

TABLE 2
Nuclear Binding Energies

$^A Z$	BE (MeV)	$^A Z$	BE (MeV)	$^A Z$	BE (MeV)	$^A Z$	BE (MeV)
^1H	0.0000	^{20}Mg	134.4703	^{34}S	291.8432	^{47}Ar	391.1855
^2H	2.2245	^{21}Mg	149.1987	^{35}S	298.8286	$^{48}\text{Ar}^{**}$	396.5820
^3H	8.4820	^{22}Mg	168.5802	^{36}S	308.7181	$^{49}\text{Ar}^*$	398.8984
^3He	7.7186	^{23}Mg	181.7277	^{37}S	313.0216	$^{50}\text{Ar}^*$	403.4399
^4He	28.2970	^{24}Mg	198.2592	^{38}S	321.0581	$^{51}\text{Ar}^*$	404.3314
^6Li	31.9965	^{25}Mg	205.5896	^{39}S	325.2686	$^{52}\text{Ar}^*$	407.7329
^7Li	39.2460	^{26}Mg	216.6831	^{40}S	332.8600	$^{53}\text{Ar}^*$	407.7343
^7Be	37.6026	^{27}Mg	223.1266	^{41}S	336.2815	^{35}K	278.8023
^8Be	56.5011	^{28}Mg	231.6311	^{42}S	342.9030	^{36}K	293.1318
^9Be	58.1665	^{29}Mg	235.3445	$^{43}\text{S}^{**}$	346.3095	^{37}K	308.5763
^8B	37.7396	^{22}Al	149.3108	$^{44}\text{S}^*$	353.1659	^{38}K	320.6518
^9B	56.3161	^{23}Al	168.7052	$^{45}\text{S}^*$	355.3874	^{39}K	333.7272
^{10}B	64.7526	^{24}Al	183.5987	$^{46}\text{S}^*$	359.6689	^{40}K	341.5267
^{11}B	76.2060	^{25}Al	200.5302	$^{47}\text{S}^*$	360.7904	^{41}K	351.6222
^{11}C	73.4416	^{26}Al	211.8967	^{31}Cl	243.9743	^{42}K	359.1557
^{12}C	92.1631	^{27}Al	224.9552	^{32}Cl	258.3158	^{43}K	368.8001
^{13}C	97.1096	^{28}Al	232.6806	^{33}Cl	274.0603	^{44}K	376.0886
^{14}C	105.2860	^{29}Al	242.1161	^{34}Cl	285.5687	^{45}K	384.9641
^{12}N	74.0426	^{30}Al	247.8626	^{35}Cl	298.2132	^{46}K	391.8396
^{13}N	94.1071	^{31}Al	255.0941	^{36}Cl	306.7937	^{47}K	400.1890
^{14}N	104.6606	^{23}Si	151.1598	^{37}Cl	317.1042	^{48}K	404.6865
^{15}N	115.4941	^{24}Si	172.0063	^{38}Cl	323.2126	^{49}K	411.4060
^{14}O	98.7352	^{25}Si	187.0058	^{39}Cl	331.2881	^{50}K	414.2275
^{15}O	111.9576	^{26}Si	206.0492	^{40}Cl	337.0876	$^{51}\text{K}^{**}$	419.2089
^{16}O	127.6211	^{27}Si	219.3607	^{41}Cl	345.0291	$^{52}\text{K}^*$	421.0704
^{17}O	131.7646	^{28}Si	236.5392	^{42}Cl	350.1205	$^{53}\text{K}^*$	424.8319
^{18}O	139.8091	^{29}Si	245.0137	^{43}Cl	356.9020	$^{54}\text{K}^*$	425.9234
^{19}O	143.7665	^{30}Si	255.6231	^{44}Cl	361.8535	$^{55}\text{K}^*$	429.1349
^{17}F	128.2221	^{31}Si	262.2116	$^{45}\text{Cl}^{**}$	368.7650	^{36}Ca	281.3644
^{18}F	137.3716	^{32}Si	271.4141	$^{46}\text{Cl}^*$	372.7664	^{37}Ca	296.1548
^{19}F	147.8031	^{33}Si	275.8966	$^{47}\text{Cl}^*$	377.3879	^{38}Ca	313.1263
^{20}F	154.4046	^{34}Si	283.4340	$^{48}\text{Cl}^*$	379.4294	^{39}Ca	326.4138
^{21}F	162.5061	^{27}P	206.9433	$^{49}\text{Cl}^*$	383.0809	^{40}Ca	342.0563
^{17}Ne	112.9107	^{28}P	221.4258	$^{50}\text{Cl}^*$	383.7923	^{41}Ca	350.4187
^{18}Ne	132.1432	^{29}P	239.2872	$^{51}\text{Cl}^*$	386.1038	^{42}Ca	361.9002
^{19}Ne	143.7827	^{30}P	250.6077	^{32}Ar	246.3833	^{43}Ca	369.8327
^{20}Ne	160.6521	^{31}P	262.9202	^{33}Ar	261.6548	^{44}Ca	380.9652
^{21}Ne	167.4136	^{32}P	270.8557	^{34}Ar	278.7253	^{45}Ca	388.3797
^{22}Ne	177.7751	^{33}P	280.9601	^{35}Ar	291.4658	^{46}Ca	398.7791
^{23}Ne	182.9756	^{34}P	287.2506	^{36}Ar	306.7192	^{47}Ca	406.0556
^{24}Ne	191.8410	^{35}P	295.6221	^{37}Ar	315.5087	^{48}Ca	415.9961
^{19}Na	131.8232	^{36}P	299.0876	^{38}Ar	327.3472	^{49}Ca	421.1426
^{20}Na	145.9837	^{37}P	306.1680	^{39}Ar	333.9447	^{50}Ca	427.4950
^{21}Na	163.0832	^{38}P	309.1395	^{40}Ar	343.8141	^{51}Ca	431.0065
^{22}Na	174.1506	^{28}S	209.3523	^{41}Ar	349.9126	^{52}Ca	436.5280
^{23}Na	186.5691	^{29}S	224.7138	^{42}Ar	359.3381	$^{53}\text{Ca}^{**}$	439.0245
^{24}Na	193.5286	^{30}S	243.6883	^{43}Ar	364.9696	$^{54}\text{Ca}^*$	444.1909
^{25}Na	202.5401	^{31}S	256.7417	^{44}Ar	373.3211	$^{55}\text{Ca}^*$	445.5924
^{26}Na	208.1556	^{32}S	271.7842	^{45}Ar	378.8525	$^{56}\text{Ca}^*$	449.8239
^{27}Na	214.9230	^{33}S	280.4257	^{46}Ar	386.9240	$^{57}\text{Ca}^*$	450.3754

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^A Z	BE (MeV)	^A Z	BE (MeV)	^A Z	BE (MeV)	^A Z	BE (MeV)
⁴⁰ Sc	326.9538	⁵² V	453.1587	⁶⁰ Mn	517.6276	⁶⁴ Co	555.2396
⁴¹ Sc	343.1423	⁵³ V	461.6381	⁶¹ Mn**	524.7321	⁶⁵ Co	562.6801
⁴² Sc	354.6918	⁵⁴ V	467.7526	⁶² Mn*	529.1306	⁶⁶ Co**	568.3571
⁴³ Sc	366.8293	⁵⁵ V	475.0851	⁶³ Mn*	535.7720	⁶⁷ Co*	575.7331
⁴⁴ Sc	376.5287	⁵⁶ V	480.1166	⁶⁴ Mn*	539.9535	⁶⁸ Co*	580.1145
⁴⁵ Sc	387.8542	⁵⁷ V**	486.4030	⁶⁵ Mn*	545.7850	⁶⁹ Co*	586.7960
⁴⁶ Sc	396.6147	⁵⁸ V*	490.3195	⁶⁶ Mn*	549.3065	⁷⁰ Co*	590.7075
⁴⁷ Sc	407.2582	⁵⁹ V*	496.2410	⁶⁷ Mn*	554.8979	⁷¹ Co*	596.7590
⁴⁸ Sc	415.4916	⁶⁰ V*	499.3925	⁶⁸ Mn*	557.5894	⁷² Co*	600.3304
⁴⁹ Sc	425.6291	⁶¹ V*	504.6940	⁶⁹ Mn*	562.5009	⁷³ Co*	605.8919
⁵⁰ Sc	431.6796	⁶² V*	507.3554	⁴⁷ Fe*	366.4260	⁷⁴ Co*	609.3134
⁵¹ Sc	438.4321	⁶³ V*	511.9369	⁴⁸ Fe	385.2175	⁷⁵ Co*	614.6549
⁵² Sc	443.3455	⁶⁴ V*	514.1984	⁴⁹ Fe	399.7389	⁵³ Ni	435.2600
⁵³ Sc	449.5870	⁴⁴ Cr	349.8164	⁵⁰ Fe	417.7004	⁵⁴ Ni	453.1614
⁵⁴ Sc**	452.9835	⁴⁵ Cr	363.8479	⁵¹ Fe	431.5189	⁵⁵ Ni	467.3529
⁵⁵ Sc*	457.9300	⁴⁶ Cr	381.9814	⁵² Fe	447.7044	⁵⁶ Ni	483.9954
⁵⁶ Sc*	460.3415	⁴⁷ Cr	395.1339	⁵³ Fe	458.3878	⁵⁷ Ni	494.2429
⁵⁷ Sc*	464.8229	⁴⁸ Cr	411.4703	⁵⁴ Fe	471.7663	⁵⁸ Ni	506.4623
⁵⁸ Sc*	466.5144	⁴⁹ Cr	422.0518	⁵⁵ Fe	481.0638	⁵⁹ Ni	515.4618
⁵⁹ Sc*	470.5159	⁵⁰ Cr	435.0523	⁵⁶ Fe	492.2623	⁶⁰ Ni	526.8503
⁴¹ Ti	329.4069	⁵¹ Cr	444.3138	⁵⁷ Fe	499.9087	⁶¹ Ni	534.6708
⁴² Ti	346.9093	⁵² Cr	456.3522	⁵⁸ Fe	509.9532	⁶² Ni	545.2682
⁴³ Ti	359.1798	⁵³ Cr	464.2917	⁵⁹ Fe	516.5347	⁶³ Ni	552.1067
⁴⁴ Ti	375.4793	⁵⁴ Cr	474.0112	⁶⁰ Fe	525.3512	⁶⁴ Ni	561.7642
⁴⁵ Ti	385.0088	⁵⁵ Cr	480.2577	⁶¹ Fe	530.9356	⁶⁵ Ni	567.8617
⁴⁶ Ti	398.1993	⁵⁶ Cr	488.5141	⁶² Fe	538.9841	⁶⁶ Ni	576.8381
⁴⁷ Ti	407.0767	⁵⁷ Cr	493.9856	⁶³ Fe	543.3496	⁶⁷ Ni	582.6236
⁴⁸ Ti	418.7042	⁵⁸ Cr	501.4171	⁶⁴ Fe**	551.4791	⁶⁸ Ni	590.4351
⁴⁹ Ti	426.8467	⁵⁹ Cr**	505.5936	⁶⁵ Fe*	555.8025	⁶⁹ Ni	595.4836
⁵⁰ Ti	437.7862	⁶⁰ Cr*	512.5400	⁶⁶ Fe*	562.9940	⁷⁰ Ni**	602.9515
⁵¹ Ti	444.1576	⁶¹ Cr*	515.8215	⁶⁷ Fe*	566.5055	⁷¹ Ni*	606.8065
⁵² Ti	451.9671	⁶² Cr*	522.3030	⁶⁸ Fe*	572.9670	⁷² Ni*	613.9280
⁵³ Ti	457.4046	⁶³ Cr*	525.1245	⁶⁹ Fe*	575.8784	⁷³ Ni*	617.6095
⁵⁴ Ti	464.1761	⁶⁴ Cr*	531.0659	⁷⁰ Fe*	581.7999	⁷⁴ Ni*	624.2709
⁵⁵ Ti**	468.1725	⁶⁵ Cr*	533.2274	⁷¹ Fe*	584.2914	⁷⁵ Ni*	627.8424
⁵⁶ Ti*	474.4790	⁶⁶ Cr*	538.8289	⁷² Fe*	589.7529	⁷⁶ Ni*	634.2939
⁵⁷ Ti*	477.1405	⁴⁶ Mn	364.1969	⁵⁰ Co	400.4280	⁷⁷ Ni*	637.3054
⁵⁸ Ti*	482.7620	⁴⁷ Mn	382.4484	⁵¹ Co	417.9394	⁷⁸ Ni*	642.9769
⁵⁹ Ti*	484.7534	⁴⁸ Mn	397.0809	⁵² Co	432.8779	⁷⁹ Ni*	644.1283
⁶⁰ Ti*	489.9249	⁴⁹ Mn	413.5524	⁵³ Co	449.3014	⁵⁵ Cu	452.8705
⁶¹ Ti*	491.4064	⁵⁰ Mn	426.6378	⁵⁴ Co	462.7409	⁵⁶ Cu	467.8959
⁴³ V	346.9974	⁵¹ Mn	440.3223	⁵⁵ Co	476.8303	⁵⁷ Cu	484.7334
⁴⁴ V	360.9489	⁵² Mn	450.8578	⁵⁶ Co	486.9138	⁵⁸ Cu	497.1169
⁴⁵ V	377.0953	⁵³ Mn	462.9133	⁵⁷ Co	498.2903	⁵⁹ Cu	509.8794
⁴⁶ V	390.3668	⁵⁴ Mn	471.8517	⁵⁸ Co	506.8638	⁶⁰ Cu	519.9418
⁴⁷ V	403.3673	⁵⁵ Mn	482.0782	⁵⁹ Co	517.3172	⁶¹ Cu	531.6513
⁴⁸ V	413.9088	⁵⁶ Mn	489.3487	⁶⁰ Co	524.8087	⁶² Cu	540.5378
⁴⁹ V	425.4622	⁵⁷ Mn	498.0002	⁶¹ Co	534.1312	⁶³ Cu	551.3903
⁵⁰ V	434.7967	⁵⁸ Mn	504.4146	⁶² Co	540.7287	⁶⁴ Cu	559.3068
⁵¹ V	445.8482	⁵⁹ Mn	512.1321	⁶³ Co	549.2162	⁶⁵ Cu	569.2172

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⁶⁶ Cu	576.2827	⁶⁰ Ga*	500.2130	⁸² Ge	702.2030	⁷⁴ Se	642.9013
⁶⁷ Cu	585.4012	⁶¹ Ga	515.6444	⁸³ Ge	706.0345	⁷⁵ Se	650.9288
⁶⁸ Cu	591.7097	⁶² Ga	528.1749	⁸⁴ Ge	711.1160	⁷⁶ Se	662.0833
⁶⁹ Cu	599.9821	⁶³ Ga	540.9374	⁸⁵ Ge**	713.7874	⁷⁷ Se	669.5017
⁷⁰ Cu	605.7026	⁶⁴ Ga	551.1559	⁸⁶ Ge*	718.4589	⁷⁸ Se	680.0002
⁷¹ Cu	613.3041	⁶⁵ Ga	563.0444	⁸⁷ Ge*	720.8704	⁷⁹ Se	686.9637
⁷² Cu**	618.5306	⁶⁶ Ga	572.1858	⁸⁸ Ge*	725.1019	⁸⁰ Se	696.8772
⁷³ Cu*	625.8670	⁶⁷ Ga	583.4113	⁸⁹ Ge*	726.8133	⁸¹ Se	703.5787
⁷⁴ Cu*	630.6385	⁶⁸ Ga	591.6898	⁹⁰ Ge*	730.5148	⁸² Se	712.8541
⁷⁵ Cu*	637.4600	⁶⁹ Ga	601.9983	⁹¹ Ge*	731.5463	⁸³ Se	718.6726
⁷⁶ Cu*	642.1415	⁷⁰ Ga	609.6527	⁹² Ge*	734.9378	⁸⁴ Se	727.3531
⁷⁷ Cu*	648.4629	⁷¹ Ga	618.9582	⁹³ Ge*	735.8892	⁸⁵ Se	731.8926
⁷⁸ Cu*	652.3944	⁷² Ga	625.4797	⁶⁵ As	546.3355	⁸⁶ Se	738.0840
⁷⁹ Cu*	658.1459	⁷³ Ga	634.6672	⁶⁶ As	558.9669	⁸⁷ Se	742.3255
⁸⁰ Cu*	660.1374	⁷⁴ Ga	641.0936	⁶⁷ As	571.6184	⁸⁸ Se	747.5070
⁸¹ Cu*	663.3088	⁷⁵ Ga	649.5711	⁶⁸ As	581.9199	⁸⁹ Se**	751.1535
⁸² Cu*	664.7503	⁷⁶ Ga	655.6166	⁶⁹ As	594.1914	⁹⁰ Se*	756.0799
⁸³ Cu*	667.5018	⁷⁷ Ga	663.5681	⁷⁰ As	603.5229	⁹¹ Se*	758.5414
⁵⁷ Zn	469.3010	⁷⁸ Ga	668.8795	⁷¹ As	615.1483	⁹² Se*	763.0229
⁵⁸ Zn	486.8825	⁷⁹ Ga	676.1110	⁷² As	623.5538	⁹³ Se*	765.0344
⁵⁹ Zn	500.0039	⁸⁰ Ga	680.8425	⁷³ As	634.3523	⁹⁴ Se*	769.3058
⁶⁰ Zn	515.0004	⁸¹ Ga	687.5240	⁷⁴ As	642.3298	⁹⁵ Se*	771.1273
⁶¹ Zn	525.2299	⁸² Ga	690.9854	⁷⁵ As	652.5752	⁹⁶ Se*	775.2788
⁶² Zn	538.1284	⁸³ Ga**	695.0519	⁷⁶ As	659.9017	⁹⁷ Se*	776.7603
⁶³ Zn	547.2408	⁸⁴ Ga*	697.7484	⁷⁷ As	669.6012	⁹⁸ Se*	780.5317
⁶⁴ Zn	559.1033	⁸⁵ Ga*	701.2899	⁷⁸ As	676.5737	⁹⁹ Se*	781.3832
⁶⁵ Zn	567.0828	⁸⁶ Ga*	703.6013	⁷⁹ As	685.4651	⁶⁸ Br*	560.3050
⁶⁶ Zn	578.1423	⁸⁷ Ga*	707.0328	⁸⁰ As	692.0626	⁶⁹ Br	576.3465
⁶⁷ Zn	585.1947	⁸⁸ Ga*	708.5143	⁸¹ As	700.5051	⁷⁰ Br	588.7580
⁶⁸ Zn	595.3932	⁸⁹ Ga*	711.5458	⁸² As	706.1186	⁷¹ Br	602.2795
⁶⁹ Zn	601.8757	⁶² Ge*	517.6435	⁸³ As	713.9920	⁷² Br	612.7609
⁷⁰ Zn	611.0912	⁶³ Ge	530.7750	⁸⁴ As	718.2635	⁷³ Br	625.4324
⁷¹ Zn	616.9246	⁶⁴ Ge	545.9664	⁸⁵ As	723.7650	⁷⁴ Br	635.2049
⁷² Zn	625.8041	⁶⁵ Ge	556.0179	⁸⁶ As	727.6665	⁷⁵ Br	647.1174
⁷³ Zn	631.1546	⁶⁶ Ge	569.2994	⁸⁷ As**	732.4179	⁷⁶ Br	656.3378
⁷⁴ Zn	639.5241	⁶⁷ Ge	578.4069	⁸⁸ As*	735.1494	⁷⁷ Br	667.3553
⁷⁵ Zn	644.4175	⁶⁸ Ge	590.8003	⁸⁹ As*	739.6009	⁷⁸ Br	675.6448
⁷⁶ Zn	652.2490	⁶⁹ Ge	598.9908	⁹⁰ As*	741.9924	⁷⁹ Br	686.3313
⁷⁷ Zn	656.8505	⁷⁰ Ge	610.5263	⁹¹ As*	745.7739	⁸⁰ Br	694.2237
⁷⁸ Zn	663.7620	⁷¹ Ge	617.9428	⁹² As*	747.5053	⁸¹ Br	704.3822
⁷⁹ Zn	667.9935	⁷² Ge	628.6912	⁹³ As*	751.1668	⁸² Br	711.9747
⁸⁰ Zn	674.1349	⁷³ Ge	635.4747	⁹⁴ As*	752.7383	⁸³ Br	721.5572
⁸¹ Zn**	676.6114	⁷⁴ Ge	645.6742	⁹⁵ As*	756.2698	⁸⁴ Br	728.3946
⁸² Zn*	680.8779	⁷⁵ Ge	652.1807	⁶⁷ Se	561.0460	⁸⁵ Br	737.2971
⁸³ Zn*	682.7194	⁷⁶ Ge	661.6081	⁶⁸ Se	576.3375	⁸⁶ Br	742.4016
⁸⁴ Zn*	686.3308	⁷⁷ Ge	667.6816	⁶⁹ Se	586.6289	⁸⁷ Br	748.6891
⁸⁵ Zn*	687.4823	⁷⁸ Ge	676.4001	⁷⁰ Se	599.9404	⁸⁸ Br	753.6245
⁸⁶ Zn*	690.8138	⁷⁹ Ge	682.0986	⁷¹ Se	609.5619	⁸⁹ Br	759.3960
⁸⁷ Zn*	691.4853	⁸⁰ Ge	690.0601	⁷² Se	622.4404	⁹⁰ Br	763.6975
⁵⁹ Ga*	486.1615	⁸¹ Ge	695.0615	⁷³ Se	630.8298	⁹¹ Br**	768.8190

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$^{92}\text{Br}^*$	771.8104	^{93}Kr	786.6395	^{97}Rb	812.2730	$^{103}\text{Sr}^*$	849.4094
$^{93}\text{Br}^*$	776.5619	$^{94}\text{Kr}^{**}$	791.9360	^{98}Rb	816.1444	$^{104}\text{Sr}^*$	854.6608
$^{94}\text{Br}^*$	779.1834	$^{95}\text{Kr}^*$	795.0424	^{99}Rb	820.9859	$^{105}\text{Sr}^*$	856.8423
$^{95}\text{Br}^*$	783.7049	$^{96}\text{Kr}^*$	800.1839	$^{100}\text{Rb}^{**}$	824.3924	$^{106}\text{Sr}^*$	861.5138
$^{96}\text{Br}^*$	786.1464	$^{97}\text{Kr}^*$	802.8954	$^{101}\text{Rb}^*$	829.5789	$^{107}\text{Sr}^*$	863.3453
$^{97}\text{Br}^*$	790.5678	$^{98}\text{Kr}^*$	807.7969	$^{102}\text{Rb}^*$	832.1603	$^{108}\text{Sr}^*$	867.8868
$^{98}\text{Br}^*$	792.5293	$^{99}\text{Kr}^*$	810.0783	$^{103}\text{Rb}^*$	836.8818	$^{109}\text{Sr}^*$	869.3182
$^{99}\text{Br}^*$	796.6208	$^{100}\text{Kr}^*$	815.0998	$^{104}\text{Rb}^*$	839.0833	$^{110}\text{Sr}^*$	873.6197
$^{100}\text{Br}^*$	798.4023	$^{101}\text{Kr}^*$	816.8613	$^{105}\text{Rb}^*$	843.1648	$^{111}\text{Sr}^*$	874.8612
$^{101}\text{Br}^*$	802.0337	$^{102}\text{Kr}^*$	821.3028	$^{106}\text{Rb}^*$	844.8862	$^{112}\text{Sr}^*$	878.6627
$^{102}\text{Br}^*$	803.4452	$^{103}\text{Kr}^*$	822.9842	$^{107}\text{Rb}^*$	848.5877	$^{113}\text{Sr}^*$	879.8341
$^{103}\text{Br}^*$	807.0067	$^{104}\text{Kr}^*$	827.0757	$^{108}\text{Rb}^*$	850.1492	$^{114}\text{Sr}^*$	883.7356
$^{104}\text{Br}^*$	808.1482	$^{105}\text{Kr}^*$	828.2072	$^{109}\text{Rb}^*$	853.4507	$^{115}\text{Sr}^*$	885.1871
$^{105}\text{Br}^*$	811.1496	$^{106}\text{Kr}^*$	831.7987	$^{110}\text{Rb}^*$	854.8521	$^{116}\text{Sr}^*$	888.9186
$^{106}\text{Br}^*$	811.7611	$^{107}\text{Kr}^*$	832.5302	$^{111}\text{Rb}^*$	857.9136	$^{117}\text{Sr}^*$	890.0600
$^{107}\text{Br}^*$	814.3626	$^{108}\text{Kr}^*$	835.9516	$^{112}\text{Rb}^*$	859.0451	$^{118}\text{Sr}^*$	893.5215
$^{108}\text{Br}^*$	814.8941	$^{109}\text{Kr}^*$	836.3531	$^{113}\text{Rb}^*$	862.1566	$^{119}\text{Sr}^*$	894.8130
$^{109}\text{Br}^*$	817.1055	$^{110}\text{Kr}^*$	839.5746	$^{114}\text{Rb}^*$	863.4780	$^{120}\text{Sr}^*$	898.0645
$^{110}\text{Br}^*$	817.6670	$^{111}\text{Kr}^*$	839.9761	$^{115}\text{Rb}^*$	866.5895	$^{77}\text{Y}^*$	637.3186
$^{111}\text{Br}^*$	819.9985	$^{112}\text{Kr}^*$	843.0375	$^{116}\text{Rb}^*$	867.7110	$^{78}\text{Y}^*$	650.8200
$^{112}\text{Br}^*$	820.4900	$^{113}\text{Kr}^*$	843.5690	$^{117}\text{Rb}^*$	870.5125	^{79}Y	665.2715
$^{113}\text{Br}^*$	822.6814	$^{114}\text{Kr}^*$	846.5605	$^{118}\text{Rb}^*$	871.6139	^{80}Y	676.3930
$^{114}\text{Br}^*$	823.0429	$^{115}\text{Kr}^*$	847.0520	$^{119}\text{Rb}^*$	874.1754	^{81}Y	689.2245
$^{115}\text{Br}^*$	825.2144	$^{116}\text{Kr}^*$	849.8334	$^{76}\text{Sr}^*$	638.0995	^{82}Y	699.5259
$^{116}\text{Br}^*$	825.6259	$^{117}\text{Kr}^*$	850.2849	^{77}Sr	649.6510	^{83}Y	711.7874
$^{117}\text{Br}^*$	827.3473	$^{118}\text{Kr}^*$	852.6564	^{78}Sr	663.2925	^{84}Y	721.7189
$^{69}\text{Kr}^*$	561.3641	^{73}Rb	606.8575	^{79}Sr	673.2539	^{85}Y	733.4054
$^{70}\text{Kr}^*$	578.0555	^{74}Rb	620.0090	^{80}Sr	686.1754	^{86}Y	742.9108
^{71}Kr	591.3970	^{75}Rb	633.6205	^{81}Sr	695.5269	^{87}Y	754.7173
^{72}Kr	606.9185	^{76}Rb	645.0120	^{82}Sr	708.1264	^{88}Y	764.0688
^{73}Kr	617.9400	^{77}Rb	657.4704	^{83}Sr	716.9809	^{89}Y	775.5493
^{74}Kr	631.2514	^{78}Rb	667.6049	^{84}Sr	728.9123	^{90}Y	782.4057
^{75}Kr	641.4069	^{79}Rb	679.5354	^{85}Sr	737.4418	^{91}Y	790.3382
^{76}Kr	654.2294	^{80}Rb	688.9439	^{86}Sr	748.9323	^{92}Y	796.8937
^{77}Kr	663.5299	^{81}Rb	700.2983	^{87}Sr	757.3608	^{93}Y	804.3772
^{78}Kr	675.5543	^{82}Rb	709.1138	^{88}Sr	768.4732	^{94}Y	810.5516
^{79}Kr	683.9238	^{83}Rb	720.0313	^{89}Sr	774.8397	^{95}Y	817.4891
^{80}Kr	695.4443	^{84}Rb	728.8018	^{90}Sr	782.6422	^{96}Y	822.6466
^{81}Kr	703.3188	^{85}Rb	739.2892	^{91}Sr	788.4237	^{97}Y	828.6881
^{82}Kr	714.2853	^{86}Rb	747.9407	^{92}Sr	795.7661	^{98}Y	833.0096
^{83}Kr	721.7467	^{87}Rb	757.8612	^{93}Sr	801.0746	^{99}Y	838.7310
^{84}Kr	732.2662	^{88}Rb	763.9407	^{94}Sr	807.8221	^{100}Y	843.9225
^{85}Kr	739.3847	^{89}Rb	771.1201	^{95}Sr	812.1076	^{101}Y	849.3540
^{86}Kr	749.2412	^{90}Rb	776.8326	^{96}Sr	818.0090	^{102}Y	854.2255
^{87}Kr	754.7566	^{91}Rb	783.3401	^{97}Sr	822.0105	$^{103}\text{Y}^{**}$	859.8769
^{88}Kr	761.8101	^{92}Rb	788.4366	^{98}Sr	827.6520	$^{104}\text{Y}^*$	863.2484
^{89}Kr	766.9136	^{93}Rb	794.3850	^{99}Sr	831.4935	$^{105}\text{Y}^*$	868.4799
^{90}Kr	773.2121	^{94}Rb	798.2865	^{100}Sr	837.6149	$^{106}\text{Y}^*$	871.2514
^{91}Kr	777.7065	^{95}Rb	803.6530	$^{101}\text{Sr}^{**}$	840.8264	$^{107}\text{Y}^*$	876.0428
^{92}Kr	783.0580	^{96}Rb	807.0615	$^{102}\text{Sr}^*$	846.5579	$^{108}\text{Y}^*$	878.7043

TABLE 2

Nuclear Binding Energies.

^A Z	BE (MeV)	^A Z	BE (MeV)	^A Z	BE (MeV)	^A Z	BE (MeV)
109 Y*	883.1058	115 Zr*	916.4122	123 Nb*	957.9816	94 Tc	809.2319
110 Y*	885.5473	116 Zr*	921.0637	124 Nb*	958.5731	95 Tc	819.1634
111 Y*	889.6887	117 Zr*	923.1652	125 Nb*	960.2945	96 Tc	827.0358
112 Y*	891.6702	118 Zr*	927.5766	87 Mo	736.7960	97 Tc	836.5103
113 Y*	895.5117	119 Zr*	929.5581	88 Mo	750.2575	98 Tc	843.7888
114 Y*	897.4732	120 Zr*	933.8996	89 Mo	760.5040	99 Tc	852.7553
115 Y*	901.5046	121 Zr*	936.0411	90 Mo	773.7404	100 Tc	859.5198
116 Y*	903.5761	122 Zr*	940.0025	91 Mo	783.8499	101 Tc	867.9112
117 Y*	907.3376	123 Zr*	940.0240	92 Mo	796.5224	102 Tc	874.2147
118 Y*	909.1291	82 Nb*	680.3911	93 Mo	804.5899	103 Tc	882.3182
119 Y*	912.7805	83 Nb*	694.8425	94 Mo	814.2693	104 Tc	888.2787
120 Y*	914.7520	84 Nb	707.4540	95 Mo	821.6368	105 Tc	896.2101
121 Y*	918.1735	85 Nb	720.9355	96 Mo	830.7913	106 Tc	901.7216
78 Zr*	638.9776	86 Nb	731.6470	97 Mo	837.6128	107 Tc	909.1631
79 Zr*	652.5591	87 Nb	744.3184	98 Mo	846.2552	108 Tc	914.3546
80 Zr*	668.3805	88 Nb	754.6399	99 Mo	852.1807	109 Tc	921.0660
81 Zr	681.2820	89 Nb	766.8614	100 Mo	860.4712	110 Tc	925.8575
82 Zr	694.7435	90 Nb	777.0119	101 Mo	865.8697	111 Tc**	932.0890
83 Zr	704.9850	91 Nb	789.0643	102 Mo	873.9871	112 Tc*	935.4905
84 Zr	718.1364	92 Nb	796.9468	103 Mo	879.2596	113 Tc*	941.5119
85 Zr	727.9279	93 Nb	805.7773	104 Mo	886.9411	114 Tc*	945.3534
86 Zr	740.8294	94 Nb	813.0068	105 Mo	892.0026	115 Tc*	951.1949
87 Zr	750.2689	95 Nb	821.4932	106 Mo	898.9840	116 Tc*	954.7564
88 Zr	762.6184	96 Nb	828.3877	107 Mo	903.6955	117 Tc*	960.1578
89 Zr	771.9348	97 Nb	836.4612	108 Mo	910.3170	118 Tc*	963.5593
90 Zr	783.9053	98 Nb	842.4527	109 Mo**	913.9835	119 Tc*	969.0708
91 Zr	791.0998	99 Nb	849.3242	110 Mo*	919.9699	120 Tc*	972.7023
92 Zr	799.7353	100 Nb	854.9966	111 Mo*	923.3414	121 Tc*	978.1637
93 Zr	806.4697	101 Nb	862.0891	112 Mo*	929.3329	122 Tc*	981.5452
94 Zr	814.6892	102 Nb	867.5606	113 Mo*	932.3844	123 Tc*	986.7367
95 Zr	821.1517	103 Nb	874.5221	114 Mo*	938.0859	124 Tc*	990.1282
96 Zr	829.0062	104 Nb	879.6135	115 Mo*	941.0373	125 Tc*	994.7897
97 Zr	834.5856	105 Nb	886.3650	116 Mo*	946.4088	126 Tc*	996.0011
98 Zr	840.9901	106 Nb	890.7865	117 Mo*	949.1503	127 Tc*	998.2426
99 Zr	845.5686	107 Nb**	896.4930	118 Mo*	954.4818	128 Tc*	999.0641
100 Zr	852.4401	108 Nb*	899.4994	119 Mo*	957.4232	129 Tc*	1001.1956
101 Zr	857.3015	109 Nb*	904.9809	120 Mo*	962.7147	130 Tc*	1001.6270
102 Zr	863.7630	110 Nb*	908.5224	121 Mo*	965.5462	131 Tc*	1003.6485
103 Zr	868.3545	111 Nb*	913.7739	122 Mo*	970.5977	132 Tc*	1003.9000
104 Zr	874.3960	112 Nb*	916.7853	123 Mo*	973.4291	133 Tc*	1005.7415
105 Zr**	878.0524	113 Nb*	921.7068	124 Mo*	978.1006	91 Ru	768.4870
106 Zr*	884.0589	114 Nb*	924.5083	125 Mo*	978.6821	92 Ru	782.5585
107 Zr*	886.9504	115 Nb*	929.2698	126 Mo*	981.0336	93 Ru	793.4900
108 Zr*	892.5719	116 Nb*	931.9812	127 Mo*	981.1950	94 Ru	806.8605
109 Zr*	895.1033	117 Nb*	936.6627	128 Mo*	983.3165	95 Ru	815.8139
110 Zr*	900.5148	118 Nb*	939.4142	89 Tc	752.7165	96 Ru	826.5074
111 Zr*	902.7963	119 Nb*	944.0157	90 Tc	763.7580	97 Ru	834.6189
112 Zr*	907.6678	120 Nb*	946.6871	91 Tc	776.8495	98 Ru	844.8024
113 Zr*	909.6893	121 Nb*	951.1886	92 Tc	787.8699	99 Ru	852.2658
114 Zr*	914.3207	122 Nb*	953.8801	93 Tc	800.6094	100 Ru	861.9393

TABLE 2

Nuclear Binding Energies.

$^A Z$	BE (MeV)	$^A Z$	BE (MeV)	$^A Z$	BE (MeV)	$^A Z$	BE (MeV)
^{101}Ru	868.7418	^{110}Ru	933.6751	$^{119}\text{Ru}^*$	979.7984	$^{128}\text{Ru}^*$	1017.7616
^{102}Ru	877.9623	^{111}Ru	938.5365	$^{120}\text{Ru}^*$	985.9998	$^{129}\text{Ru}^*$	1018.6031
^{103}Ru	884.1947	^{112}Ru	945.6080	$^{121}\text{Ru}^*$	989.8013	$^{130}\text{Ru}^*$	1021.3146
^{104}Ru	893.0992	$^{113}\text{Ru}^{**}$	949.7595	$^{122}\text{Ru}^*$	995.8028	$^{131}\text{Ru}^*$	1021.8161
^{105}Ru	899.0097	$^{114}\text{Ru}^*$	956.1410	$^{123}\text{Ru}^*$	999.3243	$^{132}\text{Ru}^*$	1024.4275
^{106}Ru	907.4752	$^{115}\text{Ru}^*$	960.1125	$^{124}\text{Ru}^*$	1005.0857	$^{133}\text{Ru}^*$	1024.5790
^{107}Ru	912.9306	$^{116}\text{Ru}^*$	966.5739	$^{125}\text{Ru}^*$	1008.4772	$^{134}\text{Ru}^*$	1026.7905
^{108}Ru	921.0521	$^{117}\text{Ru}^*$	970.1554	$^{126}\text{Ru}^*$	1013.7687	$^{135}\text{Ru}^*$	1026.8621
^{109}Ru	926.0836	$^{118}\text{Ru}^*$	976.2169	$^{127}\text{Ru}^*$	1014.8602		