

# Supporting Information

## Insights into molecular Beryllium-Silicon bonds

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### Content

**Fig. S1 – S4:** <sup>1</sup>H, <sup>9</sup>Be, <sup>13</sup>C and <sup>29</sup>Si-NMR spectrum of **[2a]** in thf-*d*<sub>8</sub>.

**Fig. S5 – S8:** <sup>1</sup>H, <sup>9</sup>Be, <sup>13</sup>C and <sup>29</sup>Si-NMR spectrum of **[4a]** in thf-*d*<sub>8</sub>.

**Table S1-S5.** Crystallographic details of **2a – 4a**.

**Fig. S9 – S12:** ELF plots of **1b – 4b**.

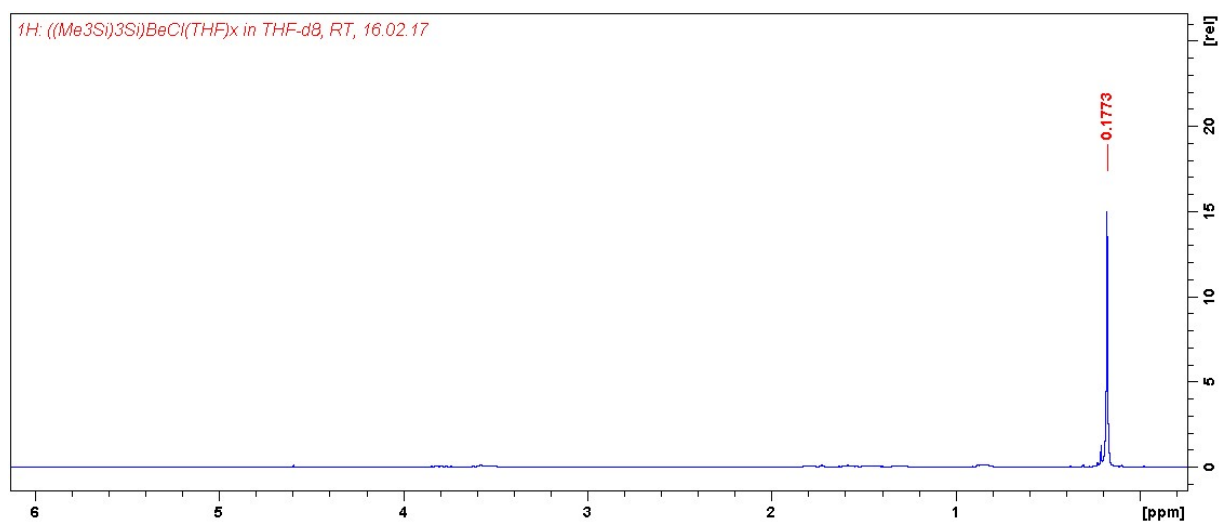
**Fig. S13 – S16:** LOL plots of **1b – 4b**.

**Fig. S17 – S20:** Gas phase structures of **1b – 4b**.

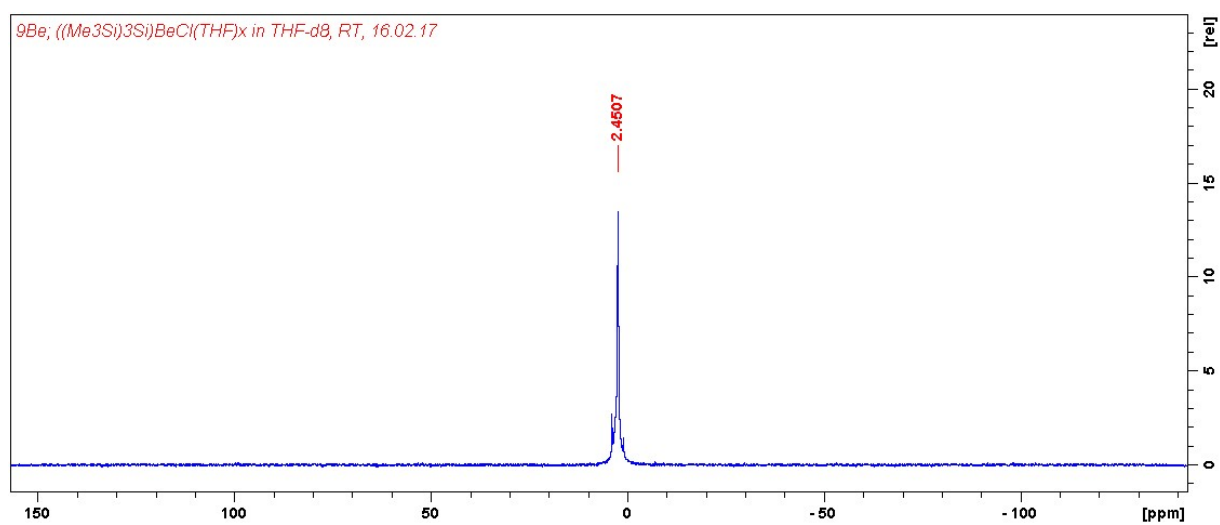
**Fig. S21 – S24:** Gas phase structures of **1c – 4c**.

**Table S6.** Computational details of **1b – 4b**.

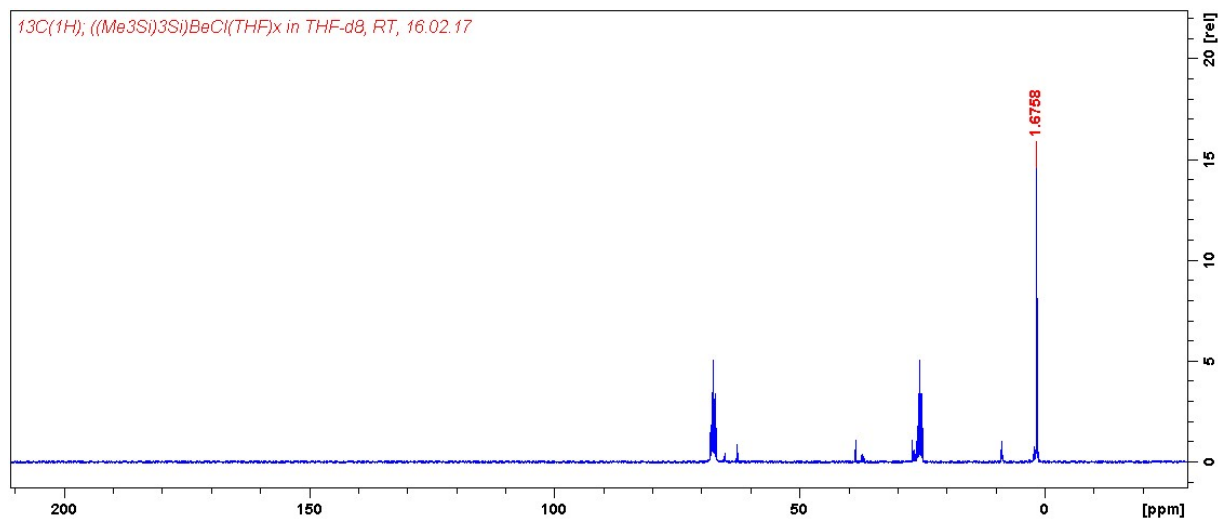
**Fig. S1.**  $^1\text{H}$  NMR spectrum of 2a in  $\text{thf-}d_8$ .



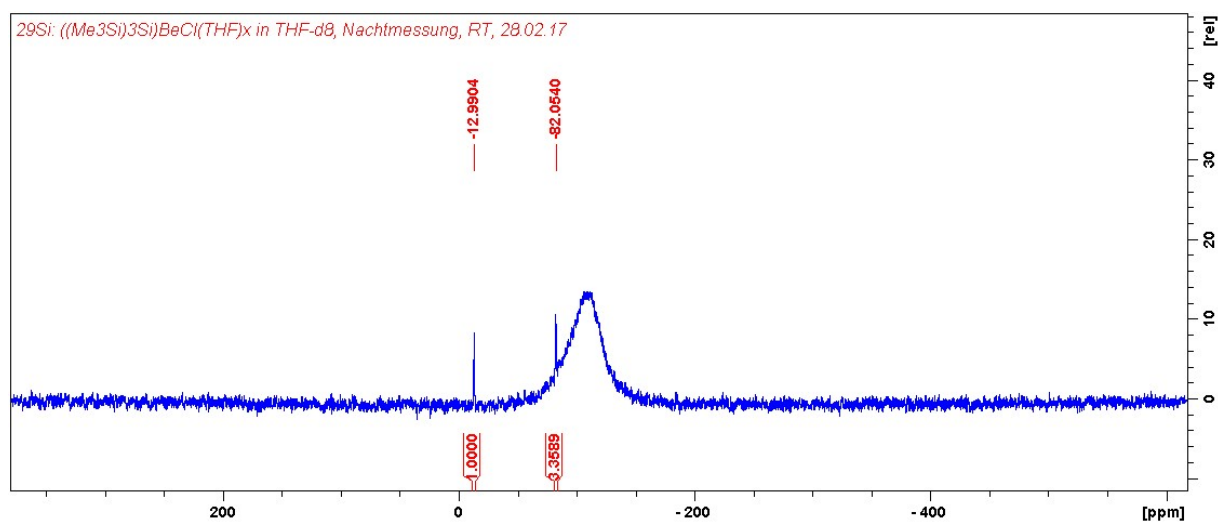
**Fig. S2.**  $^9\text{Be}$  NMR spectrum of 2a in  $\text{thf-}d_8$ .



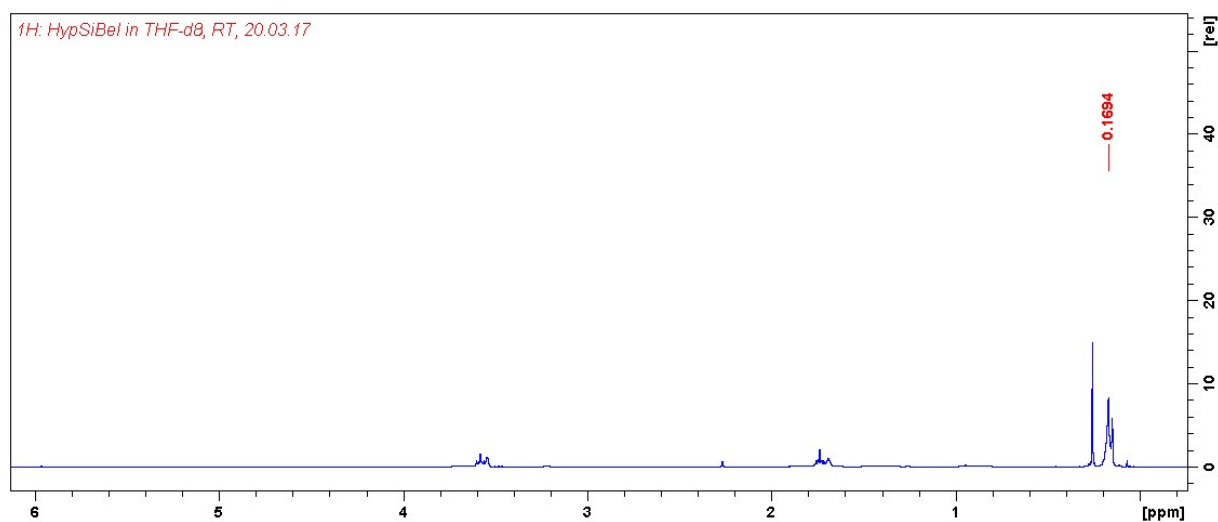
**Fig. S3.**  $^{13}\text{C}$  NMR spectrum of 2a in  $\text{thf-d}_8$ .



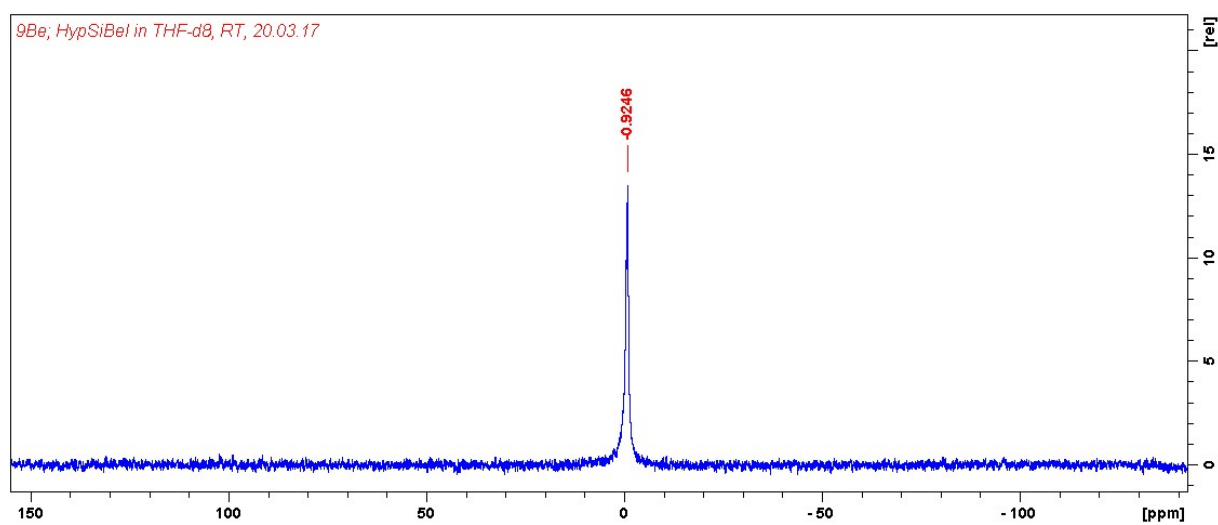
**Fig. S4.**  $^{29}\text{Si}$  NMR spectrum of 2a in  $\text{thf-d}_8$ .



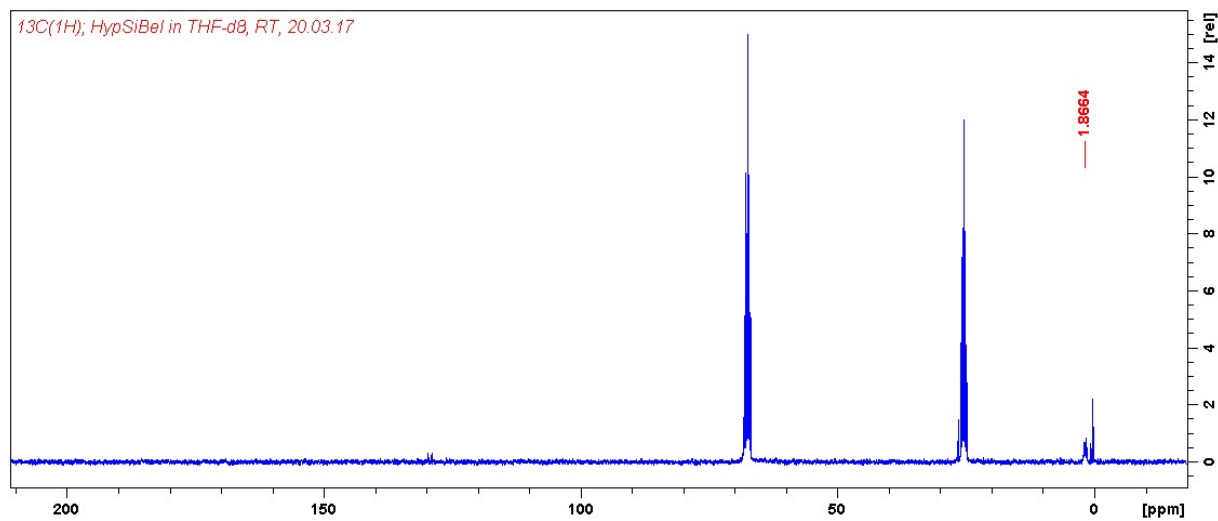
**Fig. S5.**  $^1\text{H}$  NMR spectrum of 4a in  $\text{thf-}d_8$ .



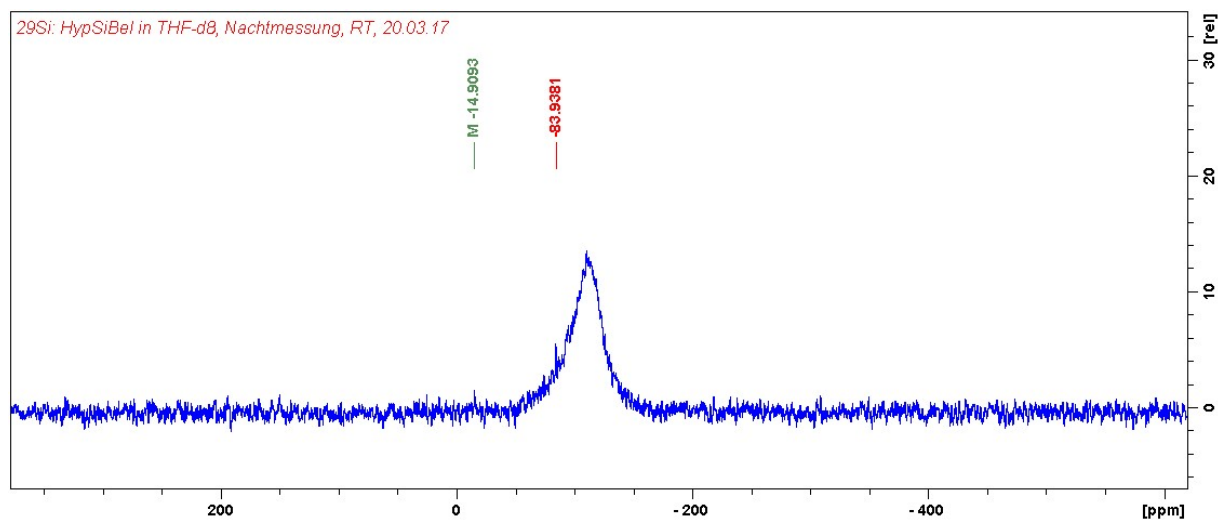
**Fig. S6.**  $^9\text{Be}$  NMR spectrum of 4a in  $\text{thf-}d_8$ .



**Fig. S7.**  $^{13}\text{C}$  NMR spectrum of 4a in  $\text{thf-}d_8$ .



**Fig. S8.**  $^{29}\text{Si}$  NMR spectrum of 4a in  $\text{thf-}d_8$ .



**Table S1. Crystallographic data of 2a**

Empirical formula	C <sub>26</sub> H <sub>70</sub> Be <sub>2</sub> Cl <sub>2</sub> O <sub>2</sub> Si <sub>8</sub>
<i>M</i>	728.46
Crystal size [mm]	0.07 × 0.05 × 0.05
<i>T</i> [K]	100(1)
Crystal system	monoclinic
Space group	<i>P</i> 2 <sub>1</sub> / <i>n</i>
<i>a</i> [Å]	10.3667(7)
<i>b</i> [Å]	18.8628(12)
<i>c</i> [Å]	11.3870(7)
$\alpha$ [°]	90
$\beta$ [°]	98.150(4)
$\gamma$ [°]	90
<i>V</i> [Å <sup>3</sup> ]	2204.2(2)
<i>Z</i>	2
<i>D</i> <sub>calc</sub> [g·cm <sup>-3</sup> ]	1.098
$\mu$ (MoK $\alpha$ [mm <sup>-1</sup> ])	0.386
Transmissions	0.75/0.67
<i>F</i> (000)	792
Index ranges	-12 ≤ <i>h</i> ≤ 9
	-21 ≤ <i>k</i> ≤ 23
	-14 ≤ <i>l</i> ≤ 14
$\theta_{\text{max}}$ [°]	26.46
Reflections collected	17848
Independent reflections	4491
<i>R</i> <sub>int</sub>	0.1159
Refined parameters	190
<i>R</i> <sub>1</sub> [ <i>I</i> > 2σ( <i>I</i> )]	0.0564
<i>wR</i> <sub>2</sub> [all data]	0.1242
$\chi$ (Flack)	
GooF	0.997
$\Delta\rho_{\text{final}}$ (max/min) [e·Å <sup>-3</sup> ]	0.451/-0.407

**Table S2: Atomic coordinates ( $\times 10^4$ ) and equivalent isotropic displacement parameters ( $\text{\AA}^2 \times 10^3$ ) for 2a.  $U_{\text{eq}}$  is defined as one third of the trace of the orthogonalized  $U_{ij}$  tensor.**

	<i>x</i>	<i>y</i>	<i>z</i>	$U_{\text{eq}}$
Cl(1)	-1058(1)	596(1)	4(1)	17(1)
Be(1)	992(4)	500(3)	300(4)	16(1)
Si(1)	1989(1)	926(1)	2028(1)	14(1)
Si(11)	2290(1)	41(1)	3479(1)	18(1)
Si(12)	708(1)	1807(1)	2739(1)	18(1)
Si(13)	4058(1)	1438(1)	2041(1)	18(1)
C(11)	3623(4)	-576(2)	3175(4)	33(1)
H(11A)	3683	-972	3736	49
H(11B)	4454	-319	3267	49
H(11C)	3429	-758	2363	49
C(12)	778(4)	-504(2)	3442(3)	27(1)
H(12A)	969	-925	3940	40
H(12B)	473	-650	2624	40
H(12C)	102	-222	3742	40
C(13)	2681(4)	376(2)	5042(3)	28(1)
H(13A)	1953	662	5241	43
H(13B)	3470	668	5114	43
H(13C)	2825	-27	5588	43
C(21)	71(4)	2425(2)	1493(4)	26(1)
H(21A)	-461	2158	864	39
H(21B)	805	2645	1175	39
H(21C)	-462	2795	1792	39
C(22)	-753(4)	1405(2)	3297(4)	27(1)
H(22A)	-1272	1780	3598	41
H(22B)	-462	1069	3937	41
H(22C)	-1287	1155	2646	41

C(23)	1594(4)	2363(2)	3968(4)	31(1)
H(23A)	2291	2629	3668	46
H(23B)	1971	2055	4620	46
H(23C)	982	2695	4255	46
C(31)	3955(4)	2336(2)	1318(4)	27(1)
H(31A)	3489	2663	1780	41
H(31B)	3486	2298	511	41
H(31C)	4836	2517	1287	41
C(32)	5158(4)	872(2)	1254(4)	29(1)
H(32A)	6030	1083	1344	43
H(32B)	4807	843	410	43
H(32C)	5210	395	1599	43
C(33)	4968(4)	1554(2)	3575(3)	27(1)
H(33A)	5117	1089	3955	40
H(33B)	4454	1849	4044	40
H(33C)	5807	1783	3528	40
O(1)	1439(2)	846(1)	-915(2)	15(1)
C(96)	2544(3)	567(2)	-1455(3)	19(1)
H(96A)	2239	231	-2103	23
H(96B)	3172	320	-855	23
C(97)	3162(3)	1210(2)	-1930(4)	23(1)
H(97A)	3573	1090	-2638	28
H(97B)	3825	1422	-1320	28
C(98)	2011(4)	1702(2)	-2245(3)	24(1)
H(98A)	2299	2201	-2284	29
H(98B)	1497	1570	-3014	29
C(99)	1235(3)	1590(2)	-1230(3)	18(1)
H(99A)	1558	1901	-551	22
H(99B)	299	1690	-1483	22



**Table S3: Anisotropic displacement parameters ( $\text{\AA}^2 \times 10^3$ ) for 2a. The anisotropic displacement factor exponent takes the form:  $-2\pi^2[h^2a^{*2}U_{11} + \dots + 2hka^*b^*U_{12}]$**

	$U_{11}$	$U_{22}$	$U_{33}$	$U_{23}$	$U_{13}$	$U_{12}$
Cl(1)	14(1)	15(1)	21(1)	-1(1)	1(1)	1(1)
Be(1)	14(2)	13(3)	20(3)	-3(2)	2(2)	0(2)
Si(1)	14(1)	14(1)	15(1)	-1(1)	2(1)	1(1)
Si(11)	18(1)	19(1)	16(1)	1(1)	-1(1)	1(1)
Si(12)	19(1)	19(1)	17(1)	-1(1)	3(1)	5(1)
Si(13)	15(1)	20(1)	20(1)	-3(1)	1(1)	-2(1)
C(11)	39(3)	28(3)	30(3)	1(2)	2(2)	13(2)
C(12)	33(2)	31(3)	15(2)	8(2)	-2(2)	-11(2)
C(13)	29(2)	38(3)	17(2)	2(2)	0(2)	-3(2)
C(21)	31(2)	18(2)	32(3)	2(2)	13(2)	10(2)
C(22)	27(2)	28(3)	29(2)	4(2)	12(2)	7(2)
C(23)	32(2)	32(3)	29(3)	-10(2)	4(2)	7(2)
C(31)	24(2)	26(3)	32(3)	-1(2)	2(2)	-5(2)
C(32)	18(2)	36(3)	32(3)	-4(2)	3(2)	3(2)
C(33)	21(2)	29(3)	28(2)	-2(2)	-3(2)	-5(2)
O(1)	16(1)	14(2)	16(1)	1(1)	5(1)	4(1)
C(96)	15(2)	22(2)	23(2)	-3(2)	9(2)	5(2)
C(97)	19(2)	26(3)	26(2)	2(2)	7(2)	0(2)
C(98)	26(2)	23(3)	25(2)	5(2)	8(2)	-8(2)
C(99)	19(2)	16(2)	19(2)	-1(2)	0(2)	-3(2)

**Table S4: Bond lengths [Å] for 2a.**

Cl(1)-Be(1)#1	2.099(5)	Si(12)-C(23)	1.881(4)
Cl(1)-Be(1)	2.112(5)	Si(12)-C(21)	1.882(4)
Be(1)-O(1)	1.654(5)	Si(12)-C(22)	1.883(4)
Be(1)-Cl(1)#1	2.099(5)	Si(13)-C(33)	1.877(4)
Be(1)-Si(1)	2.239(5)	Si(13)-C(32)	1.878(4)
Si(1)-Si(11)	2.3387(15)	Si(13)-C(31)	1.881(4)
Si(1)-Si(12)	2.3419(14)	O(1)-C(99)	1.458(4)
Si(1)-Si(13)	2.3499(14)	O(1)-C(96)	1.471(4)
Si(11)-C(12)	1.869(4)	C(96)-C(97)	1.507(5)
Si(11)-C(11)	1.876(4)	C(97)-C(98)	1.515(5)
Si(11)-C(13)	1.879(4)	C(98)-C(99)	1.514(5)

#1 -x,-y,-z

**Table S5: Bond angles [°] for 2a.**

Be(1)#1-Cl(1)-Be(1)	83.5(2)	C(23)-Si(12)-C(21)	107.3(2)
O(1)-Be(1)-Cl(1)#1	103.3(2)	C(23)-Si(12)-C(22)	107.80(19)
O(1)-Be(1)-Cl(1)	103.2(2)	C(21)-Si(12)-C(22)	106.92(18)
Cl(1)#1-Be(1)-Cl(1)	96.5(2)	C(23)-Si(12)-Si(1)	114.29(13)
O(1)-Be(1)-Si(1)	116.4(3)	C(21)-Si(12)-Si(1)	109.52(13)
Cl(1)#1-Be(1)-Si(1)	118.5(2)	C(22)-Si(12)-Si(1)	110.71(13)
Cl(1)-Be(1)-Si(1)	116.0(2)	C(33)-Si(13)-C(32)	104.57(18)
Be(1)-Si(1)-Si(11)	111.27(14)	C(33)-Si(13)-C(31)	106.99(19)
Be(1)-Si(1)-Si(12)	110.17(13)	C(32)-Si(13)-C(31)	107.72(19)
Si(11)-Si(1)-Si(12)	106.72(5)	C(33)-Si(13)-Si(1)	113.02(13)
Be(1)-Si(1)-Si(13)	117.40(13)	C(32)-Si(13)-Si(1)	112.28(13)
Si(11)-Si(1)-Si(13)	104.98(5)	C(31)-Si(13)-Si(1)	111.82(13)
Si(12)-Si(1)-Si(13)	105.62(6)	C(99)-O(1)-C(96)	109.6(3)
C(12)-Si(11)-C(11)	107.0(2)	C(99)-O(1)-Be(1)	122.5(3)

C(12)-Si(11)-C(13)	105.91(18)	C(96)-O(1)-Be(1)	122.4(3)
C(11)-Si(11)-C(13)	108.53(19)	O(1)-C(96)-C(97)	105.0(3)
C(12)-Si(11)-Si(1)	110.43(13)	C(96)-C(97)-C(98)	102.6(3)
C(11)-Si(11)-Si(1)	109.91(14)	C(99)-C(98)-C(97)	102.7(3)
C(13)-Si(11)-Si(1)	114.72(14)	O(1)-C(99)-C(98)	104.3(3)

#1 -x,-y,-z

Fig. S9 – S12: ELF plots of 1b – 4b.

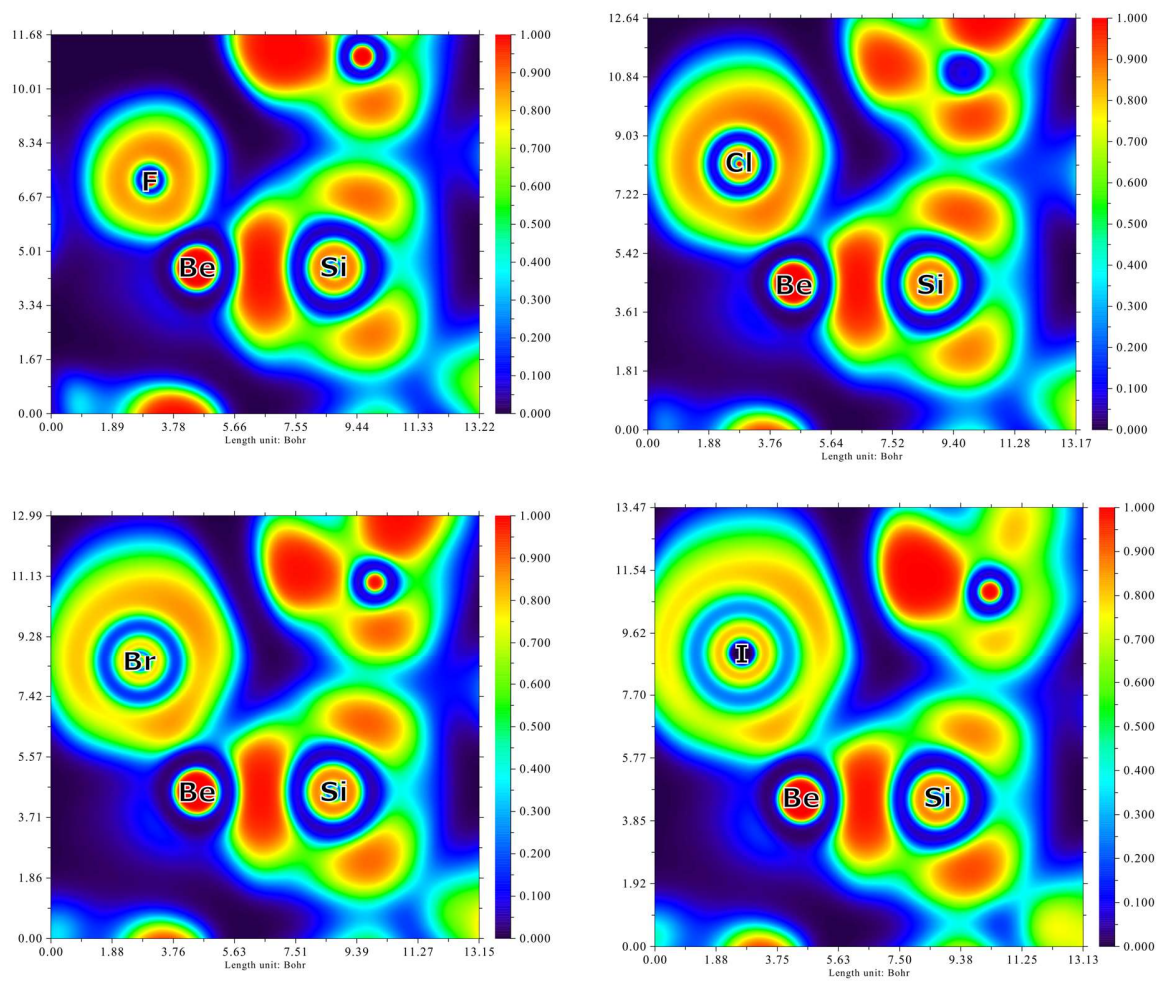


Fig. S13 – S16: LOL plots of **1b** – **4b**.

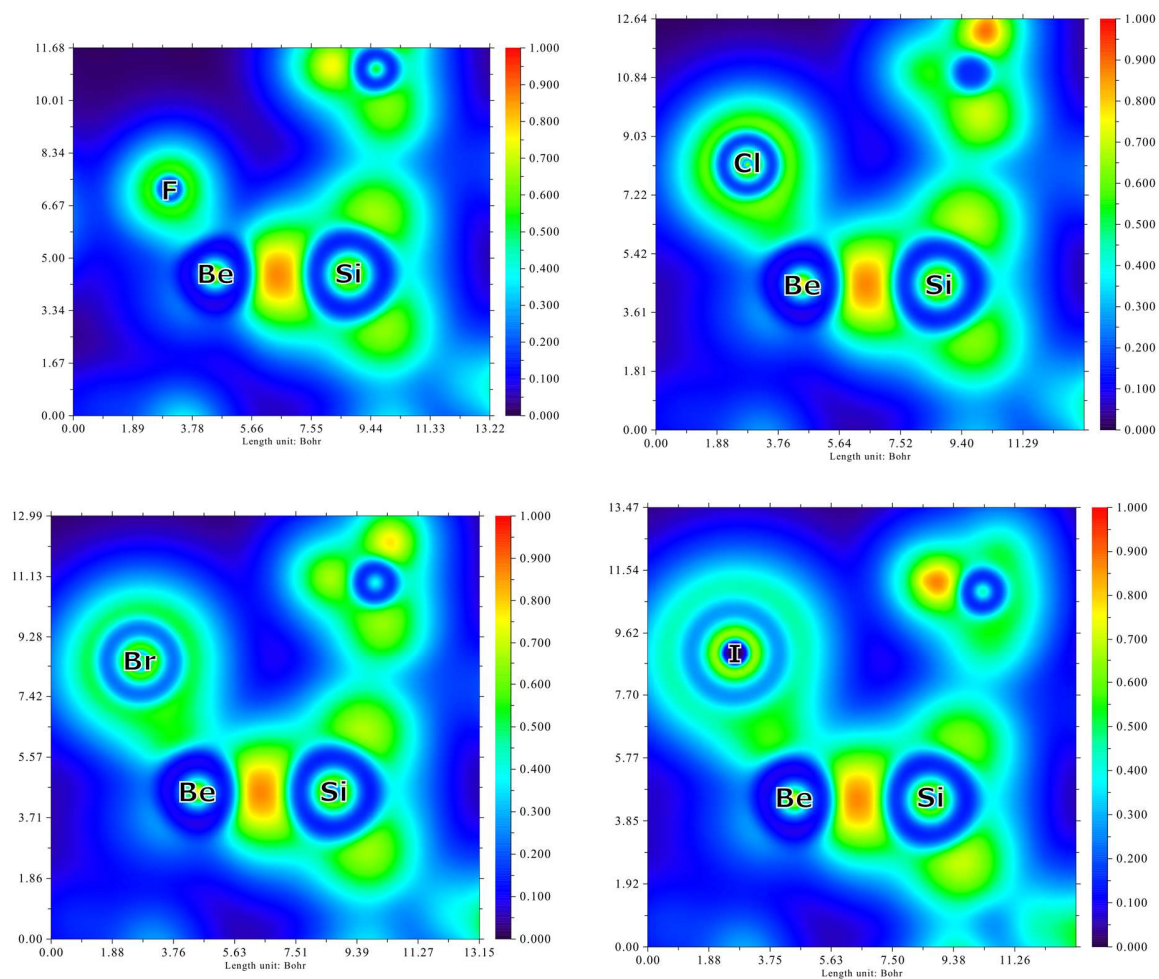


Fig. S17 – S20: Gas phase structures of **1b** – **4b**.

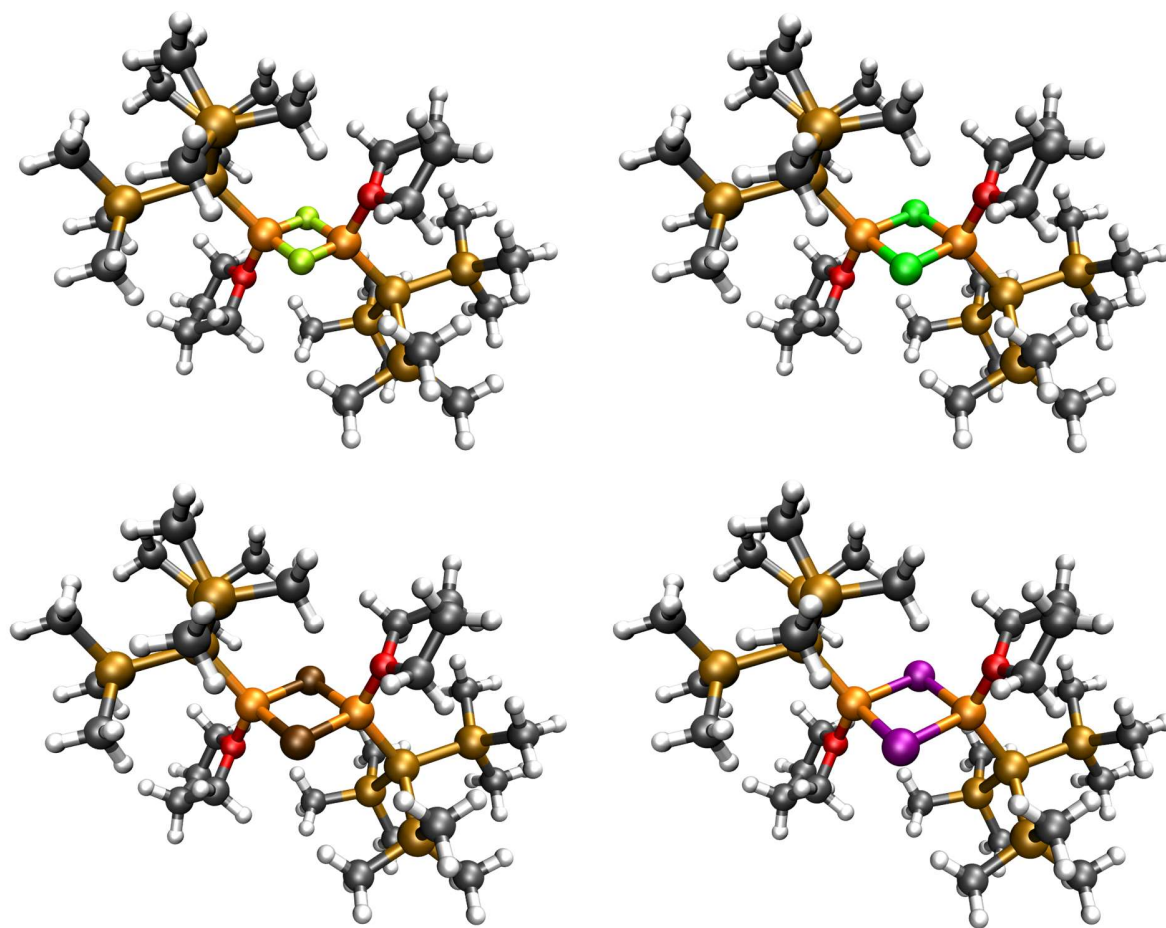
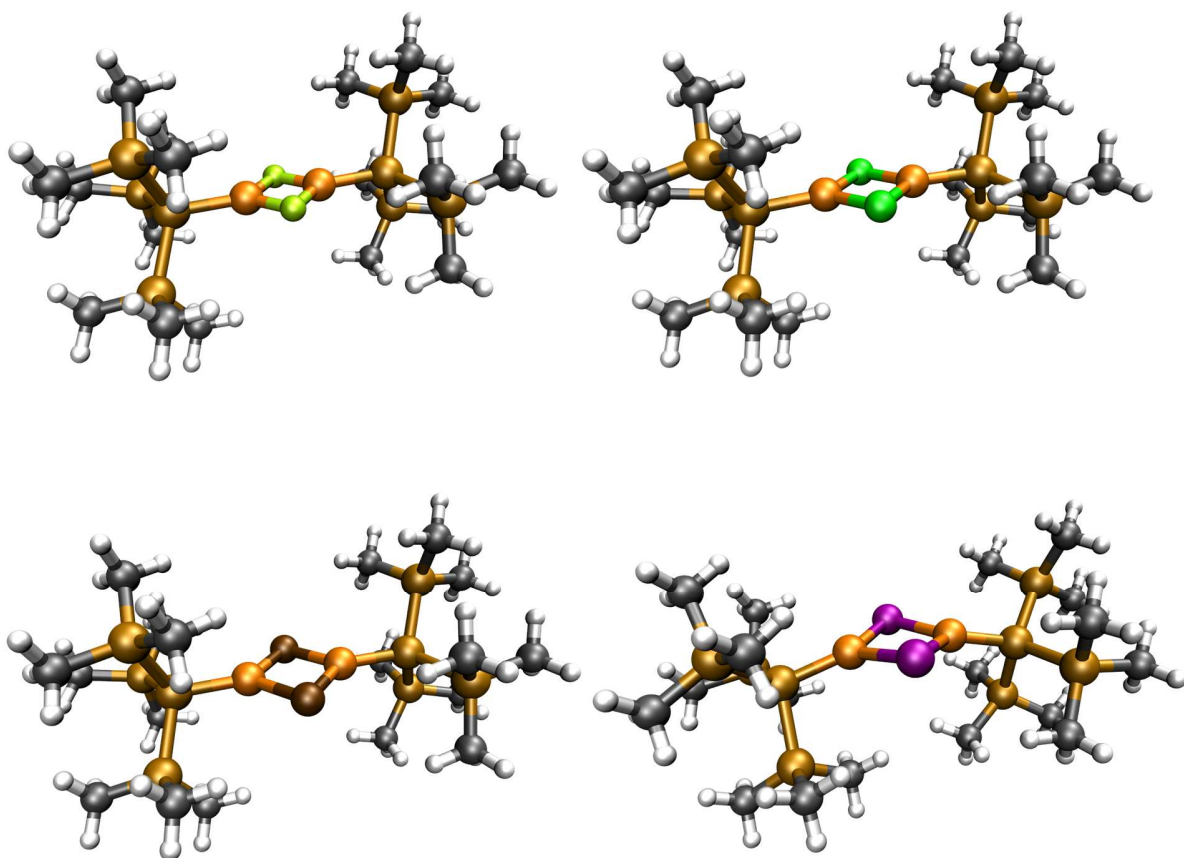


Fig. S21 – S24: Gas phase structures of **1c** – **4c**.



**Table S6.** Computational details of **1b** – **4b**.

Two-electron SEN contributions:

**1b:**

shared electron number for the pair	1 c - 2 h =	1.3899
shared electron number for the pair	1 c - 3 h =	1.3936
shared electron number for the pair	1 c - 4 h =	1.3748
shared electron number for the pair	1 c - 5 si =	1.3757
shared electron number for the pair	2 h - 3 h =	0.0236
shared electron number for the pair	2 h - 4 h =	0.0231
shared electron number for the pair	2 h - 5 si =	0.0370
shared electron number for the pair	3 h - 4 h =	0.0236
shared electron number for the pair	3 h - 5 si =	0.0347
shared electron number for the pair	4 h - 5 si =	0.0319
shared electron number for the pair	5 si - 6 si =	1.3349
shared electron number for the pair	5 si - 7 c =	1.3795
shared electron number for the pair	5 si - 8 c =	1.3772
shared electron number for the pair	5 si - 9 be =	0.0222
shared electron number for the pair	5 si - 10 si =	0.0249
shared electron number for the pair	5 si - 11 si =	0.0244
shared electron number for the pair	5 si - 12 h =	0.0307
shared electron number for the pair	5 si - 13 h =	0.0342
shared electron number for the pair	5 si - 14 h =	0.0353
shared electron number for the pair	5 si - 15 h =	0.0327
shared electron number for the pair	5 si - 16 h =	0.0384
shared electron number for the pair	5 si - 17 h =	0.0360
shared electron number for the pair	6 si - 9 be =	1.4215
shared electron number for the pair	6 si - 10 si =	1.3495
shared electron number for the pair	6 si - 11 si =	1.3387
shared electron number for the pair	6 si - 20 be =	0.0663
shared electron number for the pair	7 c - 12 h =	1.3744
shared electron number for the pair	7 c - 13 h =	1.3942
shared electron number for the pair	7 c - 14 h =	1.3945
shared electron number for the pair	8 c - 9 be =	0.0114
shared electron number for the pair	8 c - 15 h =	1.3843
shared electron number for the pair	8 c - 16 h =	1.3729
shared electron number for the pair	8 c - 17 h =	1.3926
shared electron number for the pair	9 be - 10 si =	0.0209
shared electron number for the pair	9 be - 11 si =	0.0258
shared electron number for the pair	9 be - 18 f =	0.2174
shared electron number for the pair	9 be - 19 f =	0.1682
shared electron number for the pair	9 be - 21 o =	0.1454
shared electron number for the pair	9 be - 29 si =	0.0660
shared electron number for the pair	9 be - 30 o =	0.0506
shared electron number for the pair	9 be - 32 c =	0.0331



shared electron number for the pair	9 be - 33 c =	0.0514
shared electron number for the pair	9 be - 55 c =	0.0143
shared electron number for the pair	9 be - 58 c =	0.0100
shared electron number for the pair	9 be - 60 h =	0.0218
shared electron number for the pair	10 si - 11 si =	0.0220
shared electron number for the pair	10 si - 23 c =	1.3658
shared electron number for the pair	10 si - 24 c =	1.3719
shared electron number for the pair	10 si - 25 c =	1.3784
shared electron number for the pair	10 si - 34 h =	0.0366
shared electron number for the pair	10 si - 35 h =	0.0357
shared electron number for the pair	10 si - 36 h =	0.0312
shared electron number for the pair	10 si - 37 h =	0.0310
shared electron number for the pair	10 si - 38 h =	0.0363
shared electron number for the pair	10 si - 39 h =	0.0360
shared electron number for the pair	10 si - 40 h =	0.0372
shared electron number for the pair	10 si - 41 h =	0.0369
shared electron number for the pair	10 si - 42 h =	0.0330
shared electron number for the pair	11 si - 26 c =	1.3729
shared electron number for the pair	11 si - 27 c =	1.3755
shared electron number for the pair	11 si - 28 c =	1.3871
shared electron number for the pair	11 si - 43 h =	0.0353
shared electron number for the pair	11 si - 44 h =	0.0334
shared electron number for the pair	11 si - 45 h =	0.0312
shared electron number for the pair	11 si - 46 h =	0.0314
shared electron number for the pair	11 si - 47 h =	0.0332
shared electron number for the pair	11 si - 48 h =	0.0344
shared electron number for the pair	11 si - 49 h =	0.0357
shared electron number for the pair	11 si - 50 h =	0.0353
shared electron number for the pair	11 si - 51 h =	0.0323
shared electron number for the pair	12 h - 13 h =	0.0232
shared electron number for the pair	12 h - 14 h =	0.0229
shared electron number for the pair	13 h - 14 h =	0.0230
shared electron number for the pair	15 h - 16 h =	0.0224
shared electron number for the pair	15 h - 17 h =	0.0224
shared electron number for the pair	16 h - 17 h =	0.0226
shared electron number for the pair	18 f - 20 be =	0.1687
shared electron number for the pair	19 f - 20 be =	0.2176
shared electron number for the pair	20 be - 21 o =	0.0507
shared electron number for the pair	20 be - 29 si =	1.4214
shared electron number for the pair	20 be - 30 o =	0.1444
shared electron number for the pair	20 be - 32 c =	0.0143
shared electron number for the pair	20 be - 52 si =	0.0222
shared electron number for the pair	20 be - 53 si =	0.0208
shared electron number for the pair	20 be - 54 si =	0.0259
shared electron number for the pair	20 be - 55 c =	0.0328
shared electron number for the pair	20 be - 56 c =	0.0512
shared electron number for the pair	20 be - 63 c =	0.0114
shared electron number for the pair	20 be - 74 h =	0.0218

shared electron number for the pair	21 o - 32 c =	1.0332
shared electron number for the pair	21 o - 33 c =	1.0430
shared electron number for the pair	22 h - 32 c =	1.3600
shared electron number for the pair	22 h - 57 h =	0.0186
shared electron number for the pair	22 h - 58 c =	0.0239
shared electron number for the pair	23 c - 34 h =	1.3941
shared electron number for the pair	23 c - 35 h =	1.3974
shared electron number for the pair	23 c - 36 h =	1.3732
shared electron number for the pair	24 c - 37 h =	1.3740
shared electron number for the pair	24 c - 38 h =	1.3939
shared electron number for the pair	24 c - 39 h =	1.3968
shared electron number for the pair	25 c - 40 h =	1.3917
shared electron number for the pair	25 c - 41 h =	1.3944
shared electron number for the pair	25 c - 42 h =	1.3729
shared electron number for the pair	26 c - 43 h =	1.3976
shared electron number for the pair	26 c - 44 h =	1.3869
shared electron number for the pair	26 c - 45 h =	1.3734
shared electron number for the pair	27 c - 46 h =	1.3748
shared electron number for the pair	27 c - 47 h =	1.3805
shared electron number for the pair	27 c - 48 h =	1.3949
shared electron number for the pair	28 c - 49 h =	1.3932
shared electron number for the pair	28 c - 50 h =	1.3977
shared electron number for the pair	28 c - 51 h =	1.3687
shared electron number for the pair	29 si - 52 si =	1.3351
shared electron number for the pair	29 si - 53 si =	1.3497
shared electron number for the pair	29 si - 54 si =	1.3389
shared electron number for the pair	30 o - 55 c =	1.0332
shared electron number for the pair	30 o - 56 c =	1.0430
shared electron number for the pair	31 h - 55 c =	1.3600
shared electron number for the pair	31 h - 71 h =	0.0186
shared electron number for the pair	31 h - 72 c =	0.0239
shared electron number for the pair	32 c - 33 c =	0.0310
shared electron number for the pair	32 c - 57 h =	1.3448
shared electron number for the pair	32 c - 58 c =	1.3538
shared electron number for the pair	32 c - 59 c =	0.0497
shared electron number for the pair	32 c - 76 h =	0.0328
shared electron number for the pair	32 c - 77 h =	0.0262
shared electron number for the pair	33 c - 58 c =	0.0509
shared electron number for the pair	33 c - 59 c =	1.3527
shared electron number for the pair	33 c - 60 h =	1.3492
shared electron number for the pair	33 c - 61 h =	1.3650
shared electron number for the pair	33 c - 78 h =	0.0308
shared electron number for the pair	33 c - 79 h =	0.0252
shared electron number for the pair	34 h - 35 h =	0.0231
shared electron number for the pair	34 h - 36 h =	0.0231
shared electron number for the pair	35 h - 36 h =	0.0231
shared electron number for the pair	37 h - 38 h =	0.0225
shared electron number for the pair	37 h - 39 h =	0.0228

shared electron number for the pair	38 h - 39 h =	0.0230
shared electron number for the pair	40 h - 41 h =	0.0237
shared electron number for the pair	40 h - 42 h =	0.0234
shared electron number for the pair	41 h - 42 h =	0.0231
shared electron number for the pair	43 h - 44 h =	0.0230
shared electron number for the pair	43 h - 45 h =	0.0231
shared electron number for the pair	44 h - 45 h =	0.0233
shared electron number for the pair	46 h - 47 h =	0.0229
shared electron number for the pair	46 h - 48 h =	0.0230
shared electron number for the pair	47 h - 48 h =	0.0237
shared electron number for the pair	49 h - 50 h =	0.0235
shared electron number for the pair	49 h - 51 h =	0.0233
shared electron number for the pair	50 h - 51 h =	0.0231
shared electron number for the pair	52 si - 53 si =	0.0249
shared electron number for the pair	52 si - 54 si =	0.0244
shared electron number for the pair	52 si - 62 c =	1.3795
shared electron number for the pair	52 si - 63 c =	1.3770
shared electron number for the pair	52 si - 64 c =	1.3758
shared electron number for the pair	52 si - 80 h =	0.0307
shared electron number for the pair	52 si - 81 h =	0.0342
shared electron number for the pair	52 si - 82 h =	0.0353
shared electron number for the pair	52 si - 83 h =	0.0327
shared electron number for the pair	52 si - 84 h =	0.0385
shared electron number for the pair	52 si - 85 h =	0.0360
shared electron number for the pair	52 si - 86 h =	0.0370
shared electron number for the pair	52 si - 87 h =	0.0347
shared electron number for the pair	52 si - 88 h =	0.0319
shared electron number for the pair	53 si - 54 si =	0.0220
shared electron number for the pair	53 si - 65 c =	1.3657
shared electron number for the pair	53 si - 66 c =	1.3721
shared electron number for the pair	53 si - 67 c =	1.3784
shared electron number for the pair	53 si - 89 h =	0.0366
shared electron number for the pair	53 si - 90 h =	0.0357
shared electron number for the pair	53 si - 91 h =	0.0312
shared electron number for the pair	53 si - 92 h =	0.0310
shared electron number for the pair	53 si - 93 h =	0.0363
shared electron number for the pair	53 si - 94 h =	0.0360
shared electron number for the pair	53 si - 95 h =	0.0372
shared electron number for the pair	53 si - 96 h =	0.0369
shared electron number for the pair	53 si - 97 h =	0.0330
shared electron number for the pair	54 si - 68 c =	1.3730
shared electron number for the pair	54 si - 69 c =	1.3755
shared electron number for the pair	54 si - 70 c =	1.3871
shared electron number for the pair	54 si - 98 h =	0.0353
shared electron number for the pair	54 si - 99 h =	0.0334
shared electron number for the pair	54 si - 100 h =	0.0312
shared electron number for the pair	54 si - 101 h =	0.0314
shared electron number for the pair	54 si - 102 h =	0.0332

shared electron number for the pair	54 si - 103 h =	0.0344
shared electron number for the pair	54 si - 104 h =	0.0357
shared electron number for the pair	54 si - 105 h =	0.0353
shared electron number for the pair	54 si - 106 h =	0.0323
shared electron number for the pair	55 c - 56 c =	0.0310
shared electron number for the pair	55 c - 71 h =	1.3448
shared electron number for the pair	55 c - 72 c =	1.3537
shared electron number for the pair	55 c - 73 c =	0.0497
shared electron number for the pair	55 c - 107 h =	0.0328
shared electron number for the pair	55 c - 108 h =	0.0262
shared electron number for the pair	56 c - 72 c =	0.0509
shared electron number for the pair	56 c - 73 c =	1.3527
shared electron number for the pair	56 c - 74 h =	1.3491
shared electron number for the pair	56 c - 75 h =	1.3650
shared electron number for the pair	56 c - 109 h =	0.0307
shared electron number for the pair	56 c - 110 h =	0.0252
shared electron number for the pair	57 h - 58 c =	0.0195
shared electron number for the pair	58 c - 59 c =	1.3533
shared electron number for the pair	58 c - 76 h =	1.3798
shared electron number for the pair	58 c - 77 h =	1.3746
shared electron number for the pair	58 c - 78 h =	0.0293
shared electron number for the pair	58 c - 79 h =	0.0237
shared electron number for the pair	59 c - 60 h =	0.0221
shared electron number for the pair	59 c - 61 h =	0.0232
shared electron number for the pair	59 c - 76 h =	0.0283
shared electron number for the pair	59 c - 77 h =	0.0250
shared electron number for the pair	59 c - 78 h =	1.3825
shared electron number for the pair	59 c - 79 h =	1.3742
shared electron number for the pair	60 h - 61 h =	0.0189
shared electron number for the pair	62 c - 80 h =	1.3745
shared electron number for the pair	62 c - 81 h =	1.3942
shared electron number for the pair	62 c - 82 h =	1.3945
shared electron number for the pair	63 c - 83 h =	1.3844
shared electron number for the pair	63 c - 84 h =	1.3730
shared electron number for the pair	63 c - 85 h =	1.3926
shared electron number for the pair	64 c - 86 h =	1.3899
shared electron number for the pair	64 c - 87 h =	1.3936
shared electron number for the pair	64 c - 88 h =	1.3748
shared electron number for the pair	65 c - 89 h =	1.3940
shared electron number for the pair	65 c - 90 h =	1.3974
shared electron number for the pair	65 c - 91 h =	1.3732
shared electron number for the pair	66 c - 92 h =	1.3739
shared electron number for the pair	66 c - 93 h =	1.3939
shared electron number for the pair	66 c - 94 h =	1.3968
shared electron number for the pair	67 c - 95 h =	1.3917
shared electron number for the pair	67 c - 96 h =	1.3944
shared electron number for the pair	67 c - 97 h =	1.3728
shared electron number for the pair	68 c - 98 h =	1.3976

shared electron number for the pair	68 c - 99 h =	1.3869
shared electron number for the pair	68 c - 100 h =	1.3734
shared electron number for the pair	69 c - 101 h =	1.3749
shared electron number for the pair	69 c - 102 h =	1.3804
shared electron number for the pair	69 c - 103 h =	1.3949
shared electron number for the pair	70 c - 104 h =	1.3932
shared electron number for the pair	70 c - 105 h =	1.3978
shared electron number for the pair	70 c - 106 h =	1.3687
shared electron number for the pair	71 h - 72 c =	0.0195
shared electron number for the pair	72 c - 73 c =	1.3533
shared electron number for the pair	72 c - 107 h =	1.3798
shared electron number for the pair	72 c - 108 h =	1.3746
shared electron number for the pair	72 c - 109 h =	0.0293
shared electron number for the pair	72 c - 110 h =	0.0237
shared electron number for the pair	73 c - 74 h =	0.0221
shared electron number for the pair	73 c - 75 h =	0.0232
shared electron number for the pair	73 c - 107 h =	0.0283
shared electron number for the pair	73 c - 108 h =	0.0250
shared electron number for the pair	73 c - 109 h =	1.3826
shared electron number for the pair	73 c - 110 h =	1.3741
shared electron number for the pair	74 h - 75 h =	0.0189
shared electron number for the pair	76 h - 77 h =	0.0232
shared electron number for the pair	78 h - 79 h =	0.0230
shared electron number for the pair	80 h - 81 h =	0.0232
shared electron number for the pair	80 h - 82 h =	0.0229
shared electron number for the pair	81 h - 82 h =	0.0230
shared electron number for the pair	83 h - 84 h =	0.0224
shared electron number for the pair	83 h - 85 h =	0.0224
shared electron number for the pair	84 h - 85 h =	0.0226
shared electron number for the pair	86 h - 87 h =	0.0236
shared electron number for the pair	86 h - 88 h =	0.0231
shared electron number for the pair	87 h - 88 h =	0.0236
shared electron number for the pair	89 h - 90 h =	0.0231
shared electron number for the pair	89 h - 91 h =	0.0231
shared electron number for the pair	90 h - 91 h =	0.0231
shared electron number for the pair	92 h - 93 h =	0.0225
shared electron number for the pair	92 h - 94 h =	0.0228
shared electron number for the pair	93 h - 94 h =	0.0230
shared electron number for the pair	95 h - 96 h =	0.0237
shared electron number for the pair	95 h - 97 h =	0.0233
shared electron number for the pair	96 h - 97 h =	0.0231
shared electron number for the pair	98 h - 99 h =	0.0230
shared electron number for the pair	98 h - 100 h =	0.0231
shared electron number for the pair	99 h - 100 h =	0.0233
shared electron number for the pair	101 h - 102 h =	0.0229
shared electron number for the pair	101 h - 103 h =	0.0230
shared electron number for the pair	102 h - 103 h =	0.0237
shared electron number for the pair	104 h - 105 h =	0.0235

shared electron number for the pair	104 h - 106 h =	0.0233
shared electron number for the pair	105 h - 106 h =	0.0231
shared electron number for the pair	107 h - 108 h =	0.0232
shared electron number for the pair	109 h - 110 h =	0.0230

## 2b:

shared electron number for the pair	1 c - 2 h =	1.3892
shared electron number for the pair	1 c - 3 h =	1.3913
shared electron number for the pair	1 c - 4 h =	1.3774
shared electron number for the pair	1 c - 5 si =	1.3812
shared electron number for the pair	2 h - 3 h =	0.0236
shared electron number for the pair	2 h - 4 h =	0.0229
shared electron number for the pair	2 h - 5 si =	0.0364
shared electron number for the pair	3 h - 4 h =	0.0232
shared electron number for the pair	3 h - 5 si =	0.0352
shared electron number for the pair	4 h - 5 si =	0.0322
shared electron number for the pair	5 si - 6 si =	1.3373
shared electron number for the pair	5 si - 7 c =	1.3813
shared electron number for the pair	5 si - 8 c =	1.3705
shared electron number for the pair	5 si - 9 be =	0.0297
shared electron number for the pair	5 si - 10 si =	0.0229
shared electron number for the pair	5 si - 11 si =	0.0235
shared electron number for the pair	5 si - 12 h =	0.0303
shared electron number for the pair	5 si - 13 h =	0.0349
shared electron number for the pair	5 si - 14 h =	0.0353
shared electron number for the pair	5 si - 15 h =	0.0319
shared electron number for the pair	5 si - 16 h =	0.0388
shared electron number for the pair	5 si - 17 h =	0.0367
shared electron number for the pair	6 si - 9 be =	1.3598
shared electron number for the pair	6 si - 10 si =	1.3483
shared electron number for the pair	6 si - 11 si =	1.3413
shared electron number for the pair	6 si - 20 be =	0.0115
shared electron number for the pair	7 c - 12 h =	1.3721
shared electron number for the pair	7 c - 13 h =	1.3937
shared electron number for the pair	7 c - 14 h =	1.3970
shared electron number for the pair	8 c - 9 be =	0.0122
shared electron number for the pair	8 c - 15 h =	1.3867
shared electron number for the pair	8 c - 16 h =	1.3795
shared electron number for the pair	8 c - 17 h =	1.3915
shared electron number for the pair	9 be - 10 si =	0.0172
shared electron number for the pair	9 be - 11 si =	0.0193
shared electron number for the pair	9 be - 18 cl =	0.1314
shared electron number for the pair	9 be - 19 cl =	0.1076
shared electron number for the pair	9 be - 20 be =	0.0107
shared electron number for the pair	9 be - 21 o =	0.4850
shared electron number for the pair	9 be - 22 h =	0.0148

shared electron number for the pair	9 be - 29 si =	0.0116
shared electron number for the pair	9 be - 30 o =	0.0104
shared electron number for the pair	9 be - 32 c =	0.0484
shared electron number for the pair	9 be - 33 c =	0.0677
shared electron number for the pair	9 be - 58 c =	0.0122
shared electron number for the pair	9 be - 60 h =	0.0258
shared electron number for the pair	9 be - 61 h =	0.0114
shared electron number for the pair	10 si - 11 si =	0.0211
shared electron number for the pair	10 si - 23 c =	1.3653
shared electron number for the pair	10 si - 24 c =	1.3701
shared electron number for the pair	10 si - 25 c =	1.3785
shared electron number for the pair	10 si - 34 h =	0.0363
shared electron number for the pair	10 si - 35 h =	0.0357
shared electron number for the pair	10 si - 36 h =	0.0310
shared electron number for the pair	10 si - 37 h =	0.0312
shared electron number for the pair	10 si - 38 h =	0.0366
shared electron number for the pair	10 si - 39 h =	0.0363
shared electron number for the pair	10 si - 40 h =	0.0367
shared electron number for the pair	10 si - 41 h =	0.0368
shared electron number for the pair	10 si - 42 h =	0.0328
shared electron number for the pair	11 si - 26 c =	1.3724
shared electron number for the pair	11 si - 27 c =	1.3731
shared electron number for the pair	11 si - 28 c =	1.3772
shared electron number for the pair	11 si - 43 h =	0.0350
shared electron number for the pair	11 si - 44 h =	0.0339
shared electron number for the pair	11 si - 45 h =	0.0310
shared electron number for the pair	11 si - 46 h =	0.0315
shared electron number for the pair	11 si - 47 h =	0.0340
shared electron number for the pair	11 si - 48 h =	0.0350
shared electron number for the pair	11 si - 49 h =	0.0362
shared electron number for the pair	11 si - 50 h =	0.0357
shared electron number for the pair	11 si - 51 h =	0.0316
shared electron number for the pair	12 h - 13 h =	0.0230
shared electron number for the pair	12 h - 14 h =	0.0228
shared electron number for the pair	13 h - 14 h =	0.0231
shared electron number for the pair	15 h - 16 h =	0.0229
shared electron number for the pair	15 h - 17 h =	0.0222
shared electron number for the pair	16 h - 17 h =	0.0237
shared electron number for the pair	18 cl - 20 be =	0.1078
shared electron number for the pair	19 cl - 20 be =	0.1305
shared electron number for the pair	20 be - 21 o =	0.0104
shared electron number for the pair	20 be - 29 si =	1.3597
shared electron number for the pair	20 be - 30 o =	0.4860
shared electron number for the pair	20 be - 31 h =	0.0149
shared electron number for the pair	20 be - 52 si =	0.0293
shared electron number for the pair	20 be - 53 si =	0.0175
shared electron number for the pair	20 be - 54 si =	0.0192
shared electron number for the pair	20 be - 55 c =	0.0486

shared electron number for the pair	20 be - 56 c =	0.0672
shared electron number for the pair	20 be - 63 c =	0.0121
shared electron number for the pair	20 be - 72 c =	0.0122
shared electron number for the pair	20 be - 74 h =	0.0256
shared electron number for the pair	20 be - 75 h =	0.0114
shared electron number for the pair	21 o - 32 c =	1.0185
shared electron number for the pair	21 o - 33 c =	1.0270
shared electron number for the pair	22 h - 32 c =	1.3644
shared electron number for the pair	22 h - 57 h =	0.0184
shared electron number for the pair	22 h - 58 c =	0.0236
shared electron number for the pair	23 c - 34 h =	1.3944
shared electron number for the pair	23 c - 35 h =	1.3955
shared electron number for the pair	23 c - 36 h =	1.3724
shared electron number for the pair	24 c - 37 h =	1.3730
shared electron number for the pair	24 c - 38 h =	1.3930
shared electron number for the pair	24 c - 39 h =	1.3975
shared electron number for the pair	25 c - 40 h =	1.3905
shared electron number for the pair	25 c - 41 h =	1.3939
shared electron number for the pair	25 c - 42 h =	1.3733
shared electron number for the pair	26 c - 43 h =	1.3964
shared electron number for the pair	26 c - 44 h =	1.3853
shared electron number for the pair	26 c - 45 h =	1.3742
shared electron number for the pair	27 c - 46 h =	1.3760
shared electron number for the pair	27 c - 47 h =	1.3778
shared electron number for the pair	27 c - 48 h =	1.3949
shared electron number for the pair	28 c - 49 h =	1.3936
shared electron number for the pair	28 c - 50 h =	1.3976
shared electron number for the pair	28 c - 51 h =	1.3691
shared electron number for the pair	29 si - 52 si =	1.3373
shared electron number for the pair	29 si - 53 si =	1.3482
shared electron number for the pair	29 si - 54 si =	1.3408
shared electron number for the pair	30 o - 55 c =	1.0186
shared electron number for the pair	30 o - 56 c =	1.0268
shared electron number for the pair	31 h - 55 c =	1.3644
shared electron number for the pair	31 h - 71 h =	0.0185
shared electron number for the pair	31 h - 72 c =	0.0236
shared electron number for the pair	32 c - 33 c =	0.0269
shared electron number for the pair	32 c - 57 h =	1.3435
shared electron number for the pair	32 c - 58 c =	1.3504
shared electron number for the pair	32 c - 59 c =	0.0477
shared electron number for the pair	32 c - 76 h =	0.0343
shared electron number for the pair	32 c - 77 h =	0.0260
shared electron number for the pair	33 c - 58 c =	0.0493
shared electron number for the pair	33 c - 59 c =	1.3461
shared electron number for the pair	33 c - 60 h =	1.3512
shared electron number for the pair	33 c - 61 h =	1.3641
shared electron number for the pair	33 c - 78 h =	0.0328
shared electron number for the pair	33 c - 79 h =	0.0252



shared electron number for the pair	34 h - 35 h =	0.0230
shared electron number for the pair	34 h - 36 h =	0.0232
shared electron number for the pair	35 h - 36 h =	0.0229
shared electron number for the pair	37 h - 38 h =	0.0226
shared electron number for the pair	37 h - 39 h =	0.0230
shared electron number for the pair	38 h - 39 h =	0.0234
shared electron number for the pair	40 h - 41 h =	0.0235
shared electron number for the pair	40 h - 42 h =	0.0233
shared electron number for the pair	41 h - 42 h =	0.0230
shared electron number for the pair	43 h - 44 h =	0.0230
shared electron number for the pair	43 h - 45 h =	0.0230
shared electron number for the pair	44 h - 45 h =	0.0231
shared electron number for the pair	46 h - 47 h =	0.0232
shared electron number for the pair	46 h - 48 h =	0.0232
shared electron number for the pair	47 h - 48 h =	0.0235
shared electron number for the pair	49 h - 50 h =	0.0235
shared electron number for the pair	49 h - 51 h =	0.0231
shared electron number for the pair	50 h - 51 h =	0.0230
shared electron number for the pair	52 si - 53 si =	0.0228
shared electron number for the pair	52 si - 54 si =	0.0236
shared electron number for the pair	52 si - 62 c =	1.3807
shared electron number for the pair	52 si - 63 c =	1.3704
shared electron number for the pair	52 si - 64 c =	1.3808
shared electron number for the pair	52 si - 80 h =	0.0303
shared electron number for the pair	52 si - 81 h =	0.0349
shared electron number for the pair	52 si - 82 h =	0.0353
shared electron number for the pair	52 si - 83 h =	0.0320
shared electron number for the pair	52 si - 84 h =	0.0389
shared electron number for the pair	52 si - 85 h =	0.0367
shared electron number for the pair	52 si - 86 h =	0.0365
shared electron number for the pair	52 si - 87 h =	0.0351
shared electron number for the pair	52 si - 88 h =	0.0322
shared electron number for the pair	53 si - 54 si =	0.0213
shared electron number for the pair	53 si - 65 c =	1.3656
shared electron number for the pair	53 si - 66 c =	1.3697
shared electron number for the pair	53 si - 67 c =	1.3785
shared electron number for the pair	53 si - 89 h =	0.0363
shared electron number for the pair	53 si - 90 h =	0.0357
shared electron number for the pair	53 si - 91 h =	0.0310
shared electron number for the pair	53 si - 92 h =	0.0312
shared electron number for the pair	53 si - 93 h =	0.0366
shared electron number for the pair	53 si - 94 h =	0.0364
shared electron number for the pair	53 si - 95 h =	0.0368
shared electron number for the pair	53 si - 96 h =	0.0368
shared electron number for the pair	53 si - 97 h =	0.0328
shared electron number for the pair	54 si - 68 c =	1.3724
shared electron number for the pair	54 si - 69 c =	1.3732
shared electron number for the pair	54 si - 70 c =	1.3773

shared electron number for the pair	54 si - 98 h =	0.0350
shared electron number for the pair	54 si - 99 h =	0.0338
shared electron number for the pair	54 si - 100 h =	0.0310
shared electron number for the pair	54 si - 101 h =	0.0316
shared electron number for the pair	54 si - 102 h =	0.0339
shared electron number for the pair	54 si - 103 h =	0.0351
shared electron number for the pair	54 si - 104 h =	0.0362
shared electron number for the pair	54 si - 105 h =	0.0357
shared electron number for the pair	54 si - 106 h =	0.0316
shared electron number for the pair	55 c - 56 c =	0.0265
shared electron number for the pair	55 c - 71 h =	1.3440
shared electron number for the pair	55 c - 72 c =	1.3505
shared electron number for the pair	55 c - 73 c =	0.0474
shared electron number for the pair	55 c - 107 h =	0.0345
shared electron number for the pair	55 c - 108 h =	0.0259
shared electron number for the pair	56 c - 72 c =	0.0491
shared electron number for the pair	56 c - 73 c =	1.3459
shared electron number for the pair	56 c - 74 h =	1.3513
shared electron number for the pair	56 c - 75 h =	1.3643
shared electron number for the pair	56 c - 109 h =	0.0329
shared electron number for the pair	56 c - 110 h =	0.0252
shared electron number for the pair	57 h - 58 c =	0.0187
shared electron number for the pair	58 c - 59 c =	1.3491
shared electron number for the pair	58 c - 76 h =	1.3767
shared electron number for the pair	58 c - 77 h =	1.3746
shared electron number for the pair	58 c - 78 h =	0.0286
shared electron number for the pair	58 c - 79 h =	0.0230
shared electron number for the pair	59 c - 60 h =	0.0201
shared electron number for the pair	59 c - 61 h =	0.0226
shared electron number for the pair	59 c - 76 h =	0.0281
shared electron number for the pair	59 c - 77 h =	0.0238
shared electron number for the pair	59 c - 78 h =	1.3804
shared electron number for the pair	59 c - 79 h =	1.3747
shared electron number for the pair	60 h - 61 h =	0.0184
shared electron number for the pair	62 c - 80 h =	1.3719
shared electron number for the pair	62 c - 81 h =	1.3937
shared electron number for the pair	62 c - 82 h =	1.3974
shared electron number for the pair	63 c - 83 h =	1.3863
shared electron number for the pair	63 c - 84 h =	1.3794
shared electron number for the pair	63 c - 85 h =	1.3916
shared electron number for the pair	64 c - 86 h =	1.3894
shared electron number for the pair	64 c - 87 h =	1.3911
shared electron number for the pair	64 c - 88 h =	1.3773
shared electron number for the pair	65 c - 89 h =	1.3946
shared electron number for the pair	65 c - 90 h =	1.3955
shared electron number for the pair	65 c - 91 h =	1.3724
shared electron number for the pair	66 c - 92 h =	1.3735
shared electron number for the pair	66 c - 93 h =	1.3930

shared electron number for the pair	66 c - 94 h =	1.3970
shared electron number for the pair	67 c - 95 h =	1.3903
shared electron number for the pair	67 c - 96 h =	1.3938
shared electron number for the pair	67 c - 97 h =	1.3736
shared electron number for the pair	68 c - 98 h =	1.3965
shared electron number for the pair	68 c - 99 h =	1.3853
shared electron number for the pair	68 c - 100 h =	1.3741
shared electron number for the pair	69 c - 101 h =	1.3761
shared electron number for the pair	69 c - 102 h =	1.3778
shared electron number for the pair	69 c - 103 h =	1.3949
shared electron number for the pair	70 c - 104 h =	1.3935
shared electron number for the pair	70 c - 105 h =	1.3977
shared electron number for the pair	70 c - 106 h =	1.3691
shared electron number for the pair	71 h - 72 c =	0.0187
shared electron number for the pair	72 c - 73 c =	1.3489
shared electron number for the pair	72 c - 107 h =	1.3765
shared electron number for the pair	72 c - 108 h =	1.3746
shared electron number for the pair	72 c - 109 h =	0.0286
shared electron number for the pair	72 c - 110 h =	0.0230
shared electron number for the pair	73 c - 74 h =	0.0200
shared electron number for the pair	73 c - 75 h =	0.0225
shared electron number for the pair	73 c - 107 h =	0.0281
shared electron number for the pair	73 c - 108 h =	0.0238
shared electron number for the pair	73 c - 109 h =	1.3804
shared electron number for the pair	73 c - 110 h =	1.3749
shared electron number for the pair	74 h - 75 h =	0.0183
shared electron number for the pair	76 h - 77 h =	0.0231
shared electron number for the pair	78 h - 79 h =	0.0228
shared electron number for the pair	80 h - 81 h =	0.0229
shared electron number for the pair	80 h - 82 h =	0.0228
shared electron number for the pair	81 h - 82 h =	0.0231
shared electron number for the pair	83 h - 84 h =	0.0228
shared electron number for the pair	83 h - 85 h =	0.0223
shared electron number for the pair	84 h - 85 h =	0.0236
shared electron number for the pair	86 h - 87 h =	0.0236
shared electron number for the pair	86 h - 88 h =	0.0230
shared electron number for the pair	87 h - 88 h =	0.0232
shared electron number for the pair	89 h - 90 h =	0.0230
shared electron number for the pair	89 h - 91 h =	0.0232
shared electron number for the pair	90 h - 91 h =	0.0230
shared electron number for the pair	92 h - 93 h =	0.0225
shared electron number for the pair	92 h - 94 h =	0.0230
shared electron number for the pair	93 h - 94 h =	0.0234
shared electron number for the pair	95 h - 96 h =	0.0235
shared electron number for the pair	95 h - 97 h =	0.0234
shared electron number for the pair	96 h - 97 h =	0.0230
shared electron number for the pair	98 h - 99 h =	0.0230
shared electron number for the pair	98 h - 100 h =	0.0230

shared electron number for the pair	99 h - 100 h =	0.0231
shared electron number for the pair	101 h - 102 h =	0.0232
shared electron number for the pair	101 h - 103 h =	0.0232
shared electron number for the pair	102 h - 103 h =	0.0235
shared electron number for the pair	104 h - 105 h =	0.0235
shared electron number for the pair	104 h - 106 h =	0.0231
shared electron number for the pair	105 h - 106 h =	0.0230
shared electron number for the pair	107 h - 108 h =	0.0231
shared electron number for the pair	109 h - 110 h =	0.0228

### 3b:

shared electron number for the pair	1 c - 2 h =	1.3889
shared electron number for the pair	1 c - 3 h =	1.3918
shared electron number for the pair	1 c - 4 h =	1.3774
shared electron number for the pair	1 c - 5 si =	1.3866
shared electron number for the pair	2 h - 3 h =	0.0235
shared electron number for the pair	2 h - 4 h =	0.0229
shared electron number for the pair	2 h - 5 si =	0.0357
shared electron number for the pair	3 h - 4 h =	0.0231
shared electron number for the pair	3 h - 5 si =	0.0356
shared electron number for the pair	4 h - 5 si =	0.0322
shared electron number for the pair	5 si - 6 si =	1.3395
shared electron number for the pair	5 si - 7 c =	1.3849
shared electron number for the pair	5 si - 8 c =	1.3680
shared electron number for the pair	5 si - 9 be =	0.0337
shared electron number for the pair	5 si - 10 si =	0.0222
shared electron number for the pair	5 si - 11 si =	0.0228
shared electron number for the pair	5 si - 12 h =	0.0305
shared electron number for the pair	5 si - 13 h =	0.0352
shared electron number for the pair	5 si - 14 h =	0.0351
shared electron number for the pair	5 si - 15 h =	0.0321
shared electron number for the pair	5 si - 16 h =	0.0387
shared electron number for the pair	5 si - 17 h =	0.0365
shared electron number for the pair	6 si - 9 be =	1.3609
shared electron number for the pair	6 si - 10 si =	1.3441
shared electron number for the pair	6 si - 11 si =	1.3343
shared electron number for the pair	7 c - 12 h =	1.3714
shared electron number for the pair	7 c - 13 h =	1.3927
shared electron number for the pair	7 c - 14 h =	1.3962
shared electron number for the pair	8 c - 9 be =	0.0104
shared electron number for the pair	8 c - 15 h =	1.3849
shared electron number for the pair	8 c - 16 h =	1.3865
shared electron number for the pair	8 c - 17 h =	1.3934
shared electron number for the pair	9 be - 10 si =	0.0150
shared electron number for the pair	9 be - 11 si =	0.0203
shared electron number for the pair	9 be - 18 br =	0.0987

shared electron number for the pair	9 be - 19 br =	0.0832
shared electron number for the pair	9 be - 21 o =	0.6033
shared electron number for the pair	9 be - 22 h =	0.0177
shared electron number for the pair	9 be - 32 c =	0.0560
shared electron number for the pair	9 be - 33 c =	0.0686
shared electron number for the pair	9 be - 58 c =	0.0133
shared electron number for the pair	9 be - 59 c =	0.0106
shared electron number for the pair	9 be - 60 h =	0.0242
shared electron number for the pair	9 be - 61 h =	0.0121
shared electron number for the pair	10 si - 11 si =	0.0209
shared electron number for the pair	10 si - 23 c =	1.3659
shared electron number for the pair	10 si - 24 c =	1.3702
shared electron number for the pair	10 si - 25 c =	1.3798
shared electron number for the pair	10 si - 34 h =	0.0365
shared electron number for the pair	10 si - 35 h =	0.0356
shared electron number for the pair	10 si - 36 h =	0.0313
shared electron number for the pair	10 si - 37 h =	0.0316
shared electron number for the pair	10 si - 38 h =	0.0366
shared electron number for the pair	10 si - 39 h =	0.0365
shared electron number for the pair	10 si - 40 h =	0.0369
shared electron number for the pair	10 si - 41 h =	0.0372
shared electron number for the pair	10 si - 42 h =	0.0328
shared electron number for the pair	11 si - 26 c =	1.3736
shared electron number for the pair	11 si - 27 c =	1.3745
shared electron number for the pair	11 si - 28 c =	1.3763
shared electron number for the pair	11 si - 43 h =	0.0349
shared electron number for the pair	11 si - 44 h =	0.0342
shared electron number for the pair	11 si - 45 h =	0.0307
shared electron number for the pair	11 si - 46 h =	0.0316
shared electron number for the pair	11 si - 47 h =	0.0341
shared electron number for the pair	11 si - 48 h =	0.0351
shared electron number for the pair	11 si - 49 h =	0.0361
shared electron number for the pair	11 si - 50 h =	0.0356
shared electron number for the pair	11 si - 51 h =	0.0318
shared electron number for the pair	12 h - 13 h =	0.0230
shared electron number for the pair	12 h - 14 h =	0.0228
shared electron number for the pair	13 h - 14 h =	0.0231
shared electron number for the pair	15 h - 16 h =	0.0231
shared electron number for the pair	15 h - 17 h =	0.0222
shared electron number for the pair	16 h - 17 h =	0.0238
shared electron number for the pair	18 br - 20 be =	0.0834
shared electron number for the pair	19 br - 20 be =	0.0991
shared electron number for the pair	20 be - 29 si =	1.3609
shared electron number for the pair	20 be - 30 o =	0.6020
shared electron number for the pair	20 be - 31 h =	0.0177
shared electron number for the pair	20 be - 52 si =	0.0337
shared electron number for the pair	20 be - 53 si =	0.0149
shared electron number for the pair	20 be - 54 si =	0.0202

shared electron number for the pair	20 be - 55 c =	0.0560
shared electron number for the pair	20 be - 56 c =	0.0686
shared electron number for the pair	20 be - 63 c =	0.0104
shared electron number for the pair	20 be - 72 c =	0.0134
shared electron number for the pair	20 be - 73 c =	0.0106
shared electron number for the pair	20 be - 74 h =	0.0243
shared electron number for the pair	20 be - 75 h =	0.0121
shared electron number for the pair	21 o - 32 c =	1.0110
shared electron number for the pair	21 o - 33 c =	1.0184
shared electron number for the pair	22 h - 32 c =	1.3670
shared electron number for the pair	22 h - 57 h =	0.0186
shared electron number for the pair	22 h - 58 c =	0.0238
shared electron number for the pair	23 c - 34 h =	1.3929
shared electron number for the pair	23 c - 35 h =	1.3957
shared electron number for the pair	23 c - 36 h =	1.3716
shared electron number for the pair	24 c - 37 h =	1.3718
shared electron number for the pair	24 c - 38 h =	1.3920
shared electron number for the pair	24 c - 39 h =	1.3986
shared electron number for the pair	25 c - 40 h =	1.3907
shared electron number for the pair	25 c - 41 h =	1.3941
shared electron number for the pair	25 c - 42 h =	1.3724
shared electron number for the pair	26 c - 43 h =	1.3963
shared electron number for the pair	26 c - 44 h =	1.3845
shared electron number for the pair	26 c - 45 h =	1.3745
shared electron number for the pair	27 c - 46 h =	1.3768
shared electron number for the pair	27 c - 47 h =	1.3767
shared electron number for the pair	27 c - 48 h =	1.3953
shared electron number for the pair	28 c - 49 h =	1.3931
shared electron number for the pair	28 c - 50 h =	1.3976
shared electron number for the pair	28 c - 51 h =	1.3699
shared electron number for the pair	29 si - 52 si =	1.3394
shared electron number for the pair	29 si - 53 si =	1.3441
shared electron number for the pair	29 si - 54 si =	1.3342
shared electron number for the pair	30 o - 55 c =	1.0111
shared electron number for the pair	30 o - 56 c =	1.0183
shared electron number for the pair	31 h - 55 c =	1.3669
shared electron number for the pair	31 h - 71 h =	0.0186
shared electron number for the pair	31 h - 72 c =	0.0238
shared electron number for the pair	32 c - 33 c =	0.0249
shared electron number for the pair	32 c - 57 h =	1.3465
shared electron number for the pair	32 c - 58 c =	1.3514
shared electron number for the pair	32 c - 59 c =	0.0462
shared electron number for the pair	32 c - 76 h =	0.0353
shared electron number for the pair	32 c - 77 h =	0.0258
shared electron number for the pair	33 c - 58 c =	0.0491
shared electron number for the pair	33 c - 59 c =	1.3462
shared electron number for the pair	33 c - 60 h =	1.3494
shared electron number for the pair	33 c - 61 h =	1.3628

shared electron number for the pair	33 c - 78 h =	0.0332
shared electron number for the pair	33 c - 79 h =	0.0252
shared electron number for the pair	34 h - 35 h =	0.0228
shared electron number for the pair	34 h - 36 h =	0.0230
shared electron number for the pair	35 h - 36 h =	0.0230
shared electron number for the pair	37 h - 38 h =	0.0228
shared electron number for the pair	37 h - 39 h =	0.0231
shared electron number for the pair	38 h - 39 h =	0.0234
shared electron number for the pair	40 h - 41 h =	0.0234
shared electron number for the pair	40 h - 42 h =	0.0233
shared electron number for the pair	41 h - 42 h =	0.0230
shared electron number for the pair	43 h - 44 h =	0.0230
shared electron number for the pair	43 h - 45 h =	0.0229
shared electron number for the pair	44 h - 45 h =	0.0231
shared electron number for the pair	46 h - 47 h =	0.0232
shared electron number for the pair	46 h - 48 h =	0.0233
shared electron number for the pair	47 h - 48 h =	0.0236
shared electron number for the pair	49 h - 50 h =	0.0234
shared electron number for the pair	49 h - 51 h =	0.0231
shared electron number for the pair	50 h - 51 h =	0.0230
shared electron number for the pair	52 si - 53 si =	0.0222
shared electron number for the pair	52 si - 54 si =	0.0228
shared electron number for the pair	52 si - 62 c =	1.3849
shared electron number for the pair	52 si - 63 c =	1.3680
shared electron number for the pair	52 si - 64 c =	1.3866
shared electron number for the pair	52 si - 80 h =	0.0305
shared electron number for the pair	52 si - 81 h =	0.0352
shared electron number for the pair	52 si - 82 h =	0.0351
shared electron number for the pair	52 si - 83 h =	0.0322
shared electron number for the pair	52 si - 84 h =	0.0387
shared electron number for the pair	52 si - 85 h =	0.0365
shared electron number for the pair	52 si - 86 h =	0.0357
shared electron number for the pair	52 si - 87 h =	0.0356
shared electron number for the pair	52 si - 88 h =	0.0322
shared electron number for the pair	53 si - 54 si =	0.0209
shared electron number for the pair	53 si - 65 c =	1.3660
shared electron number for the pair	53 si - 66 c =	1.3702
shared electron number for the pair	53 si - 67 c =	1.3797
shared electron number for the pair	53 si - 89 h =	0.0365
shared electron number for the pair	53 si - 90 h =	0.0356
shared electron number for the pair	53 si - 91 h =	0.0313
shared electron number for the pair	53 si - 92 h =	0.0316
shared electron number for the pair	53 si - 93 h =	0.0366
shared electron number for the pair	53 si - 94 h =	0.0365
shared electron number for the pair	53 si - 95 h =	0.0369
shared electron number for the pair	53 si - 96 h =	0.0372
shared electron number for the pair	53 si - 97 h =	0.0328
shared electron number for the pair	54 si - 68 c =	1.3735

shared electron number for the pair	54 si - 69 c =	1.3745
shared electron number for the pair	54 si - 70 c =	1.3766
shared electron number for the pair	54 si - 98 h =	0.0349
shared electron number for the pair	54 si - 99 h =	0.0342
shared electron number for the pair	54 si - 100 h =	0.0307
shared electron number for the pair	54 si - 101 h =	0.0316
shared electron number for the pair	54 si - 102 h =	0.0340
shared electron number for the pair	54 si - 103 h =	0.0351
shared electron number for the pair	54 si - 104 h =	0.0361
shared electron number for the pair	54 si - 105 h =	0.0355
shared electron number for the pair	54 si - 106 h =	0.0318
shared electron number for the pair	55 c - 56 c =	0.0250
shared electron number for the pair	55 c - 71 h =	1.3464
shared electron number for the pair	55 c - 72 c =	1.3514
shared electron number for the pair	55 c - 73 c =	0.0463
shared electron number for the pair	55 c - 107 h =	0.0353
shared electron number for the pair	55 c - 108 h =	0.0258
shared electron number for the pair	56 c - 72 c =	0.0490
shared electron number for the pair	56 c - 73 c =	1.3463
shared electron number for the pair	56 c - 74 h =	1.3494
shared electron number for the pair	56 c - 75 h =	1.3629
shared electron number for the pair	56 c - 109 h =	0.0331
shared electron number for the pair	56 c - 110 h =	0.0252
shared electron number for the pair	57 h - 58 c =	0.0186
shared electron number for the pair	58 c - 59 c =	1.3470
shared electron number for the pair	58 c - 76 h =	1.3744
shared electron number for the pair	58 c - 77 h =	1.3751
shared electron number for the pair	58 c - 78 h =	0.0284
shared electron number for the pair	58 c - 79 h =	0.0227
shared electron number for the pair	59 c - 60 h =	0.0198
shared electron number for the pair	59 c - 61 h =	0.0225
shared electron number for the pair	59 c - 76 h =	0.0280
shared electron number for the pair	59 c - 77 h =	0.0233
shared electron number for the pair	59 c - 78 h =	1.3791
shared electron number for the pair	59 c - 79 h =	1.3756
shared electron number for the pair	60 h - 61 h =	0.0181
shared electron number for the pair	62 c - 80 h =	1.3714
shared electron number for the pair	62 c - 81 h =	1.3927
shared electron number for the pair	62 c - 82 h =	1.3962
shared electron number for the pair	63 c - 83 h =	1.3849
shared electron number for the pair	63 c - 84 h =	1.3864
shared electron number for the pair	63 c - 85 h =	1.3933
shared electron number for the pair	64 c - 86 h =	1.3890
shared electron number for the pair	64 c - 87 h =	1.3918
shared electron number for the pair	64 c - 88 h =	1.3774
shared electron number for the pair	65 c - 89 h =	1.3930
shared electron number for the pair	65 c - 90 h =	1.3957
shared electron number for the pair	65 c - 91 h =	1.3715



shared electron number for the pair	66 c - 92 h =	1.3718
shared electron number for the pair	66 c - 93 h =	1.3920
shared electron number for the pair	66 c - 94 h =	1.3985
shared electron number for the pair	67 c - 95 h =	1.3907
shared electron number for the pair	67 c - 96 h =	1.3941
shared electron number for the pair	67 c - 97 h =	1.3724
shared electron number for the pair	68 c - 98 h =	1.3963
shared electron number for the pair	68 c - 99 h =	1.3847
shared electron number for the pair	68 c - 100 h =	1.3745
shared electron number for the pair	69 c - 101 h =	1.3767
shared electron number for the pair	69 c - 102 h =	1.3766
shared electron number for the pair	69 c - 103 h =	1.3953
shared electron number for the pair	70 c - 104 h =	1.3931
shared electron number for the pair	70 c - 105 h =	1.3976
shared electron number for the pair	70 c - 106 h =	1.3699
shared electron number for the pair	71 h - 72 c =	0.0186
shared electron number for the pair	72 c - 73 c =	1.3470
shared electron number for the pair	72 c - 107 h =	1.3743
shared electron number for the pair	72 c - 108 h =	1.3751
shared electron number for the pair	72 c - 109 h =	0.0284
shared electron number for the pair	72 c - 110 h =	0.0227
shared electron number for the pair	73 c - 74 h =	0.0199
shared electron number for the pair	73 c - 75 h =	0.0225
shared electron number for the pair	73 c - 107 h =	0.0280
shared electron number for the pair	73 c - 108 h =	0.0234
shared electron number for the pair	73 c - 109 h =	1.3791
shared electron number for the pair	73 c - 110 h =	1.3755
shared electron number for the pair	74 h - 75 h =	0.0181
shared electron number for the pair	76 h - 77 h =	0.0231
shared electron number for the pair	78 h - 79 h =	0.0228
shared electron number for the pair	80 h - 81 h =	0.0230
shared electron number for the pair	80 h - 82 h =	0.0228
shared electron number for the pair	81 h - 82 h =	0.0231
shared electron number for the pair	83 h - 84 h =	0.0231
shared electron number for the pair	83 h - 85 h =	0.0222
shared electron number for the pair	84 h - 85 h =	0.0238
shared electron number for the pair	86 h - 87 h =	0.0235
shared electron number for the pair	86 h - 88 h =	0.0229
shared electron number for the pair	87 h - 88 h =	0.0231
shared electron number for the pair	89 h - 90 h =	0.0228
shared electron number for the pair	89 h - 91 h =	0.0230
shared electron number for the pair	90 h - 91 h =	0.0230
shared electron number for the pair	92 h - 93 h =	0.0228
shared electron number for the pair	92 h - 94 h =	0.0231
shared electron number for the pair	93 h - 94 h =	0.0234
shared electron number for the pair	95 h - 96 h =	0.0234
shared electron number for the pair	95 h - 97 h =	0.0233
shared electron number for the pair	96 h - 97 h =	0.0230

shared electron number for the pair	98 h - 99 h =	0.0230
shared electron number for the pair	98 h - 100 h =	0.0229
shared electron number for the pair	99 h - 100 h =	0.0231
shared electron number for the pair	101 h - 102 h =	0.0232
shared electron number for the pair	101 h - 103 h =	0.0233
shared electron number for the pair	102 h - 103 h =	0.0236
shared electron number for the pair	104 h - 105 h =	0.0234
shared electron number for the pair	104 h - 106 h =	0.0231
shared electron number for the pair	105 h - 106 h =	0.0230
shared electron number for the pair	107 h - 108 h =	0.0231
shared electron number for the pair	109 h - 110 h =	0.0228

#### 4b:

shared electron number for the pair	1 c - 2 h =	1.3887
shared electron number for the pair	1 c - 3 h =	1.3937
shared electron number for the pair	1 c - 4 h =	1.3773
shared electron number for the pair	1 c - 5 si =	1.3806
shared electron number for the pair	2 h - 3 h =	0.0235
shared electron number for the pair	2 h - 4 h =	0.0229
shared electron number for the pair	2 h - 5 si =	0.0355
shared electron number for the pair	3 h - 4 h =	0.0231
shared electron number for the pair	3 h - 5 si =	0.0358
shared electron number for the pair	4 h - 5 si =	0.0324
shared electron number for the pair	5 si - 6 si =	1.3388
shared electron number for the pair	5 si - 7 c =	1.3870
shared electron number for the pair	5 si - 8 c =	1.3688
shared electron number for the pair	5 si - 9 be =	0.0352
shared electron number for the pair	5 si - 10 si =	0.0216
shared electron number for the pair	5 si - 11 si =	0.0221
shared electron number for the pair	5 si - 12 h =	0.0311
shared electron number for the pair	5 si - 13 h =	0.0349
shared electron number for the pair	5 si - 14 h =	0.0360
shared electron number for the pair	5 si - 15 h =	0.0320
shared electron number for the pair	5 si - 16 h =	0.0384
shared electron number for the pair	5 si - 17 h =	0.0359
shared electron number for the pair	6 si - 9 be =	1.3139
shared electron number for the pair	6 si - 10 si =	1.3398
shared electron number for the pair	6 si - 11 si =	1.3296
shared electron number for the pair	7 c - 12 h =	1.3725
shared electron number for the pair	7 c - 13 h =	1.3935
shared electron number for the pair	7 c - 14 h =	1.3910
shared electron number for the pair	8 c - 15 h =	1.3821
shared electron number for the pair	8 c - 16 h =	1.3867
shared electron number for the pair	8 c - 17 h =	1.3961
shared electron number for the pair	9 be - 10 si =	0.0110
shared electron number for the pair	9 be - 11 si =	0.0189

shared electron number for the pair	9 be - 18 i =	0.0553
shared electron number for the pair	9 be - 19 i =	0.0569
shared electron number for the pair	9 be - 21 o =	0.8026
shared electron number for the pair	9 be - 22 h =	0.0196
shared electron number for the pair	9 be - 32 c =	0.0602
shared electron number for the pair	9 be - 33 c =	0.0725
shared electron number for the pair	9 be - 57 h =	0.0108
shared electron number for the pair	9 be - 58 c =	0.0133
shared electron number for the pair	9 be - 59 c =	0.0108
shared electron number for the pair	9 be - 60 h =	0.0225
shared electron number for the pair	9 be - 61 h =	0.0142
shared electron number for the pair	10 si - 11 si =	0.0207
shared electron number for the pair	10 si - 23 c =	1.3674
shared electron number for the pair	10 si - 24 c =	1.3700
shared electron number for the pair	10 si - 25 c =	1.3690
shared electron number for the pair	10 si - 34 h =	0.0374
shared electron number for the pair	10 si - 35 h =	0.0353
shared electron number for the pair	10 si - 36 h =	0.0316
shared electron number for the pair	10 si - 37 h =	0.0323
shared electron number for the pair	10 si - 38 h =	0.0360
shared electron number for the pair	10 si - 39 h =	0.0376
shared electron number for the pair	10 si - 40 h =	0.0373
shared electron number for the pair	10 si - 41 h =	0.0379
shared electron number for the pair	10 si - 42 h =	0.0331
shared electron number for the pair	11 si - 26 c =	1.3774
shared electron number for the pair	11 si - 27 c =	1.3774
shared electron number for the pair	11 si - 28 c =	1.3729
shared electron number for the pair	11 si - 43 h =	0.0344
shared electron number for the pair	11 si - 44 h =	0.0346
shared electron number for the pair	11 si - 45 h =	0.0304
shared electron number for the pair	11 si - 46 h =	0.0318
shared electron number for the pair	11 si - 47 h =	0.0341
shared electron number for the pair	11 si - 48 h =	0.0347
shared electron number for the pair	11 si - 49 h =	0.0360
shared electron number for the pair	11 si - 50 h =	0.0356
shared electron number for the pair	11 si - 51 h =	0.0317
shared electron number for the pair	12 h - 13 h =	0.0231
shared electron number for the pair	12 h - 14 h =	0.0230
shared electron number for the pair	13 h - 14 h =	0.0232
shared electron number for the pair	15 h - 16 h =	0.0231
shared electron number for the pair	15 h - 17 h =	0.0224
shared electron number for the pair	16 h - 17 h =	0.0238
shared electron number for the pair	18 i - 20 be =	0.0570
shared electron number for the pair	19 i - 20 be =	0.0553
shared electron number for the pair	20 be - 29 si =	1.3139
shared electron number for the pair	20 be - 30 o =	0.8023
shared electron number for the pair	20 be - 31 h =	0.0196
shared electron number for the pair	20 be - 52 si =	0.0352

shared electron number for the pair	20 be - 53 si =	0.0110
shared electron number for the pair	20 be - 54 si =	0.0189
shared electron number for the pair	20 be - 55 c =	0.0602
shared electron number for the pair	20 be - 56 c =	0.0725
shared electron number for the pair	20 be - 71 h =	0.0108
shared electron number for the pair	20 be - 72 c =	0.0133
shared electron number for the pair	20 be - 73 c =	0.0108
shared electron number for the pair	20 be - 74 h =	0.0226
shared electron number for the pair	20 be - 75 h =	0.0142
shared electron number for the pair	21 o - 32 c =	1.0040
shared electron number for the pair	21 o - 33 c =	1.0076
shared electron number for the pair	22 h - 32 c =	1.3659
shared electron number for the pair	22 h - 57 h =	0.0184
shared electron number for the pair	22 h - 58 c =	0.0236
shared electron number for the pair	23 c - 34 h =	1.3905
shared electron number for the pair	23 c - 35 h =	1.3958
shared electron number for the pair	23 c - 36 h =	1.3712
shared electron number for the pair	24 c - 37 h =	1.3727
shared electron number for the pair	24 c - 38 h =	1.3911
shared electron number for the pair	24 c - 39 h =	1.3937
shared electron number for the pair	25 c - 40 h =	1.3910
shared electron number for the pair	25 c - 41 h =	1.3954
shared electron number for the pair	25 c - 42 h =	1.3715
shared electron number for the pair	26 c - 43 h =	1.3966
shared electron number for the pair	26 c - 44 h =	1.3832
shared electron number for the pair	26 c - 45 h =	1.3748
shared electron number for the pair	27 c - 46 h =	1.3775
shared electron number for the pair	27 c - 47 h =	1.3755
shared electron number for the pair	27 c - 48 h =	1.3961
shared electron number for the pair	28 c - 49 h =	1.3921
shared electron number for the pair	28 c - 50 h =	1.3967
shared electron number for the pair	28 c - 51 h =	1.3711
shared electron number for the pair	29 si - 52 si =	1.3389
shared electron number for the pair	29 si - 53 si =	1.3399
shared electron number for the pair	29 si - 54 si =	1.3294
shared electron number for the pair	30 o - 55 c =	1.0041
shared electron number for the pair	30 o - 56 c =	1.0077
shared electron number for the pair	31 h - 55 c =	1.3658
shared electron number for the pair	31 h - 71 h =	0.0184
shared electron number for the pair	31 h - 72 c =	0.0236
shared electron number for the pair	32 c - 33 c =	0.0239
shared electron number for the pair	32 c - 57 h =	1.3470
shared electron number for the pair	32 c - 58 c =	1.3485
shared electron number for the pair	32 c - 59 c =	0.0463
shared electron number for the pair	32 c - 76 h =	0.0360
shared electron number for the pair	32 c - 77 h =	0.0255
shared electron number for the pair	33 c - 58 c =	0.0485
shared electron number for the pair	33 c - 59 c =	1.3448

shared electron number for the pair	33 c - 60 h =	1.3480
shared electron number for the pair	33 c - 61 h =	1.3594
shared electron number for the pair	33 c - 78 h =	0.0342
shared electron number for the pair	33 c - 79 h =	0.0250
shared electron number for the pair	34 h - 35 h =	0.0228
shared electron number for the pair	34 h - 36 h =	0.0228
shared electron number for the pair	35 h - 36 h =	0.0230
shared electron number for the pair	37 h - 38 h =	0.0230
shared electron number for the pair	37 h - 39 h =	0.0231
shared electron number for the pair	38 h - 39 h =	0.0235
shared electron number for the pair	40 h - 41 h =	0.0234
shared electron number for the pair	40 h - 42 h =	0.0232
shared electron number for the pair	41 h - 42 h =	0.0230
shared electron number for the pair	43 h - 44 h =	0.0228
shared electron number for the pair	43 h - 45 h =	0.0229
shared electron number for the pair	44 h - 45 h =	0.0231
shared electron number for the pair	46 h - 47 h =	0.0229
shared electron number for the pair	46 h - 48 h =	0.0231
shared electron number for the pair	47 h - 48 h =	0.0235
shared electron number for the pair	49 h - 50 h =	0.0234
shared electron number for the pair	49 h - 51 h =	0.0230
shared electron number for the pair	50 h - 51 h =	0.0230
shared electron number for the pair	52 si - 53 si =	0.0216
shared electron number for the pair	52 si - 54 si =	0.0221
shared electron number for the pair	52 si - 62 c =	1.3869
shared electron number for the pair	52 si - 63 c =	1.3688
shared electron number for the pair	52 si - 64 c =	1.3805
shared electron number for the pair	52 si - 80 h =	0.0311
shared electron number for the pair	52 si - 81 h =	0.0349
shared electron number for the pair	52 si - 82 h =	0.0360
shared electron number for the pair	52 si - 83 h =	0.0320
shared electron number for the pair	52 si - 84 h =	0.0384
shared electron number for the pair	52 si - 85 h =	0.0359
shared electron number for the pair	52 si - 86 h =	0.0355
shared electron number for the pair	52 si - 87 h =	0.0358
shared electron number for the pair	52 si - 88 h =	0.0324
shared electron number for the pair	53 si - 54 si =	0.0207
shared electron number for the pair	53 si - 65 c =	1.3674
shared electron number for the pair	53 si - 66 c =	1.3699
shared electron number for the pair	53 si - 67 c =	1.3690
shared electron number for the pair	53 si - 89 h =	0.0374
shared electron number for the pair	53 si - 90 h =	0.0353
shared electron number for the pair	53 si - 91 h =	0.0316
shared electron number for the pair	53 si - 92 h =	0.0323
shared electron number for the pair	53 si - 93 h =	0.0360
shared electron number for the pair	53 si - 94 h =	0.0376
shared electron number for the pair	53 si - 95 h =	0.0373
shared electron number for the pair	53 si - 96 h =	0.0379

shared electron number for the pair	53 si - 97 h =	0.0332
shared electron number for the pair	54 si - 68 c =	1.3773
shared electron number for the pair	54 si - 69 c =	1.3774
shared electron number for the pair	54 si - 70 c =	1.3731
shared electron number for the pair	54 si - 98 h =	0.0344
shared electron number for the pair	54 si - 99 h =	0.0346
shared electron number for the pair	54 si - 100 h =	0.0304
shared electron number for the pair	54 si - 101 h =	0.0317
shared electron number for the pair	54 si - 102 h =	0.0341
shared electron number for the pair	54 si - 103 h =	0.0347
shared electron number for the pair	54 si - 104 h =	0.0360
shared electron number for the pair	54 si - 105 h =	0.0356
shared electron number for the pair	54 si - 106 h =	0.0317
shared electron number for the pair	55 c - 56 c =	0.0239
shared electron number for the pair	55 c - 71 h =	1.3469
shared electron number for the pair	55 c - 72 c =	1.3485
shared electron number for the pair	55 c - 73 c =	0.0463
shared electron number for the pair	55 c - 107 h =	0.0360
shared electron number for the pair	55 c - 108 h =	0.0255
shared electron number for the pair	56 c - 72 c =	0.0485
shared electron number for the pair	56 c - 73 c =	1.3448
shared electron number for the pair	56 c - 74 h =	1.3481
shared electron number for the pair	56 c - 75 h =	1.3594
shared electron number for the pair	56 c - 109 h =	0.0341
shared electron number for the pair	56 c - 110 h =	0.0250
shared electron number for the pair	57 h - 58 c =	0.0184
shared electron number for the pair	58 c - 59 c =	1.3457
shared electron number for the pair	58 c - 76 h =	1.3740
shared electron number for the pair	58 c - 77 h =	1.3752
shared electron number for the pair	58 c - 78 h =	0.0281
shared electron number for the pair	58 c - 79 h =	0.0224
shared electron number for the pair	59 c - 60 h =	0.0194
shared electron number for the pair	59 c - 61 h =	0.0222
shared electron number for the pair	59 c - 76 h =	0.0282
shared electron number for the pair	59 c - 77 h =	0.0230
shared electron number for the pair	59 c - 78 h =	1.3782
shared electron number for the pair	59 c - 79 h =	1.3760
shared electron number for the pair	60 h - 61 h =	0.0182
shared electron number for the pair	62 c - 80 h =	1.3724
shared electron number for the pair	62 c - 81 h =	1.3935
shared electron number for the pair	62 c - 82 h =	1.3911
shared electron number for the pair	63 c - 83 h =	1.3822
shared electron number for the pair	63 c - 84 h =	1.3867
shared electron number for the pair	63 c - 85 h =	1.3959
shared electron number for the pair	64 c - 86 h =	1.3888
shared electron number for the pair	64 c - 87 h =	1.3936
shared electron number for the pair	64 c - 88 h =	1.3773
shared electron number for the pair	65 c - 89 h =	1.3906

shared electron number for the pair	65 c - 90 h =	1.3957
shared electron number for the pair	65 c - 91 h =	1.3712
shared electron number for the pair	66 c - 92 h =	1.3727
shared electron number for the pair	66 c - 93 h =	1.3912
shared electron number for the pair	66 c - 94 h =	1.3938
shared electron number for the pair	67 c - 95 h =	1.3910
shared electron number for the pair	67 c - 96 h =	1.3954
shared electron number for the pair	67 c - 97 h =	1.3715
shared electron number for the pair	68 c - 98 h =	1.3966
shared electron number for the pair	68 c - 99 h =	1.3832
shared electron number for the pair	68 c - 100 h =	1.3748
shared electron number for the pair	69 c - 101 h =	1.3775
shared electron number for the pair	69 c - 102 h =	1.3753
shared electron number for the pair	69 c - 103 h =	1.3960
shared electron number for the pair	70 c - 104 h =	1.3921
shared electron number for the pair	70 c - 105 h =	1.3967
shared electron number for the pair	70 c - 106 h =	1.3710
shared electron number for the pair	71 h - 72 c =	0.0184
shared electron number for the pair	72 c - 73 c =	1.3456
shared electron number for the pair	72 c - 107 h =	1.3740
shared electron number for the pair	72 c - 108 h =	1.3752
shared electron number for the pair	72 c - 109 h =	0.0281
shared electron number for the pair	72 c - 110 h =	0.0224
shared electron number for the pair	73 c - 74 h =	0.0194
shared electron number for the pair	73 c - 75 h =	0.0222
shared electron number for the pair	73 c - 107 h =	0.0282
shared electron number for the pair	73 c - 108 h =	0.0230
shared electron number for the pair	73 c - 109 h =	1.3781
shared electron number for the pair	73 c - 110 h =	1.3760
shared electron number for the pair	74 h - 75 h =	0.0182
shared electron number for the pair	76 h - 77 h =	0.0231
shared electron number for the pair	78 h - 79 h =	0.0227
shared electron number for the pair	80 h - 81 h =	0.0231
shared electron number for the pair	80 h - 82 h =	0.0230
shared electron number for the pair	81 h - 82 h =	0.0232
shared electron number for the pair	83 h - 84 h =	0.0231
shared electron number for the pair	83 h - 85 h =	0.0224
shared electron number for the pair	84 h - 85 h =	0.0238
shared electron number for the pair	86 h - 87 h =	0.0235
shared electron number for the pair	86 h - 88 h =	0.0229
shared electron number for the pair	87 h - 88 h =	0.0231
shared electron number for the pair	89 h - 90 h =	0.0228
shared electron number for the pair	89 h - 91 h =	0.0228
shared electron number for the pair	90 h - 91 h =	0.0230
shared electron number for the pair	92 h - 93 h =	0.0230
shared electron number for the pair	92 h - 94 h =	0.0231
shared electron number for the pair	93 h - 94 h =	0.0234
shared electron number for the pair	95 h - 96 h =	0.0234

shared electron number for the pair	95 h - 97 h =	0.0232
shared electron number for the pair	96 h - 97 h =	0.0230
shared electron number for the pair	98 h - 99 h =	0.0228
shared electron number for the pair	98 h - 100 h =	0.0229
shared electron number for the pair	99 h - 100 h =	0.0231
shared electron number for the pair	101 h - 102 h =	0.0229
shared electron number for the pair	101 h - 103 h =	0.0231
shared electron number for the pair	102 h - 103 h =	0.0235
shared electron number for the pair	104 h - 105 h =	0.0234
shared electron number for the pair	104 h - 106 h =	0.0230
shared electron number for the pair	105 h - 106 h =	0.0230
shared electron number for the pair	107 h - 108 h =	0.0231
shared electron number for the pair	109 h - 110 h =	0.0227