Periodic Table For Magnetic Resonance

1 Hydrogen — **H**

1	1/2	42.6		100
2	1	6.5	3	≪1
3	1/2	45.4		0

2 Helium — **He**

3	1/2	-32.4		≪1
4				100

3 Lithium — **Li**

6	1	6.3	-1	8
7	3/2	16.5	-40	92

4 Beryllium — **Be**

9	3/2	-6.0	53	100

1 Hydrogen — **H**

1	1/2	42.6		100
2	1	6.5	3	≪1
3	1/2	45.4		0

Isotope
Spin
Gyromagnetic ratio (MHz/T)
Q (millibarn)
Natural abundance (%)
Atomic number and name
Chemical formula

Magnetic resonance data primarily from EasySpin.org:
https://easyspin.org/documentation/isotopetable.html
Sources:
Table of Nuclear Magnetic Dipole and Electric Quadrupole Moments, N.Stone (2014)
Table of Nuclear Quadrupole Moments, N.Stone, (2013)
Table of the Isotopes, N.E.Holden
Nuclear Quadrupole Moments, P.Pyykkö, (2008)
Uncertainties at high atomic numbers can exceed 10 percent.
Send corrections to Michael W. Malone: mwmalone@gmail.com
https://github.com/spyctra/Magnetic-Resonance-Periodic-Table

5 Boron — **B**

10	3	4.6	84	20
11	3/2	13.7	41	80

6 Carbon — **C**

12				99
13	1/2	10.7		1
14				0

7 Nitrogen — **N**

14	1	3.1	20	100
15	1/2	-4.3		<1

8 Oxygen — **O**

16				100
17	5/2	-5.8	-26	≪1
18				<1

9 Fluorine — **F**

19	1/2	40.1		100

10 Neon — **Ne**

20				90
21	3/2	-3.4	102	<1
22				9

11 Sodium — **Na**

23	3/2	11.3	104	100

12 Magnesium — **Mg**

24				79
25	5/2	-2.6	199	10
26				11

13 Aluminium — **Al**

27	5/2	11.1	147	100

14 Silicon — **Si**

28				92
29	1/2	-8.5		5
30				3

15 Phosphorus — **P**

31	1/2	17.3		100

16 Sulfur — **S**

32				95
33	3/2	3.3	-68	<1
34				4
36				≪1

17 Chlorine — **Cl**

35	3/2	4.2	-82	76
37	3/2	3.5	-64	24

18 Argon — **Ar**

36				<1
38				≪1
40				100

19 Potassium — **K**

39	3/2	2.0	58	93
40	4	-2.5	-73	≪1
41	3/2	1.1	71	7

20 Calcium — **Ca**

40				97
42				<1
43	7/2	-2.9	-41	<1
44				2
46				≪1
48				<1

21 Scandium — **Sc**

45	7/2	10.4	-220	100

22 Titanium — **Ti**

46				8
47	5/2	-2.4	302	7
48				74
49	7/2	-2.4	247	5
50				5

23 Vanadium — **V**

50	6	4.3	210	<1
51	7/2	11.2	-43	100

24 Chromium — **Cr**

50				4
52				84
53	3/2	-2.4	-150	10
54				2

25 Manganese — **Mn**

55	5/2	10.5	330	100

26 Iron — **Fe**

54				6
56				92
57	1/2	1.4		2
58				<1

27 Cobalt — **Co**

59	7/2	10.1	420	100

28 Nickel — **Ni**

58				68
60				26
61	3/2	-3.8	162	1
62				4
64				<1

29 Copper — **Cu**

63	3/2	11.3	-220	69
65	3/2	12.1	-204	31

30 Zinc — **Zn**

64				49
66				28
67	5/2	2.7	150	4
68				19
70				<1

31 Gallium — **Ga**

69	3/2	10.2	171	60
71	3/2	13.0	107	40

32 Germanium — **Ge**

70				21
72				28
73	9/2	-1.5	-190	8
74				36
76				8

33 Arsenic — **As**

75	3/2	7.3	314	100

34 Selenium — **Se**

74				<1
76				9
77	1/2	8.2		8
78				24
80				50
82				9

35 Bromine — **Br**

79	3/2	10.7	313	51
81	3/2	11.5	262	49

36 Krypton — **Kr**

78				<1
80				2
82				12
83	9/2	-1.6	259	11
84				57
86				17

37 Rubidium — **Rb**

85	5/2	4.1	276	72
87	3/2	14.0	134	28

38 Strontium — **Sr**

84				<1
86				10
87	9/2	-1.9	305	7
88				83

39 Yttrium — **Y**

89	1/2	-2.1		100

40 Zirconium — **Zr**

90				51
91	5/2	-4.0	-176	11
92				17
94				17
96				3

41 Niobium — **Nb**

93	9/2	10.5	-320	100

42 Molybdenum — **Mo**

92				15
94				9
95	5/2	-2.8	-22	16
96				17
97	5/2	-2.8	255	10
98				24
100				10

43 Technetium — **Tc**

99	9/2	9.6	-129	0

44 Ruthenium — **Ru**

96				6
98				2
99	5/2	-2.0	79	13
100				13
101	5/2	-2.2	460	17
102				32
104				19

45 Rhodium — **Rh**

103	1/2	-1.3		100

46 Palladium — **Pd**

102				1
104				11
105	5/2	-2.0	660	22
106				27
108				26
110				12

47 Silver — **Ag**

107	1/2	-1.7		52
109	1/2	-2.0		48

48 Cadmium — **Cd**

106				1
108				<1
110				12
111	1/2	-9.1		13
112				24
113	1/2	-9.5		12
114				29
116				7

49 Indium — **In**

113	9/2	9.4	759	4
115	9/2	9.4	770	96

50 Tin — **Sn**

112				<1
114				<1
115	1/2	-14.0		<1
116				15
117	1/2	-15.3		8
118				24
119	1/2	-16.0		9
120				33
122				5
124				6

51 Antimony — **Sb**

121	5/2	10.3	-543	57
123	7/2	5.6	-692	43

52 Tellurium — **Te**

120				≪1
122				3
123	1/2	-11.2		<1
124				5
125	1/2	-13.5		7
126				19
128				32
130				34

53 Iodine — **I**

127	5/2	8.6	-696	100

54 Xenon — **Xe**

124				≪1
126				≪1
128				2
129	1/2	-11.9		26
130				4
131	3/2	3.5	-114	21
132				27
134				10
136				9

55 Caesium — **Cs**

133	7/2	5.6	-3	100
135	7/2	6.0	48	0

56 Barium — **Ba**

130				<1
132				<1
134				2
135	3/2	4.3	160	7
136				8
137	3/2	4.8	245	11
138				72

72 Hafnium — **Hf**

174				<1
176				5
177	7/2	1.7	3370	19
178				27
179	9/2	-1.1	3790	14
180				35

73 Tantalum — **Ta**

180	9	4.1	4800	≪1
181	7/2	5.2	3170	100

74 Tungsten — **W**

180				<1
182				26
183	1/2	1.8		14
184				31
186				28

75 Rhenium — **Re**

185	5/2	9.7	2180	37
187	5/2	9.8	2070	63

76 Osmium — **Os**

184				≪1
186				2
187	1/2	1.0		2
188				13
189	3/2	3.4	860	16
190				26
192				41

77 Iridium — **Ir**

191	3/2	0.8	816	37
193	3/2	0.8	751	63

78 Platinum — **Pt**

190				≪1
192				<1
194				33
195	1/2	9.3		34
196				25
198				7

79 Gold — **Au**

197	3/2	0.7	547	100

80 Mercury — **Hg**

196				<1
198				10
199	1/2	7.7		17
200				23
201	3/2	-2.8	387	13
202				30
204				7

81 Thallium — **Tl**

203	1/2	24.7		30
205	1/2	25.0		70

82 Lead — **Pb**

204				1
206				24
207	1/2	9.0		22
208				52

83 Bismuth — **Bi**

209	9/2	7.0	-516	100

84 Polonium — **Po**

209	1/2	11.4		0

85 Astatine — **At**

86 Radon — **Rn**

87 Francium — **Fr**

88 Radium — **Ra**

104 Rutherfordium — **Rf**

105 Dubnium — **Db**

106 Seaborgium — **Sg**

107 Bohrium — **Bh**

108 Hassium — **Hs**

109 Meitnerium — **Mt**

110 Darmstadtium — **Ds**

111 Roentgenium — **Rg**

112 Copernicium — **Cn**

113 Nihonium — **Nh**

114 Flerovium — **Fl**

115 Moscovium — **Mc**

116 Livermorium — **Lv**

117 Tennessine — **Ts**

118 Oganesson — **Og**

Electron — γ_e

1/2	28025.0

Neutron — γ_n

1/2	-29.2

57 Lanthanum — **La**

138	5	5.7	390	≪1
139	7/2	6.1	200	100

58 Cerium — **Ce**

136				<1
138				<1
140				88
142				11

59 Praseodymium — **Pr**

141	5/2	13.0	-77	100

60 Neodymium — **Nd**

142				27
143	7/2	-2.3	-610	12
144				24
145	7/2	-1.4	-314	8
146				17
148				6
150				6

61 Promethium — **Pm**

147	7/2	5.6	740	0

62 Samarium — **Sm**

144				3
147	7/2	-1.8	-260	15
148				11
149	7/2	-1.5	78	14
150				7
152				27
154				23

63 Europium — **Eu**

151	5/2	10.6	903	48
153	5/2	4.7	2410	52
155	5/2	4.6	2500	0

64 Gadolinium — **Gd**

152				<1
154				2
155	3/2	-1.3	1270	15
156				20
157	3/2	-1.7	1350	16
158				25
160				22

65 Terbium — **Tb**

159	3/2	10.2	1432	100

66 Dysprosium — **Dy**

156				≪1
158				<1
160				2
161	5/2	-1.5	2510	19
162				26
163	5/2	2.1	2650	25
164				28

67 Holmium — **Ho**

165	7/2	12.7	3580	100

68 Erbium — **Er**

162				<1
164				2
166				34
167	7/2	-1.2	3570	23
168				27
170				15

69 Thulium — **Tm**

169	1/2	-3.5		100

70 Ytterbium — **Yb**

168				<1
170				3
171	1/2	7.5		14
172				22
173	5/2	-2.0	2800	16
174				32
176				13

71 Lutetium — **Lu**

174	1	15.2	773	0
175	7/2	4.9	3490	97
176	7	3.4	4920	3

89 Actinium — **Ac**

227	3/2	5.6	1700	0

90 Thorium — **Th**

229	5/2	1.4	4300	0
232				100

91 Protactinium — **Pa**

231	3/2	10.2	-1700	100

92 Uranium — **U**

234				≪1
235	7/2	-0.8	4936	<1
238				99

93 Neptunium — **Np**

237	5/2	9.6	3870	0

94 Plutonium — **Pu**

239	1/2	3.1		0

95 Americium — **Am**

243	5/2	4.6	2860	0

96 Curium — **Cm**

97 Berkelium — **Bk**

98 Californium — **Cf**

99 Einsteinium — **Es**

100 Fermium — **Fm**

101 Mendelevium — **Md**

102 Nobelium — **No**

103 Lawrencium — **Lr**