Appendix B. Chemical States Tables

This compilation of all the elements, listed alphabetically, provides specific binding energies of various compounds and pure elements, and a reference in abbreviated notation. When Auger lines are listed, they are in kinetic energy. For compounds with more than one chemical state, an asterisk denotes the atom whose binding energy is listed. The references are expanded in Appendix C. Any listing with a Φ refers to the work contained in this handbook.

This appendix, most of which was compiled by Dr. Charles Wagner for Perkin-Elmer, is part of the chemical state identification algorithm of the PHI software and is also the basis for the XPS database SRD-20 of the National Institute for Standards and Technology (NIST). Further references may also be found in the journal Surface Science Spectra *published by the American Vacuum Society.*

Ag 3d

Ag	368.3	Φ
Ag	368.2	Asam76
Ag	368.2	BiSw80
Ag	368.1	BiSw80
Ag	368.2	BiSw80
Ag	368.2	JHBK73
Ag	368.2	NyMa80
Ag	368.2	HGW75, Scho73, WRDM79, GaWi77, SFS77, Wagn75
Ag	368.2	RRD78, Scho72
$Ag_{95}Sn_5$	368.0	HSBS81
$Al_{40}Ag_{60}$	368.8	WeAn80
$Al_{95}Ag_5$	369.0	WeAn80
$Mg_{21}Ag_{79}$	368.3	WeAn80
$Mg_{30}Ag_{50}$	368.7	WeAn80
$Mg_{97}Ag_3$	368.8	WeAn80
Ag_2Yb	368.8	WWC78
CuAgSe	367.8	RRD78
Ag_2Se	367.8	RRD78
Ag_2S	368.1	RRD78
AgI	368.0	GaWi77
AgF	367.7	GaWi77
AgF_2	367.3	GaWi77
Ag_2O	367.8	HGW75, GaWi77, Scho73
Ag_2O	368.4	RRD78
AgO	367.4	HGW75, GaWi77, Scho73
AgO	368.0	WRDM79
Ag_2CO_3	367.5	HGW75
Ag_2SO_4	367.8	TMR80
Ag_2SO_4	368.3	Wagn75
$AgOOCCF_3$	368.8	Wagn75
Ag(OAc)	368.4	HHDD81
$Ag(3\text{-Cl-pyridin})_2NO_3$	368.6	SmWa77

Ag MNN

Ag	357.9	WRDM79
Ag	358.2	Wagn75
Ag	351.9	RRD 78, PWA 79
Ag	351.6	GaWi77
Ag	358.3	Scho73, FKWF77
Al_4OAg_{60}	351.7	WeAn80
$Al_{95}Ag_5$	351.5	WeAn80
$Mg_{21}Ag_{79}$	352.1	WeAn80
$Mg_{30}Ag_{50}$	351.9	WeAn80
$Mg_{97}Ag_3$	352.2	WeAn80
CuAgSe	351.3	RRD78
Ag_2Se	351.4	RRD78
Ag_2S	351.2	RRD78
AgI	350.1	GaWi77
AgF	349.3	GaWi77
AgF_2	349.6	GaWi77
Ag_2O	356.6	Scho73
Ag_2O	350.6	RRD78, GaWi77
AgO	355.5	WRDM79
AgO	350.6	GaWi77
Ag_2SO_4	354.2	Wagn75
Ag_2SO_4	354.7	TMR80
$AgOOCCF_3$	355.1	Wagn75

Al 2p

Al	72.9	Φ
Al_2O_3, sapphire	74.4	Φ
Al	72.8	LMKJ75, Tayl82, WPHK82, WRDM79, WaTa80
AlB_2	71.9	MECC73
AlAs	73.6	Tayl82
AlGaAs	73.6	Tayl82
Fe_3Al	73.4	ShTr75
$LiAlH_4$	75.6	MSC73
AlN	74.4	MSC73
Al_2S_3	74.6	MSC73
AlI_3	74.6	MSC73
$AlBr_3$	75.2	MSC73
$AlCl_3$	74.7	MSC73
AlF_3	76.3	MSC73
$Al_2(MoO_4)_3$	74.2	PCLH76
$Al_2(WO_4)_3$	74.3	NgHe76
$CoAl_2O_4$	73.6	PCLH76
$MgAl_2O_4$	74.7	HNUW78
$NiAl_2O_4$	74.2	LFWS79, NgHe76
Al_2O_3	74.3	Nefe82, MSC73, NSLS77
Al_2O_3	74.7	KlHe83, NGDS75
Al_2O_3, sapphire	74.2	Tayl82, WPHK82
Al_2O_3, alpha	73.9	WPHK82
Al_2O_3, gamma	73.7	WPHK82
Al_2O_3, gamma	74.0	Barr83
Al_2O_3, gamma	74.3	NgHe76
AlO_2H, boehmite	74.2	Tayl82, WPHK82
$Al(OH)_3$, bayerite	74.2	Tayl82, WPHK82
$Al(OH)_3$, gibbsite	74.0	WPHK82
Al_2SiO_5, kyanite	74.7	AnSw74
Al_2SiO_5, mullite	74.8	AnSw74
Al_2SiO_5, sillimanite	74.6	AnSw74, WPHK82
Albite, $NaAlSi_3O_8$	74.3	WPHK82

Bentonite	75.0	Barr83
Kaolinite	74.6	Barr83, WPHK82
Mica, muscovite	74.3	WPHK82
Natrolite	74.3	WPHK82
Pyrophyllite	74.7	WPHK82
Spodumene	74.3	WPHK82
H Zeolon	74.8	WPHK82
Hydroxysodalite	75.0	WPHK82
Mol Sieve A	73.6	WPHK82, Barr83
$Al(acac)_3$	72.9	MSC73

Al KLL

Al	1393.3	WPHK82, WaTa80
AlAs	1391.2	Tayl82
AlN	1389.0	TaRa81
Al_2O_3, sapphire	1387.8	Tayl82, WPHK82
Al_2O_3, alpha	1388.2	WPHK82
Al_2O_3, gamma	1387.8	WPHK82
AlOOH	1387.6	WPHK82, Tayl82
$Al(OH)_3$, bayerite	1387.7	WPHK82, Tayl82
$Al(OH)_3$, gibbsite	1387.4	WPHK82
Al_2SiO_5, sillimanite	1386.9	WPHK82
Albite, $NaAlSi_3O_8$	1386.5	WPHK82
Kaolinite	1386.7	WPHK82
Mica, muscovite	1387.1	WPHK82
Natrolite	1386.5	WPHK82
Pyrophyllite	1386.8	WPHK82
Spodumene	1387.1	WPHK82
H Zeolon	1385.5	WPHK82
Hydroxysodalite	1386.4	WPHK82
Mol Sieve	1386.9	WPHK82

Ar 2p

Ar in Si	241.9	Φ
Ar in Ag	241.2	CiHa74
Ar in Ag	241.9	KiWi75
Ar in Au	240.3	CiHa74
Ar in Au	240.7	KiWi75
Ar in Cu	241.1	CiHa74
Ar in Pt	240.4	KiWi75
Ar in graphite	241.8	KiWi75
Ar in graphite	241.5	WRDM79

As 3d

As	41.6	Φ
As	41.6	Bert81, BWWI76, MINN78, SMAV72, UeOd81
NbAs	40.8	BWWI76
AlAs	41.0	Tayl82
AlGaAs	41.0	Tayl82
GaAs	40.8	LPMK74
GaAs	40.9	GGVL79, WRDM79, Tayl82, MINN78, IMNN79
InAs	40.6	LPMK74
As_2Se_3	42.9	BWWI76, UeOd82
As_4S_4	43.1	BWWI76
As_2S_3	43.4	BWWI76
As_2S_5	44.4	SMAV72
AsI_3	43.5	BWWI76
$AsBr_3$	45.3	BWWI76
As_2O_3	44.9	LPGC77, MINN78, Tayl82, WRDM79
As_2O_5	46.2	Bert81, BWWI76, MINN78, SMAV72
KH_2AsO_4	46.7	SMAV72
NaH_2AsO_4	45.5	WRDM79
$NaAsO_2$	44.2	Tayl82, WRDM79
K_3AsO_4	44.4	SMAV72
Na_3AsO_4	44.9	SMAV72
$Na_4As_2O_7$	45.4	SMAV72
$KAsF_6$	48.0	SMAV72, WRDM79
$LiAsF_6$	49.4	SMAV72
Ph_3As	42.8	HVV79, SMAV72
Ph_3AsS	44.1	BWWI76, HVV79
Ph_3AsO	44.3	BWWI76, SMAV72, HVV79
$Ph_3As(OH)_2$	44.5	SMAV72
$MeAsI_2$	43.5	BWWI76
Ph_4AsI	44.6	HVV79
Ph_4AsBr	44.6	HVV79, SMAV72

As LMM

As	1224.8	Wagn75, BWWI76
NbAs	1226.0	BWWI76
GaAs	1225.3	Tayl82, WRDM79
As_2Te_3	1225.0	BWWI76
As_2Se_3	1223.3	BWWI76
As_2S_3	1222.1	BWWI76
AsI_3	1222.9	BWWI76
$AsBr_3$	1218.1	BWWI76
As_2O_3	1218.8	Tayl82, WRDM79, BWWI76
As_2O_5	1217.5	BWWI76
NaH_2AsO_4	1217.1	WRDM79
$NaAsO_2$	1219.5	Tayl82, WRDM79
K_2AsF_6	1213.8	WRDM79
Ph_3As	1221.1	BWWI76
Ph_3AsS	1220.0	BWWI76
Ph_3AsO	1219.5	BWWI76
$MeAsI_2$	1222.3	BWWI76

Au 4f

Au	84.0	Φ
Au	84.1	Asam76
Au	84.0	BiSw80
Au	84.0	BiSw80
Au	83.9	BiSw80
Au	84.1	PEJ 82
Au	84.2	ALMP82
AuSn	84.5	FHPW73
$AuSn_4$	85.1	FHPW73
$YbAu_2$	84.6	WWC 78
$ClAuPh_3P$	85.4	BMCK77, VVSW77

$ClAu(Ph_3P)_2$	85.4	BMCK77
Cl_3AuPh_3P	87.3	BMCK77
$(Ph_3P)AuNO_3$	85.4	BMCK77
$ClAu(Ph_3As)$	85.2	VVSW77
$(-AuSPEt_2S-)_2$	84.8	VVSW77
$(-AuCH_2PEt_2CH_2-)_2$	84.0	VVSW77

Au MNN

Au	2015.8	PEJ82
Au	2101.6	WaTa80
Au	2015.7	WaTa80

B 1s

B	189.4	Φ
B	187.3	HHJ70
B_4C	186.5	HHJ70
AlB_2	188.5	MECC73
Co_2B	189.1	MECC73
CoB	188.1	MECC73
Fe_2B	188.4	MECC73
FeB	187.9	MECC73
HfB_2	188.3	MECC73
MnB_2	187.2	MECC73
Mo_2B_5	187.7	BrWh78
MoB_2	188.4	MECC73
TiB_2	187.5	MECC73
VB_2	188.3	MECC73
W_2B_5	187.9	MECC73
CrB_2	188.0	MECC73
BN	190.5	HJGN70, KOK83, WRDM79
Na_3BO_6	192.0	HHJ70
B_2O_3	192.0	BrWh78
B_2O_3	193.3	NGDS75
$NaBF_4$	194.9	HHJ70, RNS73
NF_4BF_4	195.2	RNS73
$NaBH_4$	187.2	HHJ70
H_3BO_3	193.0	HHJ70
$Na_2B_4O_7 \cdot 10H_2O$	192.6	HHJ70
$B_{10}H_{14}$	187.8	HHJ70
$Me_4NB_3H_8$	187.2	HHJ70
$NaBPh_4$	187.5	HHJ70
NH_3BF_3	194.9	BCGH73
$C_5H_5NBF_3$	194.3	BCGH73
$EtNH_2BF_3$	194.6	BCGH73
Me_3NBF_3	193.6	HHJ70
$NaBH(OMe)_3$	192.1	HHJ70
Ph_3PBF_3	193.3	HHJ70
Ph_3POBF_3	193.8	HHJ70
Ph_3POBCl_3	192.6	HHJ70
Ph_3PBCl_3	192.7	HHJ70
CH_3CNBF_3	195.5	BCGH73
$ClC_6H_4B(OH)_2$	191.7	HHJ70
$FC_6H_4B(OH)_2$	191.7	HHJ70
$(Et_3P)_2PtB_{10}H_{12}$	188.9	Rigg72
$(Ph_3P)_2PtB_{10}H_{12}$	188.5	Rigg72

Ba $3d_{5/2}$

Ba	780.6	Φ
Ba	779.3	VaVe80
BaS	779.8	SiWo80
BaO	779.9	WRDM79
BaO	779.6	SiWo80
BaO	779.1	VaVe80
$Ba(NO_3)_2$	780.7	CLSW83
$BaCO_3$	779.9	CLSW83
$BaSO_4$	780.8	Wagn77
$BaSO_4$	780.4	CLSW83
$BaSO_4$	779.9	SiWo80
$BaCrO_4$	778.9	ACHT73
$BaMoO_4$	779.1	NFS82
$BaRh_2O_4$	779.6	NFS82

Ba MNN

Ba	602.0	VaVe80
BaO	597.5	WRDM79
BaO	598.4	VaVe80
$BaSO_4$	596.1	Wagn77

Be 1s

Be	111.8	Φ
Be	111.7	HJGN70, SMKM77, WRDM79
BeO	113.8	HJGN70, KOK83, NFS82
$BeMoO_4$	113.7	NFS82
$BeRh_2O_4$	113.8	NFS82
BeF_2	115.3	NKBP73
BeF_2	116.1	HJGN70
$NaBeF_3$	115.3	NKBP73
Na_2BeF_4	114.7	NKBP73

Bi 4f

Bi	157.0	Φ
Bi	156.9	SFS77
Bi	157.0	LKMP73
Bi	157.0	WRDM79, MSV73
Bi_2S_3	158.9	MSV73
BiI_3	159.3	MSV73
BiF_3	160.8	MSV73
Bi_2O_3	158.8	NGDS75
Bi_2O_3	159.3	MSV73
Bi_2O_3	159.8	DSBG82
BiOCl	159.9	MSV73
$NaBiO_3$	159.1	MSV73
Bi_2MoO_6	158.3	MaWo75
$Bi_2Ti_2O_7$	159.7	MSV73
$(BiO)_2Cr_2O_7$	159.6	MSV73
$Bi_2(SO4)_3 \cdot H_2O$	161.2	MSV73

Br 3d

KBr	68.8	Φ
CsBr	68.1	MVS73
CsBr	69.6	ShIq78

RbBr	68.4	MVS73
KBr	68.8	MVS73, WaTa80
NaBr	68.8	MVS73, ShIq78
LiBr	69.2	MVS73
$CdBr_2$	69.2	SATD73
$CuBr_2$	68.9	VWHS81
$HgBr_2$	69.0	SATD73
$PbBr_2$	68.7	Nefe82
$ZnBr_2$	70.0	SATD73
$Co(NH_3)_6SbBr_6$	68.9	Tric74
$Ni(NH_3)_6Br_2$	68.7	NZB 78
$Pt(NH_3)_4Br_2$	68.4	SNMK78
K_2PtBr_4	69.3	SNMK78
K_2PtBr_6	69.2	SNMK78
$Cs_3Sb_2Br_9$	70.8	Tric74
$Rb_3Sb_2Br_9$	70.1	Tric74
Bromanil	70.1	OYK74
Ph_4AsBr	66.7	HVV79
Ph_4SbBr	68.0	HVV79
$(Me_4N)_2ZnBr_4$	67.8	EMGK74
$(Et_4N)_2MnBr_4$	67.9	EMGK74
$(Et_4N)_2NiBr_4$	68.9	EMGK74
H_3POBBr_3	69.3	HVV79
H_3PBBr_3	69.6	HVV79
$Br_2Pt(CH_3CONH)_4$	68.7	NeSa78

Br LMM

LiBr	1389.2	Wagn78
NaBr	1388.3	Wagn78
KBr	1388.0	WaTa80
$KBrO_3$	1384.4	Wagn78
$Cl_6H_{33}Me_3NBr$	1390.1	Wagn78

C 1s

Graphite	284.5	Φ
Graphite	284.3	JHBK73
Cr_3C_2	282.8	RHJF69
Fe_3C	283.9	ShTr75
HfC	280.8	RHJF69
Mo_2C	282.7	RHJF69
NbC	281.9	RHJF69
Ni_3C	283.9	SiLe78
TaC	281.9	RHJF69
TiC	281.6	RHJF69, IKIM73
VC	282.2	RHJF69
WC	282.8	RHJF69, CoRa76
ZrC	281.1	RHJF69
KCN	286.1	Vann76
NaCN	286.2	Vann76
$K_3Co(CN)_6$	285.9	Vann76
$K_3Cr(CN)_6$	283.9	Vann76, ZeHa71
$K_3Fe(CN)_6$	283.9	Vann76, ZeHa71
$K_4Fe(CN)_6$	283.5	Vann76
$K_3Mn(CN)_6$	284.0	Vann76
$Na_4Mn(CN)_6$	284.0	Vann76
$K_4V(CN)_6$	285.5	Vann76
$Cr(CO)_6$	287.9	BCGH72, BCHM72, KTWY76, PFD73
$Co(CO)_3NO$	288.2	BCGH72
$Fe(CO)_5$	288.0	BCGH72
$Fe(CO)_2(NO)_2$	288.2	BCGH72
$Mn_2(CO)_{10}$	287.5	VWVB77
$Ni(CO)_4$	288.2	BCGH72
$(Mn(CO)_4Br)_2$	287.6	VWVB77
$BrMn(CO)_5$	288.0	VWVB77
Ag_2CO_3	288.4	HGW 75
$BaCO_3$	289.4	CLSW83
$CaCO_3$	289.6	CLSW83
$CdCO_3$	289.3	HGW 75
Li_2CO_3	289.8	CSFG79
Na_2CO_3	289.4	GHHL70, HHDD81
$NaHCO_3$	290.0	GHHL70
$SrCO_3$	289.5	CLSW83
CS_2	287.0	GHHL70
CO_2	291.9	GHHL70
CCl_4	292.4	GHHL70
COF_2	293.9	GHHL70
CF_4	296.7	GHHL70
Cyclohexane	285.2	GHHL70
Benzene	284.7	GHHL70, LaFo76, CKAM72
$C_6H_5C^*H_3$	284.7	CKM71
$C_6H_5CH_3$ (C^*CH_3)	285.1	CKM71
$C_6H_5CH_3$ (C^*-H)	285.0	CKM71
$Fe(C_5H_5)_2$	284.5	BCDH73
$Cr(C_6H_6)_2$	284.4	KTWY76
$CH_3C^*H_2OH$	286.3	GHHL70
$CH_3COOC^*H_2CH_3$	286.9	GHHL70
C_6F_6	289.5	CKAM72
Inositol	286.7	GHHL70
Hydroquinone	286.4	OYK74
$(C^*HCOH)_3$	284.8	GHHL70
$(CHC^*OH)_3$	286.6	GHHL70
$(CH_3C^*H_2)_2O$	286.5	GHHL70, CITh78
HCHO	287.7	GHHL70
$(CH_3C^*HO)_3$	287.6	GHHL70
$CH_3C^*OCH_3$	287.9	GHHL70
$CF_3C^*OCH_3$	288.5	GHHL70
$C^*F_3COCH_3$	292.6	GHHL70
$(CO)_6$	288.3	GHHL70
CH_3C^*OOH	289.3	GHHL70
CH_3C^*OONa	288.2	HHDD81
CH_3C^*OONa	288.8	GHHL70
CH_3C^*OOAg	288.3	HHDD81
HOOCCOOH	289.9	GHHL70
$(COONa)_2$	289.0	GHHL70
CF_3C^*OOEt	290.4	GHHL70
C^*F_3COOEt	292.9	GHHL70
Cl_3C^*COONa	289.5	GHHL70
Cl_3CC^*OONa	288.3	GHHL70
F_3C^*COONa	292.1	GHHL70
F_3CC^*OONa	288.9	GHHL70
p-Benzoquinone	287.4	OYK74

$Cr(acac)_3$	286.0	ZeHa71
$CH_3C^*H_2OCOCl$	287.1	GHHL70
$EtOC^*OCl$	290.8	GHHL70
$(PhO)_2CO$	290.7	CITh78
$HC^*(OCH_3)_3$	289.7	GHHL70
$HCOONH_4$	288.4	GHHL70
$OC^*(OCH_3)_2$	291.2	GHHL70
$O(C^*H_2COOH)_2$	286.7	GHHL70
$O(CH_2C^*OOH)_2$	289.5	GHHL70
$CH_3C^*H_2Cl$	286.1	GHHL70
CH_2Br_2	287.1	GHHL70
CH_2Cl_2	287.8	GHHL70
HCF_3	294.7	GHHL70
$HCCl_3$	289.6	GHHL70
C_6H_5Cl (C^*Cl)	287.1	CKM71
$C_6H_5Cl(C^*H)$	285.7	CKM71
C_6H_5Br	285.1	LaFo76
$C_6H_5F(C^*F)$	287.8	CKM71
$C_6H_5F(C^*H)$	285.6	CKM71
C_6HCl_5	286.1	CKAM75
$C_6HF_5(C^*H)$	286.9	CKAM72
$C_6HF_5(C^*F)$	289.2	CKAM72
C_6F_6	288.7	GHHL70
$Cl_2FCCFCl_2$	291.7	GHHL70
$ClF_2C^*CFCl_2$	292.9	GHHL70
C^*H_3CN	286.3	BCGH73
CH_3C^*N	287.2	BCGH73
CH_3CONH_2	288.4	SNMK78
$EtNH_2$	285.6	BCGH73, GHHL70
$EtNH_2BF_3$	286.8	BCGH73
$PhNH_2$	284.6	LaFo76
$C(NH_2)_3Cl$	289.4	LeRa77
$(CH_2)_6N_4$	286.9	GHHL70
C_5H_5N	285.5	BCGH73
PhCN	285.4	LaFo76
$C^*H_3CNBF_3$	287.3	BCGH73
$CH_3C^*NBF_3$	289.1	BCGH73
Triazole	286.3	GHHL70
$NC^*N=C(NH_2)_2$	286.4	LeRa77
$NCN=C^*(NH_2)_2$	288.2	LeRa77
$H_2NCH_2C^*OONa$	287.9	GHHL70
H_2NCONH_2	288.7	GHHL70, LeRa77
H_2NCSNH_2	288.0	LeRa77, SrWa77
$H_2NCONHCONH_2$	289.3	YYS78
$PhNO_2$	285.3	LaFo76
Ph_3P	284.9	LMF80
Ph_3PO	284.6	LMF80
Ph_4PBr	285.4	LMF80, LaFo76
Ph_4Sn	284.6	BALS76
$p(CH_2=CHCl)$	286.3	PRCV77
$p(CH_2=CHOH)$	286.3	PRCV77
$p(HOCOCH=CH_2)$	289.0	HHDD81
$p(NaOCOCMe=CH_2)$	288.1	HHDD81
$p(C^*H_3OCOCH=CH_2)$	286.4	CITh78
$p(CH_3OC^*OCH=CH_2)$	288.6	CITh78
$p(MeOCOCMe=CH_2)$	289.0	HHDD81
PVA $(-CH_2C^*HOH-)n$	286.1	PRCV77
Cellulose	286.2	CDW81
PEO $(-CH_2C^*H_2O-)n$	286.1	CDW81
poly $(-CH_2CH_2C=O-)n$	287.4	CDW81
$C_6H_4(C^*OOH)_2$	288.9	CDW81
$HOOC^*(CH_2)_4C^*OOH$	288.9	CDW81
Sodium Stearate	288.3	CDW81
Mylar Polyester C*-H	284.85	JFM
Mylar Polyester C*-O	286.3	CDW81
Mylar Polyester C^*O_2	288.7	CDW81
Polycarbonate-OC^*O_2-	290.4	CDW81
Teflon $(-CF_2CF_2-)n$	292.2	CFK73
$(-C^*FHCF_2-)n$	289.3	CFK73
$(-CFHC^*F_2-)n$	291.6	CFK73
(-CFHCFH-)n	288.4	CFK73
$(-C^*H_2CF_2-)$	286.3	CFK73
$(-CH_2C^*F_2-)n$	290.8	CFK73
$(-C^*H_2CFH-)n$	285.9	CFK73
$(-CH_2C^*FH-)n$	288.0	CFK73
PVC $(-C^*H_2CHCl-)$	284.9	PRCV77
PVC $(-CH_2C^*HCl-)$	286.5	PRCV77

Ca 2p

Ca	346.3	Φ
$CaCO_3$	346.6	Φ
Ca	345.9	VaVe80
Ca	346.8	SMKM77
CaH_2	346.7	FMUK77
CaSe	345.9	FMUK77
CaS	346.5	FMUK77
$CaCl_2$	348.3	Wagn77
CaF_2	347.8	Wagn77, NSLS77
CaO	346.1	InYa81
CaO	346.7	FMUK77
CaO	347.3	VaVe80
$CaCO_3$	346.9	Wagn77, CLSW83, WRDM79
$Ca(NO_3)_2$	348.7	CLSW83
$CaCrO_4$	346.3	ACHT73
$CaMoO_4$	347.2	NFS82
$CaRh_2O_4$	345.7	NFS82
$CaSO_4$	348.0	CLSW83
$CaWO_4$	346.5	Nefe82
$Ca_3Si_3O_9$	347.0	WPHK82

Ca LMM

Ca	298.2	VaVe80
CaO	292.5	VaVe80
$CaCO_3$	291.9	WRDM79, Wagn77
$CaCl_2$	291.9	Wagn77
CaF_2	289.1	Wagn77

Cd $3d_{5/2}$

Cd	405.1	Φ
Cd	405.0	GaWi77, HSBS81,WRDM79, Wagn75
$Cd_{996}Sn_4$	404.9	HSBS81

$Hg_{0.8}Cd_{0.2}Te$	404.6	SBB80
CdTe	404.9	SBB80, GaWi77
CdSe	405.3	GaWi77
CdS	405.3	GaWi77
CdI_2	405.4	GaWi77
$CdBr_2$	406.0	SATD73
$CdCl_2$	406.1	SATD73
CdF_2	405.9	GaWi77, SATD73, Wagn77
CdO	405.2	GaWi77, NGDS75, NFS82, SBB80
CdO_2	403.6	HGW75
$Cd(OH)_2$	405.0	WRDM79, HGW75
$CdCO_3$	405.1	HGW75
$CdRh_2O_4$	404.7	NFS82

Cd MNN

Cd	383.8	WRDM79, Wagn75, GaWi77
CdTe	382.4	GaWi77
CdSe	381.4	GaWi77
CdS	381.1	GaWi77
CdI_2	381.0	GaWi77
CdF_2	378.8	GaWi77
CdO	382.2	GaWi77

Ce 3d

Ce	883.8	Φ
Ce	883.9	ScOs82
$CeAl_2$	883.5	LFBC80
$CePd_3$	884.3	LFBC80
CeSe	884.3	LFBC80
$CeCu_2Si_2$	883.6	LFBC80
CeO_2	881.8	WRDM79
CeO_2	882.4	NGDS75, SaRa80
CeH_3	886.0	ScOs82

Cl 2p

KCl	198.5	Φ
CsCl	196.3	MVS73
KCl	198.2	MVS73, NSLS77, YYS78
NaCl	198.4	MVS73, NSLS77, SGSO70
LiCl	198.5	MVS73, CSFG79
RbCl	197.9	MVS73
$CuCl_2$	200.0	VWHS81
$NiCl_2$	199.4	KIHe83, TRLK73, YYS 78
$PdCl_2$	198.9	NKBP73
$RhCl_3$	199.3	OIIT79
$RhCl_3 \cdot 12H_2O$	199.2	CMHL77
$SbCl_5$	199.7	BCH 75
$ZnCl_2$	198.5	KIHe83
K_2IrCl_6	198.6	NSBN77, LeBr72, CoHe72
K_2MoCl_6	198.4	CoHe72
K_2OsCl_6	198.6	CoHe72, LeBr72
K_2PdCl_4	198.8	NKBP73
K_2PtCl_4	198.8	CMHL77, SNMK78
K_2PtCl_6	198.8	CoHe72, LeBr72, SNMK78
K_2ReCl_6	198.4	CoHe72
K_2ReCl_6	199.3	LeBr72
K_2SnCl_6	198.4	CoHe72
K_2WCl_6	199.0	LeBr72
K_3IrCl_6	198.7	NSBN77
K_3RhCl_6	198.4	SNMK78
$K_4Mo_2Cl_8$	198.8	HUGH79
Na_2PdCl_4	199.3	SeTs76
$Co(NH_3)_6SbCl_6$	198.9	Tric74
$Pt(NH_3)_2Cl_2$	198.8	CMHL77, Nefe78
$Pt(NH_3)_4Cl_2$	197.8	SNMK78
$Pt(NH_3)_6Cl_4$	197.8	SNMK78
$Rh(NH_3)_6Cl_3$	198.1	Nefe78
$Cs_3Sb_2Cl_9$	198.0	BCH75, Tric74
$CsSbCl_6$	199.2	Tric74
$KIrCl_5NO$	198.9	NSBN77
ICl	200.1	Sher76
$CsClO_4$	208.2	MVS73
$KClO_3$	206.5	MVS73
$KClO_4$	208.8	MVS73
$LiClO_4$	209.0	MVS73
$NaClO_4$	208.5	MVS73
$Ni(NH_3)_6(ClO_4)_2$	208.2	NZB78
$NiClO_4 \cdot 6H_2O$	208.6	NZB78
$RbClO_4$	208.4	MVS73
Me_4NCl	196.2	EMGK74
Et_4NCl	196.4	EMGK74
Ph_4NCl	196.1	HVV79
NH_4Cl	197.9	EMGK74
Chlorobenzene	200.1	CKAM75
Pentachlorobenzene	200.0	CKAM75
$ClRh(Ph_3P)_3$	198.0	Nefe78, OIIT79, MMRC72
$(Et_3P)_2PtHCl$	198.0	Rigg72
$(Ph_3P)_2PtHCl$, trans	197.1	CBA73
$(Et_3P)_2PtCl_4$	199.2	LeBr72, Nefe78, Rigg72
$(Et_3P)_2PtCl_2$	198.1	Rigg72
$(Ph_3P)_2NiCl_2$	199.0	BNSA70, STHU76
$(Ph_3P)_2NiCl_2$	198.3	NZB78
Ph_3PBCl_3	199.4	HVV79
Ph_3POBCl_3	198.9	HVV79
$(Nb_6Cl^*_{12})Cl_6(Et_4N)_3$	199.4	BeWa79
$(Nb_6Cl_{12})Cl^*_6(Et_4N)_3$	197.5	BeWa79
$CdCl_2$	199.0	SATD73
$CuCl_2$	199.2	YYS78
$HgCl_2$	198.7	SATD73
InCl	198.4	FHT77
$InCl_3$	199.0	FHT77
$TiCl_4$	198.2	MRV83
UCl_3	198.1	TBVL82
UCl_4	197.7	TBVL82
UCl_5	197.7	TBVL82
UOCl	198.5	TBVL82
$UOCl_2$	198.3	TBVL82
$ZnCl_2$	199.7	SATD73
$(NH_4)_2PtCl_4$	198.2	KaEl79
$OPCl_3$	201.7	FlWe75

$KClO_3$	206.5	NZK77
$KClO_4$	208.7	NZK77
$HClPt(Ph_3P)_2$	197.9	AL77
$HClPt(Et_3P)_2$	198.0	AL77
$Cl_2Pt(Ph_3P)_2$	198.0	AL77
Ph_4PCuCl_2	198.9	FSJL83
Ph_4PCuCl_3	199.0	FSJL83
C_6H_5Cl	201.0	CKM71
$C_6H_5CCl_3$	201.0	CKM71
$C(NH_2)_3Cl$	198.0	LeRa77
$p(CH_2{=}CHCl)$	200.0	PRCV77, WRDM79

Co 2p

Co	778.3	Φ
CoO	780.4	Φ
Co	778.3	LANM81
Co	778.1	WRDM79
Co_2OSn_{80}	777.9	ThSh78
Co_2B	778.4	MECC73
CoB	778.0	MECC73
CoS	781.9	Limo81
CoF_2	783.0	CSC72
$CoF_2 \cdot 4H_2O$	782.6	NBMO73
CoF_3	782.4	CSC72
CoO	780.2	WRDM79
CoO	780.4	Kim75, NGDS75, NFS82, CBR76
Co_3O_4	780.2	NGDS75, OkHi76
Co_3O_4	779.5	GPDG79
Co_2O_3	779.9	McCo75
CoOOH	780.0	McCo75
$Co(OH)_2$	781.0	McCo75
$CoAl_2O_4$	780.8	OkHi76
$CoAl_2O_4$	781.9	PCLH76
$CoCr_2O_4$	780.2	OkHi76
$CoFe_2O_4$	779.7	OkHi76
$CoMn_2O_4$	780.0	OkHi76
$CoMoO_4$	780.9	GPDG79
$CoMoO_4$	782.8	PCLH76
$CoRh_2O_4$	781.2	NFS82
$CoSO_4$	784.0	Limo81
$ZnCo_2O_4$	780.4	OkHi76
Cs_2CoI_4	780.5	NBMO73
Cs_2CoBr_4	780.8	NBMO73
Cs_2CoCl_4	781.0	NBMO73
$K_3Co(C_2O_4)_3$	780.9	CSC72
$K_3Co(NO_2)_6$	781.8	NBMO73
$Co(CO)_3NO$	780.7	BCGH72
$K_3Co(CN)_6$	781.2	OkHi76
$K_3Co(CN)_6$	782.1	Vann76
$Co(NH_3)_3Cl_3$	781.4	NBMO73
$Co(NH_3)_5Cl_3$	781.9	YNAB77
$Co(NH_3)_6Cl_3$	781.1	CSC72
$Co(NH_3)_6Cl_3$	781.8	NBMO73
$Co(C_5H_5)_2$	779.1	BCDH73
$Co(C_5H_5)_2$	781.3	ClAd71
$Br_4Co(Et_4N)_2$	780.1	EMGK74
$Cl_4Co(Et_4N)_2$	780.6	EMGK74
$Cl_2Co(thiourea)_2$	780.9	NBMO73

Cr 2p

Cr	574.4	Φ
Cr_2O_3	576.9	Φ
Cr	574.3	LANM81
Cr	574.3	WRDM79
Cr_2N	576.1	RoRo76
CrN	575.8	STAB76
CrB_2	574.3	MECC73
Cr_2S_3	574.8	CSC72
CrI_3	576.7	CSC72
$CrBr_3$	576.2	CSC72
$CrCl_3$	577.4	CSC72
Cr_2O_3	576.8	BDFP81, CDFM82, CSC72, WRDM79, NGDS75
CrO_2	576.3	IIKK76
CrO_3	578.3	ACHT73
CrF_3	580.3	CSC72
CrO_3	579.8	CDFM82
$Cr(OH)_3$	577.3	CDFM82
CrOOH	577.0	IIKK76
$Cr(CO)_6$	576.3	BCGH72, BCHM72
$Cr(CO)_6$	577.0	PFD73
Cs_2CrO_4	579.8	AT76
$Cs_2Cr_2O_7$	579.5	AT76
$CuCrO_2$	576.4	ACHT73
$CuCr_2O_4$	577.1	CDFM82
$K_2Cr_2O_7$	579.9	NSSP80
$LaCrO_3$	575.8	HoTh80
Li_2CrO_4	579.8	ACHT73
$LiCrO_2$	577.0	ACHT73
Na_2CrO_4	579.8	ACHT73
Na_2CrO_4	580.5	LaKe76
$Na_2Cr_2O_7$	579.4	ACHT73
Na_3CrO_4	578.5	LaKe76
Na_4CrO_4	577.9	LaKe76
$NaCrO_2$	577.1	LaKe76, ACHT73
$ZnCr_2O_4$	577.2	BDFP81
$BaCrO_4$	579.1	AlTu76
$CaCrO_4$	578.9	ACHT73
$(NH_4)_3CrF_6$	579.5	AlTu76
$Cr(NH_3)_6Cl_3$	578.5	AlTu76
$K_3Cr(CN)_6$	576.3	Vann76, ZeHa71
K_3CrF_6	583.0	AlTu76
$Cr(acac)_3$	577.7	AlTu76
$Cr(acac)_3$	576.1	ZeHa71
$Cl_3Cr(urea)_6$	579.9	AlTu76
$Cr(C_5H_5)_2$	574.8	BCDH73, CDH 74, GSMJ74
$Cr(C_5H_5)_2$	576.3	ClAd71
$Cr(C_5H_5)(C_7H_7)$	574.4	CDH74, GSMJ74
$Cr(C_6H_6)_2$	574.1	CDH74
$Cr(C_6H_6)_2$	575.4	PFD73
$Cr(CO)_5PH_3$	575.3	BCGH72

$Cr(CO)_5NH_3$	575.5	BCGH72, BCHM72
$Cr(CO)_3C_6H_6$	575.7	CDH74
$Cr(CO)_3C_6H_6$	576.3	PFD73
$Cr(CO)_5(Me_3P)$	575.2	BCGH72, BCHM72
$Cl_3Cr(C_5H_5)$	576.1	GSMJ74
$ICr(C_6H_6)$	576.4	CDH74

Cr LMM

Cr	527.2	WRDM79

Cs $3d_{5/2}$

Cs	726.4	Φ
Cs	726.0	KDR77
CsI	723.9	MVS73
CsBr	724.0	MVS73
CsCl	723.7	MVS73
CsF	724.0	MVS73
CsN_3	723.6	SGRS72
Cs_2SO_4	723.9	Wagn77
Cs_3PO_4	723.9	MVS73
$Cs_4P_2O_7$	723.8	MVS73
$CsClO_4$	724.2	MVS73
Cs_2CrO_4	724.5	ACHT73
$Cs_2Cr_2O_7$	723.9	ACHT73
CsOH	724.5	WRDM79

Cs MNN

Cs_2SO_4	568.4	Wagn77
CsOH	586.7	WRDM79

Cu 2p

Cu	932.7	Φ
CuO	933.6	Φ
Cu	932.6	ALMP82
Cu	932.6	LANM81
Cu	932.6	BiSw80
Cu	932.6	BiSw80
Cu	932.7	BiSw80
Cu	932.7	PEJ82
Cu	932.6	Asam76, GaWi77, KPML73, WRDM79, Wagn75
$Cu_{64}Zn_{36}$	932.6	VanO77
$Cu_{95}Sn_5$	932.5	Hegd82
Cu_3P	932.2	NSDU75
Cu_3P	932.2	NSDU75
Cu_2Se	931.9	RRD78
CuSe	932.0	RRD78
CuAgSe	931.9	RRD78
$CuInSe_2$	931.9	KJID81
Cu_2S	932.5	Wagn75
CuS	932.2	RRD78
CuS	933.2	Limo81
CuS	931.9	BSRR81
CuS	935.0	NSSP80
CuBr	932.1	BrFr74
$CuBr_2$	932.3	VWHS81
CuCl	932.5	GaWi77, Wagn75
$CuCl_2$	934.4	GaWi77
$CuCl_2$	935.2	WRDM79
$CuCl_2$	934.8	VWHS81
$CuCl_2$	935.6	YYS78
CuF_2	936.1	GaWi77
CuF_2	937.0	WRDM79
CuF_2	936.8	VWHS81
Cu_2O	932.5	CDFM82, GaWi77, Wagn75, HMUZ78, MSSS81, Scho73b
CuO	933.7	HMUZ78, GaWi77, WRDM79, MSSS81
$Cu(OH)_2$	935.1	MSSS81
$Cu(NO_3)_2$	935.5	NZK77
CuCN	933.1	Wagn75
$CuC(CN)_3$	933.2	NZK77
$CuCO_3$	935.0	WRDM79
$CuSO_4$	934.9	Limo81
$CuSO_4$	935.5	NZK77
$CuSiO_3$	934.9	WRDM79
$Cu_2Mo_3O_{10}$	931.6	HMUZ78
$Cu_3Mo_2O_9$	934.1	HMUZ78
$CuCr_2O_4$	934.6	CDFM82
$CuCrO_2$	932.3	ACHT73
$CuFe_2O_4$	933.8	LDDB80
$CuFeO_2$	932.6	LDDB80
$CuMoO_4$	934.1	HMUZ78
$CuRh_2O_4$	934.4	NFS82
$Cu(OAc)_2$	931.8	BrFr74
$Cu(OAc)_2$	935.0	YYS79
$Cu(acac)_2$	934.5	BrFr74
Cu(8-Hydrozyquinol.)	935.0	BrFr74
Cu Salicylaldoxime	934.0	BuBu74
$Cu_4Cu(Et_4N)_2$	932.5	EMGK74
$Cu_2Cu(H_2NCONHCONH_2)_{20}$	935.8	YYS78

Cu LMM

Cu	918.6	BiSw80
Cu	918.7	BiSw80
Cu	918.6	BiSw80
Cu	918.7	PEJ82
Cu	918.6	KPML73, WRDM79, Wagn75, Asam76, GaWi77
$Cu_{64}Zn_{36}$	918.6	VanO77
Cu_2Se	917.6	RRD78
CuSe	918.4	RRD78
CuAgSe	917.7	RRD78
Cu_2S	917.4	Wagn75
CuS	917.9	RRD78
$CuBr_2$	916.9	VWHS81
CuCl	915.0	Wagn75
CuCl	915.6	GaWi77
$CuCl_2$	915.3	WRDM79, VWHS81, GaWi77
CuF_2	916.0	GaWi77
CuF_2	914.8	WRDM79

CuF_2	914.4	VWHS81
Cu_2O	916.2	CDFM82, HMUZ78
Cu_2O	916.2	CDFM82, GaWi77, Wagn75, HMUZ78, MSSS81, Scho73b
Cu_2O	916.6	MSSS81, Wagn75
Cu_2O	917.2	GaWi77
CuO	918.1	GaWi77, MSSS81, Scho73b
$Cu(OH)_2$	916.2	MSSS81
$Cu(NO_3)_2$	915.3	NZK77
CuCN	914.5	Wagn75
$CuC(CN)_3$	914.5	NZK77
$CuCO_3$	916.3	WRDM79
$CuSO_4$	915.6	NZK77
$CuSiO_3$	915.2	WRDM79
$Cu_2Mo_3O_{10}$	916.5	HMUZ78
$Cu_3Mo_2O_9$	916.6	HMUZ78
$CuCr_2O_4$	918.0	CDFM82
$CuMoO_4$	916.6	HMUZ78

Dy 4d

Dy	152.4	Φ
Dy_2O_3	167.7	SaRa80

Dy $3d_{5/2}$

Dy	1295.5	Φ
Dy_2O_3	1298.9	SaRa80

Er 4d

Er	167.3	Φ
Er	169.4	WRDM79
Er_2O_3	168.7	WRDM79

Eu $3d_{5/2}$

Eu	1125.6	Φ

Eu 4d

Eu	128.2	NNBF68
Eu_2O_3	135.9	NNBF68

F 1s

LiF	684.9	Φ
CsF	685.9	WRDM79
KF	683.9	NBK74, MVS73
KF	684.4	PMDS77
LiF	685.1	WRDM79
LiF	685.0	MVS73, NBK74
NaF	684.5	WRDM79
NaF	684.5	NBK74, NSLS77
NaF	683.7	MVS73
RbF	683.6	MVS73
RbF	682.9	NBK74
BaF_2	683.7	WRDM79
BaF_2	684.3	NBK74
CaF_2	684.8	WRDM79
CaF_2	684.8	NBK74, NSLS77
MgF_2	685.8	Wagn80
MgF_2	685.7	NBK74
SrF_2	685.0	WRDM79
SrF_2	684.5	NBK74
AgF	682.7	GaWi77
BeF_2	685.8	NBK74, NKBP73
CdF_2	684.5	GaWi77, WRDM79
CdF_2	684.8	NBK74, SATD73
CdF_2	684.2	NSLS77
CuF_2	684.5	GaWi77, WRDM79
CuF_2	685.9	VWHS81
HgF_2	686.0	SATD73
MnF_2	684.8	WRDM79
NiF_2	685.0	GaWi77, WRDM79
$NiF_2 \cdot 4H_2O$	684.7	NSLS77
PbF_2	683.6	WRDM79
ZnF_2	684.6	GaWi77, Wagn77
ZnF_2	685.1	NBK74
$AlF_3 \cdot 3H_2O$	686.3	NBK74, NKBP73
$GaF_3 \cdot 3H_2O$	685.2	NBK74, NKBP73
GdF_3	684.8	McTh76
InF_3	685.2	WRDM79
$InF_3 \cdot 3H_2O$	685.3	NBK74, NKBP73
LaF_3	684.5	WRDM79
NdF_3	684.8	WRDM79
PrF_3	684.6	WRDM79
SmF_3	684.6	WRDM79
YF_3	685.3	WRDM79
UF_3	685.3	TBVL82
UF_4	684.8	TBVL82, PMDS77
UF_5	684.8	TBVL82
ThF_4	684.9	WRDM79
HfF_4	685.4	WRDM79
ZrF_4	685.1	NKBP73
$NaBeF_3$	685.7	NKBP73
Na_2BeF_4	685.2	NKBP73
$NaBF_4$	687.0	WRDM79
NF_4BF_4	694.2	RNS73
Na_3AlF_6	685.5	WRDM79
Na_2SiF_6	686.0	Wagn77
Na_2SiF_6	686.4	NSLS77
K_2SiF_6	686.6	NBK74
K_2TiF_6	685.0	WRDM79
K_2TiF_6	684.9	NBK74
Na_2TiF_6	685.3	Wagn77
K_3FeF_6	684.0	WRDM79
K_2NiF_6	687.6	TRLK73
K_2GeF_6	685.2	NBK74
Na_2GeF_6	685.9	WRDM79
K_2ZrF_6	684.6	NBK74, NKBP73
Na_2ZrF_6	685.0	WRDM79
$KZrF_5 \cdot H_2O$	684.8	NKBP73
K_3ZrF_7	684.3	NKBP73
$NaSnF_3$	685.3	WRDM79
$K_2SnF_6 \cdot H_2O$	685.1	NBK74
$CsSbF_4$	683.6	BCH75

K_2SbF_5	683.9	Tric74
$KSbF_6$	686.6	Wagn77
KSb_2F_7	684.3	Tric74
Na_2SbF_5	683.4	Tric74
$NaSbF_6$	685.1	BCH75
K_3RhF_6	685.7	Nefe78
K_2NbF_7	685.4	WRDM79
K_2NbF_7	685.2	NBK74
K_2TaF_7	685.2	WRDM79
K_2TaF_7	685.1	NBK74
$NaTaF_6$	685.2	NKBP73
Na_2TaF_7	685.6	NKBP73
Na_3TaF_8	685.5	NKBP73
K_2UF_6	684.7	PMDS77
EuOF	685.3	RGBH80
LaOF	685.2	RGBH80
NdOF	685.1	RGBH80
PrOF	685.0	RGBH80
YOF	685.5	RGBH80
$Cs_2MoO_2F_4$	684.7	NKBP73
$Cs_2WO_2F_4$	684.7	NKBP73
UO_2F_2	685.6	TBVL82
p-(CF_2=CF_2)	689.0	Wagn77
$NiOOCCF_3$	688.4	WRDM79
CH_3CNBF_3	687.0	BCGH73
NH_3BF_3	686.6	BCGH73
$C_5H_5NBF_3$	685.6	BCGH73
$EtNH_2BF_3$	686.6	BCGH73
Et_4NSbF_6	684.7	BCH 75
Ph_3PBF_3	685.7	HVV79
Ph_3POBF_3	685.8	HVV79

F KLL

CsF	653.8	WRDM79
LiF	654.7	WRDM79
NaF	655.0	Wagn77
BaF_2	656.2	WRDM79
CaF_2	655.4	WRDM79
MgF_2	654.4	Wagn77
SrF_2	656.3	WRDM79
AgF	659.3	GaWi77
CdF_2	656.0	GaWi77, WRDM79
CuF_2	657.0	GaWi77
CuF_2	656.2	WRDM79
CuF_2	656.2	WRDM79
NiF_2	655.5	GaWi77, WRDM79
PbF_2	658.5	WRDM79
ZnF_2	655.6	GaWi77, WRDM79
InF_3	656.4	WRDM79
LaF_3	658.0	WRDM79
NdF_3	657.0	WRDM79
PrF_3	657.2	WRDM79
SmF_3	657.0	WRDM79
YF_3	655.8	WRDM79
ThF_4	657.0	WRDM79
HfF_4	655.3	WRDM79
$NaBF_4$	652.8	WRDM79
Na_3AlF_6	654.1	WRDM79
Na_2SiF_6	653.0	Wagn77
K_2TiF_6	655.7	WRDM79
Na_2TiF_6	655.1	Wagn77
K_3FeF_6	656.0	WRDM79
Na_2GeF_6	654.0	WRDM79
Na_2ZrF_6	655.1	WRDM79
$NaSnF_3$	655.3	WRDM79
$KSbF_6$	656.6	Wagn77
K_2NbF_7	655.2	WRDM79
K_2TaF_7	655.0	WRDM79
p-(CF_2=CF_2)	652.4	Wagn77
$NiOOCCF_3$	652.9	WRDM79

Fe 2p

Fe	707.0	Φ
Fe_2O_3	710.9	Φ
Fe	706.7	LANM81
Fe	706.8	Asam76
Fe	707.0	WRDM79, McZe77
Fe_3Al	707.6	ShTr75
Fe_3Si	707.5	ShTr75
Fe_2B	706.9	MECC73
FeB	707.1	MECC73
Fe_3C	708.1	ShTr75
FeS	710.3	CSC72
FeS	712.2	Bind73, Limo81
FeS_2 (markasite, pyr)	706.7	Bind73
$KFeS_2$	708.7	Bind73
$FeBr_2$	710.3	CSC72
$FeBr_3$	710.1	CSC72
$FeCl_2$	710.6	CSC72
$FeCl_3$	711.3	CSC72
FeF_2	711.3	CSC72
FeF_3	714.2	CSC72
FeO	709.4	McZe77
Fe_3O_4	708.2	McZe77
Fe_3O_4	710.4	OkHi76
Fe_2O_3	710.8	WRDM79, NGDS75
Fe_2O_3, alpha	710.9	McZe77
Fe_2O_3, gamma	710.9	McZe77
FeOOH, alpha	711.8	McZe77
FeOOH, gamma	711.3	KoNa80
$CoFe_2O_4$	710.5	McZe77
$Fe(C_2O_4)_3 \cdot 6H_2O$	713.6	Kilk73
$FeSO_4$	712.1	Limo81
K_3FeF_6	714.4	CSC72
$NiFe_2O_4$	710.5	McZe77
$K_3Fe(CN)_6$	709.6	Vann76
$K_4Fe(CN)_6$	707.1	Vann76
$K_4Fe(CN)_6$	708.5	YNNA77
$Na_2Fe(CN)_5(NO)$	709.7	YNNA77
$Na_3Fe(CN)_5(N_2O)$	707.4	YNNA77
$Na_4Fe(CN)_5(NO_2)$	706.8	YNNA77
$Na_3Fe(CN)_5NH_3$	707.6	YNNA77

$Na_3Fe(CN)_5N_2H_4$	707.7	YNNA77
$Fe(CO)_5$	709.6	BCGH72
$Fe(CO)_2(NO)_2$	709.5	BCGH72
$KFe_4(NO)_7S_3 \cdot 2H_20$	708.9	Nefe78
$Fe(SMe)(CO)_3$	708.6	BBFR77
$Fe(C_5H_5)_2$	707.7	FWUM79, BCDH73, CDH74, Nefe78
$I_3Fe(C_5H_5)_2$	709.9	CDH74
$Fe(C_5H_4COOH)_2$	708.4	FWUM79
Fe(phthalocyanine)	709.1	MSV79
Fe LMM		
Fe	702.4	WRDM79
Ga 2p3/2		
Ga	1116.7	Φ
Ga	1116.5	Scho73a
GaP	1116.8	NSDU75
Ga_2O_3	1116.9	BDFP81
Ga_2O_3	1117.8	Scho73a
Ga LMM		
Ga	1068.2	WRDM79, MINN78, Scho73a
GaAs	1066.3	MINN78
GaAs	1067.1	MINN78
GaP	1065.6	MINN78, MIN81
GaP	1066.8	MIN81
GaN	1064.5	HeMa80
Ga_2Se_3	1065.2	ITI82
Ga_2Se_3	1065.6	ITI82
Ga_2O_3	1061.6	MINN78
$Ga2O_3$	1062.4	ITI82
Ga_2O_3	1062.9	Scho72a
Ga 3d		
Ga	18.6	MINN78, LBHK73, Scho73a, WRDM79
GaSb	20.2	LBHK73
GaAs	18.8	LPMK74
GaAs	19.2	IMNN79, MINN78, Tayl82,
GaP	18.8	MIN81
GaP	19.3	NIMN78, IMNN79
GaP	19.9	LBHK73, MIN81
GaP	18.7	LPMK74
GaN	19.5	HeMa80
AlGaAs	19.0	Tayl82
Ga_2Se_3	19.7	ITI82
Ga_2Se_3	19.9	ITI82
Ga_2O_3	19.6	GGVL79
Ga_2O_3	20.2	LBHK73, Scho73a
Ga_2O_3	20.5	ITI82
Ga_2O_3	21.0	MINN78
Gd 4d		
Gd	140.4	Φ
Gd_2O_3	143.8	SaRa80
Gd 3d		
Gd	1187.0	Φ
Gd_2O_3	1189.0	SaRa80
Ge 2p3/2		
Ge	1217.2	McWe76
Ge	1217.4	TLR78, MoVa73, Wagn75
GeS_2	1219.8	MoVa73
GeS_2	1219.8	MoVa73
GeN_4	1218.8	TLR78
GeI_2	1218.2	MoVa73
GeF_2	1220.7	MoVa73
GeO_2	1220.4	MoVa73, Wagn75
Na_2GeO_3	1218.9	MoVa73
Na_2GeF_6	1221.3	Wagn75
K_2GeF_6	1220.7	MoVa73
Ph_4Ge	1218.9	MoVa73
Ge LMM		
Ge	1146.2	McWe76
Ge	1145.4	SFS77
Ge	1145.1	Wagn75, WRDM79
GeTe	1144.8	SFS77
GeSe	1143.8	SFS77
GeS	1143.7	SFS77
GeO_2	1137.7	Wagn75
Na_2GeF_6	1135.7	Wagn75
Ge 3d		
Ge	29.4	Φ
Ge	29.3	McWe76
Ge	29.0	SFS77
Ge	29.1	HKMP74, UeOd82, WRDM79
$GeAs_2$	29.7	HKMP74
$GeTe_3As_2$	29.9	HKMP74
GeS_2TeAs_2	30.2	HKMP74
GeS_3As	30.4	HKMP74
$GeTe_2$	30.1	HKMP74
GeTe	30.0	SFS77
GeTe	29.7	HKMP74
$GeSe_2$	31.0	UeOd82
GeSe	30.9	SFS77
GeS_2	30.4	HKMP74
GeS	30.5	SFS77
GeS	29.5	HKMP74
GeO_2	32.5	HKMP74
Ph_4Ge	31.2	HWVV74
Ph_3GeI	31.8	HWVV74
Ph_3GeBr	31.8	HWVV74
Ph_3GeCl	31.8	HWVV74
Hf 4f		
Hf	14.3	Φ

Hf	14.4	WRDM79
HfO_2	16.7	SaRa80
Hf 4d		
HfO_2	213.2	SaRa80, NGDS75
Hg 4f		
HgS (cinnabar)	101.0	Φ
Hg	99.8	BrMc72, SATD73, SMBM76, WRDM79
$Hg_{0.8}Cd_{0.2}Te$	100.2	SBB80
HgS	100.8	NSSP80
HgI_2	100.7	SATD73
$HgBr_2$	101.0	SATD73
$HgCl_2$	101.4	SATD73
HgF_2	101.2	SATD73
HgO	100.8	NSSP80
$Et_2NC_6H_4HgOAc$	101.3	NSSP80
$Cl_2Hg(H_2NCONHCONH_2)_2$	101.3	YYS78
$Hg(thiodibenzoylme)_2$	101.3	TBHH77
$(Ph_4P)_2Hg(SCN)_4$	101.4	FoLa82
Ho 4d		
Ho	159.6	Φ
I $3d_{5/2}$		
KI	619.3	Φ
I_2	619.9	Sher76
CsI	618.2	MVS73
RbI	618.2	MVS73
KI	618.8	MVS73
NaI	618.6	MVS73, Sher76
LiI	619.7	WRDM79
LiI	618.9	MVS73
AgI	619.4	GaWi77
CdI	619.2	GaWi77
CdI	619.4	SATD73
CuI	619.0	GaWi77
HgI_2	619.4	SATD73
InI	619.0	FHT77
InI_3	619.1	FHT77
NiI_2	619.0	GaWi77
$NiI_2 \cdot 6H_2O$	619.7	NZB78
ZnI_2	619.8	GaWi77
ZnI_2	619.7	SATD73
$NaIO_3$	623.5	Sher76
$NaIO_4$	624.0	Sher76
HIO_3	623.1	Sher76
H_5IO_6	623.0	Sher76
I_2O_5	623.3	Sher76
ICl	621.5	Sher76
ICl_3	622.5	Sher76
$Cs_3Sb_2I_9$	618.5	BCH75
$Rb_3Sb_2I_9$	620.8	Tric74
$Na(NiIO_6) \cdot H_20$	624.4	NZB78
$I_2Ni(Ph_3P)_2$	619.3	NZB78
$I_2Pt(Et_3P)_2$	619.2	Rigg72
$I_4In(Pr_4N)$	619.6	FHT77
$I_2Pt(Me_3P)_2$ cis	621.1	CAB71
$I_2Pt(Me_3P)_2$ tran	621.9	CAB71
$I_4(Mo_6I^*_8)$	620.6	BeWa79
$I^*_4(Mo_6I_8)$	619.3	BeWa79
I MNN		
LiI	517.0	WRDM79
AgI	506.8	GaWi77
CdI	507.0	GaWi77
CuI	507.1	GaWi77
NiI_2	507.3	GaWi77
ZnI_2	506.0	GaWi77
In $3d_{5/2}$		
In	443.9	Φ
In	443.8	Bert81, Hegd82, WRDM79, PVVA79, LAK77
$In_{95}Sn_5$	443.6	Hegd82
InSb	444.1	IMNN79
InP	444.6	Bert81, CFRS80
In_2Te_3	444.5	WRDM79
In_2Se_3	444.8	WRDM79
In_2S_3	444.8	Wagn77, MSC 73
InI_3	446.0	Wagn77, MSC 73
InI	443.9	FHT77
$InBr_3$	446.0	Wagn77
$InBr_3$	446.6	MSC73
InBr	445.1	FHT77
$InCl_3$	446.0	Wagn77
$InCl_3$	446.9	MSC73
InCl	444.9	MSC73
InF_3	446.4	Wagn75, MSC73
In_2O_3	444.3	Wagn77, NGDS75, Bert81
In_2O_3	444.6	CFRS80
In_2O_3	444.9	LAK77, MSC73
$In(OH)_3$	445.0	WRDM79
$(NH_4)_3InF_6$	445.6	Wagn77
$CuInSe_2$	444.7	KJID81
$In(acac)_3$	445.4	MSC73
Br_2InEt_4N	445.7	FHT77
Cl_2InEt_4N	445.2	FHT77
Br_4InPr_4N	445.9	FHT77
I_4InPr_4N	445.4	FHT77
Cl_4InPr_4N	445.8	FHT77
In MNN		
In	410.4	WRDM79
$In_{95}Sn_5$	410.5	PVVA79, KISC80, LAK77
InSb	401.6	IMNN79
InP	408.0	Bert81
InP	411.0	KISC80
In_2Te_3	408.9	WRDM79

In_2Se_3	408.3	WRDM79
In_2S_3	407.3	Wagn77
InI_3	405.8	Wagn77
$InBr_3$	404.8	Wagn77
$InCl_3$	404.6	Wagn77
InF_3	403.7	Wagn75
In_2O_3	406.4	Wagn77
$In(OH)_3$	405.0	WRDM79
$(NH_4)_3InF_6$	404.1	Wagn77

Ir 4f

Ir	60.9	Φ
Ir	60.8	WRDM79, BHHK70, EPC75
$IrCl_3$	62.7	Folk73
K_2IrBr_6	62.6	Nefe78$K_3IrBr_6$61.8Nefe78
K_2IrCl_6	63.0	CoHe72, LeBr72
K_2IrCl_6	63.6	KSPB76, NSBN77
K_3IrCl_6	62.5	NSBN77
$(NH_4)_2IrCl_6$	63.7	EPC75
$(NH_4)_3IrCl_6$	63.0	EPC75
$Ir(CO)_3Cl$	63.4	KSPB76
$KIrCl_5NO$	65.0	NSBN77
$KIr_2(CO)_4Cl_4$	62.7	KSPB76
$K_2Ir_2(CO)_4Cl_5$	63.0	KSPB76
$IrCl_4(EtEP)_2$	63.6	LeBr72
$IrClN_2(Ph_3P)_2$	60.7	Folk73
$IrI_3(H_2NCH_2CH_2NH_2)_3$	63.1	NeBa72
$IrCl_3(H_2NCH_2CH_2NH_2)_3$	63.2	NeBa72
$IrCl_6(H_2NCH_2CH_2NH_2)_3$	63.2	Nefe78

K 2p

K	294.4	Φ
KCl	292.9	Φ
K	294.6	SMKM77, PeKa77
KI	292.8	MVS73
KBr	293.0	MVS73, WRDM79
KCl	292.8	MVS73, NSLS77
KF	292.5	Wagn75
KF	292.8	PMDS77
KF	293.1	MVS73
KCN	294.7	Vann76
KN_3	292.5	SGRS72
KNO_3	292.9	NSLS77
$KClO_3$	293.2	MVS73
$KClO_4$	293.4	MVS73
K_3PO_4	293.5	MVS73
$K_4P_2O_7$	292.2	MVS73
K_2CrO_4	292.6	ACHT73
$K_2Cr_2O_7$	292.1	ACHT73
$K_2Cr_2O_7$	292.8	NSSP80
K_2MoO_4	292.6	NFS82
$KRhO_2$	292.5	NFS82
$KAl_2(AlSi_3O_{10})_2(OH)_2$	293.0	WPHK82
K_2IrCl_6	292.8	NSBN77, LeBr72, CoHe72
K_2MoCl_6	292.7	CoHe72
K_2OsCl_6	293.0	CoHe72, LeBr72
K_2PtCl_6	292.8	CoHe72, LeBr72
K_2ReCl_6	292.8	CoHe72
K_2ReCl_6	293.7	LeBr72
K_2SnCl_6	292.8	CoHe72
K_2WCl_6	293.3	LeBr72
K_3IrCl_6	293.0	NSBN77
$K_4Mo_2Cl_8$	293.2	HUGH79
$KSbFF_6$	293.7	Wagn77
$KZrFF_5 \cdot H_2O$	292.7	NKBP73
K_2NiF_6	294.2	TRLK73
K_2UF_6	293.1	PMDS77
K_2ZrF_6	292.6	NKBP73
K_3ZrF_7	292.8	NKBP73
$K_3Co(CN)_6$	293.7	Vann76
$K_3Cr(CN)_6$	292.2	ZeHa71
$K_3Fe(CN)_6$	291.9	Vann76
$K_3Mn(CN)_6$	291.9	Vann76
$K_4Fe(CN)_6$	291.9	Vann76
$K_4V(CN)_6$	293.7	Vann76
$KIrCl_5NO$	293.1	NSBN77
$K_2Pt(CN)_4 \cdot 3H_2O$	293.3	CaLe73
$K_2Pt(CN)_4Cl_2 \cdot 3H_2O$	292.9	CaLe73
$K_3Co(SCH_2CHNH_2COO)_3$	292.8	SSEW79

K LMM

KBr	250.7	WRDM79
KF	250.1	Wagn77
$KSbF_6$	249.3	Wagn77

Kr 3d

Kr in graphite	87.0	Φ

La 3d

La	835.8	Φ
La	835.9	ScSc82
LaH_2	838.8	ScSc82
La_2O_3	835.1	WRDM79
La_2O_3	833.7	SaRa80

La 4d

La	103.9	NIS72, KEML74
La_2O_3	101.3	SaRa80, NGDS75, HoTh80
$LaCrO_3$	101.7	HoTh80

Li 1s

LiF	55.6	Φ
Li	54.7	KLMP73, CSFG79
LiN_3	55.2	SGRS72
LiBr	56.8	MVS73
LiCl	56.0	CSFG79, MVS73
LiF	55.7	MVS73, WRDM79
Li_2O	55.6	CSFG79
LiOH	54.9	CSFG79
Li_2CO_3	55.2	CSFG79
Li_3PO_4	55.4	MVS73

$Li_4P_2O_7$	55.6	MVS73
$LiClO_4$	57.2	MVS73
Li_2CrO_4	57.1	ACHT73
$LiCrO_2$	55.6	ACHT73
$LiNbO_3$	54.8	StHo79
Lu 4f		
Lu	7.3	Φ
Lu 4d		
Lu	196.2	KEML74, LPWF75
Lu_2O_3	196.0	SaRa80, NGDS75
Mg 2p		
Mg	49.8	Φ
Mg	49.6	HAS75, LMKJ75, HFV 77, Fugg77, WRDM79
Mg_2Cu	49.8	FWFA75
Mg_3Bi_2	50.6	FWFA75
MgF_2	51.0	Wagn80
MgO	50.8	InYa81
$Mg(OH)_2$	49.5	HNUW78a
$MgAl_2O_4$	50.4	HNUW78b
Talc, $Mg_3Si_4O_1O(OH)_2$	50.5	WPHK82
Mg 1s		
Mg	1303.1	HAS75, LMKJ75, Fugg77
Mg_2Cu	1303.0	FWFA75
Mg_3Bi_2	1304.0	FWFA75
MgF_2	1305.0	Wagn80
$Mg(OH)_2$	1302.7	HNUW78a
$MgAl_2O_4$	1304.0	HNUW78b
Mg KLL		
Mg	1185.5	LMKJ75, SRHH78, WRDM79, Fugg77, HFV 77
Mg_2Cu	1185.7	FWFA75
Mg_3Bi_2	1184.6	FWFA75
MgF_2	1178.2	Wagn80
Talc, $Mg_3Si_4O_1O(OH)_2$	1180.3	WPHK82
Mn 2p		
Mn	639.0	Φ
MnO_2	642.1	Φ
Mn	638.8	LANM81
Mn	639.0	WRDM79
MnN	641.3	CSC72
MnS	640.3	CSC72
MnS, beta	640.8	Aoki76
MnS, alpha	641.9	Aoki76
MnS	642.1	Limo81
MnI_2	641.9	Aoki76, CSC72
$MnBr_2$	642.0	Aoki76, CSC72
$MnCl_2$	642.0	Aoki76, CSC72
MnF_2	642.6	Aoki76, CSC72
MnF_3	642.6	CSC72
MnO	640.7	OHI75
MnO	640.5	OkHi76
MnO	641.4	Aoki76, CSC72
Mn_2O_3, alpha	641.2	OHI75
Mn_2O_3	641.6	CSC72
Mn_2O_3, alpha	641.7	OkHi76
Mn_2O_3, gamma	641.5	OkHi76
Mn_3O_4	641.4	OHI75
MnO_2	642.4	WRDM79
MnO_2, beta	641.1	OHI75
MnO_2	642.3	Aoki76, CSC72, NGDS75
MnOOH	641.7	OHI75
$CoMn_2O_4$	641.5	OkHi76
$CuMn_2O_4$	641.0	OkHi76
$MnCr_2O_4$	640.6	OkHi76
$MnSO_4$	644.9	Limo81
$KMnO_4$	647.0	UmRe78
$Mn_2(CO)_{10}$	641.6	VWVB77
$BrMn(CO)_5$	641.9	VWVB77
$(BrMn(CO)_4)_2$	641.7	VWVB77
$BrMn(CO)_4(Ph_3P)$	641.5	VWVB77
$BrMn(CO)_3(P(OMe)_3)_2$	641.0	VWVB77
$Mn_2(CO)_8(Ph_3P)_2$	640.7	VWVB77
$K_3Mn(CN)_6$	639.7	Vann76
$Na_4Mn(CN)_6$	638.3	Vann76
$Mn(C_5H_5)_2$	638.5	BCDH73, CDH74
$Mn(CO)_3(C_5H_5)$	640.6	CDH74
$Mn(CO)_3(C_5H_5)$	641.8	ClAd71
Mn LMM		
Mn	617.6	Vayr81
Mo 3d		
Mo	228.0	Φ
Mo	227.9	NyMa80
Mo	228.0	CiDe75, WRDM79, CGR 78, GrMa75, KBAW74, WaTa80
MoB_2	227.9	MECC73
Mo_2B_5	227.3	BrWh78
Mo_2C	227.8	BrWh78
$MoSi_2$	227.7	WPHK82
$MoSe_2$	228.3	GrMa75
MoS_2	229.0	PCLH76, GrMa75
MoS_2	229.6	SSOT81, StEd75
$MoCl_3$	230.0	GrMa75
$MoCl_4$	230.6	GrMa75
$MoCl_5$	231.0	GrMa75, SwHe71
MoO_2	229.3	SaRa80, CGR78, CiDe75, KBAW74
MoO_3	232.6	GPDG79, KBAW74, SaRa80, CiDe75, CGR78, GrMa75
MoO_3	232.6	WRDM79
$(NH)_{42}MoO_4$	232.1	SwHe71
$Al_2(MoO_4)_3$	232.5	PCLH76
$Al_2(MoO_4)_3$	233.3	NFS82

$CaMoO_4$	232.8	NFS82
$CoMoO_4$	232.4	GPDG79, CiDe75, AMFL74
$CrMoO_4$	232.2	TVG76
$CuMoO_4$	232.7	HMUZ78
K_2MoO_4	232.1	NFS82
Na_2MoO_4	232.1	CiDe75, NFS82, SwHe71, NSLS77
$Na_2MoO_4 \cdot 2H_2O$	232.5	GrMa75
$(NH_4)_2Mo_2O_7$	232.5	AMFL74
$(NH_4)_2Mo_7O_{24} \cdot 4H_2O$	232.7	GrMa75
$Cu_2Mo_3O_{10}$	232.4	HMUZ78
$Cu_3Mo_2O_9$	232.8	HMUZ78
Rh_2MoO_6	231.8	NFS82
$Cl_2Mo(NO)_2$	230.4	Nefe78
$K_4Mo_2Cl_8$	229.2	HUGH79
$I_4(Mo_6I_8)$	228.8	BeWa79
$Br_4(Mo_6Br_8)$	229.3	BeWa79
$Cl_4Mo(Ph_3P)_2$	231.9	HuBa74
$Cl_4Mo_2(Et_3P)_4$	228.7	Walt77
$Cl_3Mo(PhPMe_2)_3$ mer	229.4	LeBr72
$Cl_4Mo_2(PhPMe_2)_4$	228.7	Walt77
$(CO)_5Mo(Ph_3P)$	228.3	HVV79
$(CO)_4Mo(Ph_3P)_2$	227.8	HuBa74
$(CO)_5Mo(Ph_3P)_3$	227.4	HuBa74
$Cl_2Mo(CO)_2(Ph_3P)_2$	229.3	Nefe78
$Cl_2Mo(CO)_3(Ph_3P)_2$	228.8	HuBa74
$Cl_2Mo(NO)_2(Ph_3P)_2$	230.3	HuBa74
$Cl_3Mo(NO)_2(MeCN)_2$	231.5	Nefe78
$Cl_3Mo(pyridyl)_3$	229.5	CELC76
$Cl_4Mo_2(pyridyl)_4$	228.9	Walt77
$Cl_4Mo(pyridyl)_2$	230.8	SwHe71
$Br_4(Mo_6Br_8)(pyridyl)_2$	229.7	BeWa79
$Cl_{12}Mo_6(pyridyl)$	229.6	HaWa74
$Cl_4Mo(bipyridyl)$	232.0	CELC76
$Cl_3MoO(bipyridyl)$	231.9	CELC76
$Cl_2MoO_2(bipyridyl)$	232.3	CELC76
$(CO)_4Mo(bipyridyl)$	226.3	GrMa75
$Cl_{12}Mo_6(Ph_3P)_2$	229.6	HaWa74
$Cl_6(Mo_6Br_8)(Et_4N)_2$	229.2	BeWa79
$Br_6(Mo_6Br_8)(Et_4N)_2$	229.3	BeWa79
$(Bu_3N)_2Mo(CO)_4$	227.4	GrMa75
$(Bu_4N)_2Mo_4I_{11}$	229.0	BeWa79
$(Bu_4N)_3Mo_2Cl_9$	229.5	Walt77
$(C_5H_5)Mo(CO)_3$	227.4	GrMa75
$MoO_2(acac)_2$	232.0	GrMa75

N 1s

BN	398.1	Φ
NH_3	399.6	HHJ69
NH_3	398.7	LaLu79, RNS73
Cr_2N	397.4	RoRo76
CrN	396.7	STAB76
GaN	397.0	HeMa80
Ge_3N_4	397.4	TLR78
ScN	396.2	STAB76
TiN	396.9	STAB76
VN	397.4	STAB76
BN	398.1	WRDM79, HJGN70
Si_3N_4	397.4	TLR78
S_2N_2	398.9	SDIO77
$SP(NH_3)_3$	398.8	FlWe75
S_4N_3Cl	400.4	HHJ69
$(NPCl_2)_3$	400.3	HHJ69
Cs(N*NN*)	397.9	SGRS72
Cs(NN*N)	402.2	SGRS72
K(N*NN*)	398.5	SGRS72
K(NN*N)	402.8	SGRS72
Li(N*NN*)	398.7	SGRS72
Li(NN*N)	403.1	SGRS72
Na(N*NN*)	398.5	SGRS72
Na(N*NN*)	400.1	HHJ69
Na(NN*N)	402.9	SGRS72
Na(NN*N)	404.5	HHJ69
Rb(N*NN*)	398.1	SGRS72
Rb(NN*N)	402.4	SGRS72
K3Co(CN)$_6$	399.6	Vann76
K3Cr(CN)$_6$	397.6	Vann76, ZeHa71
$K_3Fe(CN)_6$	398.1	Vann76
$K_3Mn(CN)_6$	398.3	Vann76
$K_4Fe(CN)_6$	398.0	Vann76
$K_4Fe(CN)_6$	397.8	YNNA77
$K_4V(CN)_6$	398.5	Vann76
$Na_4Mn(CN)_6$	397.6	Vann76
$Na_2Fe(CN)_5(N*O)$	402.7	YNNA77
$Na_2Fe(CN*)_5(NO)$	397.4	YNNA77
$Na_4Fe(CN)_5N*O_2$	404.3	YNNA77
$Na_4Fe(CN*)_5NO_2$	396.6	YNNA77
KCN	399.8	HHJ69
KCN	398.3	YNNA74
KCN	400.6	Vann76
NaCN	400.2	Vann76
$(NH_4)_2PtCl_4$	400.3	KaEl79
$(NH_4)_2SO_4$	401.3	SwAl74
$N*H_4NO_3$	401.9	SwAl74, BCM78
$N*H_4NO_3$	402.3	BTE77
$N*H_4NO_3$	403.1	HHJ69
$N_2H_6SO_4$	403.3	HHJ69
$N_2H_6SO_4$	401.7	Folk73
NH_3OHCl, ionic	402.9	HHJ69
NH_3OHCl, ionic	401.4	Folk73
NH_3SO_3	402.6	HHJ69
NaN_2O_2	402.1	HHJ69
KSCN	399.3	HHJ69
KOCN	399.1	HHJ69
KOCN	397.9	Folk73
NF_4BF_4	417.1	RNS73
$NaNO_2$	404.9	HHJ69, LiHe75
$NaNO_2$	403.9	BTE77
$Ba(NO_3)_2$	407.5	CLSW83
$Ca(NO_3)_2$	408.0	CLSW83
KNO_3	407.2	NSLS77
NH_4N*O_3	407.3	BTE77

$NH_4N^*O_3$	408.0	HHJ69
$NH_4N^*O_3$	405.8	BCM78
$NaNO_3$	408.1	HHJ69, LiHe75
$NaNO_3$	407.4	BTE77
$Ni(NO_3)_2$	407.0	TRLK73
$Ni(NO_3)_2 \cdot 6H_2O$	407.6	NZB78
$Pb(NO_3)_2$	407.2	TLR78
$Sr(NO_3)_2$	408.1	CLSW83
$K_2Pt(NO_2)_4$	404.7	SNMK78
$K_2Pt(NO_2)_6$	404.7	SNMK78
$K_3Co(NO_2)_6$	404.2	NBMO73
$K_3Rh(NO_2)_6$	404.1	SNMK78
$K_3Rh(NO_3)_6$	407.3	SNMK78
$MoCl_2(NO)_2$	401.4	Nefe78
$K_2Os(NO)Cl_5$	402.8	Nefe78
$K_2Ru(NO)I_5$	402.5	Nefe78
$K_2Ru(NO)Br_5$	403.30	Nefe78
$Rh_3(NO)_6Cl_3$	401.90	Nefe78
$Co(CO)_3NO$	402.20	BCGH72
$Fe(CO)_2(NO)_2$	401.80	BCGH72
$Co(NH_3)_5Cl_3$	400.10	YNAB77
$Ni(NH_3)_6Br_2$	399.60	NZB 78
$Ni(NH_3)_6(ClO_4)_2$	399.90	NZB 78
$Pt(N^*H_3)_2(NO_2)_2$	400.40	Nefe78, CMHL77
$Pt(NH_3)_2(N^*O_2)_2$	404.40	Nefe78, CMHL77
$Pt(NH_3)_2Cl_2$	400.20	Nefe78, CMHL77
$Rh(NH_3)_6Cl_3$	400.10	Nefe78
Me_4NBr	401.40	SGCT74
Me_4NCl	401.50	EMGK74
Me_4NCl	402.30	LiHe75
Et_4NCl	401.40	EMGK74
Et_3NHCl	401.20	LiHe75
Et_3NHHSO_4	401.80	EvRe81
Bu_3N	398.90	LiHe75
$BuNH_3HSO_4$	401.00	EvRe81
Bu_4NHSO_4	402.20	EvRe81
$EtNH_2$	398.90	BCGH73
$EtNH_2BF_3$	401.40	BCGH73
NH_4Cl	400.80	SwAl74
NH_4Cl	401.50	EMGK74, BTE 77
NH_3BF_3	401.90	BCGH73
C_5H_5N	398.80	LiHe75
C_5H_5N	399.30	BCGH73
C_5H_5NHCl	401.00	HHJ 69
$C_5H_5NBF_3$	401.40	BCGH73
Hexamethylenetetramn	399.40	LiHe75
PhCN	399.20	LiHe75
$C(NH_2)_3Cl$	400.10	LeRa77
$PhNH_2$	399.40	LiHe75
Me_3NO	403.00	LiHe75
$OP(NMe_3)_3$	399.10	FlWe75
$P(NMe_2)_3$	398.30	GBMP79
Cysteine HCl Hydrate	401.20	SSEW79
Cysteine	400.00	LlMa79
$H_3N(CH_2)_3COOH$ ionic	400.80	YoSa74
$HN(CH_2COOH)_3$ ionic	400.70	YoSa74
$N(CH_2COOH)_3$	398.70	YoSa74
H_2NCH_2COOH	398.70	YoSa74
H_3NCH_2COO ionic	400.60	YoSa74
$EtCHNH_2COOH$	400.60	YNAB77
$H_2N(CH_2)_3COOH$	398.80	YoSa74
CH_3CHNH_2COOH	401.00	YNAB77, KNPP74
H_2NCONH_2	399.50	LeRa77
H_2NCSNH_2	399.80	SrWa77, NBMO73
H_2NCSNH_2	399.20	LeRa77
CH_3CONH_2	399.60	SNMK78
$PhCONH_2$	399.50	LBNN78, HHJ 69
PhN=NPh	399.60	BrFe76
PhN=NPh	400.10	LiHe75
PhCH=NPh	399.10	SZNS77
1,1'-azonaphthalene	400.00	Yosh80
$NCN=C(N^*H_2)_2$	399.20	LeRa77
AmONO	404.5	LiHe75
PhC=NOHC=NOHPh	400.6	Yosh78
MeC=NOHC=NOHMe	399.8	Yosh78
Ni(dimethylglyoxime)$_2$	400.4	NZB78
Cu Salicylaldoxime	400.3	BuBu74
Cu(8-hydroxyquinol)$_2$	399.5	YoSa74
8-Quinolinol	398.9	Yosh80
$Cr(CO)_5NH_3$	399.5	BCGH72
$N(EtO)_3SiCl$	400.5	GrHe77
$N(EtO)_3SiH$	399.8	GrHe77
Morphine	398.5	SCKK75
Morphine H_2SO_4	401.2	SCKK75

Na 1s

Na	1071.8	Φ
NaCl	1072.1	Φ
Na	1071.8	BaSt75
Na	1071.4	KLMP73
NaI	1071.7	WRDM79
NaBr	1071.7	Wagn75
NaBr	1071.4	MVS73
NaCl	1071.6	Wagn75
NaCl	1072.5	SGSO70
NaCl	1071.5	KOK83
NaCl	1071.8	NSLS77
NaCl	1072.3	HHDD81
NaF	1071.2	Wagn75
NaF	1071.0	MVS73, NSLS77
Na_2CO_3	1071.5	WRDM79
Na_2CO_3	1071.7	HHDD81
Na_2HPO_4	1071.6	WRDM79
Na_2HPO_4	1071.5	Swif82
$Na_2S_2O_3$	1071.6	Wagn75
Na_2SO_3	1071.3	Wagn75
Na_2SO_4	1071.2	Wagn75
Na_2SeO_3	1070.8	Wagn75
Na_2TeO_4	1071.1	Wagn75
Na_3PO_4	1071.1	MVS73, Swif82, GMD79
$Na_4P_2O_7$	1070.8	MVS73
$Na_4P_2O_7$	1071.6	GMD79

$NaClO_4$	1071.8	MVS73
NaH_2PO_2	1071.1	Swif82
NaH_2PO_4	1072.0	Swif82
$NaHCO_3$	1071.3	WRDM79
NaN_3	1070.8	SGRS72
$NaNO_2$	1071.6	Wagn75
$NaNO_3$	1071.4	Wagn75
$NaPO_3$	1071.7	Wagn75
$NaPO_3$	1071.7	Swif82, GMD 79
$Na_2Cr_2O_7$	1071.6	WRDM79
Na_2CrO_4	1071.4	Wagn75
Na_2CrO_4	1071.0	ACHT73
Na_2IrCl_6	1071.9	Wagn75
Na_2MoO_4	1070.9	Wagn75
Na_2MoO_4	1071.8	NSLS77
Na_2PdCl_4	1071.8	Wagn75
$Na_2SnO_3 \cdot 3H_2O$	1071.1	WRDM79
Na_2WO_4	1072.0	Wagn75
$NaAsO_2$	1070.9	Wagn75
$NaBiO_3$	1071.3	WRDM79
$NaCrO_2$	1072.4	ACHT73
Na_2BeF_4	1071.8	NKBP73
Na_2GeF_6	1071.7	Wagn75
Na_2SiF_6	1071.7	Wagn75
Na_2SiF_6	1072.1	NSLS77
Na_2TaF_7	1071.9	NKBP73
Na_2TiF_6	1071.6	Wagn75
Na_2ZrF_6	1071.5	Wagn75
Na_3AlF_6	1071.8	Wagn75
Na_3TaF_8	1071.8	NKBP73
$NaBF_4$	1072.7	Wagn75
$NaBeF_3$	1071.9	NKBP73
$NaTaF_6$	1071.7	NKBP73
Na_2O	1072.5	BaSt75
NaOOCH	1071.1	WRDM79
$Na_2C_2O_4$	1070.8	WRDM79
$NaAlSi_3O_8$, albite	1072.2	WPHK82
Hydroxysodalite	1070.5	WPHK82
Natrolite	1072.4	WPHK82
Mol Sieve A	1071.8	WPHK82
Mol Sieve X	1072.3	WPHK82
Mol Sieve Y	1072.6	WPHK82
NaOAc	1071.1	Wagn75
NaOAc	1071.7	HHDD81
$NaOOCCH_2SH$	1071.2	WRDM79
NaO_3SPh	1071.3	WRDM79
p-($NaOCOCMe{=}CH_2$)	1072.2	HHDD81

Na KLL

Na	994.3	BaSt75
Na	994.3	KLMP73
Na	994.5	SRHH78
NaI	991.2	WRDM79
NaBr	990.6	Wagn75
NaCl	990.3	Wagn75
NaCl	990.0	SGSO70
NaCl	990.1	KOK83
NaF	998.6	Wagn75
Na_2CO_3	989.8	WRDM79
Na_2HPO_4	989.9	WRDM79
Na_2HPO_4	989.7	Swif82
$Na_2S_2O_3$	990.1	Wagn75
Na_2SO_3	990.4	Wagn75
Na_2SO_4	989.8	Wagn75
Na_2SeO_3	991.0	Wagn75
Na_2TeO_4	990.5	Wagn75
Na_3PO_4	990.1	Swif82
NaH_2PO_2	989.8	Swif82
NaH_2PO_4	989.1	Swif82
$NaHCO_3$	989.8	WRDM79
$NaNO_2$	989.8	Wagn75
$NaNO_3$	989.6	Wagn75
$NaPO_3$	989.3	Wagn75
$NaPO_3$	989.4	Swif82
$Na_2Cr_2O_7$	990.6	WRDM79
Na_2CrO_4	991.2	Wagn75
Na_2IrCl_6	989.2	Wagn75
Na_2MoO_4	991.0	Wagn75
Na_2PdCl_4	990.2	Wagn75
$Na_2SnO_3 \cdot 3H_2O$	990.3	WRDM79
Na_2WO_4	989.6	Wagn75
$NaAsO_2$	990.7	Wagn75
$NaBiO_3$	990.9	WRDM79
Na_2GeF_6	998.1	Wagn75
Na_2SiF_6	987.7	Wagn75
Na_2TiF_6	988.5	Wagn75
Na_2ZrF_6	988.7	Wagn75
Na_3AlF_6	988.0	Wagn75
$NaBF_4$	987.1	Wagn75
Na_2O	989.8	BaSt75
NaOOCH	989.8	WRDM79
$Na_2C_2O_4$	990.5	WRDM79
Mol Sieve A	988.8	WPHK82
Mol Sieve X	988.4	WPHK82
Mol Sieve Y	987.8	WPHK82
NaOAc	989.9	Wagn75
$NaOOCCH_2SH$	990.4	WRDM79
NaO_3SPh	989.7	WRDM79

Nb 3d

Nb	202.4	Φ
Nb	202.3	NyMa80
Nb	202.2	MSC73, NSCP74, WRDM79
Nb	201.8	Bahl75
Nb_3Te_4	202.8	Bahl75
$NbTe_4$	203.8	Bahl75
Nb_3Se_4	203.0	Bahl75
$NbSe_2$	203.4	Bahl75
NbS_2	207.7	MSC73
NbN	203.8	Bahl75
$NbBr_5$	207.1	MSC73
$NbCl_5$	208.0	MSC73

NbO	202.8	SPB76
NbO	203.7	Bahl75
NbO	204.7	FCFG77
Nb_2O_5	207.5	SPB76, MSC73, FCFG77, NFS82, NGDS75
$LiNbO_3$	207.1	StHo79
$KNbO_3$	206.5	MSC73
$CaNb_2O_6$	206.8	Bahl75
$CdNb_2O_6$	207.0	Bahl75
$Ca_2Nb_2O_7$	206.7	Bahl75
$RhNbO_4$	206.5	NFS82
$Cl_2Nb_6Cl_{12}(H_2O)_4 \cdot 4H_2O$	204.7	BeWa79
$Cl_6(Nb_6Cl_{12})(Et_4N)_3$	204.7	BeWa79
$Br_6(Nb_6Cl_{12})(Bu_4N)_2$	204.7	BeWa79
$Cl_2(Nb_6Cl_{12})(Pr_3P)_4$	204.6	BeWa79
$Cl_2(Nb_6Cl_{12})(Me_2SO)_4$	204.6	BeWa79

Nd 3d

Nd	980.8	Φ
Nd_2O_3	982.0	SaRa80

Nd 4d

Nd_2O_3	120.8	SaRa80

Ne 1s

Ne in graphite	863.1	Φ
Ne in Ag	862.4	CiHa74
Ne in Au	861.6	CiHa74
Ne in Cu	862.2	CiHa74
Ne in Fe	863.4	Wagn75

Ne KLL

Ne in Fe	818.0	Wagn75

Ni 2p

Ni	852.7	Φ
NiO	853.8	Φ
Ni	852.7	LANM81
Ni	852.7	ALMP82
Ni	852.8	PEJ82
Ni	852.7	WRDM79, ShRe79
Ni_5Yb	852.7	WWC78
Ni_2Si	853.0	GGM82
NiSi	853.5	GGM82
NiS	852.8	ShRe79
NiS	853.2	DPS77
NiS	855.1	NgHe76
$NiI_2 \cdot 6H_2O$	855.3	NZB78
$NiCl_2$	856.7	TRLK73, KlHe83, YYS78
$NiF_2 \cdot 4H_2O$	857.5	NSLS77
NiO	853.5	WRDM79
NiO	854.3	DPS77, KlHe83, LFWS79, NFS82, NZB78, SRD79
NiO	854.3	KiWi74, McCo75
Ni_2O_3	857.3	NgHe76
Ni_2O_3	855.8	KiWi74
$Ni(OH)_2$	855.6	DPS77, LFWS79, McCo75
$Ni(NO_3)_2$	857.1	TRLK73
$Ni(NO_3)_2 \cdot 6H_2O$	856.9	NZB78
$NiAl_2O_4$	855.8	SDR 80, LFWS79
$NiAl_2O_4$	857.4	NgHe76
Ni_2SiO_4	856.1	LFWS79
$NiClO_4 \cdot 6H_2O$	857.2	NZB78
$NiFe_2O_4$	855.4	McCo75
$NiRh_2O_4$	855.9	NFS82
$NiSO_4$	856.8	ShRe79
$NiSiO_3$	856.5	SRD79
$NiWO_4$	857.7	NgHe76
$NaNiIO_6 \cdot H_2O$	856.4	NZB78
K_2NiF_6	861.0	TRLK73
$Ni(CO)_4$	854.8	BCGH72
$Br_2Ni(NH_3)_6$	855.9	NZB78
$Ni(NH_3)_6(ClO_4)_2$	856.5	NZB78
$Ni(acac)_2$	855.9	NZB78, TRLK73
$Ni(OAc)_2 \cdot 4H_2O$	856.5	NZB78
$Ni(C_5H_5)$	854.2	BCDH73
$Ni(C_5H_5)$	856.8	ClAd71, TRLK73
$Cl_2Ni(Ph_3P)_2$	855.0	BNSA70
$Cl_2Ni(Ph_3P)_2$	854.4	NZB78
$Cl_2Ni(Ph_3P)_2$	857.0	STHU76
$Ni(dimethylglyoxim)_2$	855.0	NZB78,YoYa81
$Cl_2Ni(bipyridyl)$	855.7	NSWU77, NZB78
$Ni(SPh)_2$	854.6	BBFR77
$Cl_2Ni(NH_2CONHCONH_2)_2$	856.7	YYS78
$Ni(2\text{-aminobenzoate})_2$	855.9	YoYa81
$Ni(P(OEt)_3)_4$	853.8	TRLK73
$Cl_2Ni(Et_3P)_2$	854.7	FaBa79
$Br_4Ni(Et_4N)_2$	855.2	EMGK74

Ni LMM

Ni	846.1	PEJ82
Ni	846.2	WRDM79
Ni	846.1	KiWi74, KGW76

O 1s

Al_2O_3, sapphire	531.0	Φ
Ag_2O	529.2	Scho73
AgO	528.6	Scho73, SRD80
Al_2O_3	531.3	Nefe82, SDR80, BGD75, ZSOS79
Al_2O, sapphire	531.0	Tayl82, WPHK82
Al_2O_3, alpha	531.8	WPHK82
Al_2O_3, gamma	530.9	Barr83, WPHK82
As_2O_3	531.7	Tayl82, MINN78
As_2O_5	531.6	WZR80
B_2O_3	533.0	NGDS75
BaO	528.3	InYa81
BeO	531.7	NGDS75, NFS75, HJGN70
Bi_2O_3	530.0	NGDS75, DSBG82
CaO	529.4	InYa81

CaO	531.3	WZR80
CdO	529.2	NFS75, NGDS75, SBB80
CdO_2	530.3	HGW75
Ce_2O_3	530.3	PKHL80
CeO_2	529.2	NGDS75
Co_2O_3	529.9	McCo75
Co_3O_4	530.2	NGDS75, WZR80
Co_3O_4	529.6	BGD75
Co_3O_4	529.7	CBR76, GPDG79, HSU76
CoO	530.1	BGD75, NFS82, NGDS75
Cr_2O_3	531.0	HoTh80, DPS76, WZR80, BDFP81
Cr_2O_3	531.5	NGDS75
CrO_2	529.3	IIKK76
CrO_3	530.2	DPS76
CsO_2	527.5	YaBa80
Cs_2O_4	530.5	YaBa80
Cu_2O	530.3	HMUZ78, MSSS81, RBO72, Scho73b
CuO	529.6	MSSS81, McCo75, HMUZ78, RBO72, Scho73b
Fe_2O_3	530.2	NGDS75, WZR80, KiIk73, Limo81
Fe_2O_3	529.6	HSU76, NSLS77
Fe_2O_3, alpha	529.6	McZe77
Fe_2O_3, gamma	529.8	McZe77
Fe_3O_4	530.0	McZe77
FeO	529.8	McZe77
Ga_2O_3	530.8	NGDS75, Scho73a, WZR80, ZSOS79
GeO_2	520.0	NGDS75, WZR80
H_2O	533.2	NGDS75, WZR80
HfO_2	530.4	NGDS75
I_2O_5	529.9	Sher76
In_2O_3	529.8	NGDS75
In_2O_3	530.3	CFRS80
In_2O_3	530.5	LAK77
La_2O_3	528.6	NGDS75
Li_2O	531.3	CSFG79
Lu_2O_3	529.5	NGDS75
MgO	530.0	NFS82, NGDS75
MgO	531.2	InYa81
MgO	532.1	WZR80
MnO	529.7	OHI75
Mn_3O_4	529.6	OHI75
Mn_2O_3	529.6	OHI75
MnO_2	530.0	NGDS75, WZR80
MnO_2, beta	529.6	OHI75
MoO_2	531.1	PCLH76
MoO_2	530.7	CGR78, KBAW74
MoO_2	529.9	SaRa80
MoO_3	530.9	NGDS75, NFS82
MoO_3	531.6	PCLH76
MoO_3	530.4	SaRa80, KBAW74, HMUZ78, CGR78
Na_2O	529.7	BaSt75
Nb_2O_5	529.6	GBP81
Nb_2O_5	530.6	NGDS75, NFS82
Nb_2O_5	531.3	SaRa80
NbO_2	530.7	SaRa80
Nd_2O_3	530.6	SaRa80
Ni_2O_3	531.8	KiWi74, NgHe76
NiO	529.6	DPS77, LFWS79, NFS82, NGDS75, SRD79, WZR80
P_2O_5 (bridging O)	532.2	NGDS75
P_2O_5 (bridging O)	532.6	GMD79
P_2O_5 (nonbridging O)	533.6	NGDS75
P_2O_5 (nonbridging O)	534.3	GMD79
PbO	528.9	NFS82
PbO	531.6	WZR80
PbO, rhombic	529.4	KOW73
PbO, rhombic	530.9	ZiHe78
PbO, tetragonal	527.5	KOW73
PbO, tetragonal	528.9	ZiHe78
PbO_2	527.4	KOW73
PbO_2	529.0	TLR78
PdO	529.3	KGW74
Pr_2O_3	529.3	SaRa80
PrO_2	528.6	SaRa80
PtO_2	531.4	CMHL77
ReO_2	530.1	BHU81
ReO_3	531.9	BHU81
Rh_2O_3	530.4	CMHL77, NFS82
RuO_2	529.4	MWLF78
RuO_2	529.4	KiWi74, McGi82, SaRa80
RuO_3	530.7	KiWi74
Sb_2O_3	530.0	WZR80
Sc_2O_3	530.0	NGDS75, WZR80
SiO_2	533.0	Barr83, KMH78, NGDS75
SiO_2	534.3	KiIk73
SiO_2	532.5	NSLS77, SRD79
SiO_2, gel	532.8	WPHK82
SiO_2, Vycor	532.9	WPHK82
SiO_2, alpha cristobal	532.5	WPHK82
SiO_2, alpha quartz	532.7	WPHK82
SiO_2, alpha quartz	533.2	TLR78
SnO	530.1	ADPS77
SnO_2	530.6	ADPS77, LAK77, MWLF78, NGDS75, TLR78
SrO	530.5	VaVe80
Tb_2O_3	528.8	SaRa80
TbO_2	528.8	SaRa80
TeO_2	530.2	GBP81, SBB80
ThO_2	530.0	NGDS75
TiO_2	529.9	MWLF78, WZR80, NGDS75
UO_2	530.4	MSSS81
UO_3	529.9	MSSS81
V_2O_3	530.5	CGR78
V_2O_4	530.0	KKL83
V_2O_5	529.9	BCM78, KKL83
V_2O_5	530.5	NSLS77, NGDS75, NFS82
WO_2	530.4	CoRa76

WO_3	530.6	CoRa76, KMH78, NFS82, NGDS75, NSLS77
ZnO	530.4	NFS82, NGDS75, NSLS77, Scho73, WZR80, ZSOS79
ZrO_2	530.2	NGDS75
ZrO_2	530.9	WZR80
$Al(OH)_3$, bayerite	531.4	WPHK82
$Al(OH)_3$, gibbsite	531.5	WPHK80
AlOOH, boehmite	531.5	Tayl82
$Co(OH)_2$	531.2	HSU76
$Cr(OH)_3$	531.2	DPS76
$Cu(OH)_2$	531.2	MSSS81
$Fe(OH)_2$	531.3	HSU76
FeO*OH	530.1	McZe77
FeOO*H	531.2	McZe77
$In(OH)_3$	531.8	WZR80
KOH	531.8	Kilk73
LiOH	531.2	CSFG79, WZR80
$Mg(OH)_2$	530.9	HNUW78
NaOH	532.8	BaSt75
$Ni(OH)_2$	531.3	LFWS79
$AlPO_4$	532.8	CFRS80
Cs_3PO_4	530.1	MVS73
$Cs_4P_2O_7$	530.2	MVS73
K_3PO_4	530.4	MVS73
$K_4P_2O_7$	530.1	MVS73
Li_3PO_4	531.5	MVS73
$Li_4P_2O_7$	531.7	MVS73
Na_3PO_4	530.4	MVS73, GMD79
$Na_4P_2O_7$ (bridging O)	531.1	GMD79
$Na_4P_2O_7$ (nonbridging O)	532.9	GMD79
$NaPO_3$ (bridging O)	531.5	GMD79
$NaPO_3$ (nonbridging O)	533.4	GMD79
$Ba(NO_3)_2$	533.0	CLSW83
$Ca(NO_3)_2$	533.6	CLSW83
KNO_3	532.7	NSLS77
$Pb(NO_3)_2$	532.7	TLR78
$BaSO_4$	531.8	CLSW83
$BaSO_4$	532.5	WZR80
$CaSO_4$	532.0	CLSW83, WZR80
$Cr_2(SO_4)_3$	532.1	DPS76
$FeSO_4$	532.4	Limo81
K_2SO_4	531.2	WZR80
$NiSO_4$	532.1	NSLS77, Nefe82
$PbSO_4$	531.5	ZiHe78
$ZnSO_4$	532.5	Nefe82
Na_2SO_3	531.2	WZR80
$Na_2S_2O_3$	531.8	WZR80
$PbSO_3$	530.8	ZiHe78
PbS_2O_3	531.1	ZiHe78
Ag_2CO_3	530.6	HGW75
$BaCO_3$	531.3	CLSW83
$CaCO_3$	531.4	CLSW83, WZR80
$CdCO_3$	531.4	HGW75
$CuCO_3$	531.5	WZR80
Li_2CO_3	531.5	CSFG79
Na_2CO_3	531.6	HHDD81, WZR80
$PbCO_3$	531.2	WZR80
$CsClO_4$	532.7	MVS73
$KClO_4$	532.2	MVS73
$KClO_3$	532.3	MVS73
$LiClO_4$	533.4	MVS73
$NaClO_4$	533.0	MVS73
$RbClO_4$	532.8	MVS73
Al_2SiO_5, kyanite	531.3	AnSw74
Al_2SiO_5, mullite	531.6	AnSw74
Al_2SiO_5, sillimanite	531.3	AnSw74
Al_2SiO_5, sillimanite	531.9	WPHK82
$Ca_3(HSiO_4)_2$	531.2	ClRi76
Co_2SiO_4	531.6	WZR80
$Na_2SiO^*_3 \cdot 5H_2O$	530.6	ClRi76
$Na_2SiO_3 \cdot 5H_2O^*$	532.5	ClRi76
Ni_2SiO_4	531.9	LFWS79
$NiSiO_3$	532.3	SRD79
$MgSiO^*_3 \cdot 2H_2O$	532.0	ClRi76
$MgSiO_3 \cdot 2H_2O^*$	532.8	ClRi76
$Al_2(MoO_4)_3$	531.0	PCLH76
$Al_2(WO_4)_3$	532.0	NgHe76
$CaCrO_4$	529.5	ACHT73
$CaMoO_4$	530.6	NFS82
$CaWO_4$	529.9	NFS82
p-Benzoquinone	532.2	OYK74
Hydroquinone	533.5	OYK74
PhCOONa	531.4	LBNN78
$p(Me_2Si(O))$	532.5	WPHK82
Methylsilicone Resin	532.7	WPHK82
Phenylsilicone Resin	532.6	WPHK82
$PhCONH_2$	532.2	LBNN78

Os 4f

Os	50.7	Φ
Os	50.6	Folk73, BNMN79
Os	50.2	BHHK70
$OsCl_3$	53.1	Nefe78
OsO_2	52.0	SaRa80
OsO_2	52.7	Folk73
$Os(HSO_3)_2$	52.2	Nefe78
K_2OsI_6	51.9	Nefe78
K_2OsBr_6	52.9	Nefe78
K_2OsCl_6	53.0	Folk73
K_2OsCl_6	53.2	CoHe72
K_2OsCl_6	53.5	LeBr72
K_2OsCl_6	53.9	Nefe78
$K_2OsO_2(OH)_4$	55.2	Nefe78
$Os(NH_3)_5N_2I_2$	50.9	Folk73
$Os(NH_3)_5N_2Br_2$	52.0	Folk73
$Os(NH_3)_4(N_2)_2Br_2$	51.6	Folk73
$Os(NH_3)_5N_2Cl_2$	52.2	Folk73
$K_2Os(NO)Br_5$	53.3	Nefe78
$K_2Os(NO)Cl_5$	53.4	Nefe78
$HOs(Ph_3P)Cl(CO)$	51.1	Nefe78
$OsCl_4(Et_3P)_2$	52.6	LeBr72

$OsCl_4(PhPMe_2)_2$ trans	53.0	LeBr72
$OsCl_3(PhPMe_2)_3$ mer	51.7	LeBr72
$OsCl_2(PhPMe_2)_4$ trans	50.5	LeBr72

P 2p

P	129.9	Φ
P	130.0	NSDU75
P (red)	130.0	ScBr81
Cu_3P	129.6	NSDU75
CuP_2	129.7	NSDU75
GaP	128.8	WaTa80, IMNN79, NIMN78
GaP, anodically oxid.	128.5	MIN81
GaP, thermally oxid.	129.7	MIN81
InP	128.3	CFRS80
InP	129.4	Bert81
Zn_3P_2	128.3	NSDU75
ZnP_2	129.8	NSDU75
$AlPO_4$	132.9	CFRS80
Cs_3PO_4	132.1	MVS73
K_2HPO_4	132.8	Bert81
K_3PO_4	133.2	MVS73
Li_3PO_4	133.6	MVS73
Na_2HPO_4	133.1	Swif82, WRDM79, WaTa80
Na_3PO_4	132.4	MVS73, GMD79, Swif82
NaH_2PO_4	134.2	Swif82
$NaPO_3$	134.2	Swif82,GMD79
Rb_3PO_4	132.5	MVS73
NaH_2PO_2	132.6	Swif82
$Cs_4P_2O_7$	132.6	MVS73
$K_4P_2O_7$	132.6	MVS73
$Li_4P_2O_7$	134.3	MVS73
$Na_4P_2O_7$	133.2	MVS73, GMD79, Bert81
$Rb_4P_2O_7$	133.1	MVS73
P_4O_{10}	135.3	NIMN78, NGDS75, CFRS80, Bert81, GMD79
$OPCl_3$	135.7	FlWe75
$SPCl_3$	135.3	FlWe75
$SP(NH_3)_3$	133.4	FlWe75
Ph_3P	130.9	Dale76, NSMS79, TRLK73, GBMP79
Ph_3P	130.9	HVV79, LMF80, SRH72
Ph_3P	130.9	MSAV71, GZF73
Ph_3PS	132.5	HVV79, STA74, FlWe75, MSAV71
Ph_3PSe	132.6	HVV79, MSAV71
Ph_3PO	132.5	GZF73, STA74, FlWe75, MSAV71, HVV79, BNSA70
Ph_3PBI_3	132.2	HVV79
Ph_3PBBr_3	132.1	HVV79
Ph_3PBCl_3	132.2	HVV79
Ph_3PBF_3	132.0	HVV79
Ph_2PSH	132.3	NSWM80
Ph_2PSeH	132.3	NSWM80
$(PhS)_3P$	134.3	MSAV71
$(PhS)_3PS$	133.1	MSAV71
$(PhO)_3P$	134.7	MSAV71
$(PhO)_3PS$	134.7	MSAV71
$(PhO)_3PSe$	134.3	MSAV71
$(PhO)_3PO$	133.6	CFRS80
$(PhO)_3PO$	134.8	FlWe75
Ph_3POBBr_3	133.7	HVV79
Ph_3POBCl_3	133.4	HVV79
Ph_3POBF_3	133.3	HVV79
$Ph_2PO(OH)$	133.3	MSAV71
$OPCl(OEt)_2$	134.8	FlWe75
OPF_2NPh_2	135.8	FlWe75
$OPCl_2OEt$	135.2	FlWe75
$OP(NMe_3)_3$	133.4	FlWe75
Ph_4PI	133.0	HVV79
Ph_4PBr	133.5	LMF80, SRH72
Ph_4PCl	132.8	HVV79
$MePPh_3Br$	133.0	SRH 2
$(Ph_3P)_3P^*F_6$	136.7	LMF80
$(Ph_3P^*)_3PF_6$	133.5	LMF80
$Pt(Ph_3P)_4$	131.2	Rigg72
$Ph_3P{=}CHCOPh$	132.2	Dale76, STA74
$Ph_3P{=}CHCOOMe$	132.5	STA74
$Cl_2Ni(Ph_3P)_2$	132.4	BNSA70
$Ni(CO)_2(Ph_3P)_2$	131.4	TRLK73

Pb 4f

Pb	136.9	Φ
Pb	136.4	LKMP73
Pb	136.8	SFS77
Pb	136.8	BeFl80, KOW73, KiWi73, TLR78, WRDM79, WaTa80
Pb	136.8	HSBS81, OCH79
$Pb_{98}Sn_2$	136.8	HSBS81
PbTe	137.4	SFS77
PbSe	137.4	SFS77
PbS	137.6	MoVa73, SFS77, ZiHe78
PbI_2	138.7	MoVa73
$PbBr_2$	138.8	NeFe82
PbF_2	139.0	MoVa73
PbO	138.9	KOW73, ZiHe78, WRDM79, NFS82, NSSP80, MoVa73
PbO	138.9	MoVa73, BeFl80
Pb_3O_4	138.0	MoVa73
PbO_2	137.4	BeFl80, KOW73, TLR78, MoVa73
$Pb(OH)_2$	138.4	NSSP80
$Pb(NO_3)_2$	139.3	BeFl80, TLR78, NSSP80
$PbSO_3$	138.6	ZiHe78
$PbSO_4$	139.4	NSSP80, ZiHe78
PbS_2O_3	138.4	ZiHe78
$PbRh_2O_4$	137.3	NFS82
Ph_4Pb	138.2	MoVa73
Ph_3PbCl	138.9	MoVa73
Ph_2PbCl_2	139.4	MoVa73
$Pb(OAc)_2$	138.5	BeFl80
$Pb(OAc)_4$	137.2	BeFl80

Pd 3d

Pd	335.1	Φ
Pd	335.1	NyMa80
Pd	335.2	BiSw80
Pd	335.2	BiSw80
Pd	335.5	BiSw80
Pd	335.2	JHBK73, Asam76
Pd	335.3	WRDM79, WeAn80, BHHK70, Scho72, GGM82, KBAM72
Ag_3OPd_5O	334.6	WeAn80
Ag_8OPd_2O	334.9	WeAn80
Ag_9OPd_1O	334.9	WeAn80
Al_8OPd_2O	337.4	WeAn80
$Mg_{75}Pd_{25}$	336.2	WeAn80
Pd_2Si	336.8	GGM82
Pd_3Si	336.2	AWL80
PdI_2	336.4	KBAM72
$PdBr_2$	337.1	KBAM72
$PdCl_2$	337.8	KBAM72, NKBP73
PdO	336.3	KGW74
PdO_2	337.9	KGW74
Na_2PdCl_4	338.0	SeTs76
K_2PdCl_4	338.2	KBAM72, NKBP73
K_2PdBr_4	337.3	KBAM72
$K_2Pd(NO_2)_4$	339.0	KBAM72
K_2PdCl_6	340.2	KBAM72, Nefe78
$Br_2Pd(Ph_3P)_2$	337.8	KBAM72
$Cl_2Pd(Ph_3P)_2$	337.8	KBAM72, NSMS79
$I_2Pd(Ph_3P)_2$	337.5	KBAM72
$(CN)_2Pd(Ph_3P)_2$	338.2	KBAM72
$Pd_2(Ph_3P)_2$	336.6	NSMS79
$Cl_2Pd(Ph_3P)_3$	342.9	BNSA70
$Pd(Ph_3P)_4$	336.0	NSMS79
$Pd(OAc)_2$	338.6	NSMS79
$Pd(SPh)_2$	337.7	BBFR77

Pd MNN

Pd	327.8	WeAn80, WRDM79
Ag_3OPd_5O	328.8	WeAn80
Ag_8OPd_2O	329.8	WeAn80
Ag_9OPd_1O	329.7	WeAn80
Al_8OPd_2O	325.5	WeAn80
$Mg_{75}Pd_{25}$	326.4	WeAn80

Pm 3d

$PmCl_3$	1033.5	MNTB70

Pm 4d

$PmCl_3$	128.3	MNTB70

Pr 3d

Pr	931.8	Φ
Pr_2O_3	933.2	SaRa80
PrO_2	935.3	SaRa80

Pr 4d

Pr_2O_3	116.1	SaRa80
PrO_2	116.2	SaRa80

Pt 4f

Pt	71.2	Φ
Pt	71.0	JHBK73
Pt	71.2	BHHK70, KWD71, Nefe78, Scho72, WRDM79, Wagn75
Pt	71.2	CMHL77, CaLe73, HaWi77, BACB75
PtSi	73.0	GGM82
Pt_2Si	72.5	GGM82
$PtCl_2$	73.6	EPCC75
$PtCl_4$	75.5	EPCC75
PtO	73.8	KWD71
PtO	74.2	EPCC75
PtO_2	74.6	KWD71
PtO_2	75.0	EPCC75
$Pt(OH)_2$	72.6	HaWi77
K_2PtI_6	73.4	SNMK78
K_2PtBr_4	72.6	SNMK78
K_2PtBr_6	74.6	SNMK78
K_2PtCl_4	73.0	CMHL77, EPCC75, SNMK78
K_2PtCl_4	73.4	Wagn75
K_2PtCl_6	75.4	CoHe72, EPCC75, LeBr72, SNMK78
K_2PtF_6	77.6	SNMK78
$Pt(NH_3)_4Br_2$	73.4	Nefe78
$Pt(NH_3)_2Cl_2$	73.2	CMHL77, Nefe78
$Pt(NH_3)_4Cl_2$	73.4	SNMK78
$Pt(NH_3)_6Cl_4$	76.3	SNMK78
$Pt(NH_3)_2(NO_2)_2$	73.7	Nefe78
$Pt(NH_3)_2(NO_2)_2$	74.4	CMHL77
$K_2Pt(OH)_6$	75.1	SNMK78
$K_2Pt(NO_2)_4$	74.1	SNMK78
$K_2Pt(NO_2)_6$	75.9	SNMK78
$(NH_4)_2PtCl_4$	72.4	KaEl79
$Pt(Ph_3P)_3$	71.4	Nefe78
$Pt(Ph_3P)_4$	71.4	Rigg72
$Cl_2Pt(Ph_3P)_2$ cis	72.3	CAB71
$Cl_2Pt(Ph_3P)_2$ cis	73.0	Rigg72
$Cl_4Pt(Et_3P)_2$	75.3	LeBr72
$Cl_4Pt(Et_3P)_2$	75.9	Nefe78, Rigg72
$HClPt(Et_3P)_2$	72.6	Rigg72
$O_2Pt(Ph_3P)_2$	73.0	Rigg72
$Pt(SPh)_2$	72.8	BBFR77
$Ph_3PPt(SPPh_2)$	71.8	NeSa78
$Cl_2Pt(Et_3P)_2$	73.1	Rigg72
$I_2Pt(Et_3P)_2$	72.5	Rigg72
$I_2Pt(Me_3P)_2$ cis	72.6	CAB71
$I_2Pt(Me_3P)_2$ trans	72.7	CAB71
$I_2Pt(CH_3CONH)_4$	74.6	NeSa78
$Br_2Pt(CH_3CONH)_4$	74.9	NeSa78
$Cl_2Pt(CH_3CONH)_4$	74.8	NeSa78

$Cl_2Pt(H_2NCH_2CH_2NH_2)_2$	73.0	YMK78
Cl_2Pt(cyclooctadien)	73.9	CMHL77
K_2PtCl_6	318.1	EPCC75

Pt MNN

Pt	1960.7	Wagn78
Pt	2041.1	Wagn78

Rb 3d

Rb	111.5	Φ
RbCl	109.9	Φ
RbN_3	109.8	SGRS72
RbI	110.4	MVS 73
RbBr	110.0	MVS 73
RbCl	109.9	MVS 73
RbF	109.8	MVS 73
Rb_3PO_4	110.0	MVS 73
$Rb_4P_2O_7$	110.0	MVS 73
$RbClO_4$	110.4	MVS73

Re 4f

Re	40.3	Φ
Re	40.5	FHR80
Re	40.5	SSHU83, WRDM79
Re	41.0	BHU81
ReO_2	43.6	BHU81
ReO_3	46.8	BHU81
K_2ReCl_6	44.2	CoHe72, LeBr72
$Cl_3ReO(Ph_3P)_2$	43.9	Folk73, Nefe78
$Cl_2ReN(Ph_3P)_2$	42.7	Nefe78
$Cl_4Re(Et_3P_2$	43.3	LeBr72
$Cl_4Re(PMe_2Ph)_2$	43.6	LeBr72
$Cl_3Re(PMe_2Ph)_3$, mer	41.8	LeBr72
$Cl_2Re(PMe_2Ph)_4$, trans	40.5	LeBr72
$ClReN_2(PMe_2Ph)_4$, trans	40.3	LeBr72, Folk73

Rh 3d

Rh	307.2	Φ
Rh	307.2	NyMa80
Rh	307.2	OIIT79, WRDM79, FHPW73
RhI_3	308.6	Nefe78
$RhCl_3$	310.1	OIIT79
$RhCl_3 \cdot 3H_2O$	310.0	CWH82
$RhCl_3 \cdot 12H_2O$	310.1	CMHL77
Rh_2O_3	308.8	NFS82, CMHL77
Rh_2O_3	308.2	OIIT79
$BaRh_2O_4$	308.4	NFS82
$BeRh_2O_4$	308.9	NFS82
$CaRh_2O_4$	308.8	NFS82
$CoRh_2O_4$	308.8	NFS82
$PbRh_2O_4$	308.6	NFS82
$KRhO_2$	308.5	NFS82
$LiRhO_2$	308.9	NFS82
$ZnRh_2O_4$	308.7	NFS82
Rh_2MoO_6	309.2	NFS82
Rh_2WO_6	309.4	NFS82
$RhNbO_4$	309.2	NFS82
$RhTaO_4$	309.5	NFS82
$RhVO_4$	309.2	NFS82
K_3RhCl_6	309.8	SNMK78
K_3RhF_6	312.2	Nefe78
$K_3Rh(NO_2)_6$	310.5	SNMK78
$K_3Rh(NO_3)_6$	311.1	SNMK78
$Rh(NH_3)_6Cl_3$	310.5	Nefe78
$Rh(NO)_6Cl_3$	309.8	Nefe78
$ClRh(Ph_3P)_3$	307.4	CWH82, Nefe78, OIIT79
$Cl_3Rh(Ph_3P)_3$	309.7	CWH82
$Cl_6Rh(Ph_3P)_3$	309.7	Nefe78
$Br_6Rh(Ph_3P)_3$	307.9	Nefe78
$NORh(Ph_3P)_3$	308.2	Nefe78
$Cl_3Rh(Ph_3P)_2MeCN$	309.6	GlWa79
$H(CO)Rh(Ph_3P)_2$	308.5	OIIT79
$Cl(CO)_2Rh(Ph_3P)$	308.7	Nefe78
$Cl(CO)Rh(Ph_3P)_2$	308.6	CWH82, OIIT79
Cl_2Rh_2(cyclooctadi)$_2$	308.7	CMHL77, CWH82
$Rh_2(OAc)_4 \cdot 2H_2O$	309.0	Nefe78
$Rh(NH_2CH_2COO)_3 \cdot H_2O$	310.3	NPBS74

Ru 3d

Ru	280.1	Φ
Ru	280.0	NyMa80
Ru	280.1	Folk73, BHHK70, KiWi74, FEMY77, WRDM79
$RuCl_3$	281.8	Folk73
RuO_2	280.7	SaRa80, KiWi74, McGi82
RuO_3	282.5	KiWi74
RuO_4	283.3	KiWi74
$Ru(NH_3)_5N_2I_2$	282.2	Folk73
$Ru(NH_3)_5N_2Br_2$	280.5	Folk73
$Ru(NH_3)_5N_2Cl_2$	282.5	Folk73
$Cl_3Ru(PhPMe_2)_3$ mer	276.6	LeBr72

S 2p

S	164.0	Φ
S	164.1	SNRS76, WRDM79, RiVe83, LHJG70
BaS	160.1	SiWo80
CdS	161.7	BSRR81
CoS	162.0	Limo81
Cu_2S	161.3	BSRR81
Cu_2S	162.4	NSSP80
CuS	162.0	Limo81, NSSP80
CuS	161.3	BSRR81
FeS	161.6	Bind73, Limo81
FeS_2	162.9	Bind73, Limo81
Ga_2S_3	162.2	TIWB72
GeS	161.8	SFS77
GeS_2	161.7	HKMP74
HgS	162.0	NSSP80
MnS	162.5	Limo81

MoS_2	162.5	SSOT81, StEd75, PCLH76
Na_2S	160.6	SWH71
Na_2S	161.8	LHJG70
NiS	162.2	ShRe79, NgHe76, DPS77
PbS	160.8	SFS77
Sb_2S_3	161.8	BCH75
SnS	161.1	SFS77
US	161.5	SNRS76
US_3	162.6	SNRS76
WS_2	162.1	NgHe76
WS_2	163.0	Wagn75
ZnS	164.0	Limo81
GeS_2TeAs_2	161.5	HKMP74
GeS_3As_2	161.6	HKMP74
$KFeS_2$	161.6	Bind73
$Na_2(S^*SO_3)$	162.5	Wagn75
$Na_2(S^*SO_3)$	161.7	LHJG70
$Na_2(SS^*O_3)$	167.7	LHJG70
K_2SO_3	167.5	TMR80
Na_2SO_3	165.6	SWH71
Na_2SO_3	166.6	WaTa82, LHJG70
Na_2SO_3	167.2	TMR80
Ag_2SO_4	168.6	TMR80
$Al_2(SO_4)_3$	168.8	LHJG70
$BaSO_4$	168.8	SiWo80, CLSW83
$CaSO_4$	169.0	CLSW83
$CoSO_4$	169.7	Limo81
$CuSO_4$	169.3	WaTa80, NSSP80, Limo81
$FeSO_4$	168.8	Limo81, LHJG70
$Fe_2(SO_4)_3$	169.1	LHJG70
K_2SO_4	169.1	TMR80
$MnSO_4$	171.0	Limo81
Na_2SO_4	168.8	TMR80
$NiSO_4$	169.2	Limo81, NSLS77, Nefe82, ShRe79
$PbSO_4$	168.6	NSSP80
$SrSO_4$	169.1	CLSW83
$U(SO_4)_2$	169.1	Chad73
$ZnSO_4$	169.5	Nefe82
NO_2SO_3	166.8	BCM78
S_2N_2	164.6	SDIO77
SF_6	174.4	WaTa82
SF_6	177.2	LHJG70
SO_2	167.4	WaTa82
SO_2	168.1	LHJG70
$SOCl_2$	168.1	LHJG70
SOF_2	170.0	LHJG70
$SP(NH_3)_3$	162.3	FlWe75
$SPCl_3$	163.7	FlWe75
S_2Cl_2	163.5	LHJG70
S_2Cl_{10}	174.4	LHJG70
CS_2	163.7	LHJG70
$(CH_2COOH)_2S$	163.7	LHJG70
$(CH_2Ph)_2S$	163.3	LHJG70
PhSH	163.1	LHJG70
Ph_2S	163.2	LHJG70
Thiophene	164.3	LHJG70
Ph_3PS	162.4	FlWe75, MSAV71
Ph_3PS	161.8	HVV79
Ph_3AsS	161.7	HVV79
PhSSPh	164.4	RiVe83, LHJG70
$PhCH_2SSCH_2Ph$	164.2	RiVe83
$(PhS)_3P$	163.6	MSAV71
$(PhS)_3PS$	163.5	MSAV71
BuSSBu	164.1	RiVe83
MeSSMe	164.3	RiVe83
NH_2CSNH_2	162.1	LeRa77, NBMO73, SrWa77
2-Mercaptobenzimidaz	162.2	YYS79
2-Mercaptobenzimidaz	162.8	ChHa79
$BuNH_3HSO_4$	167.3	EvRe81
Bu_4NHSO_4	168.0	EvRe81
Et_3NHHSO_4	168.5	EvRe81
$PhSCMe_3$	162.4	PiLu72
Tetrathionaphthalene	164.4	RiVe83
Cysteine	163.2	LIMa79, LHJG70
Cysteine HCl hydrate	163.1	SSEW79
Cysteine HCl hydrate	163.6	LHJG70
Methionine	162.8	BBFR77
$NH_2C_6H_4SO_{33}H$	167.8	HaSh73
$(MeOS)_2$	164.5	LHJG70
Me_2SO	166.5	LHJG70
$(PhCH_2)_2SO$	165.9	LHJG70
Ph_2SO	166.0	LHJG70
Me_2SO_2	169.0	LHJG70
$CH_3OS(O)OCH_3$	168.4	LHJG70
$MeSO_2Cl$	169.3	LHJG70
$ClC_6H_4CH_2SO_2Cl$	168.5	LHJG70
$PhSO_2Na$	166.3	LHJG70
$p\text{-}NH_2C_6H_4SO_2C_6H_4NH_2$-	167.9	LHJG70
$p\text{-}NH_2C_6H_4SO_2NH_2$	168.4	LHJG70
$p\text{-}CH_3C_6H_4SO_2Cl$	168.4	LHJG70
$p\text{-}NH_2C_6H_4SO_3Na$	168.1	LHJG70
$p\text{-}O_2NC_6H_4SNa$	161.0	LHJG70
$CO_2NC_6H_4SH$	163.5	LHJG70
$o\text{-}O_2NC_6H_4SH$	163.9	LHJG70
$p\text{-}O_2NC_6H_4SMe$	163.5	LHJG70
$o\text{-}O_2NC_6H_4SNH_2$	164.1	LHJG70
$o\text{-}O_2NC_6H_4SCl$	163.9	LHJG70
$p\text{-}O_2NC_6H_4SO_2F$	169.6	LHJG70
$o\text{-}O_2NC_6H_4SO_2F$	170.0	LHJG70
$PhCH_2SSCH_2Ph$	163.6	LHJG70
$PhCH_2S^*SOCH_2Ph$	163.7	LHJG70
$PhCH_2SS^*OCH_2Ph$	165.9	LHJG70
$PhCH_2S^*SO_2CH_2Ph$	163.9	LHJG70
$PhCH_2SS^*O_2CH_2Ph$	168.0	LHJG70
$(CH_3)_3S+I$-	165.8	LHJG70
$(CH_3)_3S+(O)I$-	168.2	LHJG70
$(HOOCCH_2)_2S+CH_3COO$-	166.2	LHJG70

S KLL

NiS	2116.1	WaTa80
NiW_2S	2115.9	Wagn78

WS_2	2115.6	Wagn78
Na_2SO_3	2108.5	WaTa82
$Na_2(SS^*O_3)$	2107.8	Wagn75
$Na_2(S^*SO_3)$	2112.5	Wagn75
$CuSO_4$	2108.0	WaTa80
SO_2	2106.2	WaTa82
SF_6	2100.5	WaTa82

Sb $3d_{5/2}$

Sb	528.3	Φ
Sb	528.2	HSBS81,MSV 73,PVVA79, SFS77,WRDM79,Wagn75
AlSb	528.6	MSV73
$Sb_{95}Sn_5$	528.0	HSBS81
Sb_2S_3	529.5	MSV73,Wagn75
Sb_2S_5	529.2	MSV73,Wagn75
SbI_3	530.4	MSV73
$SbCl_5$	530.9	BCH75
SbF_3	531.7	MSV73
Sb_2O_3	530.0	MSV73,Wagn75
Sb_2O_5	530.8	MSV73
$Rb_3Sb_2Br_9$	529.9	Tric74
$Rb_3Sb_2I_9$	529.9	Tric74
$Cs_3Sb_2I_9$	529.2	BCH75
$Cs_3Sb_2Br_9$	530.0	BCH75,Tric74
$Cs_3Sb_2Cl_9$	529.3	BCH75
$Cs_3Sb_2Cl_9$	530.5	Tric74
C_3SbCl_6	530.9	Tric74
$Co(NH_3)_6SbBr_6$	530.1	Tric74
$Co(NH_3)_6SbCl_6$	530.8	Tric74
$KSbF_6$	532.3	MSV73
$KSbF_6$	532.9	Wagn75
$NaSbF_6$	532.1	BCH75
$CsSbF_4$	530.6	BCH75
KSb_2F_7	531.2	Tric74
K_2SbF_5	531.0	Tric74
Na_2SbF_5	531.3	Tric74
$BuNH_3SbI_4$	529.6	BCH75
$BuNH_3Sb_2I_9$	529.9	BCH75
Et_4NSbF_6	532.4	BCH75
Ph_3Sb	528.9	BCH75
Bu_3Sb	528.1	BCH75
Ph_3SbBr_2	529.8	BCH75
Me_3SbBr_2	530.3	BCH75
Ph_3SbS	528.7	BCH75
$(C_{12}H_{25})_3SSb$	529.8	MSV73
Ph_4PSbCl_6	531.7	MSV73

Sb MNN

Sb	464.1	WRDM79, PVVA79, Wagn75
Sb_2S_3	462.1	Wagn75
Sb_2S_5	462.2	Wagn75
Sb_2O_3	462.1	Wagn75
$KSbF_6$	454.4	Wagn75

Sc 2p

Sc	398.6	Φ
Sc_2O_3	401.8	Φ
Sc	398.7	SMKM77
ScN	400.7	STAB76
Sc_2O_3	401.9	NGDS75,WRDM79
$ClSc(C_5H_5)_2$	401.4	WeMe78
$Sc(C_5H_5)(C_8H_8)$	400.2	WeMe78

Se 3d

Se	55.6	Φ
Se	55.5	SFS77, BWI80, UeOd82, WRDM79, WSP77, MTHB71
Se	55.1	BWI80
As_2Se_3	55.1	UeOd82, WSP77
Ga_2Se_3	54.6	ITI82, TIWB72
GeSe	54.8	SFS77
$GeSe_2$	54.5	UeOd82
$CuInSe_2$	54.0	KJID81
In_2Se_3	54.8	KJID81
Nb_3Se_4	54.9	Bahl75
$NbSe_2$	53.7	Bahl75
PbSe	53.4	SFS77
PbSe	54.1	WSP7
SnSe	53.7	SFS77
SnSe	55.0	WSP77
$MoSe_2$	54.6	BWI79
$FeSe_2$	54.9	BWI79
SeO_2	58.9	BWI81, ITI82
SeO_2	59.8	MTHB71, WSP77
H_2SeO_3	59.2	BWI81
H_2SeO_3	59.9	MTHB71
H_2SeO_4	61.2	BWI81
Na_2SeO_3	59.1	WSP77
Na_2SeO_4	61.6	WSP77
$Na_2SeS_4O_6$	56.9	WSP77
Ph_2Se	55.8	BWI81
$(BrC_6H_4)_2Se$	56.4	MTHB71
Ph_2Se_2	55.8	BWI81
$(BrC_6H_4)_2Se_2$	56.0	BWI81
$(C_{14}H_{29}Se)_2$	56.1	MTHB71
I_2SePh_2	58.1	BWI81
Br_2SePh_2	57.8	BWI81
Cl_2SePh_2	57.7	BWI81
Cl_2SePh_2	58.8	MTHB71
$C_{16}H_{33}SeCN$	57.7	MTHB71
$HSePh_2P$	54.5	NSWM80
$SePh_3P$	54.3	HVV79
Ph_2SeO	57.6	BWI81
$(PhCH_2)_2SeO$	58.2	MTHB71
$(BrC_6H_4)_2SeO$	58.4	MTHB71
$(C_4H_8COOH)_2SeO$	58.5	MTHB71
$PhSeO(OH)$	58.8	MTHB71
$ClC_6H_4SeO(OH)$	59.3	MTHB71

$FC_6H_4SeO(OH)$	59.3	MTHB71
$ClC_6H_4SeO_2(OH)$	60.2	MTHB71
$(MeOC_6H_4)_2SeO_2$	60.0	MTHB71
$(HOC_2H_4S)_2Se$	56.2	WSP77

Se LMM

Se	1307.0	BWI81
Se	1306.7	Wagn75
SeO_2	1301.4	BWI81
H_2SeO_3	1300.8	BWI81
H_2SeO_4	1297.9	BWI81
Na_2SeO_3	1301.2	Wagn75
Ph_2Se	1304.0	BWI81
Ph_2Se_2	1304.3	BWI81
I_2SePh	1302.1	BWI81
Cl_2SePh_2	1302.9	BWI81
Ph_2SeO	1301.9	BWI81

Si 2p

Si	99.3	Φ
SiO_2	103.3	Φ
Si	99.5	AWL80, PADS78, WRDM79, WPHK82, Tayl81, KBHN74
Si, p-type	99.0	HBBK72
Si, n-type	100.0	HBBK72
Si, (100)	99.7	TLR78
Fe_3Si	99.5	ShTr75
$MoSi_2$	99.6	WPHK82
$MoSi_2$	99.1	BrWh78
Ni_2Si	98.9	GGM82
NiSi	98.8	GGM82
NiSi	98.4	AWL80
Pd_2Si	99.7	GGM82
Pd_3Si	99.6	AWL80
PdSi	99.8	WaTa80
Pt_2Si	100.5	GGM82
PtSi	100.5	GGM82
Si_3N_4	101.8	WHMC78, WaTa80, Tayl81, TLR78
SiS_2	103.4	MoVa73
SiO_2	103.6	KBHN74, NGDS75, MoVa73, Barr83
SiO_2, Vycor	103.5	WPHK82
SiO_2, quartz	103.7	WPHK82, TLR 78
SiO_2, alpha cristobal	103.3	WPHK82
SiO_2 gel	103.4	WPHK82
Ni_2SiO_4	102.9	LFWS79
$NiSiO_3$	103.3	SRD79
Al_2SiO_5, kyanite	102.8	AnSw74
Al_2SiO_5, mullite	103.0	AnSw74
Al_2SiO_5, sillimanite	102.6	AnSw74
$NaAlSi_3O_8$, albite	102.6	WPHK82
Bentonite	102.9	Barr83
H Zeolon	103.3	WPHK82
$Zn_4Si_2O_7(OH)_2 \cdot 2H_2O$	102.0	WPHK82
Hydroxysodalite	101.7	WPHK82
Kaolinite	102.7	Barr83
Kaolinite	103.0	WPHK82
Mica, Muscovite	102.4	WPHK82
Natrolite	102.2	WPHK82
Pyrophyllite	102.9	WPHK82
$AlSiO_5$, sillimanite	102.7	WPHK82
$LiAlSi_2O_6$, spodumene	102.5	WPHK82
Talc, $Mg_3Si_4O_{10}(OH)_2$	103.1	WPHK82
Wollastonii, $Ca_3Si_3O_9$	102.4	WPHK82
Mol Sieve A	101.4	WPHK82
Mol Sieve A	101.3	Barr83
Mol Sieve A, Ca form	101.8	Barr83
Mol Sieve X	102.2	WPHK82
Mol Sieve X	102.2	Barr83
Mol Sieve X, Ca form	102.7	Barr83
Mol Sieve Y	102.8	WPHK82
Mol Sieve Y	102.8	Barr83
Mol Sieve Y, Ca form	102.8	Barr83
K_2SiF_6	104.6	MoVa73
Na_2SiF_6	104.3	NSLS77
p-Methylsil. (linear)	102.4	WPHK82
p-Methylsil. (resin)	102.9	WPHK82
p-Phenylsil. (resin)	102.7	WPHK82
Me_4Si	100.5	GCH76
Ph_4Si	100.7	MoVa73
Ph_4Si	101.2	GCH76
Et_3SiH	100.7	GCH76
Et_3SiOH	101.1	GCH76
Et_3SiBr	101.0	GCH76
Et_3SiCl	101.4	GCH76
Et_3SiF	101.8	GCH76
Et_2SiCl_2	102.1	GCH76
$EtSiCl_3$	102.9	GCH76
$(CH_2{=}CH)_4Si$	100.7	GCH76
$Me_3SiSiMe_3$	100.5	GCH76
$Me_3SiOSiMe_3$	100.9	GCH76
$Ph_3SiSiPh_3$	100.7	GCH76
$Ph_3SiOSiPh_3$	101.3	GCH76

Si (KLL)

Si	1616.6	WPHK82, CDN 77
$MoSi_2$	1617.2	WPHK82
PdSi	1617.4	WaTa80
Si_3N_4	1612.6	WaTa80
SiO_2	1608.8	KBHN74
SiO_2, Vycor	1608.5	WPHK82
SiO_2, quartz	1608.6	WPHK82
SiO_2, alpha cristobal	1608.8	WPHK82
SiO_2 gel	1608.3	WPHK82
$NaAlSi_3O_8$, albite	1609.3	WPHK82
H Zeolon	1608.4	WPHK82
Hemimorphite	1610.5	WPHK82
Hydroxysodalite	1610.7	WPHK82
Kaolinite	1609.0	WPHK82
Mica, Muscovite	1609.6	WPHK82

Natrolite	1609.6	WPHK82
Pyrophyllite	1609.2	WPHK82
$AlSiO_5$, sillimanite	1609.5	WPHK82
$LiAlSi_2O_6$, spodumene	1609.6	WPHK82
Talc, $Mg_3Si_4O_{10}(OH)_2$	1608.9	WPHK82
Wollastonii, $Ca_3Si_3O_9$	1610.0	WPHK82
Mol Sieve A	1610.1	WPHK82
Mol Sieve X	1609.4	WPHK82
Mol Sieve Y	1608.6	WPHK82
p-Methylsil. (linear)	1609.4	WPHK82
p-Methylsil. (resin)	1608.8	WPHK82
p-Phenylsil. (resin)	1610.0	WPHK82

Sm $3d_{5/2}$

Sm	1081.1	Φ
Sm	1081.2	DKMB76
Sm_2O_3	1083.4	WRDM79

Sn $3d_{5/2}$

Sn	485.0	Φ
Sn	484.9	NyMa80
Sn	485.1	SFS77
Sn	485.0	WRDM79, PVVA79, LAK 77, Wagn75, OCH 79
Sn alpha	485.0	Hegd82
Sn beta	484.6	Hegd82, HSBS81
$Ag_{95}Sn_5$	485.6	HSBS81, Hegd82
AuSn	485.2	FHPW73
$AuSn_4$	484.9	FHPW73
$Cd_{99} \cdot 5Sn \cdot OO_5$	485.3	Hegd82
$Cd_{95}Sn_5$	485.6	Hegd82
$In_{95}Sn_5$	485.2	Hegd82
$Pb_{95}Sn_5$	486.4	Hegd82
$Sb_{95}Sn_5$	485.2	Hegd82
SnTe	485.6	SFS77
SnSe	485.7	SFS77
SnS	485.6	SFS77
$SnBr_2$	486.9	GZF73
$SnCl_2$	486.7	WVV79
SnF_2	487.0	MoVa73
SnF_2	487.0	MoVa73
SnO	486.0	ADPS77
SnO	486.9	WVV79, MoVa73
SnO_2	486.7	LAK 77, MoVa73, WRDM79, NGDS75, WVV79
$(NH_4)_2SnCl_6$	486.7	GZF73
$BaSnCl_4$	486.8	WVV79
$Ba(SnCl_3)_2$	486.8	WVV79
$KSnF_3$	486.7	GZF73
K_2SnF_6	487.6	MoVa73
$NaSnF_3$	487.4	Wagn75
Na_2SnO_3	486.2	MoVa73
Na_2SnO_3	486.7	Wagn75
Na_2SnO_3	487.2	ADPS77
Ph_4Sn	485.1	WVV79
Ph_4Sn	486.3	MoVa73
Ph_4Sn	487.1	HWVV74
Ph_3SnI	486.3	WVV79
Ph_3SnI	487.5	HWVV74
Ph_3SnBr	487.5	HWVV74
Ph_3SnCl	486.3	WVV79
Ph_3SnCl	487.0	MoVa73
Ph_3SnCl	487.6	HWVV74
Ph_3SnF	486.2	WVV79
Ph_3SnF	487.3	HWVV74
Ph_3SnOH	485.6	WVV79
$Cl_4Sn(pyridine)_2$	487.3	WVV79
$Cl_3SnEt(pyridine)_2$	487.2	WVV79
$Cl_3SnPh(pyridine)_2$	487.2	WVV79
Me_3SnF	486.7	WVV79
Me_2SnF_2	487.1	WVV79
Me_2SnSO_4	487.0	WVV79
Bu_2SnO	485.6	WVV79
$Br_6Sn(Et_4N)_2$	487.0	WVV79
$Cl_3Sn(Me_4N)$	486.1	GZF73
$Cl_4Sn(Me_2SO)_2$	487.0	GZF73, WVV79

Sn MNN

Sn	437.4	PVVA79, Wagn75, WRDM79, LAK 77
SnS	435.7	Wagn75
SnO_2	432.7	LAK77
$NaSnF_3$	430.8	Wagn75
Na_2SnO_3	431.7	Wagn75

Sr 3d

Sr	134.3	Φ
Sr	134.4	VaVe80
SrO	135.3	VaVe80
SrF_2	133.8	WRDM79
$SrCO_3$	133.2	CLSW83
$SrSO_4$	134.3	CLSW83
$Sr(NO_3)_2$	134.7	CLSW83
$SrMoO_4$	133.5	NFS82
$SrRh_2O_4$	133.0	NFS82

Ta 4f

Ta	21.9	Φ
Ta	21.6	VHE82
Ta	21.6	MSC73
Ta	21.9	WRDM79, WaTa80
TaS	26.6	MSC73
TaS_2	26.7	MSC73
$TaBr_5$	26.9	MSC73
$TaCl_5$	27.3	MSC73
TaF_5	27.8	MSC73
Ta_2O_5	26.7	SaRa80, MSC 73, NFS82, NGDS75
$KTaO_4$	25.9	MSC73
$RhTaO_4$	25.8	NFS82
K_2TaF_7	29.4	MSC73

$Cl_2Ta_6Cl_{12}(H_2O)_4 \cdot 4H_2O$	25.8	BeWa79
$Br_6(Ta_6Cl_{12})(Bu_4N)_2$	26.3	BeWa79
$Cl_6(Ta_6Cl_{12})(Et_4N)_2$	26.2	BeWa79
Ta MNN		
Ta	1674.8	WaTa80
Tb 4d		
Tb	146.0	Φ
Tb_2O_3	148.7	SaRa80
TbO_2	149.2	SaRa80
Tb 3d		
Tb	1242.0	Φ
Tb_2O_3	1241.5	SaRa80
TbO_2	1241.4	SaRa80
Te $3d_{5/2}$		
Te	573.1	Φ
Te	573.0	NyMa80
Te	573.0	SFS77
Te	573.0	PVVA79, WRDM79, BWI77, Bahl75
Te	572.7	SNRS76, SWH71
CdTe	572.3	SBB80
GeTe	572.7	SFS77
$Hg_{0.8}Cd_{0.2}Te$	572.3	SBB80
Na_2Te	572.2	SWH71
Nb_3Te_4	572.6	Bahl75
$NbTe_4$	572.8	Bahl75
PbTe	572.0	SFS77
SnTe	572.3	SFS77
U_2Te_3	572.9	SNRS76
UTe_3	573.0	SNRS76
ZnTe	572.9	SWH71
TeI_4	575.8	BWI77
$TeBr_2$	576.7	BWI77
$TeCl_4$	576.9	BWI77
TeO_2	575.7	GBP81, SBB80
TeO_3	576.6	SWH71
$Te(OH)_6$	577.1	BWI77
$(NH_4)_2TeCl_6$	576.9	BWI77
$(NH_4)_2TeO_4$	576.5	SWH71
K_2TeO_3	575.5	SWH71
Na_2TeO_4	576.8	Wagn75
Cl_2TePh_2	576.2	BWI77
Br_2TePh_2	576.2	BWI77
I_2TePh_2	575.4	BWI77
I_2TeEt_2	575.3	BWI77
Ph_2Te_2	573.9	BWI77
Br_3TePh	576.6	BWI77
I_3TePh	575.8	BWI77
I_2TeMe_2	575.6	BWI77
p-tolylTeOOH	576.1	BWI77
Br_3TeBu	576.6	BWI77
Te MNN		
Te	492.2	WRDM79
$TeBr_2$	487.3	BWI78
$TeCl_4$	486.1	BWI78
TeO_2	487.1	BWI78
TeO_3	485.5	BWI78
$Te(OH)_6$	485.1	BWI78
$(NH_4)_2TeCl_6$	486.4	BWI78
Na_2TeO_4	485.5	Wagn75
Cl_2TePh_2	486.3	BWI78
Br_2TePh_2	486.6	BWI78
I_2TePh_2	487.8	BWI78
I_2TeEt_2	487.6	BWI78
Ph_2Te_2	488.5	BWI78
Br_3TePh	486.8	BWI78
I_3TePh	488.2	BWI78
I_2TeMe_2	486.6	BWI78
p-tolylTeOOH	486.6	BWI78
Br_3TeBu	486.5	BWI78
Th $4f_{7/2}$		
Th	333.2	Φ
Th	333.2	WRDM79
ThO_2	334.4	VLDH77
ThF_4	336.5	WRDM79
Th $4d_{5/2}$		
Th	675.3	FBWF74
ThO_2	675.5	VLDH77
Ti 2p		
Ti	454.1	Φ
TiO_2	458.8	Φ
Ti	453.7	ALMP82
Ti	453.9	LANM81
Ti	453.9	NSCP74, WRDM79
TiB_2	454.4	MECC73
TiN	455.8	STAB76
$TiCl_4$	458.5	MRV83
TiO	455.1	SPB76a
TiO_2	458.7	NSCP74, SPB76a, WRDM79, NGDS75
TiO_2 (anatase, rutile)	459.2	MWI75
$BaTiO_3$ (cubic, tetra.)	458.5	MWI75
$CaTiO_3$	458.9	MWI75
$PbTiO_3$	458.6	MWI75
$SrTiO_3$	458.8	MWI75
$Cl_2Ti(C_5H_5)_2$	457.1	GSMJ74
$ClTi(C_5H_5)_2$	455.8	GSMJ74
$Ti(C_5H_5)(C_7H_7)$	455.4	GSMJ74
Ti LMM		
Ti	419.1	WRDM79

Tl 4f

Tl	117.7	Φ
Tl	117.8	MBN80, WRDM79
TlI	118.5	MSC73
TlBr	119.2	MSC73
TlCl	119.0	MSC73
TlF	119.2	MSC73
Tl_2S	118.7	MSC73
Tl_2S_3	118.7	MSC73
Tl_2O_3	117.5	MSC73
$Cl_3Tl(pyridine)_2$	118.5	Walt77
$Cl_6Tl_2(PhPEt_2)_5$	117.9	Walt77

Tm 4d

Tm	175.4	Φ

U 4f7/2

U	377.3	Φ
U	377.2	VRPC74, Chad73, WRDM79
U_2Te_3	380.5	SNRS76
UTe_3	381.3	SNRS76
USe	380.3	SNRS76
USe_3	379.1	SNRS76
US	380.1	SNRS76
US_3	379.4	SNRS76
UBr_3	378.4	TBVL82
UBr_4	379.9	TBVL82
UCl_3	378.3	TBVL82
UCl_4	380.2	TBVL82
UCl_5	381.9	TBVL82
UF_3	380.1	TBVL82
UF_4	382.2	TBVL82
UF_4	382.7	Chad73
UF_5	382.6	TBVL82
UO_2	380.0	VRPC74, Chad73, MSSS81
U_3O_8	381.0	Chad73, ChGr72
U_4O_9	379.9	HoTh79
UO_3	381.7	MSSS81, Chad73, ChGr72
UOBr	380.1	TBVL82
$UOBr_2$	380.4	TBVL82
UOCl	380.0	TBVL82
$UOCl_2$	380.3	TBVL82
UO_2Br	380.5	TBVL82
UO_2Br_2	381.1	TBVL82
UO_2Cl_2	381.6	TBVL82
UO_2F_2	382.9	TBVL82,Chad73
$U(SO_4)_2$	381.6	Chad73
$UO_2(NO_3)_2 \cdot 6H_2O$	382.0	Chad73
$U(acac)_4$	379.7	Chad73
$UO_2(AcO)_2 \cdot 2H_2O$	381.0	Chad73
$CaUO_4$	380.7	Chad73
Li_2UO_4	381.4	Chad73
K_2UF_6	382.4	PMDS77

V 2p

V	512.2	Φ
V_2O_5	517.4	Φ
V	512.1	LANM81
V	512.3	WRDM79, NSCP74
V	512.9	KKL83
V	513.4	SMKM77
V	512.4	RoRo76, LFS 73, FrSa75
VB_2	513.2	MECC73
VN	514.4	RoRo76, STAB76
V_2O_3	515.7	CGR78
VO_2	516.3	KKL83
V_2O_5	517.6	NSLS77, NSCP74, WRDM79, NGDS75, NFS82
$VOCl_2$	516.4	LFS73
$VOSO_4$	515.9	LFS73
Cs_3VO_4	516.9	NFS82
Rb_3VO_4	516.9	NFS82
Na_3VO_4	517.3	NFS82
Li_3VO_4	517.5	NFS82
Rh_3VO_4	516.9	NFS82
$K_4V(CN)_6$	513.3	Vann76
$V(acac)_3$	514.2	LFS73
$VO(acac)_2$	515.1	LFS73
$ClV(C_5H_5)_2$	513.8	GSMJ74
$V(C_5H_5)_2$	512.9	GSMJ74, BCDH73
$V(C_5H_5)(C_7H_7)$	513.3	GSMJ74

V LMM

V	472.0	WRDM79
VO_2	468.6	KKL83
V_2O_5	468.0	KKL83

W 4f

W	31.4	Φ
W	31.4	VHE82
W	31.4	WRDM79, CoRa76, CGR 78, BiPo73, NSLS77
WC	31.5	CoRa76
WC	32.2	MSC73
WS_2	33.2	Wagn75
WBr_5	36.3	MSC73
WBr_6	35.9	MSC73
WCl_6	36.9	MSC73
$WOCl_4$	37.2	MSC73
WO_2	32.8	CGR78, CoRa76, NgHe76
$W_{18}O_{49}$	34.3	BiPo73
WO_3	35.8	SaRa80, CoRa76, CGR 78, BiPo73, KMH 78
WO_3	35.8	NFS82, NGDS75
$Al_2(WO_4)_3$	36.1	BiPo73
$CaWO_4$	35.0	Nefe82, NFS 82
H_2WO_4	35.3	CGR78
H_2WO_4	36.2	BiPo73
K_2WO_4	36.0	NFS82

Li_2WO_4	36.0	NFS 82, MSC 73
Na_2WO_4	36.3	Wagn75
$Na_{0.6}WO_3$	35.8	BiPo73
$Na_{0.1}WO_3$	35.6	BiPo73
$NiWO_4$	35.4	NgHe76
Rh_2WO_6	35.6	NFS82
$(NH_4)_6W_7O_{24} \cdot 4H_2O$	36.3	BiPo73
K_2WCl_6	34.9	LeBr72
$Cl_4W(Et_3P)_2$	34.6	LeBr72
$Cl_3SnW(CO)_3(C_5H_5)$	32.4	WWVV77
$Ph_3PW(CO)_5$	31.6	HVV79

Xe $3d_{5/2}$

Xe in graphite	669.7	Φ
Xe in Ag	669.6	CiHa74
Xe in Au	668.9	CiHa74
Xe in Cu	669.6	CiHa74
Xe in Fe	670.2	Wagn75
Xe in graphite	669.7	WRDM79
Na_4XeO_6	674.1	Wagn77

Xe MNN

Xe in Fe	544.8	Wagn75
Xe in graphite	545.2	WRDM79
Na_4XeO_6	541.4	Wagn77

Y 3d

Y	156.0	Φ
Y	155.8	NyMa80
Y_2O_3	156.8	WRDM79, NGDS75

Yb 4d

Yb	182.4	Φ
Yb	181.3	HHL70, KEML74
Yb	182.7	LPWF75
Yb_2O_3	185.4	HHL70

Zn $2p_{3/2}$

Zn	1021.8	Φ
Zn	1021.9	LANM81, LKMP73
Zn	1021.8	GaWi77, KLMP74, MaDu77, Scho73a, KPML73, KlHe83
Zn	1021.8	WRDM79, Wagn75, SMKM77
$Cu_{64}Zn_{36}$	1021.6	VanO77
ZnS	1022.0	GaWi77
Zn_3P_2	1020.6	NSDU75
ZnP_2	1020.9	NSDU75
ZnI_2	1023.0	GaWi77, SATD73
$ZnBr_2$	1023.4	Wagn75, SATD73
$ZnCl_2$	1021.9	KlHe83
$ZnCl_2$	1023.1	SATD73
ZnF_2	1022.2	GaWi77
ZnF_2	1022.8	Wagn75
ZnO	1021.8	Scho73a, WRDM79
ZnO	1022.5	GaWi77
$Zn(acac)_2$	1021.4	Wagn75
$(Me_4N)_2ZnBr_4$	1020.9	EMGK74
$ZnSO_4$	1023.1	Nefe82
$Zn_4Si_2O_7(OH)_2 \cdot 2H_2O$	1022.0	WPHK82
$ZnCr_2O_4$	1022.1	BDFP81
$ZnRh_2O_4$	1021.7	NFS82

Zn LMM

Zn	992.1	GaWi77, KLMP74, MaDu77, Scho73a, KPML73, KlHe83
Zn	992.1	WRDM79, Wagn75
$Cu_{64}Zn_{36}$	992.7	VanO77
ZnS	989.7	GaWi77
ZnI_2	988.7	GaWi77
$ZnBr_2$	987.3	Wagn75
$ZnCl_2$	989.4	KlHe83
ZnF_2	986.2	GaWi77
ZnF_2	986.7	Wagn75
ZnO	988.5	Scho73a
ZnO	987.7	GaWi77
ZnO	988.2	KlHe83
$Zn(acac)_2$	987.7	Wagn75
$Zn_4Si_2O_7(OH)_2 \cdot 2H_2O$	987.3	WPHK82

Zr 3d

Zr	178.9	Φ
Zr	178.8	NyMa80
Zr	178.3	NSCP74
Zr	178.9	WRDM79
ZrO_2	182.2	SaRa80, NGDS75, NSCP74
ZrF_5	185.3	NKBP73
K_2ZrF_6	184.2	NKBP73
K_3ZrF_7	183.7	NKBP73
$KZrF_5 \cdot H_2O$	184.7	NKBP73
$Br_2Zr(OH)_2CH_3CHNH_2C$	182.9	KNPP74
$Cl_2Zr(OH)_2CH_3CHNH_2C$	183.0	KNPP74

Appendix C. Chemical States Tables References

Note: The references in the Chemical States Tables are made with three or four letters which represent the authors' initials. Three or four capital letters indicate three or more authors; alternating upper- and lower-case letters represent two authors (the letters are the first two letters of each last name); and a capital letter followed by three lower case letters indicates a single author. The initials are followed by two digits, which represent the last two digits of the year of publication. This may be followed by a small letter, to distinguish between two otherwise identical reference notations.

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FKWF77 Fuggle, J.C., Kallne, E., Watson, L.M., Fabian, D.J. *Phys. Rev. B***16**, 750 (1977).

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HSU76 Haber, J., Stoch, J., Ungier, L. *J. Electron Spectrosc. Relat. Phenom.* **9**, 459 (1976).

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LBNN78 Lindberg, B., Berndtsson, A., Nilsson, R., Nyholm, R., Exner, O. *Acta Chem. Scand. A* **32**, 353 (1978).

LDDB80 Lerebours, B., Duerr, J., D'Huisser, A., Bonnelle, J.P., Leuglet, M. *Phys. Status Solidi A* **61**, K175 (1980).

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LMF80 Larsson, R., Malek, A., Folkesson, B. *Chem. Scr.* **16**, 47 (1980).

LMKJ75 Ley, L., McFeely, F.R., Kowalczyk, S.P., Jenkin, J.G., Shirley, D.A. *Phys. Rev. B* **11**, 600 (1975).

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LaLu79 Larkins, F.P., Lubenfeld, A. *J. Electron Spectrosc. Relat. Phenom.* **15**, 137 (1979).

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MBN80 Martensson, N., Berndtsson, A., Nyholm, R. *J. Electron Spectrosc. Relat. Phenom.* **19**, 299 (1980).

MECC73 Mavel, G., Escard, J., Costa, P., Castaing, J. *Surf. Sci.* **35**, 109 (1973).

MIN81 Mizokawa, Y., Iwasaki, H., Nakamura, S. *Jpn. J. Appl. Phys.* **20**, L491 (1981).

MINN78 Mizokawa, Y., Iwasaki, H., Nishitani, R., Nakamura, S. *J. Electron Spectrosc. Relat. Phenom.* **14**, 129 (1978).

MKLP73 McFeely, F.R., Kowalczyk, S.P., Ley, L., Pollak, R.A., Shirley, D.A. *Phys. Rev. B* **7**, 5228 (1973).

MMRC72 Mason, R., Mingos, D.M.P., Rucci, G., Connor, J.A. *J. Chem. Soc. Dalton Trans.*, 1730 (1972).

MNTB70 Malmsten, G., Nilsson, O., Thoren, I., Bergmark, J.E. *Phys. Scr.* **1**, 37 (1970).

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NGDS75 Nefedov, V.I., Gati, D., Dzhurinskii, B.F., Sergushin, N.P., Salyn, Y.V. *Zh. Neorg. Khim.* **20**, 2307 (1975).

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NIS72 Nagakura, I., Ishii, T., Sagawa, T. *J. Phys. Soc. Japan* **33**, 758 (1972).

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NSCP74 Nefedov, V.I., Salyn, Y.V., Chertkov, A.A., Padurets, L.N. *Zh. Neorg, Khim.* **19**, 1443 (1974).

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OHI75 Oku, M., Hirokawa, K., Ikeda, S. *J. Electron Spectrosc. Relat. Phenom.* **7**, 465 (1975).

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