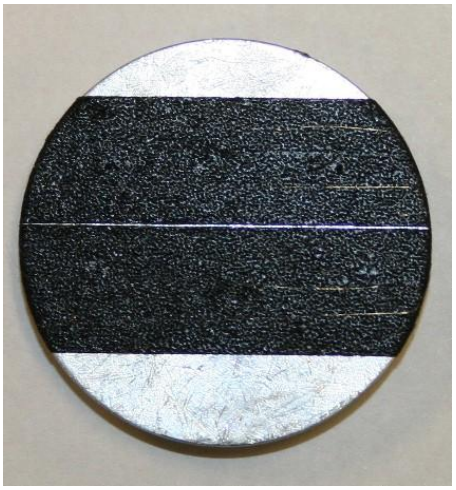
Hall D Wire Characterization
Samples S3-1 & S3-2

1. **Sample preparation:** ultrasonic cleaning in DI water for 45 minutes.
2. **Sample installation:** for SEM inspection wires were installed on a sample holder (diameter=36 mm) on 2 stripes of conductive carbon tape, 2 fragment of each sample per stripe (nomenclature: S3-1a, S3-1b and S3-2a, S3-2b).

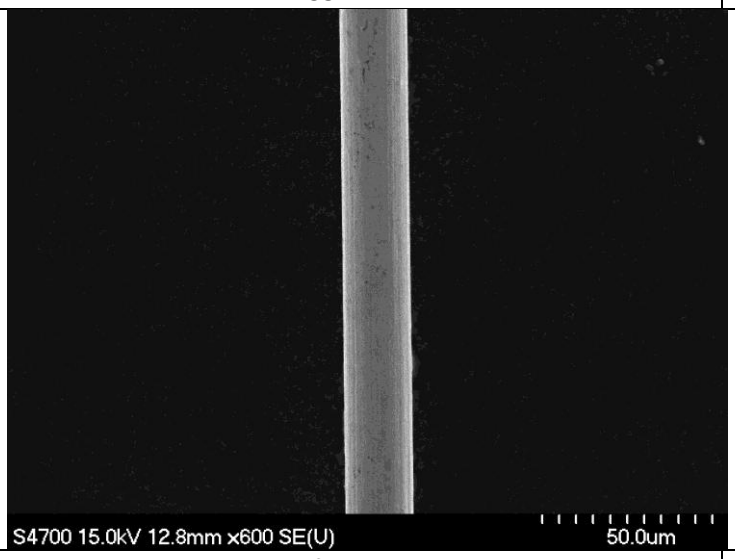
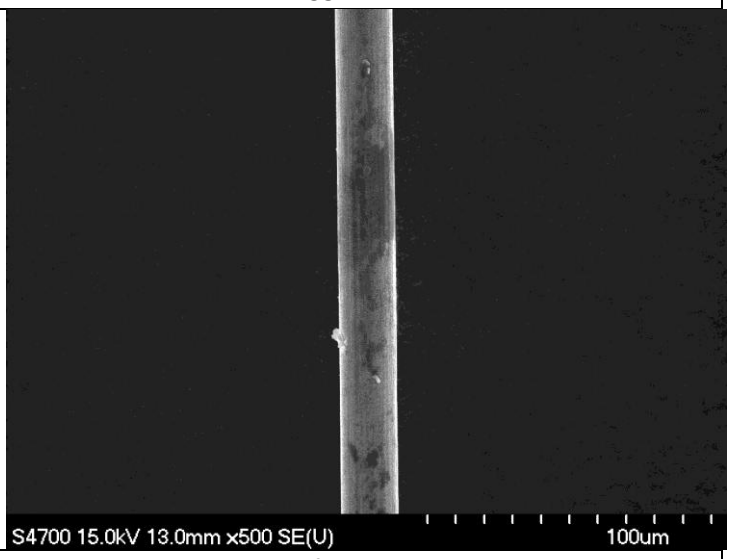
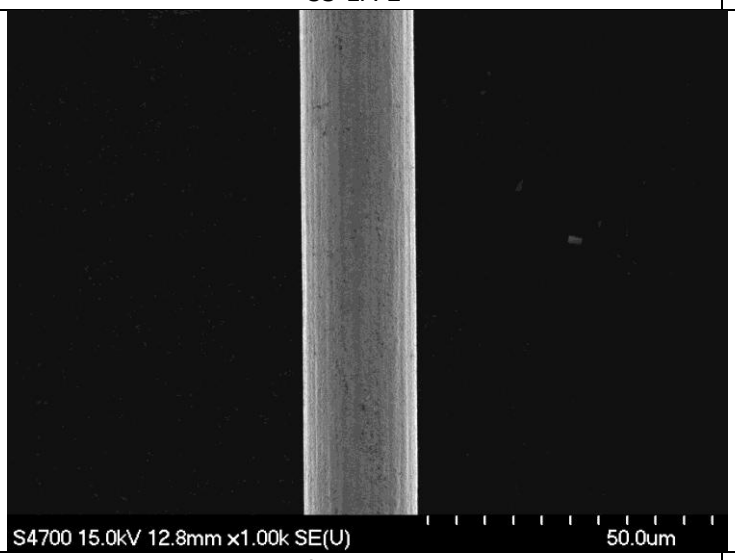
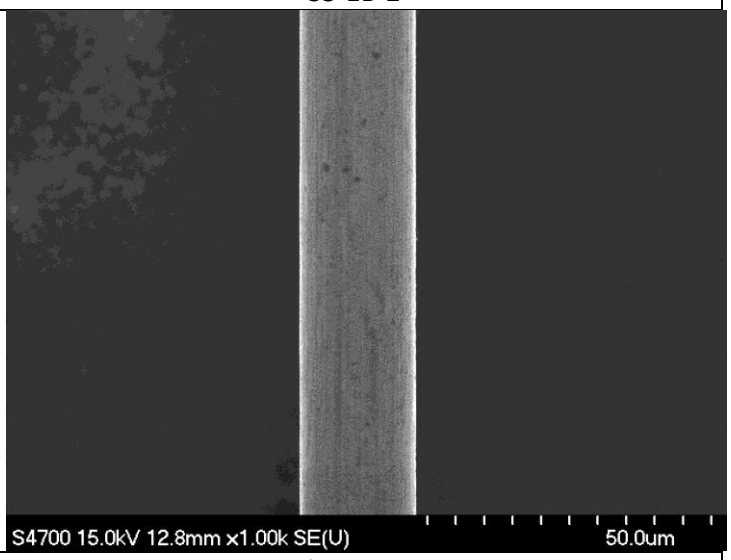


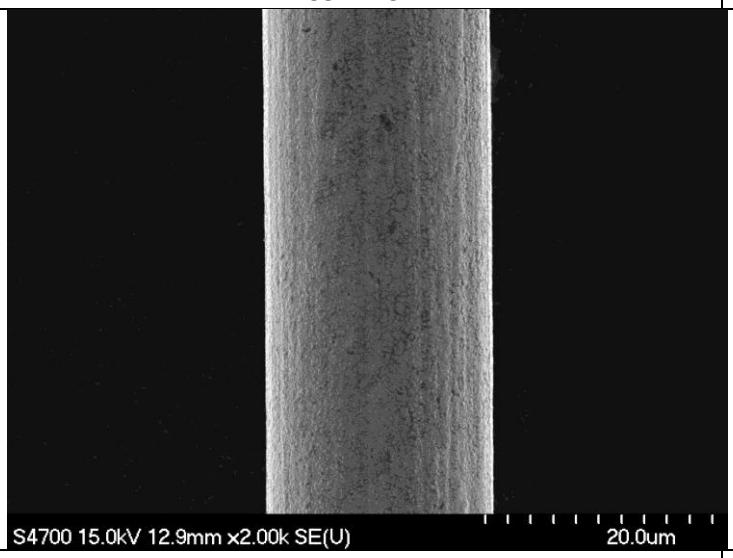
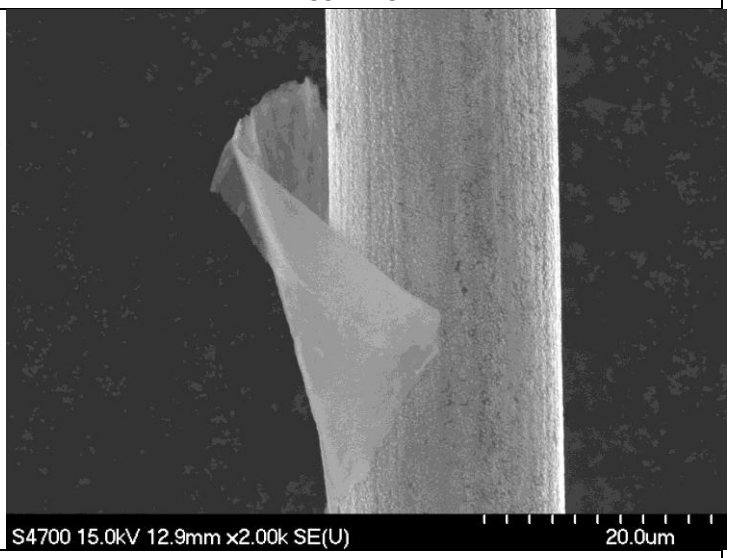
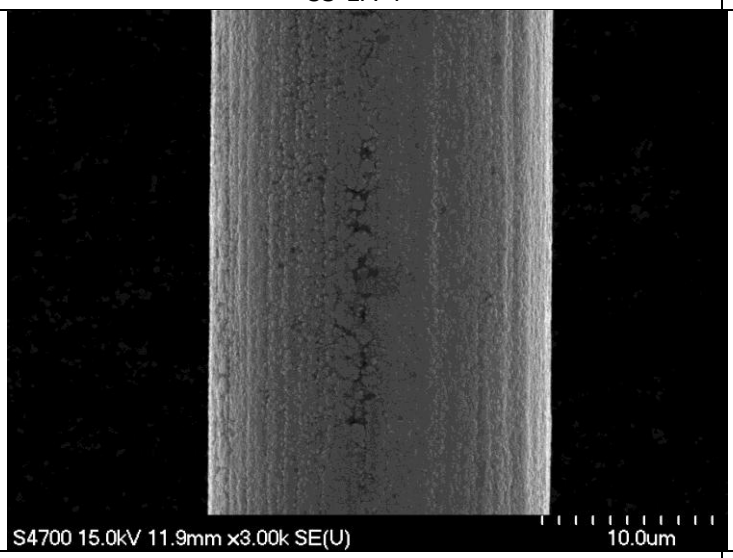
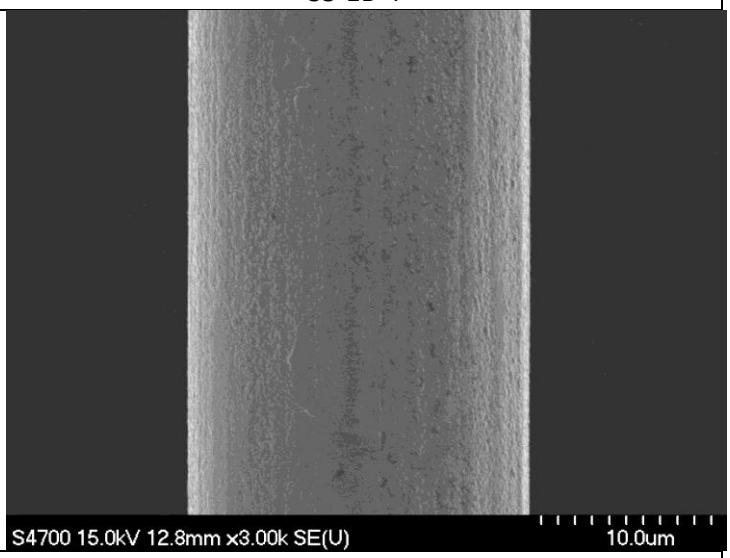
Pic1. Typical sample installation.

3. **Wire inspection:**
   a) Each wire fragment was examined along its length (beginning at approximately 5mm from the sample holder edge and ending ~5mm before the opposite edge) at magnification of ~1Kx, at fast scan rate.
   b) Images at designated magnifications were taken randomly along the sample length;
   c) Images for the ovality measurements were taken at 4000x magnification in three points of each wire fragment: in the middle (approximately) and close to both ends;
   d) Measurements of wire diameter, as visible on the images, were done using the Quartz PCI Image Management System, 3 measurements per image;
   e) Additional images at various magnifications were taken at the points of interest (variations in sample topography, contaminated areas, etc.)
   f) EDS analysis was performed on the most typical points of interest.

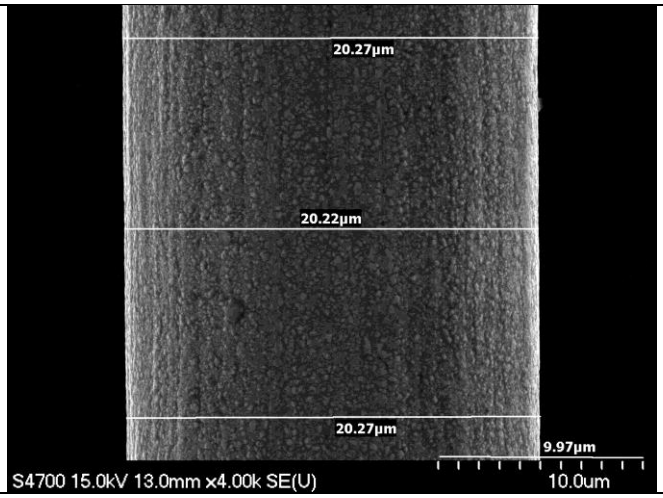
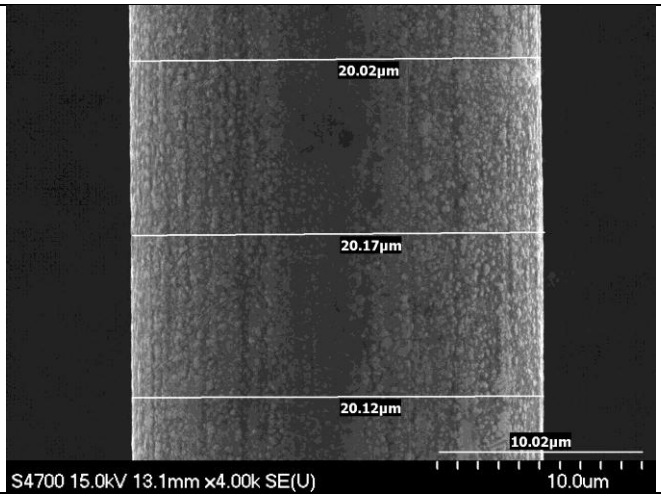
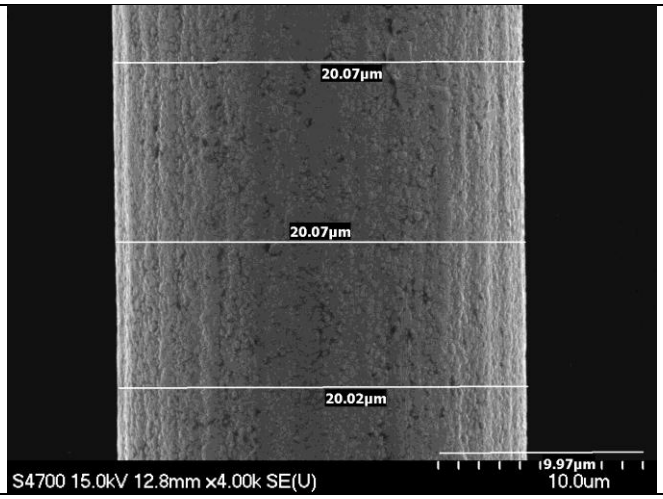
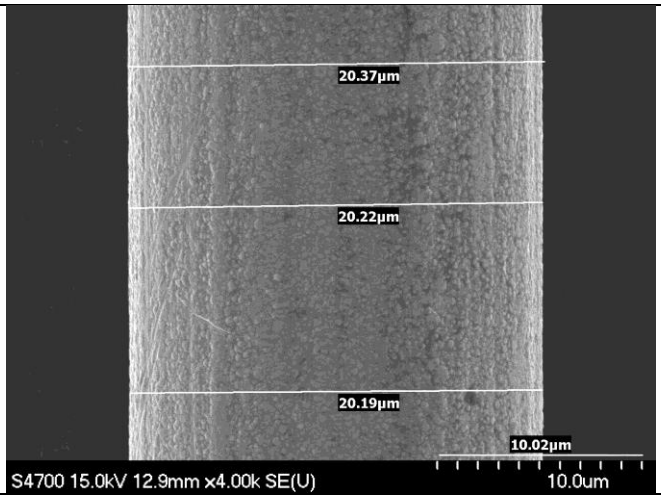
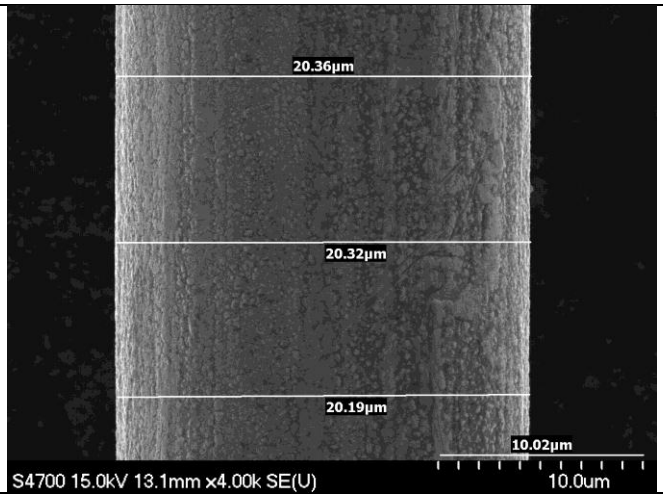
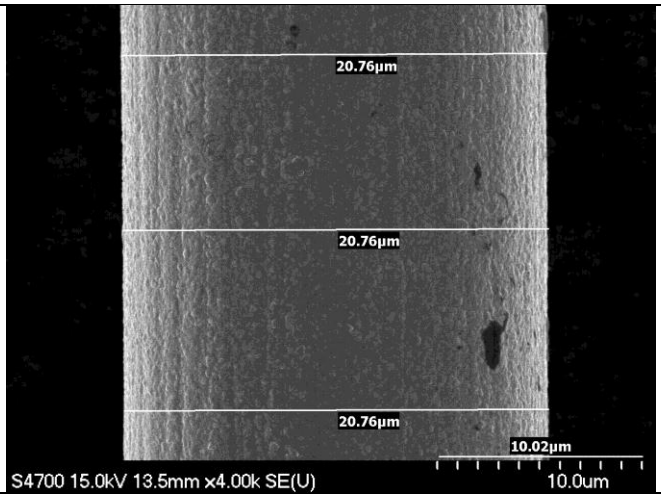
Sample S3-1 A, B

I. Images at designated magnifications

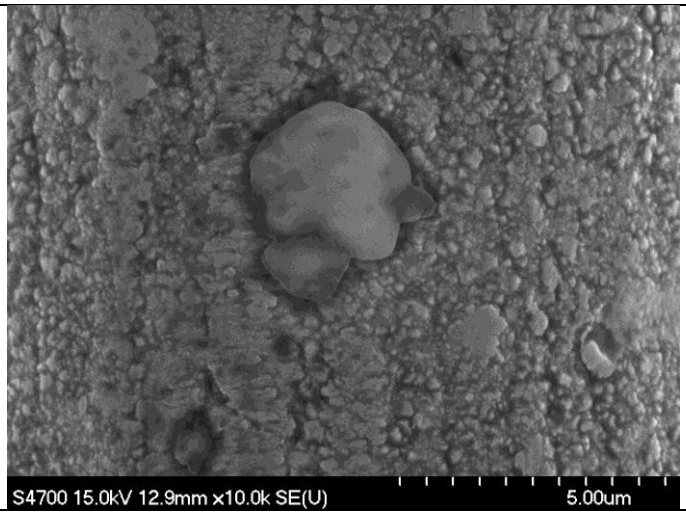
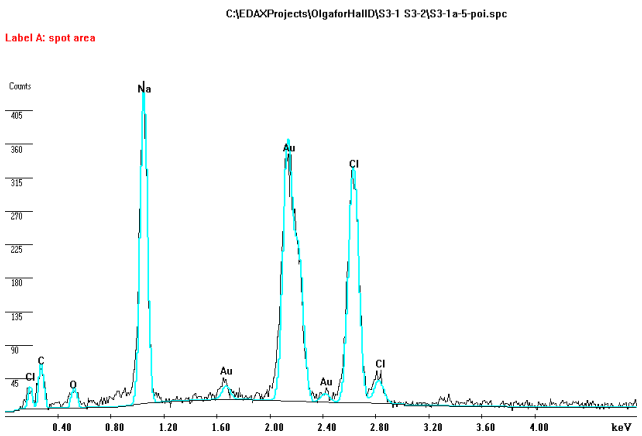
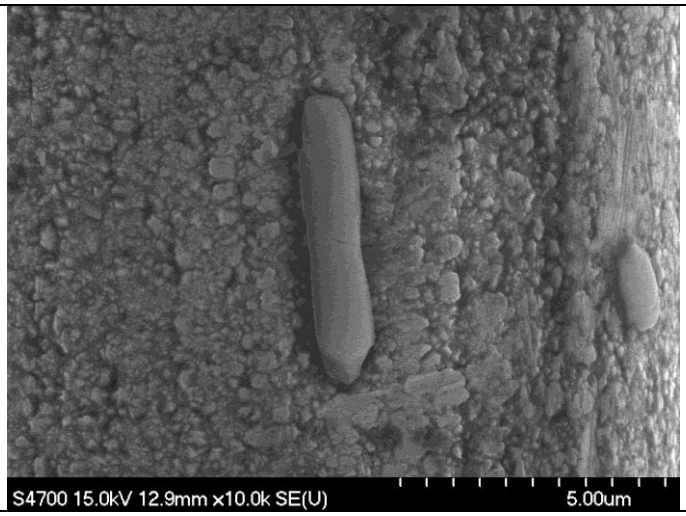
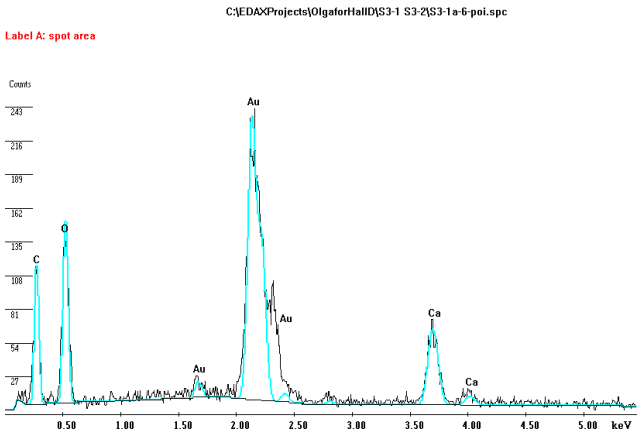
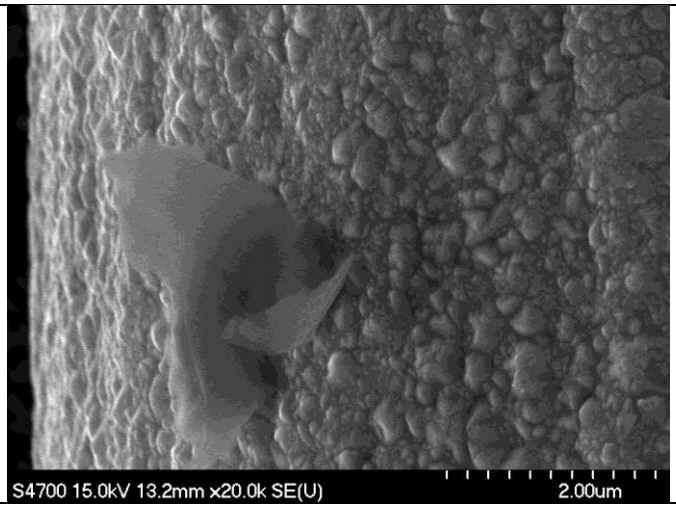
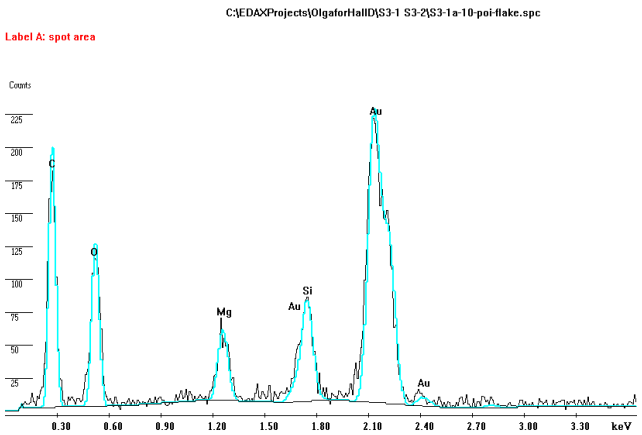
S3-1A-1	S3-1B-1
	
Magnification: 500x	Magnification: 500x
S3-1A-2	S3-1B-2
	
Magnification: 1000x	Magnification: 1000x

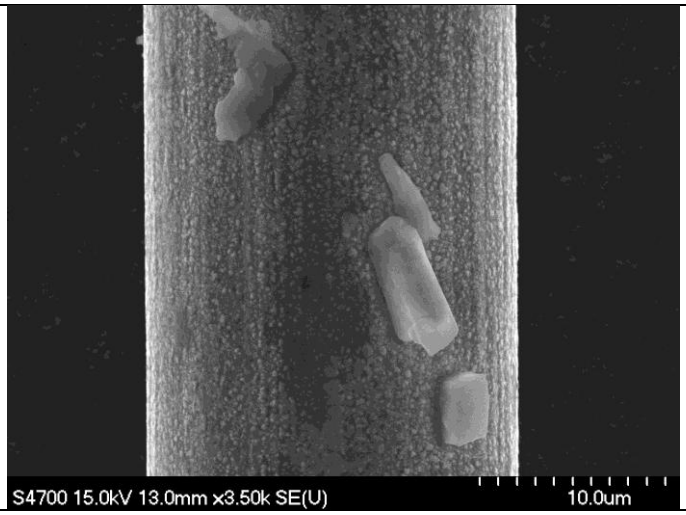
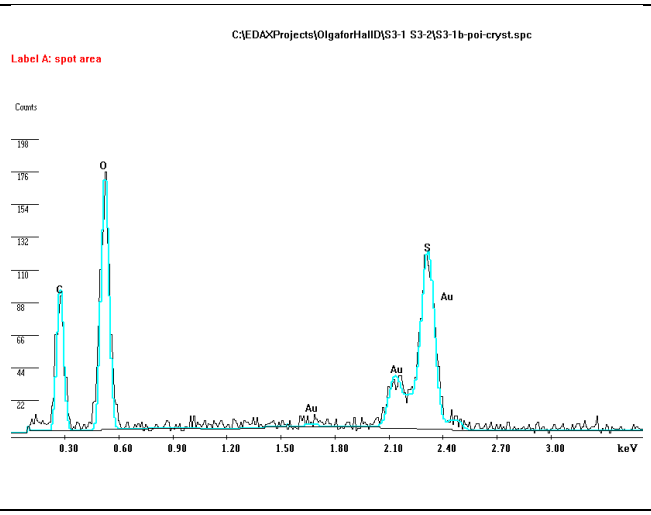
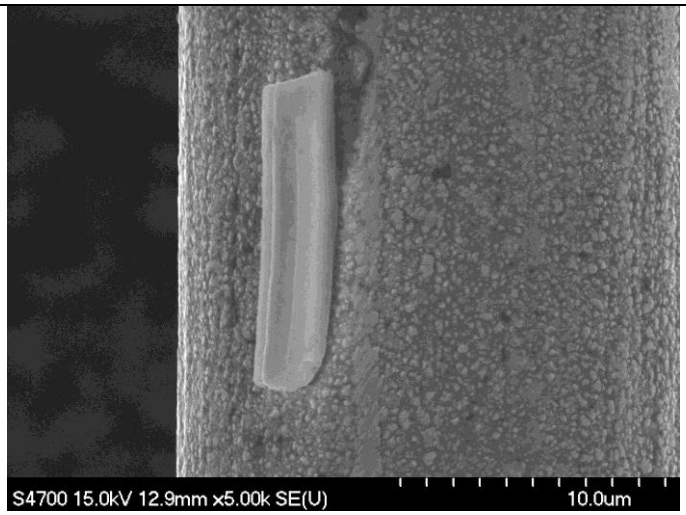
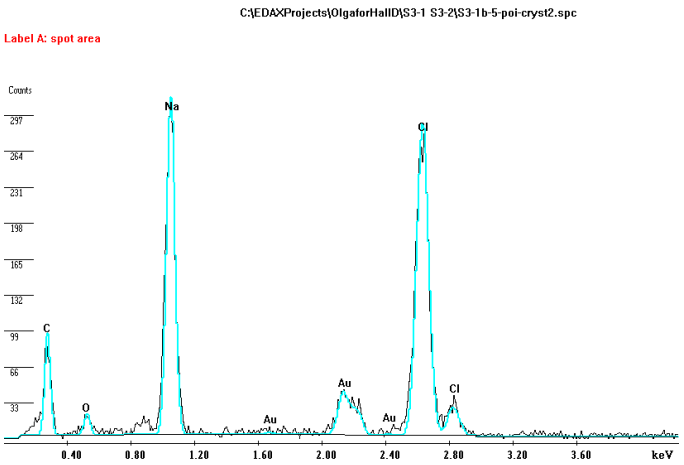
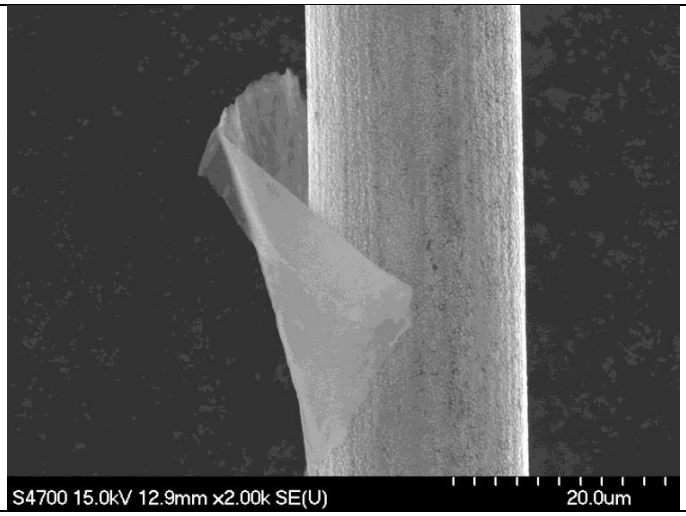
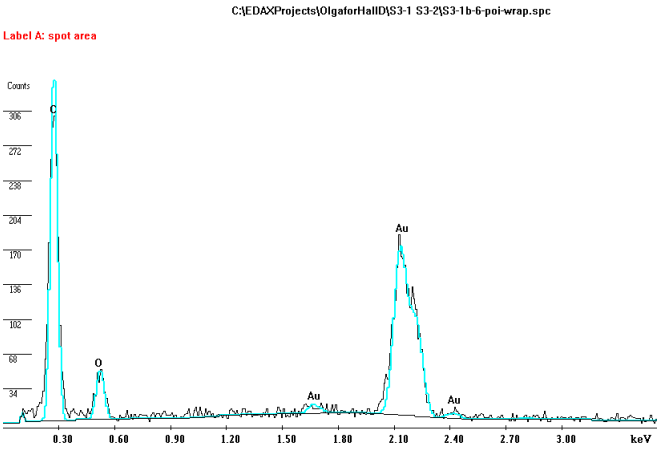
S3-1A-3	S3-1B-3
	
Magnification: 2000x	Magnification: 2000x
S3-1A-4	S3-1B-4
	
Magnification: 3000x	Magnification: 3000x

II. Ovality Measurements

S3-1A-1o	S3-1B-1o
	
Magnification: 4000x	Magnification: 4000x
S3-1A-2o	S3-1B-2o
	
Magnification: 4000x	Magnification: 4000x
S3-1A-3o	S3-1B-3o
	
Magnification: 4000x	Magnification: 4000x

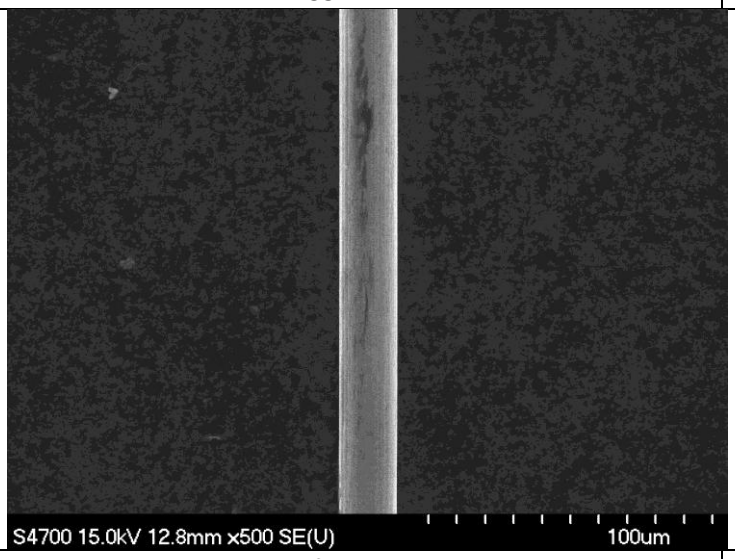
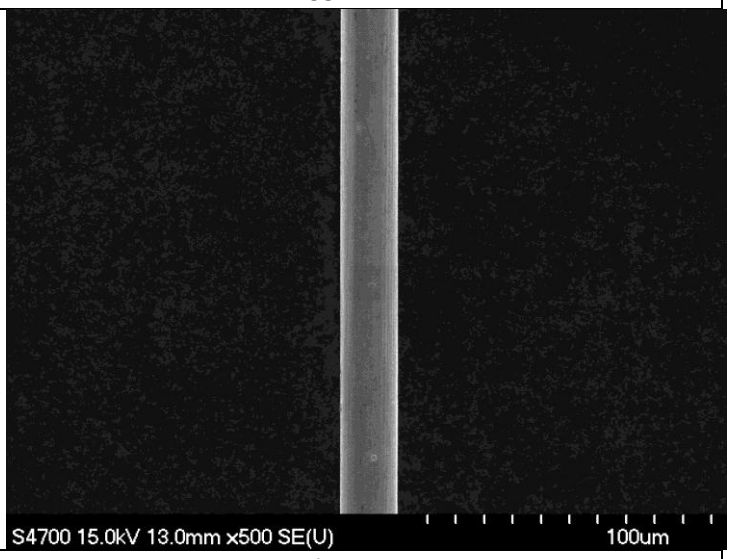
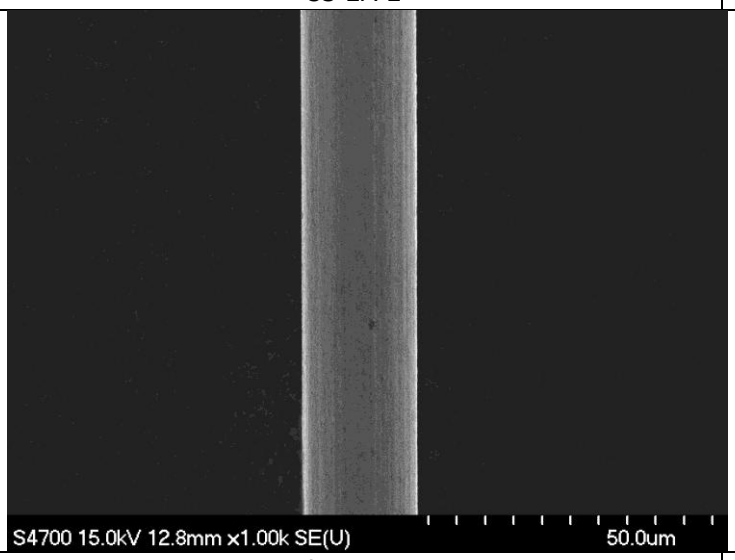
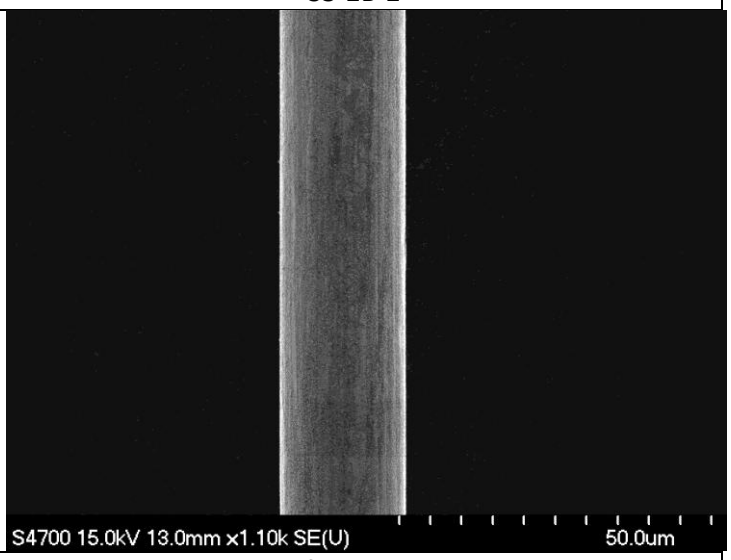
II. Points of Interest

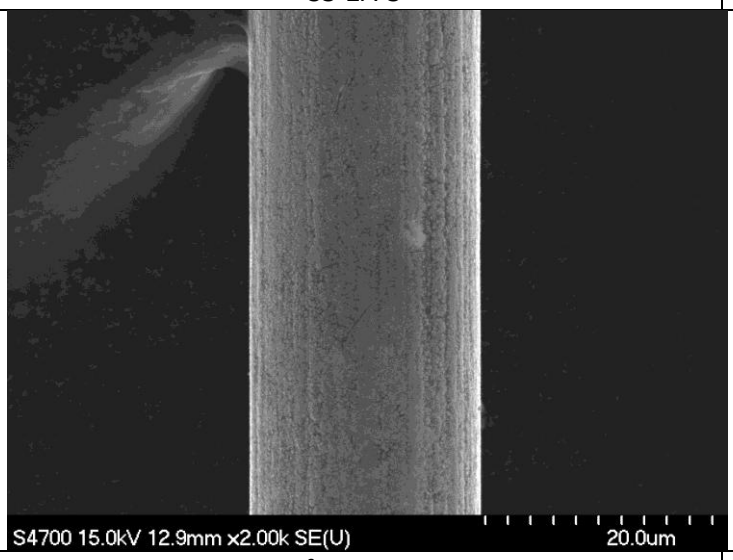
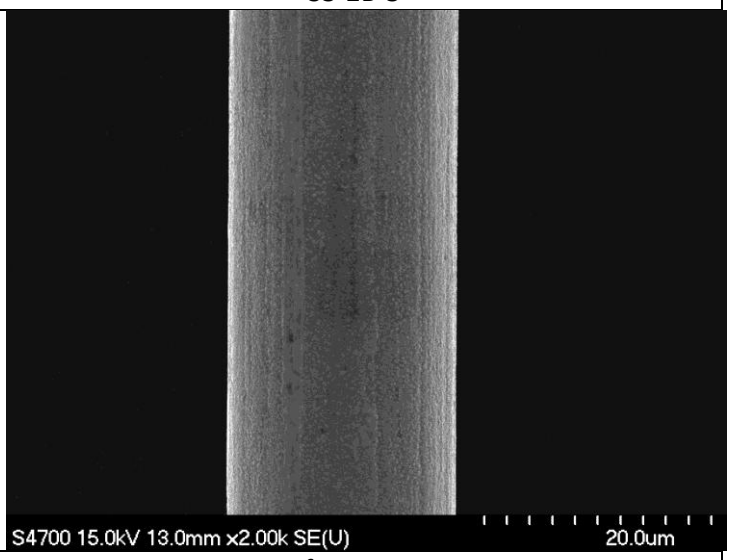
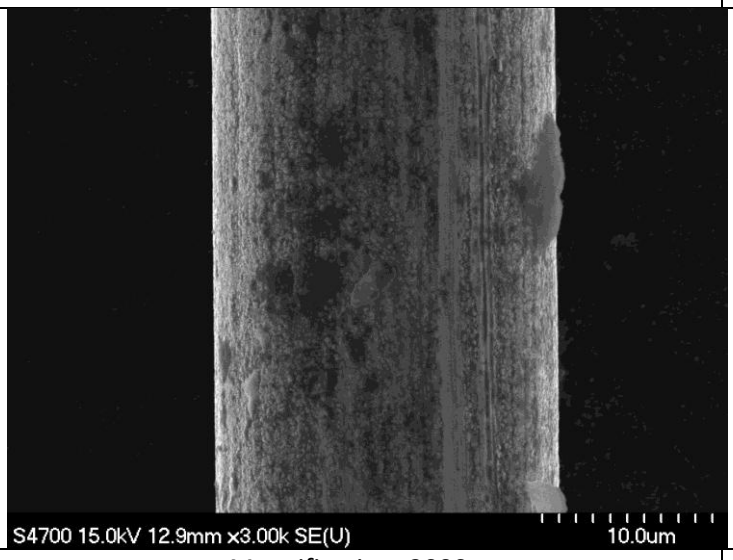
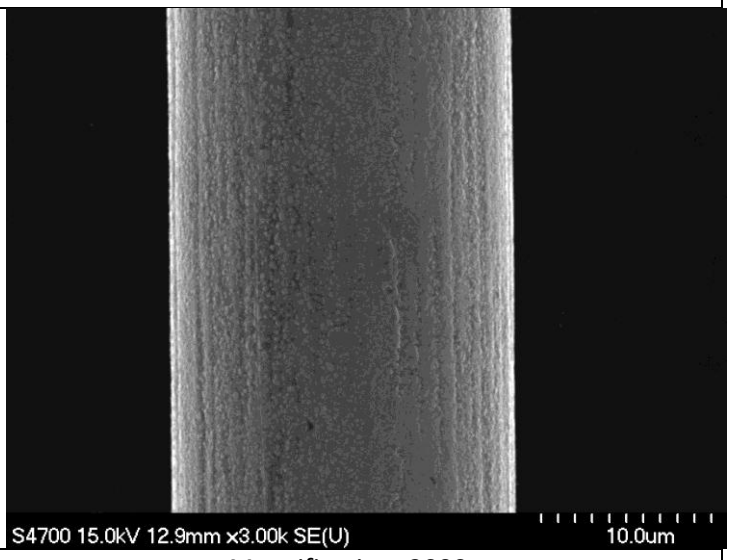
S3-1A-5	S3-1A-5
	
Magnification: 10000x	EDS Analysis. Surface contamination (NaCl?)
S3-1A-6	S3-1A-6
	
Magnification: 10000x	EDS Analysis. Surface contamination (Ca crystal?)
S3-1A-10 Environmental contamination	S3-1A-10 Environmental contamination
	
Magnification: 20000x	EDS Analysis. Environmental contamination

S3-1B-3	S3-1b-3
	
Magnification: 3500x	EDS Analysis. Surface contamination
S3-1B-5	S3-1B-5
	
Magnification: 5000x	EDS Analysis. Surface contamination (NaCl?)
S3-1B-6 Environmental contamination	S3-1B-6
	
Magnification: 2000x	EDS Analysis. Environmental contamination

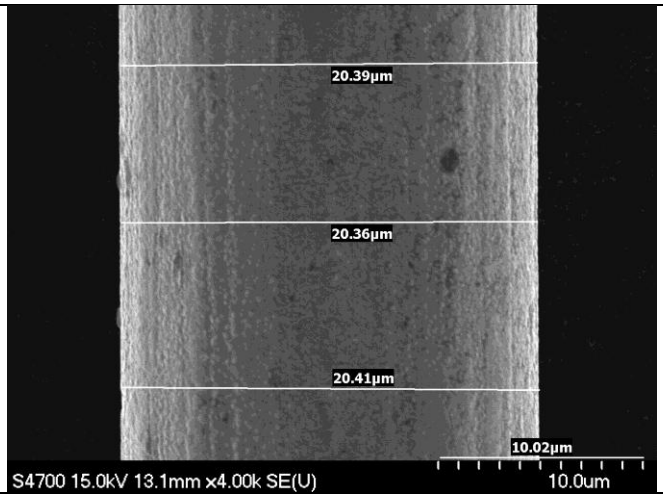
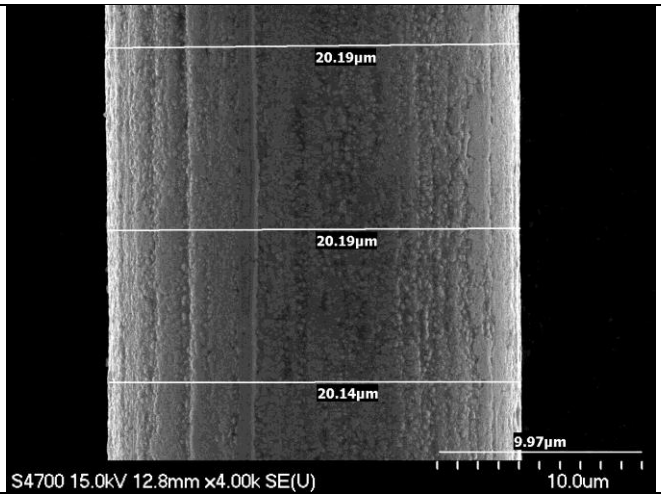
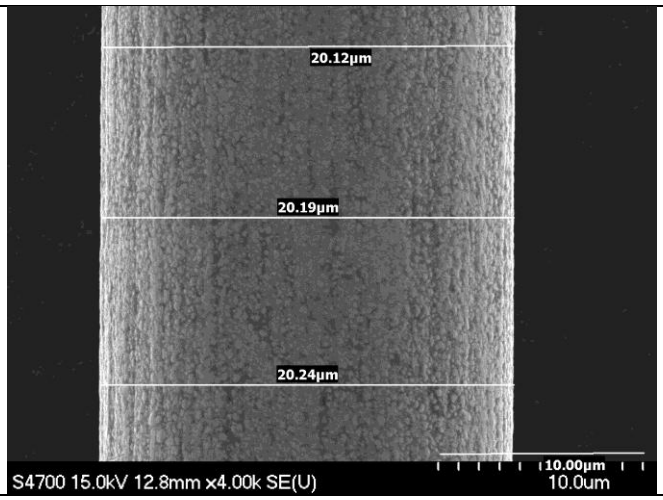
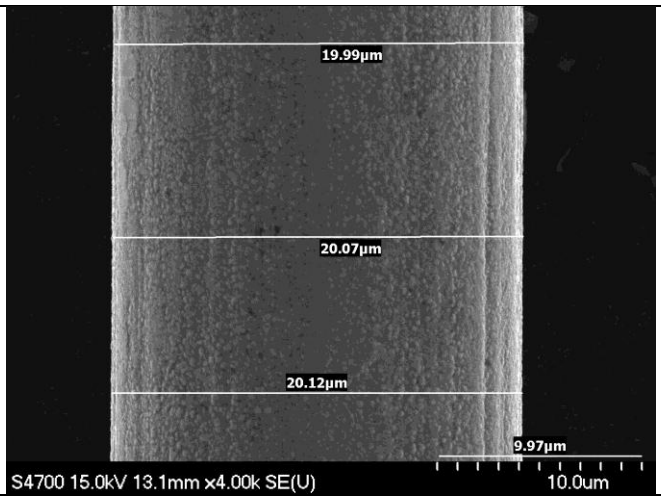
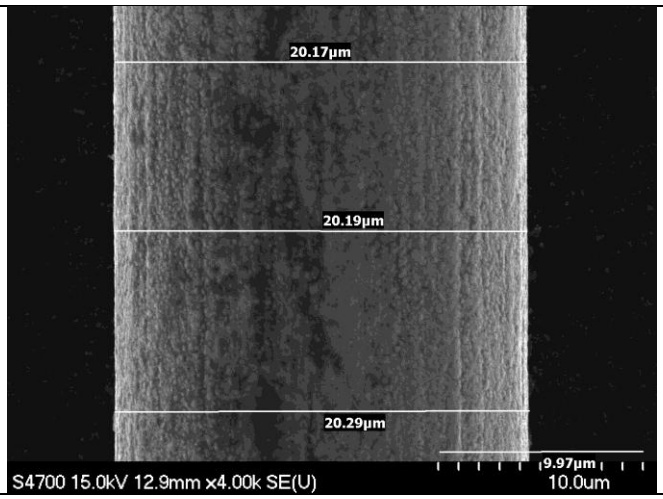
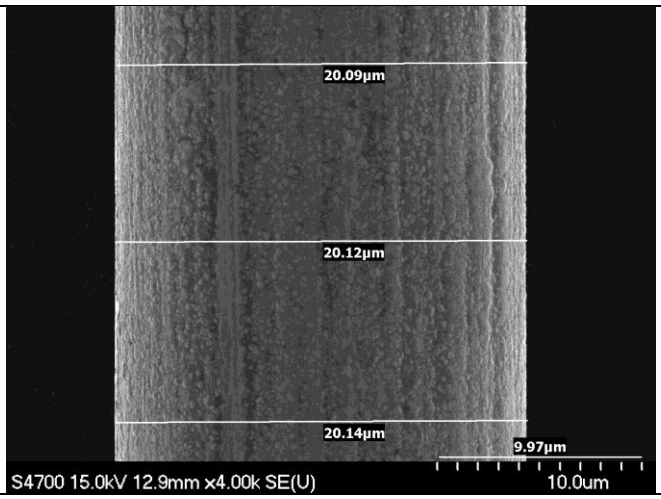
Sample S3-2 A, B

I. Images at designated magnifications

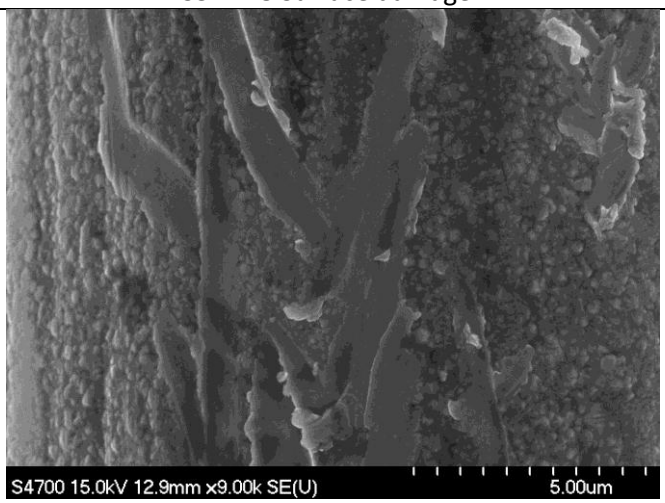
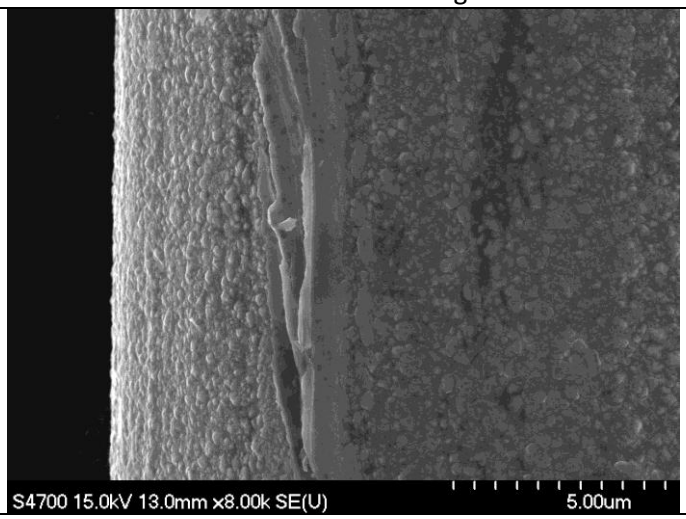
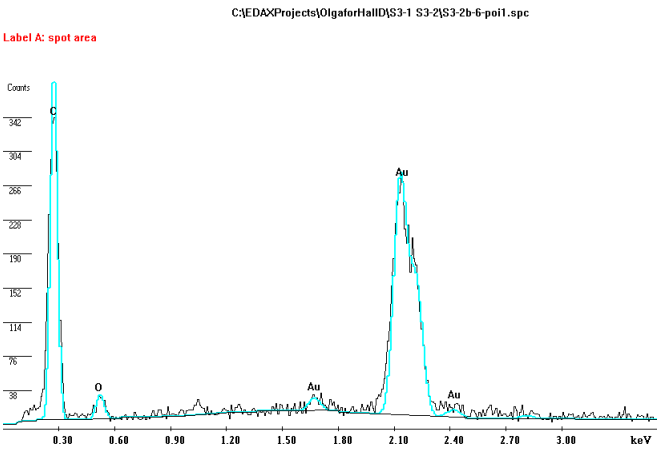
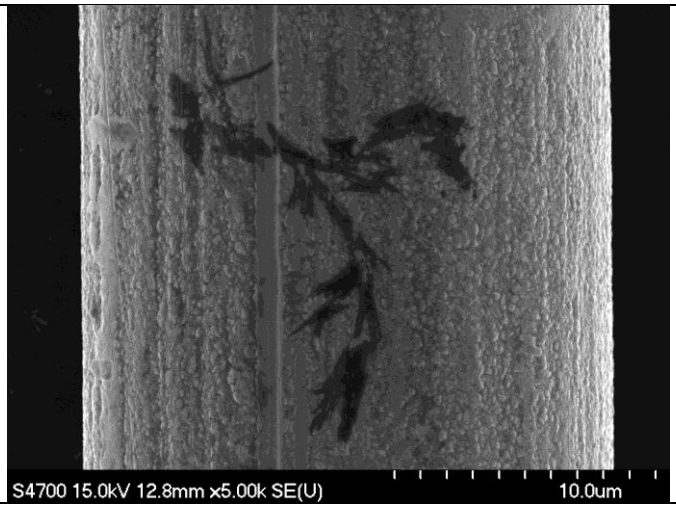
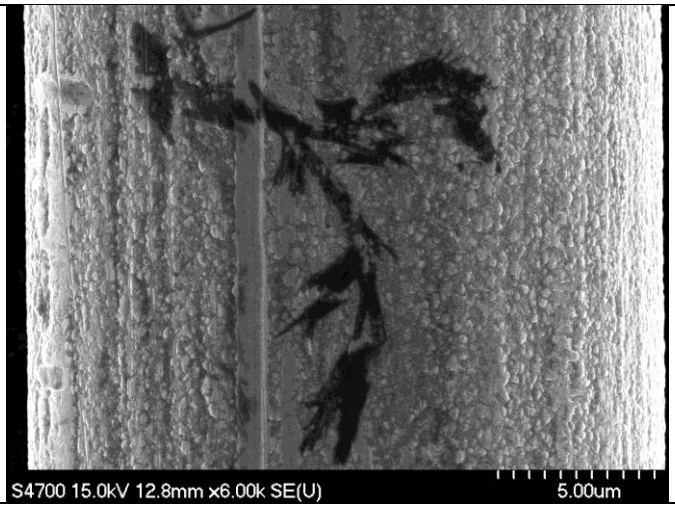
S3-2A-1	S3-2B-1
	
Magnification: 500x	Magnification: 500x
S3-2A-2	S3-2B-2
	
Magnification: 1000x	Magnification: 1000x

S3-2A-3	S3-2B-3
	
Magnification: 2000x	Magnification: 2000x
S3-2A-4	S3-2B-4
	
Magnification: 3000x	Magnification: 3000x

II. Ovality Measurements

S3-2A-1o	S3-2B-1o
	
Magnification: 4000x	Magnification: 4000x
S3-2A-2o	S3-2B-2o
	
Magnification: 4000x	Magnification: 4000x
S3-2A-3o	S3-2B-3o
	
Magnification: 4000x	Magnification: 4000x

II. Points of Interest

S3-2A-6 environmental contamination.	S3-2B-8 Surface damage.
	
Magnification: 13000x	Magnification: 9000x
S3-1B-5 Surface damage.	
	
Magnification: 8000x	EDS analysis of damaged area. Shows contamination. No W.
S3-1A-9	S3-1A-10 Environmental contamination
	
Magnification: 6000x Environmental contamination.	Just very artistic.