

The Effect of a Weak Magnetic Field (0 T to 0.4 T) on the Valence Band and Intramolecular Hydrogen of Inorganic Aerosol Metal–Nitrogen Gas Chemical Reactions in a Sparking Discharge Process†

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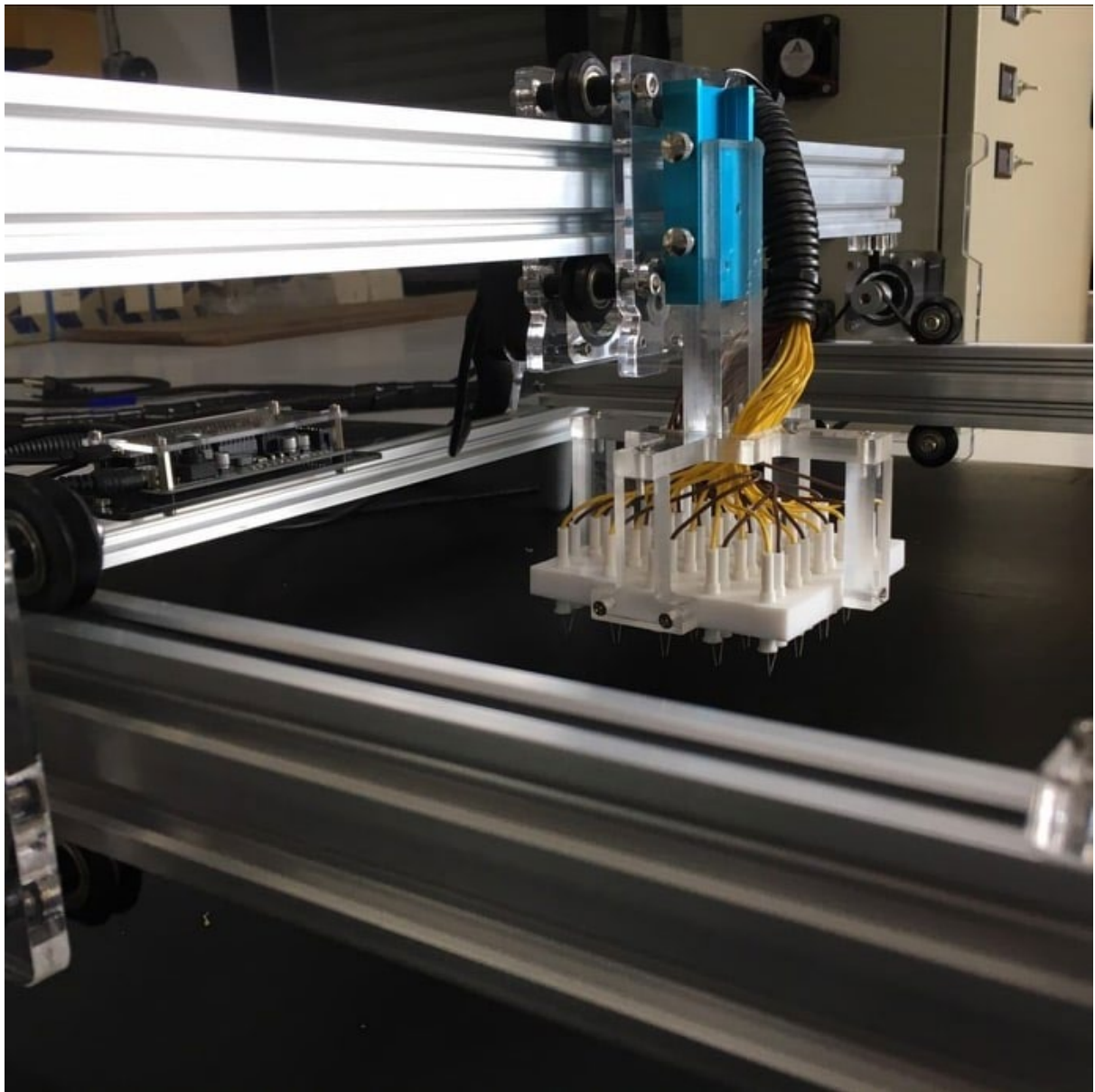
Asst.Prof.Dr. Chatdanai Boonruang, a

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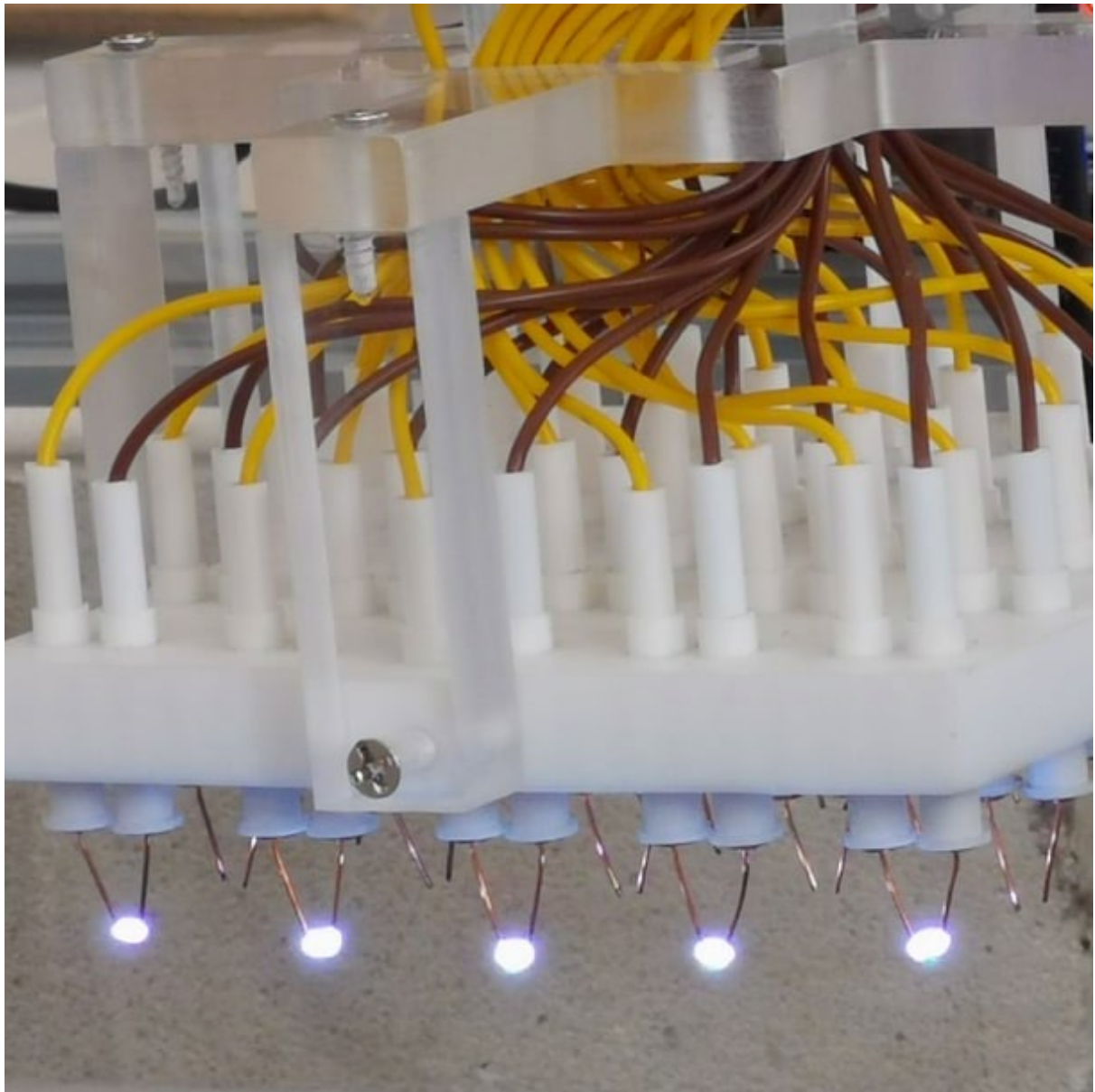
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Content.

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7. XPS titanium
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Sparking head, multiple sparking discharge used



close look up on spark gap and spark



outside

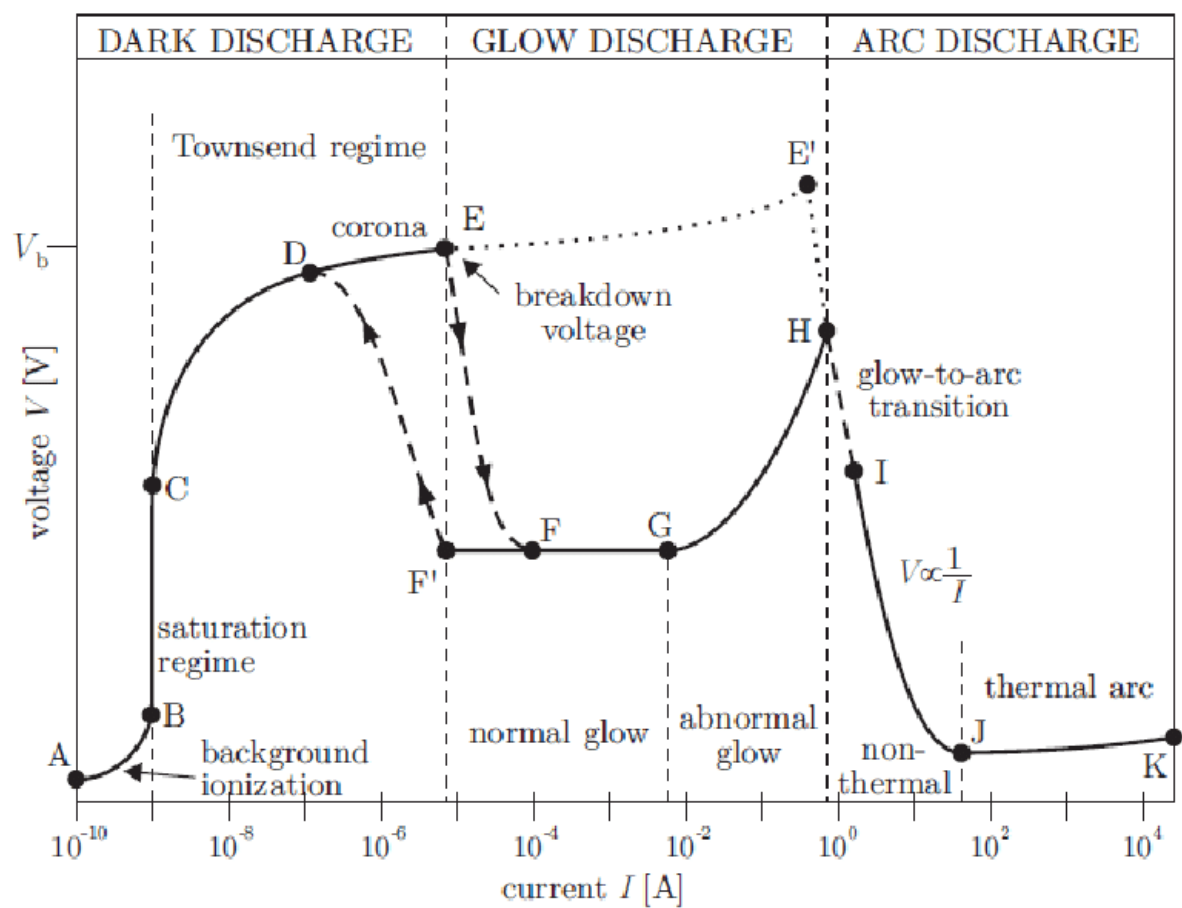


electronic components of sparking machine

Universal voltage-current curve characteristic of the DC atmospheric-pressure electrical discharge

I-V characteristics of a DC glow discharge regions

Plasma current-density versus voltage diagram, electric discharge modes



Voltage current curve of plasma discharges, sparking process represented with point E

Quantification Report

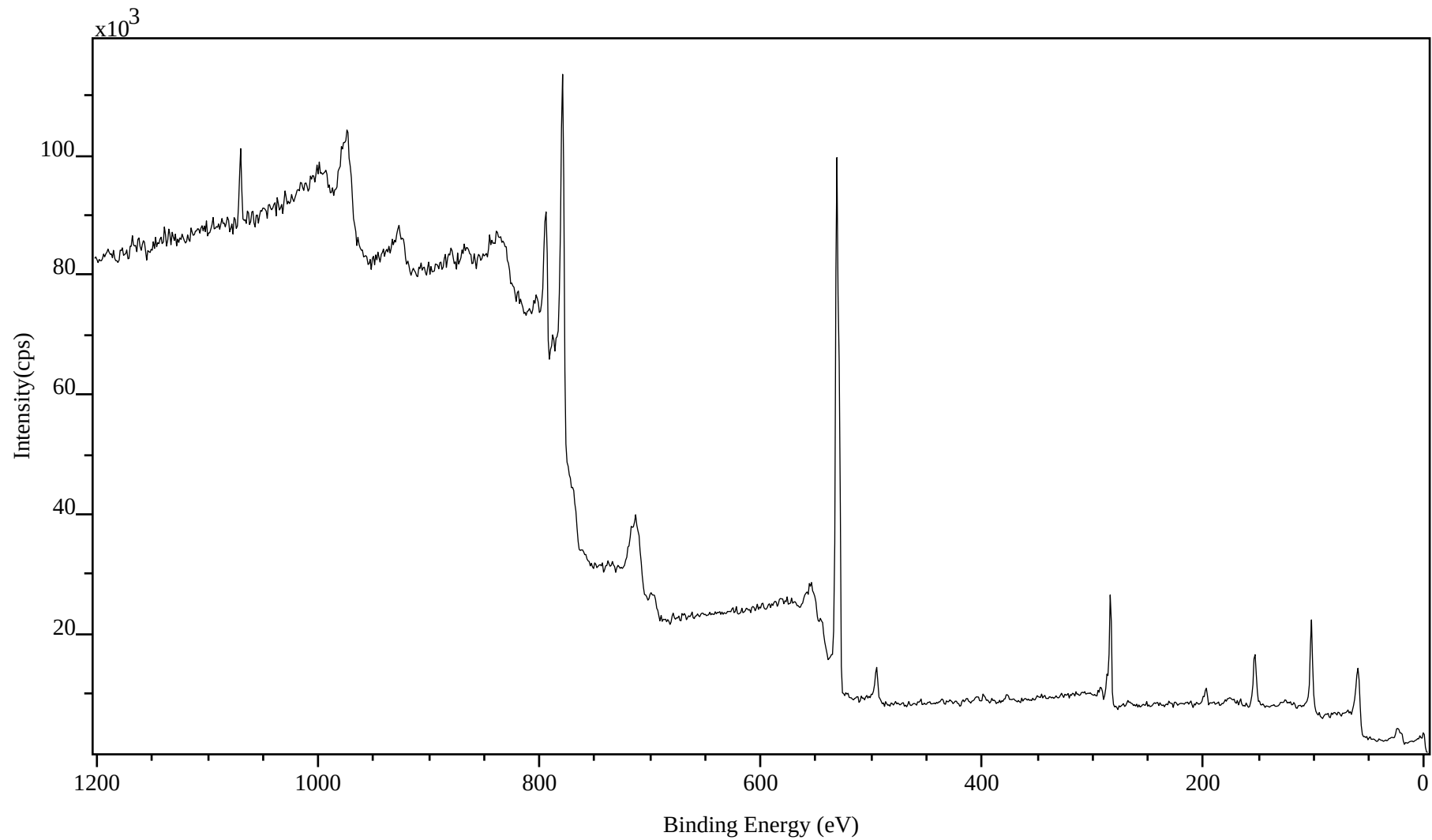
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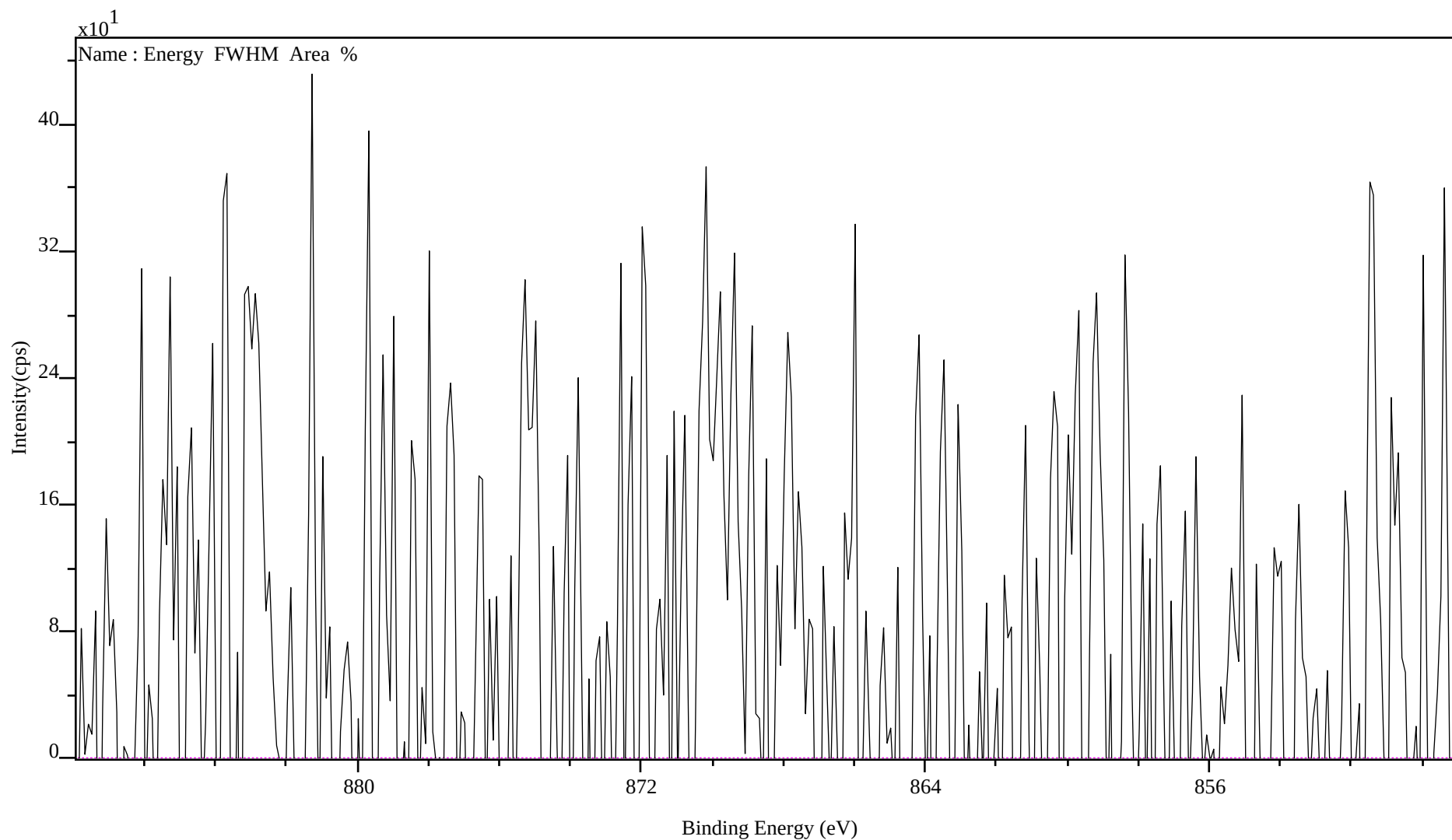
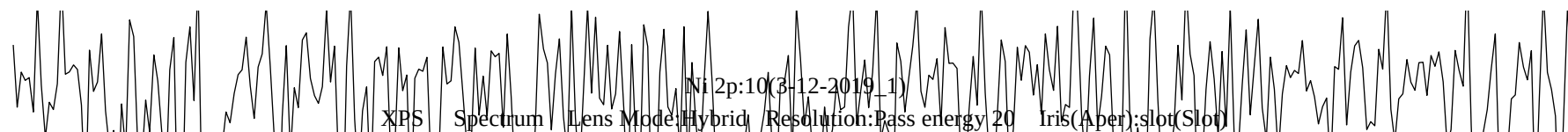
Fri Dec 6 15:57:15 2019

State : Angle Name : Position 2

Peak	Type	Position BE (eV)	FWHM (eV)	Raw Area (cps eV)	RSF	Atomic Mass	Atomic Conc %	Mass Conc %
Na 1s	Reg	1070.900	2.346	30890.0	1.685	22.990	1.69	1.66
Co 2p	Reg	779.900	3.789	509590.0	3.590	58.933	13.86	34.98
O 1s	Reg	531.900	3.958	341915.0	0.780	15.999	44.94	30.80
N 1s	Reg	399.900	2.370	4605.0	0.477	14.007	1.02	0.61
K 2p	Reg	293.900	3.215	6510.0	1.466	39.102	0.49	0.82
C 1s	Reg	284.900	2.314	54870.0	0.278	12.011	21.73	11.18
Cl 2p	Reg	197.900	2.897	9665.0	0.891	35.460	1.16	1.77
Si 2p	Reg	102.900	2.568	46705.0	0.328	28.086	15.11	18.17

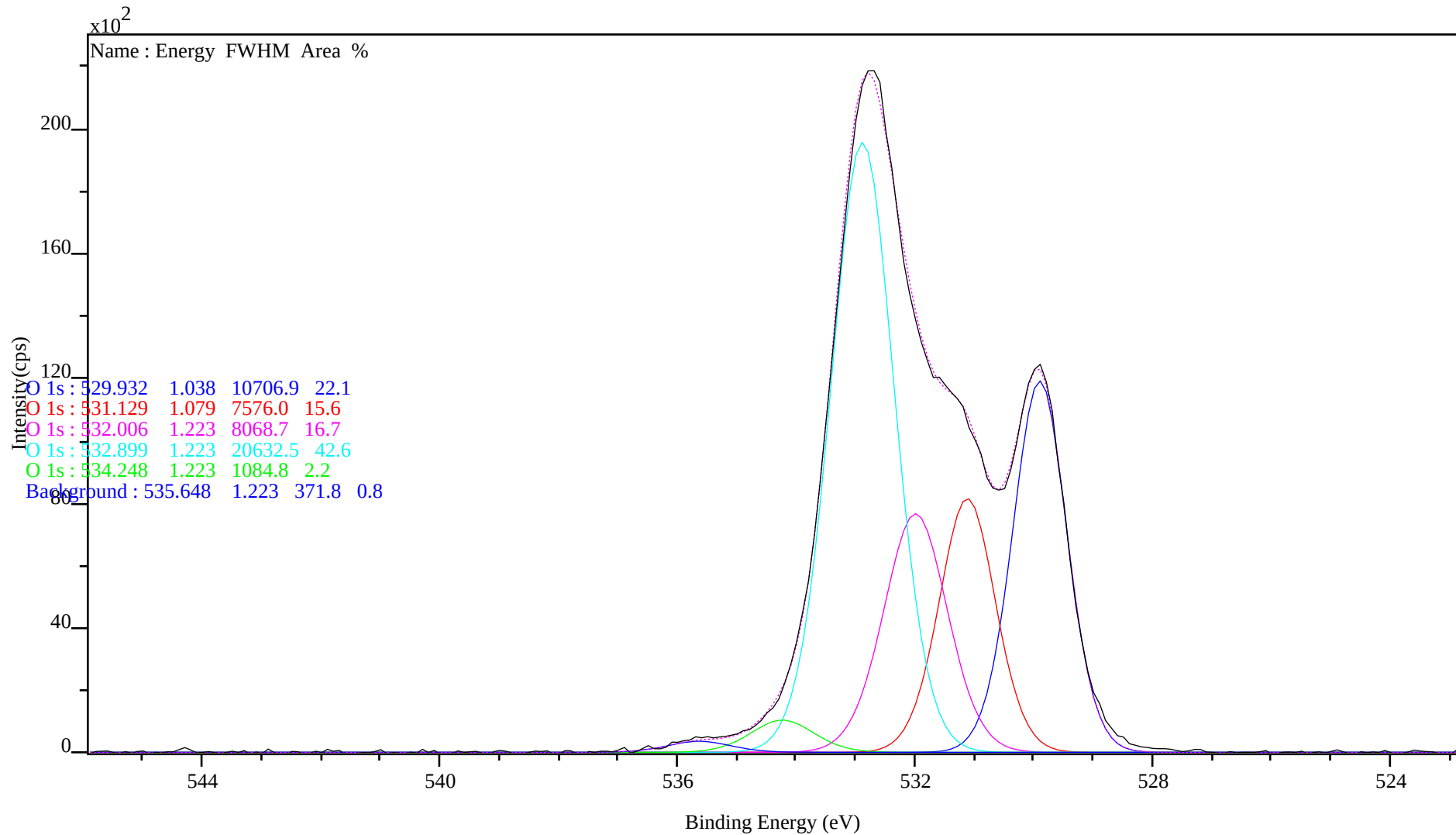
wide:9(3-12-2019_1)
XPS Spectrum Lens Mode:Hybrid Resolution:Pass energy 80 Iris(Aper):slot(Slot)
Acqn. Time(s): 121 Sweeps: 1 Anode:Mono(Al (Mono))(150 W) Step(meV): 1000.0
Dwell Time(ms): 100 Charge Neutraliser :On Acquired On :19/12/03 10:35:01





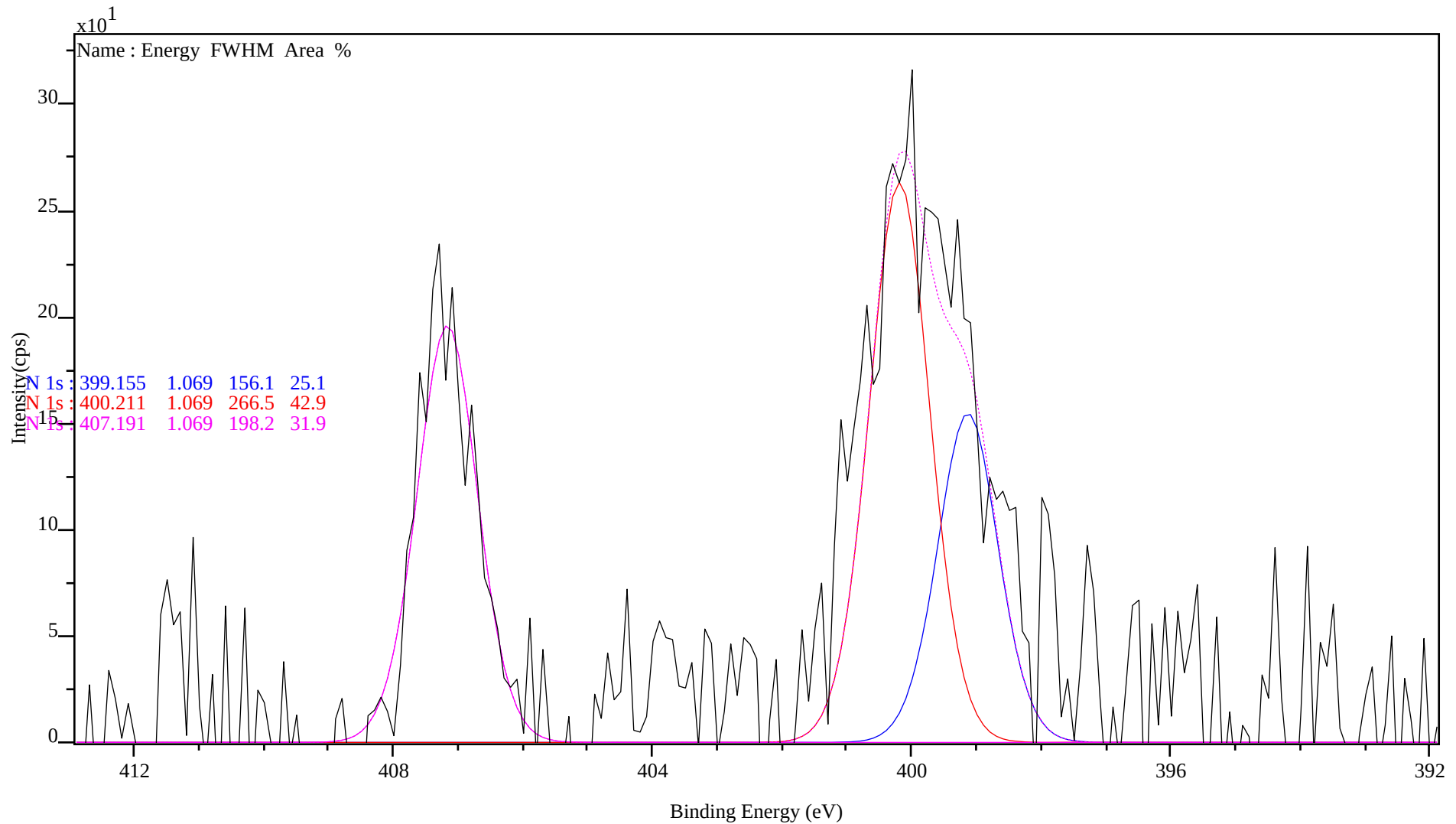
O 1s:11(3-12-2019_1)

XPS Spectrum Lens Mode:Hybrid Resolution:Pass energy 20 Iris(Aper):slot(Slot)
Acqn. Time(s): 181 Sweeps: 3 Anode:Mono(Al (Mono))(150 W) Step(meV): 100.0
Dwell Time(ms): 261 Charge Neutraliser :On Acquired On :19/12/03 10:37:58



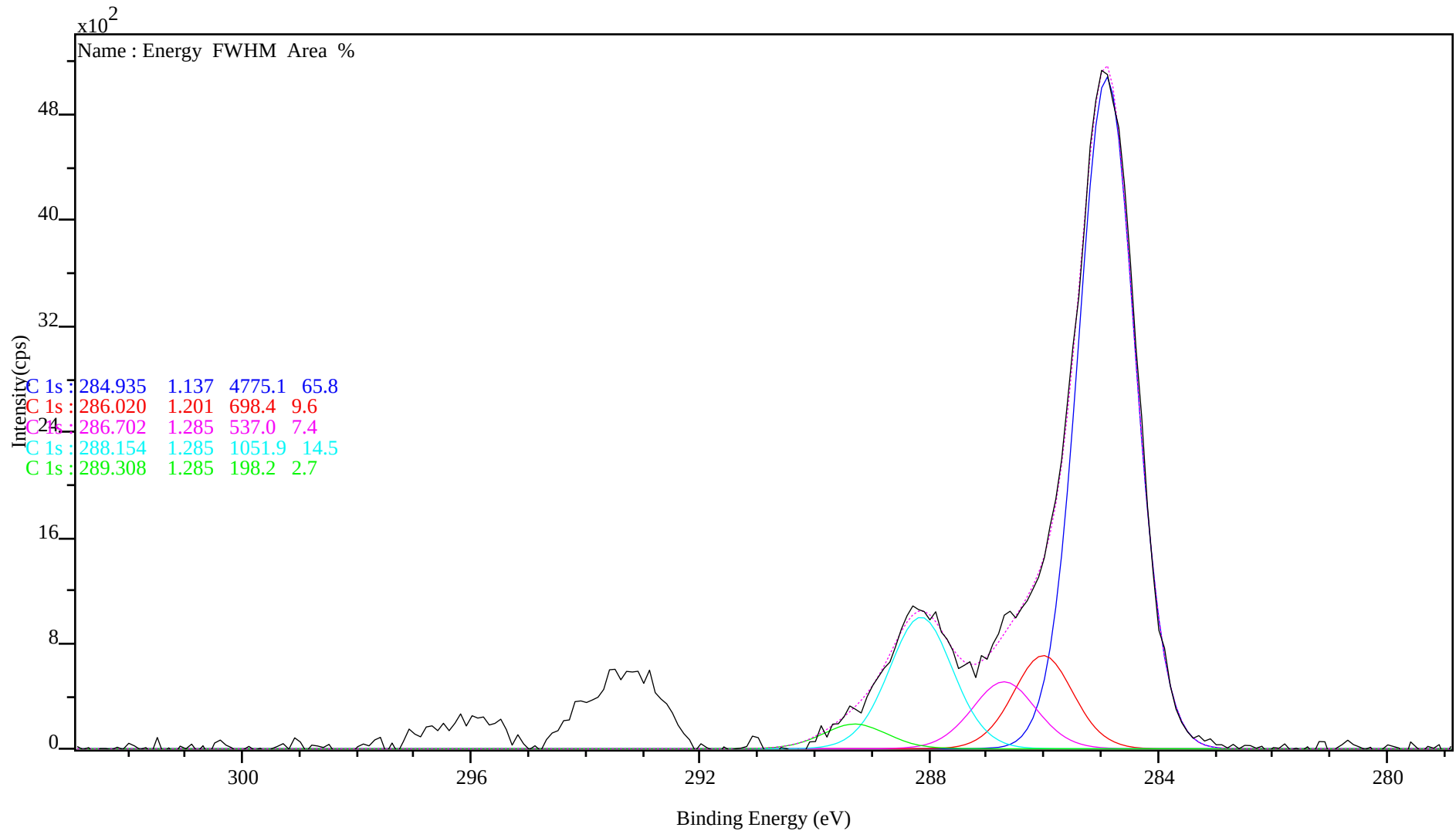
N-1s:19-12-2019/1

XPS Spectrum Lens Mode:Hybrid Resolution:Pass energy 20 Iris(Aper)/slot(Slot)
Acqn. Time(s): 181 Sweeps: 3 Anode:Mono(Al (Mono))(150 W) Step(meV): 100.0
Dwell Time(ms): 286 Charge Neutraliser :On Acquired On :19/12/03 10:37:58



C 1s:13(3-12-2019_1)

XPS Spectrum Lens Mode:Hybrid Resolution:Pass energy 20 Iris(Aper):slot(Slot)
Acqn. Time(s): 181 Sweeps: 3 Anode:Mono(Al (Mono))(150 W) Step(meV): 100.0
Dwell Time(ms): 250 Charge Neutraliser :On Acquired On :19/12/03 10:37:58



Quantification Report

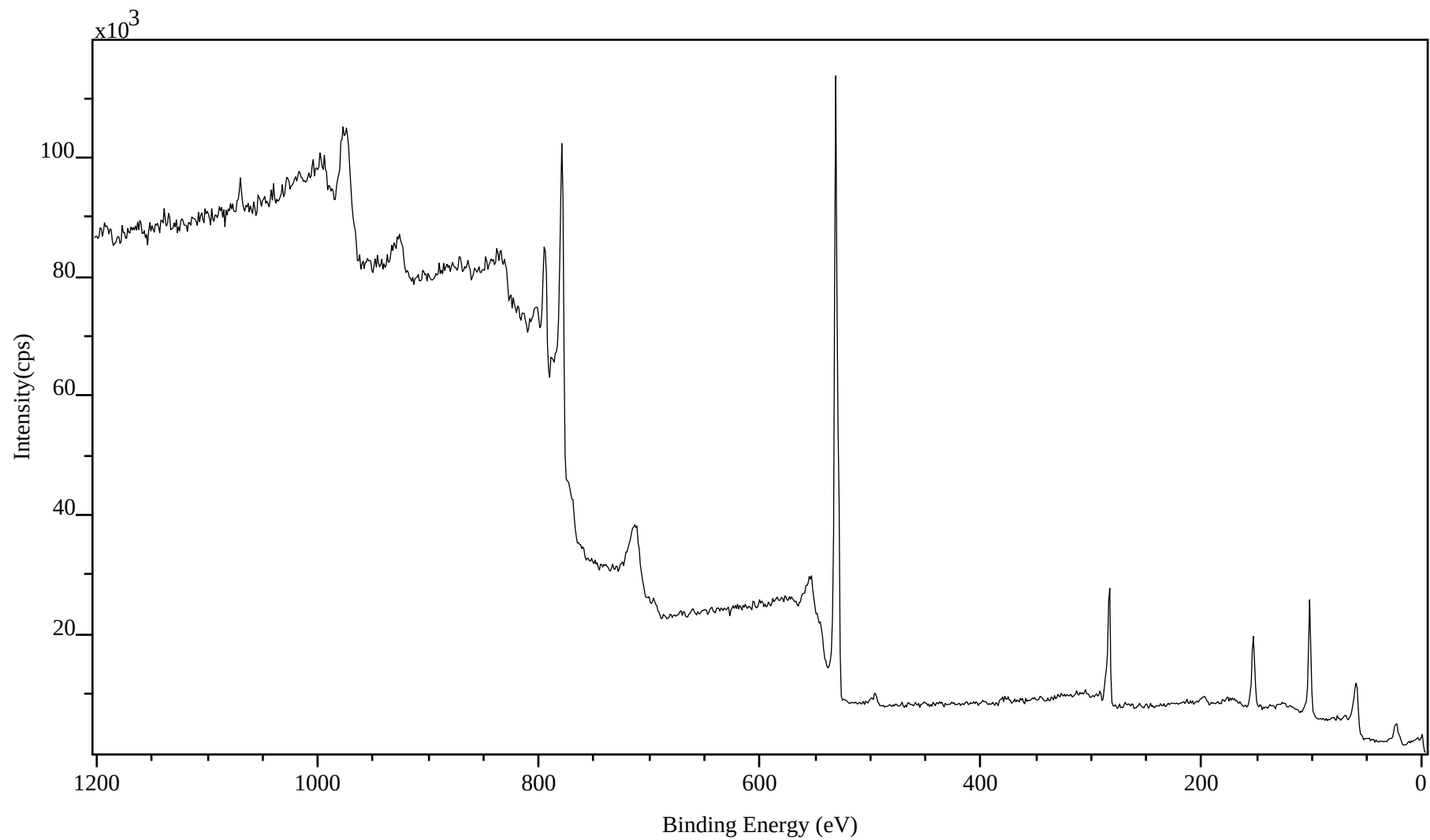
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Mon Dec 23 09:43:10 2019

State : Angle Name : Position 1

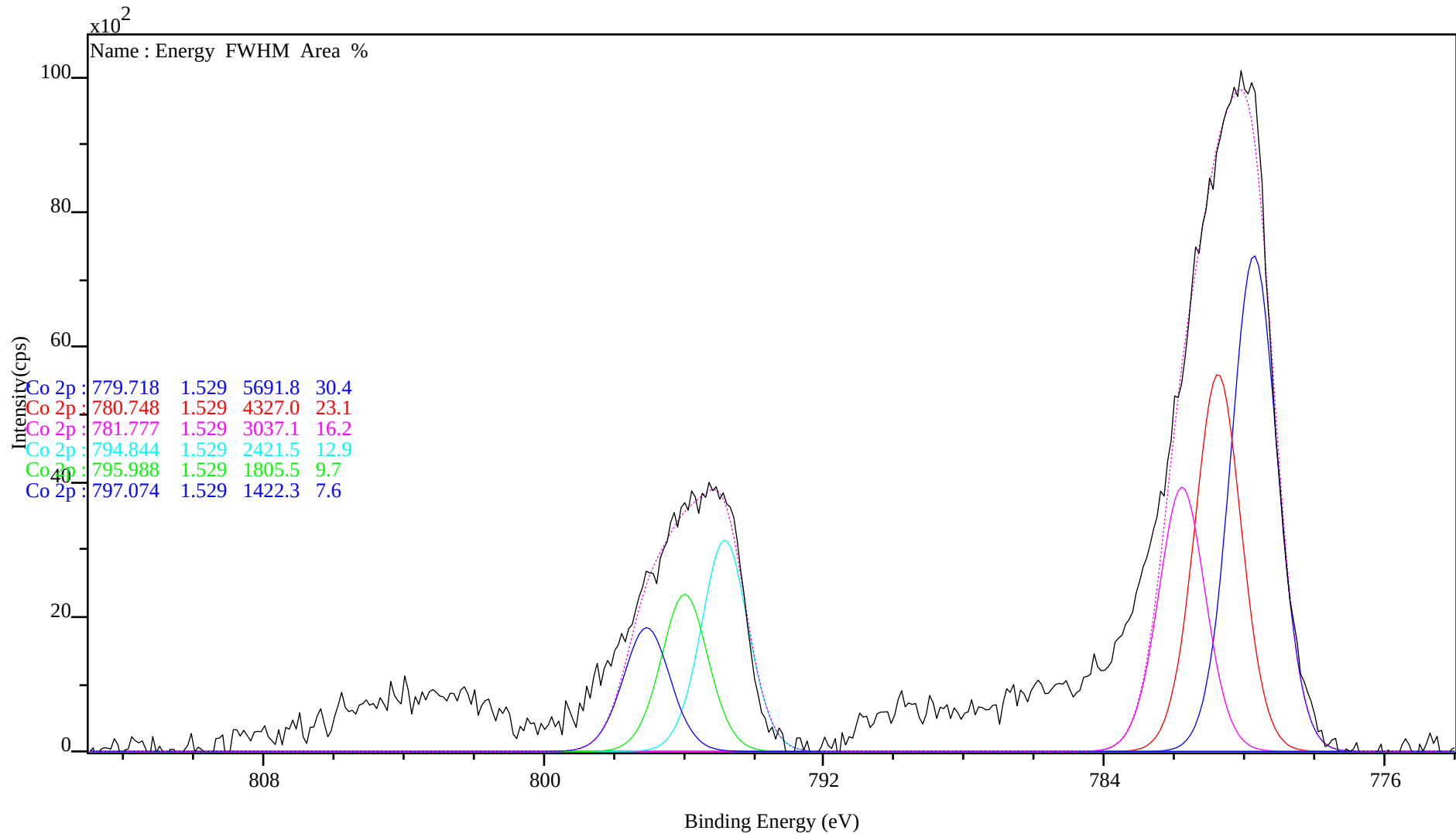
Peak	Type	Position BE (eV)	FWHM (eV)	Raw Area (cps eV)	RSF	Atomic Mass	Atomic Conc %	Mass Conc %
Na 1s	Reg	1071.000	2.725	18090.0	1.685	22.990	0.94	0.96
Co 2p	Reg	780.000	4.143	452705.0	3.590	58.933	11.65	30.67
O 1s	Reg	532.000	3.141	365800.0	0.780	15.999	45.52	32.53
K 2p	Reg	293.000	2.197	4720.0	1.466	39.102	0.34	0.59
C 1s	Reg	284.000	2.541	63235.0	0.278	12.011	23.70	12.71
Cl 2p	Reg	198.000	4.080	3420.0	0.891	35.460	0.39	0.62
Si 2p	Reg	103.000	2.519	57060.0	0.328	28.086	17.47	21.92

wide re:17(18-12-2019_1)
XPS Spectrum Lens Mode:Hybrid Resolution:Pass energy 80 Iris(Aper):slot(Slot)
Acqn. Time(s): 121 Sweeps: 1 Anode:Mono(Al (Mono))(150 W) Step(meV): 1000.0
Dwell Time(ms): 100 Charge Neutraliser :On Acquired On :19/12/18 15:41:44



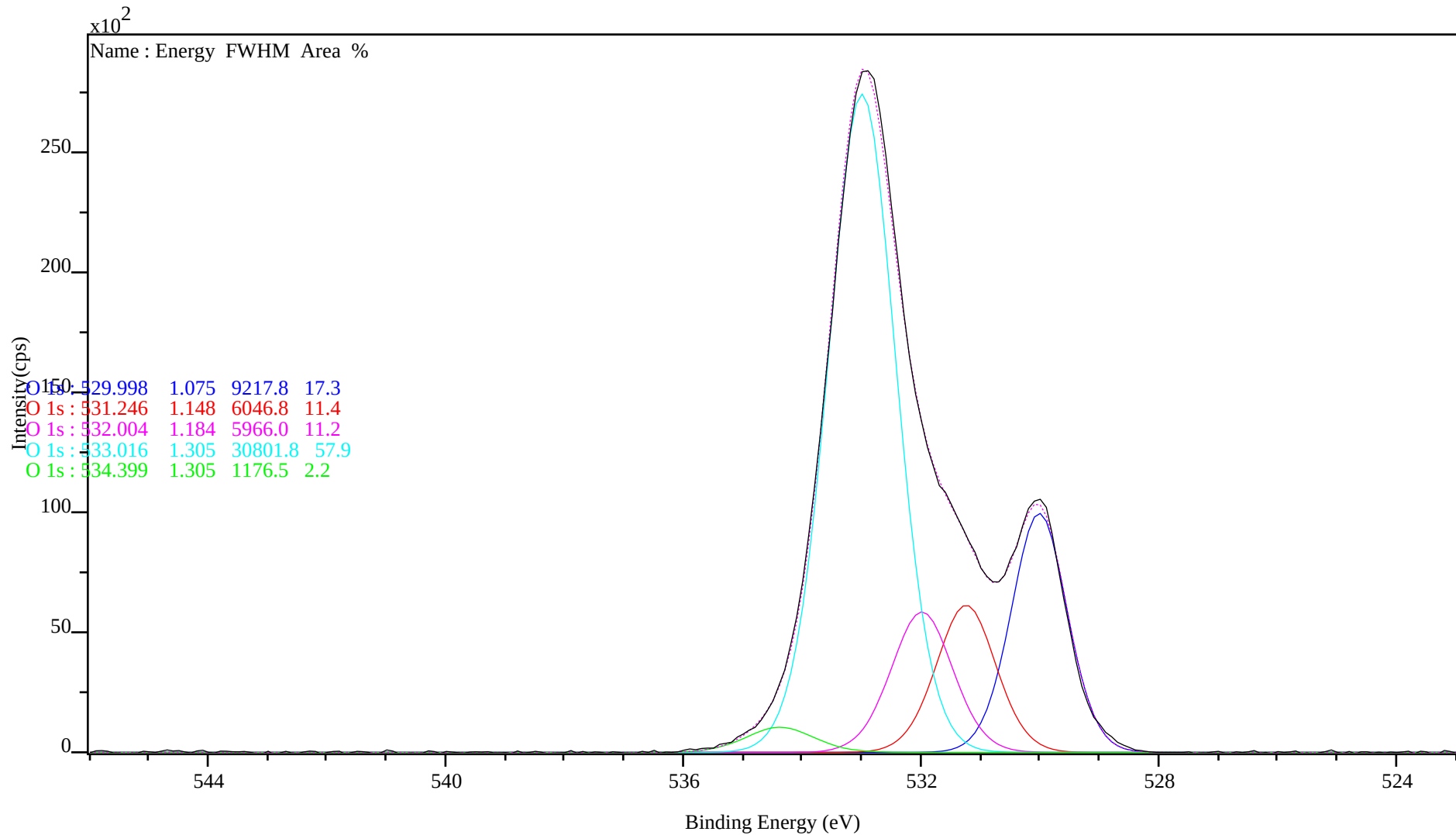
Co 2p re:18(18-12-2019_1)

XPS Spectrum Lens Mode:Hybrid Resolution:Pass energy 20 Iris(Aper):slot(Slot)
Acqn. Time(s): 180 Sweeps: 3 Anode:Mono(Al (Mono))(150 W) Step(meV): 100.0
Dwell Time(ms): 154 Charge Neutraliser :On Acquired On :19/12/18 15:44:41

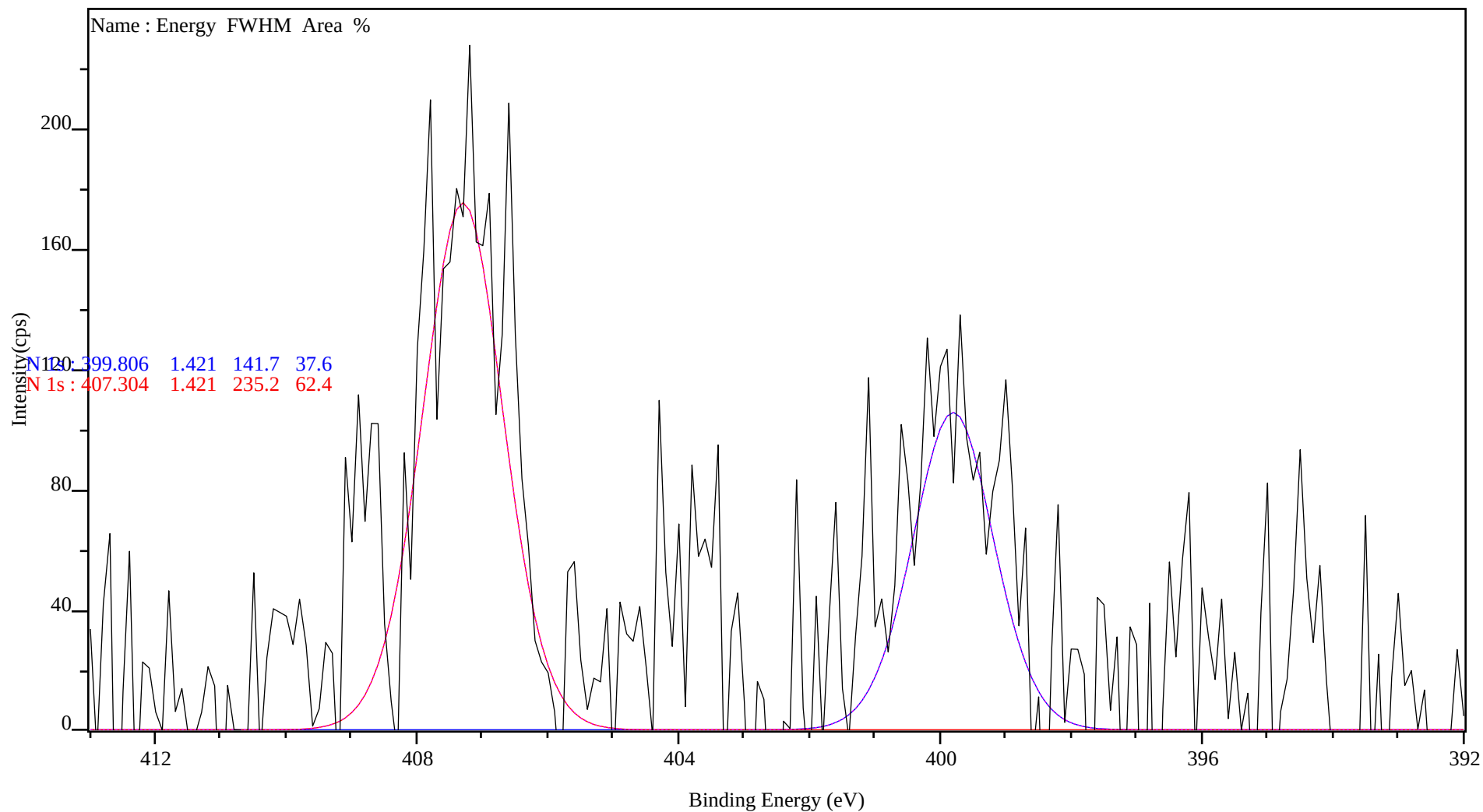


O 1s re:19(18-12-2019_1)

XPS Spectrum Lens Mode:Hybrid Resolution:Pass energy 20 Iris(Aper):slot(Slot)
Acqn. Time(s): 181 Sweeps: 3 Anode:Mono(Al (Mono))(150 W) Step(meV): 100.0
Dwell Time(ms): 261 Charge Neutraliser :On Acquired On :19/12/18 15:44:41

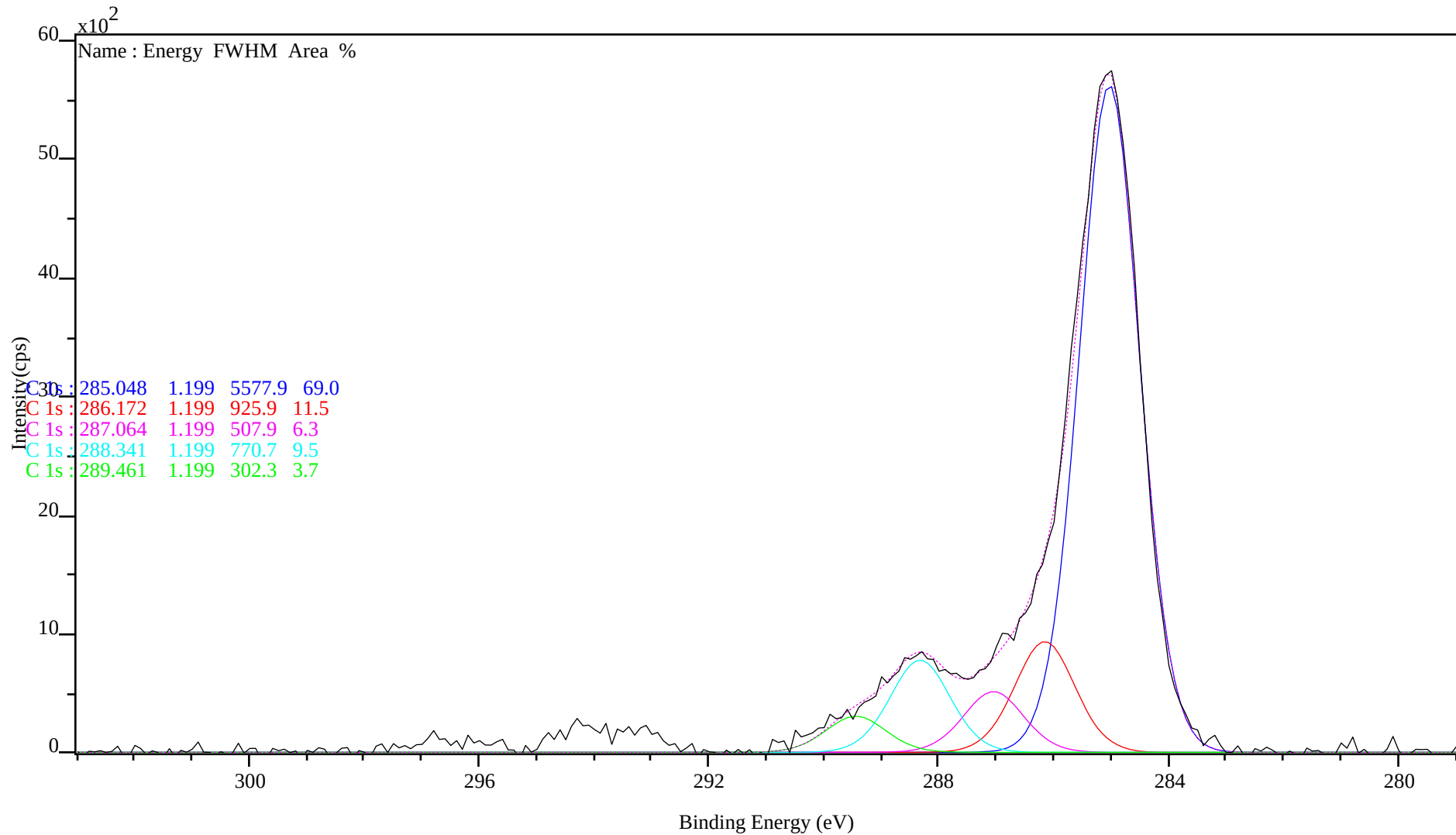


N1s re:2018-12-2019_1
XPS Spectrum Lens Mode:Hybrid Resolution:Pass energy 20 Iris(Aper):slot(Slot)
Acqn. Time(s): 181 Sweeps: 3 Anode:Mono(Al (Mono))(150 W) Step(meV): 100.0
Dwell Time(ms): 286 Charge Neutraliser :On Acquired On :19/12/18 15:44:41



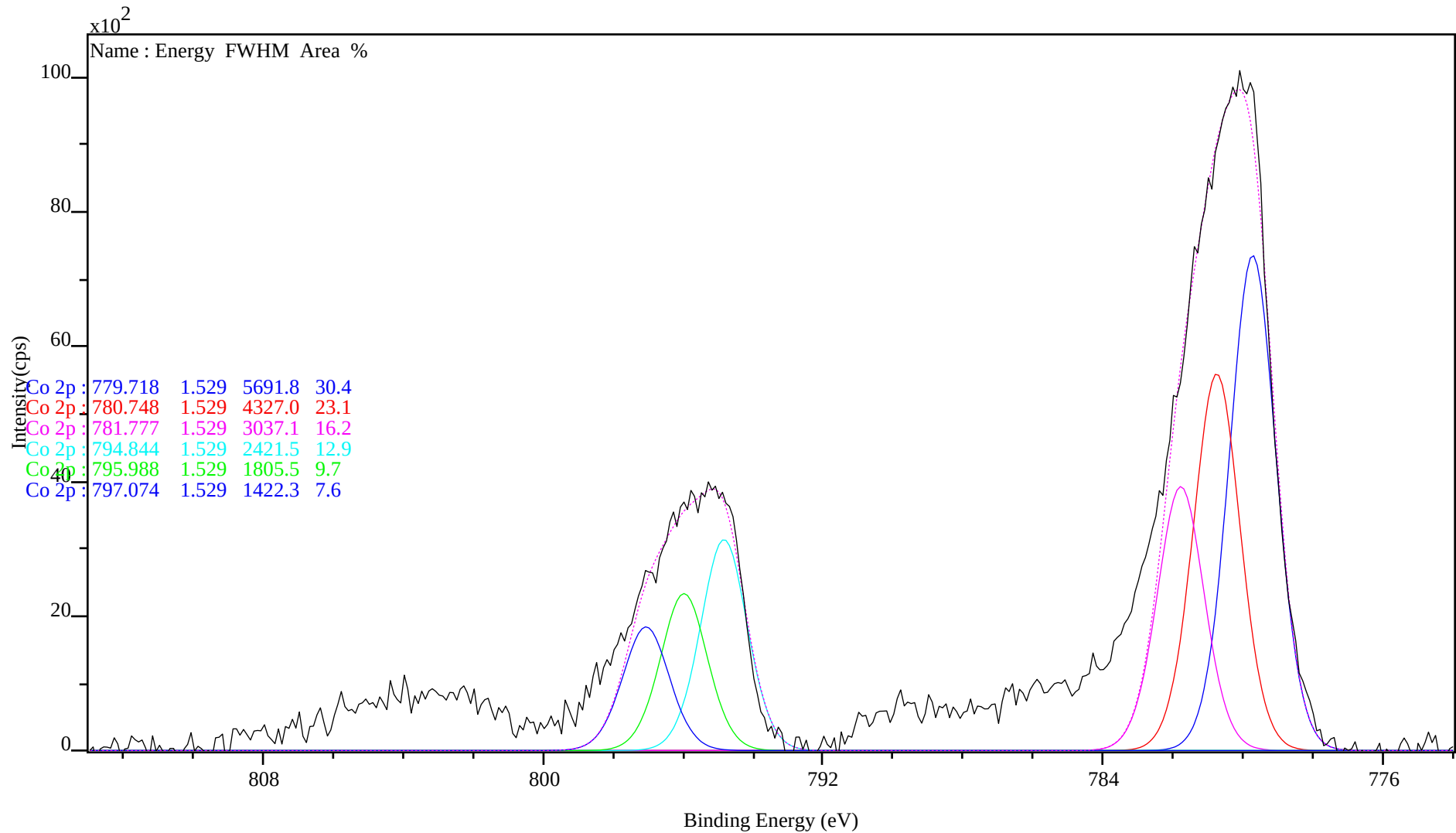
C 1s re:21(18-12-2019_1)

XPS Spectrum Lens Mode:Hybrid Resolution:Pass energy 20 Iris(Aper):slot(Slot)
Acqn. Time(s): 181 Sweeps: 3 Anode:Mono(Al (Mono))(150 W) Step(meV): 100.0
Dwell Time(ms): 250 Charge Neutraliser :On Acquired On :19/12/18 15:44:41



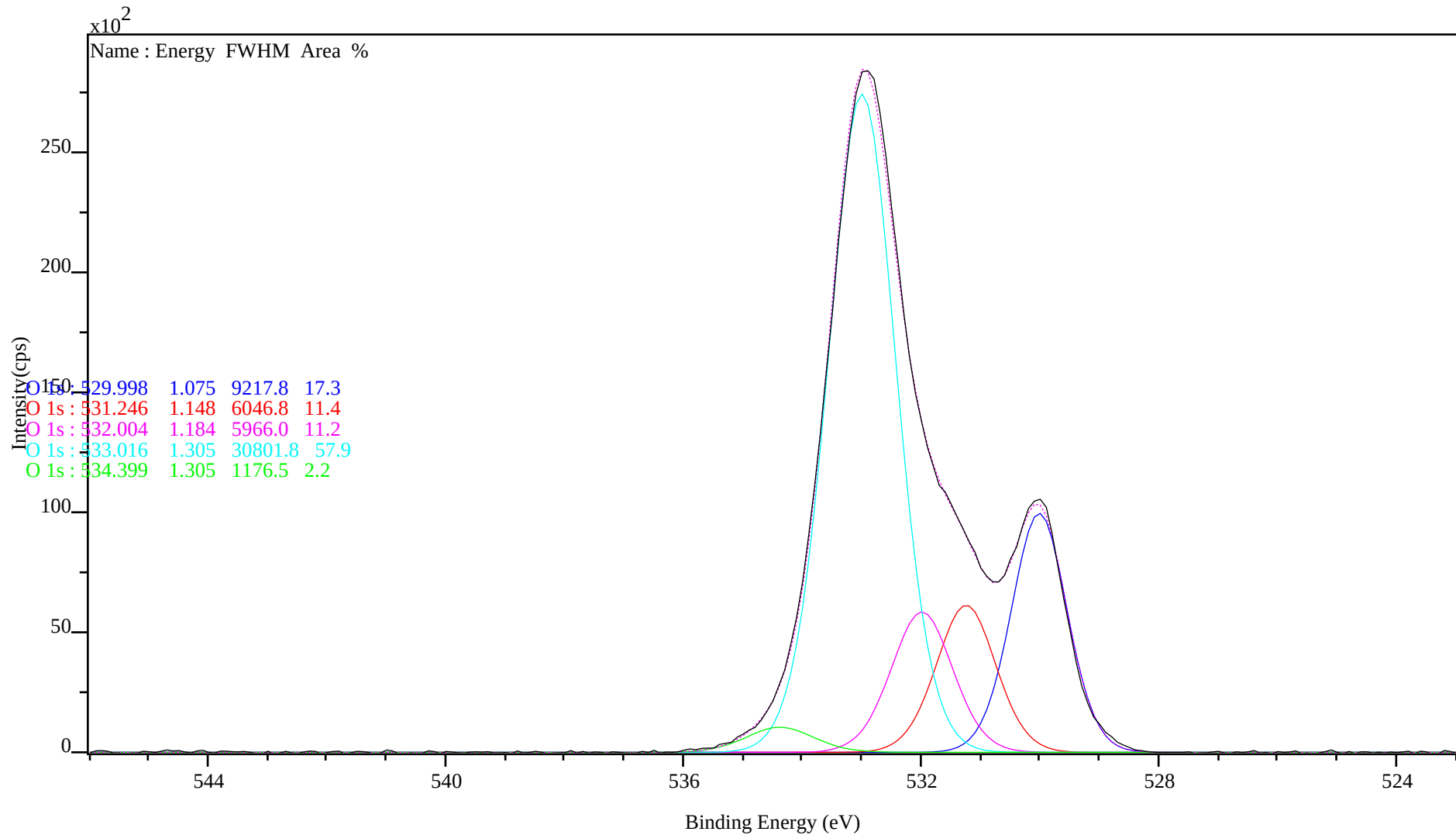
Co 2p re:18(18-12-2019_1)

XPS Spectrum Lens Mode:Hybrid Resolution:Pass energy 20 Iris(Aper):slot(Slot)
Acqn. Time(s): 180 Sweeps: 3 Anode:Mono(Al (Mono))(150 W) Step(meV): 100.0
Dwell Time(ms): 154 Charge Neutraliser :On Acquired On :19/12/18 15:44:41

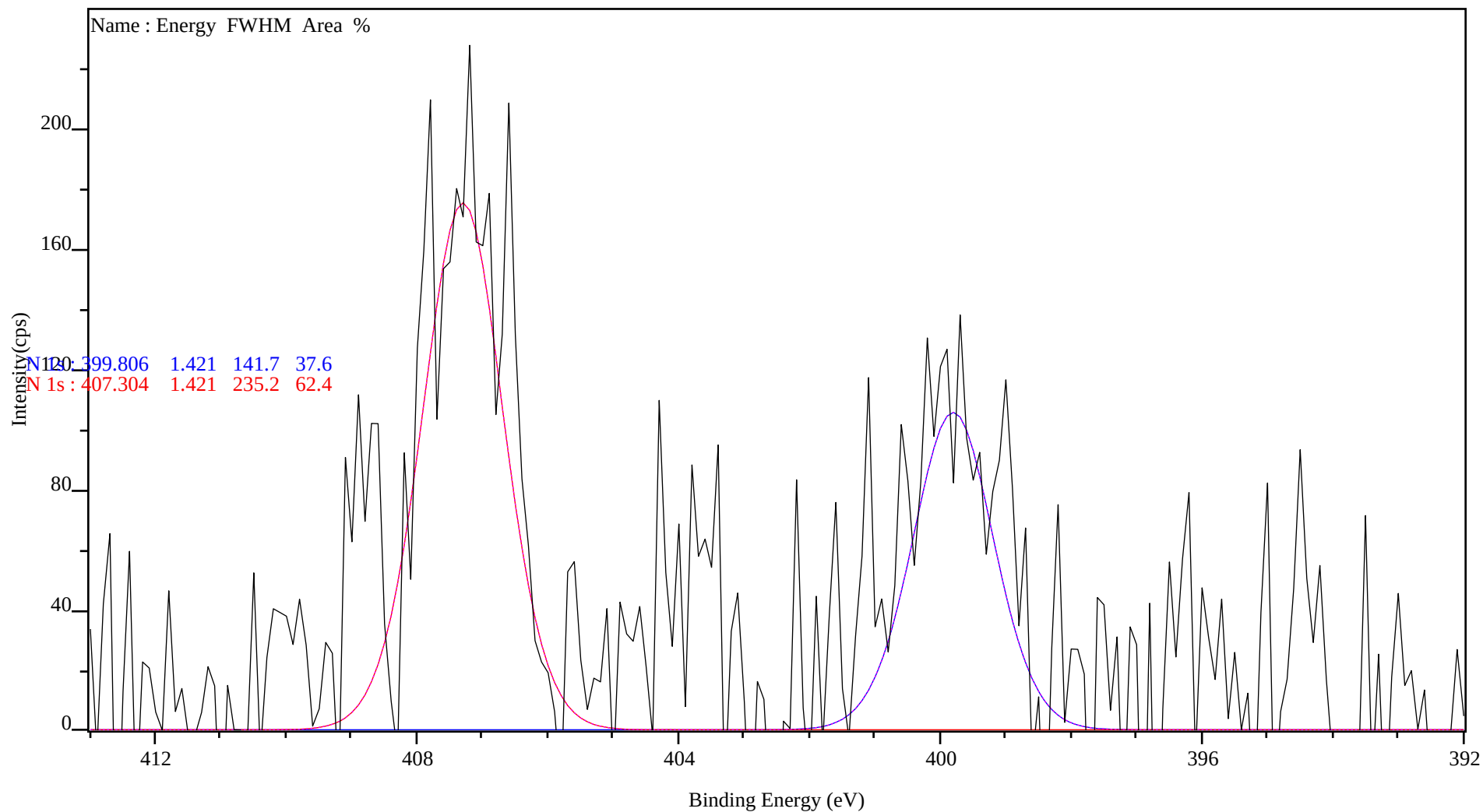


O 1s re:19(18-12-2019_1)

XPS Spectrum Lens Mode:Hybrid Resolution:Pass energy 20 Iris(Aper):slot(Slot)
Acqn. Time(s): 181 Sweeps: 3 Anode:Mono(Al (Mono))(150 W) Step(meV): 100.0
Dwell Time(ms): 261 Charge Neutraliser :On Acquired On :19/12/18 15:44:41

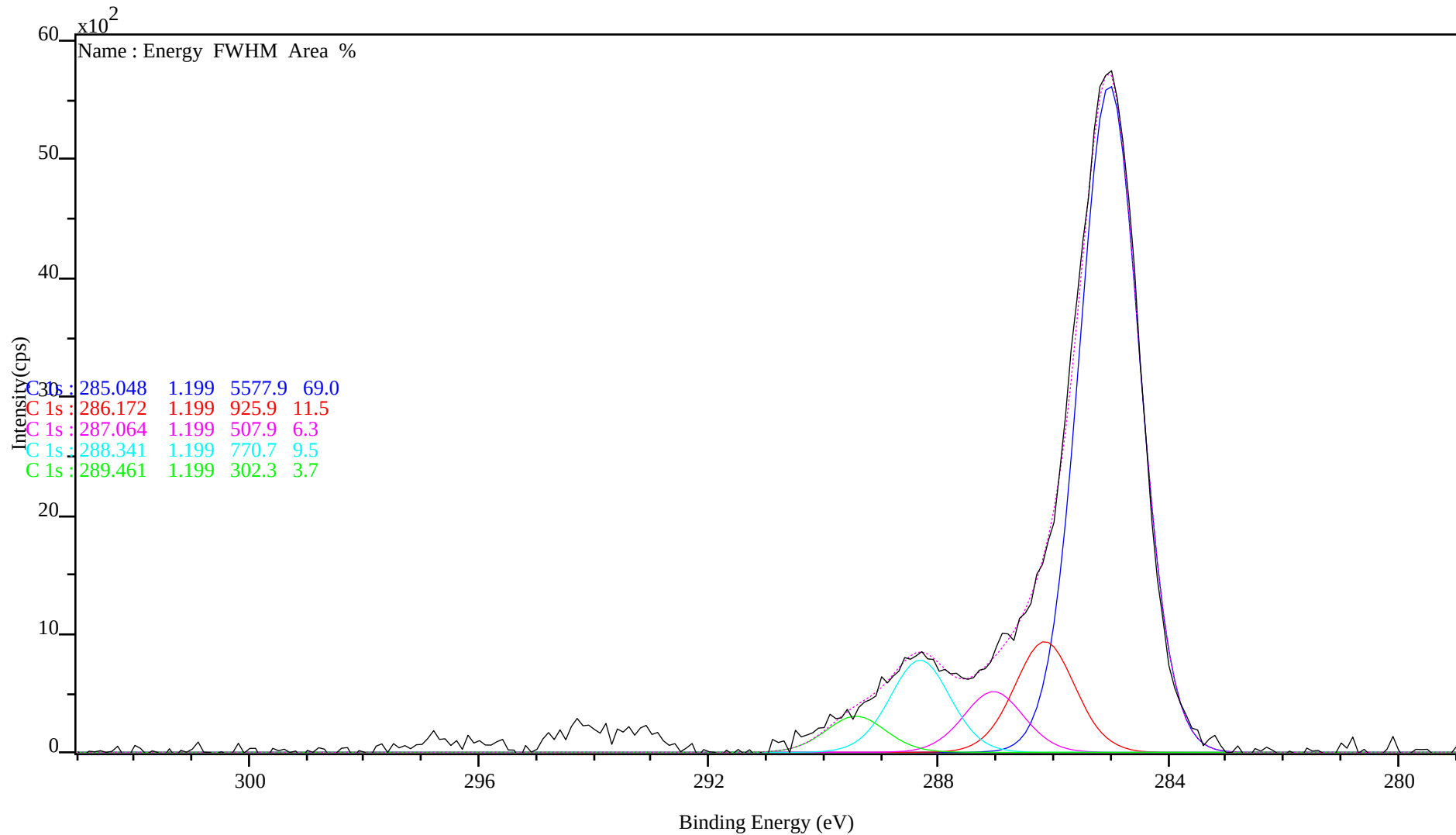


N1s re:2018-12-2019_1
XPS Spectrum Lens Mode:Hybrid Resolution:Pass energy 20 Iris(Aper):slot(Slot)
Acqn. Time(s): 181 Sweeps: 3 Anode:Mono(Al (Mono))(150 W) Step(meV): 100.0
Dwell Time(ms): 286 Charge Neutraliser :On Acquired On :19/12/18 15:44:41



C 1s re:21(18-12-2019_1)

XPS Spectrum Lens Mode:Hybrid Resolution:Pass energy 20 Iris(Aper):slot(Slot)
Acqn. Time(s): 181 Sweeps: 3 Anode:Mono(Al (Mono))(150 W) Step(meV): 100.0
Dwell Time(ms): 250 Charge Neutraliser :On Acquired On :19/12/18 15:44:41



Quantification Report

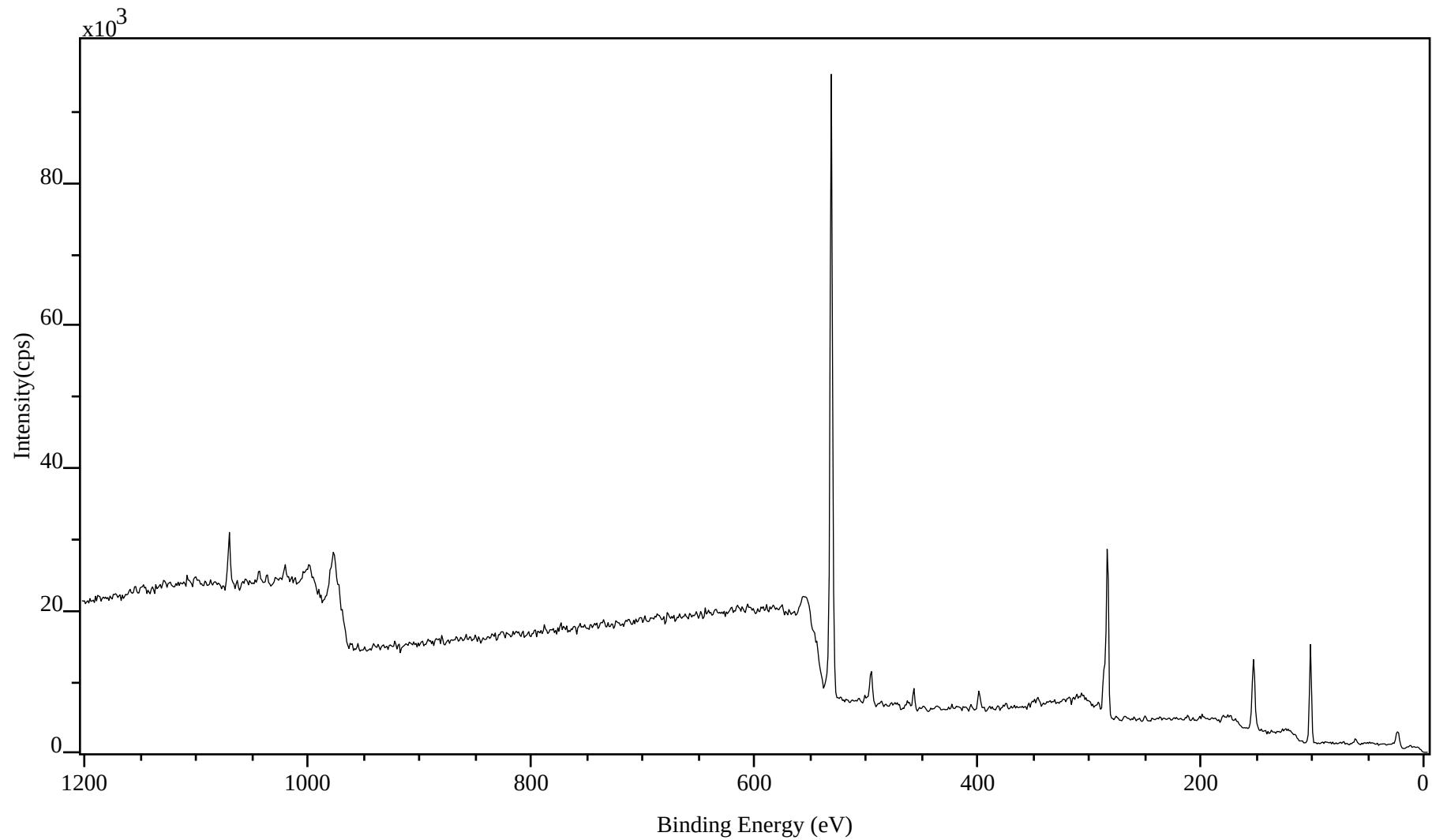
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Fri Jan 24 14:14:50 2020

State : Angle Name : Position 1

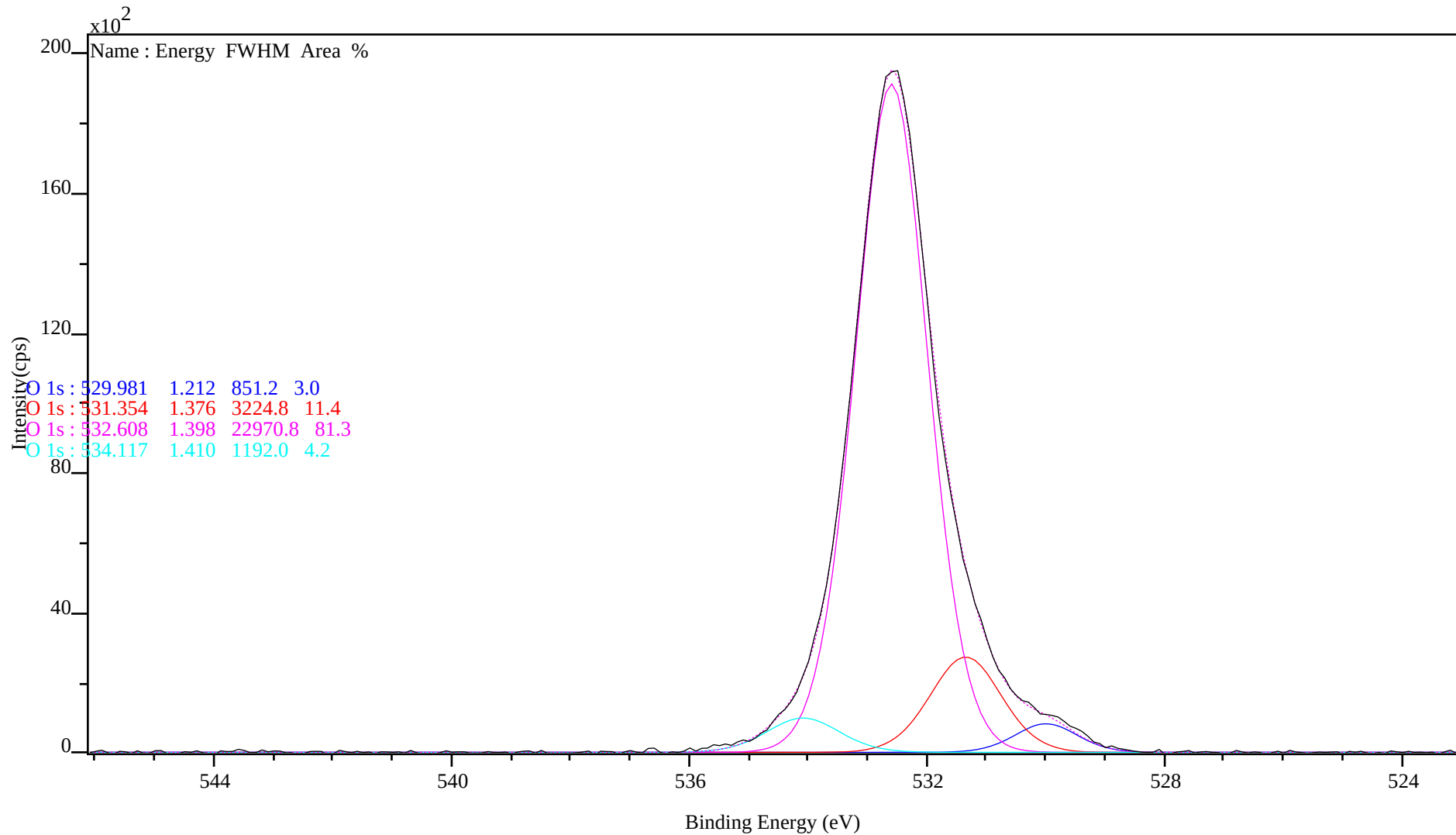
Peak	Type	Position BE (eV)	FWHM (eV)	Raw Area (cps eV)	RSF	Atomic Mass	Atomic Conc %	Mass Conc %
Na 1s	Reg	1071.100	2.414	21165.0	1.685	22.990	1.58	2.21
O 1s	Reg	532.100	2.429	233980.0	0.780	15.999	42.09	40.89
Ti 2p	Reg	458.100	2.234	13185.0	2.001	47.878	0.94	2.74
N 1s	Reg	400.100	2.567	6500.0	0.477	14.007	1.97	1.67
Ca 2p	Reg	347.100	1.866	1280.0	1.833	40.078	0.10	0.25
K 2p	Reg	293.100	2.336	2665.0	1.466	39.102	0.27	0.65
C 1s	Reg	285.100	2.460	73490.0	0.278	12.011	39.83	29.05
Si 2p	Reg	103.100	2.106	29840.0	0.328	28.086	13.21	22.53

wide:2(23-1-2020_2)
XPS Spectrum Lens Mode:Hybrid Resolution:Pass energy 80 Iris(Aper):slot(Slot)
Acqn. Time(s): 121 Sweeps: 1 Anode:Mono(Al (Mono))(150 W) Step(meV): 1000.0
Dwell Time(ms): 100 Charge Neutraliser :On Acquired On :20/01/23 11:58:53



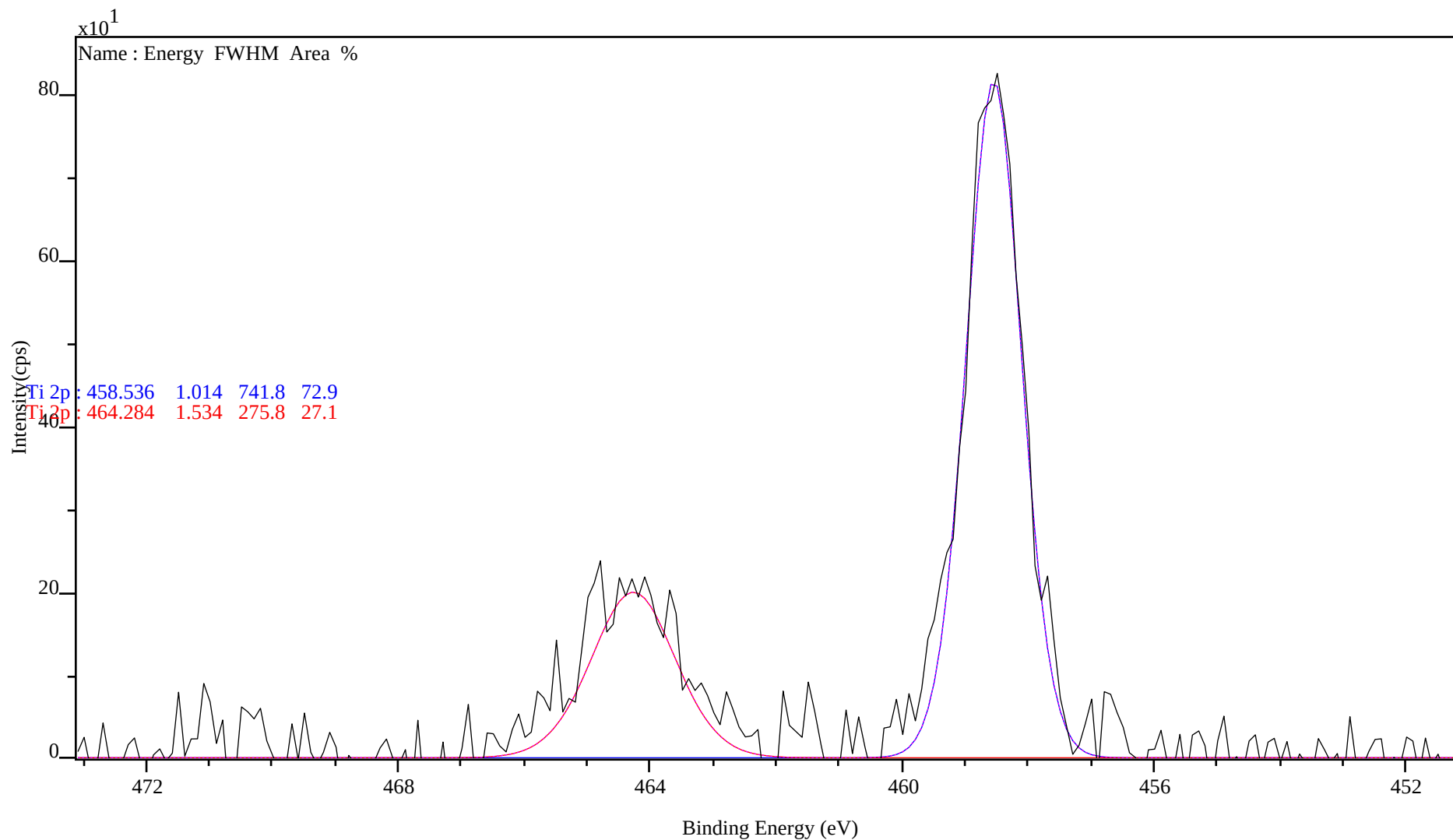
O 1s:4(23-1-2020_2)

XPS Spectrum Lens Mode:Hybrid Resolution:Pass energy 20 Iris(Aper):slot(Slot)
Acqn. Time(s): 181 Sweeps: 3 Anode:Mono(Al (Mono))(150 W) Step(meV): 100.0
Dwell Time(ms): 261 Charge Neutraliser :On Acquired On :20/01/23 12:01:50



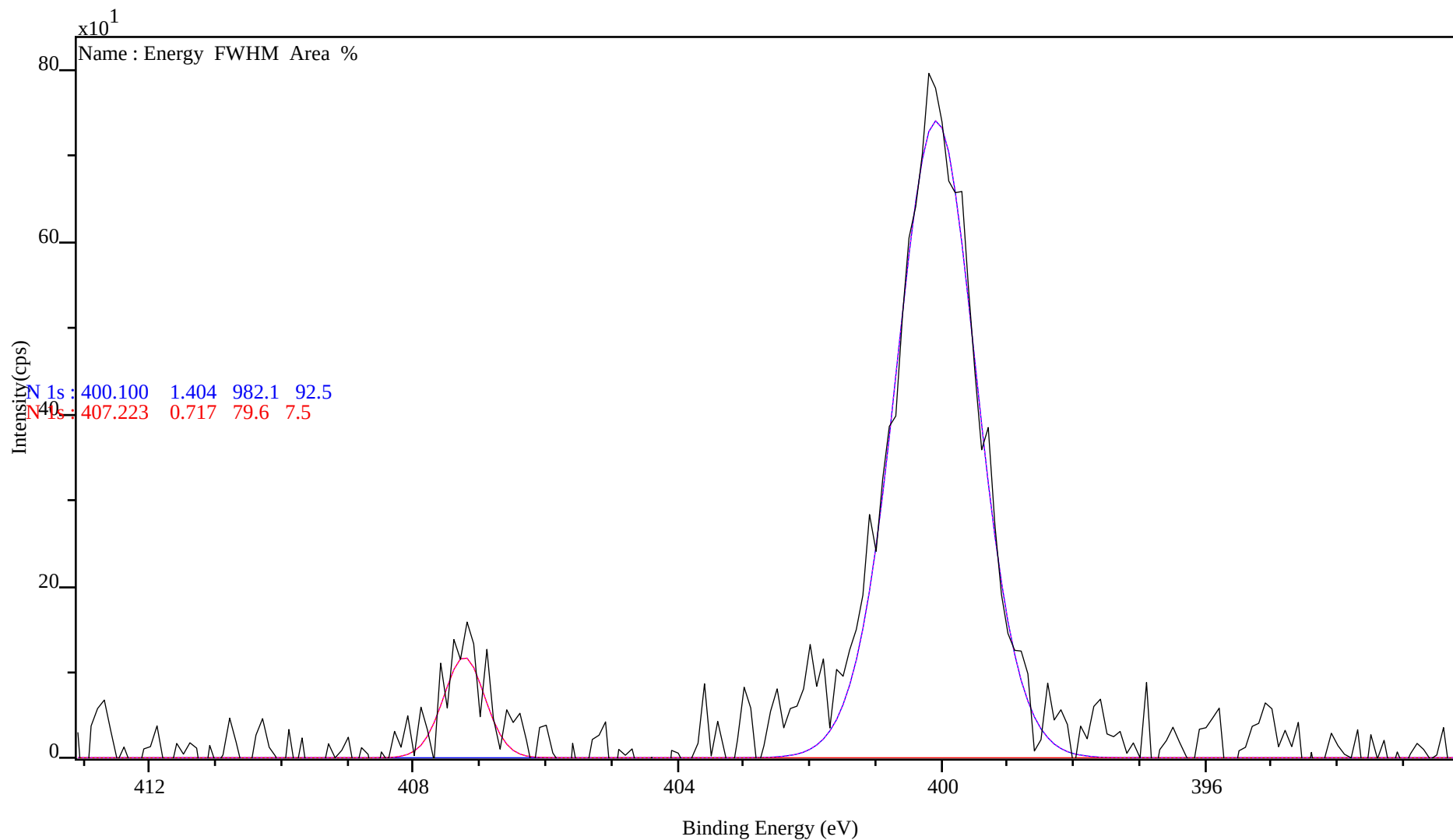
Ti 2p:6(23-1-2020_2)

XPS Spectrum Lens Mode:Hybrid Resolution:Pass energy 20 Iris(Aper):slot(Slot)
Acqn. Time(s): 181 Sweeps: 3 Anode:Mono(Al (Mono))(150 W) Step(meV): 100.0
Dwell Time(ms): 273 Charge Neutraliser :On Acquired On :20/01/23 12:01:50



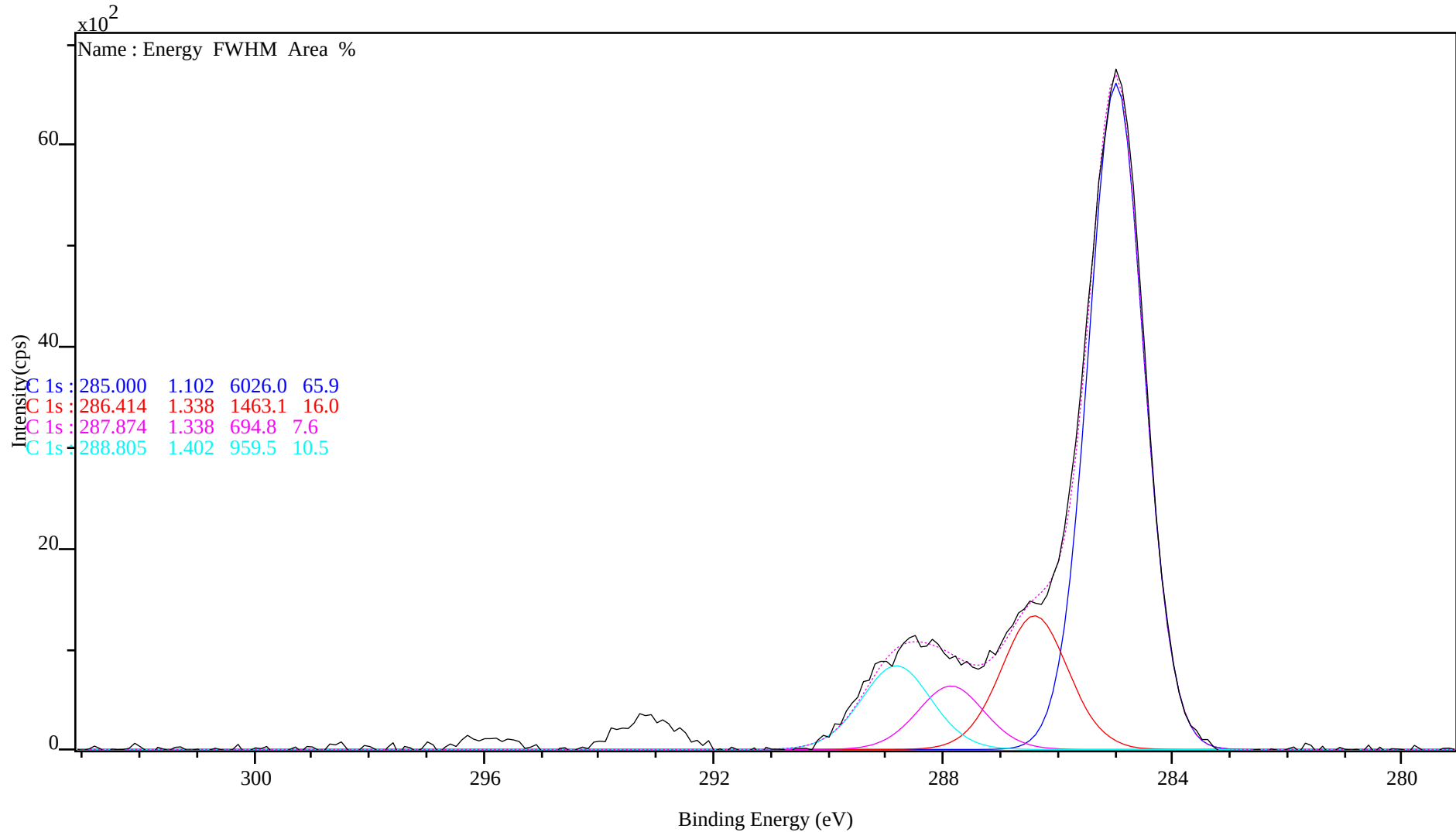
N 1s: 7(23-1-2020_2)

XPS Spectrum Lens Mode:Hybrid Resolution:Pass energy 20 Iris(Aper):slot(Slot)
Acqn. Time(s): 181 Sweeps: 3 Anode:Mono(Al (Mono))(150 W) Step(meV): 100.0
Dwell Time(ms): 286 Charge Neutraliser :On Acquired On :20/01/23 12:01:50



C 1s:8(23-1-2020_2)

XPS Spectrum Lens Mode:Hybrid Resolution:Pass energy 20 Iris(Aper):slot(Slot)
Acqn. Time(s): 181 Sweeps: 3 Anode:Mono(Al (Mono))(150 W) Step(meV): 100.0
Dwell Time(ms): 250 Charge Neutraliser :On Acquired On :20/01/23 12:01:50



Quantification Report

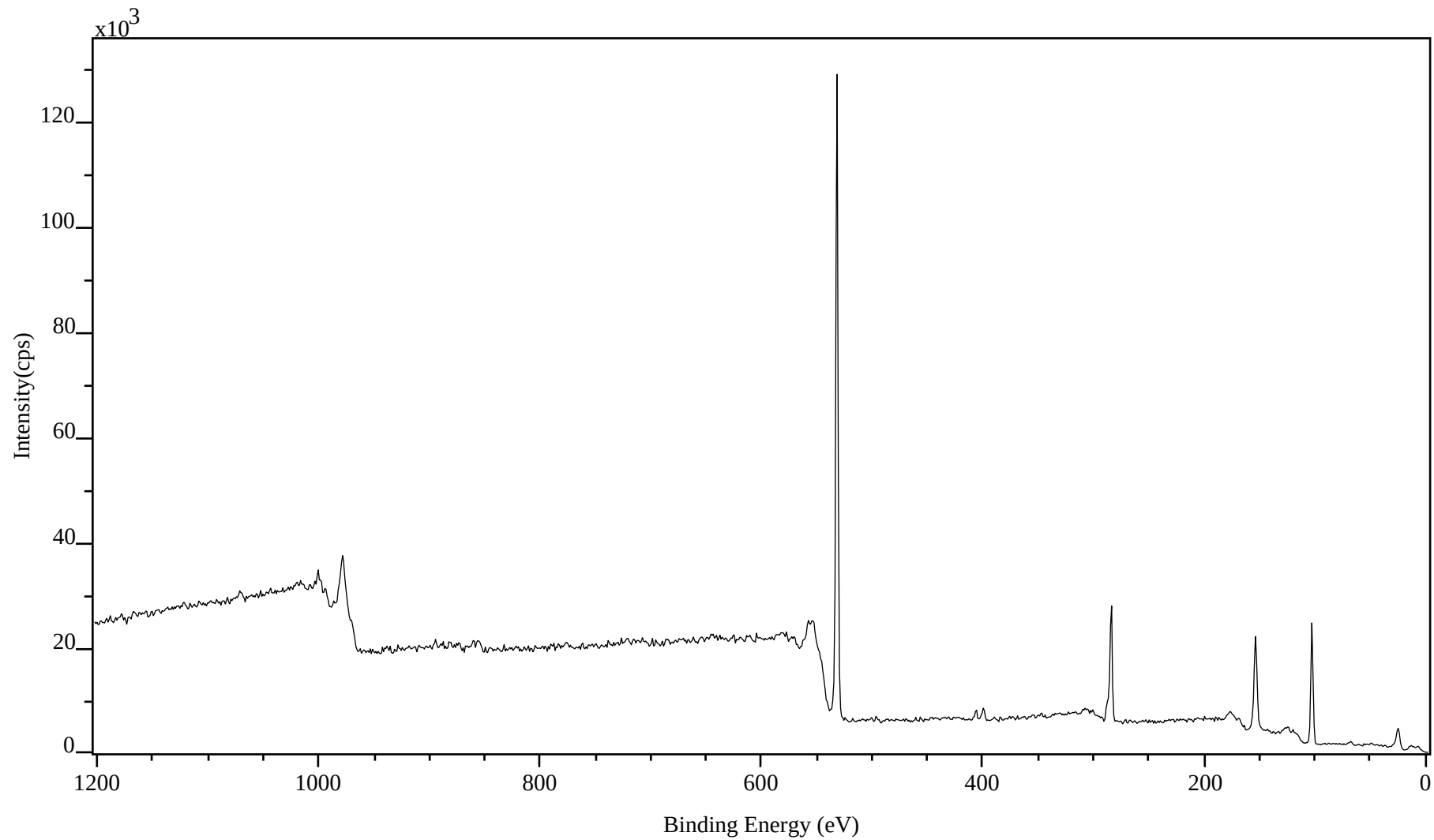
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Fri Jan 24 14:16:42 2020

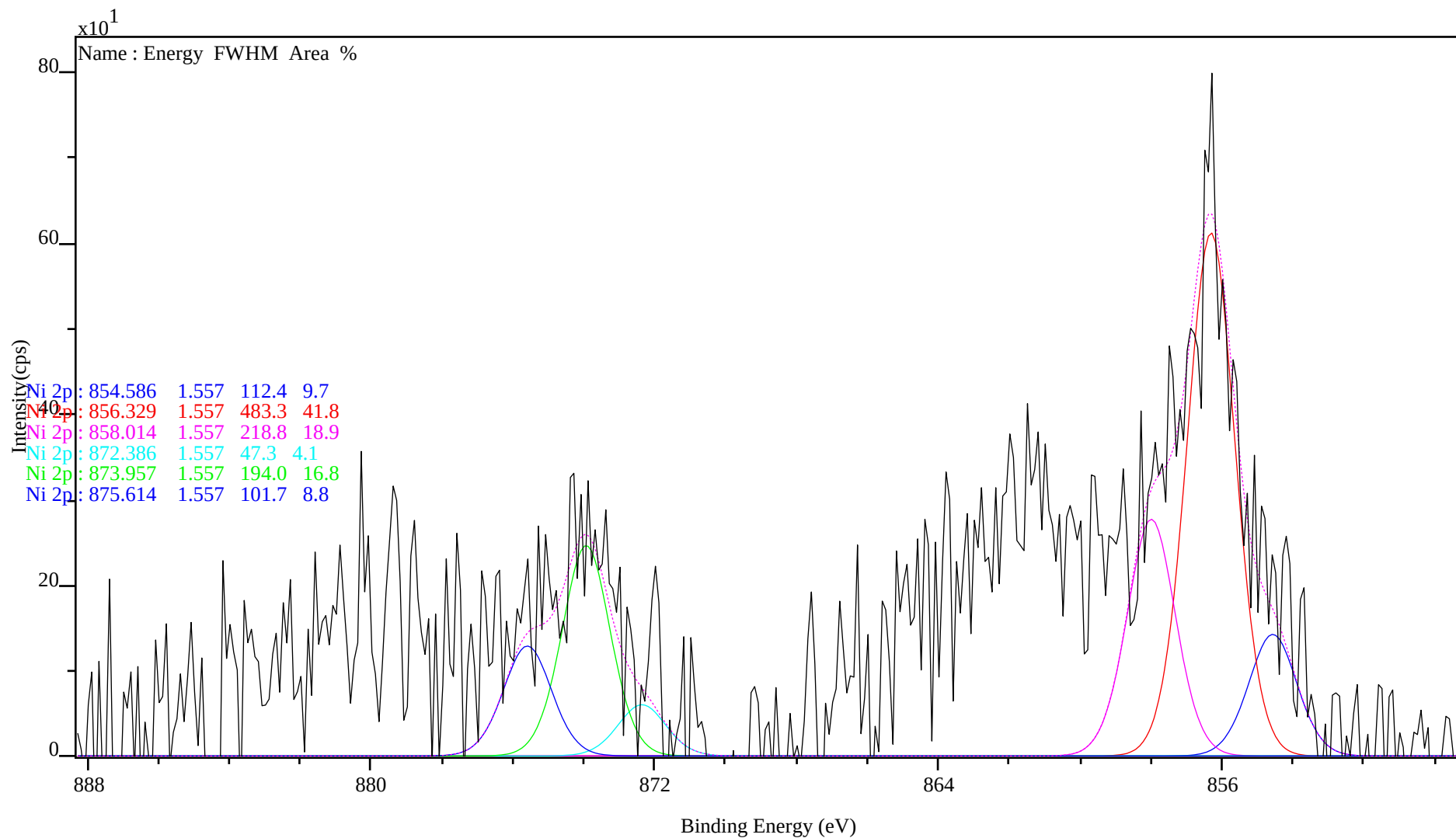
State : Angle Name : Position 3

Peak	Type	Position BE (eV)	FWHM (eV)	Raw Area (cps eV)	RSF	Atomic Mass	Atomic Conc %	Mass Conc %
Na 1s	Reg	1072.300	3.283	4115.0	1.685	22.990	0.26	0.34
O 1s	Reg	532.300	2.280	307050.0	0.780	15.999	46.01	42.59
N 1s	Reg	400.300	2.992	13300.0	0.477	14.007	3.35	2.72
C 1s	Reg	284.300	2.395	65520.0	0.278	12.011	29.58	20.55
Si 2p	Reg	103.300	2.323	56400.0	0.328	28.086	20.81	33.80

wide:20(23-1-2020_2)
XPS Spectrum Lens Mode:Hybrid Resolution:Pass energy 80 Iris(Aper):slot(Slot)
Acqn. Time(s): 121 Sweeps: 1 Anode:Mono(Al (Mono))(150 W) Step(meV): 1000.0
Dwell Time(ms): 100 Charge Neutraliser :On Acquired On :20/01/23 12:49:38

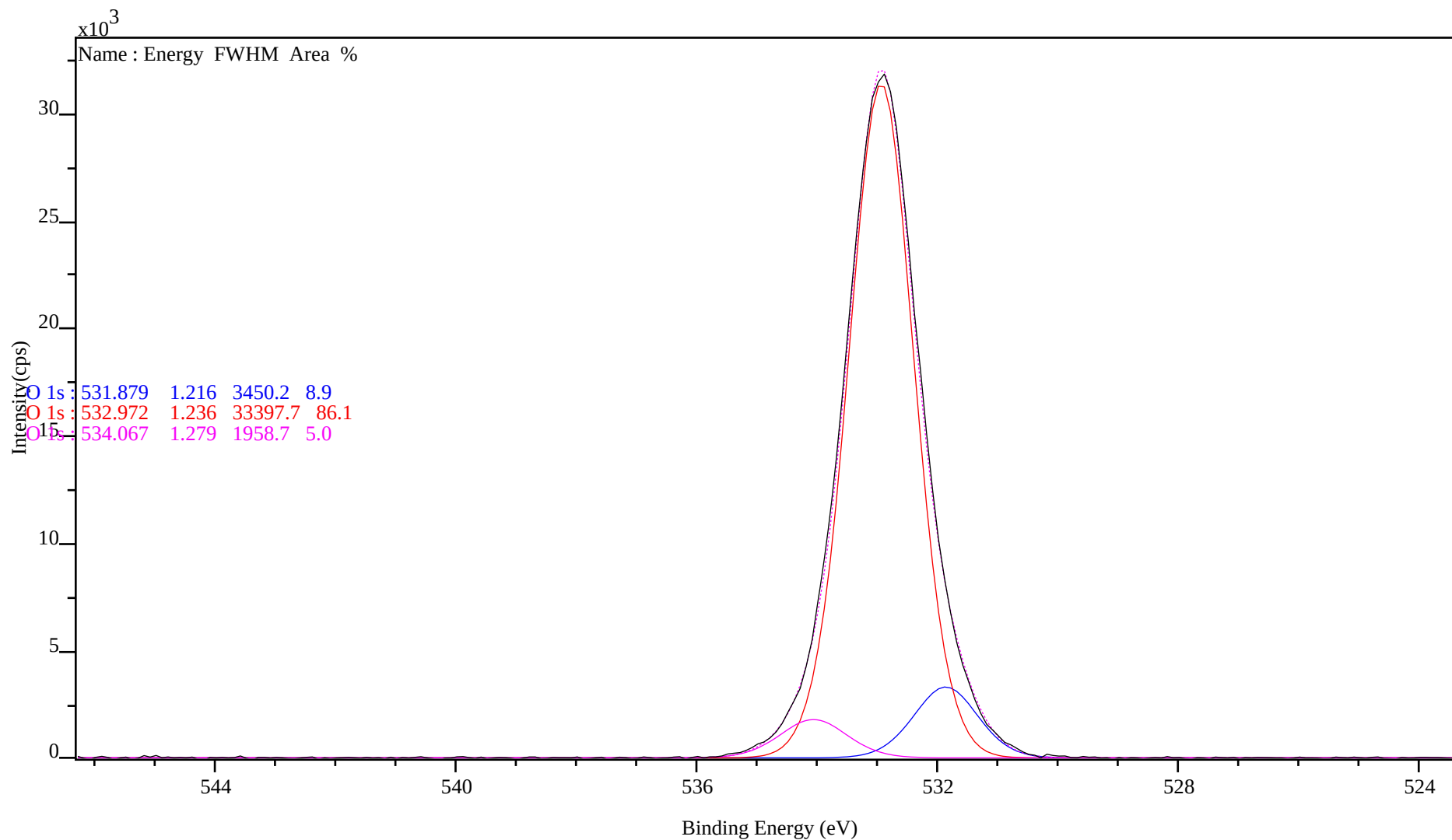


XPS Spectrum Lens Mode:Hybrid Resolution:Pass energy 20 eV Iris(Aper):slot(Slot)
 Ni 2p:21(23.1-2020.2)
 Acqn. Time(s): 180 Sweeps: 3 Anode:Mono(Al (Mono))(150 W) Step(meV): 100.0
 Dwell Time(ms): 154 Charge Neutraliser :On Acquired On :20/01/23 12:52:34



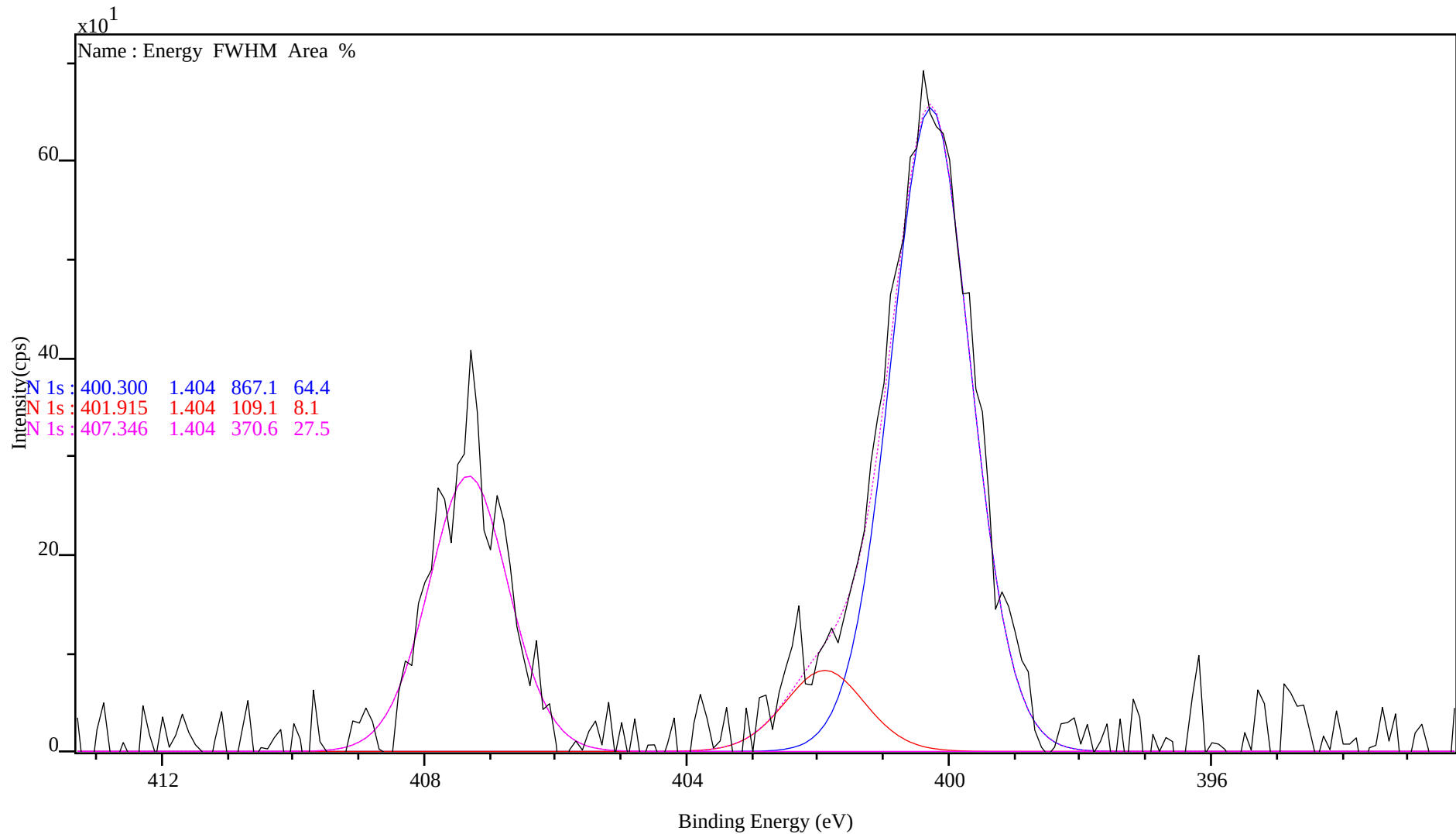
O 1s:22(23-1-2020_2)

XPS Spectrum Lens Mode:Hybrid Resolution:Pass energy 20 Iris(Aper):slot(Slot)
Acqn. Time(s): 181 Sweeps: 3 Anode:Mono(Al (Mono))(150 W) Step(meV): 100.0
Dwell Time(ms): 261 Charge Neutraliser :On Acquired On :20/01/23 12:52:34



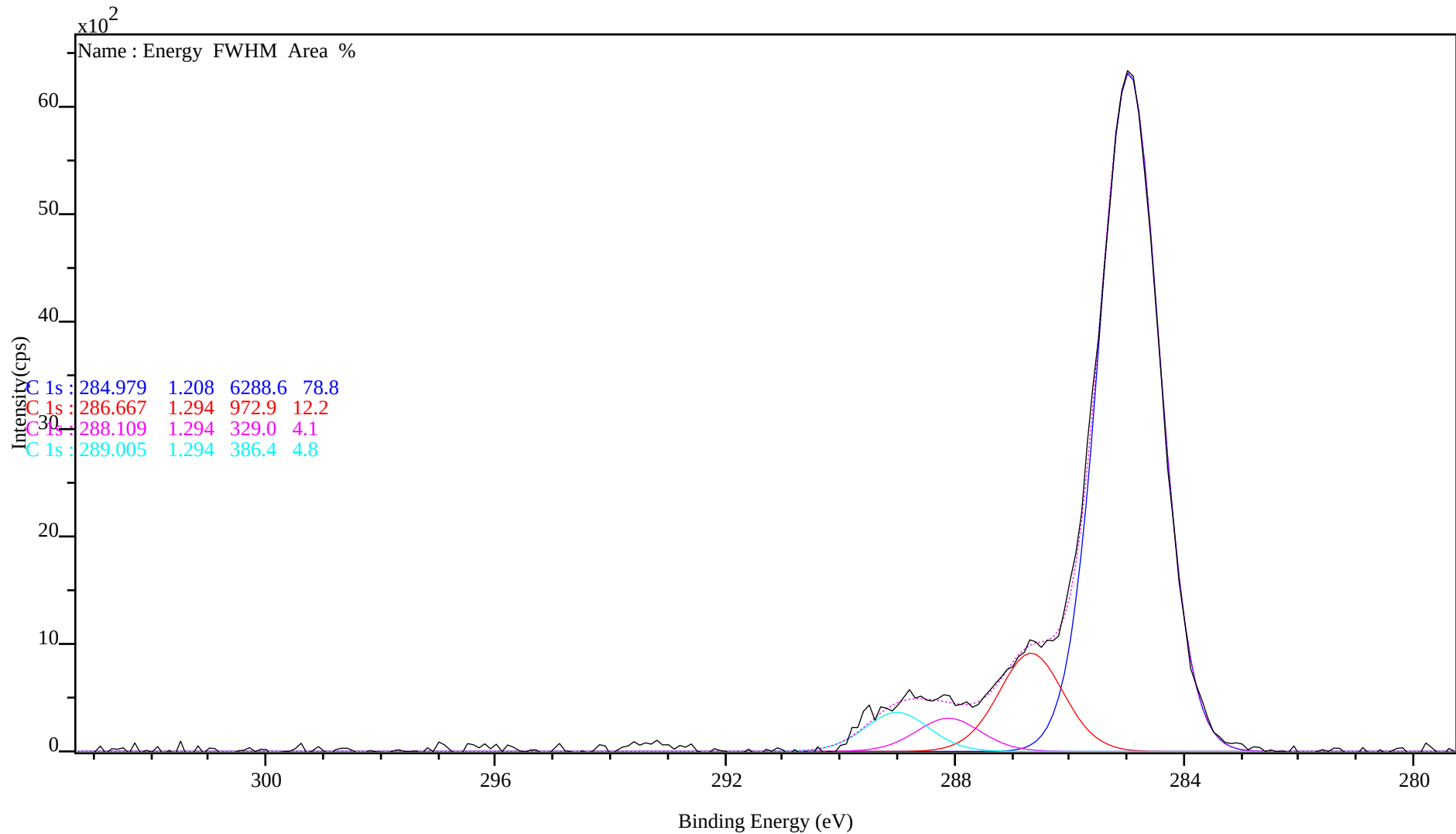
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XPS Spectrum Lens Mode:Hybrid Resolution:Pass energy 20 Iris(Aper):slot(Slot)
Acqn. Time(s): 181 Sweeps: 3 Anode:Mono(Al (Mono))(150 W) Step(meV): 100.0
Dwell Time(ms): 286 Charge Neutraliser :On Acquired On :20/01/23 12:52:34



C 1s:26(23-1-2020_2)

XPS Spectrum Lens Mode:Hybrid Resolution:Pass energy 20 Iris(Aper):slot(Slot)
Acqn. Time(s): 181 Sweeps: 3 Anode:Mono(Al (Mono))(150 W) Step(meV): 100.0
Dwell Time(ms): 250 Charge Neutraliser :On Acquired On :20/01/23 12:52:34



Quantification Report

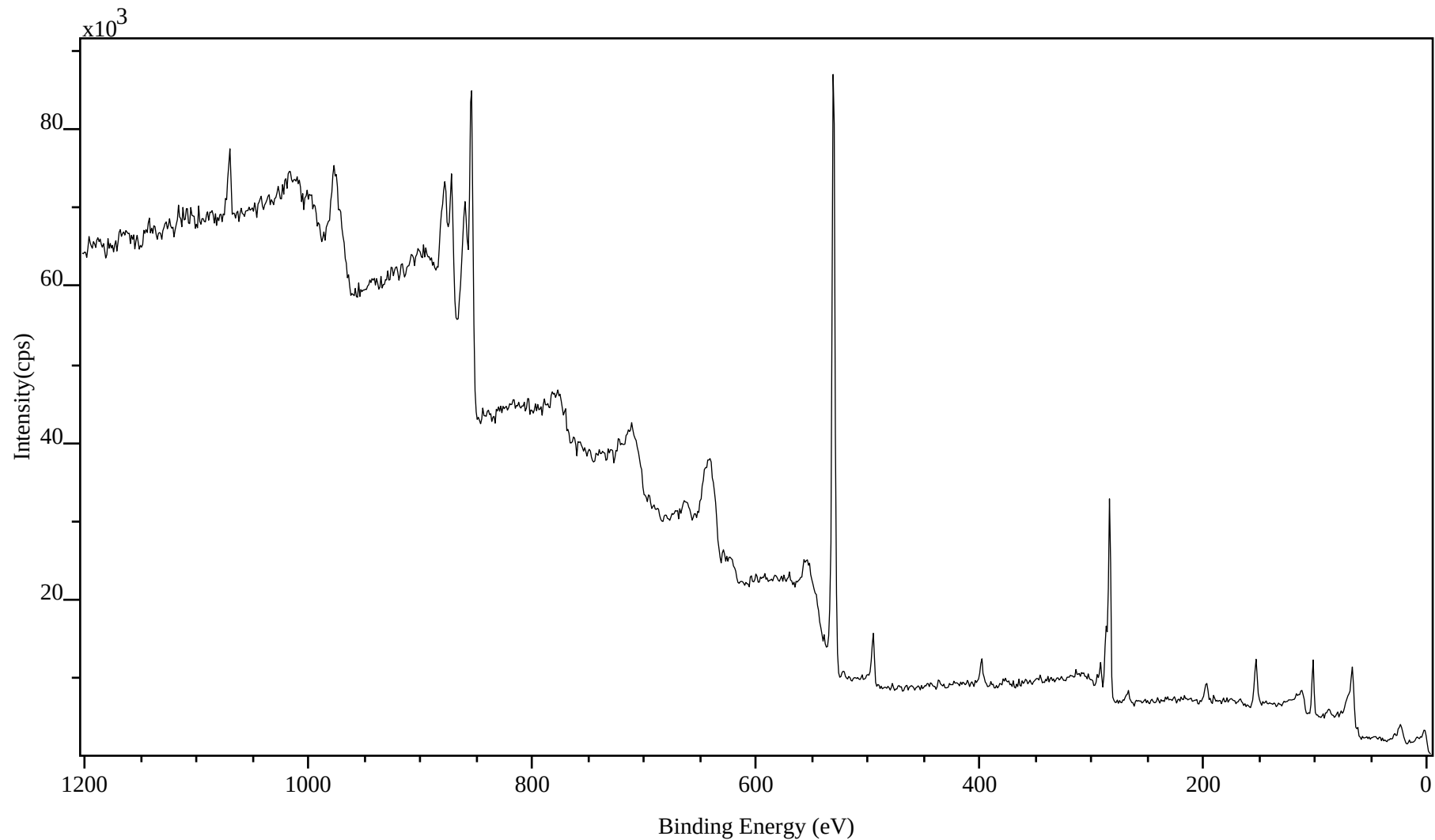
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Fri Dec 6 15:55:52 2019

State : Angle Name : Position 1

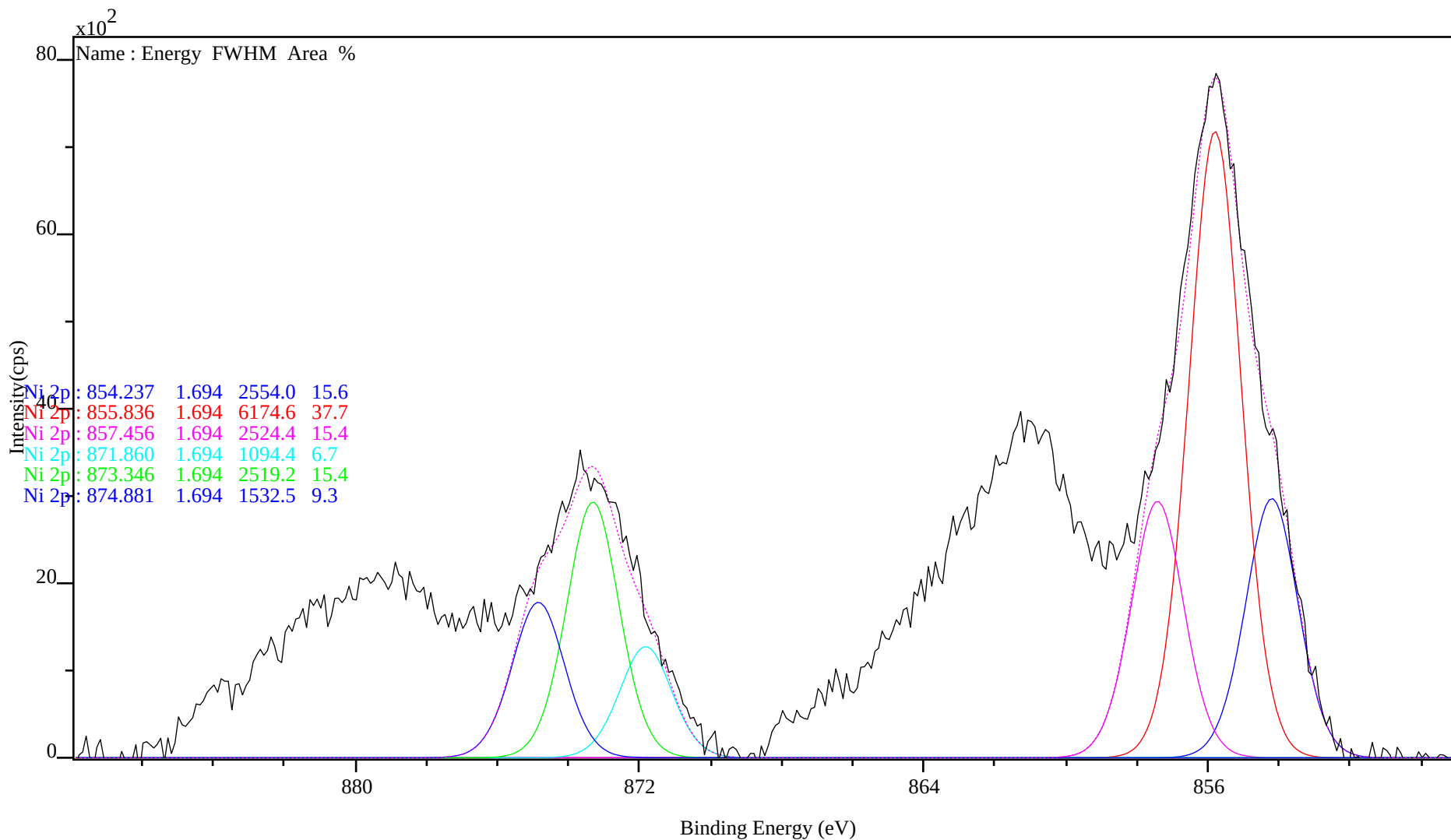
Peak	Type	Position BE (eV)	FWHM (eV)	Raw Area (cps eV)	RSF	Atomic Mass	Atomic Conc %	Mass Conc %
Na 1s	Reg	1070.900	3.133	27490.0	1.685	22.990	1.72	1.87
Ni 2p	Reg	854.900	4.021	466380.0	4.044	58.702	12.77	35.46
O 1s	Reg	531.900	2.991	251420.0	0.780	15.999	37.86	28.64
N 1s	Reg	398.900	2.687	11530.0	0.477	14.007	2.92	1.93
Ca 2p	Reg	346.900	1.629	2760.0	1.833	40.078	0.19	0.35
K 2p	Reg	292.900	2.201	9385.0	1.466	39.102	0.81	1.50
C 1s	Reg	284.900	2.476	81705.0	0.278	12.011	37.07	21.05
Cl 2p	Reg	197.900	3.385	7120.0	0.891	35.460	0.98	1.65
Si 2p	Reg	102.900	2.137	15340.0	0.328	28.086	5.68	7.55

wide:2(3-12-2019_1)
XPS Spectrum Lens Mode:Hybrid Resolution:Pass energy 80 Iris(Aper):slot(Slot)
Acqn. Time(s): 121 Sweeps: 1 Anode:Mono(Al (Mono))(150 W) Step(meV): 1000.0
Dwell Time(ms): 100 Charge Neutraliser :On Acquired On :19/12/03 10:16:53



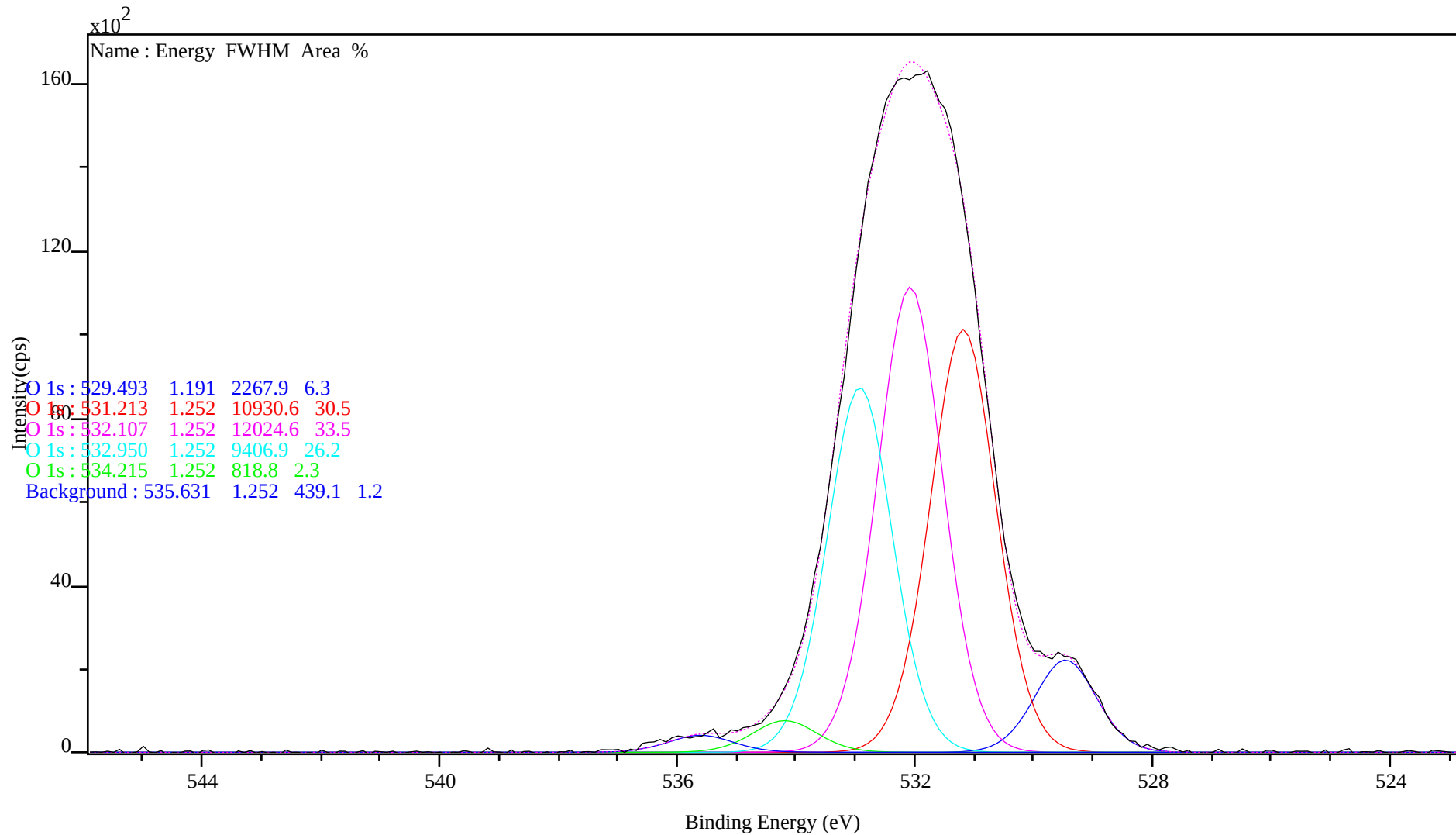
Ni 2p:3(3-12-2019_1)

XPS Spectrum Lens Mode:Hybrid Resolution:Pass energy 20 Iris(Aper):slot(Slot)
Acqn. Time(s): 180 Sweeps: 3 Anode:Mono(Al (Mono))(150 W) Step(meV): 100.0
Dwell Time(ms): 154 Charge Neutraliser :On Acquired On :19/12/03 10:19:49



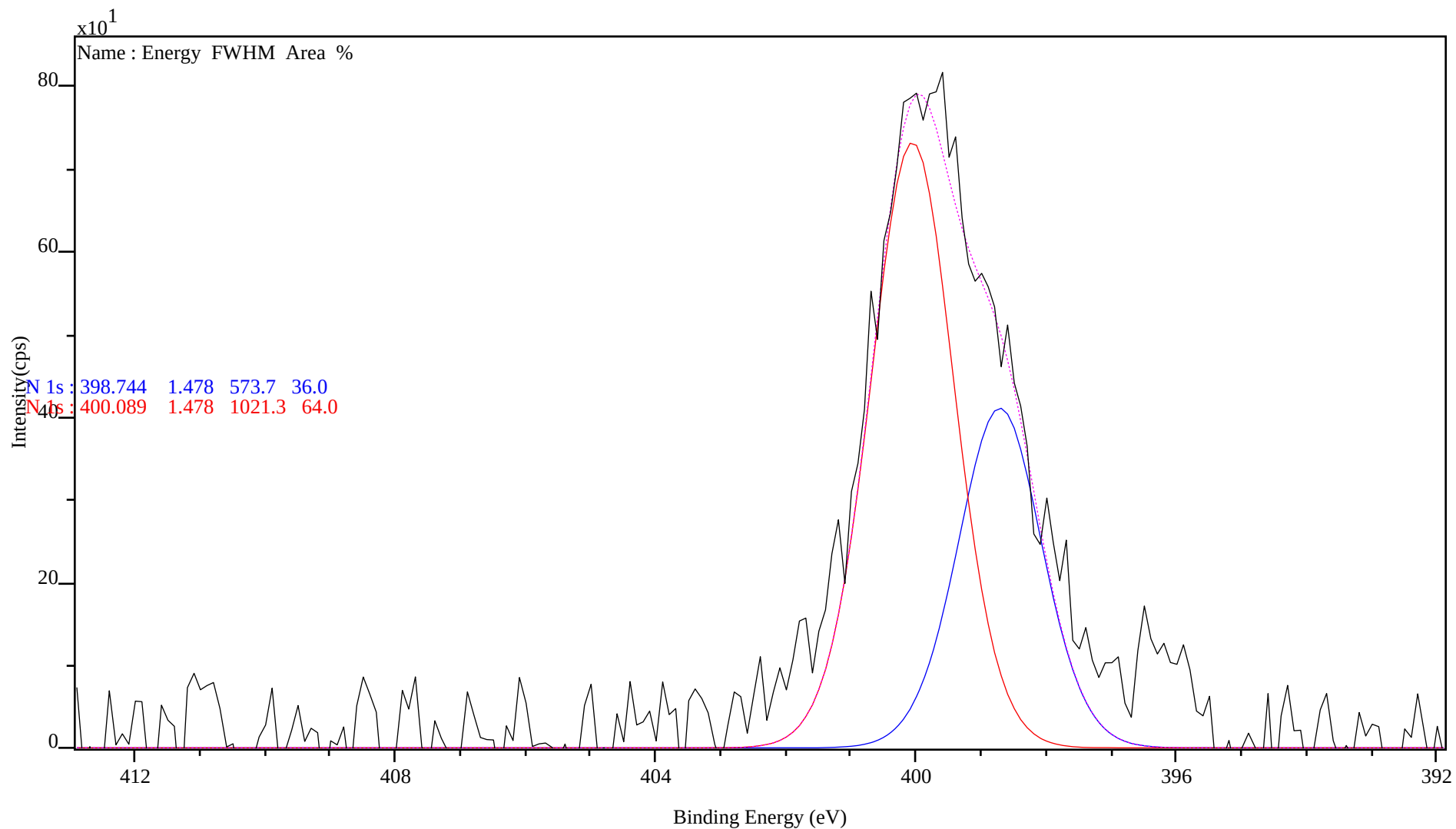
O 1s:4(3-12-2019_1)

XPS Spectrum Lens Mode:Hybrid Resolution:Pass energy 20 Iris(Aper):slot(Slot)
Acqn. Time(s): 181 Sweeps: 3 Anode:Mono(Al (Mono))(150 W) Step(meV): 100.0
Dwell Time(ms): 261 Charge Neutraliser :On Acquired On :19/12/03 10:19:49



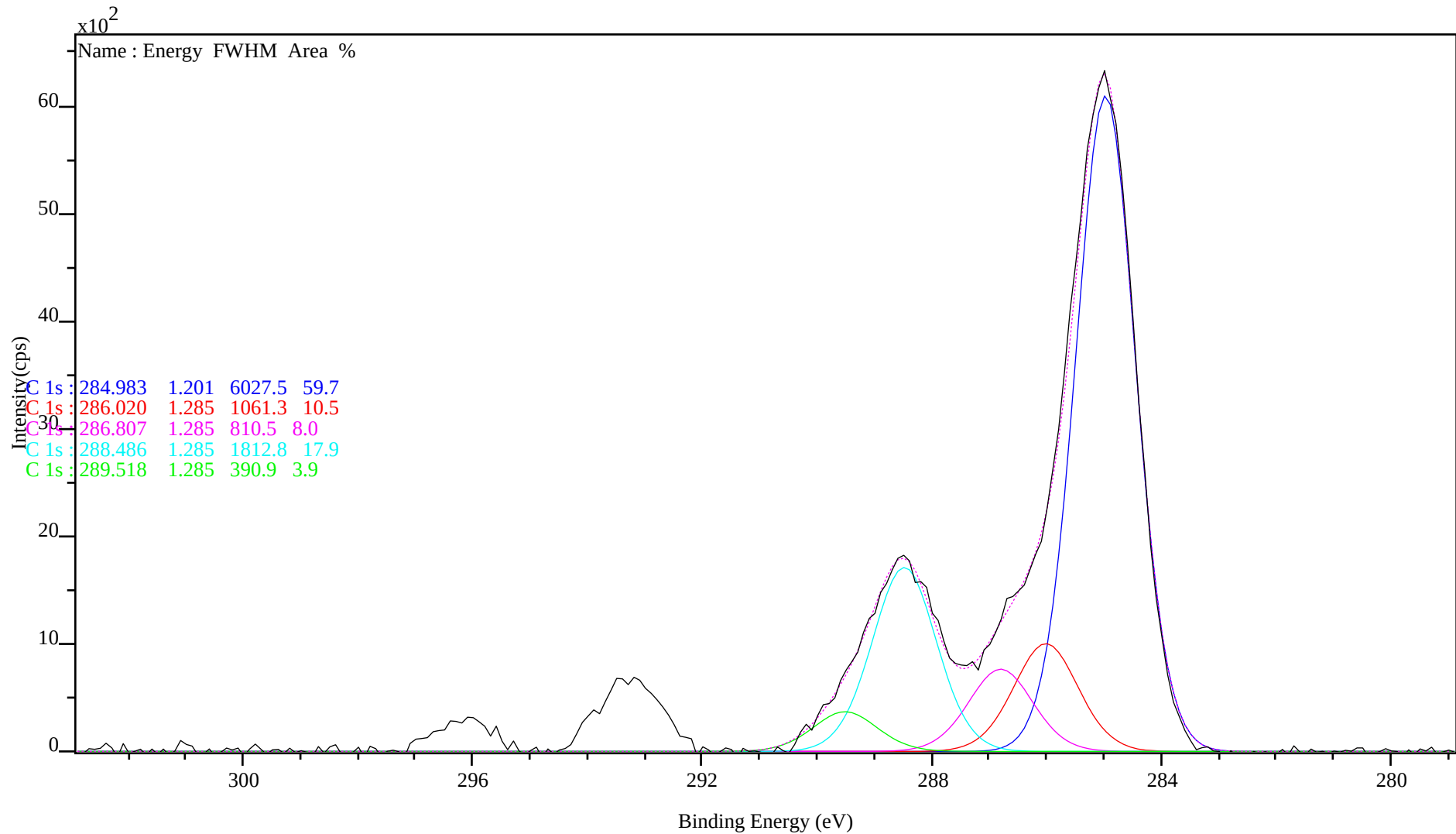
N 1s: 5 (3-12-2019-1)

XPS Spectrum Lens Mode:Hybrid Resolution:Pass energy 20 Iris(Aper):slot(Slot)
Acqn. Time(s): 181 Sweeps: 3 Anode:Mono(Al (Mono))(150 W) Step(meV): 100.0
Dwell Time(ms): 286 Charge Neutraliser :On Acquired On :19/12/03 10:19:49



C 1s:6(3-12-2019_1)

XPS Spectrum Lens Mode:Hybrid Resolution:Pass energy 20 Iris(Aper):slot(Slot)
Acqn. Time(s): 181 Sweeps: 3 Anode:Mono(Al (Mono))(150 W) Step(meV): 100.0
Dwell Time(ms): 250 Charge Neutraliser :On Acquired On :19/12/03 10:19:49



Quantification Report

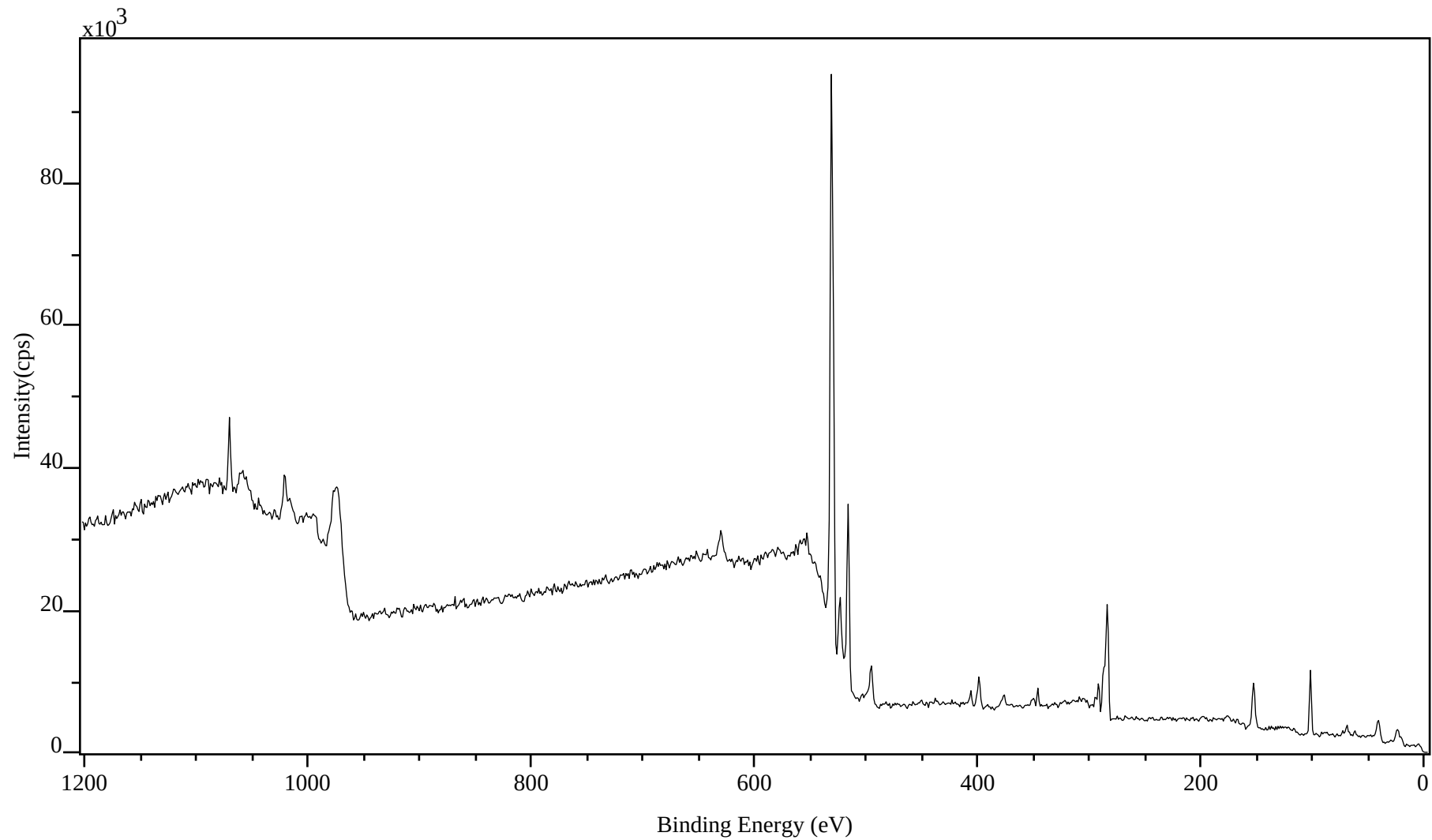
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Fri Jan 24 14:15:42 2020

State : Angle Name : Position 2

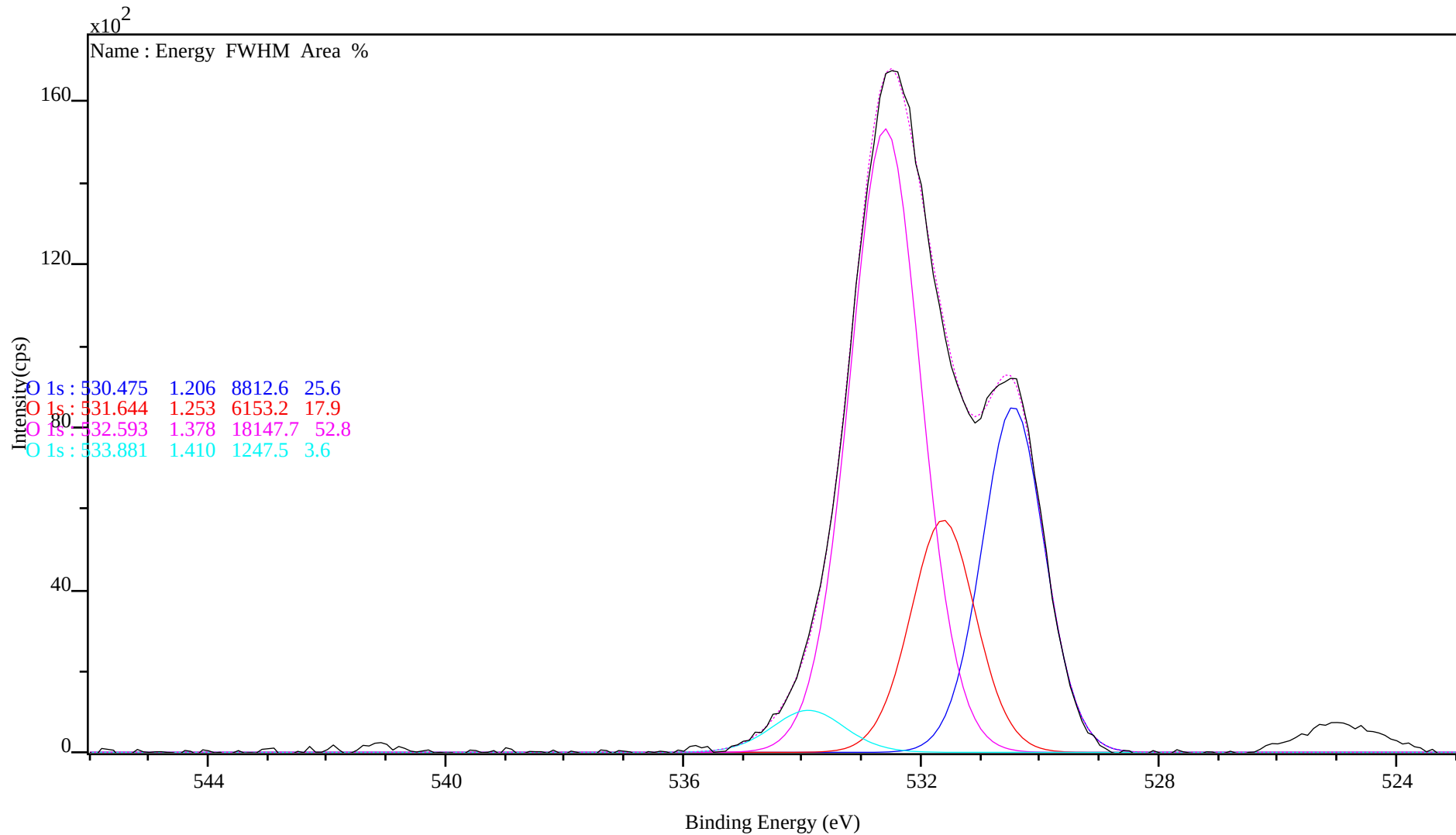
Peak	Type	Position BE (eV)	FWHM (eV)	Raw Area (cps eV)	RSF	Atomic Mass	Atomic Conc %	Mass Conc %
Na 1s	Reg	1071.000	2.239	24975.0	1.685	22.990	1.77	2.23
O 1s	Reg	532.000	3.406	266950.0	0.780	15.999	45.47	39.85
V 2p	Reg	517.000	2.449	94800.0	2.116	50.942	5.99	16.71
N 1s	Reg	400.000	2.875	17740.0	0.477	14.007	5.08	3.90
Ca 2p	Reg	347.000	1.668	8115.0	1.833	40.078	0.62	1.36
K 2p	Reg	293.000	2.171	11490.0	1.466	39.102	1.12	2.40
C 1s	Reg	285.000	3.205	61770.0	0.278	12.011	31.70	20.86
Si 2p	Reg	103.000	2.129	19710.0	0.328	28.086	8.26	12.71

wide:11(23-1-2020_2)
XPS Spectrum Lens Mode:Hybrid Resolution:Pass energy 80 Iris(Aper):slot(Slot)
Acqn. Time(s): 121 Sweeps: 1 Anode:Mono(Al (Mono))(150 W) Step(meV): 1000.0
Dwell Time(ms): 100 Charge Neutraliser :On Acquired On :20/01/23 12:24:14



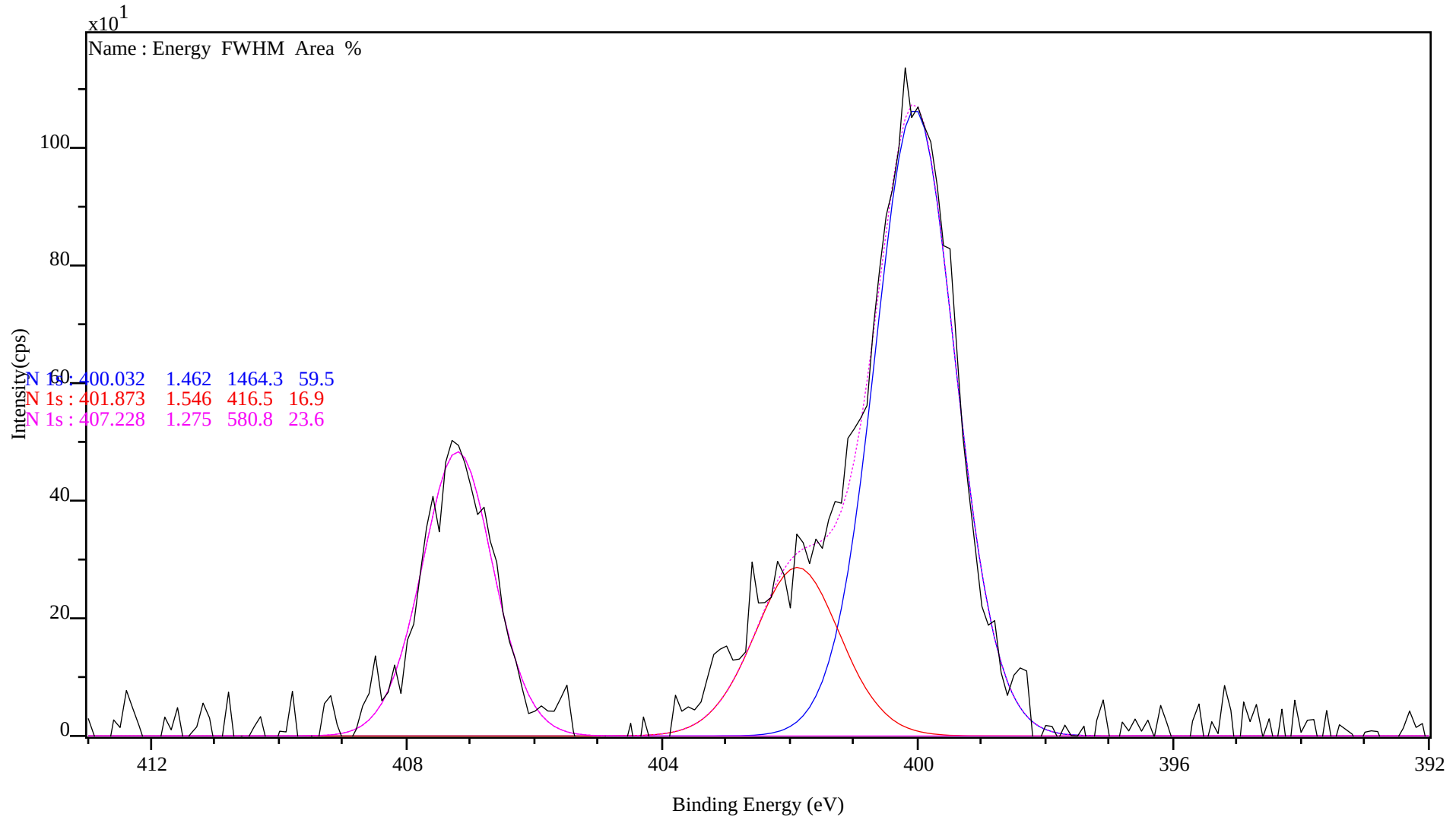
O 1s:13(23-1-2020_2)

XPS Spectrum Lens Mode:Hybrid Resolution:Pass energy 20 Iris(Aper):slot(Slot)
Acqn. Time(s): 181 Sweeps: 3 Anode:Mono(Al (Mono))(150 W) Step(meV): 100.0
Dwell Time(ms): 261 Charge Neutraliser :On Acquired On :20/01/23 12:27:10



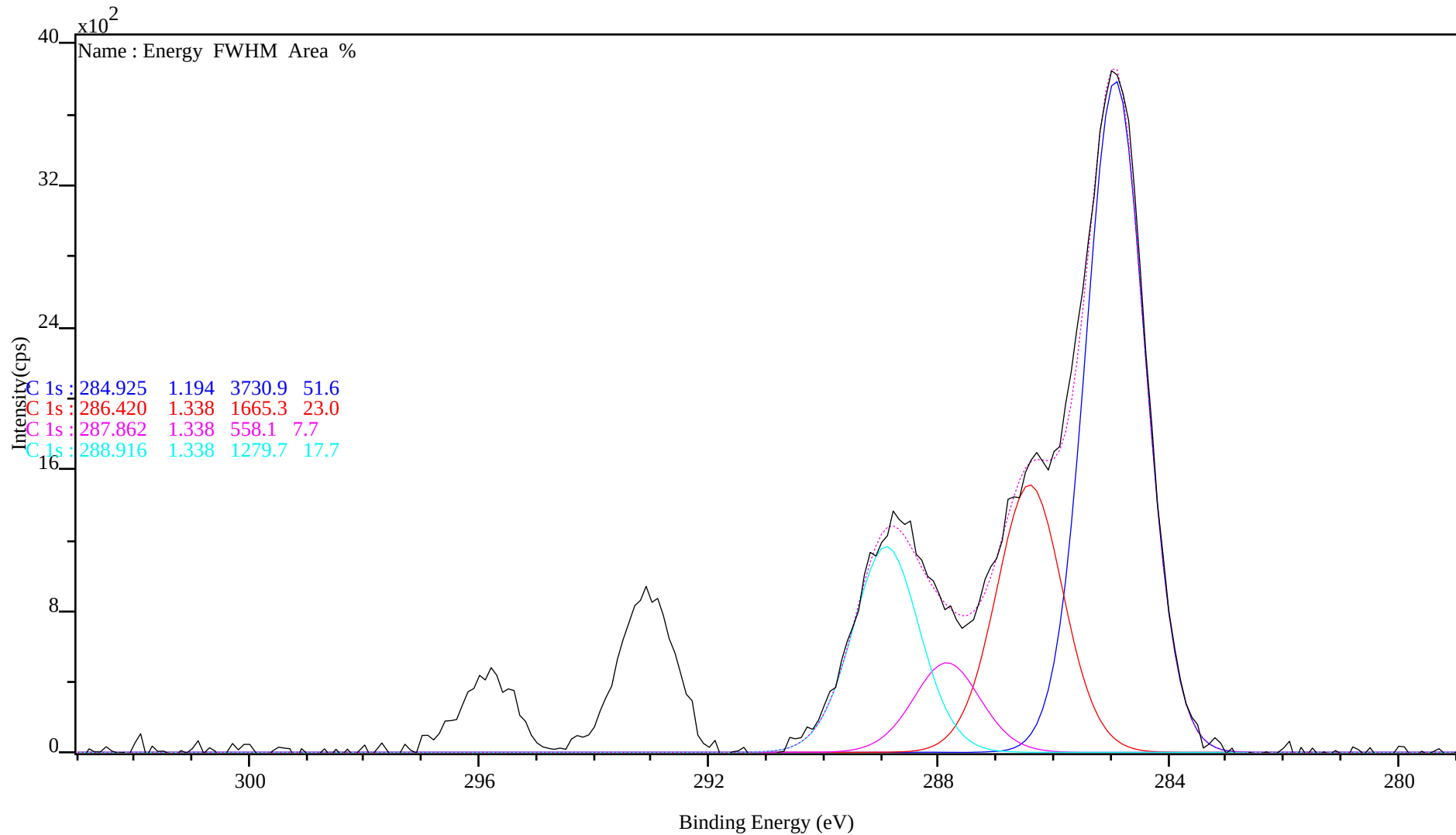
N 1s:16(23-1-2020_2)

XPS Spectrum Lens Mode:Hybrid Resolution:Pass energy 20 Iris(Aper):slot(Slot)
Acqn. Time(s): 181 Sweeps: 3 Anode:Mono(Al (Mono))(150 W) Step(meV): 100.0
Dwell Time(ms): 286 Charge Neutraliser :On Acquired On :20/01/23 12:27:10



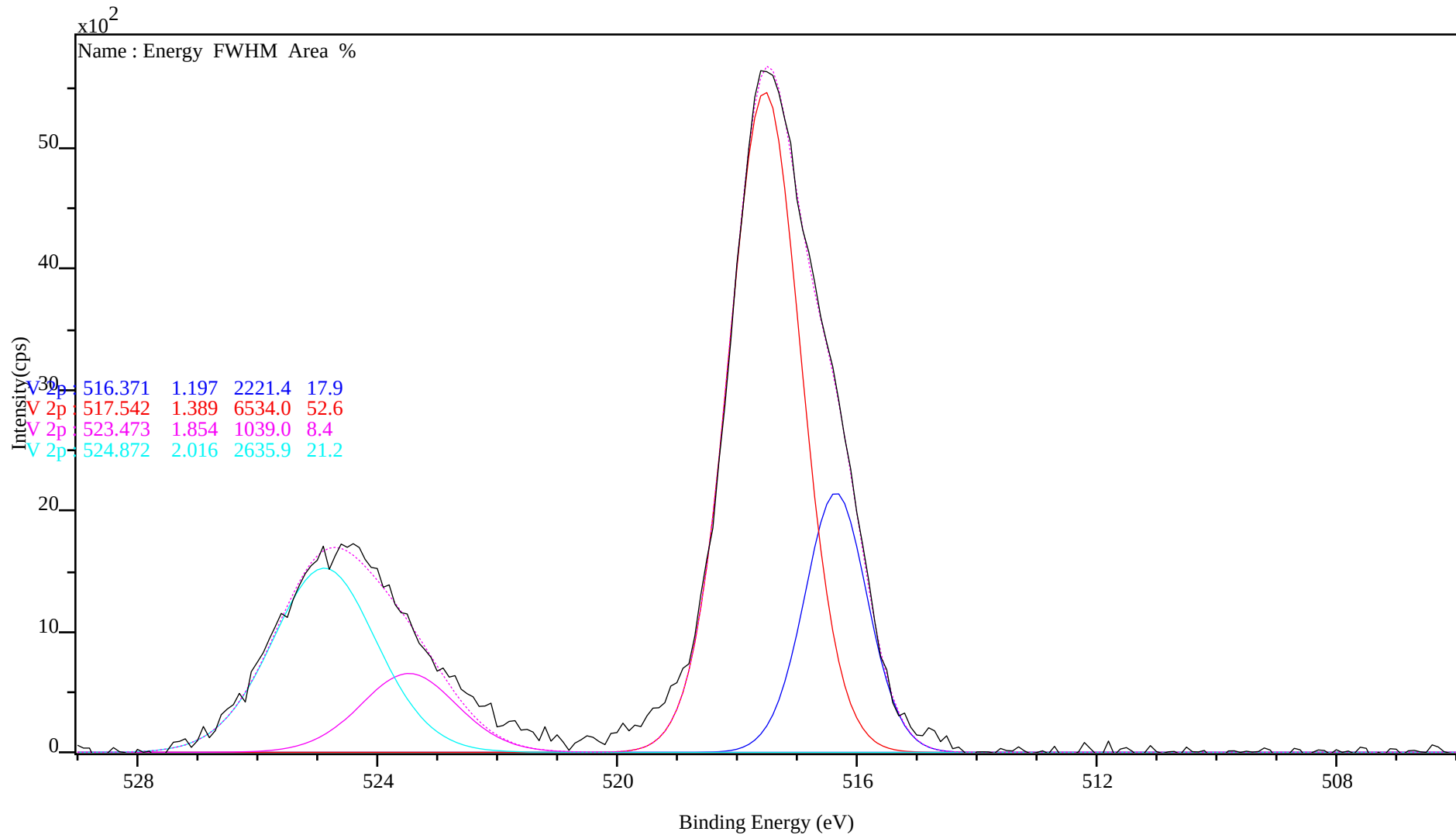
C 1s:17(23-1-2020_2)

XPS Spectrum Lens Mode:Hybrid Resolution:Pass energy 20 Iris(Aper):slot(Slot)
Acqn. Time(s): 181 Sweeps: 3 Anode:Mono(Al (Mono))(150 W) Step(meV): 100.0
Dwell Time(ms): 250 Charge Neutraliser :On Acquired On :20/01/23 12:27:10



V 2p 2 re:28(23-1-2020_2)

XPS Spectrum Lens Mode:Hybrid Resolution:Pass energy 20 Iris(Aper):slot(Slot)
Acqn. Time(s): 181 Sweeps: 3 Anode:Mono(Al (Mono))(150 W) Step(meV): 100.0
Dwell Time(ms): 261 Charge Neutraliser :On Acquired On :20/01/23 14:01:52



Quantification Report

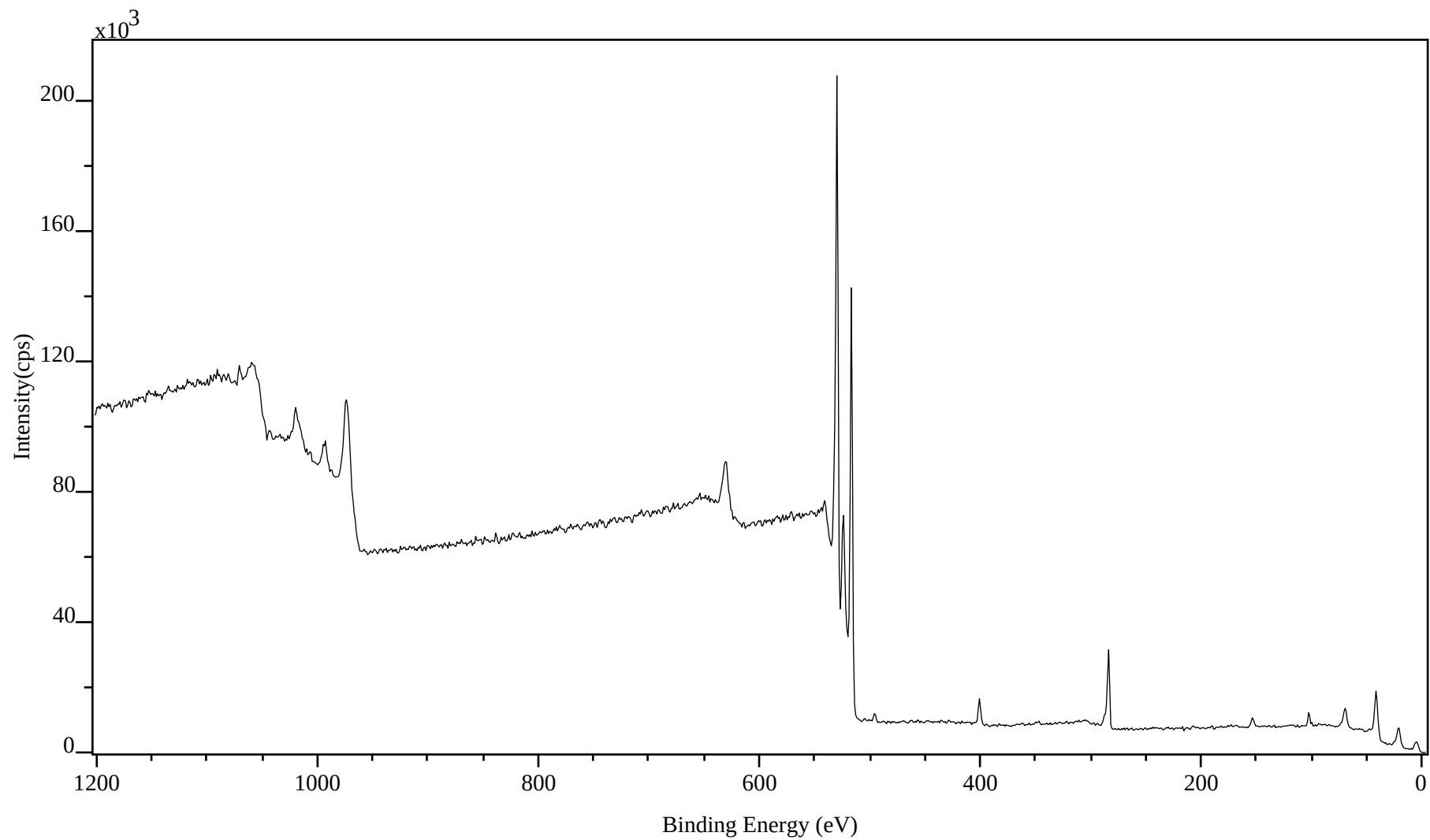
/C=/data/21-4-2015/21-4-2015.dset

Tue Apr 28 16:18:03 2015

State : Angle Name : Position 1

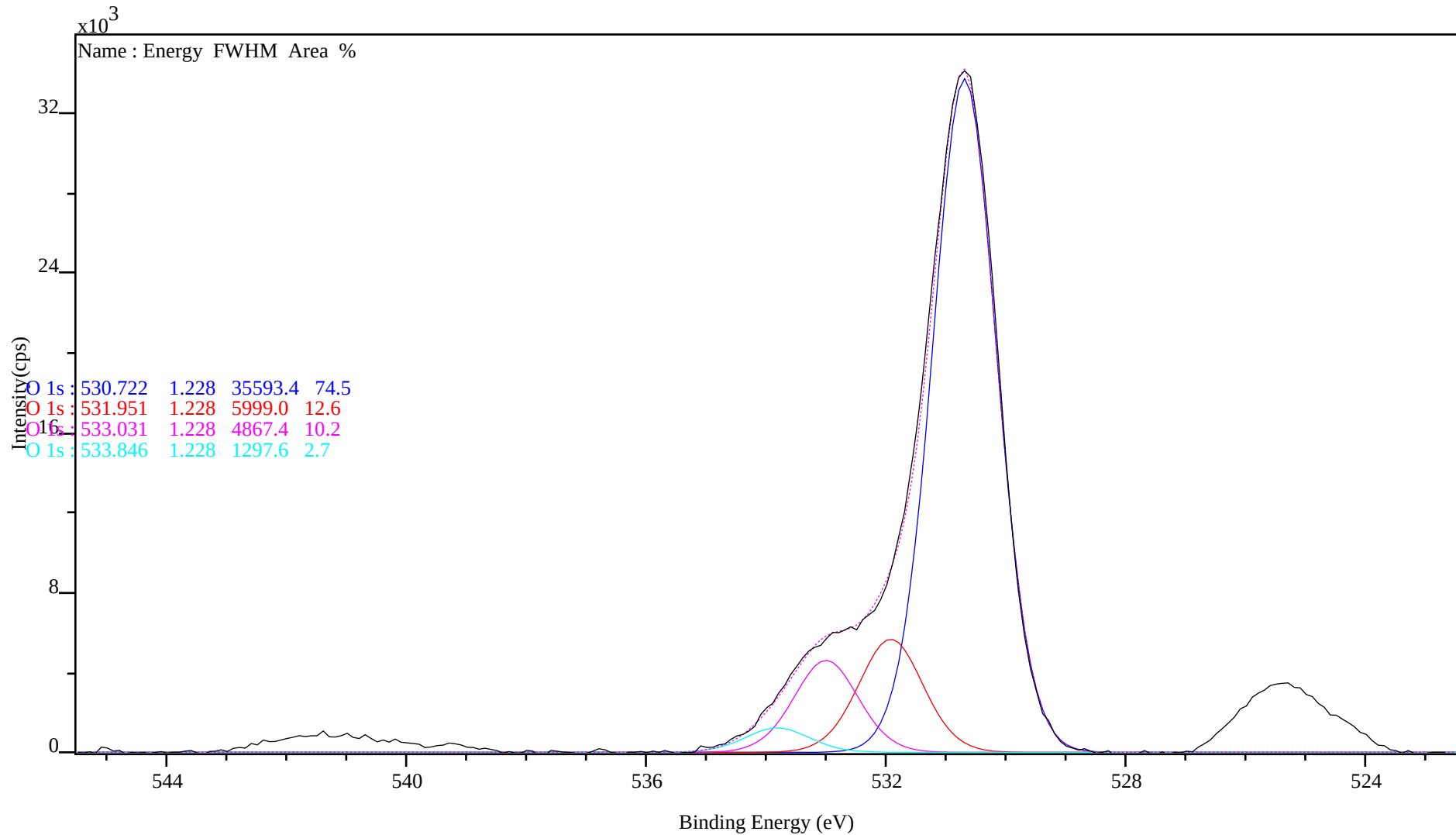
Peak	Type	Position BE (eV)	FWHM (eV)	Raw Area (cps eV)	RSF	Atomic Mass	Atomic Conc %	Mass Conc %
O 1s	Reg	530.500	2.271	381551.6	0.780	15.999	48.87	35.82
V 2p	Reg	517.500	2.181	392363.9	2.116	50.942	18.62	43.45
N 1s	Reg	401.500	2.488	19517.7	0.477	14.007	4.20	2.70
C 1s	Reg	284.500	2.375	64800.5	0.278	12.011	24.99	13.75
Si 2p	Reg	103.500	2.208	10564.9	0.328	28.086	3.33	4.28

wide:2(21-4-2015)
XPS Spectrum Lens Mode:Hybrid Resolution:Pass energy 80 Iris(Aper):slot(Slot)
Acqn. Time(s): 121 Sweeps: 1 Anode:Mono(Al (Mono))(150 W) Step(meV): 1000.0
Dwell Time(ms): 100 Charge Neutraliser :On Acquired On :15/04/21 11:16:52



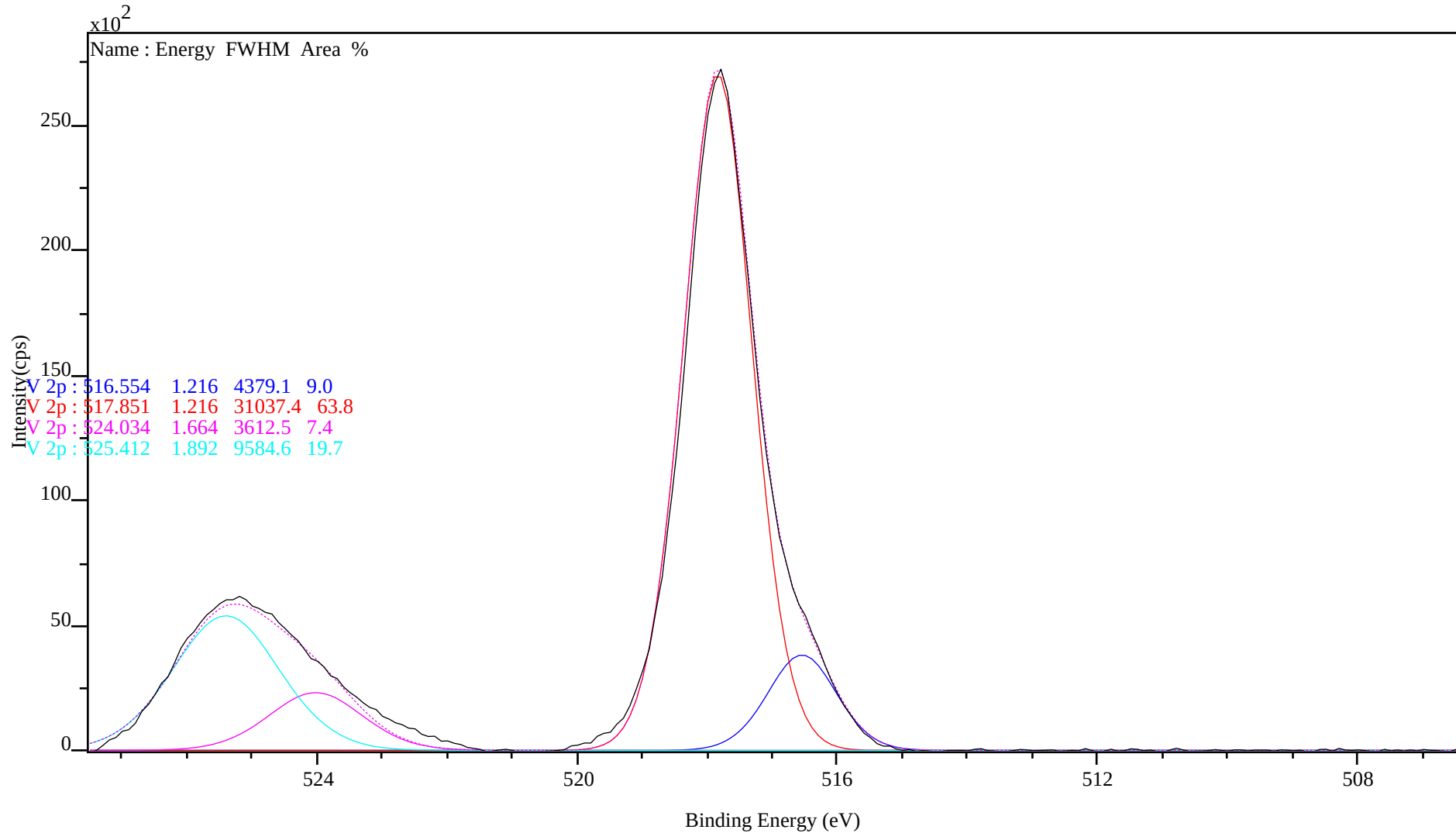
O 1s:3(21-4-2015)

XPS Spectrum Lens Mode:Hybrid Resolution:Pass energy 20 Iris(Aper):slot(Slot)
Acqn. Time(s): 181 Sweeps: 3 Anode:Mono(Al (Mono))(150 W) Step(meV): 100.0
Dwell Time(ms): 261 Charge Neutraliser :On Acquired On :15/04/21 11:19:49



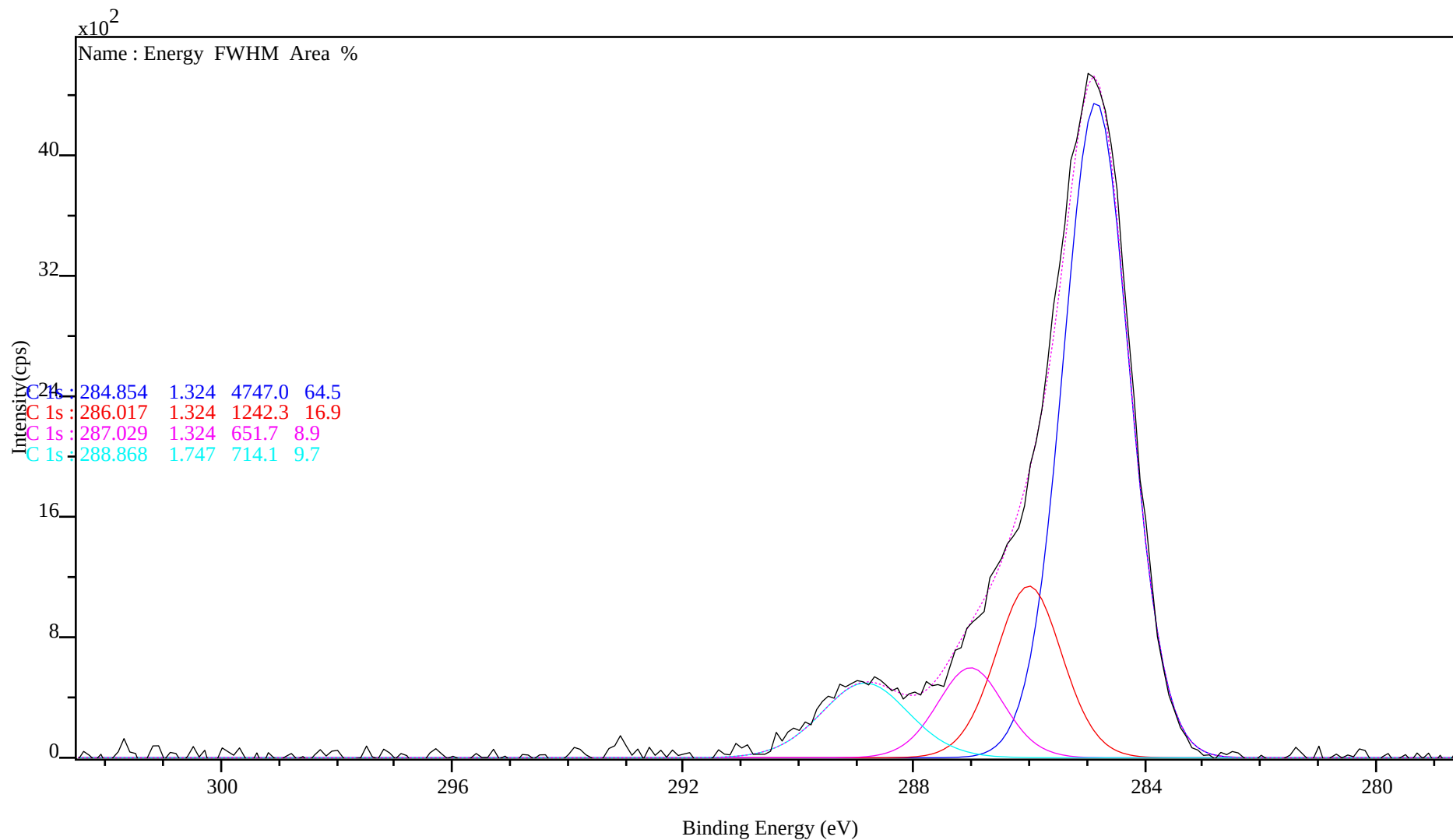
V 2p:4(21-4-2015)

XPS Spectrum Lens Mode:Hybrid Resolution:Pass energy 20 Iris(Aper):slot(Slot)
Acqn. Time(s): 181 Sweeps: 3 Anode:Mono(Al (Mono))(150 W) Step(meV): 100.0
Dwell Time(ms): 286 Charge Neutraliser :On Acquired On :15/04/21 11:19:49



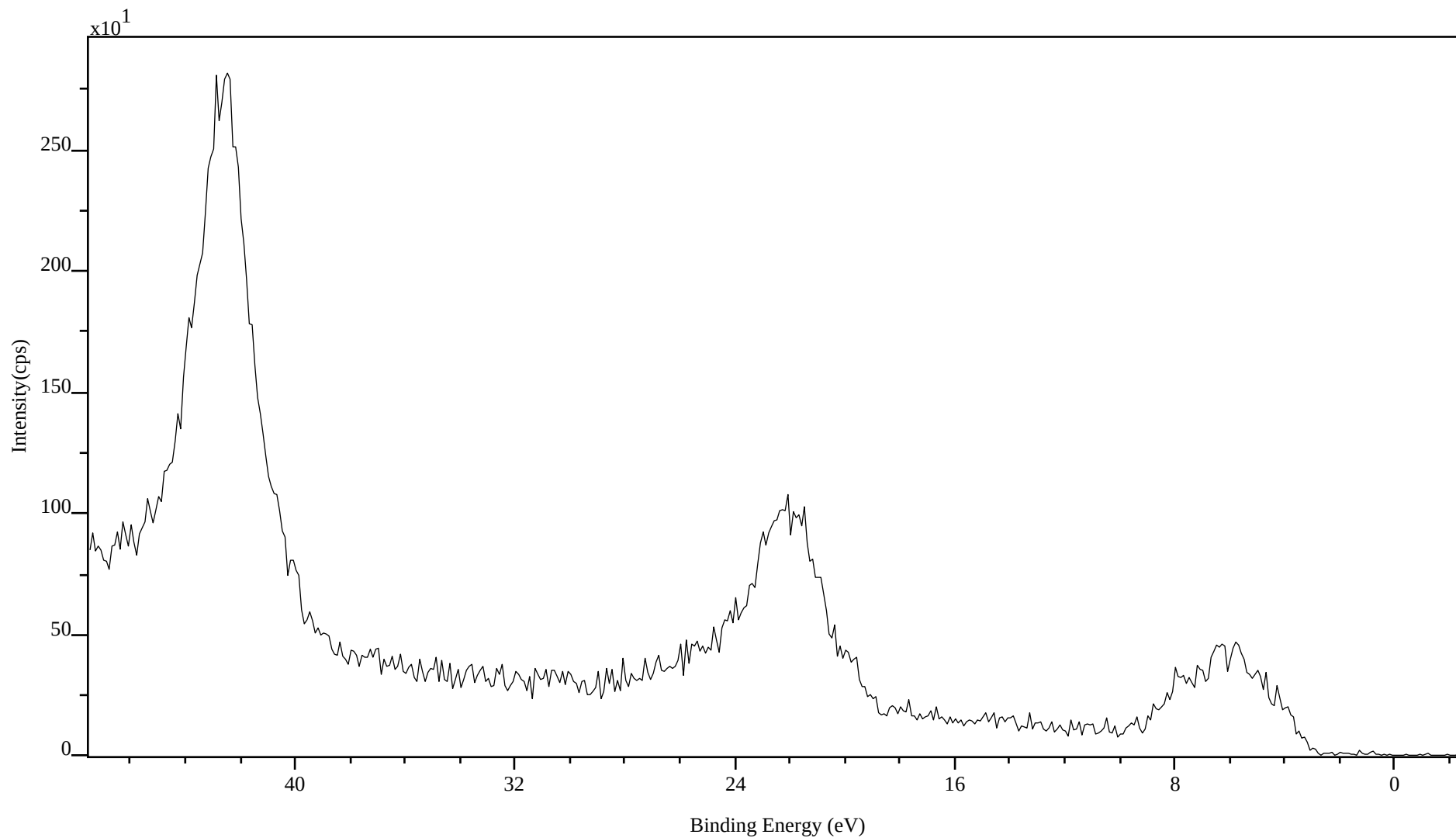
C 1s:5(21-4-2015)

XPS Spectrum Lens Mode:Hybrid Resolution:Pass energy 20 Iris(Aper):slot(Slot)
Acqn. Time(s): 181 Sweeps: 3 Anode:Mono(Al (Mono))(150 W) Step(meV): 100.0
Dwell Time(ms): 250 Charge Neutraliser :On Acquired On :15/04/21 11:19:49



VB:6(21-4-2015)

XPS Spectrum Lens Mode:Hybrid Resolution:Pass energy 20 Iris(Aper):slot(Slot)
Acqn. Time(s): 120 Sweeps: 2 Anode:Mono(Al (Mono))(150 W) Step(meV): 100.0
Dwell Time(ms): 120 Charge Neutraliser :On Acquired On :15/04/21 11:19:49



Quantification Report

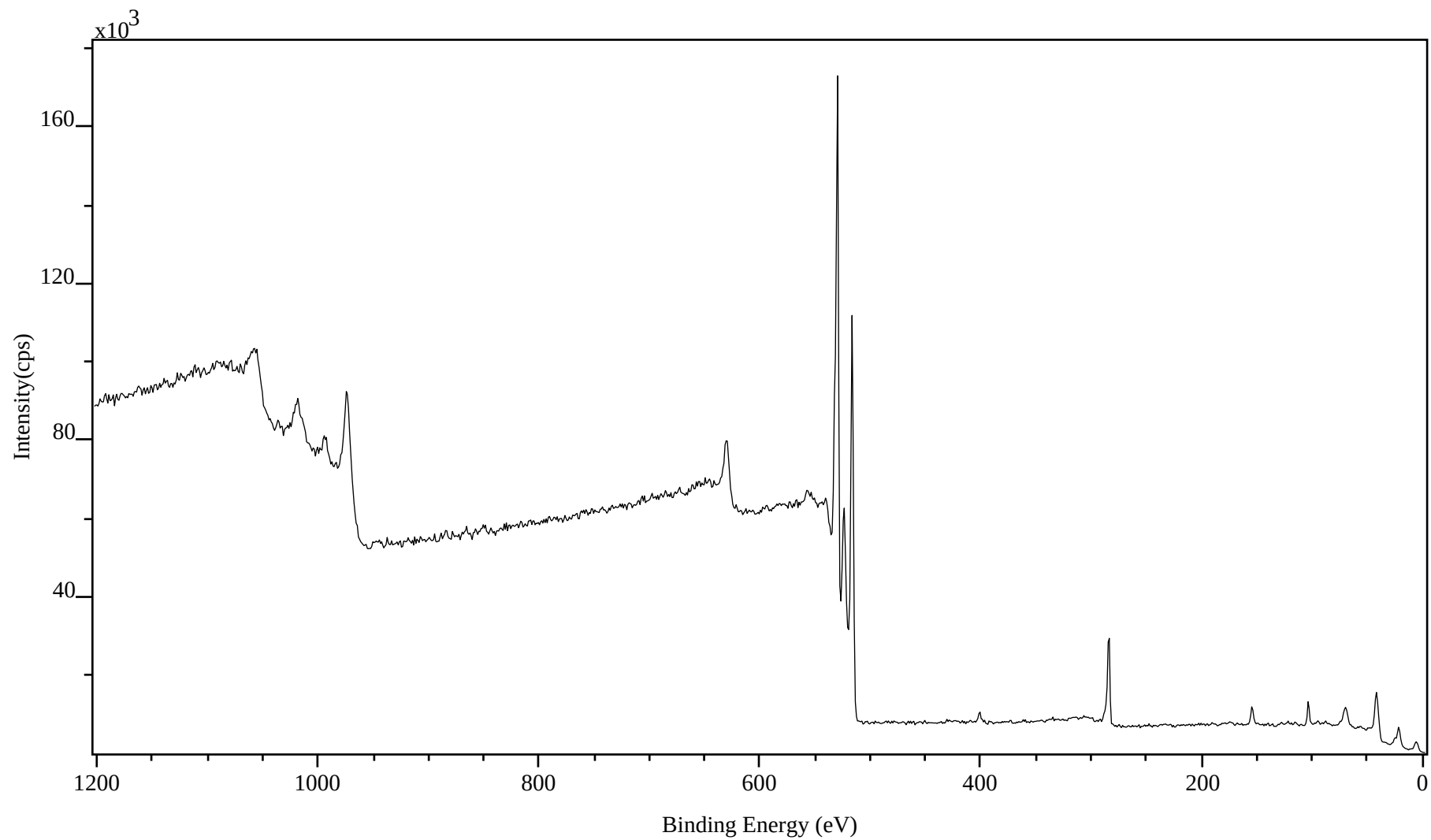
/C=/data/1-2-2016/1-2-2016.dset

Fri Feb 12 17:09:42 2016

State : Angle Name : Position 5

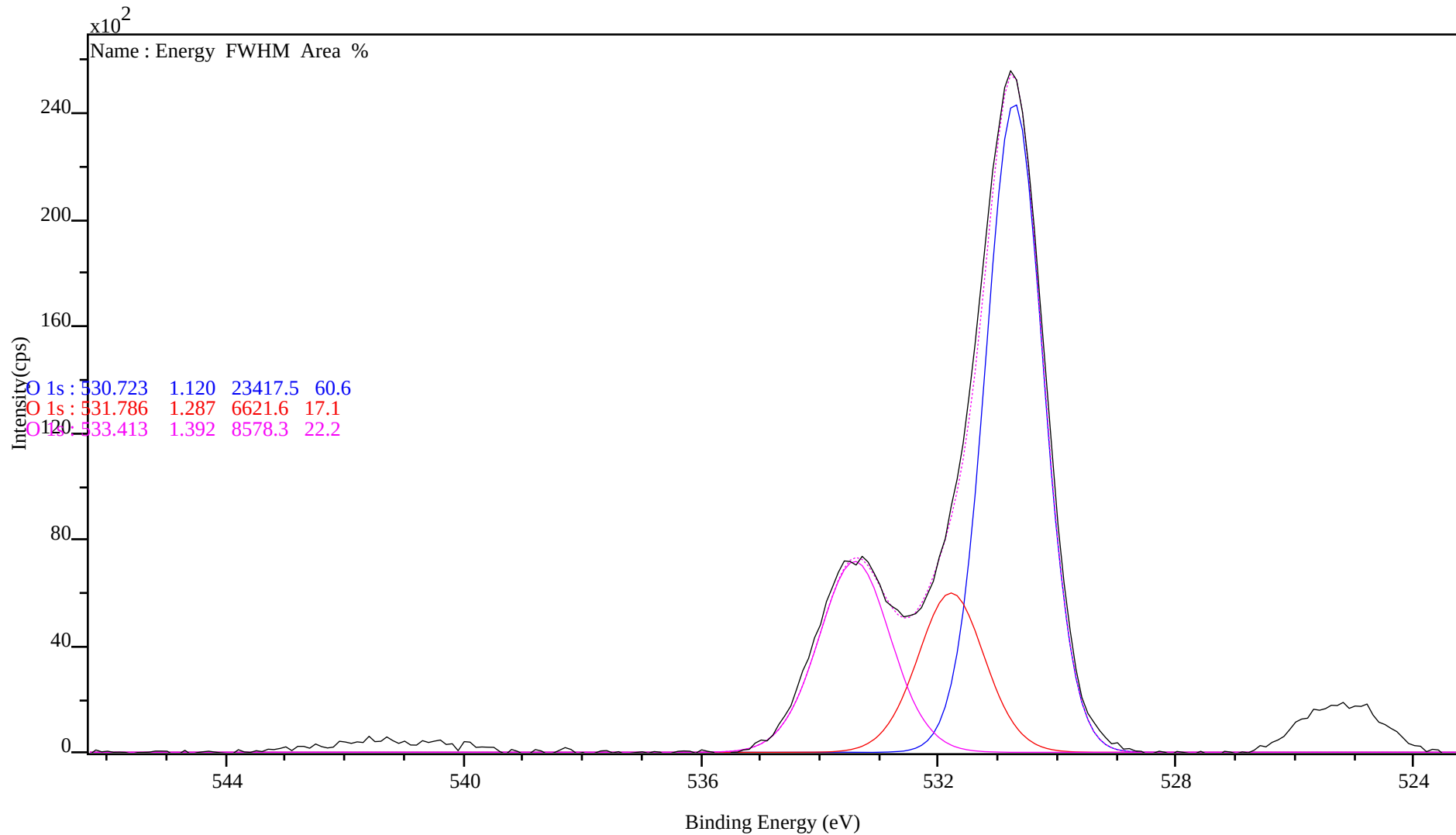
Peak	Type	Position BE (eV)	FWHM (eV)	Raw Area (cps eV)	RSF	Atomic Mass	Atomic Conc %	Mass Conc %
O 1s	Reg	530.300	2.532	386780.0	0.780	15.999	50.70	38.37
V 2p	Reg	517.300	2.581	343065.0	2.116	50.942	16.66	40.15
N 1s	Reg	401.300	2.597	10980.0	0.477	14.007	2.42	1.60
C 1s	Reg	284.300	2.531	67560.0	0.278	12.011	26.66	15.15
Si 2p	Reg	104.300	2.070	11040.0	0.328	28.086	3.56	4.73

wide:30(1-2-2016)
XPS Spectrum Lens Mode:Hybrid Resolution:Pass energy 80 Iris(Aper):slot(Slot)
Acqn. Time(s): 121 Sweeps: 1 Anode:Mono(Al (Mono))(150 W) Step(meV): 1000.0
Dwell Time(ms): 100 Charge Neutraliser :On Acquired On :16/02/01 14:42:22



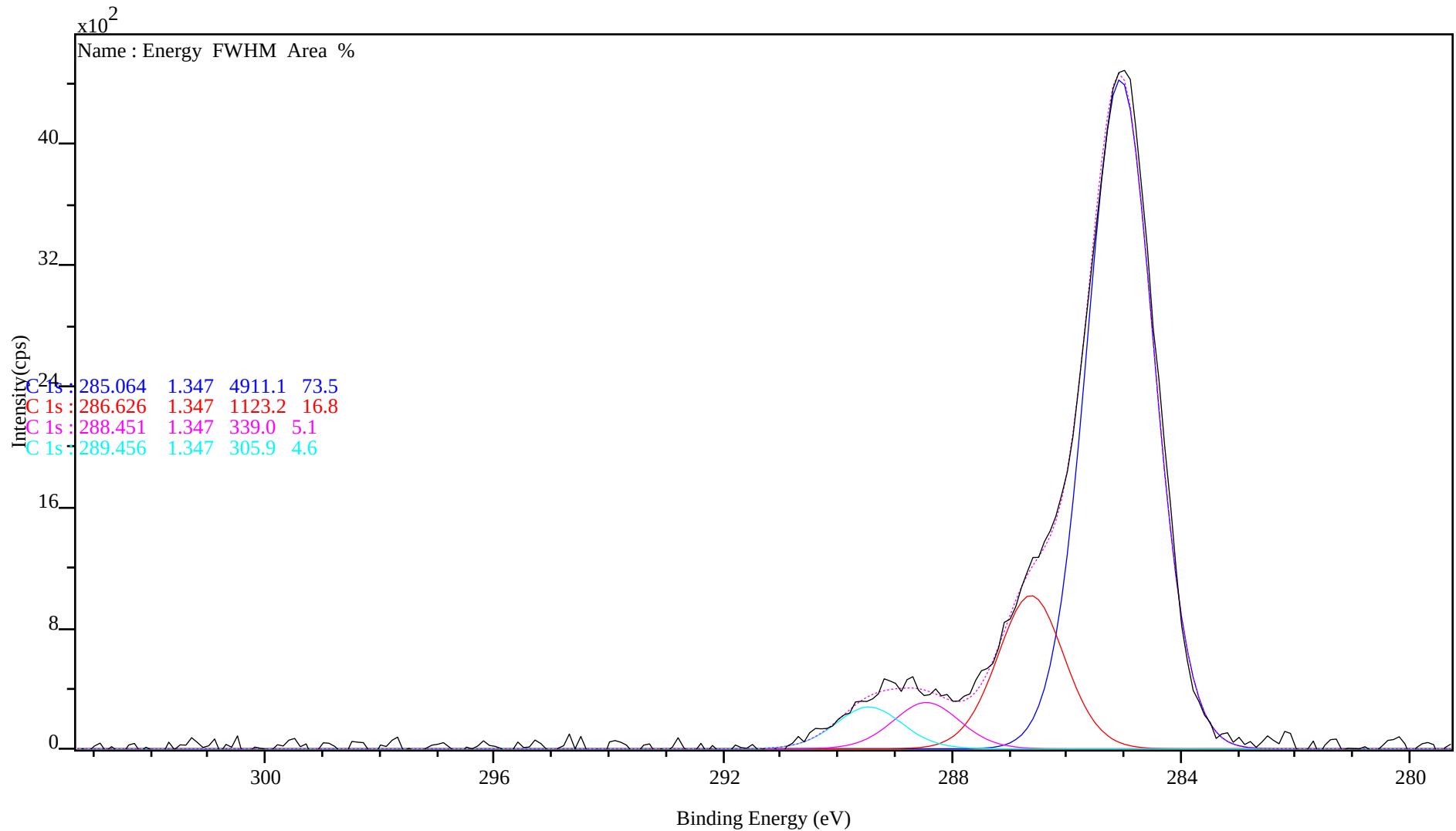
O 1s:31(1-2-2016)

XPS Spectrum Lens Mode:Hybrid Resolution:Pass energy 20 Iris(Aper):slot(Slot)
Acqn. Time(s): 181 Sweeps: 3 Anode:Mono(Al (Mono))(150 W) Step(meV): 100.0
Dwell Time(ms): 261 Charge Neutraliser :On Acquired On :16/02/01 14:45:19

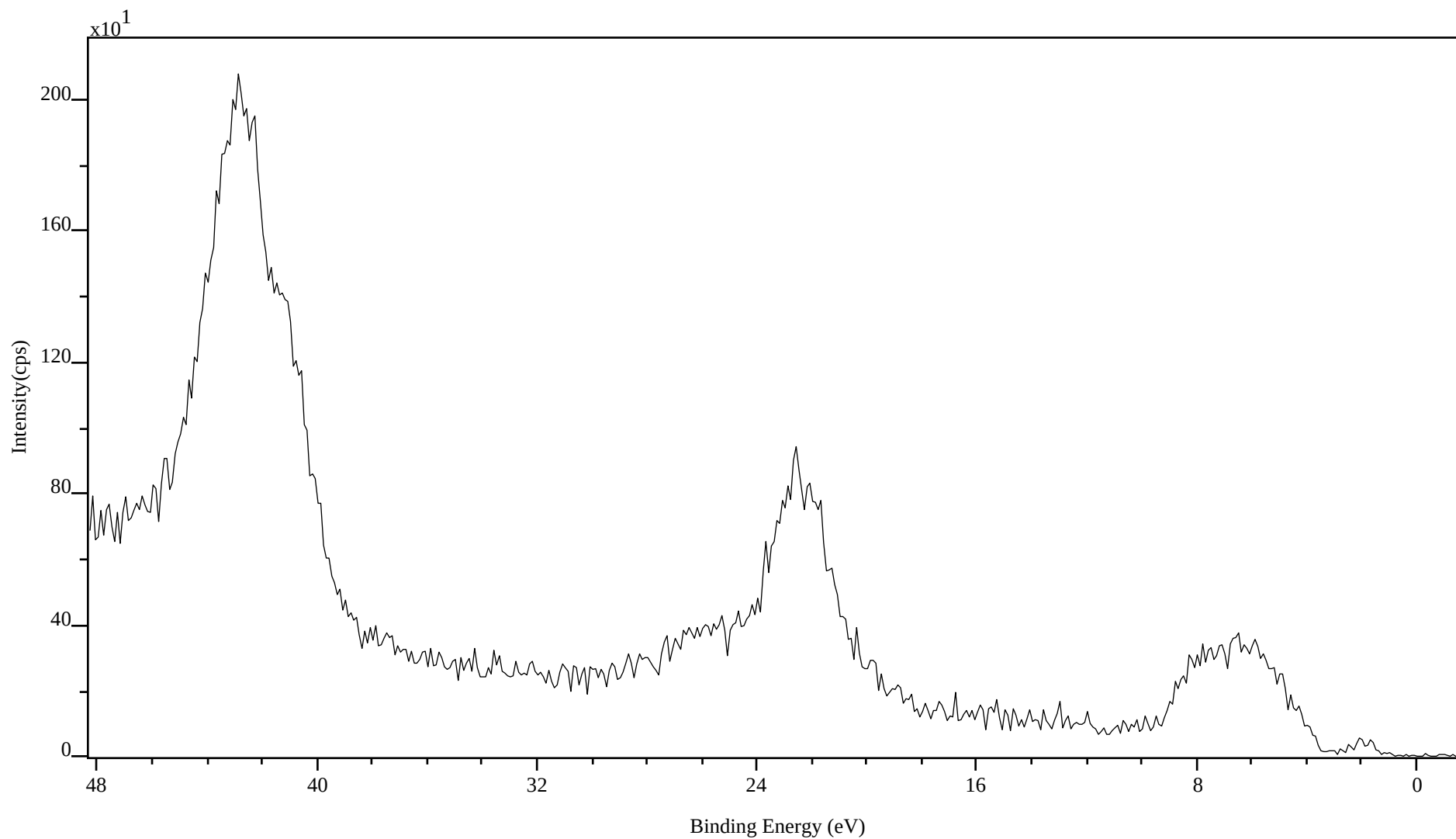


C 1s:33(1-2-2016)

XPS Spectrum Lens Mode:Hybrid Resolution:Pass energy 20 Iris(Aper):slot(Slot)
Acqn. Time(s): 181 Sweeps: 3 Anode:Mono(Al (Mono))(150 W) Step(meV): 100.0
Dwell Time(ms): 250 Charge Neutraliser :On Acquired On :16/02/01 14:45:19

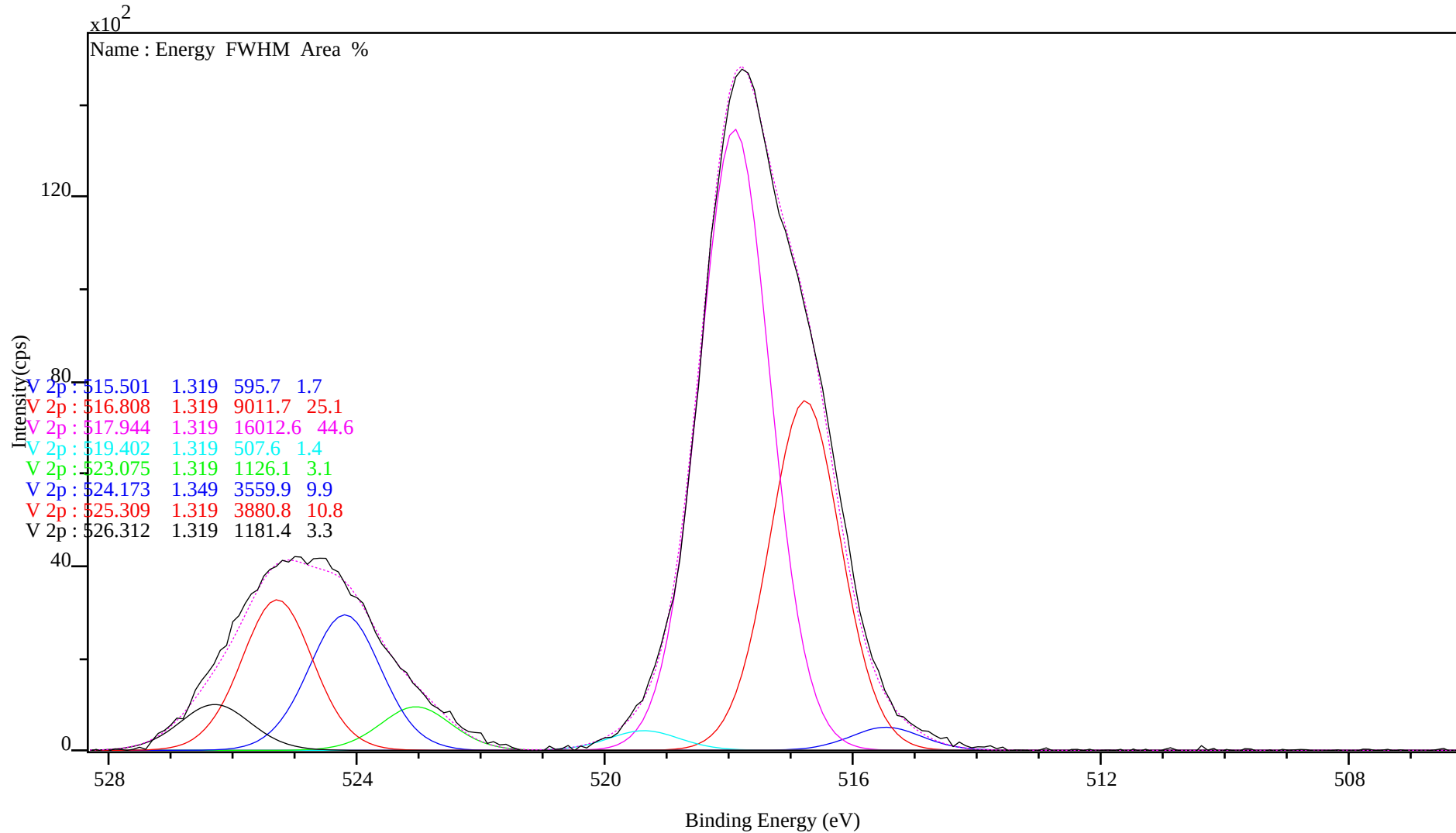


Valence:34(1-2-2016)
XPS Spectrum Lens Mode:Hybrid Resolution:Pass energy 20 Iris(Aper):slot(Slot)
Acqn. Time(s): 180 Sweeps: 3 Anode:Mono(Al (Mono))(150 W) Step(meV): 100.0
Dwell Time(ms): 120 Charge Neutraliser :On Acquired On :16/02/01 14:45:19



V 2p:48(1-2-2016)

XPS Spectrum Lens Mode:Hybrid Resolution:Pass energy 20 Iris(Aper):slot(Slot)
Acqn. Time(s): 181 Sweeps: 3 Anode:Mono(Al (Mono))(150 W) Step(meV): 100.0
Dwell Time(ms): 273 Charge Neutraliser :On Acquired On :16/02/01 15:18:24



Quantification Report

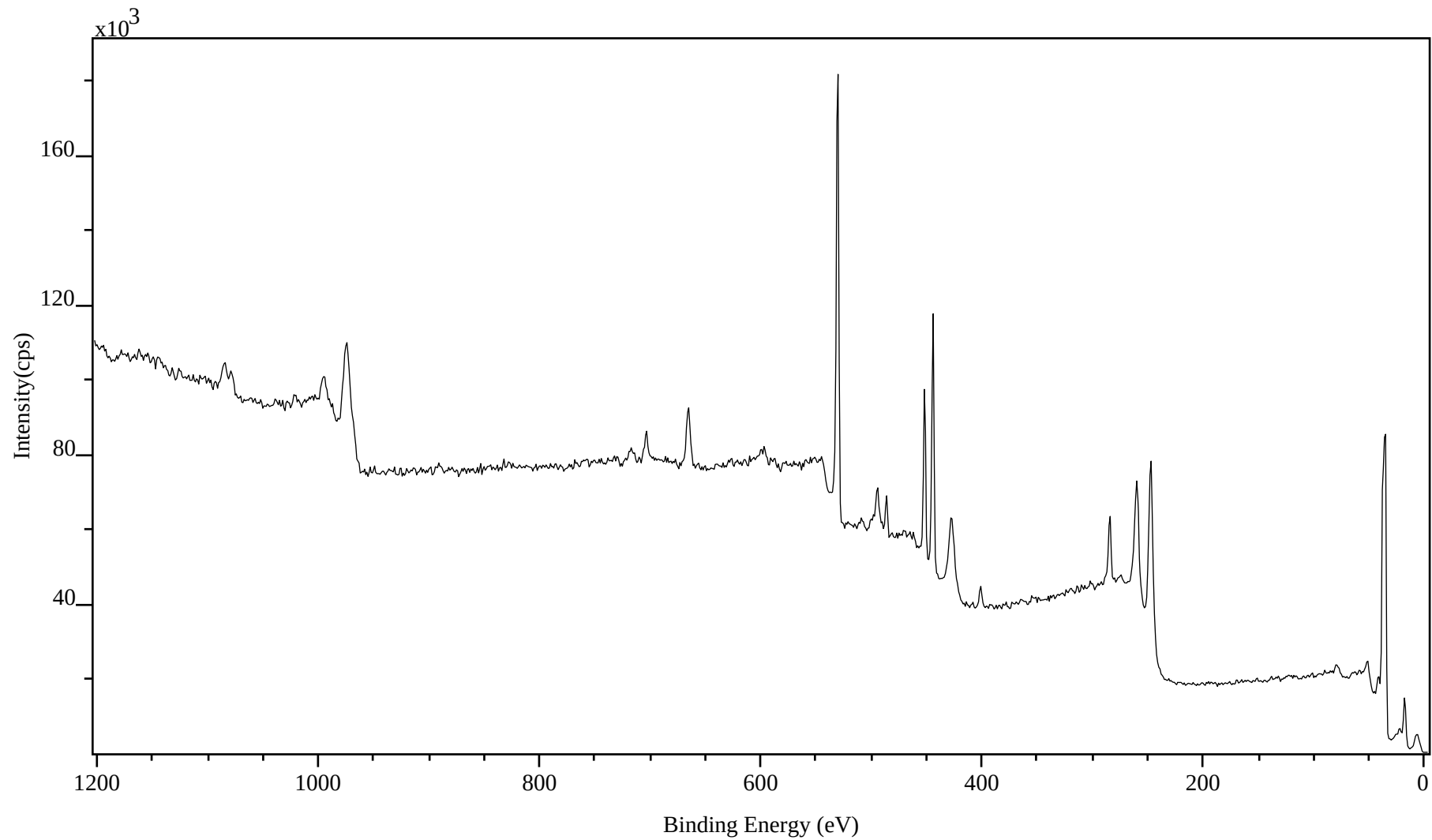
/C=/data/1-7-2019/1-7-2019.dset

Wed Jul 3 10:00:33 2019

State : Angle Name : Position 1

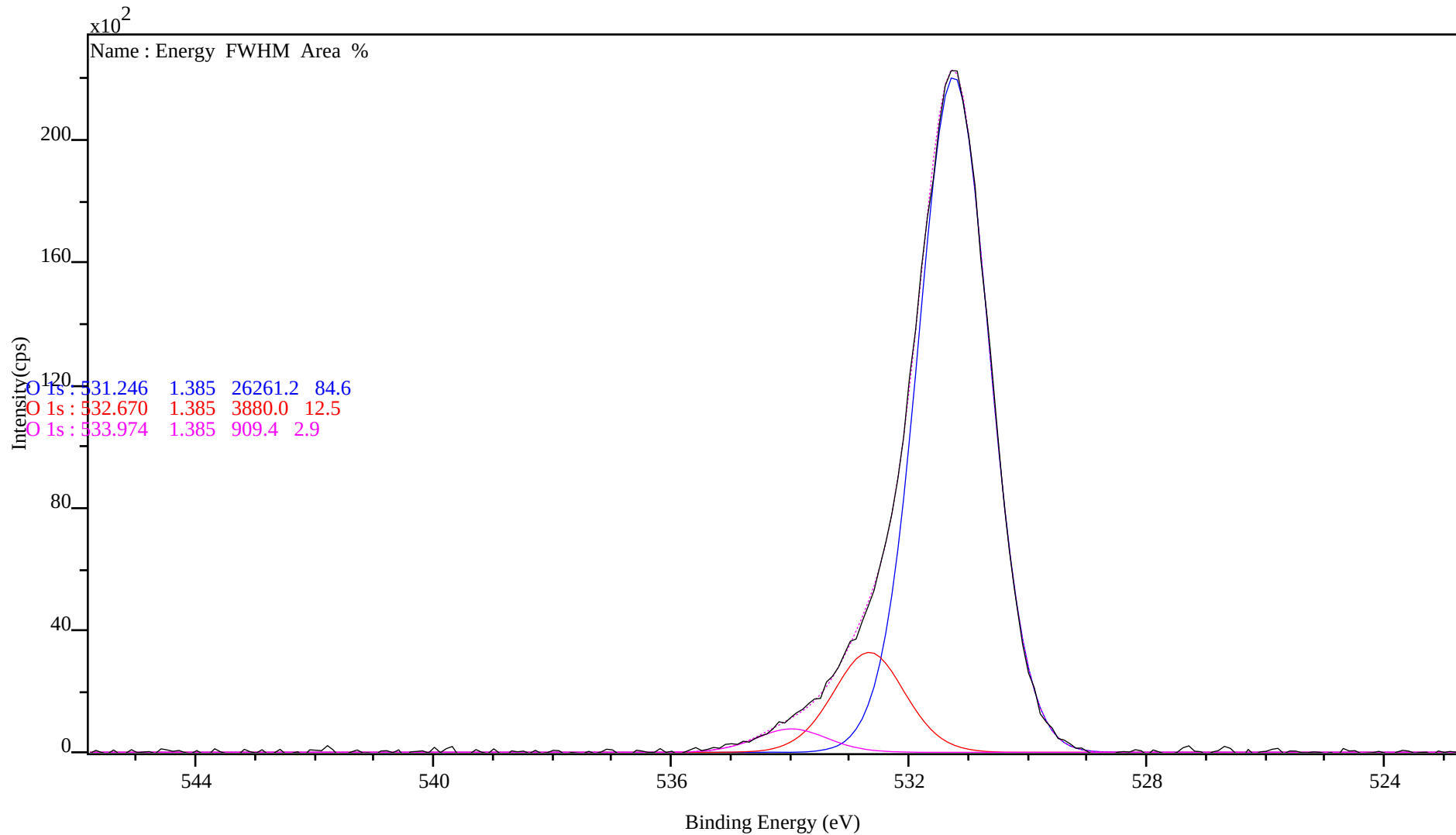
Peak	Type	Position BE (eV)	FWHM (eV)	Raw Area (cps eV)	RSF	Atomic Mass	Atomic Conc %	Mass Conc %
O 1s	Reg	530.800	2.507	332125.0	0.780	15.999	51.37	20.45
Sn 3d +W 4p	Reg	494.800	3.850	88430.0	7.875	118.744	1.37	4.04
In 3d	Reg	444.800	2.254	276720.0	7.265	114.820	4.70	13.43
N 1s	Reg	401.800	2.842	17990.0	0.477	14.007	4.68	1.63
C 1s	Reg	284.800	2.653	56655.0	0.278	12.011	26.39	7.88
W 4f	Reg	35.800	4.119	342230.0	3.523	183.847	11.49	52.57

wide:2(1-7-2019)
XPS Spectrum Lens Mode:Hybrid Resolution:Pass energy 80 Iris(Aper):slot(Slot)
Acqn. Time(s): 121 Sweeps: 1 Anode:Mono(Al (Mono))(150 W) Step(meV): 1000.0
Dwell Time(ms): 100 Charge Neutraliser :On Acquired On :19/07/01 09:32:05



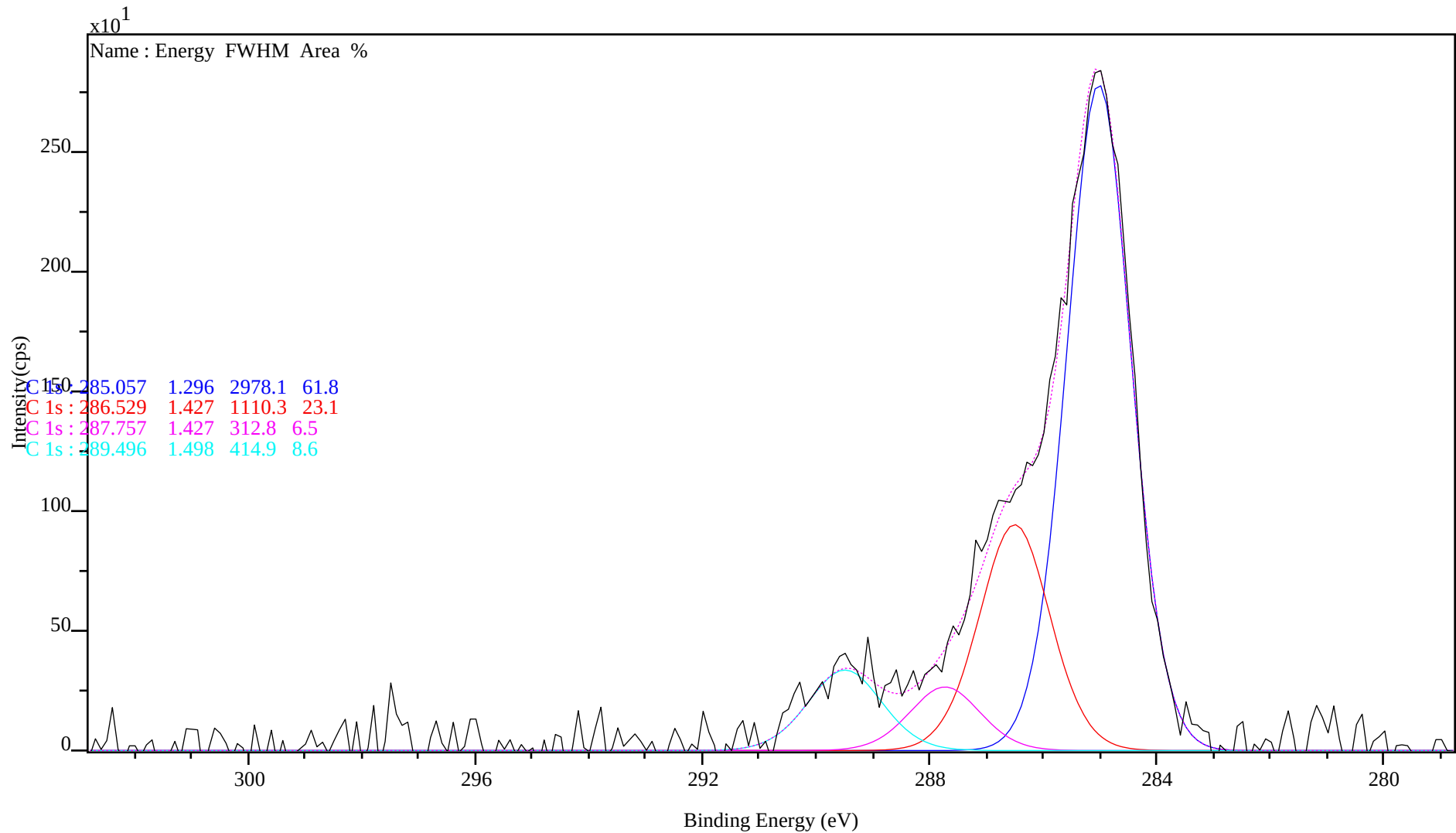
O 1s:4(1-7-2019)

XPS Spectrum Lens Mode:Hybrid Resolution:Pass energy 20 Iris(Aper):slot(Slot)
Acqn. Time(s): 181 Sweeps: 3 Anode:Mono(Al (Mono))(150 W) Step(meV): 100.0
Dwell Time(ms): 261 Charge Neutraliser :On Acquired On :19/07/01 09:34:42



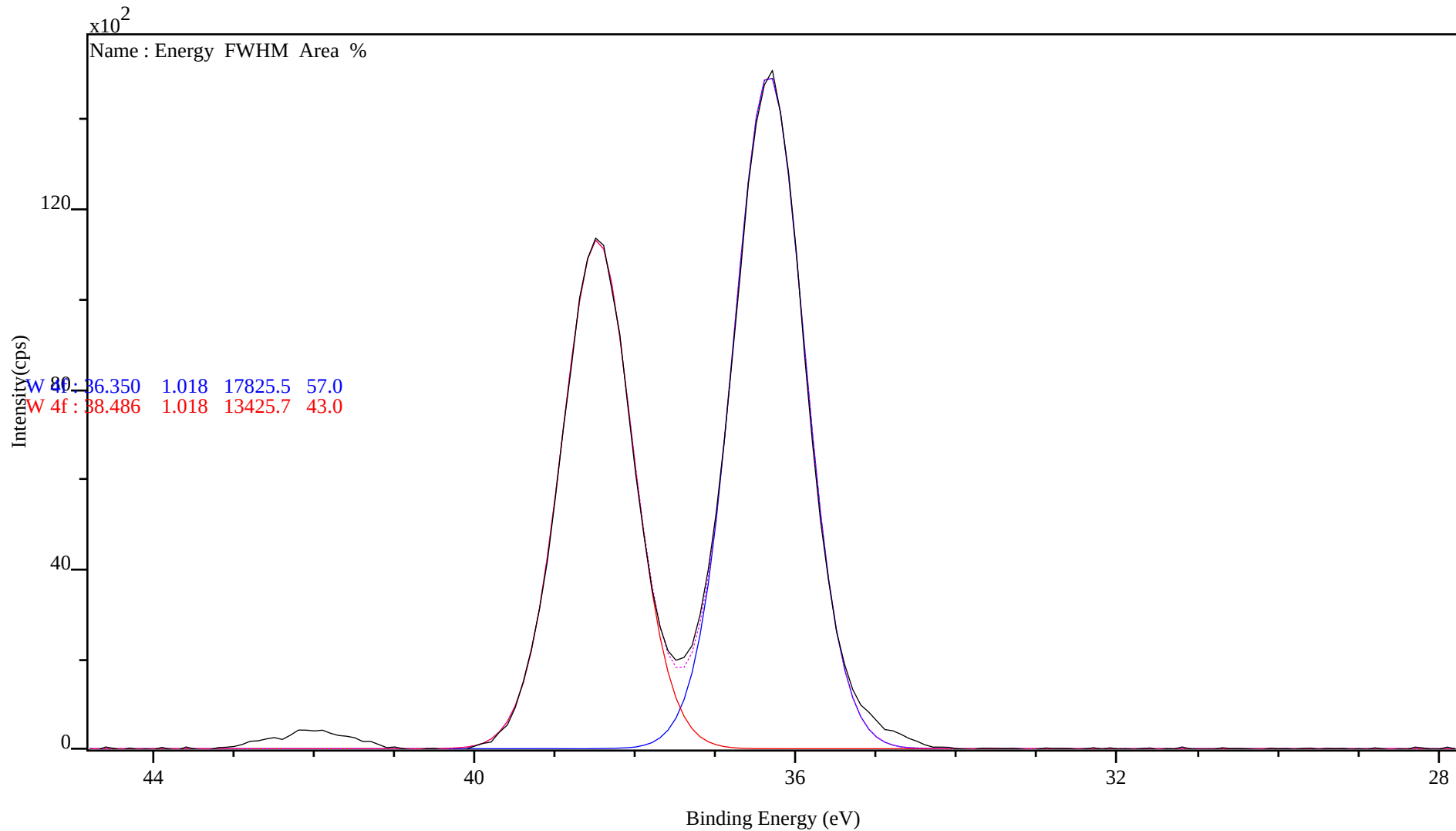
C 1s:5(1-7-2019)

XPS Spectrum Lens Mode:Hybrid Resolution:Pass energy 20 Iris(Aper):slot(Slot)
Acqn. Time(s): 181 Sweeps: 3 Anode:Mono(Al (Mono))(150 W) Step(meV): 100.0
Dwell Time(ms): 250 Charge Neutraliser :On Acquired On :19/07/01 09:34:42



W 4f:6(1-7-2019)

XPS Spectrum Lens Mode:Hybrid Resolution:Pass energy 20 Iris(Aper):slot(Slot)
Acqn. Time(s): 181 Sweeps: 3 Anode:Mono(Al (Mono))(150 W) Step(meV): 100.0
Dwell Time(ms): 353 Charge Neutraliser :On Acquired On :19/07/01 09:34:42



XPS Spectrum Lens Mode:Hybrid Resolution:Pass energy 20 Iris(Aper):slot(Slot)
Acqn. Time(s): 180 Sweeps: 3 Anode:Mono(Al (Mono))(150 W) Step(meV): 100.0
Dwell Time(ms): 154 Charge Neutraliser :On Acquired On :19/07/01 11:04:47

