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N-Li(1)-Si(1)#1	118.8(4)	Li(2)-Li(1)-Si(1)#1	73.5(2)
Si(1)-Li(1)-Si(1)#1	147.0(4)	O(1)-Li(1)-Si(2)#1	104.71(12)
O(1)#1-Li(1)-Si(2)#1	113.58(11)	N#1-Li(1)-Si(2)#1	27.64(12)
N-Li(1)-Si(2)#1	106.7(4)	Li(2)-Li(1)-Si(2)#1	60.53(18)
Si(1)-Li(1)-Si(2)#1	104.1(2)	Si(1)#1-Li(1)-Si(2)#1	58.46(11)
O(1)-Li(1)-Si(2)	113.58(11)	O(1)#1-Li(1)-Si(2)	104.71(12)
N#1-Li(1)-Si(2)	106.7(4)	N-Li(1)-Si(2)	27.64(12)
Li(2)-Li(1)-Si(2)	60.53(18)	Si(1)-Li(1)-Si(2)	58.46(11)
Si(1)#1-Li(1)-Si(2)	104.1(2)	Si(2)#1-Li(1)-Si(2)	121.1(4)
O(2)-Li(2)-O(2)#1	101.2(6)	O(2)-Li(2)-N#1	128.93(15)
O(2)#1-Li(2)-N#1	98.03(15)	O(2)-Li(2)-N	98.03(15)
O(2)#1-Li(2)-N	128.93(15)	N#1-Li(2)-N	105.6(6)
O(2)-Li(2)-Li(1)	129.4(3)	O(2)#1-Li(2)-Li(1)	129.4(3)
N#1-Li(2)-Li(1)	52.8(3)	N-Li(2)-Li(1)	52.8(3)
O(2)-Li(2)-C(9)#1	127.4(5)	O(2)#1-Li(2)-C(9)#1	29.24(15)
N#1-Li(2)-C(9)#1	71.30(16)	N-Li(2)-C(9)#1	125.0(2)
Li(1)-Li(2)-C(9)#1	102.0(3)	O(2)-Li(2)-C(9)	29.24(15)
O(2)#1-Li(2)-C(9)	127.4(5)	N#1-Li(2)-C(9)	124.9(2)
N-Li(2)-C(9)	71.30(16)	Li(1)-Li(2)-C(9)	102.0(3)
C(9)#1-Li(2)-C(9)	155.9(5)	O(2)-Li(2)-Si(2)#1	143.3(3)
O(2)#1-Li(2)-Si(2)#1	66.14(11)	N#1-Li(2)-Si(2)#1	33.75(11)
N-Li(2)-Si(2)#1	116.9(4)	Li(1)-Li(2)-Si(2)#1	71.8(2)
C(9)#1-Li(2)-Si(2)#1	37.89(12)	C(9)-Li(2)-Si(2)#1	156.88(17)
O(2)-Li(2)-Si(2)	66.14(11)	O(2)#1-Li(2)-Si(2)	143.3(3)
N#1-Li(2)-Si(2)	116.9(4)	N-Li(2)-Si(2)	33.75(11)
Li(1)-Li(2)-Si(2)	71.8(2)	C(9)#1-Li(2)-Si(2)	156.88(17)
C(9)-Li(2)-Si(2)	37.89(12)	Si(2)#1-Li(2)-Si(2)	143.5(4)

Symmetry transformations used to generate equivalent atoms:

#1 -x+1/2,y,-z

Table 4. Anisotropic displacement parameters [$Å^2$ x 10^3] for **9** .
The anisotropic displacement factor exponent takes the form: $-2\pi^2$ [$(ha^*)^2U_{11}$ + ... + $2hka^*b^*U_{12}$]

	U11	U22	U33	U23	U13	U12
Si(1)	39(1)	58(1)	50(1)	4(1)	0(1)	-2(1)
Si(2)	54(1)	57(1)	51(1)	2(1)	24(1)	4(1)
N	35(2)	53(2)	42(2)	8(2)	10(2)	4(2)
C(3)	42(3)	58(4)	45(3)	3(3)	6(3)	2(3)
C(5)	78(4)	64(4)	58(4)	17(3)	9(3)	0(4)
C(6)	61(4)	53(4)	98(5)	8(4)	17(4)	-11(3)
C(7)	70(5)	110(5)	102(5)	27(4)	48(4)	15(4)
C(8)	137(6)	76(4)	61(4)	-11(3)	41(4)	5(4)
C(11)	89(5)	83(5)	77(5)	35(4)	22(4)	10(4)
C(9)	57(4)	59(3)	48(3)	1(3)	24(3)	-1(3)
C(12)	69(4)	58(4)	102(6)	23(4)	30(4)	18(4)
C(2)	47(4)	121(6)	110(6)	40(5)	3(4)	5(4)
O(2)	73(3)	62(2)	59(2)	13(2)	35(2)	15(2)
O(1)	47(2)	60(2)	71(3)	21(2)	-7(2)	-10(2)
C(1)	112(5)	65(4)	59(4)	-4(3)	-24(4)	-11(4)
C(4)	76(4)	78(5)	42(3)	12(3)	-4(3)	-9(4)
C(10)	103(5)	80(5)	53(4)	19(3)	33(4)	20(4)
Li(1)	55(8)	54(7)	35(6)	0	-2(6)	0
Li(2)	52(7)	56(7)	30(6)	0	12(5)	0

Table 1. Crystal data ,data collection and structure refinement for 7

Empirical formula	$C_{32}H_{44}Li2N2O_4Si_4$
Formula weight	646.94
Crystal system	triklin
Space group	P-1
Unit cell dimensions	a = 12.366(2) Å α = 71.74(3)°
	b = 13.262(3) Å β = 72.99(3)°
	c = 14.059(3) Å γ = 65.34(3)°
Volume	1954.6(7) $Å^3$
Z	2
Density (calculated)	1.099 Mg/m^3
Absorption coefficient	0.185 mm^{-1}
F(000)	688
Crystal size	0.1 x 0.5 x 0.2 mm
Diffractometer used	Stoe/IPDS
Measurement method	direct
Temperature	293(2) K
Wavelength	0.71073 Å
Monochromator	graphite
θ range for data collection	1.84 to 24.15°
Index ranges	$-14 \leq h \leq 14$, $-15 \leq k \leq 15$,
	$-16 \leq \ell \leq 16$
Reflections collected	15440
Independent reflections	5775 (R_{int} = 0.0468)
Observed refection	3945 (I>2sigma(I))

Programs used	SHELXS-97 (Sheldrick, 1990), SHELXL-97 (Sheldrick, 1997)
Refinement method	Full-matrix least-squares on F^2
Data / restraints / parameters	5775 / 0 / 397
Goodness-of-fit on F^2	0.965
Final R indices [$I>2\sigma(I)$]	R1 = 0.0404, wR2 = 0.1017
R indices (all data)	R1 = 0.0631, wR2 = 0.1105
Hydrogen atoms	geom
Largest diff. peak and hole	0.188 and -0.127 $e\text{Å}^{-3}$

Table 2. Atomic coordinates [x 10^4] and equivalent isotropic displacement parameters [$Å^2$ x 10^3] for 7. U(eq) is defined as one third of the trace of the orthogonalized U_{ij} tensor

	x	y	z	U(eq)
Si(1)	2386(1)	6229(1)	6161(1)	77(1)
Si(2)	2644(1)	8535(1)	5402(1)	84(1)
Si(3)	3354(1)	7465(1)	8911(1)	58(1)
Si(4)	707(1)	7658(1)	9279(1)	60(1)
Li(1)	3168(4)	6531(4)	7577(3)	72(1)
Li(2)	1438(4)	8447(4)	7310(3)	71(1)
N(1)	2433(2)	7422(2)	6277(1)	72(1)
N(2)	2116(2)	7488(2)	8649(1)	61(1)
O(1)	3097(2)	5286(2)	7129(1)	85(1)
O(2)	1969(2)	9527(2)	6127(1)	88(1)
O(3)	4422(1)	6615(1)	8126(1)	72(1)
O(4)	-67(1)	8619(1)	8346(1)	69(1)
C(1)	3249(4)	5775(4)	4945(3)	142(2)
C(2)	871(3)	6155(3)	6424(3)	125(1)
C(3)	4251(3)	8407(4)	4938(3)	149(2)
C(4)	1810(4)	9062(4)	4328(3)	147(2)
C(5)	3614(3)	6787(3)	10237(2)	95(1)
C(6)	3569(3)	8849(2)	8490(2)	90(1)
C(7)	275(3)	6396(2)	9618(2)	88(1)
C(8)	181(3)	8287(3)	10414(2)	95(1)
C(9)	3112(2)	4209(2)	7650(2)	76(1)
C(10)	3262(3)	3841(3)	8642(2)	85(1)
C(11)	3289(3)	2781(3)	9187(2)	98(1)
C(12)	3158(3)	2059(3)	8758(3)	100(1)
C(13)	3015(3)	2405(3)	7785(3)	118(1)
C(14)	2995(4)	3476(3)	7208(3)	115(1)
C(15)	5662(2)	6150(2)	7977(2)	63(1)
C(16)	6347(2)	6356(2)	8463(2)	81(1)
C(17)	7587(3)	5841(2)	8299(2)	90(1)
C(18)	8162(3)	5131(3)	7647(2)	94(1)
C(19)	7490(3)	4933(3)	7153(2)	98(1)
C(20)	6247(2)	5438(2)	7315(2)	80(1)
C(21)	1751(3)	10666(2)	5912(2)	82(1)
C(22)	2295(4)	11220(3)	5034(3)	135(1)
C(23)	2048(5)	12369(4)	4868(4)	153(2)
C(24)	1261(6)	12970(4)	5551(5)	150(2)
C(25)	698(5)	12423(4)	6417(4)	154(2)
C(26)	951(3)	11269(3)	6595(2)	113(1)
C(27)	-1300(2)	9059(2)	8362(2)	64(1)
C(28)	-1802(2)	8535(2)	8000(2)	75(1)
C(29)	-3014(3)	8991(3)	7970(2)	90(1)
C(30)	-3738(3)	9958(3)	8306(3)	103(1)
C(31)	-3254(3)	10485(3)	8659(3)	114(1)
C(32)	-2024(3)	10033(2)	8690(2)	94(1)

Table 4. Bond lengths [Å] and angles [°] for 7 .

Si(1)-N(1)	1.668(2)	Si(1)-O(1)	1.705(2)
Si(1)-C(2)	1.838(3)	Si(1)-C(1)	1.861(3)
Si(1)-Li(1)	2.649(4)	Si(2)-N(1)	1.661(2)
Si(2)-O(2)	1.701(2)	Si(2)-C(3)	1.853(4)
Si(2)-C(4)	1.865(4)	Si(2)-Li(2)	2.654(4)
Si(3)-N(2)	1.663(2)	Si(3)-O(3)	1.708(2)
Si(3)-C(6)	1.850(3)	Si(3)-C(5)	1.857(3)
Si(3)-Li(1)	2.655(4)	Si(4)-N(2)	1.662(2)
Si(4)-O(4)	1.712(2)	Si(4)-C(7)	1.847(3)
Si(4)-C(8)	1.854(3)	Si(4)-Li(2)	2.662(4)
Li(1)-O(3)	1.977(4)	Li(1)-O(1)	1.984(4)
Li(1)-N(2)	2.061(4)	Li(1)-N(1)	2.070(4)
Li(1)-Li(2)	2.552(6)	Li(2)-O(2)	1.976(4)
Li(2)-O(4)	1.976(4)	Li(2)-N(1)	2.065(4)
Li(2)-N(2)	2.097(4)	O(1)-C(9)	1.380(3)
O(2)-C(21)	1.367(3)	O(3)-C(15)	1.371(3)
O(4)-C(27)	1.382(3)	C(9)-C(10)	1.366(4)
C(9)-C(14)	1.379(4)	C(10)-C(11)	1.365(4)
C(11)-C(12)	1.362(4)	C(12)-C(13)	1.340(4)
C(13)-C(14)	1.392(5)	C(15)-C(20)	1.366(3)
C(15)-C(16)	1.381(3)	C(16)-C(17)	1.374(4)
C(17)-C(18)	1.354(4)	C(18)-C(19)	1.368(4)
C(19)-C(20)	1.377(4)	C(21)-C(26)	1.344(4)
C(21)-C(22)	1.369(4)	C(22)-C(23)	1.379(5)
C(23)-C(24)	1.337(6)	C(24)-C(25)	1.366(7)
C(25)-C(26)	1.381(5)	C(27)-C(32)	1.359(3)
C(27)-C(28)	1.377(3)	C(28)-C(29)	1.371(4)
C(29)-C(30)	1.359(4)	C(30)-C(31)	1.354(4)
C(31)-C(32)	1.392(4)		

N(1)-Si(1)-O(1)	99.66(9)	N(1)-Si(1)-C(2)	116.09(14)
O(1)-Si(1)-C(2)	107.0(2)	N(1)-Si(1)-C(1)	115.5(2)
O(1)-Si(1)-C(1)	108.7(2)	C(2)-Si(1)-C(1)	109.0(2)
N(1)-Si(1)-Li(1)	51.40(11)	O(1)-Si(1)-Li(1)	48.49(11)

C(2)-Si(1)-Li(1)	120.4(2)	C(1)-Si(1)-Li(1)	129.4(2)
N(1)-Si(2)-O(2)	98.98(9)	N(1)-Si(2)-C(3)	114.5(2)
O(2)-Si(2)-C(3)	107.9(2)	N(1)-Si(2)-C(4)	115.8(2)
O(2)-Si(2)-C(4)	106.6(2)	C(3)-Si(2)-C(4)	111.7(2)
N(1)-Si(2)-Li(2)	51.09(12)	O(2)-Si(2)-Li(2)	48.07(11)
C(3)-Si(2)-Li(2)	127.0(2)	C(4)-Si(2)-Li(2)	120.1(2)
N(2)-Si(3)-O(3)	98.94(8)	N(2)-Si(3)-C(6)	114.65(12)
O(3)-Si(3)-C(6)	106.90(12)	N(2)-Si(3)-C(5)	116.44(12)
O(3)-Si(3)-C(5)	108.35(12)	C(6)-Si(3)-C(5)	110.34(14)
N(2)-Si(3)-Li(1)	50.93(11)	O(3)-Si(3)-Li(1)	48.10(10)
C(6)-Si(3)-Li(1)	120.52(14)	C(5)-Si(3)-Li(1)	127.95(14)
N(2)-Si(4)-O(4)	99.30(9)	N(2)-Si(4)-C(7)	115.66(12)
O(4)-Si(4)-C(7)	106.73(11)	N(2)-Si(4)-C(8)	117.65(12)
O(4)-Si(4)-C(8)	108.18(12)	C(7)-Si(4)-C(8)	108.20(14)
N(2)-Si(4)-Li(2)	52.00(11)	O(4)-Si(4)-Li(2)	47.90(10)
C(7)-Si(4)-Li(2)	117.24(13)	C(8)-Si(4)-Li(2)	132.84(14)
O(3)-Li(1)-O(1)	131.6(2)	O(3)-Li(1)-N(2)	78.74(14)
O(1)-Li(1)-N(2)	135.4(2)	O(3)-Li(1)-N(1)	132.7(2)
O(1)-Li(1)-N(1)	78.9(2)	N(2)-Li(1)-N(1)	104.5(2)
O(3)-Li(1)-Li(2)	111.3(2)	O(1)-Li(1)-Li(2)	116.9(2)
N(2)-Li(1)-Li(2)	52.80(13)	N(1)-Li(1)-Li(2)	51.81(14)
O(3)-Li(1)-Si(1)	153.2(2)	O(1)-Li(1)-Si(1)	40.06(8)
N(2)-Li(1)-Si(1)	125.8(2)	N(1)-Li(1)-Si(1)	39.02(8)
Li(2)-Li(1)-Si(1)	81.94(14)	O(3)-Li(1)-Si(3)	40.01(8)
O(1)-Li(1)-Si(3)	154.6(2)	N(2)-Li(1)-Si(3)	38.78(8)
N(1)-Li(1)-Si(3)	125.2(2)	Li(2)-Li(1)-Si(3)	79.49(14)
Si(1)-Li(1)-Si(3)	161.4(2)	O(2)-Li(2)-O(4)	132.7(2)
O(2)-Li(2)-N(1)	78.4(2)	O(4)-Li(2)-N(1)	136.3(2)
O(2)-Li(2)-N(2)	132.3(2)	O(4)-Li(2)-N(2)	78.2(2)
N(1)-Li(2)-N(2)	103.4(2)	O(2)-Li(2)-Li(1)	110.4(2)
O(4)-Li(2)-Li(1)	116.6(2)	N(1)-Li(2)-Li(1)	51.98(14)
N(2)-Li(2)-Li(1)	51.51(13)	O(2)-Li(2)-Si(2)	39.83(9)
O(4)-Li(2)-Si(2)	152.4(2)	N(1)-Li(2)-Si(2)	38.75(9)
N(2)-Li(2)-Si(2)	127.6(2)	Li(1)-Li(2)-Si(2)	81.2(2)
O(2)-Li(2)-Si(4)	154.9(2)	O(4)-Li(2)-Si(4)	39.99(9)
N(1)-Li(2)-Si(4)	123.8(2)	N(2)-Li(2)-Si(4)	38.64(8)
Li(1)-Li(2)-Si(4)	80.7(2)	Si(2)-Li(2)-Si(4)	161.4(2)
Si(2)-N(1)-Si(1)	130.96(11)	Si(2)-N(1)-Li(2)	90.2(2)
Si(1)-N(1)-Li(2)	131.8(2)	Si(2)-N(1)-Li(1)	130.1(2)

Si(1)-N(1)-Li(1)	89.57(14)	Li(2)-N(1)-Li(1)	76.2(2)
Si(3)-N(2)-Si(4)	135.02(11)	Si(3)-N(2)-Li(1)	90.29(13)
Si(4)-N(2)-Li(1)	129.9(2)	Si(3)-N(2)-Li(2)	124.2(2)
Si(4)-N(2)-Li(2)	89.36(14)	Li(1)-N(2)-Li(2)	75.7(2)
C(9)-O(1)-Si(1)	131.7(2)	C(9)-O(1)-Li(1)	131.5(2)
Si(1)-O(1)-Li(1)	91.45(14)	C(21)-O(2)-Si(2)	132.9(2)
C(21)-O(2)-Li(2)	134.5(2)	Si(2)-O(2)-Li(2)	92.1(2)
C(15)-O(3)-Si(3)	133.13(13)	C(15)-O(3)-Li(1)	134.9(2)
Si(3)-O(3)-Li(1)	91.89(13)	C(27)-O(4)-Si(4)	128.7(2)
C(27)-O(4)-Li(2)	137.4(2)	Si(4)-O(4)-Li(2)	92.11(13)
C(10)-C(9)-C(14)	118.1(3)	C(10)-C(9)-O(1)	119.2(2)
C(14)-C(9)-O(1)	122.7(3)	C(11)-C(10)-C(9)	121.3(3)
C(12)-C(11)-C(10)	120.8(3)	C(13)-C(12)-C(11)	118.6(3)
C(12)-C(13)-C(14)	121.8(3)	C(9)-C(14)-C(13)	119.3(3)
C(20)-C(15)-O(3)	117.9(2)	C(20)-C(15)-C(16)	118.5(2)
O(3)-C(15)-C(16)	123.7(2)	C(17)-C(16)-C(15)	120.8(2)
C(18)-C(17)-C(16)	120.5(3)	C(17)-C(18)-C(19)	119.1(3)
C(18)-C(19)-C(20)	121.0(3)	C(15)-C(20)-C(19)	120.1(2)
C(26)-C(21)-O(2)	118.0(3)	C(26)-C(21)-C(22)	118.8(3)
O(2)-C(21)-C(22)	123.3(3)	C(21)-C(22)-C(23)	120.5(4)
C(24)-C(23)-C(22)	120.9(5)	C(23)-C(24)-C(25)	118.7(4)
C(24)-C(25)-C(26)	120.8(4)	C(21)-C(26)-C(25)	120.4(4)
C(32)-C(27)-C(28)	119.0(2)	C(32)-C(27)-O(4)	121.2(2)
C(28)-C(27)-O(4)	119.8(2)	C(29)-C(28)-C(27)	120.4(3)
C(30)-C(29)-C(28)	120.5(3)	C(31)-C(30)-C(29)	119.7(3)
C(30)-C(31)-C(32)	120.3(3)	C(27)-C(32)-C(31)	120.1(3)

Symmetry transformations used to generate equivalent atoms:

Table 5. Anisotropic displacement parameters [$Å^2 \times 10^3$] for 7 .
The anisotropic displacement factor exponent takes the form: $-2\pi^2 [(ha^*)^2 U_{11} + \ldots + 2hka^*b^* U_{12}]$

	U11	U22	U33	U23	U13	U12
Si(1)	81(1)	85(1)	75(1)	-33(1)	-28(1)	-20(1)
Si(2)	90(1)	91(1)	65(1)	-16(1)	-6(1)	-33(1)
Si(3)	58(1)	59(1)	67(1)	-18(1)	-17(1)	-23(1)
Si(4)	58(1)	62(1)	63(1)	-12(1)	-13(1)	-24(1)
Li(1)	72(2)	74(2)	83(2)	-25(2)	-28(2)	-22(2)
Li(2)	67(2)	75(3)	66(2)	-10(2)	-13(2)	-25(2)
N(1)	80(1)	74(1)	64(1)	-19(1)	-19(1)	-24(1)
N(2)	59(1)	68(1)	64(1)	-16(1)	-16(1)	-24(1)
O(1)	108(1)	71(1)	98(1)	-23(1)	-49(1)	-30(1)
O(2)	103(1)	70(1)	76(1)	-9(1)	0(1)	-31(1)
O(3)	53(1)	83(1)	94(1)	-43(1)	-21(1)	-15(1)
O(4)	52(1)	72(1)	73(1)	-7(1)	-14(1)	-20(1)
C(1)	167(4)	151(3)	110(2)	-77(3)	-21(2)	-28(3)
C(2)	96(2)	128(3)	185(3)	-71(3)	-48(2)	-33(2)
C(3)	109(3)	139(3)	173(4)	-45(3)	37(3)	-55(3)
C(4)	204(5)	157(4)	88(2)	13(2)	-55(3)	-82(3)
C(5)	102(2)	115(2)	84(2)	-9(2)	-39(2)	-50(2)
C(6)	82(2)	76(2)	124(2)	-26(2)	-22(2)	-36(2)
C(7)	79(2)	75(2)	110(2)	-2(2)	-26(2)	-35(2)
C(8)	93(2)	113(2)	83(2)	-36(2)	-8(2)	-35(2)
C(9)	76(2)	68(2)	95(2)	-32(1)	-28(1)	-18(1)
C(10)	91(2)	83(2)	92(2)	-28(2)	-27(2)	-27(2)
C(11)	98(2)	89(2)	102(2)	-20(2)	-20(2)	-29(2)
C(12)	84(2)	78(2)	129(3)	-23(2)	-15(2)	-25(2)
C(13)	143(3)	79(2)	157(3)	-45(2)	-45(3)	-39(2)
C(14)	168(3)	86(2)	120(2)	-34(2)	-57(2)	-44(2)
C(15)	57(1)	60(1)	74(1)	-15(1)	-18(1)	-18(1)
C(16)	62(2)	75(2)	119(2)	-38(2)	-30(1)	-17(1)
C(17)	69(2)	79(2)	133(2)	-23(2)	-36(2)	-26(2)
C(18)	57(2)	94(2)	122(2)	-28(2)	-10(2)	-19(2)
C(19)	74(2)	113(2)	101(2)	-49(2)	-4(2)	-16(2)
C(20)	69(2)	95(2)	77(2)	-35(2)	-15(1)	-19(2)
C(21)	91(2)	74(2)	79(2)	-3(1)	-28(2)	-31(2)
C(22)	160(4)	92(3)	126(3)	-3(2)	1(2)	-54(3)
C(23)	204(5)	106(3)	157(4)	23(3)	-57(4)	-86(4)
C(24)	237(6)	79(3)	165(4)	1(3)	-119(4)	-52(3)
C(25)	217(5)	90(3)	146(4)	-34(3)	-55(4)	-27(3)
C(26)	142(3)	85(2)	97(2)	-20(2)	-22(2)	-28(2)
C(27)	59(1)	63(1)	64(1)	-10(1)	-15(1)	-17(1)
C(28)	68(2)	65(2)	88(2)	-13(1)	-22(1)	-19(1)
C(29)	79(2)	88(2)	108(2)	-11(2)	-31(2)	-35(2)
C(30)	65(2)	106(2)	123(2)	-26(2)	-23(2)	-14(2)
C(31)	78(2)	105(2)	149(3)	-66(2)	-25(2)	6(2)
C(32)	81(2)	87(2)	119(2)	-48(2)	-31(2)	-10(2)