

(1) General overview: Practicability of spin 1/2 nuclei

Classification of spin- $\frac{1}{2}$ nuclei according to natural abundance^a and magnetic strength^a

		Natural abundance		
		High (> 90%)	Medium	Low (< 10%)
Magnetic strength	Strong	^1H , ^{19}F , ^{31}P	(^{203}Tl) , ^{205}Tl	^3He
	Medium		(^{111}Cd) , ^{113}Cd , ^{129}Xe , ^{171}Yb , ^{195}Pt , ^{199}Hg , ^{207}Pb	^{13}C , ^{15}N , ^{29}Si , ^{77}Se , (^{115}Sn) , (^{117}Sn) , ^{119}Sn , (^{123}Te) , ^{125}Te
	Weak	^{89}Y , ^{103}Rh , ^{169}Tm	(^{107}Ag) , ^{109}Ag , ^{183}W	^{57}Fe , ^{187}Os

^a See the definitions in the text. The less favourable nuclei for a given element are listed in brackets. Tritium is a strong nuclide but is radioactive (negligible natural abundance).

Lit.: Harris, *NMR and the Periodic Table*, 1978 (AP)

(1) General overview: Practicability of quadrupolar nuclei

Classification of quadrupolar nuclei according to natural abundance^a and magnetic strength^a

		Natural abundance		
		High (> 90%)	Medium	Low (< 10%)
Magnetic strength	Strong	⁷ Li		
	Medium	⁹ Be, ²³ Na, ²⁷ Al, ⁴⁵ Sc, ⁵¹ V, ⁵⁵ Mn, ⁵⁹ Co, ⁷⁵ As, ⁹³ Nb, ¹¹⁵ In, ¹²⁷ I, ¹³³ Cs, ¹⁸¹ Ta, ²⁰⁹ Bi	(¹⁰ B), ¹¹ B, ³⁵ Cl, ⁶³ Cu, ⁶⁵ Cu, (⁶⁹ Ga), ⁷¹ Ga, (⁷⁹ Br), ⁸¹ Br, (⁸⁵ Rb), ⁸⁷ Rb, ¹²¹ Sb, (¹²³ Sb), ¹³⁷ Ba, ¹³⁹ La, (¹⁸⁵ Re), ¹⁸⁷ Re	² H, ⁶ Li, ¹⁷ O, ²¹ Ne, (¹¹³ In), (¹³⁵ Ba)
	Weak	¹⁴ N, ³⁹ K	²⁵ Mg, ³⁷ Cl, ⁸³ Kr, ⁹⁵ Mo, ¹³¹ Xe, ¹⁸⁹ Os, ²⁰¹ Hg	³³ S, (⁴¹ K), ⁴³ Ca, ⁴⁷ Ti, ⁴⁹ Ti, ⁵³ Cr, ⁶⁷ Zn, ⁷³ Ge, ⁸⁷ Sr, (⁹⁷ Mo)

^a See the definitions in the text. The less favourable nuclei (where the choice is clear-cut) for a given element are listed in brackets. Technetium-99 is a nucleus of moderate magnetic strength, but it is radioactive (negligible natural abundance).

Lit.: Harris, *NMR and the Periodic Table*, 1978 (AP)