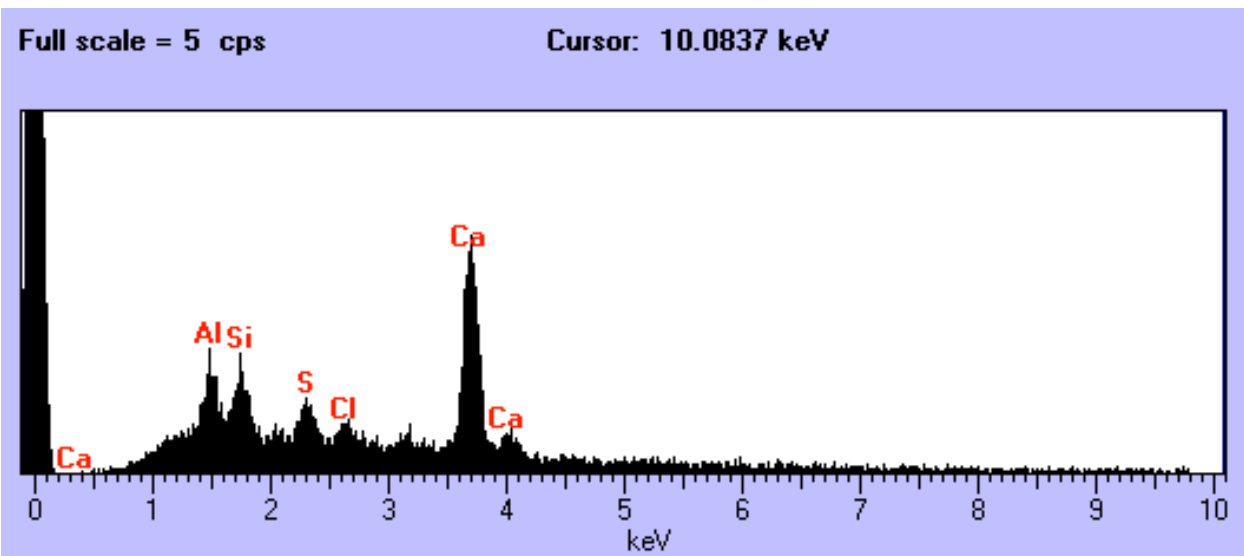
Size: 18 x 14 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCN
Comments:



W7190 C4



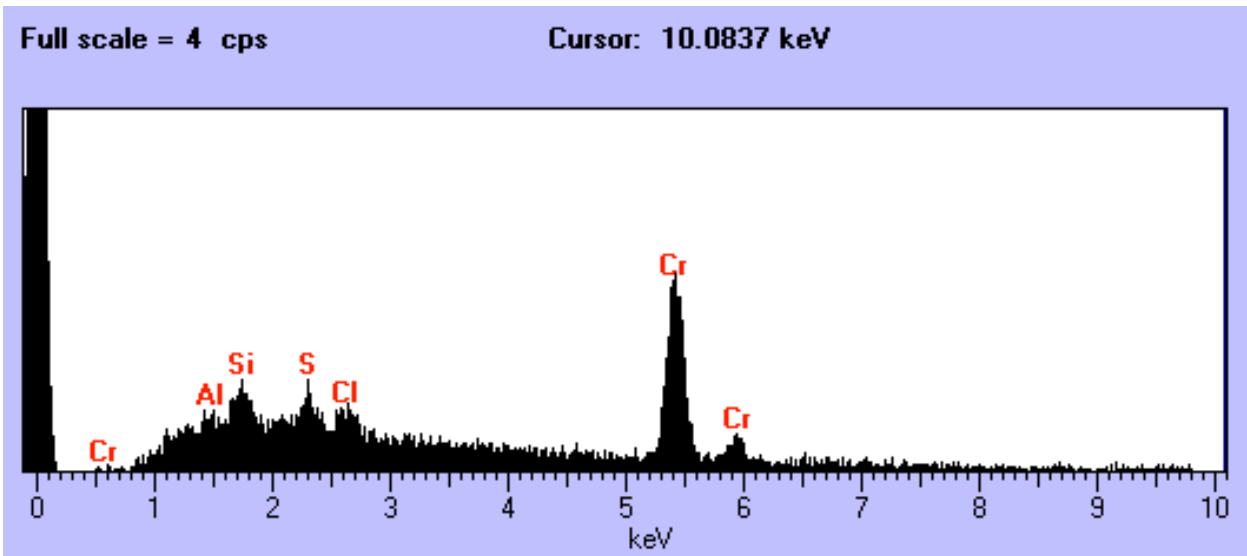
Size: 5 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCN
Comments:



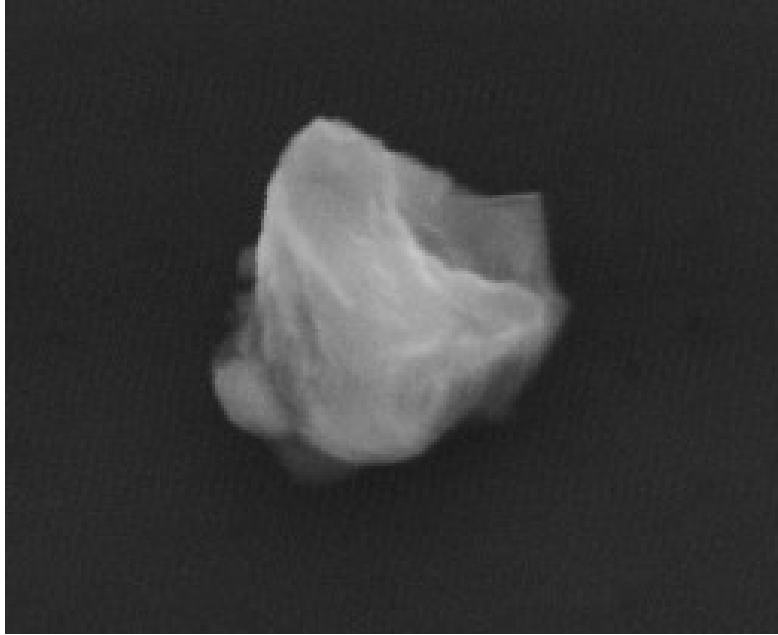
W7190 C5



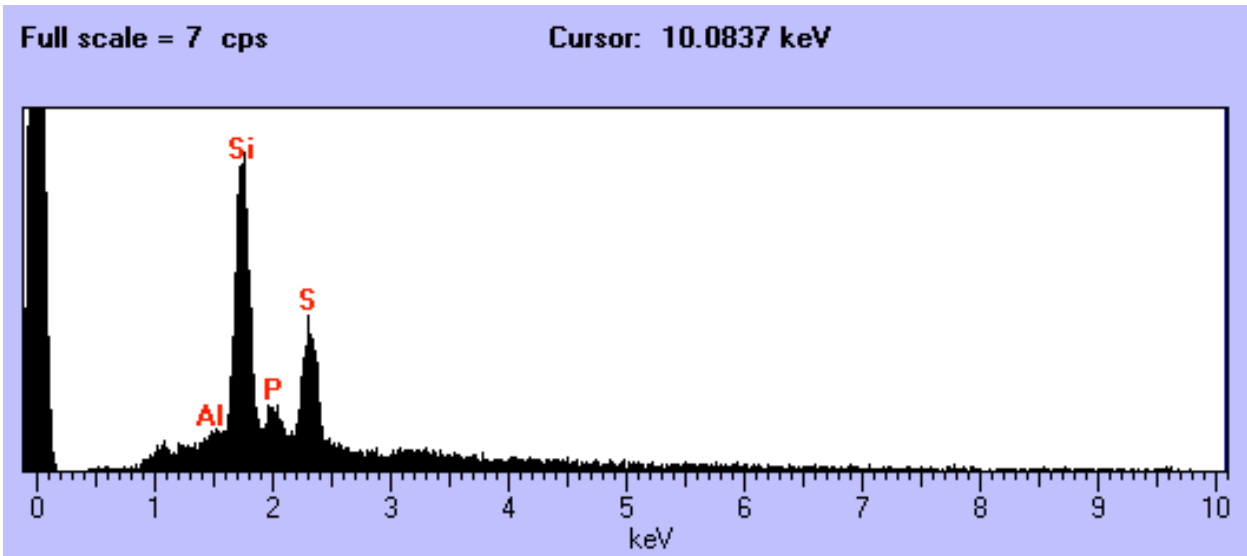
Size: 10 x 4 um
Shape: Irregular
Trans: Opaque/
Translucent
Color: White/Black
Luster: Subvitreous
Type: TCN
Comments:



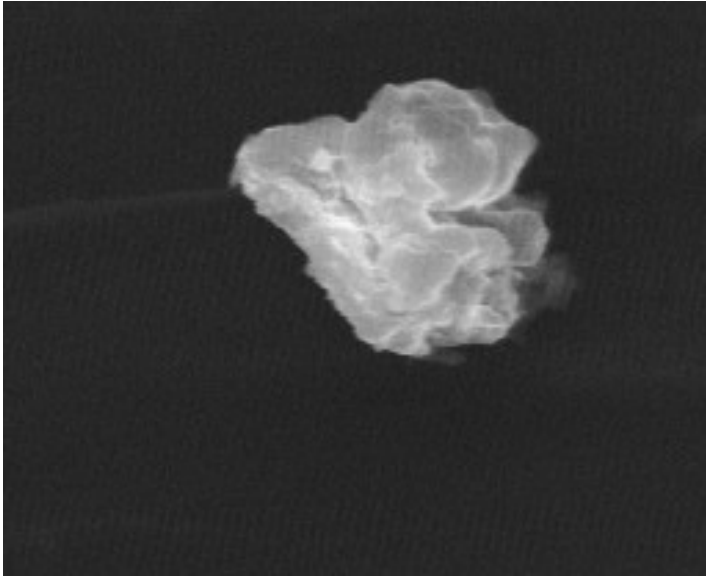
W7190 C10



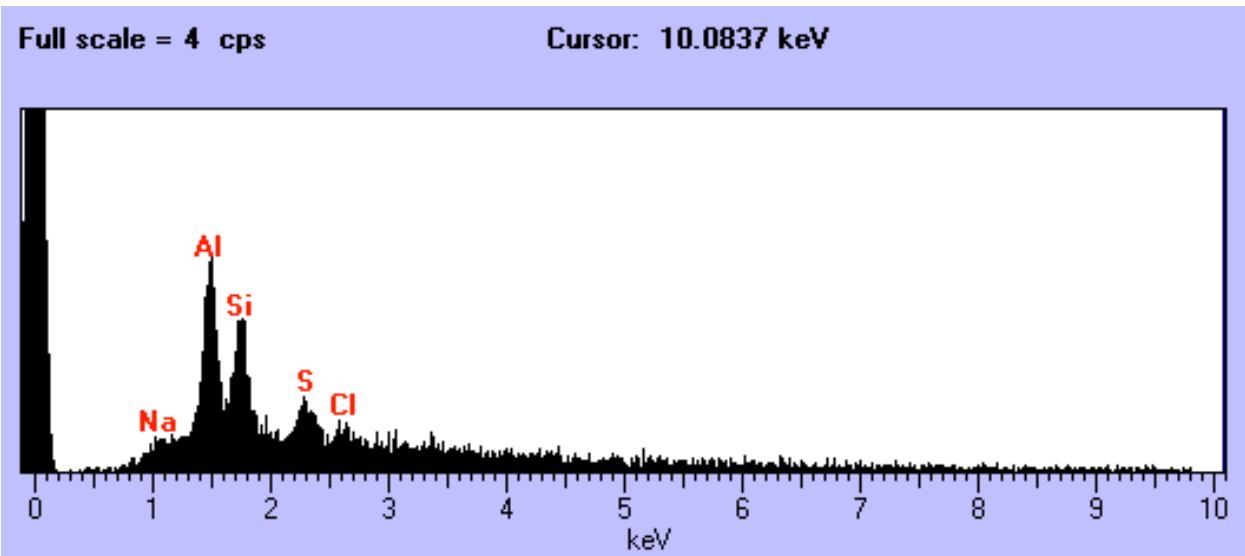
Size: 15 x 12 um
Shape: Equant
Trans: Opaque
Color: Black
Luster: Dull
Type: TCN
Comments:



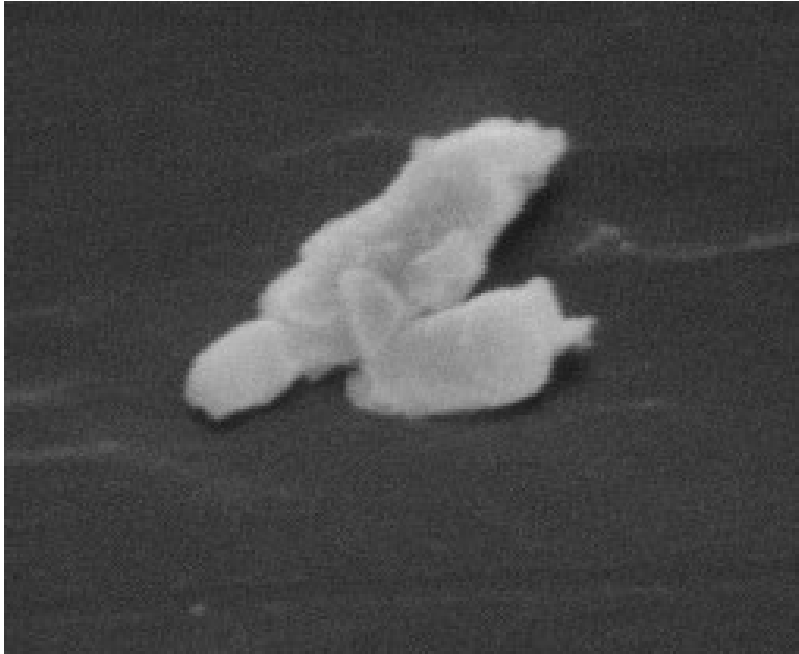
W7190 C14



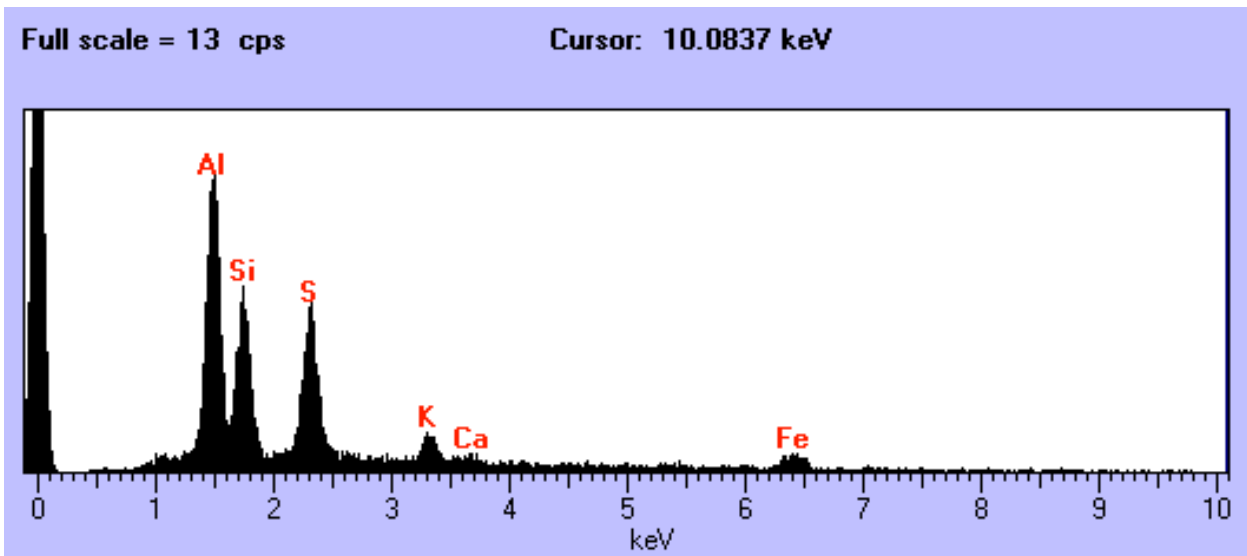
Size: 15 x 12 um
Shape: Equant
Trans: Opaque
Color: Black
Luster: Dull
Type: TCN
Comments:



W7190 C25



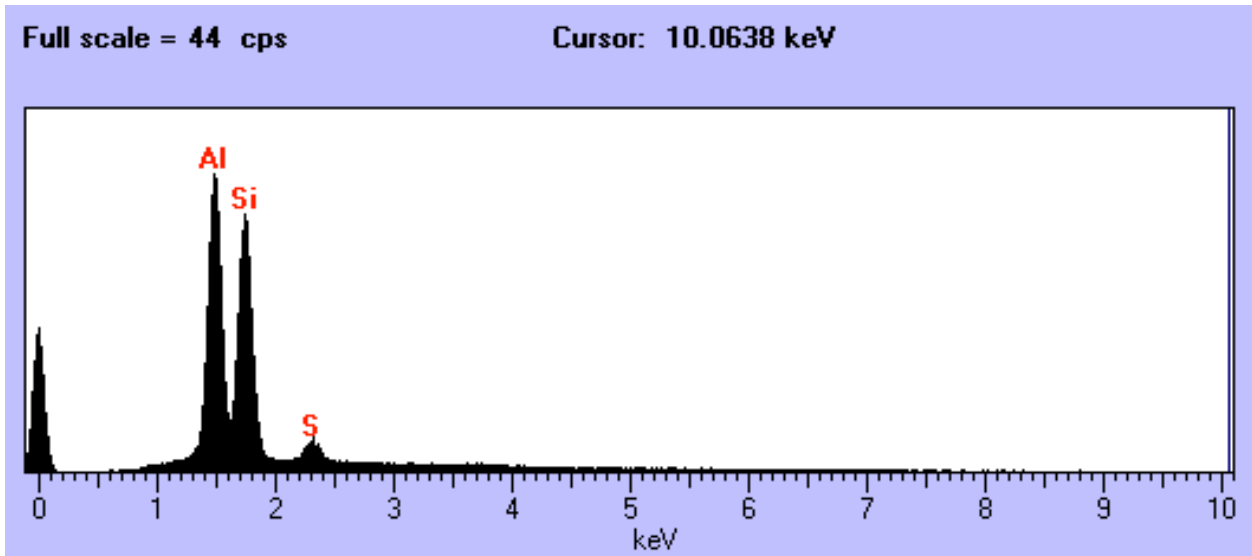
Size: 15 x 10 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: TCN
Comments:



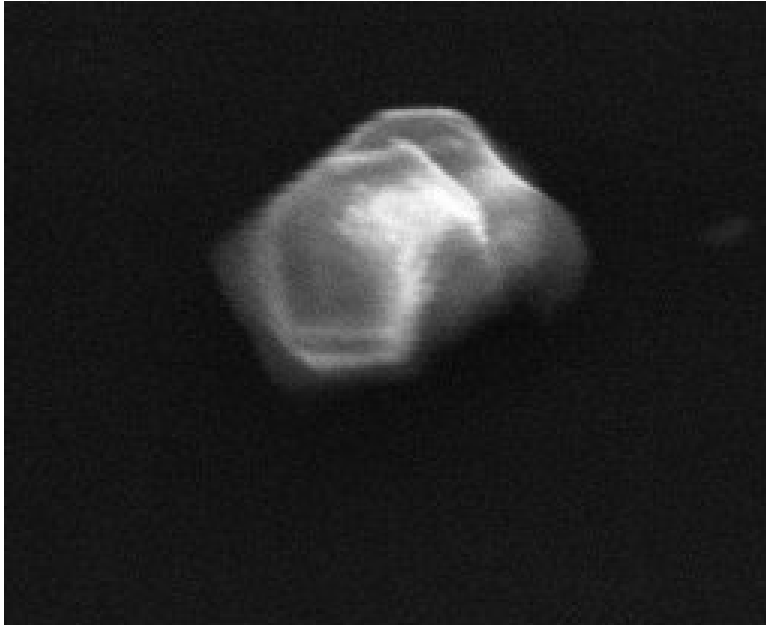
W7190 D1



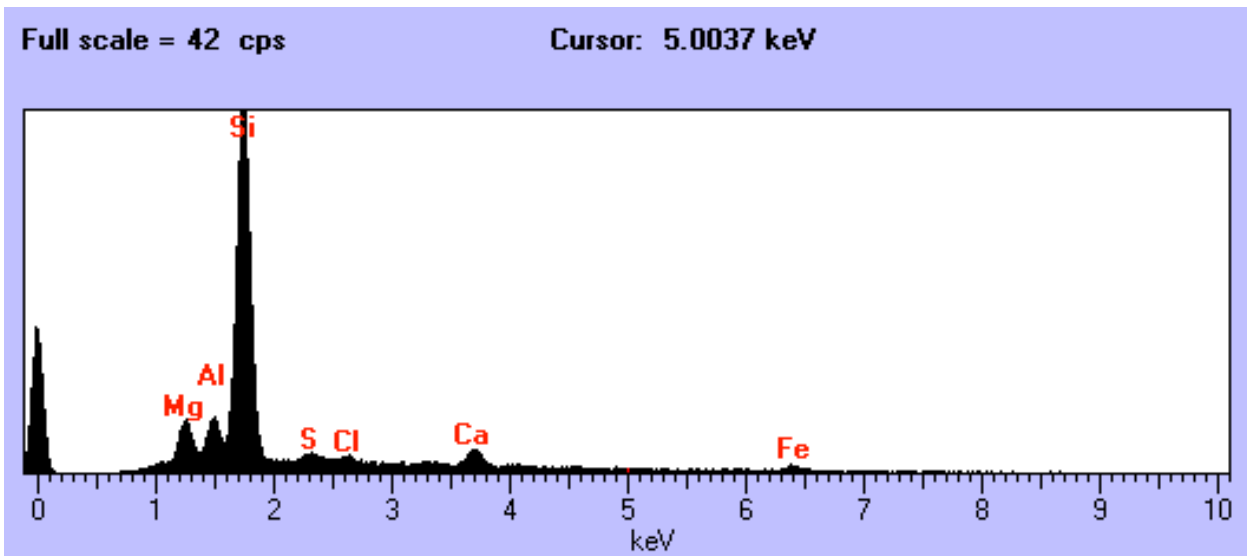
Size: 5 x 4 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: TCN
Comments:



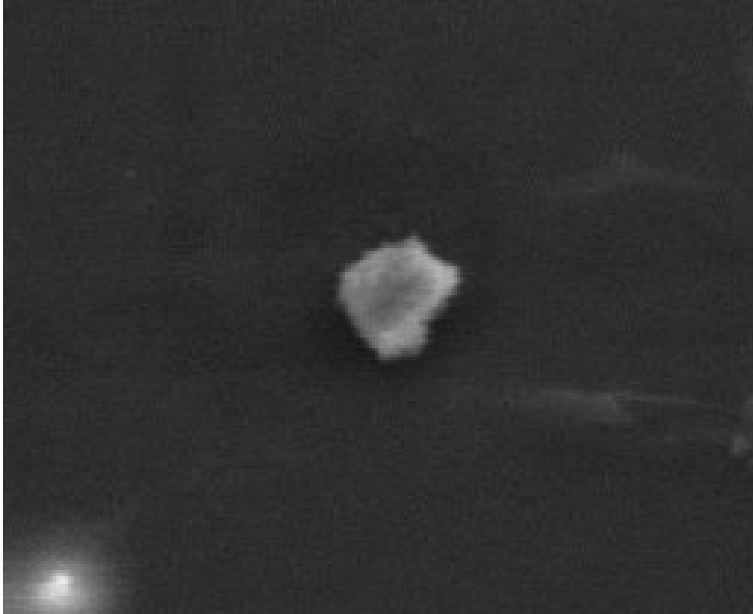
W7190 D18



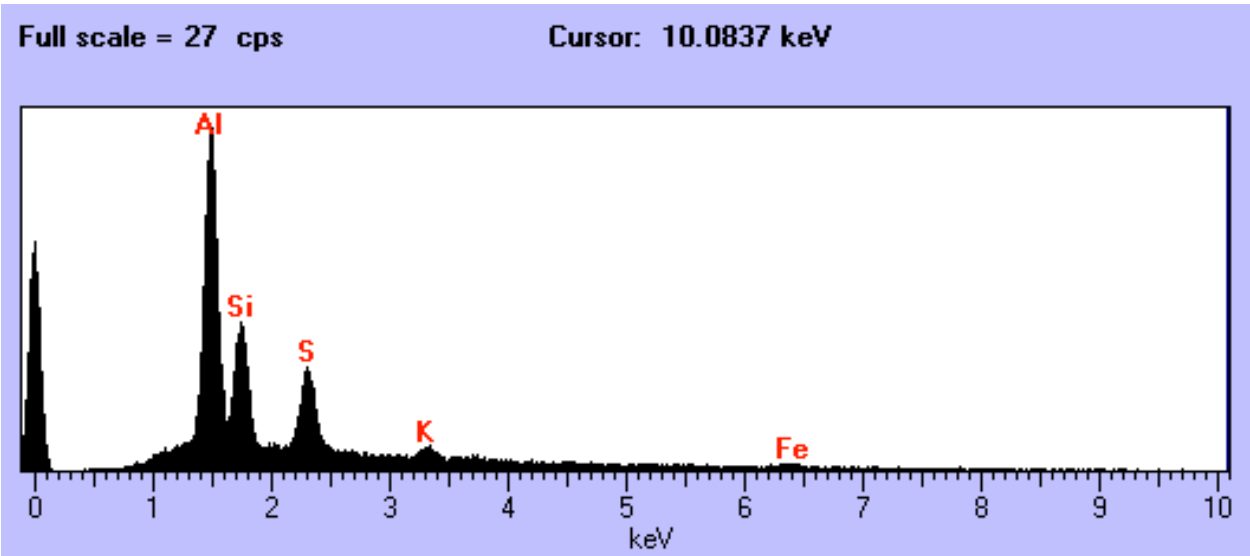
Size: 20 x 15 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCN
Comments:



W7190 D20



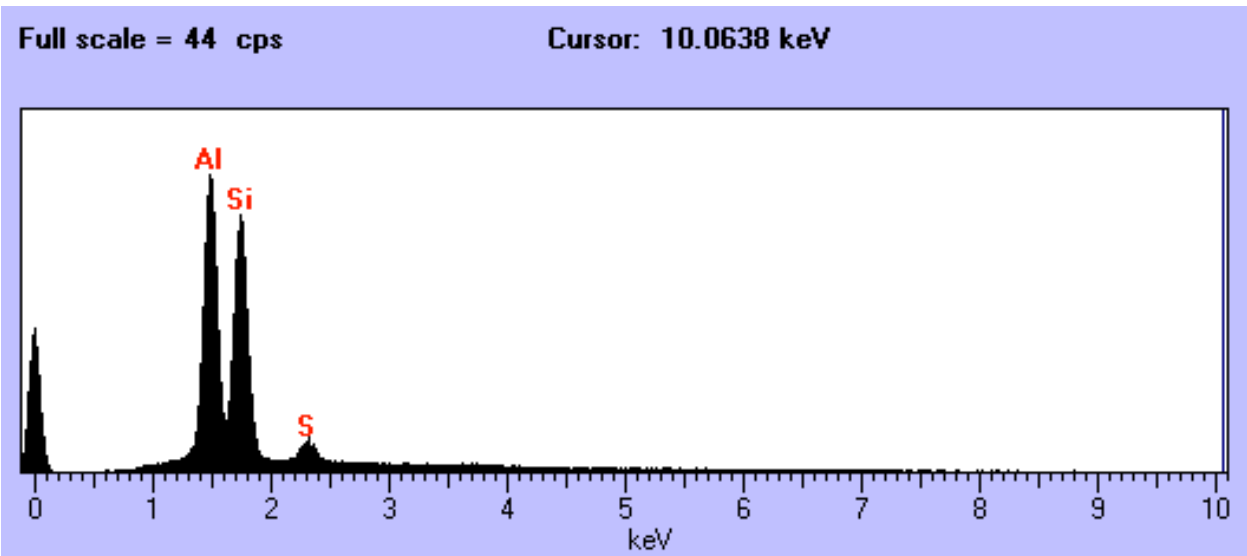
Size: 8 x 7 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Pearly
Type: TCN
Comments:



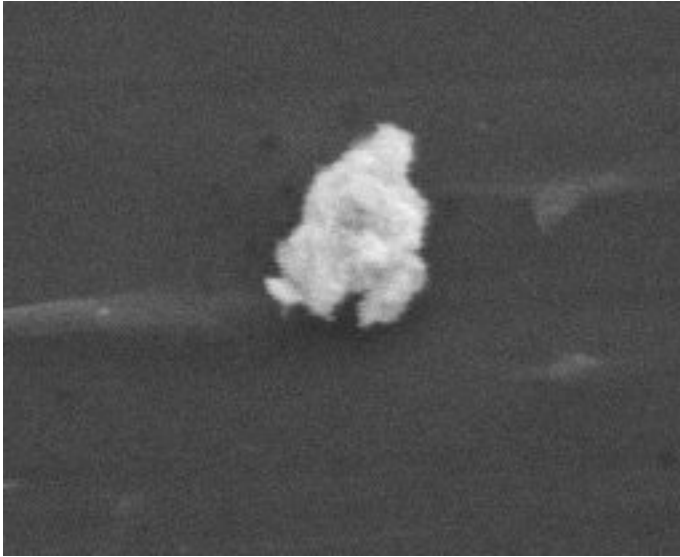
W7190 D27



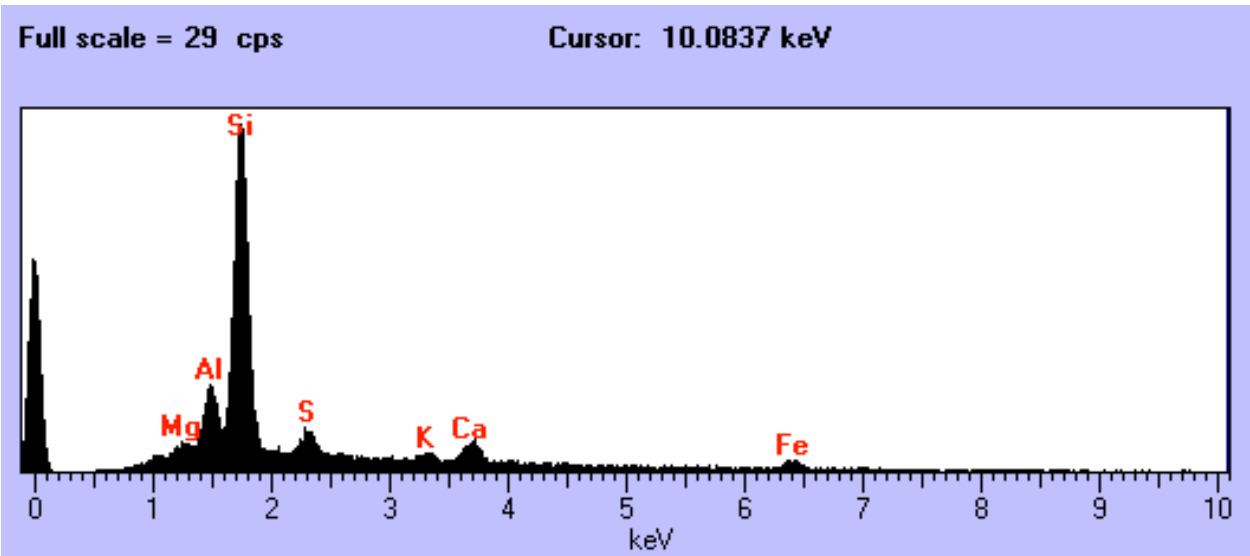
Size: 12 x 9 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: TCN
Comments:



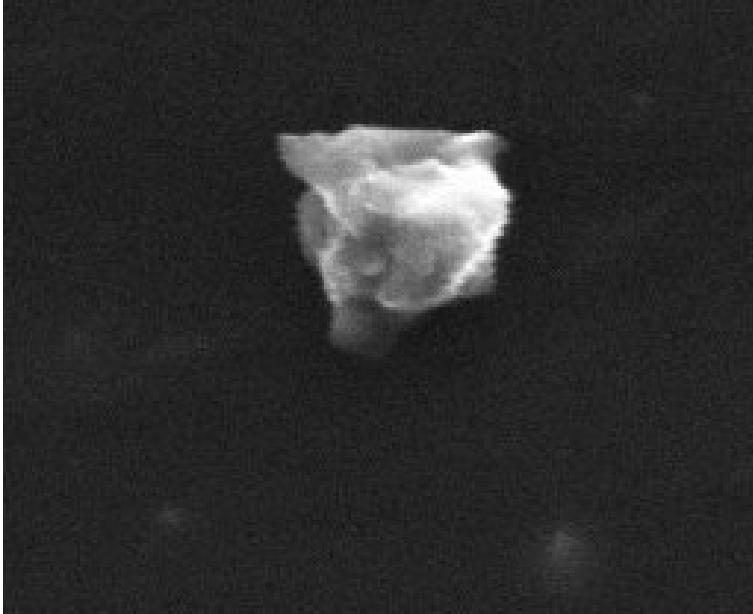
W7190 D35



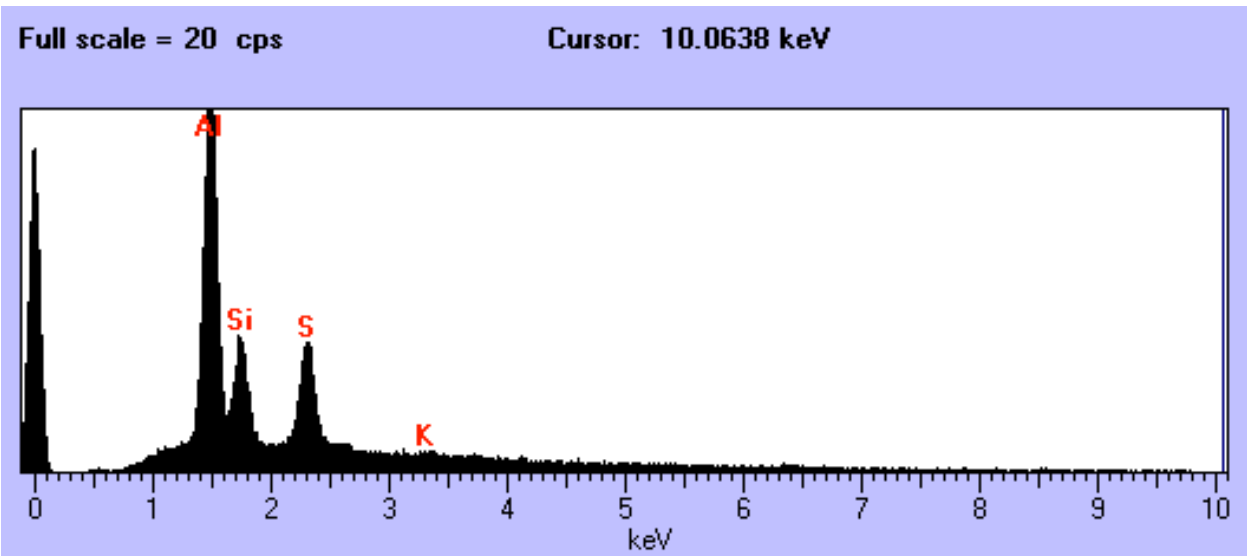
Size: 13 x 9 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: TCN
Comments:



W7190 D36



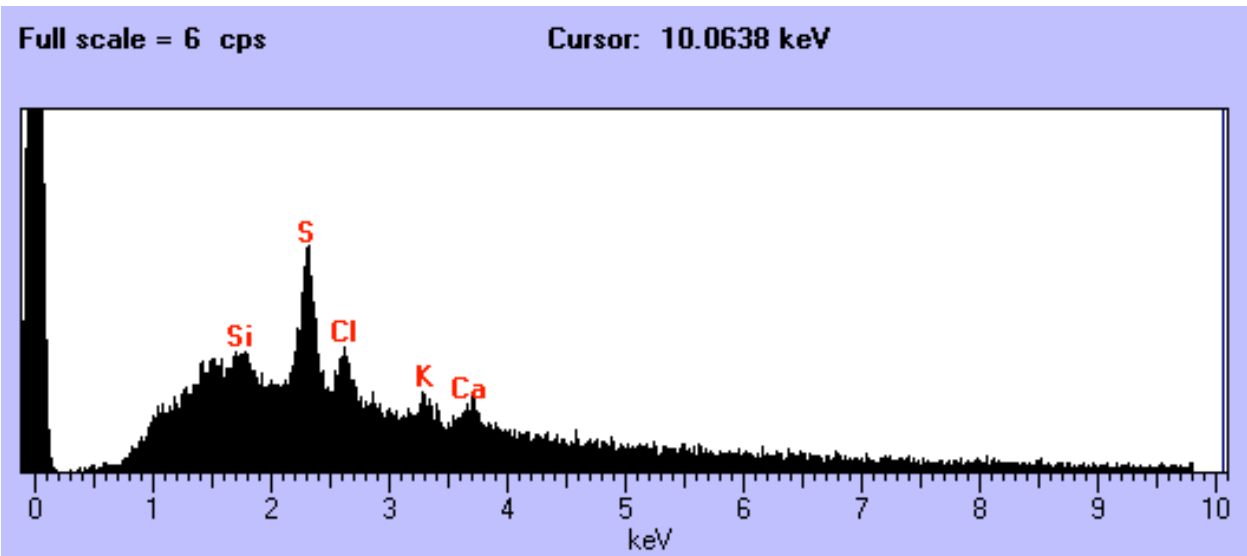
Size: 12 x 10 um
Shape: Equant
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCN
Comments:



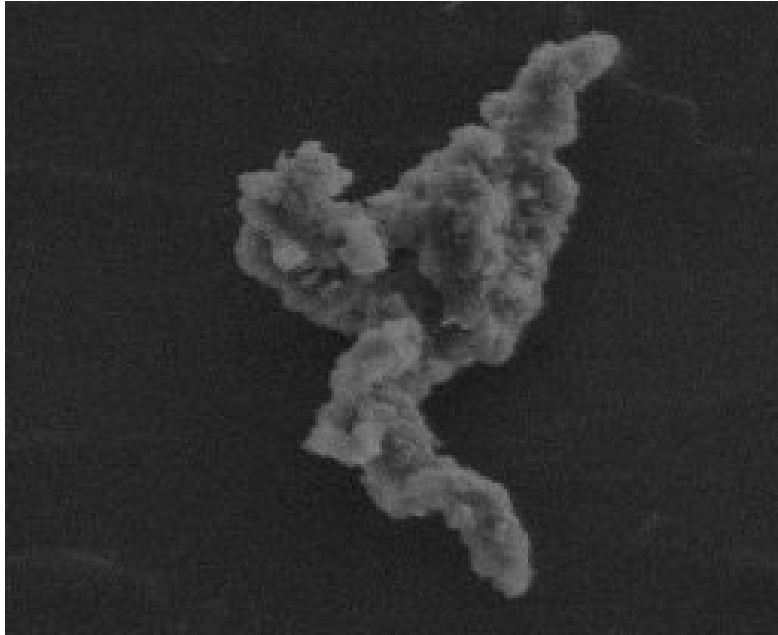
W7190 D40



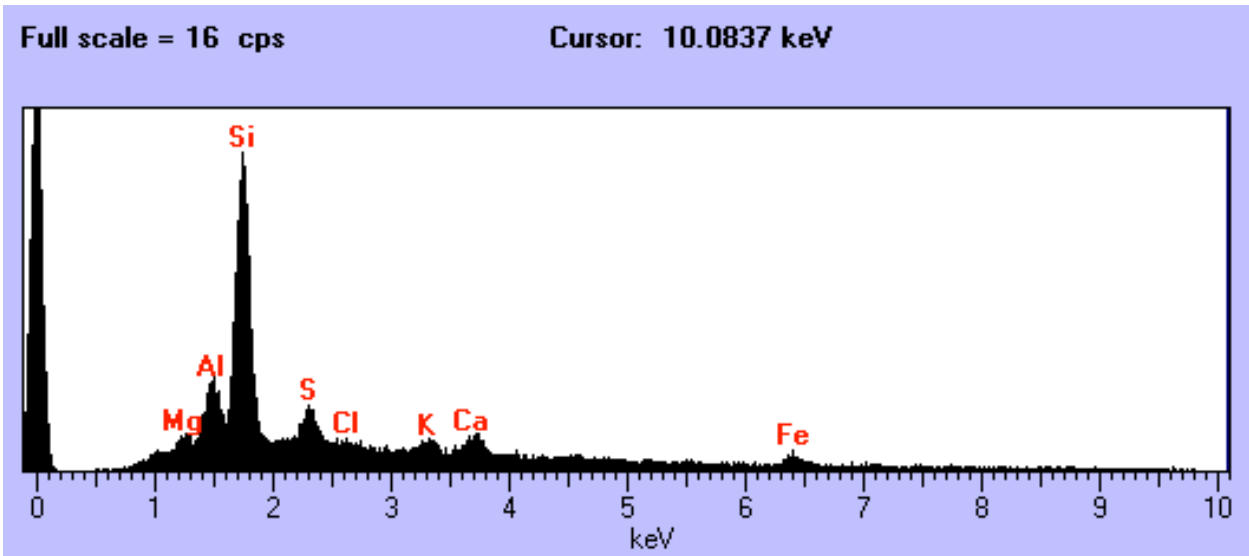
Size: 36 x 17 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCN
Comments:



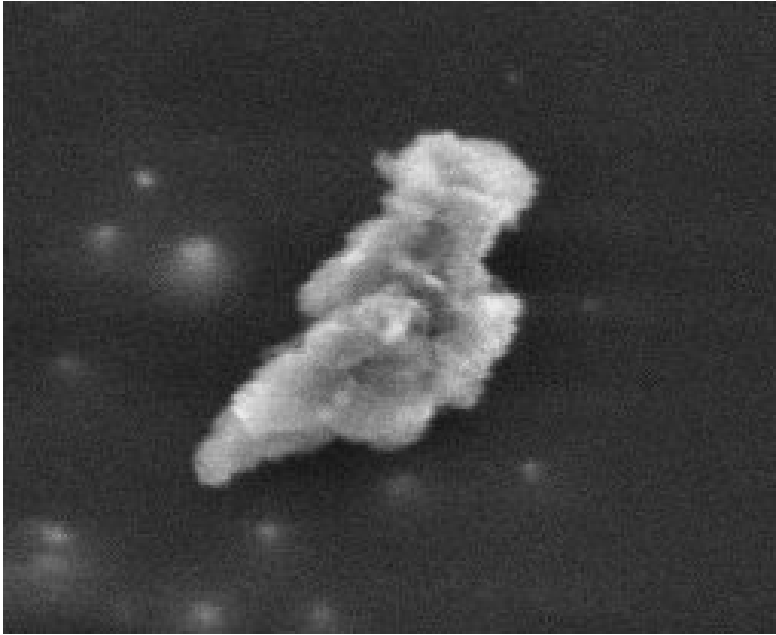
W7190 D43



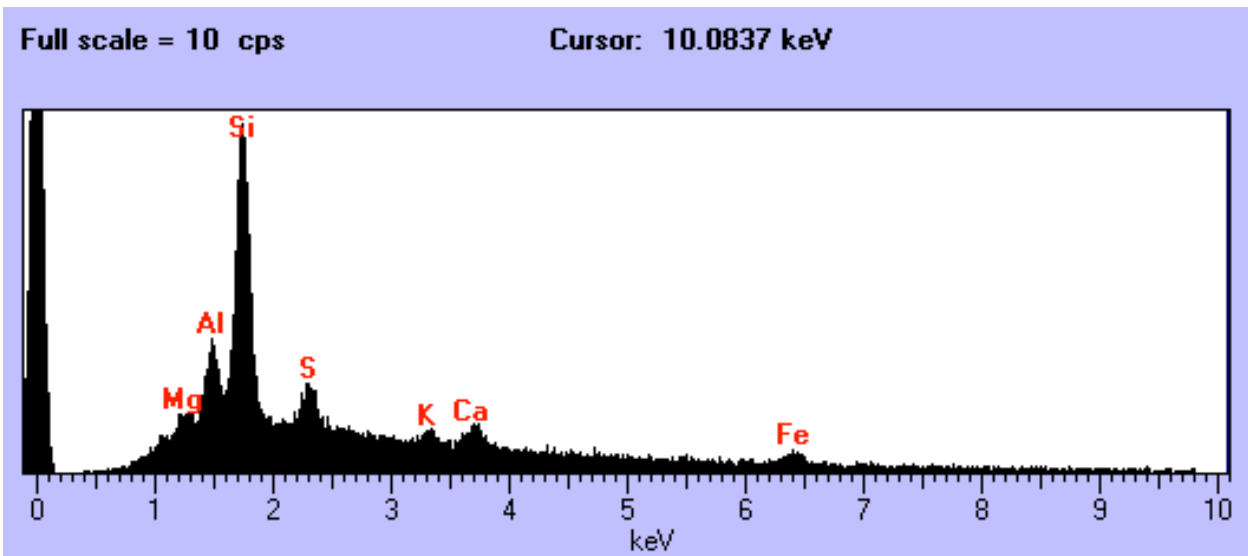
Size: 22 x 17 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Pearly
Type: TCN
Comments:



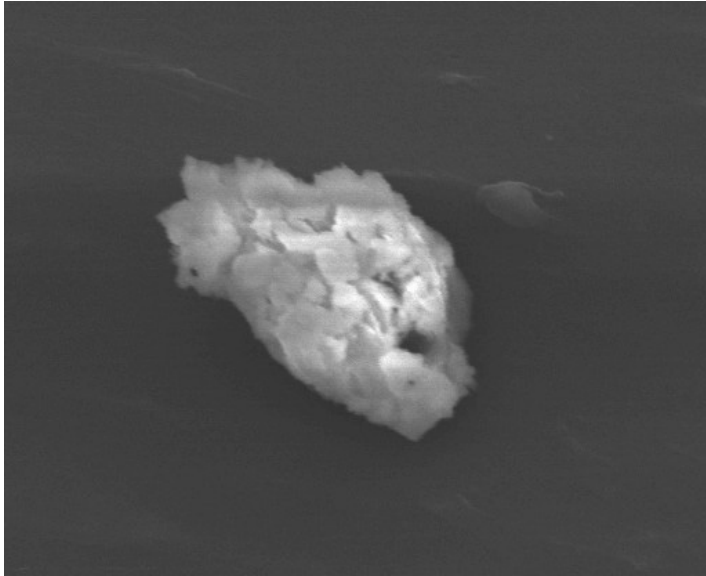
W7190 D45



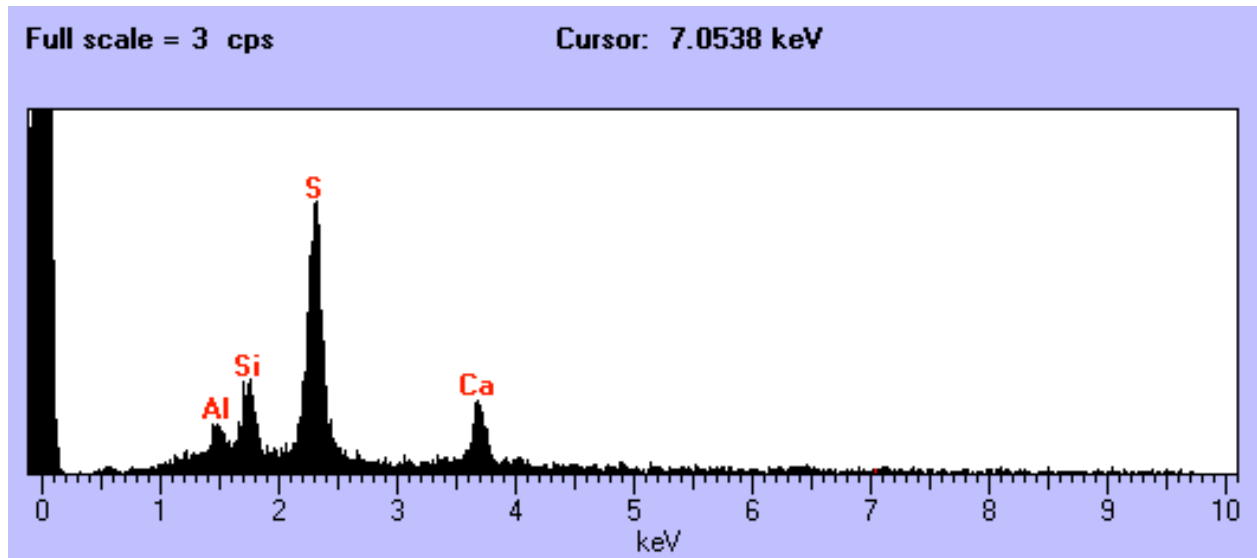
Size: 12 x 9 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: TCN
Comments:



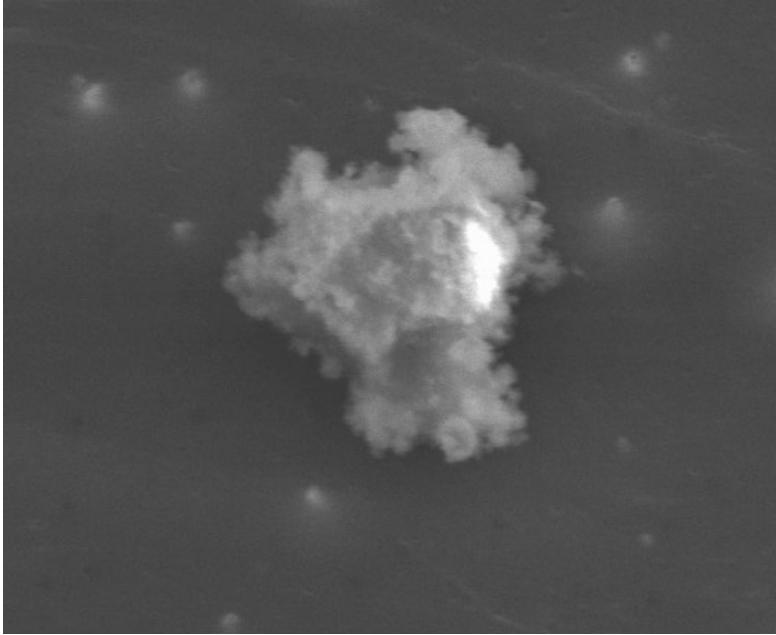
W7190 E1



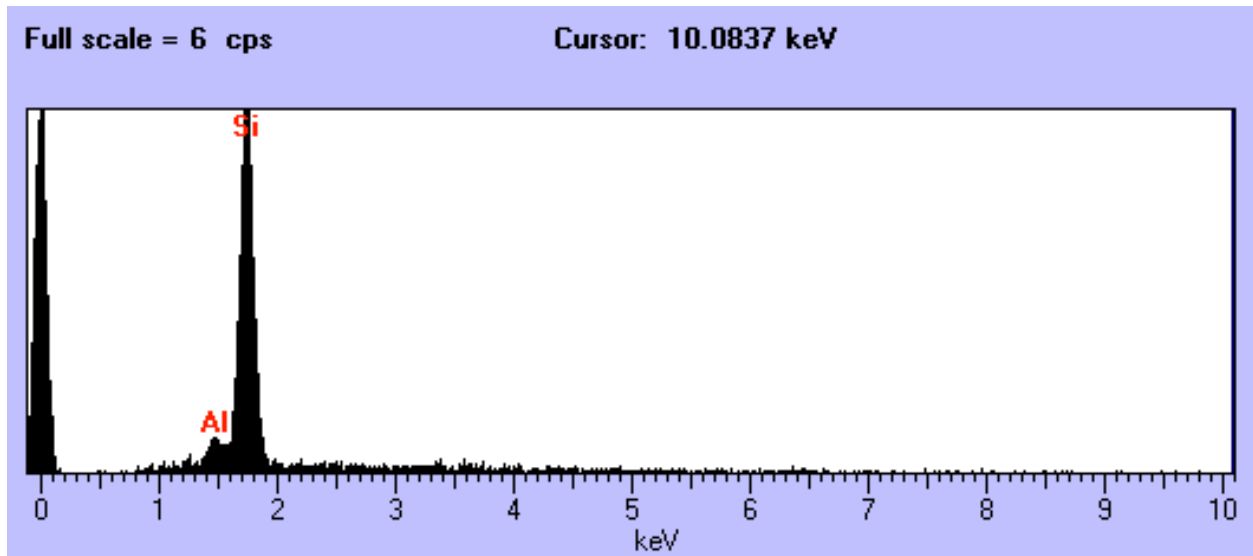
Size: 22 x 15 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: TCN
Comments:



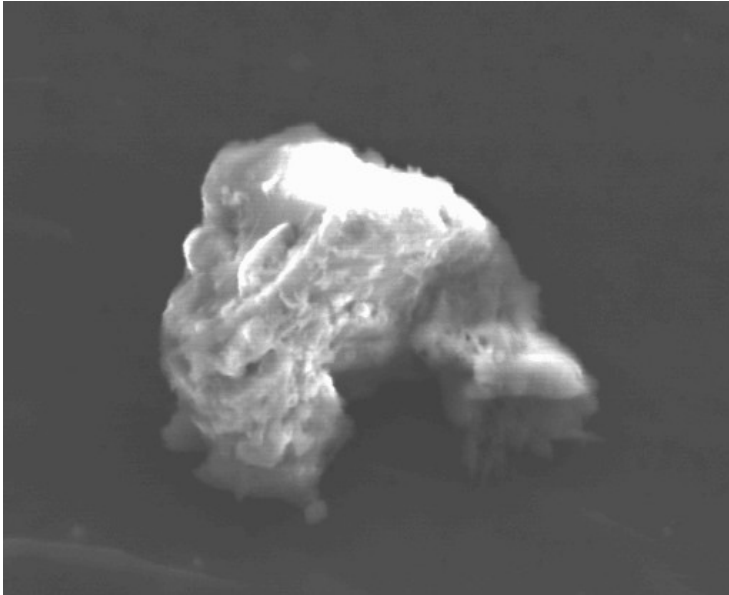
W7190 E2



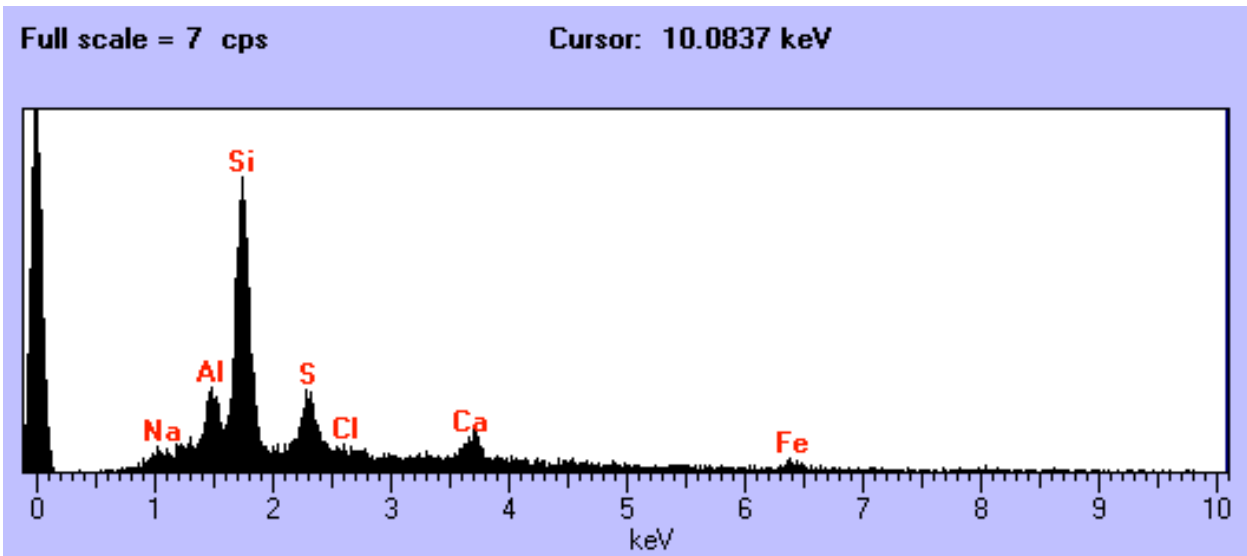
Size: 18 x 15 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: TCN
Comments:



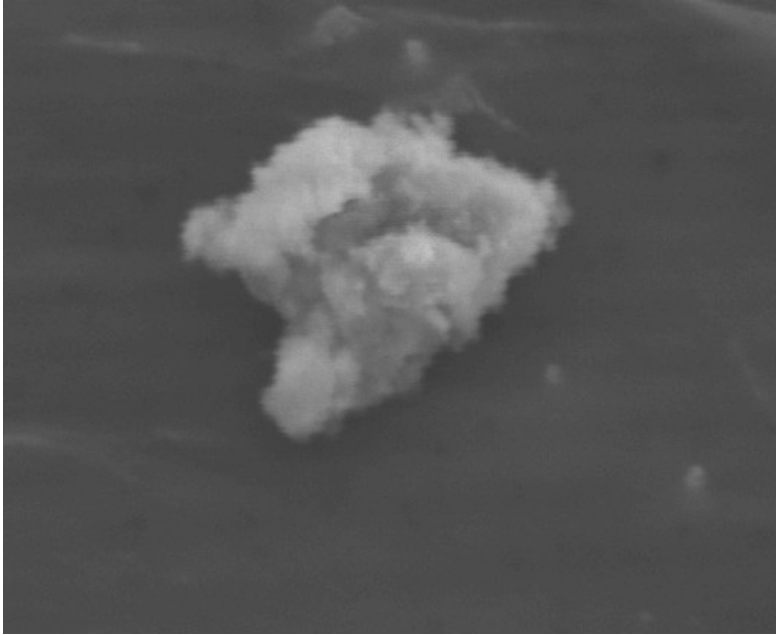
W7190 E7



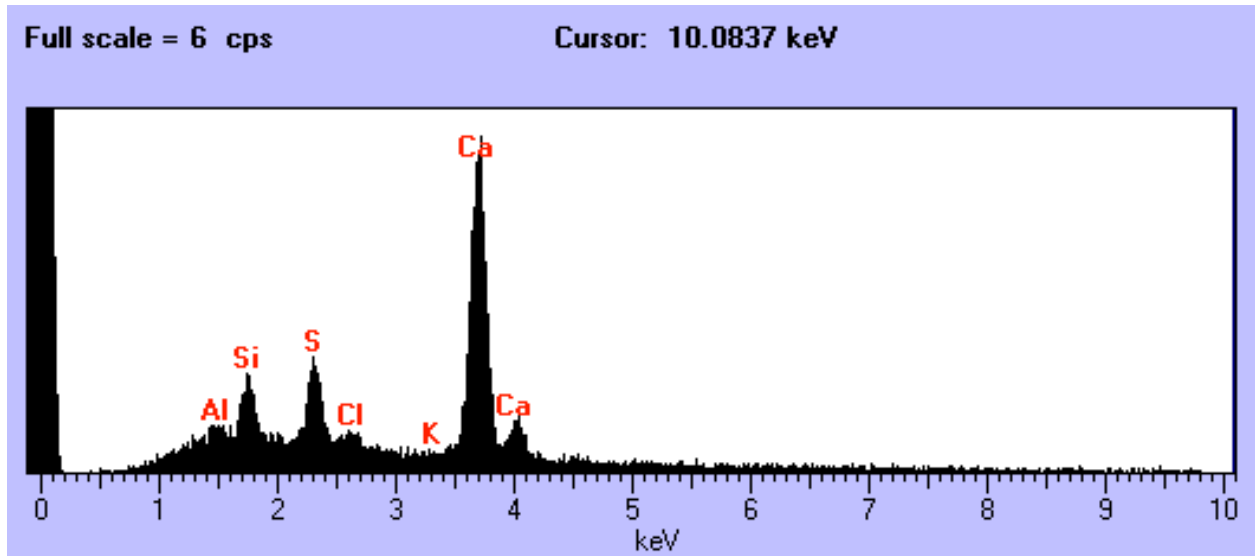
Size: 27 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCN
Comments:



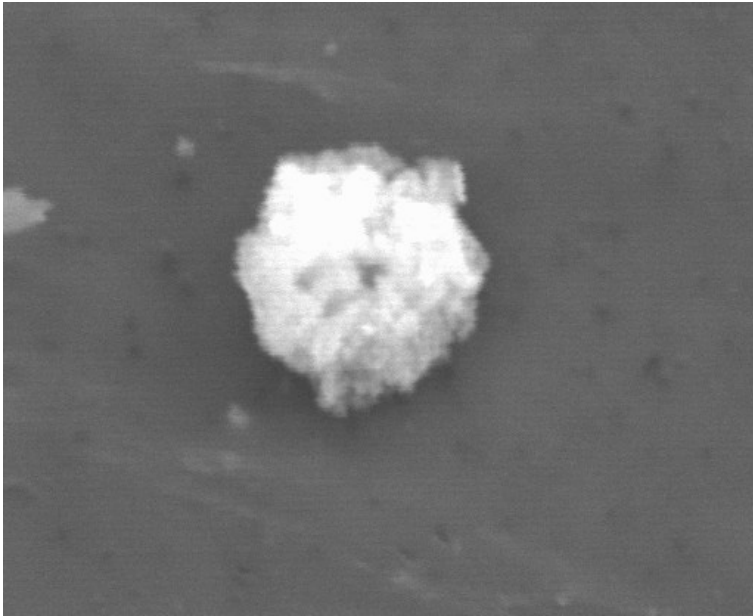
W7190 E12



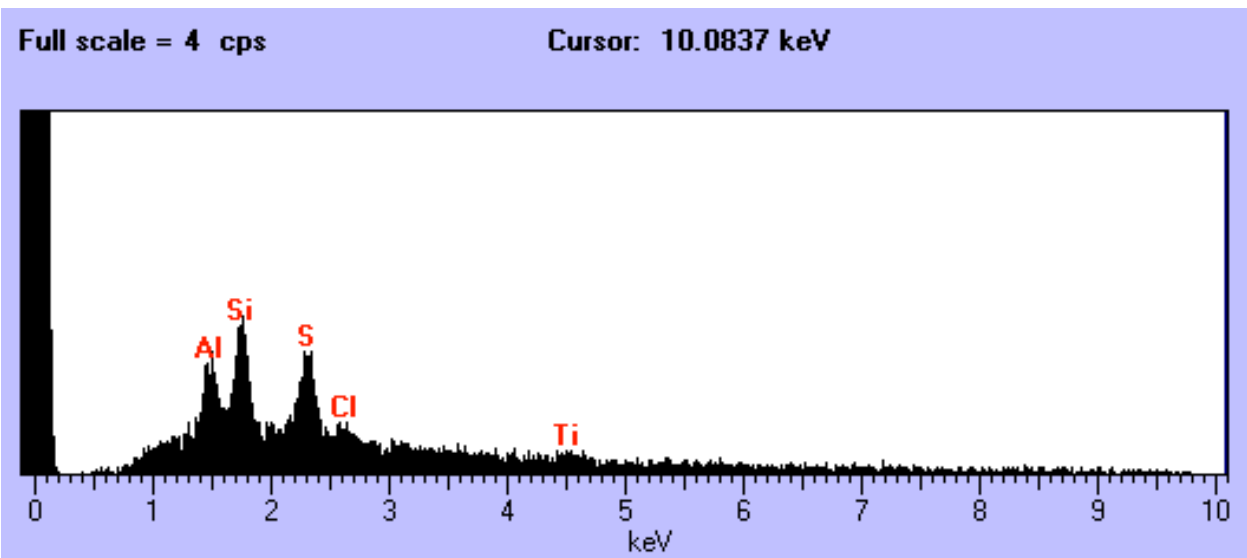
Size: 10 x 8 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: TCN?
Comments:



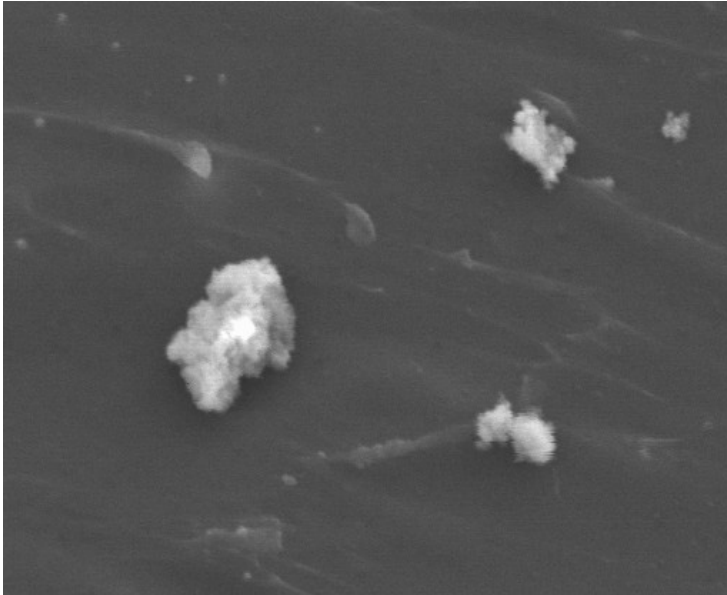
W7190 E14



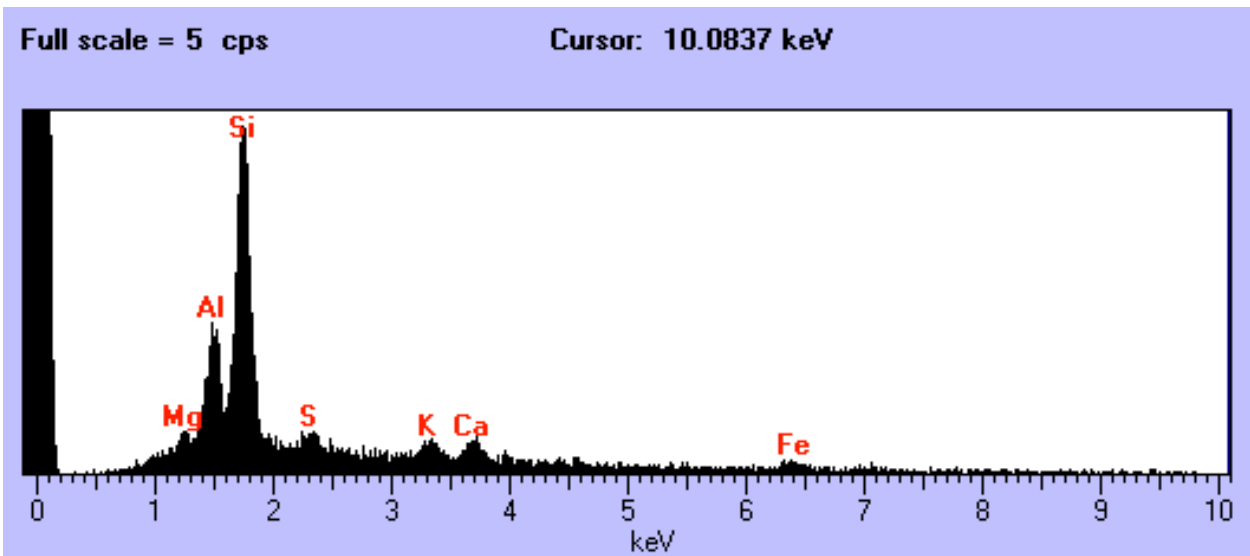
Size: 9 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: TCN
Comments:



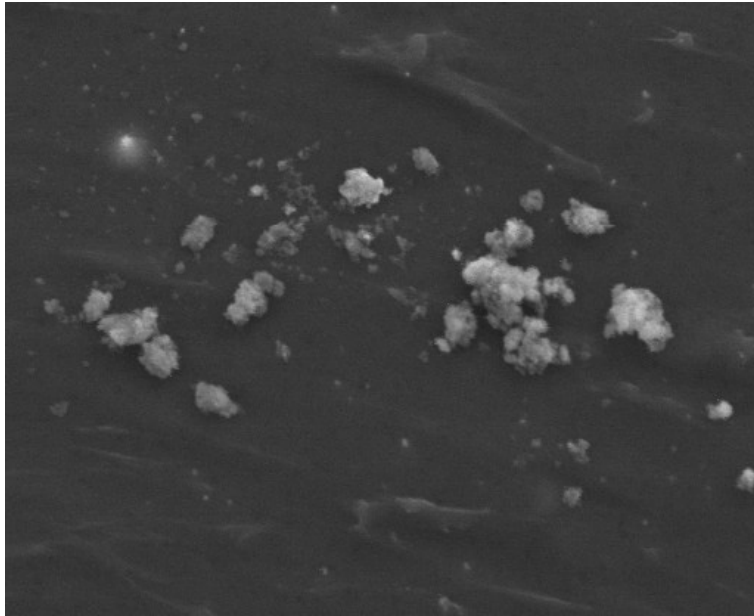
W7190 E17



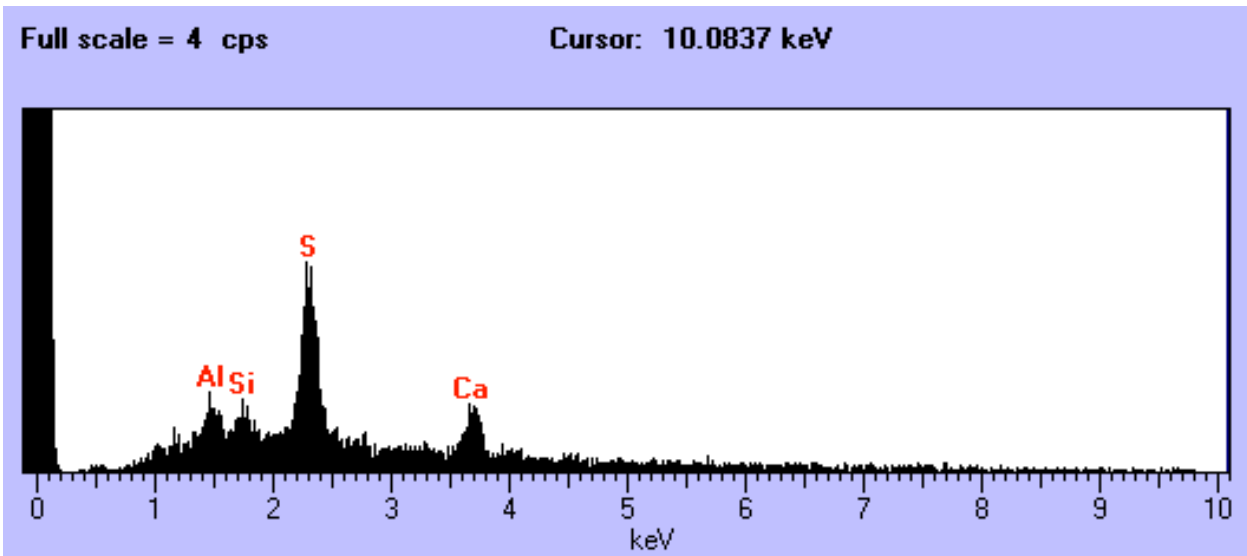
Size: 12 x 8 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: TCN?
Comments:



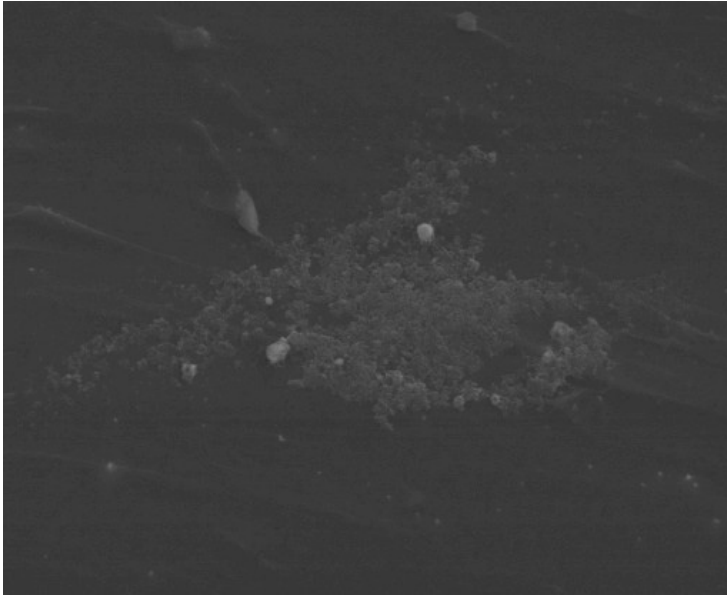
W7190 E18



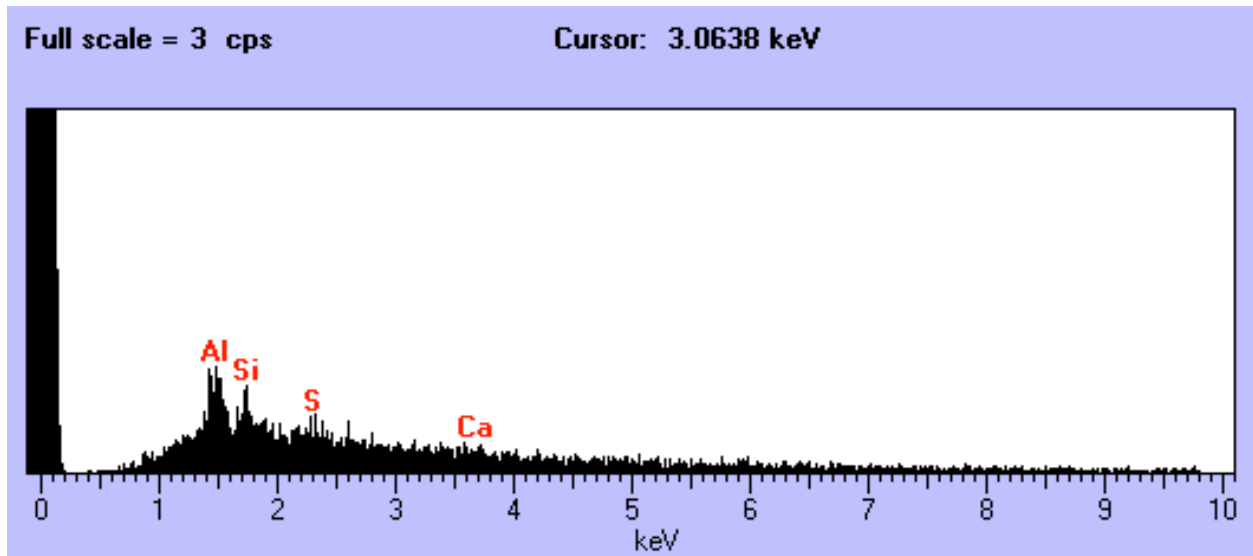
- Size:** up to 5 um
- Shape:** Irregular
- Trans:** Opaque
- Color:** Black
- Luster:** Dull
- Type:** TCN
- Comments:** Many grains



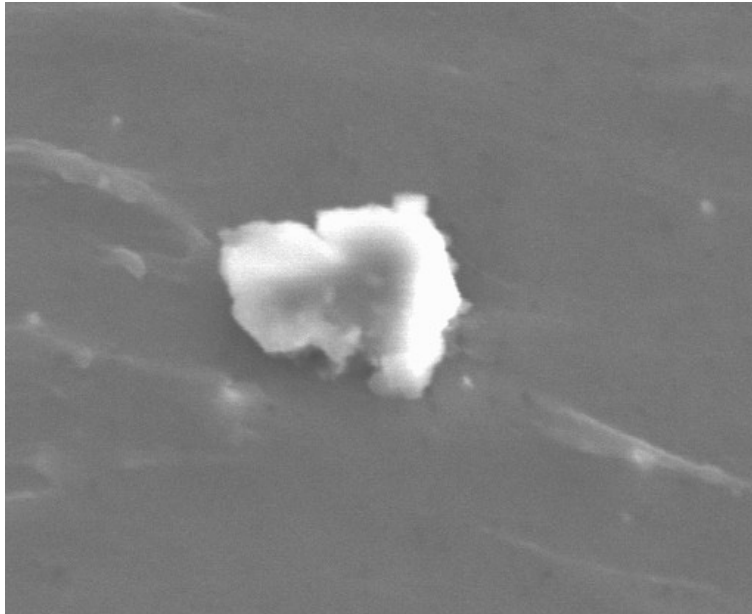
W7190 E19



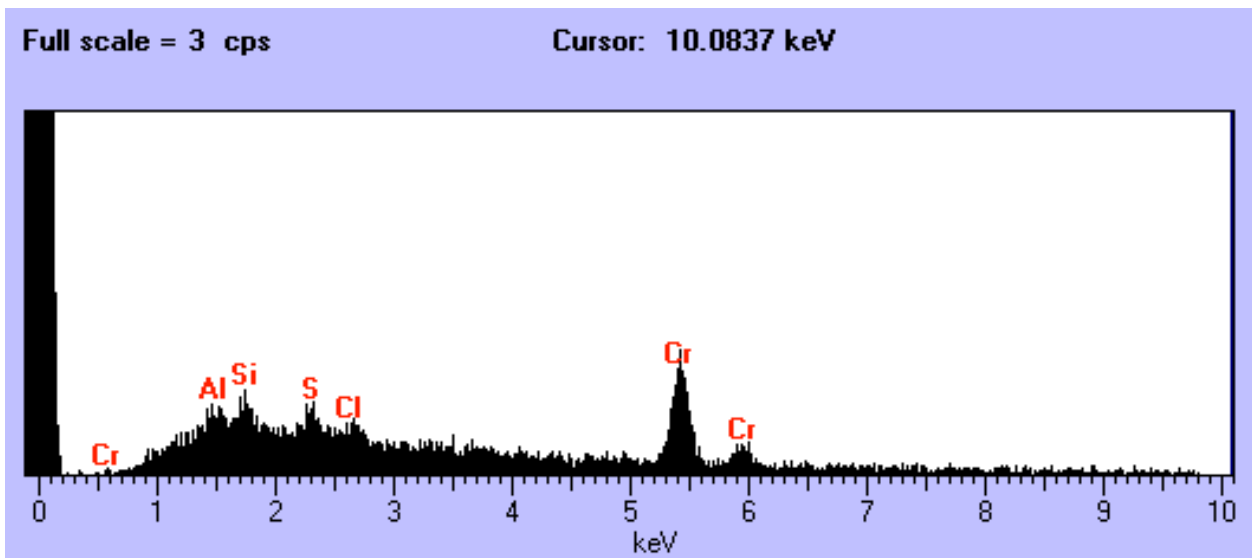
Size: up to 5 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: TCN
Comments: Many grains



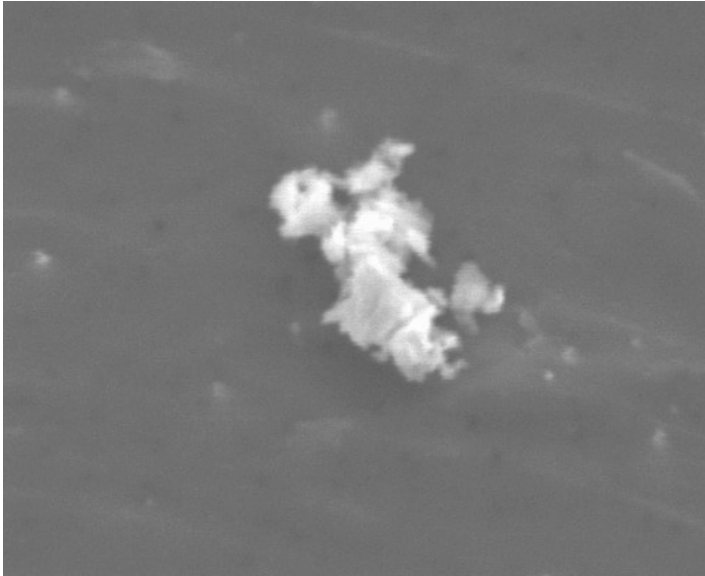
W7190 E21



Size: 13 x 10 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCN
Comments:



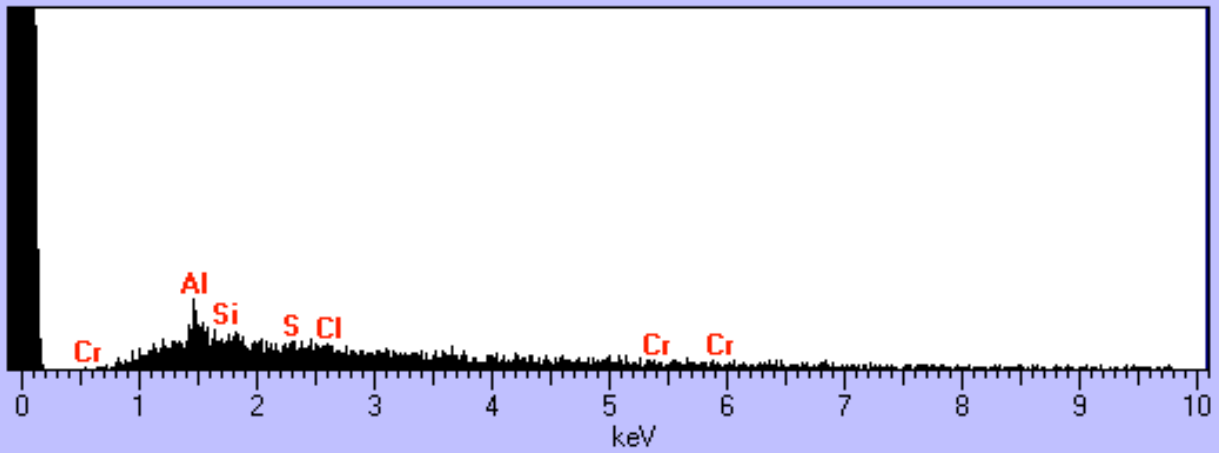
W7190 E22



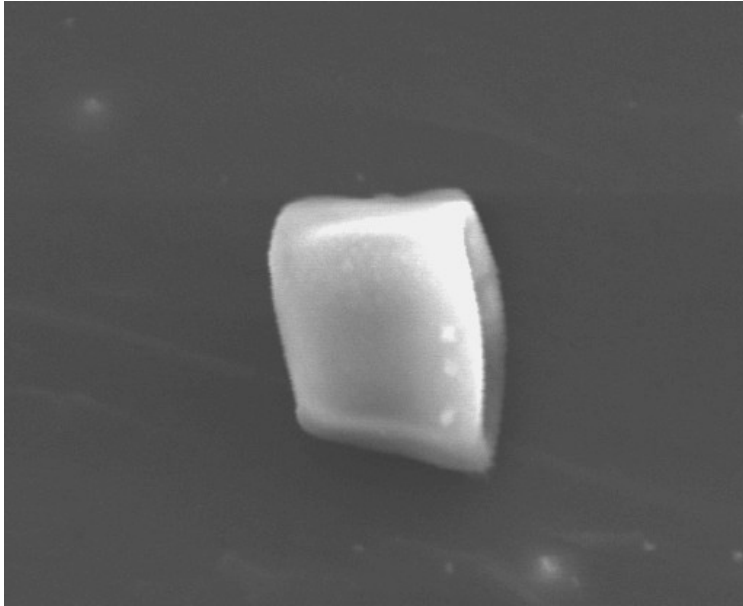
Size: 12 x 10 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: TCN
Comments:

Full scale = 5 cps

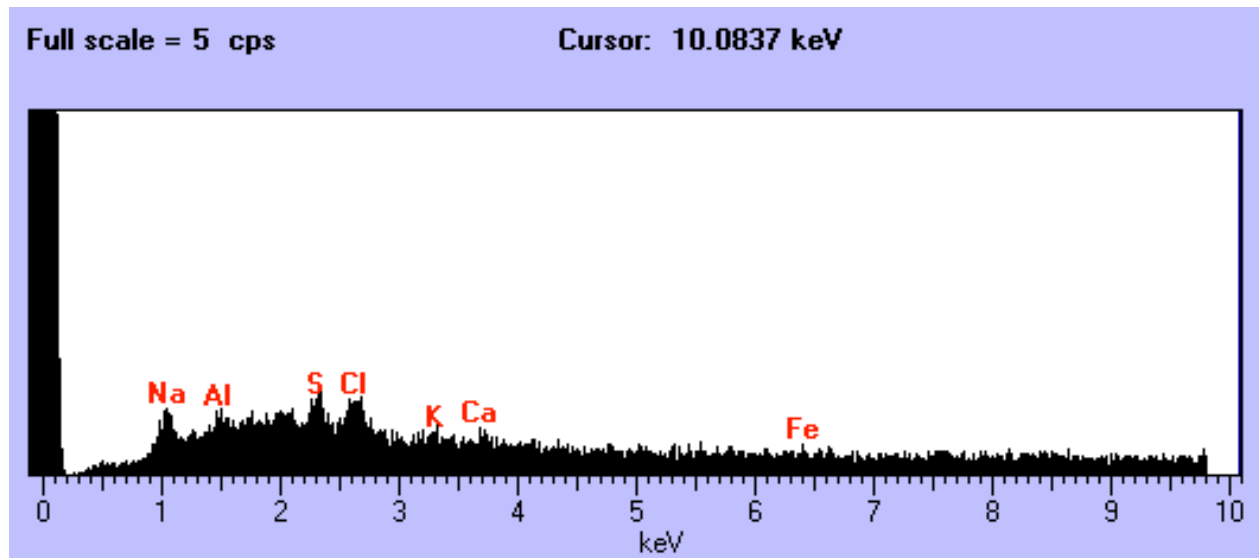
Cursor: 10.0837 keV



W7190 E25



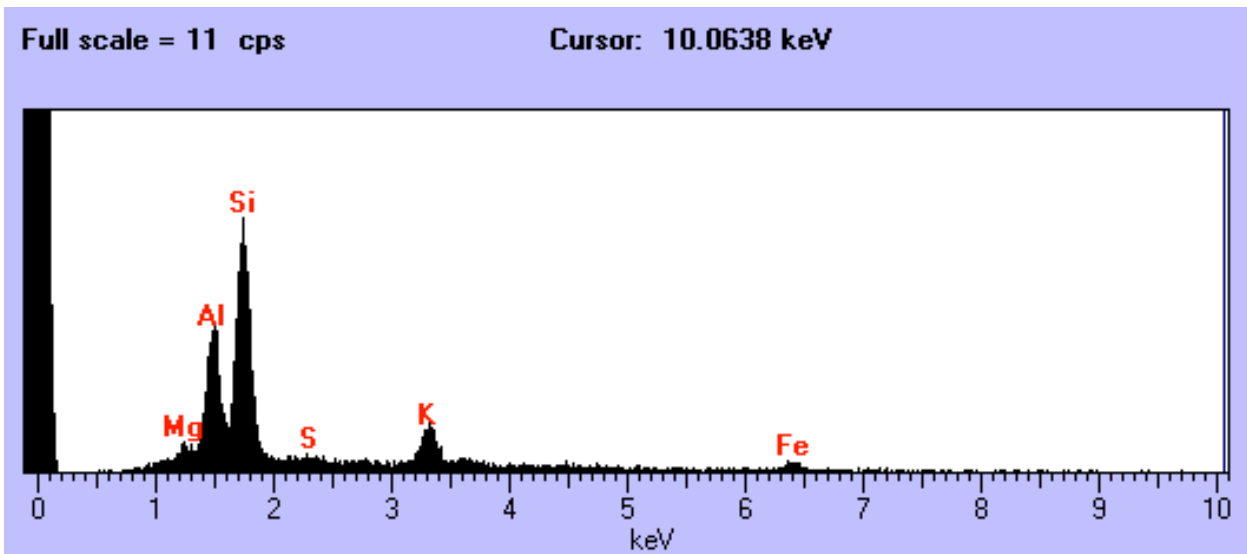
Size: 18 x 15 um
Shape: Equant
Trans: Translucent
Color: White
Luster: Pearly
Type: TCN
Comments:



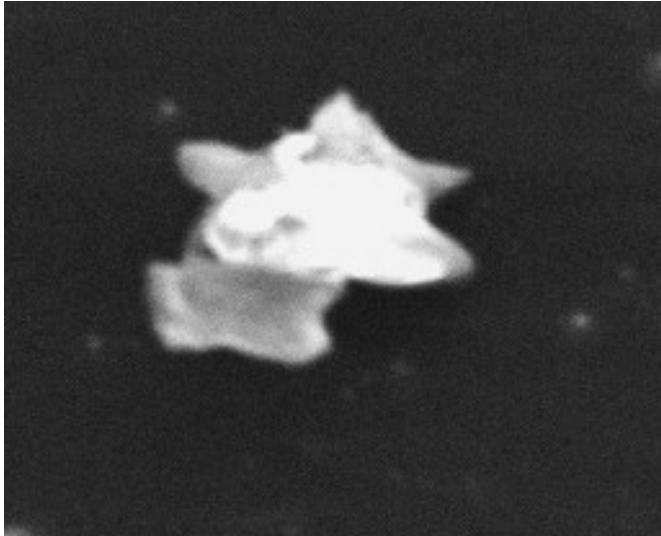
W7190 E26



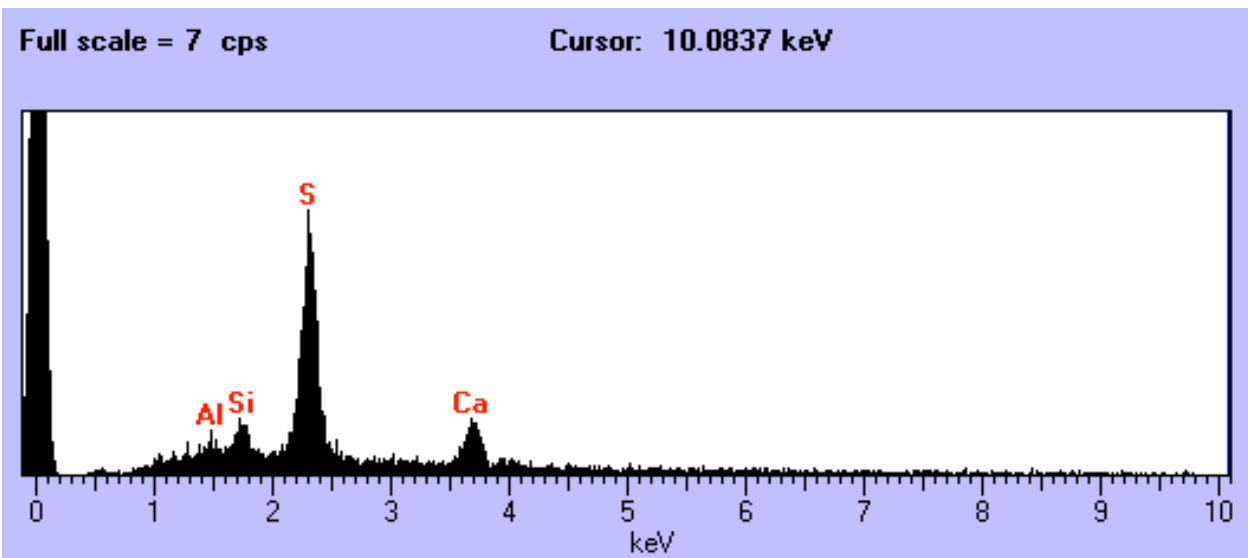
Size: 5 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Pearly
Type: TCN
Comments:



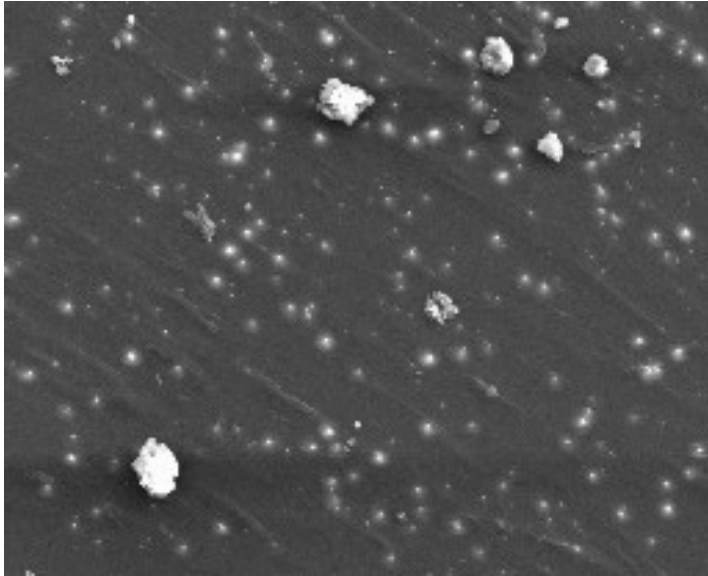
W7190 E36



Size: 7 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Pearly
Type: TCN
Comments:



W7190 E38



Size: Largest is
15 x 13 um

Shape: Irregular

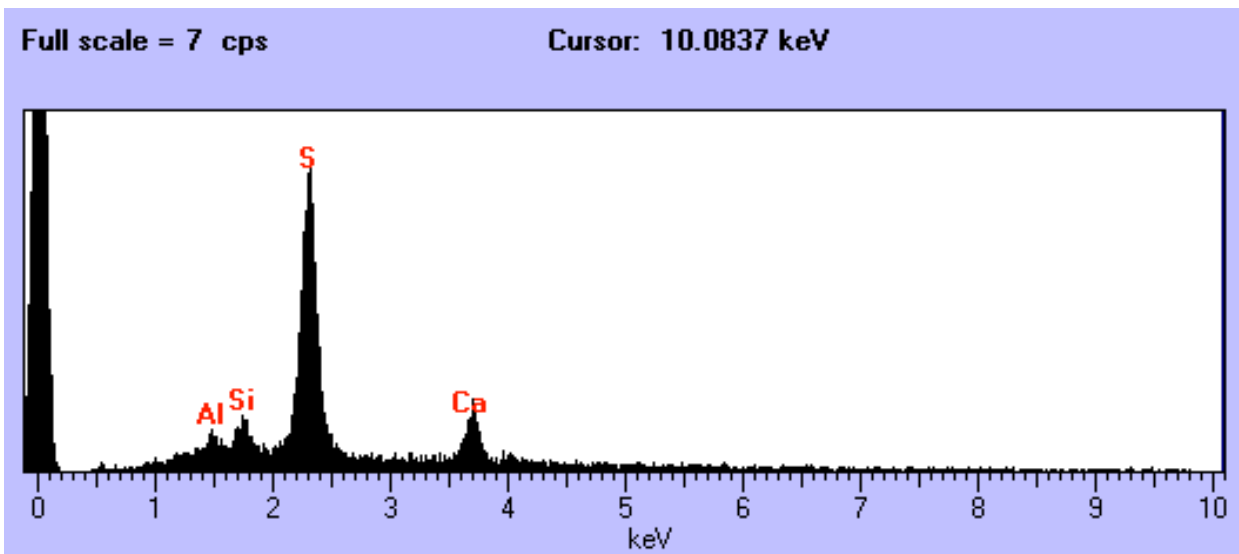
Trans: Opaque

Color: Black

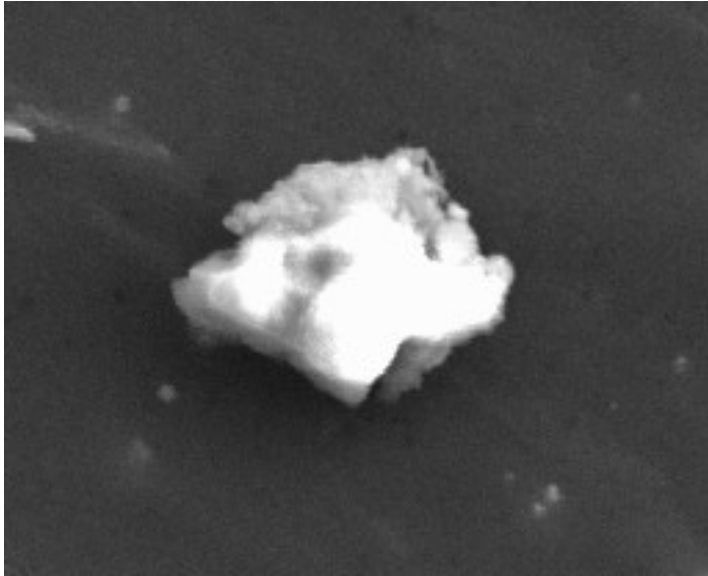
Luster: Dull

Type: TCN

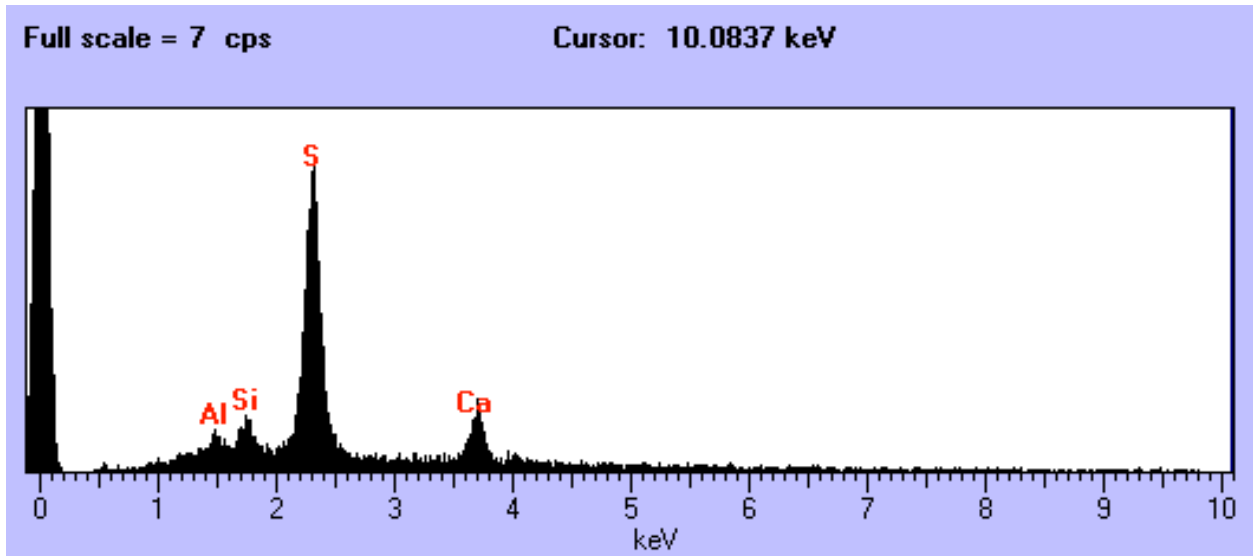
Comments: Field of grains



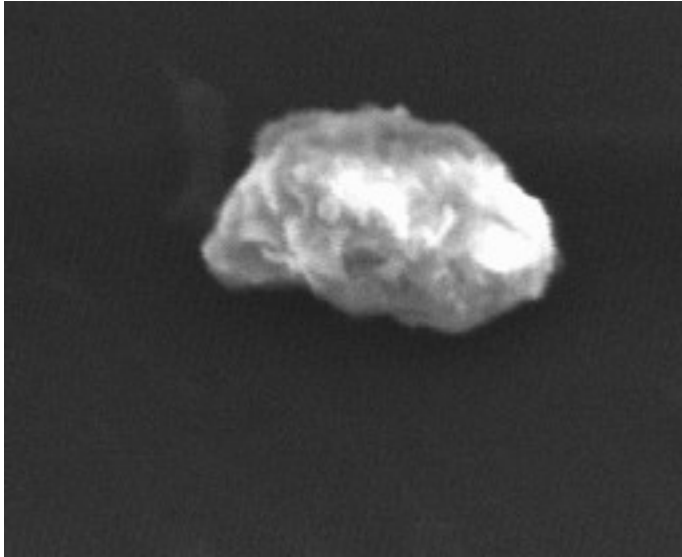
W7190 E41



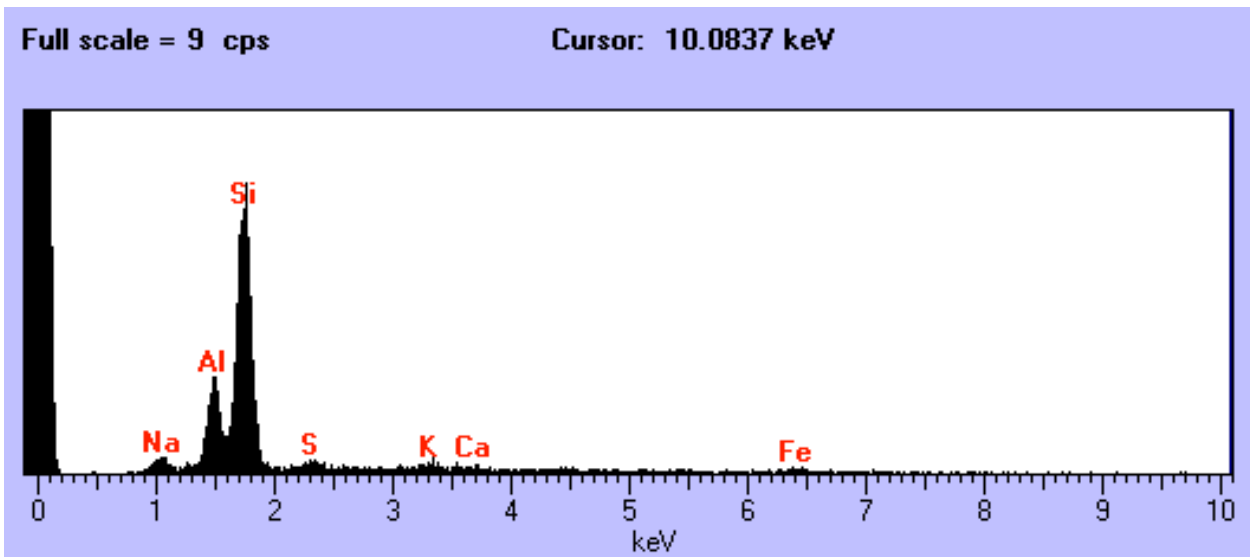
Size: 15 x 10 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: TCN
Comments:



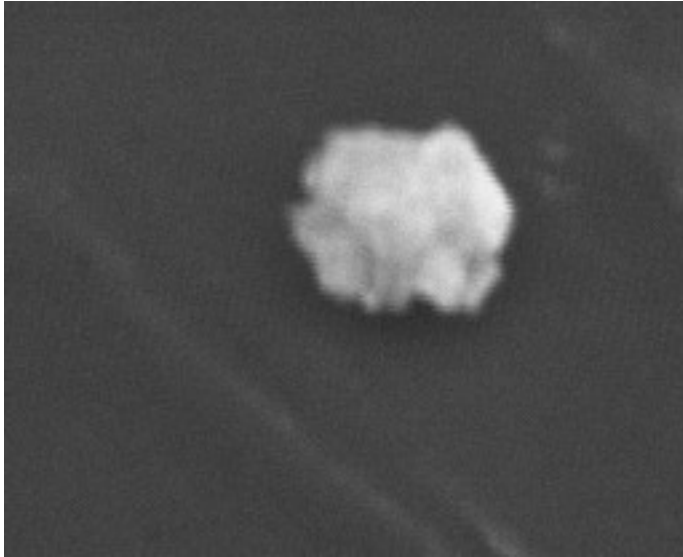
W7190 F6



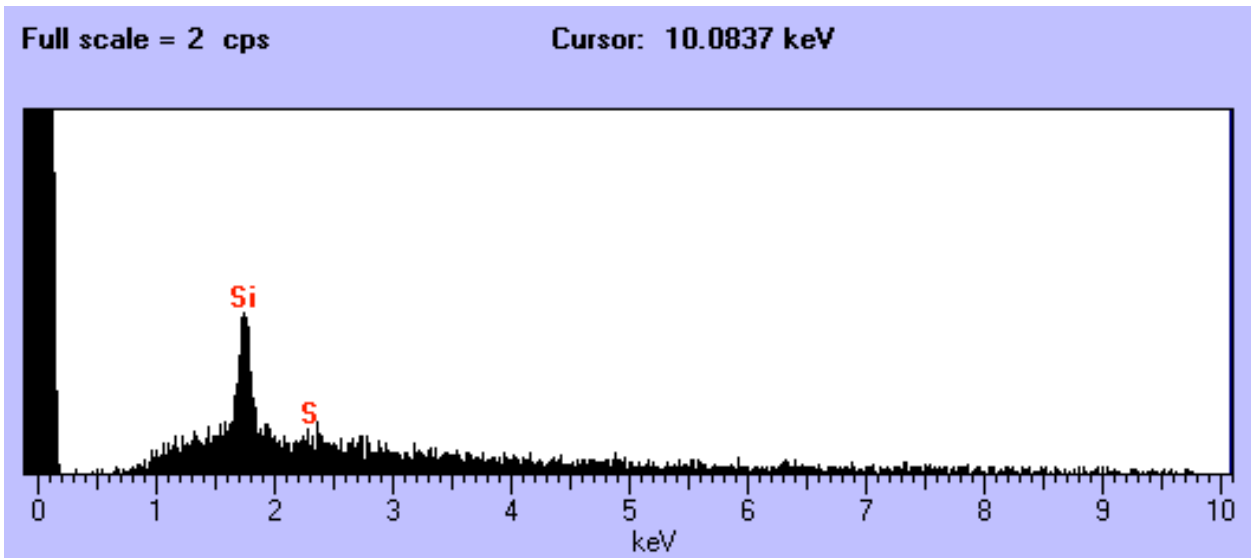
Size: 22 x 13 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCN
Comments:



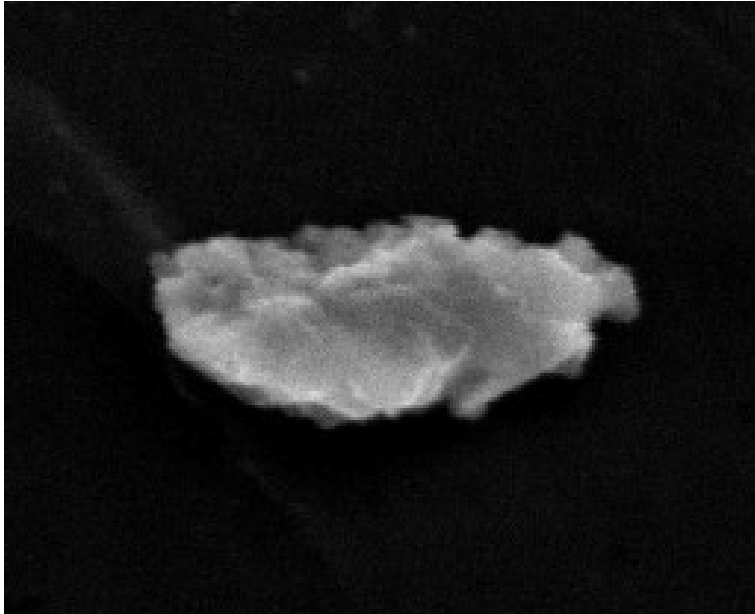
W7190 F7



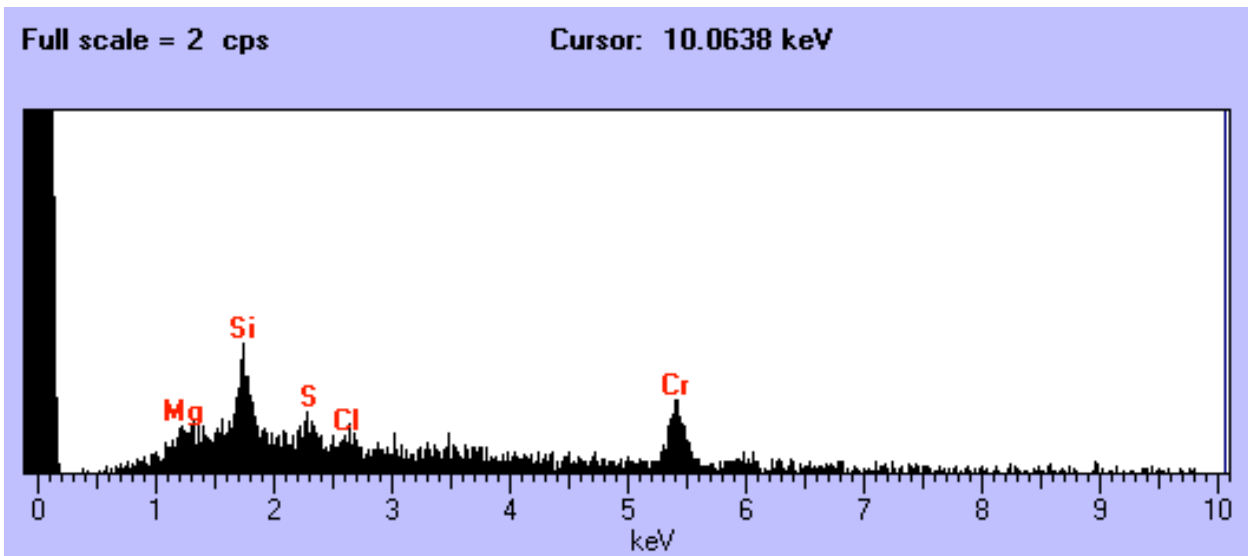
Size: 10 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: TCN
Comments:



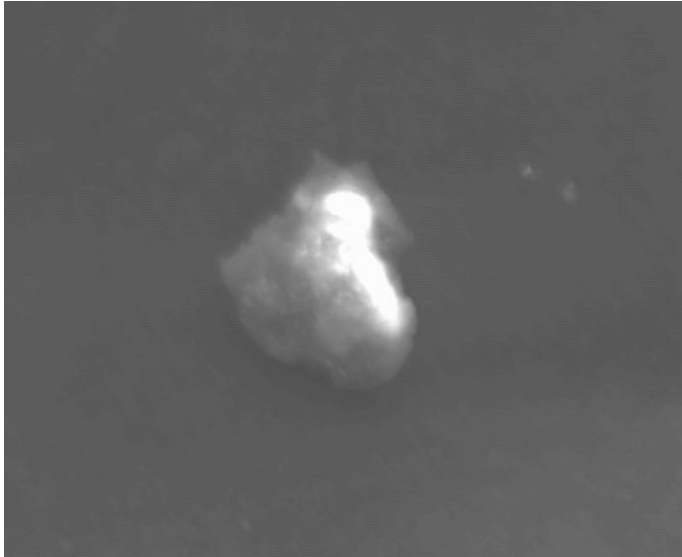
W7190 F8



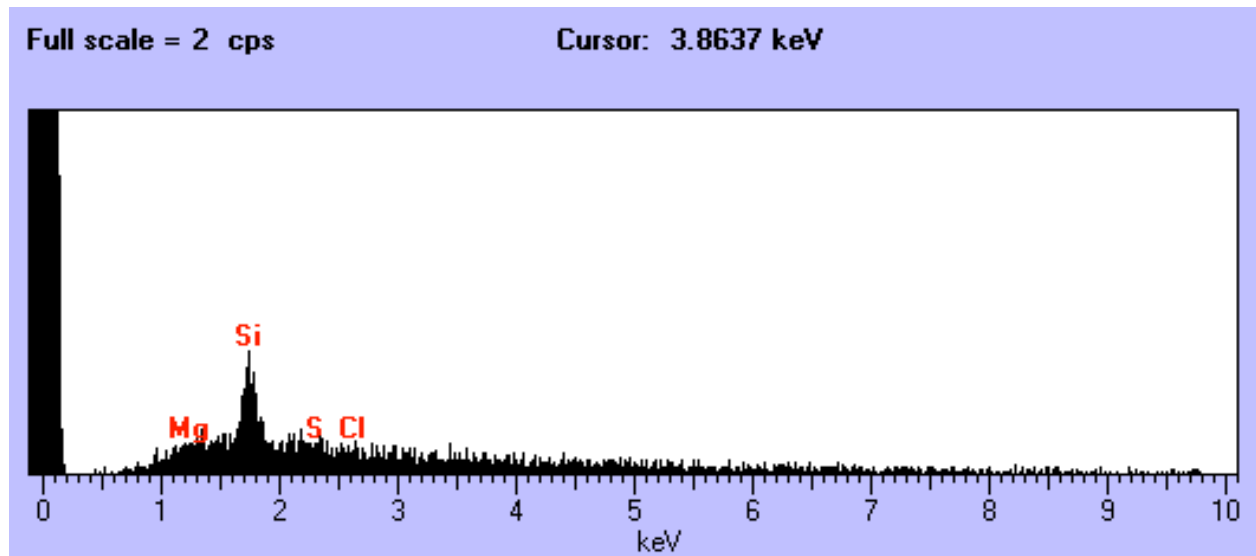
Size: 17 x 10 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCN
Comments:



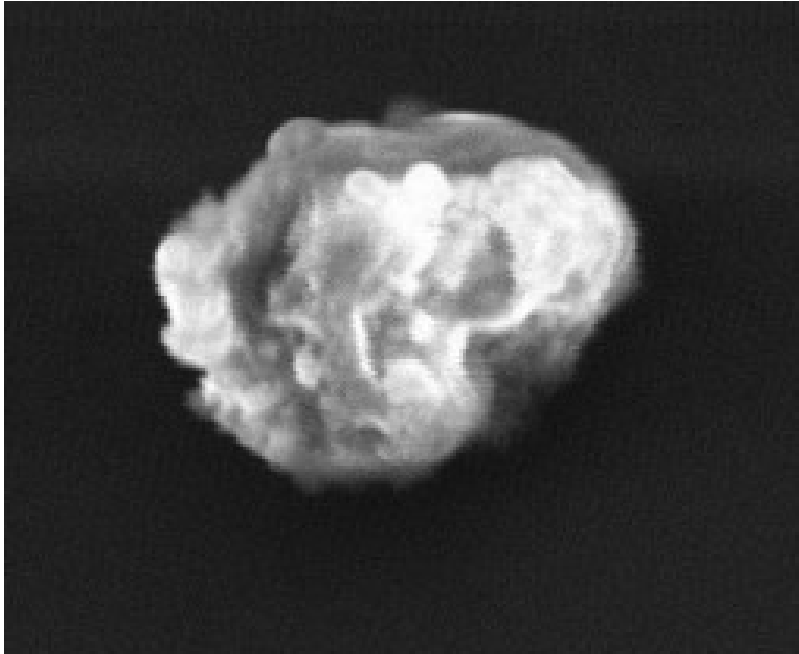
W7190 F9



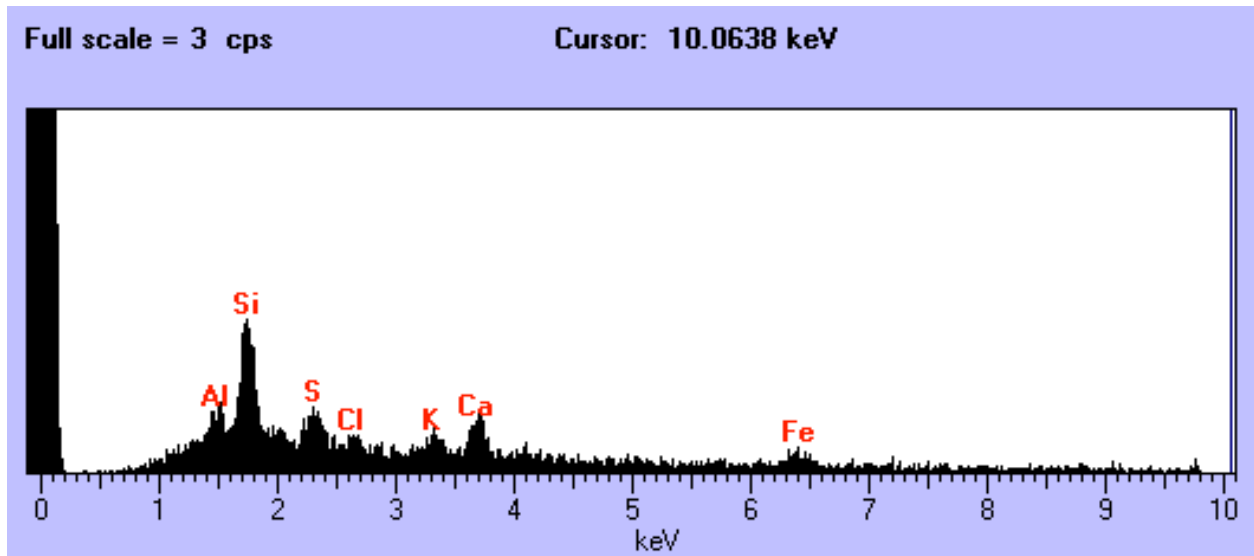
Size: 8 x 4 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: TCN
Comments:



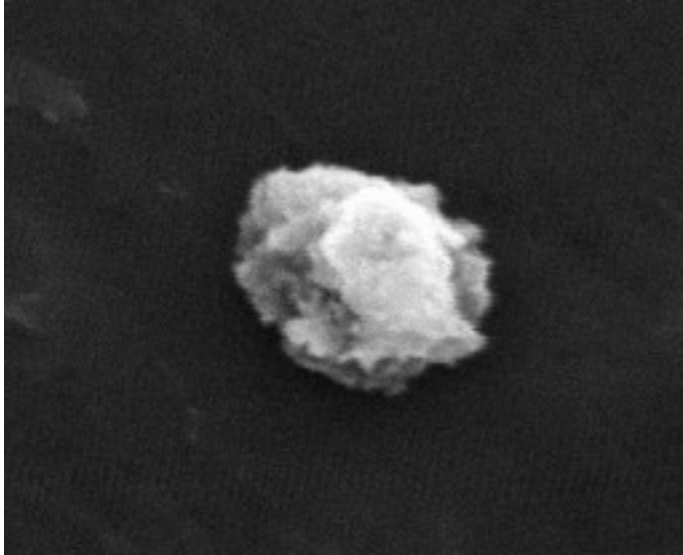
W7190 F10



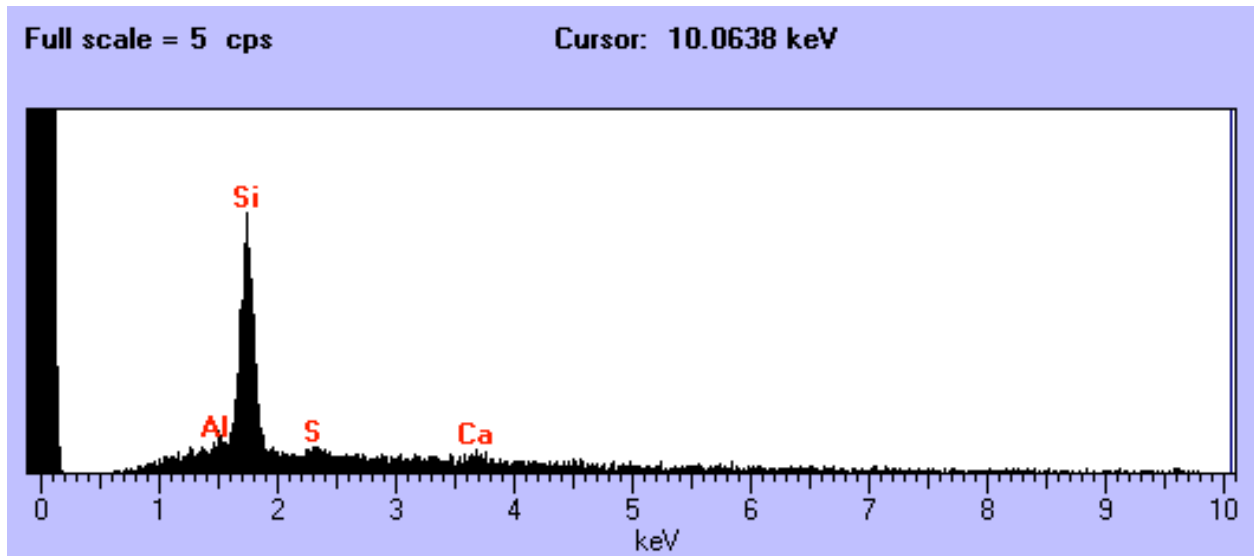
Size: 17 x 16 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: TCN
Comments:



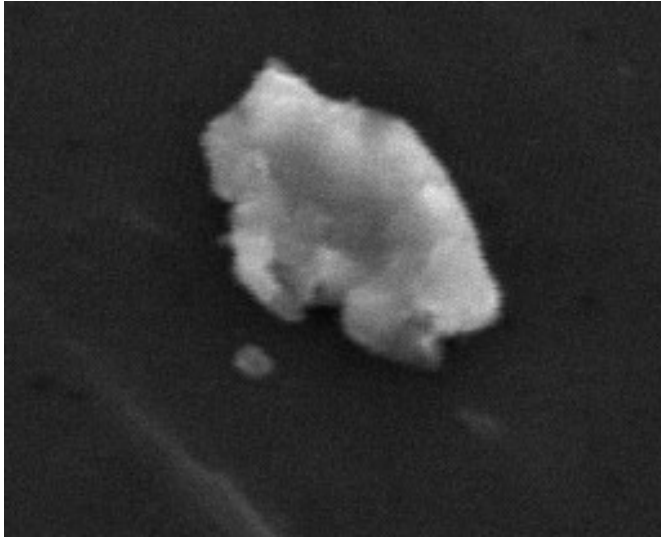
W7190 F14



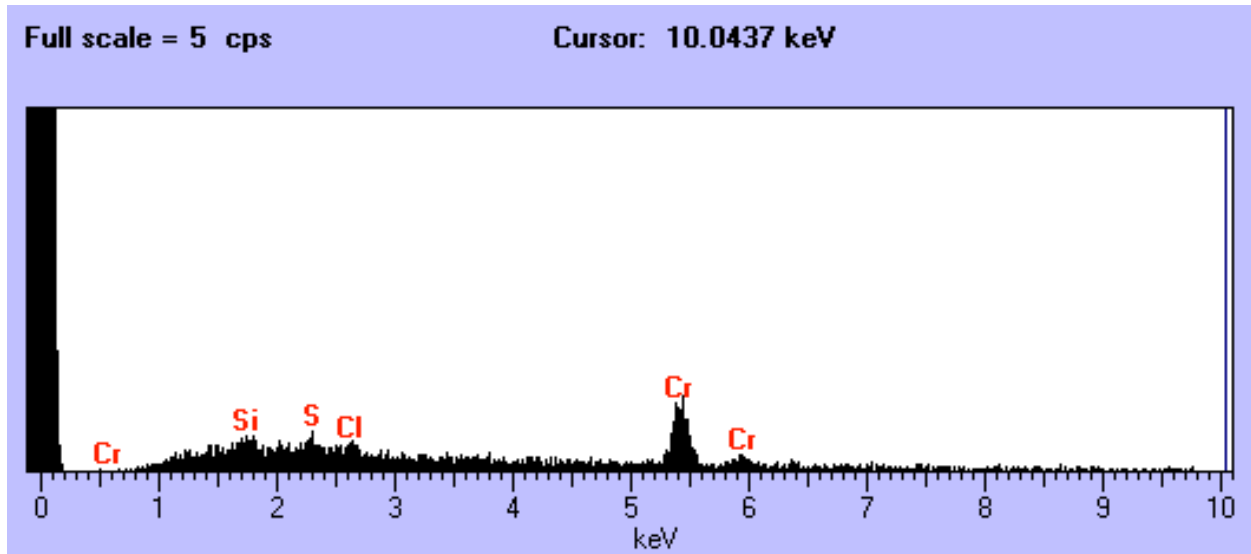
Size: 10 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCN
Comments:



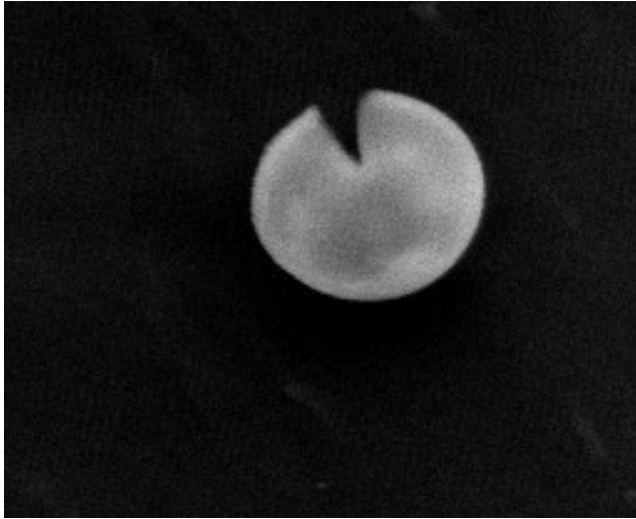
W7190 F21



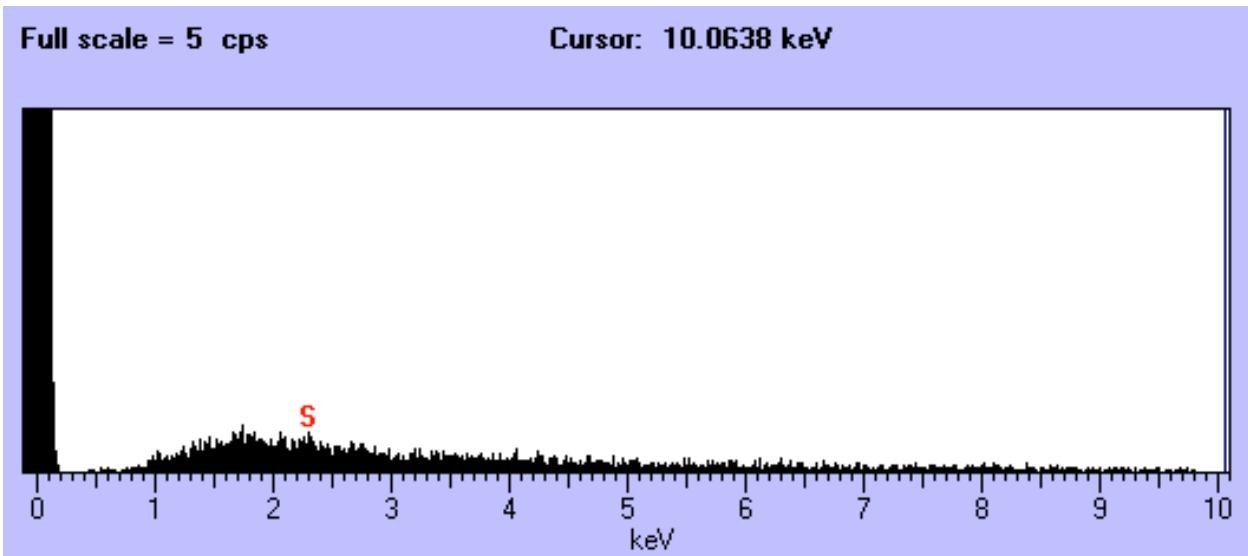
Size: 13 x 12 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCN
Comments:



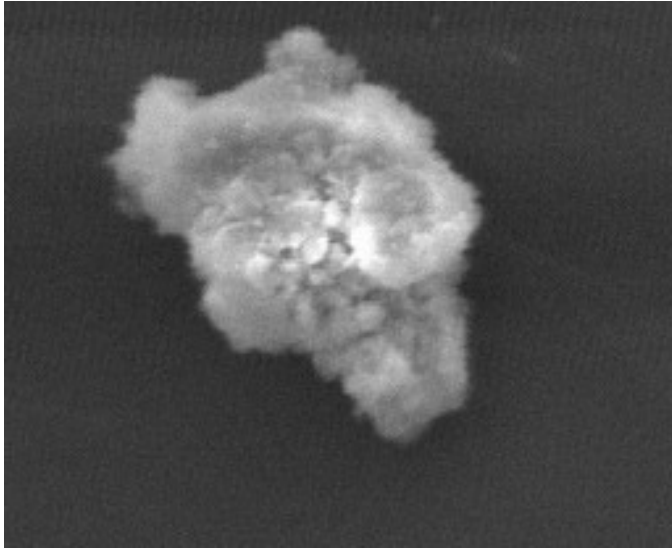
W7190 F29



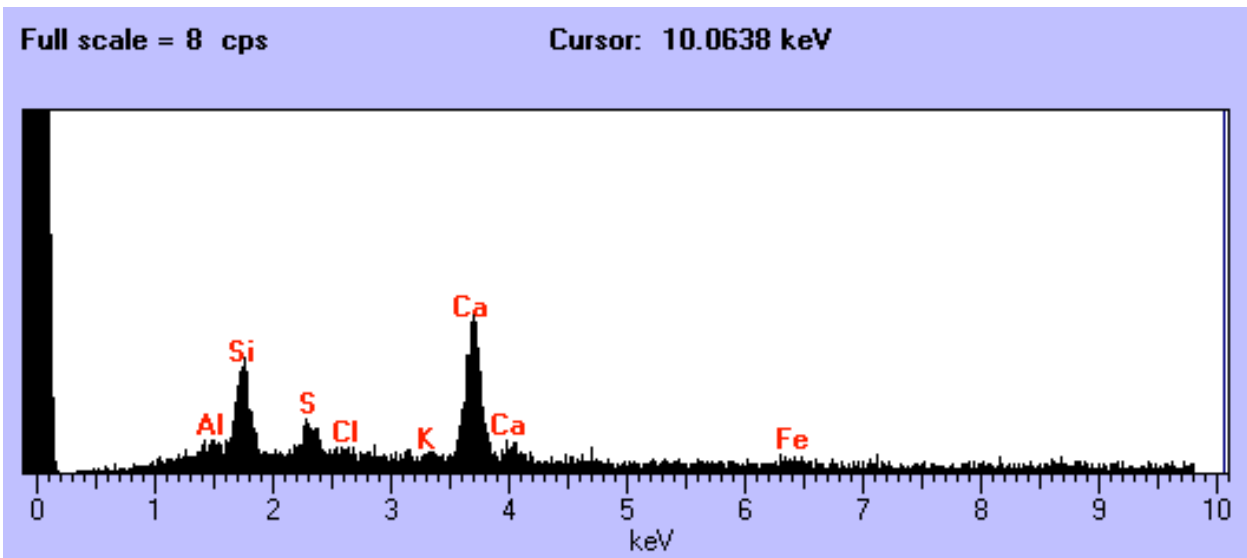
Size: 17 um
Shape: Sphere
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCN?
Comments:



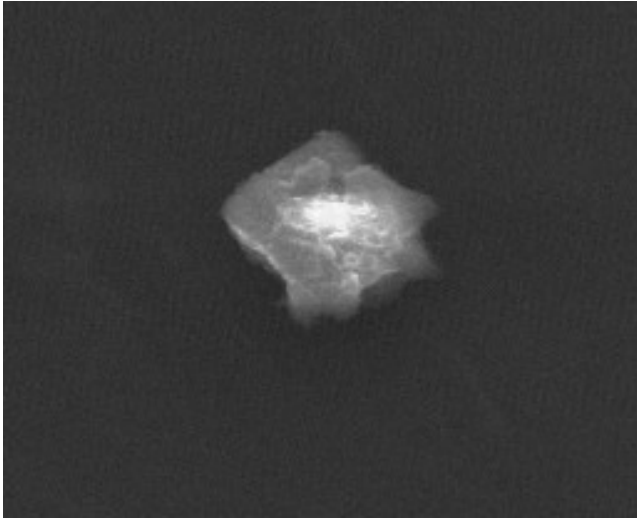
W7190 F32



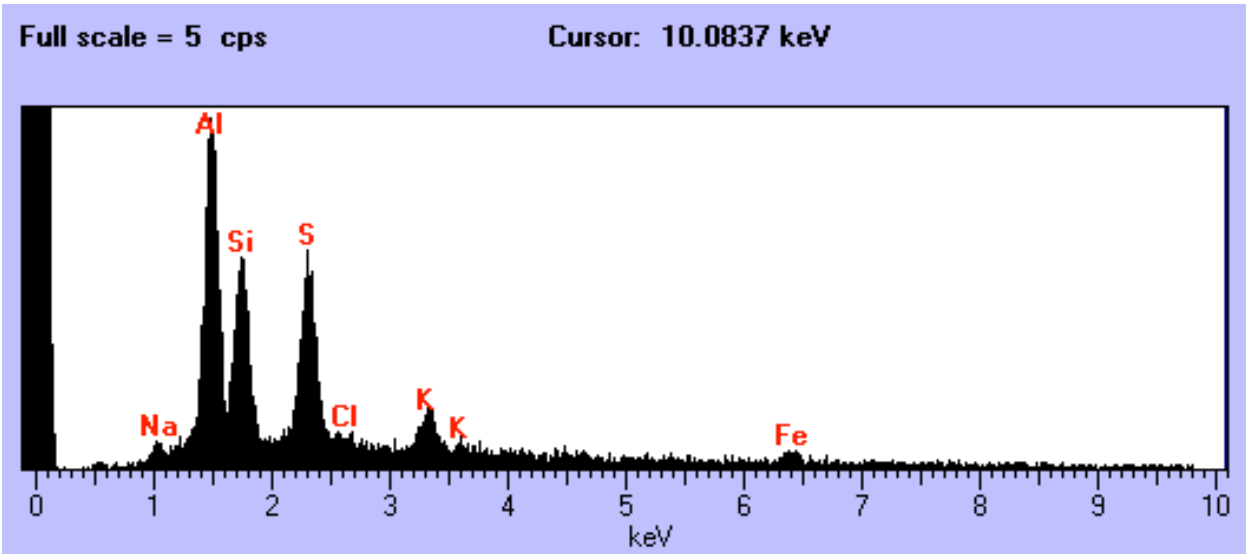
Size: 32 x 24 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCN
Comments:



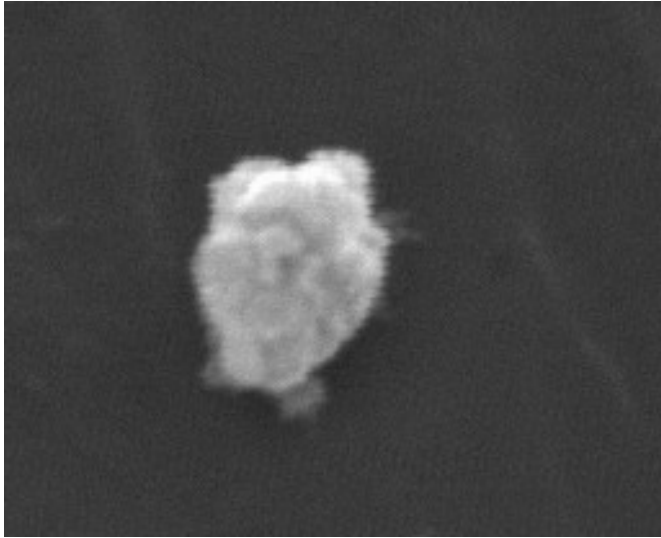
W7190 F34



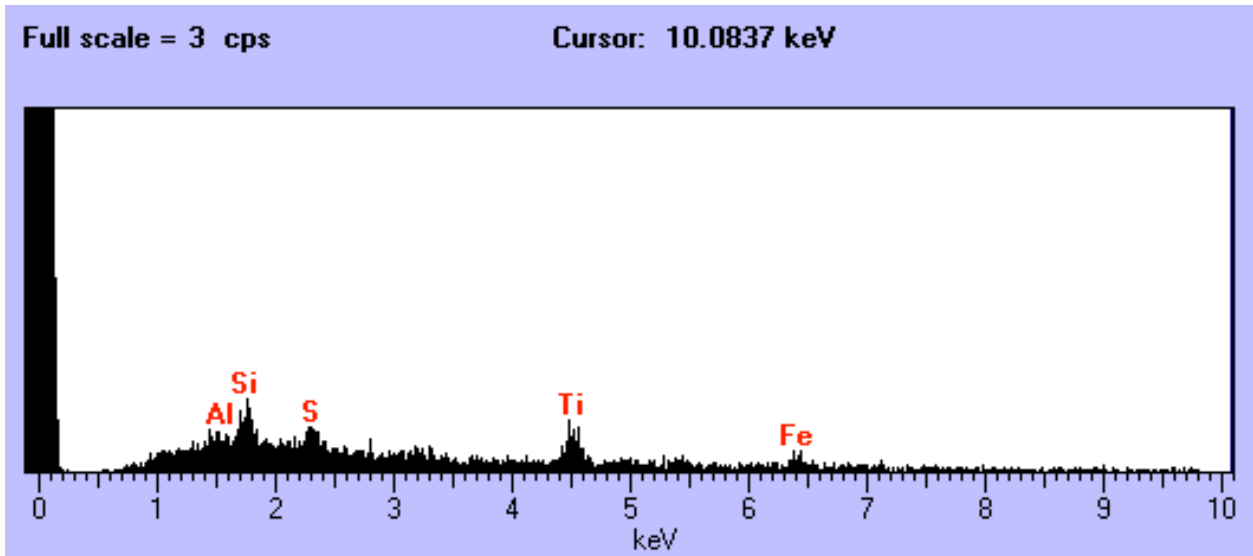
Size: 15 x 14 μm
Shape: Equant
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCN
Comments:



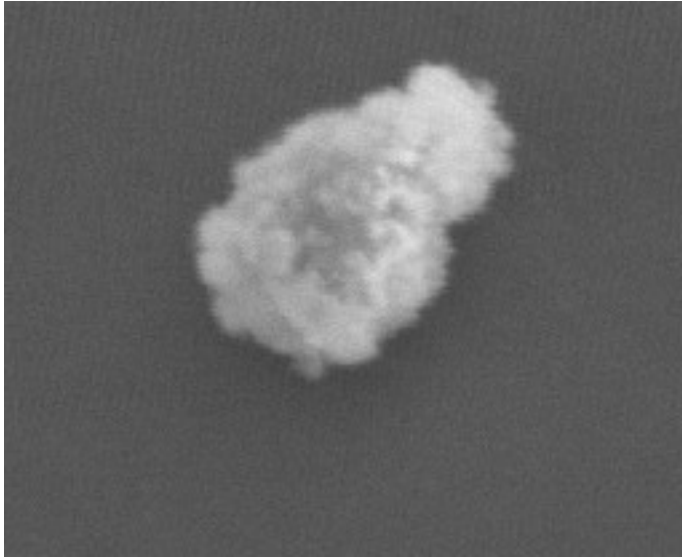
W7190 G2



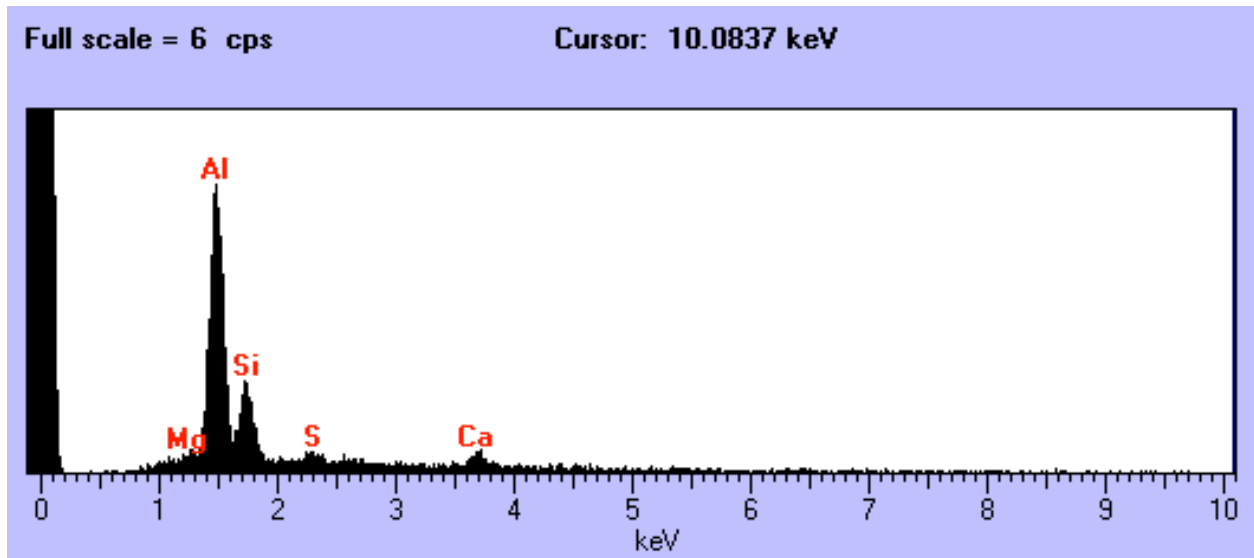
Size: 7 x 5 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: TCN
Comments:



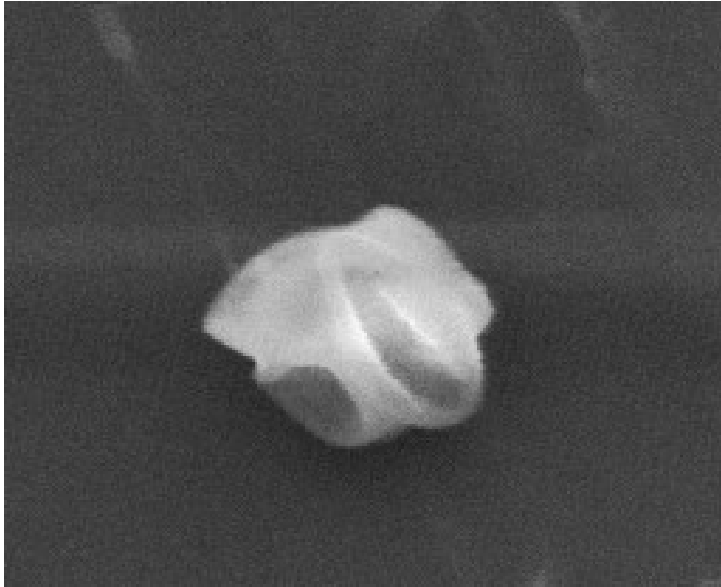
W7190 G4



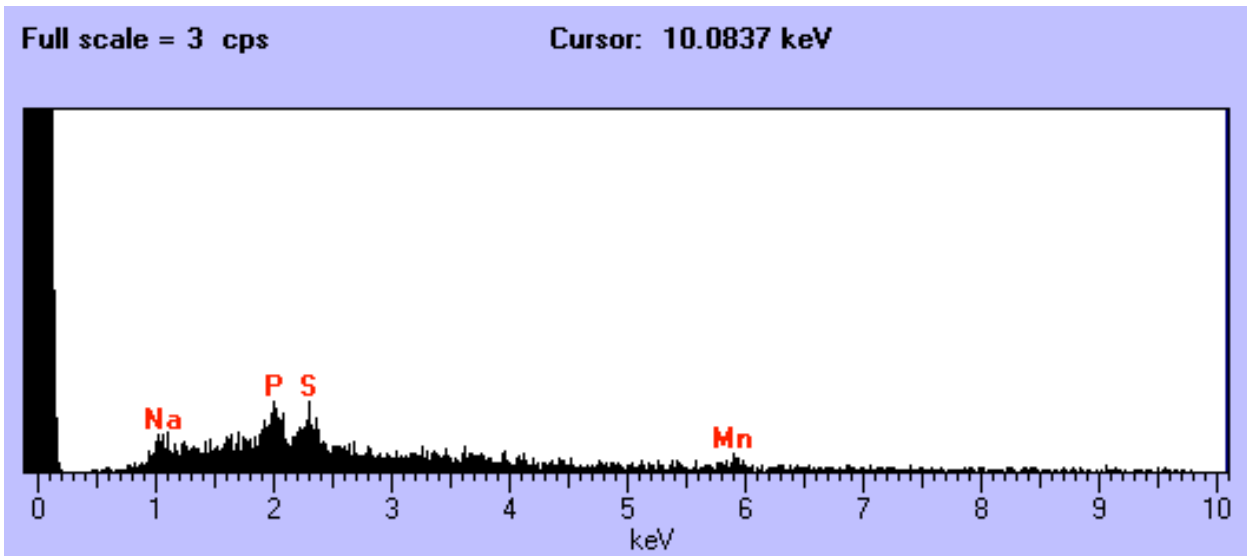
Size: 12 x 10 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: TCN
Comments:



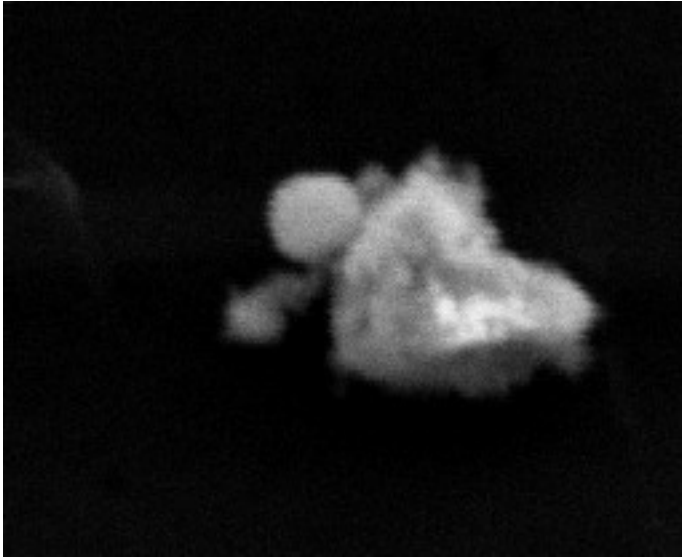
W7190 G8



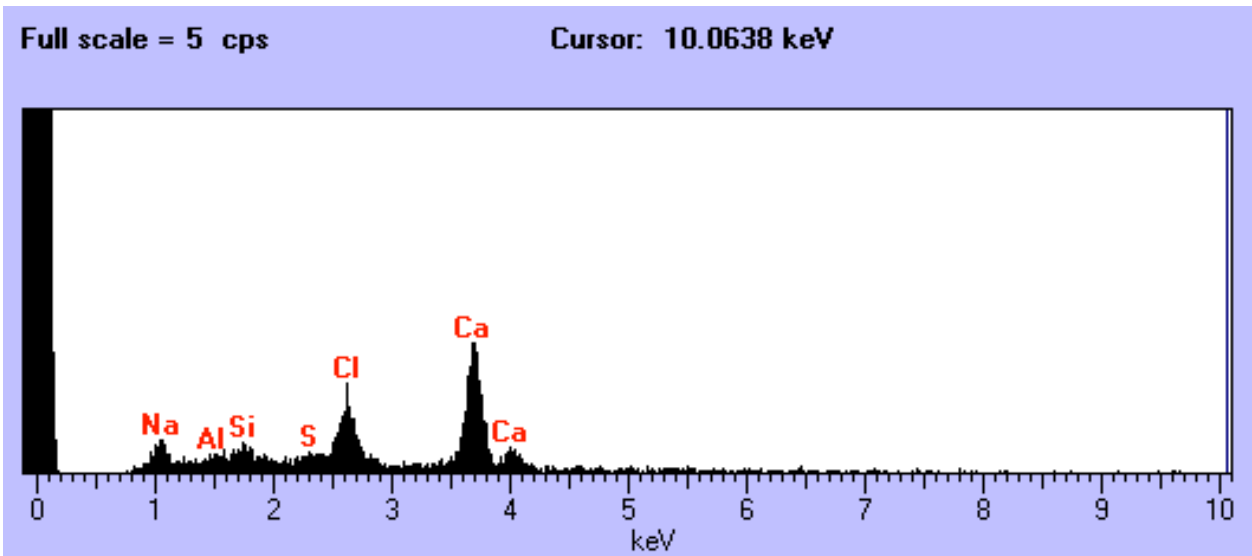
Size: 14 x 12 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: TCN
Comments:



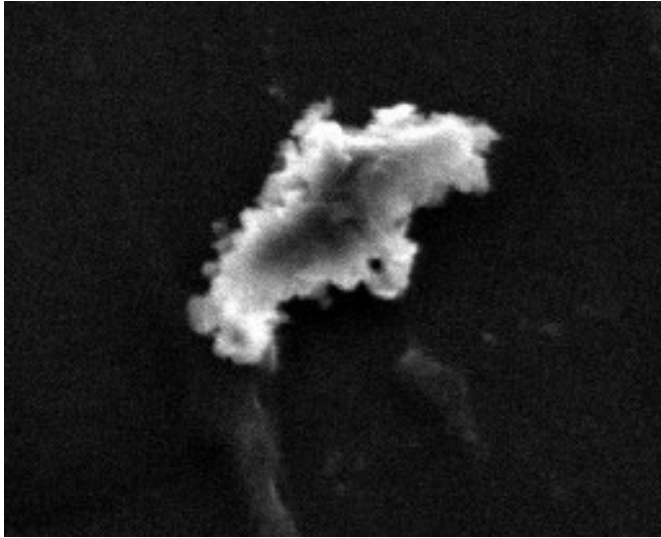
W7190 G12



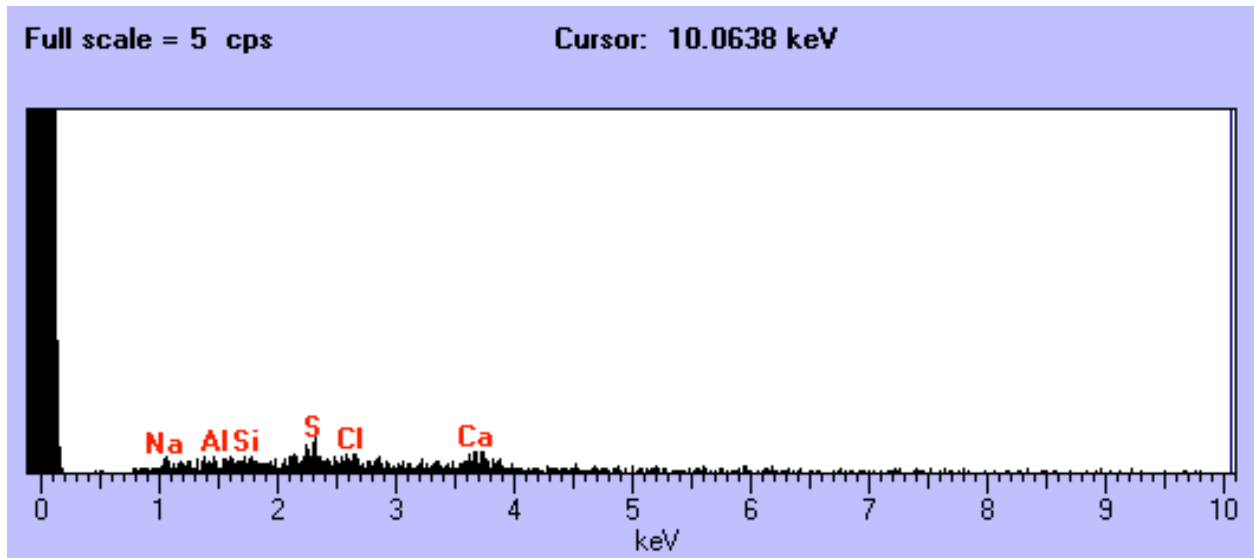
Size: 13 x 8 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: TCN
Comments:



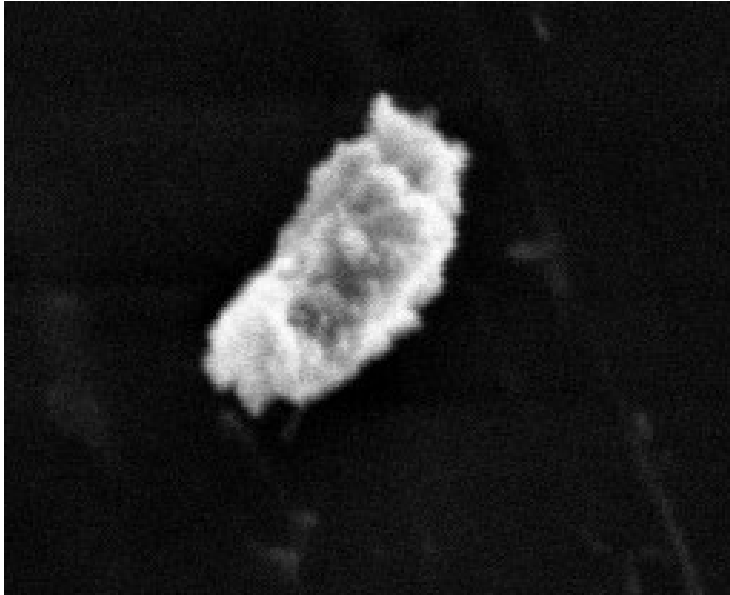
W7190 G18



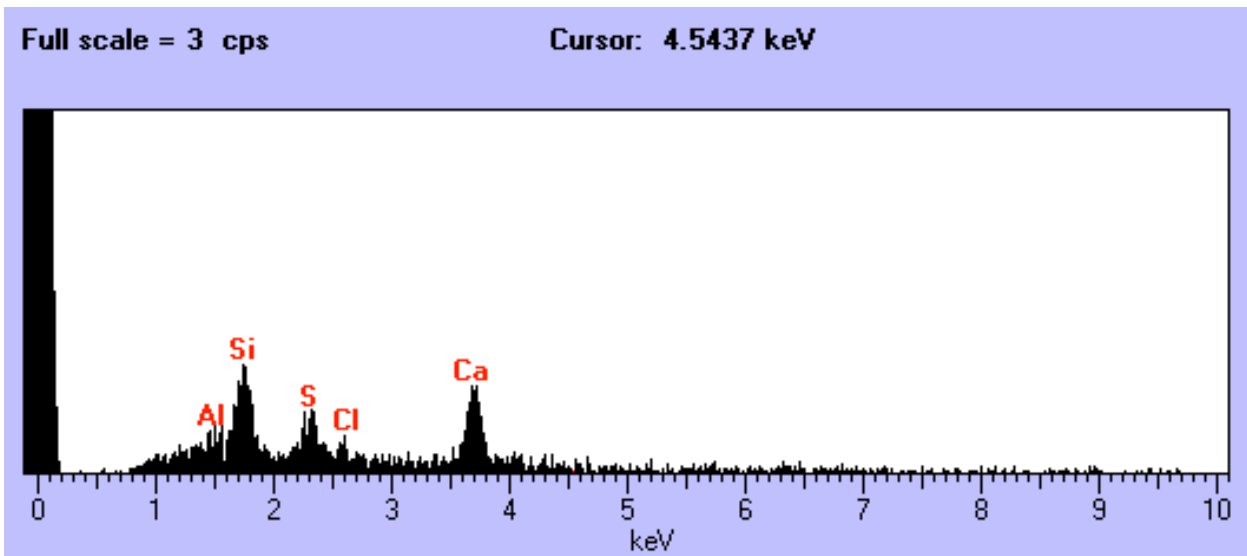
Size: 10 x 8 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: TCN
Comments:



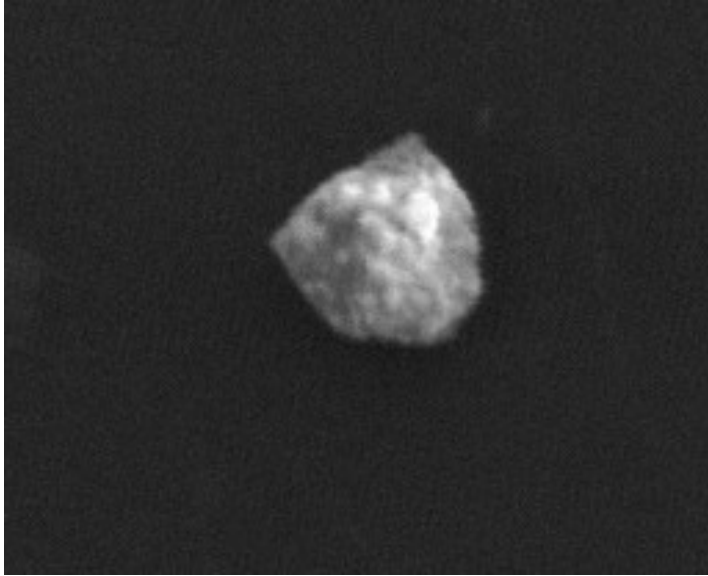
W7190 G19



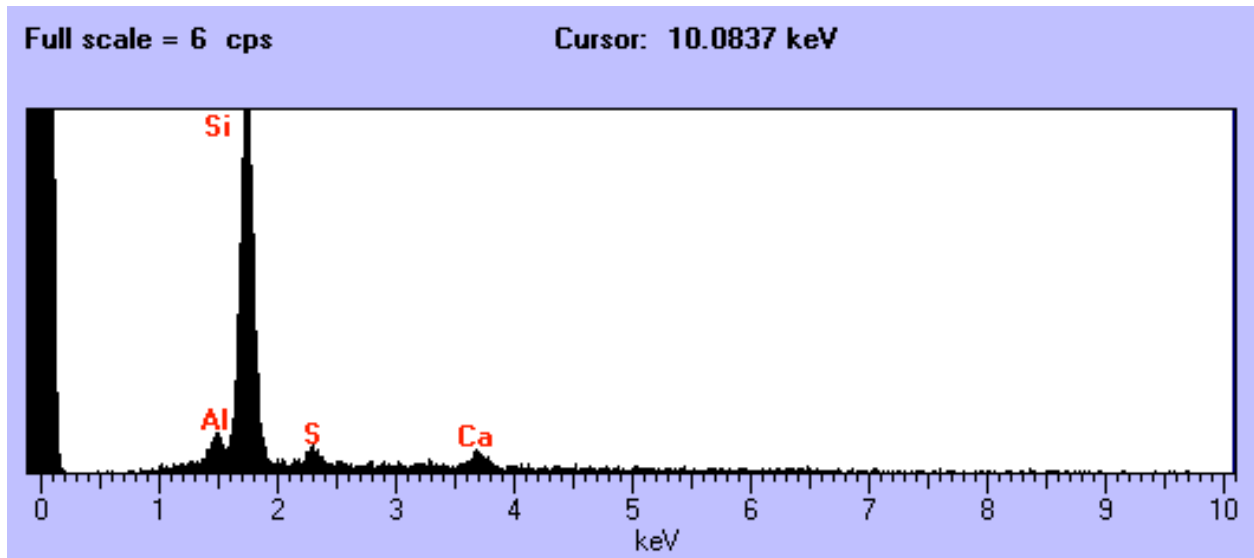
Size: 13 x 12 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCN
Comments:



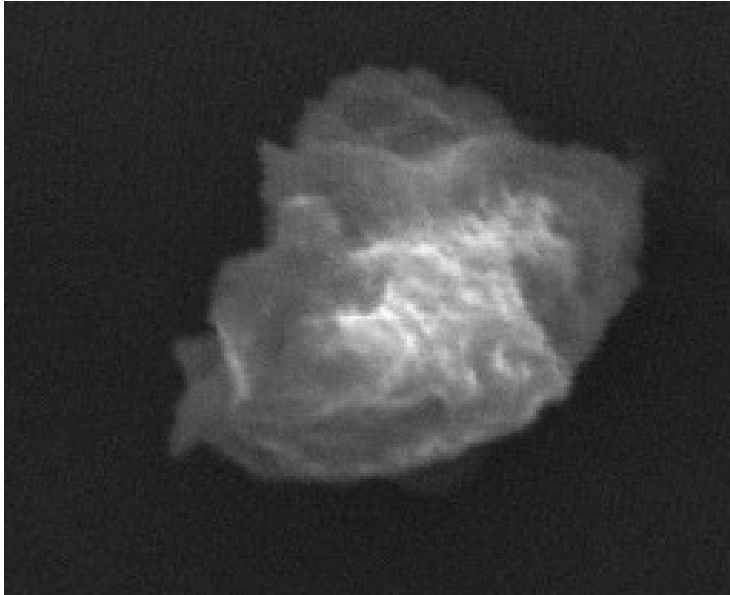
W7190 G26



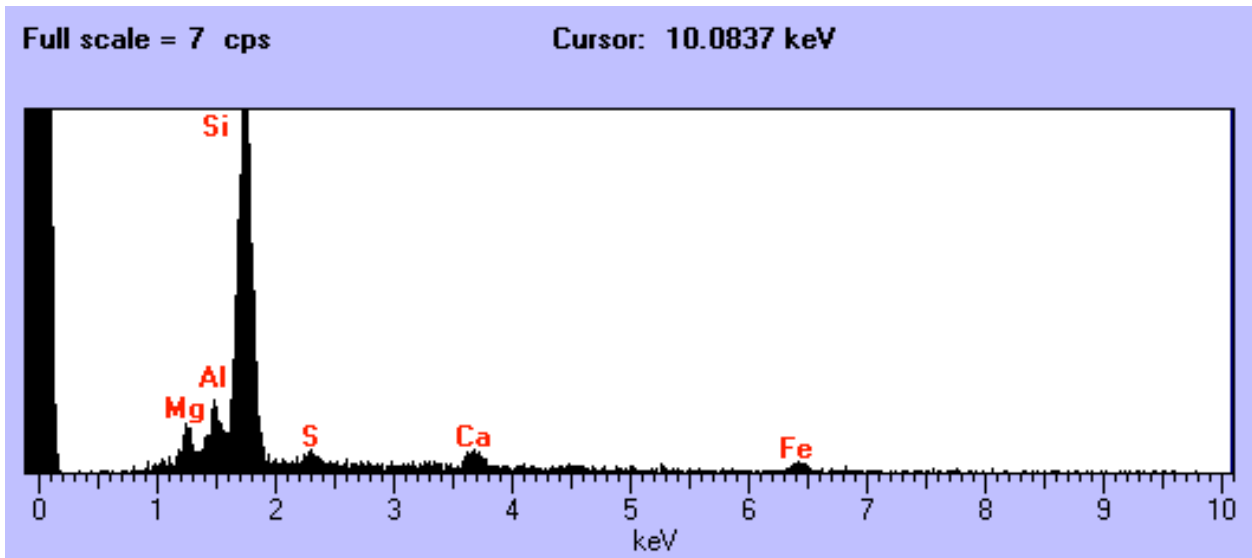
Size: 18 x 15 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCN
Comments:



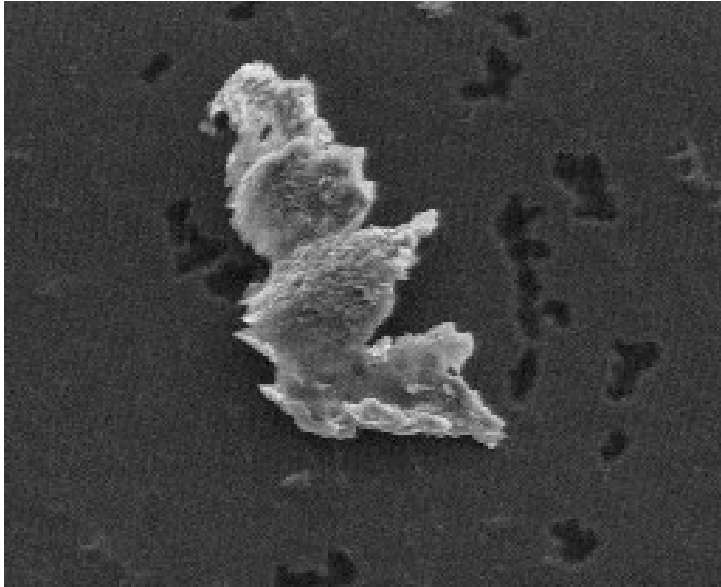
W7190 G27



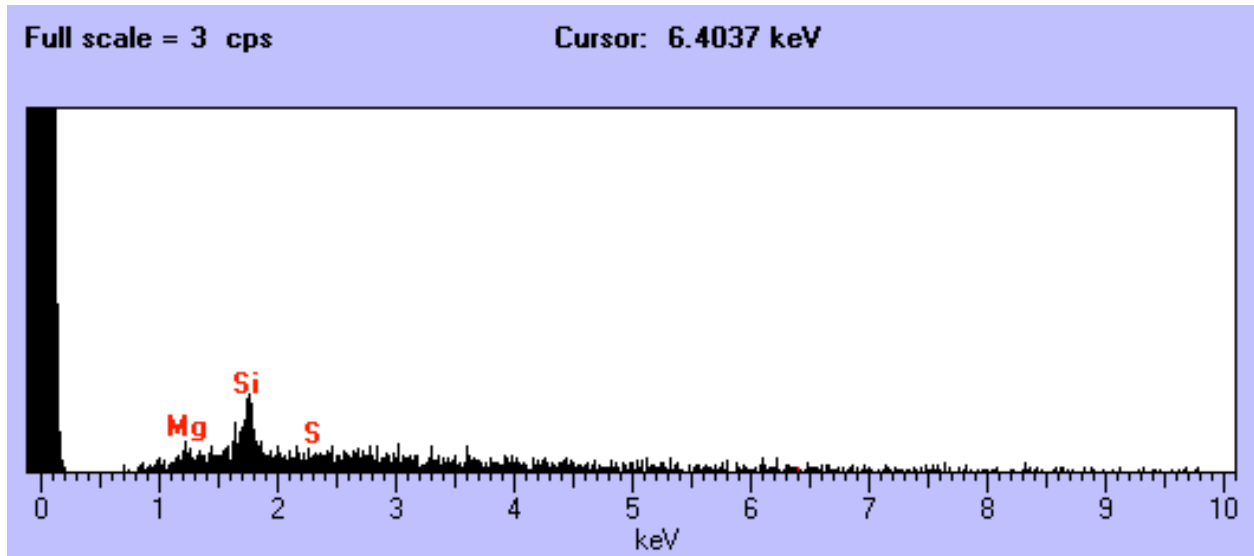
Size: 8 x 5 um
Shape: Irregular
Trans: Opaque
Color: Gray
Luster: Dull
Type: TCN
Comments:



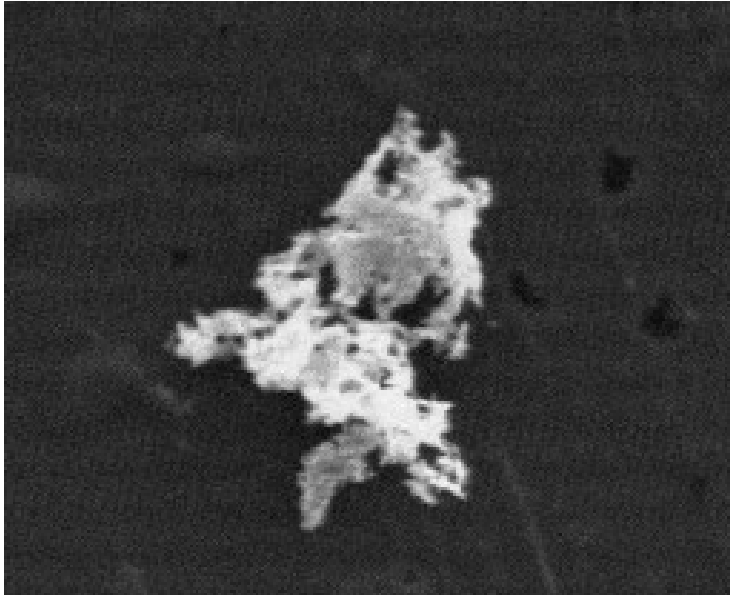
W7190 G31



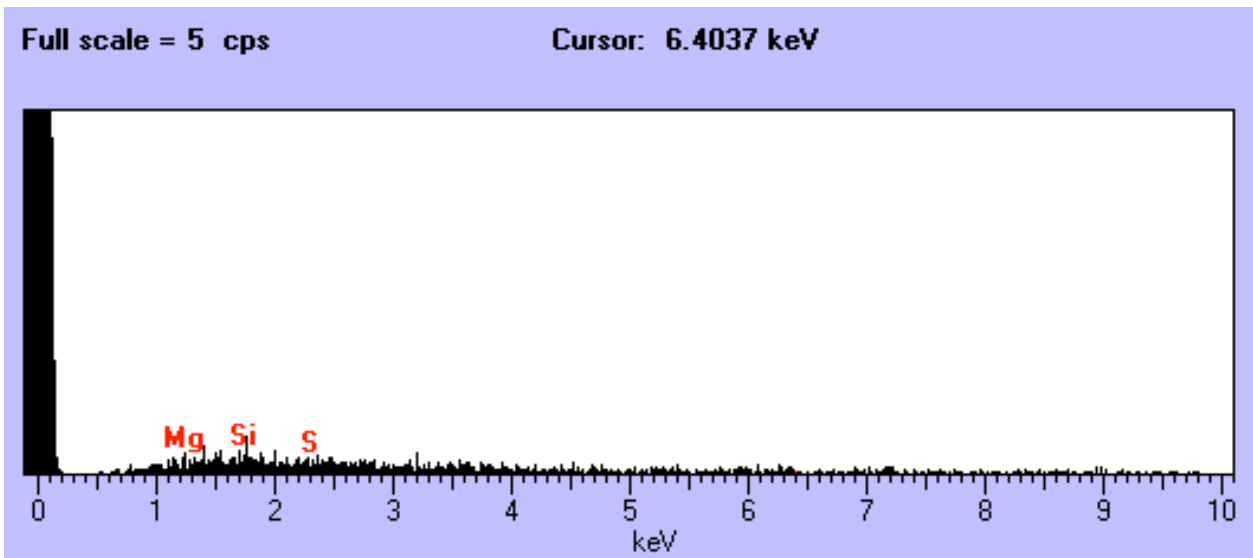
Size: 30 x 15 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: TCN
Comments:



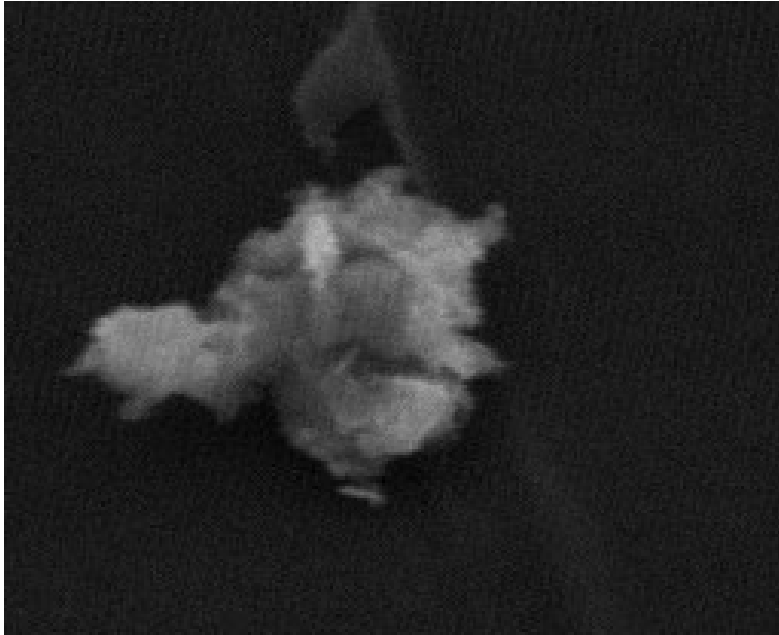
W7190 G32



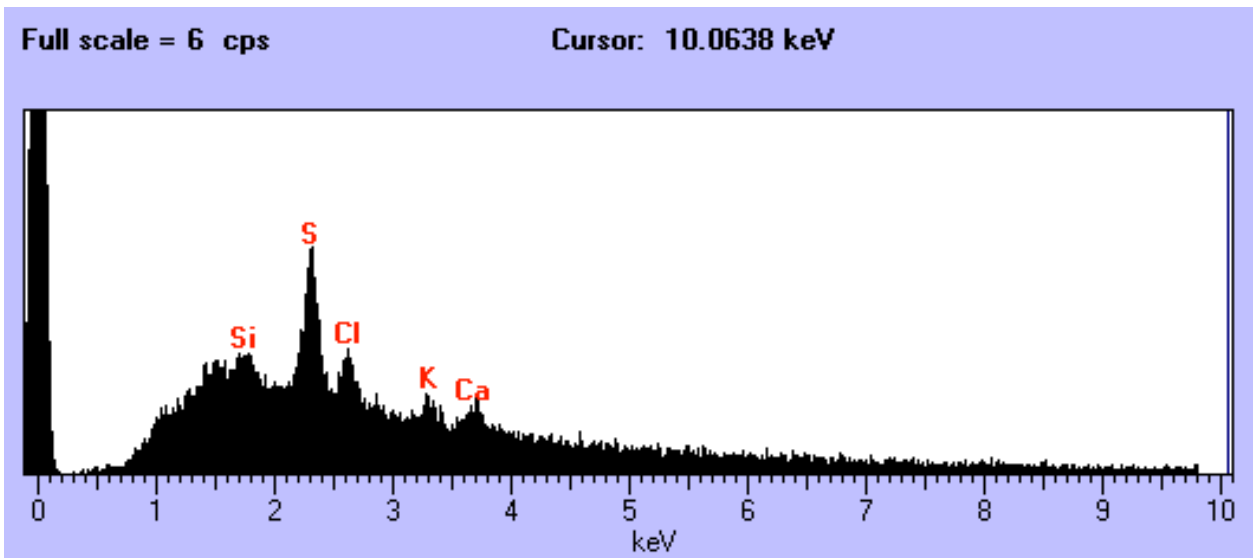
Size: 15 x 24 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: TCN?
Comments:



W7190 G33



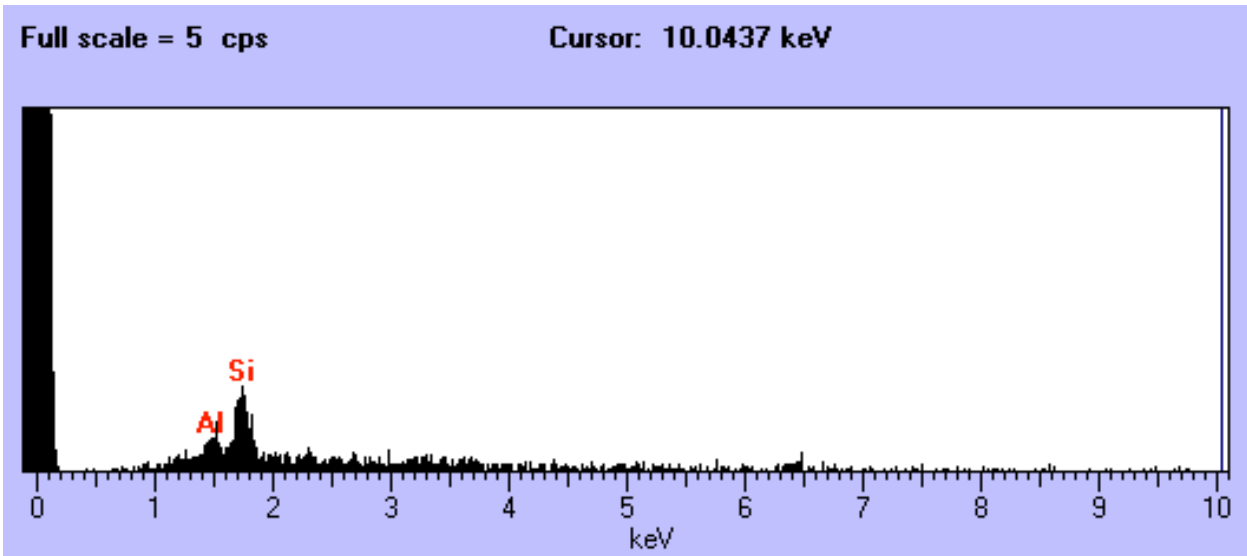
Size: 15 x 12 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: TCN
Comments:



W7190 G34



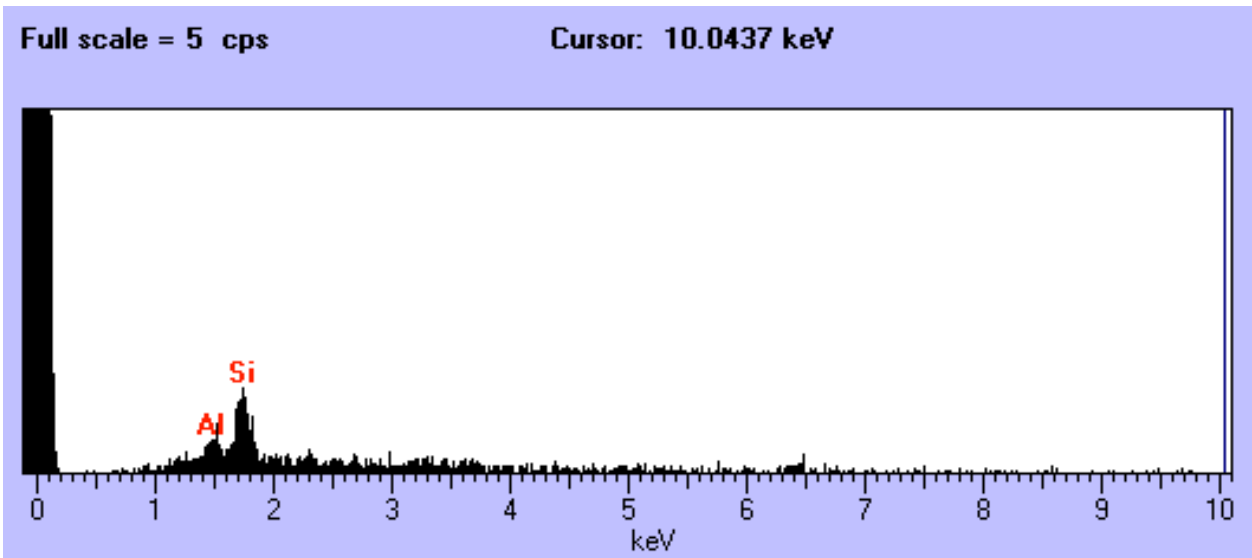
Size: 15 x 12 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: TCN
Comments:



W7190 G35



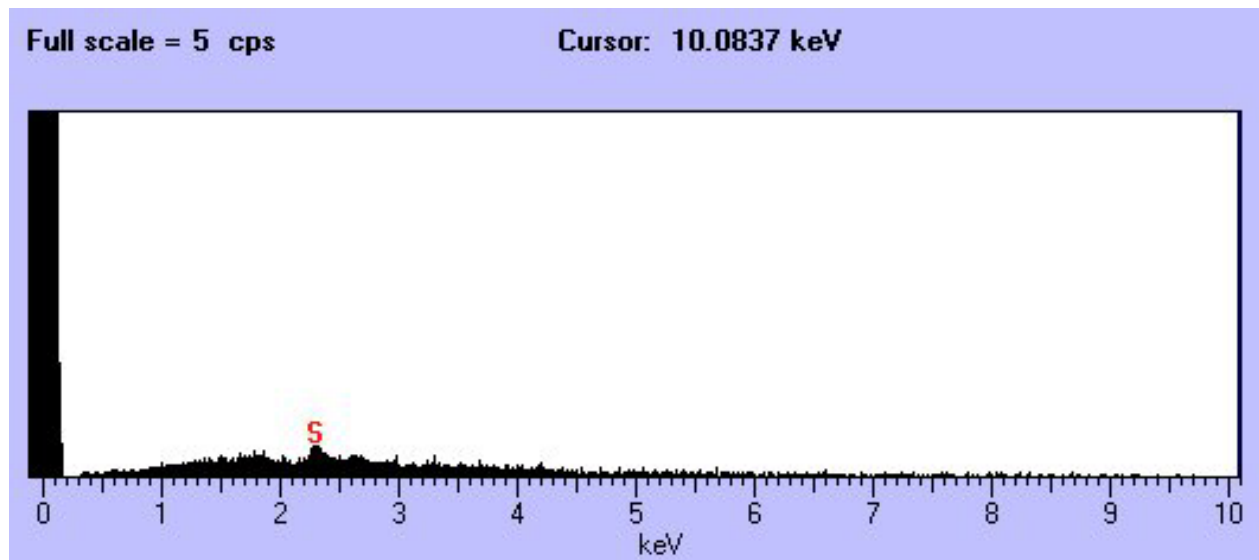
Size: 6 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCN
Comments: At lower left



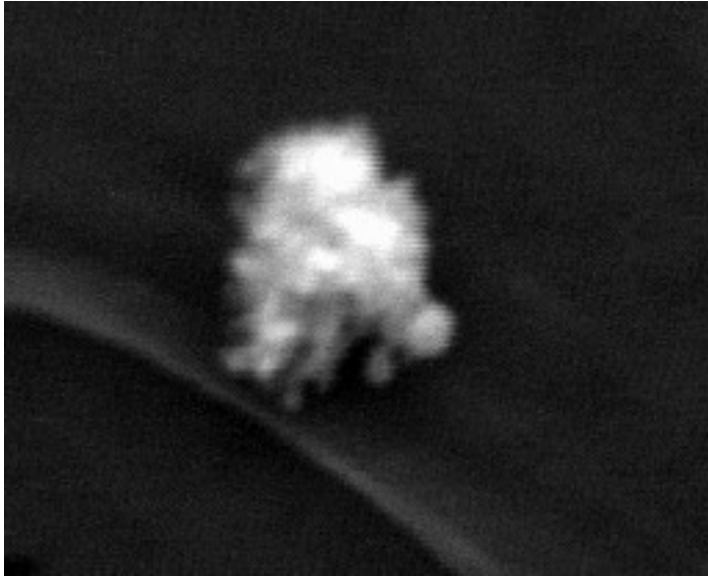
W7190 G40



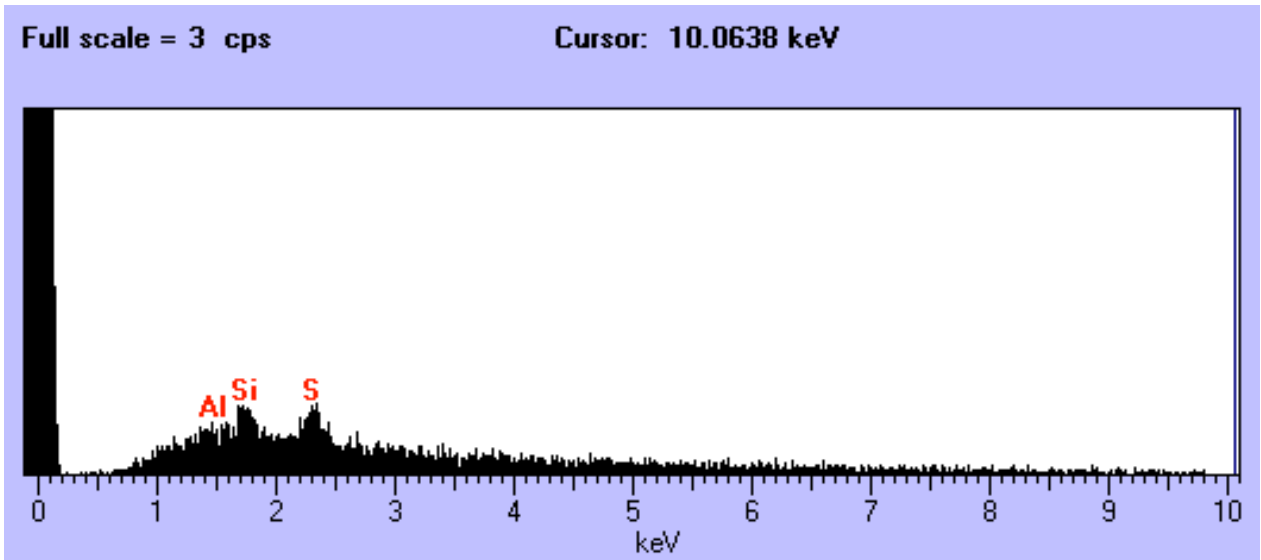
Size: 11 x 9 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCN?
Comments:



W7190 H-1a



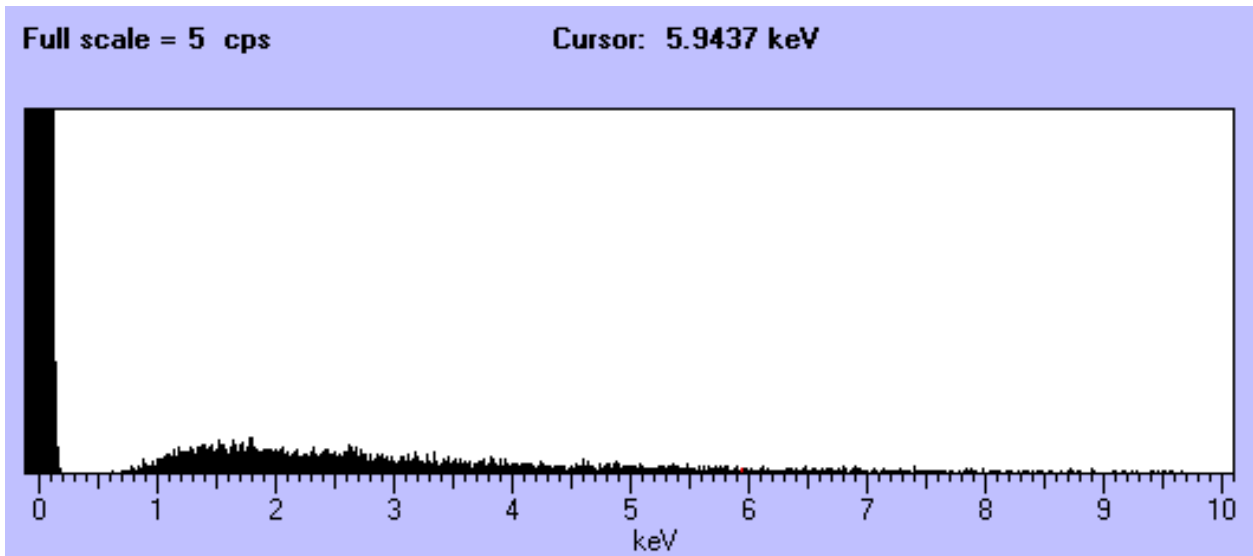
Size: 8 x 6 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: TCN
Comments:



W7190 H3



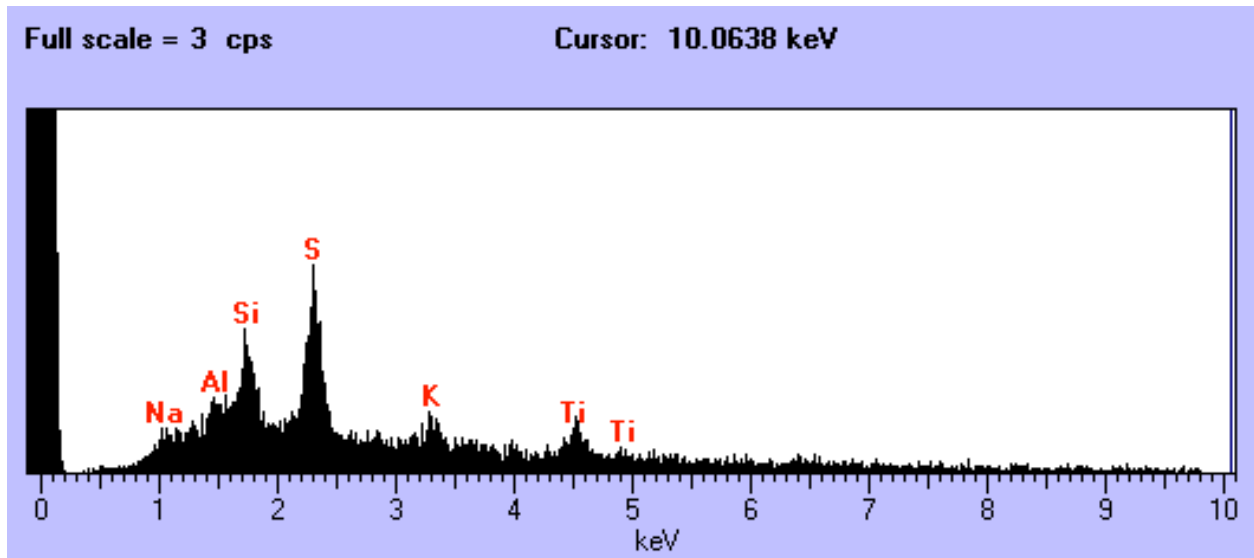
Size: 18 x 6 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: TCN
Comments:



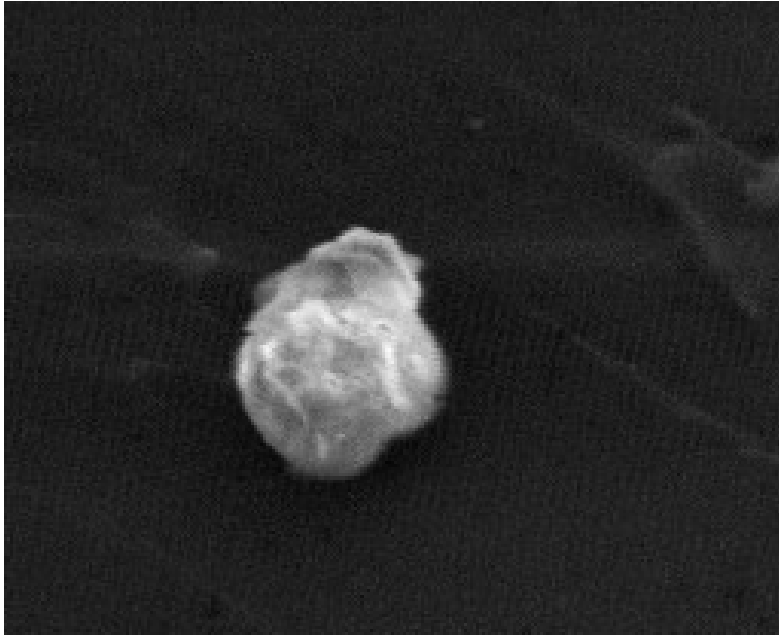
W7190 H4



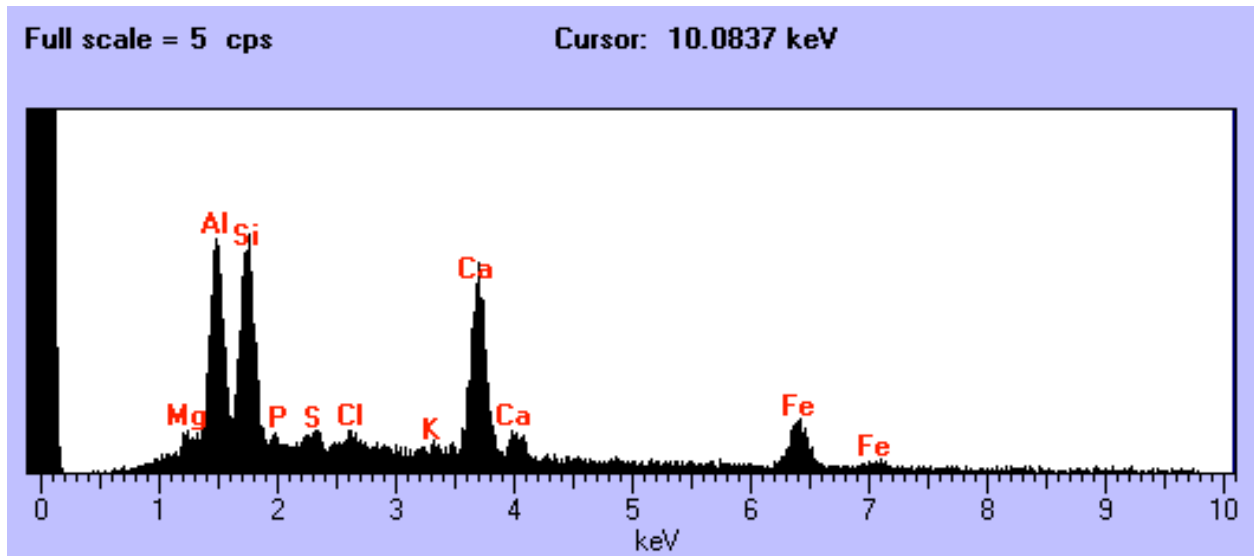
Size: 9 x 7 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: TCN
Comments:



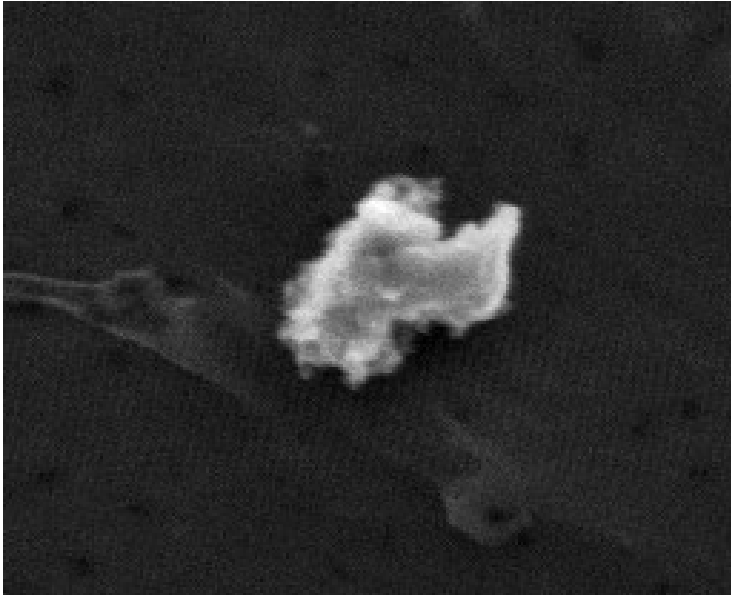
W7190 H5



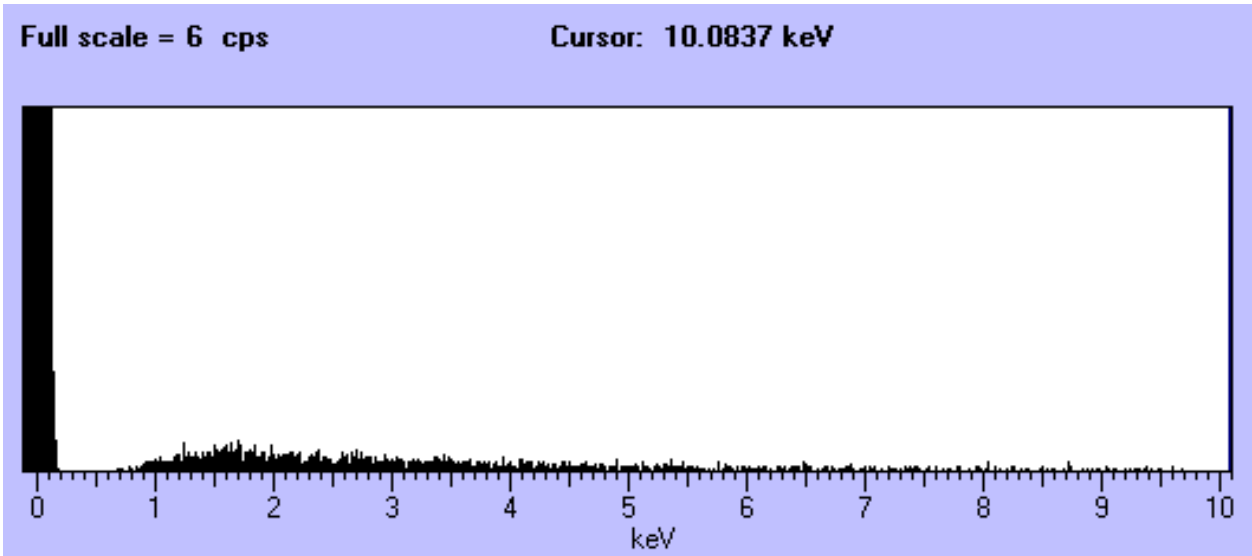
Size: 15 x 14 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: TCN
Comments:



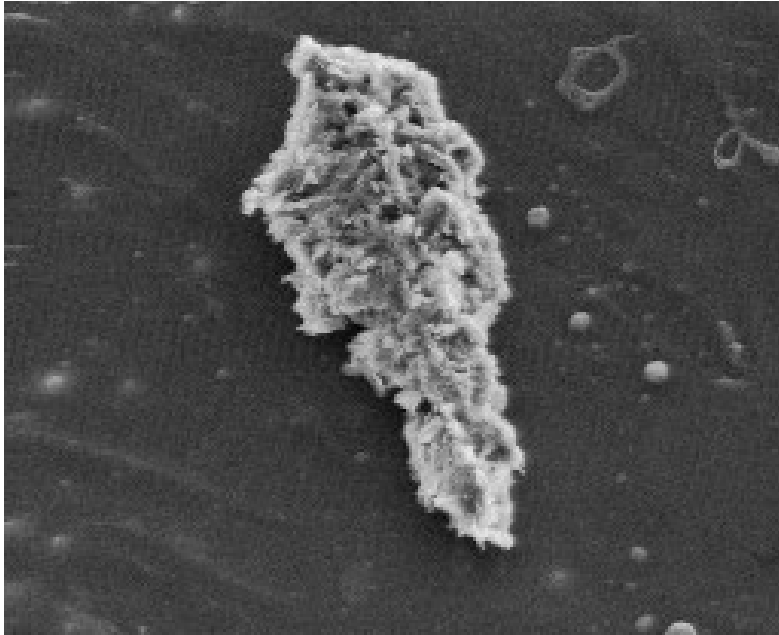
W7190 H8



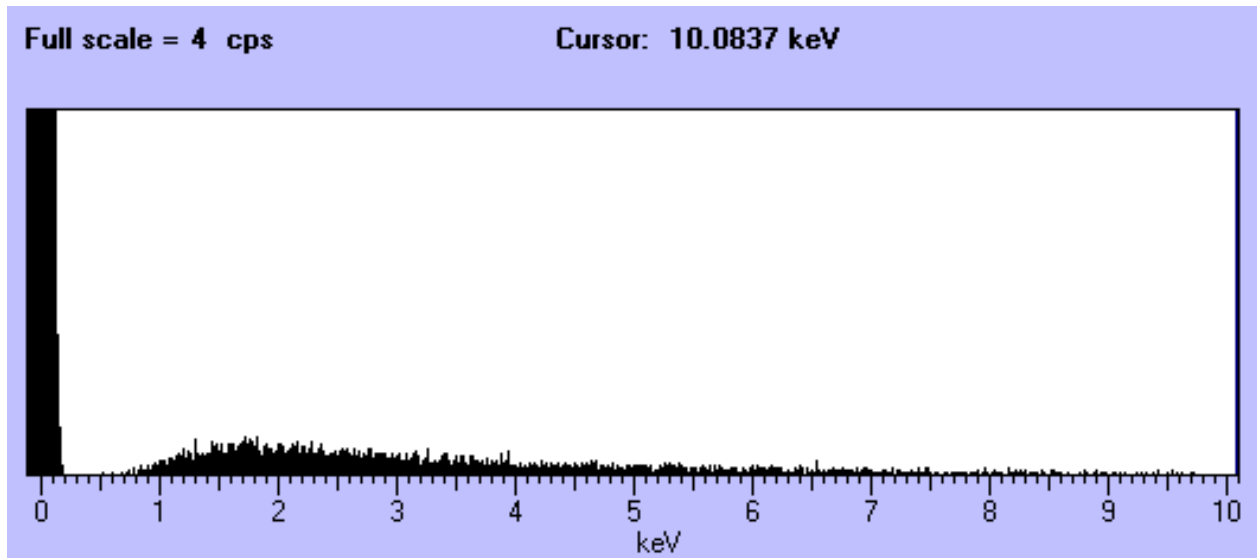
Size: 12 x 9 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: TCN
Comments:



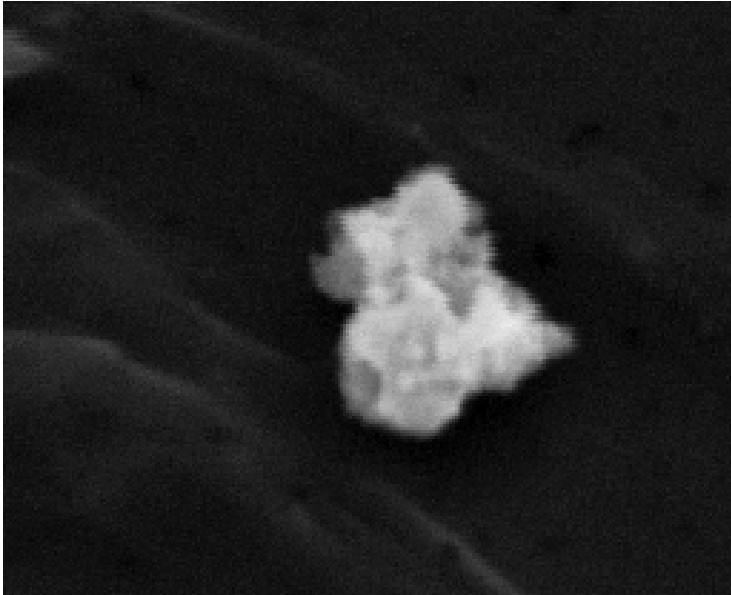
W7190 H10



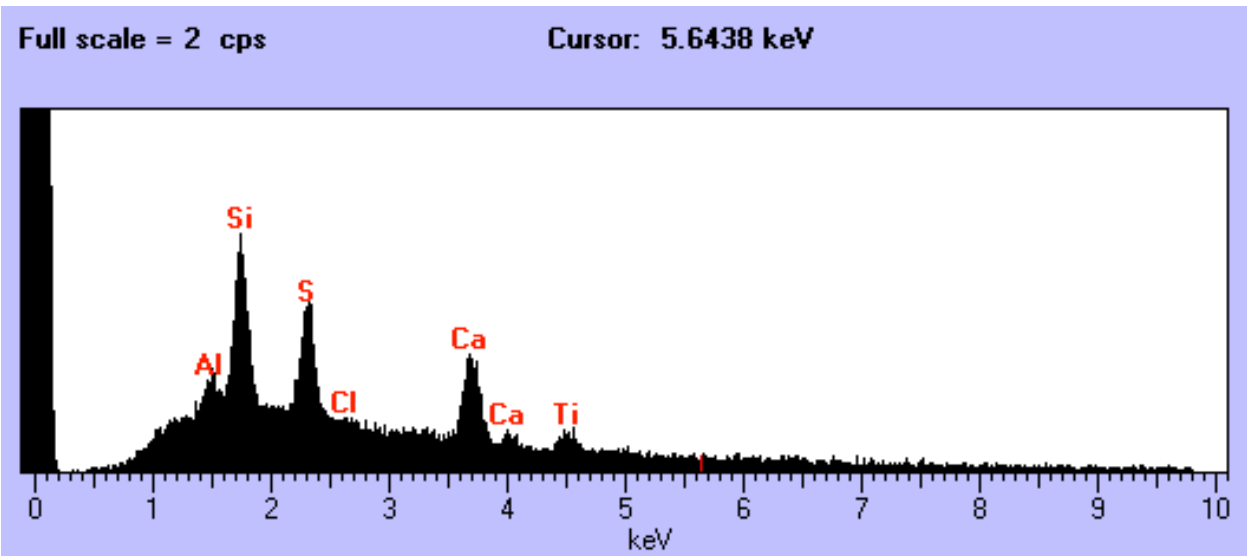
Size: 64 x 30 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Submetallic
Type: TCN
Comments:



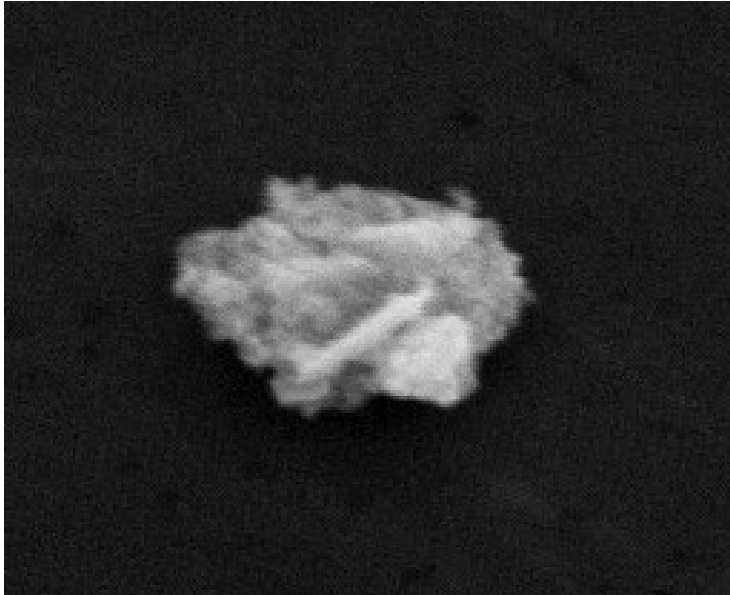
W7190 H13



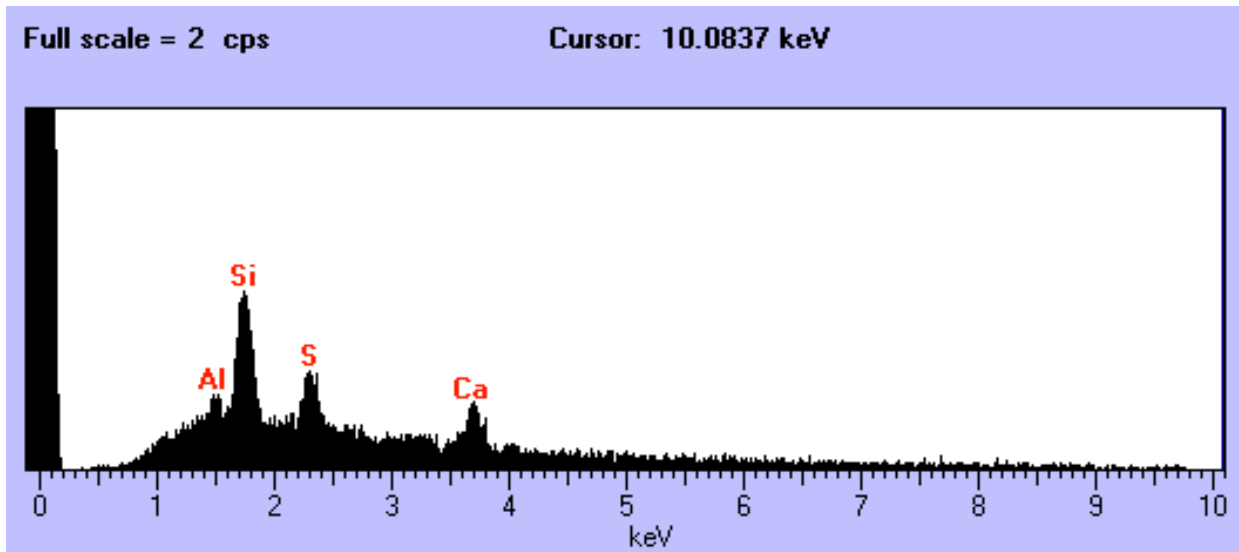
Size: 13 x 12 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: TCN
Comments:



W7190 H15



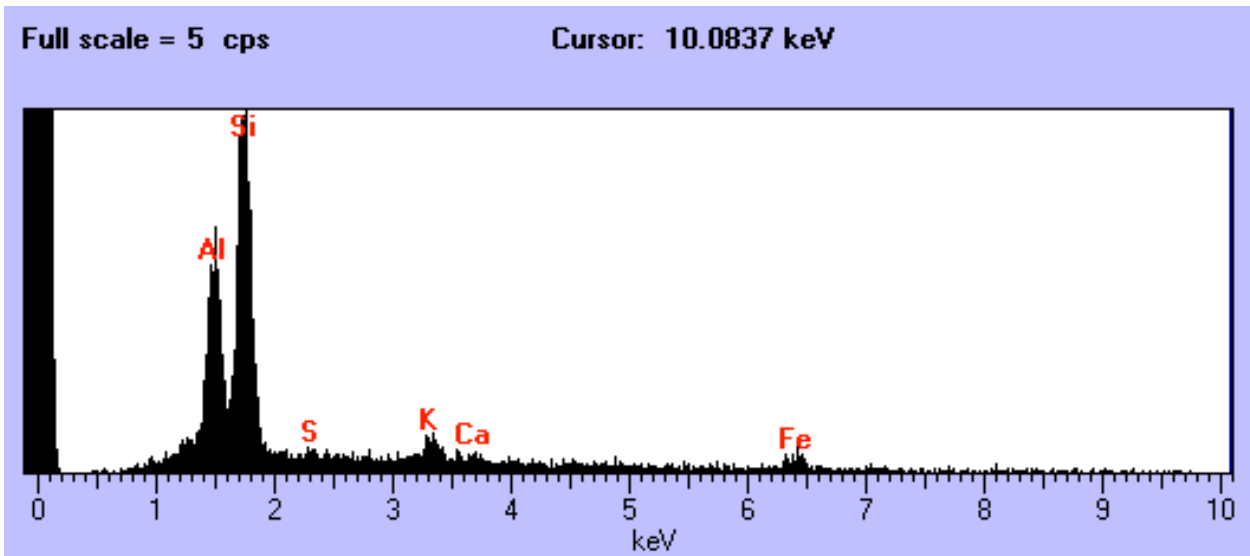
Size: 12 x 10 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: TCN
Comments:



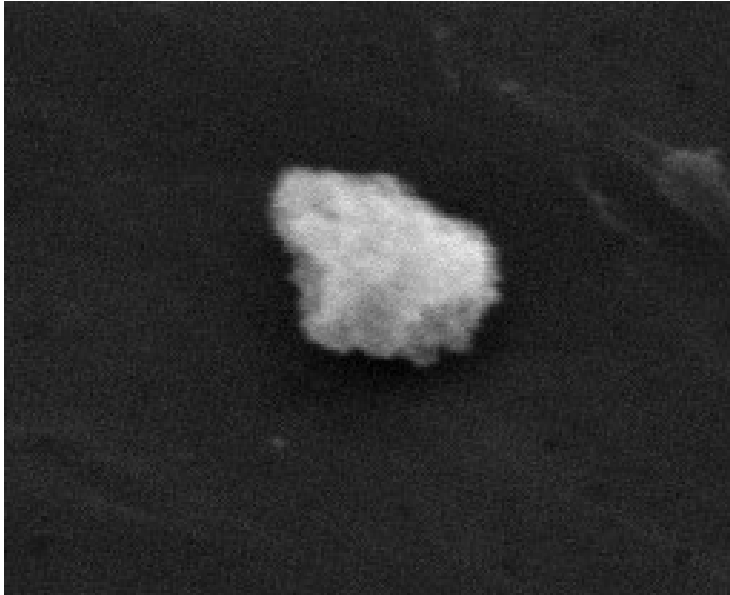
W7190 H16



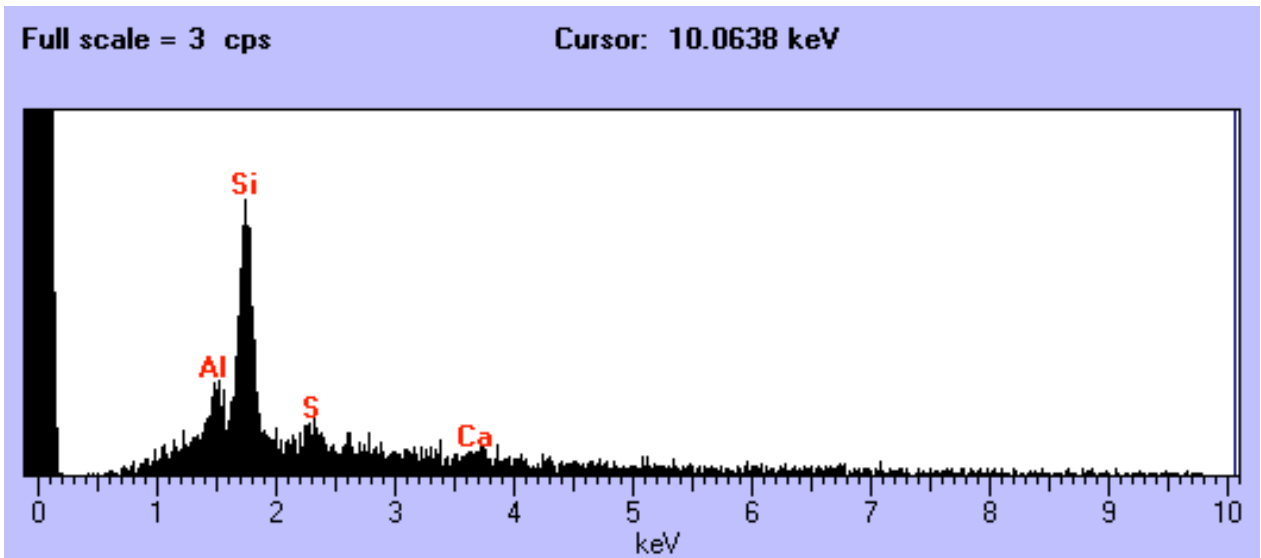
Size: 13 x 11 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCN
Comments:



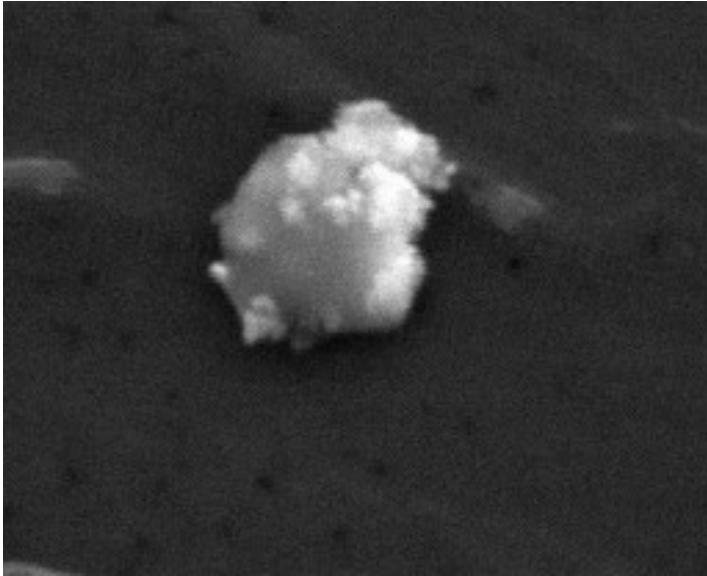
W7190 H17



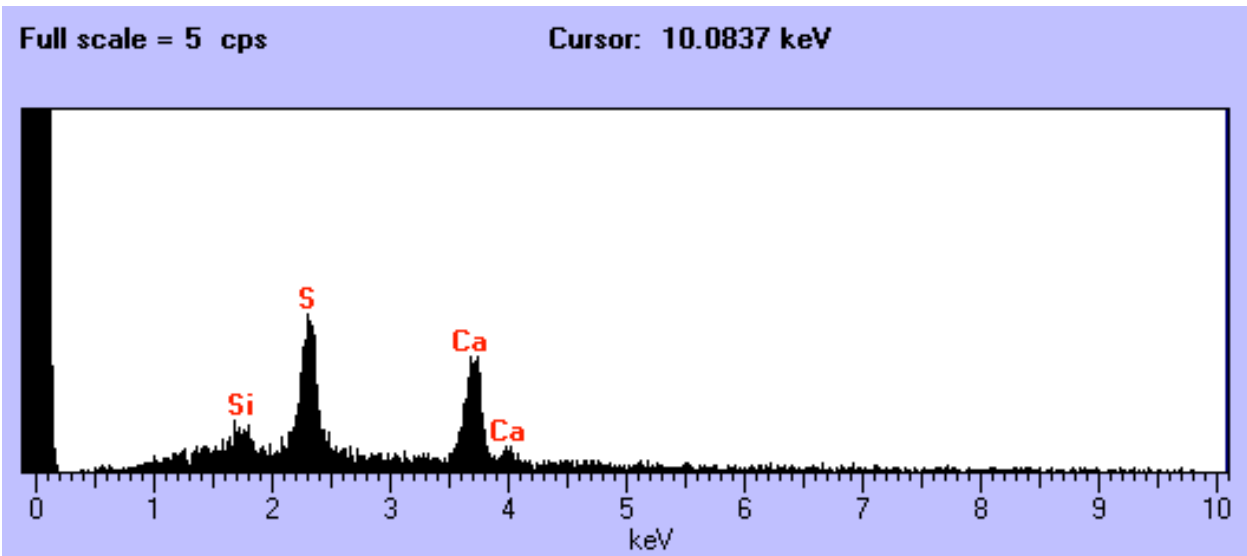
Size: 10 x 10 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Subvitreous
Type: TCN
Comments:



W7190 H18



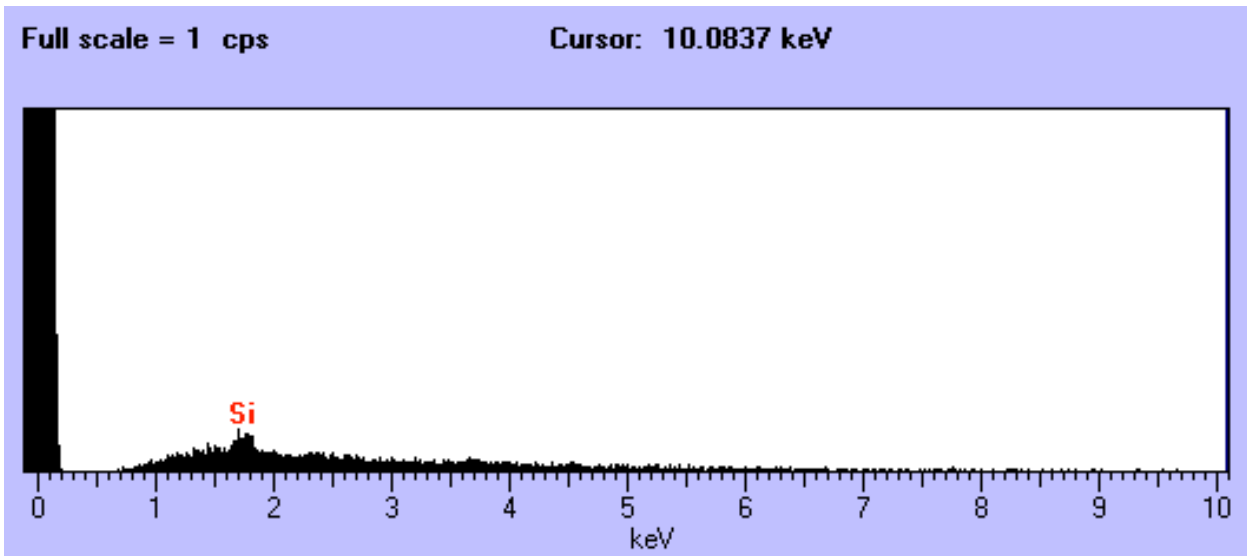
Size: 11 x 9 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCN
Comments:



W7190 H19



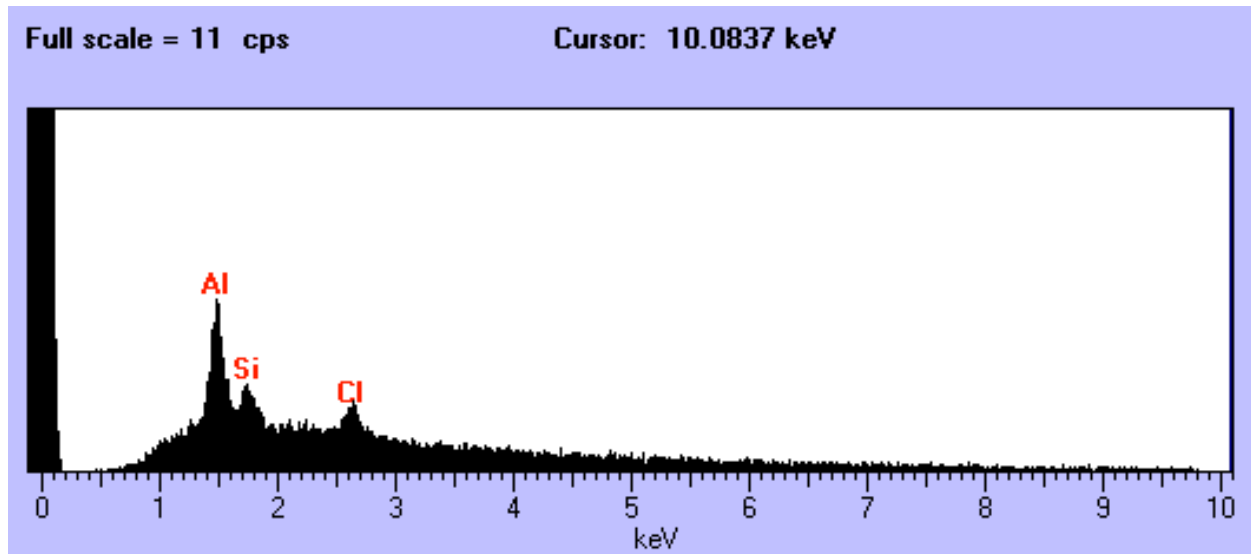
Size: 4 x 4 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCN
Comments:



W7190 H20



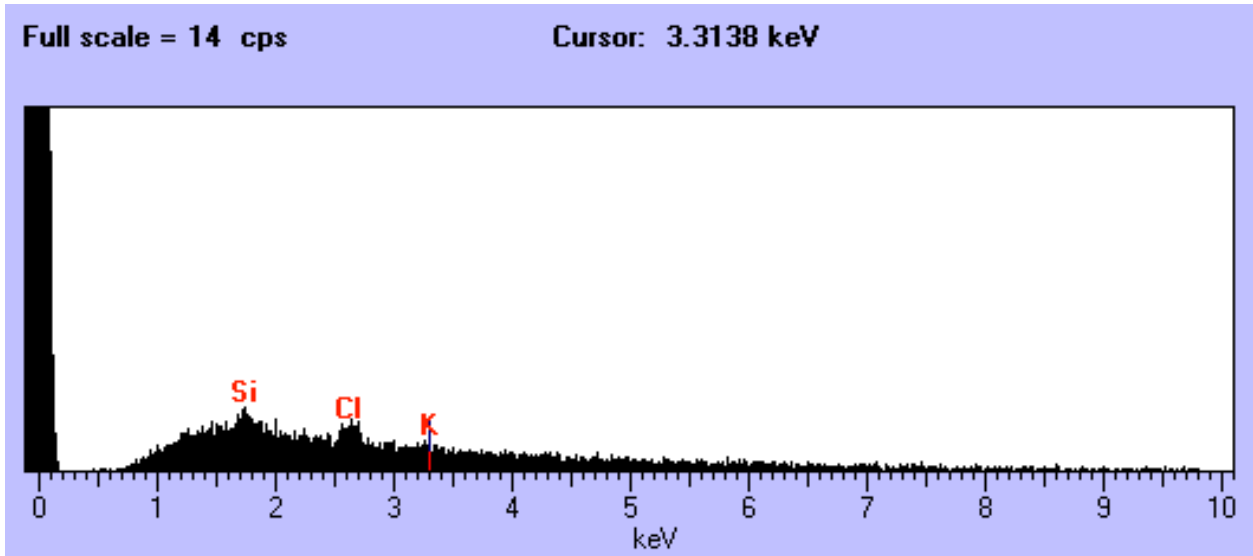
Size: 13 x 8 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: TCN
Comments:



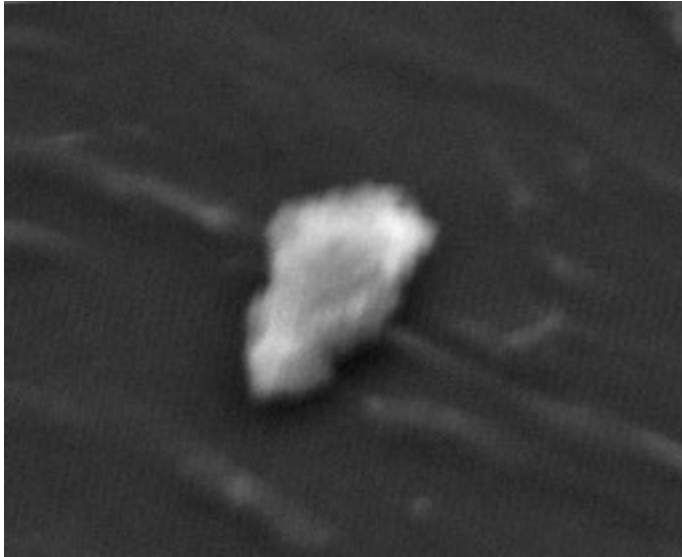
W7190 H22



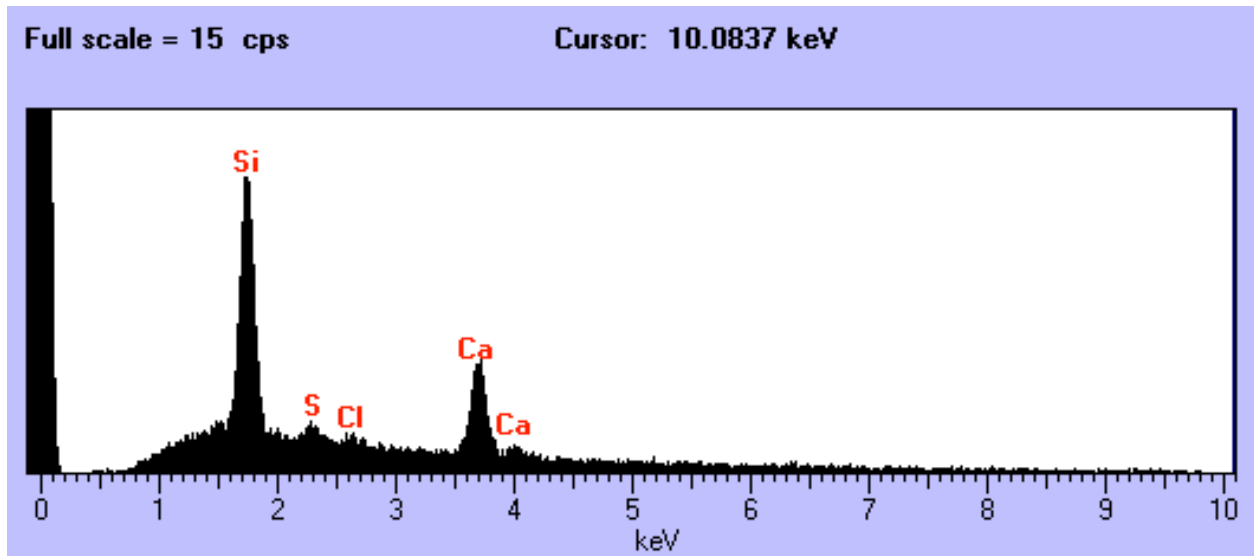
Size: 16 x 12 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: TCN
Comments:



W7190 I1



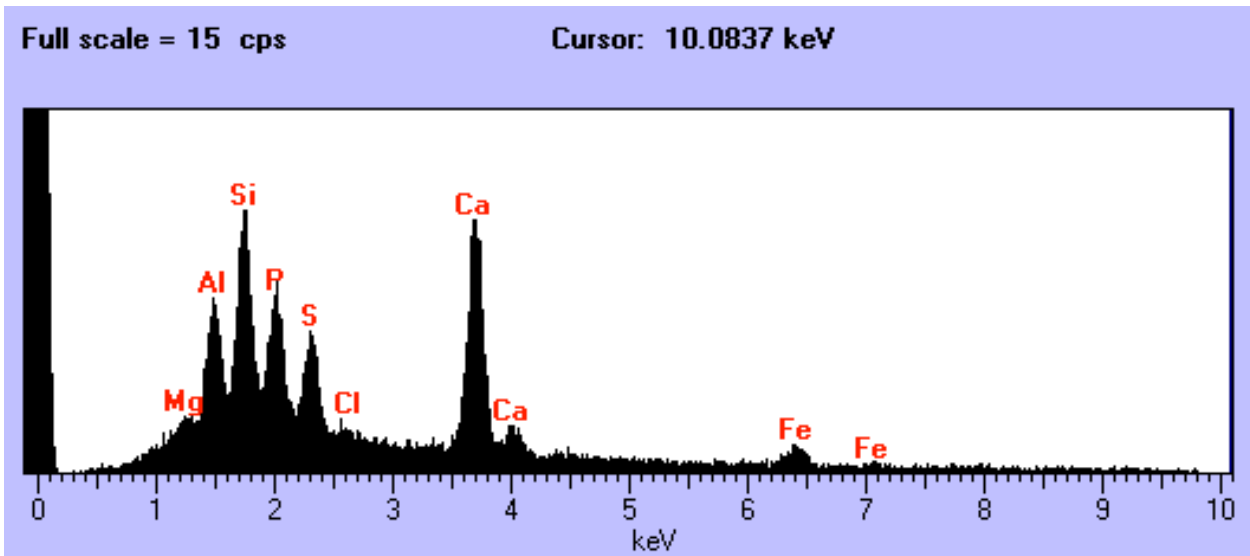
Size: 11 x 8 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: TCN
Comments:



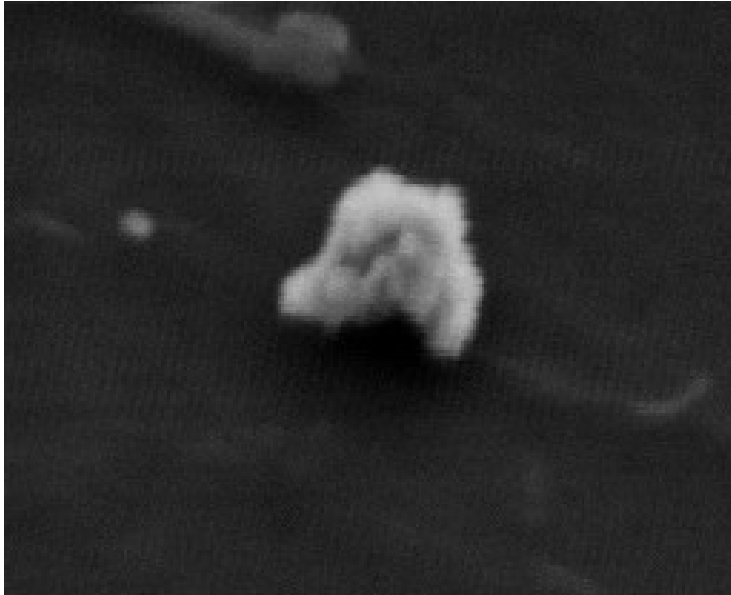
W7190 I3



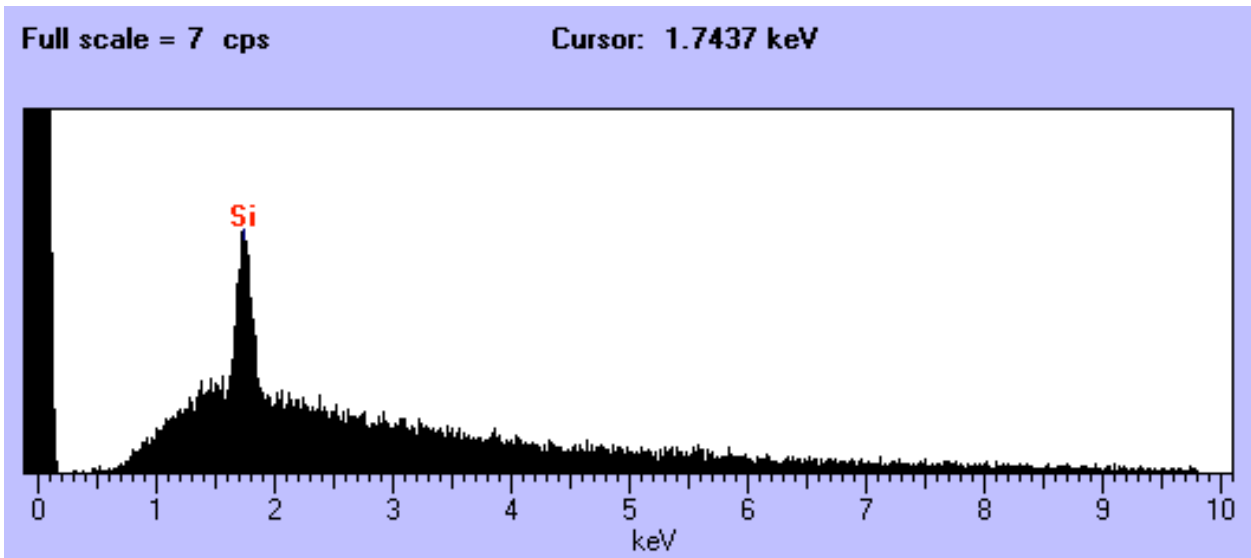
Size: 8 x 7 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: TCN
Comments:



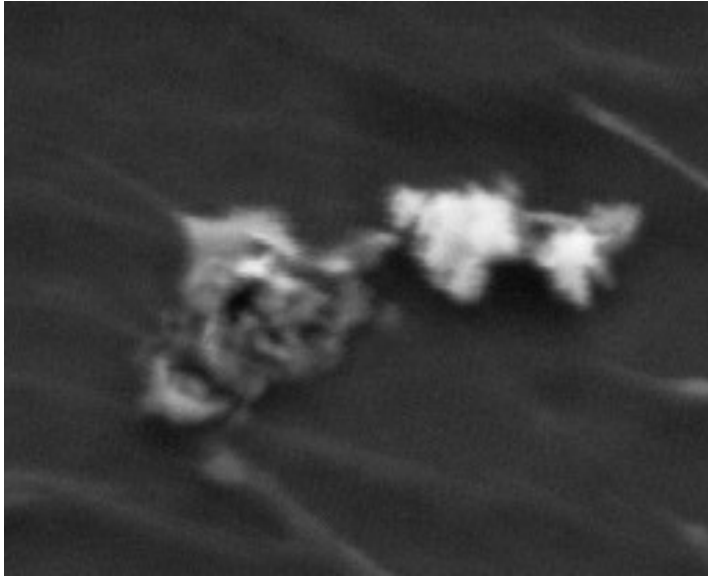
W7190 I9



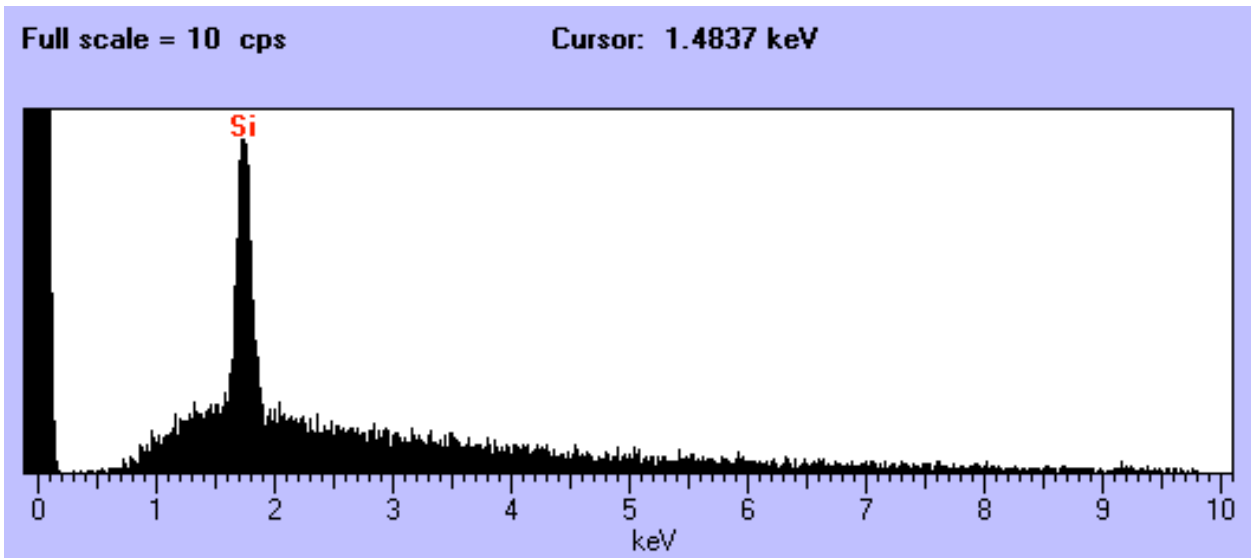
Size: 10 x 8 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: TCN
Comments:



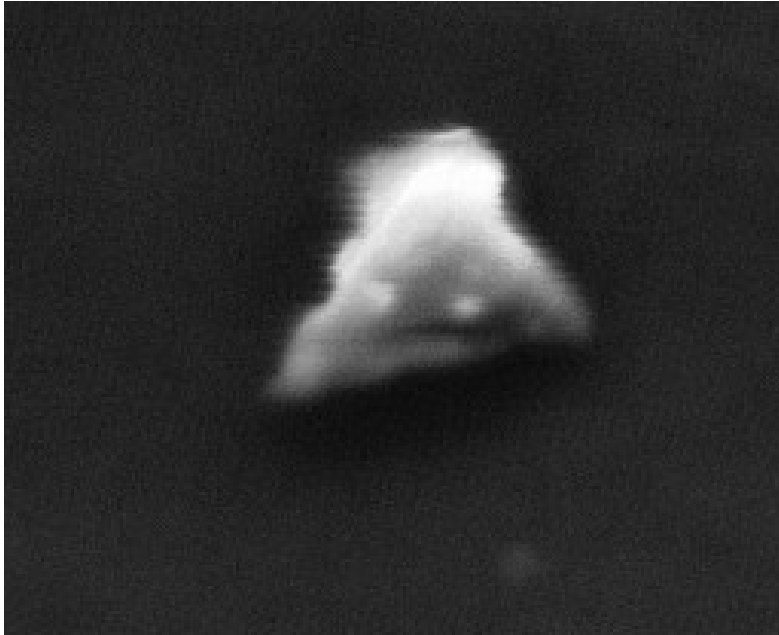
W7190 I10



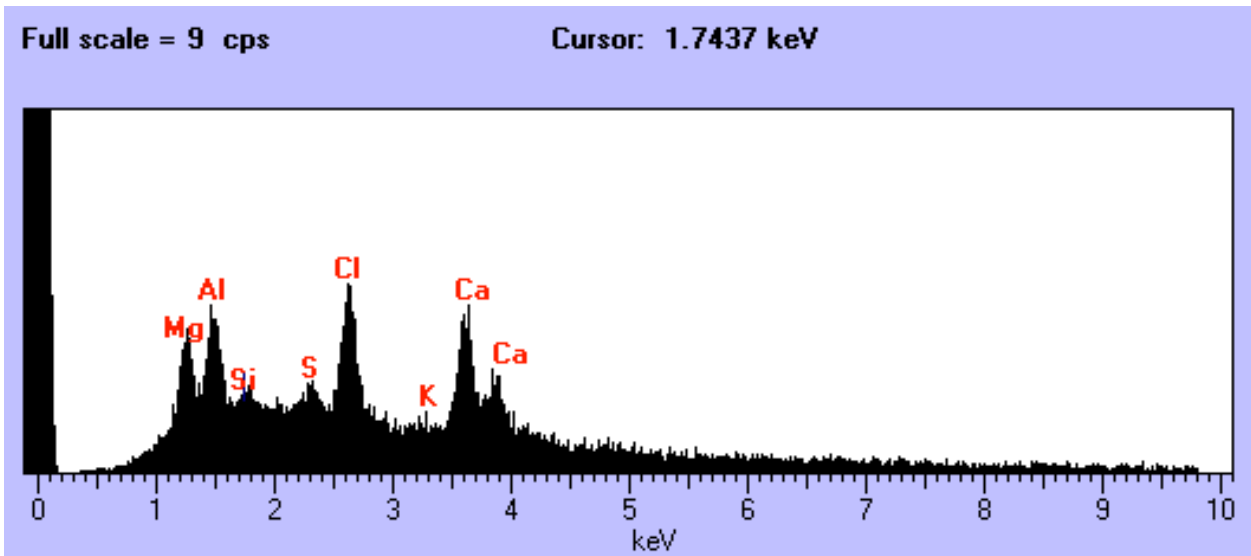
Size: 28 x 16 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: TCN
Comments:



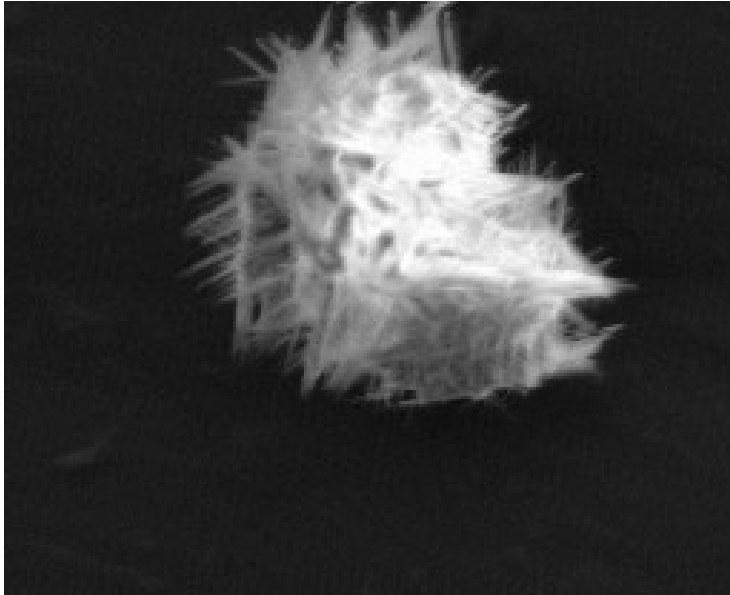
W7190 I12



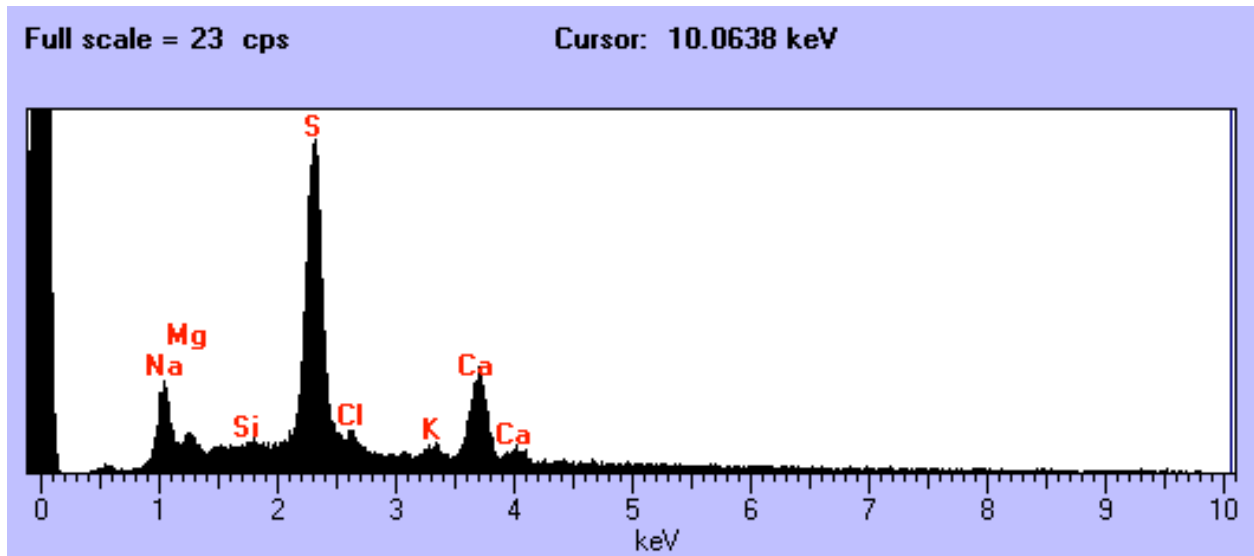
Size: 16 x 12 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCN
Comments:



W719 I14



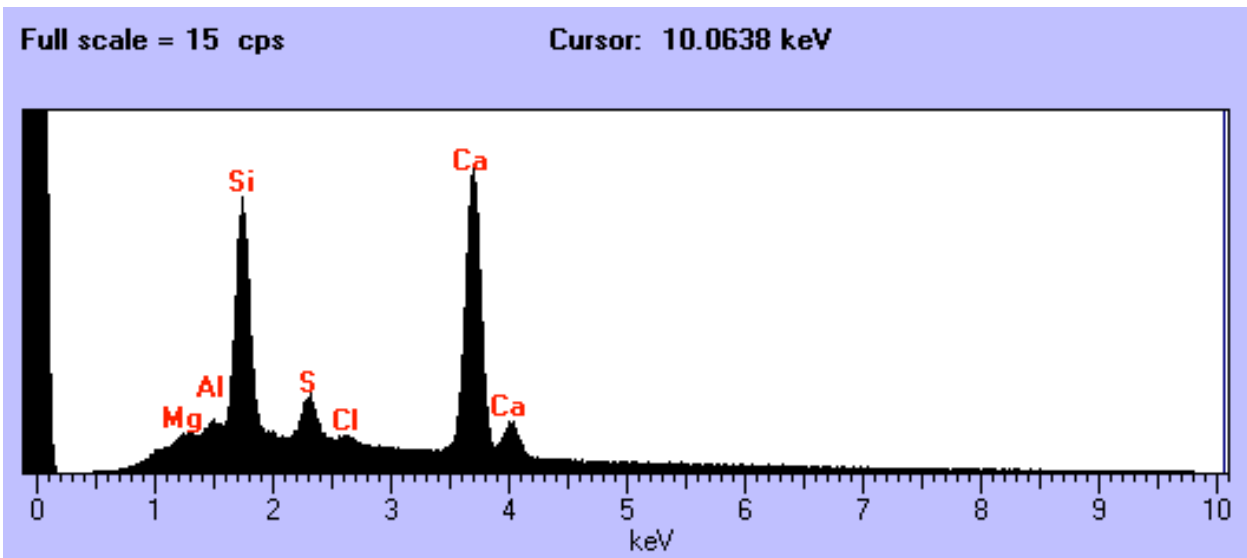
Size: 75 x 50 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Dull
Type: TCN?
Comments: Unusual morphology



W7190 I15



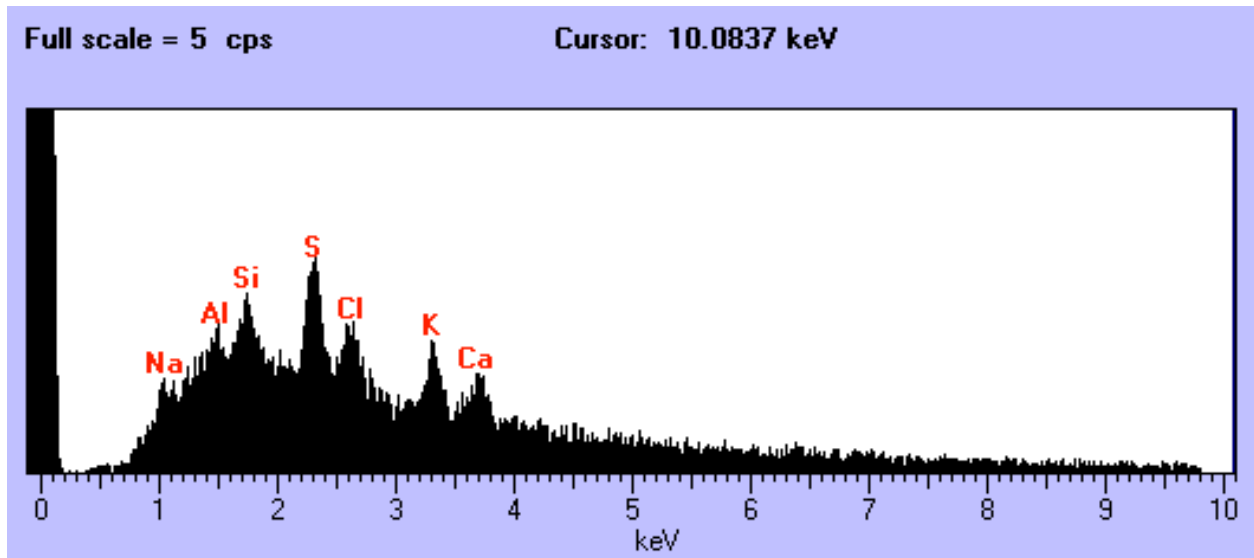
Size: 20 x 10 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: TCN
Comments:



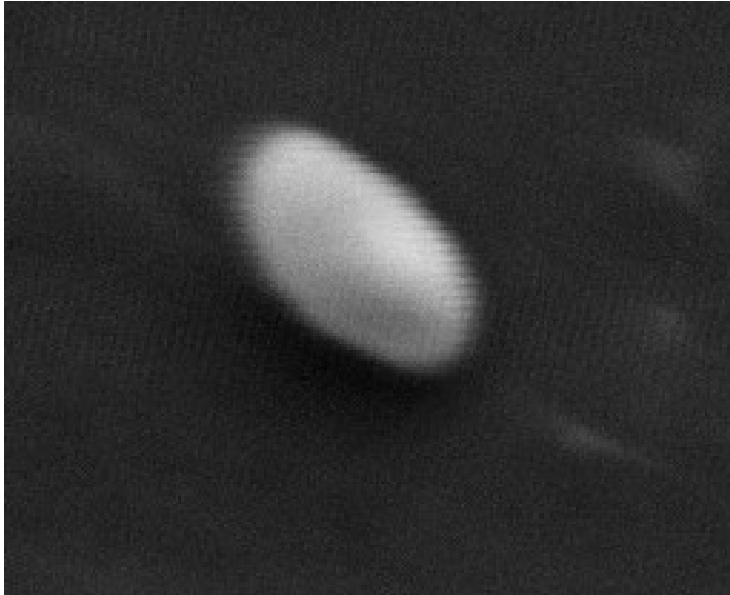
W7190 I18



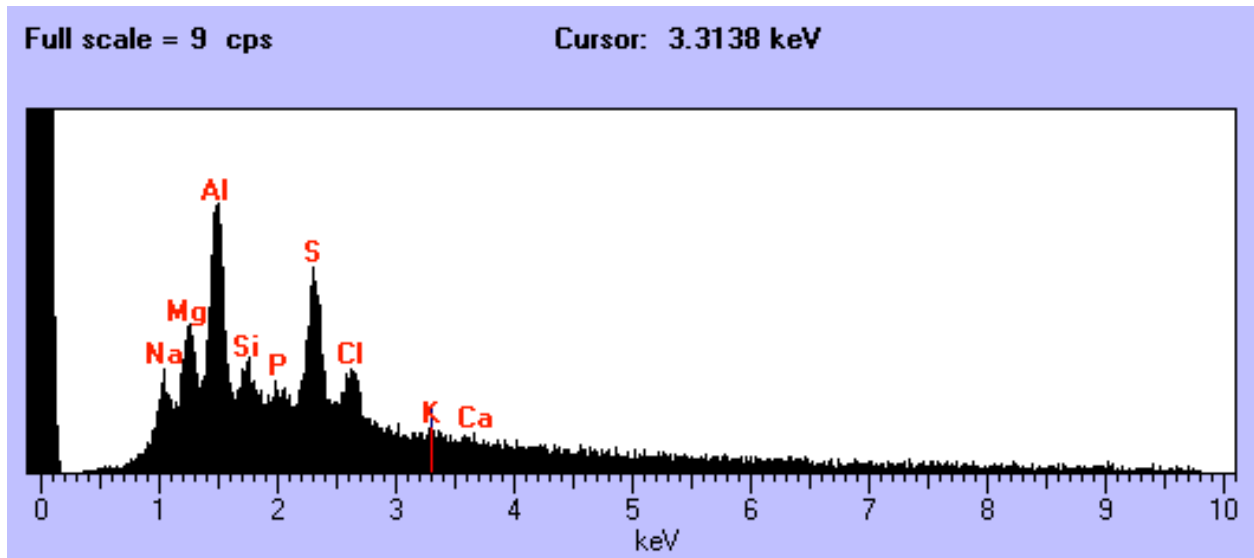
Size: 25 x 14 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCN
Comments:



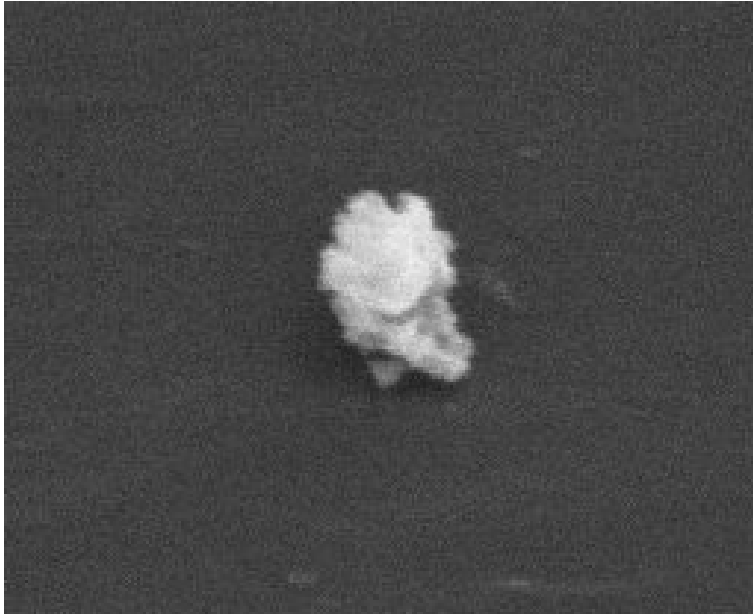
W7190 I21



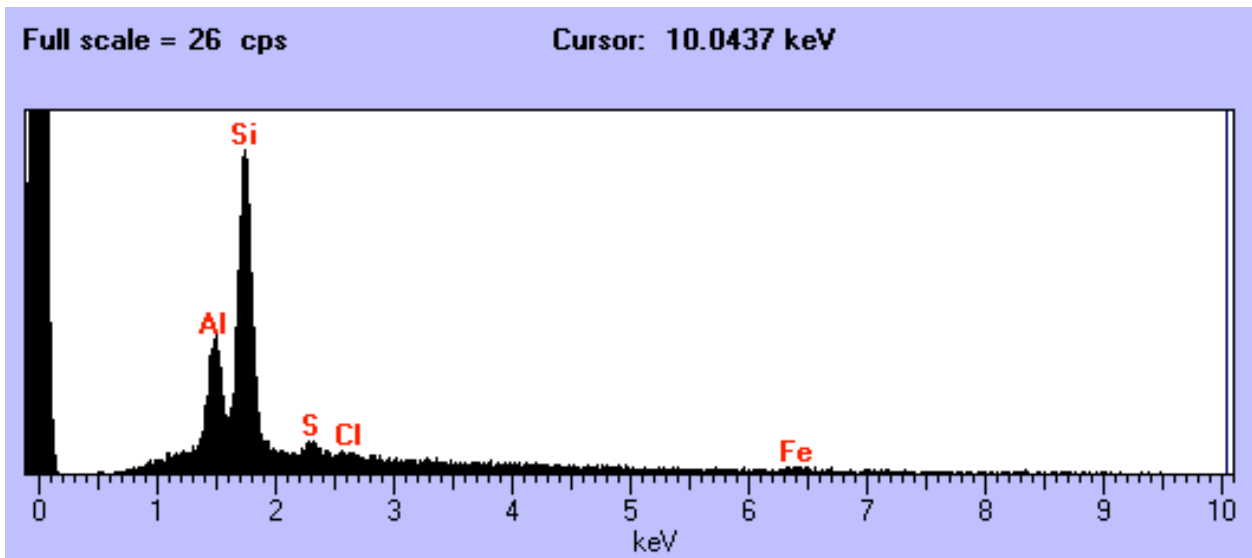
Size: 12 x 8 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCN
Comments:



W7190 I23



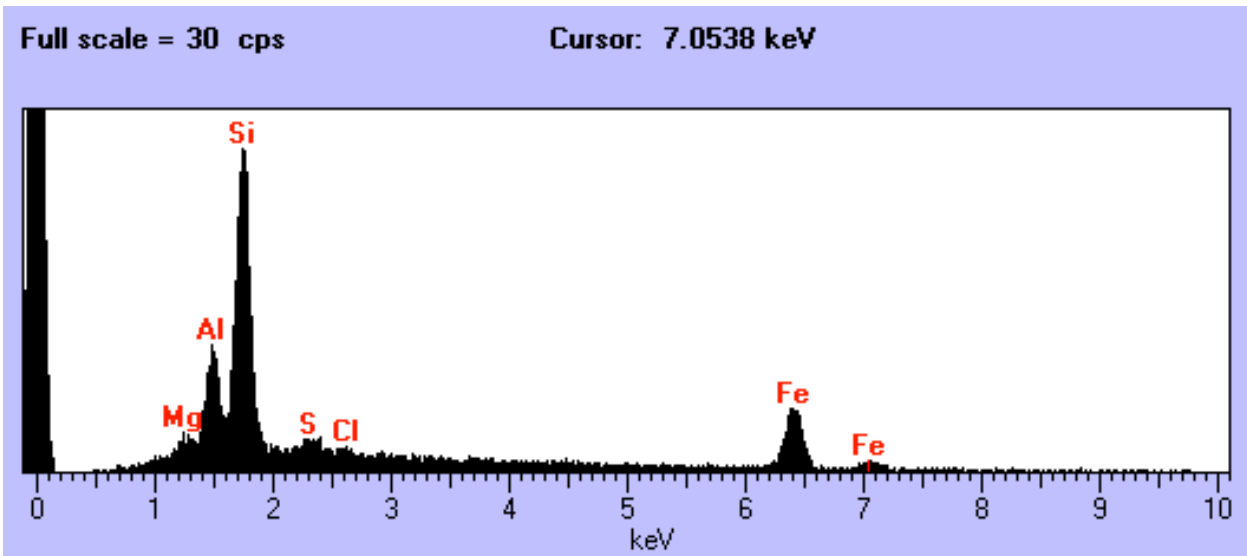
Size: 16 x 12 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: TCN
Comments:



W7190 I28



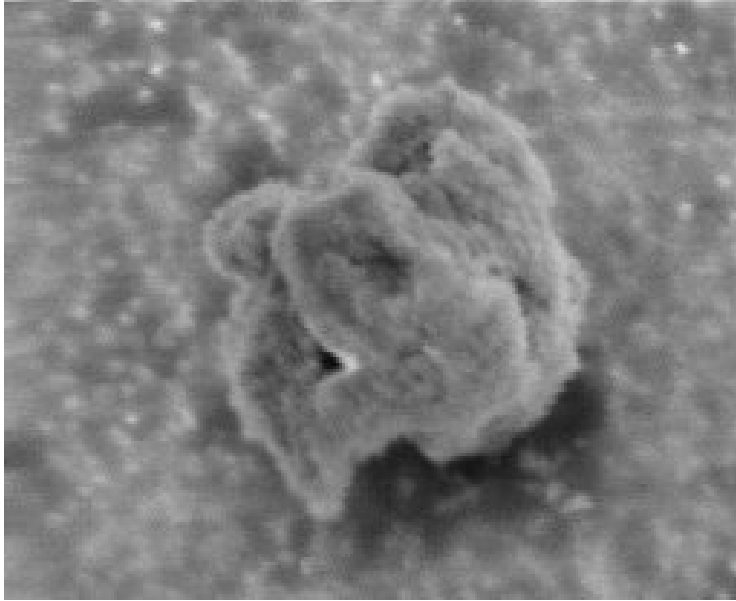
Size: 12 x 10 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCN
Comments: Cosmic?



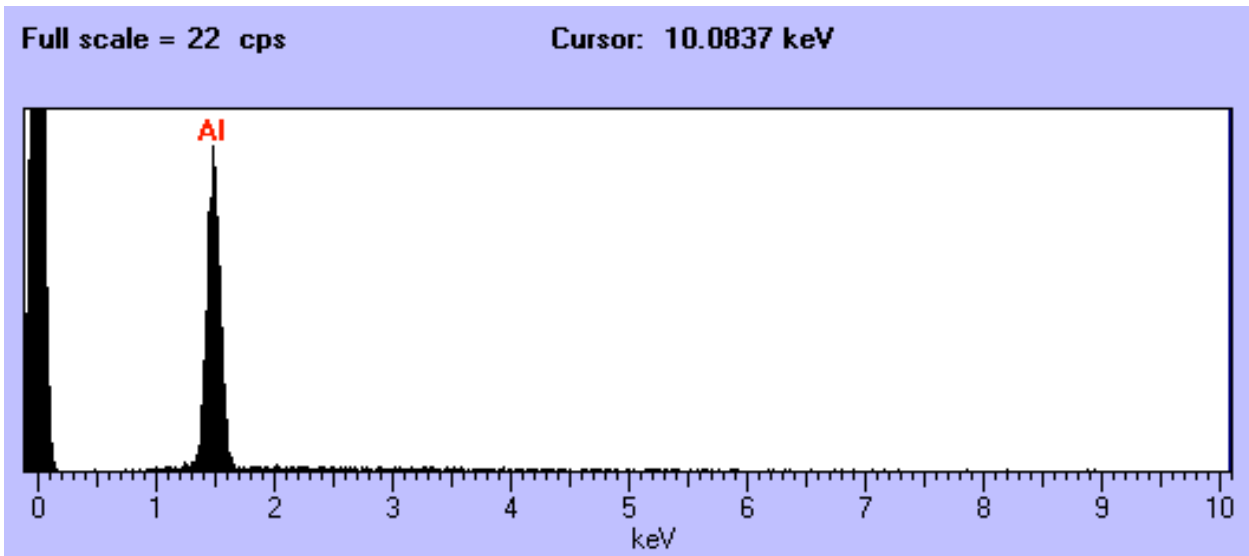
Particle Descriptions

TCA Type

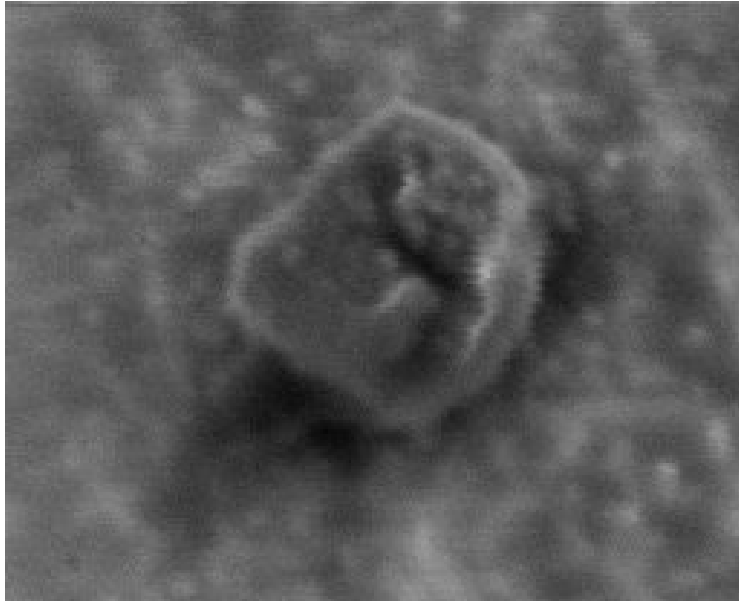
L2047 B6



Size: 17 um
Shape: Irregular
Trans: TL
Color: White
Luster: Subvitreous
Type: TCA
Comments:



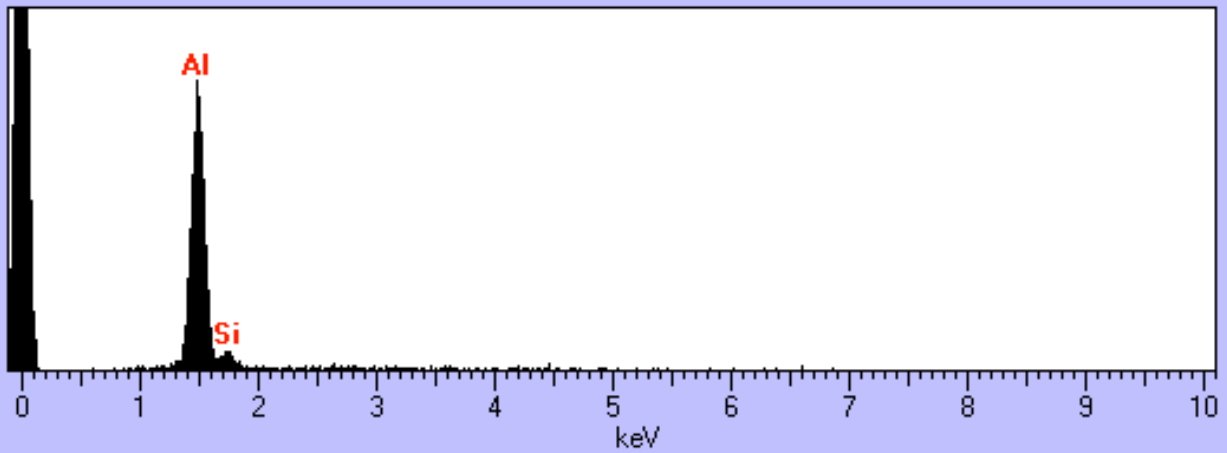
L2047 B9



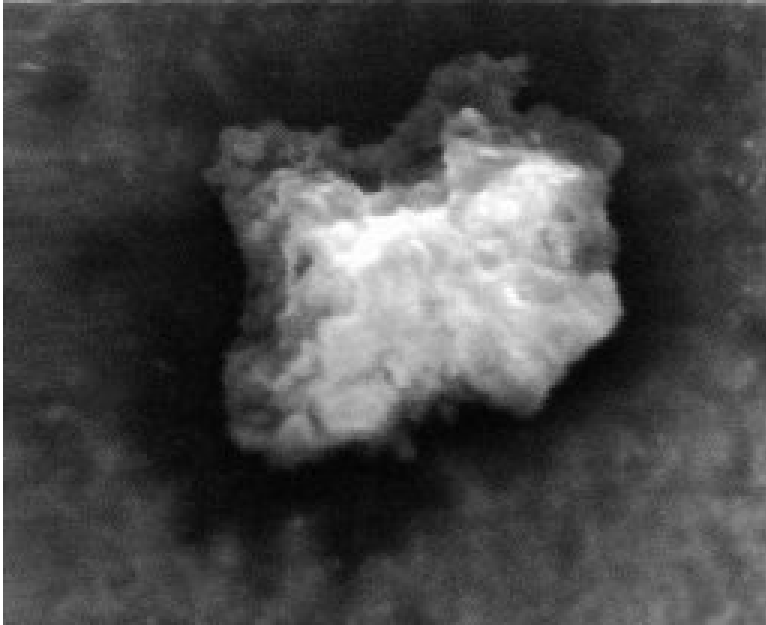
Size: 12 um
Shape: Irregular
Trans: TL
Color: White
Luster: Dull
Type: TCA
Comments:

Full scale = 27 cps

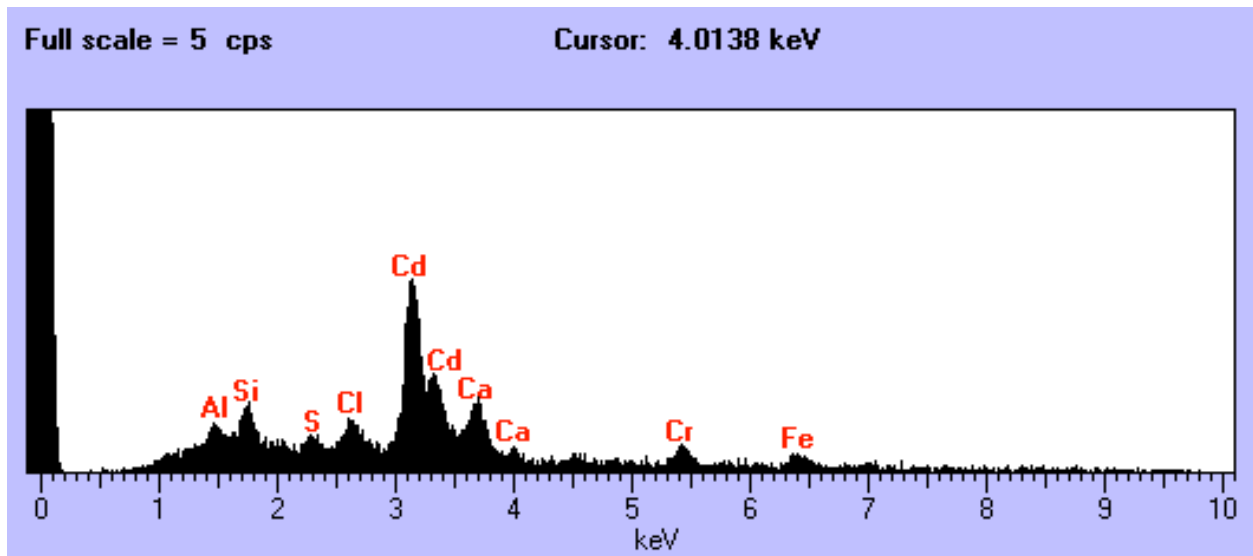
Cursor: 2.3038 keV



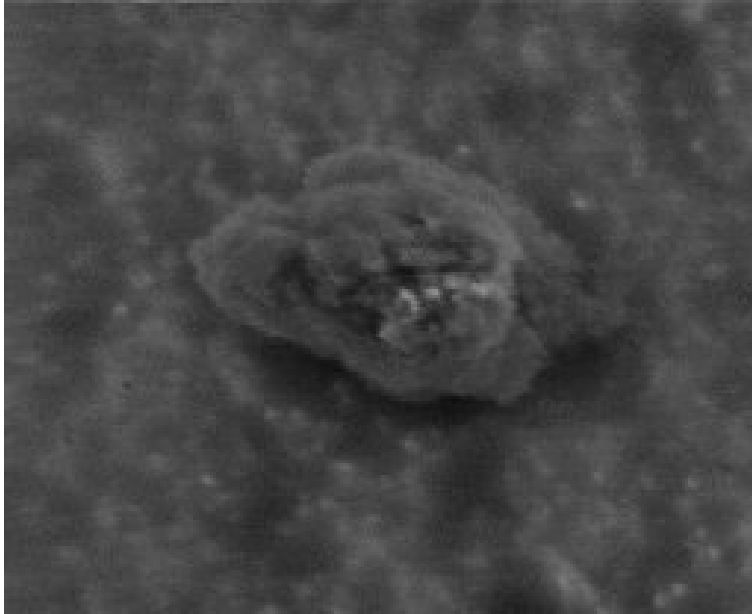
L2047 B11



Size: 31 um
Shape: Irregular
Trans: Opaque
Color: Orange
Luster: Dull
Type: TCA
Comments:



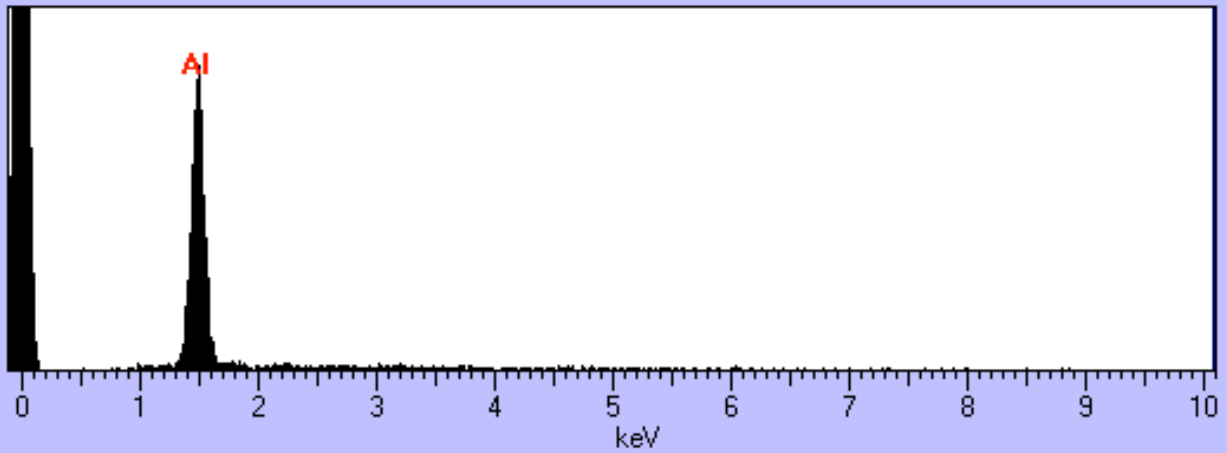
L2047 B16



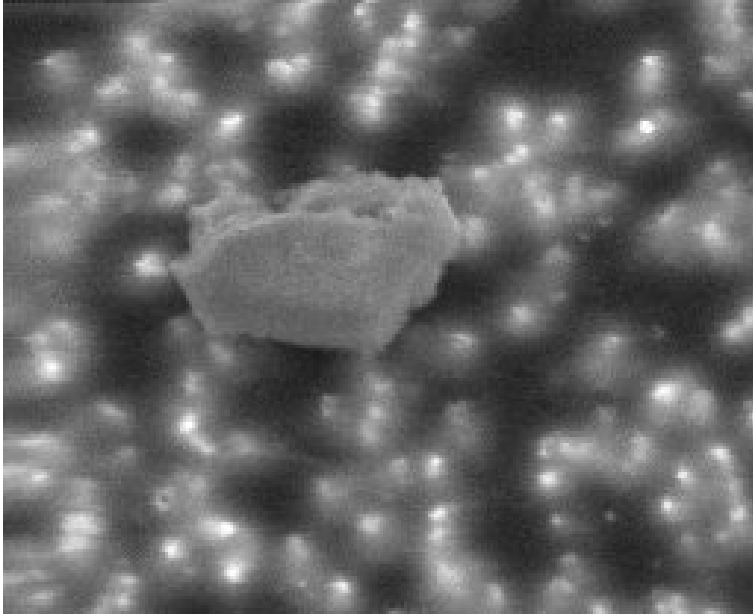
Size: 17 x 12 um
Shape: Irregular
Trans: TL
Color: Colorless
Luster: Vitreous
Type: TCA
Comments:

Full scale = 18 cps

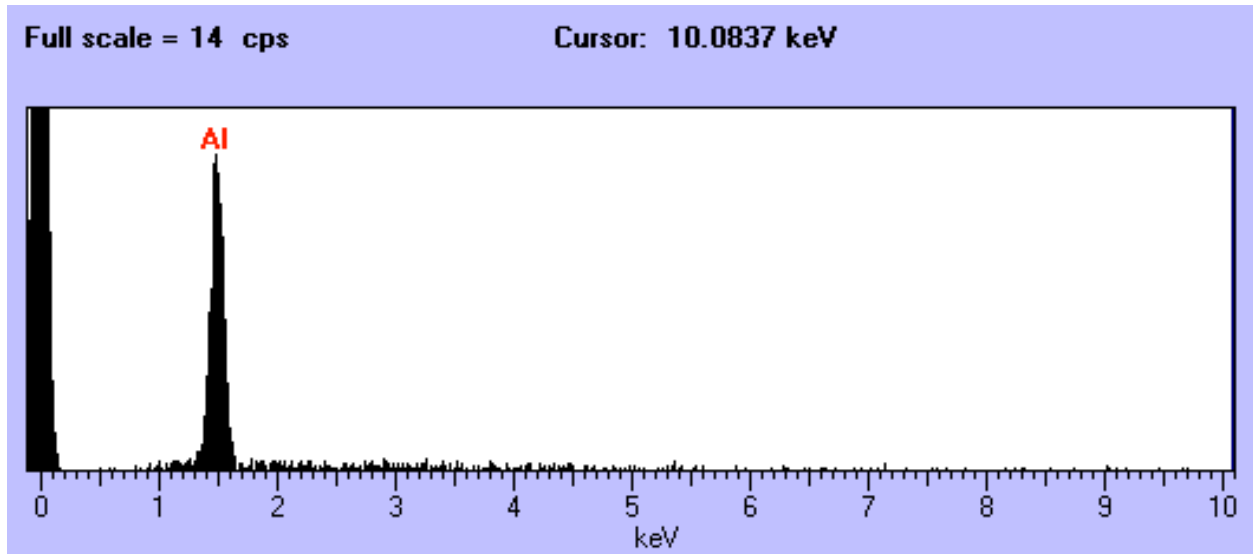
Cursor: 10.0837 keV



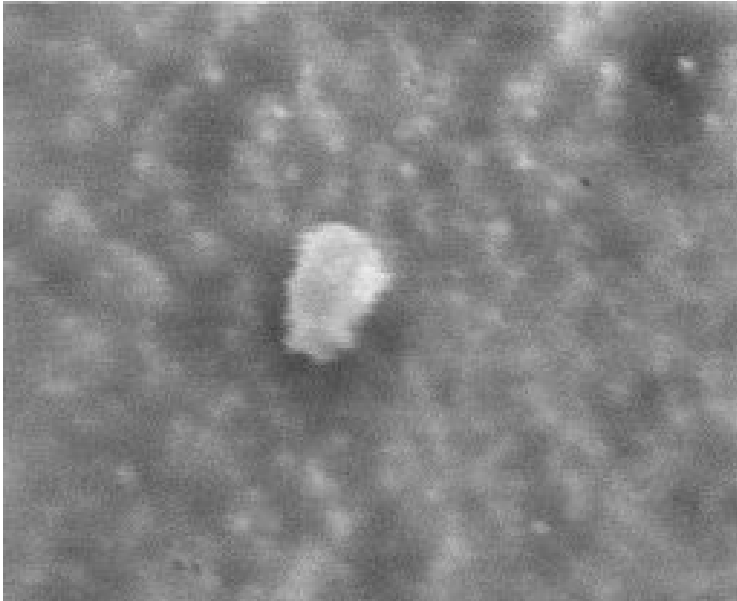
L2047 B18



Size: 20 x 12 um
Shape: Irregular
Trans: TL
Color: White
Luster: Dull
Type: TCA
Comments:



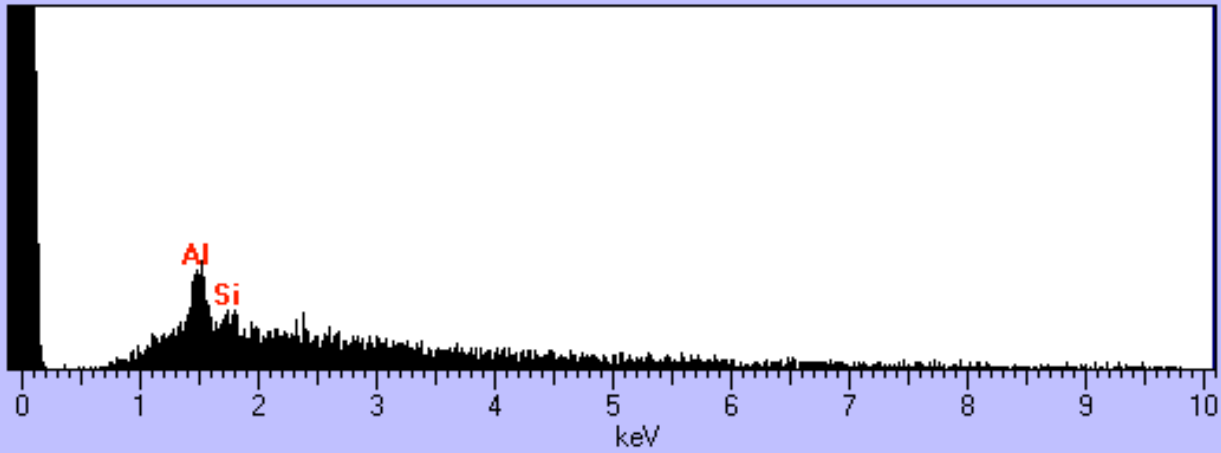
L2047 B25



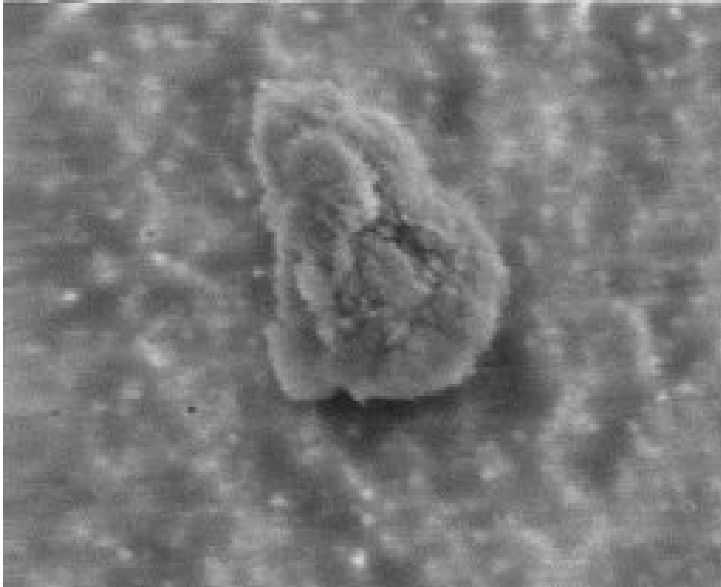
Size: 14 x 10 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull/Submetallic
Type: TCA
Comments:

Full scale = 2 cps

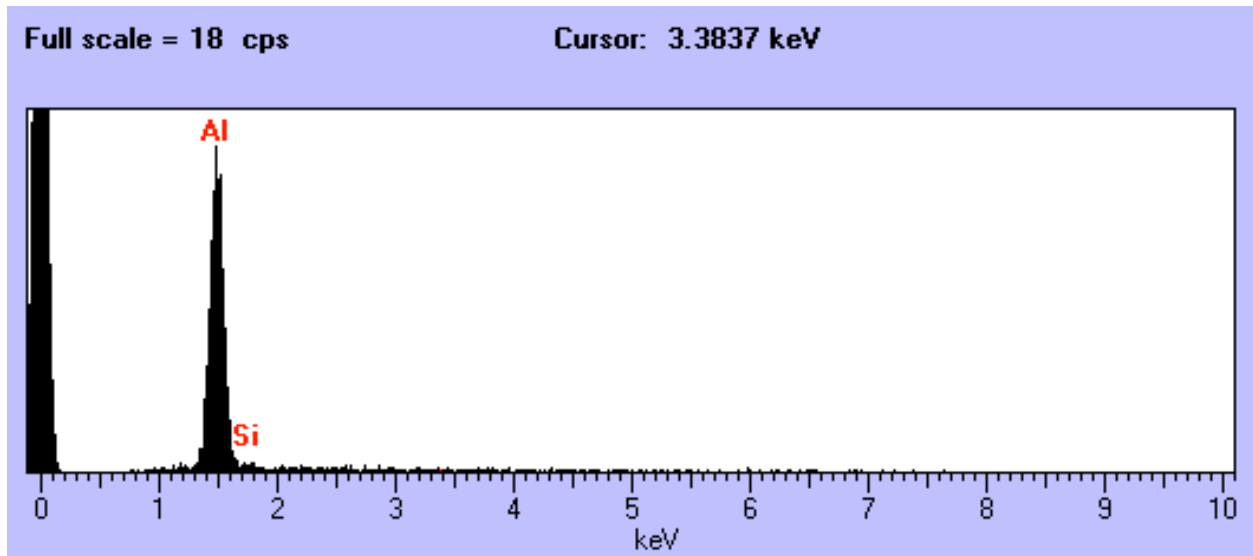
Cursor: 10.0837 keV



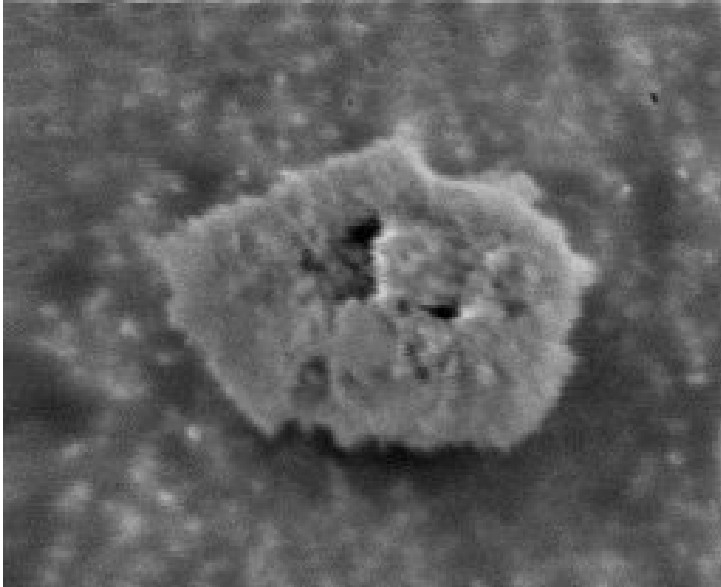
L2047 B27



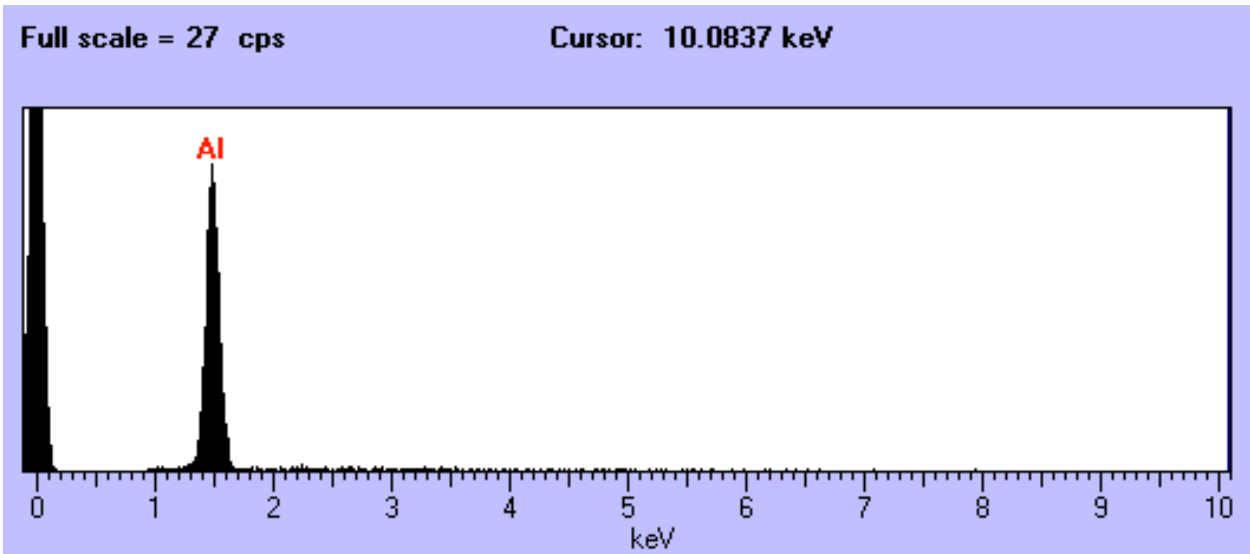
Size: 17 x 15 um
Shape: Irregular
Trans: TL
Color: White
Luster: Dull
Type: TCA
Comments:



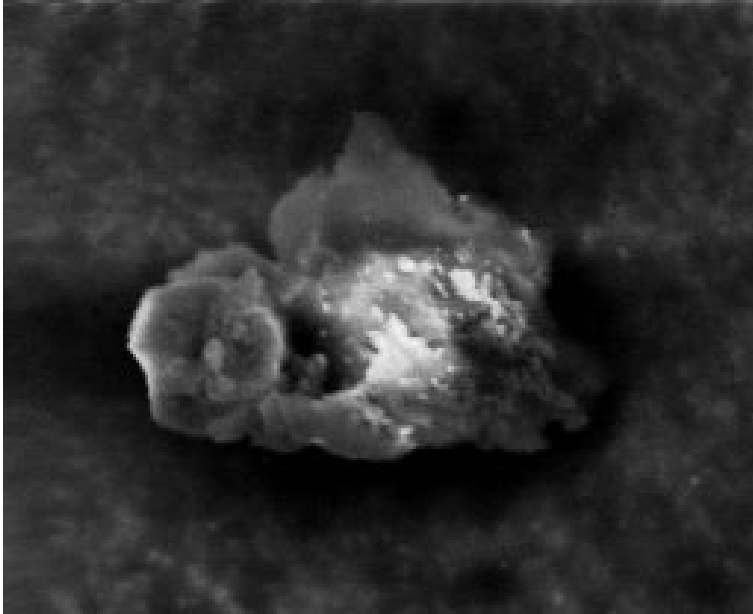
L2047 B28



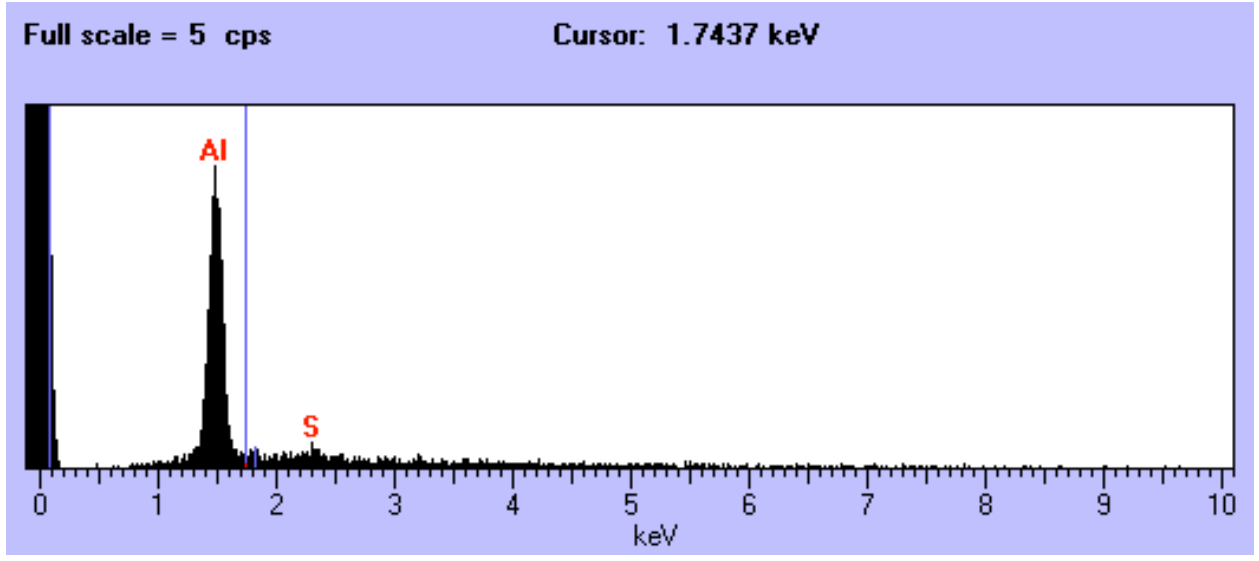
Size: 15 x 12 um
Shape: Irregular
Trans: TL
Color: White
Luster: Dull
Type: TCA
Comments:



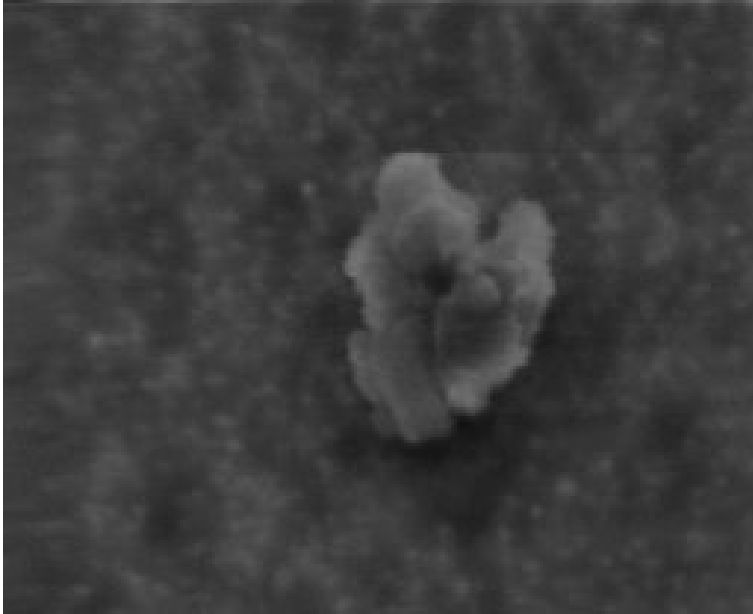
L2047 C5



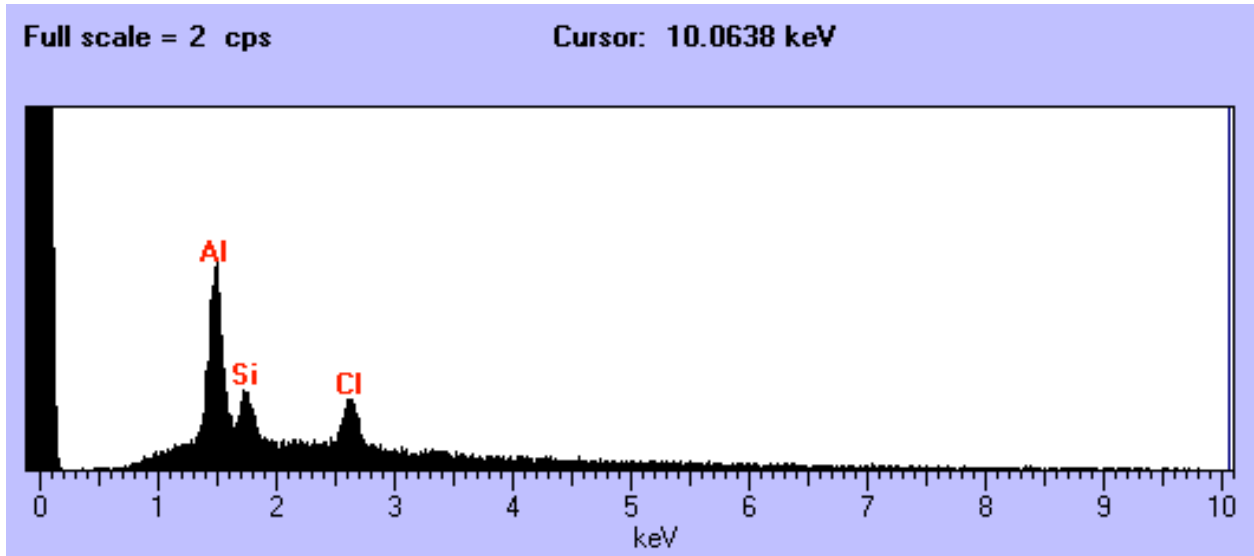
Size: 27 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCA
Comments:



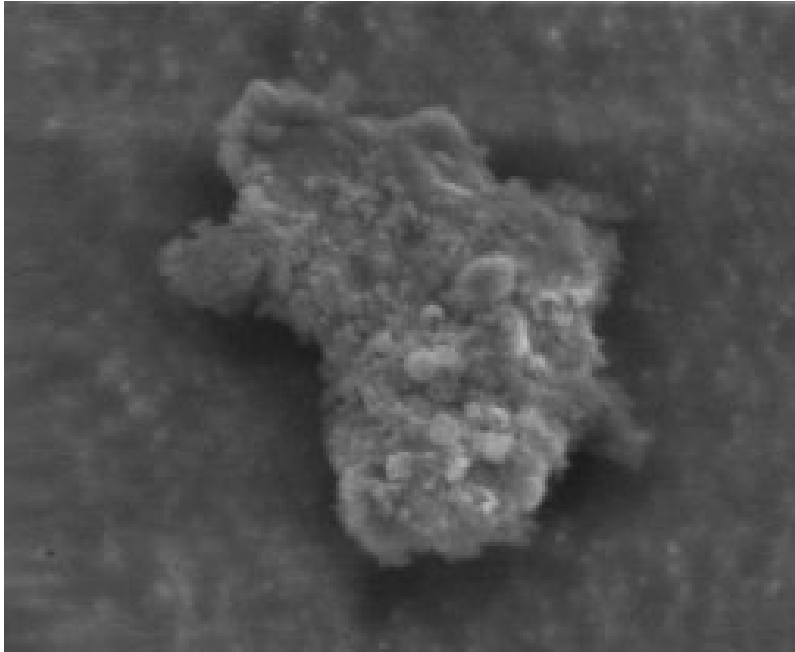
L2047 C6



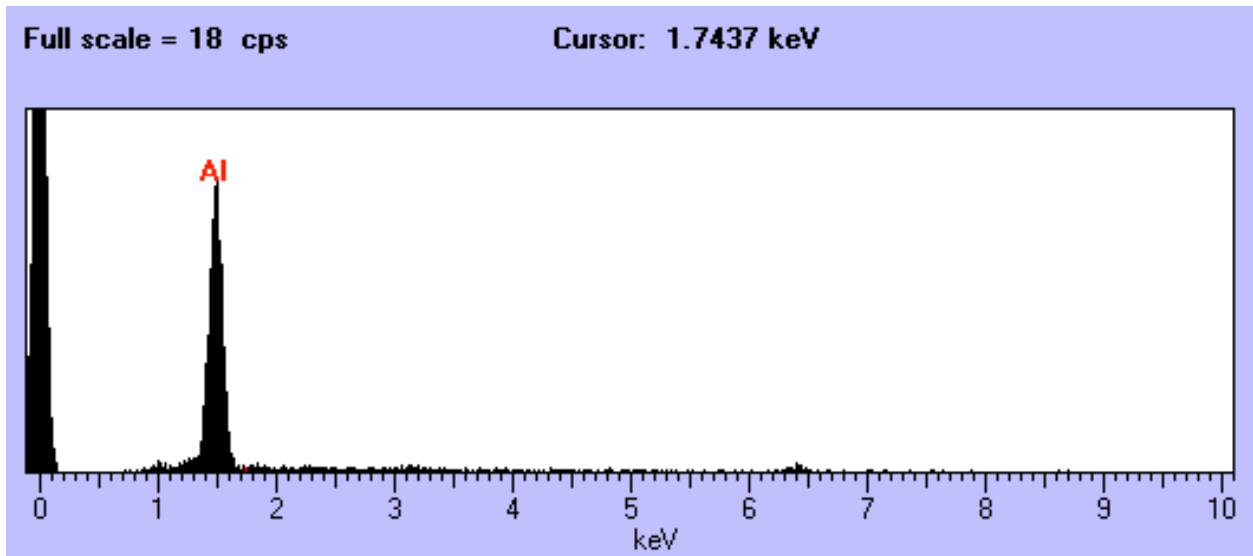
Size: 15 x 11 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCA
Comments:



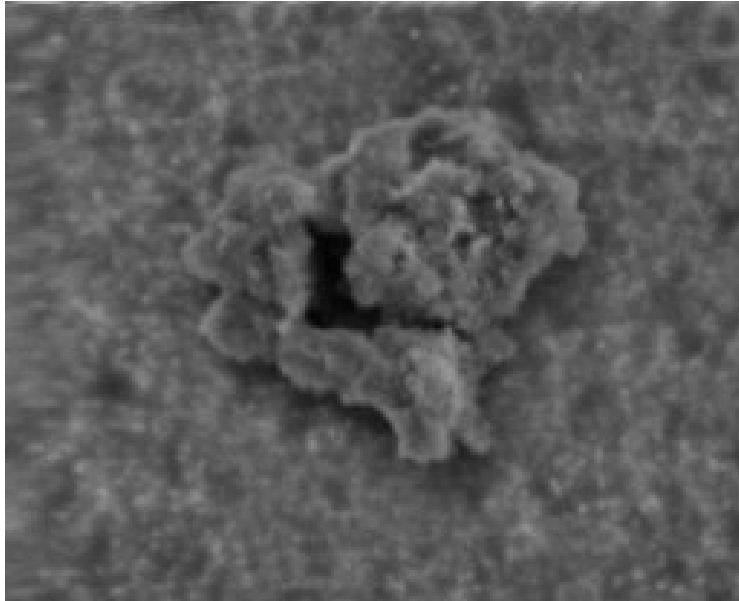
L2047 C7



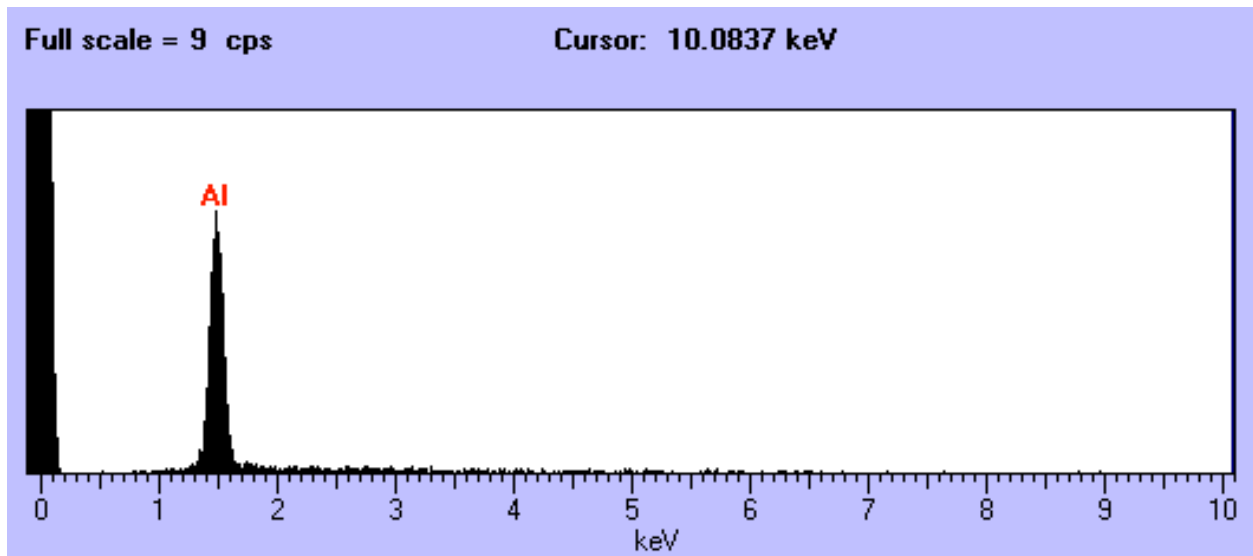
Size: 13 x 8 um
Shape: Irregular
Trans: Opaque
Color: Brown
Luster: Metallic
Type: TCA
Comments:



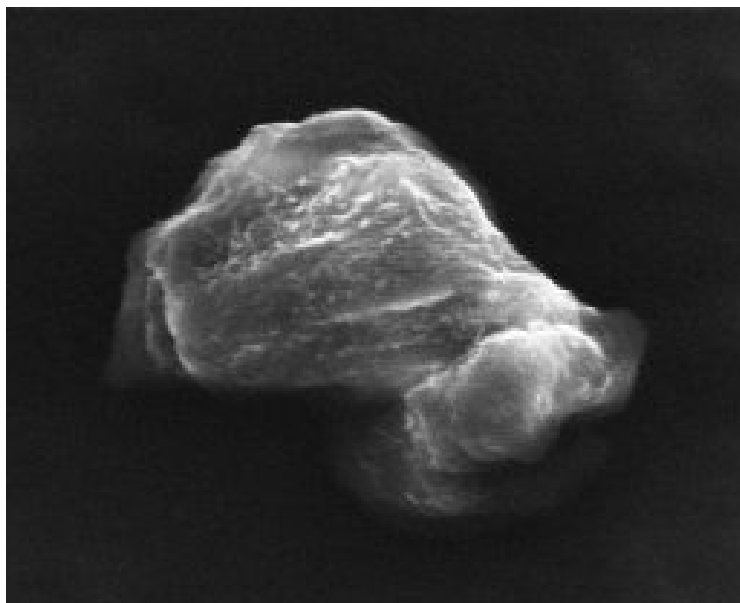
L2047 C13



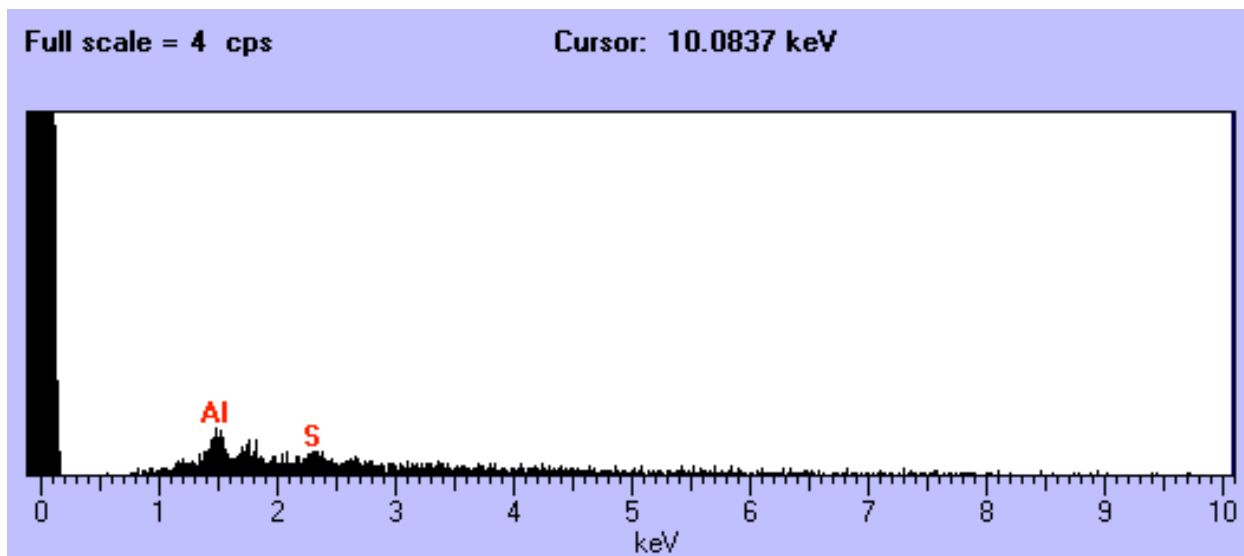
Size: 35 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCA
Comments:



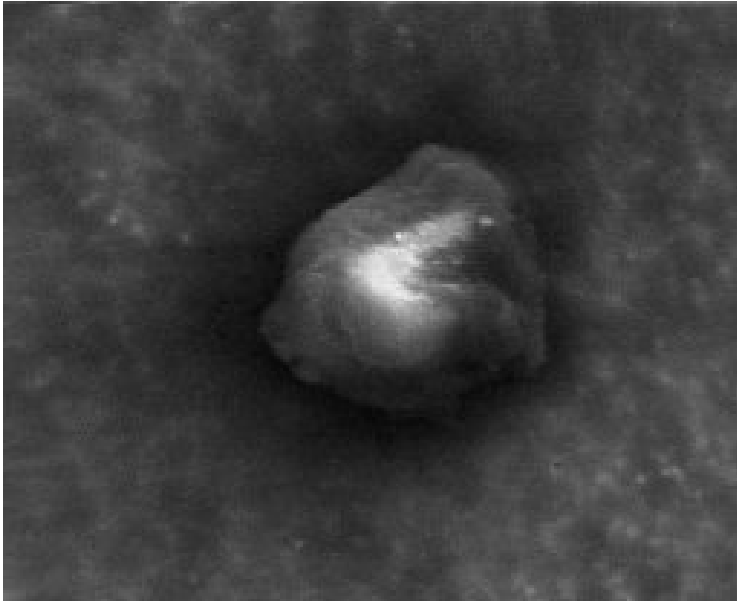
L2047 C26



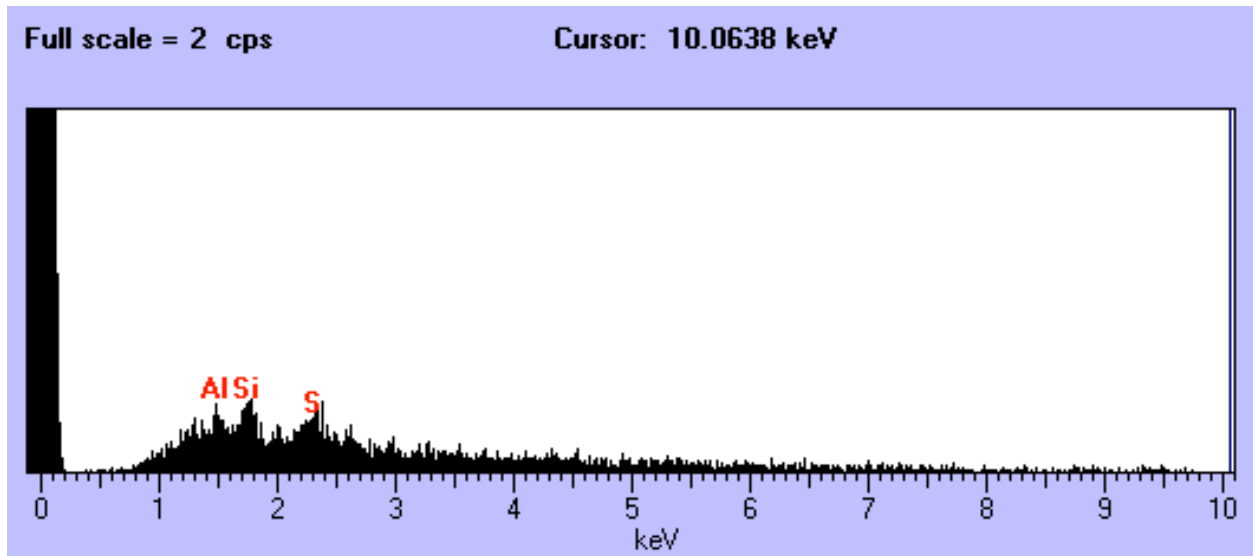
Size: 45 x 25 um
Shape: Irregular
Trans: Translucent
Color: colorless
Luster: Vitreous
Type: TCA
Comments:



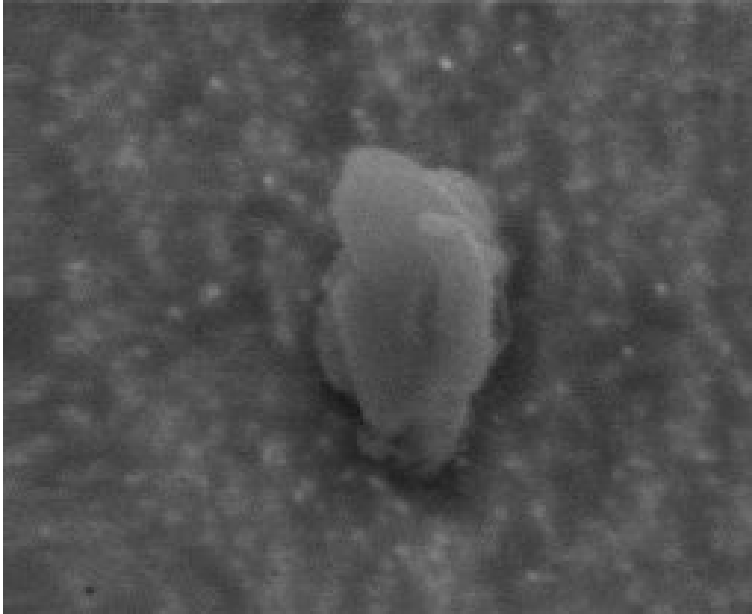
L2047 C27



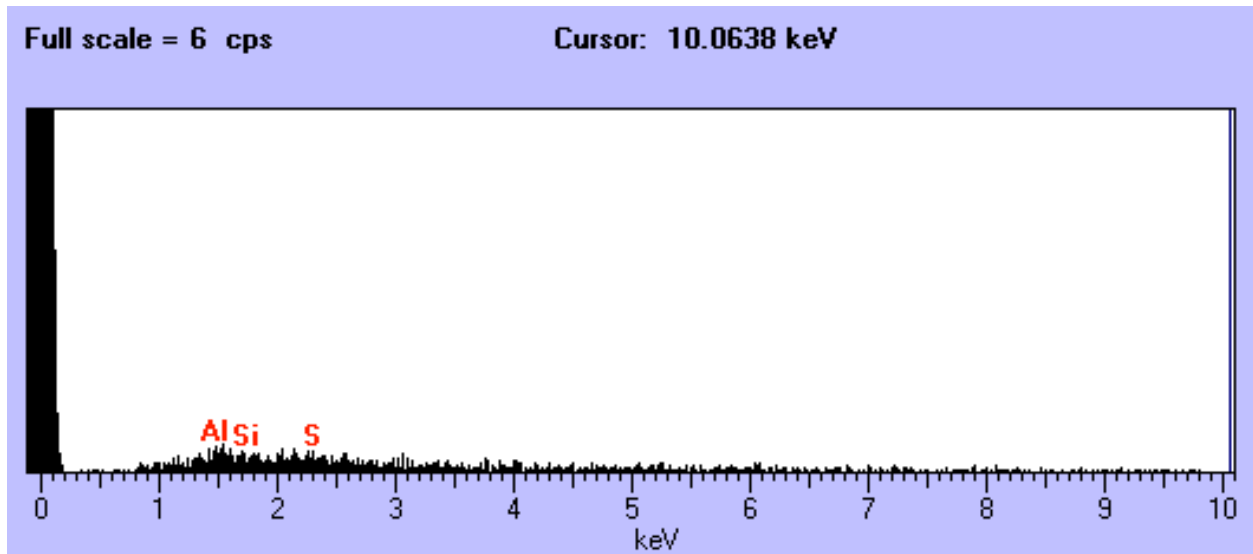
Size: 19 um
Shape: Irregular
Trans: Translucent
Color: Colorless
Luster: Vitreous
Type: TCA
Comments:



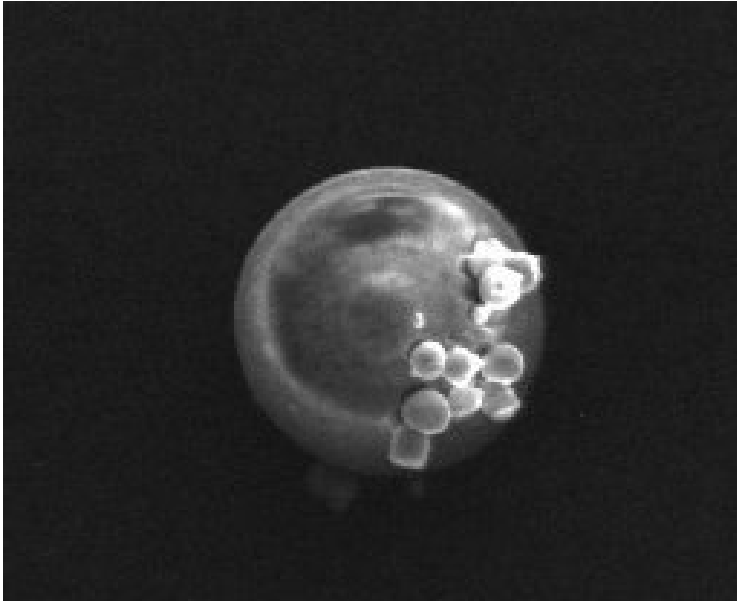
L2047 C28



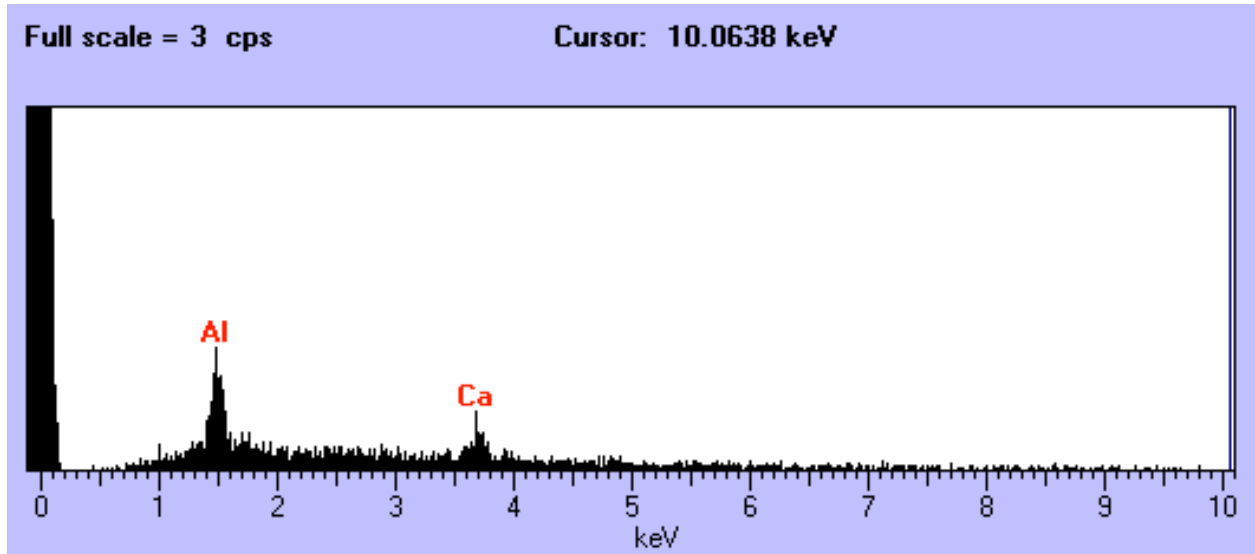
Size: 18 x 10 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCA
Comments:



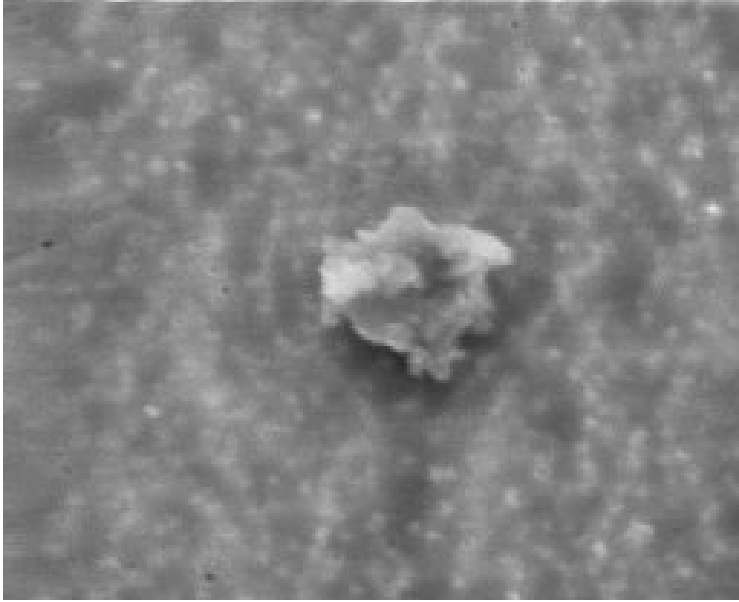
L2047 D4



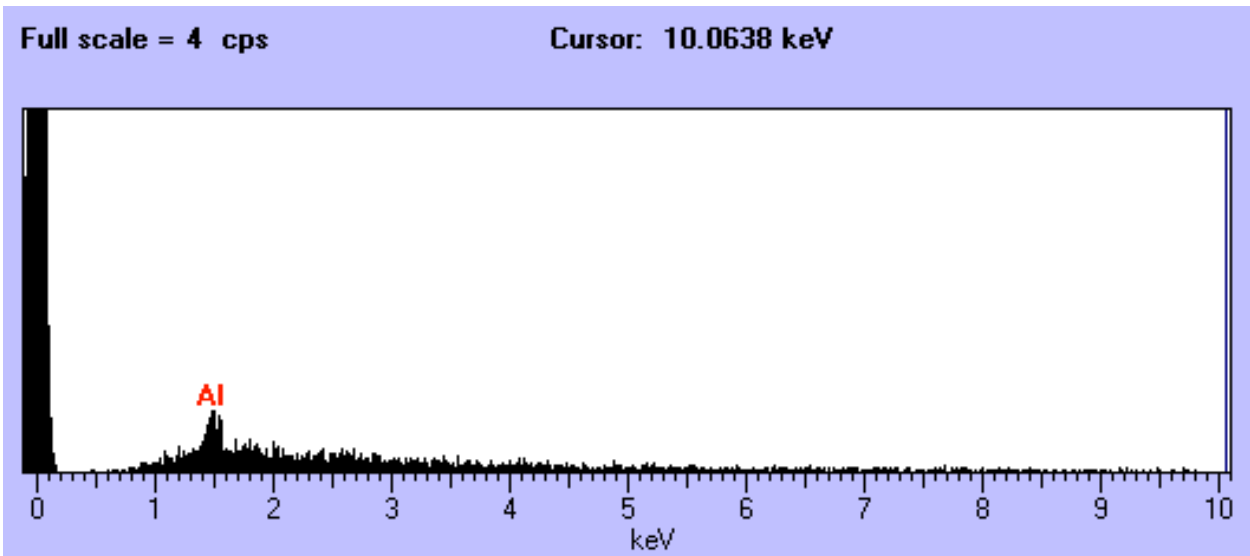
Size: 5 um
Shape: Sphere
Trans: Transparent
Color: Colorless
Luster: Vitreous
Type: TCA
Comments:



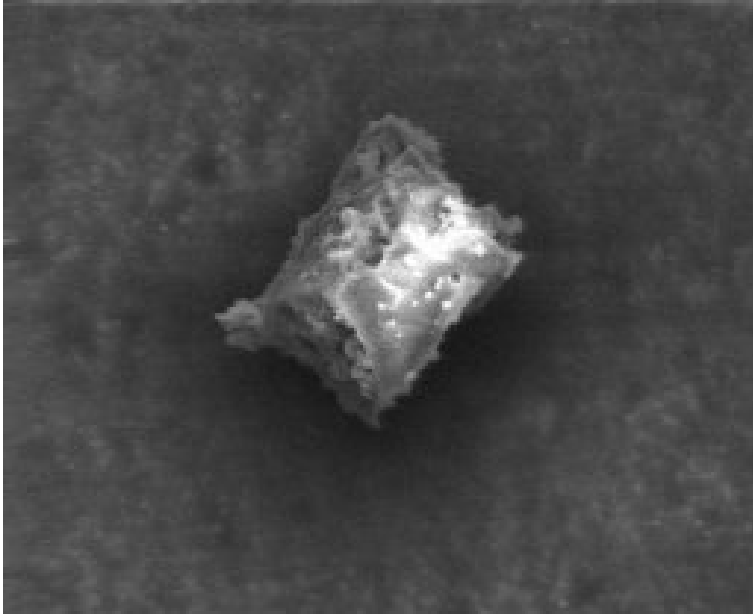
L2047 D8



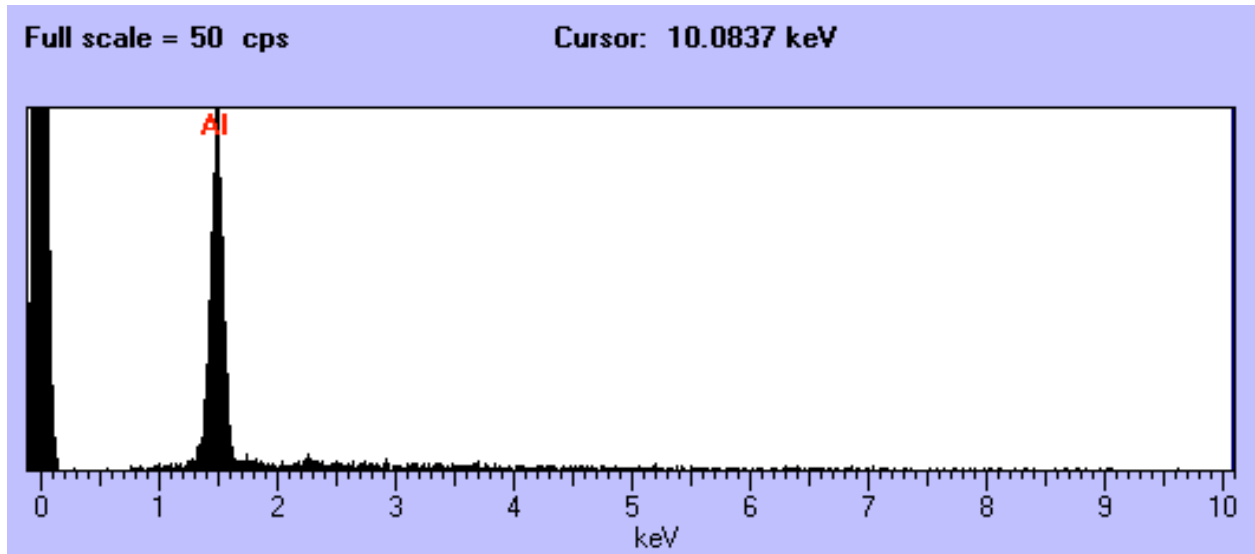
Size: 11 x 10 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull/Submetallic
Type: TCA
Comments:



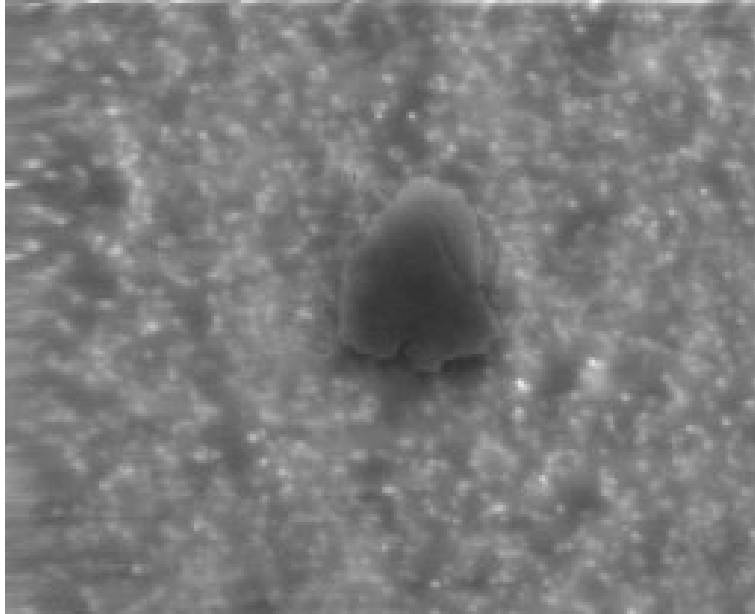
L2047 D14



Size: 10 um
Shape: Irregular
Trans: Translucent
Color: Orange
Luster: Subvitreous
Type: TCA
Comments:



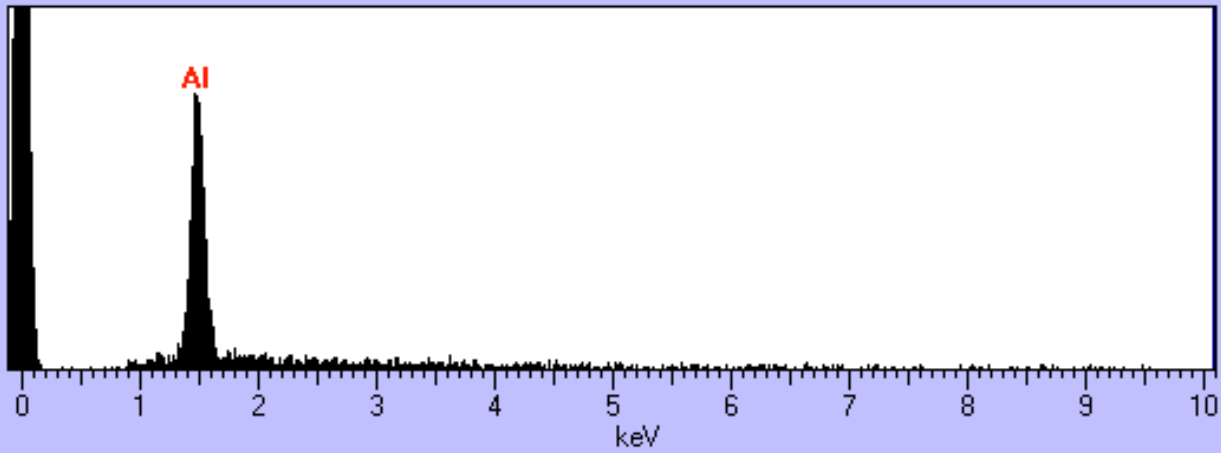
L2047 E1



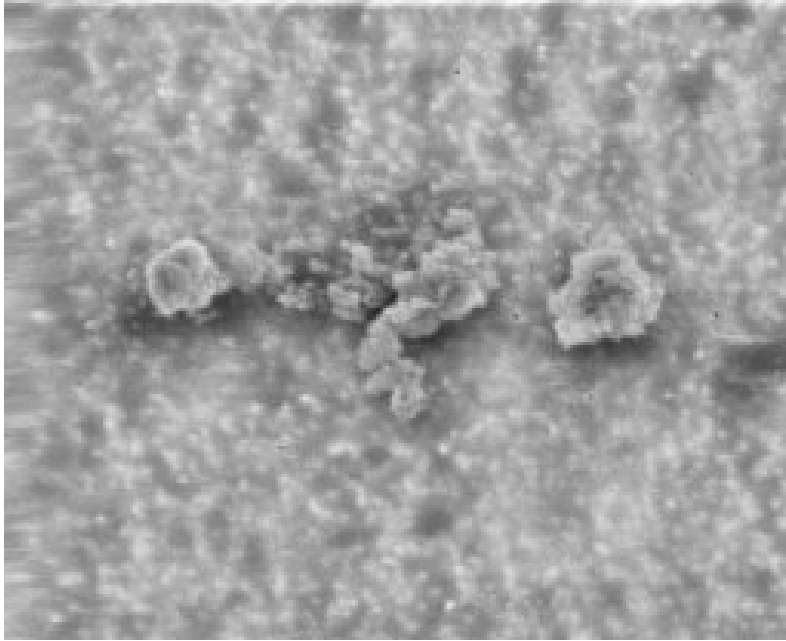
Size: 11 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull/Submetallic
Type: Cosmic
Comments: TCA

Full scale = 7 cps

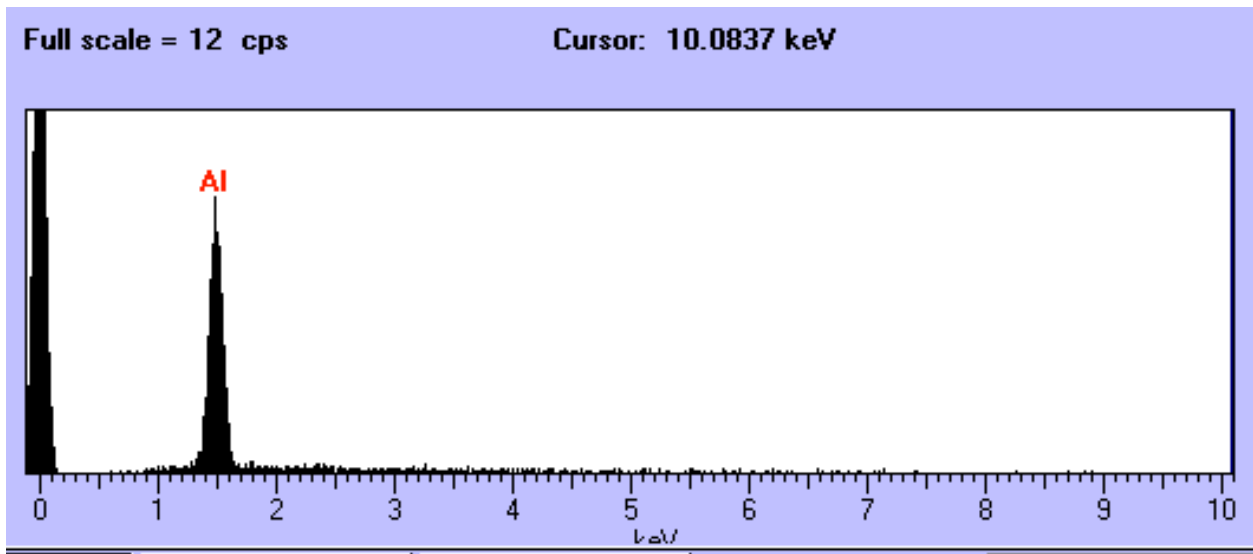
Cursor: 10.0837 keV



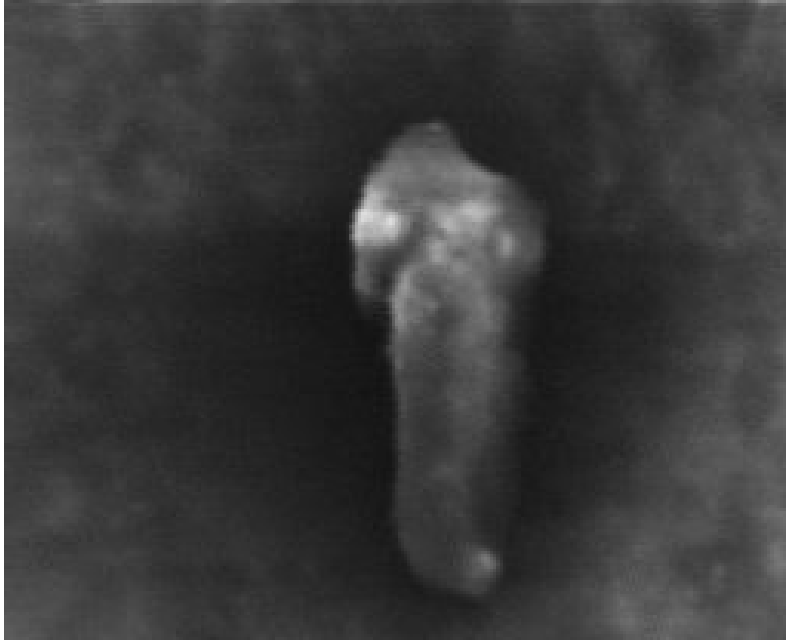
L2047 E9



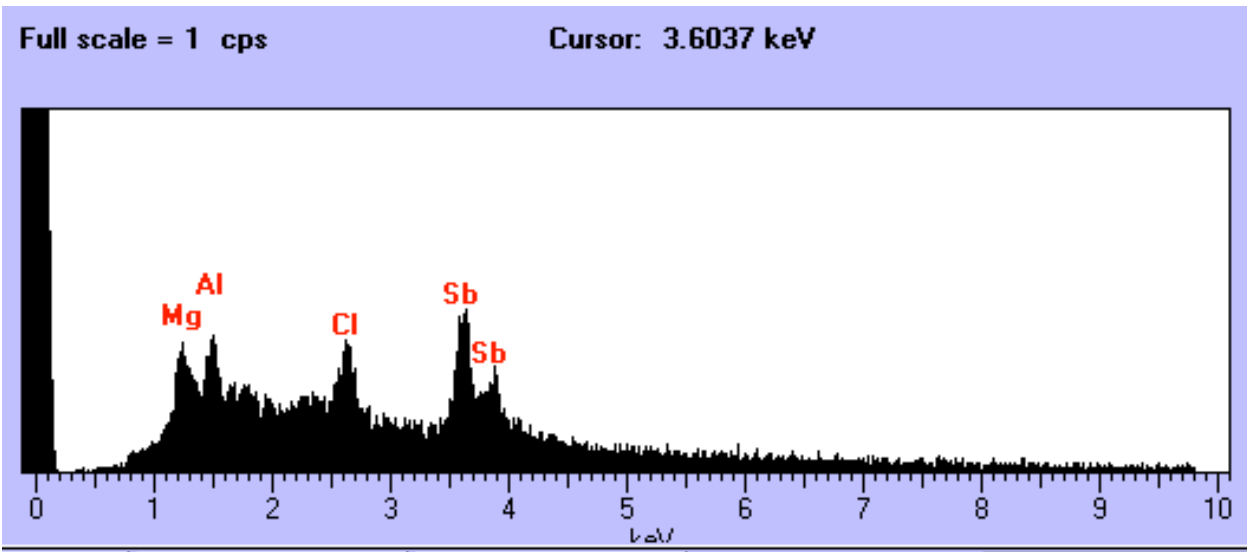
Size: ~7 um each
Shape: Irregular
Trans: Opaque
Color: White
Luster: Subvitreous
Type: TCA
Comments:



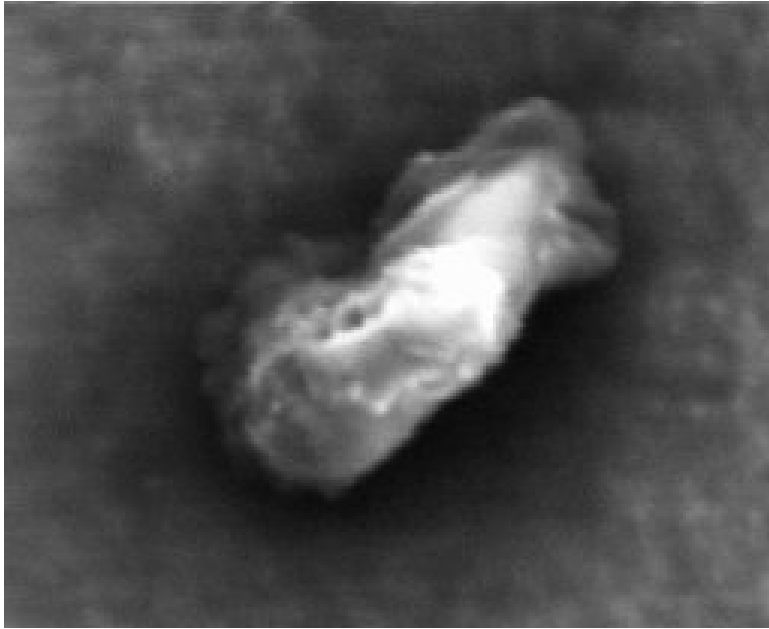
L2047 E11



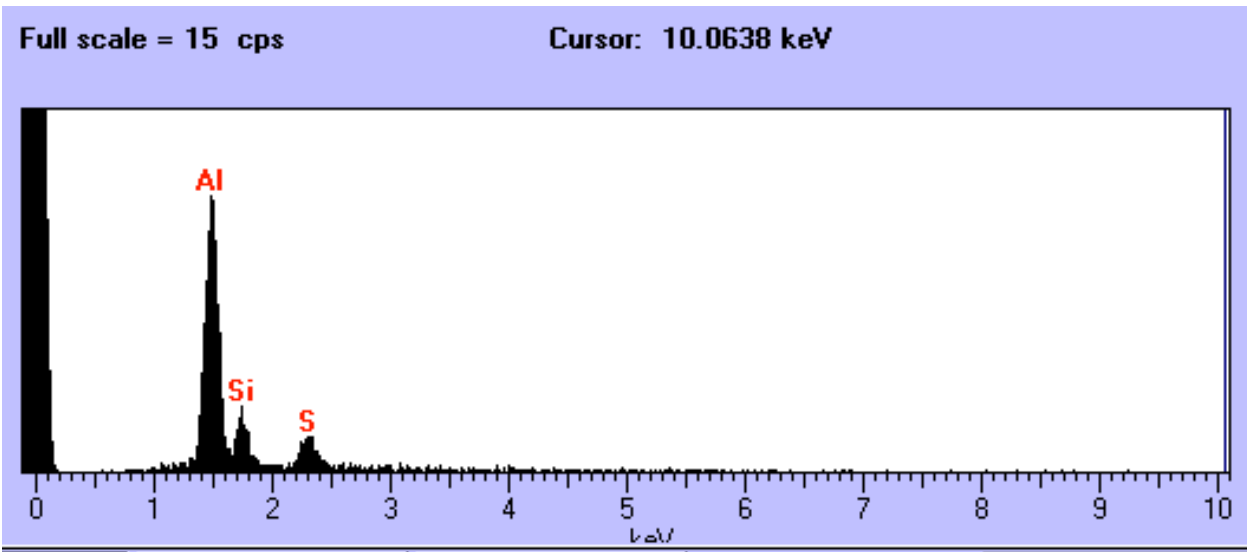
Size: 22 x 9 um
Shape: Irregular
Trans: Translucent
Color: Colorless
Luster: Subvitreous
Type: TCA
Comments:



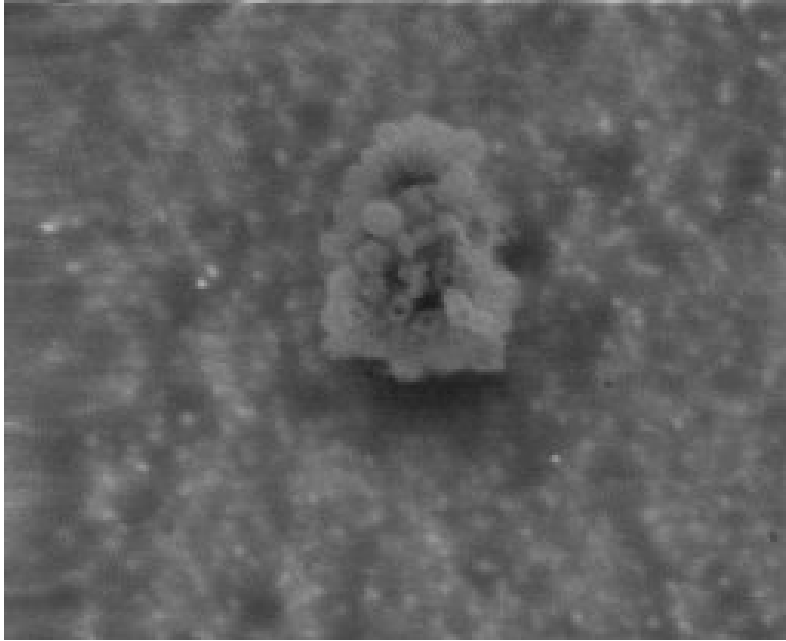
L2047 E15



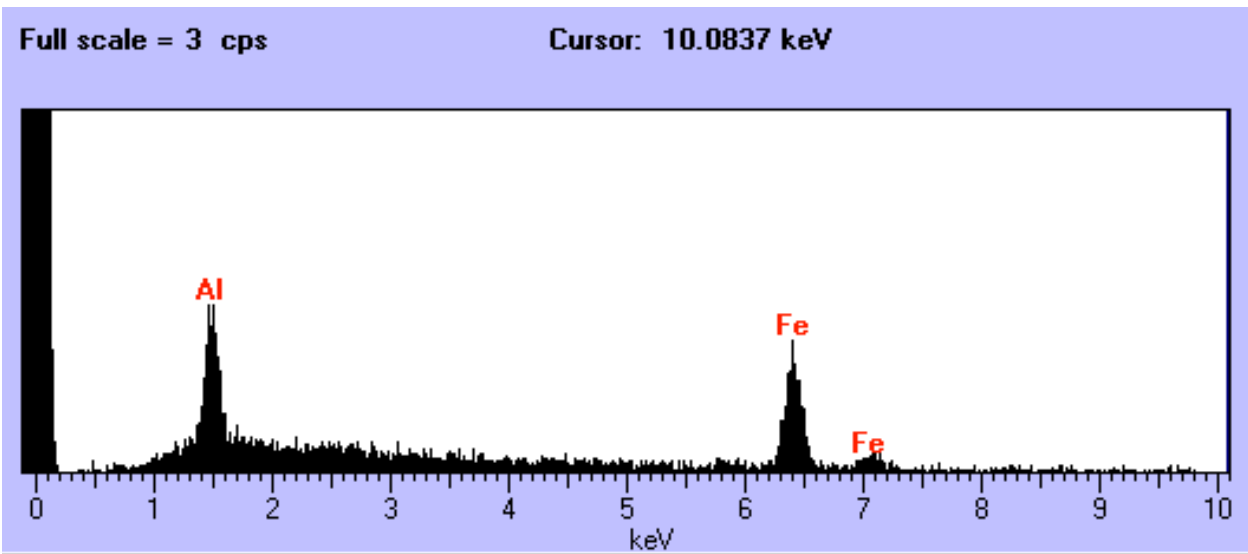
Size: 15 x 11 um
Shape: Irregular
Trans: Translucent
Color: Colorless
Luster: Dull
Type: TCA
Comments:



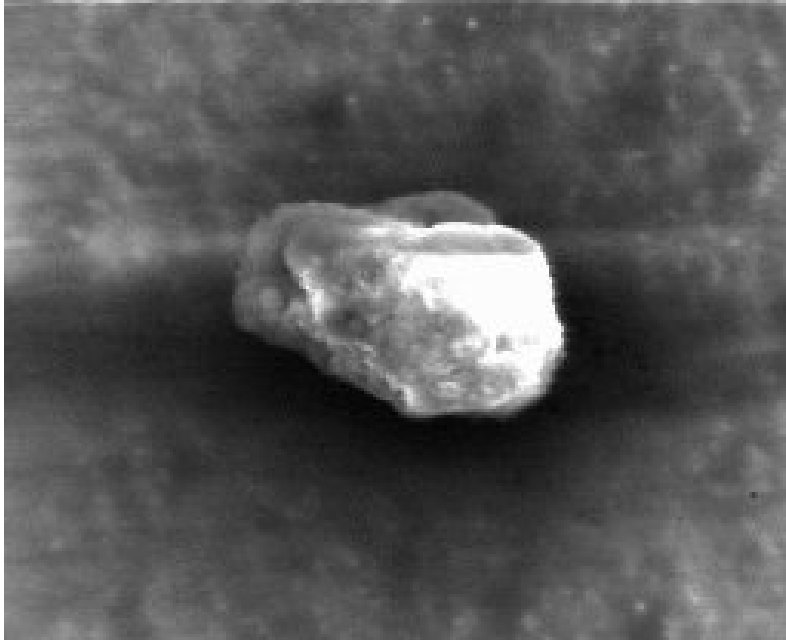
L2047 E21



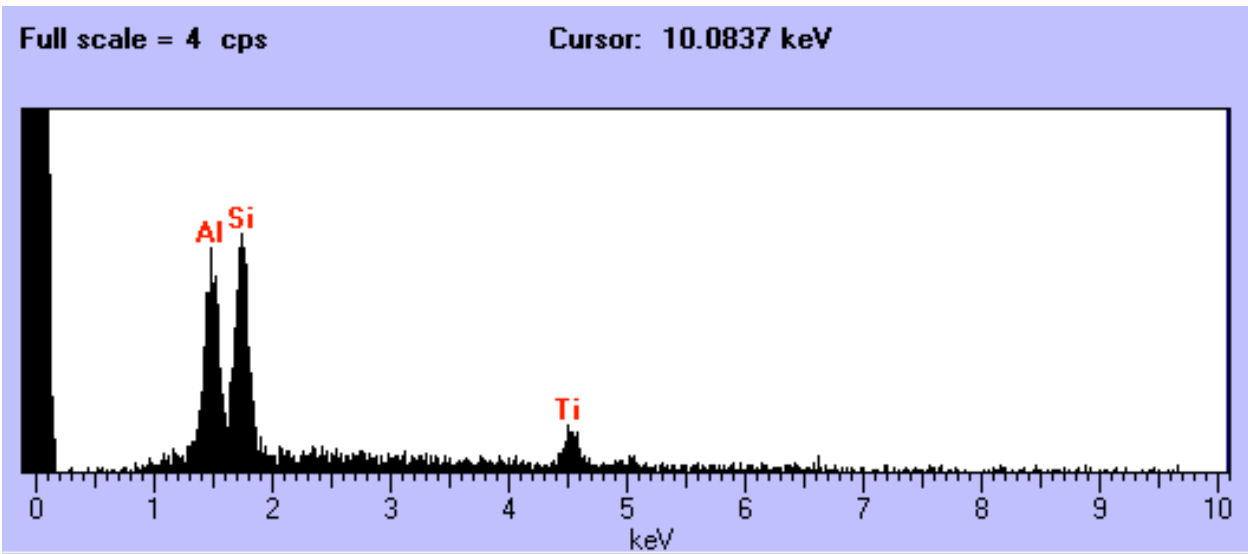
Size: 15 x 10 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull/Submetallic
Type: TCA
Comments:



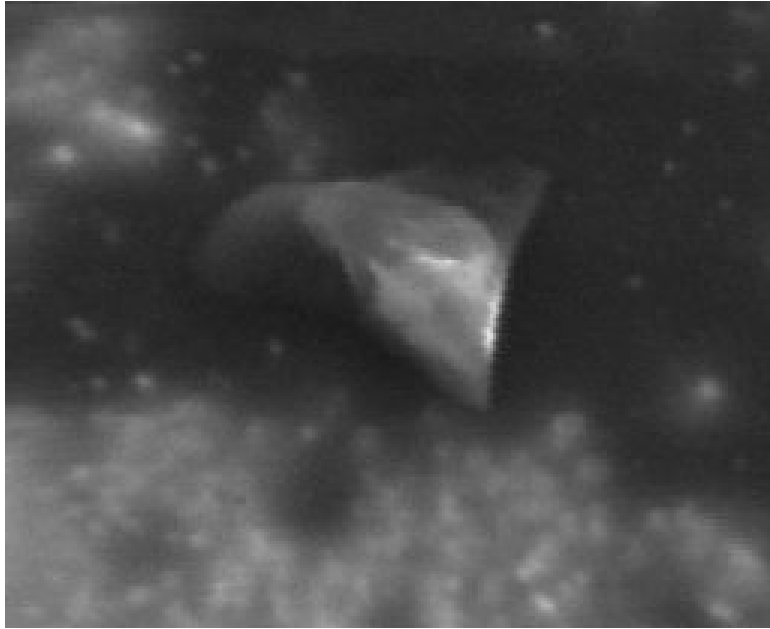
L2047 E29



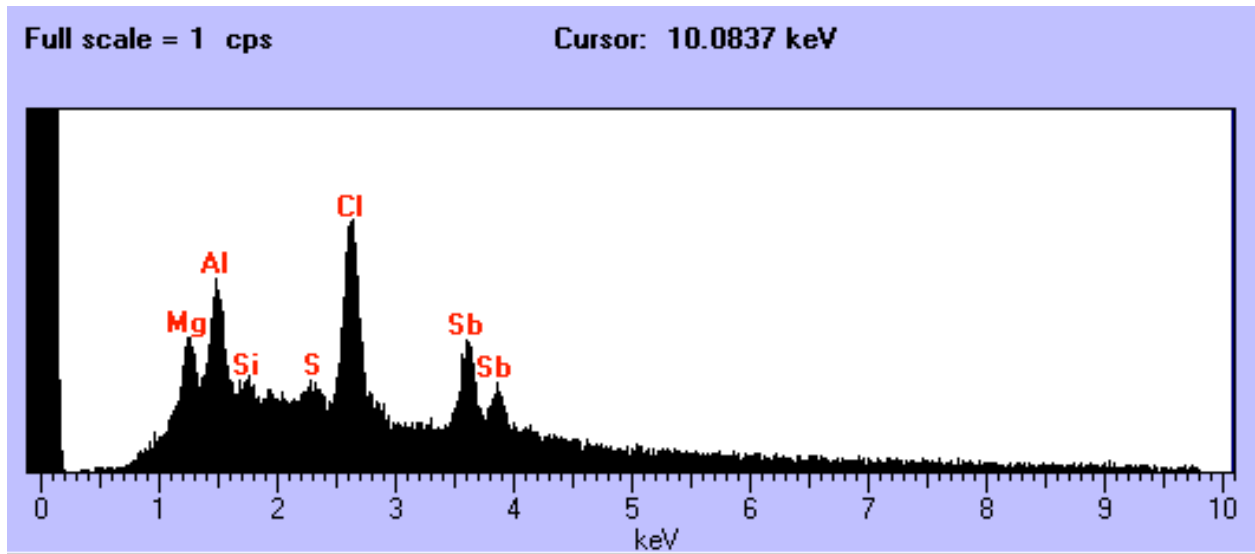
Size: 20 x 15 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCA
Comments:



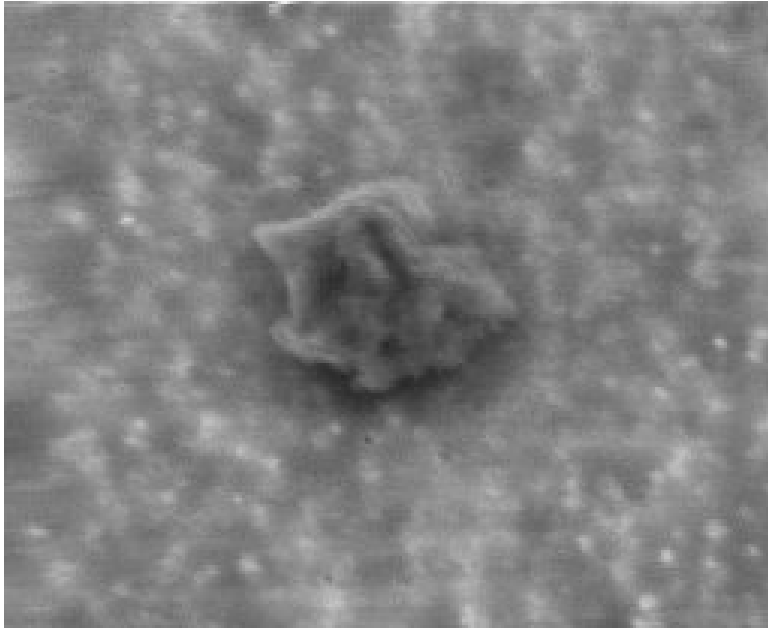
L2047 E33



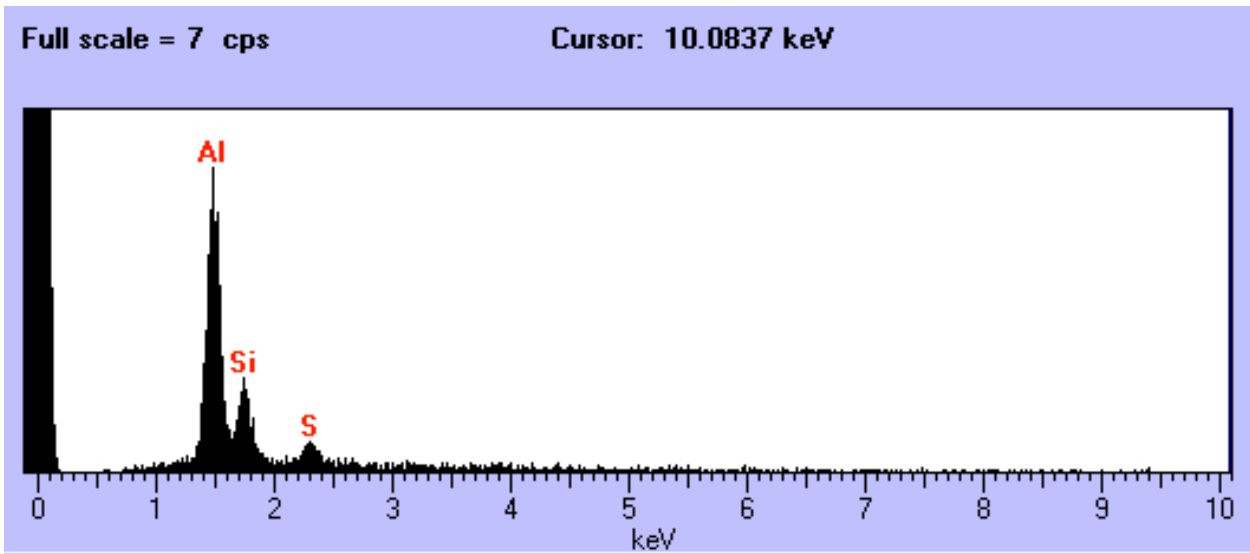
Size: 15 x 13 um
Shape: Irregular
Trans: Transparent
Color: Colorless
Luster: Vitreous
Type: TCA
Comments:



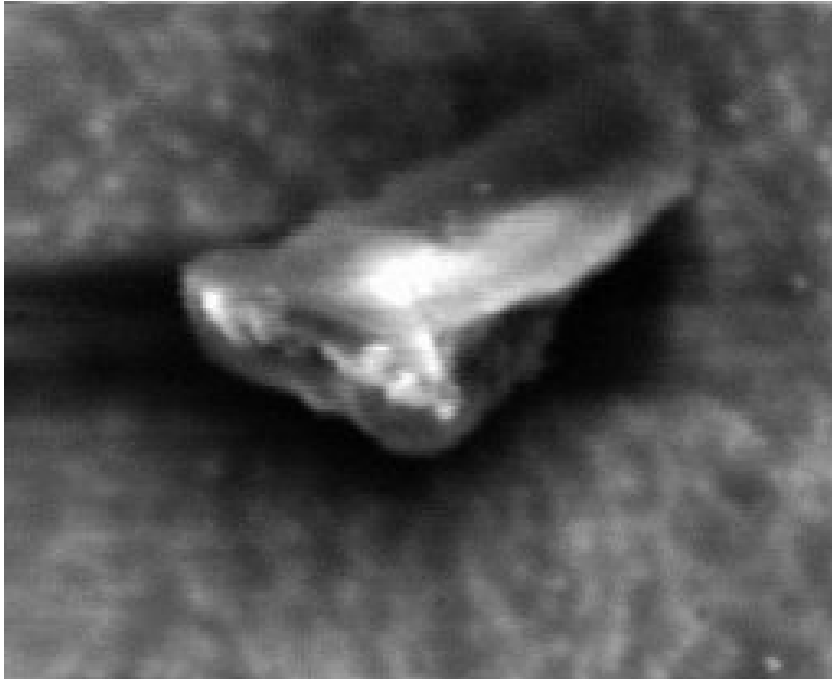
L2047 E34



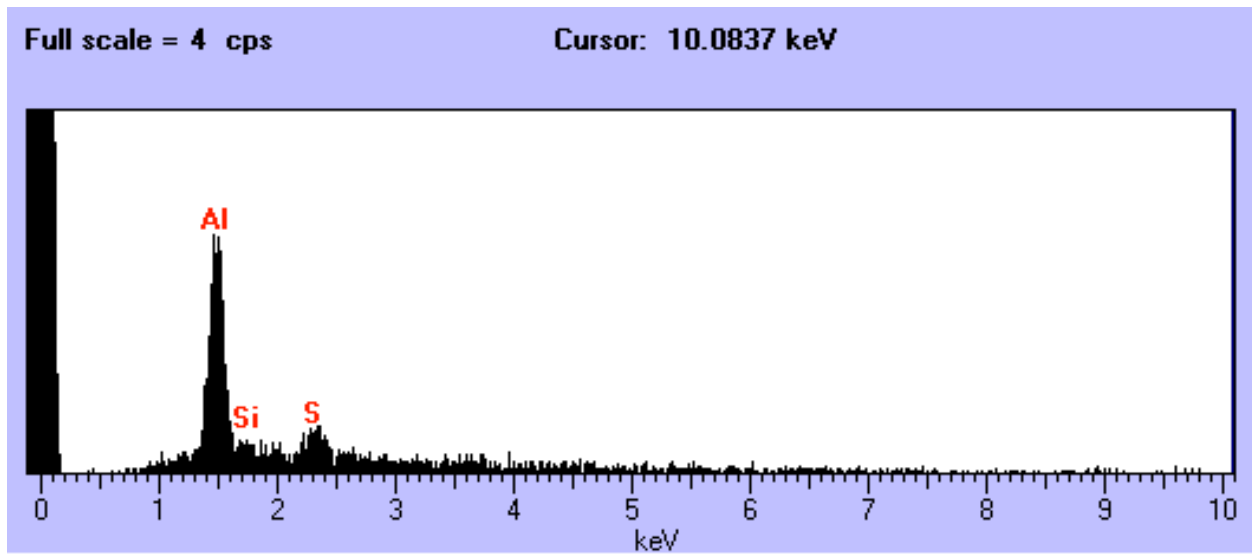
Size: 9 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull/Submetallic
Type: TCA
Comments:



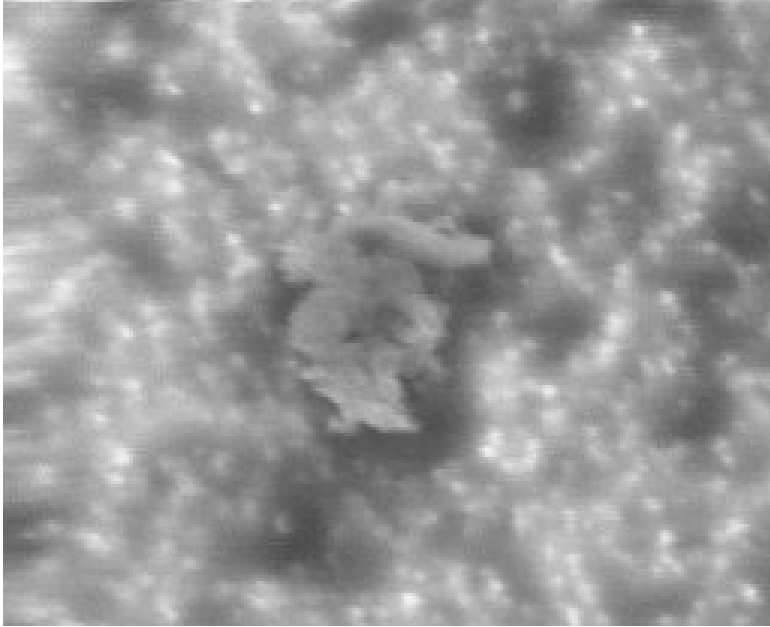
L2047 E37



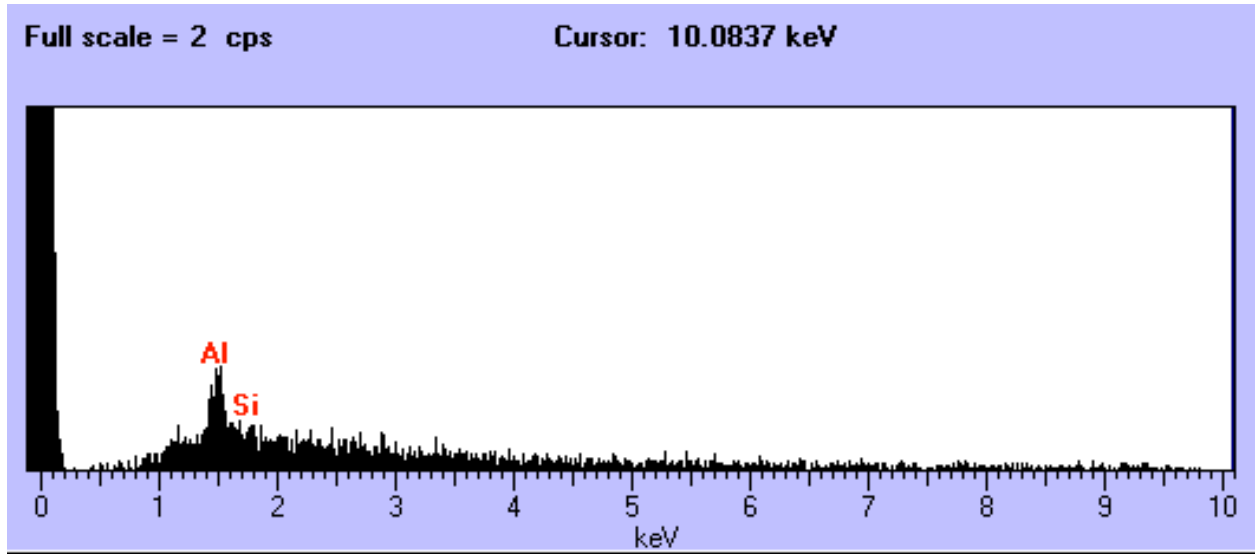
Size: 22 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCA
Comments:



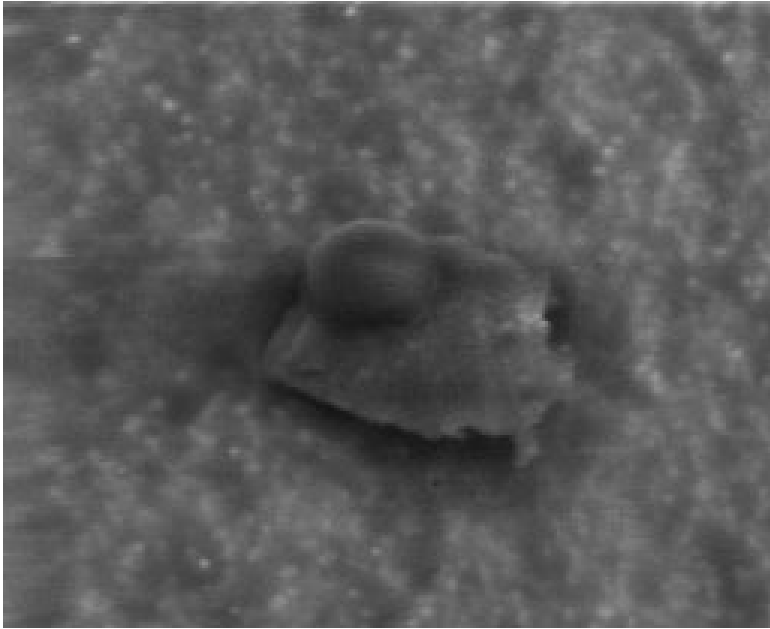
L2047 F1



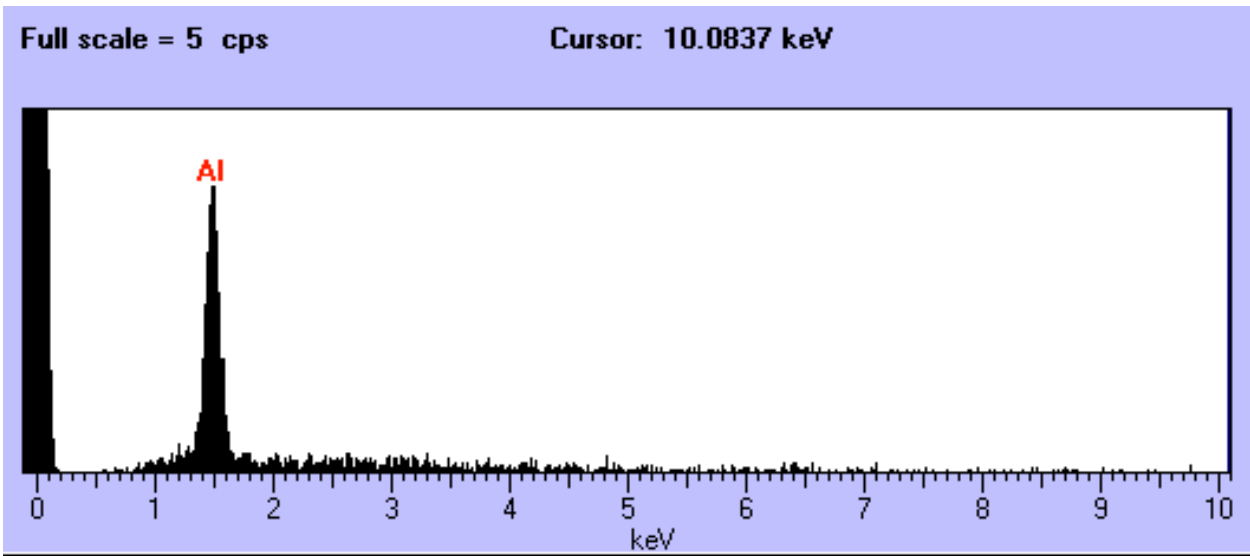
Size: 17 x 8 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull/Submetallic
Type: TCA
Comments:



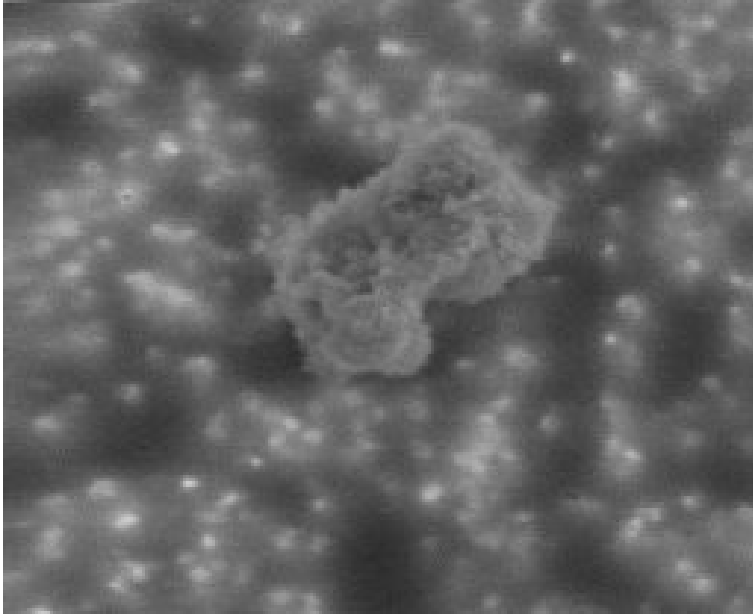
L2047 F8



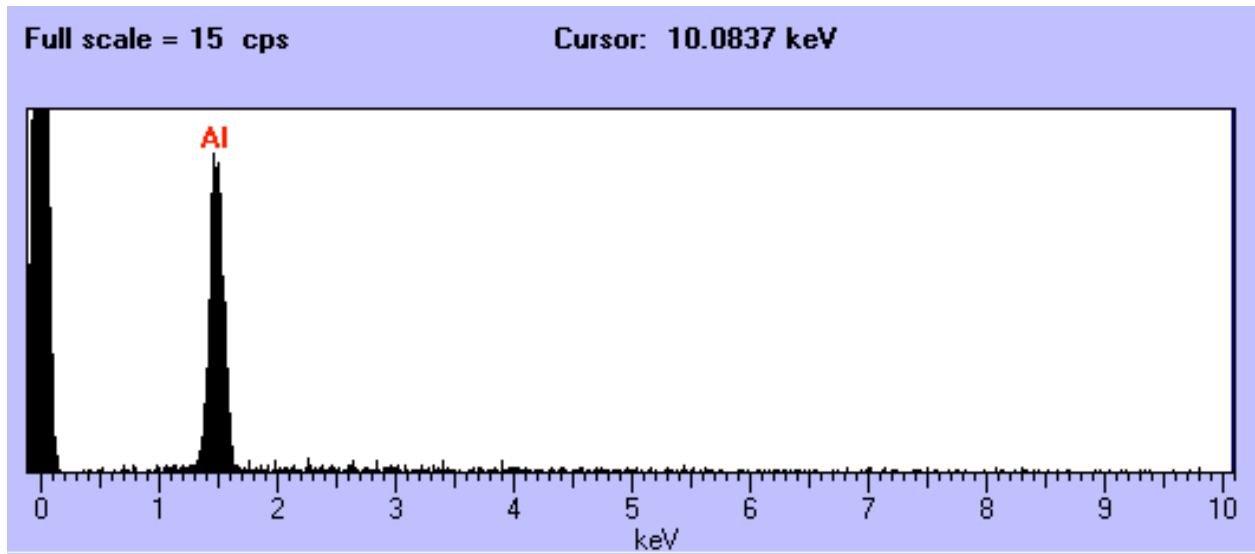
Size: 15 x 12 um
Shape: Irregular
Trans: Translucent
Color: Orange
Luster: Subvitreous
Type: TCA
Comments:



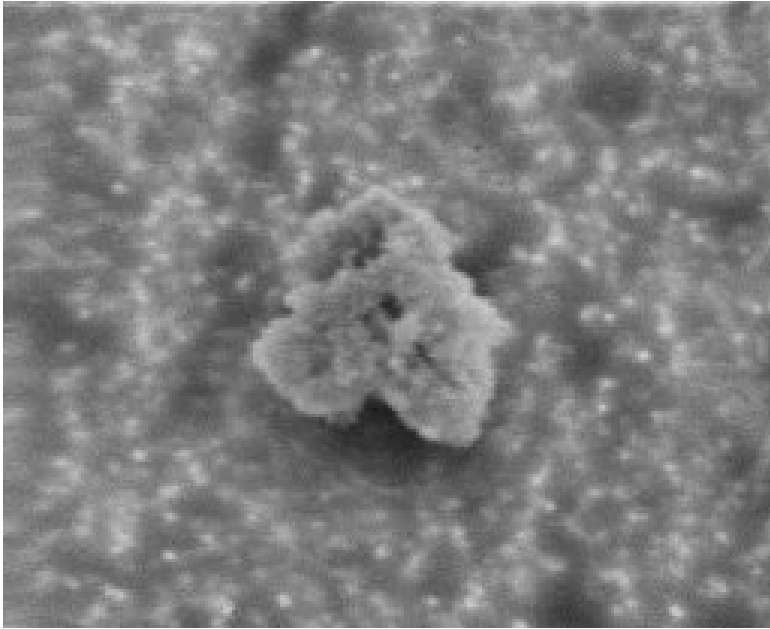
L2047 F18



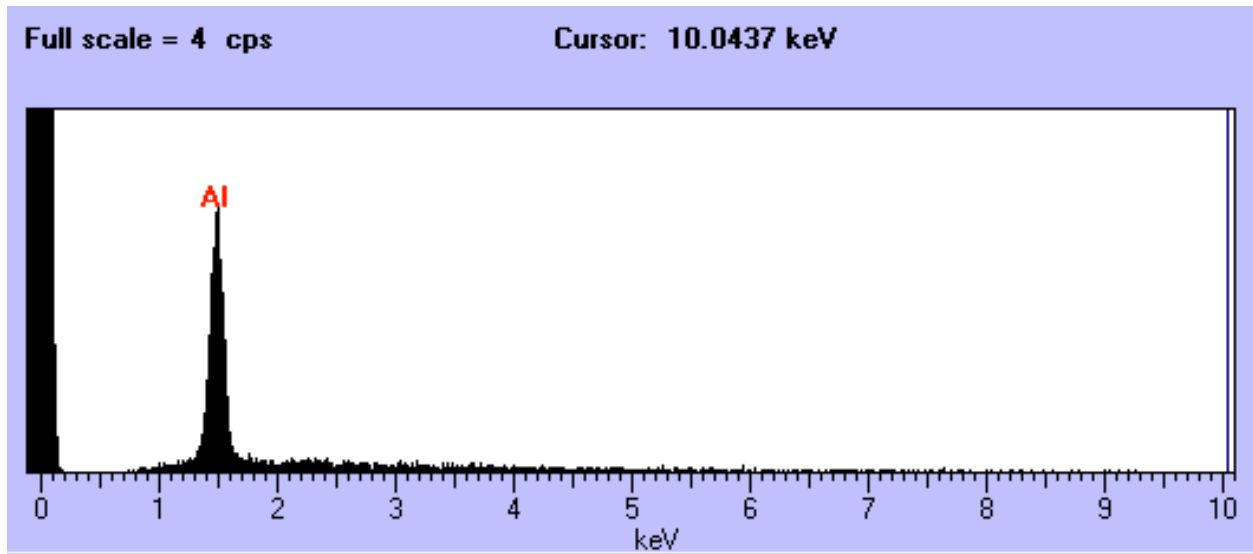
Size: 10 um
Shape: Irregular
Trans: Translucent
Color: Colorless
Luster: Pearly
Type: TCA
Comments:



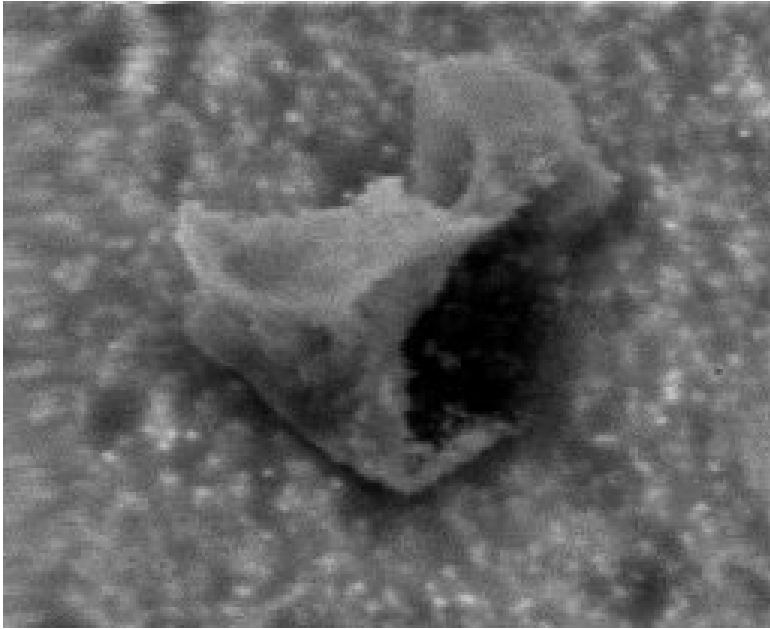
L2047 F20



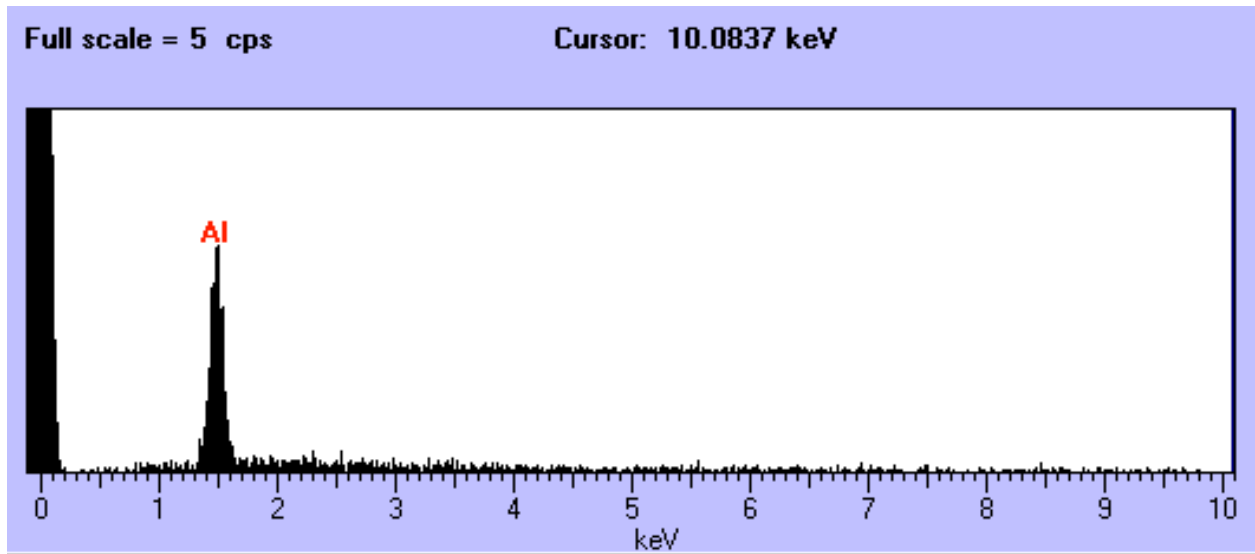
Size: 20 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Dull
Type: TCA
Comments:



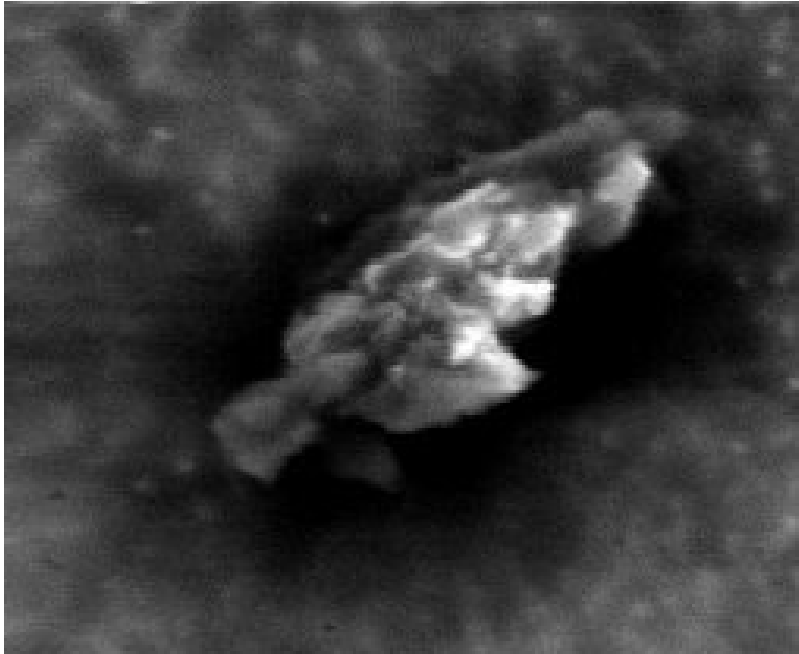
L2047 F21



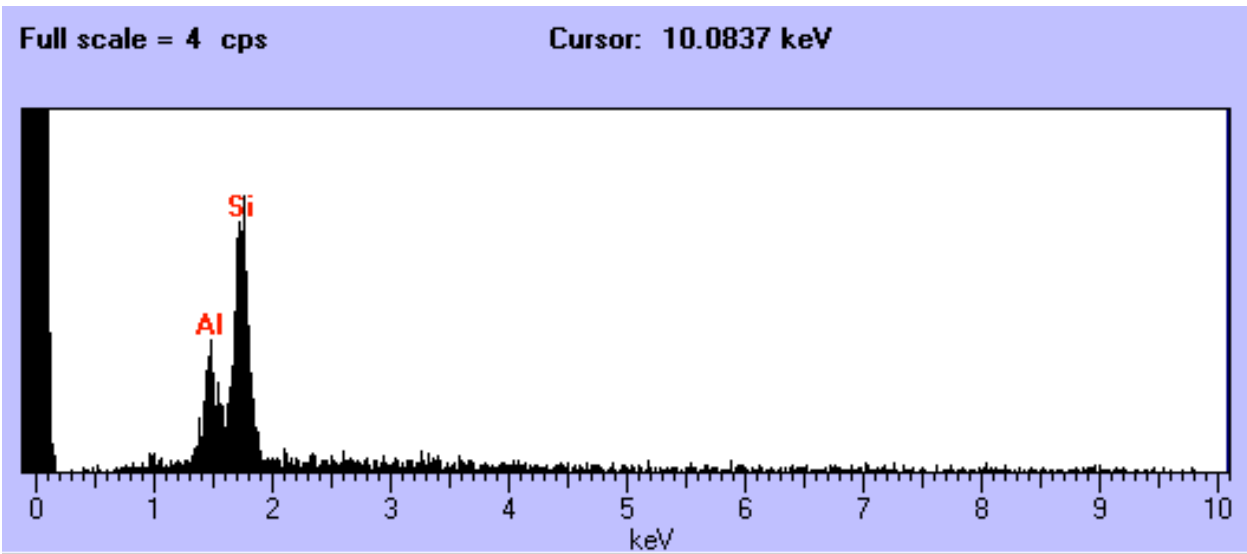
Size: 7 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Dull
Type: TCA
Comments:



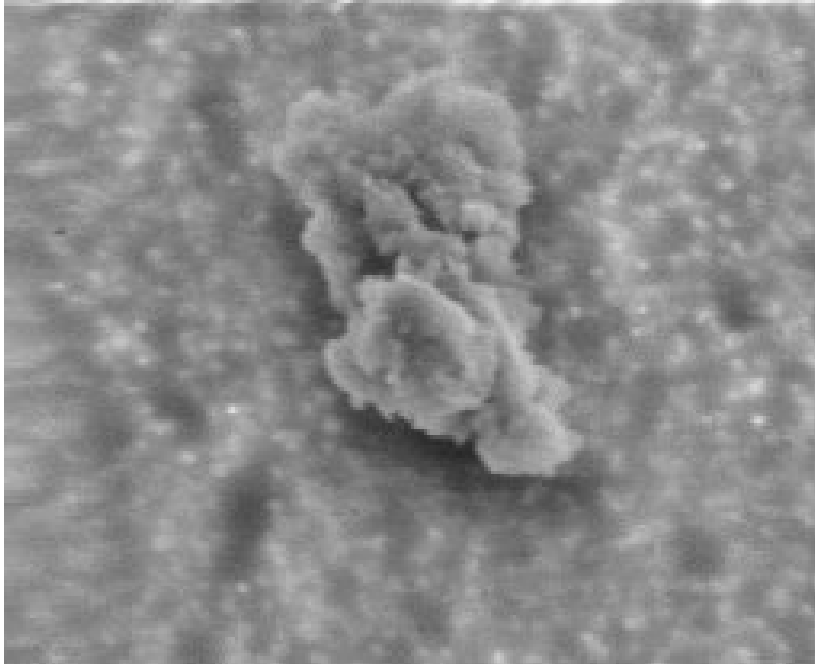
L2047 F24



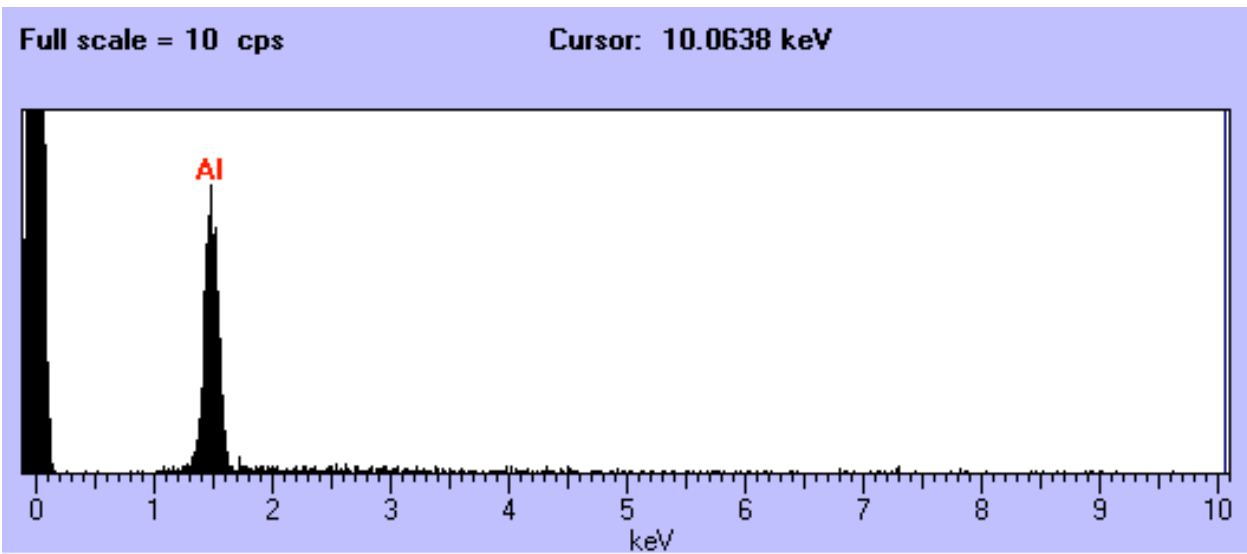
Size: 20 x 10 um
Shape: Irregular
Trans: Opaque
Color: White
Luster: Dull
Type: TCA?
Comments:



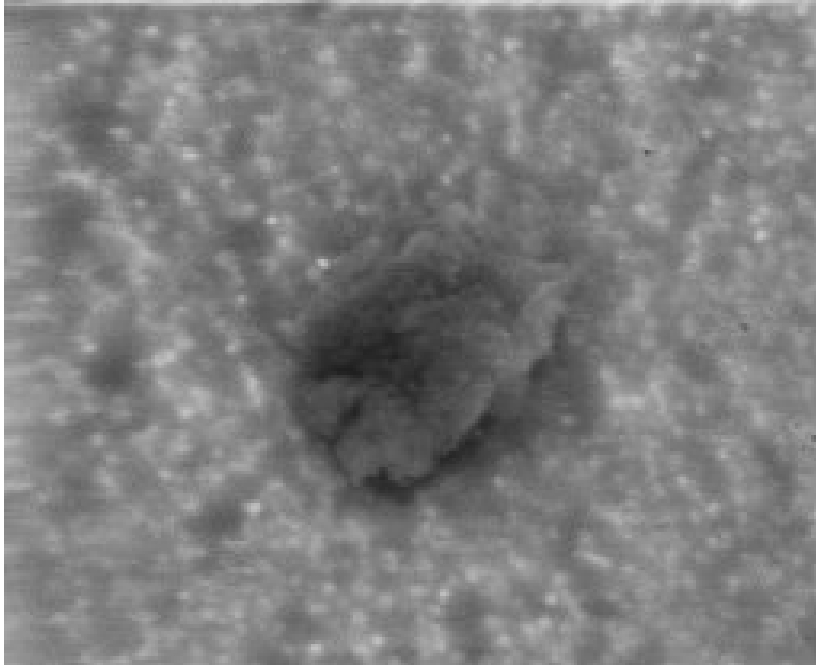
L2047 F28



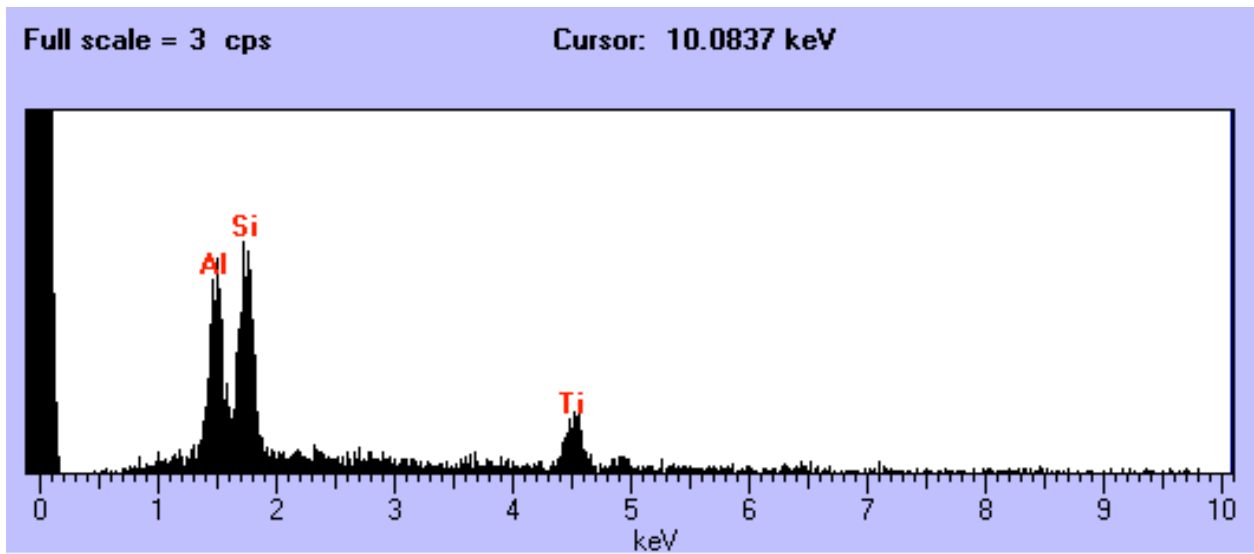
Size: 25 x 16 um
Shape: Irregular
Trans: Opaque
Color: White
Luster: Dull
Type: TCA
Comments:



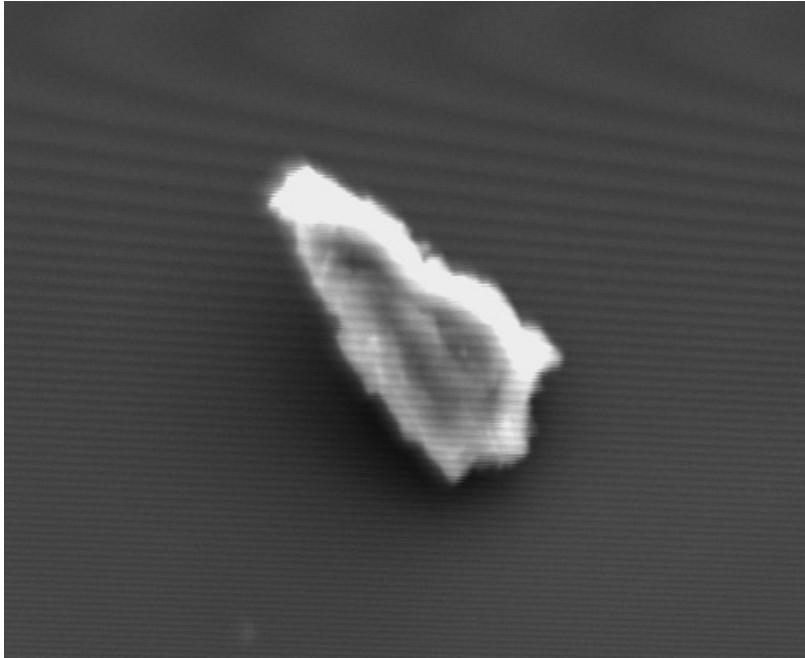
L2047 F34



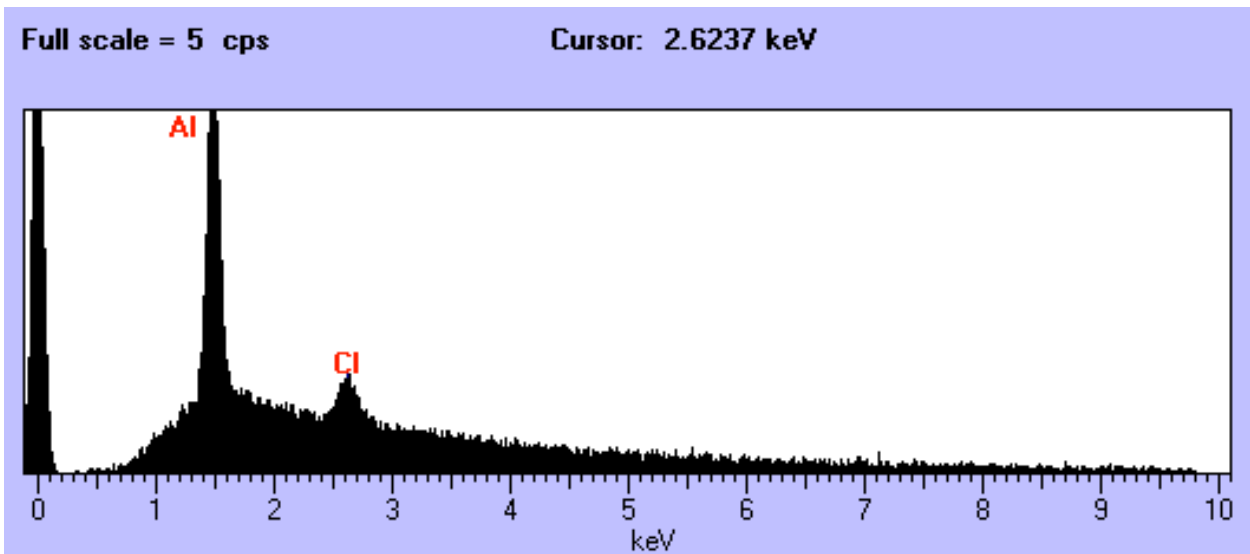
Size: 15 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCA
Comments:



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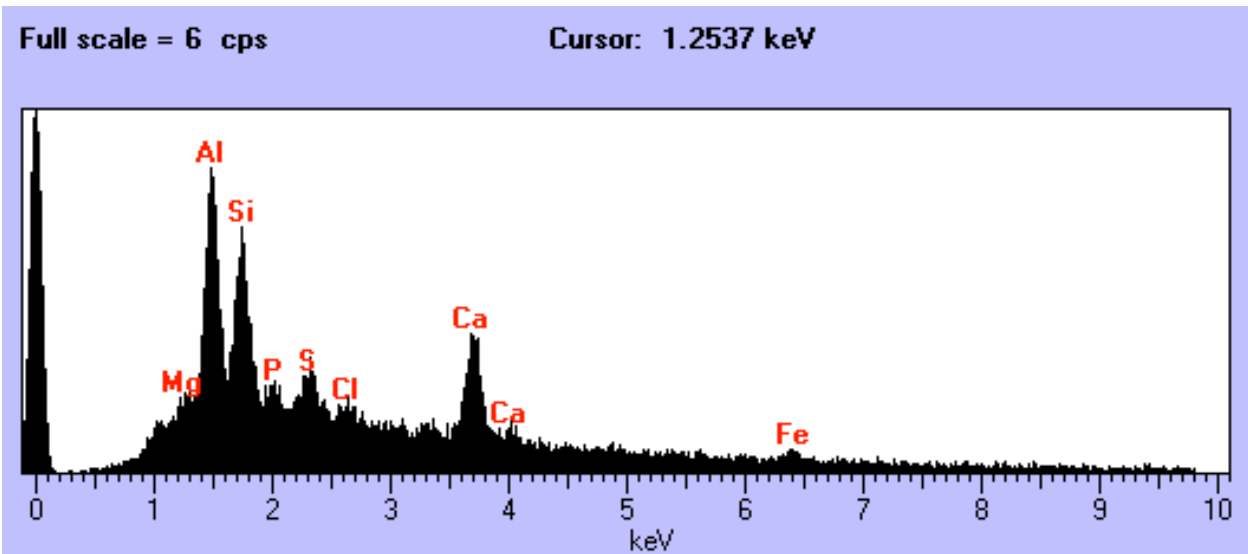
Size: 17 x 10 um
Shape: Irregular
Trans: Opaque
Color: White
Luster: Pearly
Type: TCA
Comments:



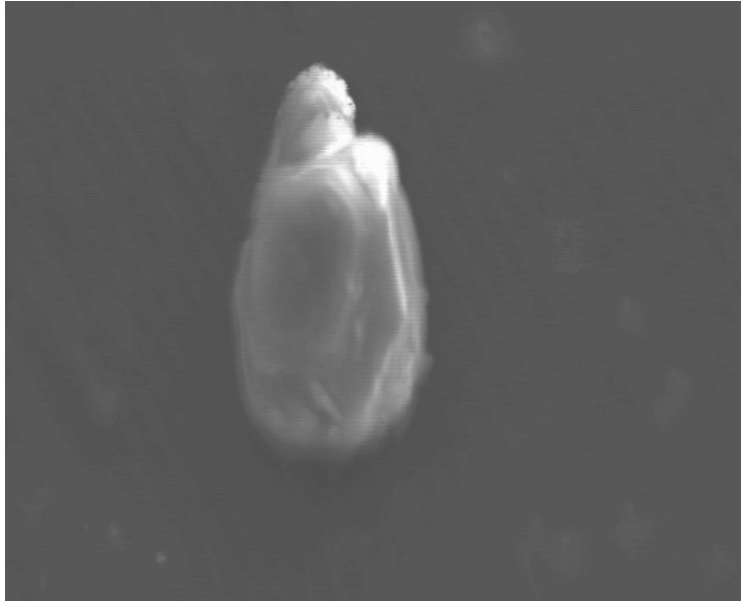
U2098 A2



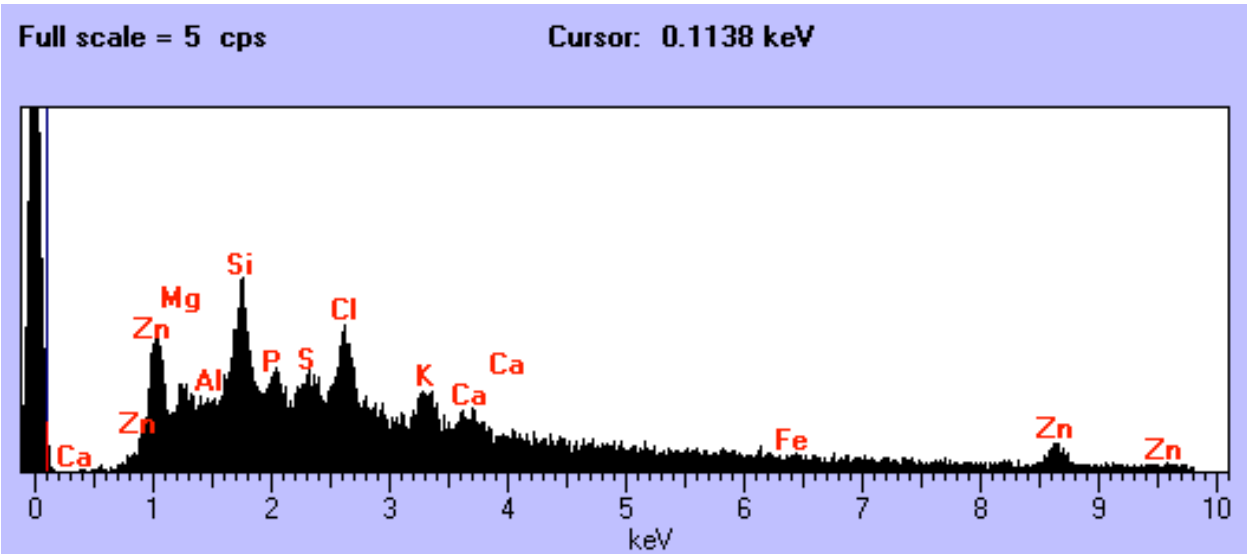
Size: 15 x 10 um
Shape: Irregular
Trans: Translucent
Color: Colorless
Luster: Vitreous
Type: TCA?
Comments:



U2098 A3



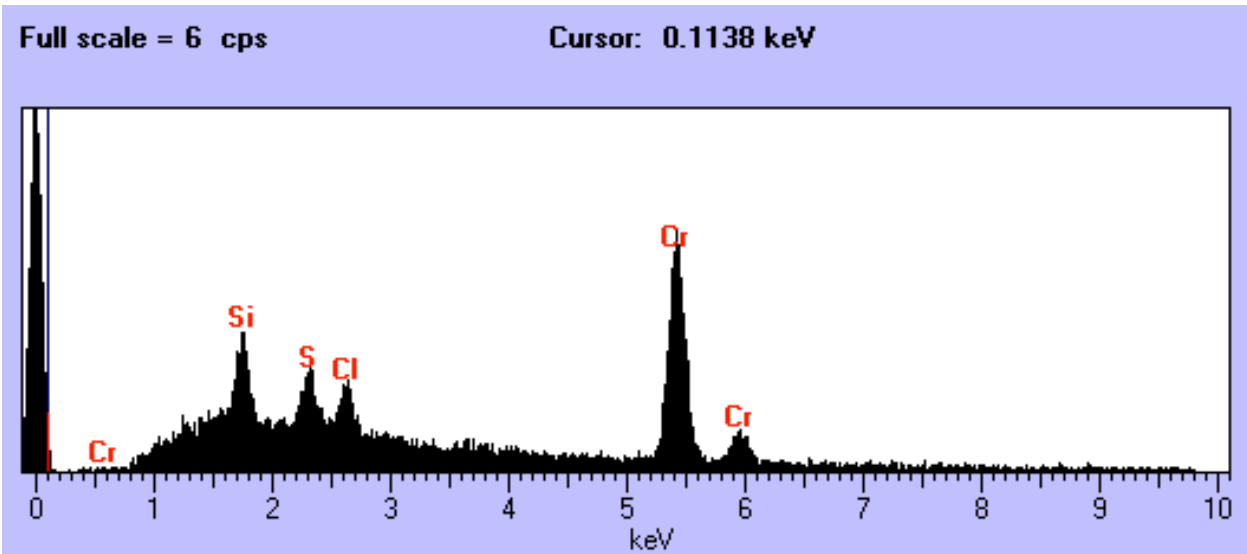
Size: 21 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Vitreous
Type: TCA
Comments:



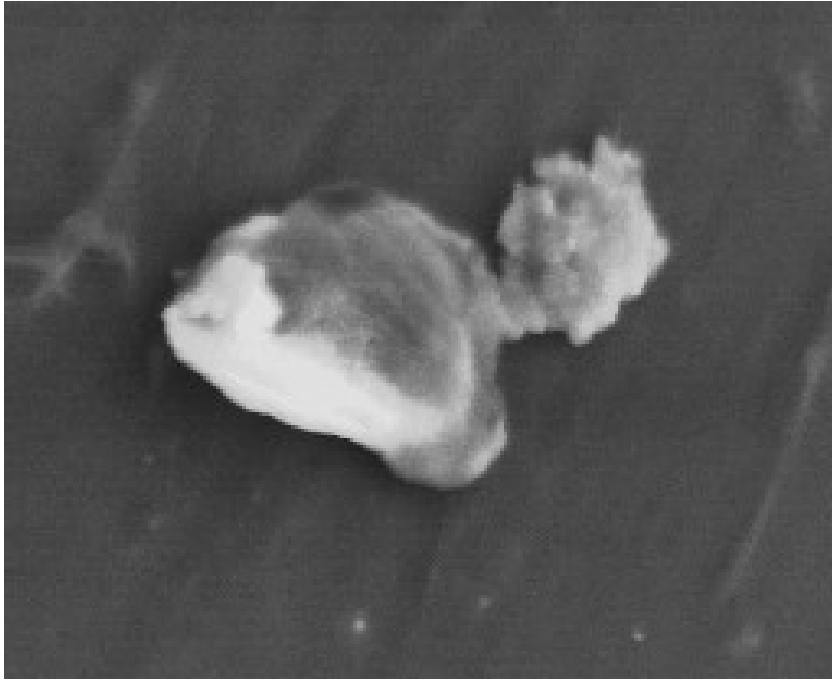
U2098 A11



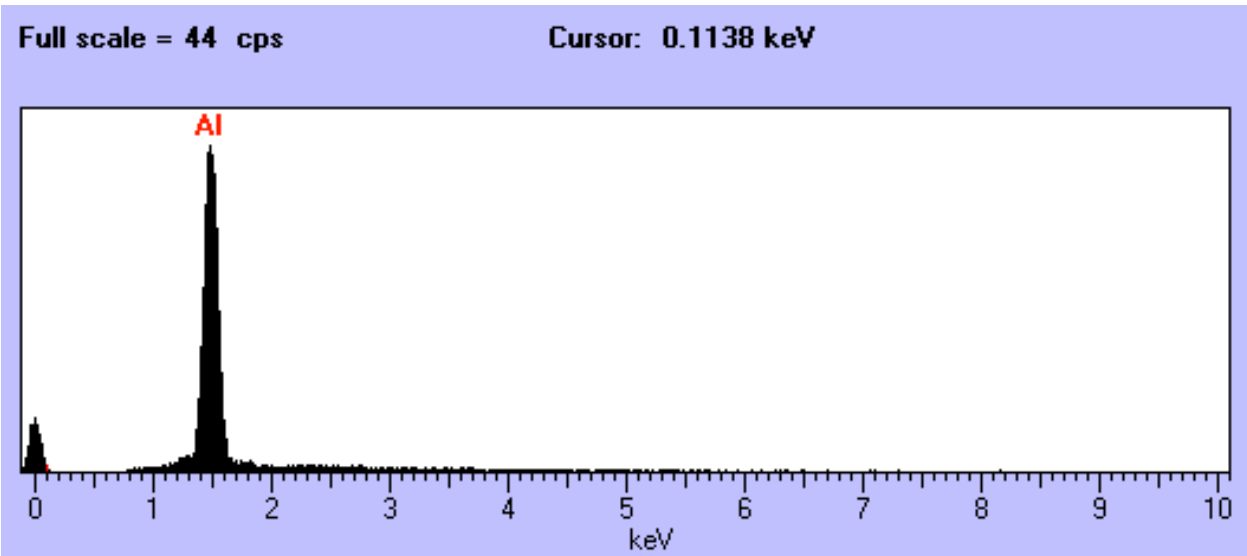
Size: 9 um
Shape: Irregular
Trans: Translucent
Color: Black
Luster: Subvitreous
Type: TCA
Comments:



U2098 A13



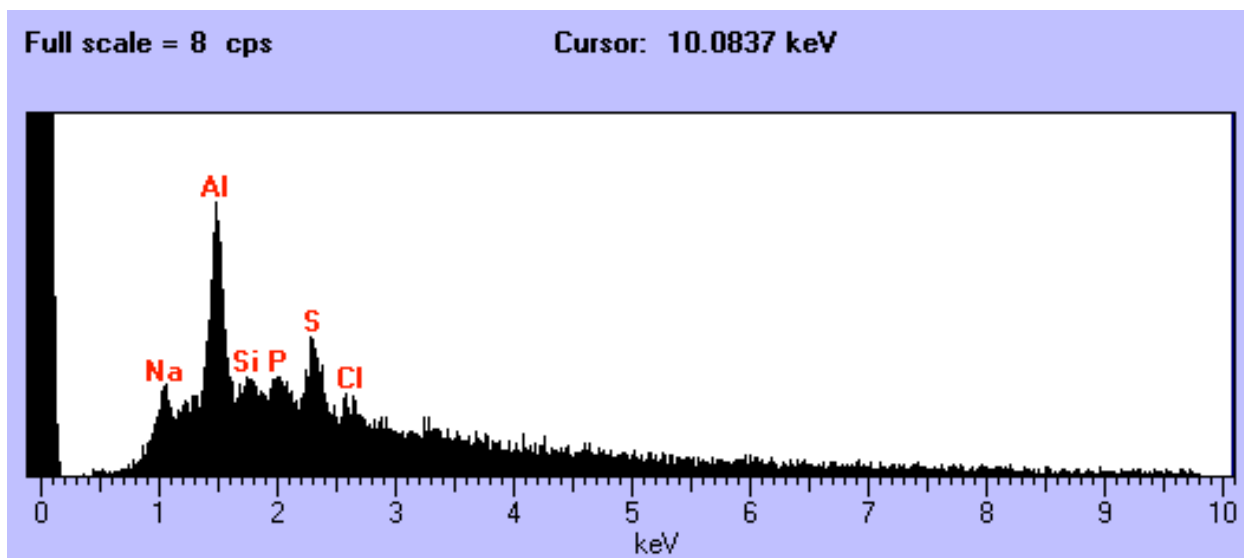
Size: 38 x 15 um
Shape: Irregular
Trans: Translucent
Color: Colorless
Luster: Vitreous
Type: TCA
Comments:



U2098 B1



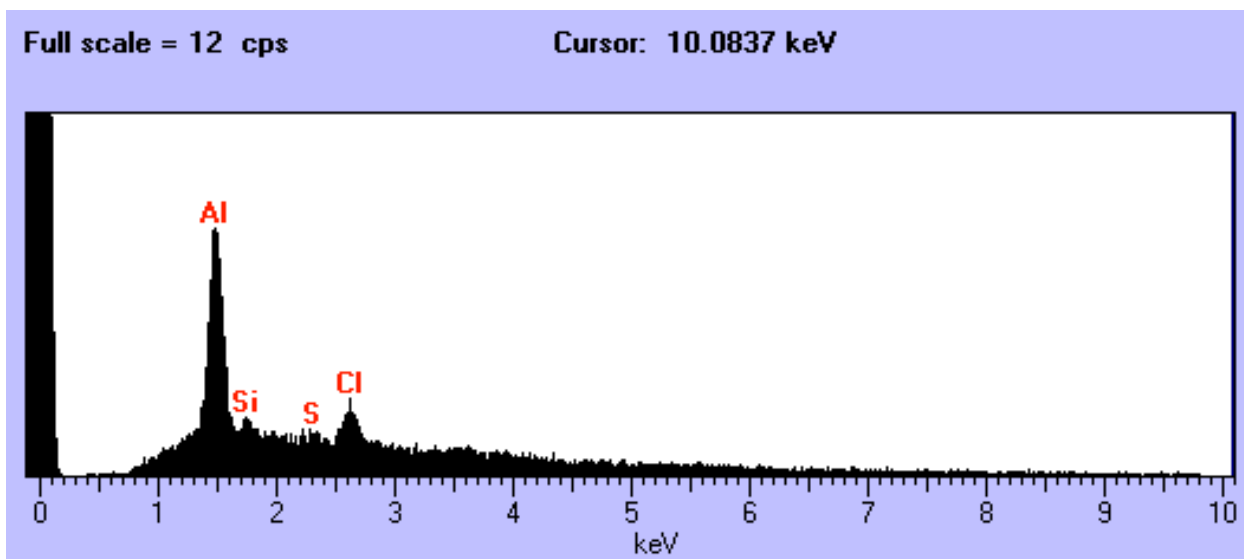
Size: 13 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Vitreous
Type: TCA?
Comments:



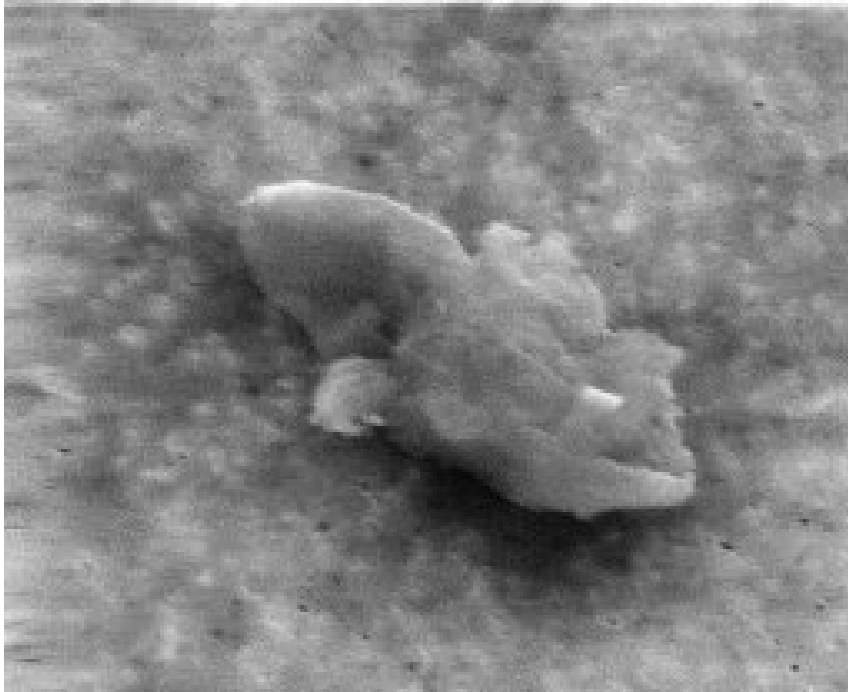
U2098 B2



Size: 20 x 18 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCA
Comments:



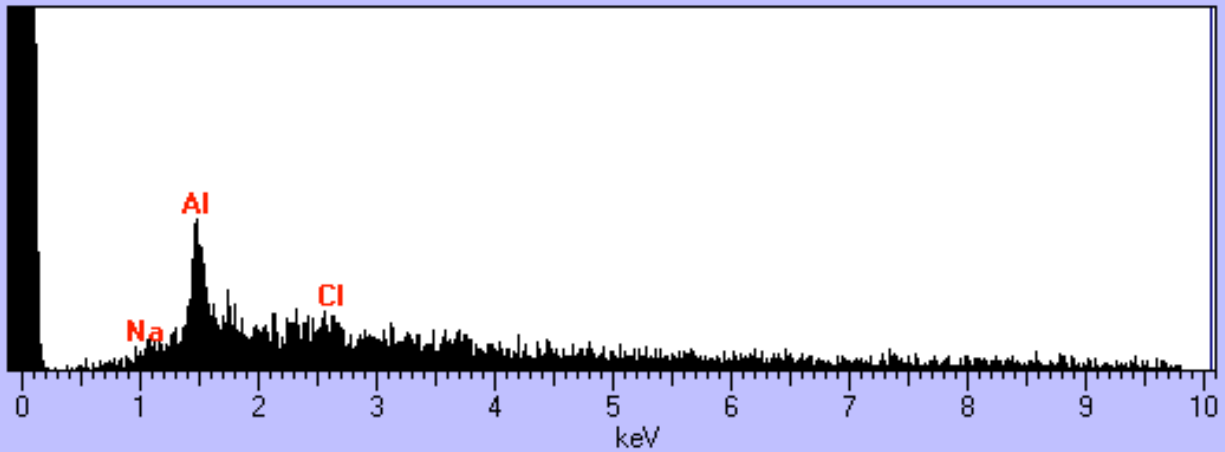
U2098 B3



Size: 30 x 18 um
Shape: Irregular
Trans: Opaque
Color: Silver
Luster: Submetallic
Type: TCA
Comments:

Full scale = 2 cps

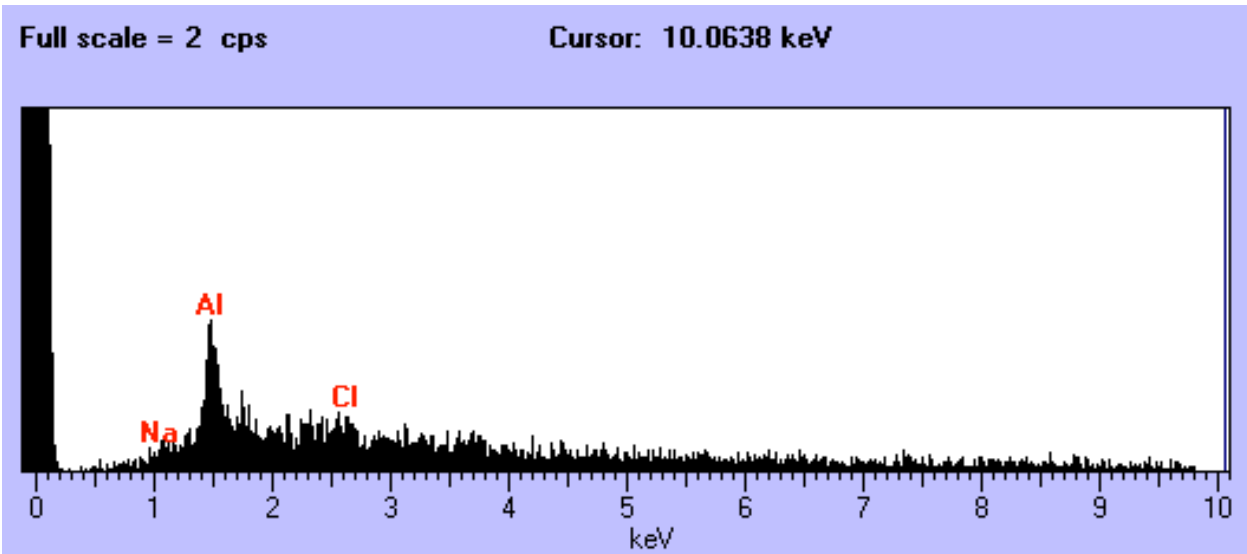
Cursor: 10.0638 keV



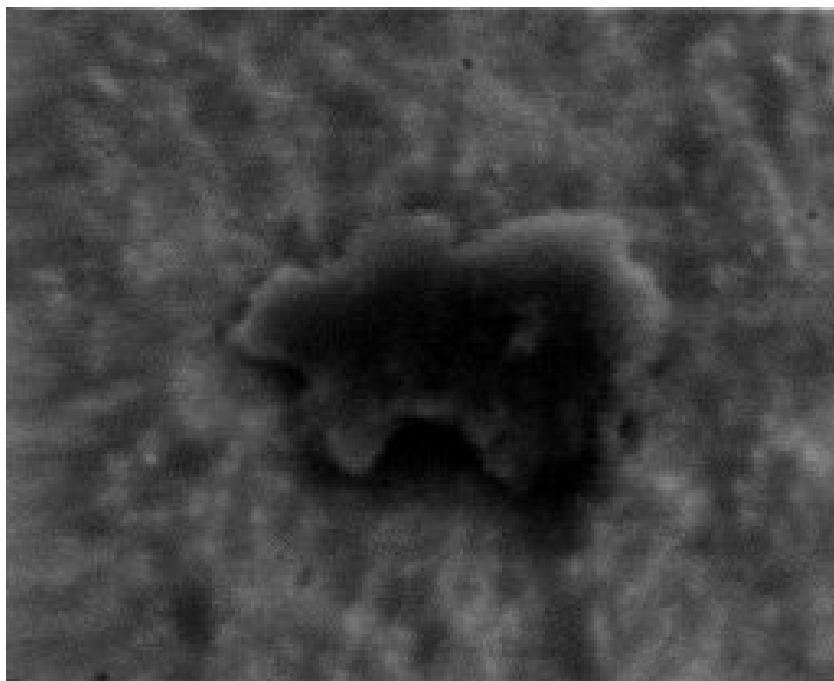
U2098 B4



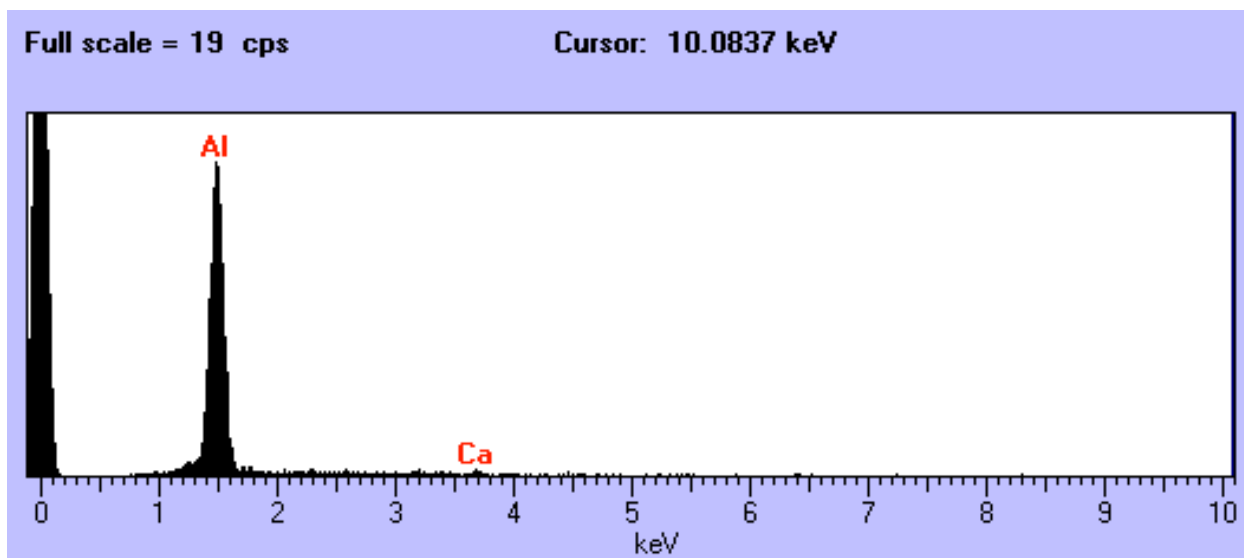
Size: 30 x 15 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCA
Comments:



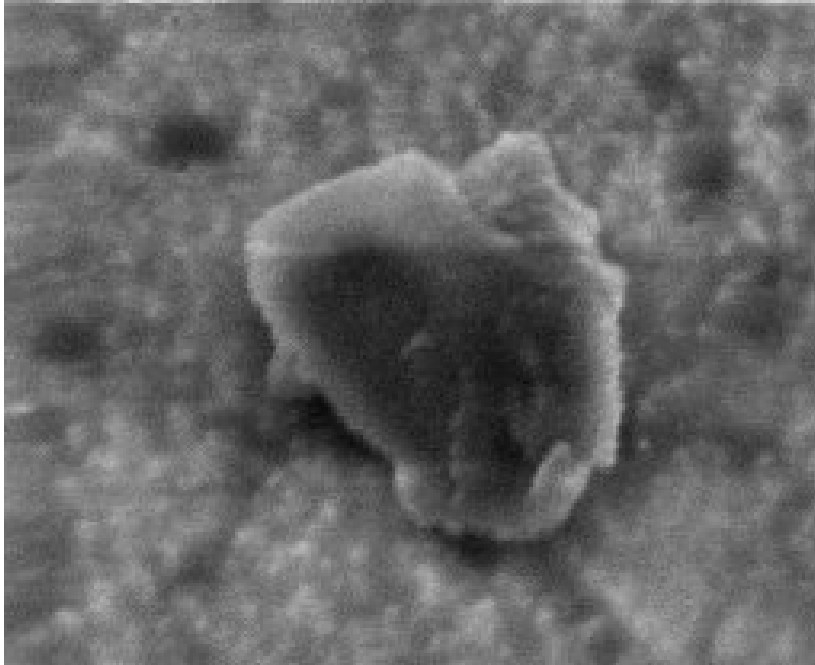
U2098 B8



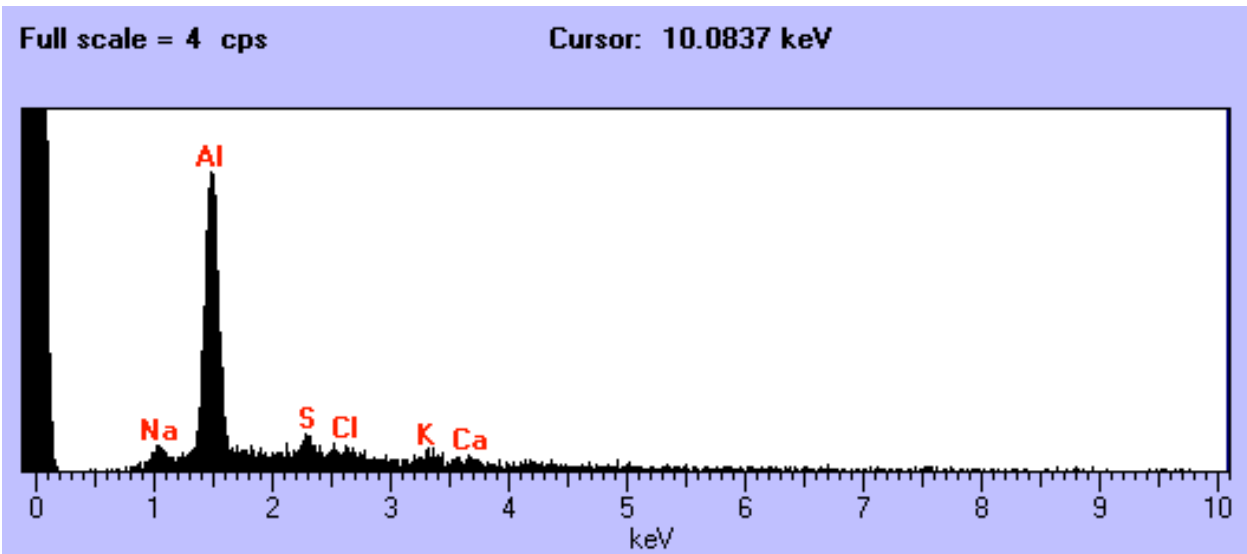
Size: 18 x 15 um
Shape: Irregular
Trans: Opaque
Color: Silver
Luster: Metallic
Type: TCA
Comments:



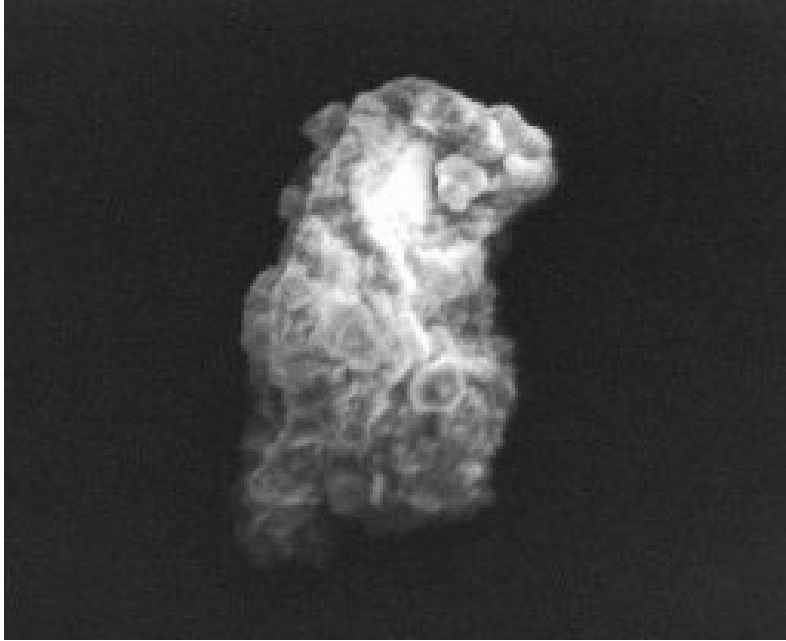
U2098 B12



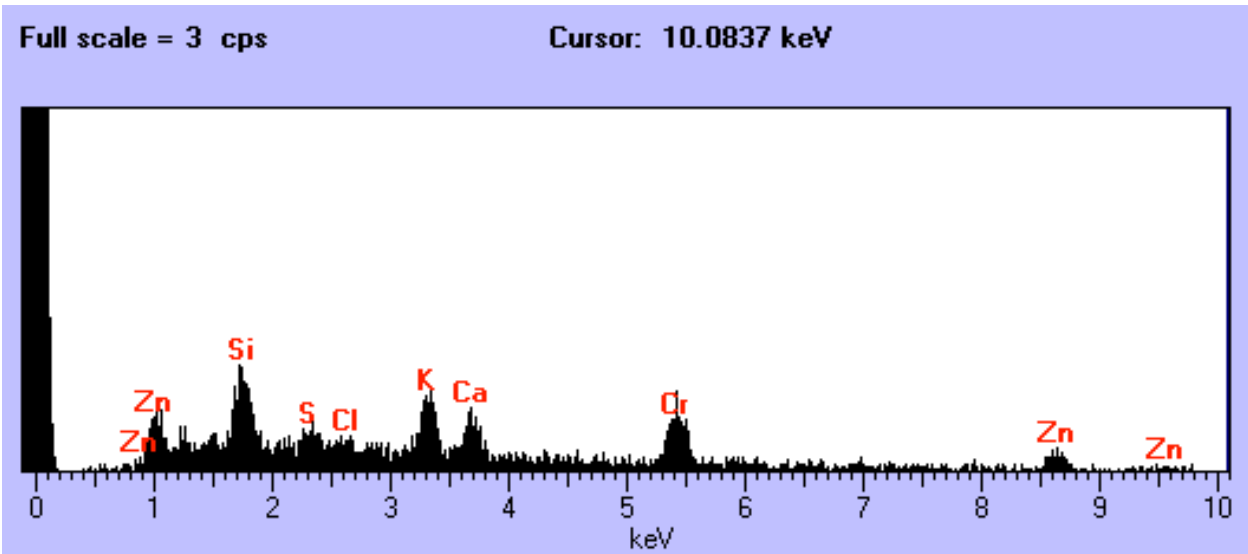
Size: 30 x 22 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Metallic
Type: TCA
Comments:



U2098 B21



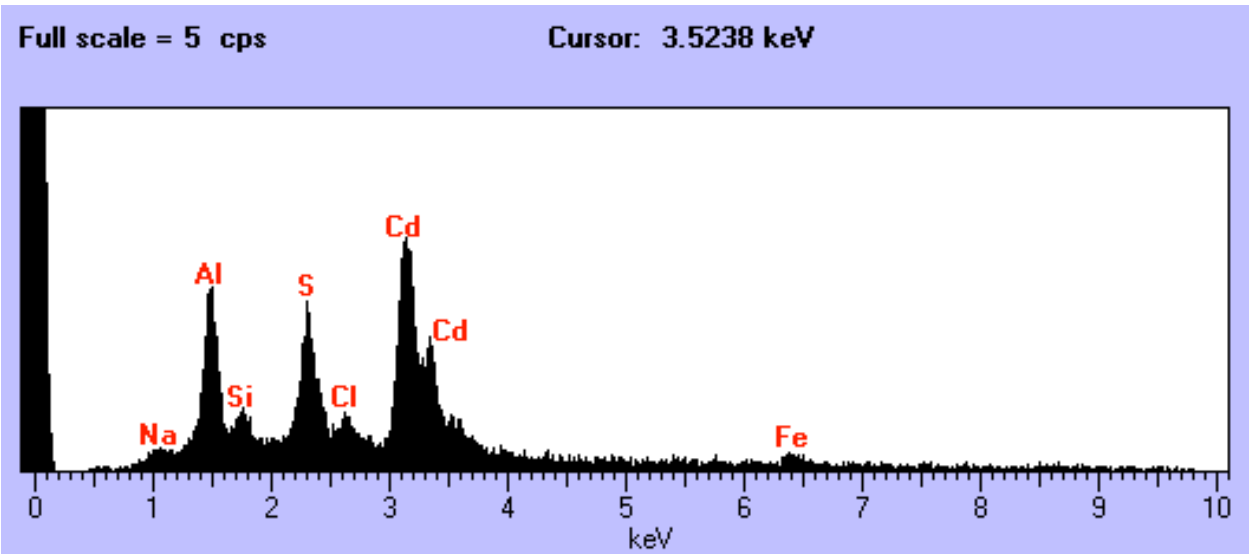
Size: 50 x 28 um
Shape: Irregular
Trans: Translucent
Color: Yellow
Luster: Subvitreous
Type: TCA?
Comments:



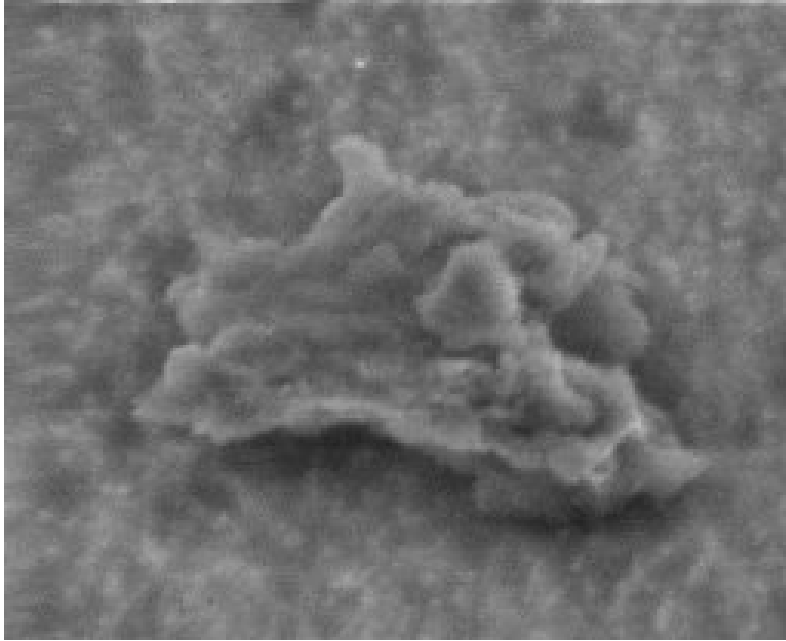
U2098 B24



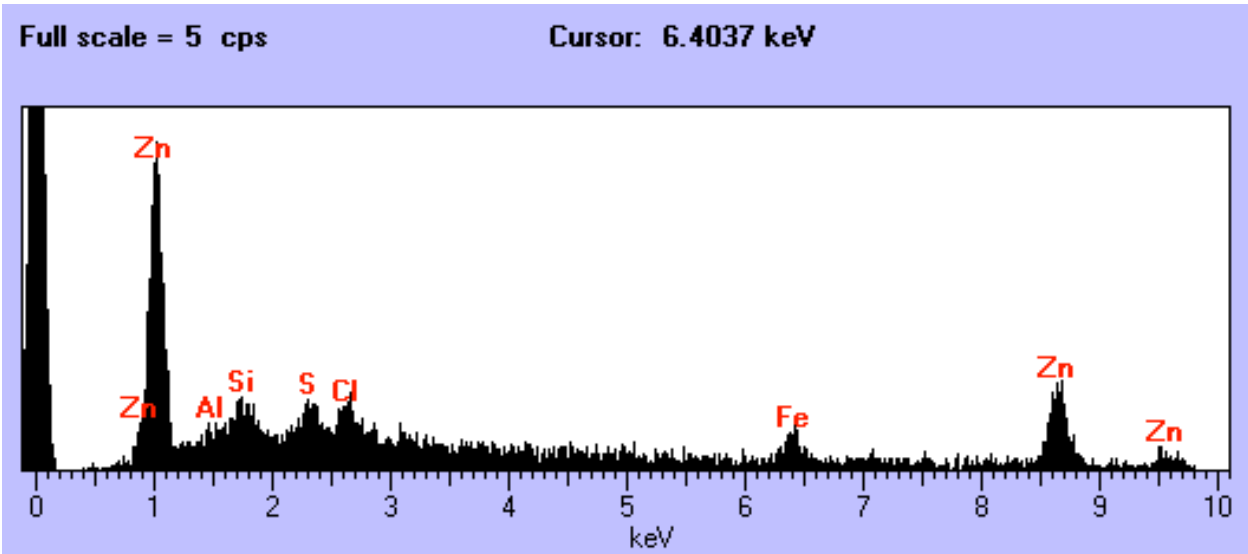
Size: 22 x 10 um
Shape: Irregular
Trans: Transparent
Color: White
Luster: Vitreous
Type: TCA
Comments:



U2098 B28



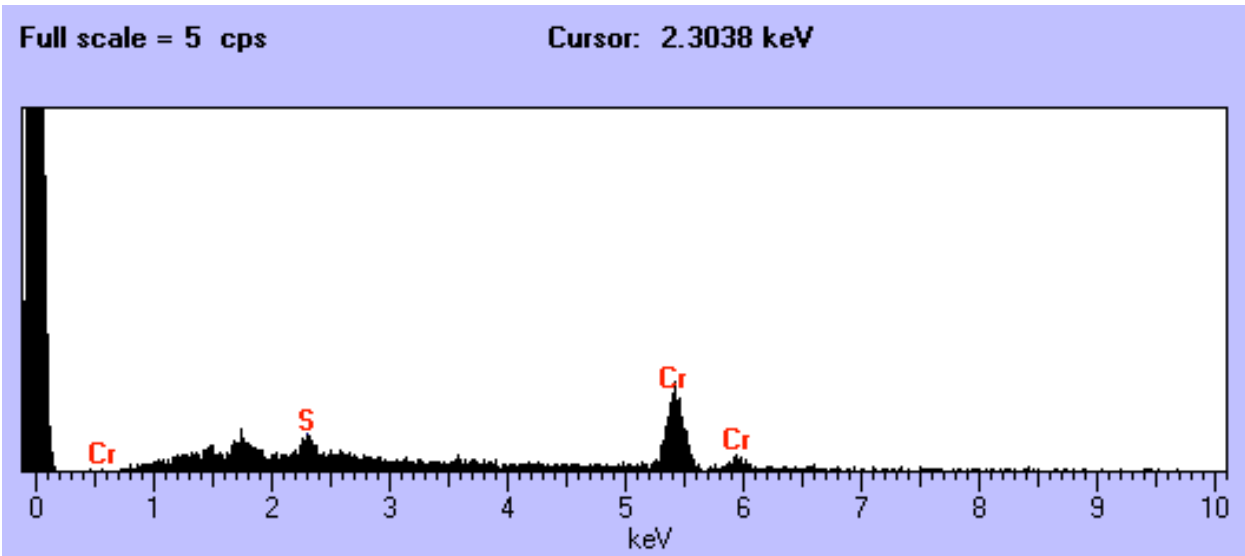
Size: 42 x 25 um
Shape: Irregular
Trans: Opaque
Color: Silver
Luster: Metallic
Type: TCA
Comments:



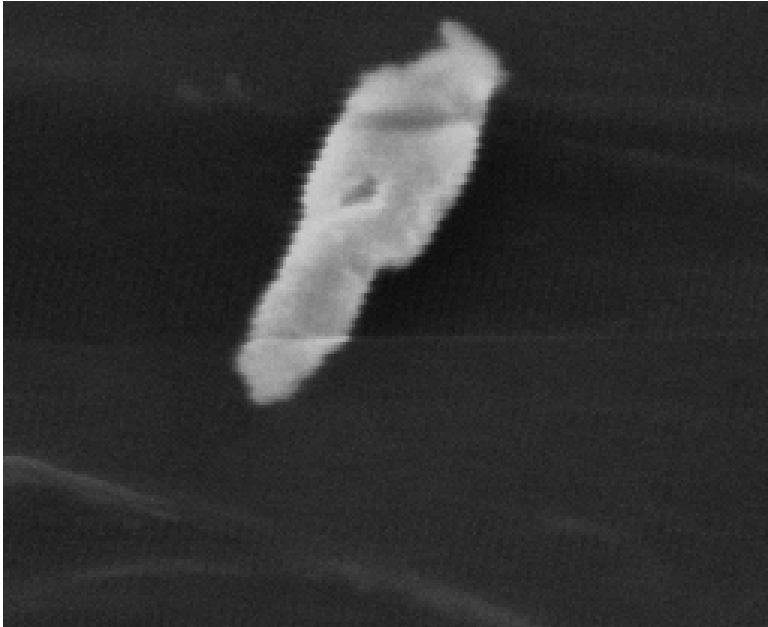
U2097 A1



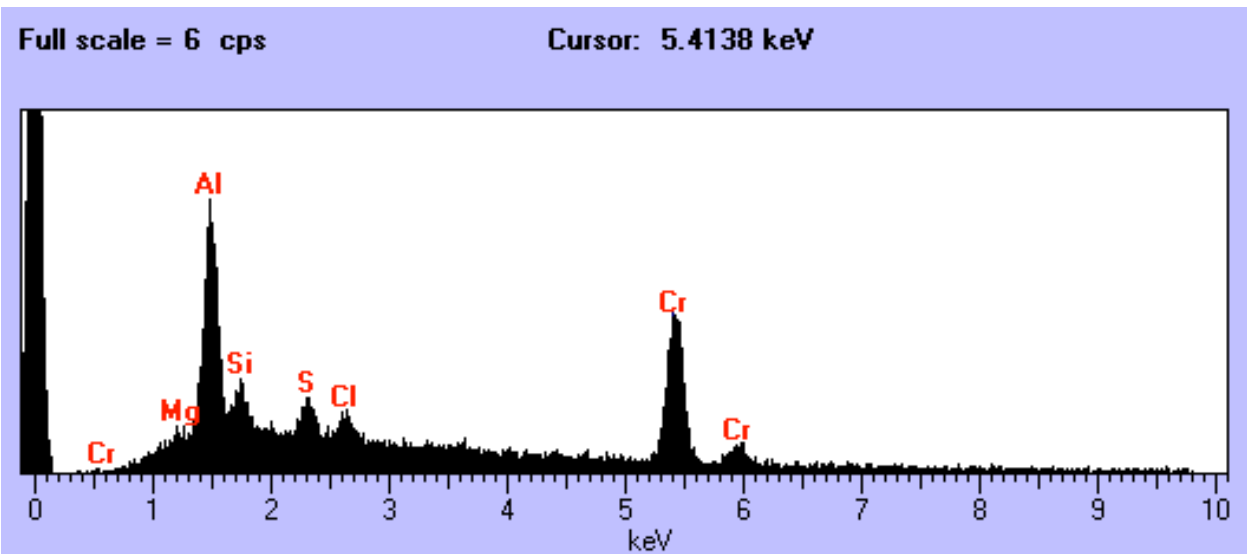
Size: 5 um
Shape: Irregular
Trans: Translucent
Color: Colorless
Luster: Vitreous
Type: TCA
Comments:



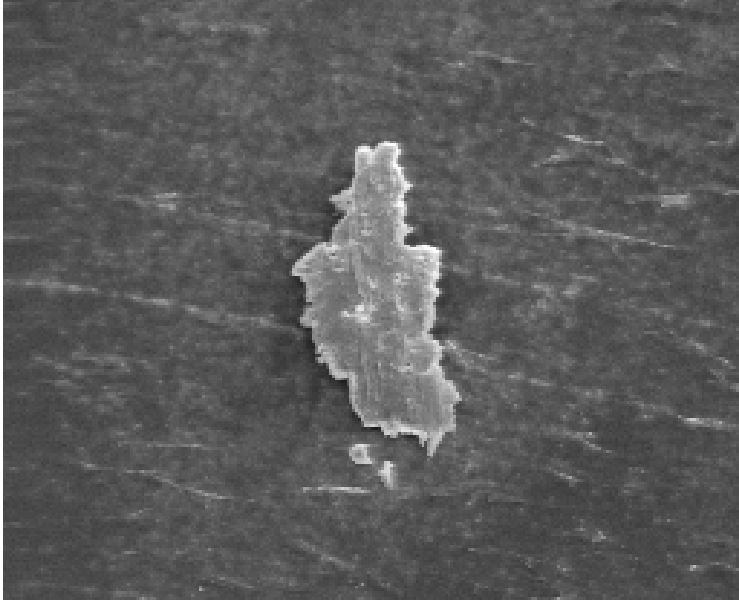
U2097 A7



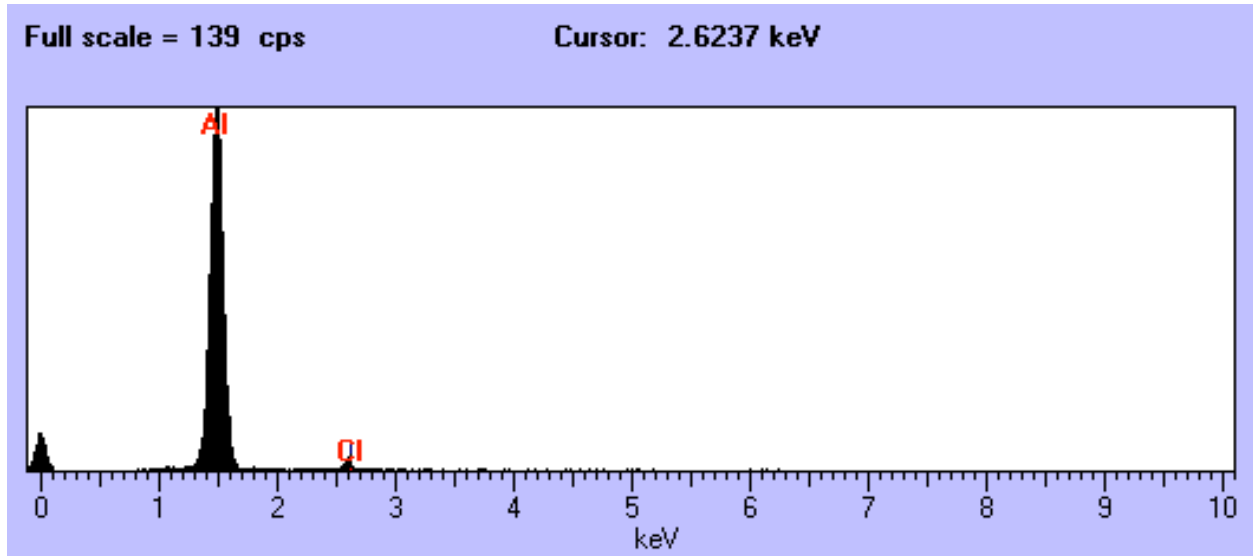
Size: 20 x 8 um
Shape: Irregular
Trans: Translucent
Color: Gold
Luster: Subvitreous
Type: TCA
Comments:



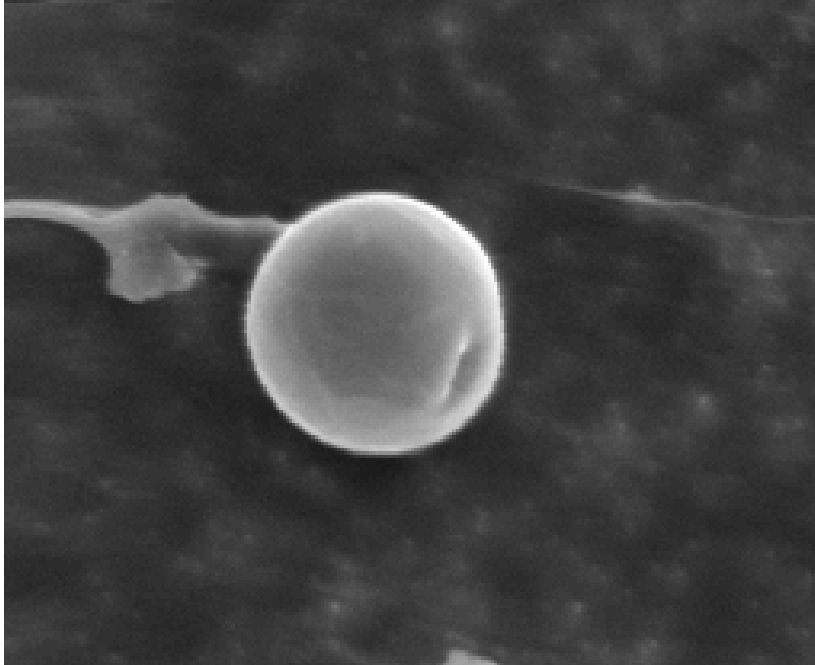
U2097 A13



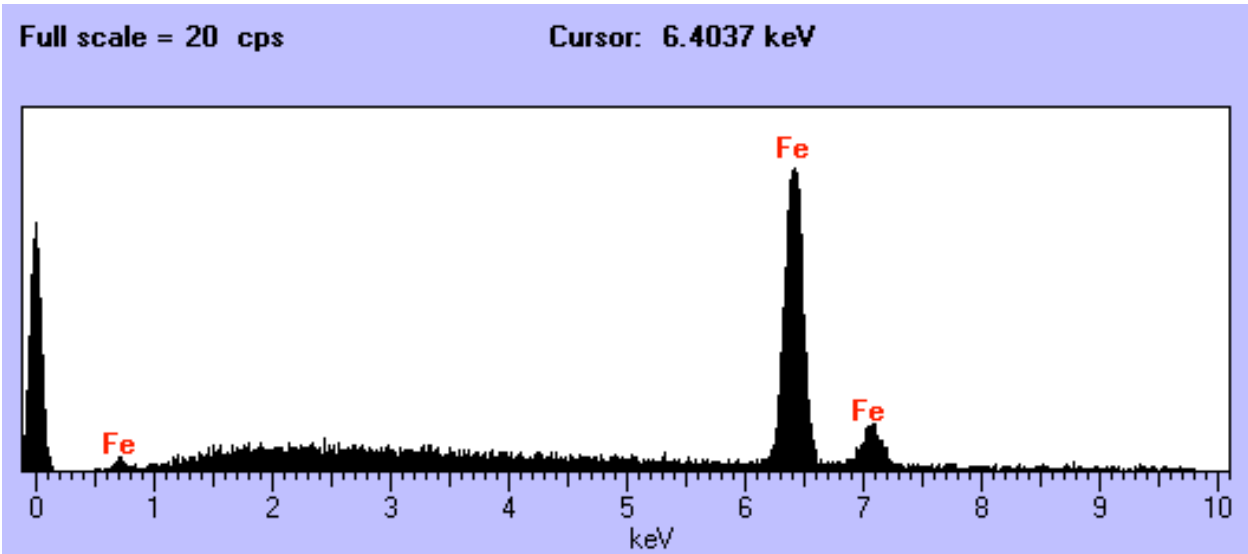
Size: 70 x 30 um
Shape: Irregular
Trans: Opaque
Color: Silver
Luster: Dull/Submetallic
Type: TCA
Comments:



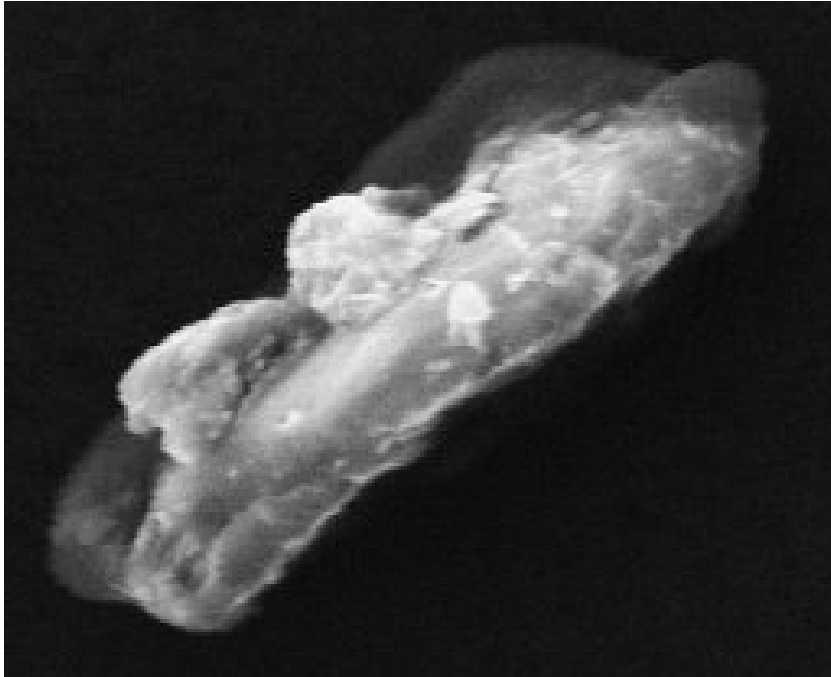
U2097 A14



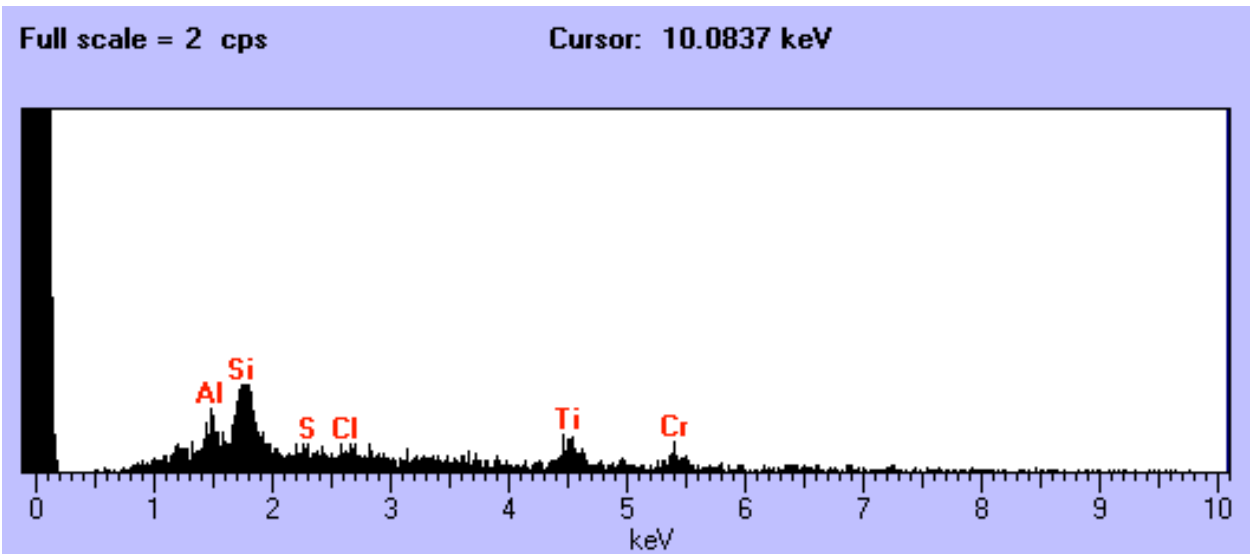
Size: 10 um
Shape: Sphere
Trans: Opaque
Color: Black
Luster: Dull/Submetallic
Type: TCA?
Comments:



U2097 B11



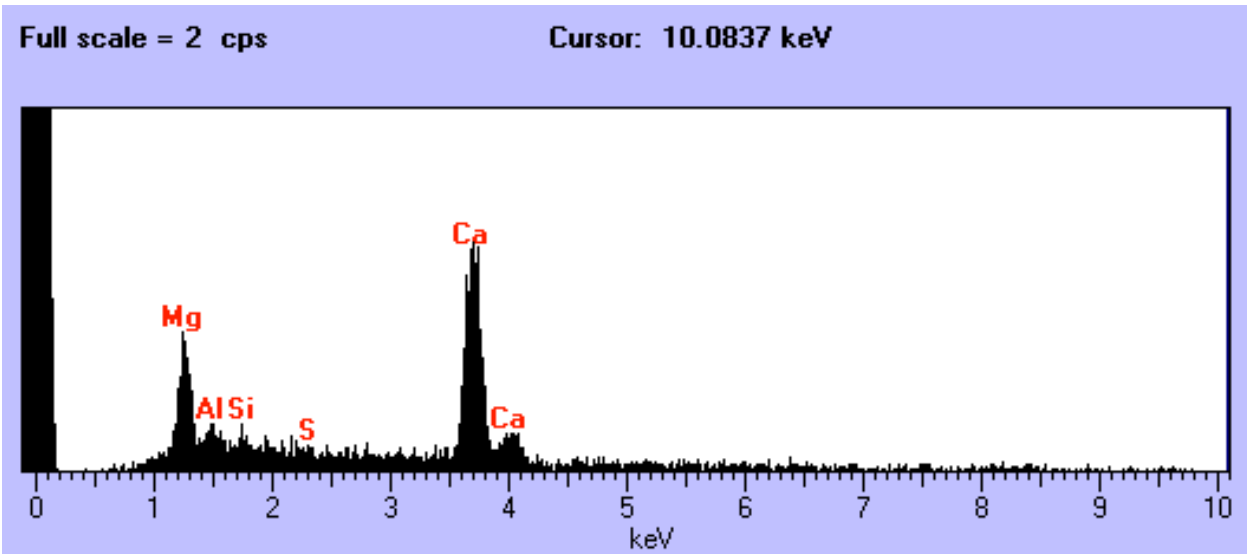
Size: 45 x 22 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCA
Comments:



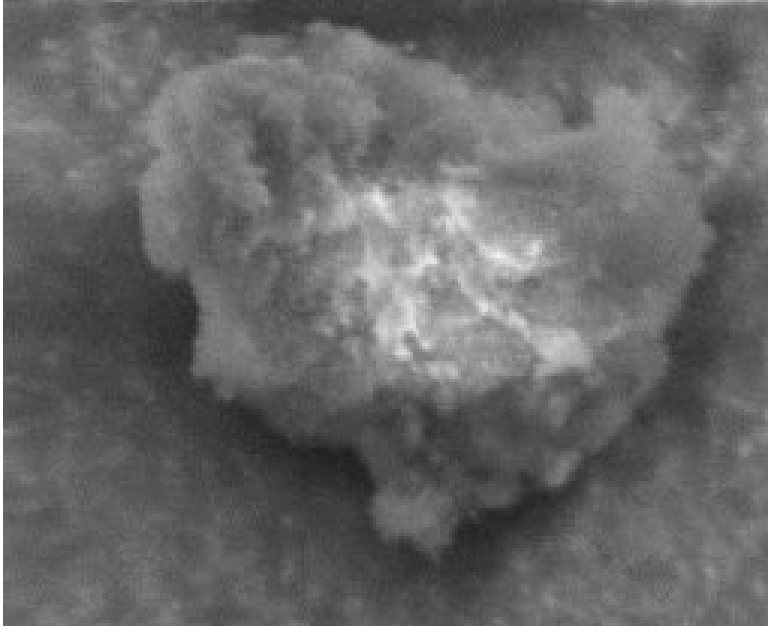
U2097 B23



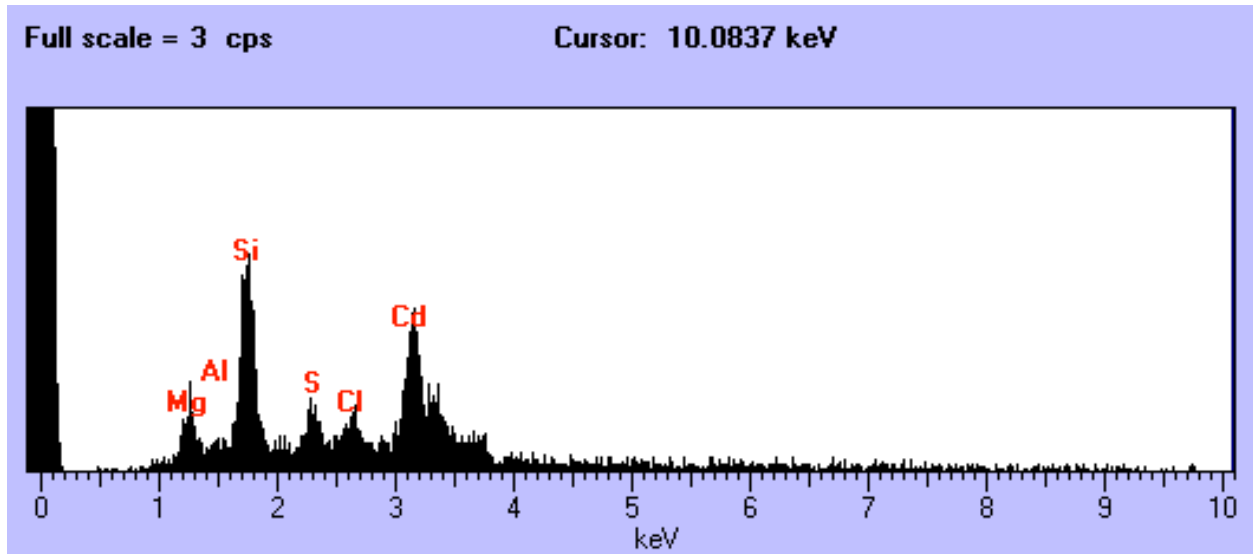
Size: 25 x 20 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Pearly
Type: TCA?
Comments:



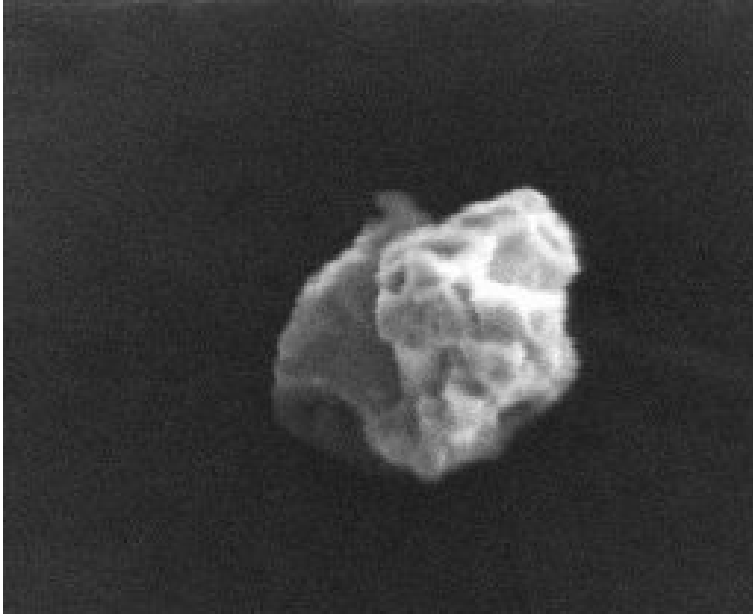
U2097 B27



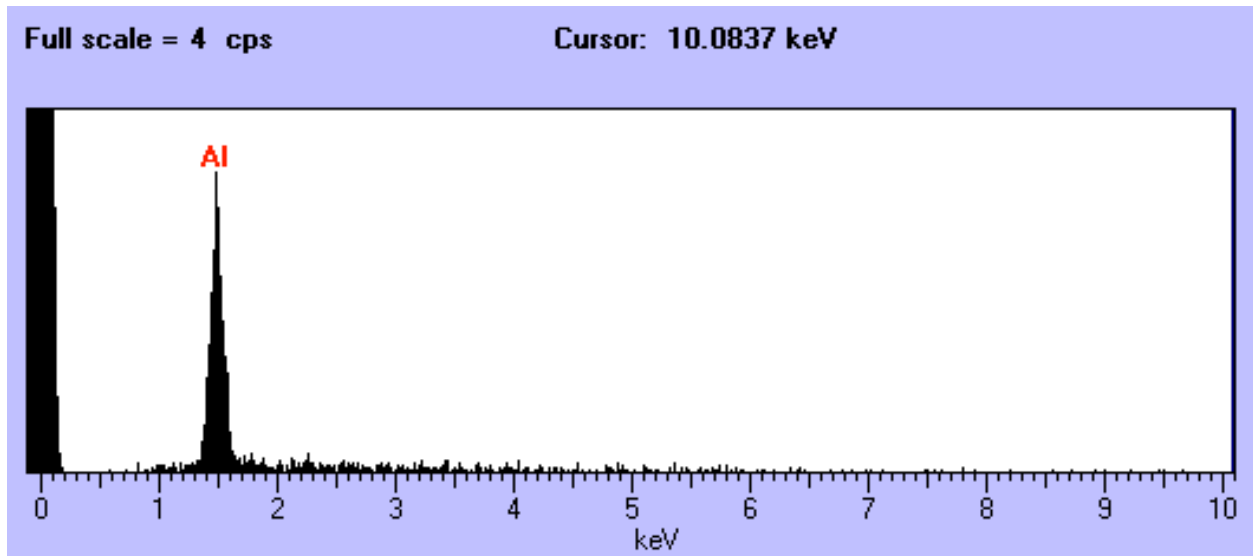
Size: 48 x 32 um
Shape: Irregular
Trans: Translucent
Color: Brown
Luster: Dull/Subvitreous
Type: TCA
Comments:



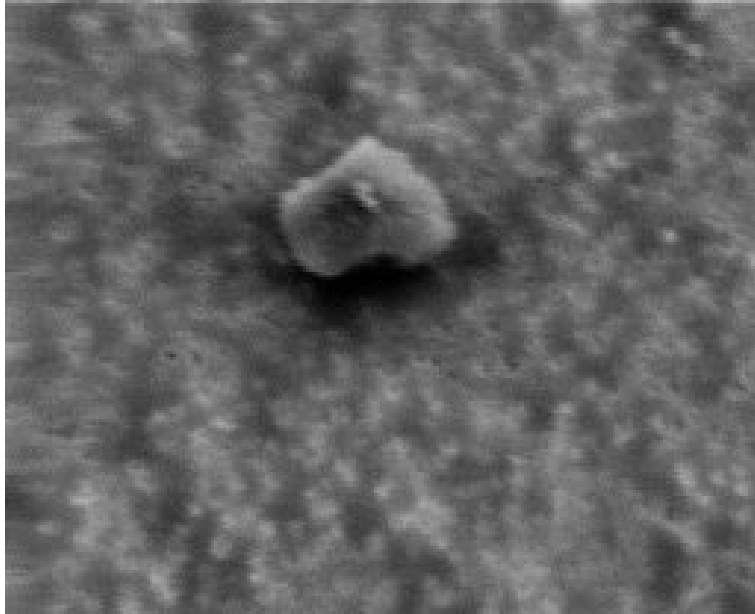
U2097 B30



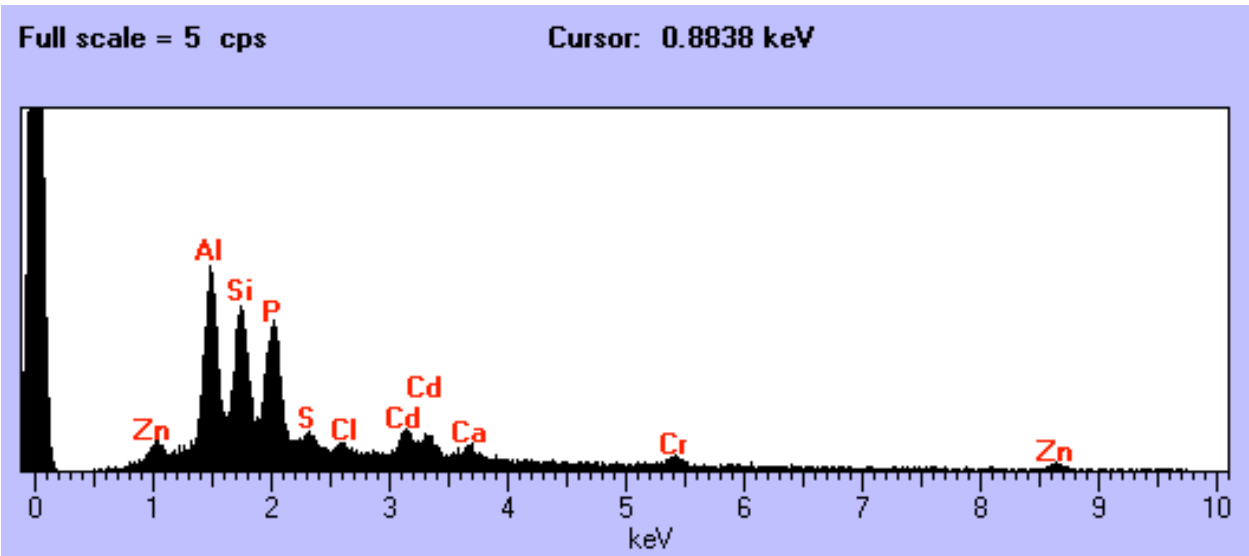
Size: 17 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Dull/Subvitreous
Type: TCA
Comments:



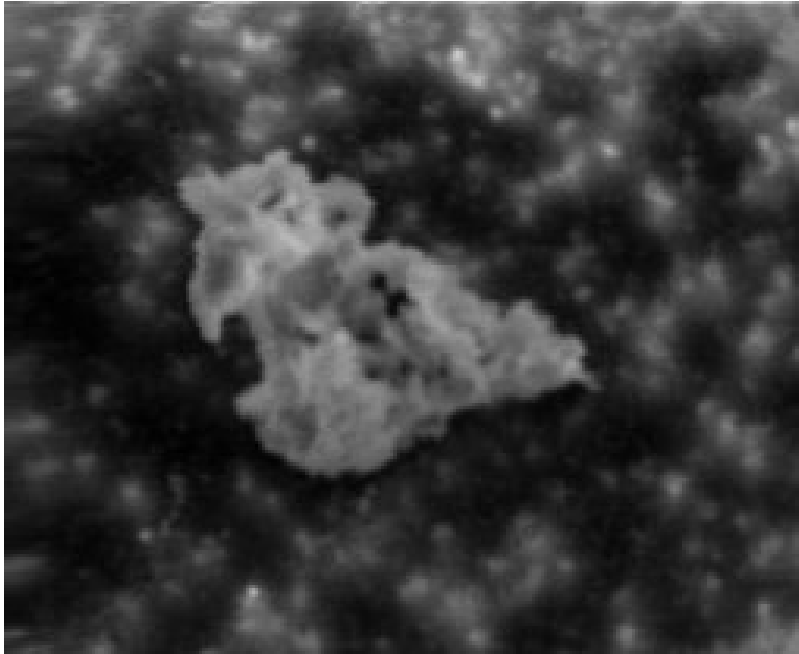
U2099 A6



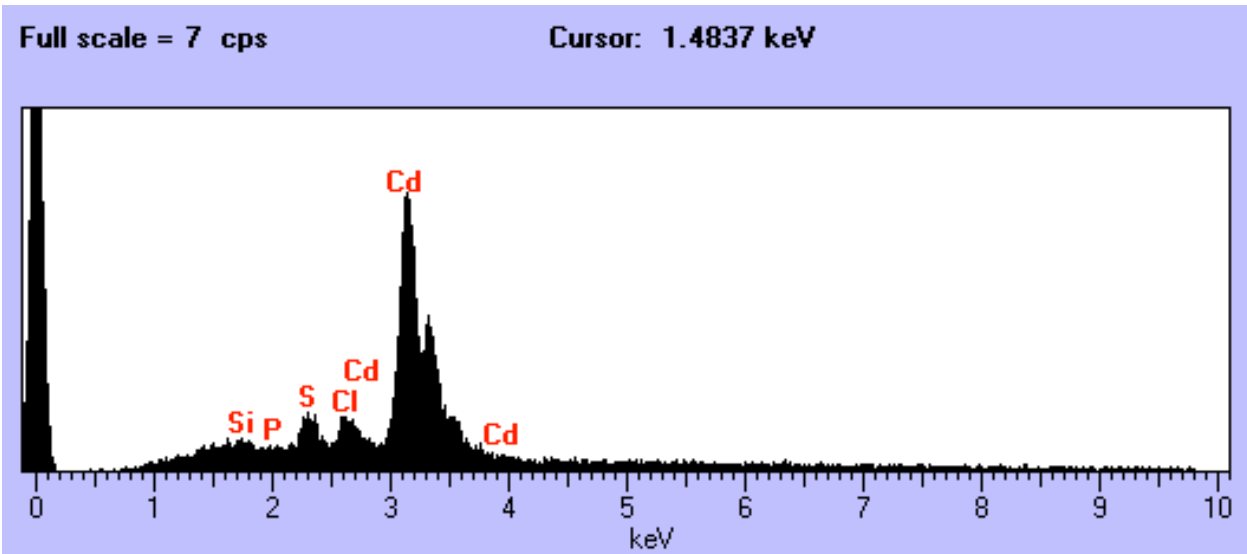
Size: 8 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCA
Comments:



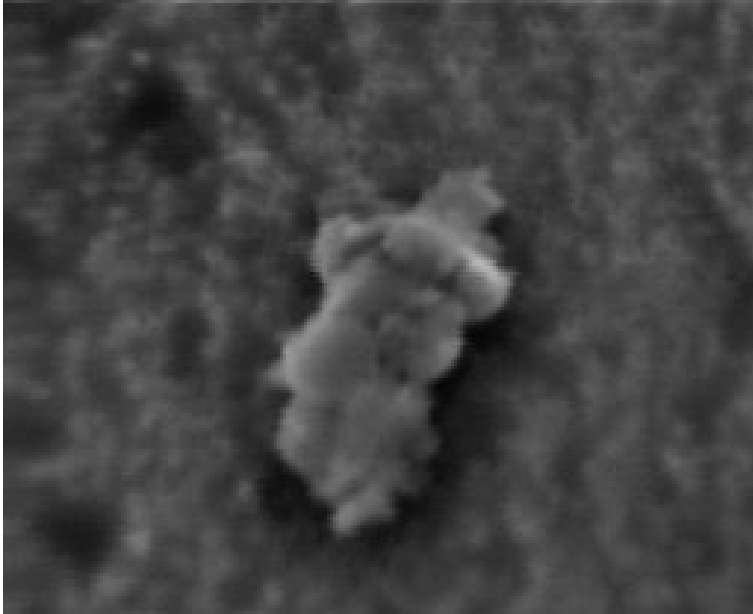
U2099 A7



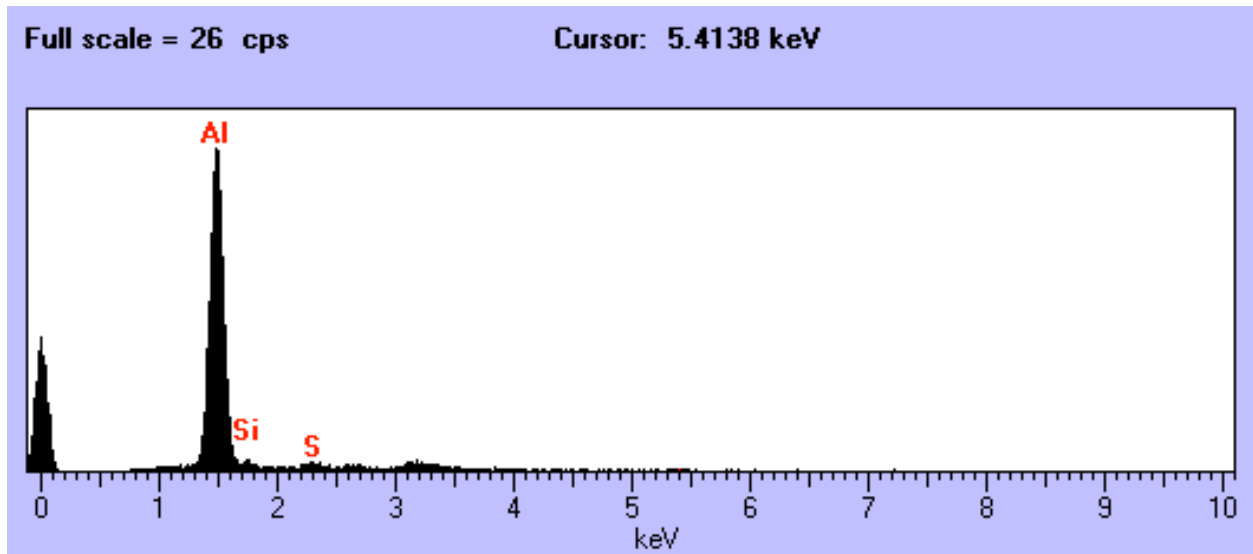
Size: 30 x 20 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCA
Comments:



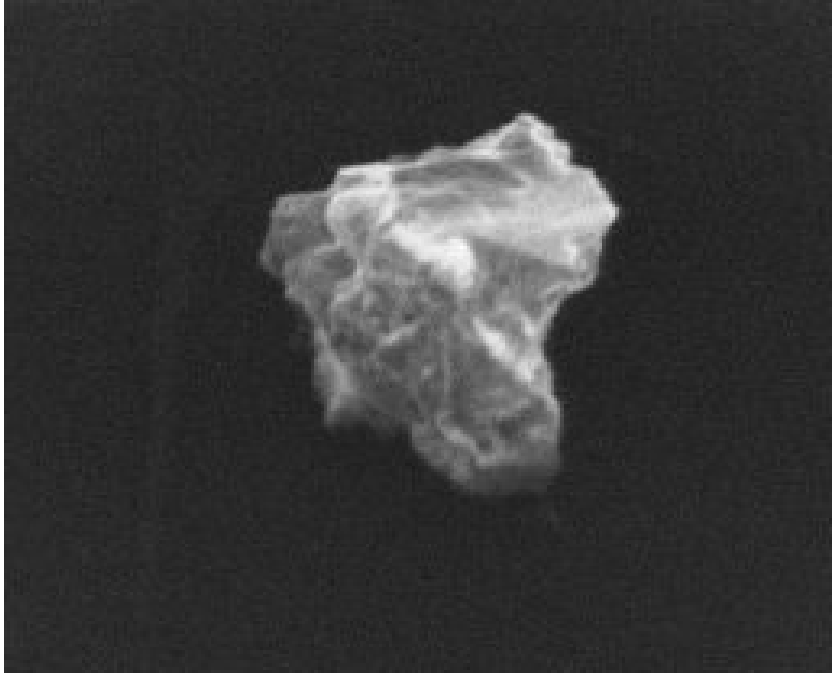
U2099 A9



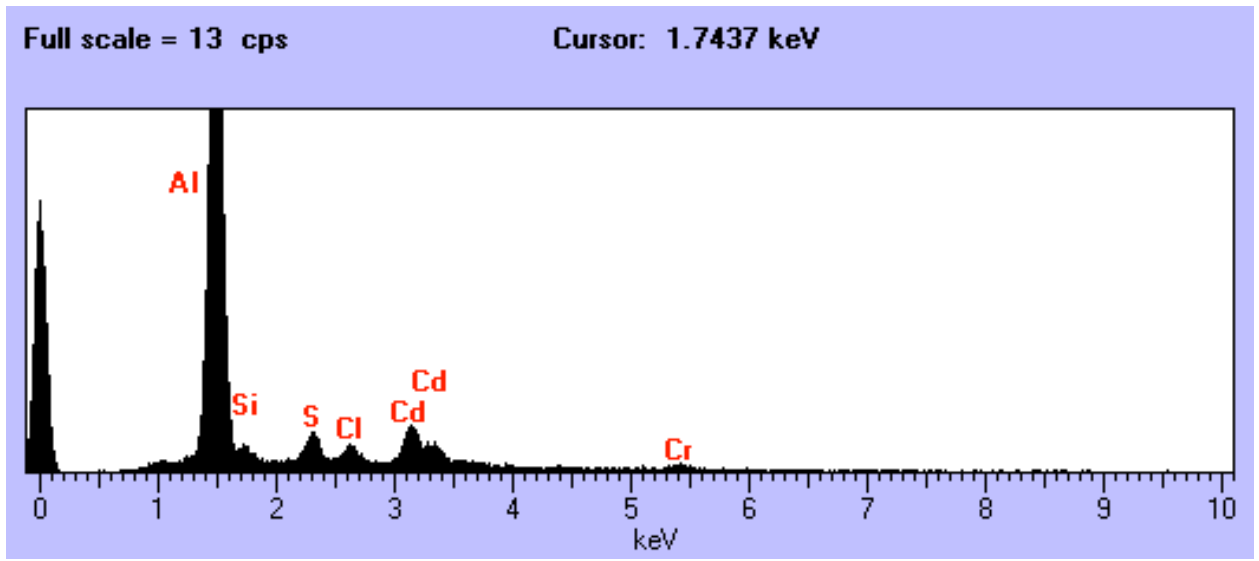
Size: 9 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCA
Comments:



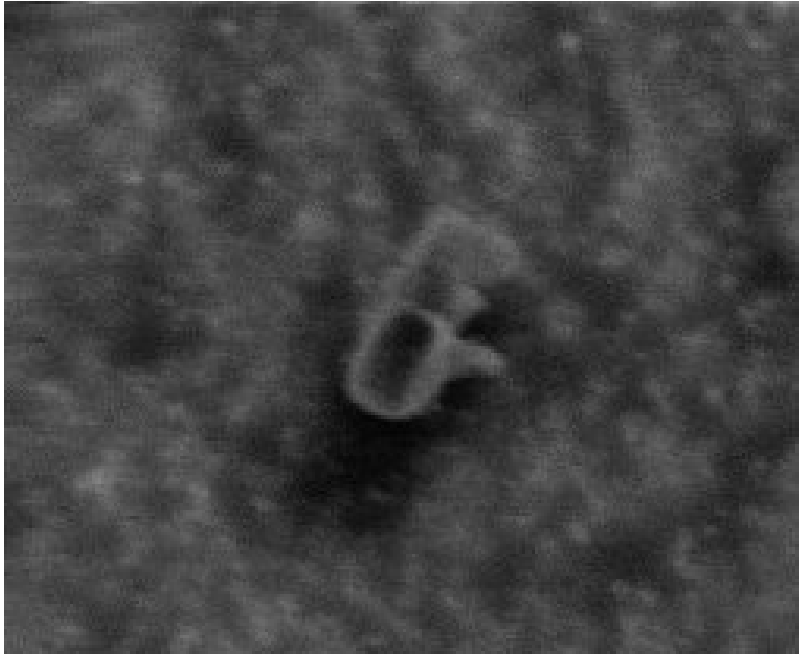
U2099 A11



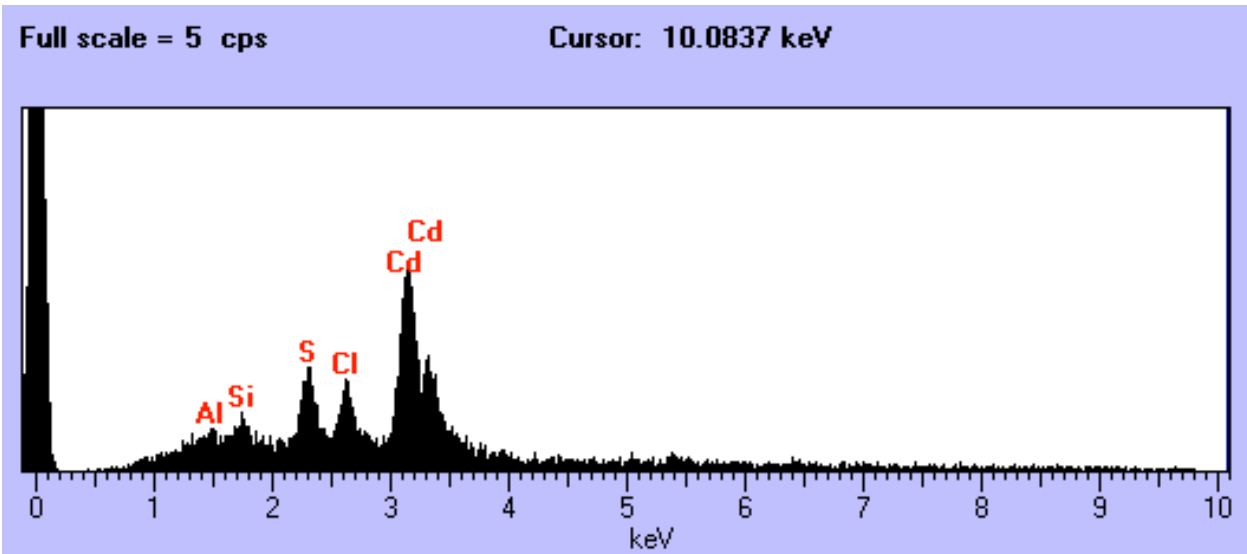
Size: 25 x 17 um
Shape: Irregular
Trans: Opaque
Color: Silver
Luster: Metallic
Type: TCA
Comments:



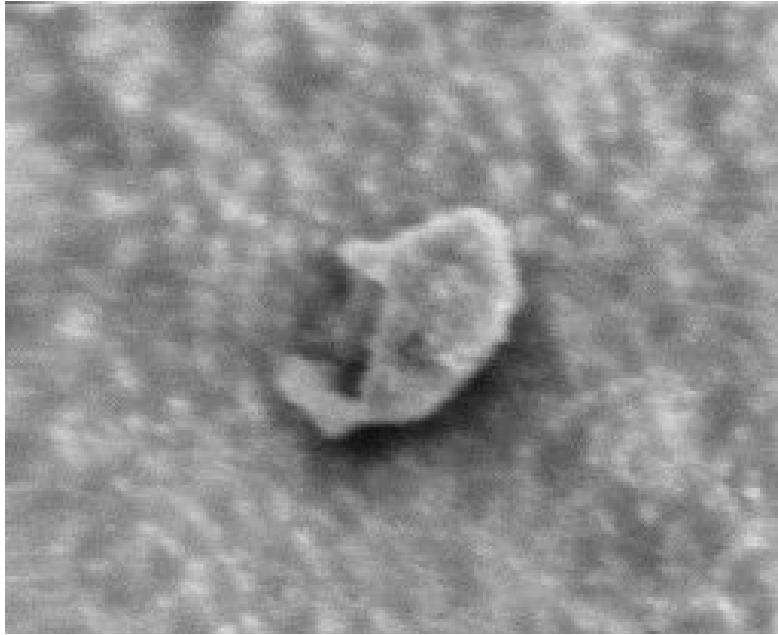
U2099 A13



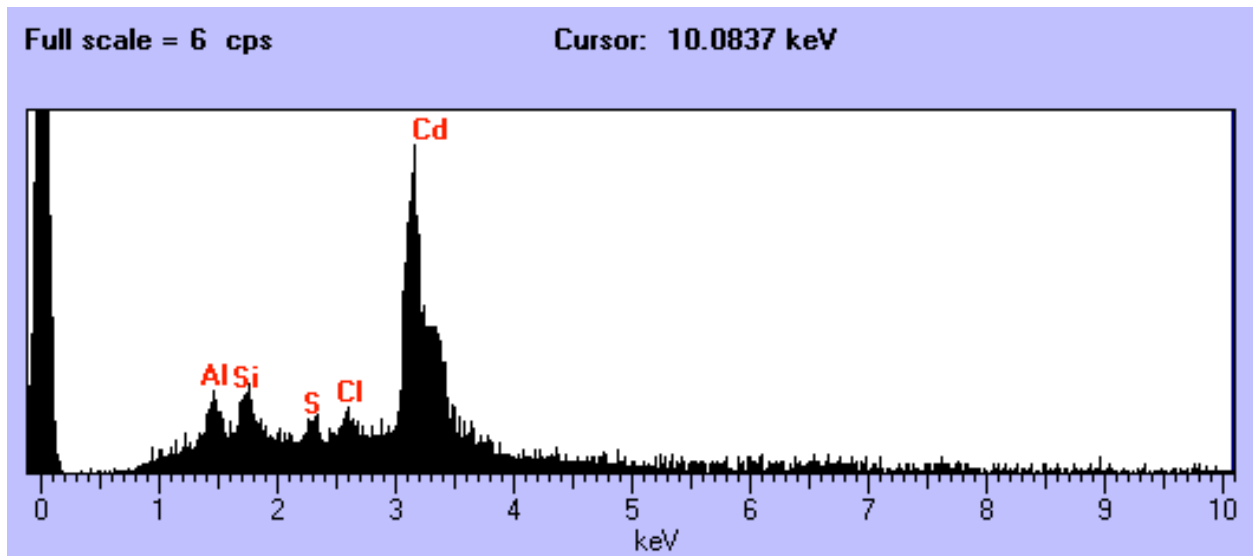
Size: 10 x 8 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCA
Comments:



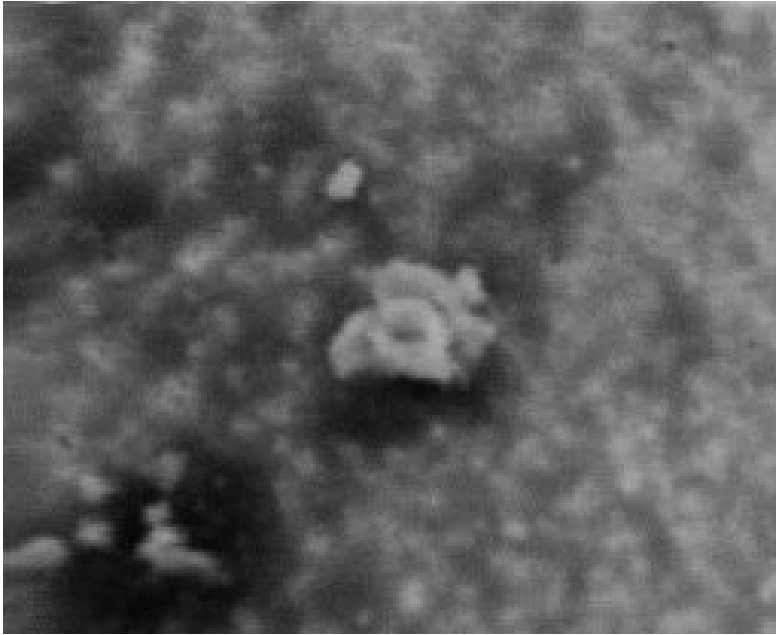
U2099 A14



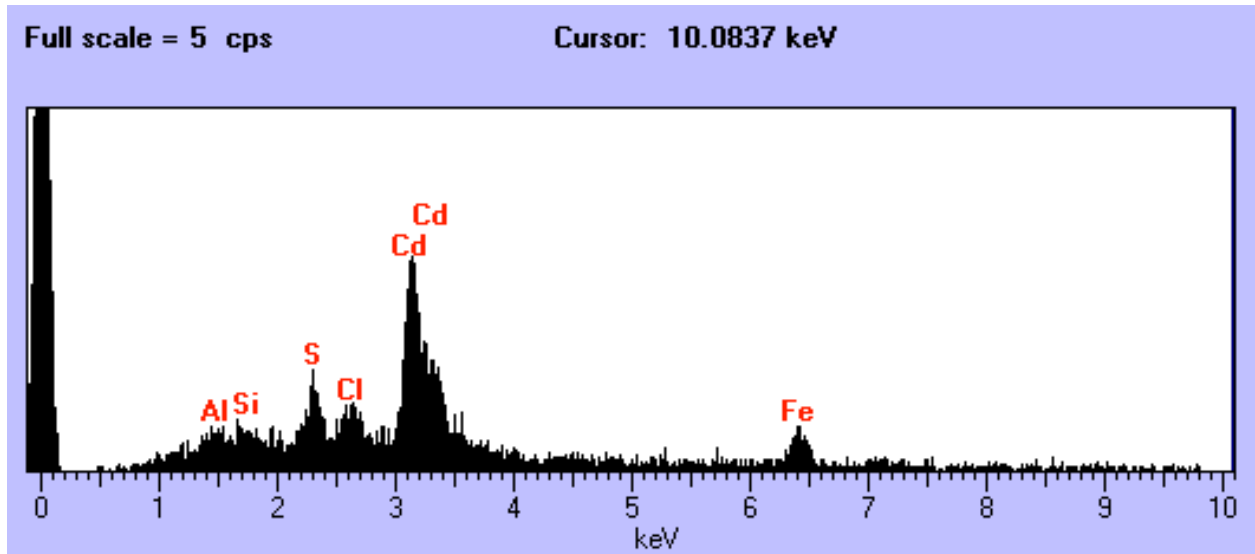
Size: 10 x 8 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCA
Comments:



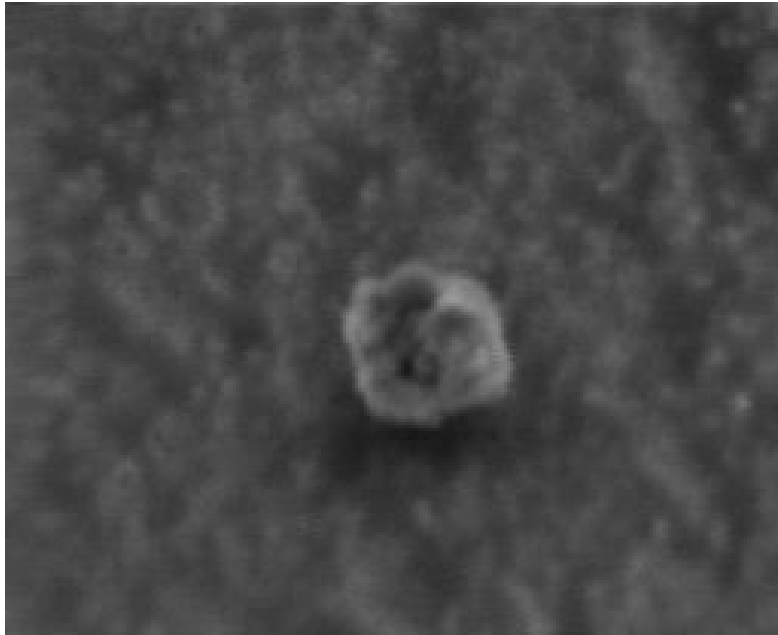
U2099 A15



Size: 1 x 1 um
Shape: Irregular
Trans: Translucent
Color: Orange
Luster: Subvitreous
Type: TCA
Comments:



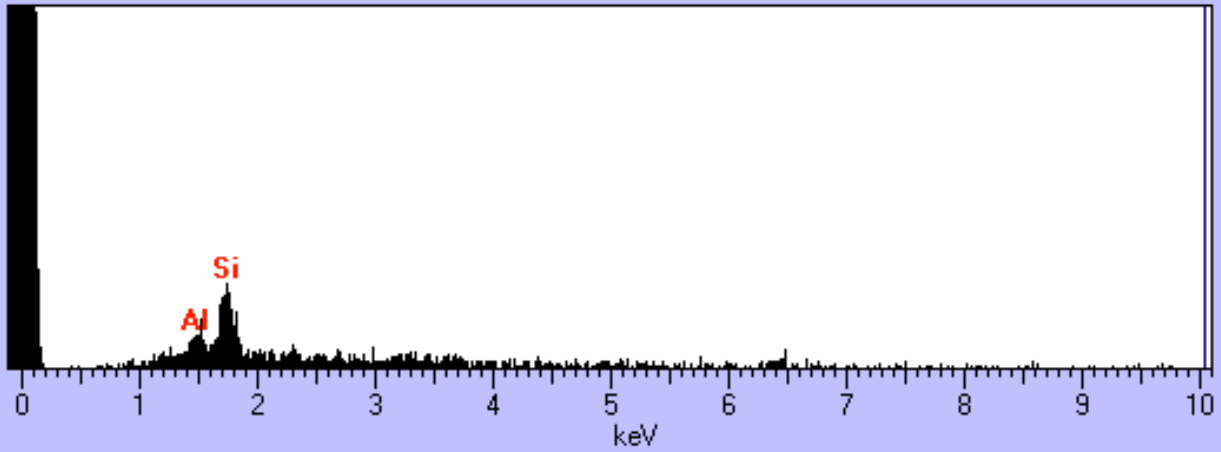
U2099 A18



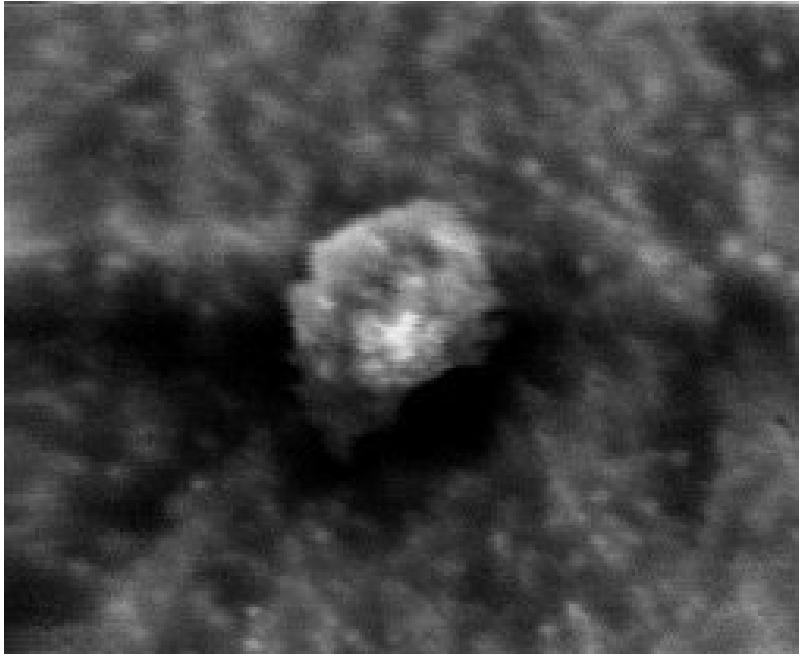
Size: 9 um
Shape: Equant
Trans: Opaque
Color: Black
Luster: Subvitreous/
Metallic
Type: TCA
Comments:

Full scale = 5 cps

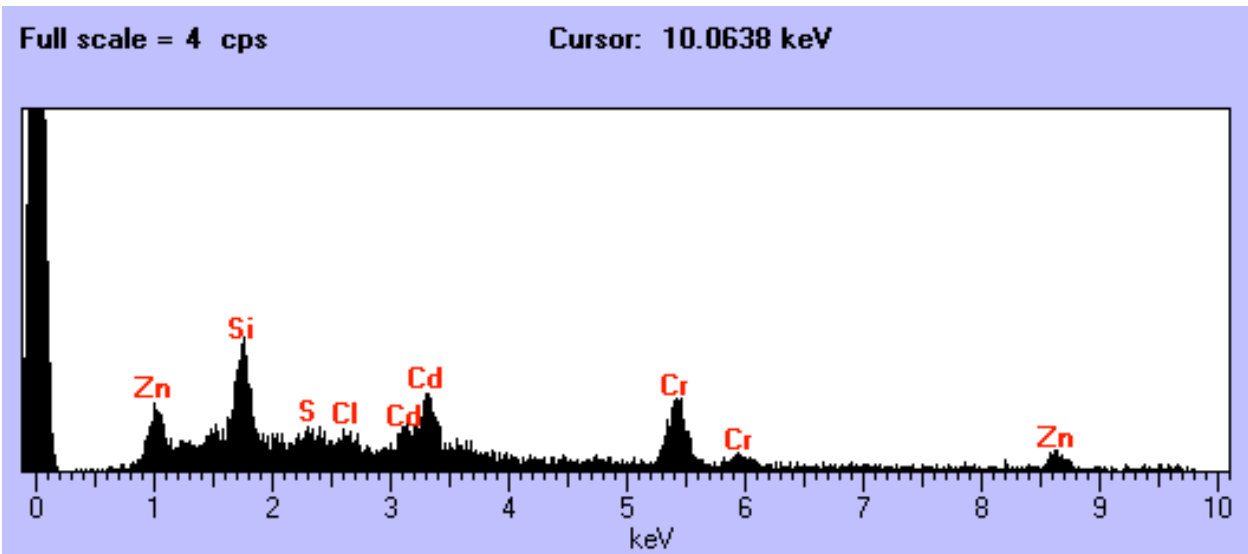
Cursor: 10.0437 keV



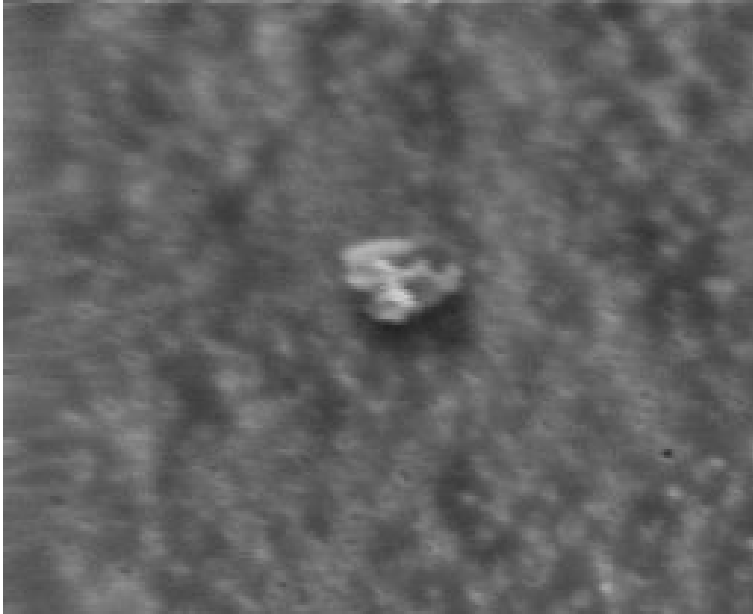
U2099 A19



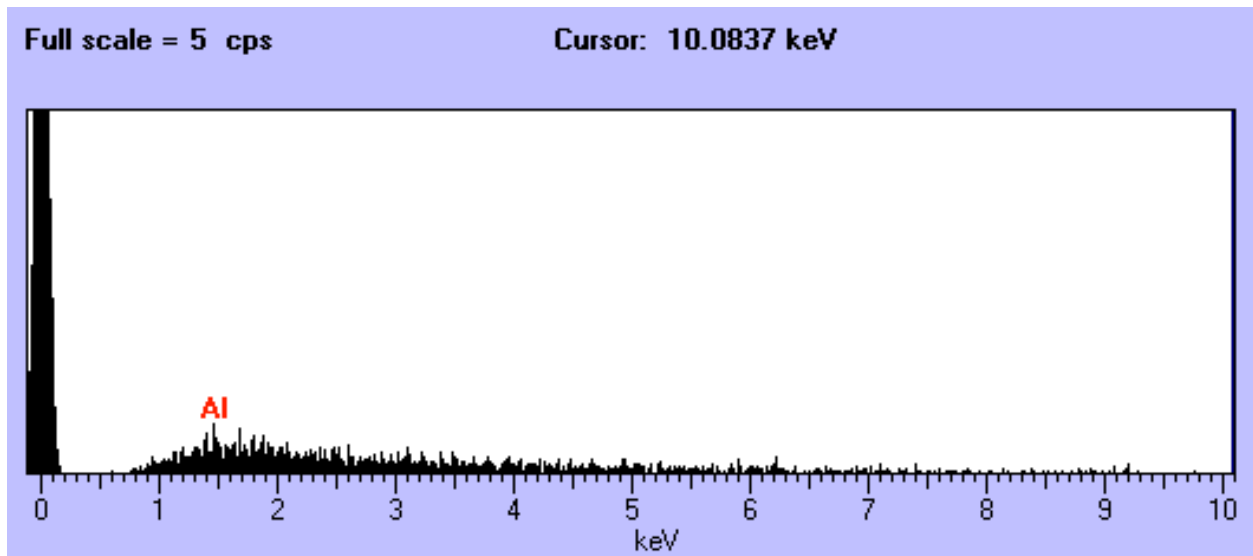
Size: 15 x 10 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCA
Comments:



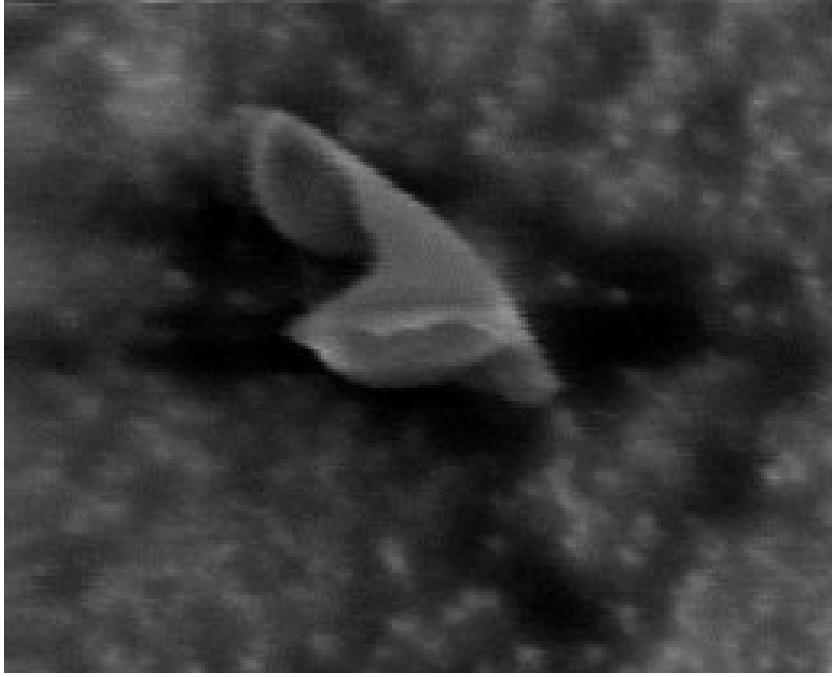
U2100 A1



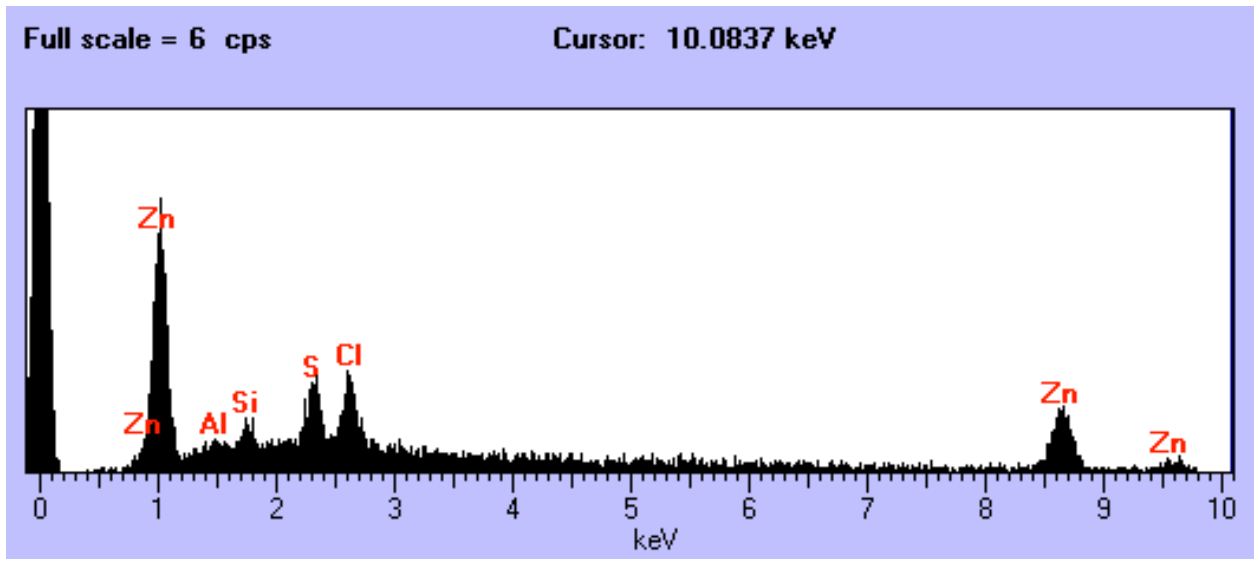
Size: 9 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Vitreous
Type: TCA
Comments:



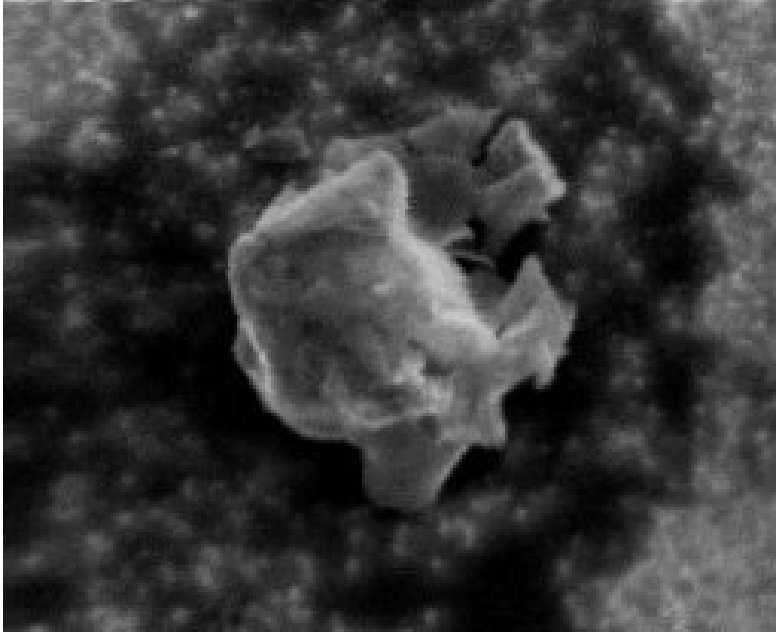
U2100 A2



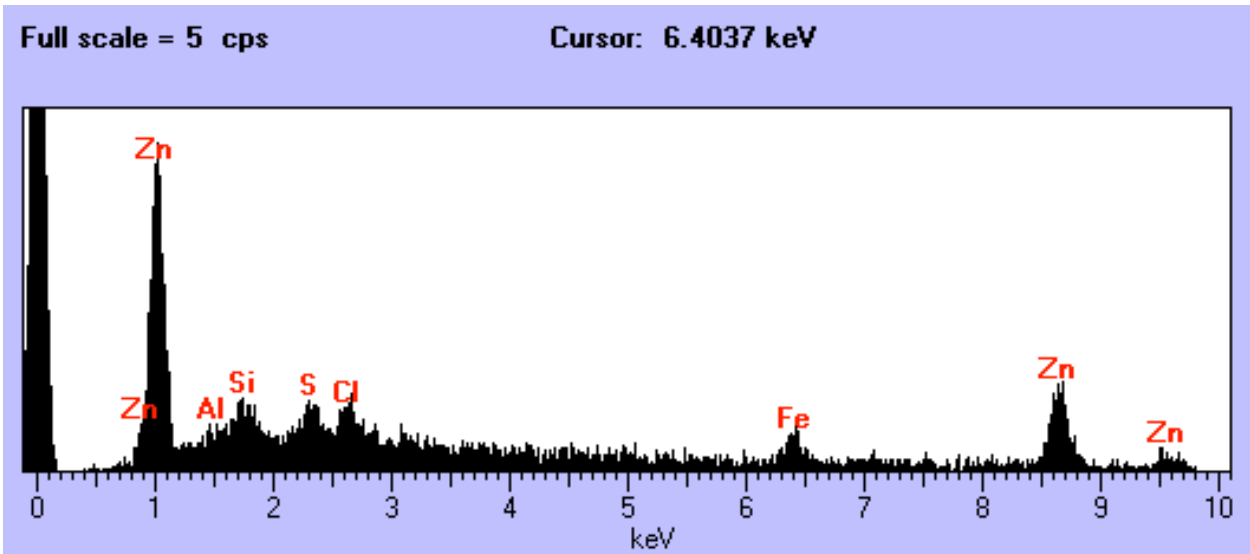
Size: 22 x 10 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Vitreous
Type: TCA
Comments:



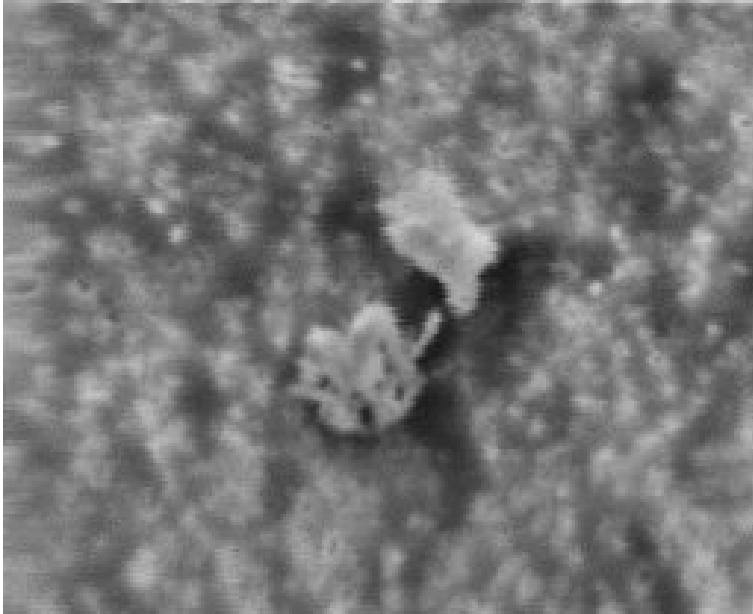
U2100 A3



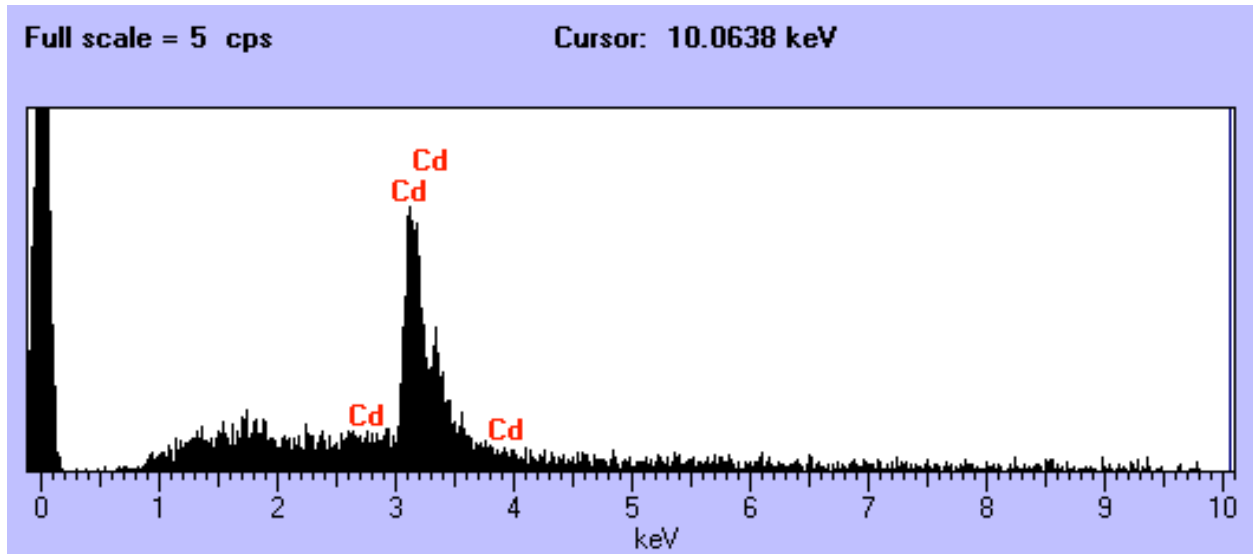
Size: 18 x 14 um
Shape: Irregular
Trans: Translucent
Color: White/Brown
Luster: Subvitreous
Type: TCA
Comments:



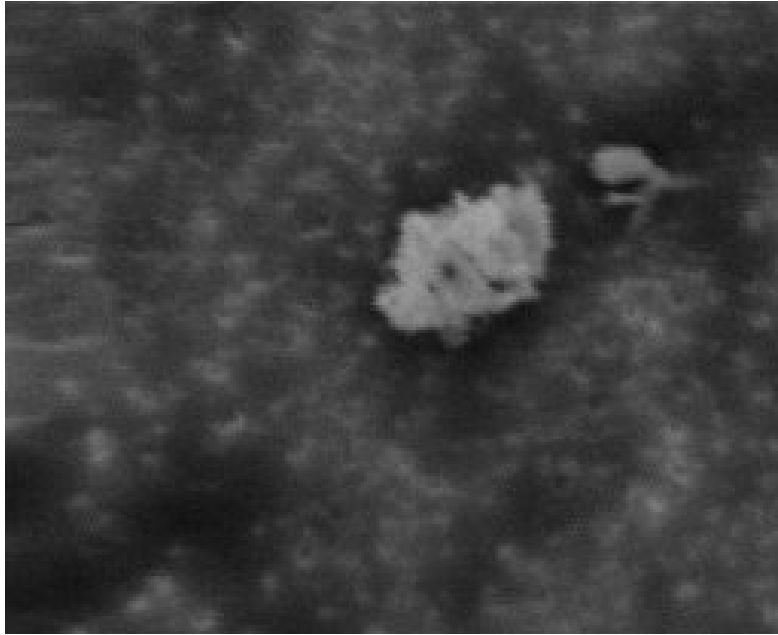
U2100 A5



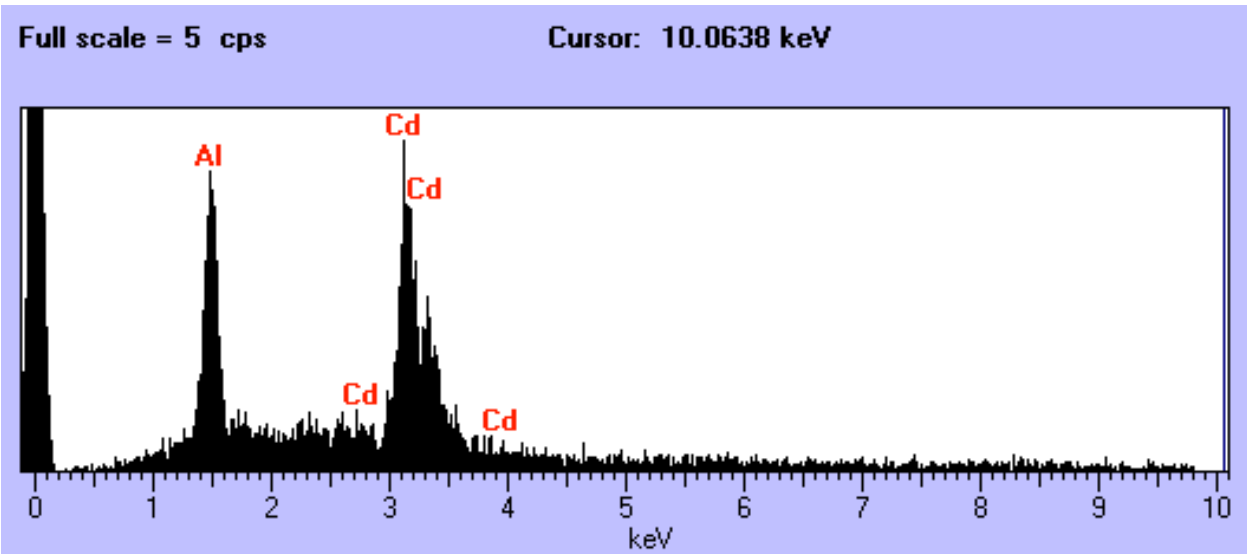
Size: largest is 8 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCA
Comments:



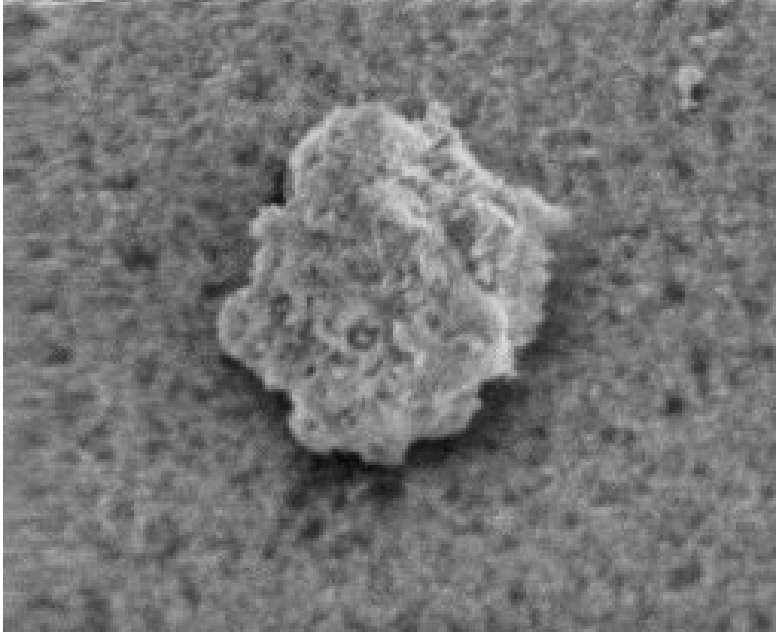
U2100 A8



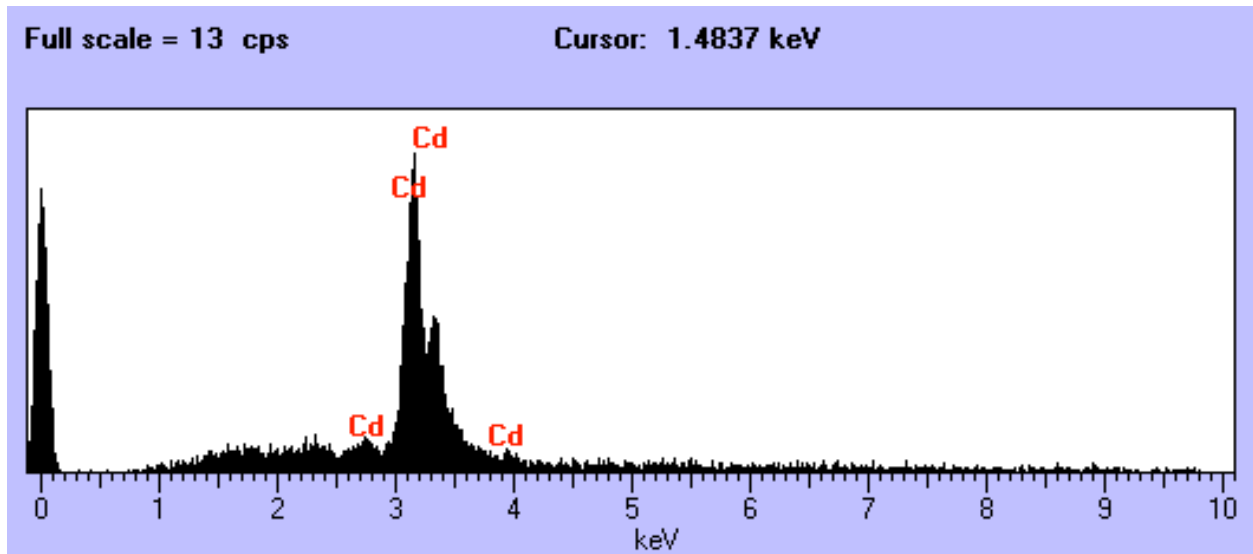
Size: 10 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCA
Comments:



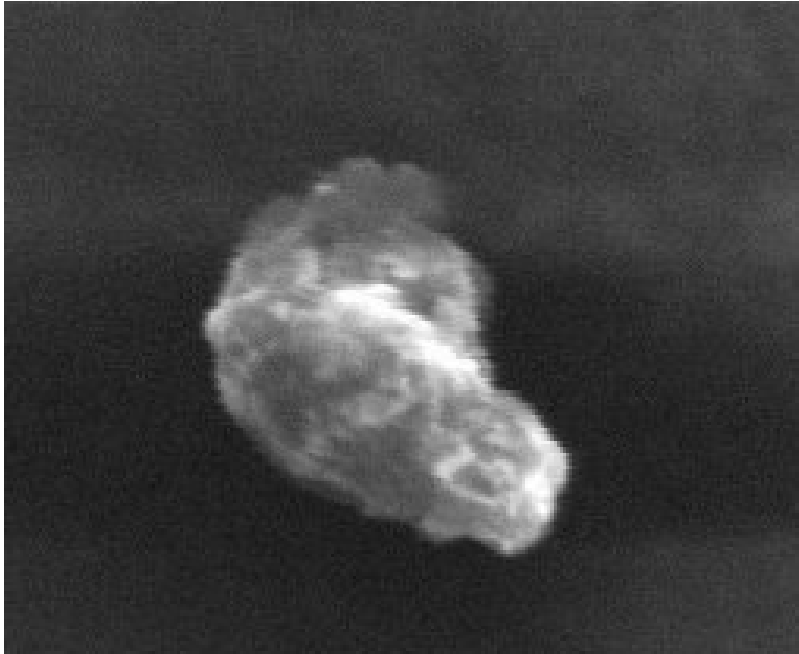
U2100 A9



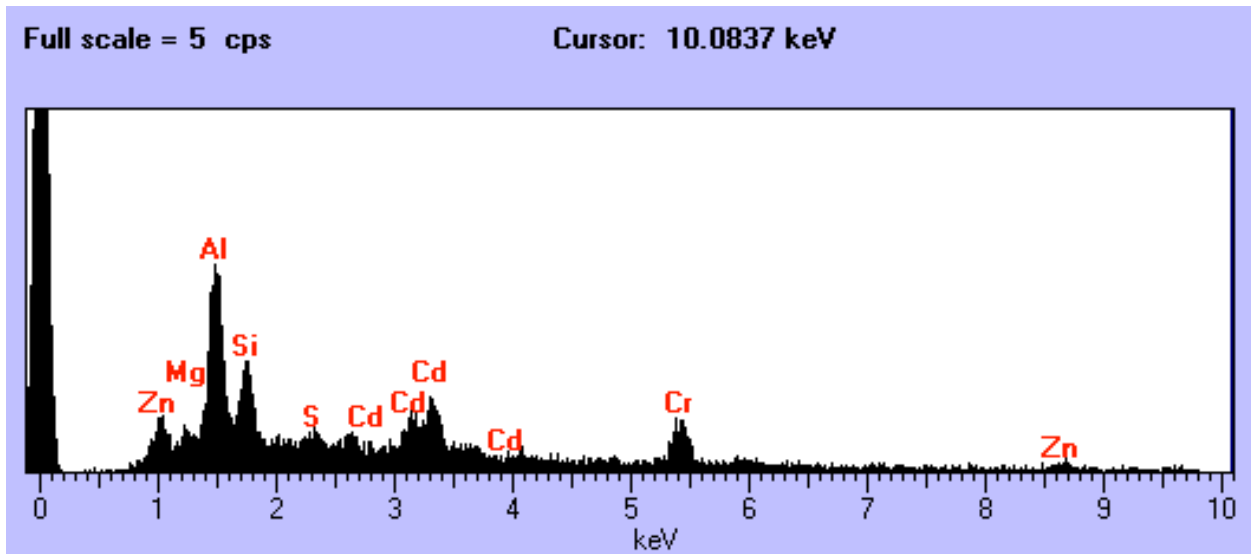
Size: 65 x 50 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Pearly
Type: TCA
Comments:



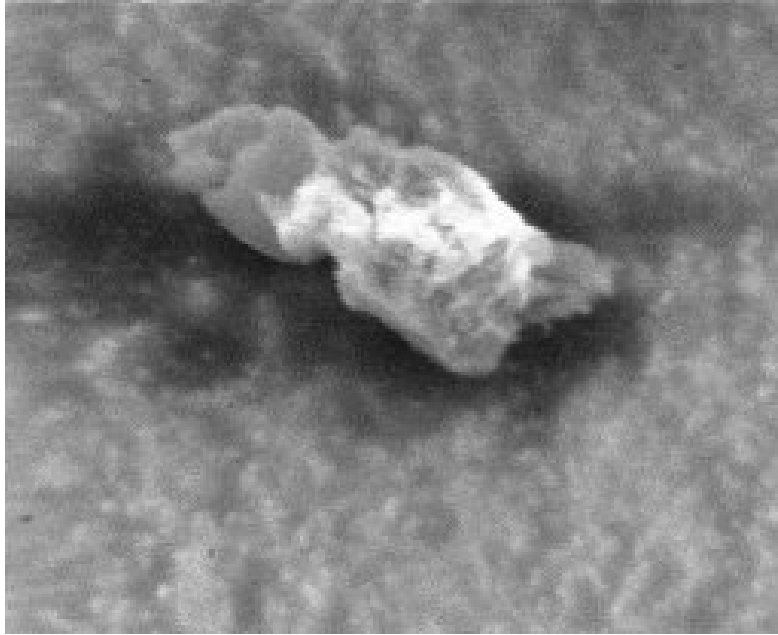
U2100 A12



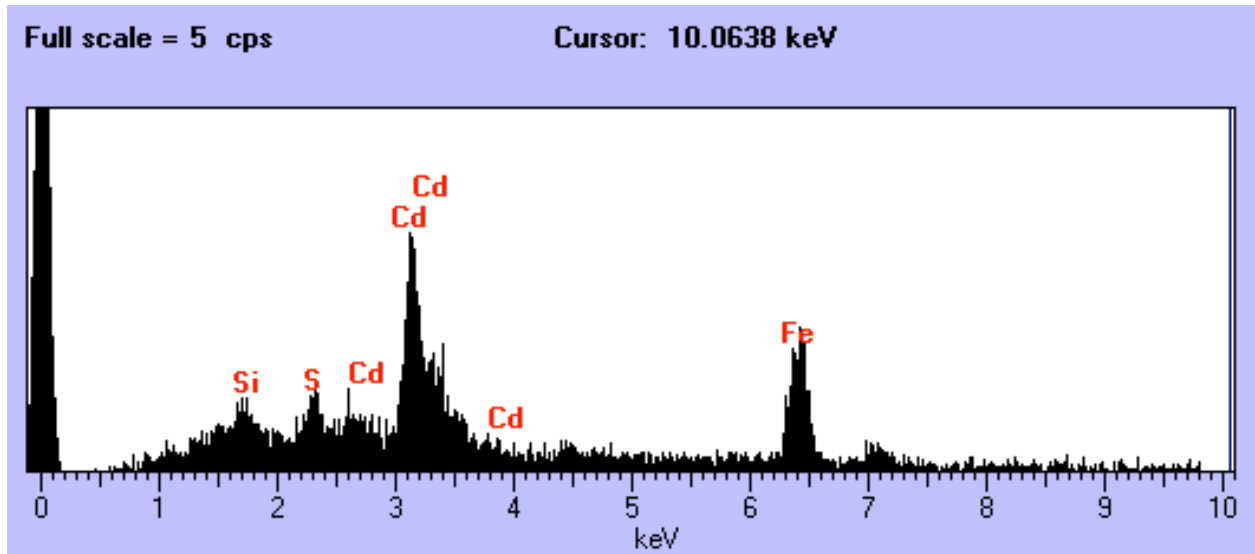
Size: 20 x 13 um
Shape: Irregular
Trans: Translucent
Color: Yellow
Luster: Subvitreous
Type: TCA
Comments:



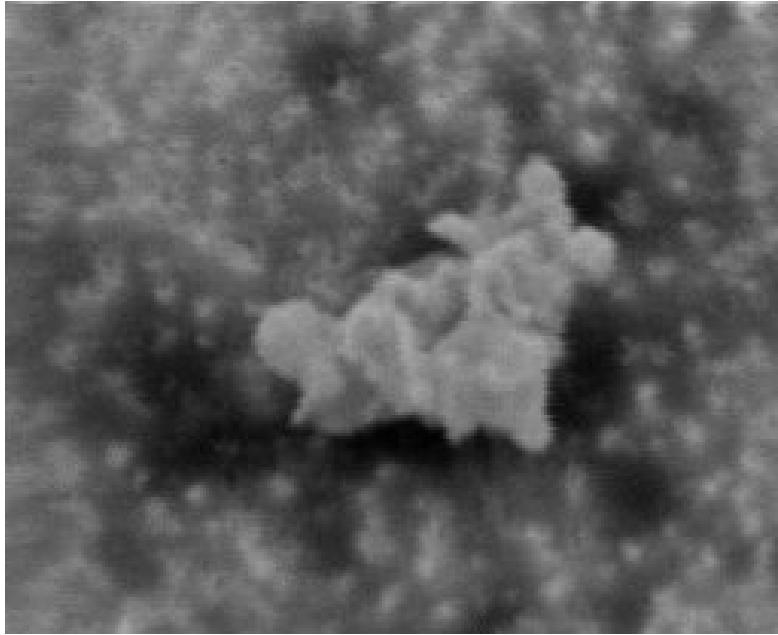
U2100 A13



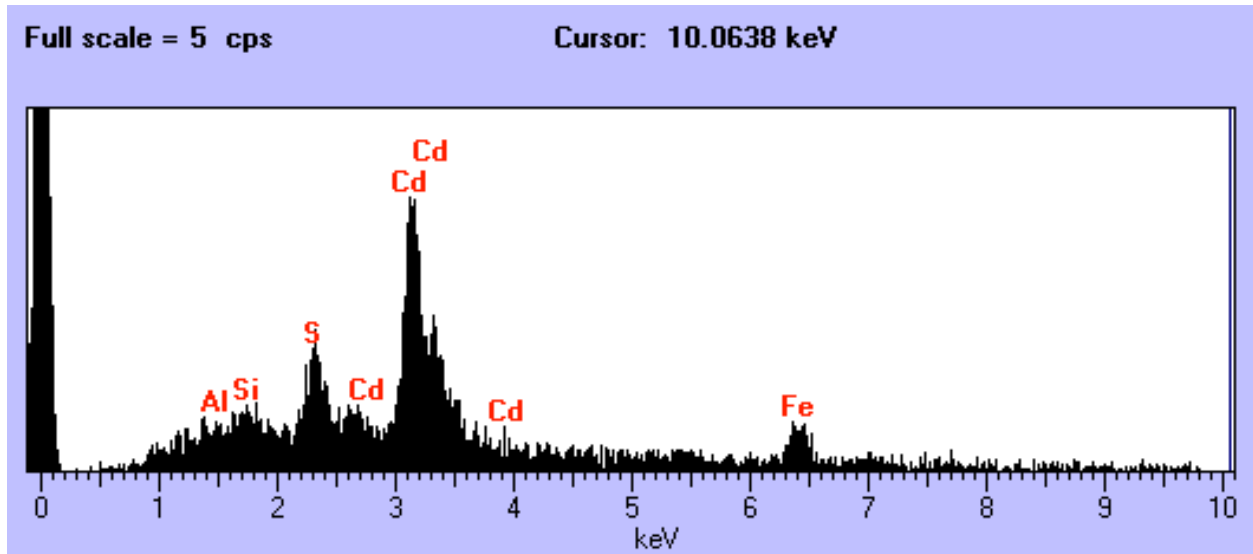
Size: 27 x 10 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCA
Comments:



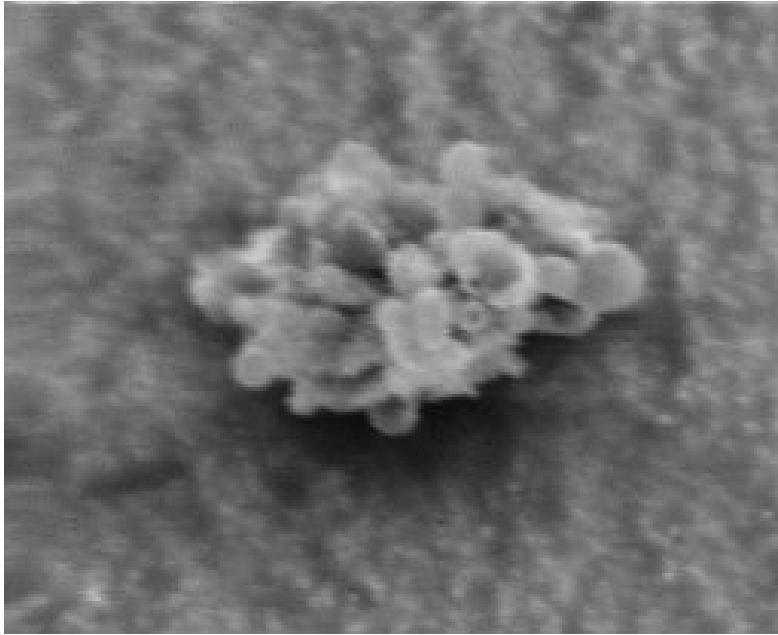
U2100 A15



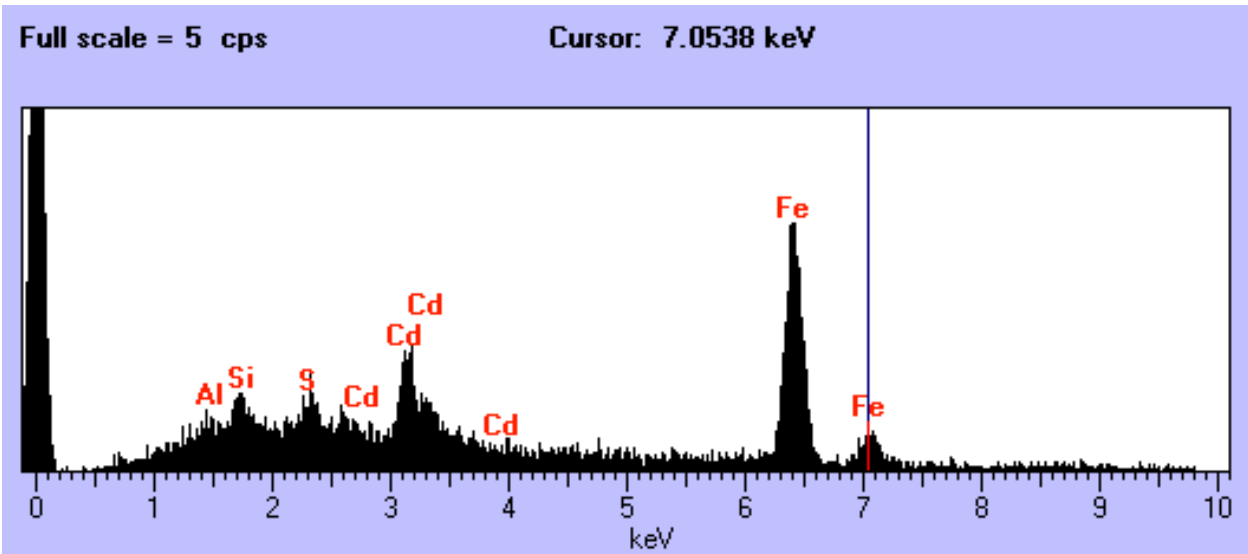
Size: 27 x 20 um
Shape: Irregular
Trans: Translucent
Color: White/Brown
Luster: Subvitreous
Type: TCA
Comments:



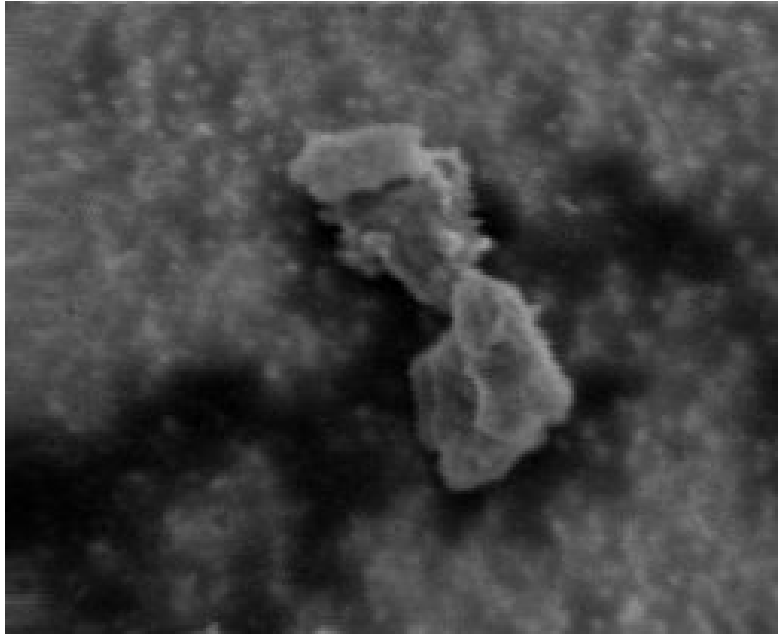
U2100 A16



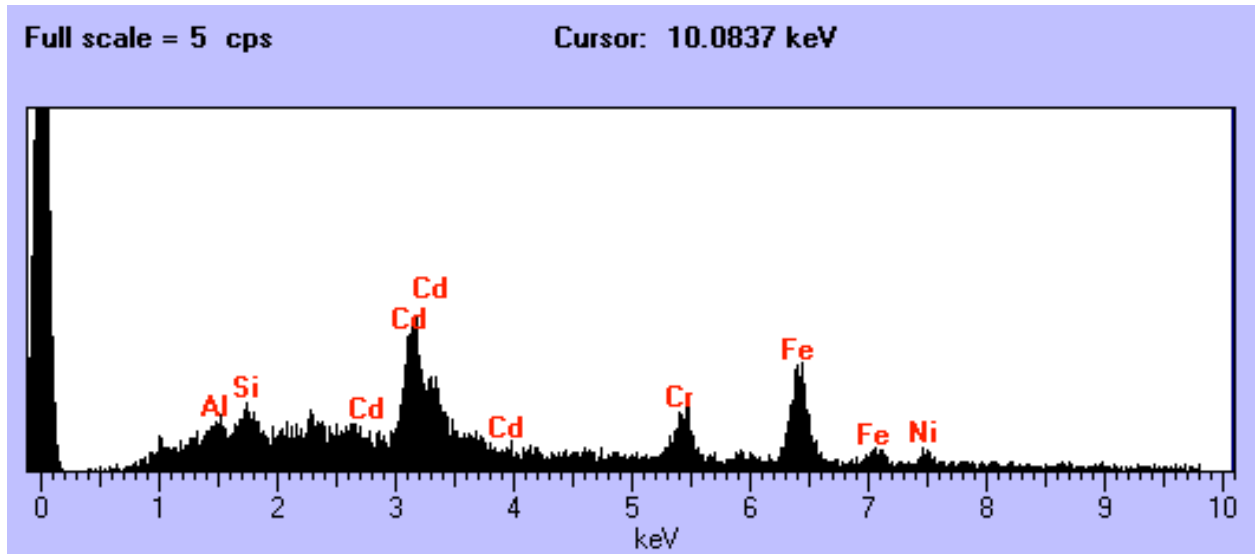
Size: 18 x 15 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCA
Comments:



U2100 A20



Size: 10 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCA
Comments:



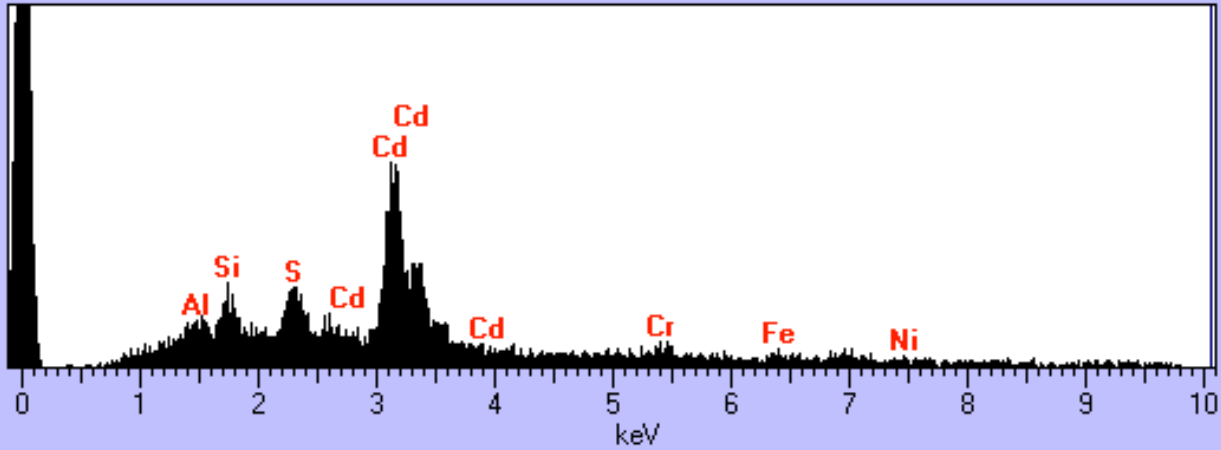
U2100 A21



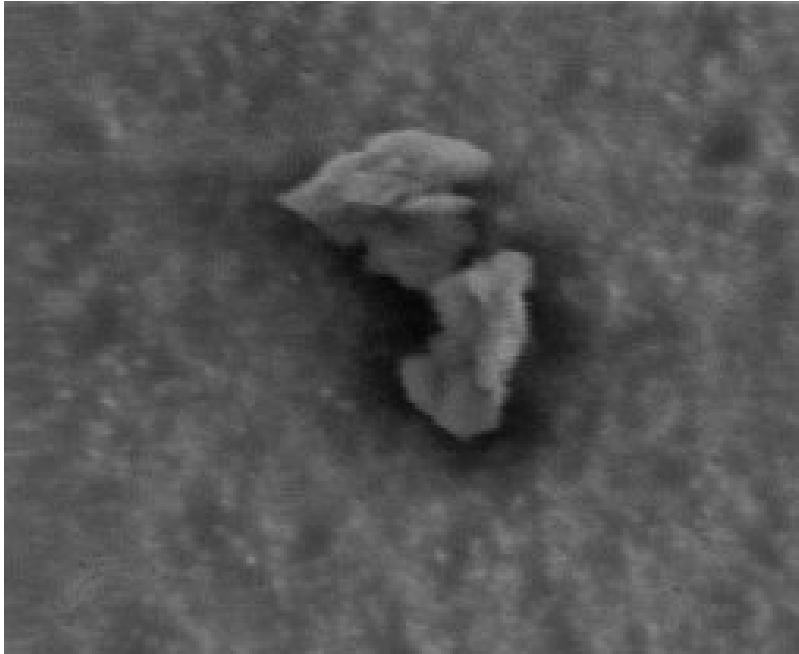
Size: 13 x 12 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCA
Comments:

Full scale = 5 cps

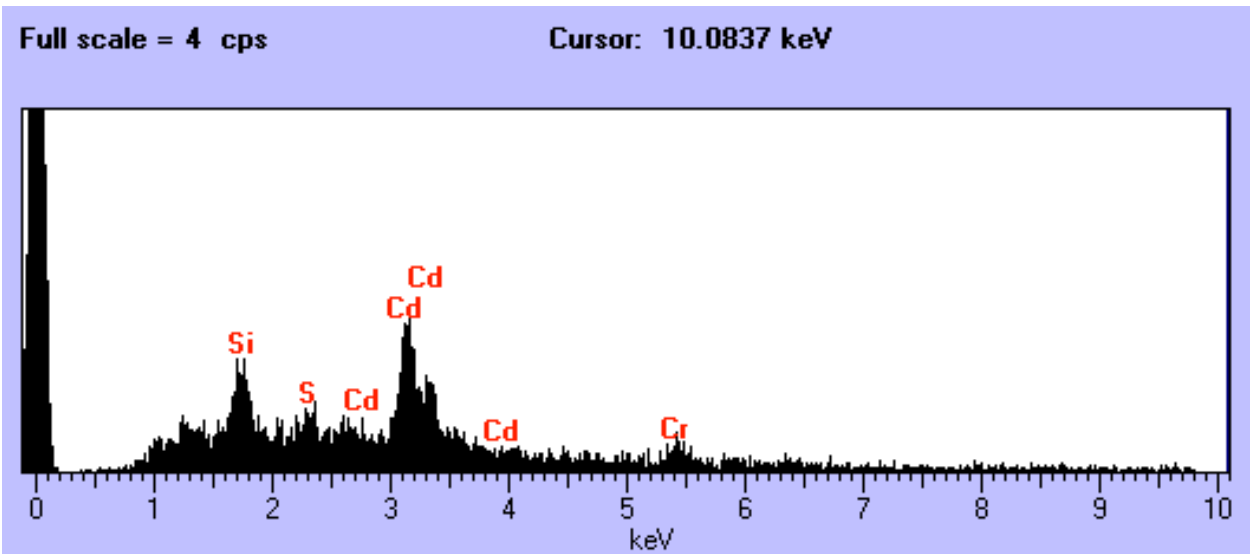
Cursor: 10.0638 keV



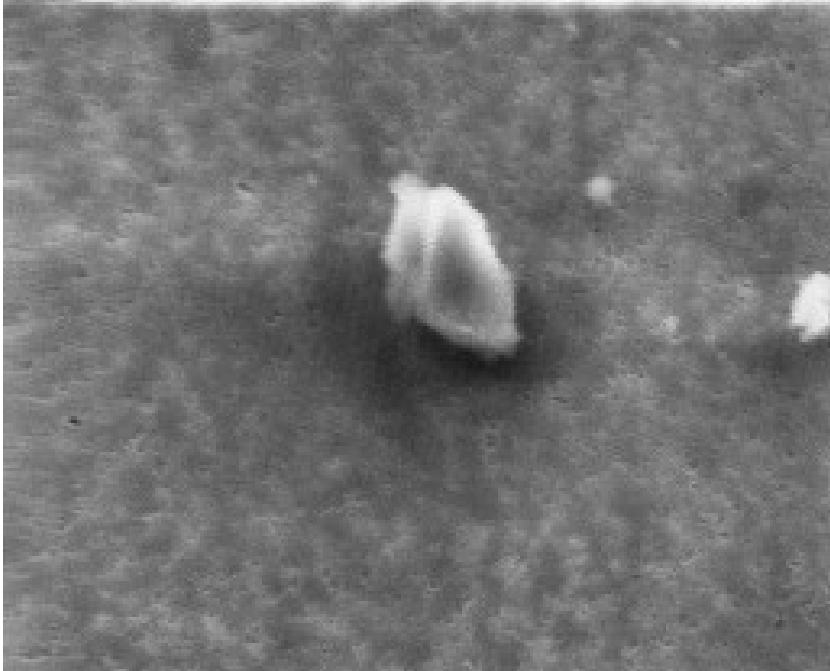
U2100 A22



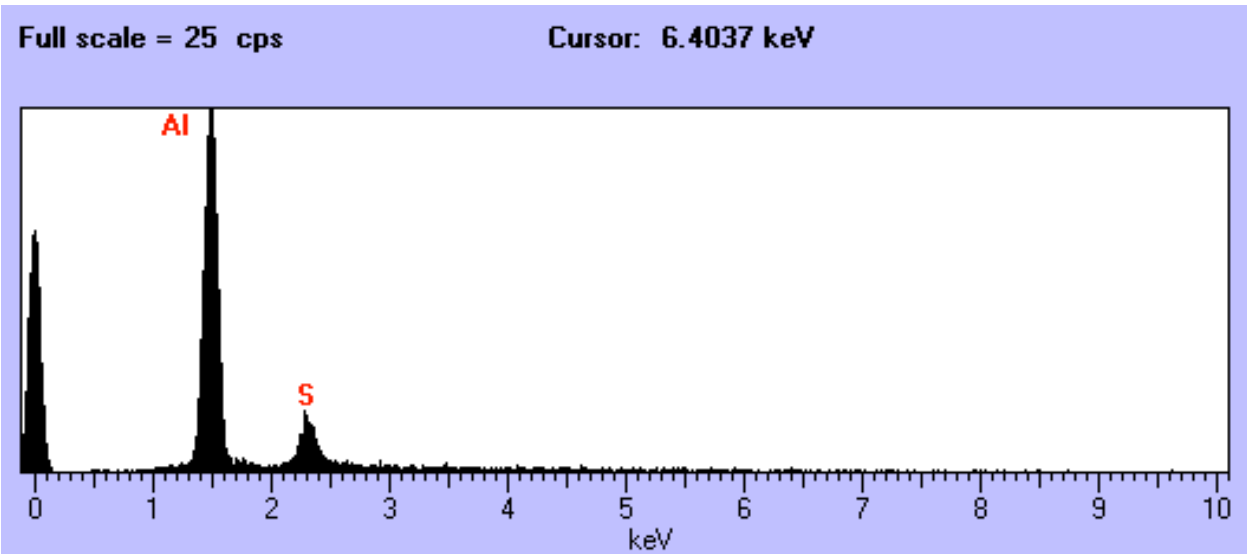
Size: 40 x 16 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCA
Comments: Two adjacent grains



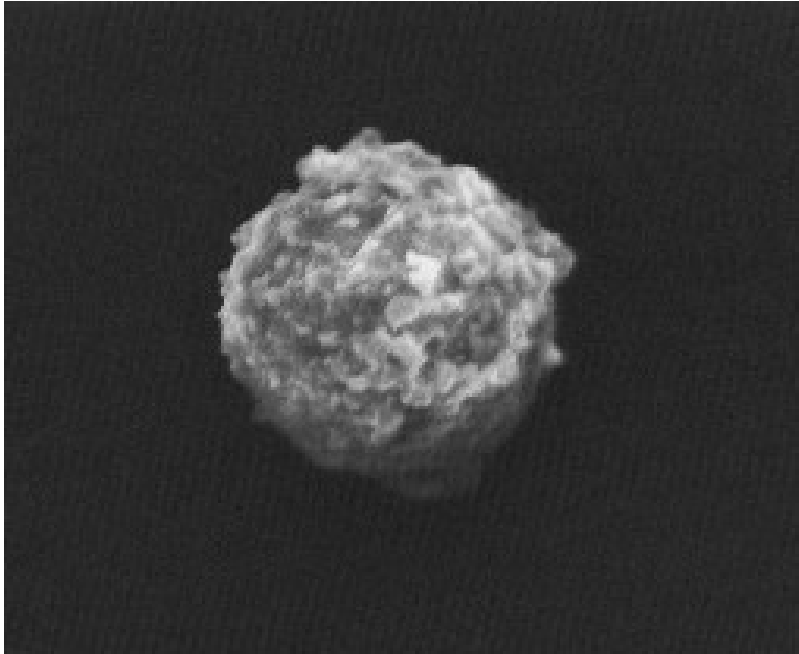
W7190 A5



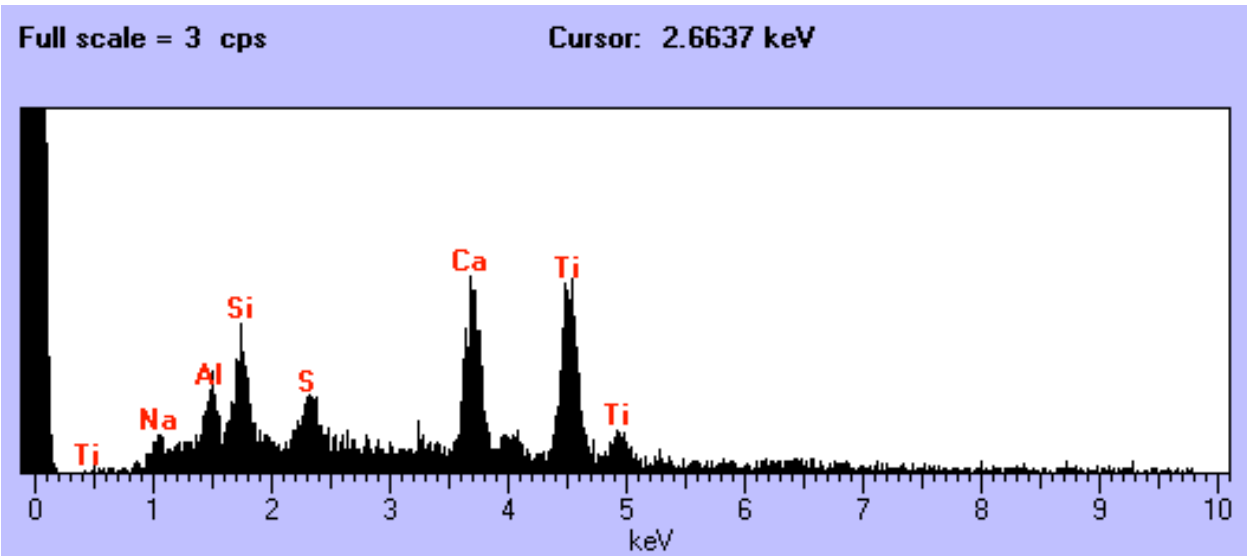
Size: 12 x 9 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: TCA
Comments:



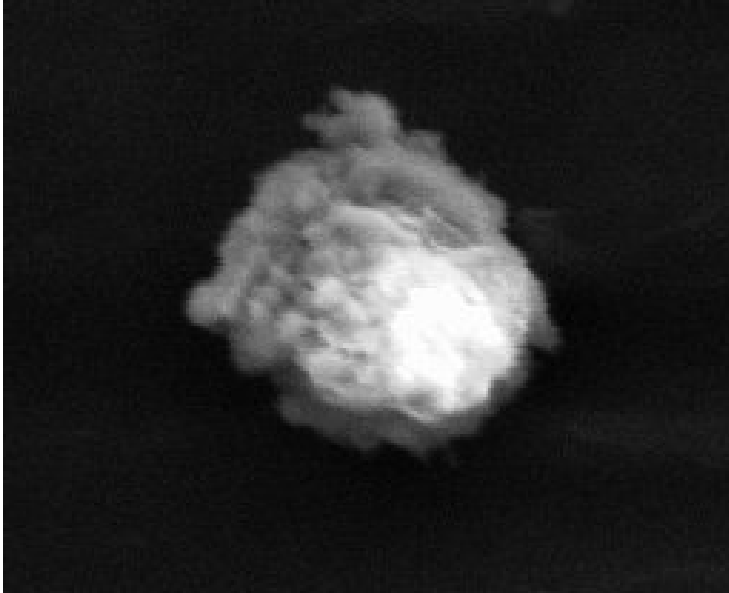
W7190 B3



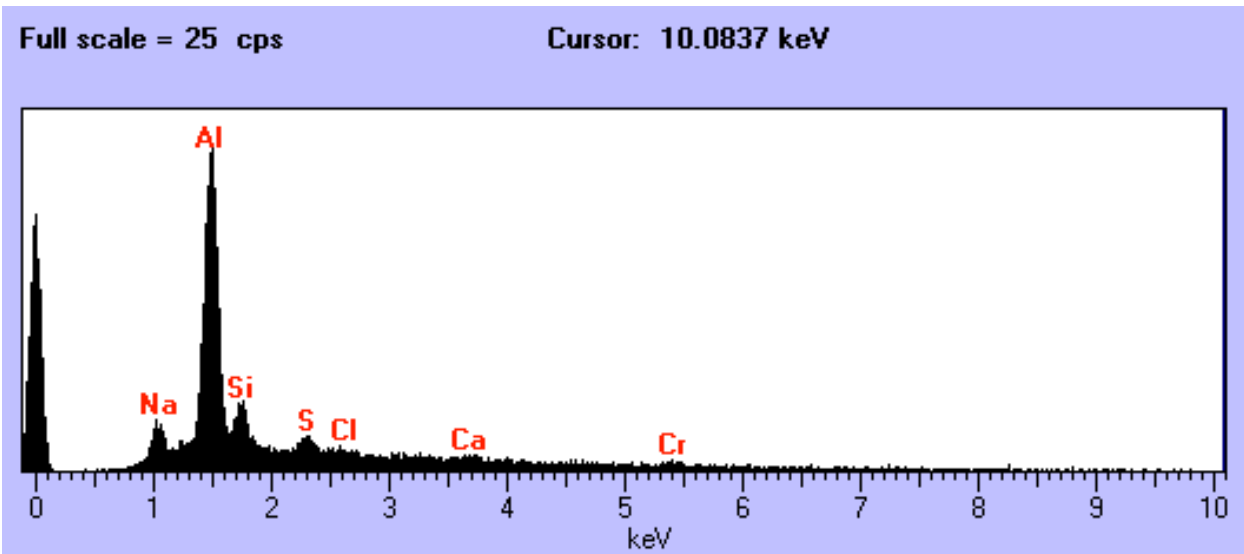
Size: 45 um
Shape: Sphere
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCA?
Comments:



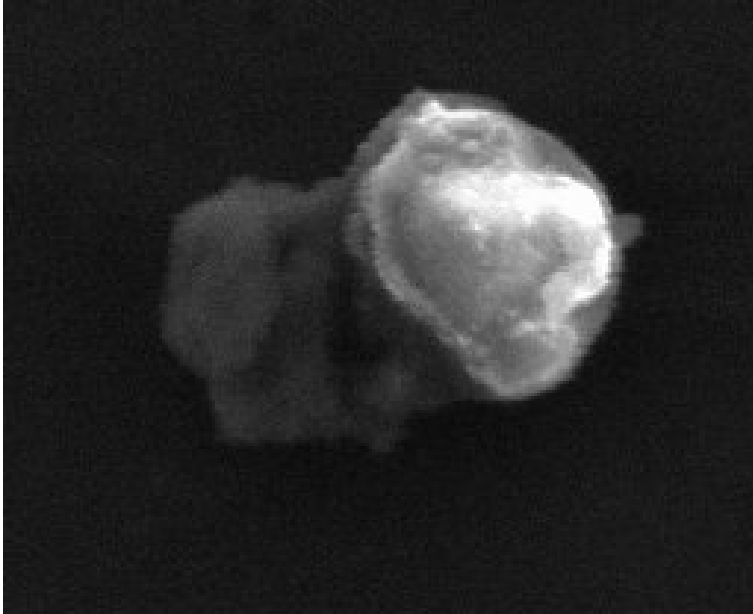
W7190 D17



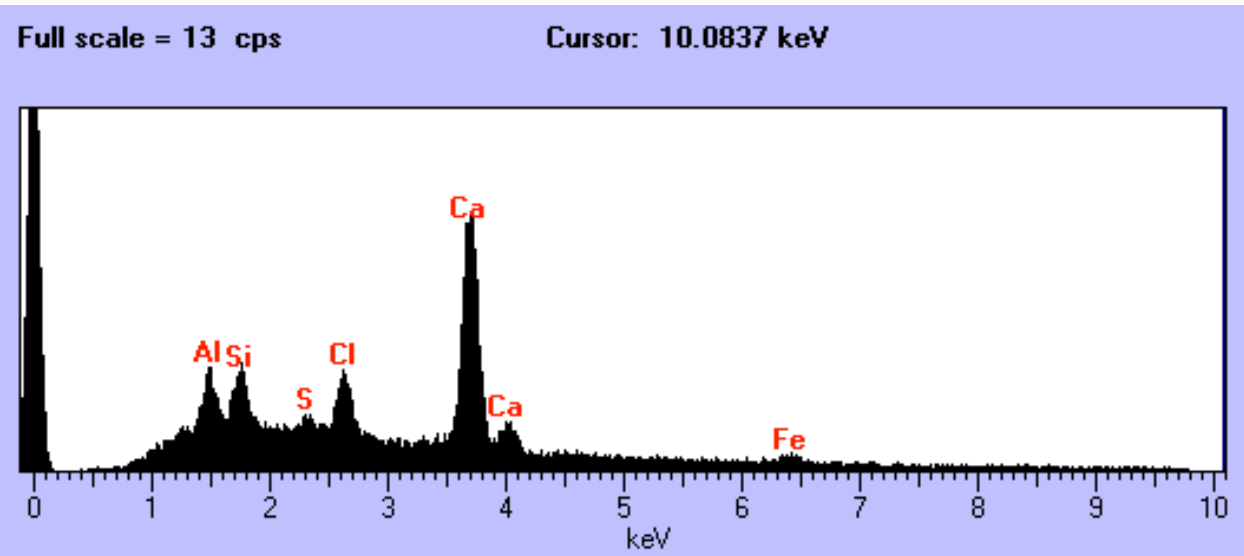
Size: 20 x 17 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Pearly
Type: TCA
Comments:



W7190 D28



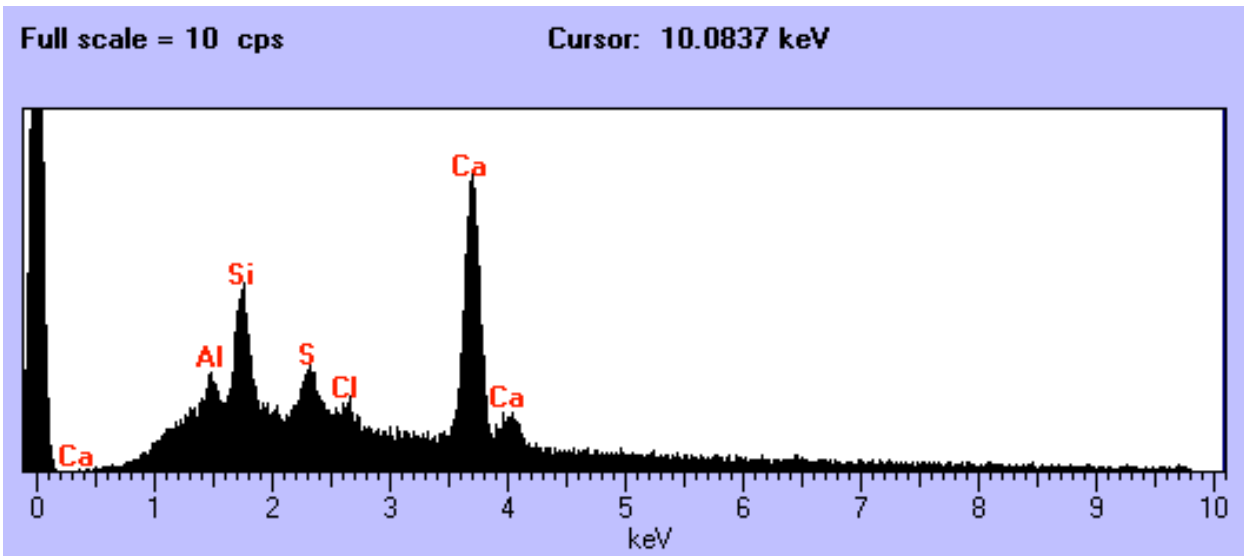
Size: 25 x 17 um
Shape: Irregular
Trans: Opaque
Color: Black/Gold
Luster: Dull
Type: TCA?
Comments:



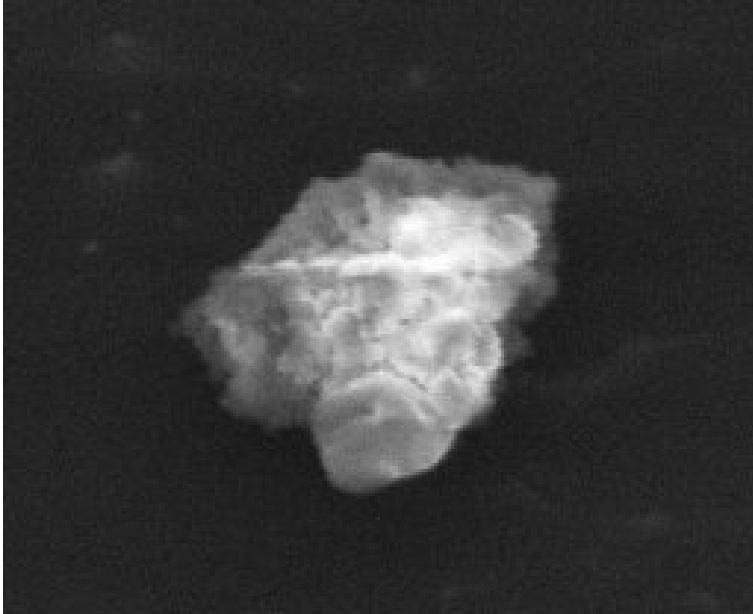
W7190 D33



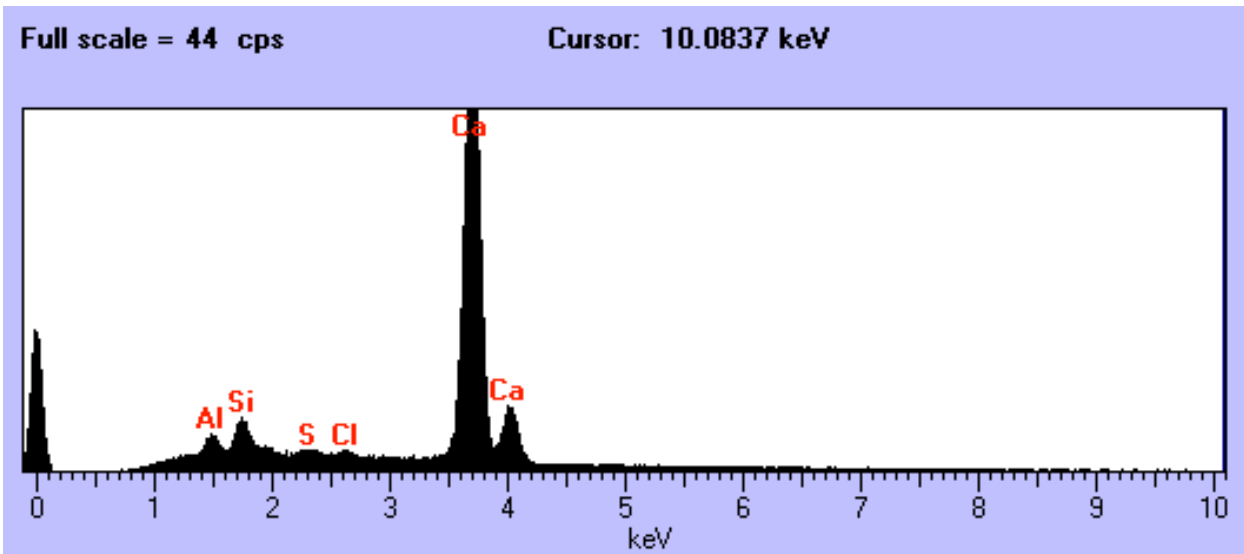
Size: 17 x 15 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: TCA?
Comments:



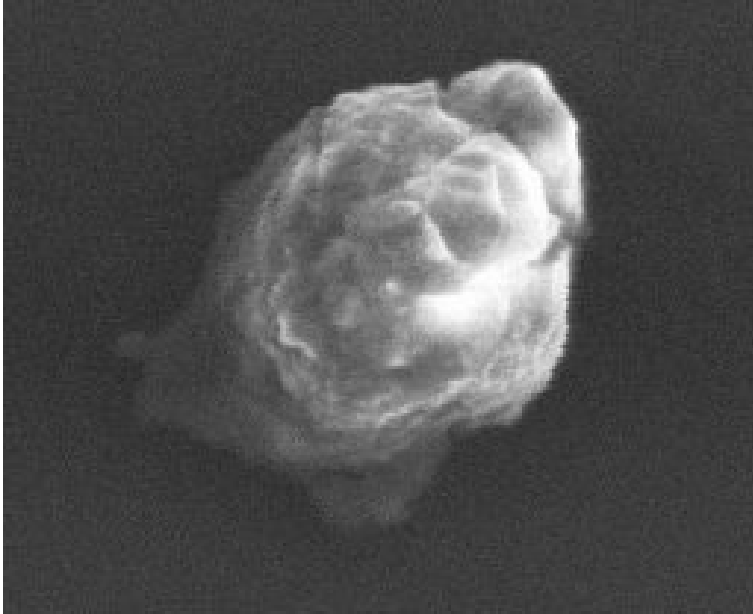
W7190 D34



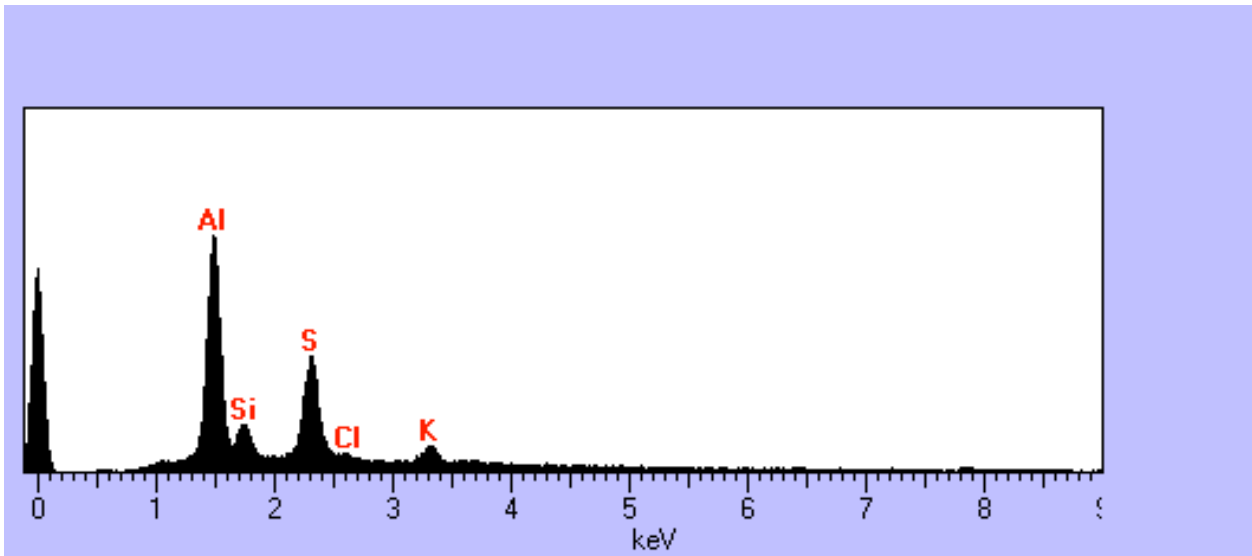
Size: 18 x 15 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCA
Comments:



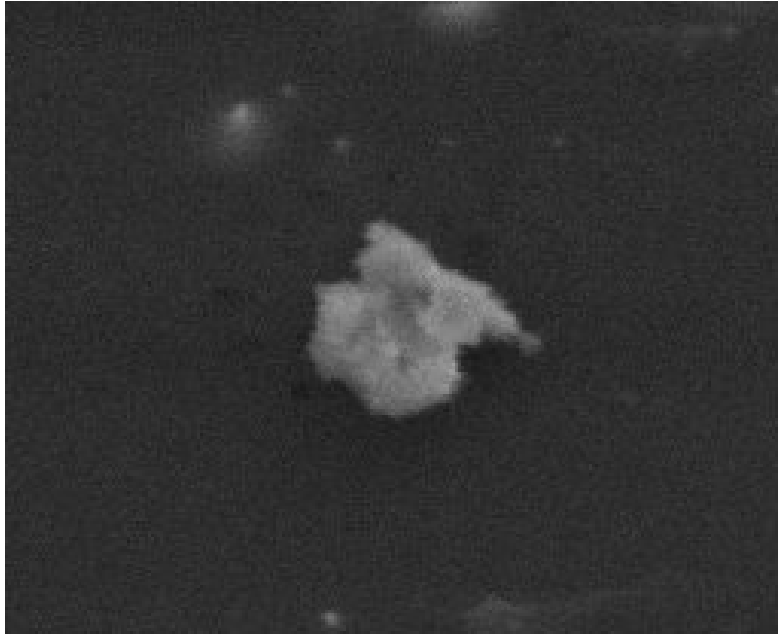
W7190 D37



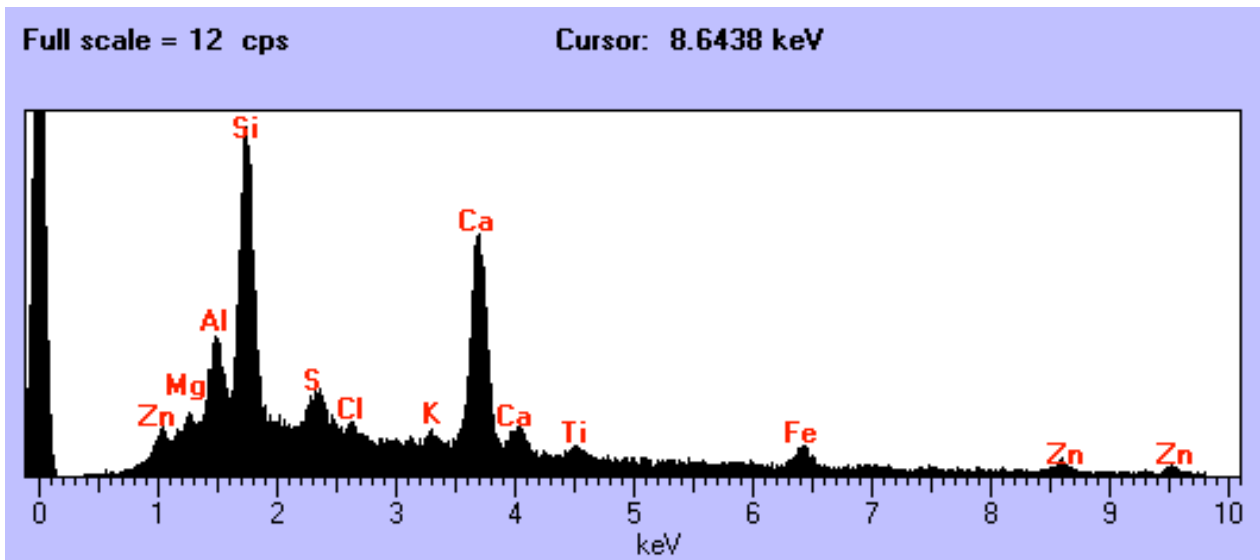
Size: 10 x 10 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCA
Comments:



W7190 D39



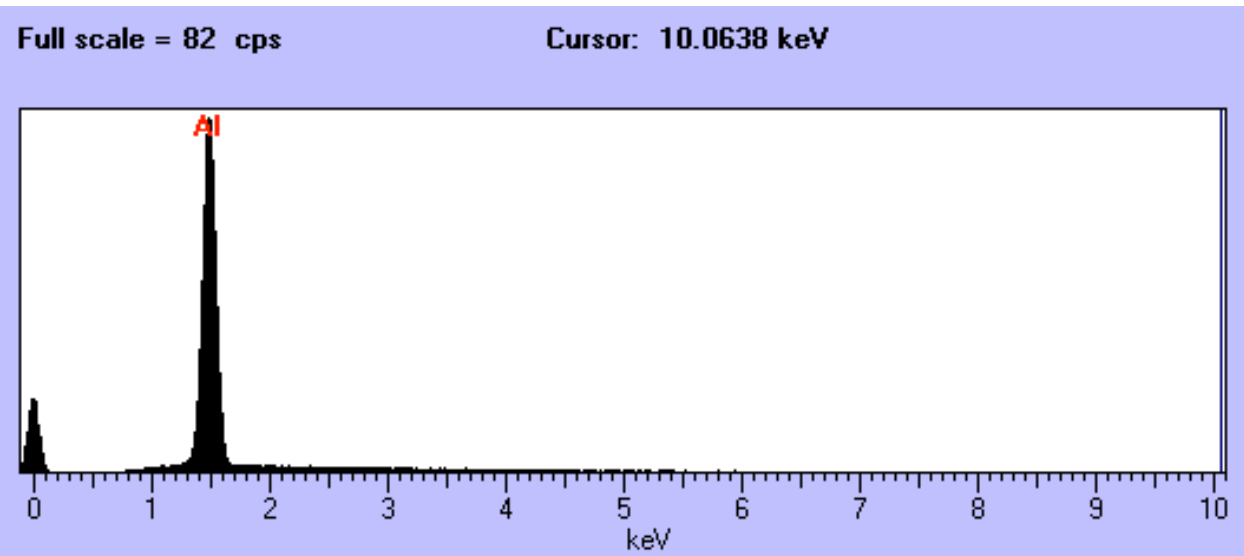
Size: 8 x 7 um
Shape: Irregular
Trans: Opaque
Color: White
Luster: Black
Type: TCA
Comments:



W7190 D41



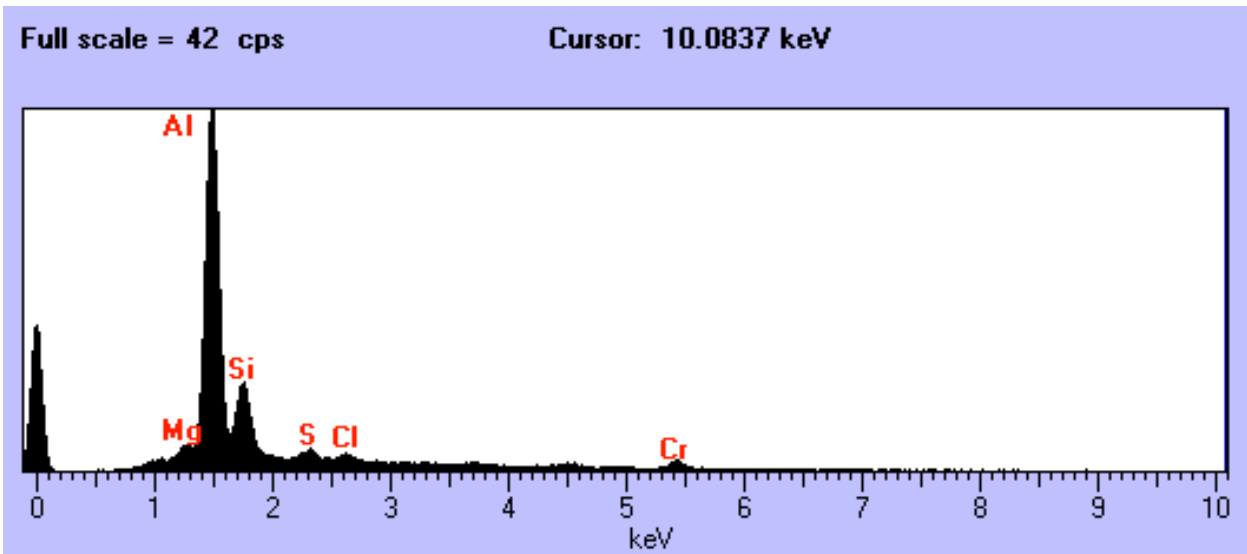
Size: 8 x 7 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: TCA
Comments:



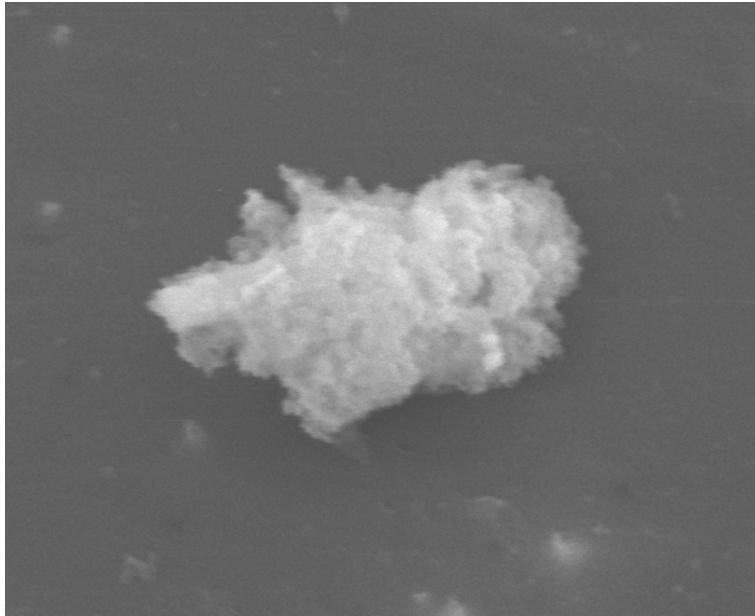
W7190 D42



Size: 14 x 10 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Dull
Type: TCA
Comments:



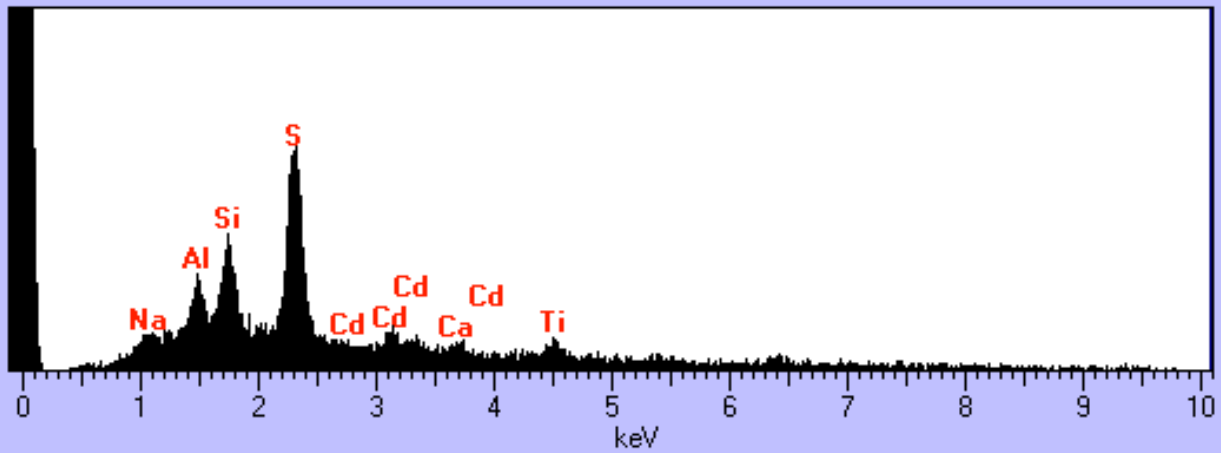
W7190 E4



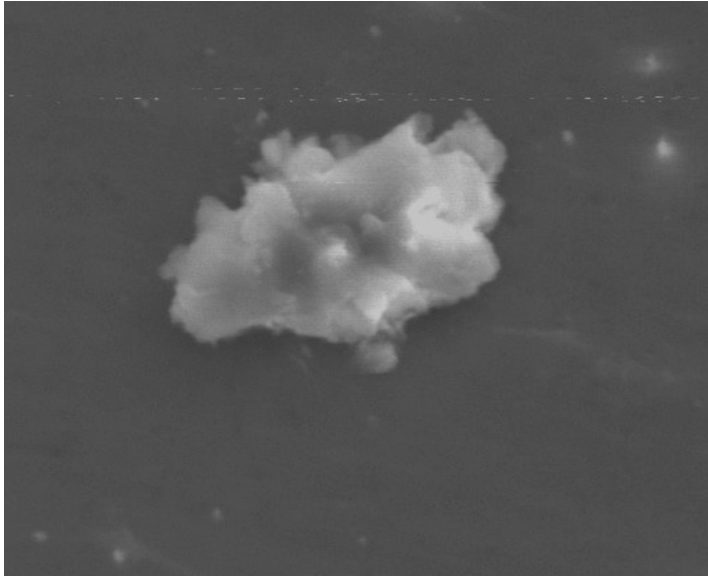
Size: 15 x 10 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: TCA
Comments:

Full scale = 5 cps

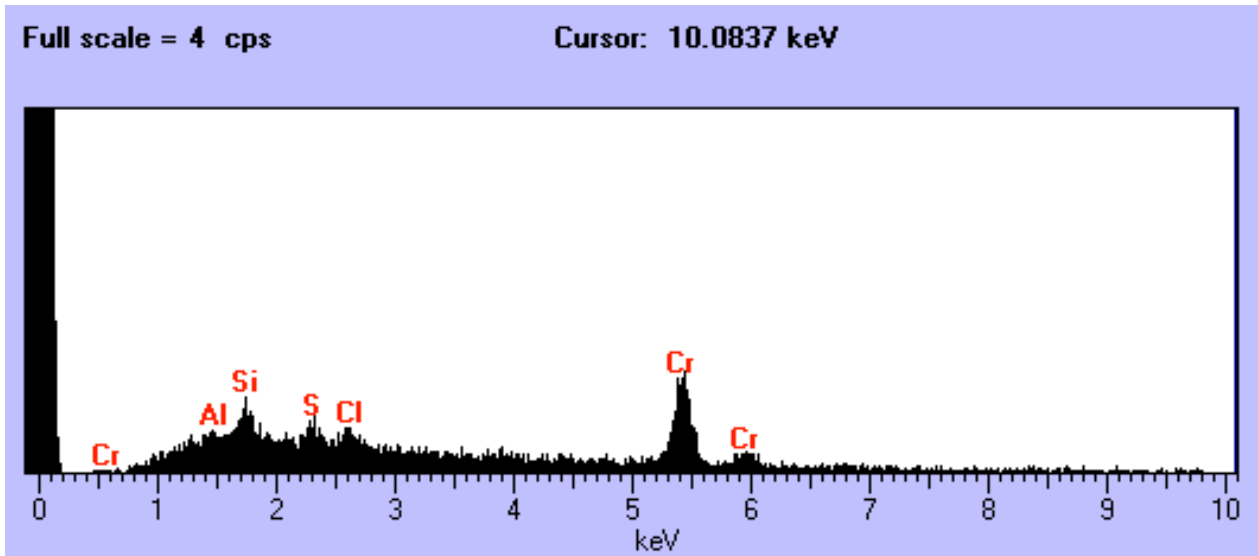
Cursor: 10.0837 keV



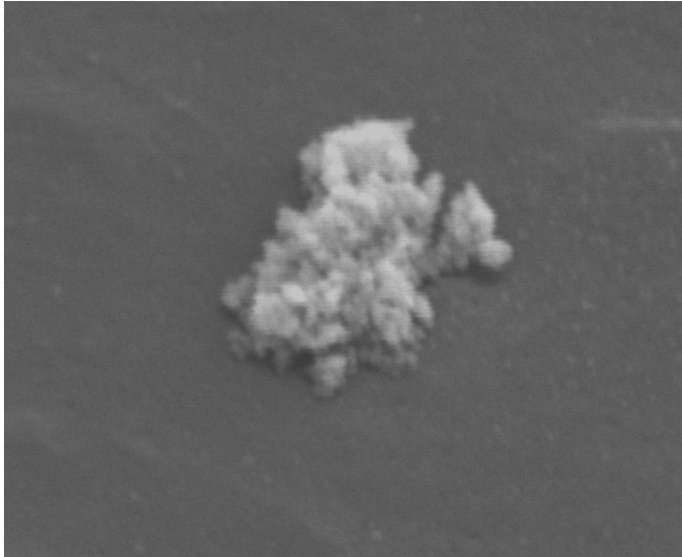
W7190 E32



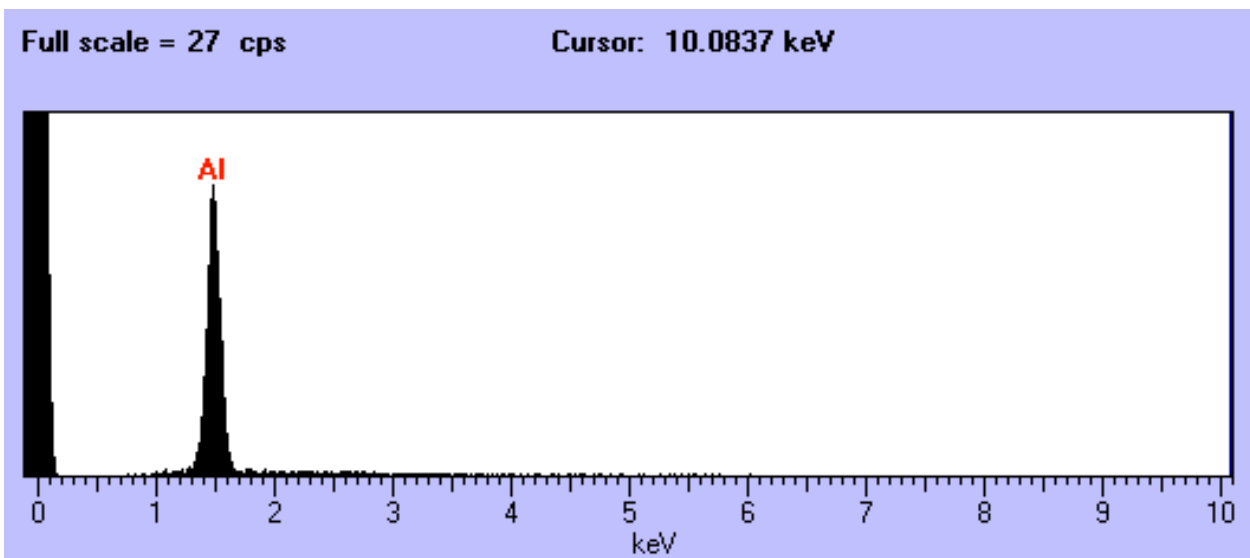
Size: 20 x 15 um
Shape: Irregular
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCA
Comments:



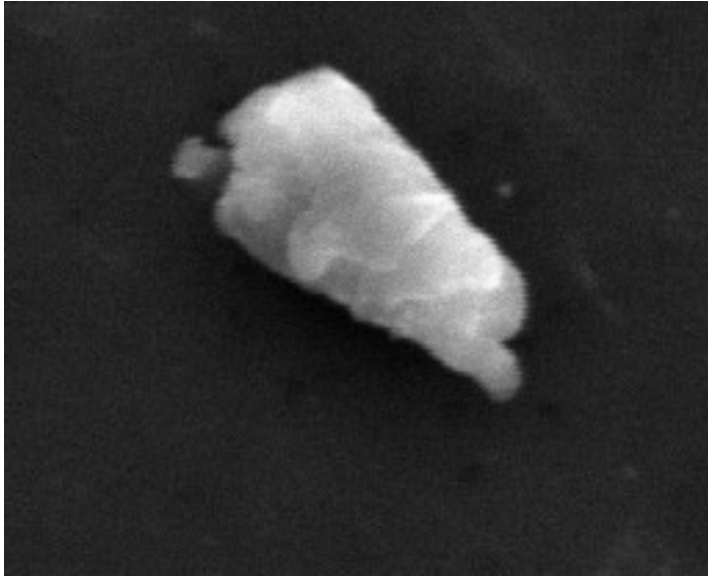
W7190 E34



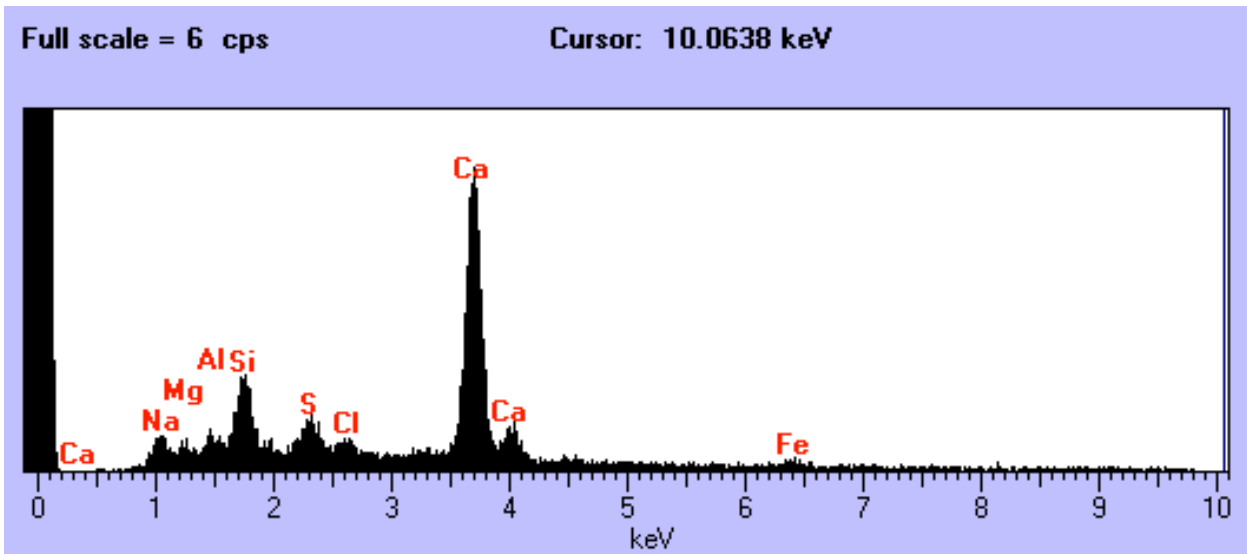
Size: 10 x 8 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: TCA
Comments:



W7190 F22



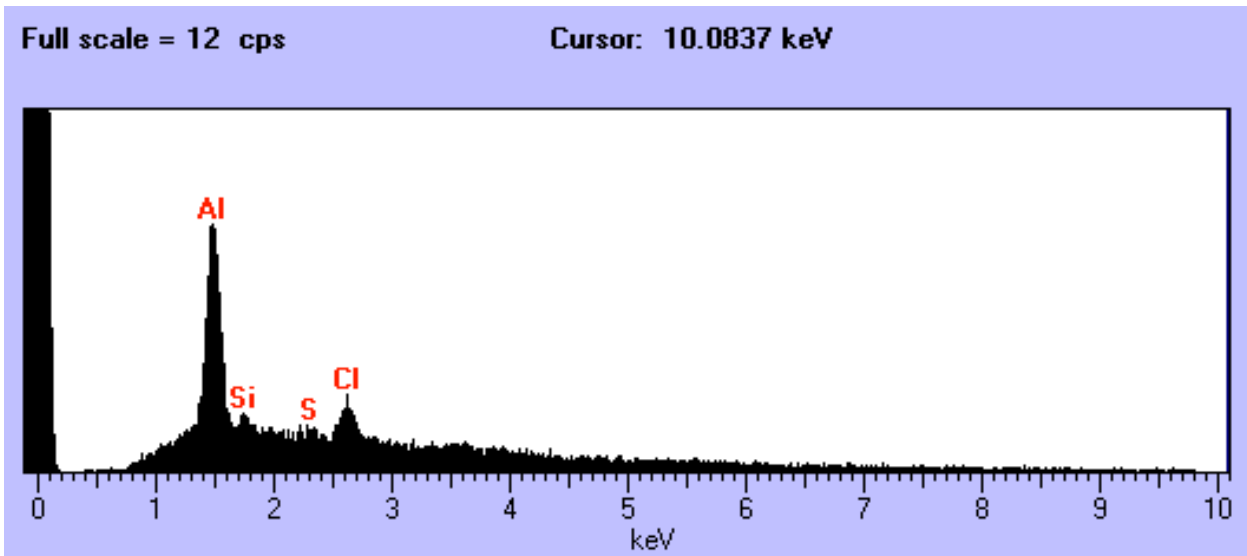
Size: 10 x 8 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: TCA
Comments:



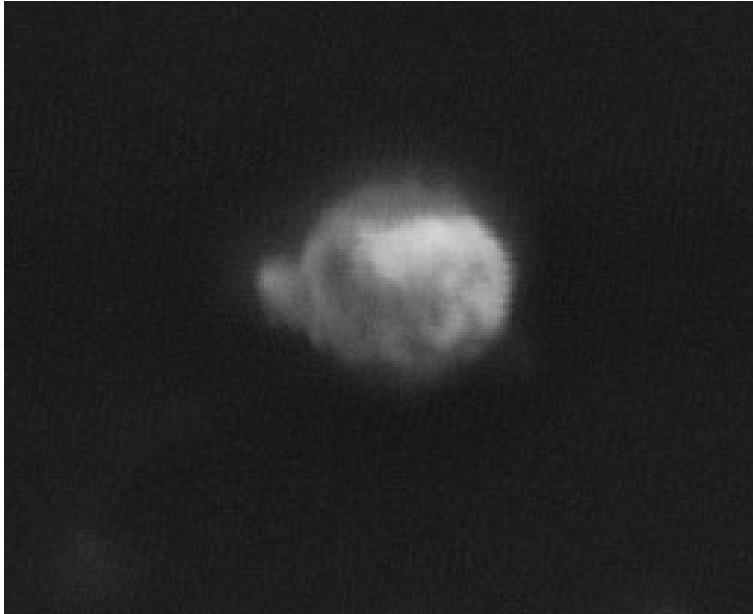
W7190 I17



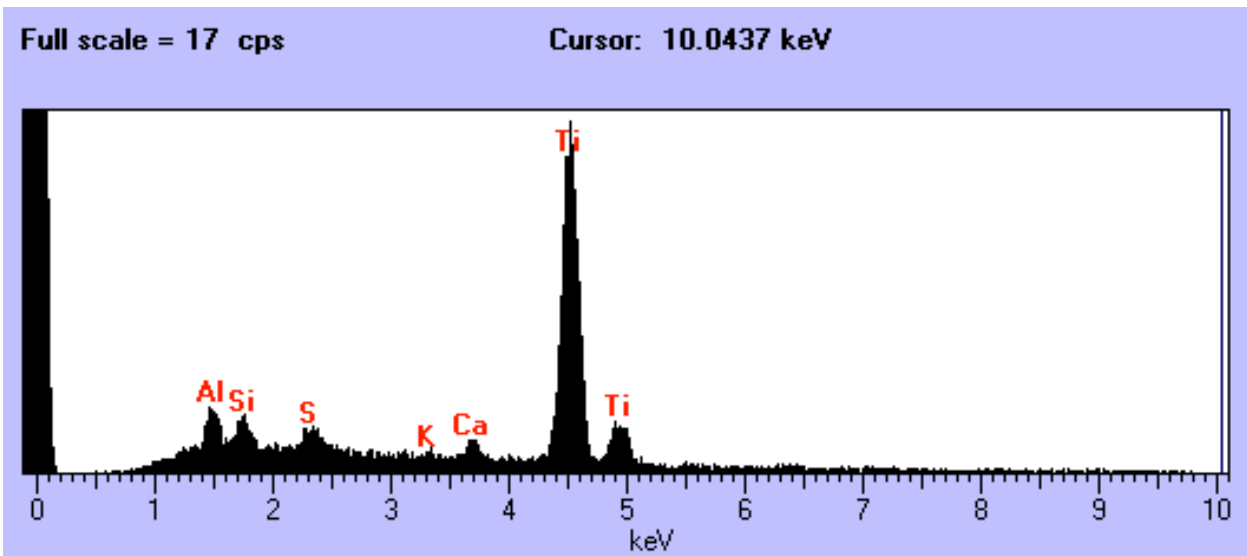
Size: 15 x 10 um
Shape: Irregular
Trans: Opaque
Color: Black
Luster: Dull
Type: TCA
Comments:



W7190 J8



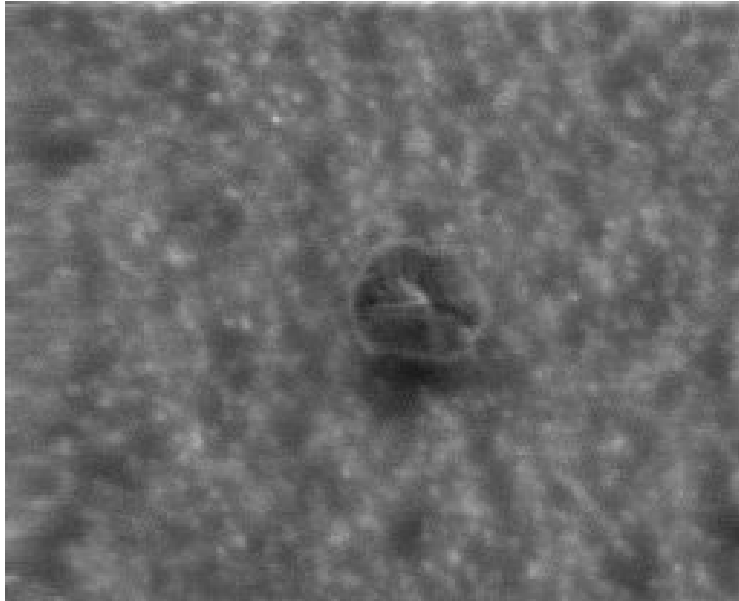
Size: 10 um
Shape: Sphere
Trans: Translucent
Color: White
Luster: Subvitreous
Type: TCA
Comments:



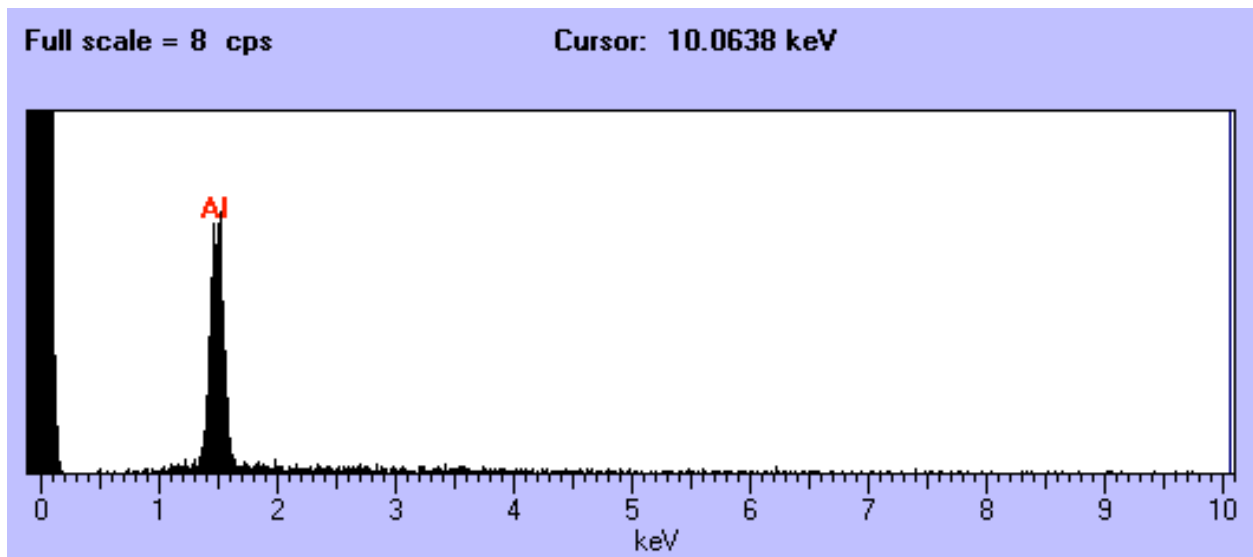
Particle Descriptions

AOS Type

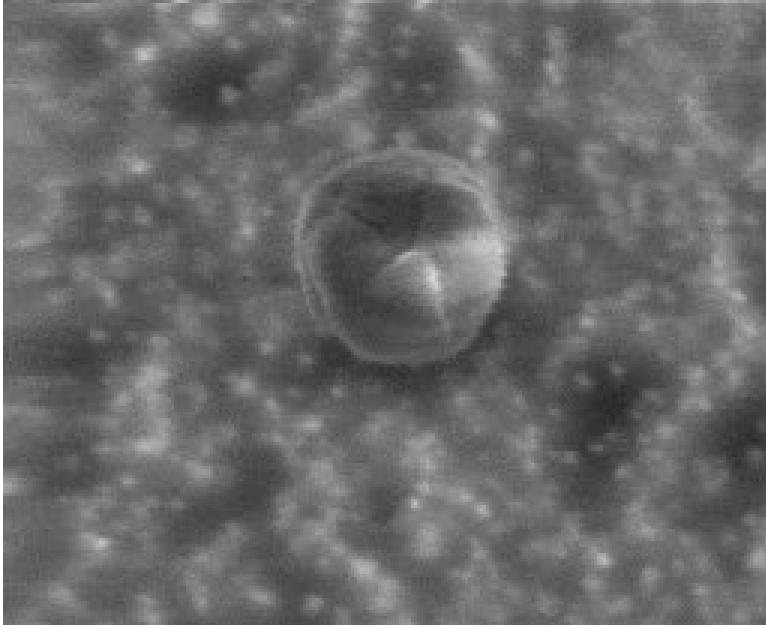
U2097 B8



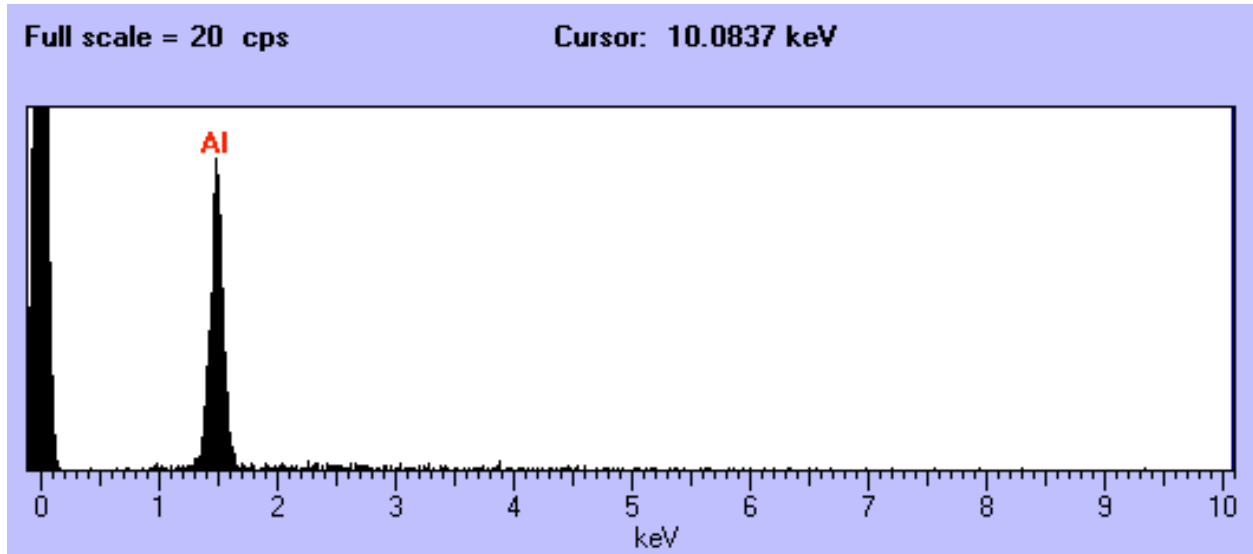
Size: 10 um
Shape: Sphere
Trans: Translucent
Color: White
Luster: Subvitreous
Type: AOS
Comments:



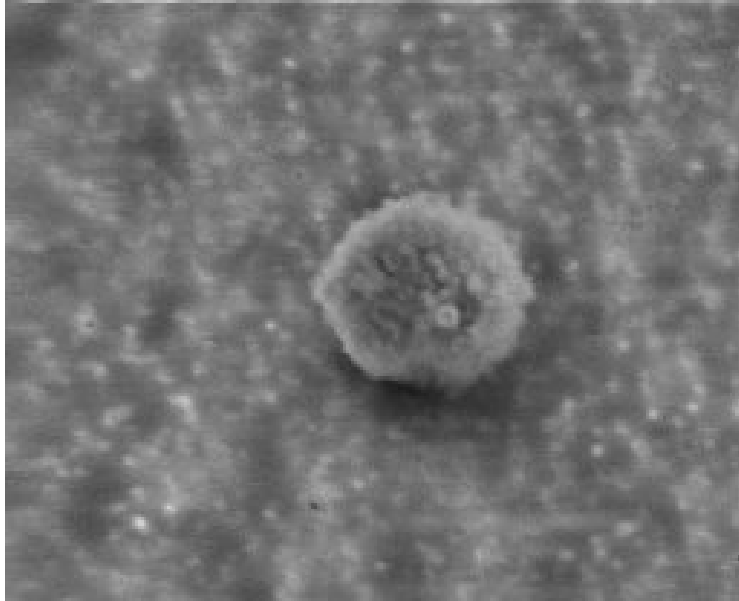
L2047 B20



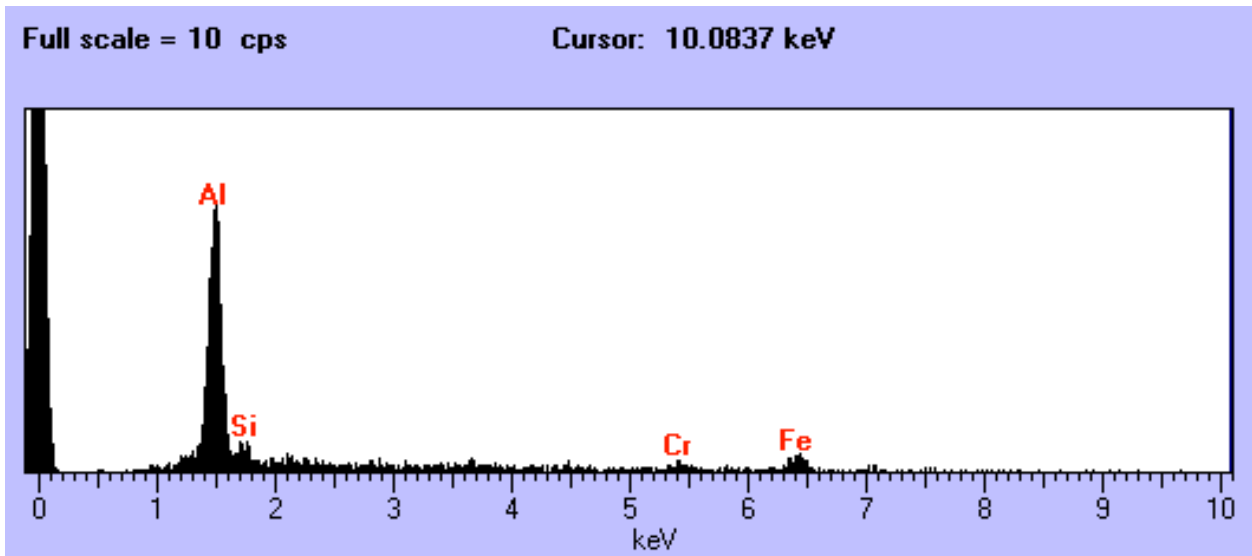
Size: 10 um
Shape: Sphere
Trans: TL
Color: White
Luster: Subvitreous
Type: AOS
Comments:



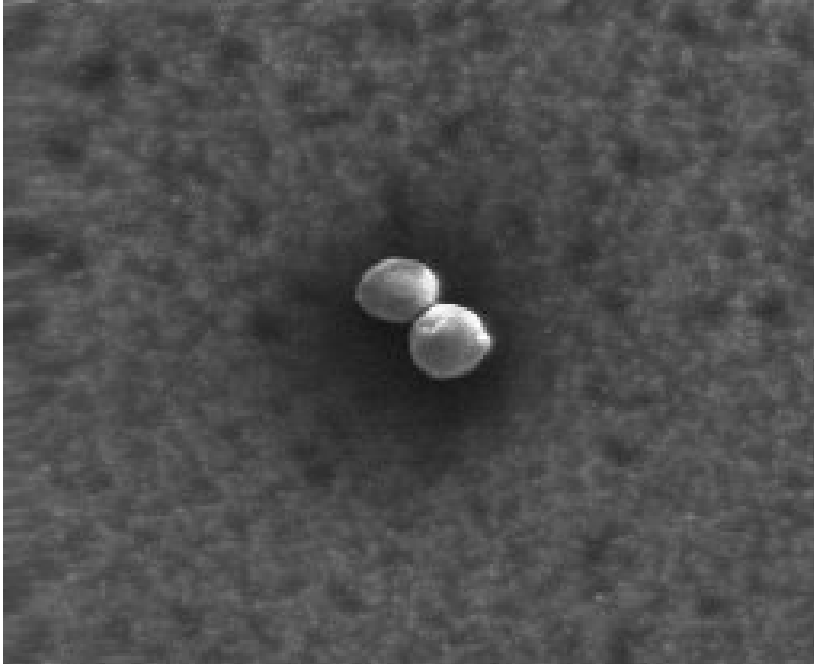
L2047 E3



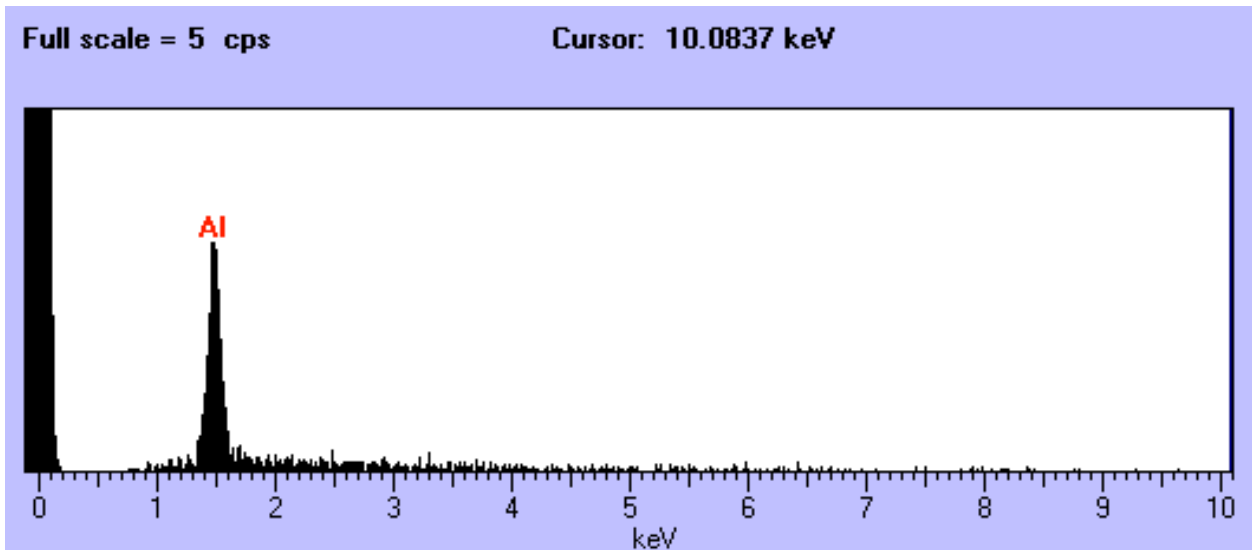
Size: 10 um
Shape: Sphere
Trans: Translucent
Color: White
Luster: Subvitreous
Type: AOS
Comments:



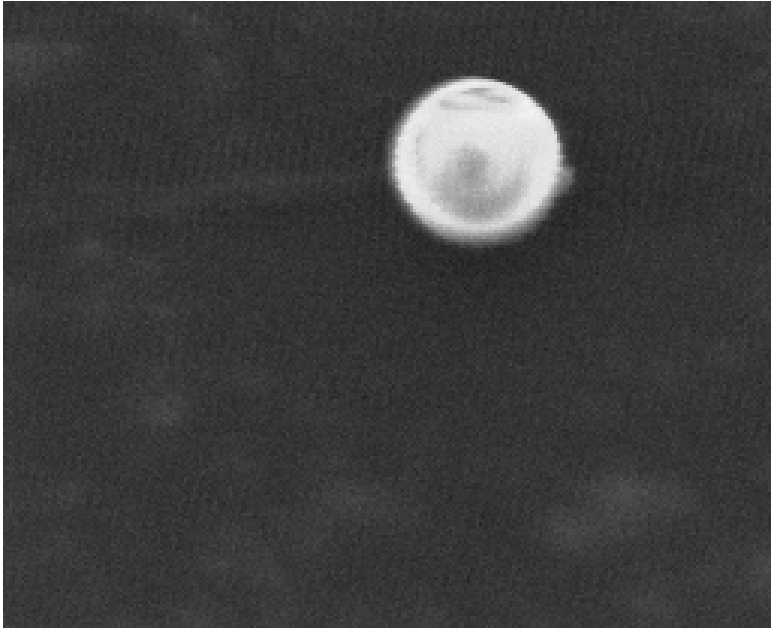
L2047 F15 and F16



Size: 18x 9 um
Shape: Spheres
Trans: Translucent
Color: Colorless
Luster: Vitreous/Dull
Type: AOS
Comments: Double sphere



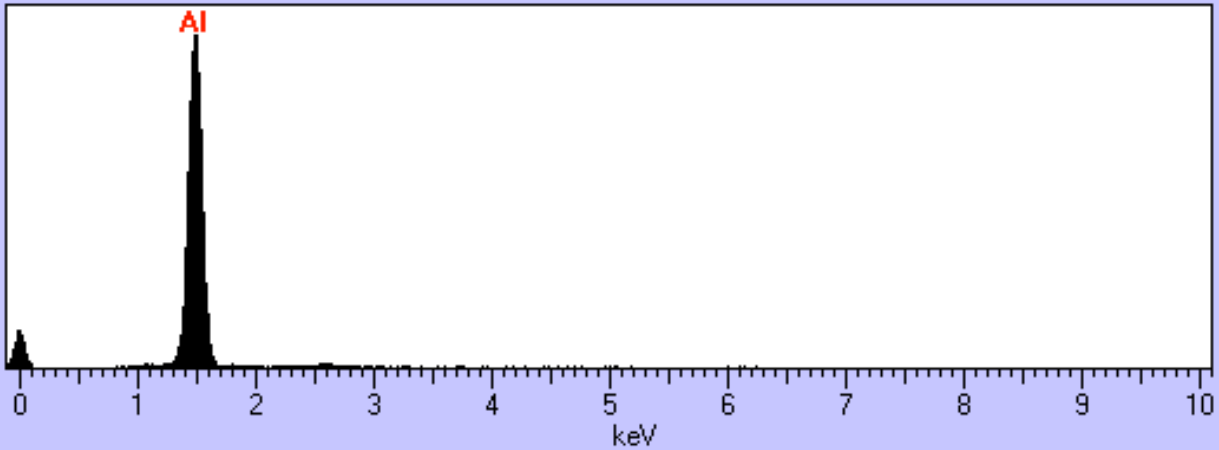
U2097 A3



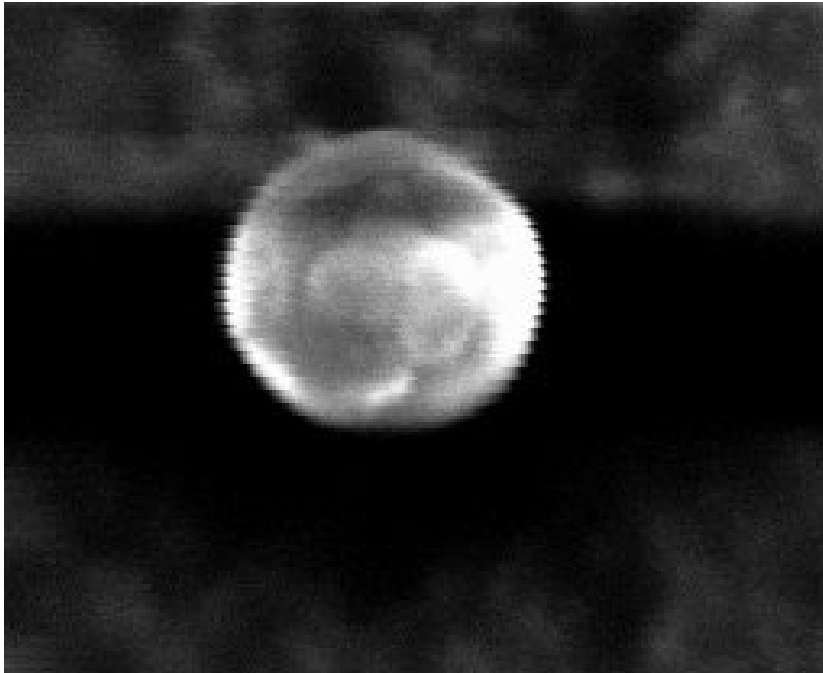
Size: 15 um
Shape: Sphere
Trans: Transparent
Color: Colorless
Luster: Vitreous
Type: AOS
Comments:

Full scale = 139 cps

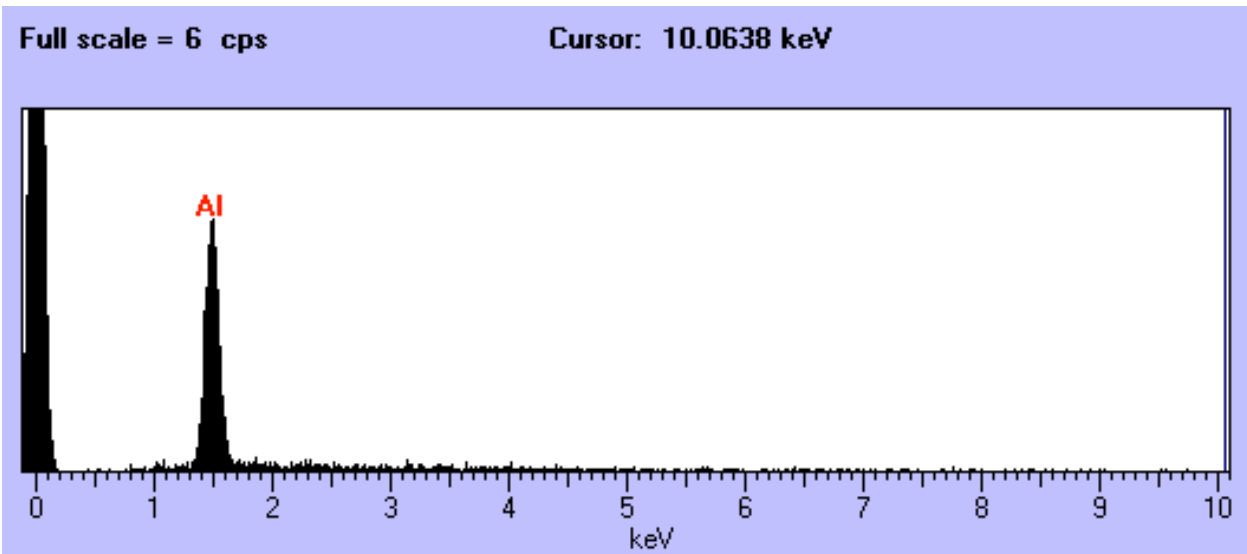
Cursor: 2.6237 keV



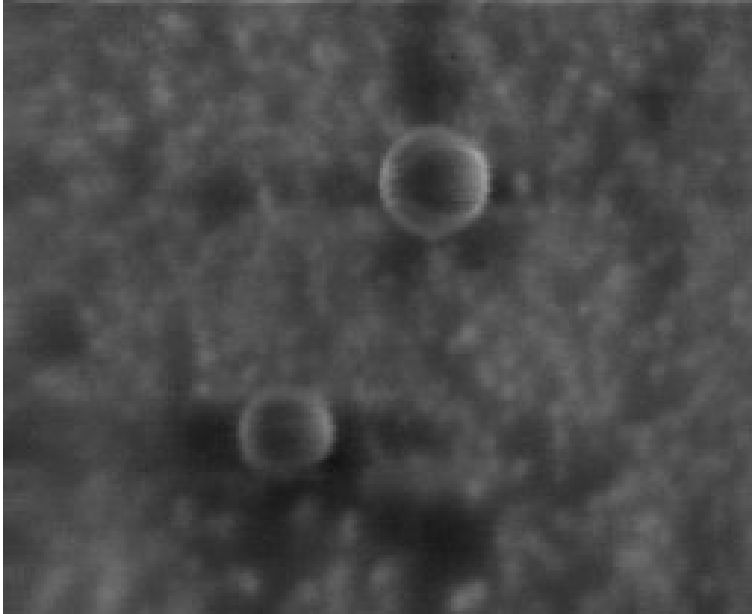
U2099 A1



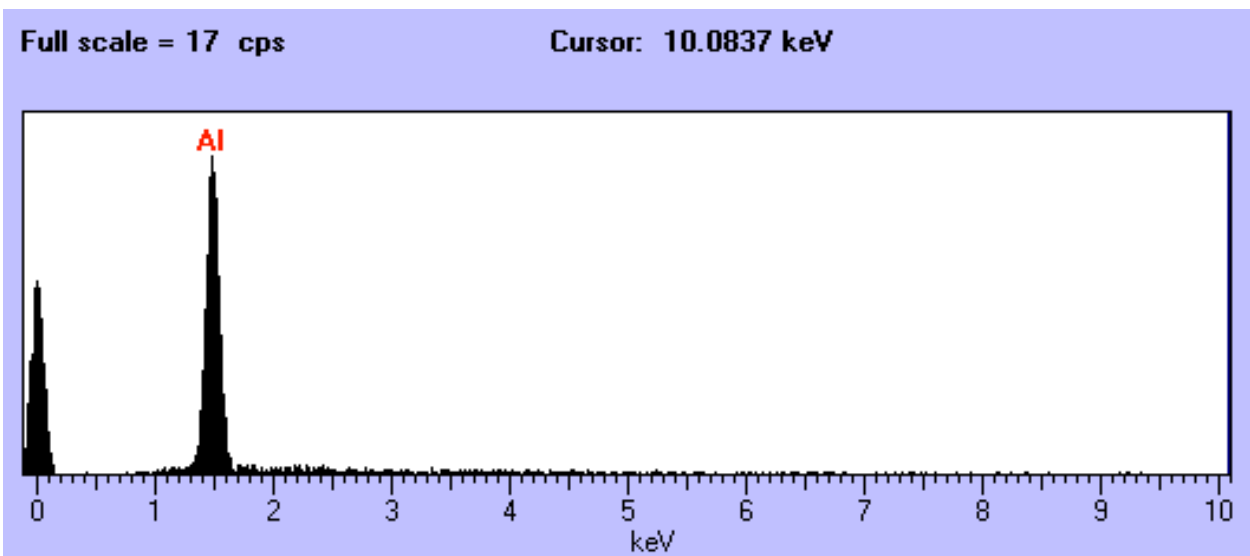
Size: 8 um
Shape: Sphere
Trans: Translucent
Color: White
Luster: Subvitreous
Type: AOS
Comments:



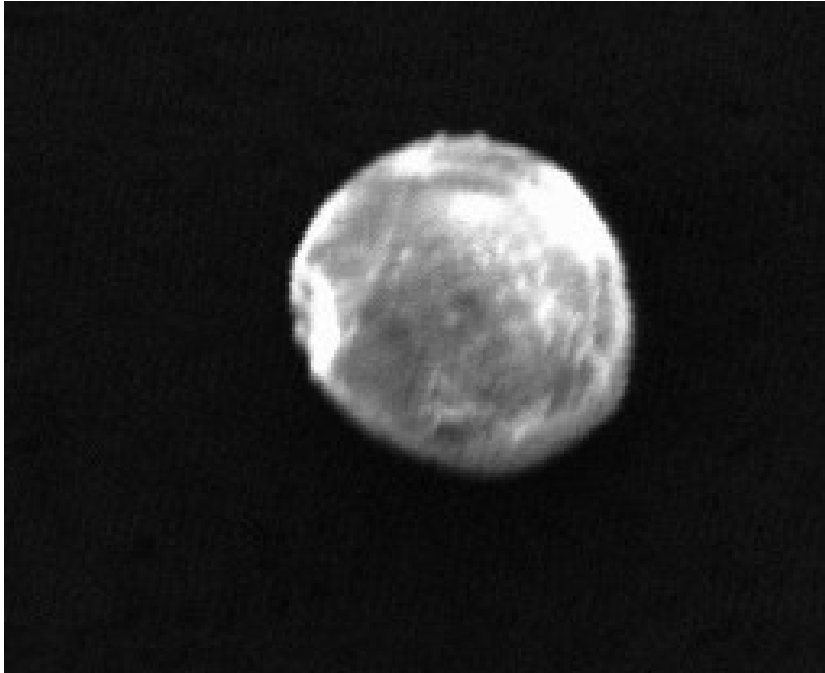
U2099 A16 and A17



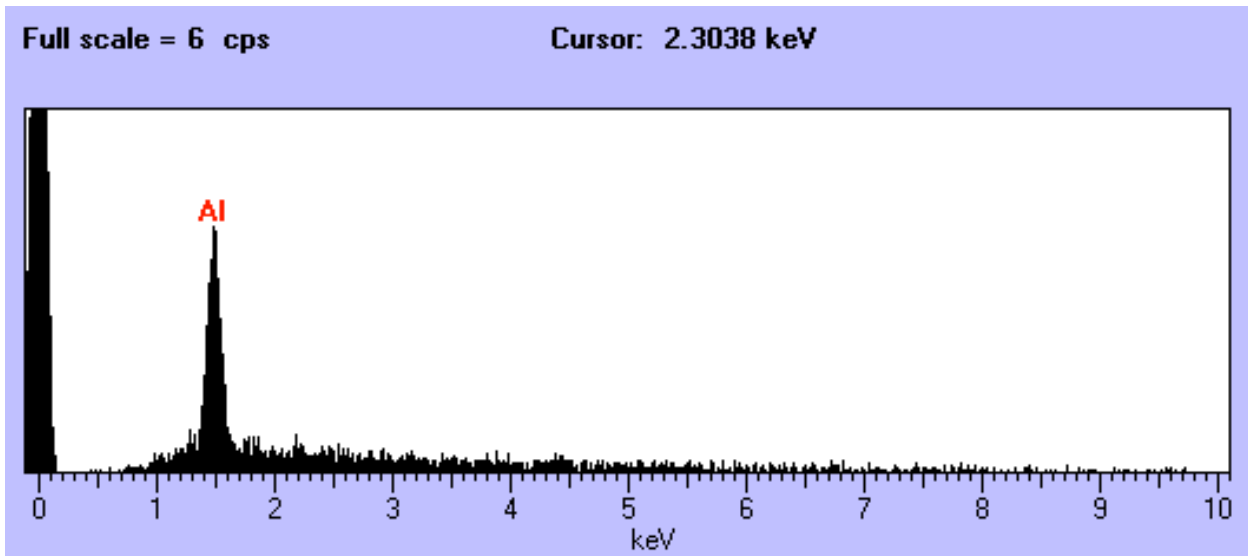
Size: 7 & 6 um
Shape: Sphere
Trans: Translucent
Color: White
Luster: Subvitreous
Type: AOS
Comments: A16 at lower left,
and A17 at upper
right



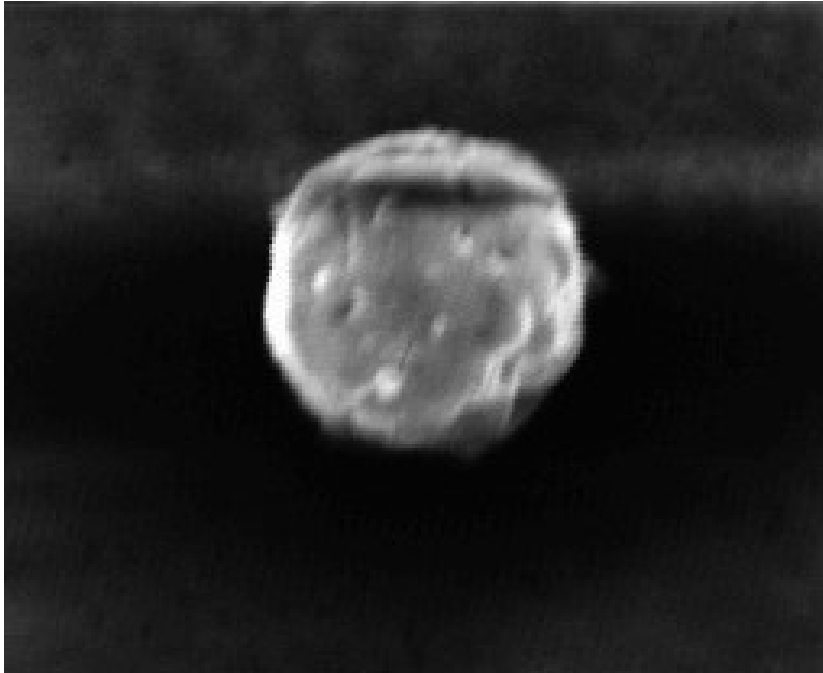
W7190 B1



Size: 15 um
Shape: Sphere
Trans: Translucent
Color: White
Luster: Subvitreous
Type: AOS
Comments:



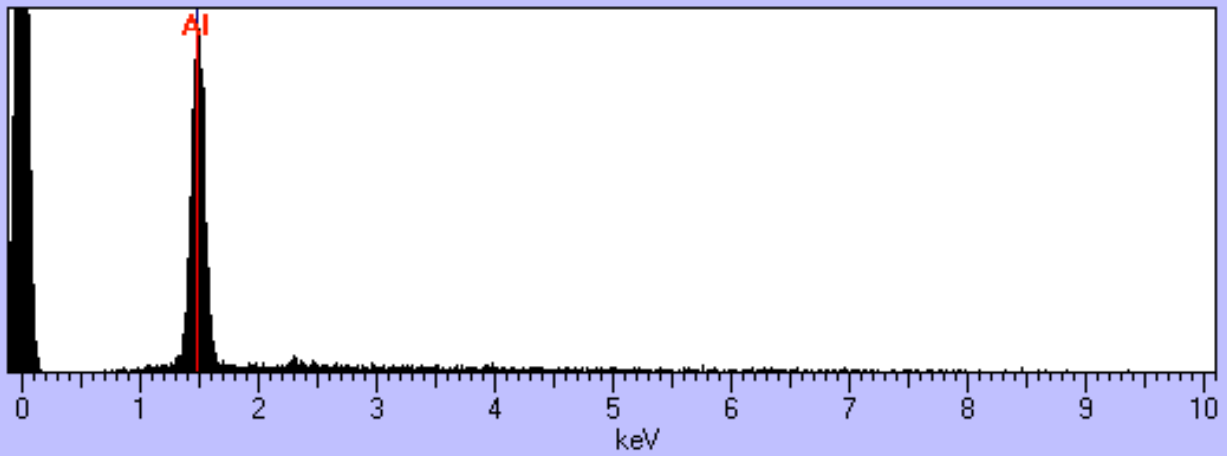
W7190 B2



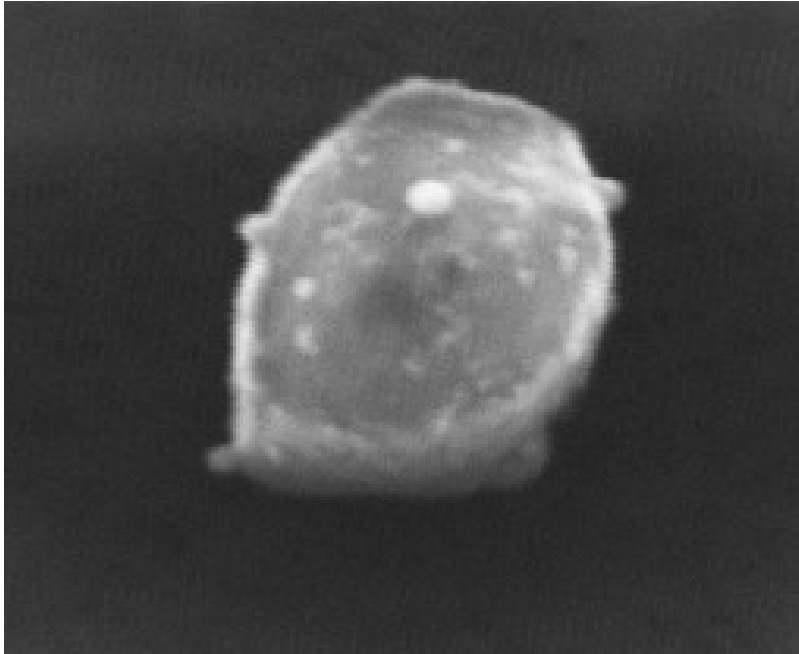
Size: 5 um
Shape: Sphere
Trans: Translucent
Color: White
Luster: Subvitreous
Type: AOS
Comments:

Full scale = 9 cps

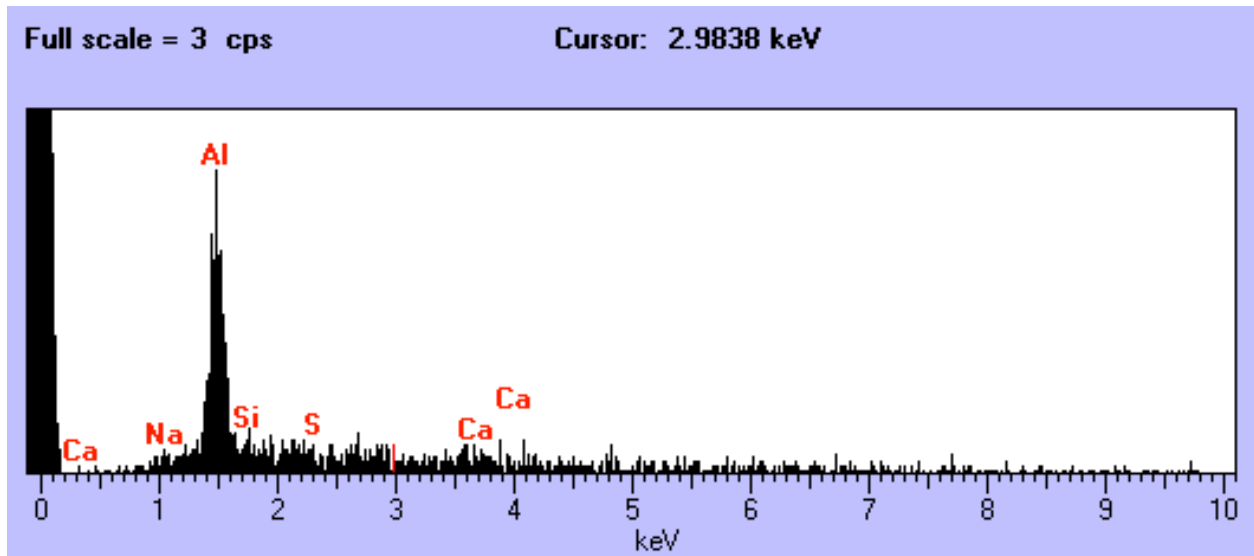
Cursor: 1.4837 keV



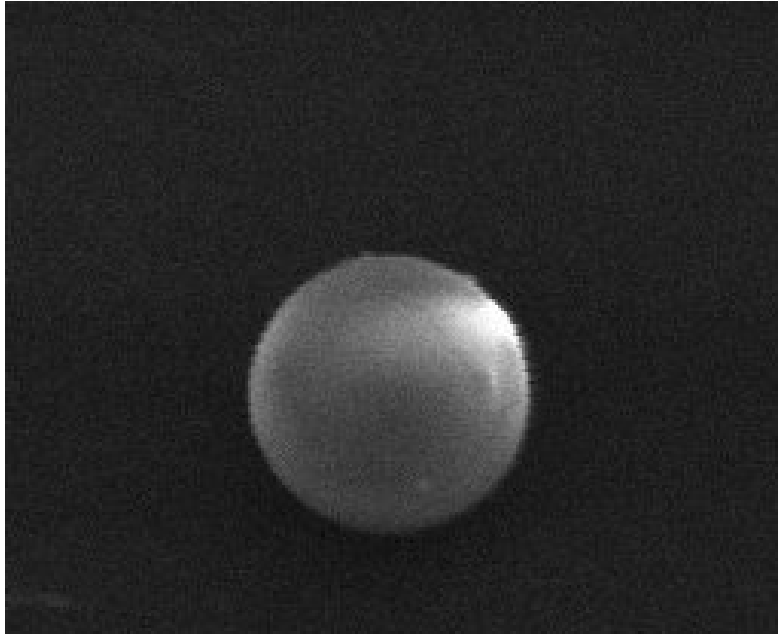
W7190 B8



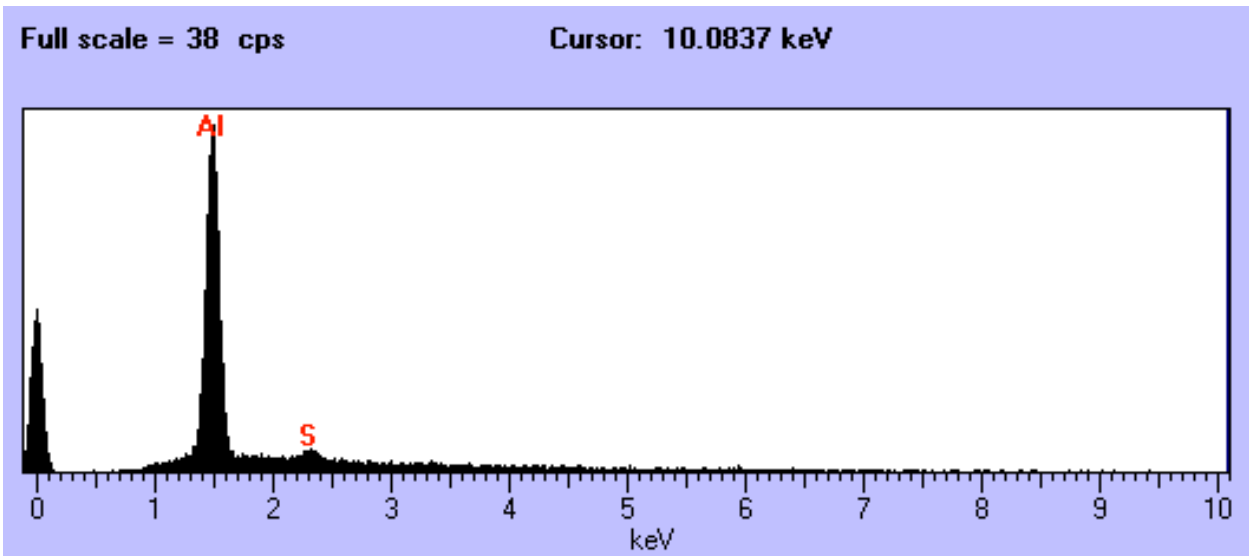
Size: 15 um
Shape: Sphere
Trans: Translucent
Color: White
Luster: Pearly
Type: AOS
Comments:



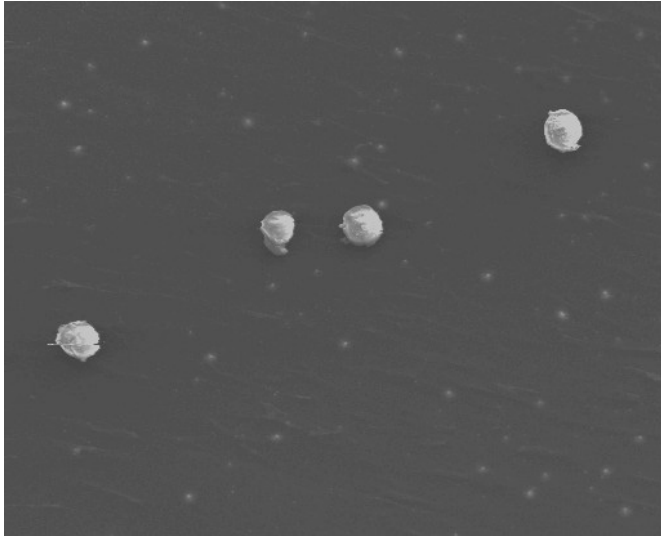
W7190 D32



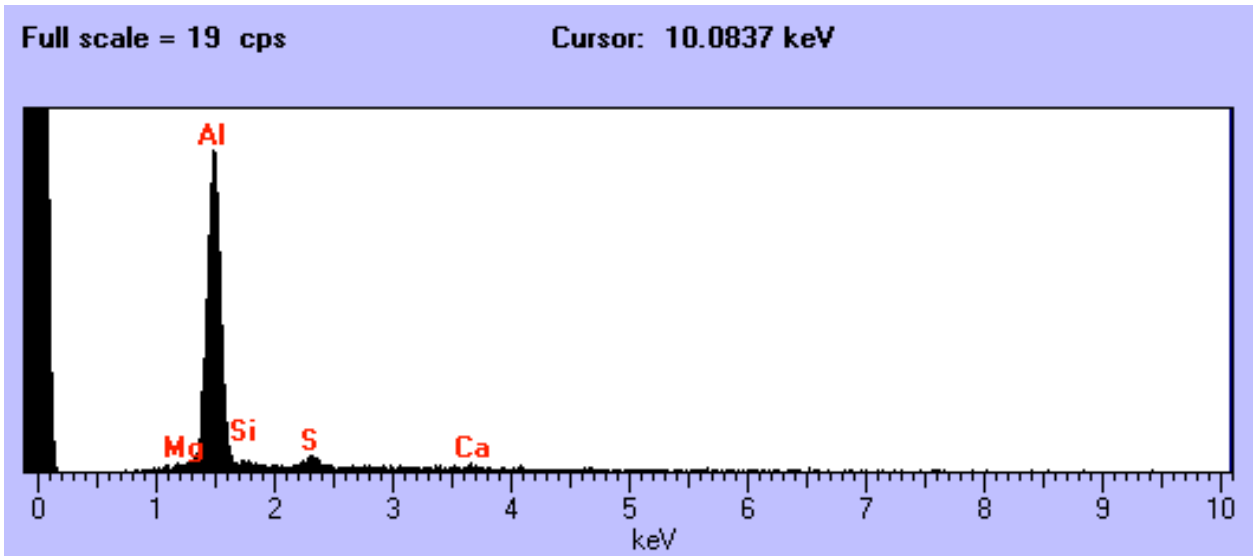
Size: 12 um
Shape: Sphere
Trans: Translucent
Color: White
Luster: Subvitreous
Type: AOS
Comments:



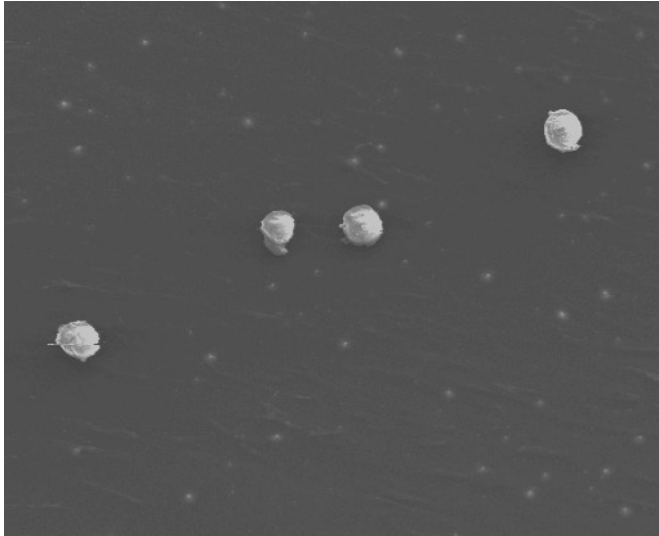
W7190 E28



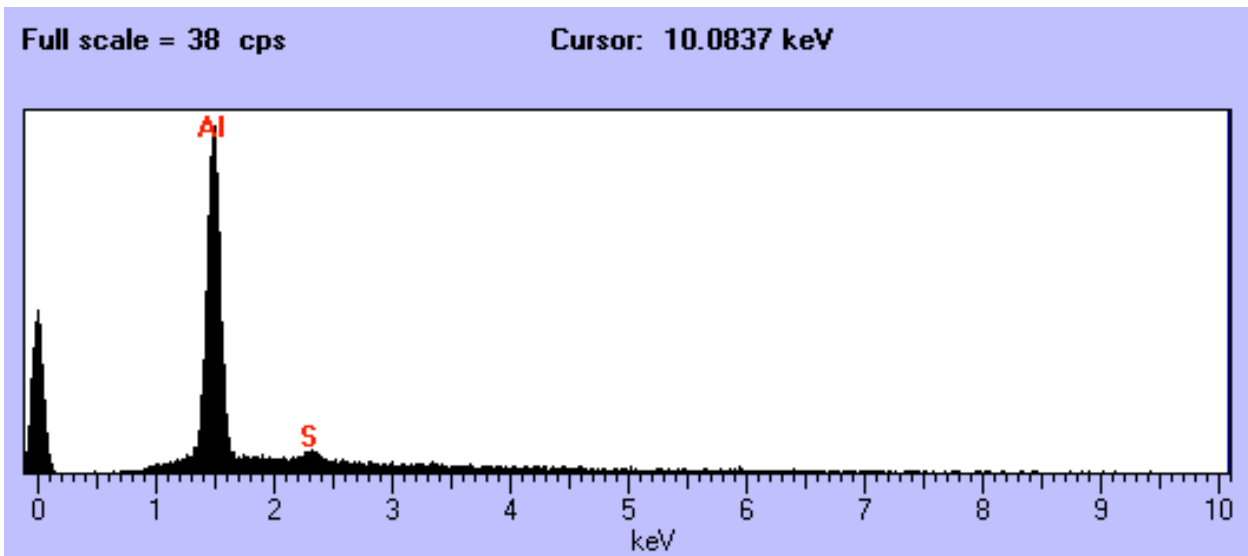
Size: 16 um
Shape: Sphere
Trans: Translucent
Color: White
Luster: Subvitreous
Type: AOS
Comments: Particle at the upper right



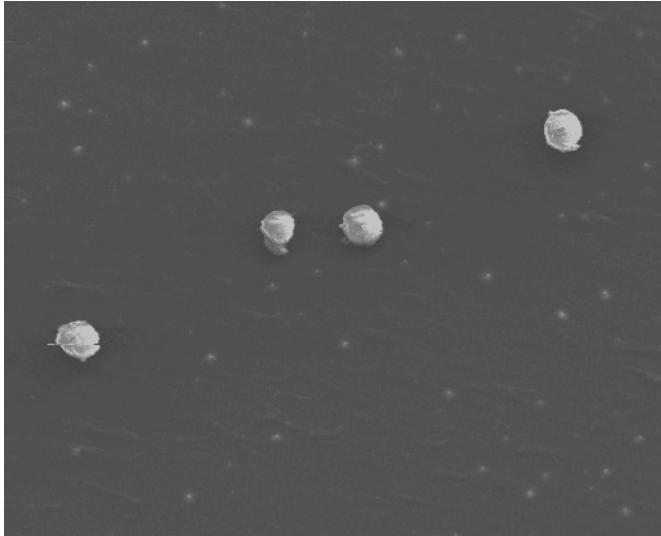
W7190 E29



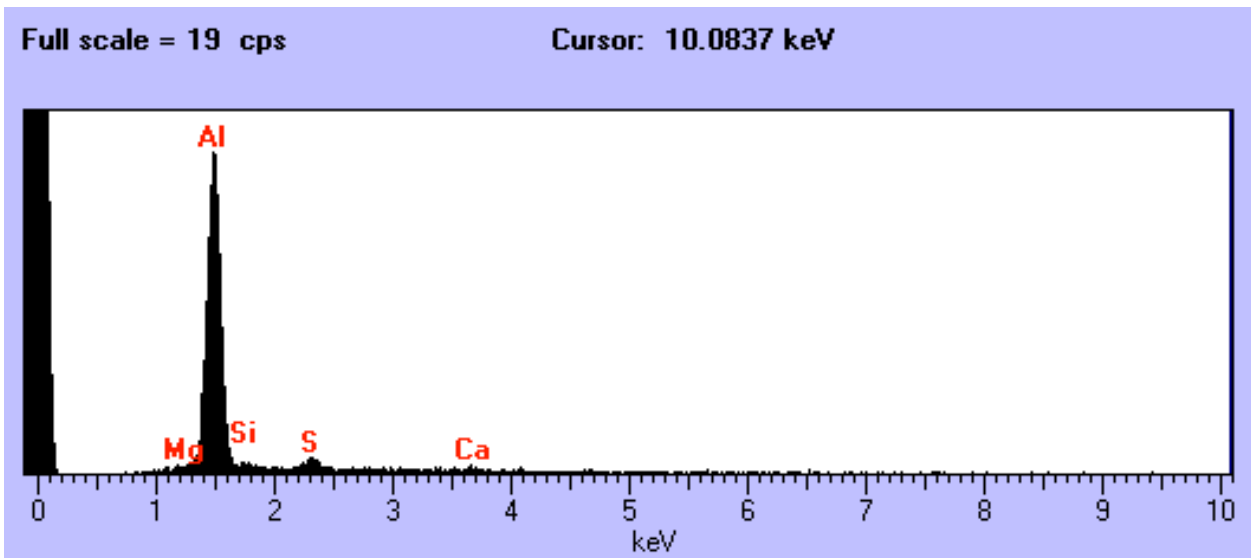
Size: 18 um
Shape: Sphere
Trans: Translucent
Color: White
Luster: Subvitreous
Type: AOS
Comments: Second from the right



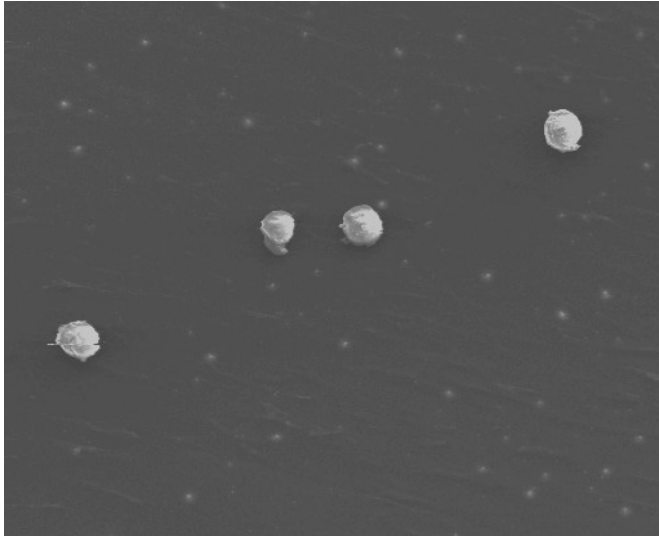
W7190 E30



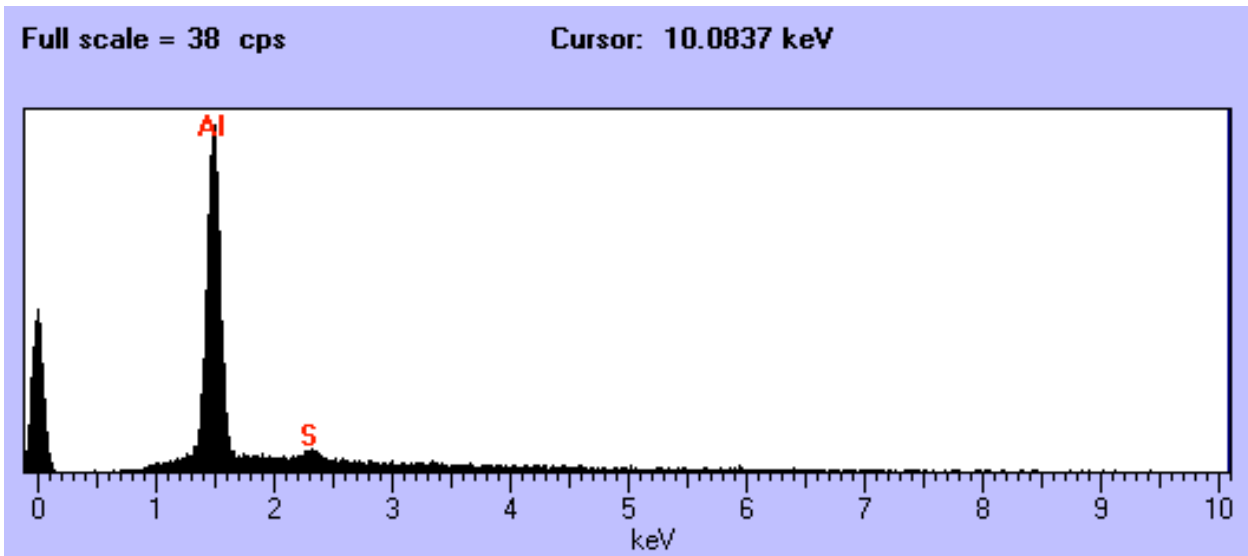
Size: 15 um
Shape: Sphere
Trans: Translucent
Color: White
Luster: Subvitreous
Type: AOS
Comments: Second from the left



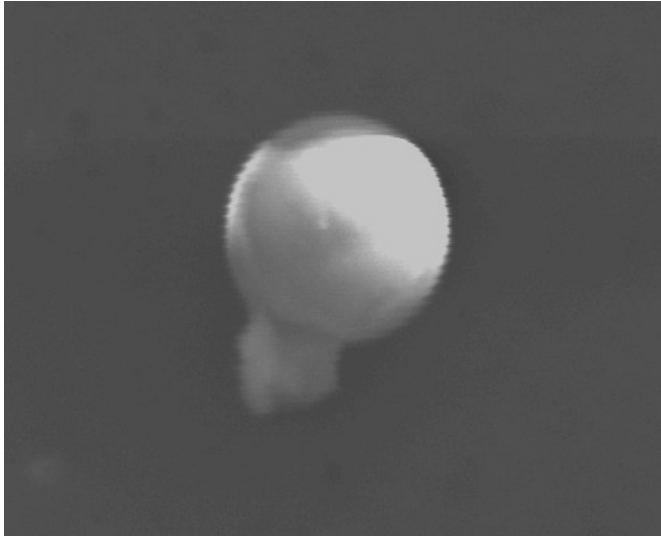
W7190 E31



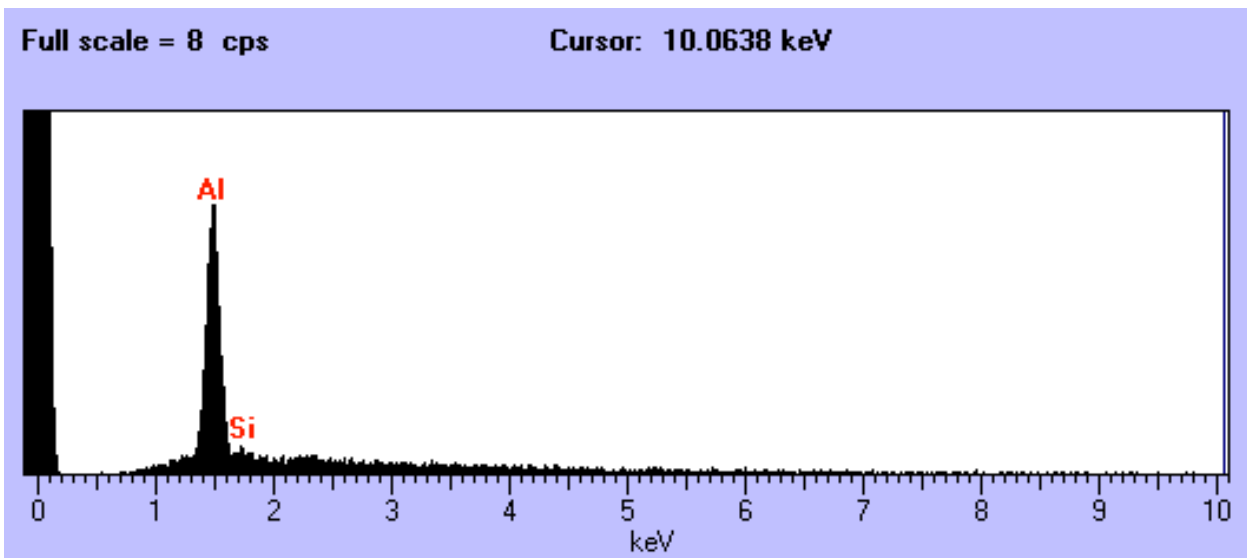
Size: 15 um
Shape: Sphere
Trans: Translucent
Color: White
Luster: Subvitreous
Type: AOS
Comments: Particle on the far left



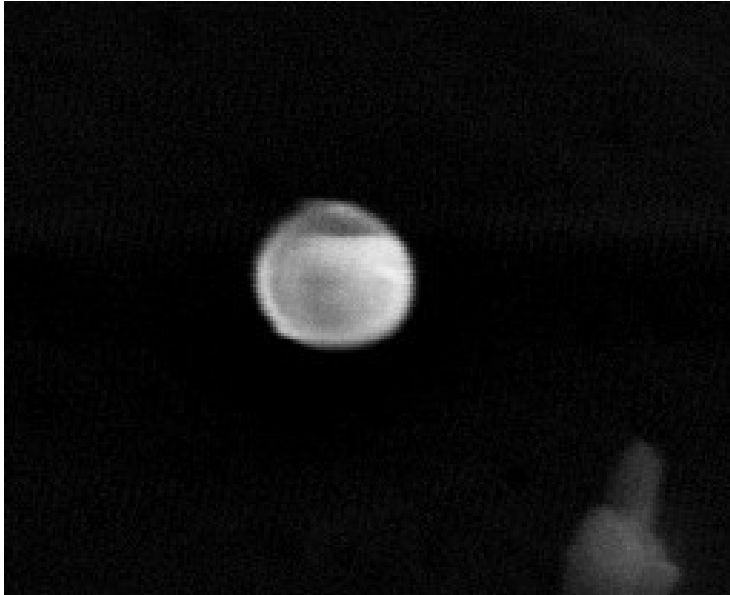
W7190 E35



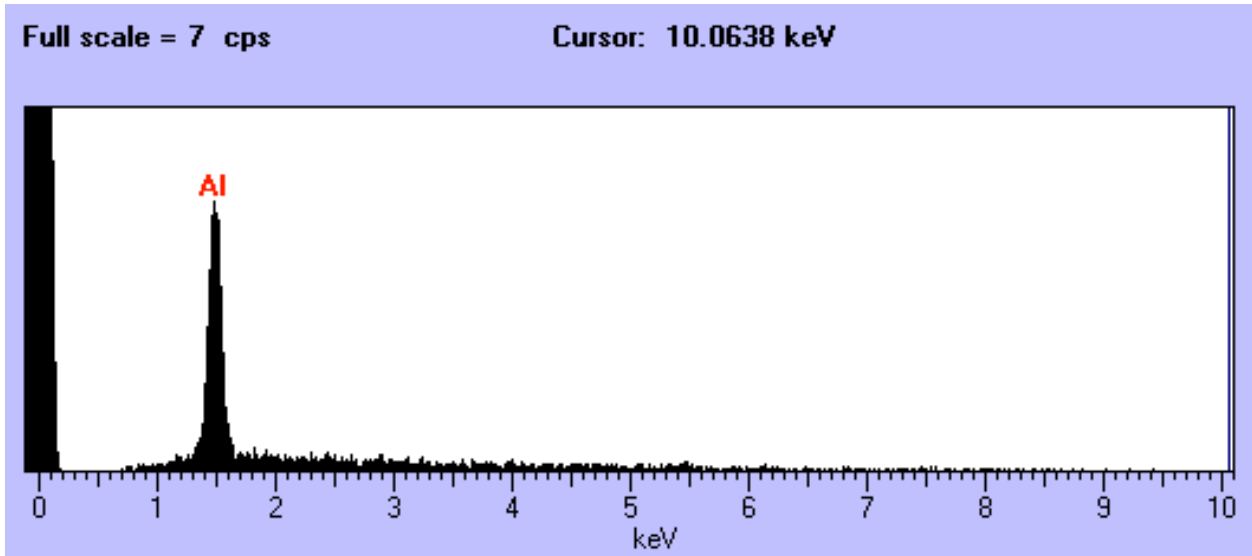
Size: 5 um
Shape: Sphere
Trans: Opaque
Color: Dull
Luster: Subvitreous
Type: AOS
Comments:



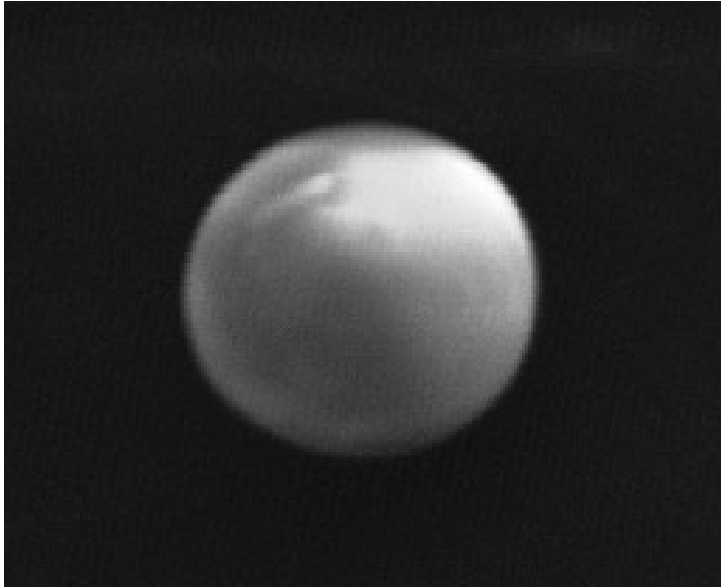
W7190 H9



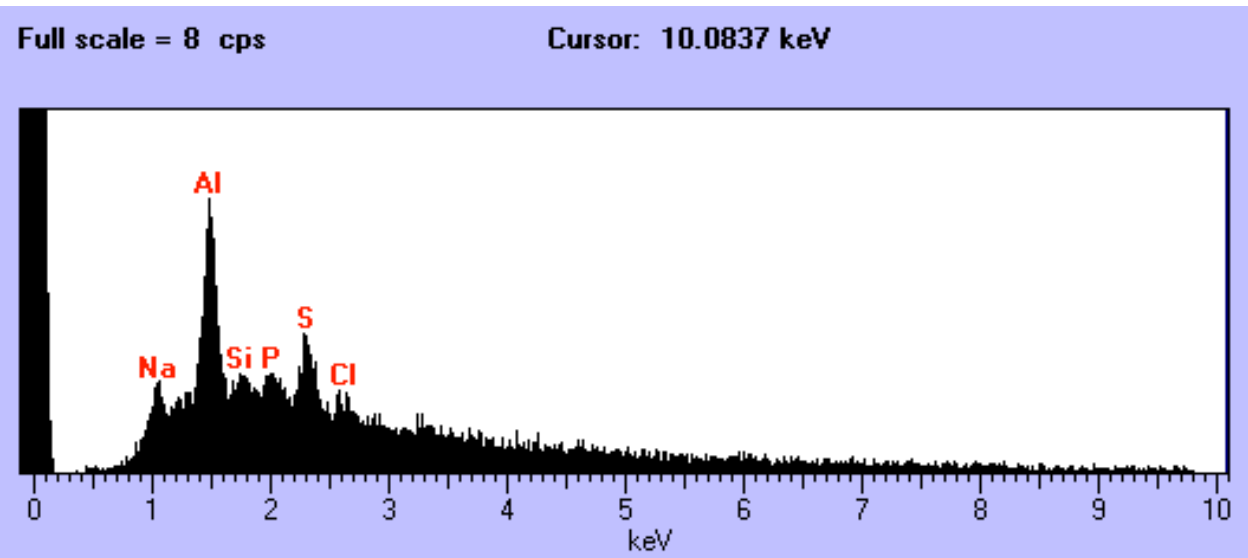
Size: 8 um
Shape: Sphere
Trans: Translucent
Color: White
Luster: Subvitreous
Type: AOS
Comments:



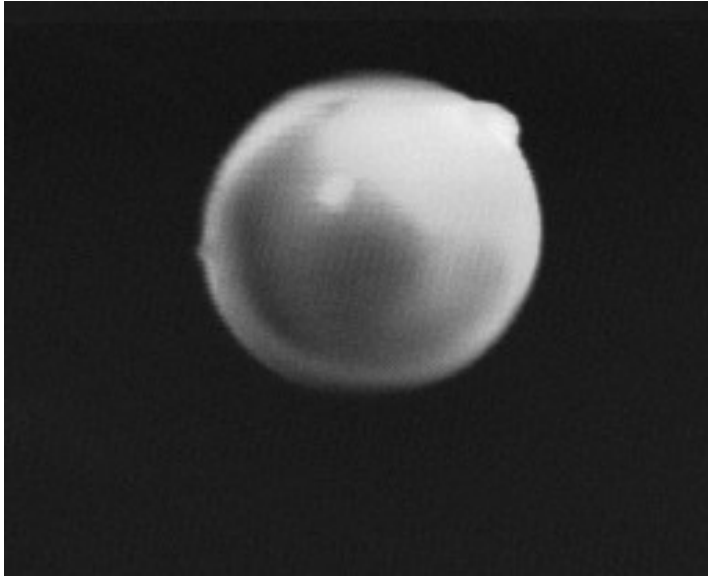
W7190 I4



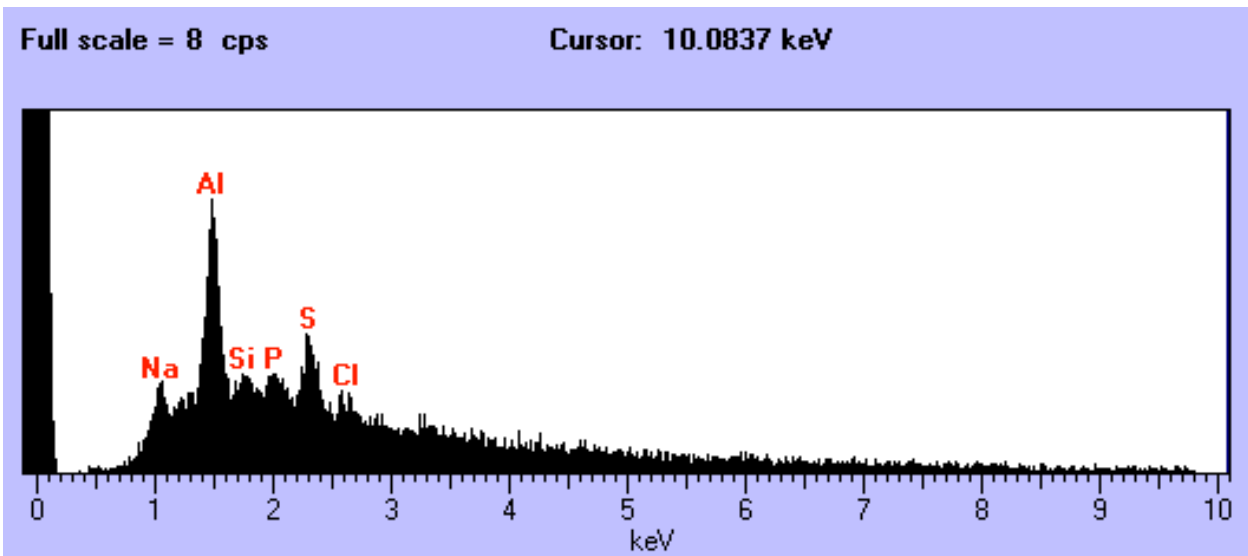
Size: 15 um
Shape: Sphere
Trans: Opaque
Color: Black
Luster: Metallic
Type: AOS
Comments:



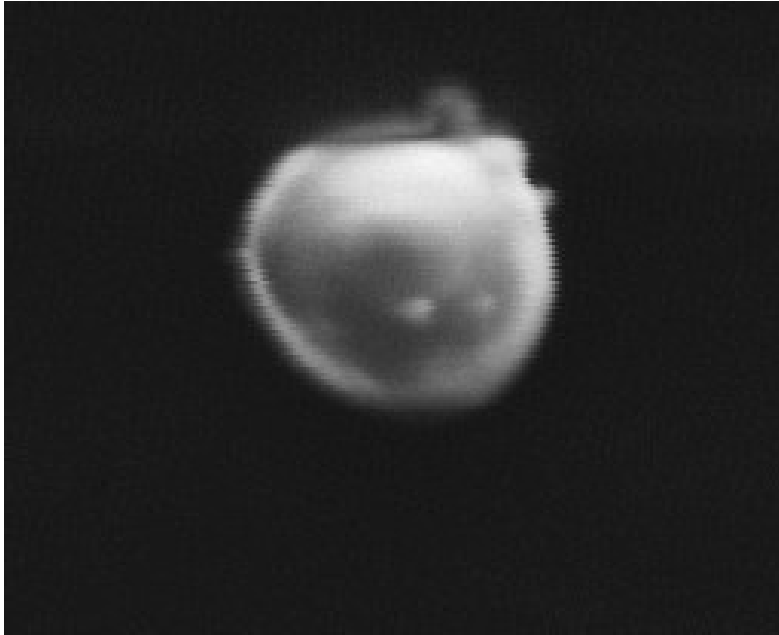
W7190 I5



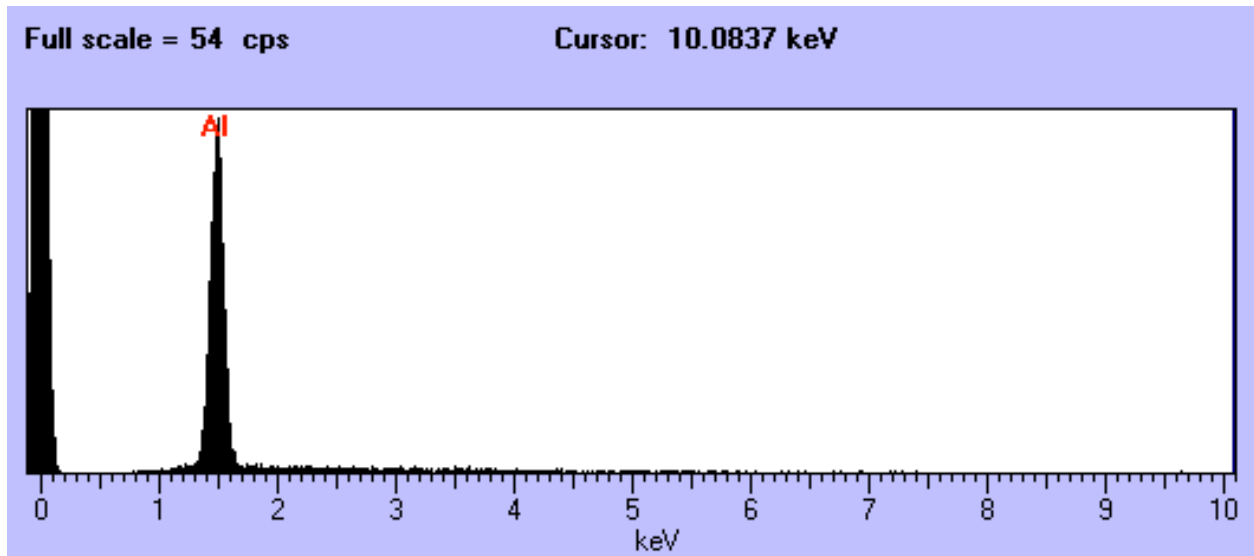
Size: 15 um
Shape: Sphere
Trans: Translucent
Color: White
Luster: Subvitreous
Type: AOS
Comments:



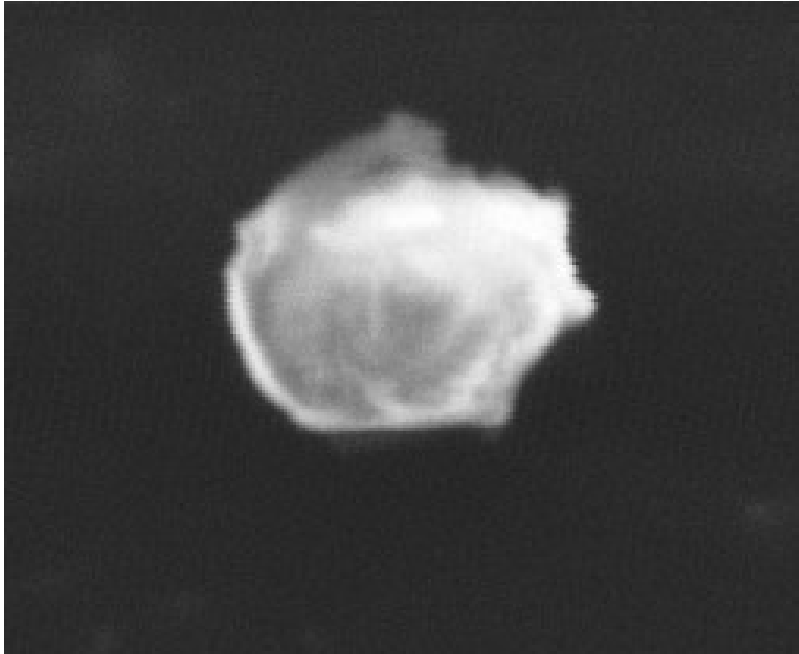
W7190 J1



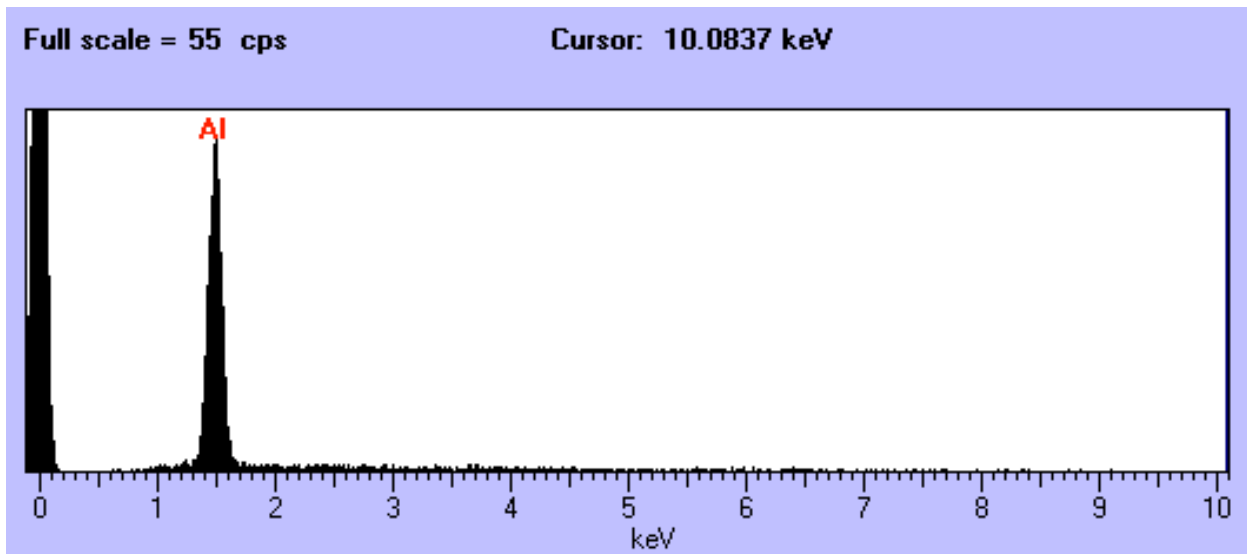
Size: 10 um
Shape: Sphere
Trans: Translucent
Color: White
Luster: Subvitreous
Type: AOS
Comments:



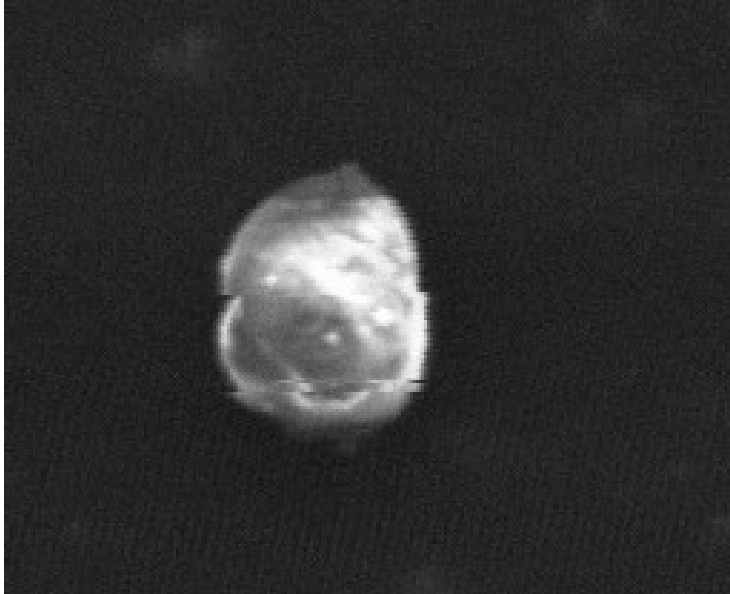
W7190 J3



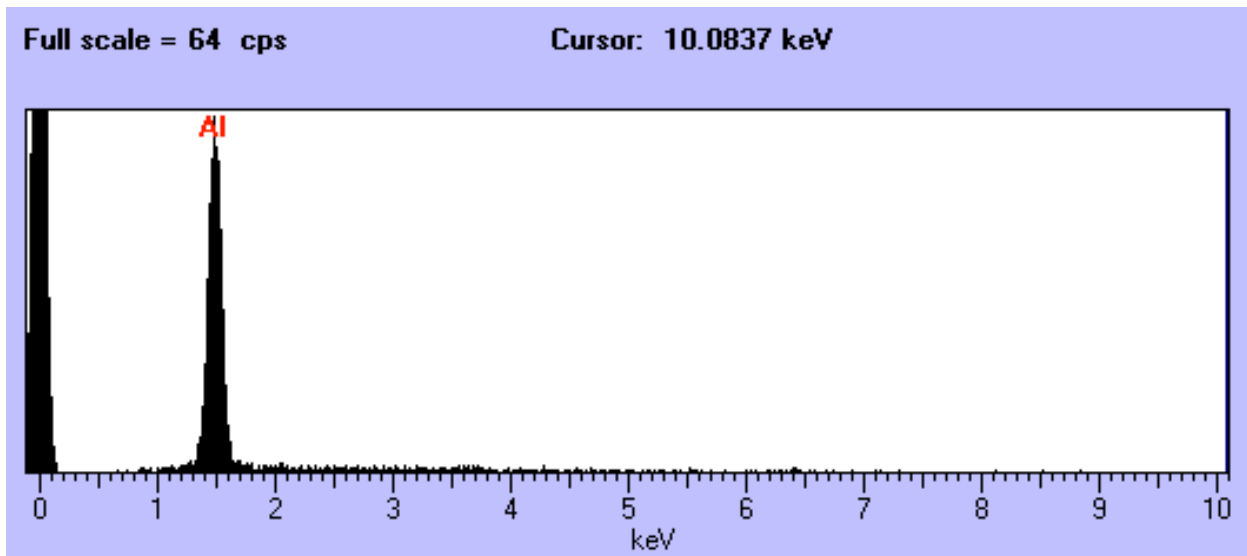
Size: 17 um
Shape: Sphere
Trans: Translucent
Color: White
Luster: Subvitreous
Type: AOS
Comments:



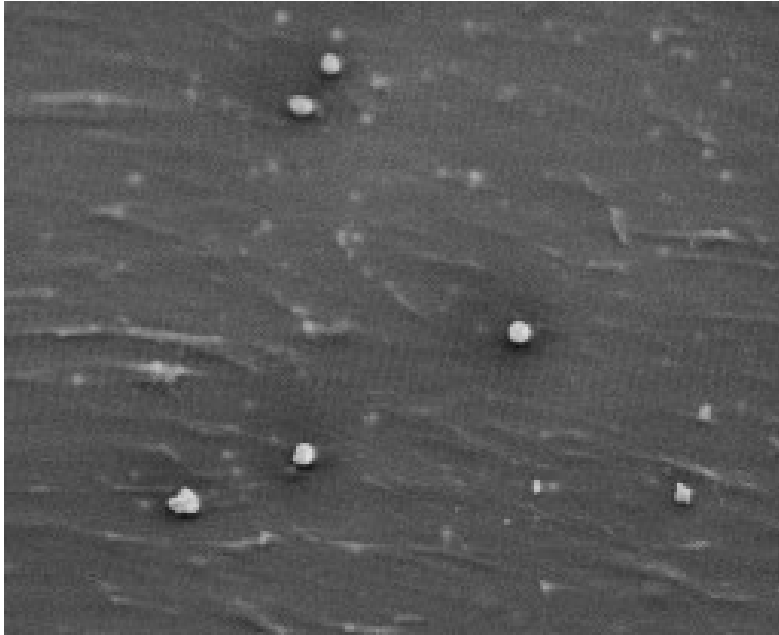
W7190 J4



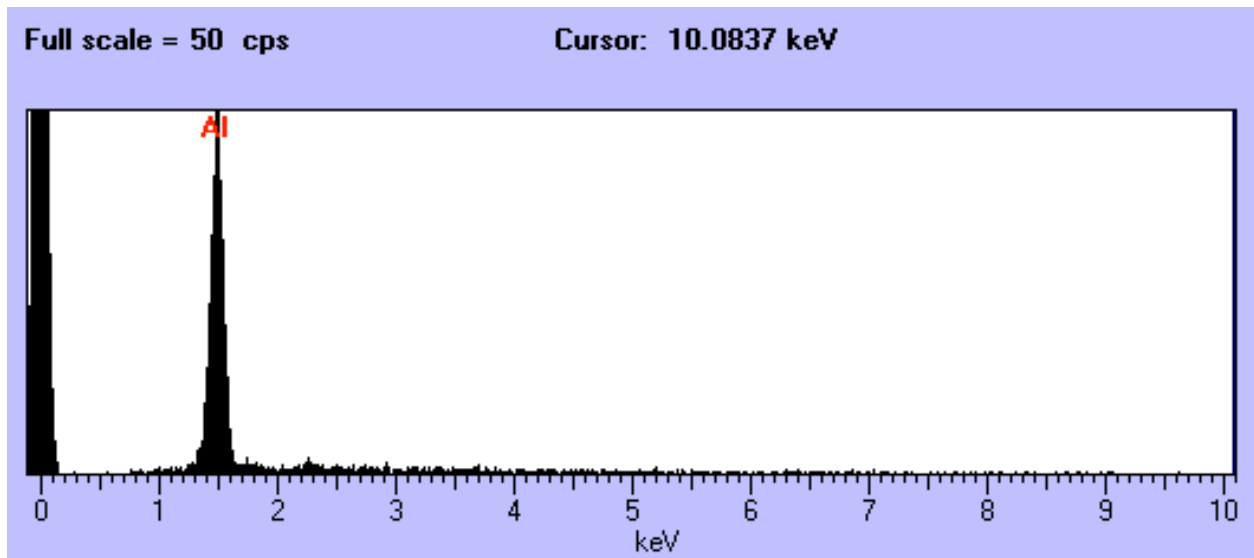
Size: 15 um
Shape: Sphere
Trans: Translucent
Color: White
Luster: Subvitreous
Type: AOS
Comments:



W7190 J7



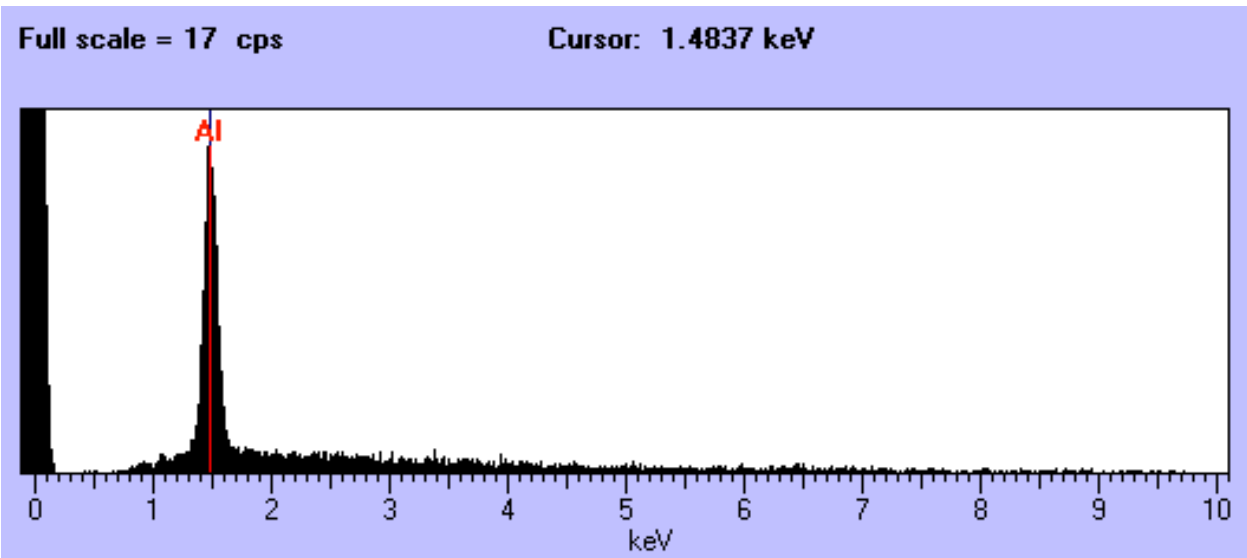
Size: 13 um
Shape: Sphere
Trans: Translucent
Color: Black
Luster: Subvitreous
Type: AOS
Comments: Particle in the center



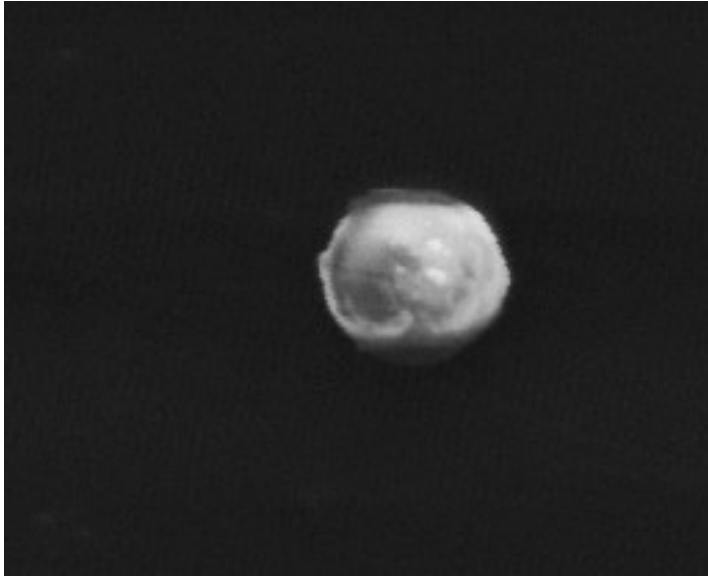
W7190 J11



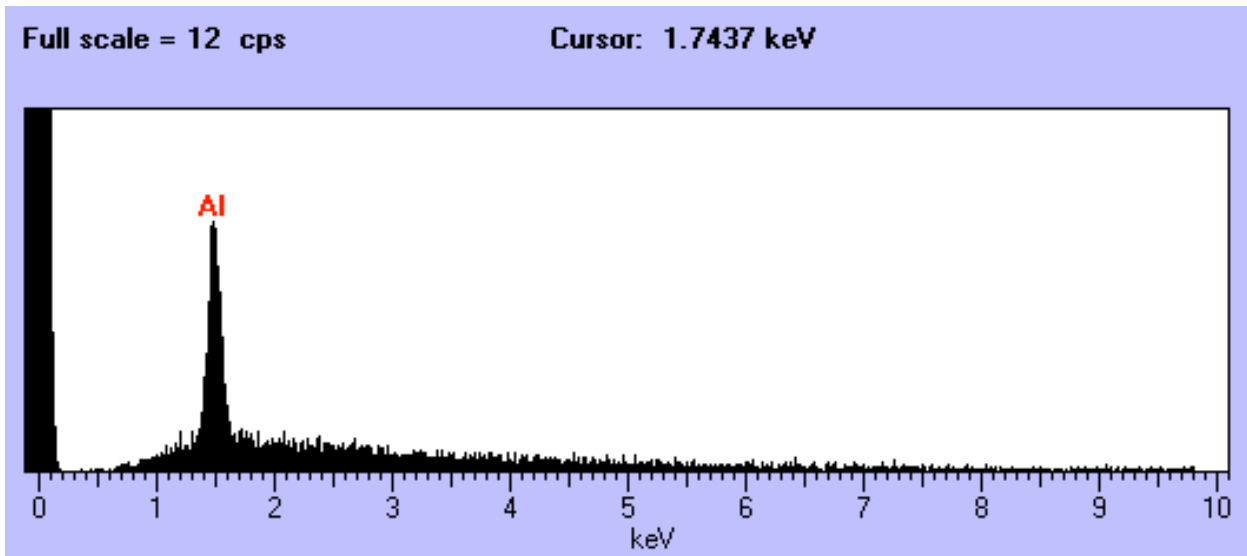
Size: 10 um
Shape: Sphere
Trans: Translucent
Color: White
Luster: Subvitreous
Type: AOS
Comments:



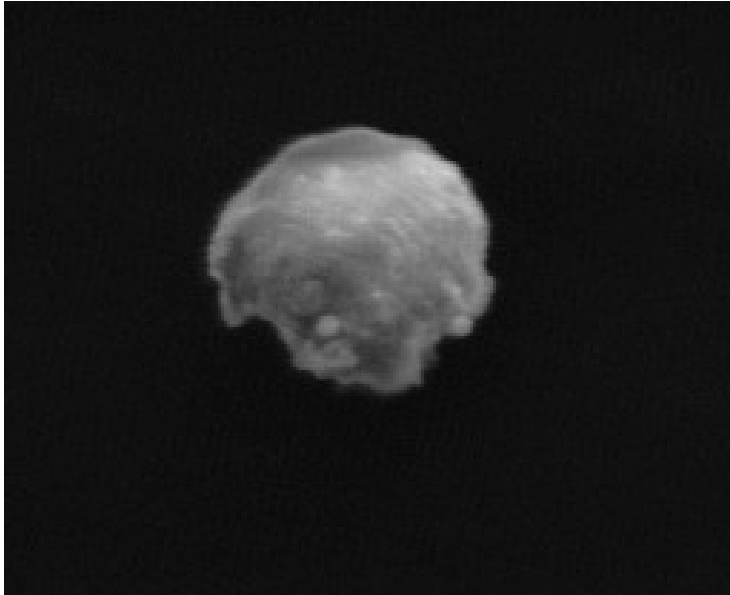
W7190 J13



Size: 11 um
Shape: Sphere
Trans: Translucent
Color: White
Luster: Subvitreous
Type: AOS
Comments:



W7190 J32



Size: 10 um
Shape: Sphere
Trans: Translucent
Color: White
Luster: Subvitreous
Type: AOS
Comments:

