

# XPS Surface Analysis Result:

20140604 PDMS liao

Date:

2014/06/04

Sample Provider:

Analyst:

Instrument:

PHI X-tool

 **ULVAC-PHI, INC.**

## 1. Overview

### 1.1 Acquisition Overview

This reporting describes the result of survey

### 1.2 Platen Information

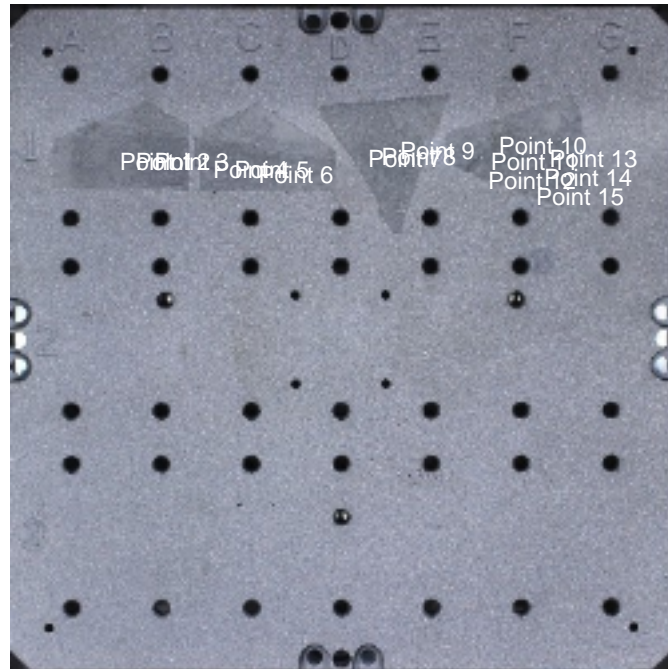








fig. 1.2.1 IntroPhoto

table. 1.2.1 Position Table

Acquisition Point	Thumbnail Photograph	Description
Point 1		cont1
Point 2		cont2
Point 3		cont3
Point 4		fibro1
Point 5		fibro2
Point 6		fibro3
Point 7		plas1
Point 8		plas2
Point 9		plas3

Acquisition Point	Thumbnail Phtograph	Description
Point 10		fibroplasfront1
Point 11		fibroplasfront2
Point 12		fibroplasfront3
Point 13		fibroplasback1
Point 14		fibroplasback2
Point 15		fibroplasback3

## 1.3 Acquisition Condition

table. 1.3.1 Survey

Acquisition Point	Point 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
Instrument	PHI X-tool
Xray Source	Al Ka
Xray Condition	15kV 25W
Acquisition Area	108 $\mu\text{m}$
Take-Off Angle	45 deg.
Neutralization Condition	1.2eV 20.0 $\mu\text{A}$
Clean Sputtered	Not Sputter Cleaned

table. 1.3.2 Region

Name	Range(eV)	PassEnergy(eV)	StepSize(eV)	Time(s)
SURVEY	1300.00 - 0.00eV	224.00eV	0.800eV	20.000s

table. 1.3.3 Narrow

Acquisition Point	Point 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
Instrument	PHI X-tool
Xray Source	Al K $\alpha$
Xray Condition	15kV 5W
Acquisition Area	19 $\mu$ m
Take-Off Angle	45 deg.
Neutralization Condition	1.2eV 20.0 $\mu$ A
Clean Sputtered	Not Sputter Cleaned

table. 1.3.4 Region

Name	Range(eV)	PassEnergy(eV)	StepSize(eV)	Time(s)
H1s	26.00 - 6.00eV	55.00eV	0.200eV	20.000s
C1s	298.00 - 278.00eV	280.00eV	1.000eV	20.000s
N1s	411.00 - 391.00eV	280.00eV	1.000eV	20.000s
O1s	543.00 - 523.00eV	280.00eV	1.000eV	20.000s
Si2p	114.00 - 94.00eV	280.00eV	1.000eV	20.000s

## 2. Result

### 2.1 Atomic Concentration Table

#### 2.1.1 Survey

Acquisition Point:1

Area Comment:cont1

File Path:20140604\_140102¥20140604 PDMS liao¥14604\_142521.spe

Acquisition Point:2

Area Comment:cont2

File Path:20140604\_140102¥20140604 PDMS liao¥14604\_143038.spe

Acquisition Point:3

Area Comment:cont3

File Path:20140604\_140102¥20140604 PDMS liao¥14604\_143315.spe

Acquisition Point:4

Area Comment:fibro1

File Path:20140604\_140102¥20140604 PDMS liao¥14604\_143707.spe

Acquisition Point:5

Area Comment:fibro2

File Path:20140604\_140102¥20140604 PDMS liao¥14604\_144111.spe

Acquisition Point:6

Area Comment:fibro3

File Path:20140604\_140102¥20140604 PDMS liao¥14604\_144505.spe

Acquisition Point:7

Area Comment:plas1

File Path:20140604\_140102¥20140604 PDMS liao¥14604\_144853.spe

Acquisition Point:8

Area Comment:plas2

File Path:20140604\_140102¥20140604 PDMS liao¥14604\_145258.spe

Acquisition Point:9

Area Comment:plas3

File Path:20140604\_140102¥20140604 PDMS liao¥14604\_145529.spe

Acquisition Point:10

Area Comment:fibroplasfront1

File Path:20140604\_140102¥20140604 PDMS liao¥14604\_145835.spe

Acquisition Point:11

Area Comment:fibroplasfront2

File Path:20140604\_140102¥20140604 PDMS liao¥14604\_150235.spe

Acquisition Point:12

Area Comment:fibroplasfront3

File Path:20140604\_140102¥20140604 PDMS liao¥14604\_150511.spe

Acquisition Point:13

Area Comment:fibroplasback1

File Path:20140604\_140102¥20140604 PDMS liao¥14604\_150859.spe

Acquisition Point:14

Area Comment:fibroplasback2

File Path:20140604\_140102¥20140604 PDMS liao¥14604\_151256.spe

Acquisition Point:15

Area Comment:fibroplasback3

File Path:20140604\_140102¥20140604 PDMS liao¥14604\_151649.spe

Acquisition Point	C1s(%)	O1s(%)	Si2p(%)	S2p(%)	N1s(%)
1	30.3	45.5	24.2	0.0	-
2	31.7	43.4	24.9	-	-
3	38.3	37.3	24.3	-	-
4	40.4	36.8	22.9	-	-

Acquisition Point	C1s(%)	O1s(%)	Si2p(%)	S2p(%)	N1s(%)
5	45.2	32.5	19.2	-	3.1
6	47.2	29.6	22.2	-	1.0
7	10.6	63.7	25.8	-	-
8	14.6	60.7	24.7	-	-
9	15.2	59.4	25.4	-	-
10	34.5	40.4	25.1	-	-
11	36.8	38.0	25.2	-	-
12	33.3	41.5	25.3	-	-
13	34.7	39.2	26.0	-	-
14	46.5	32.7	20.8	-	-
15	38.4	37.0	24.6	-	-

## 2.1.2 Narrow

Acquisition Point:1

Area Comment:cont1

File Path:20140604\_140102¥20140604 PDMS liao¥14604\_142948.spe

Acquisition Point:2

Area Comment:cont2

File Path:20140604\_140102¥20140604 PDMS liao¥14604\_143237.spe

Acquisition Point:3

Area Comment:cont3

File Path:20140604\_140102¥20140604 PDMS liao¥14604\_143622.spe

Acquisition Point:4

Area Comment:fibro1

File Path:20140604\_140102¥20140604 PDMS liao¥14604\_144030.spe

Acquisition Point:5

Area Comment:fibro2

File Path:20140604\_140102¥20140604 PDMS liao¥14604\_144427.spe

Acquisition Point:6

Area Comment:fibro3

File Path:20140604\_140102¥20140604 PDMS liao¥14604\_144812.spe

Acquisition Point:7

Area Comment:plas1

File Path:20140604\_140102¥20140604 PDMS liao¥14604\_145213.spe

Acquisition Point:8

Area Comment:plas2

File Path:20140604\_140102¥20140604 PDMS liao¥14604\_145449.spe

Acquisition Point:9

Area Comment:plas3

File Path:20140604\_140102¥20140604 PDMS liao¥14604\_145757.spe

Acquisition Point:10

Area Comment:fibroplasfront1

File Path:20140604\_140102¥20140604 PDMS liao¥14604\_150156.spe

Acquisition Point:11

Area Comment:fibroplasfront2

File Path:20140604\_140102¥20140604 PDMS liao¥14604\_150433.spe

Acquisition Point:12

Area Comment:fibroplasfront3

File Path:20140604\_140102¥20140604 PDMS liao¥14604\_150820.spe

Acquisition Point:13

Area Comment:fibroplasback1

File Path:20140604\_140102¥20140604 PDMS liao¥14604\_151217.spe

Acquisition Point:14

Area Comment:fibroplasback2

File Path:20140604\_140102¥20140604 PDMS liao¥14604\_151610.spe

Acquisition Point:15

Area Comment:fibroplasback3

File Path:20140604\_140102¥20140604 PDMS liao¥14604\_151956.spe

Acquisition Point	H1s(%)	C1s(%)	N1s(%)	O1s(%)	Si2p(%)
1	0.0	28.1	0.0	46.3	25.7
2	99.6	0.1	0.0	0.2	0.1
3	0.0	33.5	0.7	39.5	26.2
4	99.1	0.4	0.0	0.3	0.2
5	0.0	52.0	0.0	27.7	20.3
6	0.0	38.8	7.2	32.0	21.9
7	97.4	0.2	0.0	1.7	0.7
8	94.5	0.6	0.0	3.5	1.4



Acquisition Point	H1s(%)	C1s(%)	N1s(%)	O1s(%)	Si2p(%)
9	0.0	12.4	0.0	64.3	23.3
10	0.0	34.8	2.2	37.5	25.5
11	99.4	0.2	0.0	0.2	0.2
12	99.6	0.1	0.0	0.2	0.1
13	99.5	0.2	0.0	0.2	0.1
14	99.8	0.1	0.0	0.1	0.0
15	0.0	36.3	0.9	38.0	24.7

## 2.2 Survey

table. 2.2.1 File Table

Position	File Path
1	20140604_140102¥20140604 PDMS liao¥14604_142521.spe
2	20140604_140102¥20140604 PDMS liao¥14604_143038.spe
3	20140604_140102¥20140604 PDMS liao¥14604_143315.spe
4	20140604_140102¥20140604 PDMS liao¥14604_143707.spe
5	20140604_140102¥20140604 PDMS liao¥14604_144111.spe
6	20140604_140102¥20140604 PDMS liao¥14604_144505.spe
7	20140604_140102¥20140604 PDMS liao¥14604_144853.spe
8	20140604_140102¥20140604 PDMS liao¥14604_145258.spe
9	20140604_140102¥20140604 PDMS liao¥14604_145529.spe
10	20140604_140102¥20140604 PDMS liao¥14604_145835.spe
11	20140604_140102¥20140604 PDMS liao¥14604_150235.spe
12	20140604_140102¥20140604 PDMS liao¥14604_150511.spe
13	20140604_140102¥20140604 PDMS liao¥14604_150859.spe
14	20140604_140102¥20140604 PDMS liao¥14604_151256.spe
15	20140604_140102¥20140604 PDMS liao¥14604_151649.spe

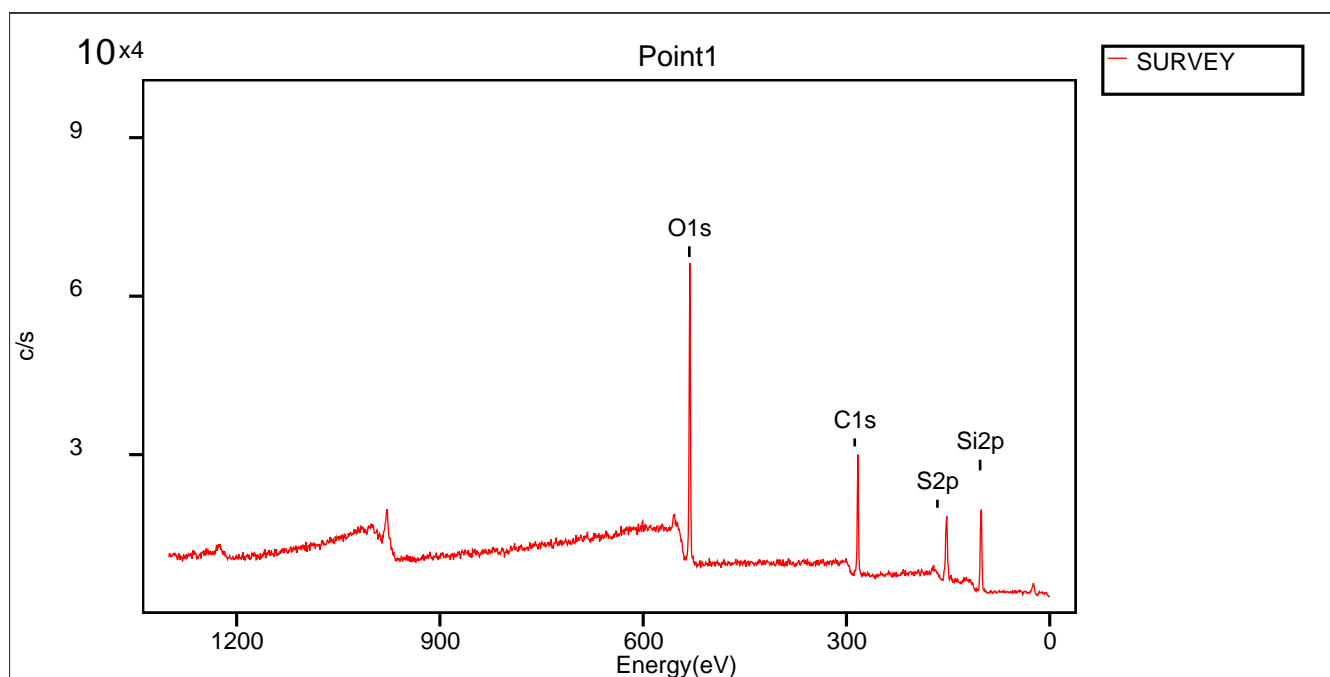


fig. 2.2.1 Survey Point1

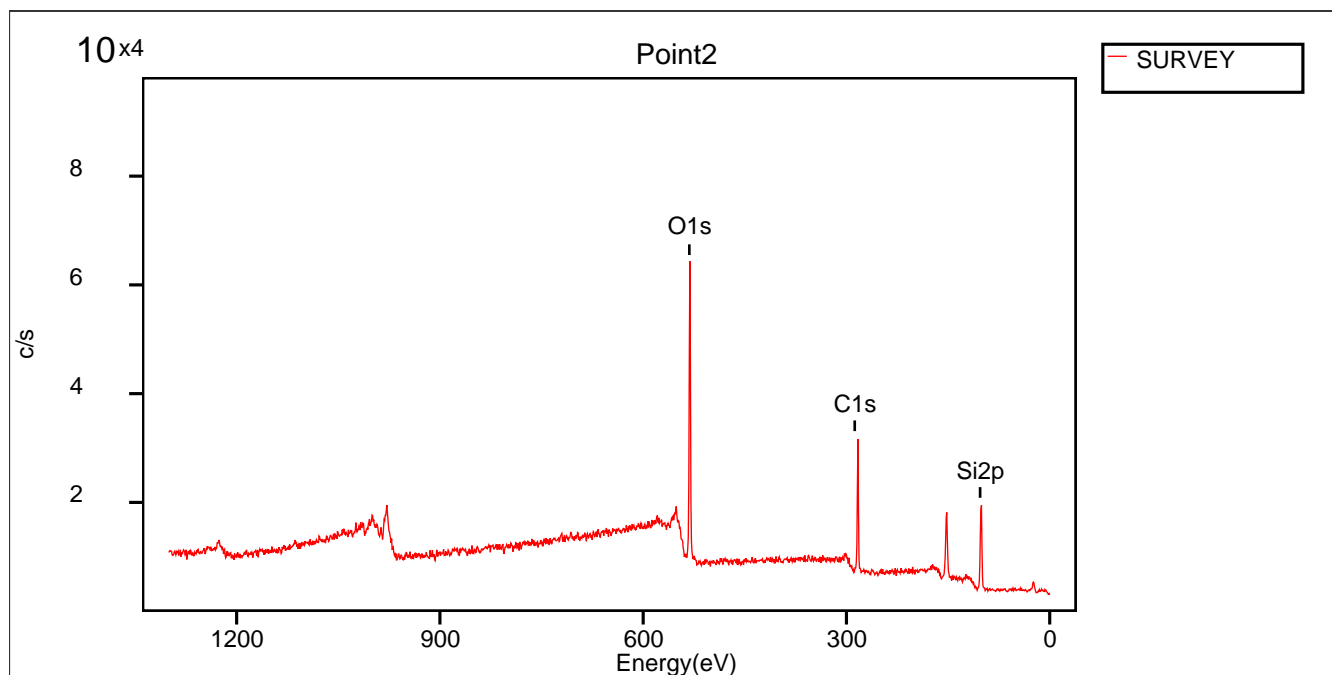


fig. 2.2.2 Survey Point2

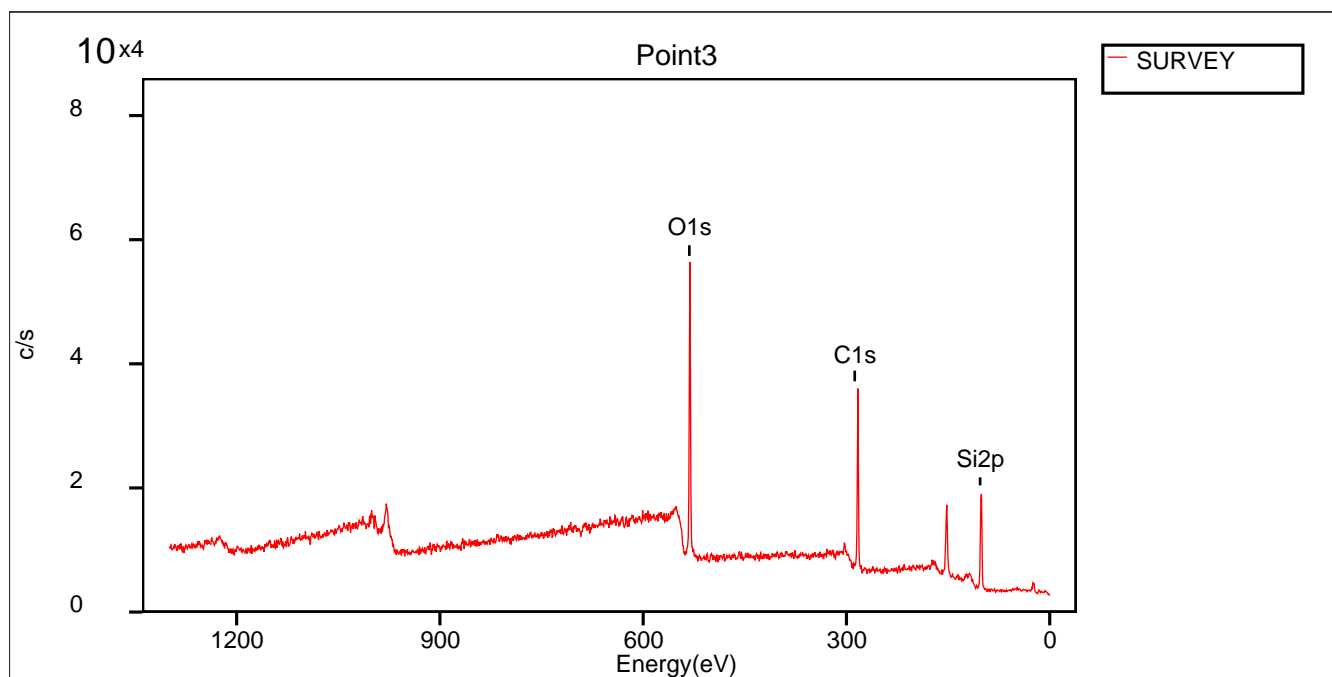


fig. 2.2.3 Survey Point3

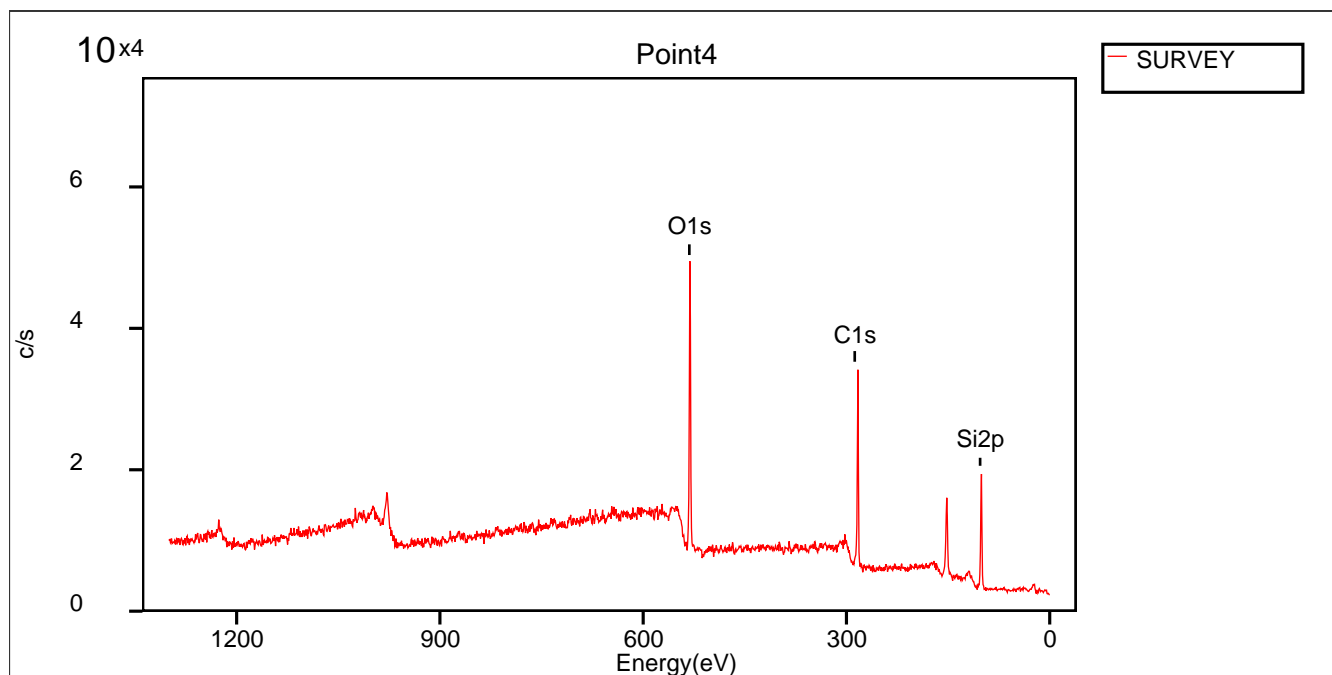


fig. 2.2.4 Survey Point4

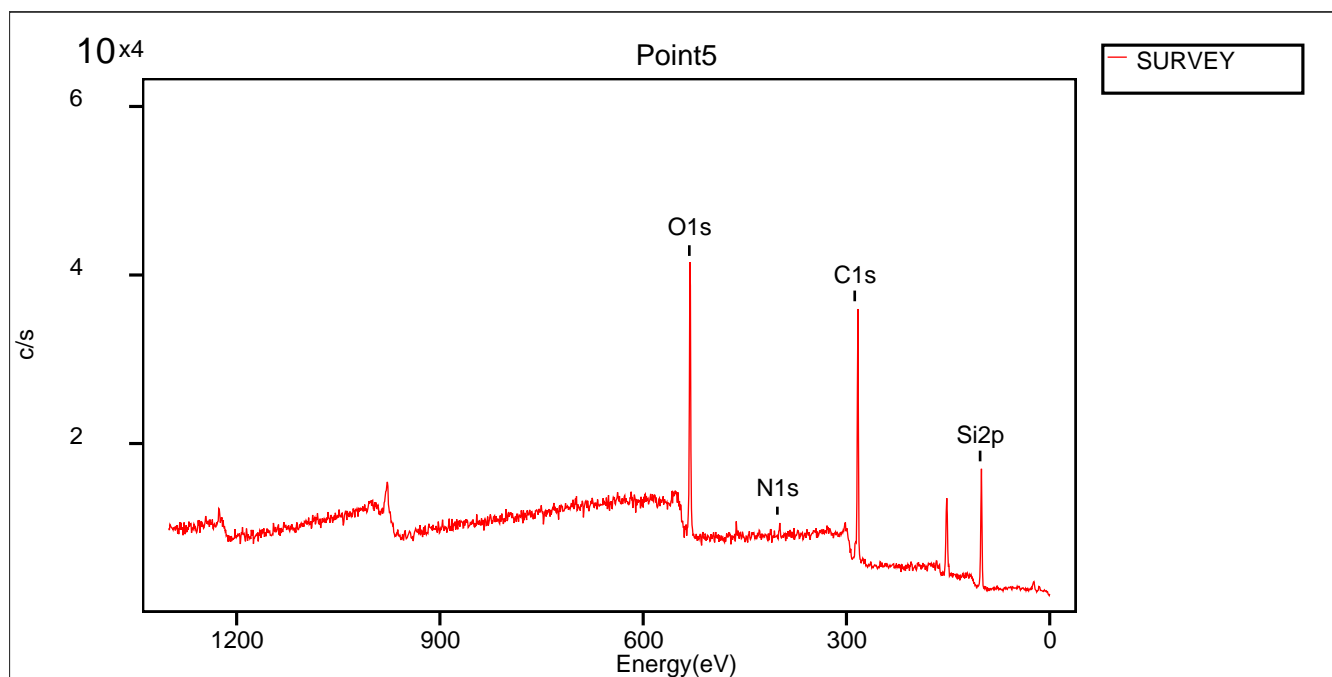


fig. 2.2.5 Survey Point5

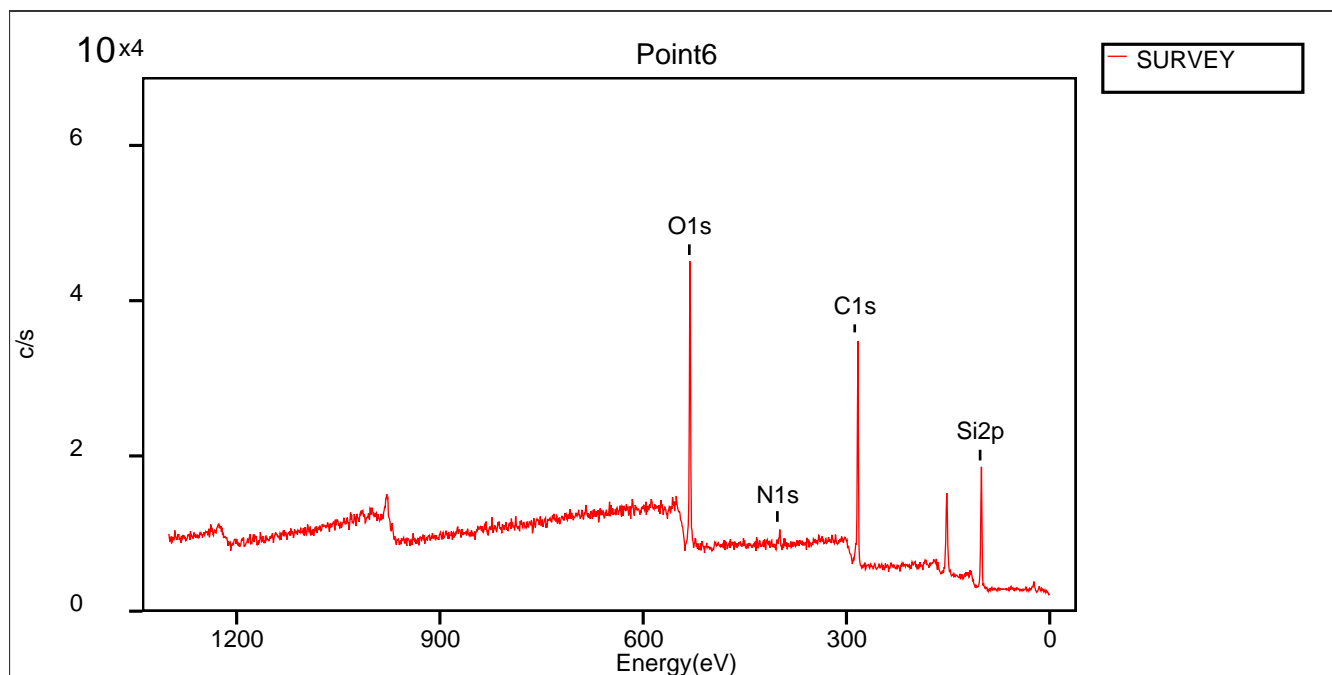


fig. 2.2.6 Survey Point6

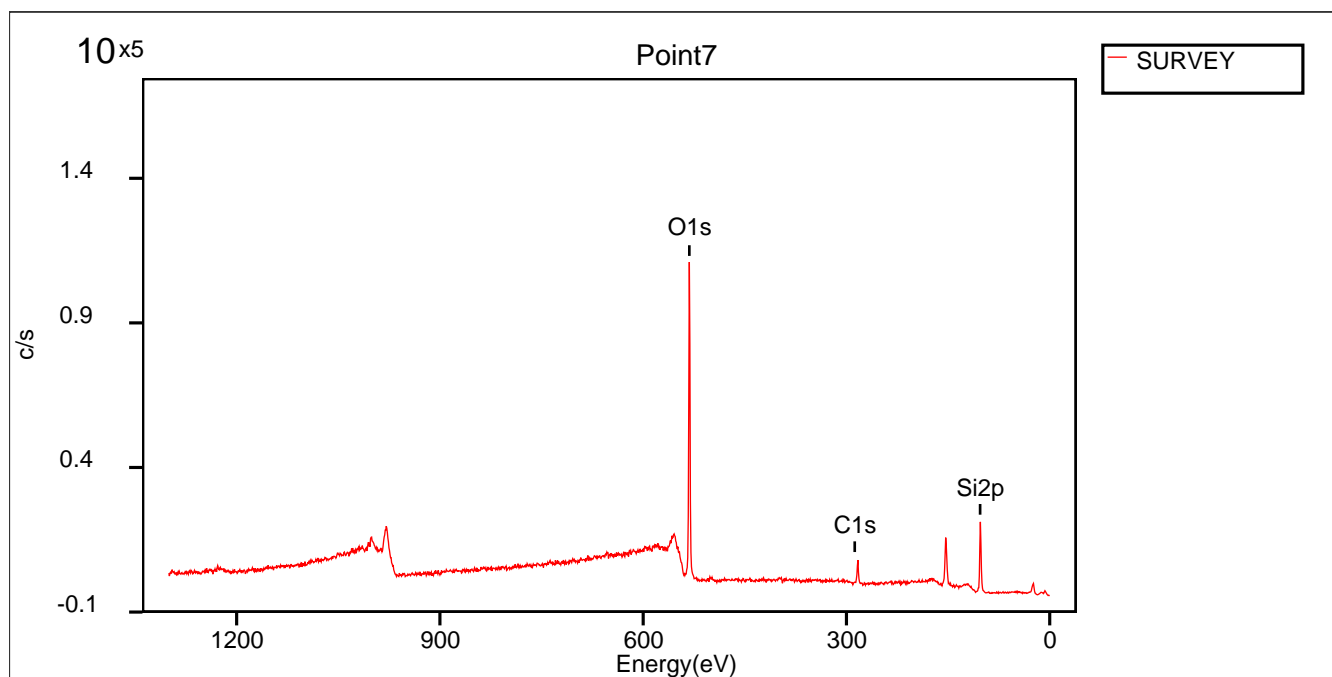


fig. 2.2.7 Survey Point7

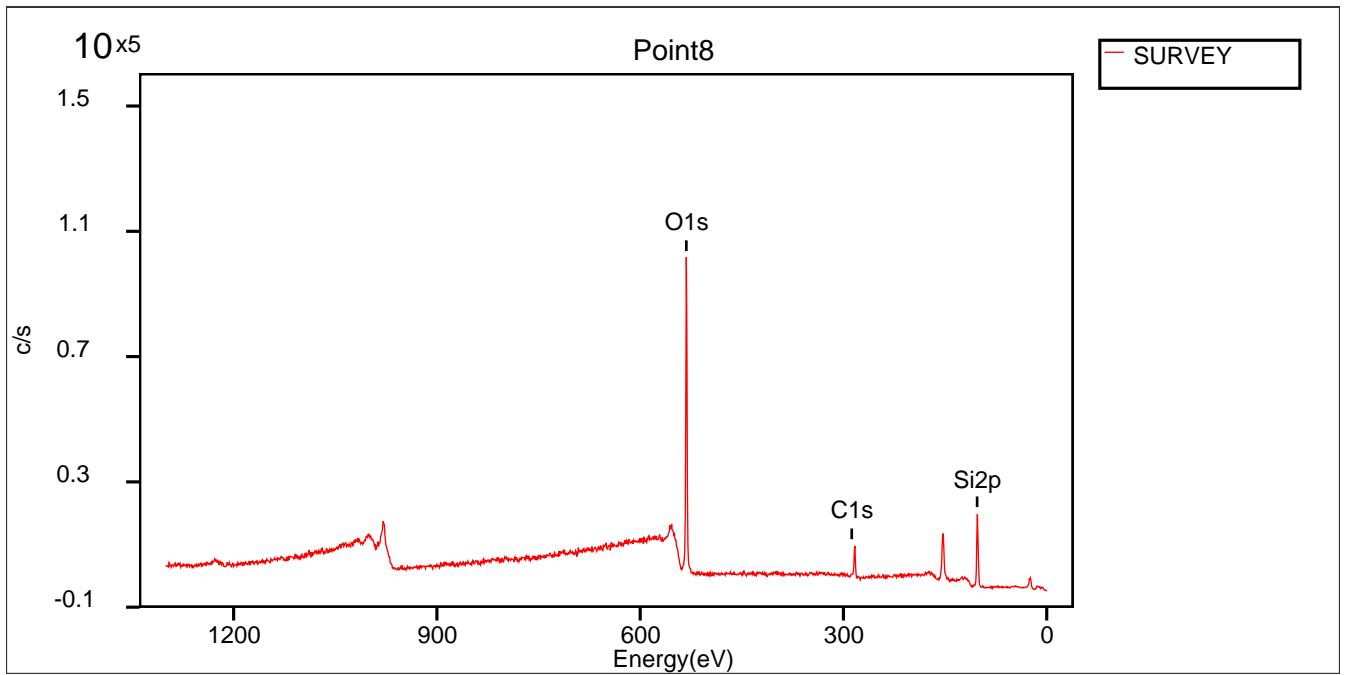


fig. 2.2.8 Survey Point8

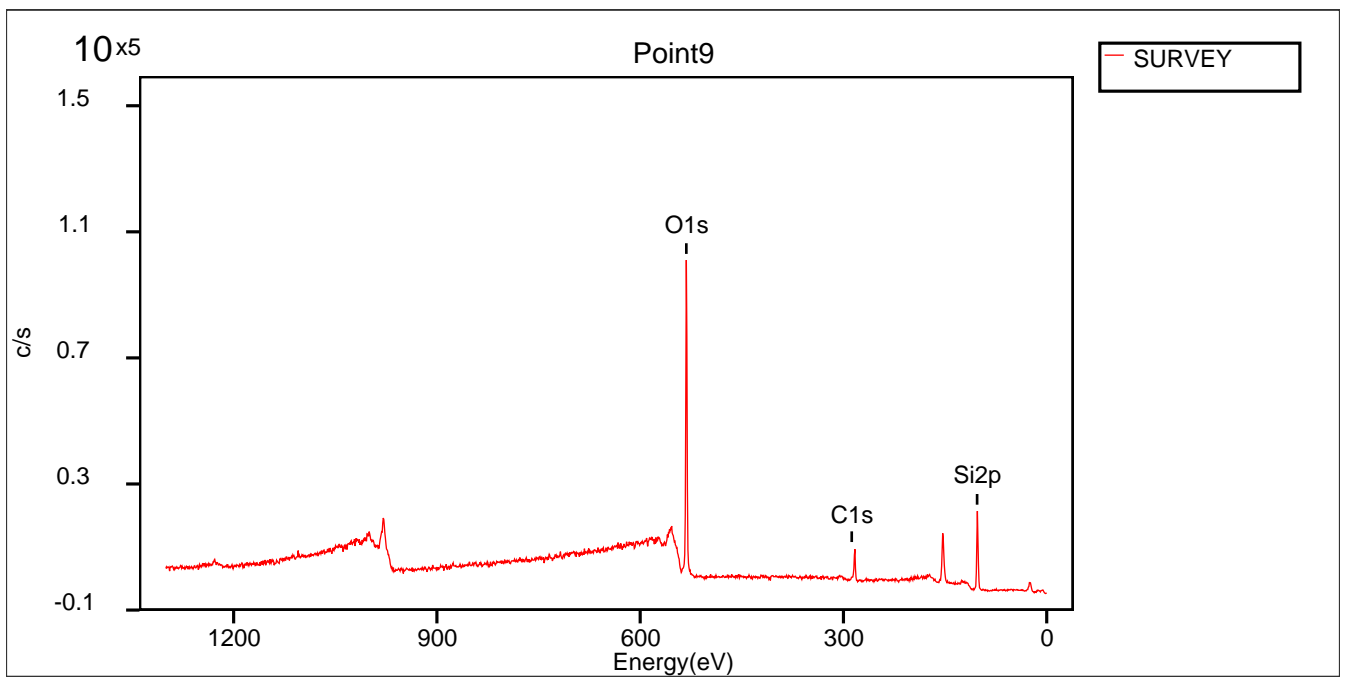


fig. 2.2.9 Survey Point9

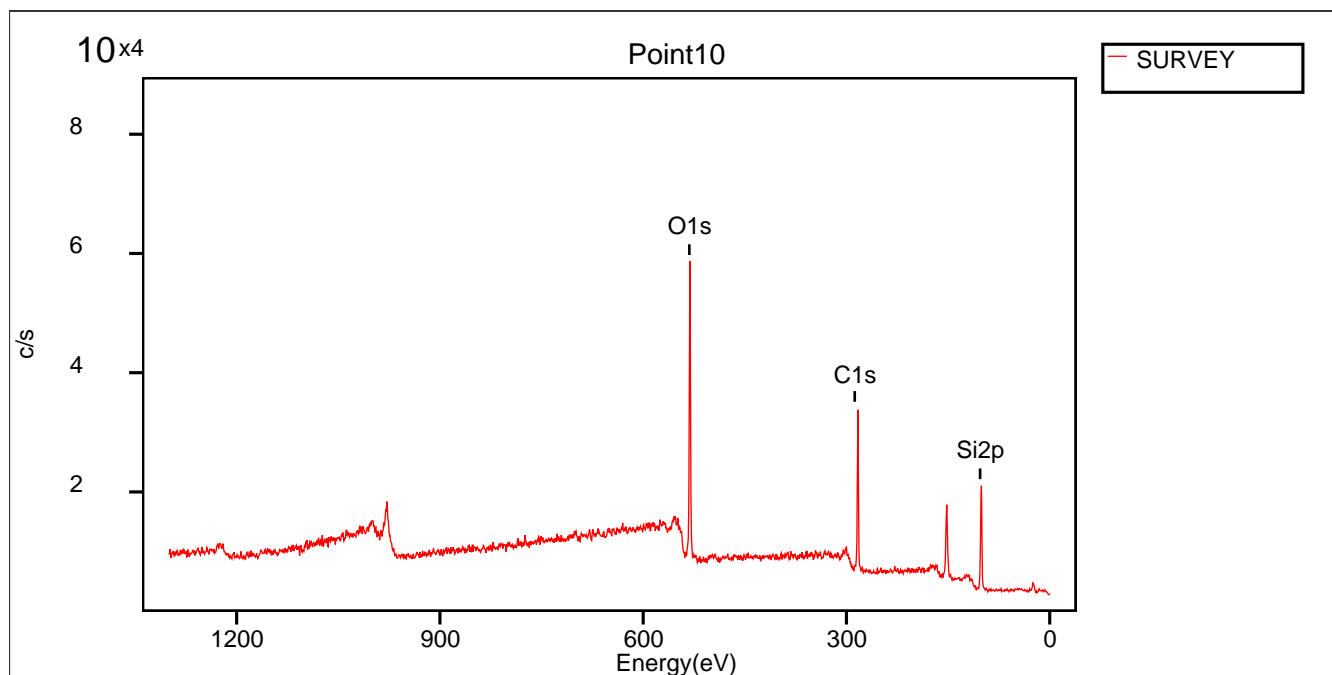


fig. 2.2.10 Survey Point10

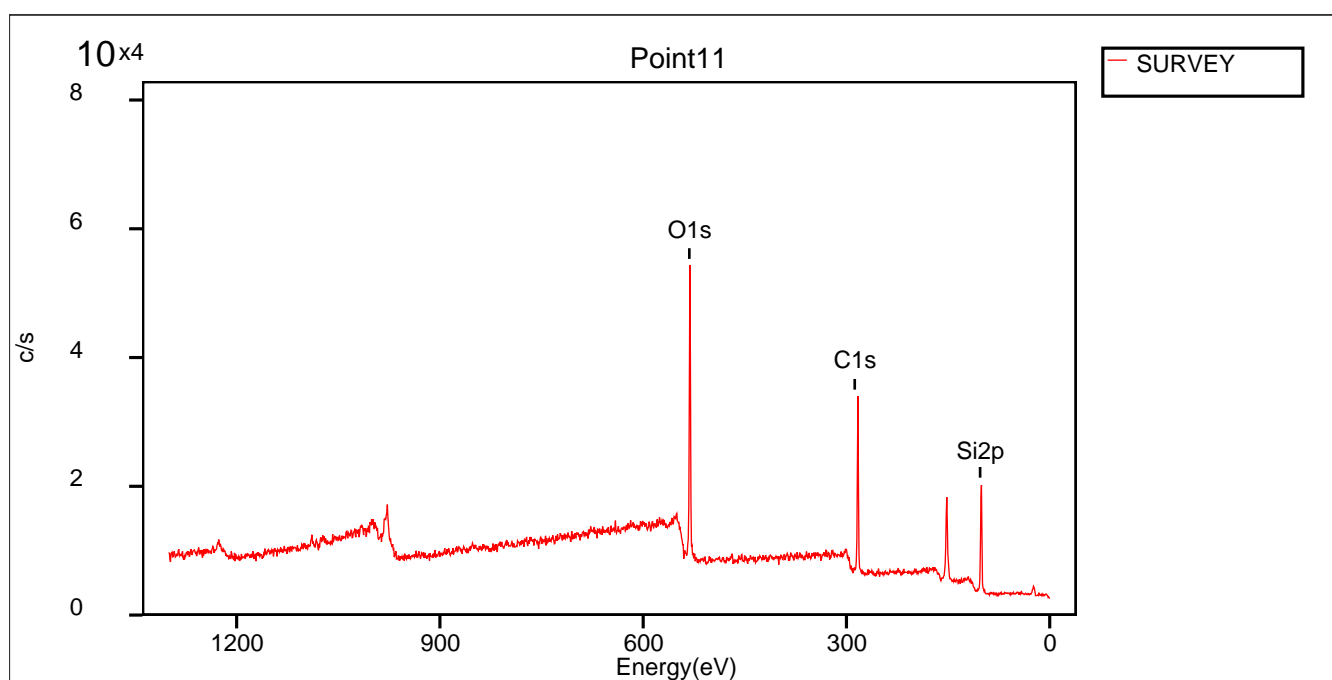


fig. 2.2.11 Survey Point11

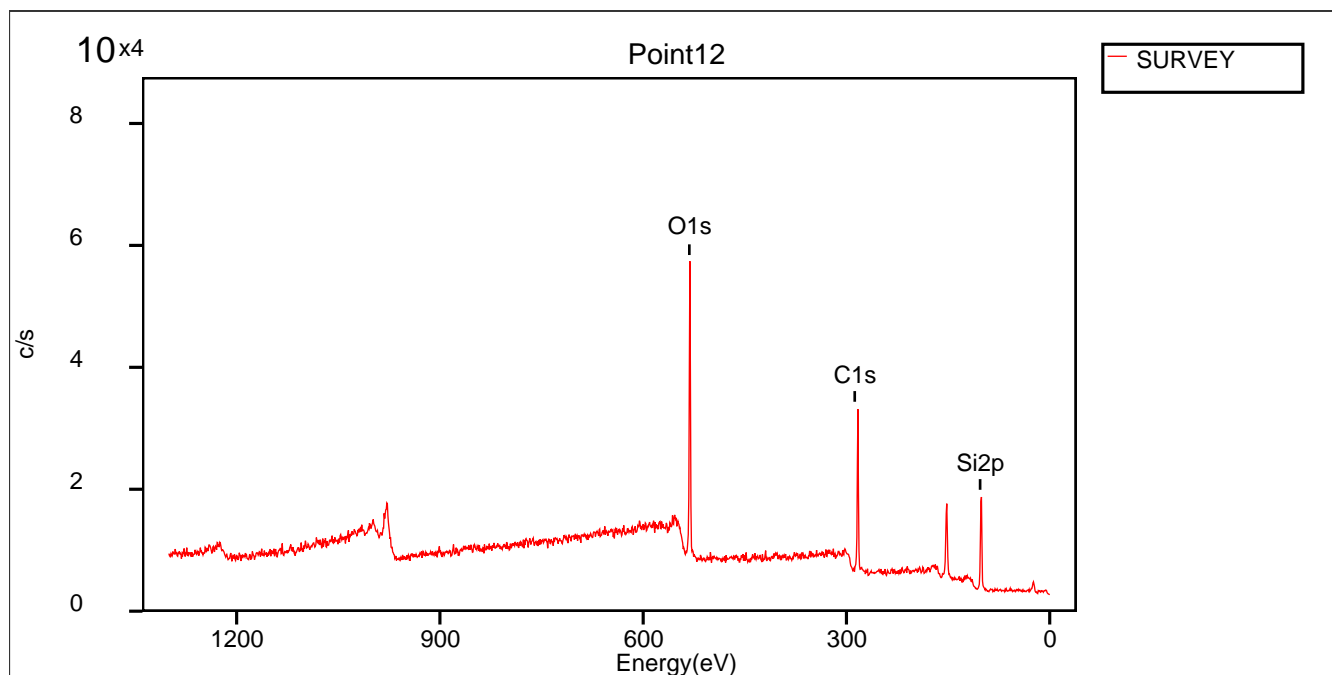


fig. 2.2.12 Survey Point12

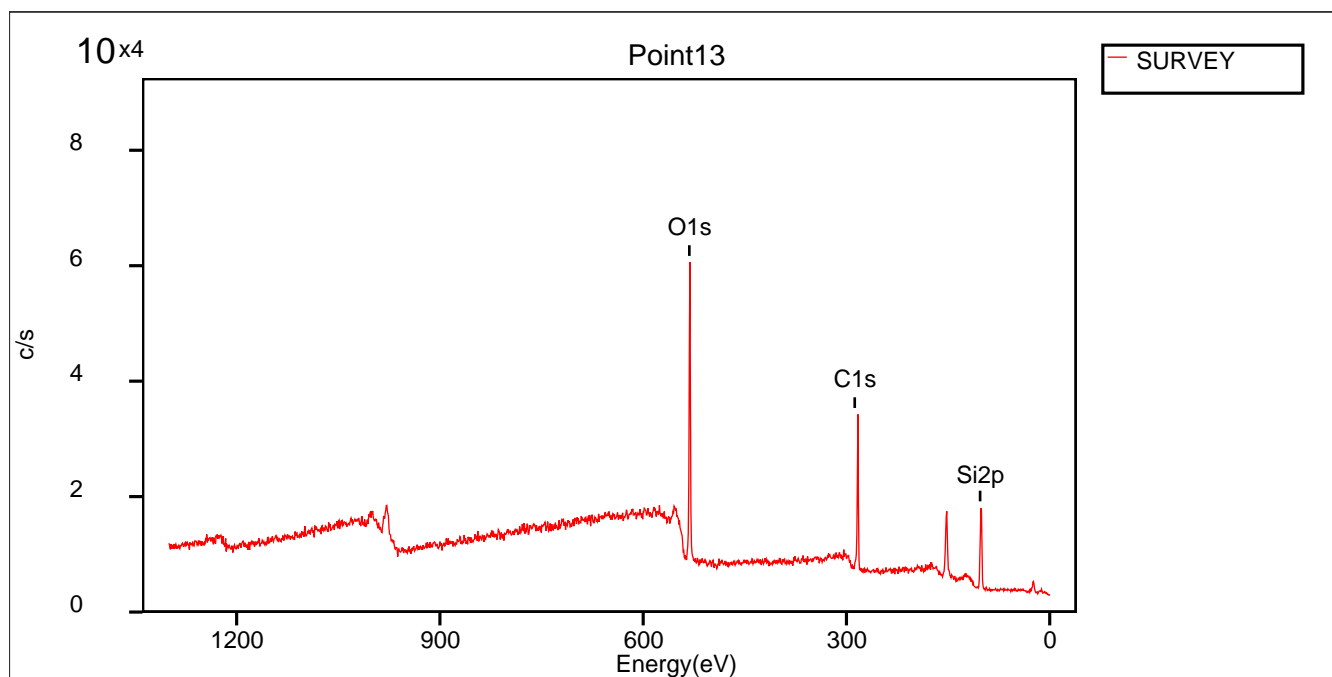


fig. 2.2.13 Survey Point13



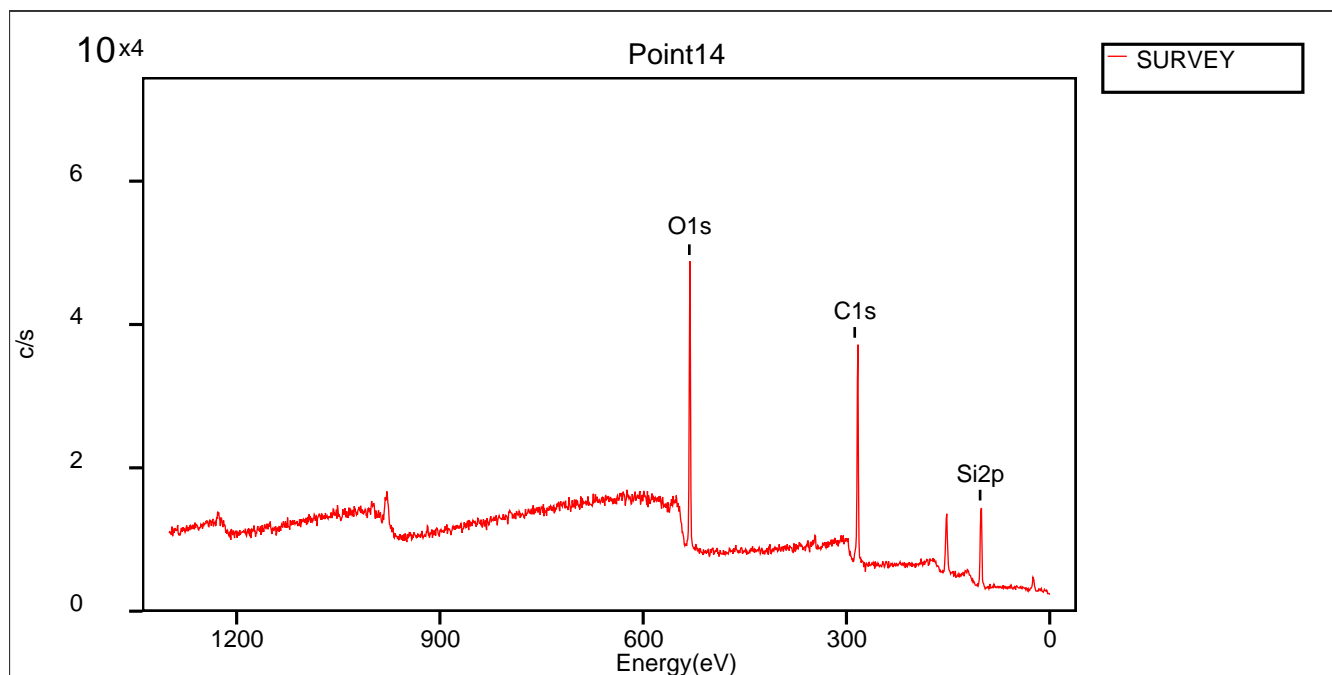


fig. 2.2.14 Survey Point14

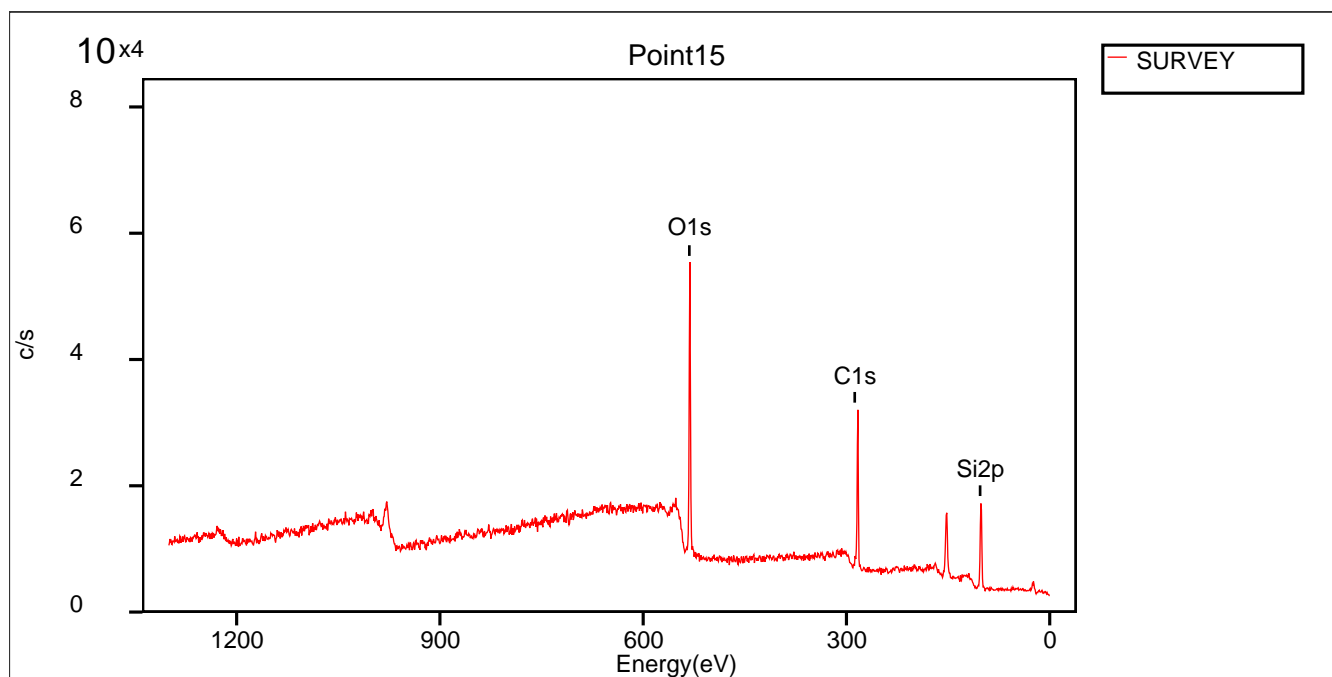


fig. 2.2.15 Survey Point15

## 2.3 Narrow

table. 2.3.1 File Table

Position	File Path
1	20140604_140102¥20140604 PDMS liao¥14604_142948.spe
2	20140604_140102¥20140604 PDMS liao¥14604_143237.spe
3	20140604_140102¥20140604 PDMS liao¥14604_143622.spe
4	20140604_140102¥20140604 PDMS liao¥14604_144030.spe
5	20140604_140102¥20140604 PDMS liao¥14604_144427.spe
6	20140604_140102¥20140604 PDMS liao¥14604_144812.spe
7	20140604_140102¥20140604 PDMS liao¥14604_145213.spe
8	20140604_140102¥20140604 PDMS liao¥14604_145449.spe
9	20140604_140102¥20140604 PDMS liao¥14604_145757.spe
10	20140604_140102¥20140604 PDMS liao¥14604_150156.spe
11	20140604_140102¥20140604 PDMS liao¥14604_150433.spe
12	20140604_140102¥20140604 PDMS liao¥14604_150820.spe
13	20140604_140102¥20140604 PDMS liao¥14604_151217.spe
14	20140604_140102¥20140604 PDMS liao¥14604_151610.spe
15	20140604_140102¥20140604 PDMS liao¥14604_151956.spe

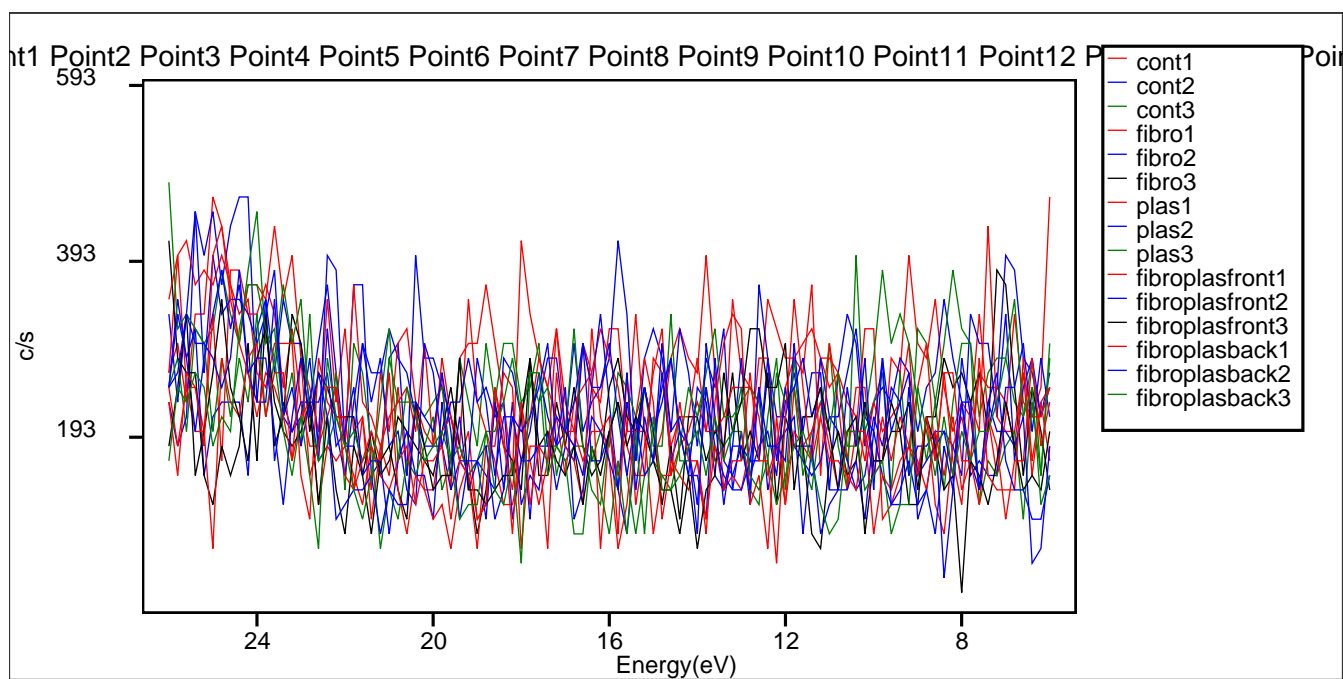


fig. 2.3.1 H1s

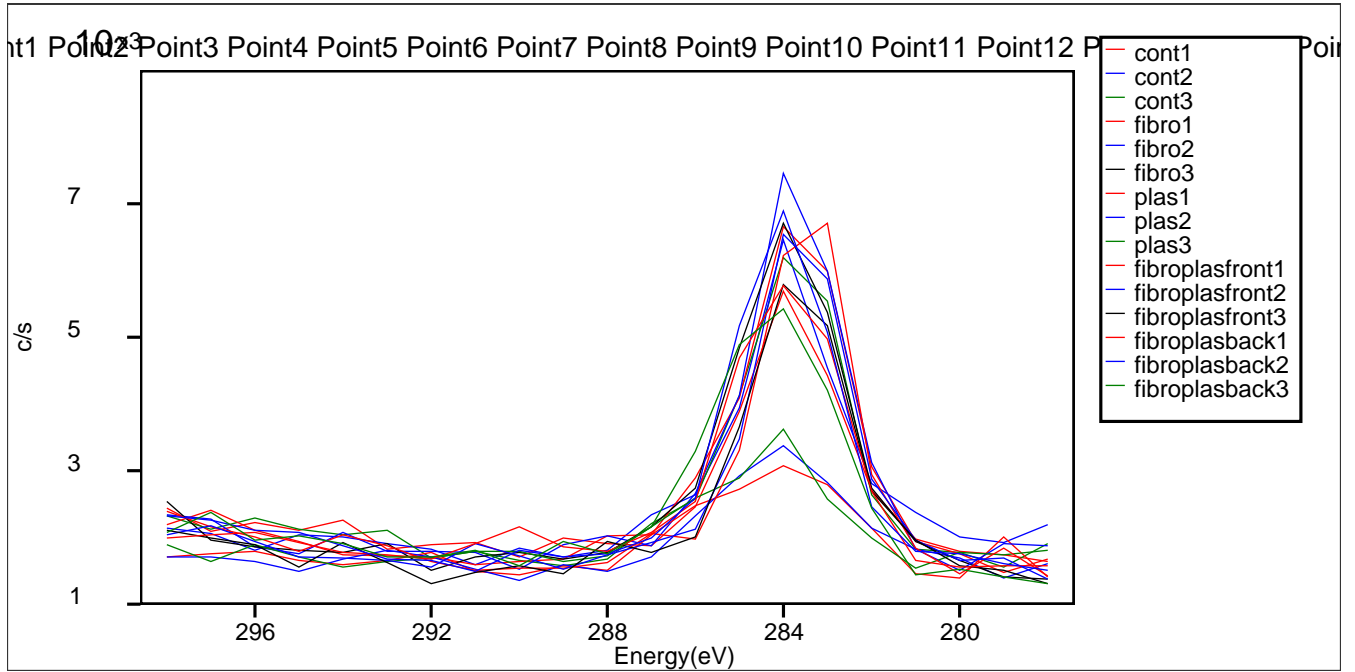


fig. 2.3.2 C1s

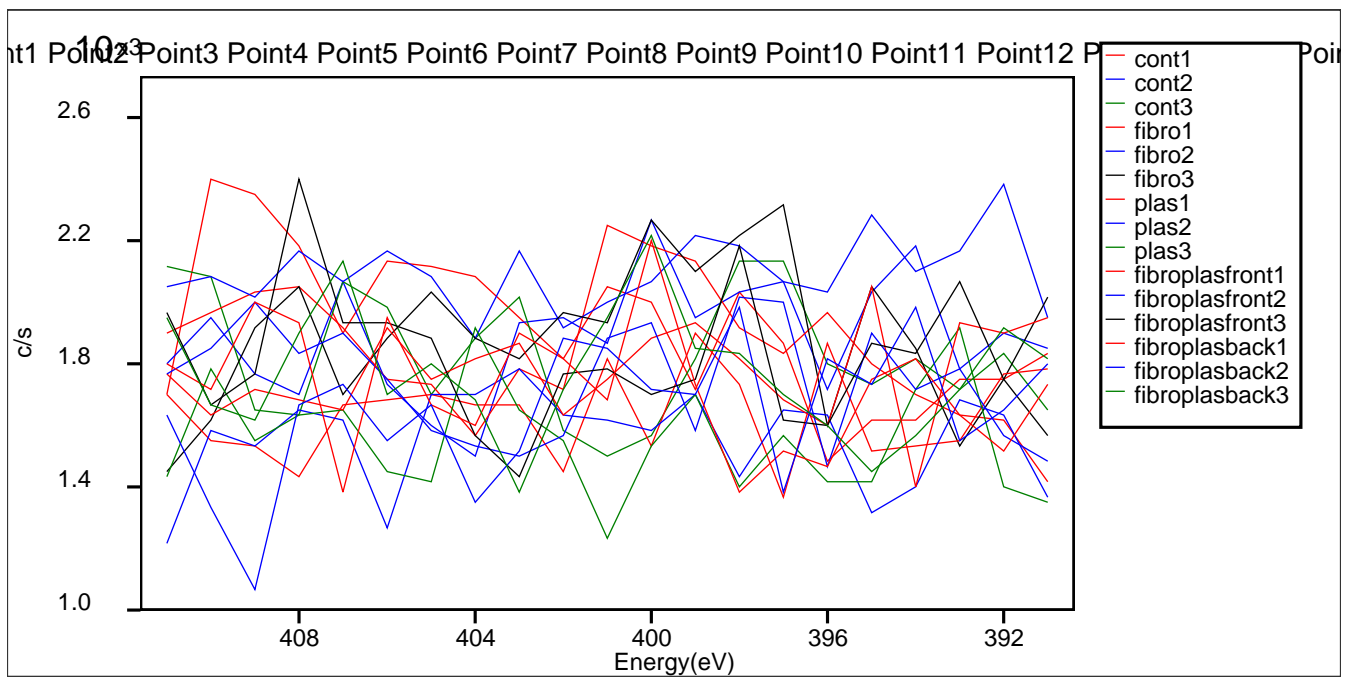


fig. 2.3.3 N1s

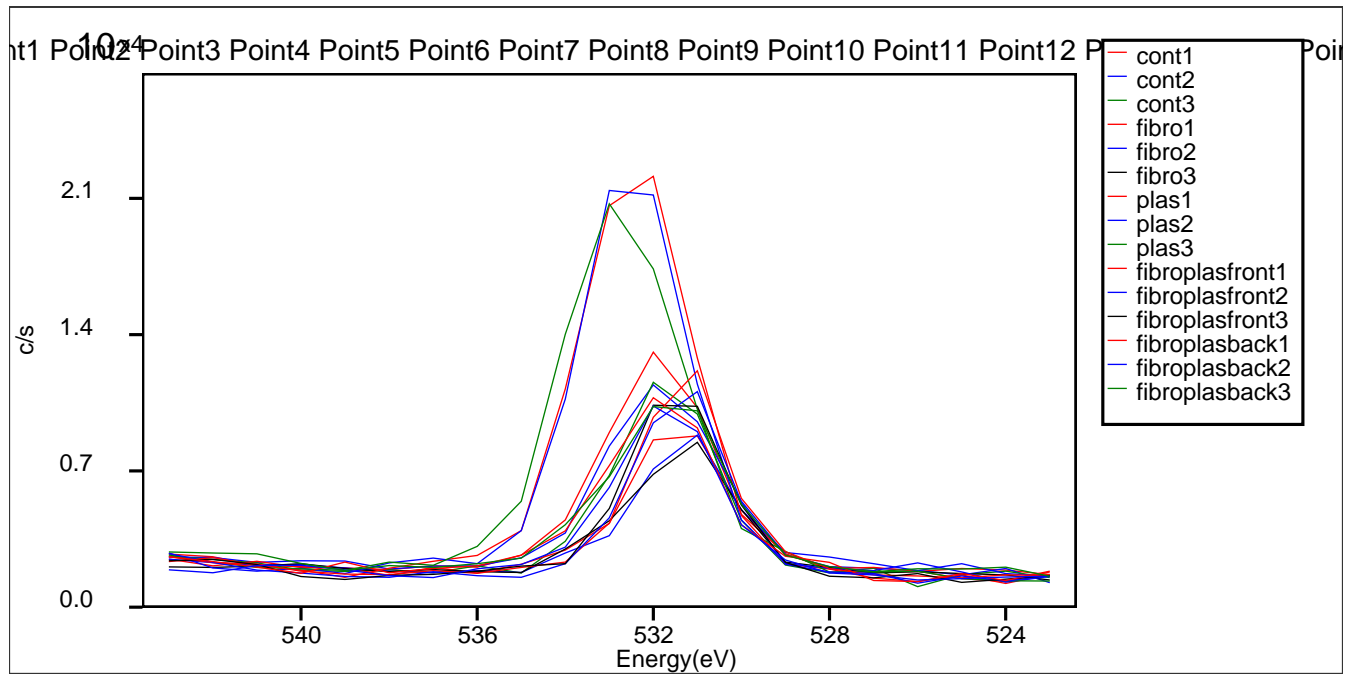


fig. 2.3.4 O1s

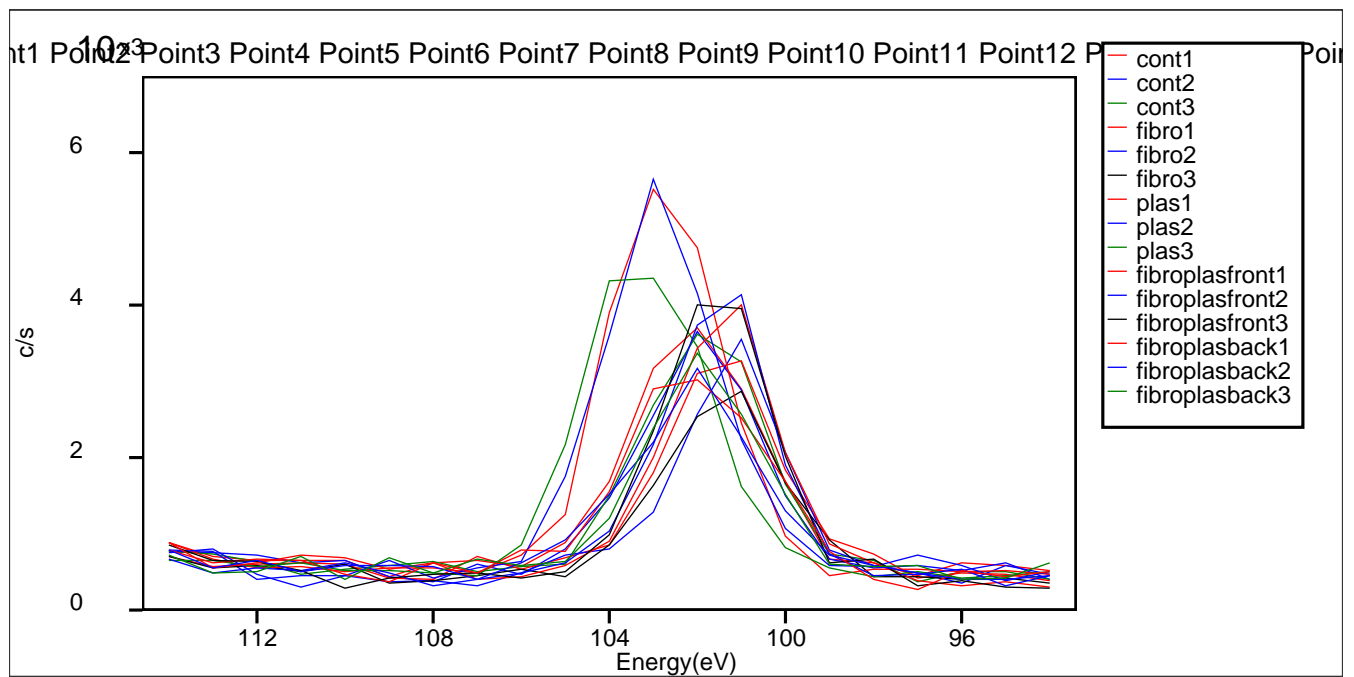


fig. 2.3.5 Si2p

### 3. Memo