CHEMICAL SHIFT REFERENCE AND STANDARD SAMPLE

Nuclide	Reference (0ppm)	Secondary standard material	Shift* /ppm
^{1}H	Tetramethlsilane(TMS)	benzene $CHCl_3$ H_2O adamantane $Si(SiMe_3)_4$ Silicone rubber（spinning≧2.5kHz）	6.771（0.005） 7.392（0.005） 4.877（0.005） 1.91（0.01） 0.247（0.011） 0.119(0.003)
^{2}H	D_2O	D_2O	0
^{7}Li	1.0M LiCl aqueous-solution	LiCl LiBr	-1.19(0.03) -2.04(0.03)
^{11}B	$(C_2H_5)_2O \cdot BF_3$	H_3BO_3 saturated-solution BPO_4 $NaBH_4$	19.49(0.02) *3 -3.60(0.03) -42.06(0.02)
^{13}C	Tetramethylsilane(TMS)	Benzene $CHCl_3$ adamantane Glycine Hexamethylbenzene Silicone rubber(spinning≧3.0kHz) $Si(SiMe_3)_4$	128.475(0.005) 77.966(0.005) 38.520(0.005) 29.472(0.004) 176.46(0.02) 43.67(0.01) 132.07(0.04) 17.17(0.02) 1.412(0.004) 3.517(0.005)
^{15}N	nitromethane	$HCONH_2$ $^{15}NH_4Cl$ NH_4Cl(10 at.%^{15}N)	-266.712(0.004) -341.168(0.011) -341.168(0.011)
^{23}Na	1.0M NaCl aqueous-solution	NaCl NaBr NaI $NaBH_4$	7.21(0.03) 5.04(0.02) -3.25(0.06) -8.16(0.02)
^{27}Al	1.0M $Al(NO_3)_3$ aqueous solution	1.0M $AlCl_3$ aqueous solution $AlK(SO_4)_2 \cdot 12H_2O$ $AlNH4(SO_4)_2 \cdot 12H_2O$	-0.10(0.01) -0.21(0.02) -0.54(0.02)

Nuclide	Reference (0ppm)	Secondary standard material	Shift* /ppm
^{29}Si	Tetramethylsilane(TMS)	Hexamethylsiloxane 3-(trimethylsilyl) propionic acid-d1 sodium salt. 3-(trimethylsilyl) propionic acid sodium salt 3-(trimethylsilyl)propane-1-sluphonic acid sodium salt (4.4-dimatyl-4-silapentanesulphonic acid sodium salt) $Si(SiMe_3)_4$ Hexamethyl trisiloxane Silicone rubber(spinning≧2.0kHz）	6.679(0.004) 1.445*1(0.012) 1.459*1(0.012) 1.534*1(0.012) - 9.843(0.006) -135.402(0.007) -9.66(0.05) -22.333(0.008)
^{31}P	85% H_3PO_4 aqueous-solution	$(NH_4)H_2PO_4$ $(NH_4)H_2PO_4$	1.33(0.02) 1.00(0.03)
^{35}Cl	KCl（solid）	76. 0M NaCl aqueous-solution NaCl KCl	-3.90(0.02) ST*3 -49.73(0.03) 0
^{39}K	1.0M KCl aqueous-solution	KCl KBr KI	47.8(0.1) ST*3 55.1(0.1) ST*3 59.3(0.1) ST*3
^{51}V	VO_3Cl	0.16M $NaVO_3$ aqueous-solution	-574.28(0.05) ST*3
^{59}Co	$K_3Co(CN)_6$ saturated aqueous solution	$K_3Co(CN)_6$ saturated aqueous-solution	0 ST*3
^{63}Cu	CuCl（solid）	CuCl	0
^{65}Cu	CuCl（solid）	CuCl	0
^{77}Se	$Se(CH_3)_2$	$(NH_4)_2SeO_4$ Na_2SeO_4 K_2SeO_4	1040.20(0.01) 1059.18(0.02) 1052.79(0.03)
^{79}Br	KBr(solid)	76. 0M KBr aqueous-solution NaBr KBr	-42.7(0.1) ST*3 -52.89(0.08) 0
^{87}Rb	1.0M RbCl aqueous-solution	RbCl	123.43(0.06)
^{119}Sn	Tetramethyltin	SnO_2 $Na_2SnO_3 \cdot 3H_2O$ $K_2SnO_3 \cdot 3H_2O$	-602.77(0.02) -563.78(0.03) -569.11(0.02)

Nuclide	Reference (0ppm)	Secondary standard material	Shift* /ppm
^{125}Te	$(CH_3)_2Te$	76. 0M K_2TeO_3 aqueous-solution $Te(OH)_6$	1736.6(0.1) ST*3 692.20(0,10) 685.53(0.13)
^{127}I	KI(solid)	76. 0M KI aqueous solution NaI KI PbI	-168.7(0.6) ST*3 33.53(0.23) 0 76.91(0.12)
^{133}Cs	1.0M CsCl aqueous solution	CsCl	218.52(0.14)
^{195}Pt	Tetramethylsilane (TMS) (1H x 0.214)	0.9M H_2PtCl_6 10% HCl aqueous solution (294K) $(NH_4)_2PtCl_6$ (300K) K_2PtCI_6 (300K)	4521.1(0.2) ST*3 4737.3*1（0.2） 4704.8*1(0.2)

*1: Express the peak position measured using the instrument with 400MHz for ^1H resonance frequency. Shift correction accompanied with second order quadrupolar interaction has not been carried out. The numerical value in parentheses expresses the error range.

*3: The value attached ST obtains without MAS. Even if ST is not indicated as to the value in liquid, the value is obtained under MAS.

*4: Although it is a spectrum with fine structure, it expresses the position of a central peak.

The above "Chemical shift reference and standard sample" is referred from "Solid NMR of material seen in chart" issued 1993.