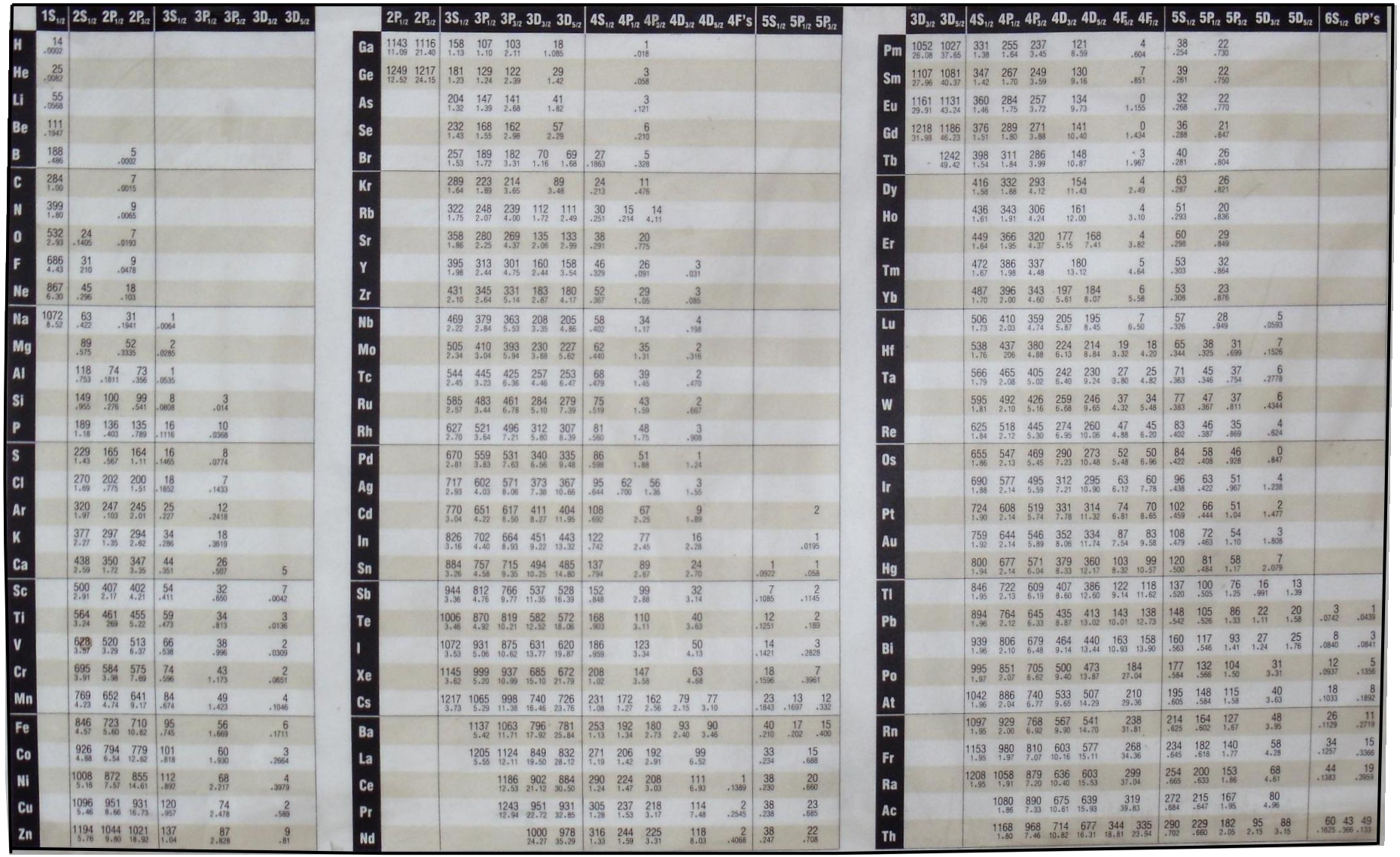
XPS Binding Energies (BE) and Scofield's Relative Sensitivity Factor (RSF) Chart



	1S1/2	2S1/2	2P1/2	2P3/2	3S1/2	3P1/2	3P3/2	3D3/2	3D5/2
H	14 .0002								
He	25 .0082								
Li	55 .0568								
Be	111 .1947								
B	188 .486			5 .0002					
C	284 1.00			7 .0015					
N	399 1.80			9 .0065					
O	532 2.93	24 .1405		7 .0193					
F	686 4.43	31 210		9 .0478					
Ne	867 6.30	45 .296		18 .103					
Na	1072 8.52	63 .422		31 .1941	1 .0064				
Mg		89 .575		52 .3335	2 .0285				
Al		118 .753	74 .1811	73 .356	1 .0535				
Si		149 .955	100 .276	99 .541	8 .0808		3 .014		
P		189 1.18	136 .403	135 .789	16 .1116		10 .0368		
S		229 1.43	165 .567	164 1.11	16 .1465		8 .0774		
Cl		270 1.69	202 .775	200 1.51	18 .1852		7 .1433		
Ar		320 1.97	247 .103	245 2.01	25 .227		12 .2418		
K		377 2.27	297 1.35	294 2.62	34 .286		18 .3619		
Ca		438 2.59	350 1.72	347 3.35	44 .351		26 .507		5
Sc		500 2.91	407 2.17	402 4.21	54 .411		32 .650		7 .0042
Ti		564 3.24	461 269	455 5.22	59 .473		34 .813		3 .0136
V		628 3.57	520 3.29	513 6.37	66 .538		38 .996		2 .0309
Cr		695 3.91	584 3.98	575 7.69	74 .596		43 1.173		2 .0651
Mn		769 4.23	652 4.74	641 9.17	84 .674		49 1.423		4 .1046
Fe		846 4.57	723 5.60	710 10.82	95 .745		56 1.669		6 .1711
Co		926 4.88	794 9.54	779 12.62	101 .818		60 1.930		3 .2664
Ni		1008 5.16	872 7.57	855 14.61	112 .892		68 2.217		4 .3979
Cu		1096 5.46	951 8.66	931 16.73	120 .957		74 2.478		2 .589
Zn		1194 5.76	1044 9.80	1021 18.92	137 1.04		87 2.828		9 .81

	2P1/2	2P3/2	3S1/2	3P1/2	3P3/2	3D3/2	3D5/2	4S1/2	4P1/2	4P3/2	4D3/2	4D5/2	4F's	5S1/2	5P1/2	5P3/2
Ga	1143 11.09	1116 21.40	158 1.13	107 1.10	103 2.11		18 1.085		1 .018							
Ge	1249 12.52	1217 24.15	181 1.23	129 1.24	122 2.39		29 1.42		3 .058							
As			204 1.32	147 1.39	141 2.68		41 1.82		3 .121							
Se			232 1.43	168 1.55	162 2.98		57 2.29		6 .210							
Br			257 1.53	189 1.72	182 3.31	70 1.16	69 1.68	27 .1863	5 .328							
Kr			289 1.64	223 1.89	214 3.65		89 3.48	24 .213	11 .476							
Rb			322 1.75	248 2.07	239 4.00	112 1.72	111 2.49	30 .251	15 .214	14 4.11						
Sr			358 1.86	280 2.25	269 4.37	135 2.06	133 2.99	38 .291	20 .775							
Y			395 1.98	313 2.44	301 4.75	160 2.44	158 3.54	46 .329	26 .091		3 .031					
Zr			431 2.10	345 2.64	331 5.14	183 2.87	180 4.17	52 .367	29 1.05		3 .085					
Nb			469 2.22	379 2.84	363 5.53	208 3.35	205 4.86	58 .402	34 1.17		4 .198					
Mo			505 2.34	410 3.04	393 5.94	230 3.68	227 5.62	62 .440	35 1.31		2 .316					
Tc			544 2.45	445 3.23	425 6.36	257 4.46	253 6.47	68 .479	39 1.45		2 .470					
Ru			585 2.57	483 3.44	461 6.78	284 5.10	279 7.39	75 .519	43 1.59		2 .667					
Rh			627 2.70	521 3.64	496 7.21	312 5.80	307 8.39	81 .560	48 1.75		3 .908					
Pd			670 2.81	559 3.83	531 7.63	340 6.56	335 9.48	86 .598	51 1.88		1 1.24					
Ag			717 2.93	602 4.03	571 8.06	373 7.38	367 10.66	95 .644	62 .700	56 1.36	3 1.55					
Cd			770 3.04	651 4.22	617 8.50	411 8.27	404 11.95	108 .692	67 2.25		9 1.89		2			
In			826 3.16	702 4.40	664 8.93	451 9.22	443 13.32	122 .742	77 2.45		16 2.28		1 .0195			
Sn			884 3.26	757 4.58	715 9.35	494 10.25	485 14.80	137 .794	89 2.67		24 2.70		1 .058	1 .0922		
Sb			944 3.36	812 4.76	766 9.77	537 11.35	528 16.39	152 .848	99 2.88		32 3.14		2 .1145	7 .1085		
Te			1006 3.46	870 4.92	819 10.21	582 12.52	572 18.06	168 .903	110 3.11		40 3.63		2 .189	12 .1251		
I			1072 3.53	931 5.06	875 10.62	631 13.77	620 19.87	186 .939	123 3.34		50 4.13		3 .2828	14 .1421		
Xe			1145 3.62	999 5.20	937 10.99	685 15.10	672 21.79	208 1.02	147 3.58		63 4.68		7 .3961	18 .1596		
Cs			1217 3.73	1065 5.29	998 11.38	740 16.46	726 23.76	231 1.08	172 1.27	162 2.56	79 2.15	77 3.10		23 .1843	13 .1697	12 .332
Ba				1137 5.42	1063 11.71	796 17.92	781 25.84	253 1.13	192 1.34	180 2.73	93 2.40	90 3.46		40 .210	17 .202	15 .400
La				1205 5.55	1124 12.11	849 19.50	832 28.12	271 1.19	206 1.42	192 2.91		99 6.52		33 .234		15 .688
Ce					1186 12.53	902 21.12	884 30.50	290 1.24	224 1.47	208 3.03		111 6.93	1 .1389	38 .230		20 .660
Pr					1243 12.94	951 22.72	931 32.85	305 1.28	237 1.53	218 3.17		114 7.48	2 .2545	38 .238		23 .685
Nd						1000 24.27	978 35.29	316 1.33	244 1.59	225 3.31		118 8.03	2 .4068	38 .247		22 .708

	3D3/2	3D5/2	4S1/2	4P1/2	4P3/2	4D3/2	4D5/2	4F5/2	4F7/2	5S1/2	5P1/2	5P3/2	5D3/2	5D5/2	6S1/2	6P's
Pm	1052 26.08	1027 37.65	331 1.38	255 1.64	237 3.45		121 8.59		4 .604	38 .254	22 .730					
Sm	1107 27.96	1081 40.37	347 1.42	267 1.70	249 3.59		130 9.16		7 .851	39 .261	22 .750					
Eu	1161 29.91	1131 43.24	360 1.46	284 1.75	257 3.72		134 9.73		0 1.155	32 .268	22 .770					
Gd	1218 31.98	1186 46.23	376 1.51	289 1.80	271 3.88		141 10.40		0 1.434	36 .288	21 .847					
Tb		1242 49.42	398 1.54	311 1.84	286 3.99		148 10.87		3 1.967	40 .281	26 .804					
Dy			416 1.58	332 1.88	293 4.12		154 11.43		4 2.49	63 .287	26 .821					
Ho			436 1.61	343 1.91	306 4.24		161 12.00		4 3.10	51 .293	20 .836					
Er			449 1.64	366 1.95	320 4.37	177 5.15	168 7.41		4 3.82	60 .298	29 .849					
Tm			472 1.67	386 1.98	337 4.48		180 13.12		5 4.64	53 .303	32 .864					
Yb			487 1.70	396 2.00	343 4.60	197 5.61	184 8.07		6 5.58	53 .308	23 .876					
Lu			506 1.73	410 2.03	359 4.74	205 5.87	195 8.45		7 6.50	57 .326	28 .949		5 .0593			
Hf			538 1.76	437 206	380 4.88	224 6.13	214 8.84	19 3.32	18 4.20	65 .344	38 .325	31 .699	7 .1526			
Ta			566 1.79	465 2.08	405 5.02	242 6.40	230 9.24	27 3.80	25 4.82	71 .363	45 .346	37 .754	6 .2778			
W			595 1.81	492 2.10	426 5.16	259 6.68	246 9.65	37 4.32	34 5.48	77 .383	47 .367	37 .811	6 .4344			
Re			625 1.84	518 2.12	445 5.30	274 6.95	260 10.06	47 4.88	45 6.20	83 .402	46 .387	35 .869	4 .624			
Os			655 1.86	547 2.13	469 5.45	290 7.23	273 10.48	52 5.48	50 6.96	84 .422	58 .408	46 .928	0 .847			
Ir			690 1.88	577 2.14	495 5.59	312 7.21	295 10.90	63 6.12	60 7.78	96 .438	63 .422	51 .967	4 1.238			
Pt			724 1.90	608 2.14	519 5.74	331 7.78	314 11.32	74 6.81	70 8.65	102 .459	66 .444	51 1.04	2 1.477			
Au			759 1.92	644 2.14	546 5.89	352 8.06	334 11.74	87 7.54	83 9.58	108 .479	72 .463	54 1.10	3 1.808			
Hg			800 1.94	677 2.14	571 6.04	379 8.33	360 12.17	103 8.32	99 10.57	120 .500	81 .484	58 1.17	7 2.079			
Tl			846 1.95	722 2.13	609 6.19	407 8.60	386 12.60	122 9.14	118 11.62	137 .520	100 .505	76 1.25	16 .991	13 1.39		
Pb			894 1.96	764 2.12	645 6.33	435 8.87	413 13.02	143 10.01	138 12.73	148 .542	105 .526	86 1.33	22 1.11	20 1.58	3 .0742	1 .0439
Bi			939 1.96	806 2.10	679 6.48	464 9.14	440 13.44	163 10.93	158 13.90	160 .563	117 .546	93 1.41	27 1.24	25 1.76	8 .0840	3 .0841
Po			995 1.97	851 2.07	705 6.62	500 9.40	473 13.87	184 27.04		177 .584	132 .566	104 1.50	31 3.31		12 .0937	5 .1356
At			1042 1.96	886 2.04	740 6.77	533 9.65	507 14.29	210 29.36		195 .605	148 .584	115 1.58	40 3.63		18 .1033	8 .1892
Rn			1097 1.95	929 2.00	768 6.92	567 9.90	541 14.70	238 31.81		214 .625	164 .602	127 1.67	48 3.95		26 .1129	11 .2719
Fr			1153 1.95	980 1.97	810 7.07	603 10.16	577 15.11	268 34.36		234 .645	182 .618	140 1.77	58 4.28		34 .1257	15 .3366
Ra			1208 1.95	1058 1.91	879 7.20	636 10.40	603 15.53	299 37.04		254 .665	200 .633	153 1.86	68 4.61		44 .1383	19 .3959
Ac				1080 1.86	890 7.33	675 10.61	639 15.93	319 39.83		272 .684	215 .647	167 1.95	80 4.96			
Th				1168 1.80	968 7.46	714 10.82	677 16.31	344 18.81	335 23.94	290 .702	229 .660	182 2.05	95 2.15	88 3.15	60 .1625	43 .366	49 .133