

Characteristic X-Ray Energies

(X-ray Energies in keV)

Z	Element	Ka1	Ka2	Kb1	La1	La2	Lb1	Lb2	Lg1
3	Li	0.0543							
4	Be	0.1085							
5	B	0.1833							
6	C	0.277							
7	N	0.3924							
8	O	0.5249							
9	F	0.6768							
10	Ne	0.8486	0.8486						
11	Na	1.04098	1.04098	1.0711					
12	Mg	1.25360	1.25360	1.3022					
13	Al	1.48670	1.48627	1.55745					
14	Si	1.73998	1.73938	1.83594					
15	P	2.0137	2.0127	2.1391					
16	S	2.30784	2.30664	2.46404					
17	Cl	2.62239	2.62078	2.8156					
18	Ar	2.95770	2.95563	3.1905					
19	K	3.3138	3.3111	3.5896					
20	Ca	3.69168	3.68809	4.0127	0.3413	0.3413	0.3449		
21	Sc	4.0906	4.0861	4.4605	0.3954	0.3954	0.3996		
22	Ti	4.51084	4.50486	4.93181	0.4522	0.4522	0.4584		
23	V	4.95220	4.94464	5.42729	0.5113	0.5113	0.5192		
24	Cr	5.41472	5.405509	5.94671	0.5728	0.5728	0.5828		
25	Mn	5.89875	5.88765	6.49045	0.6374	0.6374	0.6488		
26	Fe	6.40384	6.39084	7.05798	0.7050	0.7050	0.7185		
27	Co	6.93032	6.91530	7.64943	0.7762	0.7762	0.7914		
28	Ni	7.47815	7.46089	8.26466	0.8515	0.8515	0.8688		
29	Cu	8.04778	8.02783	8.90529	0.9297	0.9297	0.9498		
30	Zn	8.63886	8.61578	9.5720	1.0117	1.0117	1.0347		
31	Ga	9.25174	9.22482	10.2642	1.09792	1.09792	1.1248		
32	Ge	9.88642	9.85532	10.9821	1.18800	1.18800	1.2185		
33	As	10.54372	10.50799	11.7262	1.2820	1.2820	1.3170		
34	Se	11.2224	11.1814	12.4959	1.37910	1.37910	1.41923		
35	Br	11.9242	11.8776	13.2914	1.48043	1.48043	1.52590		
36	Kr	12.649	12.598	14.112	1.5860	1.5860	1.6366		
37	Rb	13.3953	13.3358	14.9613	1.69413	1.69256	1.75217		
38	Sr	14.1650	14.0979	15.8357	1.80656	1.80474	1.87172		
39	Y	14.9584	14.8829	16.7378	1.92256	1.92047	1.99584		
40	Zr	15.7751	15.6909	17.6678	2.04236	2.0399	2.1244	2.2194	2.3027
41	Nb	16.6151	16.5210	18.6225	2.16589	2.1630	2.2574	2.3670	2.4618
42	Mo	17.47934	17.3743	19.6083	2.29316	2.28985	2.39481	2.5183	2.6235
43	Tc	18.3671	18.2508	20.619	2.4240	-	2.5368	-	-
44	Ru	19.2792	19.1504	21.6568	2.55855	2.55431	2.68323	2.8360	2.9645
45	Rh	20.2161	20.0737	22.7236	2.69674	2.69205	2.83441	3.0013	3.1438
46	Pd	21.1771	21.0201	23.8187	2.83861	2.83325	2.99022	3.17179	3.3287
47	Ag	22.16292	21.9903	24.9424	2.98431	2.97821	3.15094	3.34781	3.51959
48	Cd	23.1736	22.9841	26.0955	3.13373	3.12691	3.31657	3.52812	3.71686
49	In	24.2097	24.0020	27.2759	3.28694	3.27929	3.48721	3.71381	3.92081
50	Sn	25.2713	25.0440	28.4860	3.44398	3.43542	3.66280	3.90486	4.13112
51	Sb	26.3591	26.1108	29.7256	3.60472	3.59532	3.84357	4.10078	4.34779
52	Te	27.4723	27.2017	30.9957	3.76933	3.7588	4.02958	4.3017	4.5709
53	I	28.6120	28.3172	32.2947	3.93765	3.92604	4.22072	4.5075	4.8009
54	Xe	29.779	29.458	33.624	4.1099	-	-	-	-
55	Cs	30.9728	30.6251	34.9869	4.2865	4.2722	4.6198	4.9359	5.2804
56	Ba	32.1936	31.8171	36.3782	4.46626	4.45090	4.82753	5.1565	5.5311

Z	Element	Ka1	Ka2	Kb1	La1	La2	Lb1	Lb2	Lg1
57	La	33.4418	33.0341	37.8010	4.65097	4.63423	5.0421	5.3835	5.7885
58	Ce	34.7197	34.2789	39.2573	4.8402	4.8230	5.2622	5.6134	6.052
59	Pr	36.0263	35.5502	40.7482	5.0337	5.0135	5.4889	5.850	6.3221
60	Nd	37.3610	36.8474	42.2713	5.2304	5.2077	5.7216	6.0894	6.6021
61	Pm	38.7247	38.1712	43.826	5.4325	5.4078	5.961	6.339	6.892
62	Sm	40.1181	39.5224	45.413	5.6361	5.6090	6.2051	6.586	7.178
63	Eu	41.5422	40.9019	47.0379	5.8457	5.8166	6.4564	6.8432	7.4803
64	Gd	42.9962	42.3089	48.697	6.0572	6.0250	6.7132	7.1028	7.7858
65	Tb	44.4816	43.7441	50.382	6.2728	6.2380	6.978	7.3667	8.102
66	Dy	45.9984	45.2078	52.119	6.4952	6.4577	7.2477	7.6357	8.4188
67	Ho	47.5467	46.6997	53.877	6.7198	6.6795	7.5253	7.911	8.747
68	Er	49.1277	48.2211	55.681	6.9487	6.9050	7.8109	8.1890	9.089
69	Tm	50.7416	49.7726	57.517	7.1799	7.1331	8.101	8.468	9.426
70	Yb	52.3889	51.3540	59.37	7.4156	7.3673	8.4018	8.7888	9.7801
71	Lu	54.0698	52.9650	61.283	7.6555	7.6049	8.7090	9.0489	10.1434
72	Hf	55.7902	54.6114	63.234	7.8990	7.8446	9.0227	9.3473	10.5158
73	Ta	57.532	56.277	65.223	8.1461	8.0879	9.3431	9.6518	10.8952
74	W	59.31824	57.9817	67.2443	8.3976	8.3352	9.67235	9.9615	11.2859
75	Re	61.1403	59.7179	69.310	8.6525	8.5862	10.0100	10.2752	11.6854
76	Os	63.0005	61.4867	71.413	8.9117	8.8410	10.3553	10.5985	12.0953
77	Ir	64.8956	63.2867	73.5608	9.1751	9.0995	10.7083	10.9203	12.5126
78	Pt	66.832	65.112	75.748	9.4423	9.3618	11.0707	11.2505	12.9420
79	Au	68.8037	66.9895	77.984	9.7133	9.6280	11.4423	11.5847	13.3817
80	Hg	70.819	68.895	80.253	9.9888	9.8976	11.8226	11.9241	13.8301
81	Tl	72.8715	70.8319	82.576	10.2685	10.1728	12.2133	12.2715	14.2915
82	Pb	74.9694	72.8042	84.936	10.5515	10.4495	12.6137	12.6226	14.7644
83	Bi	77.1079	74.8148	87.343	10.8388	10.73091	13.0235	12.9799	15.2477
84	Po	79.290	76.862	89.80	11.1308	11.0158	13.447	13.3404	15.744
85	At	81.52	78.95	92.30	11.4268	11.3048	13.876	-	16.251
86	Rn	83.78	81.07	94.87	11.7270	11.5979	14.316	-	16.770
87	Fr	86.10	83.23	97.47	12.0313	11.8950	14.770	14.45	17.303
88	Ra	88.47	85.43	100.13	12.3397	12.1962	15.2358	14.8414	17.849
89	Ac	90.884	87.67	102.85	12.6520	12.5008	15.713	-	18.408
90	Th	93.350	89.953	105.609	12.9687	12.8096	16.2022	15.6237	18.9825
91	Pa	95.868	92.287	108.427	13.2907	13.1222	16.702	16.024	19.568
92	U	98.439	94.665	111.300	13.6147	13.4388	17.2200	16.4283	20.1671
93	Np	-	-	-	13.9441	13.7597	17.7502	16.8400	20.7848
94	Pu	-	-	-	14.2786	14.0842	18.2937	17.2553	21.4173
95	Am	-	-	-	14.6172	14.4119	18.8520	17.6765	22.0652

Values are from J. A. Bearden, "X-Ray Wavelengths", Review of Modern Physics, (January 1967)