



MÉRICI
COLLÉGIAL PRIVÉ

Atomic Masses Table

Luc Tremblay

Collège Mérici

Z	Element	Symbol	A	Masse(u)
0	(electron)	e	0	0.000 548 580
0	(neutron)	n	1	1.008 664 916
1	Hydrogen	H	1	1.007 825 032
			2	2.014 101 778
			3	3.016 049 278
			4	4.027 81
			5	5.035 31
			6	6.044 94
			7	7.052 75
2	Helium	He	3	3.016 029 319
			4	4.002 603 254
			5	5.012 223
			6	6.018 889 1
			7	7.028 021
			8	8.033 922
			9	9.043 950
			10	10.052 40
3	Lithium	Li	4	4.027 19
			5	5.012 538
			6	6.015 122 795
			7	7.016 004 55
			8	8.022 487 36
			9	9.026 789 5
			10	10.035 481
			11	11.043 798
			12	12.053 78
4	Beryllium	Be	5	5.040 79
			6	6.019 726
			7	7.016 929 83
			8	8.005 305 10
			9	9.012 182 2
			10	10.013 533 8
			11	11.021 658
			12	12.026 921
			13	13.035 69
			14	14.042 89
			15	15.053 46
			16	16.061 92
5	Boron	B	6	6.046 81
			7	7.029 918
			8	8.024 607 2
			9	9.013 328 8

			10	10.012 937 0
			11	11.009 305 4
			12	12.014 352 1
			13	13.017 780 2
			14	14.025 404
			15	15.031 103
			16	16.039 81
			17	17.046 99
			18	18.056 17
			19	19.063 73
6	Carbon	C	8	8.037 675
			9	9.031 036 7
			10	10.016 853 2
			11	11.011 433 6
			12	12.000 000 000
			13	13.003 354 838
			14	14.003 241 989
			15	15.010 599 3
			16	16.014 701
			17	17.022 586
			18	18.026 759
			19	19.034 81
			20	20.040 32
			21	21.049 34
			22	22.057 20
7	Nitrogen	N	10	10.041 65
			11	11.026 091
			12	12.018 613 2
			13	13.005 738 61
			14	14.003 074 005
			15	15.000 108 898
			16	16.006 101 7
			17	17.008 450
			18	18.014 079
			19	19.017 029
			20	20.023 366
			21	21.027 11
			22	22.034 39
			23	23.041 22
			24	24.051 04
			25	25.060 66
8	Oxygen	O	12	12.034 405
			13	13.024 812

			14	14.008 596 25
			15	15.003 065 6
			16	15.994 914 620
			17	16.999 131 70
			18	17.999 161 0
			19	19.003 580
			20	20.004 076 7
			21	21.008 656
			22	22.009 967
			23	23.015 69
			24	24.020 47
9	Fluorine	F	14	14.035 06
			15	15.018 01
			16	16.011 466
			17	17.002 095 24
			18	18.000 938 0
			19	18.998 403 22
			20	19.999 981 32
			21	20.999 949 0
			22	22.002 999
			23	23.003 575
			24	24.008 115
			25	25.012 10
			26	26.019 62
			27	27.026 76
			28	28.035 67
			29	29.043 26
			30	30.052 50
			31	31.060 43
10	Neon	Ne	16	16.025 761
			17	17.017 672
			18	18.005 708 2
			19	19.001 880 2
			20	19.992 440 175
			21	20.993 846 68
			22	21.991 385 114
			23	22.994 466 90
			24	23.993 610 8
			25	24.997 737
			26	26.000 461
			27	27.007 59
			28	28.012 07
			29	29.019 39

			30	30.024 80
			31	31.033 11
			34	32.040 02
			33	33.049 38
			34	34.057 03
11	Sodium	Na	18	18.025 97
			19	19.013 877
			20	20.007 351
			21	20.997 655 2
			22	21.994 436 4
			23	22.989 769 281
			24	23.990 962 78
			25	24.989 954 0
			26	25.992 633
			27	26.994 077
			28	27.998 938
			29	29.002 861
			30	30.008 976
			31	31.013 59
			32	32.020 47
			33	33.026 72
			34	34.035 17
			35	35.042 49
			36	36.051 48
			37	37.059 34
12	Magnesium	Mg	19	19.035 47
			20	20.018 863
			21	21.011 713
			22	21.999 573 8
			23	22.994 123 7
			24	23.985 041 700
			25	24.985 836 92
			26	25.982 592 929
			27	26.984 340 59
			28	27.983 876 8
			29	28.988 600
			30	29.990 434
			31	30.996 546
			32	31.998 975
			33	33.005 254
			34	34.009 46
			35	35.017 34
			36	36.023 00

			37	37.031 40
			38	38.037 57
			39	39.046 77
			40	40.053 93
13	Aluminum	Al	21	21.028 04
			22	22.019 52
			23	23.007 267
			24	23.999 938 9
			25	24.990 428 1
			26	25.986 891 69
			27	26.981 538 63
			28	27.981 910 31
			29	28.980 445 0
			30	29.982 960
			31	30.983 947
			32	31.988 124
			33	32.990 843
			34	33.996 85
			35	34.999 86
			36	36.006 21
			37	37.010 68
			38	38.017 23
			39	39.022 97
			40	40.031 45
			41	41.038 33
			42	42.046 89
14	Silicon	Si	22	22.034 53
			23	23.025 52
			24	24.011 546
			25	25.004 106
			26	25.992 330
			27	26.986 704 91
			28	27.976 926 533
			29	28.976 494 700
			30	29.973 770 17
			31	30.975 363 23
			32	31.974 148 08
			33	32.978 000
			34	33.978 576
			35	34.984 584
			36	35.986 60
			37	36.992 94
			38	37.995 63

			39	39.002 07
			40	40.005 87
			41	41.014 56
			42	42.019 79
			43	43.028 66
			44	44.035 26
15	Phosphorus	P	24	24.034 35
			25	25.020 26
			26	26.011 78
			27	26.999 230
			28	27.992 315
			29	28.981 800 6
			30	29.978 313 8
			31	30.973 761 63
			32	31.973 907 27
			33	32.971 725 5
			34	33.973 636
			35	34.973 314 1
			36	35.978 260
			37	36.979 609
			38	37.984 16
			39	38.986 18
			40	39.991 30
			41	40.994 34
			42	42.001 01
			43	43.006 19
			44	44.012 99
			45	45.019 22
			46	46.027 38
16	Sulfur	S	26	26.027 88
			27	27.018 83
			28	28.004 37
			29	28.996 608
			30	29.984 903
			31	30.979 554 7
			32	31.972 071 00
			33	32.971 458 76
			34	33.967 866 90
			35	34.969 032 16
			36	35.967 080 76
			37	36.971 125 57
			38	37.971 163
			39	38.975 134

			40	39.975 45
			41	40.979 58
			42	41.981 02
			43	42.987 15
			44	43.990 21
			45	44.996 51
			46	46.000 75
			47	47.008 59
			48	48.014 17
			49	49.023 62
17	Chlorine	Cl	28	28.028 51
			29	29.014 11
			30	30.004 77
			31	30.992 413
			32	31.985 690
			33	32.977 451 9
			34	33.973 762 82
			35	34.968 852 68
			36	35.968 306 98
			37	36.965 902 59
			38	37.968 010 43
			39	38.968 008 2
			40	39.970 415
			41	40.970 685
			42	41.973 25
			43	42.974 05
			44	43.978 28
			45	44.980 29
			46	45.984 21
			47	46.988 71
			48	47.994 95
			49	49.000 32
			50	50.007 84
			51	51.014 49
18	Argon	Ar	30	30.021 56
			31	31.012 12
			32	31.997 638 0
			33	32.989 925 7
			34	33.980 271 2
			35	34.975 257 6
			36	35.967 545 106
			37	36.966 776 32
			38	37.962 732 4

			39	38.964 313
			40	39.962 383 123
			41	40.964 500 6
			42	41.963 046
			43	42.965 636
			44	43.964 924 0
			45	44.968 040 0
			46	45.968 094
			47	46.972 19
			48	47.974 54
			49	48.980 52
			50	49.984 43
			51	50.991 63
			52	51.996 78
			53	53.004 94
19	Potassium	K	32	32.021 92
			33	33.007 26
			34	33.998 41
			35	34.988 010
			36	35.981 292
			37	36.973 375 89
			38	37.969 081 2
			39	38.963 706 68
			40	39.963 998 48
			41	40.961 825 76
			42	41.962 402 81
			43	42.960 716
			44	43.961 56
			45	44.960 699
			46	45.961 977
			47	46.961 678
			48	47.965 514
			49	48.967 451
			50	49.972 78
			51	50.976 38
			52	51.982 61
			53	52.987 12
			54	53.994 20
			55	54.999 71
20	Calcium	Ca	34	34.014 12
			35	35.004 94
			36	35.993 087
			37	36.985 870

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			38	37.976 318
			39	38.970 719 7
			40	39.962 590 98
			41	40.962 278 06
			42	41.958 618 01
			43	42.958 766 6
			44	43.955 481 8
			45	44.956 186 6
			46	45.953 692 6
			47	46.954 546 0
			48	47.952 534
			49	48.955 674
			50	49.957 519
			51	50.961 499
			52	51.965 10
			53	52.970 05
			54	53.974 35
			55	54.980 55
			56	55.985 57
			57	56.992 4
21	Scandium	Sc	36	36.014 92
			37	37.003 05
			38	37.994 70
			39	38.984 790
			40	39.977 967
			41	40.969 251
			42	41.965 516 13
			43	42.961 150 7
			44	43.959 402 8
			45	44.955 911 9
			46	45.955 171 9
			47	46.952 407 5
			48	47.952 231
			49	48.950 024
			50	49.952 188
			51	50.953 603
			52	51.956 68
			53	52.959 61
			54	53.963 26
			55	54.968 24
			56	55.972 87
			57	56.977 79
			58	57.983 71

			59	58.989 22
			60	59.995 71
22	Titanium	Ti	38	38.009 77
			39	39.001 61
			40	39.990 50
			41	40.983 15
			42	41.973 031
			43	42.968 522
			44	43.959 690 1
			45	44.958 125 6
			46	45.952 631 6
			47	46.951 763 1
			48	47.947 946 3
			49	48.947 870 0
			50	49.944 791 2
			51	50.946 615
			52	51.946 897
			53	52.949 73
			54	53.951 05
			55	54.955 27
			56	55.958 20
			57	56.963 99
			58	57.966 97
			59	58.972 93
			60	59.976 76
			61	60.983 20
			62	61.987 49
			63	62.994 4
23	Vanadium	V	40	40.011 09
			41	40.999 78
			42	41.991 23
			43	42.980 65
			44	43.974 11
			45	44.965 776
			46	45.960 200 5
			47	46.954 908 9
			48	47.952 253 7
			49	48.948 516 1
			50	49.947 158 5
			51	50.943 959 5
			52	51.944 775 5
			53	52.944 338
			54	53.946 440

			55	54.947 23
			56	55.950 53
			57	56.952 56
			58	57.956 83
			59	58.960 21
			60	59.965 03
			61	60.968 48
			62	61.973 78
			63	62.977 55
			64	63.983 47
			65	64.987 92
24	Chromium	Cr	42	42.006 43
			43	42.997 71
			44	43.985 55
			45	44.979 64
			46	45.968 359
			47	46.962 900
			48	47.954 032
			49	48.951 335 7
			50	49.946 044 2
			51	50.944 767 4
			52	51.940 507 5
			53	52.940 649 4
			54	53.938 880 4
			55	54.940 839 7
			56	55.940 653 1
			57	56.943 613
			58	57.944 35
			59	58.948 59
			60	59.950 08
			61	60.954 72
			62	61.956 61
			63	62.961 86
			64	63.964 41
			65	64.970 16
			66	65.973 38
			67	66.979 55
25	Manganese	Mn	44	44.006 87
			45	44.994 51
			46	45.986 72
			47	46.976 10
			48	47.968 52
			49	48.959 618

			50	49.954 238 2
			51	50.948 210 8
			52	51.945 565 5
			53	52.941 290 1
			54	53.940 358 9
			55	54.938 045 1
			56	55.938 904 9
			57	56.938 285 4
			58	57.939 982
			59	58.940 440
			60	59.942 911
			61	60.944 65
			62	61.948 43
			63	62.950 24
			64	63.954 25
			65	64.956 34
			66	65.961 08
			67	66.964 14
			68	67.969 30
			69	68.972 84
26	Iron	Fe	45	45.014 58
			46	46.000 81
			47	46.992 89
			48	47.980 50
			49	48.973 61
			50	49.962 989
			51	50.956 820
			52	51.948 114
			53	52.945 307 9
			54	53.939 610 5
			55	54.938 293 4
			56	55.934 937 5
			57	56.935 394 0
			58	57.933 275 6
			59	58.934 875 5
			60	59.934 072
			61	60.936 745
			62	61.936 767
			63	62.940 37
			64	63.941 20
			65	64.945 38
			66	65.946 78
			67	66.950 95

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			68	67.953 70
			69	68.958 78
			70	69.961 46
			71	70.966 72
			72	71.969 62
27	Cobalt	Co	47	47.011 49
			48	48.001 76
			49	48.989 72
			50	49.981 54
			51	50.970 72
			52	51.963 59
			53	52.954 219
			54	53.948 459 6
			55	54.941 999 0
			56	55.939 839 3
			57	56.936 291 4
			58	57.935 752 8
			59	58.933 195 0
			60	59.933 817 1
			61	60.932 475 8
			62	61.934 051
			63	62.933 612
			64	63.935 810
			65	64.936 478
			66	65.939 76
			67	66.940 89
			68	67.944 87
			69	68.946 32
			70	69.951 00
			71	70.952 90
			72	71.957 81
			73	72.960 24
			74	73.965 38
			75	74.968 33
28	Nickel	Ni	48	48.019 75
			49	49.009 66
			50	49.995 93
			51	50.987 72
			52	51.975 68
			53	52.968 47
			54	53.957 905
			55	54.951 330
			56	55.942 132

			57	56.939 793 5
			58	57.935 342 9
			59	58.934 346 7
			60	59.930 786 4
			61	60.931 056 0
			62	61.928 345 1
			63	62.929 669 4
			64	63.927 966 0
			65	64.930 084 3
			66	65.929 139 3
			67	66.931 569
			68	67.931 869
			69	68.935 610
			70	69.936 50
			71	70.940 74
			72	71.942 09
			73	72.946 47
			74	73.948 07
			75	74.952 87
			76	75.955 33
			77	76.960 55
			78	77.963 18
29	Copper	Cu	52	51.997 18
			53	52.985 55
			54	53.976 71
			55	54.966 05
			56	55.958 56
			57	56.949 211
			58	57.944 538 5
			59	58.939 498 0
			60	59.937 365 0
			61	60.933 457 8
			62	61.932 584
			63	62.929 597 5
			64	63.929 764 2
			65	64.927 789 5
			66	65.928 868 8
			67	66.927 730 3
			68	67.929 610 9
			69	68.929 429 3
			70	69.932 392 3
			71	70.932 676 8
			72	71.935 820 3

			73	72.936 675
			74	73.939 875
			75	74.941 90
			76	75.945 275
			77	76.947 85
			78	77.951 96
			79	78.954 56
			80	79.960 87
30	Zinc	Zn	54	53.992 95
			55	54.983 98
			56	55.972 38
			57	56.964 79
			58	57.954 592
			59	58.949 264
			60	59.941 827
			61	60.939 511
			62	61.934 330
			63	62.933 211 6
			64	63.929 142 2
			65	64.929 241 0
			66	65.926 033 4
			67	66.927 127 3
			68	67.924 844 2
			69	68.926 550 3
			70	69.925 319 3
			71	70.927 722
			72	71.926 858
			73	72.929 779
			74	73.929 459
			75	74.932 937
			76	75.933 294
			77	76.936 96
			78	77.938 44
			79	78.942 65
			80	79.944 34
			81	80.950 48
			82	81.954 42
			83	82.961 03
31	Gallium	Ga	56	55.994 91
			57	56.982 93
			58	57.974 25
			59	58.963 37
			60	59.957 06

			61	60.949 446
			62	61.944 175
			63	62.939 294 2
			64	63.936 838 7
			65	64.932 734 8
			66	65.931 589
			67	66.928 201 7
			68	67.927 980 1
			69	68.925 573 6
			70	69.926 022 0
			71	70.924 701 3
			72	71.926 366 3
			73	72.925 174 7
			74	73.926 946
			75	74.926 500 2
			76	75.928 827 6
			77	76.929 154 3
			78	77.931 608 2
			79	78.932 89
			80	79.936 52
			81	80.937 75
			82	81.942 99
			83	82.946 98
			84	83.952 65
			85	84.957 00
			86	85.963 12
32	Germanium	Ge	58	57.991 01
			59	58.981 75
			60	59.970 19
			61	60.963 79
			62	61.954 65
			63	62.949 64
			64	63.941 653
			65	64.939 44
			66	65.933 843
			67	66.932 734
			68	67.928 094
			69	68.927 964 5
			70	69.924 247 4
			71	70.924 951 0
			72	71.922 075 8
			73	72.923 458 9
			74	73.921 177 8

			75	74.922 858 9
			76	75.921 402 6
			77	76.923 548 6
			78	77.922 853
			79	78.925 40
			80	79.925 372
			81	80.928 82
			82	81.929 55
			83	82.934 62
			84	83.937 47
			85	84.943 03
			86	85.946 49
			87	86.952 51
			88	87.956 91
			89	88.963 83
33	Arsenic	As	60	59.993 13
			61	60.980 62
			62	61.973 20
			63	62.963 69
			64	63.957 57
			65	64.949 56
			66	65.944 71
			67	66.939 19
			68	67.936 769
			69	68.932 274
			70	69.930 925
			71	70.927 112
			72	71.926 752
			73	72.923 825
			74	73.923 928 7
			75	74.921 596 5
			76	75.922 394
			77	76.920 647 3
			78	77.921 827
			79	78.920 948
			80	79.922 534
			81	80.922 132
			82	81.924 50
			83	82.924 98
			84	83.929 06
			85	84.932 02
			86	85.936 50
			87	86.939 90

			88	87.944 94
			89	88.949 39
			90	89.955 50
			91	90.960 43
			92	91.966 80
34	Selenium	Se	65	64.964 66
			66	65.955 21
			67	66.950 09
			68	67.941 798
			69	68.939 558
			70	69.933 391
			71	70.932 242
			72	71.927 112
			73	72.926 765
			74	73.922 476 4
			75	74.922 523 4
			76	75.919 213 6
			77	76.919 914 0
			78	77.917 309 1
			79	78.918 499 1
			80	79.916 521 3
			81	80.917 992 5
			82	81.916 699 4
			83	82.919 118
			84	83.918 462
			85	84.922 245
			86	85.924 272
			87	86.928 521
			88	87.931 424
			89	88.936 45
			90	89.939 96
			91	90.945 96
			92	91.949 92
			93	92.956 29
			94	93.960 49
35	Bromine	Br	67	66.964 79
			68	67.958 52
			69	68.950 11
			70	69.944 79
			71	70.938 74
			72	71.936 645
			73	72.931 692
			74	73.929 891

			75	74.925 776
			76	75.924 541
			77	76.921 379
			78	77.921 146
			79	78.918 337 1
			80	79.918 529 3
			81	80.916 290 6
			82	81.916 804 1
			83	82.915 180
			84	83.916 479
			85	84.915 608
			86	85.918 798
			87	86.920 711
			88	87.924 066
			89	88.926 385
			90	89.930 628
			91	90.933 968
			92	91.939 259
			93	92.943 05
			94	93.948 68
			95	94.952 87
			96	95.958 53
			97	96.962 80
36	Krypton	Kr	69	68.965 18
			70	69.955 26
			71	70.949 63
			72	71.942 092
			73	72.939 289
			74	73.933 084 4
			75	74.930 946
			76	75.925 910
			77	76.924 670 0
			78	77.920 364 8
			79	78.920 082
			80	79.916 379 0
			81	80.916 592 0
			82	81.913 483 6
			83	82.914 136
			84	83.911 507
			85	84.912 527 3
			86	85.910 610 73
			87	86.913 354 86
			88	87.914 447

			89	88.917 631
			90	89.919 517
			91	90.923 445
			92	91.926 156
			93	92.931 27
			94	93.934 36
			95	94.939 84
			96	95.943 07
			97	96.948 56
			98	97.951 91
			99	98.957 60
			100	99.961 14
37	Rubidium	Rb	71	70.965 32
			72	71.959 08
			73	72.950 56
			74	73.944 265
			75	74.938 570
			76	75.935 072 2
			77	76.930 408
			78	77.928 141
			79	78.923 989
			80	79.922 519
			81	80.918 996
			82	81.918 208 6
			83	82.915 110
			84	83.914 385
			85	84.911 789 738
			86	85.911 167 42
			87	86.909 180 527
			88	87.911 315 59
			89	88.912 278
			90	89.914 802
			91	90.916 537
			92	91.919 729
			93	92.922 042
			94	93.926 405
			95	94.929 303
			96	95.934 273
			97	96.937 352
			98	97.941 791
			99	98.945 38
			100	99.949 87
			101	100.953 20

			102	101.958 87
38	Strontium	Sr	73	72.965 97
			74	73.956 31
			75	74.949 95
			76	75.941 77
			77	76.937 945
			78	77.932 180
			79	78.929 708
			80	79.924 521
			81	80.923 212
			82	81.918 402
			83	82.917 557
			84	83.913 425
			85	84.912 933
			86	85.909 260 2
			87	86.908 877 1
			88	87.905 612 1
			89	88.907 450 7
			90	89.907 738
			91	90.910 203
			92	91.911 038
			93	92.914 026
			94	93.915 361
			95	94.919 359
			96	95.921 697
			97	96.926 153
			98	97.928 453
			99	98.933 241
			100	99.935 35
			101	100.940 52
			102	101.943 02
			103	102.948 95
			104	103.952 33
			105	104.958 58
39	Yttrium	Y	76	75.958 45
			77	76.949 65
			78	77.943 61
			79	78.937 35
			80	79.934 28
			81	80.929 127
			82	81.926 79
			83	82.922 354
			84	83.920 39

			85	84.916 433
			86	85.914 886
			87	86.910 875 7
			88	87.909 501 1
			89	88.905 848 3
			90	89.907 151 9
			91	90.907 305
			92	91.908 949
			93	92.909 583
			94	93.911 595
			95	94.912 821
			96	95.915 891
			97	96.918 134
			98	97.922 203
			99	98.924 636
			100	99.927 756
			101	100.930 31
			102	101.933 556
			103	102.936 73
			104	103.941 05
			105	104.944 87
			106	105.949 79
			107	106.954 14
			108	107.959 48
40	Zirconium	Zr	78	77.955 23
			79	78.949 16
			80	79.940 40
			81	80.937 21
			83	82.928 65
			85	84.921 47
			86	85.916 474
			87	86.914 816
			88	87.910 227
			89	88.908 890
			90	89.904 704 4
			91	90.905 645 8
			92	91.905 040 8
			93	92.906 476 0
			94	93.906 315 2
			95	94.908 042 6
			96	95.908 273 4
			97	96.910 953 1
			98	97.912 735

			99	98.916 512
			100	99.917 762
			101	100.921 140
			102	101.922 981
			103	102.926 60
			104	103.928 78
			105	104.933 05
			106	105.935 91
			107	106.940 75
			108	107.943 96
			109	108.949 24
			110	109.952 87
41	Niobium	Nb	81	80.949 03
			82	81.943 13
			83	82.936 71
			84	83.933 57
			85	84.927 91
			86	85.925 038
			87	86.920 361
			88	87.918 33
			89	88.913 418
			90	89.911 265
			91	90.906 996
			92	91.907 194
			93	92.906 378 1
			94	93.907 283 9
			95	94.906 835 8
			96	95.908 101
			97	96.908 098 6
			98	97.910 328
			99	98.911 618
			100	99.914 182
			101	100.915 252
			102	101.918 038
			103	102.919 144
			104	103.922 46
			105	104.923 94
			106	105.927 97
			107	106.930 31
			108	107.934 84
			109	108.937 63
			110	109.942 44
			111	110.945 65

			112	111.950 83
			113	112.954 70
42	Molybdenum	Mo	83	82.948 74
			84	83.940 09
			85	84.936 55
			86	85.930 70
			87	86.927 33
			88	87.921 953
			89	88.919 480
			90	89.913 937
			91	90.911 750
			92	91.906 811
			93	92.906 813
			94	93.905 088 3
			95	94.905 842 1
			96	95.904 679 5
			97	96.906 021 5
			98	97.905 408 2
			99	98.907 711 9
			100	99.907 477
			101	100.910 347
			102	101.910 297
			103	102.913 207
			104	103.913 764
			105	104.916 975
			106	105.918 137
			107	106.921 69
			108	107.923 45
			109	108.927 81
			110	109.929 73
			111	110.934 41
			112	111.936 84
			113	112.941 88
			114	113.944 92
			115	114.950 29
43	Technetium	Tc	85	84.948 83
			86	85.942 88
			87	86.936 53
			88	87.932 68
			89	88.927 17
			90	89.923 56
			91	90.918 43
			92	91.915 260

			93	92.910 249
			94	93.909 657
			95	94.907 657
			96	95.907 871
			97	96.906 365
			98	97.907 216
			99	98.906 254 7
			100	99.907 657 8
			101	100.907 315
			102	101.909 215
			103	102.909 181
			104	103.911 447
			105	104.911 661
			106	105.914 358
			107	106.915 08
			108	107.918 46
			109	108.919 98
			110	109.923 820
			111	110.925 69
			112	111.929 15
			113	112.931 59
			114	113.935 88
			115	114.938 69
			116	115.943 37
			117	116.946 48
			118	117.951 48
44	Ruthenium	Ru	87	86.949 18
			88	87.940 26
			89	88.936 11
			90	89.929 89
			91	90.926 29
			92	91.920 12
			93	92.917 052
			94	93.911 360
			95	94.910 413
			96	95.907 598
			97	96.907 555
			98	97.905 287
			99	98.905 939 3
			100	99.904 219 5
			101	100.905 582 1
			102	101.904 349 3
			103	102.906 323 8

			104	103.905 433
			105	104.907 753
			106	105.907 329
			107	106.909 91
			108	107.910 17
			109	108.913 203
			110	109.914 136
			111	110.917 696
			112	111.918 965
			113	112.922 487
			114	113.924 28
			115	114.928 69
			116	115.930 81
			117	116.935 58
			118	117.937 82
			119	118.942 84
			120	119.945 31
45	Rhodium	Rh	89	88.948 84
			90	89.942 87
			91	90.936 55
			92	91.931 98
			93	92.925 74
			94	93.921 70
			95	94.915 90
			96	95.914 461
			97	96.911 337
			98	97.910 708
			99	98.908 132
			100	99.908 122
			101	100.906 164
			102	101.906 843
			103	102.905 504
			104	103.906 656
			105	104.905 694
			106	105.907 287
			107	106.906 748
			108	107.908 73
			109	108.908 737
			110	109.911 136
			111	110.911 586
			112	111.914 394
			113	112.915 531
			114	113.918 81

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			115	114.920 334
			116	115.924 06
			117	116.925 98
			118	117.930 07
			119	118.932 11
			120	119.936 41
			121	120.938 72
			122	121.943 21
46	Palladium	Pd	91	90.949 11
			92	91.940 42
			93	92.935 91
			94	93.928 77
			95	94.924 69
			96	95.918 16
			97	96.916 48
			98	97.912 721
			99	98.911 768
			100	99.908 506
			101	100.908 289
			102	101.905 609
			103	102.906 087
			104	103.904 036
			105	104.905 085
			106	105.903 486
			107	106.905 133
			108	107.903 892
			109	108.905 950
			110	109.905 153
			111	110.907 671
			112	111.907 314
			113	112.910 153
			114	113.910 363
			115	114.913 684
			116	115.914 159
			117	116.917 841
			118	117.918 98
			119	118.923 11
			120	119.924 69
			121	120.928 87
			122	121.930 55
			123	122.934 93
			124	123.936 88
47	Silver	Ag	93	92.949 78

			94	93.942 78
			95	94.935 48
			96	95.930 68
			97	96.923 97
			98	97.921 566
			99	98.917 60
			100	99.916 104
			101	100.912 80
			102	101.911 685
			103	102.908 973
			104	103.908 629
			105	104.906 529
			106	105.906 669
			107	106.905 097
			108	107.905 956
			109	108.904 752
			110	109.906 107
			111	110.905 291
			112	111.907 005
			113	112.906 567
			114	113.908 804
			115	114.908 763
			116	115.911 360
			117	116.911 685
			118	117.914 583
			119	118.915 67
			120	119.918 787
			121	120.919 85
			122	121.923 53
			123	122.924 90
			124	123.928 64
			125	124.930 43
			126	125.934 50
			127	126.936 77
			128	127.941 17
			129	128.943 69
			130	129.950 45
48	Cadmium	Cd	95	94.949 87
			96	95.939 77
			97	96.934 94
			98	97.927 396
			99	98.925 01
			100	99.920 29

			101	100.918 68
			102	101.914 462
			103	102.913 419
			104	103.909 849
			105	104.909 468
			106	105.906 459
			107	106.906 618
			108	107.904 184
			109	108.904 982
			110	109.903 002 1
			111	110.904 178 1
			112	111.902 757 8
			113	112.904 401 7
			114	113.903 358 5
			115	114.905 431 0
			116	115.904 756
			117	116.907 219
			118	117.906 915
			119	118.909 922
			120	119.909 850
			121	120.912 977
			122	121.913 332
			123	122.917 003
			124	123.917 648
			125	124.921 246
			126	125.922 353
			127	126.926 444
			128	127.927 76
			129	128.932 15
			130	129.933 90
			131	130.940 67
			132	131.945 55
49	Indium	In	97	96.949 54
			98	97.942 14
			99	98.934 22
			100	99.931 11
			101	100.926 34
			102	101.924 09
			103	102.919 914
			104	103.918 296
			105	104.914 674
			106	105.913 465
			107	106.910 295

			108	107.909 698
			109	108.907 151
			110	109.907 165
			111	110.905 103
			112	111.905 532
			113	112.904 058
			114	113.904 914
			115	114.903 878
			116	115.905 260
			117	116.904 514
			118	117.906 354
			119	118.905 845
			120	119.907 960
			121	120.907 846
			122	121.910 276
			123	122.910 438
			124	123.913 175
			125	124.913 601
			126	125.916 464
			127	126.917 353
			128	127.920 172
			129	128.921 697
			130	129.924 970
			131	130.926 852
			132	131.932 990
			133	132.937 81
			134	133.944 15
			135	134.949 33
50	Tin	Sn	99	98.949 33
			100	99.939 04
			101	100.936 06
			102	101.930 30
			103	102.928 10
			104	103.923 14
			105	104.921 349
			106	105.916 881
			107	106.915 644
			108	107.911 925
			109	108.911 283
			110	109.907 843
			111	110.907 734
			112	111.904 818
			113	112.905 171

			114	113.902 779
			115	114.903 342
			116	115.901 741
			117	116.902 952
			118	117.901 603
			119	118.903 308
			120	119.902 194 7
			121	120.904 235 5
			122	121.903 439 0
			123	122.905 720 8
			124	123.905 273 9
			125	124.907 784 1
			126	125.907 653
			127	126.910 360
			128	127.910 537
			129	128.913 479
			130	129.913 967
			131	130.917 000
			132	131.917 816
			133	132.923 829
			134	133.928 29
			135	134.934 73
			136	135.939 34
			137	136.945 99
51	Antimony	Sb	103	102.939 69
			104	103.936 47
			105	104.931 49
			106	105.928 79
			107	106.924 15
			108	107.922 16
			109	108.918 132
			110	109.916 75
			111	110.913 163
			112	111.912 398
			113	112.909 372
			114	113.909 269
			115	114.906 598
			116	115.906 794
			117	116.904 836
			118	117.905 529
			119	118.903 942
			120	119.905 072
			121	120.903 815 7

			122	121.905 173 7
			123	122.904 214 0
			124	123.905 935 7
			125	124.905 253 8
			126	125.907 247
			127	126.906 924
			128	127.909 169
			129	128.909 148
			130	129.911 656
			131	130.911 982
			132	131.914 467
			133	132.915 252
			134	133.920 380
			135	134.925 17
			136	135.930 35
			137	136.935 31
			138	137.940 79
			139	138.945 98
52	Tellurium	Te	105	104.943 64
			106	105.937 50
			107	106.935 01
			108	107.929 44
			109	108.927 416
			110	109.922 407
			111	110.921 111
			112	111.917 01
			113	112.915 891
			114	113.912 089
			115	114.911 902
			116	115.908 460
			117	116.908 645
			118	117.905 828
			119	118.906 404
			120	119.904 020
			121	120.904 936
			122	121.903 043 9
			123	122.904 270 0
			124	123.902 817 9
			125	124.904 430 7
			126	125.903 311 7
			127	126.905 226 3
			128	127.904 463 1
			129	128.906 598 2

			130	129.906 224 4
			131	130.908 523 9
			132	131.908 553
			133	132.910 955
			134	133.911 369
			135	134.916 45
			136	135.920 101
			137	136.925 32
			138	137.929 22
			139	138.934 73
			140	139.938 85
			141	140.944 65
			142	141.949 08
53	Iodine	I	108	107.943 48
			109	108.938 15
			110	109.935 24
			111	110.930 28
			112	111.927 97
			113	112.923 641
			114	113.921 85
			115	114.918 048
			116	115.916 81
			117	116.913 650
			118	117.913 074
			119	118.910 074
			120	119.910 048
			121	120.907 367
			122	121.907 589
			123	122.905 589
			124	123.906 209 9
			125	124.904 630 2
			126	125.905 624
			127	126.904 473
			128	127.905 809
			129	128.904 988
			130	129.906 674
			131	130.906 124 6
			132	131.907 997
			133	132.907 797
			134	133.909 744
			135	134.910 048
			136	135.914 65
			137	136.917 871

			138	137.922 350
			139	138.926 099
			140	139.931 00
			141	140.935 03
			142	141.940 18
			143	142.944 56
			144	143.949 99
54	Xenon	Xe	110	109.944 278
			111	110.941 60
			112	111.935 62
			113	112.933 341
			114	113.927 980
			115	114.926 294
			116	115.921 581
			117	116.920 359
			118	117.916 179
			119	118.915 411
			120	119.911 784
			121	120.911 462
			122	121.908 368
			123	122.908 482
			124	123.905 893
			125	124.906 395 5
			126	125.904 274
			127	126.905 184
			128	127.903 531 3
			129	128.904 779 4
			130	129.903 508 0
			131	130.905 082 4
			132	131.904 153 5
			133	132.905 910 7
			134	133.905 394 5
			135	134.907 227
			136	135.907 219
			137	136.911 562
			138	137.913 954
			139	138.918 793
			140	139.921 641
			141	140.926 65
			142	141.929 71
			143	142.935 11
			144	143.938 51
			145	144.944 07

			146	145.947 75
			147	146.953 56
55	Cesium	Cs	112	111.950 30
			113	112.944 49
			114	113.941 45
			115	114.935 91
			116	115.933 37
			117	116.928 671
			118	117.926 559
			119	118.922 377
			120	119.920 677
			121	120.917 229
			122	121.916 113
			123	122.912 996
			124	123.912 258
			125	124.909 728
			126	125.909 452
			127	126.907 418
			128	127.907 749
			129	128.906 064
			130	129.906 709
			131	130.905 464
			132	131.906 434 3
			133	132.905 451 93
			134	133.906 718 48
			135	134.905 977 0
			136	135.907 311 6
			137	136.907 089 5
			138	137.911 017
			139	138.913 364
			140	139.917 282
			141	140.920 046
			142	141.924 299
			143	142.927 352
			144	143.932 077
			145	144.935 526
			146	145.940 289
			147	146.944 155
			148	147.949 22
			149	148.952 93
			150	149.958 17
			151	150.962 19
56	Barium	Ba	114	113.950 68

			115	114.947 37
			116	115.941 38
			117	116.938 50
			118	117.933 04
			119	118.930 66
			120	119.926 04
			121	120.924 05
			122	121.919 904
			123	122.918 781
			124	123.915 094
			125	124.914 473
			126	125.911 250
			127	126.911 094
			128	127.908 318
			129	128.908 679
			130	129.906 320 8
			131	130.906 941
			132	131.905 061 3
			133	132.906 007 5
			134	133.904 508 4
			135	134.905 688 6
			136	135.904 575 9
			137	136.905 827 4
			138	137.905 247 2
			139	138.908 841 3
			140	139.910 605
			141	140.914 411
			142	141.916 453
			143	142.920 627
			144	143.922 953
			145	144.927 627
			146	145.930 220
			147	146.934 95
			148	147.937 720
			149	148.942 58
			150	149.945 68
			151	150.950 81
			152	151.954 27
			153	152.959 61
57	Lanthanum	La	117	116.950 07
			118	117.946 73
			119	118.940 99
			120	119.938 07

			121	120.933 01
			122	121.930 71
			123	122.926 24
			124	123.924 574
			125	124.920 816
			126	125.919 51
			127	126.916 375
			128	127.915 585
			129	128.912 693
			130	129.912 369
			131	130.910 070
			132	131.910 101
			133	132.908 218
			134	133.908 514
			135	134.906 977
			136	135.907 636
			137	136.906 494
			138	137.907 112
			139	138.906 353 3
			140	139.909 477 6
			141	140.910 962
			142	141.914 079
			143	142.916 063
			144	143.919 600
			145	144.921 65
			146	145.925 793
			147	146.928 235
			148	147.932 229
			149	148.934 73
			150	149.938 77
			151	150.941 72
			152	151.946 25
			153	152.949 62
			154	153.954 50
			155	154.958 35
58	Cerium	Ce	119	118.952 76
			120	119.946 64
			121	120.943 42
			122	121.937 91
			123	122.935 40
			124	123.930 41
			125	124.928 44
			126	125.923 971

			127	126.922 731
			128	127.918 911
			129	128.918 102
			130	129.914 736
			131	130.914 422
			132	131.911 460
			133	132.911 515
			134	133.908 925
			135	134.909 151
			136	135.907 172
			137	136.907 806
			138	137.905 991
			139	138.906 653
			140	139.905 438 7
			141	140.908 276 3
			142	141.909 244
			143	142.912 386
			144	143.913 647
			145	144.917 233
			146	145.918 759
			147	146.922 674
			148	147.924 432
			149	148.928 40
			150	149.930 409
			151	150.933 98
			152	151.936 54
			153	152.940 58
			154	153.943 42
			155	154.948 04
			156	155.951 26
			157	156.956 34
59	Praseodymium	Pr	121	120.955 36
			122	121.951 81
			123	122.945 96
			124	123.942 96
			125	124.937 83
			126	125.935 31
			127	126.930 83
			128	127.928 791
			129	128.925 095
			130	129.923 590
			131	130.920 259
			132	131.919 255

			133	132.916 331
			134	133.915 712
			135	134.913 112
			136	135.912 692
			137	136.910 705
			138	137.910 755
			139	138.908 938
			140	139.909 076
			141	140.907 652 8
			142	141.910 044 8
			143	142.910 816 9
			144	143.913 305
			145	144.914 512
			146	145.917 644
			147	146.918 996
			148	147.922 135
			149	148.923 718
			150	149.926 673
			151	150.928 319
			152	151.931 50
			153	152.933 84
			154	153.937 52
			155	154.940 12
			156	155.944 27
			157	156.947 43
			158	157.951 98
			159	158.955 50
60	Neodymium	Nd	124	123.952 23
			125	124.948 88
			126	125.943 22
			127	126.940 50
			128	127.935 39
			129	128.933 19
			130	129.928 506
			131	130.927 247
			132	131.923 321
			133	132.922 348
			134	133.918 790
			135	134.918 181
			136	135.914 976
			137	136.914 567
			138	137.911 950
			139	138.911 978

			140	139.909 55
			141	140.909 610
			142	141.907 723 3
			143	142.909 814 3
			144	143.910 087 3
			145	144.912 573 6
			146	145.913 116 9
			147	146.916 100 4
			148	147.916 893
			149	148.920 149
			150	149.920 891
			151	150.923 829
			152	151.924 682
			153	152.927 698
			154	153.929 48
			155	154.932 93
			156	155.935 02
			157	156.939 03
			158	157.941 60
			159	158.946 09
			160	159.949 09
			161	160.953 88
61	Promethium	Pm	126	125.957 52
			127	126.951 63
			128	127.948 42
			129	128.943 16
			130	129.940 45
			131	130.935 87
			132	131.933 75
			133	132.929 782
			134	133.928 353
			135	134.924 876
			136	135.923 566
			137	136.920 479
			138	137.919 548
			139	138.916 804
			140	139.916 042
			141	140.913 555
			142	141.912 874
			143	142.910 933
			144	143.912 591
			145	144.912 749
			146	145.914 696

			147	146.915 138 5
			148	147.917 475
			149	148.918 334
			150	149.920 984
			151	150.921 207
			152	151.923 497
			153	152.924 117
			154	153.926 464
			155	154.928 101
			156	155.931 057
			157	156.933 04
			158	157.936 56
			159	158.938 97
			160	159.942 99
			161	160.945 86
			162	161.950 29
			163	162.953 68
62	Samarium	Sm	128	127.958 08
			129	128.954 64
			130	129.948 92
			131	130.946 11
			132	131.940 69
			133	132.938 67
			134	133.933 97
			135	134.932 52
			136	135.928 276
			137	136.926 972
			138	137.923 244
			139	138.922 297
			140	139.918 995
			141	140.918 476
			142	141.915 198
			143	142.914 628
			144	143.911 999
			145	144.913 410
			146	145.913 041
			147	146.914 897 9
			148	147.914 822 7
			149	148.917 184 7
			150	149.917 275 5
			151	150.919 932 4
			152	151.919 732 4
			153	152.922 097 4

			154	153.922 209 3
			155	154.924 640 2
			156	155.925 528
			157	156.928 359
			158	157.929 991
			159	158.933 21
			160	159.935 14
			161	160.938 83
			162	161.941 22
			163	162.945 36
			164	163.948 28
			165	164.952 98
63	Europium	Eu	130	129.963 57
			131	130.957 75
			132	131.954 37
			133	132.949 24
			134	133.946 51
			135	134.941 82
			136	135.939 60
			137	136.935 57
			138	137.933 709
			139	138.929 792
			140	139.928 088
			141	140.924 931
			142	141.923 435
			143	142.920 298
			144	143.918 817
			145	144.916 265
			146	145.917 206
			147	146.916 746
			148	147.918 086
			149	148.917 931
			150	149.919 702
			151	150.919 850 2
			152	151.921 744 5
			153	152.921 230 3
			154	153.922 979 2
			155	154.922 893 3
			156	155.924 752
			157	156.925 424
			158	157.927 845
			159	158.929 089
			160	159.931 97

			161	160.933 68
			162	161.937 04
			163	162.939 21
			164	163.942 99
			165	164.945 72
			166	165.949 97
			167	166.953 21
64	Gadolinium	Gd	134	133.955 37
			135	134.952 57
			136	135.947 34
			137	136.945 02
			138	137.940 12
			139	138.938 24
			140	139.933 674
			141	140.932 126
			142	141.928 116
			143	142.926 75
			144	143.922 963
			145	144.921 709
			146	145.918 311
			147	146.919 094
			148	147.918 115
			149	148.919 341
			150	149.918 659
			151	150.920 348
			152	151.919 791 0
			153	152.921 749 5
			154	153.920 865 6
			155	154.922 622 0
			156	155.922 122 7
			157	156.923 960 1
			158	157.924 103 9
			159	158.926 388 7
			160	159.927 054 1
			161	160.929 669 2
			162	161.930 985
			163	162.933 99
			164	163.935 86
			165	164.939 38
			166	165.941 60
			167	166.945 57
			168	167.948 36
			169	168.952 87

65	Terbium	Tb	135	?
			136	135.961 38
			137	136.955 98
			138	137.953 16
			139	138.948 29
			140	139.945 81
			141	140.941 45
			142	141.938 74
			143	142.935 121
			144	143.933 045
			145	144.929 274
			146	145.927 247
			147	146.924 045
			148	147.924 272
			149	148.923 246
			150	149.923 660
			151	150.923 103
			152	151.924 07
			153	152.923 435
			154	153.924 68
			155	154.923 505
			156	155.924 747
			157	156.924 024 6
			158	157.925 413 1
			159	158.925 346 8
			160	159.927 167 6
			161	160.927 569 9
			162	161.929 488
			163	162.930 648
			164	163.933 35
			165	164.934 88
			166	165.937 99
			167	166.940 05
			168	167.943 64
			169	168.946 22
			170	169.950 25
			171	170.953 30
66	Dysprosium	Dy	138	137.962 49
			139	138.959 54
			140	139.954 01
			141	140.951 35
			142	141.946 37
			143	142.943 83

			144	143.939 254
			145	144.937 425
			146	145.932 845
			147	146.931 092
			148	147.927 150
			149	148.927 305
			150	149.925 585
			151	150.926 185
			152	151.924 718
			153	152.925 765
			154	153.924 424
			155	154.925 754
			156	155.924 283
			157	156.925 466
			158	157.924 409
			159	158.925 739 2
			160	159.925 197 5
			161	160.926 933 4
			162	161.926 798 4
			163	162.928 731 2
			164	163.929 174 8
			165	164.931 703 3
			166	165.932 806 7
			167	166.935 655
			168	167.937 13
			169	168.940 31
			170	169.942 39
			171	170.946 20
			172	171.948 76
			173	172.953 00
67	Holmium	Ho	140	139.968 54
			141	140.963 10
			142	141.959 77
			143	142.954 61
			144	143.951 48
			145	144.947 20
			146	145.944 64
			147	146.940 056
			148	147.937 72
			149	148.933 775
			150	149.933 496
			151	150.931 688
			152	151.931 714

			153	152.930 199
			154	153.930 602
			155	154.929 103
			156	155.929 84
			157	156.928 256
			158	157.928 941
			159	158.927 712
			160	159.928 729
			161	160.927 855
			162	161.929 096
			163	162.928 733 9
			164	163.930 233 5
			165	164.930 322 1
			166	165.932 284 2
			167	166.933 133
			168	167.935 516
			169	168.936 872
			170	169.939 619
			171	170.941 47
			172	171.944 82
			173	172.947 29
			174	173.951 15
			175	174.954 05
68	Erbium	Er	143	142.966 34
			144	143.960 38
			145	144.957 39
			146	145.952 00
			147	146.949 49
			148	147.944 55
			149	148.942 306
			150	149.937 914
			151	150.937 449
			152	151.935 050
			153	152.935 063
			154	153.932 783
			155	154.933 209
			156	155.931 065
			157	156.931 916
			158	157.929 893
			159	158.930 684
			160	159.929 083
			161	160.929 995
			162	161.928 778

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			163	162.930 033
			164	163.929 200
			165	164.930 726
			166	165.930 293 1
			167	166.932 048 2
			168	167.932 370 2
			169	168.934 590 4
			170	169.935 464 3
			171	170.938 029 8
			172	171.939 356
			173	172.942 40
			174	173.944 23
			175	174.947 77
			176	175.950 08
			177	176.954 05
69	Thulium	Tm	145	144.970 07
			146	145.966 43
			147	146.960 96
			148	147.957 84
			149	148.952 72
			150	149.949 96
			151	150.945 483
			152	151.944 422
			153	152.942 012
			154	153.941 568
			155	154.939 199
			156	155.938 980
			157	156.936 973
			158	157.936 980
			159	158.934 975
			160	159.935 263
			161	160.933 549
			162	161.933 995
			163	162.932 651
			164	163.933 560
			165	164.932 435
			166	165.933 554
			167	166.932 851 6
			168	167.934 173
			169	168.934 213 3
			170	169.935 801 4
			171	170.936 429 4
			172	171.938 400

			173	172.939 604
			174	173.942 169
			175	174.943 837
			176	175.946 99
			177	176.949 04
			178	177.952 64
			179	178.955 34
70	Ytterbium	Yb	148	147.967 42
			149	148.964 04
			150	149.958 42
			151	150.955 40
			152	151.950 29
			153	152.949 48
			154	153.946 394
			155	154.945 782
			156	155.942 818
			157	156.942 628
			158	157.939 866
			159	158.940 050
			160	159.937 552
			161	160.937 902
			162	161.935 768
			163	162.936 334
			164	163.934 489
			165	164.935 28
			166	165.933 882
			167	166.934 950
			168	167.933 897
			169	168.935 190
			170	169.934 761 8
			171	170.936 325 8
			172	171.936 381 5
			173	172.938 210 8
			174	173.938 862 1
			175	174.941 276 5
			176	175.942 571 7
			177	176.945 260 8
			178	177.946 647
			179	178.950 17
			180	179.952 33
			181	180.956 15
71	Lutetium	Lu	150	149.973 23
			151	150.967 58

			152	151.964 12
			153	152.958 77
			154	153.957 52
			155	154.954 316
			156	155.953 033
			157	156.950 098
			158	157.949 313
			159	158.946 629
			160	159.946 033
			161	160.943 572
			162	161.943 277
			163	162.941 179
			164	163.941 339
			165	164.939 407
			166	165.939 859
			167	166.938 270
			168	167.938 739
			169	168.937 651
			170	169.938 475
			171	170.937 913 1
			172	171.939 086
			173	172.938 930 6
			174	173.940 337 5
			175	174.940 771 8
			176	175.942 686 3
			177	176.943 758 1
			178	177.945 955
			179	178.947 327
			180	179.949 881
			181	180.951 97
			182	181.955 04
			183	182.957 57
			184	183.960 91
72	Hafnium	Hf	153	152.970 69
			154	153.964 86
			155	154.963 39
			156	155.959 36
			157	156.958 40
			158	157.954 799
			159	158.953 995
			160	159.950 684
			161	160.950 275
			162	161.947 210

			163	162.947 089
			164	163.944 367
			165	164.944 567
			166	165.942 180
			167	166.942 600
			168	167.940 568
			169	168.941 259
			170	169.939 609
			171	170.940 492
			172	171.939 448
			173	172.940 513
			174	173.940 046
			175	174.941 509
			176	175.941 408 6
			177	176.943 220 7
			178	177.943 698 8
			179	178.945 816 1
			180	179.946 550 0
			181	180.949 101 2
			182	181.950 554
			183	182.953 530
			184	183.955 447
			185	184.958 82
			186	185.960 89
			187	186.964 59
			188	187.966 85
73	Tantalum	Ta	155	154.974 59
			156	155.972 30
			157	156.968 19
			158	157.966 70
			159	158.963 018
			160	159.961 49
			161	160.958 42
			162	161.957 292
			163	162.954 330
			164	163.953 534
			165	164.950 773
			166	165.950 512
			167	166.948 093
			168	167.948 047
			169	168.946 011
			170	169.946 175
			171	170.944 476

			172	171.944 895
			173	172.943 750
			174	173.944 454
			175	174.943 737
			176	175.944 857
			177	176.944 472
			178	177.945 778
			179	178.945 929 5
			180	179.947 464 8
			181	180.947 995 8
			182	181.950 151 8
			183	182.951 372 6
			184	183.954 008
			185	184.955 559
			186	185.958 552
			187	186.960 53
			188	187.963 70
			189	188.965 83
			190	189.969 23
74	Tungsten	W	158	157.974 56
			159	158.972 92
			160	159.968 48
			161	160.967 36
			162	161.963 497
			163	162.962 524
			164	163.958 954
			165	164.958 280
			166	165.955 027
			167	166.954 816
			168	167.951 808
			169	168.951 779
			170	169.949 228
			171	170.949 451
			172	171.947 292
			173	172.947 689
			174	173.946 079
			175	174.946 717
			176	175.945 634
			177	176.946 643
			178	177.945 876
			179	178.947 070
			180	179.946 704
			181	180.948 197

			182	181.948 204 2
			183	182.950 223 0
			184	183.950 931 2
			185	184.953 419 3
			186	185.954 364 1
			187	186.957 160 5
			188	187.958 489
			189	188.961 91
			190	189.963 18
			191	190.966 60
			192	191.968 17
75	Rhenium	Re	160	159.982 12
			161	160.977 59
			162	161.976 00
			163	162.972 081
			164	163.970 32
			165	164.967 089
			166	165.965 81
			167	166.962 60
			168	167.961 573
			169	168.958 791
			170	169.958 220
			171	170.955 716
			172	171.955 423
			173	172.953 243
			174	173.953 115
			175	174.951 381
			176	175.951 623
			177	176.950 328
			178	177.950 989
			179	178.949 988
			180	179.950 789
			181	180.950 068
			182	181.951 21
			183	182.950 820
			184	183.952 521
			185	184.952 955 0
			186	185.954 986 1
			187	186.955 753 1
			188	187.958 114 4
			189	188.959 229
			190	189.961 82
			191	190.963 125

			192	191.965 96
			193	192.967 47
			194	193.970 42
76	Osmium	Os	162	161.984 43
			163	162.982 69
			164	163.978 04
			165	164.976 76
			166	165.972 691
			167	166.971 548
			168	167.967 804
			169	168.967 019
			170	169.963 577
			171	170.963 185
			172	171.960 023
			173	172.959 808
			174	173.957 062
			175	174.956 946
			176	175.954 806
			177	176.954 965
			178	177.953 251
			179	178.953 816
			180	179.952 379
			181	180.953 244
			182	181.952 110
			183	182.953 126
			184	183.952 489 1
			185	184.954 042 3
			186	185.953 838 2
			187	186.955 750 5
			188	187.955 838 2
			189	188.958 147 5
			190	189.958 447 0
			191	190.960 929 7
			192	191.961 480 7
			193	192.964 151 6
			194	193.965 182 1
			195	194.968 13
			196	195.969 639
			197	?
77	Iridium	Ir	164	163.992 20
			165	164.987 52
			166	165.985 82
			167	166.981 665

			168	167.979 88
			169	168.976 295
			170	169.974 97
			171	170.971 626
			172	171.970 46
			173	172.967 502
			174	173.966 861
			175	174.964 113
			176	175.963 649
			177	176.961 302
			178	177.961 082
			179	178.959 122
			180	179.959 229
			181	180.957 625
			182	181.958 076
			183	182.956 846
			184	183.957 476
			185	184.956 698
			186	185.957 946
			187	186.957 363
			188	187.958 853
			189	188.958 719
			190	189.960 546 0
			191	190.960 594 0
			193	192.962 926 4
			192	191.962 605 0
			194	193.965 078 4
			195	194.965 979 6
			196	195.968 397
			197	196.969 653
			198	197.972 28
			199	198.973 80
78	Platinum	Pt	166	165.994 86
			167	166.992 98
			168	167.988 15
			169	168.986 72
			170	169.982 495
			171	170.981 245
			172	171.977 347
			173	172.976 445
			174	173.972 819
			175	174.972 421
			176	175.968 945

			177	176.968 469
			178	177.965 649
			179	178.965 363
			180	179.963 031
			181	180.963 097
			182	181.961 171
			183	182.961 597
			184	183.959 922
			185	184.960 619
			186	185.959 351
			187	186.960 587
			188	187.959 395
			189	188.960 834
			190	189.959 932
			191	190.961 677
			192	191.961 038 0
			193	192.962 987 4
			194	193.962 680 3
			195	194.964 791 1
			196	195.964 951 5
			197	196.967 340 2
			198	197.967 893
			199	198.970 593
			200	199.971 441
			201	200.974 513
			202	201.975 74
79	Gold	Au	169	168.998 08
			170	169.996 12
			171	170.991 879
			172	171.990 04
			173	172.986 237
			174	173.984 76
			175	174.981 274
			176	175.980 10
			177	176.976 865
			178	177.976 032
			179	178.973 213
			180	179.972 521
			181	180.970 079
			182	181.969 618
			183	182.967 593
			184	183.967 452
			185	184.965 789

			186	185.965 953
			187	186.964 568
			188	187.965 324
			189	188.963 948
			190	189.964 700
			191	190.963 704
			192	191.964 813
			193	192.964 150
			194	193.965 365
			195	194.965 034 6
			196	195.966 570
			197	196.966 568 7
			198	197.968 242 3
			199	198.968 765 2
			200	199.970 726
			201	200.971 657
			202	201.973 81
			203	202.975 155
			204	203.977 72
			205	204.979 87
80	Mercury	Hg	171	171.003 76
			172	171.998 83
			173	172.997 24
			174	173.992 864
			175	174.991 42
			176	175.987 355
			177	176.986 279
			178	177.982 483
			179	178.981 834
			180	179.978 266
			181	180.977 819
			182	181.974 690
			183	182.974 450
			184	183.971 713
			185	184.971 899
			186	185.969 362
			187	186.969 814
			188	187.967 577
			189	188.968 190
			190	189.966 322
			191	190.967 157
			192	191.965 634
			193	192.966 665

			194	193.965 439
			195	194.966 720
			196	195.965 833
			197	196.967 213
			198	197.966 769 0
			199	198.968 279 9
			200	199.968 326 0
			201	200.970 302 3
			202	201.970 643 0
			203	202.972 872 5
			204	203.973 493 9
			205	204.976 073
			206	205.977 514
			207	206.982 59
			208	207.985 94
			209	208.991 04
			210	209.994 51
81	Thallium	Tl	176	176.000 59
			177	176.996 427
			178	177.994 90
			179	178.991 089
			180	179.989 91
			181	180.986 257
			182	181.985 667
			183	182.982 193
			184	183.981 873
			185	184.978 791
			186	185.978 33
			187	186.975 906
			188	187.976 010
			189	188.973 588
			190	189.973 877
			191	190.971 786
			192	191.972 225
			193	192.970 67
			194	193.971 20
			195	194.969 774
			196	195.970 481
			197	196.969 575
			198	197.970 483
			199	198.969 877
			200	199.970 963
			201	200.970 819

			202	201.972 106
			203	202.972 344 2
			204	203.973 863 5
			205	204.974 427 5
			206	205.976 110 3
			207	206.977 419
			208	207.982 018 7
			209	208.985 359
			210	209.990 074
			211	210.993 48
			212	211.998 23
82	Lead	Pb	178	178.003 830
			179	179.002 15
			180	179.997 918
			181	180.996 62
			182	181.992 672
			183	182.991 875
			184	183.988 142
			185	184.987 610
			186	185.984 239
			187	186.983 918
			188	187.980 874
			189	188.980 807
			190	189.978 082
			191	190.978 265
			192	191.975 785
			193	192.976 173
			194	193.974 012
			195	194.974 542
			196	195.972 774
			197	196.973 431
			198	197.972 034
			199	198.972 917
			200	199.971 827
			201	200.972 885
			202	201.972 159
			203	202.973 391
			204	203.973 043 6
			205	204.974 481 8
			206	205.974 465 3
			207	206.975 896 9
			208	207.976 652 1
			209	208.981 090 1

			210	209.984 188 5
			211	210.988 737 0
			212	211.991 897 5
			213	212.996 581
			214	213.999 805 4
			215	215.004 81
83	Bismuth	Bi	184	184.001 12
			185	184.997 63
			186	185.996 60
			187	186.993 158
			188	187.992 265
			189	188.989 199
			190	189.988 29
			191	190.985 786
			192	191.985 458
			193	192.982 960
			194	193.982 834
			195	194.980 651
			196	195.980 667
			197	196.978 864
			198	197.979 206
			199	198.977 672
			200	199.978 132
			201	200.977 009
			202	201.977 742
			203	202.976 876
			204	203.977 813
			205	204.977 389
			206	205.978 499
			207	206.978 470 7
			208	207.979 742 2
			209	208.980 398 7
			210	209.984 120 4
			211	210.987 269
			212	211.991 285 7
			213	212.994 385
			214	213.998 712
			215	215.001 770
			216	216.006 306
			217	217.009 47
			218	218.014 32
84	Polonium	Po	188	187.999 422
			189	188.998 481

			190	189.995 101
			191	190.994 574
			192	191.991 335
			193	192.991 025
			194	193.988 186
			195	194.988 111
			196	195.985 535
			197	196.985 660
			198	197.983 389
			199	198.983 666
			200	199.981 799
			201	200.982 260
			202	201.980 758
			203	202.981 420
			204	203.980 318
			205	204.981 203
			206	205.980 481
			207	206.981 593
			208	207.981 245 7
			209	208.982 430 4
			210	209.982 873 7
			211	210.986 653 2
			212	211.988 868 0
			213	212.992 857
			214	213.995 201 4
			215	214.999 420 0
			216	216.001 915 0
			217	217.006 335
			218	218.008 973 0
			219	219.013 74
			220	220.016 60
85	Astatine	At	191	?
			193	192.999 84
			194	193.998 73
			195	194.996 268
			196	195.995 788
			197	196.993 189
			198	197.992 837
			199	198.990 532
			200	199.990 351
			201	200.988 417
			202	201.988 630
			203	202.986 942

			204	203.987 251
			205	204.986 074
			206	205.986 667
			207	206.985 784
			208	207.986 590
			209	208.986 173
			210	209.987 148
			211	210.987 496 3
			212	211.990 745
			213	212.992 937
			214	213.996 372
			215	214.998 653
			216	216.002 423
			217	217.004 719
			218	218.008 694
			219	219.011 162
			220	220.015 41
			221	221.018 05
			222	222.022 33
			223	223.025 19
86	Radon	Rn	195	195.005 44
			196	196.002 115
			197	197.001 58
			198	197.998 679
			199	198.998 370
			200	199.995 699
			201	200.995 628
			202	201.993 263
			203	202.993 387
			204	203.991 429
			205	204.991 719
			206	205.990 214
			207	206.990 734
			208	207.989 642
			209	208.990 415
			210	209.989 696
			211	210.990 601
			212	211.990 704
			213	212.993 883
			214	213.995 363
			215	214.998 745
			216	216.000 274
			217	217.003 928

			218	218.005 601 3
			219	219.009 480 2
			220	220.011 394 0
			221	221.015 537
			222	222.017 577 7
			223	223.021 79
			224	224.024 09
			225	225.028 44
			226	226.030 89
			227	227.035 41
			228	228.037 99
			229	229.042 654
87	Francium	Fr	199	199.007 26
			200	200.006 57
			201	201.003 861
			202	202.003 373
			203	203.000 925
			204	204.000 653
			205	204.998 594
			206	205.998 666
			207	206.996 949
			208	207.997 139
			209	208.995 954
			210	209.996 408
			211	210.995 537
			212	211.996 202
			213	212.996 189
			214	213.998 971
			215	215.000 341
			216	216.003 198
			217	217.004 632
			218	218.007 578
			219	219.009 252
			220	220.012 327
			221	221.014 255
			222	222.017 552
			223	223.019 735 9
			224	224.023 250
			225	225.025 565
			226	226.029 39
			227	227.031 84
			229	229.038 450
			230	230.042 51

			231	231.045 44
			232	232.049 77
88	Radium	Ra	202	202.009 89
			203	203.009 27
			204	204.006 500
			205	205.006 269
			206	206.003 827
			207	207.003 798
			208	208.001 840
			209	209.001 991
			210	210.000 495
			211	211.000 898
			212	211.999 794
			213	213.000 384
			214	214.000 108
			215	215.002 720
			216	216.003 533
			217	217.006 320
			218	218.007 140
			219	219.010 085
			220	220.011 028
			221	221.013 917
			222	222.015 375
			223	223.018 502 2
			224	224.020 211 8
			225	225.023 612
			226	226.025 409 8
			227	227.029 177 8
			228	228.031 070 3
			229	229.034 958
			230	230.037 056
			231	231.041 22
			232	232.043 64
			233	233.048 06
			234	234.050 70
89	Actinium	Ac	206	206.014 50
			207	207.011 95
			208	208.011 552
			209	209.009 495
			210	210.009 436
			211	211.007 735
			212	212.007 814
			213	213.006 608

			214	214.006 902
			215	215.006 454
			216	216.008 720
			217	217.009 347
			218	218.011 641
			219	219.012 420
			220	220.014 763
			221	221.015 591
			222	222.017 844
			223	223.019 137
			224	224.021 723
			225	225.023 230
			226	226.026 098
			227	227.027 752 1
			228	228.031 021 1
			229	229.033 015
			230	230.036 29
			231	231.038 56
			232	232.042 03
			233	233.044 55
			234	234.048 42
			235	235.051 23
			236	236.055 30
90	Thorium	Th	209	209.017 72
			210	210.015 075
			211	211.014 93
			212	212.012 980
			213	213.013 010
			214	214.011 500
			215	215.011 730
			216	216.011 062
			217	217.013 114
			218	218.013 284
			219	219.015 537
			220	220.015 748
			221	221.018 184
			222	222.018 468
			223	223.020 811
			224	224.021 467
			225	225.023 951
			226	226.024 903
			227	227.027 704 1
			228	228.028 741 1

			229	229.031 762
			230	230.033 133 8
			231	231.036 304 3
			232	232.038 055 3
			233	233.041 581 8
			234	234.043 601
			235	235.047 510
			236	236.049 87
			237	237.053 89
			238	238.056 5
91	Protactinium	Pa	212	212.023 20
			213	213.021 11
			214	214.020 92
			215	215.019 186
			216	216.019 110
			217	217.018 324
			218	218.020 042
			219	219.019 883
			220	220.021 875
			221	221.021 878
			223	223.023 962
			224	224.025 626
			225	225.026 131
			226	226.027 948
			227	227.028 805
			228	228.031 051
			229	229.032 096 8
			230	230.034 541
			231	231.035 884 0
			232	232.038 592
			233	233.040 247 3
			234	234.043 308
			235	235.045 444
			236	236.048 68
			237	237.051 15
			238	238.054 503
			239	239.057 26
			240	240.060 98
92	Uranium	U	217	217.024 37
			218	218.023 54
			219	219.024 92
			220	220.024 72
			221	221.026 40

			222	222.026 09
			223	223.027 74
			224	224.027 605
			225	225.029 391
			226	226.029 339
			227	227.031 156
			228	228.031 374
			229	229.033 506
			230	230.033 940
			231	231.036 294
			232	232.037 156 2
			233	233.039 635 2
			234	234.040 952 1
			235	235.043 929 9
			236	236.045 568
			237	237.048 730 2
			238	238.050 788 2
			239	239.054 293 3
			240	240.056 592
			241	241.060 33
			242	242.062 93
93	Neptunium	Np	225	225.033 91
			226	226.035 15
			227	227.034 957
			228	228.036 18
			229	229.036 264
			230	230.037 828
			231	231.038 245
			232	232.040 11
			233	233.040 741
			234	234.042 895
			235	235.044 063 3
			236	236.046 570
			237	237.048 173 4
			238	238.050 946 4
			239	239.052 939 0
			240	240.056 162
			241	241.058 252
			242	242.061 64
			243	243.064 28
			244	244.067 85
94	Plutonium	Pu	228	228.038 74
			229	229.040 15

			230	230.039 650
			231	231.041 101
			232	232.041 187
			233	233.042 997
			234	234.043 317
			235	235.045 286
			236	236.046 058 0
			237	237.048 409 7
			238	238.049 559 9
			239	239.052 163 4
			240	240.053 813 5
			241	241.056 851 5
			242	242.058 742 6
			243	243.062 003
			244	244.064 204
			245	245.067 747
			246	246.070 205
			247	247.074 07
95	Americium	Am	231	231.045 56
			232	232.046 59
			233	233.046 35
			234	234.047 81
			235	235.047 95
			236	236.049 58
			237	237.050 00
			238	238.051 984
			239	239.053 024 5
			240	240.055 300
			241	241.056 829 1
			242	242.059 549 2
			243	243.061 381 1
			244	244.064 284 8
			245	245.066 452
			246	246.069 775
			247	247.072 09
			248	248.075 75
			249	249.078 48
96	Curium	Cm	232	?
			233	233.050 77
			234	234.050 16
			235	235.051 43
			236	236.051 41
			237	237.052 90

			238	238.053 029
			239	239.054 96
			240	240.055 529 5
			241	241.057 653 0
			242	242.058 835 8
			243	243.061 389 1
			244	244.062 752 6
			245	245.065 491 2
			246	246.067 223 7
			247	247.070 354
			248	248.072 349
			249	249.075 953
			250	250.078 357
			251	251.082 285
			252	252.084 87
97	Berkelium	Bk	235	235.056 58
			236	236.057 33
			237	237.057 00
			238	238.058 28
			239	239.058 28
			240	240.059 76
			241	241.060 23
			242	242.061 98
			243	243.063 008
			244	244.065 181
			245	245.066 361 6
			246	246.068 673
			247	247.070 307
			248	248.073 09
			249	249.074 986 7
			250	250.078 317
			251	251.080 760
			252	252.084 31
			253	253.086 88
			254	254.090 60
98	Californium	Cf	237	237.062 07
			238	238.061 41
			239	239.062 42
			240	240.062 30
			241	241.063 73
			242	242.063 702
			243	243.065 43
			244	244.066 001

			245	245.068 049
			246	246.068 805 3
			247	247.071 001
			248	248.072 185
			249	249.074 853 5
			250	250.076 406 1
			251	251.079 587
			252	252.081 626
			253	253.085 133
			254	254.087 323
			255	255.091 05
			256	256.093 44
99	Einsteinium	Es	240	240.068 92
			241	241.068 54
			242	242.069 75
			243	243.069 55
			244	244.070 88
			245	245.071 32
			246	246.072 90
			247	247.073 66
			248	248.075 47
			249	249.076 41
			250	250.078 61
			251	251.079 992
			252	252.082 979
			253	253.084 824 7
			254	254.088 022
			255	255.090 273
			256	256.093 60
			257	257.095 98
			258	258.099 52
100	Fermium	Fm	241	241.074 21
			242	242.073 43
			243	243.074 47
			244	244.074 04
			245	245.075 35
			246	246.075 350
			247	247.076 95
			248	248.077 186
			249	249.078 928
			250	250.079 521
			251	251.081 540
			252	252.082 467

			253	253.085 185
			254	254.086 854 4
			255	255.089 964
			256	256.091 774
			257	257.095 106
			258	258.097 08
			259	259.100 6
			260	260.102 81
101	Mendelevium	Md	245	245.080 81
			246	246.081 71
			247	247.081 52
			248	248.082 82
			249	249.082 91
			250	250.084 42
			251	251.084 774
			252	252.086 43
			253	253.087 14
			254	254.089 59
			255	255.091 084
			256	256.093 89
			257	257.095 542 4
			258	258.098 431
			259	259.100 51
			260	260.103 65
102	Nobelium	No	250	250.087 56
			251	251.088 94
			252	252.088 967
			253	253.090 564
			254	254.090 956
			255	255.093 191
			256	256.094 283
			257	257.096 888
			258	258.098 21
			259	259.101 03
			260	260.102 64
			262	262.107 46
			263	263.110 55
			264	264.112 35
103	Lawrencium	Lr	252	252.095 26
			253	253.095 09
			254	254.096 48
			255	255.096 562
			256	256.098 49

			257	257.099 42
			258	258.101 76
			259	259.102 90
			260	260.105 51
			261	261.106 88
			262	262.109 61
			266	266.119 83
104	Rutherfordium	Rf	253	253.100 44
			254	254.100 05
			255	255.101 27
			256	256.101 152
			257	257.102 918
			258	258.103 43
			259	259.105 60
			260	260.106 44
			261	261.108 77
			262	262.109 93
			263	263.112 5
			264	264.113 88
			265	265.116 68
			266	266.118 17
			267	267.121 79
			268	268.123 97
105	Dubnium	Db	255	255.107 07
			256	256.107 89
			257	257.107 58
			258	258.109 29
			259	259.109 49
			260	260.111 3
			261	261.111 92
			262	262.114 07
			263	263.114 99
			266	266.121 03
			267	267.122 47
			268	268.125 67
			270	270.131 36
106	Seaborgium	Sg	258	258.112 98
			259	259.114 40
			260	260.114 384
			261	261.115 949
			262	262.116 34
			263	263.118 29
			264	264.118 93

			265	265.121 09
			266	266.121 98
			267	267.124 36
			269	269.128 63
			271	271.133 93
107	Bohrium	Bh	260	260.121 66
			261	261.121 46
			262	262.122 97
			264	264.124 59
			265	265.124 91
			266	266.126 79
			267	267.127 50
			270	270.133 36
			271	271.135 26
			272	272.138 26
			274	274.143 55
108	Hassium	Hs	263	263.128 56
			264	264.128 36
			265	265.129 793
			266	266.130 05
			267	267.131 67
			268	268.131 87
			269	269.133 75
			270	270.134 29
			271	271.137 17
			273	273.141 68
			275	275.146 67
			277	277.151 90
109	Meitnerium	Mt	266	266.137 37
			268	268.138 65
			270	270.140 33
			274	274.147 25
			275	275.148 82
			276	276.151 59
			277	277.153 27
			278	278.156 31
110	Darmstadtium	Ds	267	267.143 77
			269	269.144 75
			270	270.144 58
			271	271.145 95
			273	273.148 56
			277	277.155 91
			279	279.160 10

			281	281.164 51
111	Roentgenium	Rg	272	272.153 27
			274	274.155 25
			278	278.161 49
			279	279.162 72
			280	280.165 14
			281	281.166 36
			282	282.169 12
112	Copernicium	Cn	277	277.163 64
			281	281.169 75
			282	282.170 5
			283	283.173 27
			284	284.174 16
			285	285.177 12
113	Ununtrium	Uut	278	278.170 58
			282	282.175 67
			283	283.176 57
			284	284.178 73
			285	285.179 73
			286	286.182 21
114	Flerovium	Fl	285	285.183 70
			286	286.183 86
			287	287.185 60
			288	288.185 69
			289	289.187 28
115	Ununpentium	Uup	287	287.190 70
			288	288.192 74
			289	289.193 63
			290	290.195 98
116	Livermorium	Lv	290	290.198 64
			291	291.201 08
			292	292.201 74
			293	293.204 49
117	Ununseptium	Uus	293	293.208 24
			294	294.210 46
118	Ununoctium	Uuo	294	294.213 92