

NMR Periodic Table

H 12 1/2 400 61.40 5.7x10³ 8.2x10⁻³ 99.98 0.02 - 2.8x10⁻³ Li 67 3/2 58.87 155.46 3.6 1.5x10³ 7.42 92.58 -8x10⁻⁴ -4x10⁻² Be 9 -3/2 56.22 79 100 5.3x10⁻² Na 23 3/2 105.86 5.3x10² 100 0.1 Mg 25 -5/2 24.50 1.54 10.13 0.22 Atom Mass number Spin Res. freq. @ 9.4T (MHz) Overall sensitivity (¹³C=1) Natural abundance (%) Quad. Moment (x10⁻²⁴ cm²)																		He 3 -1/2 304.73 3.3x10³ 1.3x10⁻⁴ - B 1011 3/2 42.98 128.36 22 7.5x10² 19.58 80.42 8.5x10⁻² 4.1x10⁻² C 1315 1/2 100.58 1.0 1.08 - N 1415 -1/2 28.91 40.54 5.7 2.2x10⁻² 99.63 0.37 1x10⁻² - O 17 -5/2 54.24 6.1x10⁻² 0.037 -2.6x10⁻² F 19 1/2 376.38 4.7x10³ 100 - Ne 21 -3/2 31.60 3.6x10⁻² 0.257 9x10⁻² Al 27 5/2 104.31 1.2x10³ 100 0.15 Si 29 -1/2 79.45 2.1 4.70 - P 31 1/2 161.94 3.8x10² 100 - S 33 3/2 30.72 9.8x10⁻² 0.76 -5.5x10⁻² Cl 3537 3/23/2 39.2432.66 20.23.78 75.5324.47 -0.1-7.9x10⁻³ Ar 39 -7/2 26.4 - - -																	
3941 3/23/2 18.6910.26 2.693.3x10⁻² 93.16.88 4.9x10⁻²6.0x10⁻² Ca 43 -7/2 26.95 4.9x10⁻² 0.145 -4.9x10⁻² Sc 45 7/2 97.31 1.7x10⁻³ 100 -0.22 Ti 4749 5/2-7/2 22.5822.59 0.8671.18 7.285.51 0.290.24 V 5051 67/2 39.95105.34 0.762.2x10⁻³ 0.2499.76 0.21-5x10⁻² Cr 53 -3/2 22.60 0.49 9.55 -3.8x10⁻² Mn 55 5/2 98.8 1x10⁻³ 100 0.11 Fe 57 1/2 12.95 4.2x10⁻³ 2.19 - Co 59 7/2 94.44 1.6x10⁻³ 100 0.38 Ni 61 -3/2 35.80 0.23 1.19 0.16 Cu 6365 3/23/2 106.12113.68 3.7x10⁻²2.0x10⁻² 69.0930.91 -0.211-0.195 Zn 67 5/2 25.07 0.67 4.11 0.16 Ga 6971 3/23/2 96.18122.20 2.4x10⁻²3.2x10⁻² 60.439.6 0.190.12 Ge 73 -9/2 13.99 0.62 7.76 -0.18 As 75 3/2 68.72 1.4x10⁻² 100 0.29 Se 77 1/2 76.29 3.01 7.58 - Br 7981 3/23/2 100.52108.36 2.3x10⁻²2.8x10⁻² 50.549.46 0.370.31 Kr 83 -9/2 15.44 1.24 11.55 0.26																																			
8587 5/23/2 38.74131.29 43.42.8x10⁻² 72.1527.85 0.260.13 Sr 87 -9/2 17.40 1.08 7.02 0.3 Y 89 -1/2 19.67 0.675 100 - Zr 91 -5/2 37.32 6.04 11.23 -0.12 Nb 93 9/2 98.16 2.8x10⁻³ 100 -0.22 Mo 9597 5/2-5/2 26.1726.72 2.921.87 15.729.46 0.0110.13 Tc 99 9/2 90.4 - 0.3 - Ru 99101 -5/2-5/2 18.4620.68 0.831.56 12.7217.07 7.6x10⁻²0.44 Rh 103 -1/2 12.69 0.18 100 - Pd 105 -5/2 18.4 1.43 22.23 0.8 Ag 107109 -1/2-1/2 16.1918.62 0.1970.279 51.8248.18 - Cd 111113 -1/2-1/2 84.8688.77 6.977.67 12.7512.26 - In 113115 9/29/2 87.8987.66 851.9x10⁻³ 4.2895.72 0.820.83 Sn 117119 -1/2-1/2 142.53149.16 851.9x10⁻³ 19.825.6 - Sb 121123 5/27/2 96.2252.10 5.3x10⁻²1.1x10⁻² 57.2542.75 -0.28-0.36 Te 123125 -1/2-1/2 105.4126.0 0.90312.7 0.876.99 - I 127 5/2 80.47 5.4x10⁻² 100 -0.79 Xe 129131 1/23/2 111.2432.98 32.33.37 26.4421.18 -																																			
133 7/2 52.75 2.7x10⁻² 100 -3x10⁻³ Ba 135137 3/23/2 39.9444.68 1.864.47 6.5911.32 0.180.28 La 138139 57/2 53.1856.84 0.4813.4x10⁻² 0.0999.91 0.510.22 Hf 177179 7/2-9/2 16.1710.16 1.460.42 18.513.75 4.55.1 Ta 181 7/2 48.0 2.1x10⁻² 99.99 3 W 183 1/2 16.65 6.0x10⁻² 14.4 - Re 185187 5/25/2 90.8891.76 2.9x10⁻²5x10⁻² 37.0762.93 2.32.2 Os 185187 1/23/2 9.1331.34 1.1x10⁻³2.2 1.6416.1 -0.8 Ir 191193 3/23/2 6.947.56 5.5x10⁻²0.12 37.362.7 1.11.0 Pt 195 1/2 96.56 19.2 33.8 - Au 197 3/2 6.94 0.147 100 0.59 Hg 199201 1/2-3/2 71.6426.58 5.571.10 16.8413.22 -0.44 Tl 203205 1/21/2 230.8230.54 3.2x10⁻²7.9x10⁻² 29.5070.50 - Pb 207 1/2 83.68 11.4 22.6 - Bi 209 9/2 64.92 8.0x10⁻² 100 -0.38 Po 209 9/2 64.92 8.0x10⁻² 100 -0.38 At 209 9/2 64.92 8.0x10⁻² 100 -0.38 Rn 209 9/2 64.92 8.0x10⁻² 100 -0.38																																			

¹⁵N ~ ³¹P CP/MAS probe

Ce 139 3/2 43.45	Pr 141 5/2 117.6 1.6x10³ 100 -4x10²	Nd 143145 -7/2-7/2 21.7513.36 2.430.393 12.178.3 -0.56-0.25	Pm 147 7/2 54.04 0.67 - -	Sm 147149 -7/2-7/2 16.5213.16 1.280.605 14.9713.83 -0.185.6x10³	Eu 151153 5/25/2 99.1843.81 4.6x10²45.7 47.4252.18 1.142.9	Gd 155157 -3/2-3/2 15.218.8 0.1240.292 14.7315.68 1.61.92	Tb 159 3/2 96.15 3.9x10² 100 1.34	Dy 161163 -5/25/2 13.218.8 0.5091.79 18.8824.97 2.382.51	Ho 165 7/2 85.38 1.2x10³ 100 3.49	Er 167 -7/2 11.56 0.665 22.94 2.83	Tm 169 -1/2 33.08 3.21 100 -	Yb 171173 -1/2-5/2 70.4419.41 4.441.23 14.3116.08 -2.8	Lu 175177 7/27 45.632.39 1.7x10³5.83 2.5918.50 3.468.1
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