

**Reference X-Ray Spectra
of
Metal Foils**

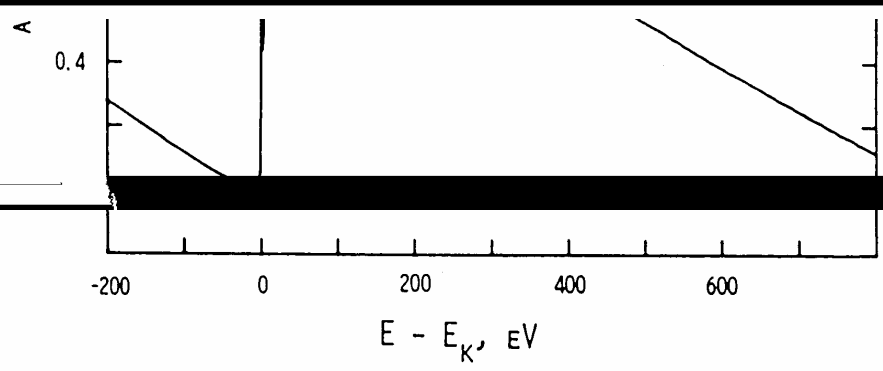
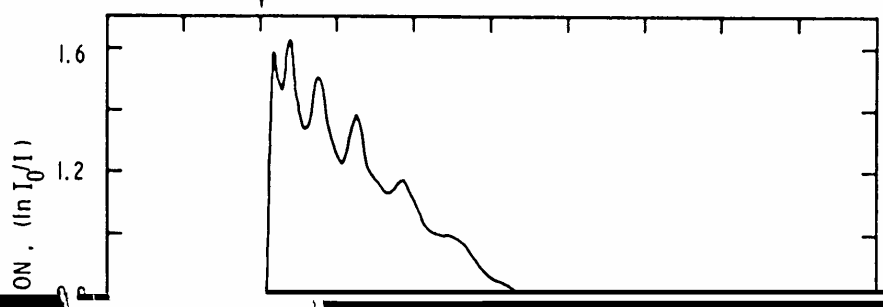
**Exafs
Materials**

871 El Cerro Blvd., Danville, CA 94526 USA

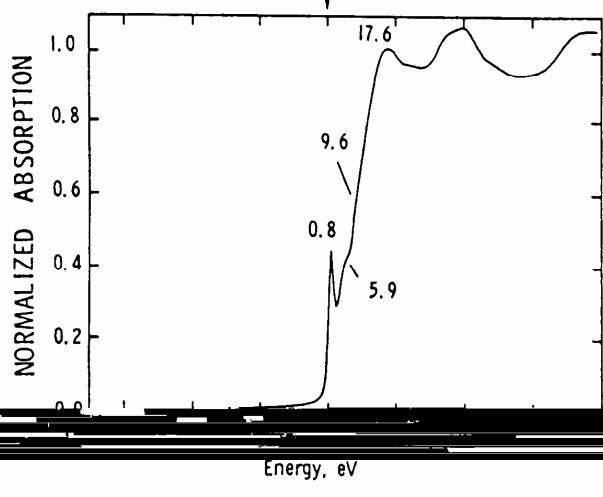
**phone: (925) 838-7162
fax: (925) 838-4630
email: exafs_materials@sbcglobal.net**

Ti

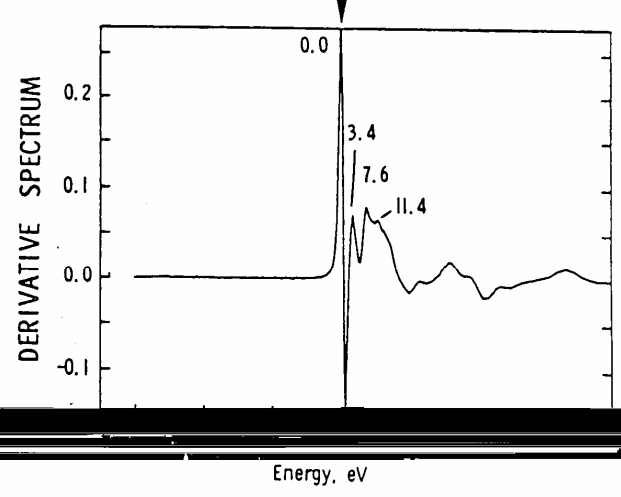
$E_K = 4966 \text{ eV}$



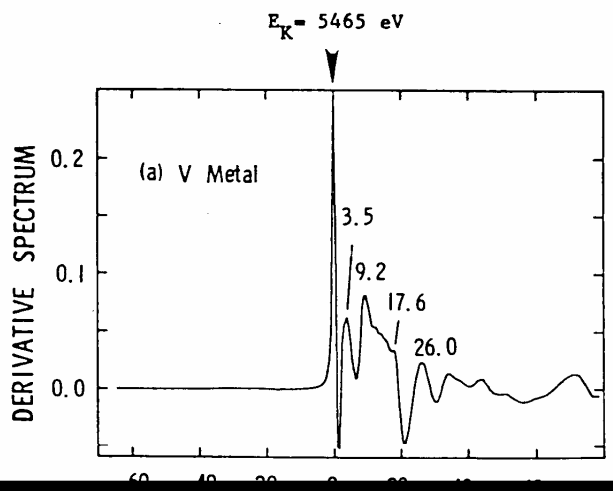
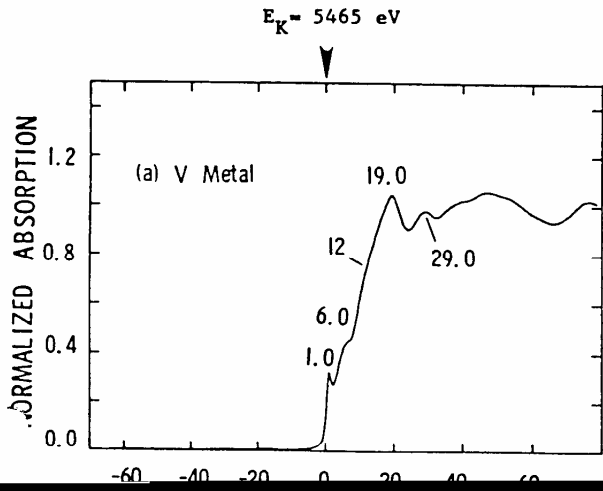
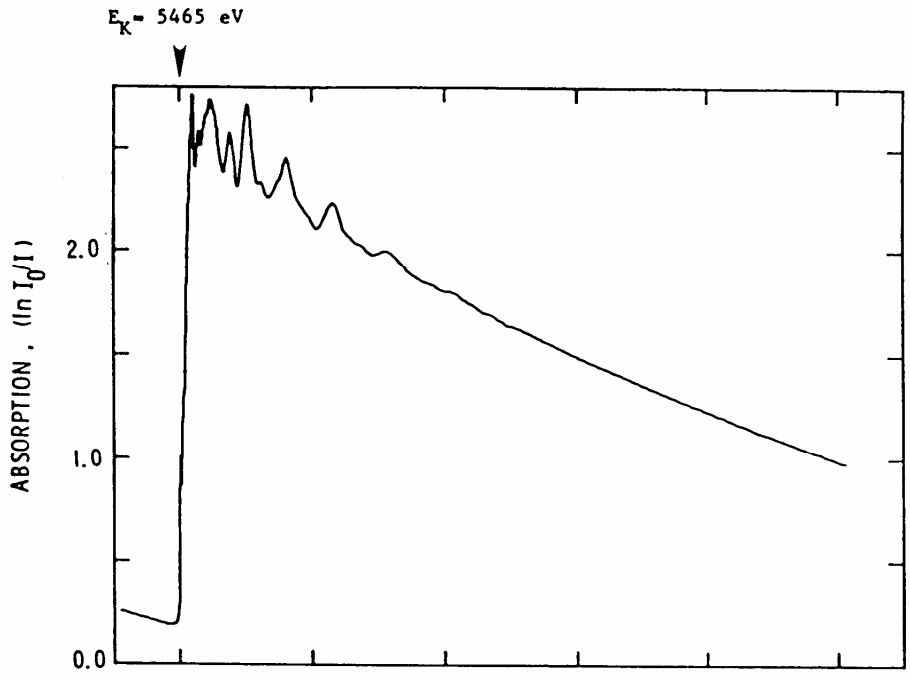
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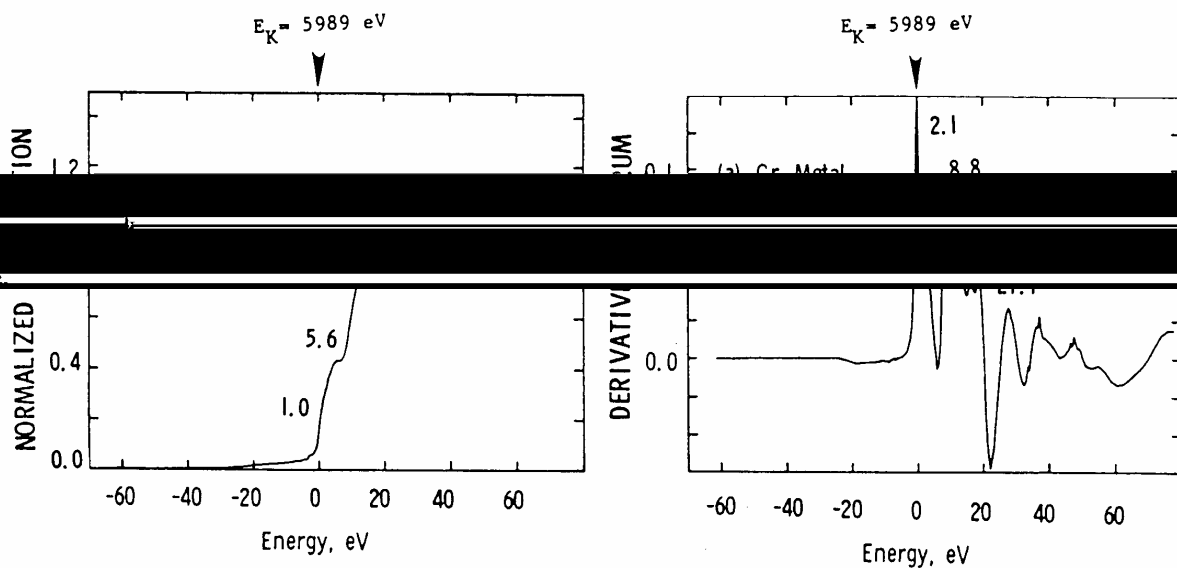
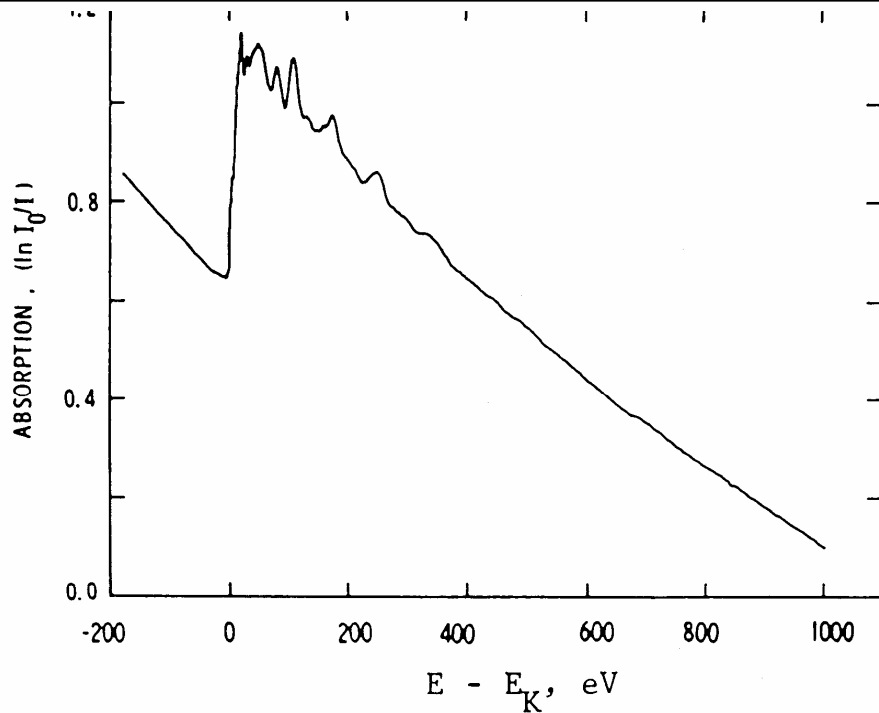


V

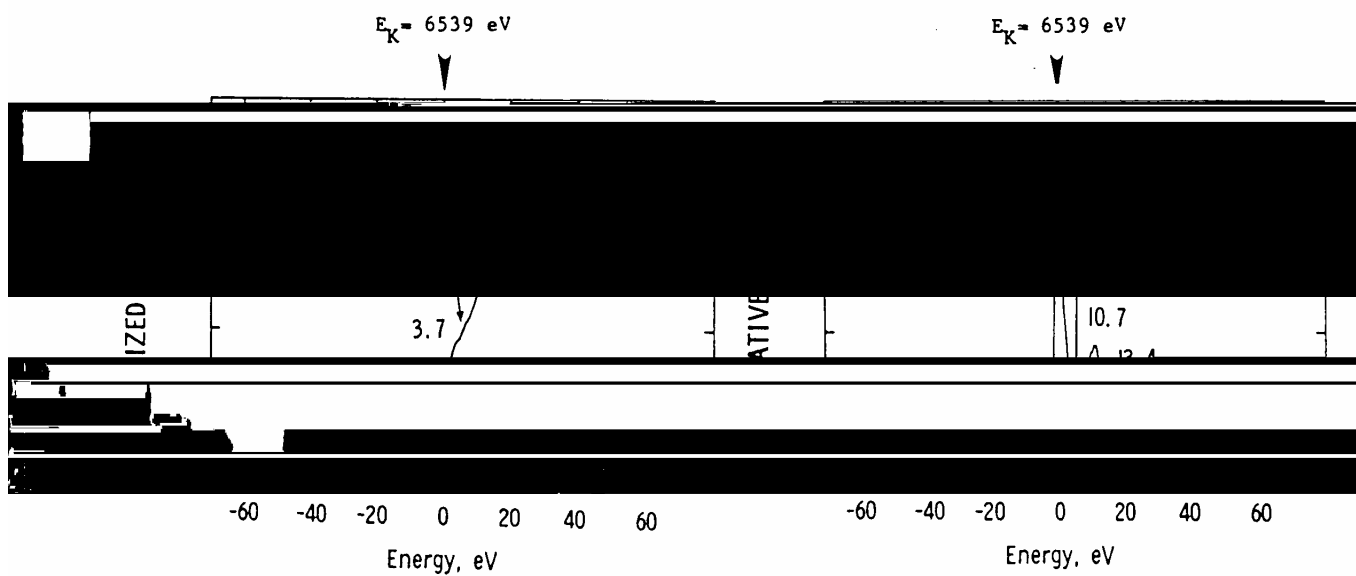
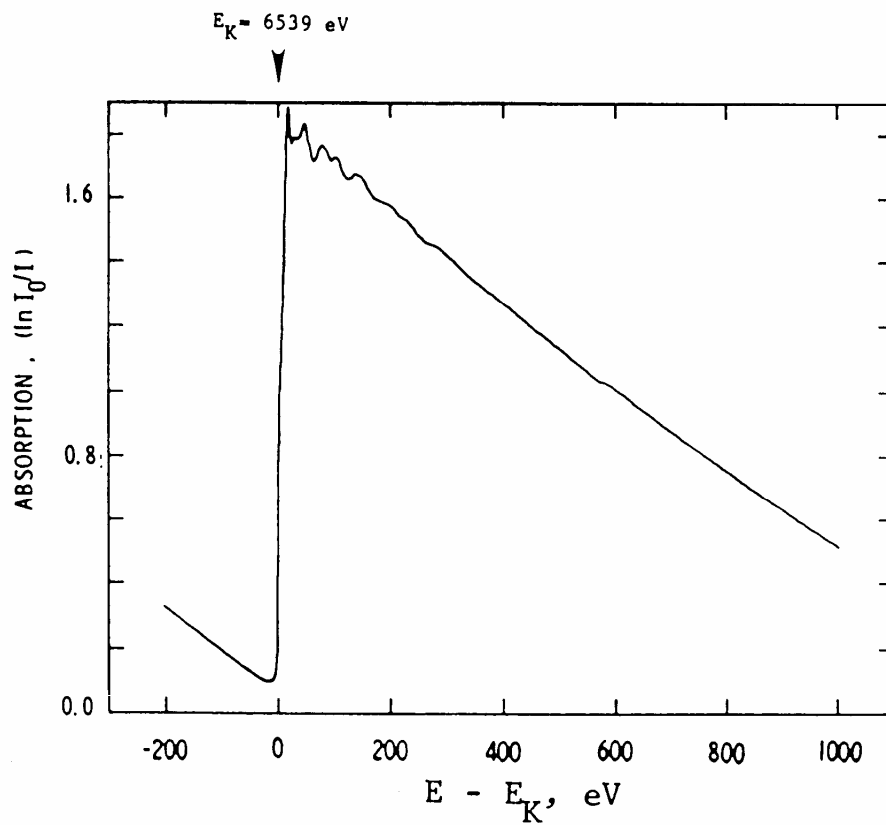


Cr

$E_K = 5989 \text{ eV}$

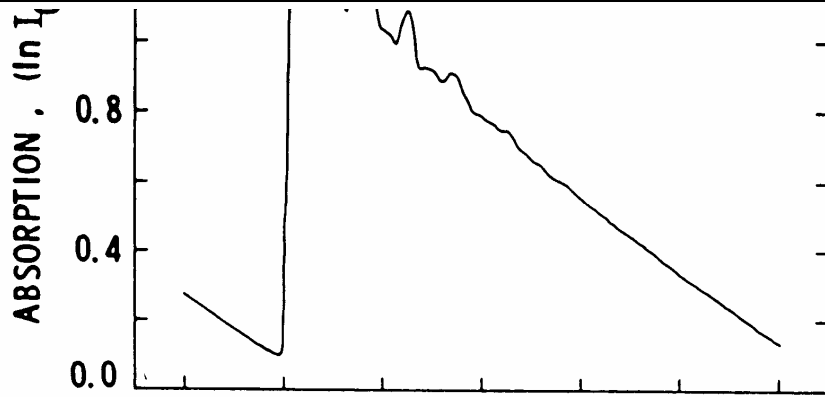


Mn



Fe

$E_K = 7112 \text{ eV}$



$E_K = 7112 \text{ eV}$



$E_K = 7112 \text{ eV}$



ABSORPTION

1.2

19.3

PECTRUM

8.1

16.7

ED

IVE

-60

-40

-20

0

20

40

60

-60

-40

-20

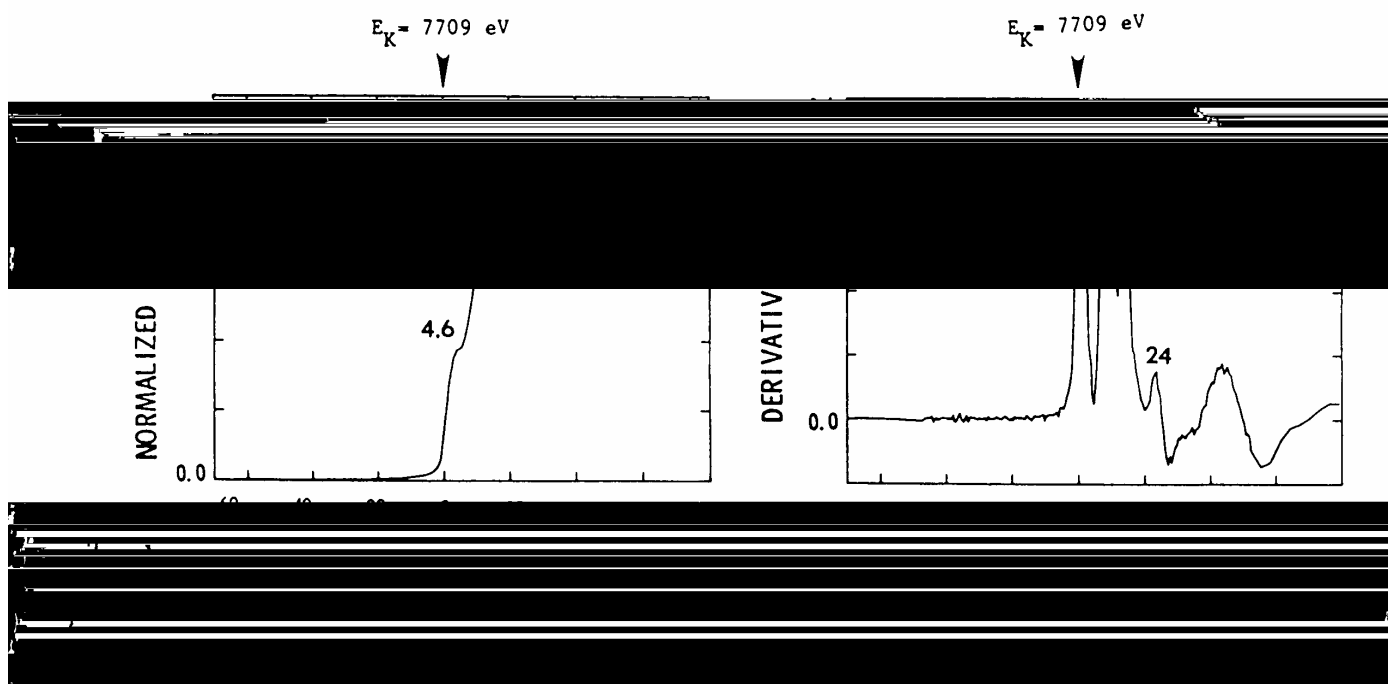
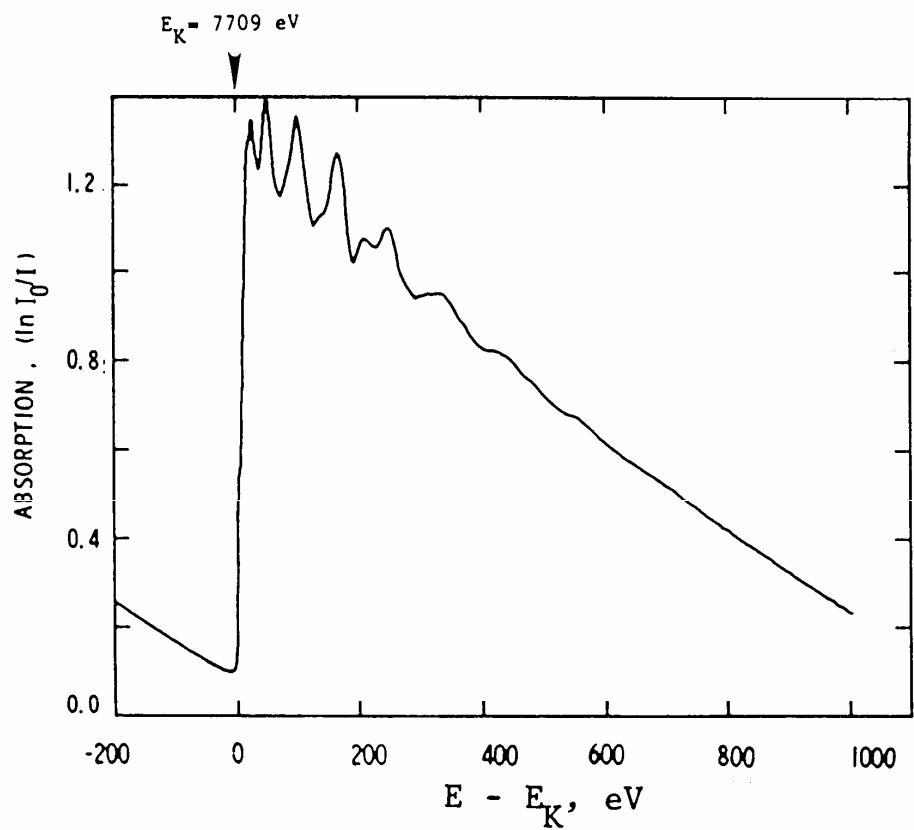
0

20

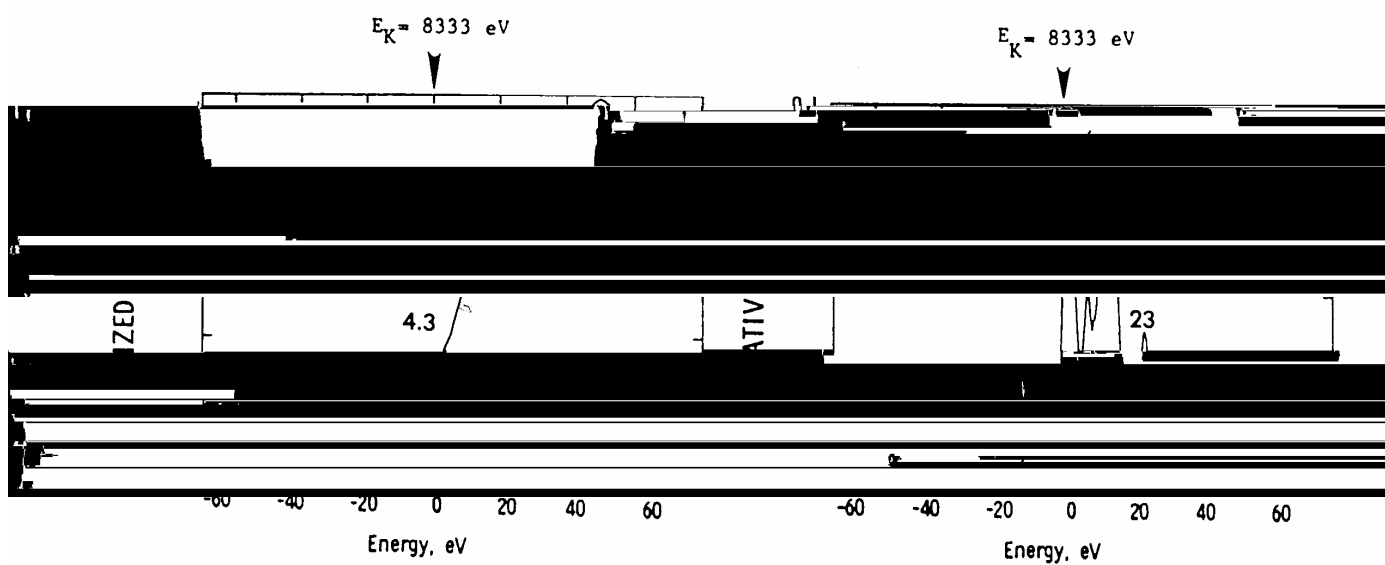
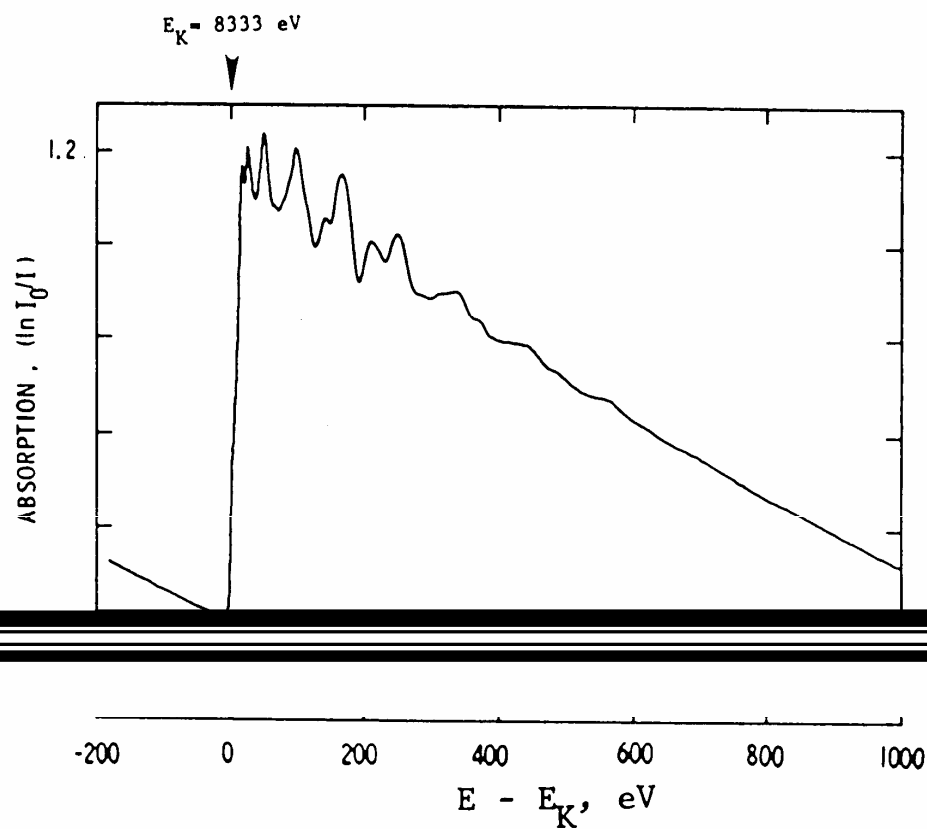
40

60

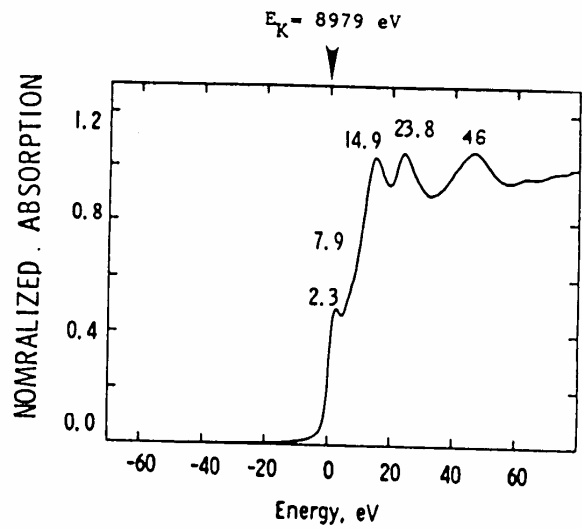
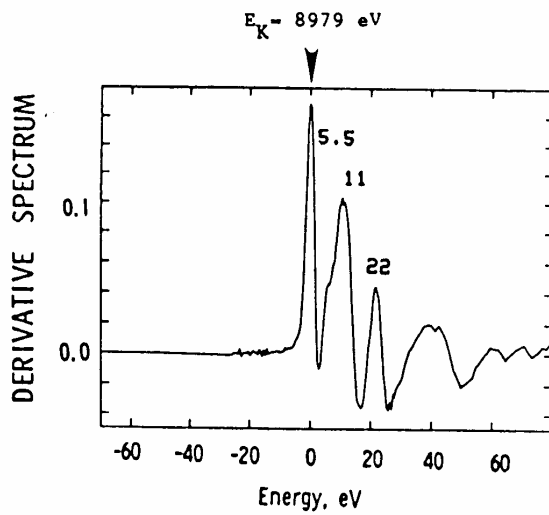
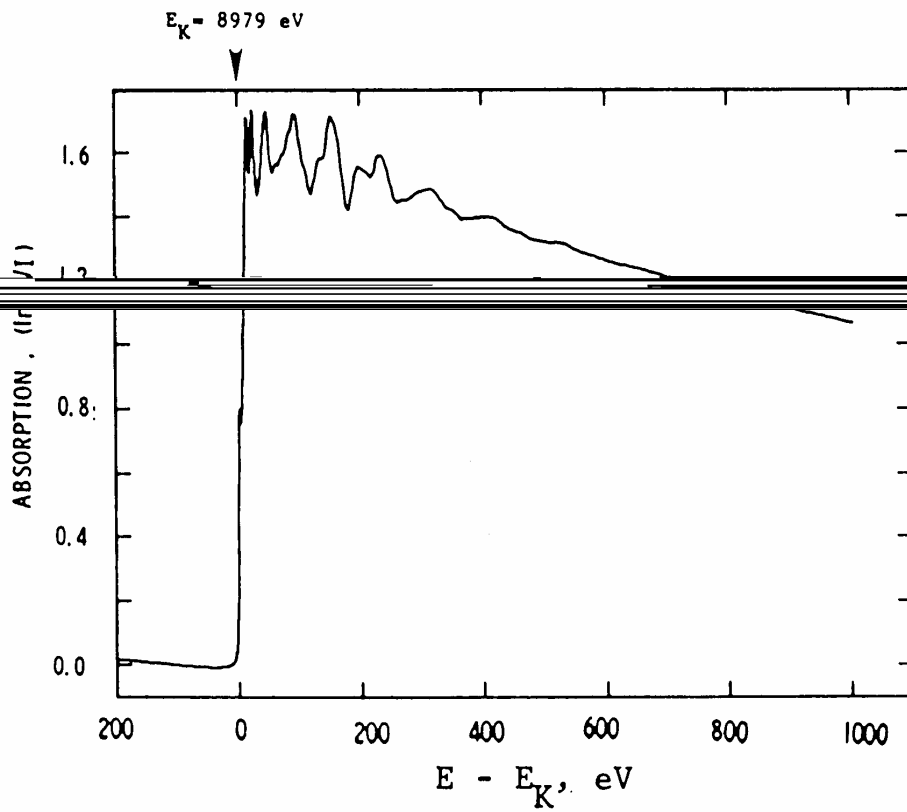
Co



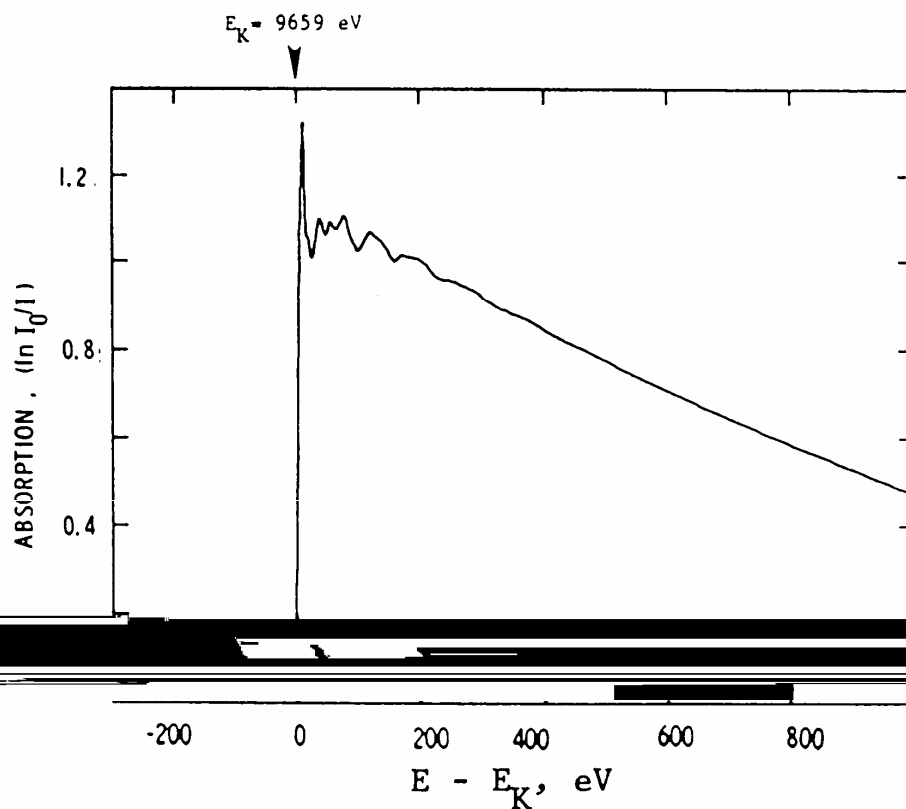
Ni



Cu



Zn



$E_K = 9659$ eV

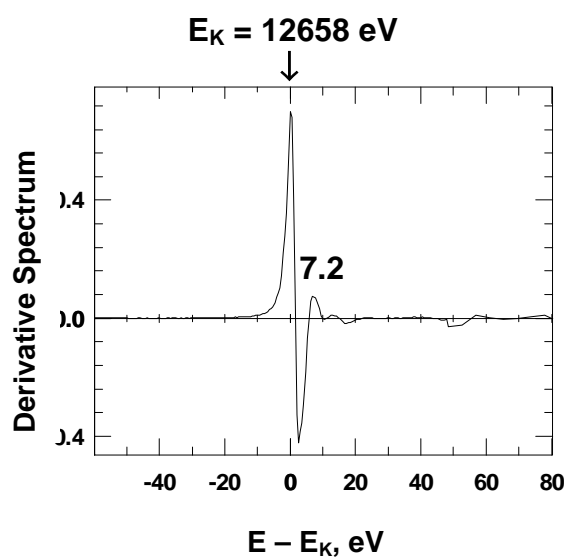
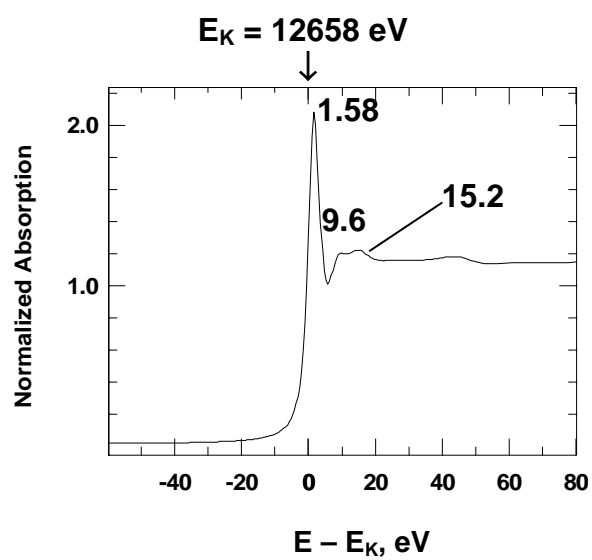
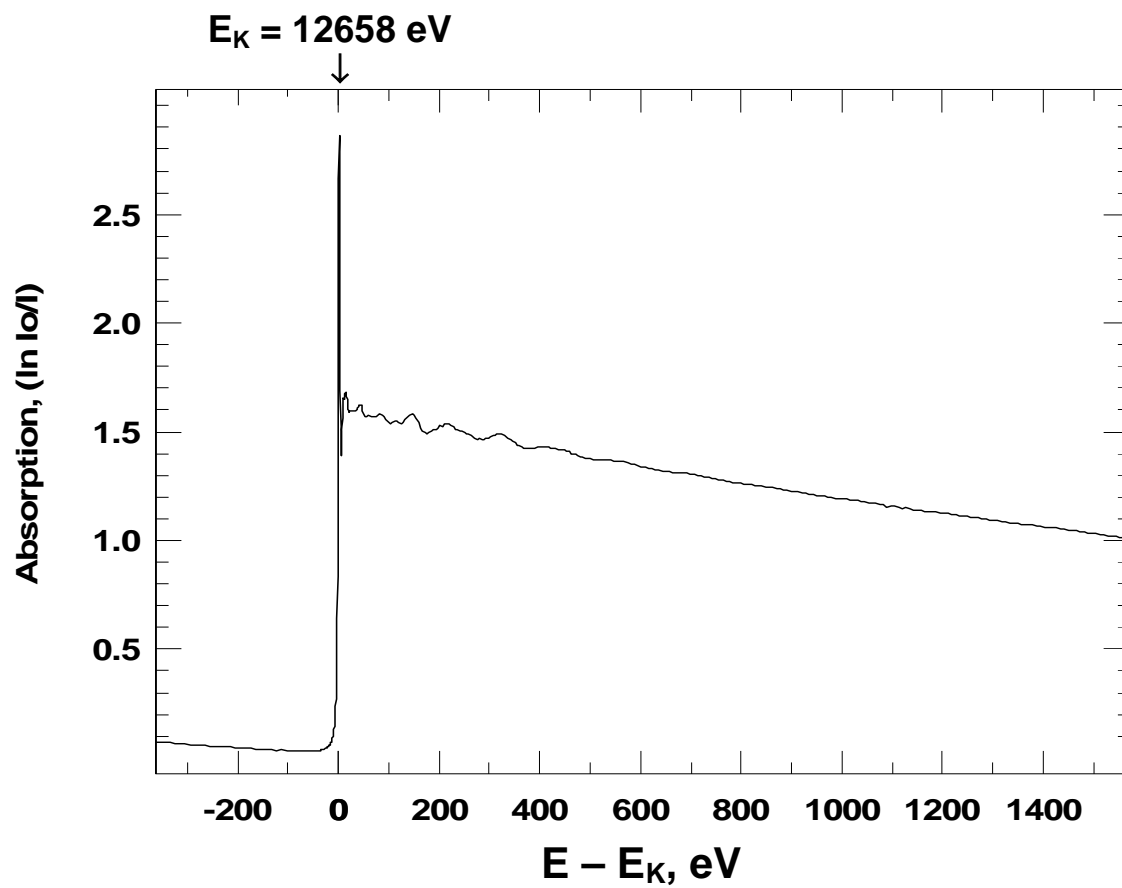
$E_K = 9659$ eV

LIZED

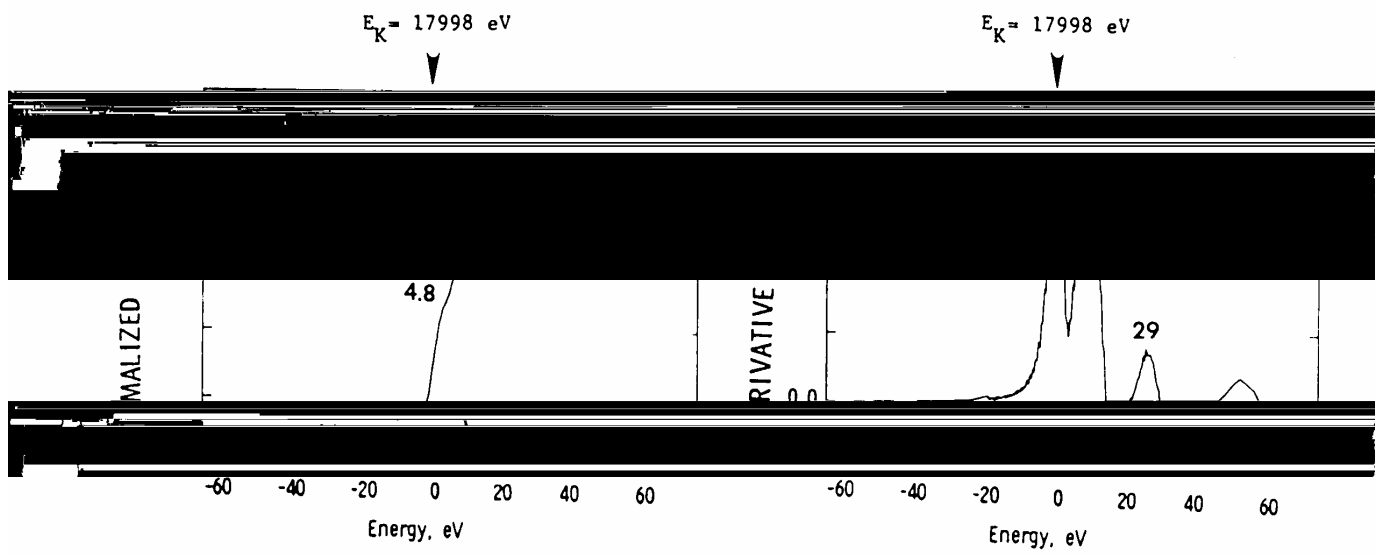
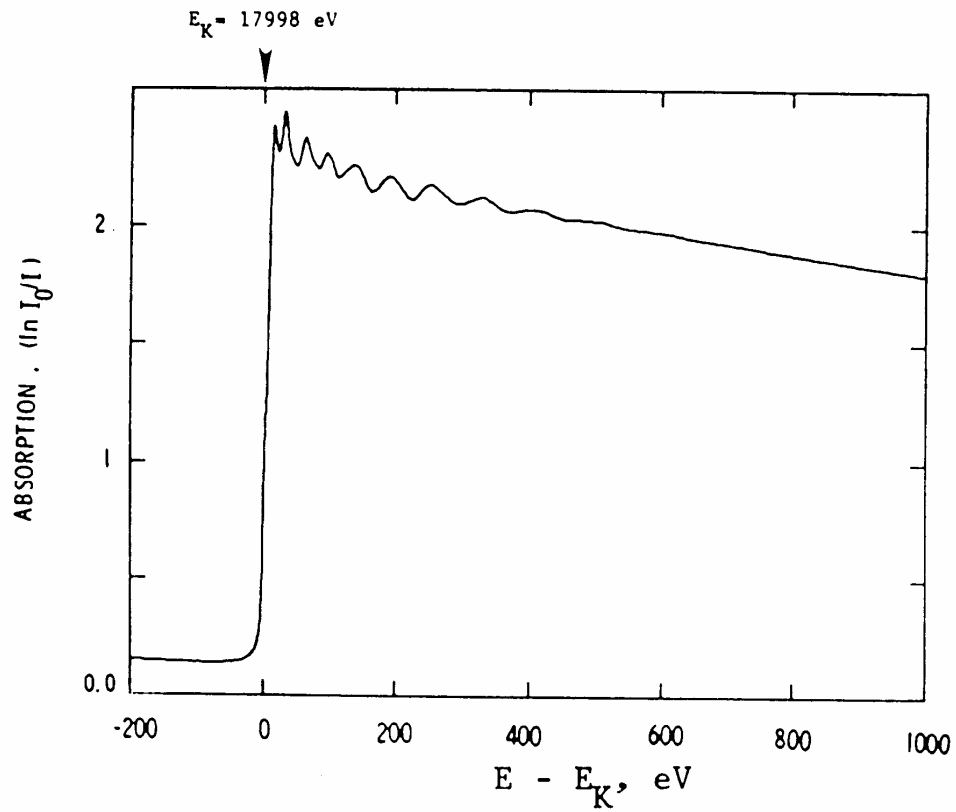
TIVE

17 31

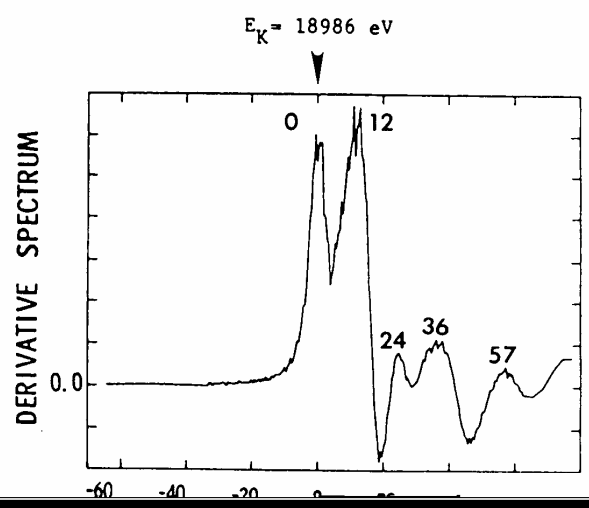
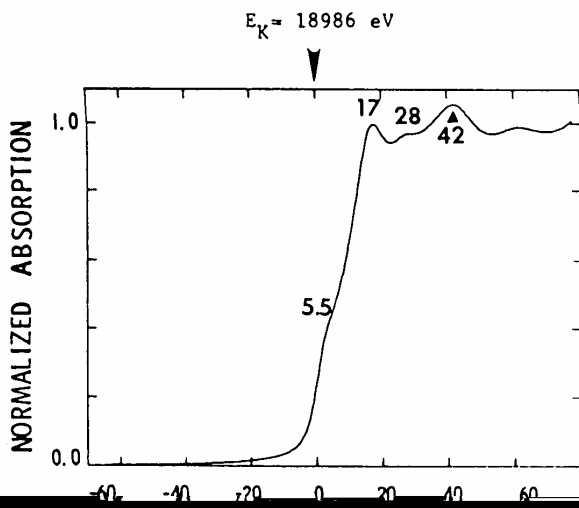
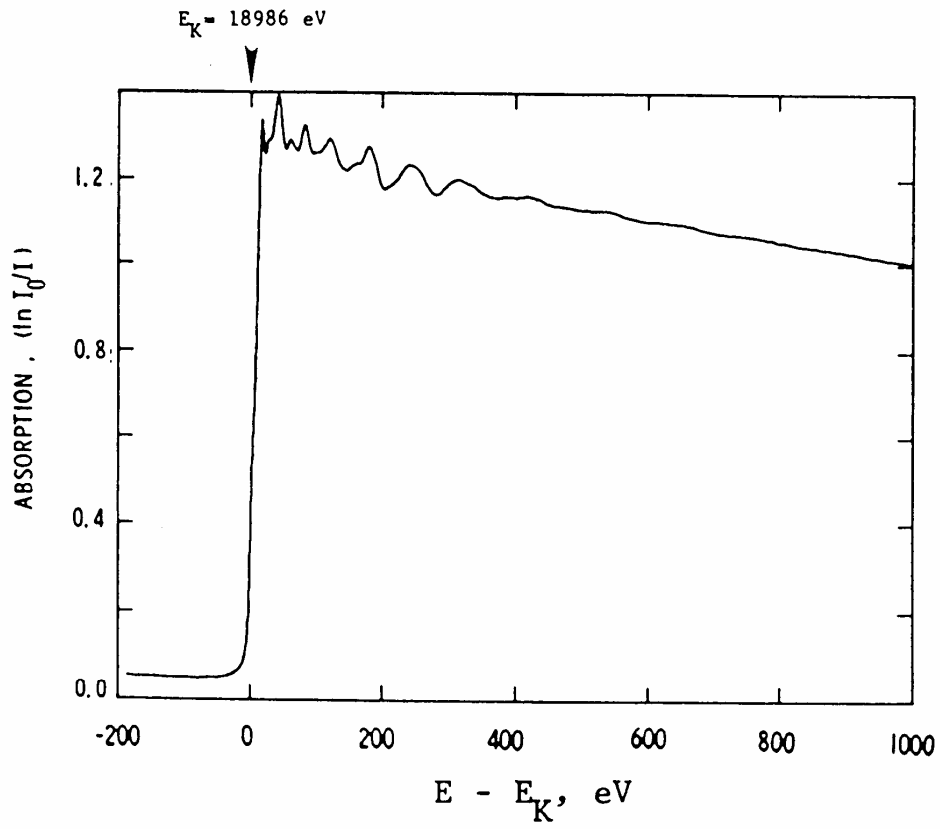
Se



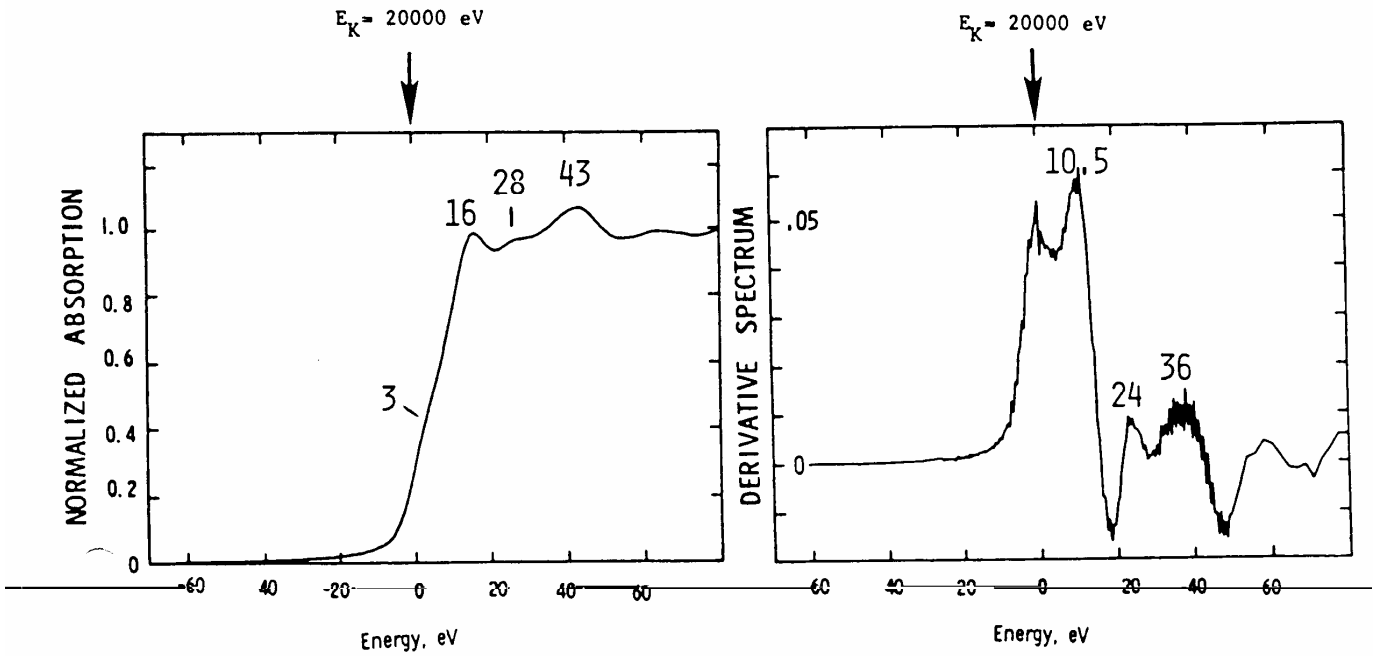
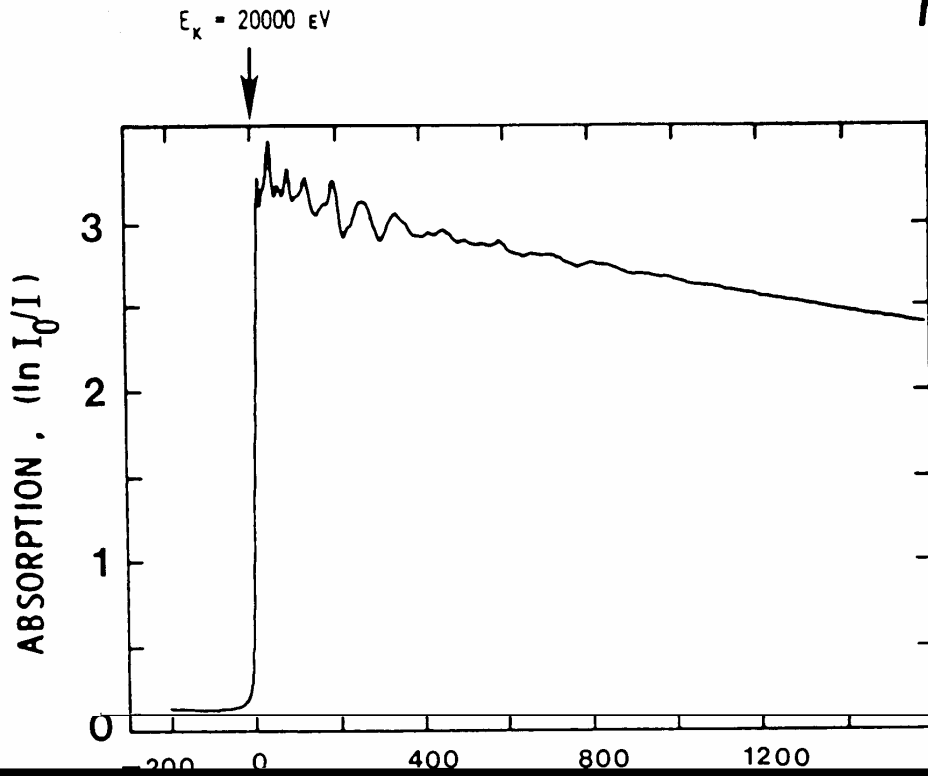
Zr

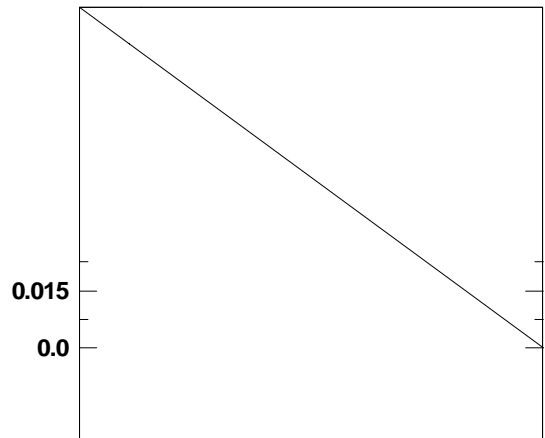
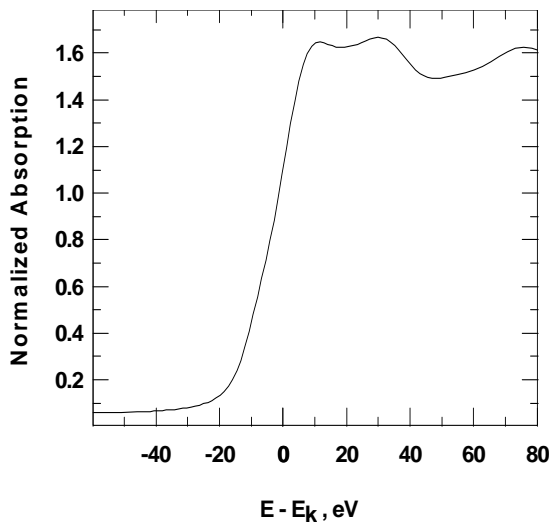
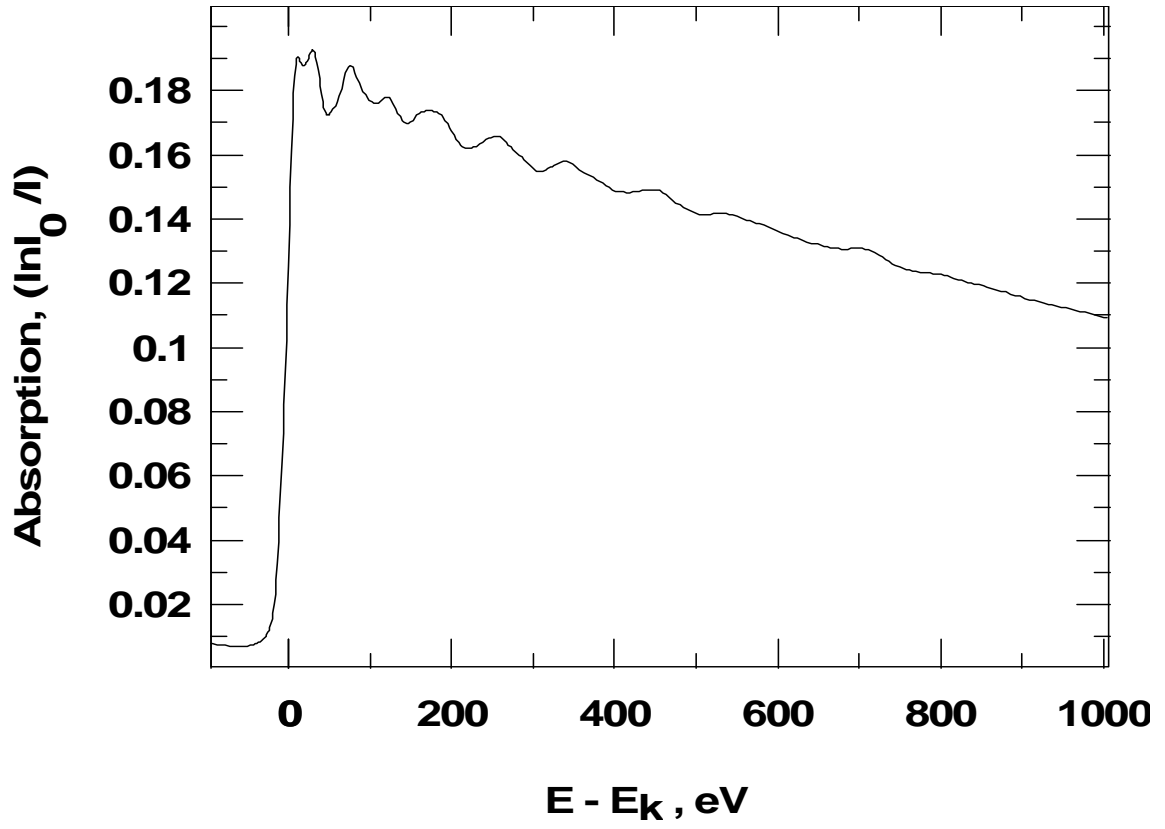


Nb

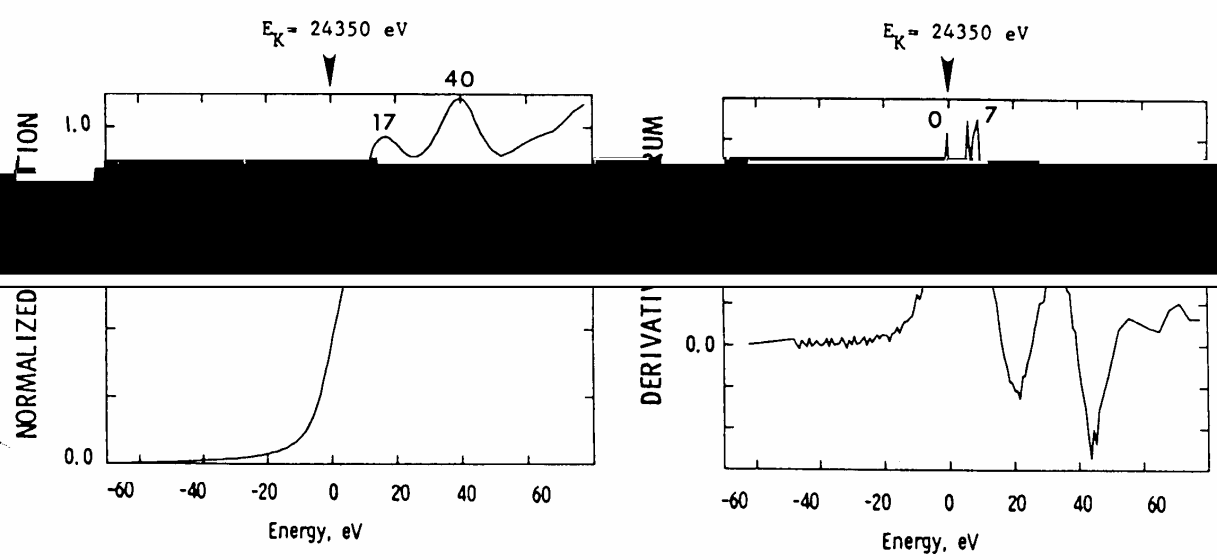
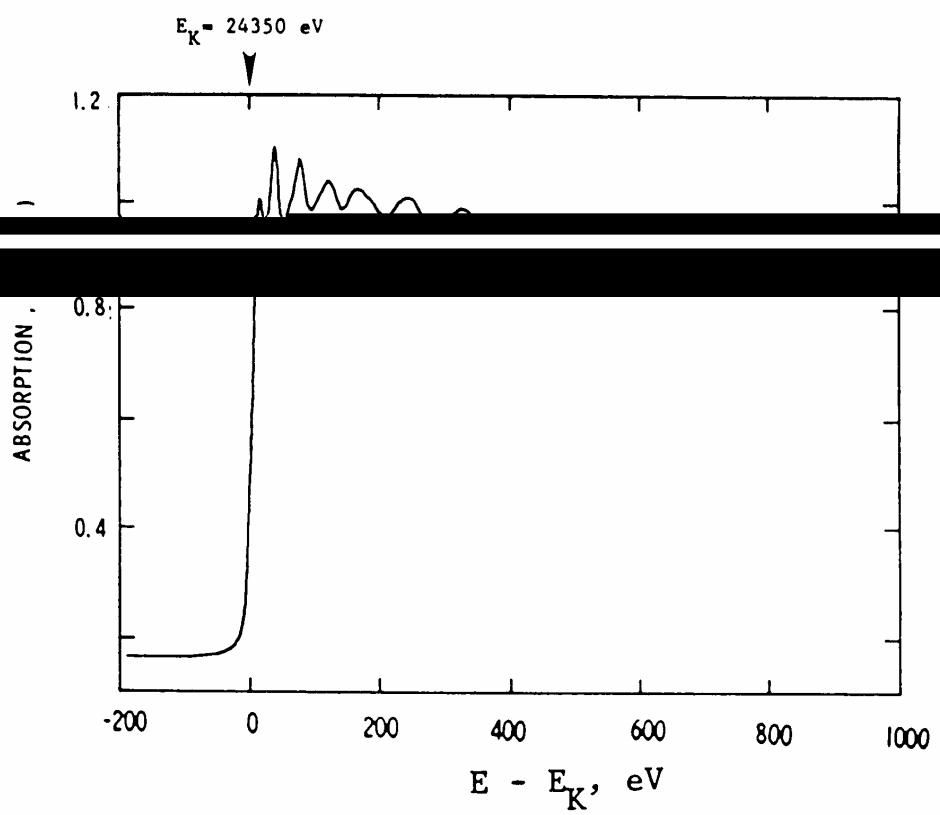


Mo

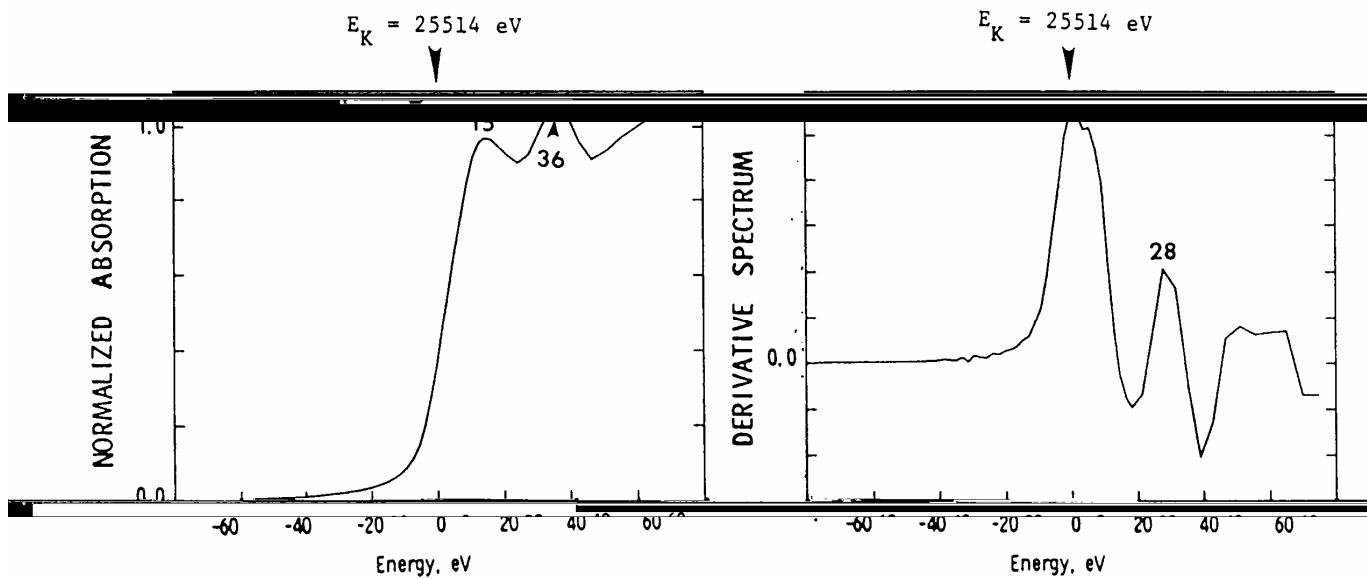
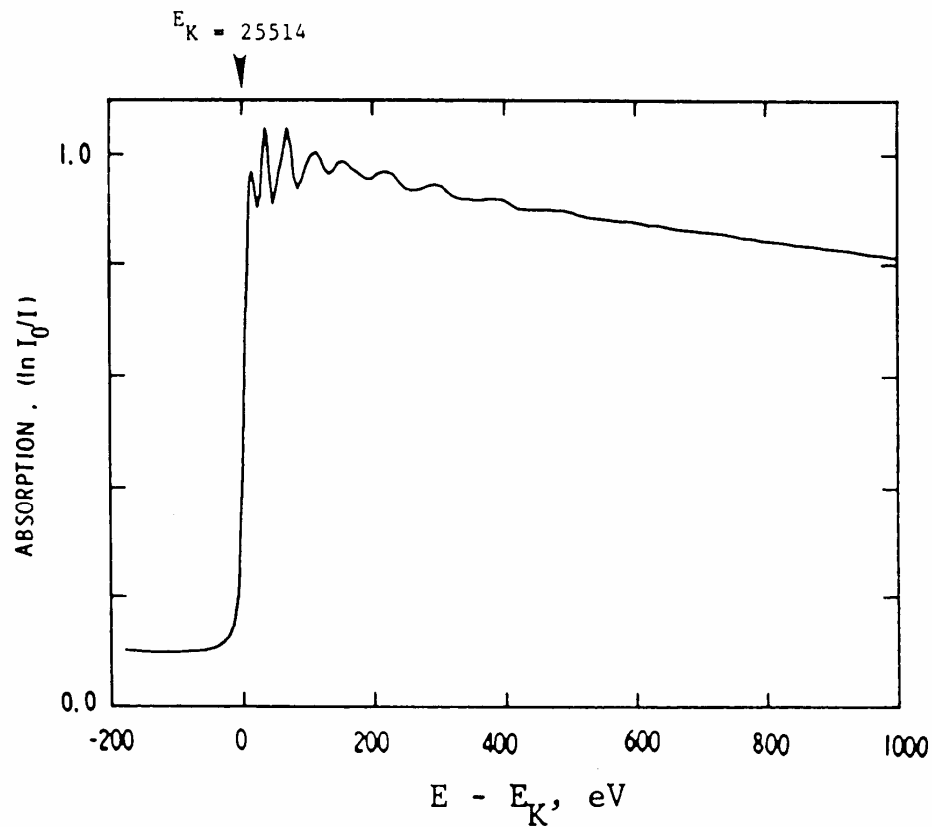




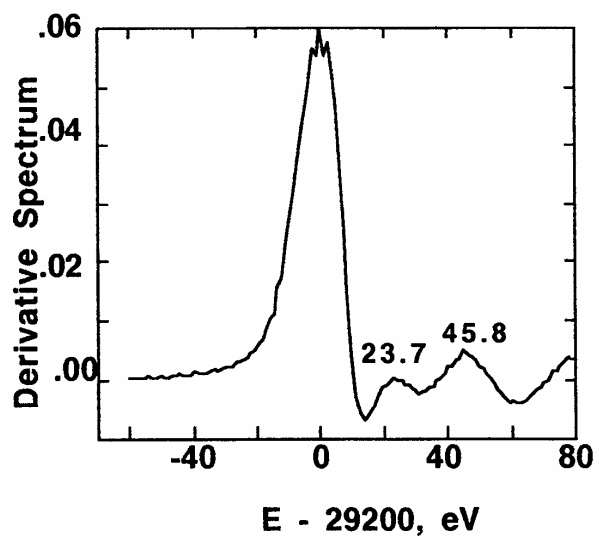
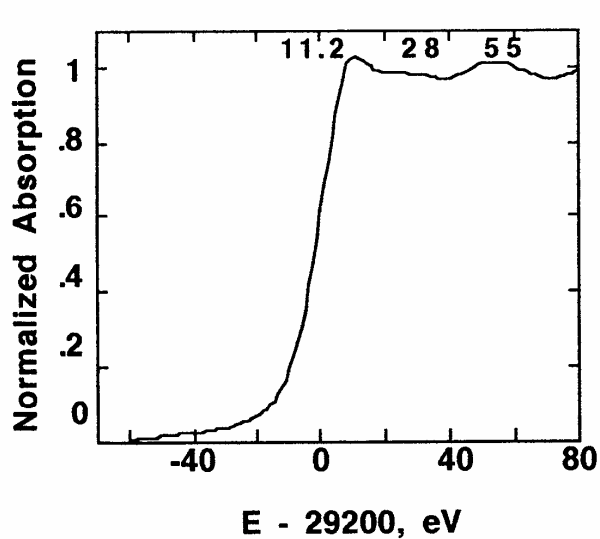
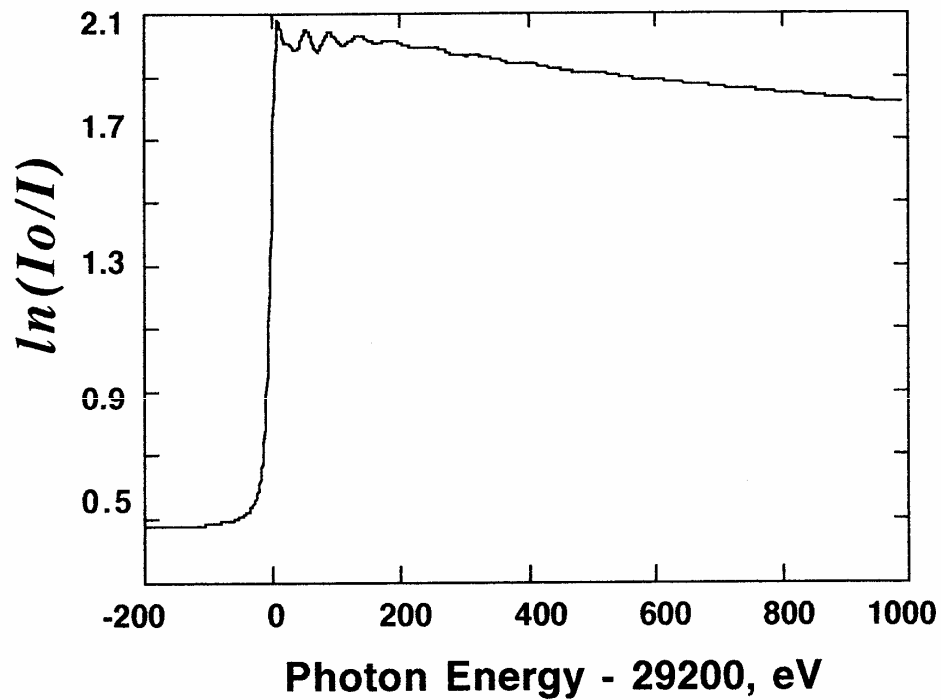
Pd



Ag

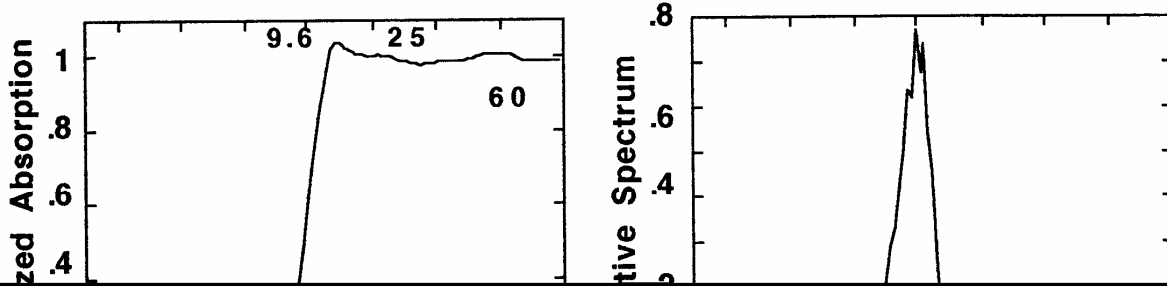
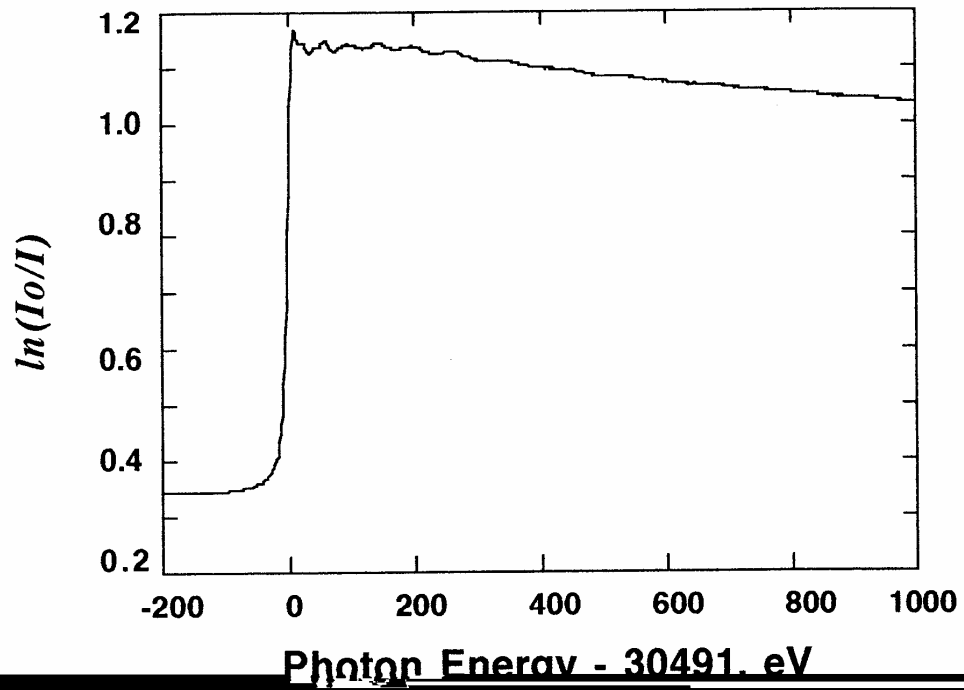


Sn



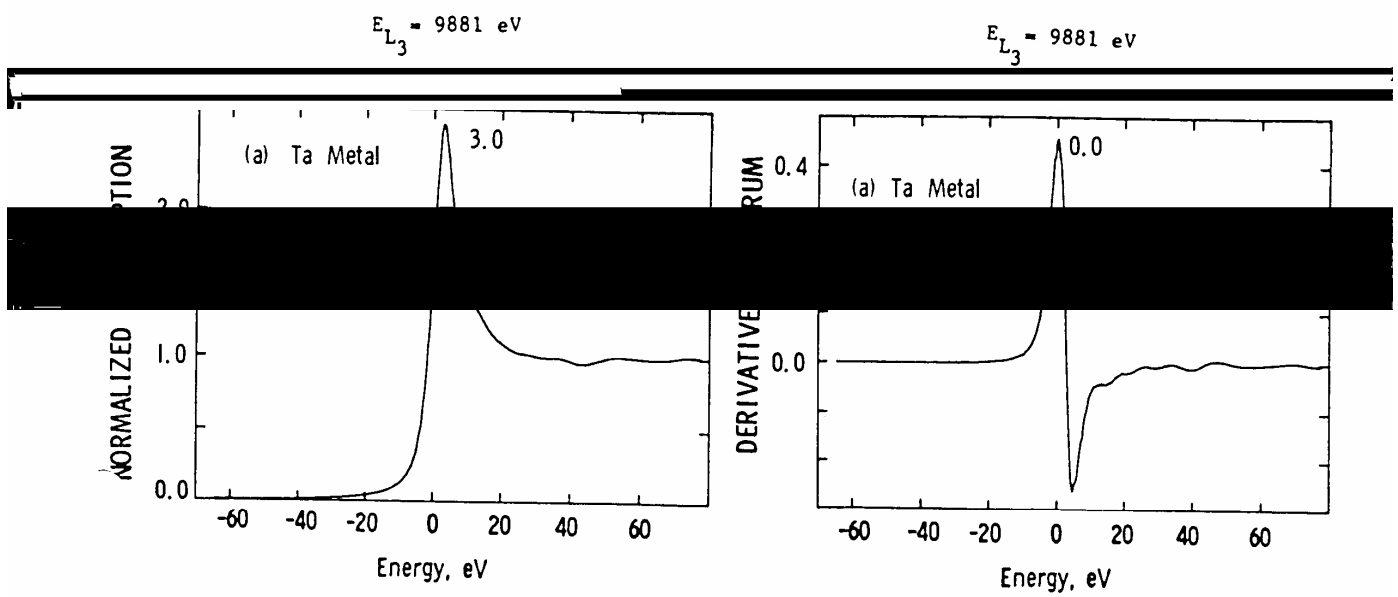
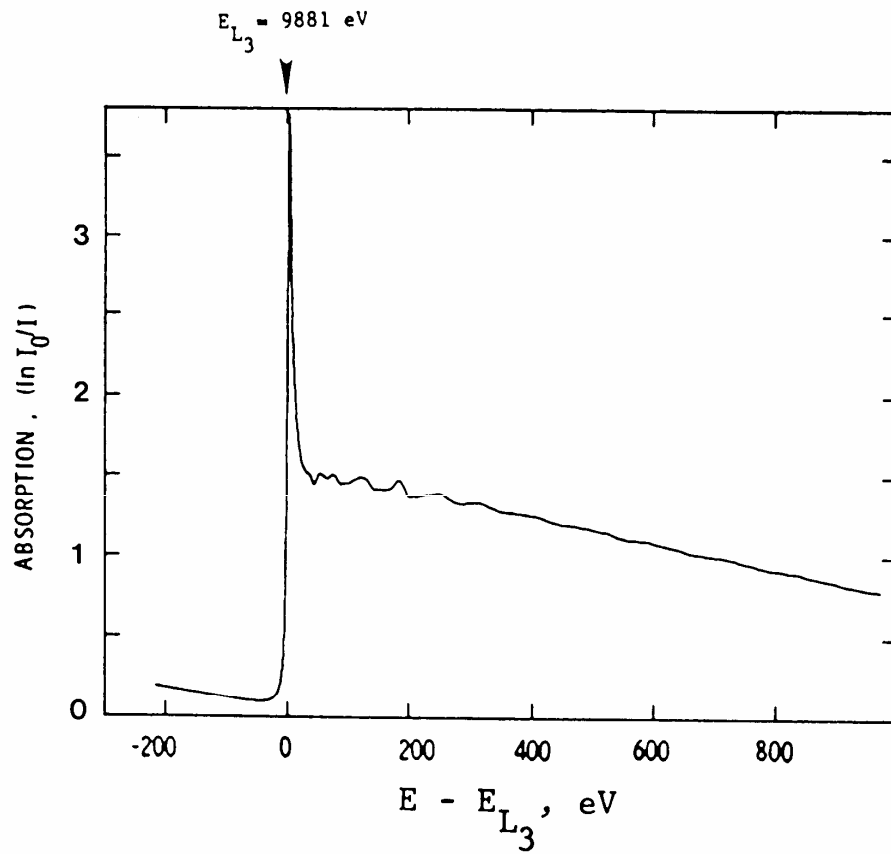
15a

Sb

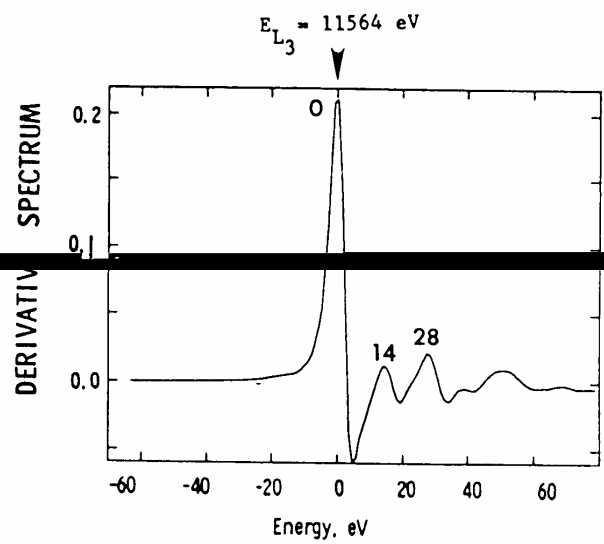
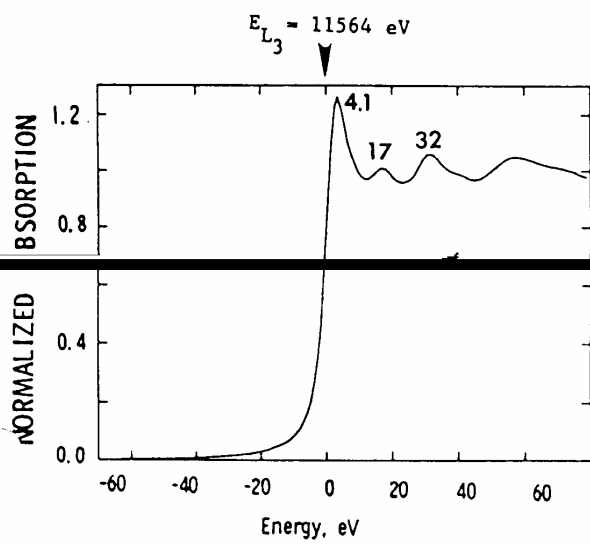
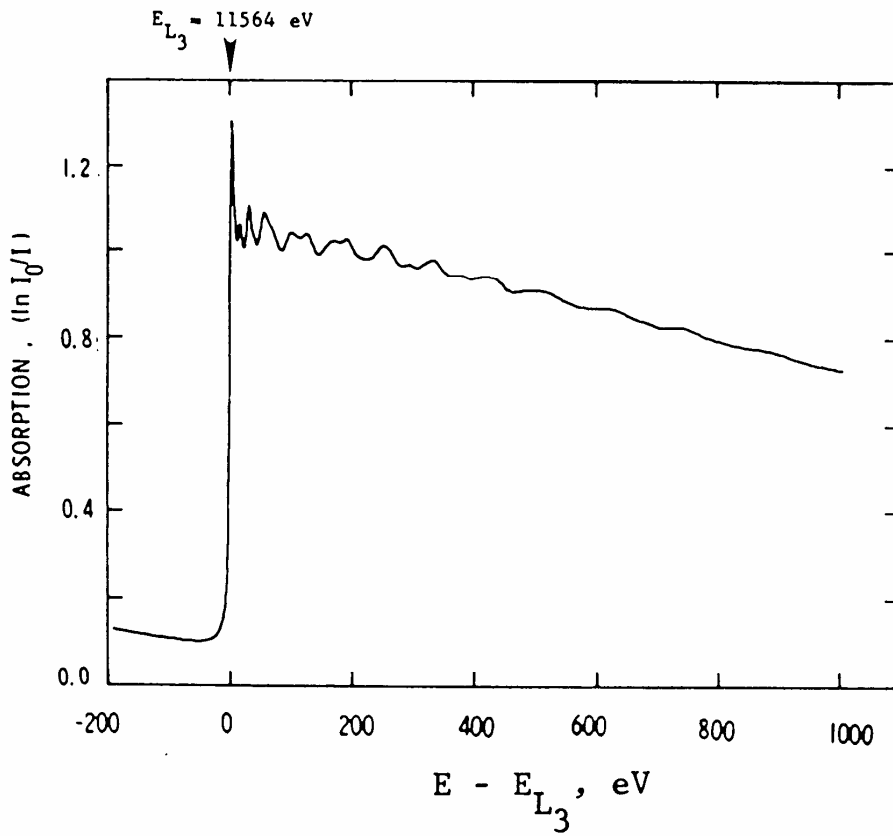


15b

Ta



Pt



Au

$E_{L_3} = 11919 \text{ eV}$

0.8

ABSORPTION, $(\ln I_0)$

0.4

AB

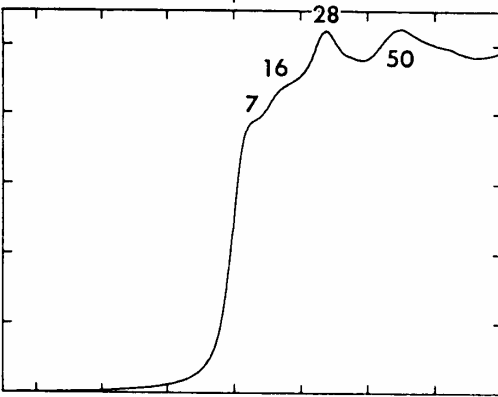
0.0

$E_{L_3} = 11919 \text{ eV}$

NORMALIZED ABSORPTION

1.0

0.0

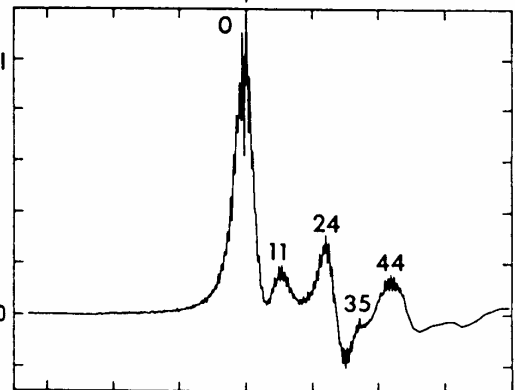


$E_{L_3} = 11919 \text{ eV}$

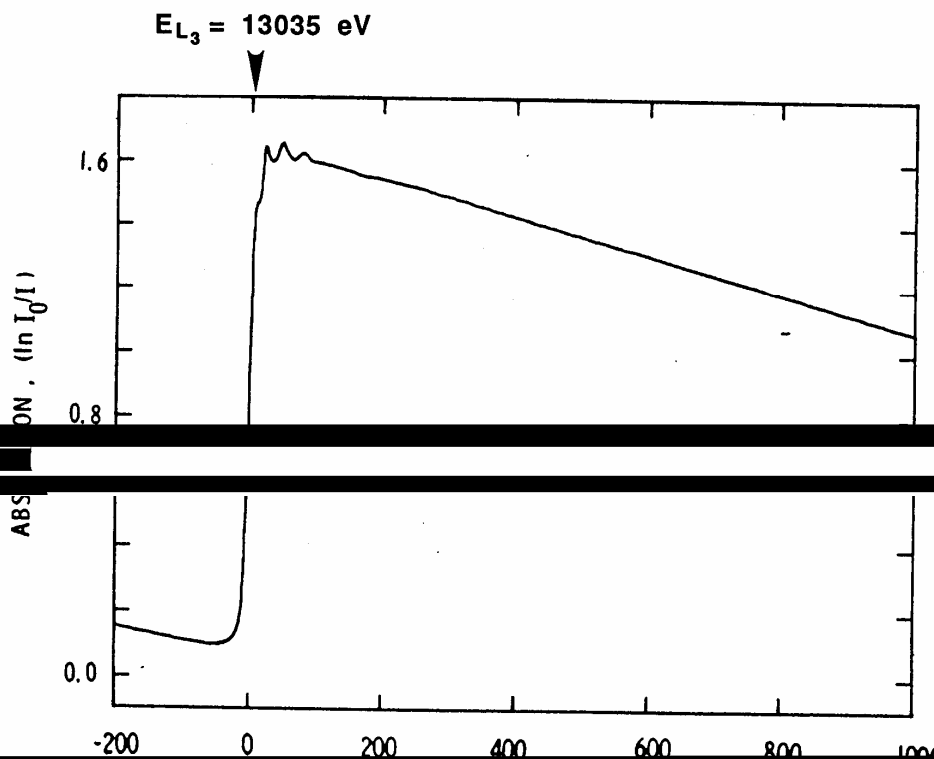
DERIVATIVE SPECTRUM

0.1

0.0



Pb



$E_{L_3} = 13035 \text{ eV}$

$E_{L_3} = 13035 \text{ eV}$

IZED

ATIVE

18

-60 -40 -20 0 20 40 60

-60 -40 -20 0

X-ray K- and L-edge Energies of the Elements, eV

Element	Z	K-Edge	L ₁	L ₂	L ₃
H	1	13.6	0.0	0.0	0.0
He	2	24.6	0.0	0.0	0.0
Li	3	54.8	0.0	0.0	0.0
Be	4	111.0	0.0	0.0	0.0
B	5	188.0	0.0	4.7	4.7
C	6	283.8	0.0	6.4	6.4
N	7	401.6	0.0	9.2	9.2
O	8	532.0	23.7	7.1	7.1
F	9	685.4	31.0	8.6	8.6
Ne	10	866.9	45.0	18.3	18.3
Na	11	1072.1	63.3	31.1	31.1
Mg	12	1303.0	89.4	51.4	51.4
Al	13	1559.6	117.7	73.1	73.1
Si	14	1838.9	148.7	99.2	99.2
P	15	2145.5	189.3	132.2	132.2
S	16	2472.0	229.2	164.8	164.8
Cl	17	2822.4	270.2	201.6	200.0
Ar	18	3202.9	320.0	247.3	245.2
K	19	3607.4	377.1	296.3	293.6
Ca	20	4038.1	437.8	350.0	346.4
Sc	21	4492.8	500.4	406.7	402.2
Ti	22	4966.4	563.7	461.5	455.5
V	23	5465.1	628.2	520.5	512.9
Cr	24	5989.2	694.6	583.7	574.5
Mn	25	6539.0	769.0	651.4	640.3
Fe	26	7112.0	846.1	721.1	708.1
Co	27	7708.9	925.6	793.8	778.6
Ni	28	8332.8	1008.1	871.9	854.7
Cu	29	8978.9	1096.1	951.0	931.1
Zn	30	9658.6	1193.6	1042.8	1019.7
Ga	31	10367.1	1297.7	1142.3	1115.4
Ge	32	11103.1	1414.3	1247.8	1216.7
As	33	11866.7	1526.5	1358.6	1323.1
Se	34	12657.8	1653.9	1476.2	1435.8
Br	35	13473.7	1782.0	1596.0	1549.9
Kr	36	14325.6	1921.0	1727.2	1674.9
Rb	37	15199.7	2065.1	1863.9	1804.4
Sr	38	16104.6	2216.3	2006.8	1939.6
Y	39	17038.4	2372.5	2155.5	2080.0
Zr	40	17997.6	2531.6	2306.7	2222.3
Nb	41	18985.6	2697.7	2464.7	2370.5
Mo	42	19999.5	2865.6	2625.1	2520.2
Tc	43	21044.0	3042.5	2793.2	2676.9
Ru	44	22117.2	3224.0	2966.9	2837.9
Rh	45	23219.9	3411.9	3146.1	3003.8
Pd	46	24350.3	3604.3	3330.3	3173.3
Ag	47	25514.0	3805.8	3523.7	3351.0
Cd	48	26711.2	4018.0	3727.0	3537.5
In	49	27939.9	4237.5	3938.0	3730.1
Sn	50	29200.1	4464.7	4156.1	3928.8
Sb	51	30491.2	4698.3	4380.4	4132.2
Te	52	31813.8	4939.2	4612.0	4341.4

.0 s 3042.5 721.1 9L3 2.4966.4 2 4939.2

