Supporting Information

for

Metalation-Induced Denitrogenative Reductive Coupling of Isocyanides on a Silylene-Bridged Nickel Cluster

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Contents

General. Manipulation of air and moisture sensitive compounds was carried out under a dry nitrogen atmosphere using Schlenk tube techniques associated with a high-vacuum line or in the glove box which was filled with dry nitrogen. All solvents were purchased from Kanto Chemical Co. Inc., and was dried over activated molecular sieves. ^{1}H, ^{13}C, ^{29}Si NMR spectra were recorded on a JEOL Lambda 400 spectrometer at ambient temperature unless otherwise noted. ^{1}H, ^{13}C, ^{29}Si NMR chemical shifts (δ values) were given in ppm relative to the solvent signal (^{1}H, ^{13}C) or standard resonances (^{29}Si: external tetramethylsilane). Elemental analyses were performed by a Thermo Scientific FLASH 2000 Organic Elemental Analyzer. IR spectra were recorded on a PerkinElmer Spectrum Two spectrometer. The starting compounds, $Si_4{}^{i}Pr_8$[1], Si_4(cyclopentyl)$_8$[2] and Si_4Ph_8[3] were synthesized by the method reported in the literature. All reagents were purchased from Tokyo Chemical Industries Co., Ltd. or Sigma-Aldrich, and were used without further purification.

Synthesis of $(Me_2IM^{Et})_2Ni(Ph_2SiSiPh_2SiPh_2SiPh_2)_4$ (2). In a 50 mL schlenk tube, toluene (2 mL) solution of Me_2IM^{Et} (41.8 mg, 0.275 mmol) was added to the toluene (1 mL) solution of Ni(cod)$_2$ (37.7 mg, 0.137 mmol), then Si_4Ph_8 (**1c**) (100.0 mg, 0.137 mmol) suspended in toluene (2 mL) was added to this mixture. The solution was stirred at 80 °C for 48 h, then the solvent was removed *in vacuo*. The obtained crude product was dissolved in diethyl ether (5 mL), and the solution was centrifuged to remove the small amounts of insoluble materials. Pentane (5 mL) was added to the mother liquid, and the mixture was cooled to -20 °C, to form **2** as orange crystals in 48 % yield (72.0 mg, 0.0659 mmol). ^{1}H NMR (400 MHz, r.t., C_6D_6): δ = 0.52 ppm (t, *J* = 7.8 Hz, 12H, CH_2CH_3), 1.61 ppm (q, *J* = 7.8 Hz, 8H, CH_2CH_3), 3.04 ppm (s, 12H, C=C-CH_3), 6.98-7.14 ppm (m, 24H, Ph), 7.73-7.75 ppm (m, 8H, Ph), 7.87-7.89 ppm (m, 8H, Ph). ^{13}C NMR (100 MHz, r.t., C_6D_6): 14.25 ppm (s, CH_2CH_3), 16.64 ppm (s, CH_2CH_3), 35.11 ppm (s, C=C-CH_3), 126.23 ppm (s), 126.51 ppm (s), 127.18 ppm (s), 127.32 ppm (s), 130.36 ppm (s), 138.51 ppm (s), 138.65 ppm (s), 139.83 ppm (s), 148.01 ppm (s), 190.18 ppm (s, -NCN-). ^{29}Si NMR (119 MHz, r.t., C_6D_6): −26.12 ppm (s), −2.00 ppm (s). Melting point: 170-175 °C (decomp.). Anal calcd for $C_{83}H_{107}N_7Ni_5Si_4$; C 63.17, H 5.24, N 1.60; found: C 63.12, H 5.19, N 1.75.

Synthesis of Ni_2 cluster 3. In a 50 mL schlenk tube, Ni(cod)$_2$ (100.0 mg, 0.364 mmol) was dissolved in toluene (5 mL), then CN^{t}Bu (72.0 μL, 0.636 mmol) was added to this solution slowly at room temperature. Then Si_4Ph_8 suspended in toluene (2 mL) was added to the solution. The solution was stirred at 60 °C for 24 hrs, then CN^{t}Bu (30.8 μL, 0.273 mmol) was added to the solution. The reaction mixture was then stirred at 60 °C for additional 24 hrs. The solvent was removed *in vacuo*, and the obtained solid was dissolved in pentane (5 mL). The solution was passed through the silica-gel column chromatography to remove the small amount of byproducts with low solubility by using pentane as eluent. Volatiles of the obtained orange-red solution was removed *in vacuo*, then remaining crude product was recrystallized from pentane at -20 °C twice to afford orange crystals in 15 % yield (34.1 mg, 0.0270 mmol). ^{1}H NMR (400 MHz, r.t., C_6D_6): δ = 0.39 ppm (s, 18H, CMe_3), 0.88 ppm (s, 9H, CMe_3), 1.34 ppm (s, 9H, CMe_3), 1.59 ppm (s, 9H, CMe_3), 7.05-7.09 ppm (m, 7H, Ph), 7.18-7.31 ppm (m, 17H, Ph), 7.69-7.71 ppm (m, 4H, Ph), 7.91-7.93 ppm (m, 4H, Ph), 7.98-8.00 ppm (m, 4H, Ph), 8.13-8.16 ppm (m, 4H, Ph). ^{13}C NMR (100 MHz, r.t., C_6D_6): 29.38 ppm (s, -C(CH_3)$_3$), 29.66 ppm (s, -C(CH_3)$_3$), 29.96 ppm (s, -C(CH_3)$_3$), 36.22 ppm (s, -C(CH_3)$_3$), 52.80 ppm (s, $C(CH_3)_3$), 54.77 ppm (s, $C(CH_3)_3$), 55.69 ppm (s, $C(CH_3)_3$), 60.88 ppm (s, $C(CH_3)_3$), 125.93 ppm (s), 126.05 ppm (s), 126.37 ppm (s), 126.91 ppm (s), 127.35 ppm (s),

128.00 ppm (s), 128.24 ppm (s), 128.36 ppm (s), 128.67 ppm (s), 130.18 ppm (s), 135.61 ppm (s), 136.11 ppm (s), 137.27 ppm (s), 137.89 ppm (s), 138.29 ppm (s), 138.34 ppm (s), 143.34 ppm (s), 146.38 ppm (s), 146.80 ppm (s), 152.15 ppm (s), 155.48 ppm (s). ^{29}Si NMR (119 MHz, r.t., C_6D_6): −57.02 ppm (s), −6.80 ppm (s), −1.48 ppm (s). IR (ATR): ν_{CN} = 2110.5, 2075 cm^{-1}. Melting point: 140-143 °C (decomp.). Anal calcd for $C_{73}H_{85}N_5Ni_2Si_4$; C 69.46, H 6.79, N 5.55; found: C69.13, H 6.67, N 5.36.

Synthesis of 1-tert-butyl-3-(1-tert-butyl-1-aza-vinylidene)-2,2,4,4-tetraphenyl-1-aza-2,4-disilacyclobutane (4). In a 50 mL schlenk tube, Ni(cod)$_2$ (100.0 mg, 0.364 mmol) was dissolved in toluene (5 mL), then CN^{t}Bu (72.0 μL, 0.636 mmol) was added to this solution slowly at room temperature. Then Si_4Ph_8 suspended in toluene (2 mL) was added to the solution. The solution was stirred at 60 °C for 24 hrs, then CN^{t}Bu (30.8 μL, 0.273 mmol) was added to the solution. The reaction mixture was then stirred at 60 °C for additional 24 hrs. The solvent was removed *in vacuo.* The obtained crude product was then dissolved in toluene, and was heated at 80 °C for 48h. The solvent was removed *in vacuo*, and the remaining solid was extracted with pentane (10 mL). The pentane solution was concentrated, and cooled at -20 °C, then colorless crystals of **4** were obtained (36.3 mg, 38%). ^{1}H NMR (400 MHz, r.t., C_6D_6): δ = 0.88 ppm (s, 9H, CMe_3), 1.14 ppm (s, 9H, CMe_3), 7.22-7.29 ppm (m, 12H, Ph), 8.12-8.15 ppm (m, 8H, Ph). ^{13}C NMR (100 MHz, r.t., C_6D_6): 30.91 ppm (s, -C(*C*H$_3$)$_3$), 34.14 ppm (s, -C(*C*H$_3$)$_3$), 52.30 ppm (s, *C*(CH$_3$)$_3$), 54.77 ppm (s, *C*=C=NC(CH$_3$)$_3$), 57.20 ppm (s, *C*(CH$_3$)$_3$), 128.25 ppm (s, Ph), 130.18 ppm (s, Ph), 136.12 ppm (s, Ph), 137.79 ppm (s, Ph), 161.15 ppm (s, C=*C*=NC(CH$_3$)$_3$). ^{29}Si NMR (119 MHz, r.t., C_6D_6): −13.12 ppm (s). IR (ATR): ν_{CN} = 2024 cm^{-1}. Melting point: 190-195 °C (decomp.). Anal calcd for $C_{34}H_{38}N_2Si_2$; C 76.93, H 7.22, N 5.28; found: C 76.93, H 7.22, N 5.37.

Synthesis of Ni$_5$ cluster 5. In a 50 mL schlenk tube, Ni(cod)$_2$ (100.0 mg, 0.364 mmol) was dissolved in toluene (5 mL) and CN^{t}Bu (57.6 μL, 0.508 mmol) was added slowly to this solution. Then Si_4Ph_8 (53.0 mg, 0.0728 mmol) suspended in toluene (5 mL) was added to this solution. The obtained reaction mixture was stirred at 60 °C for 48 hr. The solvent was removed *in vacuo*, and the obtained solid was dissolved in diethyl ether (0.5 mL). This solution was purified by the column chromatography by using the 1: 4 mixture of diethyl ether/pentane was eluent. Volatiles of the obtained solution was removed *in vacuo*, then remaining crude product was recrystallized from hexamethyldisiloxane (HMDSO) at -20 °C to afford dark red crystals of **3** in 22 % yield (26.1 mg, 0.0163 mmol). ^{1}H NMR (400 MHz, r.t., C_6D_6): δ = 0.72 ppm (s, 9H, CMe_3), 0.77 ppm (s, 9H, CMe_3), 0.81 ppm (s, 9H, CMe_3), 0.87 ppm (s, 18H, CMe_3), 1.30 ppm (s, 9H, CMe_3), 1.78 ppm (s, 9H, CMe_3), 6.97-7.01 ppm (m, 3H, Ph), 7.07-7.12 ppm (m, 2H, Ph), 7.23-7.36 ppm (m, 13H, Ph), 7.41-7.46 ppm (m, 6H, Ph), 7.50-7.52 ppm (m, 2H, Ph), 7.55-7.58 ppm (m, 2H, Ph), 8.12-8.17 ppm (m, 8H, Ph), 8.54-8.56 ppm (m, 2H, Ph), 8.92-8.94 ppm (m, 2H, Ph). ^{13}C NMR (100 MHz, r.t., C_6D_6): 29.49 ppm (s, -C(*C*H$_3$)$_3$), 29.56 ppm (s, -C(*C*H$_3$)$_3$), 29.64 ppm (s, -C(*C*H$_3$)$_3$), 29.74 ppm (s, -C(*C*H$_3$)$_3$), 30.08 ppm (s, -C(*C*H$_3$)$_3$), 32.04 ppm (s, -C(*C*H$_3$)$_3$), 36.34 ppm (s, -C(*C*H$_3$)$_3$), 55.34 ppm (s, -*C*(CH$_3$)$_3$), 55.50 ppm (s, -*C*(CH$_3$)$_3$), 55.93 ppm (s, -*C*(CH$_3$)$_3$), 57.49 ppm (s, -*C*(CH$_3$)$_3$), 60.65 ppm (s, -*C*(CH$_3$)$_3$), 61.96 ppm (s, -*C*(CH$_3$)$_3$), 124.66 ppm (s), 126.30 ppm (s), 126.34 ppm (s), 126.43 ppm (s), 126.50 ppm (s), 126.58 ppm (s), 127.06 ppm (s), 127.08 ppm (s), 127.20 ppm (s), 127.30 ppm (s), 132.99 ppm (s), 135.14 ppm (s), 135.26 ppm (s), 135.84 ppm (s), 137.24 ppm (s), 138.13 ppm (s), 138.38 ppm (s), 138.89 ppm (s), 139.90 ppm (s), 140.16 ppm (s), 141.63 ppm (s), 142.32

ppm (s), 144.28 ppm (s), 144.42 ppm (s), 147.58 ppm (s), 149.01 ppm (s), 150.05 ppm (s), 151.26 ppm (s), 153.04 ppm (s), 154.45 ppm (s), 158.83 ppm (s), 173.94 ppm (s) (one peak assignable to the $\underline{C}N^tBu$ moiety was not detected). ^{29}Si NMR (119 MHz, r.t., C_6D_6): -59.26 ppm (s), -36.68 ppm (s), 0.43 ppm (s), 137.93 ppm (s). IR (ATR): ν_{CN} = 2071, 2102 cm^{-1}. Melting point: 148-152 ^oC (decomp.). Anal calcd for $C_{83}H_{107}N_7Ni_5Si_4$; C 62.13, H 6.47, N 6.11; found: C 62.12, H 6.68, N 6.09.

Figure S1-1. ^{1}H NMR spectrum of solution of **2** in C_6D_6 at room temperature.

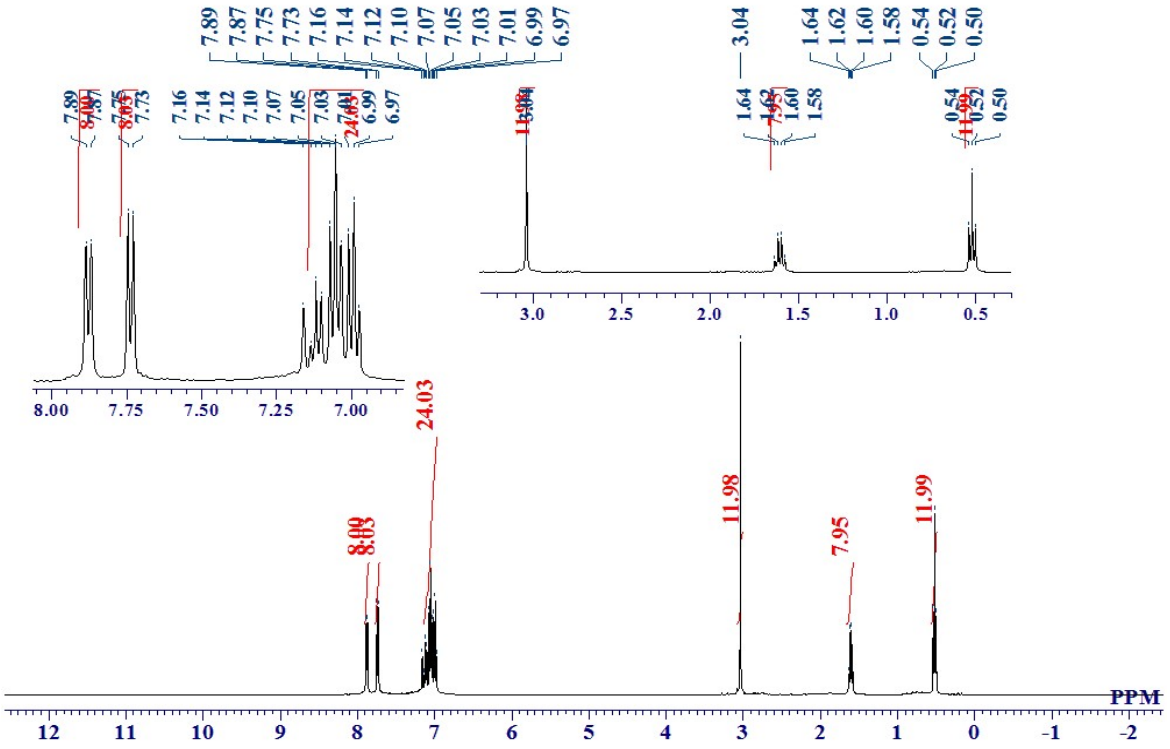


Figure S1-2. ^{13}C NMR spectrum of solution of **2** in C_6D_6 at room temperature.

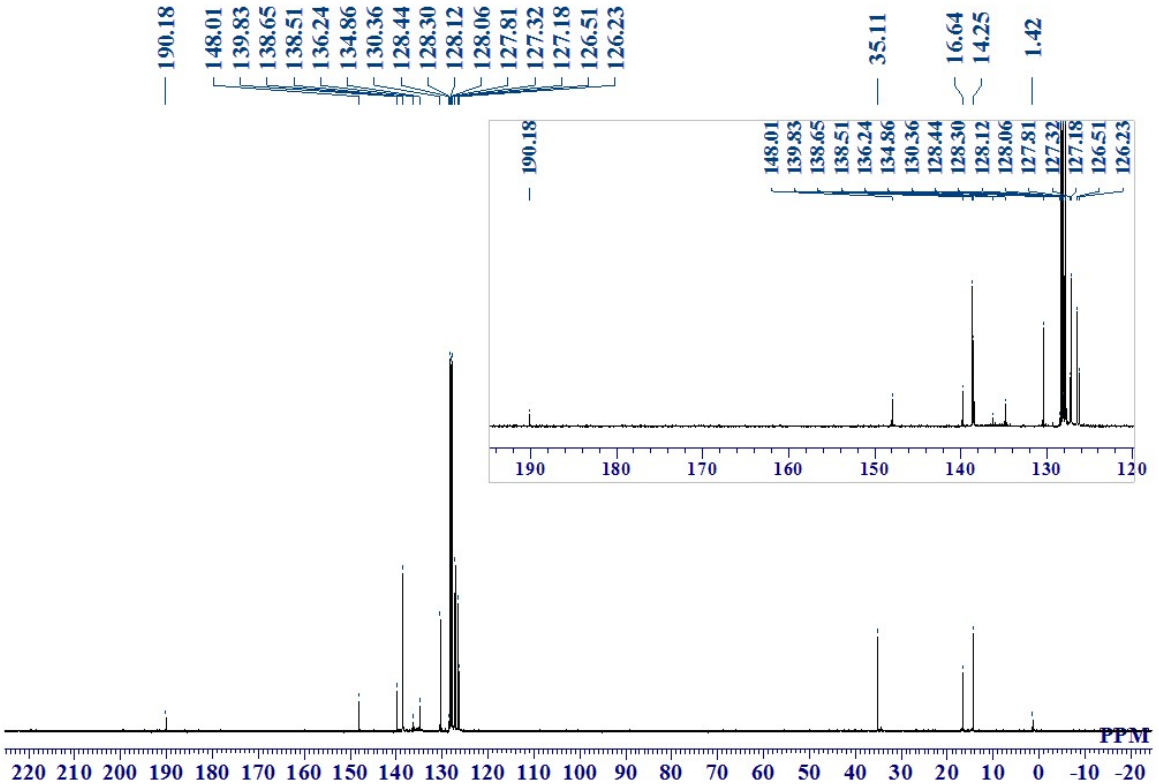


Figure S1-3. ^{29}Si NMR spectrum of solution of **2** in C_6D_6 at room temperature

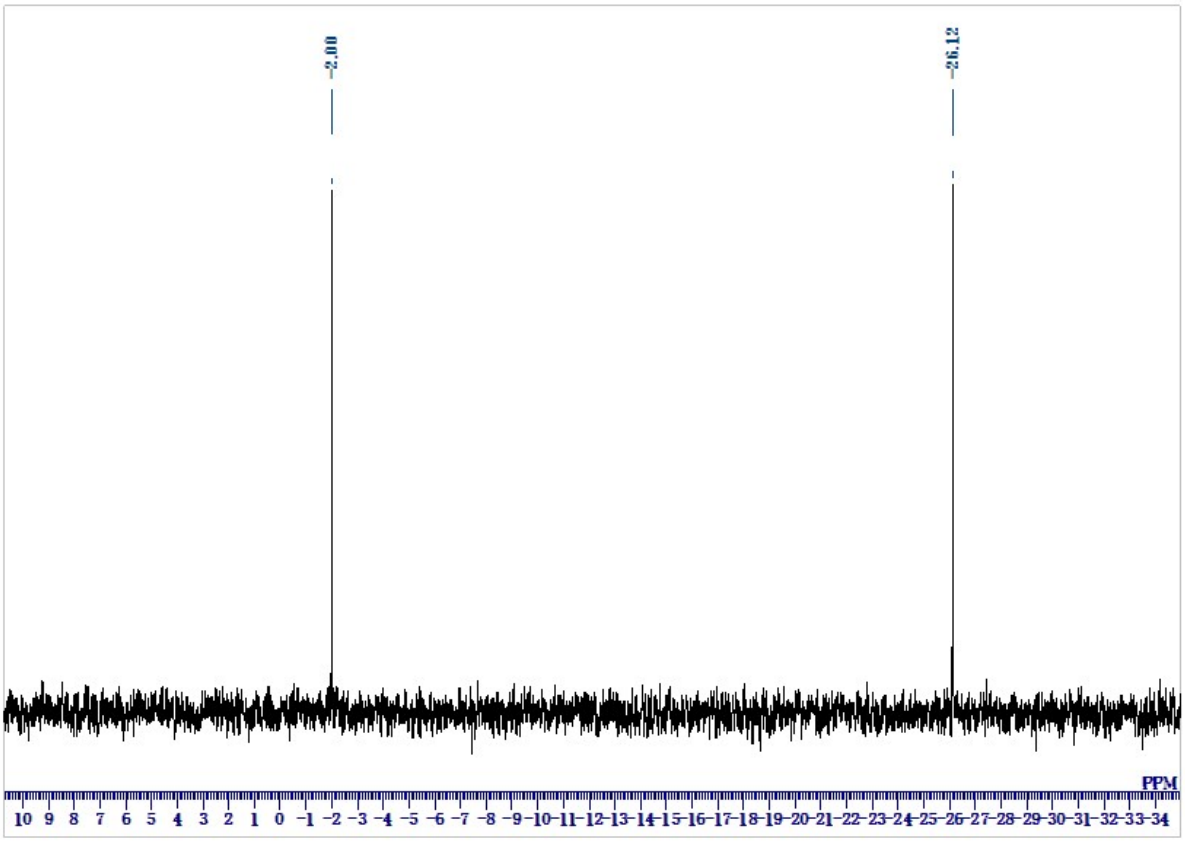


Figure S2-1. ^{1}H NMR spectrum of solution of **3** in C_6D_6 at room temperature.

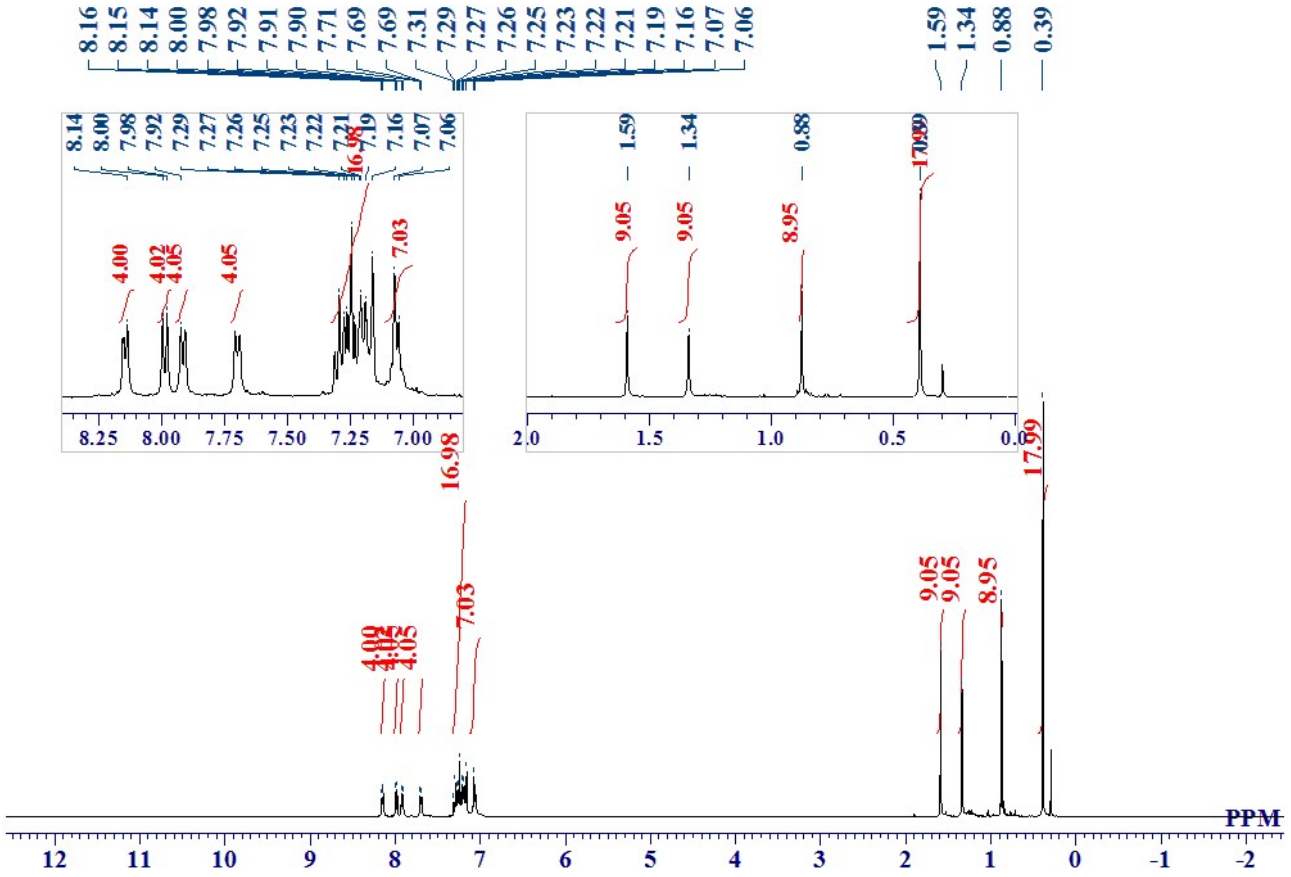


Figure S2-2. ^{13}C NMR spectrum of solution of **3** in C_6D_6 at room temperature.

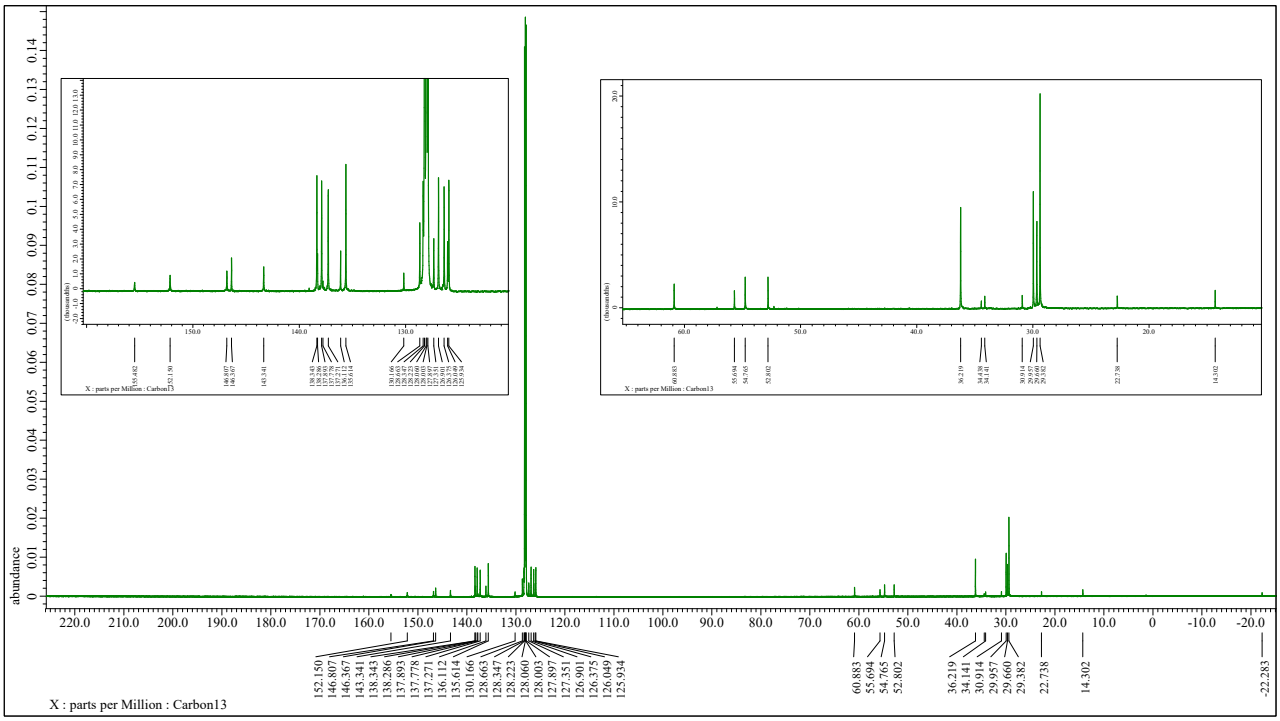


Figure S2-3. ^{13}C and DEPT-135 NMR spectrum of solution of **3** in C_6D_6 at room temperature.

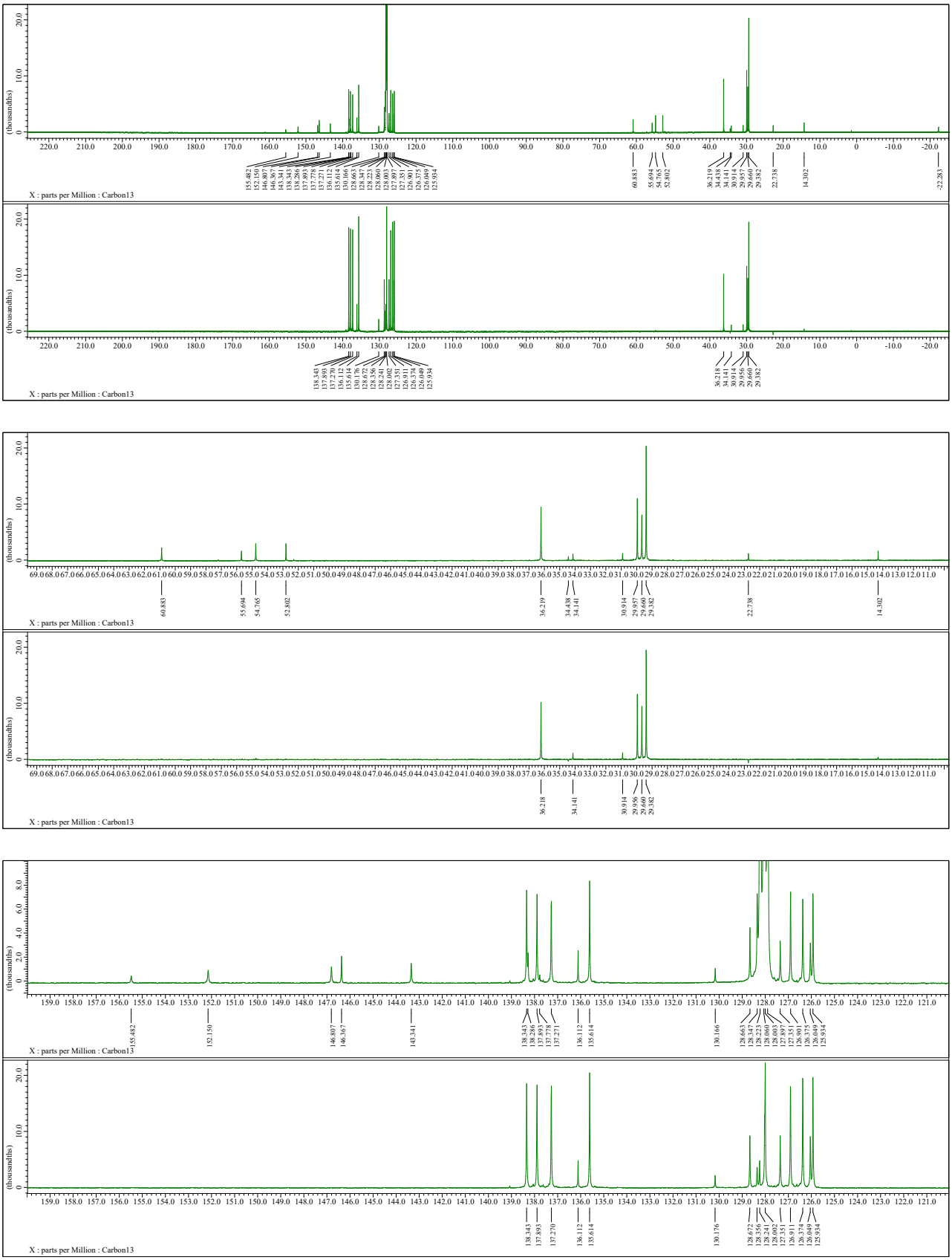


Figure S2-4. ^{29}Si NMR spectrum of solution of **3** in C_6D_6 at room temperature

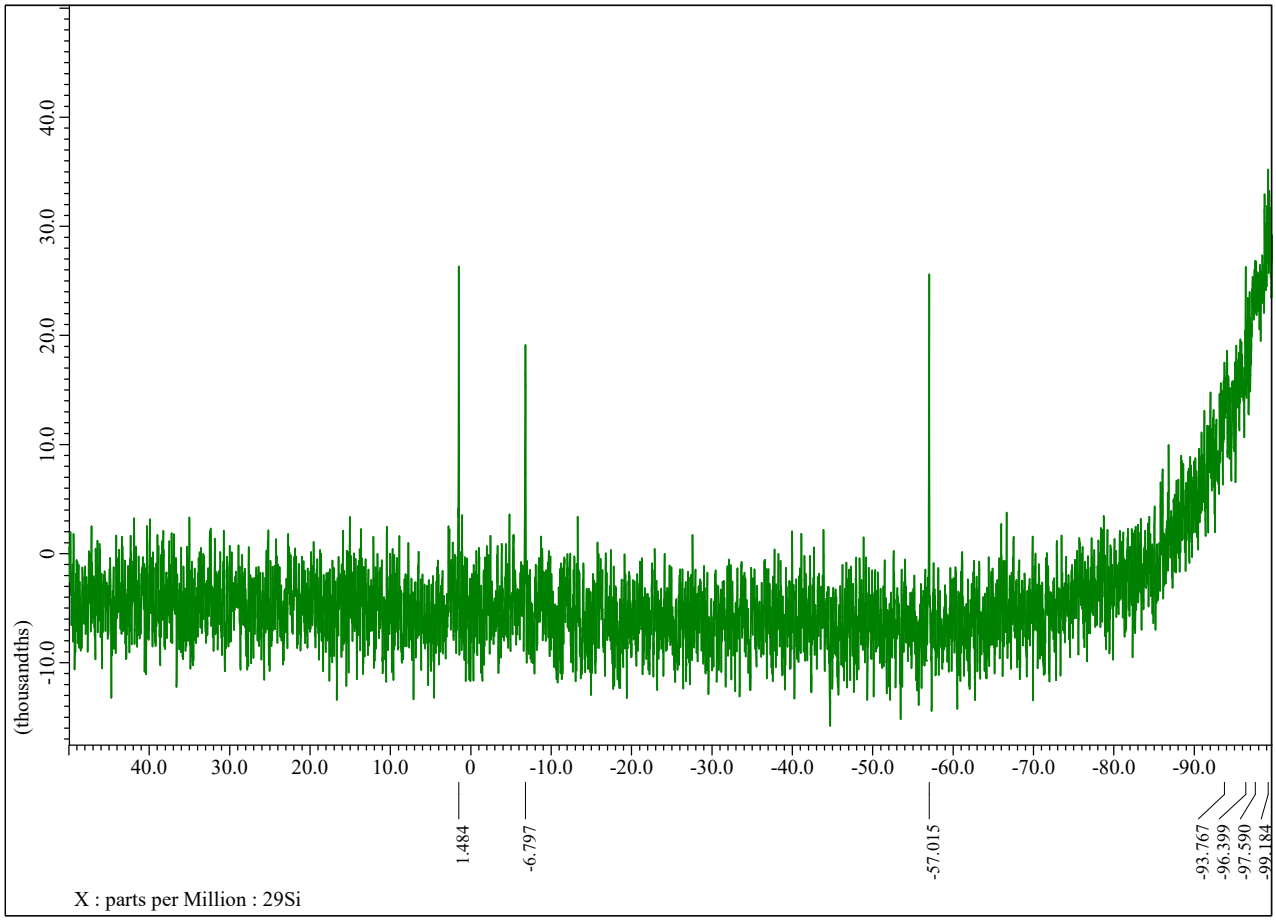
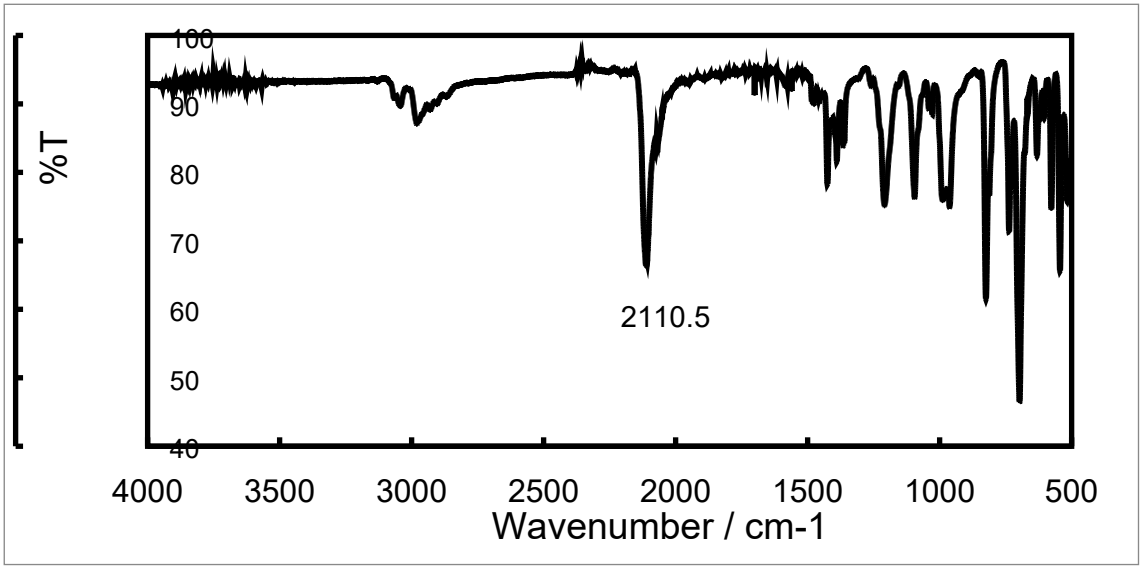


Figure S2-5. ATR-IR spectrum of **3** in the solid state



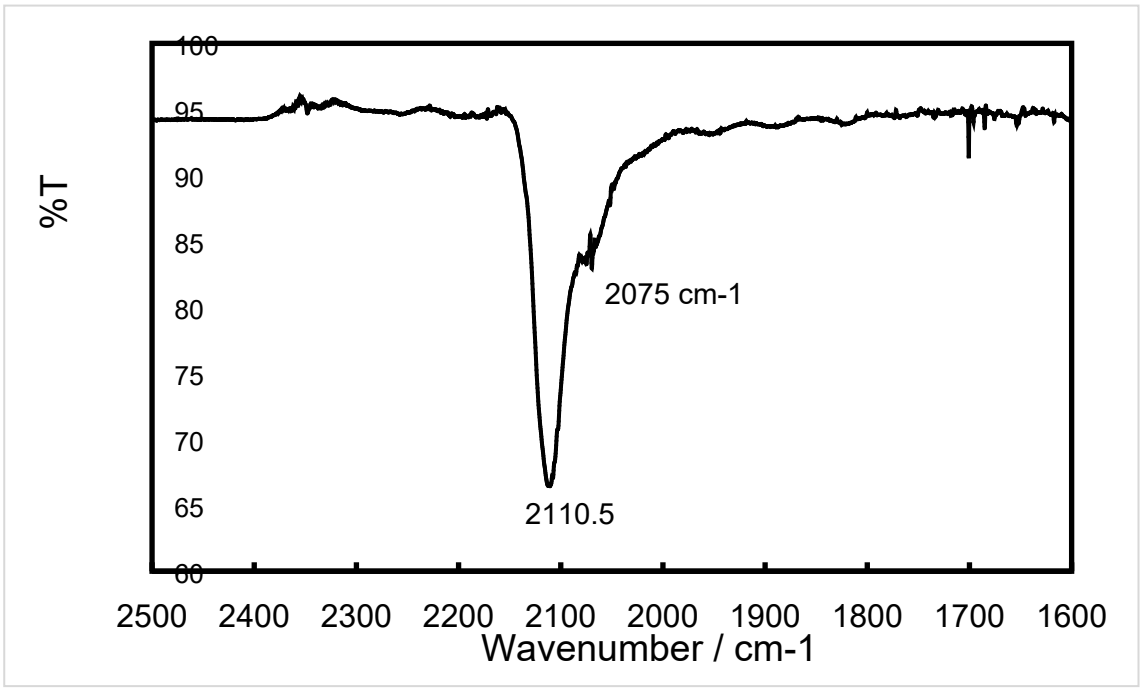


Figure S3-1. ^{1}H NMR spectrum of solution of **4** in C_6D_6 at room temperature.

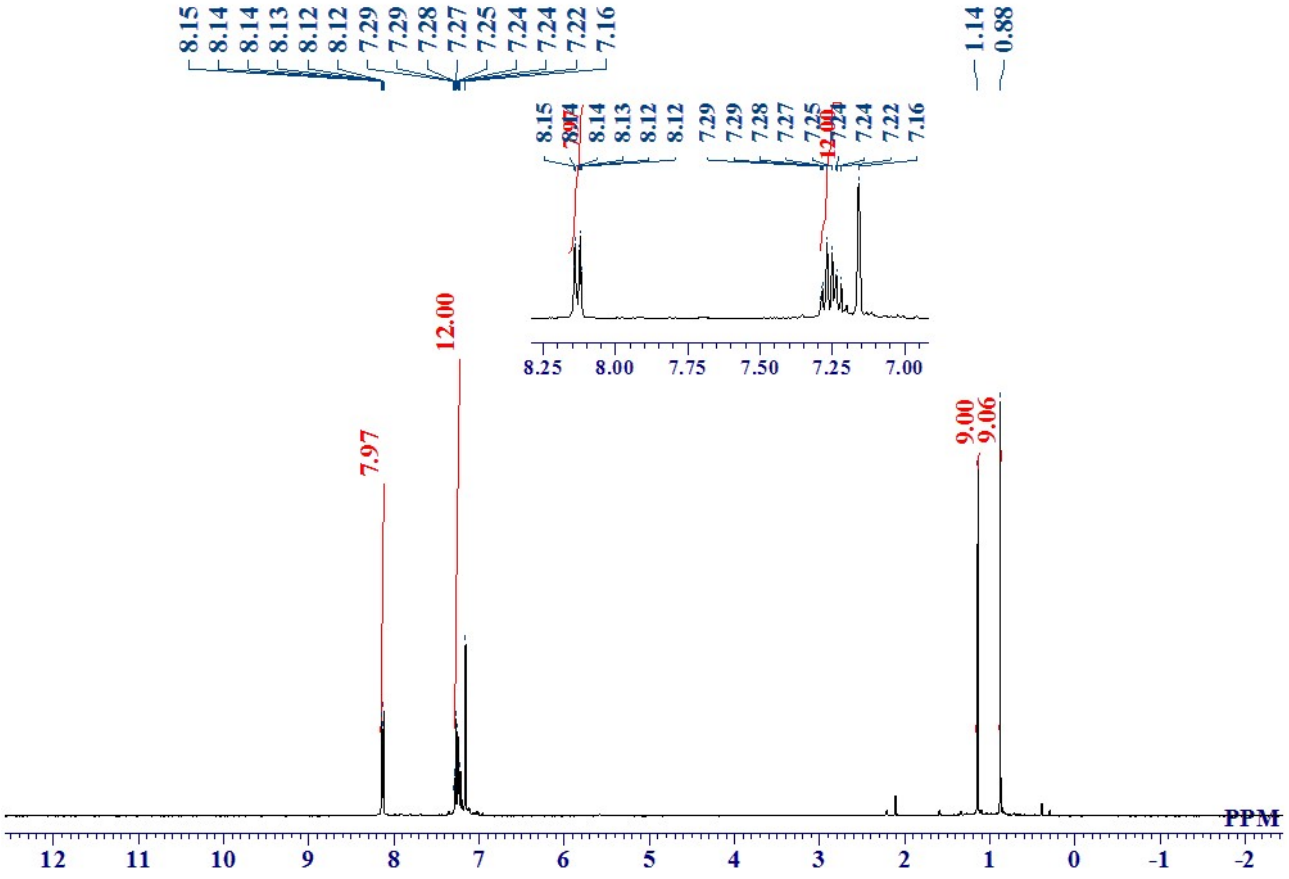


Figure S3-2. ^{13}C NMR spectrum of solution of **4** in C_6D_6 at room temperature.

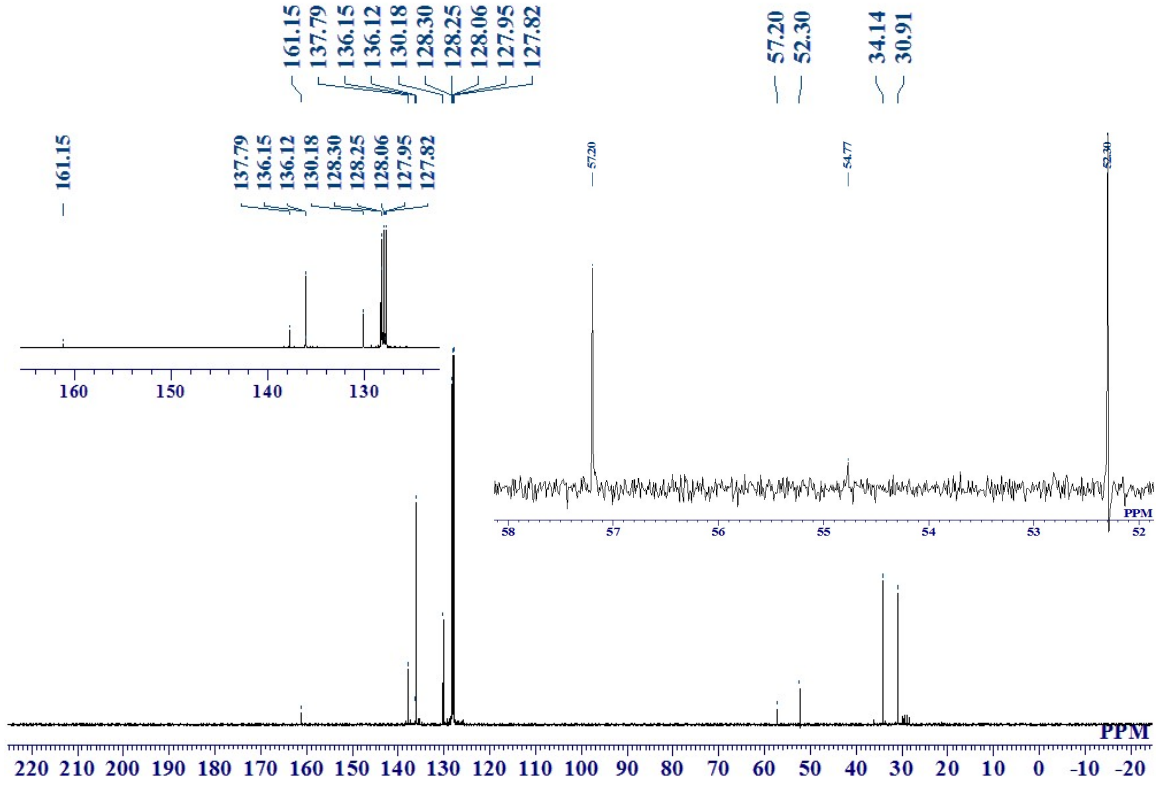


Figure S3-3. ^{29}Si NMR spectrum of solution of **4** in C_6D_6 at room temperature

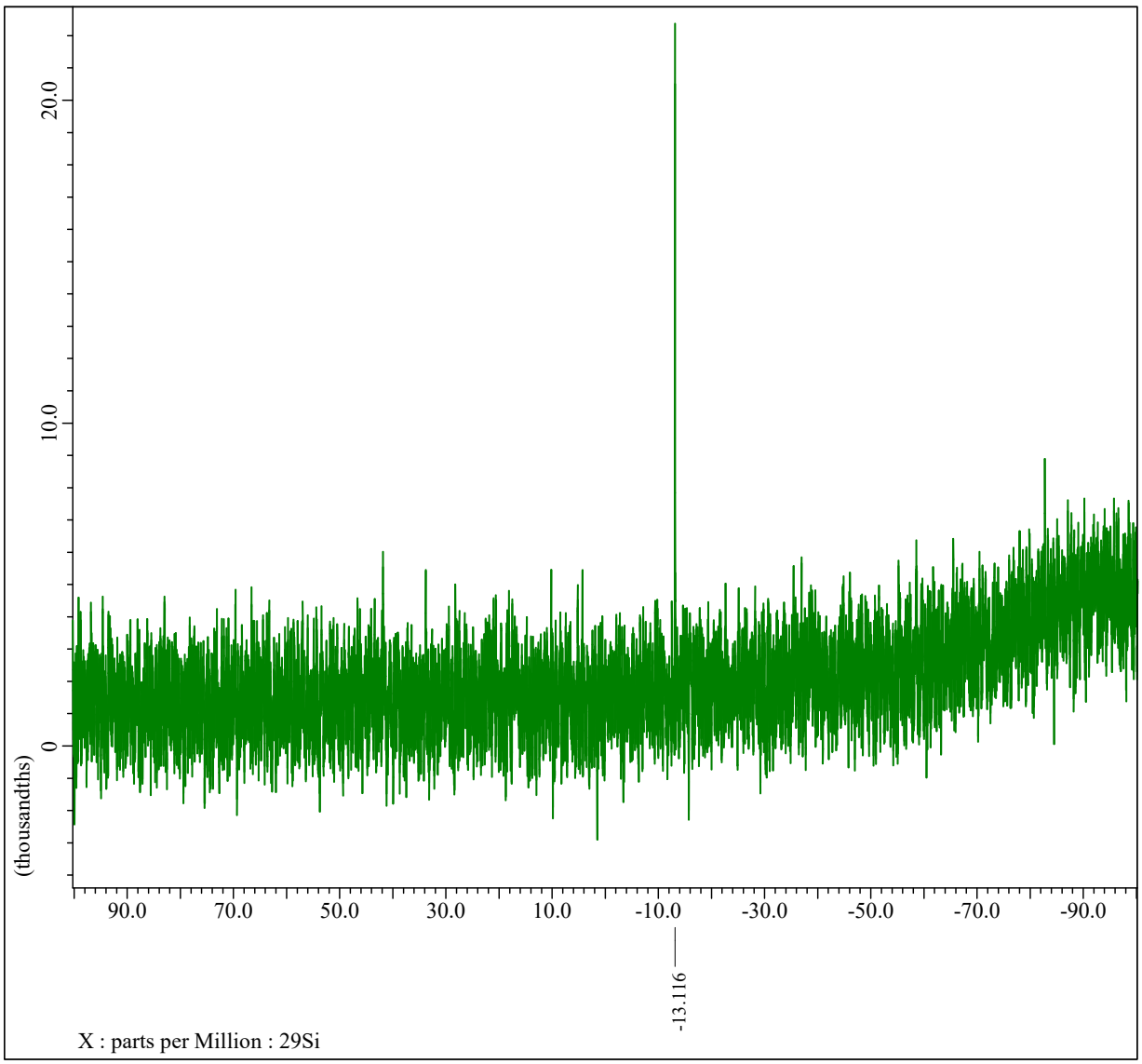
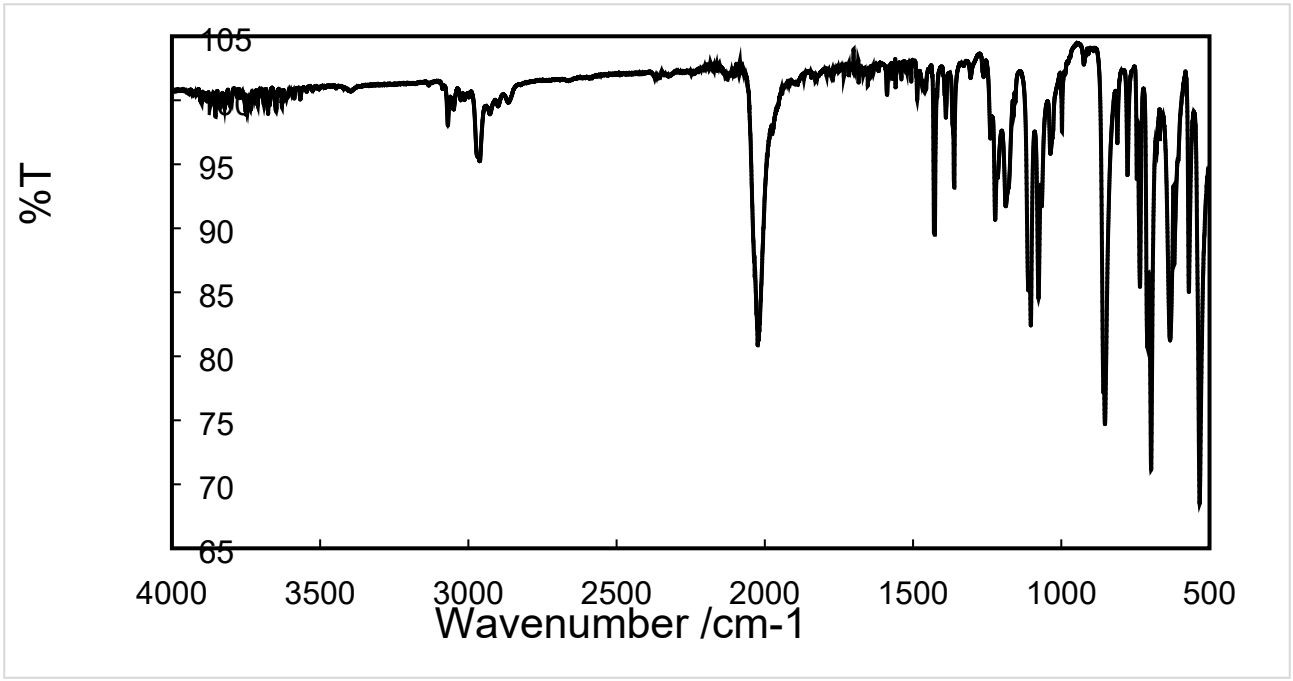


Figure S3-4. ATR-IR spectrum of **4** in the solid state



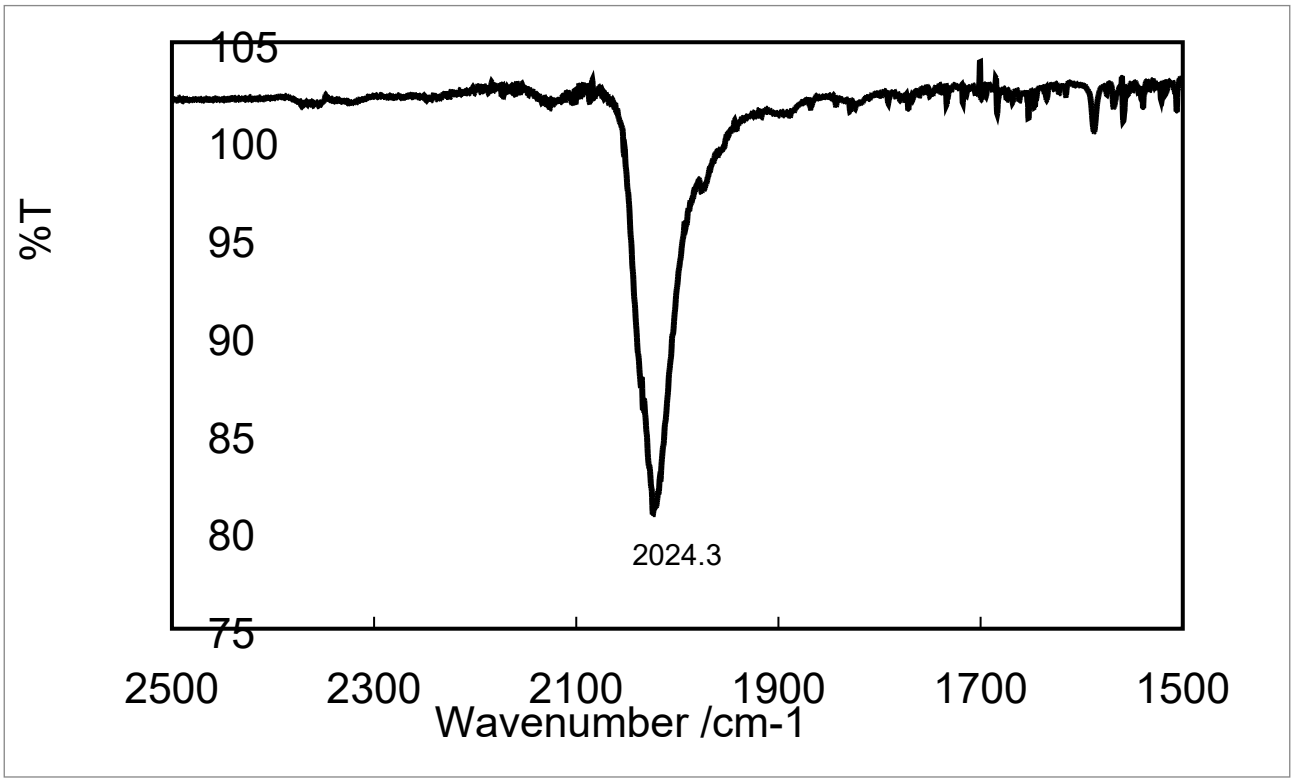


Figure S4-1. ^{1}H NMR spectrum of solution of **5** in C_6D_6 at room temperature.

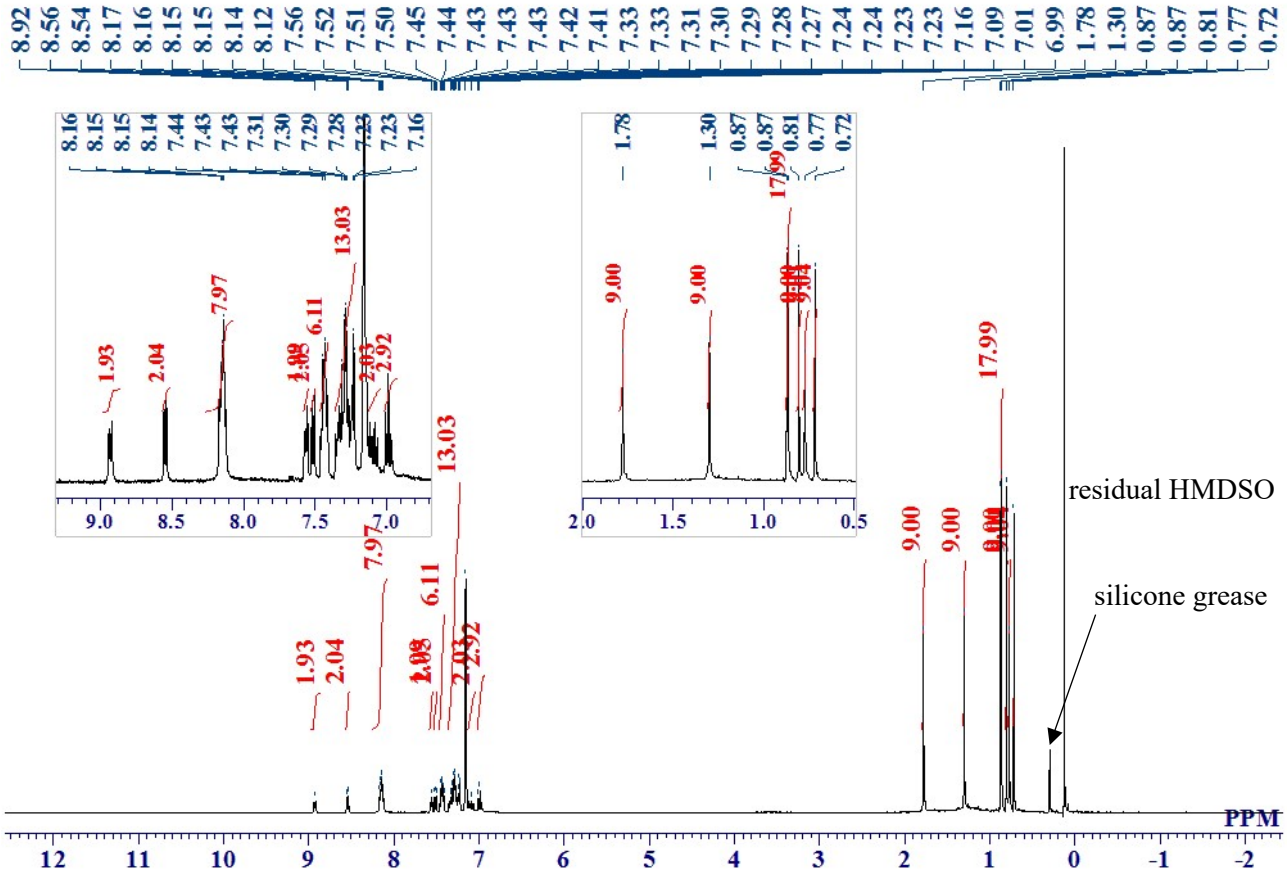


Figure S4-2. ^{13}C NMR spectrum of solution of **5** in C_6D_6 at room temperature.

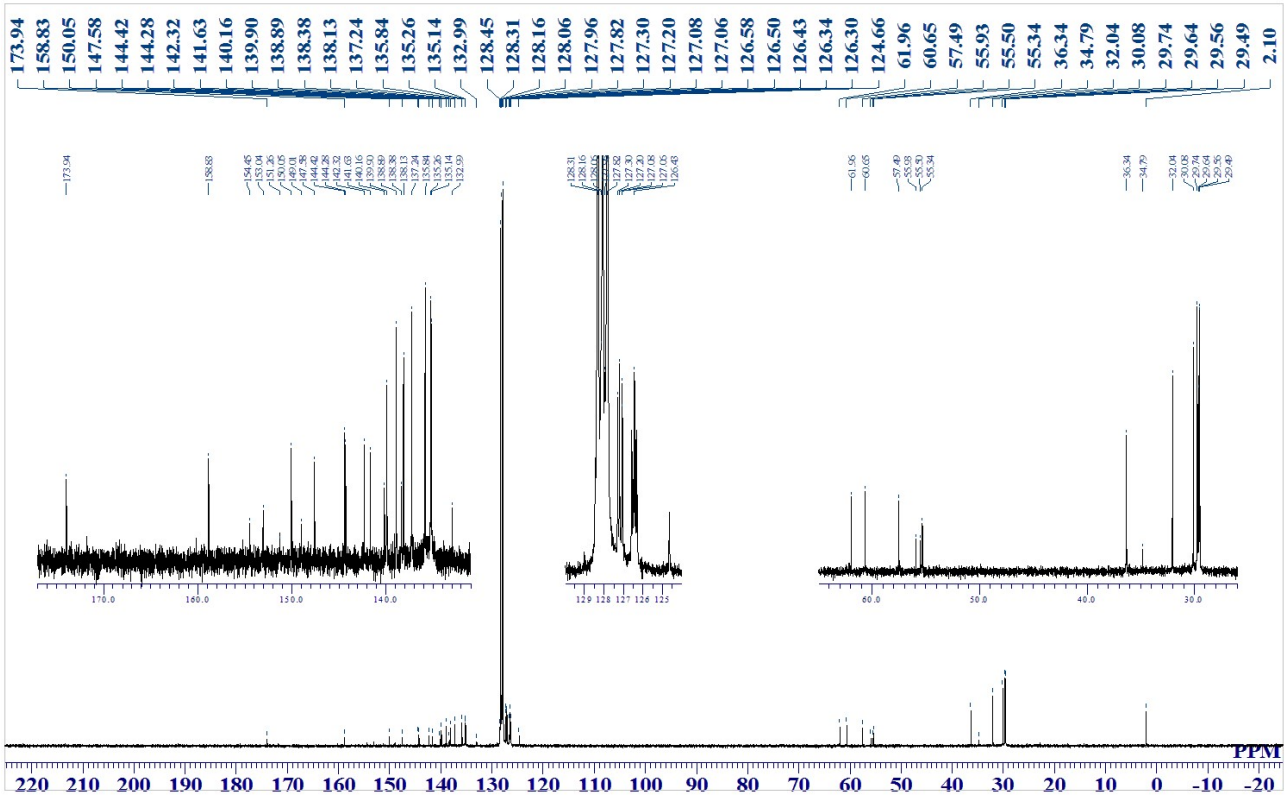


Figure S4-3. ^{29}Si NMR spectrum of solution of **5** in C_6D_6 at room temperature.

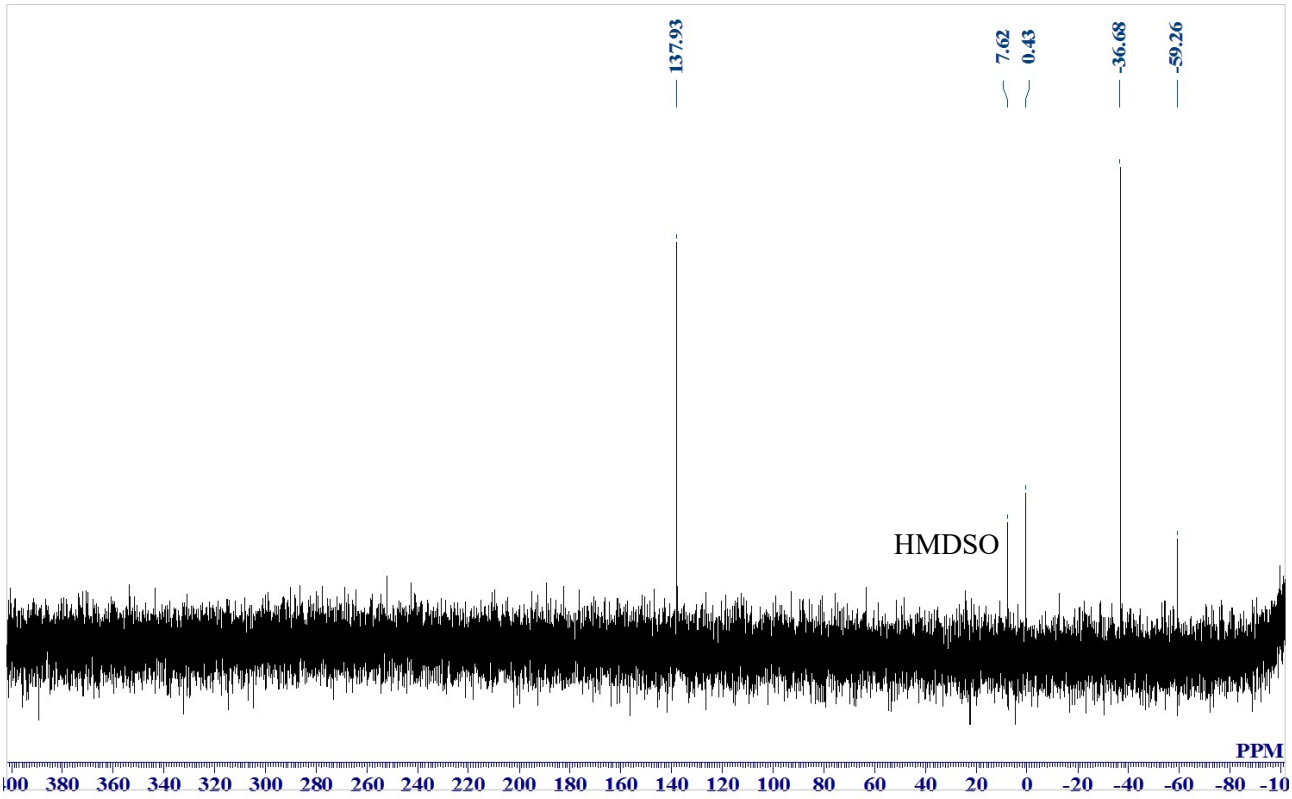
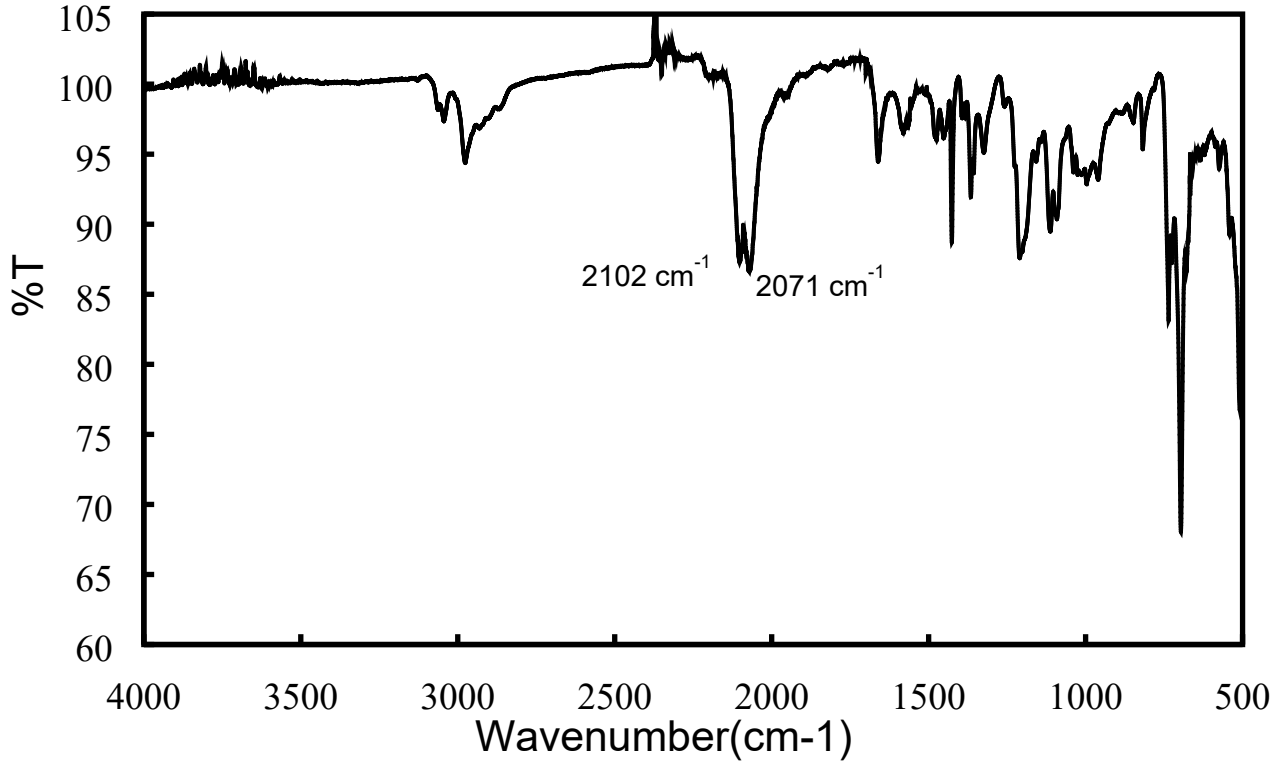


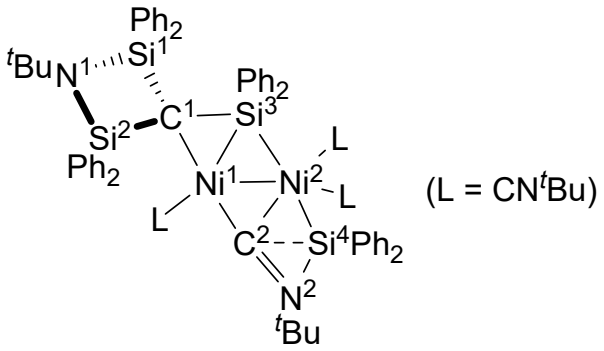
Figure S4-4. ATR-IR spectrum **5** in the solid state.



Computational Details

All of the calculations were performed using the Gaussian 16 program.[4] Geometry optimization for cluster **3** and **5** was carried out by using the DFT method with the M06[5] functional, and the selected bond distances and the WBIs for cluster **3** (actual cluster **3** and optimized $\mathbf{3}_{opt}$) and **5** (actual cluster **5** and optimized $\mathbf{5}_{opt}$) were summarized in Table S1 and S2. The optimized molecular structures for $\mathbf{3}_{opt}$ and $\mathbf{5}_{opt}$ were depicted in Figure S5 and S6. Natural Bond Orbital (NBO) analyses were performed using the NBO 3.1 program implemented in Gaussian 16. The effective core potentials and the basis set by the Stuttgart–Dresden–Bonn group[6] and were used for Ni and the 6-31G** basis sets[7-11] were used for C, N, Si and hydrogen atoms.

Table S1. Actual bond distances, calculated bond distances and Wiberg bond index for **3** and $\mathbf{3}_{opt}$.



	Bond distance determined by XRD (Å)	Bond distances estimated by DFT (Å)	Wiberg bonx index
Ni(1)-Ni(2)	2.4229(18)	2.47751	0.2542
Ni(1)-Si(3)	2.3888(17)	2.42010	0.2565
Ni(1)-C(1)	2.029(3)	2.02865	0.3292
Ni(1)-C(2)	1.781(3)	1.80202	0.6377
Ni(2)-Si(3)	2.4042(18)	2.41843	0.2565
Ni(2)-Si(4)	2.2129(18)	2.23813	0.5413
Ni(2)-C(2)	1.840(3)	1.88956	0.7817
Si(1)-Si(2)	2.492(2)	2.54960	0.0475
Si(1)-C(1)	1.817(3)	1.84523	0.6991
Si(2)-C(1)	1.824(3)	1.85778	0.7008
Si(3)-C(1)	1.803(3)	1.82679	0.7903
Si(4)-C(2)	2.091(3)	2.11914	0.3118
Si(4)-N(2)	1.743(3)	1.79634	0.4562
C(2)-N(2)	1.311(4)	1.31566	1.4936

Figure S5. Optimized molecular structure of **3** ($\mathbf{3_{opt}}$) with M06 functional. The medium slate blue balls are nickel atoms, the blue balls are silicon atoms, the pale blue balls are nitrogen atoms, the grey ones are carbon atoms.

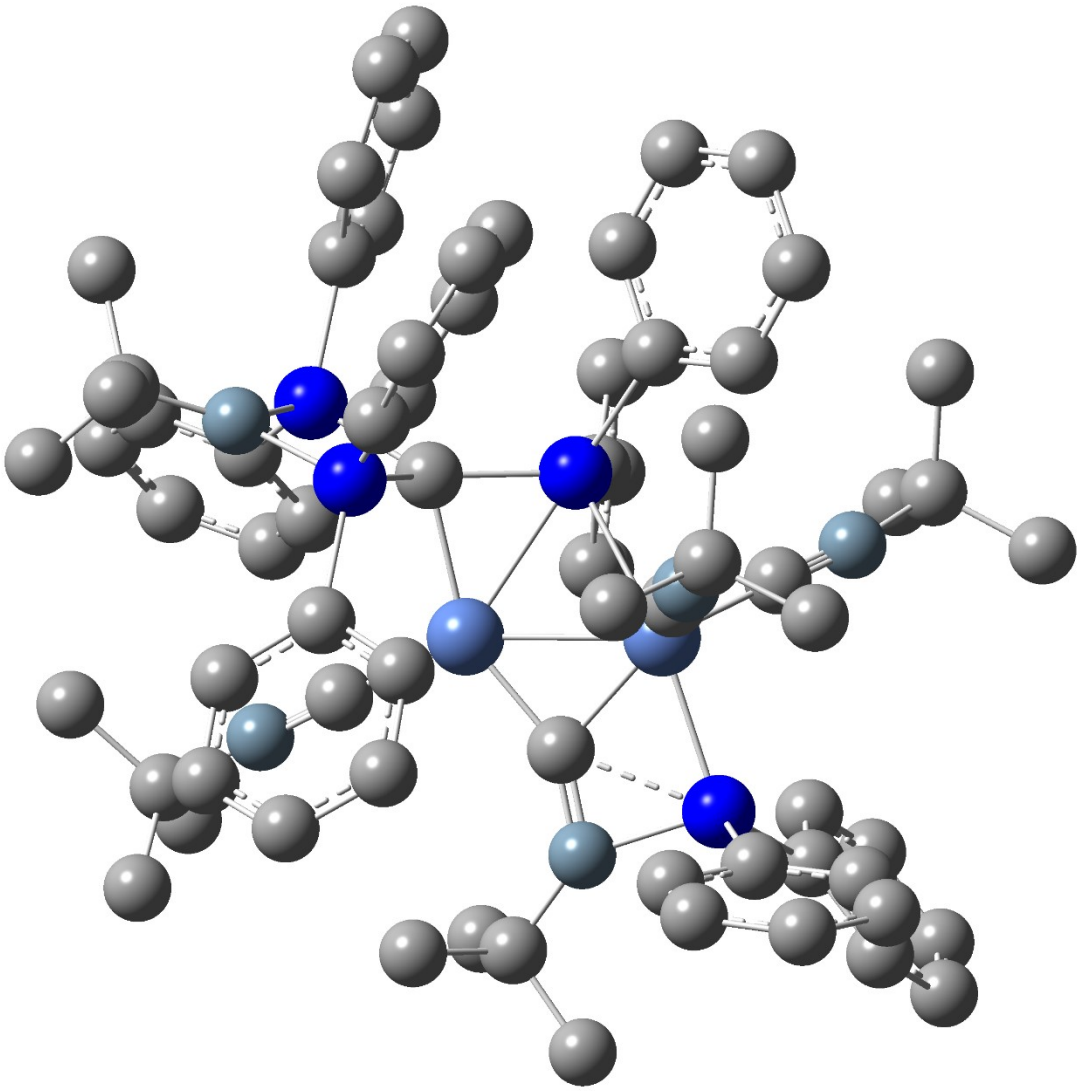
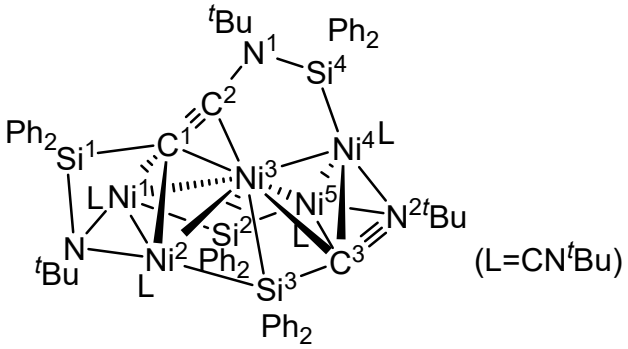


Table S2. Actual bond distances, calculated bond distances and Wiberg bond index for $\mathbf{5}_{opt}$.



	Bond distance determined by XRD (Å)	Bond distances estimated by DFT (Å)	Wiberg bond index
Ni(1)-Ni(2)	2.5288(7)	2.52703	0.1292
Ni(1)-Ni(3)	2.5447(7)	2.56679	0.1455
Ni(2)-N(3)	2.5629(7)	2.59056	0.1539
Ni(3)-Ni(4)	2.4564(8)	2.47365	0.1612
Ni(3)-Ni(5)	2.4826(5)	2.50650	0.1623
Ni(4)-Ni(5)	2.6564(6)	2.66237	0.1129
Si(1)-C(1)	1.847(3)	1.85631	0.6328
Si(2)-Ni(1)	2.2434(10)	2.29155	0.5041
Si(2)-Ni(3)	2.6082(8)	2.51537	0.3637
Si(2)-Ni(5)	2.2507(9)	2.26403	0.4550
Si(3)-Ni(2)	2.2841(11)	2.29155	0.4965
Si(3)-Ni(3)	2.4875(12)	2.51537	0.3637
Si(4)-Ni(4)	2.1871(8)	2.21152	0.4961
C(1)-C(2)	1.304(5)	1.3778	1.7324
Ni(3)-C(1)	2.038(3)	2.03563	0.3350
Ni(3)-C(2)	1.887(2)	1.87531	0.4551
Ni(1)-C(1)	2.366(3)	2.35945	0.1431
Ni(2)-C(1)	2.119(4)	2.09279	0.2694
C(2)-N(1)	1.340(4)	1.33253	1.2663
C(3)-N(2)	1.341(4)	1.33630	1.3918
Ni(3)-C(3)	1.923(3)	1.93970	0.4242
Ni(4)-C(3)	2.025(4)	1.98453	0.3619
Ni(5)-C(3)	1.994(3)	1.98176	0.3651
Ni(4)-N(2)	1.911(3)	1.92177	0.2673
Ni(5)-N(2)	1.919(3)	1.91990	0.2651

Figure S6. Optimized molecular structure of **5** ($\mathbf{5}_{opt}$) with M06 functional. The medium slate blue balls are nickel atoms, the blue balls are silicon atoms, the pale blue balls are nitrogen atoms, the grey ones are carbon atoms.

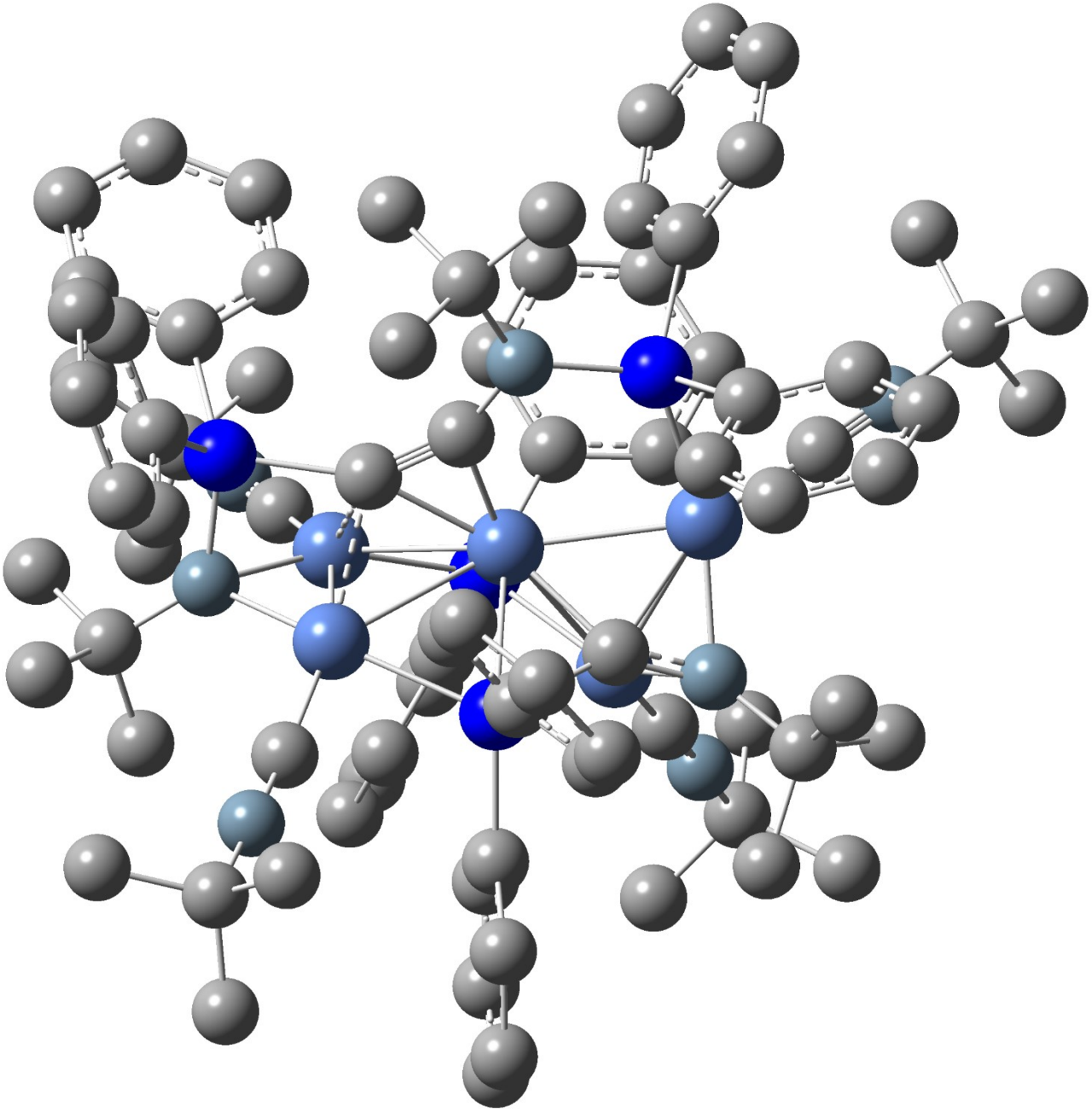


Table S3. The DFT-optimized Geometry for complex $\mathbf{3}_{opt}$ and $\mathbf{5}_{opt}$ (in XYZ format).

Cluster $\mathbf{3}_{opt}$

Ni	-0.104699	1.064899	-0.226100	C	-1.483100	0.034900	5.138999
Ni	1.837199	-0.369800	0.329600	C	-0.905500	1.286199	5.328099
Si	-3.429700	0.189899	0.270999	C	-0.136600	1.842300	4.308000
Si	-2.059100	-0.539000	-1.751500	C	0.027799	1.154299	3.109599
Si	-0.373300	-0.907500	1.150299	C	-0.413800	-2.801500	1.416899
Si	3.700100	0.816600	-0.032399	C	0.627000	-3.691799	1.127200
N	-3.714900	0.014700	-1.464599	C	0.496300	-5.063900	1.332100
N	-1.437399	3.676599	-0.816900	C	-0.683900	-5.587299	1.849500
N	2.693000	2.189900	-0.603900	C	-1.734200	-4.725399	2.152300
N	2.622700	-1.506800	2.993700	C	-1.596000	-3.357799	1.933900
N	2.224300	-2.464699	-1.870100	C	4.710299	1.429200	1.431700
C	-4.345000	-1.104699	1.318000	C	4.072999	1.643799	2.663100
C	-4.566799	-0.879999	2.684400	C	4.765800	2.164700	3.750999
C	-5.084300	-1.874500	3.511199	C	6.119999	2.468300	3.633399
C	-5.412200	-3.119000	2.982099	C	6.770500	2.264200	2.420800
C	-5.215999	-3.362399	1.624399	C	6.069199	1.755400	1.330699
C	-4.682800	-2.368000	0.810999	C	4.754300	0.221299	-1.468200
C	-3.924700	1.817400	1.107200	C	5.941799	-0.498799	-1.283900
C	-5.242600	2.298700	1.093400	C	6.653200	-1.005800	-2.369200
C	-5.618900	3.418100	1.830300	C	6.180800	-0.813800	-3.663799
C	-4.684700	4.067100	2.634500	C	4.987200	-0.122500	-3.866300
C	-3.379300	3.587899	2.692300	C	4.283499	0.384700	-2.779600
C	-3.006200	2.484800	1.926899	C	-1.647900	-0.226200	0.033000
C	-1.947500	-2.328200	-2.386999	C	-4.913700	0.136400	-2.307899
C	-2.137000	-3.397500	-1.500600	C	-6.114000	-0.548499	-1.653800
C	-2.139800	-4.720400	-1.935800	C	-5.272500	1.608299	-2.534100
C	-1.952400	-5.007600	-3.284599	C	-4.667400	-0.525400	-3.660800
C	-1.755400	-3.965300	-4.187300	C	-0.924800	2.635800	-0.627199
C	-1.750899	-2.646500	-3.739900	C	-2.051800	4.955300	-1.071100
C	-1.113000	0.476199	-3.056300	C	-1.372400	5.561499	-2.295800
C	-1.612399	1.658200	-3.616800	C	-1.839099	5.837300	0.155600
C	-0.897900	2.376700	-4.572400	C	-3.538499	4.734400	-1.325600
C	0.353400	1.931500	-4.988600	C	1.681900	1.405600	-0.298200
C	0.880500	0.767100	-4.436800	C	2.710300	3.613200	-1.020599
C	0.154500	0.054799	-3.486499	C	4.170700	4.007700	-1.185100
C	-0.552899	-0.105900	2.884799	C	2.060200	4.443100	0.081300
C	-1.295700	-0.652700	3.939800	C	1.968600	3.753199	-2.343500

C	2.309199	-1.074100	1.944500	H	-2.452000	-2.714900	2.137000
C	2.819300	-2.015700	4.325799	H	3.014599	1.398200	2.768700
C	2.288900	-0.975500	5.308200	H	4.247400	2.331799	4.693999
C	4.314500	-2.239200	4.529600	H	6.666100	2.868100	4.485200
C	2.043800	-3.324299	4.451199	H	7.826300	2.507899	2.320600
C	2.011800	-1.667300	-1.032399	H	6.587499	1.620199	0.380500
C	2.480999	-3.516100	-2.820999	H	6.323099	-0.666199	-0.276000
C	1.629599	-4.716699	-2.422499	H	7.579199	-1.552500	-2.202600
C	2.101500	-3.012299	-4.209800	H	6.737500	-1.204500	-4.512900
C	3.969000	-3.846199	-2.756000	H	4.608799	0.026699	-4.877100
H	-4.316999	0.089299	3.118900	H	3.341200	0.911200	-2.947599
H	-5.234099	-1.674199	4.570899	H	-7.014600	-0.410000	-2.266099
H	-5.822500	-3.896300	3.624000	H	-5.939800	-1.624399	-1.542000
H	-5.468800	-4.333000	1.200899	H	-6.321600	-0.141299	-0.655200
H	-4.505800	-2.584100	-0.243300	H	-6.214799	1.699300	-3.091400
H	-6.003299	1.780500	0.506499	H	-5.384800	2.138200	-1.580400
H	-6.646800	3.773600	1.792200	H	-4.495600	2.120600	-3.113799
H	-4.979500	4.931699	3.226000	H	-5.552999	-0.425700	-4.301500
H	-2.644500	4.067499	3.338100	H	-3.822200	-0.059199	-4.185000
H	-1.980400	2.122299	1.983600	H	-4.450999	-1.594199	-3.539700
H	-2.280400	-3.195300	-0.441300	H	-1.843200	6.521100	-2.539399
H	-2.278700	-5.522399	-1.212400	H	-0.306699	5.733099	-2.102699
H	-1.953400	-6.039200	-3.631900	H	-1.462399	4.892799	-3.160299
H	-1.605899	-4.179600	-5.244400	H	-2.285900	6.822200	-0.024599
H	-1.596700	-1.845799	-4.464999	H	-2.316000	5.391400	1.035900
H	-2.582499	2.029900	-3.288000	H	-0.770200	5.971899	0.358900
H	-1.324800	3.281800	-5.003700	H	-4.018800	5.697499	-1.536200
H	0.912699	2.487499	-5.738699	H	-3.688599	4.073400	-2.187400
H	1.858500	0.403200	-4.754200	H	-4.024100	4.280599	-0.453200
H	0.584700	-0.855299	-3.069000	H	4.242499	5.052000	-1.511899
H	-1.756299	-1.633700	3.829400	H	4.714699	3.906900	-0.237399
H	-2.085399	-0.413399	5.927699	H	4.665200	3.378599	-1.936200
H	-1.048699	1.821700	6.264499	H	2.071800	5.507800	-0.188799
H	0.332399	2.816400	4.443200	H	1.021000	4.133599	0.244099
H	0.616699	1.613699	2.310600	H	2.608900	4.319000	1.024200
H	1.566300	-3.308900	0.731700	H	1.948100	4.807100	-2.652599
H	1.326000	-5.727799	1.090400	H	2.469600	3.177399	-3.131900
H	-0.785900	-6.658600	2.012299	H	0.937700	3.388099	-2.267199
H	-2.671899	-5.111199	2.549899	H	2.455899	-1.325299	6.334200

H	2.809700	-0.019399	5.174799	H	1.921299	-5.084900	-1.431600
H	1.214899	-0.813099	5.159799	H	0.566899	-4.449600	-2.389400
H	4.496700	-2.616999	5.542600	H	2.332300	-3.785500	-4.952099
H	4.699700	-2.970600	3.810399	H	1.028999	-2.788300	-4.265000
H	4.864799	-1.299700	4.400399	H	2.671899	-2.107800	-4.457699
H	2.165100	-3.724600	5.465000	H	4.193099	-4.663100	-3.452600
H	0.975299	-3.166000	4.257699	H	4.574000	-2.972700	-3.028300
H	2.411400	-4.066599	3.733600	H	4.249700	-4.162799	-1.745000
H	1.767600	-5.523799	-3.152400				

Cluster 5_{opt}

Ni	-2.463599	0.024400	0.548300	C	-1.436000	-0.808000	3.666600
Ni	-1.088699	1.925500	-0.390500	C	-2.037700	-1.521799	4.709000
Ni	0.042200	-0.344700	0.004099	C	-2.099300	-1.001800	6.001600
Ni	2.123600	-1.651100	0.286600	C	-1.568500	0.255100	6.277800
Ni	1.523400	0.389200	1.888300	C	-0.986700	0.994400	5.250000
Si	-2.893599	0.828199	-1.983999	C	-0.931999	0.466499	3.964500
Si	-1.263399	-1.411300	1.871000	C	-1.926100	-3.178499	1.695599
Si	1.004000	2.043100	0.431999	C	-1.630000	-4.215000	2.592800
Si	1.553600	-2.410000	-1.710799	C	-2.147199	-5.496300	2.418700
N	-4.632000	-0.777000	2.372000	C	-2.965300	-5.776100	1.326299
N	-3.079700	1.630200	-0.456000	C	-3.261699	-4.767699	0.412800
N	-0.593699	4.647100	-1.356200	C	-2.752199	-3.485800	0.604900
N	-0.140700	-2.158200	-2.276200	C	1.073599	3.718899	1.380099
N	1.805799	-1.488099	2.174900	C	0.105599	3.995399	2.359600
N	4.963099	-1.918600	-0.540100	C	0.086900	5.201400	3.054299
N	3.325000	2.118200	3.479500	C	1.052899	6.172899	2.791799
C	-4.323300	-0.270600	-2.572200	C	2.030000	5.919999	1.831899
C	-5.028400	-1.056600	-1.646300	C	2.035300	4.708900	1.137500
C	-5.963700	-2.000199	-2.054900	C	2.458800	2.210500	-0.800099
C	-6.223900	-2.178499	-3.412300	C	3.767000	1.874799	-0.416500
C	-5.546000	-1.406400	-4.348900	C	4.852500	2.086000	-1.263000
C	-4.606699	-0.466399	-3.930000	C	4.658599	2.624000	-2.532699
C	-2.316100	1.855200	-3.476400	C	3.369600	2.952200	-2.942199
C	-3.175599	2.604099	-4.291900	C	2.289500	2.744399	-2.086300
C	-2.693000	3.366200	-5.353300	C	1.686300	-4.229300	-1.191099
C	-1.328199	3.390000	-5.629900	C	0.575699	-4.861699	-0.611500
C	-0.453200	2.649299	-4.838600	C	0.671200	-6.134899	-0.058600
C	-0.946400	1.895299	-3.778099	C	1.888899	-6.810199	-0.069700

C	3.006799	-6.201500	-0.633899	C	4.165200	3.003499	4.236700
C	2.904299	-4.924800	-1.179100	C	5.005800	2.157300	5.188699
C	2.661600	-1.992100	-3.190100	C	3.266400	3.964200	5.009800
C	3.308299	-2.930199	-4.005700	C	5.051300	3.763300	3.253400
C	4.079900	-2.531300	-5.095700	H	-4.817700	-0.942200	-0.580700
C	4.214900	-1.178099	-5.395600	H	-6.486500	-2.604199	-1.314199
C	3.588900	-0.228600	-4.592100	H	-6.951599	-2.919499	-3.737300
C	2.831100	-0.633500	-3.497199	H	-5.742899	-1.539899	-5.410900
C	-3.731500	-0.408900	1.705399	H	-4.071300	0.115100	-4.681099
C	-5.730099	-1.415699	3.050299	H	-4.251099	2.587999	-4.103900
C	-7.020200	-0.999500	2.348500	H	-3.383799	3.938099	-5.969899
C	-5.733900	-0.955200	4.503800	H	-0.950299	3.977999	-6.464200
C	-5.524599	-2.925300	2.951000	H	0.616800	2.646600	-5.048700
C	-4.074099	2.624100	-0.022800	H	-0.250800	1.318000	-3.165500
C	-5.468699	2.002399	0.083899	H	-2.453100	-2.513500	4.518199
C	-4.158000	3.782100	-1.019499	H	-2.562300	-1.583600	6.797600
C	-3.662300	3.180899	1.338400	H	-1.613499	0.657699	7.287699
C	-0.742700	3.561500	-0.921800	H	-0.572600	1.983800	5.444699
C	-0.498200	6.000500	-1.822999	H	-0.463600	1.051400	3.167100
C	0.921400	6.231099	-2.332500	H	-0.982599	-4.022700	3.450200
C	-0.812600	6.913699	-0.640399	H	-1.906500	-6.280500	3.134199
C	-1.509899	6.186100	-2.951100	H	-3.367300	-6.777799	1.187200
C	-1.513500	-0.209000	-1.301700	H	-3.893300	-4.973999	-0.450900
C	-0.623900	-1.147800	-1.554099	H	-2.992100	-2.698400	-0.112600
C	-0.907900	-2.707300	-3.444100	H	-0.664999	3.250400	2.573100
C	-0.141299	-3.876800	-4.047600	H	-0.683499	5.385000	3.801700
C	-2.264600	-3.205200	-2.959100	H	1.043000	7.117999	3.331200
C	-1.067300	-1.619600	-4.500200	H	2.791200	6.670100	1.618400
C	0.629300	-1.348100	1.556900	H	2.806600	4.533900	0.383900
C	2.306700	-2.347099	3.266600	H	3.941399	1.444700	0.571600
C	2.193000	-3.802700	2.823399	H	5.859000	1.836099	-0.926800
C	1.533100	-2.109000	4.556200	H	5.506000	2.784900	-3.196899
C	3.769499	-1.974600	3.476300	H	3.201900	3.379399	-3.931399
C	3.843300	-1.856300	-0.183200	H	1.289399	3.016799	-2.425500
C	6.315800	-1.963100	-1.024699	H	-0.383399	-4.340799	-0.581300
C	6.388799	-1.193800	-2.340299	H	-0.211000	-6.590899	0.388900
C	6.688800	-3.426600	-1.246000	H	1.967799	-7.805999	0.361699
C	7.207499	-1.326900	0.038000	H	3.963500	-6.721399	-0.646500
C	2.612799	1.446400	2.824700	H	3.795900	-4.456200	-1.597600

H	3.194600	-3.995399	-3.797000
H	4.568799	-3.279099	-5.717800
H	4.811400	-0.865200	-6.250300
H	3.699800	0.834400	-4.802700
H	2.370500	0.126299	-2.858700
H	-7.874700	-1.493699	2.825700
H	-7.165900	0.084900	2.410900
H	-6.997600	-1.285400	1.289800
H	-6.556800	-1.443200	5.039500
H	-4.787800	-1.210100	4.994600
H	-5.871299	0.130000	4.564900
H	-6.353800	-3.442299	3.448799
H	-5.486400	-3.243700	1.901700
H	-4.583600	-3.226299	3.426900
H	-6.202300	2.761400	0.387900
H	-5.790499	1.587900	-0.880299
H	-5.484699	1.196400	0.824800
H	-4.862000	4.544899	-0.659799
H	-3.178100	4.251600	-1.156400
H	-4.514000	3.438899	-2.000199
H	-4.421300	3.876900	1.721200
H	-3.532400	2.369400	2.067400
H	-2.707200	3.718699	1.258700
H	1.027900	7.268199	-2.672700
H	1.651499	6.040500	-1.537400
H	1.140800	5.562499	-3.174600
H	-0.775900	7.961699	-0.961700
H	-1.815699	6.700200	-0.250600
H	-0.086800	6.762499	0.168199
H	-1.437200	7.206800	-3.345999
H	-1.314800	5.475300	-3.763800
H	-2.532799	6.023400	-2.591800
H	-1.384711	0.080575	-0.248343
H	-0.731999	-4.293600	-4.872399
H	0.824400	-3.561700	-4.458100
H	0.028200	-4.674400	-3.315799
H	-2.862700	-3.554100	-3.811000
H	-2.138700	-4.039100	-2.256299
H	-2.832200	-2.412300	-2.460800
H	-1.612499	-2.012700	-5.368500
H	-1.628100	-0.760199	-4.118700
H	-0.084600	-1.263300	-4.836499
H	2.566600	-4.470000	3.611200
H	1.151099	-4.069799	2.605999
H	2.776500	-3.977600	1.909399
H	1.989800	-2.685099	5.371199
H	1.545900	-1.045700	4.830500
H	0.486100	-2.416800	4.466900
H	4.217300	-2.620399	4.241900
H	4.335200	-2.090100	2.543100
H	3.857800	-0.930699	3.804199
H	7.424599	-1.192500	-2.701500
H	5.750900	-1.661300	-3.099999
H	6.055400	-0.157800	-2.209300
H	7.736100	-3.494099	-1.563200
H	6.560800	-4.009199	-0.326199
H	6.061699	-3.864399	-2.032000
H	8.250400	-1.329900	-0.300099
H	6.901700	-0.290499	0.223700
H	7.142200	-1.880800	0.981699
H	5.658000	2.806099	5.785199
H	4.362599	1.587200	5.869000
H	5.631400	1.451699	4.630000
H	3.885700	4.631900	5.620999
H	2.663900	4.570700	4.323200
H	2.591700	3.409400	5.672000
H	5.707700	4.448600	3.802899
H	5.673400	3.069300	2.675800
H	4.433899	4.343199	2.557599

X-ray data collection and reduction

X-ray crystallography for compounds **2**, **3**, **4** and **5** was performed on a Rigaku Saturn CCD area detector with graphite monochromated Mo-Kα radiation (λ=0.71075 Å), and single crystals of **3** suitable for X-ray crystallography were analyzed by synchrotron radiation at beam line BL02B1 (λ=0.41500 Å) of Spring-8 (Hyogo, Japan) using PILATUS3 X CdTe 1M detector. The data were collected at 123(2) K for **2** and **5** and 100(1) K for **3** and **4** using ω scan in the θ range of $1.86 \leq \theta \leq 31.21$ deg (**2**), $4.31 \leq \theta \leq 17.82$ deg (**3**), $1.65 \leq \theta \leq 15.49$ deg (**4**), $1.96 \leq \theta \leq 31.28$ deg (**5**). The data obtained were processed using Crystal-Clear (Rigaku) on a Pentium computer, and were corrected for Lorentz and polarization effects. The structures were solved by direct methods[12], and expanded using Fourier techniques. Hydrogen atoms were refined using the riding model. The final cycle of full-matrix least-squares refinement on F^2 was based on 15,917 observed reflections and 676 variable parameters for **2**, 67,846 observed reflections and 1,542 variable parameters for **3**, 7,039 observed reflections and 340 variable parameters for **4**, 25,607 observed reflections and 886 variable parameters for **5**. Neutral atom scattering factors were taken from International Tables for Crystallography (IT), Vol. C, Table 6.1.1.4[13]. Anomalous dispersion effects were included in Fcalc[14]; the values for Δf' and Δf'' were those of Creagh and McAuley[15]. The values for the mass attenuation coefficients are those of Creagh and Hubbell[16]. All calculations were performed using the CrystalStructure[17] crystallographic software package except for refinement, which was performed using SHELXL Version 2017/1[18]. Details of final refinement as well as the bond lengths and angle are summarized in Tables S4, S5, S6 and S7, and the numbering scheme employed is also shown in Figure S7, S8, S9 and S10, which were drawn with ORTEP at 50% probability ellipsoids. CCDC 2120736 (**2**), 2120737 (**3**), 2120738 (**4**) and 2120739 (**5**) contain the supplementary crystallographic data for this paper.

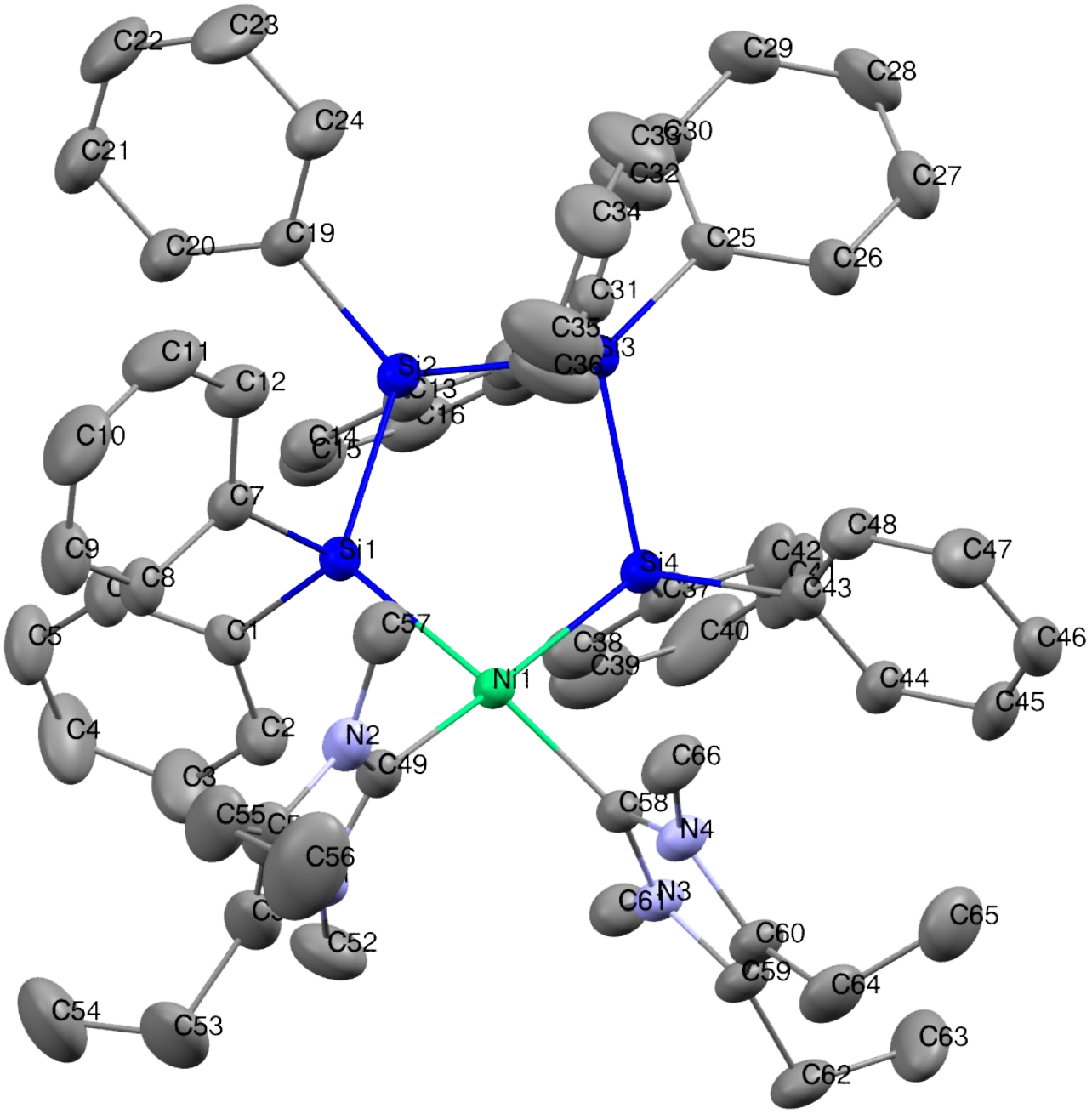


Figure S7. ORTEP drawing of **2** (50% probability of the thermal ellipsoids). Hydrogen atoms were omitted for clarity.

Table S4-1. Crystal data and structure refinement for **3**.

Empirical Formula	$C_{66}H_{72}N_4NiSi_4$
Formula Weight	1092.36
Crystal Color, Habit	yellow, block
Crystal Dimensions	0.100 X 0.100 X 0.100 mm
Crystal System	triclinic
Lattice Type	Primitive
Lattice Parameters	a = 11.7807(4) Å
	b = 11.8079(3) Å
	c = 22.9033(7) Å
	α = 80.502(2) ^{o}
	β = 78.053(3) ^{o}
	γ = 71.215(3) ^{o}
	V = 2934.25(16) Å^3
Space Group	P-1 (#2)
Z value	2
D_{calc}	1.236 g/cm^3
F_{000}	1160.00
μ(MoKα)	4.561 cm^{-1}
Diffractometer	Saturn724
Radiation	MoKα (λ = 0.71075 Å)
	graphite monochromated
Temperature	-160.0^{o}C
Detector Aperture	72.8 x 72.8 mm
Data Images	720 exposures
ω oscillation Range (χ=45.0, ϕ=0.0)	-70.0 - 110.0^o
Exposure Rate	10.0 sec./^{o}
Detector Swing Angle	20.00^o
ω oscillation Range (χ=45.0, ϕ=90.0)	-70.0 - 110.0^o
Exposure Rate	10.0 sec./^{o}
Detector Swing Angle	20.00^o
Detector Position	45.00 mm
Pixel Size	0.035 mm
$2\theta_{max}$	62.5^o
No. of Reflections Measured	Total: 28326
	Unique: 15917 (R_{int} = 0.0276)
Corrections	Lorentz-polarization
	Absorption

	(trans. factors: 0.860 - 0.955)
Structure Solution	Direct Methods (SHELXT Version 2014/5)
Refinement	Full-matrix least-squares on F^2
Function Minimized	Σ w $(Fo^2 - Fc^2)^2$
Least Squares Weights	$w = 1/ [\sigma^2(Fo^2) + (0.0679 \cdot P)^2$ + 1.6180 · P] where $P = (Max(Fo^2,0) + 2Fc^2)/3$
$2\theta_{max}$ cutoff	62.5^o
Anomalous Dispersion	All non-hydrogen atoms
No. Observations (All reflections)	15917
No. Variables	676
Reflection/Parameter Ratio	23.55
Residuals: R1 (I>2.00σ(I))	0.0567
Residuals: R (All reflections)	0.0824
Residuals: wR2 (All reflections)	0.1504
Goodness of Fit Indicator	1.035
Max Shift/Error in Final Cycle	0.002
Maximum peak in Final Diff. Map	0.99 $e^-/Å^3$
Minimum peak in Final Diff. Map	-0.55 $e^-/Å^3$

Table S4-2. Atomic coordinates and B_{iso}/B_{eq} and occupancy

Ni1	0.49061(3)	0.70819(3)	0.73379(2)	1.701(6)
Si1	0.35815(6)	0.87777(6)	0.69355(3)	1.917(11)
Si2	0.15578(6)	0.94471(6)	0.74766(3)	1.971(11)
Si3	0.14851(6)	0.75667(6)	0.79876(3)	2.027(11)
Si4	0.35047(6)	0.69854(6)	0.81887(3)	1.945(11)
N1	0.7031(2)	0.7298(2)	0.64129(10)	3.11(4)
N2	0.6012(2)	0.6388(2)	0.61043(9)	2.65(4)
N3	0.67404(18)	0.60195(18)	0.81394(9)	2.20(3)
N4	0.65512(18)	0.46913(18)	0.76807(9)	2.30(3)
C1	0.4157(2)	1.0153(2)	0.68331(11)	2.28(4)
C2	0.4896(3)	1.0291(3)	0.71924(13)	3.25(5)
C3	0.5205(4)	1.1340(3)	0.71529(16)	4.90(8)
C4	0.4771(4)	1.2279(3)	0.67440(16)	5.36(9)
C5	0.4057(4)	1.2172(3)	0.63726(14)	4.11(6)
C6	0.3756(3)	1.1129(2)	0.64151(11)	2.77(5)
C7	0.3400(2)	0.8704(2)	0.61365(11)	2.32(4)
C8	0.4320(3)	0.8840(2)	0.56653(11)	2.71(4)
C9	0.4297(3)	0.8709(3)	0.50814(13)	3.69(6)
C10	0.3340(4)	0.8429(3)	0.49507(15)	4.79(8)
C11	0.2401(3)	0.8308(3)	0.54050(16)	4.55(7)
C12	0.2435(3)	0.8448(3)	0.59856(14)	3.28(5)
C13	0.1378(2)	1.0551(2)	0.80282(11)	2.30(4)
C14	0.1728(3)	1.1582(2)	0.78428(13)	2.89(5)
C15	0.1562(3)	1.2420(3)	0.82305(14)	3.46(5)
C16	0.1044(3)	1.2243(3)	0.88218(14)	3.55(6)
C17	0.0684(3)	1.1233(3)	0.90206(13)	3.58(6)
C18	0.0849(3)	1.0389(3)	0.86245(12)	2.92(5)
C19	0.0373(2)	1.0283(2)	0.69841(11)	2.46(4)
C20	0.0446(3)	1.1365(3)	0.66581(14)	3.78(6)
C21	-0.0417(3)	1.2042(3)	0.63124(16)	4.56(7)
C22	-0.1367(3)	1.1662(3)	0.62831(16)	4.73(7)
C23	-0.1470(4)	1.0617(4)	0.6598(2)	5.82(9)
C24	-0.0603(3)	0.9925(3)	0.69444(16)	4.23(7)
C25	0.0209(2)	0.7584(2)	0.86449(11)	2.39(4)
C26	0.0346(3)	0.6719(3)	0.91360(12)	3.06(5)
C27	-0.0603(3)	0.6724(3)	0.96056(13)	3.72(6)
C28	-0.1708(3)	0.7579(3)	0.95904(14)	3.96(6)
C29	-0.1871(3)	0.8427(3)	0.91103(14)	3.64(6)

C30	-0.0923(2)	0.8440(3)	0.86424(12)	2.96(5)
C31	0.1311(2)	0.6555(2)	0.74730(11)	2.33(4)
C32	0.0257(3)	0.6253(3)	0.75183(15)	4.35(7)
C33	0.0171(4)	0.5458(4)	0.71584(17)	5.40(9)
C34	0.1117(4)	0.4966(3)	0.67475(16)	4.65(7)
C35	0.2172(4)	0.5260(4)	0.6686(2)	6.17(11)
C36	0.2256(3)	0.6028(3)	0.70568(17)	4.75(8)
C37	0.3357(2)	0.7990(2)	0.87853(11)	2.53(4)
C38	0.3747(3)	0.9000(3)	0.86604(14)	3.25(5)
C39	0.3680(3)	0.9711(3)	0.90958(19)	4.93(8)
C40	0.3179(4)	0.9423(4)	0.96784(19)	6.26(11)
C41	0.2733(4)	0.8460(4)	0.98145(15)	5.63(10)
C42	0.2819(3)	0.7743(3)	0.93773(12)	3.72(6)
C43	0.3827(2)	0.5418(2)	0.86226(11)	2.38(4)
C44	0.4546(2)	0.5100(2)	0.90687(12)	2.85(5)
C45	0.4832(3)	0.3959(3)	0.93708(13)	3.48(6)
C46	0.4425(3)	0.3091(3)	0.92303(16)	4.29(7)
C47	0.3730(3)	0.3369(3)	0.87892(18)	4.65(7)
C48	0.3430(3)	0.4518(3)	0.84922(15)	3.70(6)
C49	0.6013(2)	0.6950(2)	0.65767(11)	2.37(4)
C50	0.7654(3)	0.6964(3)	0.58497(14)	3.82(6)
C51	0.7012(3)	0.6413(3)	0.56531(12)	3.50(6)
C52	0.7436(3)	0.7915(4)	0.67841(16)	4.59(7)
C53	0.8789(3)	0.7280(4)	0.55512(17)	5.51(9)
C54	0.8553(4)	0.8558(4)	0.5269(2)	7.33(12)
C55	0.7225(4)	0.5879(3)	0.50781(14)	4.71(8)
C56	0.7815(5)	0.4530(4)	0.51326(19)	7.81(14)
C57	0.5068(3)	0.5911(3)	0.60515(12)	3.25(5)
C58	0.6085(2)	0.5874(2)	0.77515(10)	2.04(4)
C59	0.7597(2)	0.4950(2)	0.82999(12)	2.66(4)
C60	0.7486(2)	0.4113(2)	0.80100(12)	2.67(4)
C61	0.6564(3)	0.7147(2)	0.83642(13)	3.03(5)
C62	0.8407(3)	0.4857(3)	0.87396(14)	3.50(5)
C63	0.7846(4)	0.4594(4)	0.93816(15)	5.27(8)
C64	0.8177(3)	0.2814(3)	0.79989(14)	3.61(6)
C65	0.7519(3)	0.1972(3)	0.83771(16)	4.62(7)
C66	0.6100(3)	0.4104(3)	0.73156(13)	3.35(5)

$B_{eq} = 8/3\ \pi^2(U_{11}(aa^*)^2 + U_{22}(bb^*)^2 + U_{33}(cc^*)^2 + 2U_{12}(aa^*bb^*)\cos\gamma + 2U_{13}(aa^*cc^*)\cos\beta + 2U_{23}(bb^*cc^*)\cos\alpha)$

Table S4-3. Anisotropic displacement parameters

atom	U_{11}	U_{22}	U_{33}	U_{12}	U_{13}	U_{23}
Ni1	0.02106(15)	0.02164(15)	0.02131(14)	-0.00462(11)	-0.00401(11)	-0.00343(11)
Si1	0.0247(3)	0.0240(3)	0.0228(3)	-0.0066(3)	-0.0032(3)	-0.0010(2)
Si2	0.0254(3)	0.0233(3)	0.0248(3)	-0.0048(3)	-0.0054(3)	-0.0023(2)
Si3	0.0242(3)	0.0262(3)	0.0250(3)	-0.0070(3)	-0.0023(3)	-0.0015(3)
Si4	0.0239(3)	0.0255(3)	0.0224(3)	-0.0051(3)	-0.0045(3)	-0.0004(2)
N1	0.0283(12)	0.0467(14)	0.0384(13)	-0.0086(10)	0.0007(10)	-0.0045(11)
N2	0.0332(12)	0.0351(12)	0.0255(10)	-0.0023(10)	-0.0011(9)	-0.0050(9)
N3	0.0240(10)	0.0276(10)	0.0316(11)	-0.0032(8)	-0.0091(8)	-0.0055(8)
N4	0.0274(11)	0.0255(10)	0.0323(11)	-0.0005(8)	-0.0090(9)	-0.0064(8)
C1	0.0317(13)	0.0288(12)	0.0252(11)	-0.0110(10)	0.0020(10)	-0.0048(9)
C2	0.0481(17)	0.0428(16)	0.0383(15)	-0.0204(14)	-0.0129(13)	0.0009(12)
C3	0.088(3)	0.064(2)	0.059(2)	-0.049(2)	-0.0308(19)	0.0030(17)
C4	0.120(3)	0.052(2)	0.057(2)	-0.057(2)	-0.027(2)	0.0043(16)
C5	0.087(3)	0.0345(15)	0.0410(16)	-0.0269(16)	-0.0161(16)	0.0033(12)
C6	0.0478(16)	0.0322(13)	0.0265(12)	-0.0143(12)	-0.0061(11)	-0.0022(10)
C7	0.0325(13)	0.0248(12)	0.0289(12)	-0.0042(10)	-0.0077(10)	-0.0031(9)
C8	0.0432(15)	0.0303(13)	0.0273(12)	-0.0103(12)	-0.0048(11)	-0.0003(10)
C9	0.068(2)	0.0426(16)	0.0274(14)	-0.0155(15)	-0.0044(14)	-0.0024(12)
C10	0.086(3)	0.061(2)	0.0356(17)	-0.009(2)	-0.0274(18)	-0.0136(15)
C11	0.055(2)	0.063(2)	0.062(2)	-0.0089(17)	-0.0268(18)	-0.0245(17)
C12	0.0374(15)	0.0435(16)	0.0448(16)	-0.0065(13)	-0.0112(13)	-0.0133(13)
C13	0.0285(12)	0.0265(12)	0.0306(12)	-0.0018(10)	-0.0080(10)	-0.0070(10)
C14	0.0368(14)	0.0315(13)	0.0419(15)	-0.0054(11)	-0.0111(12)	-0.0089(11)
C15	0.0446(17)	0.0312(14)	0.0594(19)	-0.0047(12)	-0.0200(14)	-0.0138(13)
C16	0.0414(16)	0.0394(16)	0.0540(18)	0.0054(13)	-0.0202(14)	-0.0250(14)
C17	0.0396(16)	0.0523(18)	0.0362(15)	0.0050(14)	-0.0087(12)	-0.0175(13)
C18	0.0362(14)	0.0349(14)	0.0370(14)	-0.0033(12)	-0.0093(12)	-0.0065(11)
C19	0.0295(13)	0.0333(13)	0.0283(12)	-0.0032(11)	-0.0078(10)	-0.0049(10)
C20	0.0441(17)	0.0482(17)	0.0540(18)	-0.0173(14)	-0.0229(14)	0.0135(14)
C21	0.063(2)	0.0506(19)	0.057(2)	-0.0118(17)	-0.0284(17)	0.0153(16)
C22	0.066(2)	0.054(2)	0.063(2)	-0.0049(17)	-0.0442(19)	0.0019(16)
C23	0.066(2)	0.067(2)	0.108(3)	-0.028(2)	-0.059(2)	0.009(2)
C24	0.057(2)	0.0406(17)	0.073(2)	-0.0202(15)	-0.0341(17)	0.0107(15)
C25	0.0285(13)	0.0338(13)	0.0294(12)	-0.0121(11)	0.0018(10)	-0.0083(10)
C26	0.0392(15)	0.0430(15)	0.0310(13)	-0.0121(13)	-0.0013(11)	-0.0010(11)
C27	0.059(2)	0.0538(18)	0.0290(14)	-0.0245(16)	0.0032(13)	-0.0024(13)
C28	0.0462(18)	0.067(2)	0.0388(16)	-0.0267(17)	0.0179(13)	-0.0202(15)

C29	0.0318(15)	0.0542(19)	0.0502(18)	-0.0099(14)	0.0052(13)	-0.0207(15)
C30	0.0338(14)	0.0386(15)	0.0365(14)	-0.0081(12)	-0.0003(11)	-0.0076(11)
C31	0.0327(13)	0.0272(12)	0.0293(12)	-0.0099(10)	-0.0065(10)	-0.0010(9)
C32	0.0405(17)	0.078(2)	0.058(2)	-0.0296(17)	0.0091(15)	-0.0327(18)
C33	0.064(2)	0.099(3)	0.068(2)	-0.056(2)	0.0033(19)	-0.034(2)
C34	0.073(2)	0.058(2)	0.058(2)	-0.0309(19)	-0.0059(18)	-0.0264(17)
C35	0.065(2)	0.091(3)	0.089(3)	-0.032(2)	0.021(2)	-0.063(3)
C36	0.0419(18)	0.077(2)	0.072(2)	-0.0280(17)	0.0139(16)	-0.046(2)
C37	0.0340(14)	0.0288(12)	0.0295(12)	0.0003(11)	-0.0115(11)	-0.0034(10)
C38	0.0384(15)	0.0340(14)	0.0503(17)	-0.0034(12)	-0.0120(13)	-0.0119(12)
C39	0.065(2)	0.0380(17)	0.090(3)	0.0006(16)	-0.033(2)	-0.0271(18)
C40	0.111(3)	0.057(2)	0.066(3)	0.014(2)	-0.048(2)	-0.036(2)
C41	0.106(3)	0.058(2)	0.0311(16)	0.011(2)	-0.0189(18)	-0.0132(15)
C42	0.064(2)	0.0394(16)	0.0263(13)	-0.0002(14)	-0.0060(13)	-0.0056(11)
C43	0.0252(12)	0.0303(12)	0.0299(12)	-0.0055(10)	-0.0008(10)	0.0006(10)
C44	0.0352(14)	0.0337(14)	0.0344(14)	-0.0048(11)	-0.0079(11)	0.0015(11)
C45	0.0417(16)	0.0424(16)	0.0370(15)	-0.0013(13)	-0.0105(13)	0.0091(12)
C46	0.0440(17)	0.0391(17)	0.069(2)	-0.0105(14)	-0.0104(16)	0.0222(15)
C47	0.054(2)	0.0374(17)	0.091(3)	-0.0238(15)	-0.0249(19)	0.0124(17)
C48	0.0420(16)	0.0382(16)	0.064(2)	-0.0159(13)	-0.0229(15)	0.0091(14)
C49	0.0276(13)	0.0304(12)	0.0263(12)	-0.0027(10)	-0.0027(10)	-0.0016(10)
C50	0.0361(16)	0.0556(19)	0.0391(16)	-0.0050(14)	0.0094(13)	-0.0018(14)
C51	0.0424(17)	0.0462(17)	0.0289(14)	0.0013(14)	0.0053(12)	-0.0047(12)
C52	0.0438(18)	0.076(2)	0.063(2)	-0.0304(18)	0.0017(16)	-0.0194(19)
C53	0.046(2)	0.090(3)	0.057(2)	-0.017(2)	0.0163(17)	0.000(2)
C54	0.086(3)	0.103(4)	0.082(3)	-0.046(3)	0.013(3)	0.015(3)
C55	0.064(2)	0.065(2)	0.0316(16)	0.0024(18)	0.0033(15)	-0.0094(15)
C56	0.126(4)	0.078(3)	0.059(3)	0.021(3)	-0.004(3)	-0.032(2)
C57	0.0508(17)	0.0383(15)	0.0345(14)	-0.0084(13)	-0.0092(13)	-0.0107(12)
C58	0.0231(11)	0.0272(12)	0.0259(11)	-0.0048(9)	-0.0043(9)	-0.0041(9)
C59	0.0254(12)	0.0356(14)	0.0362(14)	-0.0001(11)	-0.0115(11)	-0.0036(11)
C60	0.0262(13)	0.0326(13)	0.0387(14)	0.0000(11)	-0.0105(11)	-0.0036(11)
C61	0.0386(15)	0.0359(14)	0.0426(15)	-0.0072(12)	-0.0135(12)	-0.0092(12)
C62	0.0358(15)	0.0463(17)	0.0519(17)	-0.0040(13)	-0.0229(13)	-0.0047(14)
C63	0.084(3)	0.085(3)	0.049(2)	-0.045(2)	-0.0367(19)	0.0158(18)
C64	0.0402(16)	0.0335(15)	0.0541(18)	0.0086(13)	-0.0138(14)	-0.0111(13)
C65	0.070(2)	0.0336(16)	0.065(2)	-0.0009(16)	-0.0205(18)	-0.0029(15)
C66	0.0497(17)	0.0315(14)	0.0483(17)	-0.0030(13)	-0.0226(14)	-0.0102(12)

The general temperature factor expression: $\exp(-2\pi^2(a^{*2}U_{11}h^2 + b^{*2}U_{22}k^2 + c^{*2}U_{33}l^2 + 2a^*b^*U_{12}hk +$

$2a^*c^*U_{13}hl + 2b^*c^*U_{23}kl))$

Table S4-4. Bond lengths (Å)

atom	atom	distance	atom	atom	distance
Ni1	Si1	2.2952(7)	Ni1	Si4	2.2917(7)
Ni1	C49	1.944(2)	Ni1	C58	1.919(2)
Si1	Si2	2.3939(9)	Si1	C1	1.915(3)
Si1	C7	1.905(3)	Si2	Si3	2.3517(10)
Si2	C13	1.896(3)	Si2	C19	1.895(3)
Si3	Si4	2.3752(10)	Si3	C25	1.893(2)
Si3	C31	1.892(3)	Si4	C37	1.900(3)
Si4	C43	1.911(2)	N1	C49	1.352(4)
N1	C50	1.395(4)	N1	C52	1.442(5)
N2	C49	1.360(4)	N2	C51	1.401(3)
N2	C57	1.432(5)	N3	C58	1.354(4)
N3	C59	1.388(3)	N3	C61	1.443(4)
N4	C58	1.350(3)	N4	C60	1.392(3)
N4	C66	1.441(4)	C1	C2	1.377(5)
C1	C6	1.393(3)	C2	C3	1.384(6)
C3	C4	1.363(5)	C4	C5	1.360(7)
C5	C6	1.371(5)	C7	C8	1.391(4)
C7	C12	1.386(5)	C8	C9	1.378(4)
C9	C10	1.372(6)	C10	C11	1.379(5)
C11	C12	1.377(5)	C13	C14	1.384(4)
C13	C18	1.388(3)	C14	C15	1.378(5)
C15	C16	1.377(4)	C16	C17	1.370(5)
C17	C18	1.398(5)	C19	C20	1.387(4)
C19	C24	1.371(5)	C20	C21	1.378(5)
C21	C22	1.350(6)	C22	C23	1.351(6)
C23	C24	1.387(5)	C25	C26	1.387(4)
C25	C30	1.390(3)	C26	C27	1.381(4)
C27	C28	1.369(4)	C28	C29	1.360(4)
C29	C30	1.381(4)	C31	C32	1.378(5)
C31	C36	1.358(4)	C32	C33	1.386(7)
C33	C34	1.339(5)	C34	C35	1.369(7)
C35	C36	1.379(7)	C37	C38	1.379(4)
C37	C42	1.399(4)	C38	C39	1.381(6)
C39	C40	1.378(6)	C40	C41	1.366(7)
C41	C42	1.382(5)	C43	C44	1.389(4)

C43	C48	1.385(5)	C44	C45	1.380(4)
C45	C46	1.368(6)	C46	C47	1.363(6)
C47	C48	1.384(4)	C50	C51	1.325(6)
C50	C53	1.501(5)	C51	C55	1.493(5)
C53	C54	1.502(6)	C55	C56	1.515(5)
C59	C60	1.330(5)	C59	C62	1.494(5)
C60	C64	1.489(4)	C62	C63	1.508(4)
C64	C65	1.508(5)			

Table S4-5. Bond angles (°)

atom	atom	atom	angle	atom	atom	atom	angle
Si1	Ni1	Si4	91.18(2)	Si1	Ni1	C49	90.74(7)
Si1	Ni1	C58	169.05(9)	Si4	Ni1	C49	170.31(10)
Si4	Ni1	C58	87.62(7)	C49	Ni1	C58	92.26(9)
Ni1	Si1	Si2	117.89(3)	Ni1	Si1	C1	112.10(8)
Ni1	Si1	C7	114.21(7)	Si2	Si1	C1	103.95(7)
Si2	Si1	C7	105.55(8)	C1	Si1	C7	101.39(12)
Si1	Si2	Si3	96.95(3)	Si1	Si2	C13	113.38(9)
Si1	Si2	C19	114.06(8)	Si3	Si2	C13	110.56(8)
Si3	Si2	C19	118.65(10)	C13	Si2	C19	103.64(11)
Si2	Si3	Si4	94.56(4)	Si2	Si3	C25	116.44(8)
Si2	Si3	C31	111.67(8)	Si4	Si3	C25	118.16(9)
Si4	Si3	C31	111.37(8)	C25	Si3	C31	104.73(13)
Ni1	Si4	Si3	112.71(3)	Ni1	Si4	C37	117.49(9)
Ni1	Si4	C43	112.71(7)	Si3	Si4	C37	102.02(9)
Si3	Si4	C43	107.98(9)	C37	Si4	C43	102.83(11)
C49	N1	C50	112.0(3)	C49	N1	C52	123.8(2)
C50	N1	C52	124.2(3)	C49	N2	C51	111.3(3)
C49	N2	C57	124.6(2)	C51	N2	C57	124.0(2)
C58	N3	C59	111.9(2)	C58	N3	C61	124.2(2)
C59	N3	C61	124.0(2)	C58	N4	C60	112.3(2)
C58	N4	C66	123.1(2)	C60	N4	C66	124.6(2)
Si1	C1	C2	123.11(19)	Si1	C1	C6	120.9(2)
C2	C1	C6	115.8(3)	C1	C2	C3	122.5(3)
C2	C3	C4	119.5(4)	C3	C4	C5	119.9(4)
C4	C5	C6	120.2(3)	C1	C6	C5	122.1(3)
Si1	C7	C8	119.2(2)	Si1	C7	C12	124.5(2)
C8	C7	C12	116.2(3)	C7	C8	C9	122.6(3)
C8	C9	C10	119.7(3)	C9	C10	C11	119.4(3)

C10	C11	C12	120.2(4)	C7	C12	C11	122.0(3)
Si2	C13	C14	120.78(19)	Si2	C13	C18	121.9(2)
C14	C13	C18	117.3(3)	C13	C14	C15	121.8(3)
C14	C15	C16	120.3(3)	C15	C16	C17	119.5(3)
C16	C17	C18	120.0(3)	C13	C18	C17	121.2(3)
Si2	C19	C20	119.0(2)	Si2	C19	C24	124.5(2)
C20	C19	C24	116.4(3)	C19	C20	C21	121.8(3)
C20	C21	C22	120.3(3)	C21	C22	C23	119.5(4)
C22	C23	C24	120.7(4)	C19	C24	C23	121.4(3)
Si3	C25	C26	121.58(18)	Si3	C25	C30	121.02(18)
C26	C25	C30	117.3(2)	C25	C26	C27	121.0(2)
C26	C27	C28	120.4(3)	C27	C28	C29	119.8(3)
C28	C29	C30	120.3(3)	C25	C30	C29	121.2(2)
Si3	C31	C32	122.6(2)	Si3	C31	C36	121.1(3)
C32	C31	C36	116.2(3)	C31	C32	C33	121.7(3)
C32	C33	C34	120.6(4)	C33	C34	C35	119.1(4)
C34	C35	C36	119.7(3)	C31	C36	C35	122.7(4)
Si4	C37	C38	122.5(2)	Si4	C37	C42	120.8(2)
C38	C37	C42	116.7(3)	C37	C38	C39	122.7(3)
C38	C39	C40	119.1(4)	C39	C40	C41	119.8(4)
C40	C41	C42	120.6(3)	C37	C42	C41	120.9(3)
Si4	C43	C44	120.9(2)	Si4	C43	C48	122.9(2)
C44	C43	C48	116.1(2)	C43	C44	C45	121.9(3)
C44	C45	C46	120.4(3)	C45	C46	C47	119.2(3)
C46	C47	C48	120.3(4)	C43	C48	C47	122.0(3)
Ni1	C49	N1	128.1(2)	Ni1	C49	N2	128.3(2)
N1	C49	N2	103.3(2)	N1	C50	C51	106.5(3)
N1	C50	C53	123.0(4)	C51	C50	C53	130.4(3)
N2	C51	C50	106.8(3)	N2	C51	C55	122.6(3)
C50	C51	C55	130.5(3)	C50	C53	C54	113.5(3)
C51	C55	C56	113.3(3)	Ni1	C58	N3	128.44(18)
Ni1	C58	N4	128.3(2)	N3	C58	N4	103.00(19)
N3	C59	C60	106.8(3)	N3	C59	C62	122.5(3)
C60	C59	C62	130.6(2)	N4	C60	C59	106.0(2)
N4	C60	C64	123.2(3)	C59	C60	C64	130.8(3)
C59	C62	C63	113.2(3)	C60	C64	C65	114.5(2)

Table S4-6. Torsion Angles(°)

(Those having bond angles > 160 or < 20 degrees are excluded.)

atom1	atom2	atom3	atom4	angle	atom1	atom2	atom3	atom4	angle
Si1	Ni1	Si4	Si3	36.87(4)	Si1	Ni1	Si4	C37	-81.31(4)
Si1	Ni1	Si4	C43	159.41(4)	Si4	Ni1	Si1	Si2	-5.36(4)
Si4	Ni1	Si1	C1	115.26(4)	Si4	Ni1	Si1	C7	-130.15(4)
Si1	Ni1	C49	N1	99.60(17)	Si1	Ni1	C49	N2	-87.19(17)
C49	Ni1	Si1	Si2	165.14(10)	C49	Ni1	Si1	C1	-74.24(10)
C49	Ni1	Si1	C7	40.35(10)	Si4	Ni1	C58	N3	-83.28(17)
Si4	Ni1	C58	N4	104.05(18)	C58	Ni1	Si4	Si3	-154.01(9)
C58	Ni1	Si4	C37	87.81(9)	C58	Ni1	Si4	C43	-31.47(9)
C49	Ni1	C58	N3	106.41(19)	C49	Ni1	C58	N4	-66.2(2)
C58	Ni1	C49	N1	-69.87(19)	C58	Ni1	C49	N2	103.34(19)
Ni1	Si1	Si2	Si3	-25.52(5)	Ni1	Si1	Si2	C13	90.47(5)
Ni1	Si1	Si2	C19	-151.21(4)	Ni1	Si1	C1	C2	-28.93(18)
Ni1	Si1	C1	C6	156.62(12)	Ni1	Si1	C7	C8	-75.56(17)
Ni1	Si1	C7	C12	100.27(15)	Si2	Si1	C1	C2	99.46(15)
Si2	Si1	C1	C6	-74.99(16)	C1	Si1	Si2	Si3	-150.28(9)
C1	Si1	Si2	C13	-34.29(9)	C1	Si1	Si2	C19	84.03(9)
Si2	Si1	C7	C8	153.34(13)	Si2	Si1	C7	C12	-30.84(18)
C7	Si1	Si2	Si3	103.44(9)	C7	Si1	Si2	C13	-140.57(9)
C7	Si1	Si2	C19	-22.25(10)	C1	Si1	C7	C8	45.19(17)
C1	Si1	C7	C12	-138.98(16)	C7	Si1	C1	C2	-151.15(16)
C7	Si1	C1	C6	34.39(18)	Si1	Si2	Si3	Si4	40.73(4)
Si1	Si2	Si3	C25	165.38(4)	Si1	Si2	Si3	C31	-74.41(4)
Si1	Si2	C13	C14	53.85(18)	Si1	Si2	C13	C18	-128.77(15)
Si1	Si2	C19	C20	-63.59(18)	Si1	Si2	C19	C24	119.62(16)
Si3	Si2	C13	C14	161.49(13)	Si3	Si2	C13	C18	-21.13(19)
C13	Si2	Si3	Si4	-77.48(9)	C13	Si2	Si3	C25	47.16(10)
C13	Si2	Si3	C31	167.37(9)	Si3	Si2	C19	C20	-176.86(12)
Si3	Si2	C19	C24	6.4(2)	C19	Si2	Si3	Si4	163.05(9)
C19	Si2	Si3	C25	-72.31(10)	C19	Si2	Si3	C31	47.90(9)
C13	Si2	C19	C20	60.16(18)	C13	Si2	C19	C24	-116.64(19)
C19	Si2	C13	C14	-70.34(19)	C19	Si2	C13	C18	107.04(18)
Si2	Si3	Si4	Ni1	-54.84(4)	Si2	Si3	Si4	C37	72.07(4)
Si2	Si3	Si4	C43	-180.00(3)	Si2	Si3	C25	C26	-148.92(18)
Si2	Si3	C25	C30	33.7(3)	Si2	Si3	C31	C32	-109.85(15)
Si2	Si3	C31	C36	73.94(17)	Si4	Si3	C25	C26	-37.4(3)
Si4	Si3	C25	C30	145.19(17)	C25	Si3	Si4	Ni1	-178.17(10)
C25	Si3	Si4	C37	-51.25(11)	C25	Si3	Si4	C43	56.68(11)
Si4	Si3	C31	C32	145.84(14)	Si4	Si3	C31	C36	-30.37(18)

C31	Si3	Si4	Ni1	60.55(9)	C31	Si3	Si4	C37	-172.53(8)
C31	Si3	Si4	C43	-64.60(9)	C25	Si3	C31	C32	17.01(19)
C25	Si3	C31	C36	-159.20(16)	C31	Si3	C25	C26	87.2(2)
C31	Si3	C25	C30	-90.2(2)	Ni1	Si4	C37	C38	20.6(2)
Ni1	Si4	C37	C42	-160.50(13)	Ni1	Si4	C43	C44	90.57(15)
Ni1	Si4	C43	C48	-85.44(16)	Si3	Si4	C37	C38	-103.17(18)
Si3	Si4	C37	C42	75.73(17)	Si3	Si4	C43	C44	-144.27(13)
Si3	Si4	C43	C48	39.72(17)	C37	Si4	C43	C44	-36.91(18)
C37	Si4	C43	C48	147.08(16)	C43	Si4	C37	C38	144.98(18)
C43	Si4	C37	C42	-36.1(2)	C49	N1	C50	C51	0.7(3)
C49	N1	C50	C53	177.6(2)	C50	N1	C49	Ni1	174.69(19)
C50	N1	C49	N2	0.2(3)	C52	N1	C49	Ni1	-4.0(4)
C52	N1	C49	N2	-178.5(2)	C52	N1	C50	C51	179.4(2)
C52	N1	C50	C53	-3.7(4)	C49	N2	C51	C50	1.5(3)
C49	N2	C51	C55	-178.9(2)	C51	N2	C49	Ni1	-175.51(18)
C51	N2	C49	N1	-1.0(2)	C57	N2	C49	Ni1	8.8(3)
C57	N2	C49	N1	-176.64(19)	C57	N2	C51	C50	177.2(2)
C57	N2	C51	C55	-3.2(4)	C58	N3	C59	C60	0.1(3)
C58	N3	C59	C62	-177.80(19)	C59	N3	C58	Ni1	-173.66(17)
C59	N3	C58	N4	0.4(2)	C61	N3	C58	Ni1	6.9(3)
C61	N3	C58	N4	-178.99(19)	C61	N3	C59	C60	179.5(2)
C61	N3	C59	C62	1.6(4)	C58	N4	C60	C59	0.9(3)
C58	N4	C60	C64	-178.37(19)	C60	N4	C58	Ni1	173.32(18)
C60	N4	C58	N3	-0.8(2)	C66	N4	C58	Ni1	-8.1(3)
C66	N4	C58	N3	177.81(19)	C66	N4	C60	C59	-177.7(2)
C66	N4	C60	C64	3.1(4)	Si1	C1	C2	C3	-173.32(15)
Si1	C1	C6	C5	173.46(15)	C2	C1	C6	C5	-1.4(3)
C6	C1	C2	C3	1.4(3)	C1	C2	C3	C4	-0.2(4)
C2	C3	C4	C5	-1.1(5)	C3	C4	C5	C6	1.1(5)
C4	C5	C6	C1	0.2(4)	Si1	C7	C8	C9	175.02(15)
Si1	C7	C12	C11	-174.48(15)	C8	C7	C12	C11	1.5(3)
C12	C7	C8	C9	-1.1(3)	C7	C8	C9	C10	-0.2(4)
C8	C9	C10	C11	1.3(4)	C9	C10	C11	C12	-1.0(5)
C10	C11	C12	C7	-0.4(5)	Si2	C13	C14	C15	177.44(16)
Si2	C13	C18	C17	-177.73(16)	C14	C13	C18	C17	-0.3(4)
C18	C13	C14	C15	-0.1(4)	C13	C14	C15	C16	0.5(4)
C14	C15	C16	C17	-0.6(4)	C15	C16	C17	C18	0.3(4)
C16	C17	C18	C13	0.1(4)	Si2	C19	C20	C21	-177.12(18)
Si2	C19	C24	C23	176.52(18)	C20	C19	C24	C23	-0.3(4)

C24	C19	C20	C21	-0.1(4)	C19	C20	C21	C22	0.0(5)
C20	C21	C22	C23	0.4(5)	C21	C22	C23	C24	-0.8(6)
C22	C23	C24	C19	0.8(6)	Si3	C25	C26	C27	-178.3(2)
Si3	C25	C30	C29	177.4(2)	C26	C25	C30	C29	-0.1(5)
C30	C25	C26	C27	-0.8(5)	C25	C26	C27	C28	0.9(5)
C26	C27	C28	C29	-0.0(6)	C27	C28	C29	C30	-0.8(6)
C28	C29	C30	C25	0.9(6)	Si3	C31	C32	C33	-176.41(18)
Si3	C31	C36	C35	178.2(2)	C32	C31	C36	C35	1.7(4)
C36	C31	C32	C33	-0.0(4)	C31	C32	C33	C34	-0.8(5)
C32	C33	C34	C35	-0.1(5)	C33	C34	C35	C36	1.8(5)
C34	C35	C36	C31	-2.7(6)	Si4	C37	C38	C39	-177.75(17)
Si4	C37	C42	C41	178.69(18)	C38	C37	C42	C41	-2.3(4)
C42	C37	C38	C39	3.3(4)	C37	C38	C39	C40	-1.4(5)
C38	C39	C40	C41	-1.5(6)	C39	C40	C41	C42	2.4(6)
C40	C41	C42	C37	-0.4(6)	Si4	C43	C44	C45	-177.28(14)
Si4	C43	C48	C47	176.29(16)	C44	C43	C48	C47	0.1(4)
C48	C43	C44	C45	-1.0(3)	C43	C44	C45	C46	1.1(4)
C44	C45	C46	C47	-0.2(4)	C45	C46	C47	C48	-0.7(5)
C46	C47	C48	C43	0.8(5)	N1	C50	C51	N2	-1.3(3)
N1	C50	C51	C55	179.1(2)	N1	C50	C53	C54	-78.1(4)
C51	C50	C53	C54	98.0(4)	C53	C50	C51	N2	-177.9(3)
C53	C50	C51	C55	2.5(5)	N2	C51	C55	C56	-81.1(4)
C50	C51	C55	C56	98.4(4)	N3	C59	C60	N4	-0.5(3)
N3	C59	C60	C64	178.6(2)	N3	C59	C62	C63	87.3(3)
C60	C59	C62	C63	-90.0(3)	C62	C59	C60	N4	177.1(2)
C62	C59	C60	C64	-3.8(5)	N4	C60	C64	C65	-78.3(3)
C59	C60	C64	C65	102.7(4)					

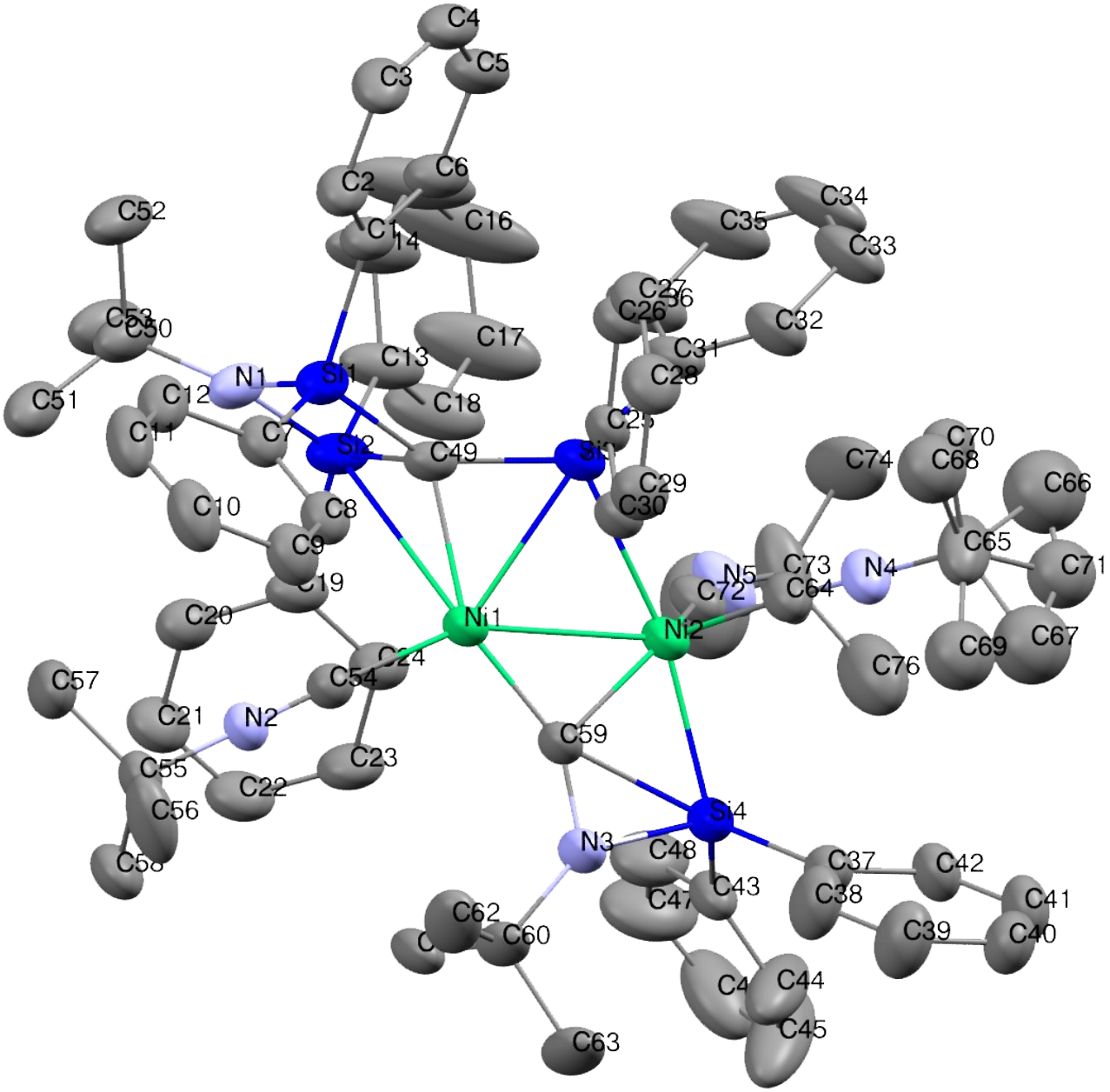


Figure S8. ORTEP drawing of **3** (50% probability of the thermal ellipsoids). Hydrogen atoms were omitted for clarity. The unit cell contains two independent molecules of **3**, and one of two molecules was shown here. One ^{t}Bu group was found to be disordered, and the site occupancy factor for three methyl groups was defined to be 0.5.

Table S5-1. Crystal data and structure refinement for **3**.

Empirical Formula	$C_{73}H_{85}N_5Ni_2Si_4$
Formula Weight	1262.25
Crystal Color, Habit	unknown, unknown
Crystal Dimensions	0.100 X 0.100 X 0.100 mm
Crystal System	triclinic
Lattice Type	Primitive
Lattice Parameters	a = 14.392(12) Å
	b = 22.272(19) Å
	c = 22.510(19) Å
	α = 97.750(7) º
	β = 95.438(7) º
	γ = 102.855(7) º
	V = 6912(10) Å^3
Space Group	P-1 (#2)
Z value	4
D_{calc}	1.213 g/cm^3
F_{000}	2680.00
Diffractometer	R-AXIS IV
unknown Radiation (λ = 0.41500Å)	
	monochromated
Voltage, Current	8kV, 100mA
Temperature	-173.0ºC
Detector Aperture	300.0 x 300.0 mm
Data Images	1080 exposures
ω oscillation Range (χ=45.0, ϕ=0.0)	0.0 - 180.0º
Exposure Rate	240.0 sec./º
Detector Swing Angle	25.0º
ω oscillation Range (χ=45.0, ϕ=90.0)	0.0 - 180.0º
Exposure Rate	240.0 sec./º
Detector Swing Angle	25.0º
ω oscillation Range (χ=45.0, ϕ=180.0)	0.0 - 180.0º
Exposure Rate	240.0 sec./º
Detector Swing Angle	25.0º
Detector Position	130.00 mm
Pixel Size	0.172 mm
$2\theta_{max}$	44.5º
No. of Reflections Measured	Total: 282646

	Unique: 67846 (R_{int} = 0.1469)
Corrections	Lorentz-polarization Absorption (trans. factors: 0.374 - 1.000)
Structure Solution	Direct Methods (SHELXT Version 2014/5)
Refinement	Full-matrix least-squares on F^2
Function Minimized	Σ w $(Fo^2 - Fc^2)^2$
Least Squares Weights	$w = 1/ [\sigma^2(Fo^2) + (0.1152 \cdot P)^2$ $+ 0.0000 \cdot P]$ where $P = (Max(Fo^2,0) + 2Fc^2)/3$
$2\theta_{max}$ cutoff	44.5°
Anomalous Dispersion	All non-hydrogen atoms
No. Observations (All reflections)	67846
No. Variables	1542
Reflection/Parameter Ratio	44.00
Residuals: R1 (I>2.00σ(I))	0.0786
Residuals: R (All reflections)	0.1753
Residuals: wR2 (All reflections)	0.2544
Goodness of Fit Indicator	0.969
Max Shift/Error in Final Cycle	0.002
Maximum peak in Final Diff. Map	1.36 $e^-/Å^3$
Minimum peak in Final Diff. Map	-1.12 $e^-/Å^3$

Table S5-2. Atomic coordinates and B_{iso}/B_{eq} and occupancy

atom	x	y	z	B_{eq}	occ
Ni1	0.50021(2)	0.68428(2)	0.78836(2)	2.546(6)	1
Ni2	0.42053(3)	0.69257(2)	0.69109(2)	2.862(6)	1
Ni3	0.93734(3)	0.18490(2)	0.78227(2)	2.863(6)	1
Ni4	0.88210(2)	0.28040(2)	0.77444(2)	2.890(6)	1
Si1	0.68656(6)	0.61580(4)	0.80872(4)	2.928(13)	1
Si2	0.72334(6)	0.72889(4)	0.80040(4)	3.237(14)	1
Si3	0.54408(6)	0.63582(4)	0.69742(3)	2.712(12)	1
Si4	0.29756(6)	0.73408(4)	0.70823(3)	3.223(13)	1
Si5	1.10420(6)	0.13831(4)	0.69968(3)	2.852(12)	1
Si6	0.92997(6)	0.11498(4)	0.65997(4)	3.340(14)	1
Si7	1.01554(6)	0.26217(4)	0.72682(3)	2.705(12)	1
Si8	0.79822(6)	0.29646(4)	0.84963(4)	3.319(14)	1
N1	0.77458(17)	0.68192(12)	0.84099(13)	3.45(4)	1
N2	0.51795(16)	0.69717(11)	0.92063(10)	2.87(4)	1
N3	0.30976(19)	0.71873(14)	0.78213(11)	3.63(5)	1
N4	0.3070(2)	0.59503(14)	0.59202(12)	4.19(5)	1
N5	0.5267(3)	0.79137(13)	0.63137(12)	4.51(6)	1
N6	1.02066(19)	0.07621(12)	0.65761(11)	3.35(4)	1
N7	0.9662(3)	0.08057(14)	0.84277(15)	4.78(6)	1
N8	0.81098(18)	0.22548(13)	0.87042(11)	3.40(4)	1
N9	0.99023(18)	0.41134(12)	0.78728(11)	3.27(4)	1
N10	0.7296(2)	0.26199(17)	0.66993(13)	4.87(7)	1
C1	0.7309(2)	0.55724(14)	0.75887(14)	3.28(5)	1
C2	0.7260(2)	0.49742(15)	0.76935(15)	3.68(5)	1
C3	0.7561(3)	0.45471(16)	0.73055(16)	4.31(6)	1
C4	0.7900(2)	0.47055(17)	0.67940(17)	4.30(6)	1
C5	0.7945(2)	0.52877(17)	0.66684(17)	4.19(6)	1
C6	0.7661(2)	0.57197(15)	0.70658(16)	3.78(6)	1
C7	0.6226(2)	0.56833(13)	0.86094(13)	3.10(4)	1
C8	0.5236(2)	0.55117(13)	0.85227(13)	3.21(5)	1
C9	0.4728(3)	0.51075(15)	0.88449(14)	3.72(5)	1
C10	0.5204(3)	0.48684(16)	0.92748(15)	4.42(7)	1
C11	0.6170(3)	0.50299(15)	0.93762(15)	4.34(7)	1
C12	0.6689(3)	0.54350(15)	0.90486(14)	3.76(5)	1
C13	0.8068(3)	0.76550(15)	0.7501(2)	4.74(8)	1
C14	0.8762(3)	0.73716(18)	0.7295(2)	5.86(11)	1
C15	0.9336(4)	0.7604(2)	0.6891(3)	8.8(2)	1

C16	0.9212(5)	0.8117(2)	0.6662(4)	11.6(3)	1
C17	0.8517(5)	0.8417(2)	0.6849(3)	9.4(2)	1
C18	0.7972(4)	0.81910(17)	0.7269(2)	6.35(12)	1
C19	0.6899(2)	0.79609(13)	0.84460(15)	3.34(5)	1
C20	0.7284(2)	0.82055(16)	0.90410(16)	3.89(6)	1
C21	0.7041(3)	0.87080(17)	0.93499(18)	4.46(7)	1
C22	0.6400(3)	0.89758(16)	0.90832(18)	4.47(7)	1
C23	0.6006(3)	0.87482(17)	0.84956(18)	4.42(7)	1
C24	0.6246(2)	0.82448(15)	0.81855(16)	3.70(5)	1
C25	0.4843(2)	0.55100(13)	0.68951(11)	2.79(4)	1
C26	0.5247(2)	0.50481(14)	0.66384(13)	3.16(5)	1
C27	0.4804(3)	0.44315(14)	0.65822(15)	3.67(5)	1
C28	0.3927(3)	0.42530(15)	0.67747(15)	3.91(6)	1
C29	0.3509(2)	0.46925(15)	0.70348(15)	3.60(5)	1
C30	0.3953(2)	0.53126(14)	0.70901(12)	3.08(4)	1
C31	0.5924(2)	0.64124(14)	0.62335(14)	3.55(5)	1
C32	0.5426(3)	0.60372(18)	0.57199(15)	4.45(7)	1
C33	0.5728(4)	0.6041(2)	0.51644(17)	5.58(9)	1
C34	0.6579(4)	0.6447(2)	0.5113(2)	6.53(12)	1
C35	0.7104(4)	0.6826(2)	0.5610(2)	6.70(13)	1
C36	0.6778(3)	0.68156(17)	0.61749(19)	4.95(8)	1
C37	0.1779(2)	0.69356(16)	0.66892(13)	3.56(5)	1
C38	0.1172(3)	0.6479(2)	0.69138(18)	5.08(8)	1
C39	0.0289(3)	0.6185(2)	0.6619(2)	5.61(9)	1
C40	-0.0017(3)	0.63312(19)	0.60789(16)	4.47(7)	1
C41	0.0570(3)	0.67634(18)	0.58397(15)	4.39(6)	1
C42	0.1451(3)	0.70614(17)	0.61393(14)	3.97(6)	1
C43	0.3118(3)	0.81948(17)	0.71182(13)	3.92(6)	1
C44	0.2358(4)	0.8452(3)	0.6996(3)	7.68(15)	1
C45	0.2526(6)	0.9096(3)	0.7003(3)	10.6(2)	1
C46	0.3430(6)	0.9470(3)	0.7136(2)	8.02(16)	1
C47	0.4146(5)	0.9214(2)	0.7303(3)	7.74(14)	1
C48	0.3992(3)	0.85898(19)	0.7275(2)	5.63(9)	1
C49	0.62419(19)	0.66285(13)	0.76716(12)	2.79(4)	1
C50	0.8638(2)	0.69145(17)	0.88211(19)	4.43(7)	1
C51	0.8435(3)	0.69127(18)	0.94641(18)	4.64(7)	1
C52	0.9127(3)	0.63909(19)	0.8642(2)	5.19(8)	1
C53	0.9323(3)	0.75239(18)	0.8789(2)	5.37(9)	1
C54	0.51286(19)	0.69233(13)	0.86933(12)	2.85(4)	1

C55	0.5235(2)	0.70212(15)	0.98515(12)	3.42(5)	1
C56	0.4430(3)	0.6523(2)	0.99828(16)	6.00(10)	1
C57	0.6189(3)	0.6937(2)	1.00779(16)	5.26(8)	1
C58	0.5135(3)	0.76519(19)	1.01045(15)	4.75(7)	1
C59	0.3874(2)	0.70154(14)	0.76821(11)	2.98(4)	1
C60	0.2803(2)	0.7337(2)	0.84252(14)	4.49(7)	1
C61	0.3541(3)	0.7871(2)	0.87788(14)	4.73(8)	1
C62	0.2677(3)	0.6764(2)	0.87118(17)	5.22(9)	1
C63	0.1855(3)	0.7519(3)	0.83226(19)	7.04(14)	1
C64	0.3531(2)	0.63151(15)	0.63039(13)	3.48(5)	1
C65	0.2493(4)	0.5488(2)	0.5442(2)	5.90(10)	1
C66	0.2922(10)	0.5811(6)	0.4840(6)	8.4(3)	1/2
C67	0.1501(9)	0.5497(6)	0.5347(6)	7.5(2)	1/2
C68	0.2710(8)	0.4861(5)	0.5497(5)	5.9(2)	1/2
C69	0.1484(7)	0.5250(5)	0.5771(5)	6.04(18)	1/2
C70	0.2919(5)	0.4963(3)	0.5345(3)	3.64(11)	1/2
C71	0.2184(7)	0.5779(5)	0.4973(4)	5.76(17)	1/2
C72	0.4906(3)	0.75250(14)	0.65518(13)	3.51(5)	1
C73	0.5502(4)	0.8361(2)	0.59201(18)	6.60(12)	1
C74	0.5821(4)	0.8056(3)	0.5392(2)	7.97(16)	1
C75	0.6058(5)	0.8940(3)	0.6297(3)	9.38(18)	1
C76	0.4525(5)	0.8539(3)	0.5706(2)	7.46(13)	1
C77	1.1975(2)	0.17532(15)	0.65584(13)	3.37(5)	1
C78	1.2831(2)	0.21311(16)	0.68510(14)	3.64(5)	1
C79	1.3490(3)	0.24668(18)	0.65443(17)	4.47(7)	1
C80	1.3303(3)	0.2441(2)	0.59373(18)	5.00(8)	1
C81	1.2462(3)	0.2070(2)	0.56292(16)	4.93(8)	1
C82	1.1809(3)	0.17252(17)	0.59349(14)	4.04(6)	1
C83	1.1787(2)	0.12561(14)	0.76661(13)	3.41(5)	1
C84	1.2423(3)	0.08748(17)	0.76287(16)	4.48(7)	1
C85	1.3028(3)	0.0835(2)	0.81145(19)	5.81(10)	1
C86	1.3023(4)	0.1176(2)	0.86623(18)	5.81(10)	1
C87	1.2434(3)	0.15671(18)	0.87162(16)	4.97(8)	1
C88	1.1811(3)	0.16045(15)	0.82285(13)	3.63(5)	1
C89	0.8814(3)	0.12739(17)	0.58446(15)	4.10(6)	1
C90	0.9333(3)	0.17062(18)	0.55546(16)	4.83(7)	1
C91	0.9029(4)	0.1778(2)	0.49747(19)	6.23(11)	1
C92	0.8172(5)	0.1414(3)	0.4682(2)	7.38(15)	1
C93	0.7646(4)	0.0992(3)	0.4960(2)	6.73(12)	1

C94	0.7951(3)	0.0914(2)	0.55260(18)	5.35(9)	1
C95	0.8212(3)	0.07665(18)	0.69218(17)	4.62(7)	1
C96	0.8117(3)	0.0233(2)	0.7180(2)	5.90(10)	1
C97	0.7334(5)	0.0004(3)	0.7452(3)	8.67(19)	1
C98	0.6602(5)	0.0317(5)	0.7467(3)	11.0(3)	1
C99	0.6672(3)	0.0836(4)	0.7217(3)	9.4(2)	1
C100	0.7464(3)	0.1073(3)	0.6939(2)	6.21(11)	1
C101	1.12561(19)	0.30401(12)	0.78090(12)	2.67(4)	1
C102	1.2091(2)	0.33843(13)	0.76563(13)	2.94(4)	1
C103	1.2865(2)	0.36827(14)	0.80792(14)	3.31(5)	1
C104	1.2821(2)	0.36473(14)	0.86766(14)	3.27(5)	1
C105	1.2004(2)	0.33076(13)	0.88481(13)	3.03(4)	1
C106	1.12379(19)	0.30121(13)	0.84208(11)	2.69(4)	1
C107	1.0231(2)	0.30547(14)	0.66074(12)	3.51(5)	1
C108	0.9616(3)	0.33985(18)	0.64257(15)	4.56(7)	1
C109	0.9755(4)	0.3724(2)	0.59499(18)	6.35(11)	1
C110	1.0520(4)	0.3705(2)	0.56450(17)	6.50(12)	1
C111	1.1133(4)	0.3365(2)	0.58079(16)	5.51(9)	1
C112	1.0994(3)	0.30435(16)	0.62817(14)	4.13(6)	1
C113	0.8550(2)	0.35659(16)	0.91550(14)	3.68(5)	1
C114	0.9523(2)	0.36939(16)	0.93122(14)	3.81(5)	1
C115	0.9968(3)	0.40805(18)	0.98392(16)	4.40(6)	1
C116	0.9420(3)	0.4351(2)	1.02056(17)	5.16(8)	1
C117	0.8464(3)	0.4239(2)	1.00566(17)	5.47(9)	1
C118	0.8024(3)	0.38452(19)	0.95369(16)	4.73(7)	1
C119	0.6691(2)	0.29403(16)	0.83270(14)	3.62(5)	1
C120	0.6390(3)	0.34844(18)	0.83109(16)	4.22(6)	1
C121	0.5442(3)	0.3471(2)	0.81820(18)	4.71(7)	1
C122	0.4779(3)	0.2916(2)	0.80647(18)	5.08(8)	1
C123	0.5054(3)	0.2375(2)	0.8063(2)	5.36(9)	1
C124	0.6013(2)	0.23887(18)	0.81895(17)	4.25(6)	1
C125	1.0110(2)	0.18087(13)	0.71038(11)	2.90(4)	1
C126	1.0259(3)	0.01487(16)	0.62760(16)	4.29(6)	1
C127	1.1104(3)	0.02009(19)	0.59217(18)	5.23(8)	1
C128	1.0382(3)	-0.02609(17)	0.67426(19)	5.32(8)	1
C129	0.9353(3)	-0.01522(19)	0.58544(18)	5.33(8)	1
C130	0.9537(2)	0.12043(15)	0.81827(15)	3.77(6)	1
C131	0.9833(4)	0.0319(2)	0.8757(2)	6.09(11)	1
C132	0.8888(5)	-0.0103(3)	0.8788(5)	12.5(3)	1

C133	1.0330(6)	0.0634(3)	0.9377(2)	9.21(19)	1
C134	1.0452(4)	-0.0018(2)	0.8421(2)	6.84(12)	1
C135	0.86380(19)	0.22253(14)	0.82646(12)	3.04(4)	1
C136	0.7991(3)	0.18703(17)	0.91824(14)	4.11(6)	1
C137	0.7328(4)	0.2128(2)	0.95799(18)	5.77(9)	1
C138	0.8958(3)	0.1937(2)	0.95385(16)	4.72(7)	1
C139	0.7532(3)	0.12143(19)	0.89001(17)	4.68(7)	1
C140	0.9498(2)	0.36049(15)	0.78298(12)	3.14(5)	1
C141	1.0539(2)	0.47178(14)	0.79273(14)	3.40(5)	1
C142	1.1328(2)	0.47641(16)	0.84272(17)	4.09(6)	1
C143	0.9971(3)	0.51934(16)	0.80747(17)	4.07(6)	1
C144	1.0917(3)	0.47738(18)	0.73352(17)	4.56(7)	1
C145	0.7890(2)	0.26711(17)	0.70875(14)	3.94(6)	1
C146	0.6583(3)	0.2564(2)	0.61932(18)	5.64(10)	1
C147	0.7123(4)	0.2621(4)	0.5645(2)	8.62(18)	1
C148	0.5878(4)	0.1967(3)	0.6135(3)	8.66(18)	1
C149	0.6126(3)	0.3096(2)	0.6301(2)	6.07(10)	1
C150	1.2075(7)	-0.0353(5)	0.9622(5)	6.19(19)	1/2
C151	1.2785(7)	-0.0525(5)	0.9247(5)	6.01(18)	1/2
C152	1.3632(4)	-0.0038(3)	0.9353(3)	3.48(10)	1/2
C153	1.4300(7)	-0.0199(5)	0.9000(4)	5.70(17)	1/2
C154	1.5089(8)	0.0322(5)	0.9060(5)	6.6(2)	1/2
C155	0.4693(9)	0.0314(6)	0.5671(6)	7.6(2)	1/2
C156	0.4645(7)	0.0178(5)	0.5114(5)	5.88(18)	1/2
C157	0.3927(13)	0.0664(9)	0.5924(9)	5.7(3)	1/4

$B_{eq} = 8/3\ \pi^2(U_{11}(aa^*)^2 + U_{22}(bb^*)^2 + U_{33}(cc^*)^2 + 2U_{12}(aa^*bb^*)\cos\gamma + 2U_{13}(aa^*cc^*)\cos\beta + 2U_{23}(bb^*cc^*)\cos\alpha)$

Table S5-3. Anisotropic displacement parameters

atom	U_{11}	U_{22}	U_{33}	U_{12}	U_{13}	U_{23}
Ni1	0.03555(16)	0.03891(18)	0.02749(14)	0.01495(13)	0.01062(12)	0.00884(12)
Ni2	0.04681(19)	0.04258(19)	0.02655(15)	0.02060(15)	0.01182(13)	0.00916(13)
Ni3	0.03989(18)	0.03602(18)	0.03138(16)	0.00605(14)	0.01072(13)	0.00096(13)
Ni4	0.03542(17)	0.04223(19)	0.02937(16)	0.00911(14)	0.00218(12)	-0.00242(13)
Si1	0.0365(4)	0.0342(4)	0.0427(4)	0.0130(3)	0.0074(3)	0.0045(3)
Si2	0.0365(4)	0.0325(4)	0.0564(5)	0.0104(3)	0.0175(3)	0.0040(3)
Si3	0.0414(4)	0.0364(4)	0.0312(3)	0.0148(3)	0.0156(3)	0.0100(3)
Si4	0.0465(4)	0.0551(5)	0.0293(3)	0.0262(4)	0.0082(3)	0.0104(3)
Si5	0.0424(4)	0.0371(4)	0.0284(3)	0.0089(3)	0.0088(3)	0.0018(3)

Si6	0.0445(4)	0.0404(4)	0.0369(4)	0.0066(3)	0.0051(3)	-0.0057(3)
Si7	0.0401(4)	0.0359(4)	0.0257(3)	0.0079(3)	0.0059(3)	0.0020(3)
Si8	0.0372(4)	0.0504(5)	0.0350(4)	0.0112(3)	0.0050(3)	-0.0066(3)
N1	0.0321(11)	0.0391(13)	0.0593(15)	0.0116(9)	0.0042(10)	0.0017(11)
N2	0.0399(11)	0.0402(12)	0.0295(10)	0.0101(9)	0.0052(8)	0.0059(9)
N3	0.0489(13)	0.0709(18)	0.0298(11)	0.0310(13)	0.0136(10)	0.0154(11)
N4	0.0710(18)	0.0550(16)	0.0383(13)	0.0312(15)	0.0005(12)	0.0036(12)
N5	0.098(2)	0.0376(14)	0.0376(13)	0.0139(14)	0.0224(14)	0.0088(11)
N6	0.0521(14)	0.0371(12)	0.0355(11)	0.0100(10)	0.0068(10)	-0.0036(9)
N7	0.077(2)	0.0459(16)	0.0673(19)	0.0153(15)	0.0310(17)	0.0210(14)
N8	0.0415(12)	0.0537(15)	0.0334(11)	0.0110(11)	0.0116(9)	0.0007(10)
N9	0.0443(13)	0.0402(13)	0.0402(12)	0.0165(11)	-0.0007(10)	0.0018(10)
N10	0.0496(15)	0.083(2)	0.0455(15)	0.0257(15)	-0.0096(12)	-0.0193(14)
C1	0.0400(14)	0.0387(14)	0.0484(15)	0.0173(11)	0.0067(12)	0.0015(12)
C2	0.0535(17)	0.0428(16)	0.0452(16)	0.0216(14)	-0.0006(13)	0.0002(12)
C3	0.068(2)	0.0414(17)	0.0554(19)	0.0256(16)	-0.0011(16)	-0.0020(14)
C4	0.0494(17)	0.0531(19)	0.061(2)	0.0246(15)	0.0051(15)	-0.0086(16)
C5	0.0471(17)	0.056(2)	0.0589(19)	0.0194(15)	0.0177(15)	0.0001(15)
C6	0.0442(15)	0.0440(16)	0.0599(19)	0.0169(13)	0.0184(14)	0.0055(14)
C7	0.0494(15)	0.0322(13)	0.0367(13)	0.0114(11)	0.0042(11)	0.0052(10)
C8	0.0520(16)	0.0353(13)	0.0356(13)	0.0115(12)	0.0055(11)	0.0069(10)
C9	0.0559(17)	0.0413(16)	0.0402(15)	0.0034(13)	0.0048(13)	0.0080(12)
C10	0.081(2)	0.0423(17)	0.0388(15)	0.0028(16)	0.0020(16)	0.0111(13)
C11	0.084(3)	0.0394(16)	0.0382(15)	0.0139(16)	-0.0093(15)	0.0094(12)
C12	0.0590(18)	0.0392(15)	0.0443(16)	0.0169(14)	-0.0027(13)	0.0034(12)
C13	0.0541(18)	0.0327(14)	0.092(3)	0.0024(13)	0.0414(19)	-0.0027(16)
C14	0.057(2)	0.0464(19)	0.117(4)	0.0022(16)	0.052(2)	-0.005(2)
C15	0.098(3)	0.046(2)	0.192(6)	-0.001(2)	0.107(4)	-0.005(3)
C16	0.186(6)	0.052(3)	0.219(8)	0.006(3)	0.173(7)	0.016(4)
C17	0.159(5)	0.047(2)	0.168(6)	0.013(3)	0.123(5)	0.024(3)
C18	0.101(3)	0.0336(17)	0.115(4)	0.0098(19)	0.072(3)	0.012(2)
C19	0.0387(13)	0.0331(13)	0.0570(17)	0.0097(11)	0.0175(12)	0.0041(12)
C20	0.0434(15)	0.0437(16)	0.0594(19)	0.0115(13)	0.0068(14)	0.0024(14)
C21	0.062(2)	0.0447(18)	0.059(2)	0.0132(15)	0.0088(16)	-0.0052(15)
C22	0.063(2)	0.0430(17)	0.067(2)	0.0194(16)	0.0193(18)	0.0006(15)
C23	0.0579(19)	0.0525(19)	0.068(2)	0.0306(16)	0.0179(17)	0.0113(17)
C24	0.0502(16)	0.0449(16)	0.0504(17)	0.0187(13)	0.0137(13)	0.0070(13)
C25	0.0419(13)	0.0402(14)	0.0264(10)	0.0121(11)	0.0080(10)	0.0081(9)
C26	0.0451(14)	0.0407(14)	0.0373(13)	0.0140(12)	0.0101(11)	0.0072(11)

C27	0.0594(18)	0.0360(14)	0.0474(16)	0.0186(13)	0.0090(14)	0.0047(12)
C28	0.0616(19)	0.0343(14)	0.0520(17)	0.0091(13)	0.0078(15)	0.0087(13)
C29	0.0481(16)	0.0429(16)	0.0474(16)	0.0076(13)	0.0131(13)	0.0129(13)
C30	0.0436(14)	0.0437(15)	0.0335(12)	0.0134(12)	0.0110(11)	0.0097(11)
C31	0.0641(18)	0.0442(15)	0.0414(14)	0.0287(14)	0.0280(14)	0.0168(12)
C32	0.080(2)	0.064(2)	0.0379(15)	0.0303(19)	0.0261(16)	0.0155(14)
C33	0.114(3)	0.076(3)	0.0419(17)	0.047(3)	0.038(2)	0.0184(17)
C34	0.145(4)	0.063(2)	0.066(2)	0.044(3)	0.075(3)	0.025(2)
C35	0.122(4)	0.055(2)	0.096(3)	0.024(2)	0.081(3)	0.028(2)
C36	0.083(3)	0.0469(18)	0.069(2)	0.0176(17)	0.050(2)	0.0159(16)
C37	0.0500(16)	0.0582(18)	0.0347(13)	0.0244(14)	0.0087(12)	0.0130(12)
C38	0.064(2)	0.082(3)	0.052(2)	0.016(2)	-0.0001(17)	0.0335(19)
C39	0.061(2)	0.086(3)	0.066(2)	0.009(2)	0.0001(19)	0.036(2)
C40	0.0528(18)	0.071(2)	0.0483(18)	0.0188(17)	-0.0008(14)	0.0161(16)
C41	0.069(2)	0.065(2)	0.0346(14)	0.0181(18)	0.0007(14)	0.0143(14)
C42	0.0600(19)	0.062(2)	0.0323(13)	0.0183(16)	0.0064(13)	0.0122(13)
C43	0.070(2)	0.0570(19)	0.0306(13)	0.0362(17)	0.0046(13)	0.0032(12)
C44	0.103(4)	0.080(3)	0.102(4)	0.061(3)	-0.044(3)	-0.034(3)
C45	0.167(6)	0.075(4)	0.144(6)	0.071(4)	-0.084(5)	-0.037(4)
C46	0.183(7)	0.056(3)	0.064(3)	0.036(4)	0.009(4)	-0.001(2)
C47	0.110(4)	0.051(2)	0.131(5)	0.023(3)	0.038(4)	-0.013(3)
C48	0.073(3)	0.047(2)	0.093(3)	0.0211(19)	0.018(2)	-0.008(2)
C49	0.0345(12)	0.0355(13)	0.0404(13)	0.0126(10)	0.0145(10)	0.0082(10)
C50	0.0362(15)	0.0500(19)	0.077(2)	0.0153(13)	-0.0033(14)	-0.0095(16)
C51	0.0513(18)	0.052(2)	0.068(2)	0.0218(16)	-0.0109(16)	-0.0106(16)
C52	0.0464(18)	0.059(2)	0.088(3)	0.0264(16)	-0.0041(17)	-0.014(2)
C53	0.0382(17)	0.054(2)	0.103(3)	0.0062(15)	0.0070(18)	-0.009(2)
C54	0.0359(12)	0.0410(14)	0.0344(12)	0.0131(11)	0.0070(10)	0.0085(10)
C55	0.0495(15)	0.0542(17)	0.0274(12)	0.0159(13)	0.0033(11)	0.0065(11)
C56	0.087(3)	0.092(3)	0.0338(16)	-0.013(2)	0.0023(17)	0.0198(18)
C57	0.072(2)	0.098(3)	0.0386(16)	0.043(2)	-0.0009(16)	0.0079(18)
C58	0.079(2)	0.070(2)	0.0355(15)	0.035(2)	0.0054(15)	-0.0024(15)
C59	0.0409(13)	0.0522(16)	0.0265(11)	0.0204(12)	0.0097(10)	0.0092(10)
C60	0.0506(17)	0.101(3)	0.0361(14)	0.0416(19)	0.0205(13)	0.0225(17)
C61	0.081(2)	0.086(3)	0.0316(14)	0.055(2)	0.0166(15)	0.0109(15)
C62	0.0496(18)	0.112(3)	0.0442(17)	0.019(2)	0.0191(15)	0.031(2)
C63	0.075(3)	0.174(5)	0.049(2)	0.079(3)	0.029(2)	0.031(3)
C64	0.0572(17)	0.0484(16)	0.0337(13)	0.0263(14)	0.0058(12)	0.0094(12)
C65	0.096(3)	0.064(2)	0.061(2)	0.039(2)	-0.024(2)	-0.0121(19)

C72	0.0644(18)	0.0418(15)	0.0344(13)	0.0222(14)	0.0176(13)	0.0083(11)
C73	0.133(4)	0.055(2)	0.0437(19)	-0.017(2)	-0.005(2)	0.0200(17)
C74	0.124(4)	0.159(5)	0.069(3)	0.085(4)	0.059(3)	0.069(3)
C75	0.147(6)	0.074(4)	0.122(5)	-0.010(4)	0.012(4)	0.035(4)
C76	0.142(5)	0.090(4)	0.065(3)	0.048(4)	0.014(3)	0.028(3)
C77	0.0464(15)	0.0481(16)	0.0342(13)	0.0116(12)	0.0112(11)	0.0046(11)
C78	0.0471(16)	0.0517(18)	0.0396(14)	0.0091(13)	0.0112(12)	0.0073(13)
C79	0.0508(18)	0.062(2)	0.056(2)	0.0073(16)	0.0177(15)	0.0112(16)
C80	0.061(2)	0.075(3)	0.063(2)	0.0157(19)	0.0320(19)	0.0228(19)
C81	0.072(2)	0.081(3)	0.0418(17)	0.023(2)	0.0287(17)	0.0150(17)
C82	0.0550(18)	0.062(2)	0.0379(14)	0.0139(15)	0.0167(13)	0.0048(14)
C83	0.0541(16)	0.0380(14)	0.0356(13)	0.0087(12)	0.0067(12)	0.0024(11)
C84	0.068(2)	0.055(2)	0.0419(16)	0.0202(17)	-0.0030(15)	-0.0094(14)
C85	0.088(3)	0.077(3)	0.055(2)	0.044(2)	-0.018(2)	-0.0110(19)
C86	0.102(3)	0.065(2)	0.051(2)	0.036(2)	-0.022(2)	-0.0060(18)
C87	0.098(3)	0.053(2)	0.0374(16)	0.028(2)	-0.0067(17)	-0.0011(14)
C88	0.0646(19)	0.0385(15)	0.0336(13)	0.0124(14)	0.0037(13)	0.0038(11)
C89	0.0568(18)	0.0507(18)	0.0433(16)	0.0181(15)	-0.0041(14)	-0.0112(14)
C90	0.089(3)	0.053(2)	0.0415(17)	0.028(2)	0.0004(17)	-0.0041(14)
C91	0.127(4)	0.073(3)	0.046(2)	0.053(3)	-0.005(2)	0.0015(18)
C92	0.130(5)	0.112(4)	0.047(2)	0.079(4)	-0.023(3)	-0.016(2)
C93	0.087(3)	0.105(4)	0.058(3)	0.049(3)	-0.026(2)	-0.025(3)
C94	0.057(2)	0.084(3)	0.053(2)	0.026(2)	-0.0089(16)	-0.0247(19)
C95	0.0483(17)	0.059(2)	0.0525(19)	-0.0069(15)	0.0118(14)	-0.0163(16)
C96	0.073(3)	0.056(2)	0.077(3)	-0.016(2)	0.022(2)	-0.010(2)
C97	0.110(4)	0.100(4)	0.080(3)	-0.050(4)	0.036(3)	-0.017(3)
C98	0.089(4)	0.170(7)	0.096(5)	-0.064(5)	0.043(4)	-0.056(5)
C99	0.043(2)	0.191(7)	0.086(4)	0.003(3)	0.010(2)	-0.066(4)
C100	0.050(2)	0.103(4)	0.064(2)	0.008(2)	0.0028(17)	-0.031(2)
C101	0.0398(12)	0.0305(12)	0.0326(11)	0.0107(10)	0.0070(10)	0.0045(9)
C102	0.0400(13)	0.0361(13)	0.0379(13)	0.0109(11)	0.0093(10)	0.0084(10)
C103	0.0341(13)	0.0436(15)	0.0495(16)	0.0091(11)	0.0068(11)	0.0119(12)
C104	0.0381(13)	0.0414(15)	0.0439(15)	0.0097(11)	-0.0014(11)	0.0084(12)
C105	0.0407(13)	0.0414(14)	0.0345(12)	0.0123(11)	0.0024(10)	0.0097(11)
C106	0.0349(12)	0.0376(13)	0.0305(11)	0.0090(10)	0.0061(9)	0.0064(9)
C107	0.0623(18)	0.0414(15)	0.0268(11)	0.0095(13)	0.0030(12)	0.0027(10)
C108	0.074(2)	0.060(2)	0.0341(14)	0.0131(18)	-0.0085(14)	0.0060(14)
C109	0.110(4)	0.083(3)	0.044(2)	0.017(3)	-0.019(2)	0.025(2)
C110	0.118(4)	0.085(3)	0.0342(17)	-0.001(3)	-0.003(2)	0.0253(19)

C111	0.099(3)	0.070(3)	0.0330(15)	-0.002(2)	0.0149(18)	0.0129(16)
C112	0.070(2)	0.0512(18)	0.0326(13)	0.0057(16)	0.0117(14)	0.0061(12)
C113	0.0492(16)	0.0499(17)	0.0375(14)	0.0129(13)	0.0042(12)	-0.0056(12)
C114	0.0483(16)	0.0522(18)	0.0426(15)	0.0188(14)	-0.0004(12)	-0.0052(13)
C115	0.0551(19)	0.057(2)	0.0486(18)	0.0180(16)	-0.0110(14)	-0.0101(15)
C116	0.075(2)	0.070(2)	0.0448(18)	0.028(2)	-0.0085(16)	-0.0208(17)
C117	0.075(3)	0.082(3)	0.0464(18)	0.031(2)	0.0032(17)	-0.0232(18)
C118	0.0531(18)	0.073(2)	0.0479(18)	0.0212(17)	0.0040(14)	-0.0173(17)
C119	0.0412(14)	0.0569(18)	0.0373(14)	0.0133(13)	0.0058(11)	-0.0036(13)
C120	0.0474(17)	0.063(2)	0.0488(17)	0.0175(15)	0.0069(14)	-0.0022(15)
C121	0.0508(18)	0.069(2)	0.061(2)	0.0295(17)	-0.0018(15)	-0.0027(18)
C122	0.0416(17)	0.082(3)	0.063(2)	0.0193(18)	-0.0013(15)	-0.012(2)
C123	0.0463(18)	0.067(2)	0.079(3)	0.0073(17)	0.0028(17)	-0.014(2)
C124	0.0423(16)	0.055(2)	0.060(2)	0.0107(14)	0.0048(14)	-0.0058(16)
C125	0.0424(13)	0.0377(13)	0.0280(11)	0.0060(11)	0.0102(10)	0.0001(9)
C126	0.070(2)	0.0427(17)	0.0454(17)	0.0145(15)	0.0047(15)	-0.0100(13)
C127	0.083(3)	0.061(2)	0.055(2)	0.027(2)	0.0203(19)	-0.0123(17)
C128	0.091(3)	0.0370(17)	0.067(2)	0.0144(18)	-0.007(2)	-0.0060(16)
C129	0.082(3)	0.050(2)	0.059(2)	0.0170(19)	-0.0124(19)	-0.0191(17)
C130	0.0551(17)	0.0423(16)	0.0449(16)	0.0056(13)	0.0211(14)	0.0035(12)
C131	0.113(4)	0.056(2)	0.080(3)	0.030(2)	0.043(3)	0.037(2)
C132	0.146(6)	0.097(5)	0.276(11)	0.037(4)	0.104(7)	0.121(6)
C133	0.221(8)	0.090(4)	0.068(3)	0.070(5)	0.039(4)	0.045(3)
C134	0.139(5)	0.068(3)	0.077(3)	0.048(3)	0.039(3)	0.037(2)
C135	0.0358(12)	0.0429(14)	0.0327(12)	0.0064(11)	0.0055(10)	-0.0043(10)
C136	0.0604(19)	0.062(2)	0.0360(14)	0.0145(16)	0.0197(14)	0.0057(14)
C137	0.092(3)	0.091(3)	0.0476(19)	0.030(2)	0.039(2)	0.016(2)
C138	0.072(2)	0.069(2)	0.0382(16)	0.0202(19)	0.0042(15)	0.0046(15)
C139	0.061(2)	0.067(2)	0.0521(19)	0.0100(17)	0.0244(16)	0.0147(17)
C140	0.0412(14)	0.0466(16)	0.0329(12)	0.0182(12)	-0.0001(10)	0.0019(11)
C141	0.0442(15)	0.0371(14)	0.0489(16)	0.0155(12)	0.0023(12)	0.0034(12)
C142	0.0469(16)	0.0447(17)	0.062(2)	0.0178(14)	-0.0036(14)	-0.0035(14)
C143	0.0522(17)	0.0456(17)	0.0577(19)	0.0203(14)	-0.0004(14)	0.0022(14)
C144	0.068(2)	0.0489(19)	0.058(2)	0.0143(17)	0.0154(17)	0.0077(16)
C145	0.0424(15)	0.064(2)	0.0381(14)	0.0147(14)	0.0000(12)	-0.0090(14)
C146	0.058(2)	0.097(3)	0.052(2)	0.037(2)	-0.0212(16)	-0.025(2)
C147	0.098(4)	0.178(6)	0.049(2)	0.069(4)	-0.022(2)	-0.029(3)
C148	0.089(3)	0.085(4)	0.127(5)	0.029(3)	-0.066(3)	-0.034(3)
C149	0.051(2)	0.100(3)	0.074(3)	0.031(2)	-0.0141(18)	-0.013(2)

The general temperature factor expression: $\exp(-2\pi^2(a^{*2}U_{11}h^2 + b^{*2}U_{22}k^2 + c^{*2}U_{33}l^2 + 2a^*b^*U_{12}hk + 2a^*c^*U_{13}hl + 2b^*c^*U_{23}kl))$

Table S5-4. Bond lengths (Å)

atom	atom	distance	atom	atom	distance
Ni1	Ni2	2.4229(18)	Ni1	Si3	2.3888(17)
Ni1	C49	2.029(3)	Ni1	C54	1.795(3)
Ni1	C59	1.781(3)	Ni2	Si3	2.4042(18)
Ni2	Si4	2.2129(18)	Ni2	C59	1.840(3)
Ni2	C64	1.822(3)	Ni2	C72	1.816(3)
Ni3	Ni4	2.4524(19)	Ni3	Si7	2.4021(16)
Ni3	C125	2.020(3)	Ni3	C130	1.789(4)
Ni3	C135	1.784(3)	Ni4	Si7	2.3710(18)
Ni4	Si8	2.2059(17)	Ni4	C135	1.848(3)
Ni4	C140	1.807(3)	Ni4	C145	1.844(3)
Si1	Si2	2.492(2)	Si1	N1	1.734(3)
Si1	C1	1.865(3)	Si1	C7	1.859(3)
Si1	C49	1.817(3)	Si2	N1	1.716(3)
Si2	C13	1.861(4)	Si2	C19	1.863(3)
Si2	C49	1.824(3)	Si3	C25	1.870(3)
Si3	C31	1.875(4)	Si3	C49	1.803(3)
Si4	N3	1.743(3)	Si4	C37	1.835(3)
Si4	C43	1.857(4)	Si4	C59	2.091(3)
Si5	Si6	2.495(2)	Si5	N6	1.716(2)
Si5	C77	1.853(3)	Si5	C83	1.855(3)
Si5	C125	1.823(3)	Si6	N6	1.719(3)
Si6	C89	1.855(4)	Si6	C95	1.869(4)
Si6	C125	1.827(3)	Si7	C101	1.879(3)
Si7	C107	1.878(3)	Si7	C125	1.784(3)
Si8	N8	1.751(3)	Si8	C113	1.846(3)
Si8	C119	1.848(4)	Si8	C135	2.104(4)
N1	C50	1.467(4)	N2	C54	1.139(4)
N2	C55	1.435(4)	N3	C59	1.311(4)
N3	C60	1.479(4)	N4	C64	1.144(4)
N4	C65	1.435(5)	N5	C72	1.133(4)
N5	C73	1.428(5)	N6	C126	1.461(5)
N7	C130	1.144(5)	N7	C131	1.445(6)
N8	C135	1.307(4)	N8	C136	1.463(5)
N9	C140	1.139(4)	N9	C141	1.432(4)

N10	C145	1.137(4)	N10	C146	1.432(5)
C1	C2	1.372(5)	C1	C6	1.376(5)
C2	C3	1.373(5)	C3	C4	1.352(6)
C4	C5	1.353(6)	C5	C6	1.381(5)
C7	C8	1.377(4)	C7	C12	1.384(5)
C8	C9	1.362(5)	C9	C10	1.366(5)
C10	C11	1.345(6)	C11	C12	1.378(5)
C13	C14	1.378(6)	C13	C18	1.394(6)
C14	C15	1.364(8)	C15	C16	1.354(9)
C16	C17	1.388(11)	C17	C18	1.363(9)
C19	C20	1.388(5)	C19	C24	1.373(5)
C20	C21	1.367(5)	C21	C22	1.343(6)
C22	C23	1.370(5)	C23	C24	1.368(5)
C25	C26	1.379(5)	C25	C30	1.390(4)
C26	C27	1.363(4)	C27	C28	1.366(5)
C28	C29	1.356(5)	C29	C30	1.370(4)
C31	C32	1.366(4)	C31	C36	1.380(5)
C32	C33	1.363(6)	C33	C34	1.376(7)
C34	C35	1.356(6)	C35	C36	1.398(7)
C37	C38	1.371(5)	C37	C42	1.369(5)
C38	C39	1.355(5)	C39	C40	1.359(6)
C40	C41	1.340(5)	C41	C42	1.358(5)
C43	C44	1.366(8)	C43	C48	1.350(5)
C44	C45	1.397(8)	C45	C46	1.362(10)
C46	C47	1.332(11)	C47	C48	1.350(7)
C50	C51	1.504(6)	C50	C52	1.520(6)
C50	C53	1.505(5)	C55	C56	1.497(5)
C55	C57	1.480(6)	C55	C58	1.486(6)
C60	C61	1.483(5)	C60	C62	1.490(7)
C60	C63	1.513(7)	C65	C66	1.718(15)
C65	C67	1.428(14)	C65	C68	1.515(13)
C65	C69	1.705(11)	C65	C70	1.436(10)
C65	C71	1.398(12)	C66	C71	1.119(18)
C67	C69	1.162(18)	C67	C71	1.448(16)
C68	C70	0.518(14)	C73	C74	1.453(8)
C73	C75	1.462(7)	C73	C76	1.593(9)
C77	C78	1.376(4)	C77	C82	1.392(4)
C78	C79	1.372(5)	C79	C80	1.358(6)
C80	C81	1.368(5)	C81	C82	1.375(5)

C83	C84	1.381(6)	C83	C88	1.386(4)
C84	C85	1.357(6)	C85	C86	1.359(6)
C86	C87	1.347(7)	C87	C88	1.373(5)
C89	C90	1.361(5)	C89	C94	1.391(5)
C90	C91	1.379(6)	C91	C92	1.368(7)
C92	C93	1.334(8)	C93	C94	1.353(7)
C95	C96	1.378(6)	C95	C100	1.398(7)
C96	C97	1.364(8)	C97	C98	1.387(12)
C98	C99	1.342(13)	C99	C100	1.387(7)
C101	C102	1.375(4)	C101	C106	1.389(4)
C102	C103	1.373(4)	C103	C104	1.364(5)
C104	C105	1.369(4)	C105	C106	1.371(3)
C107	C108	1.362(6)	C107	C112	1.380(5)
C108	C109	1.377(6)	C109	C110	1.357(8)
C110	C111	1.342(8)	C111	C112	1.368(5)
C113	C114	1.366(5)	C113	C118	1.374(5)
C114	C115	1.376(4)	C115	C116	1.367(6)
C116	C117	1.343(6)	C117	C118	1.370(5)
C119	C120	1.378(6)	C119	C124	1.366(5)
C120	C121	1.360(5)	C121	C122	1.359(5)
C122	C123	1.350(7)	C123	C124	1.374(5)
C126	C127	1.509(6)	C126	C128	1.504(6)
C126	C129	1.501(5)	C131	C132	1.484(9)
C131	C133	1.508(7)	C131	C134	1.483(8)
C136	C137	1.519(6)	C136	C138	1.506(5)
C136	C139	1.488(5)	C141	C142	1.498(5)
C141	C143	1.497(5)	C141	C144	1.497(5)
C146	C147	1.524(7)	C146	C148	1.465(7)
C146	C149	1.481(8)	C150	C151	1.467(15)
C151	C152	1.416(11)	C152	C153	1.379(12)
C153	C154	1.414(13)	C155	C156	1.241(16)
C155	C157	1.59(3)	C156	C156[1]	1.509(15)

Symmetry Operators:

(1) -X+1,-Y,-Z+1

Table S5-5. Bond angles (°)

atom	atom	atom	angle	atom	atom	atom	angle
Ni2	Ni1	Si3	59.95(6)	Ni2	Ni1	C49	102.87(9)
Ni2	Ni1	C54	153.29(10)	Ni2	Ni1	C59	49.05(8)

Si3	Ni1	C49	47.30(7)	Si3	Ni1	C54	145.89(11)
Si3	Ni1	C59	106.42(9)	C49	Ni1	C54	103.55(12)
C49	Ni1	C59	151.92(12)	C54	Ni1	C59	104.48(13)
Ni1	Ni2	Si3	59.32(3)	Ni1	Ni2	Si4	107.39(5)
Ni1	Ni2	C59	46.99(11)	Ni1	Ni2	C64	129.86(12)
Ni1	Ni2	C72	112.65(11)	Si3	Ni2	Si4	164.11(4)
Si3	Ni2	C59	103.86(11)	Si3	Ni2	C64	88.68(13)
Si3	Ni2	C72	93.86(13)	Si4	Ni2	C59	61.29(10)
Si4	Ni2	C64	95.07(13)	Si4	Ni2	C72	99.82(13)
C59	Ni2	C64	123.08(14)	C59	Ni2	C72	127.05(13)
C64	Ni2	C72	106.54(15)	Ni4	Ni3	Si7	58.46(5)
Ni4	Ni3	C125	100.56(9)	Ni4	Ni3	C130	154.20(12)
Ni4	Ni3	C135	48.65(11)	Si7	Ni3	C125	46.60(9)
Si7	Ni3	C130	143.09(12)	Si7	Ni3	C135	105.10(12)
C125	Ni3	C130	105.06(15)	C125	Ni3	C135	149.16(14)
C130	Ni3	C135	105.78(16)	Ni3	Ni4	Si7	59.71(3)
Ni3	Ni4	Si8	108.17(4)	Ni3	Ni4	C135	46.42(10)
Ni3	Ni4	C140	130.16(12)	Ni3	Ni4	C145	110.21(12)
Si7	Ni4	Si8	157.33(4)	Si7	Ni4	C135	104.17(10)
Si7	Ni4	C140	81.98(11)	Si7	Ni4	C145	101.27(13)
Si8	Ni4	C135	61.79(11)	Si8	Ni4	C140	95.20(10)
Si8	Ni4	C145	101.03(13)	C135	Ni4	C140	133.47(12)
C135	Ni4	C145	116.05(14)	C140	Ni4	C145	107.41(15)
Si2	Si1	N1	43.47(11)	Si2	Si1	C1	122.91(12)
Si2	Si1	C7	134.23(11)	Si2	Si1	C49	46.91(9)
N1	Si1	C1	114.24(14)	N1	Si1	C7	117.28(14)
N1	Si1	C49	90.32(14)	C1	Si1	C7	102.78(15)
C1	Si1	C49	113.35(15)	C7	Si1	C49	119.40(15)
Si1	Si2	N1	44.04(8)	Si1	Si2	C13	124.34(12)
Si1	Si2	C19	131.27(12)	Si1	Si2	C49	46.69(11)
N1	Si2	C13	110.92(17)	N1	Si2	C19	116.79(16)
N1	Si2	C49	90.67(14)	C13	Si2	C19	104.09(16)
C13	Si2	C49	118.61(15)	C19	Si2	C49	116.04(15)
Ni1	Si3	Ni2	60.73(4)	Ni1	Si3	C25	105.77(10)
Ni1	Si3	C31	150.48(11)	Ni1	Si3	C49	55.83(11)
Ni2	Si3	C25	107.93(12)	Ni2	Si3	C31	102.55(12)
Ni2	Si3	C49	111.31(11)	C25	Si3	C31	102.53(12)
C25	Si3	C49	111.72(13)	C31	Si3	C49	119.78(15)
Ni2	Si4	N3	88.92(11)	Ni2	Si4	C37	118.59(13)

Ni2	Si4	C43	119.64(13)	Ni2	Si4	C59	50.53(9)
N3	Si4	C37	110.37(14)	N3	Si4	C43	107.90(14)
N3	Si4	C59	38.67(13)	C37	Si4	C43	108.88(17)
C37	Si4	C59	128.33(15)	C43	Si4	C59	119.20(13)
Si6	Si5	N6	43.45(11)	Si6	Si5	C77	121.10(11)
Si6	Si5	C83	137.26(11)	Si6	Si5	C125	46.95(9)
N6	Si5	C77	113.28(14)	N6	Si5	C83	119.27(15)
N6	Si5	C125	90.23(14)	C77	Si5	C83	101.57(15)
C77	Si5	C125	113.59(16)	C83	Si5	C125	119.59(14)
Si5	Si6	N6	43.38(9)	Si5	Si6	C89	124.96(12)
Si5	Si6	C95	130.87(14)	Si5	Si6	C125	46.79(10)
N6	Si6	C89	113.36(16)	N6	Si6	C95	116.17(17)
N6	Si6	C125	89.99(14)	C89	Si6	C95	103.99(17)
C89	Si6	C125	118.63(15)	C95	Si6	C125	115.08(15)
Ni3	Si7	Ni4	61.83(5)	Ni3	Si7	C101	102.27(10)
Ni3	Si7	C107	153.46(10)	Ni3	Si7	C125	55.34(10)
Ni4	Si7	C101	106.22(11)	Ni4	Si7	C107	107.65(12)
Ni4	Si7	C125	111.54(10)	C101	Si7	C107	104.15(13)
C101	Si7	C125	110.67(13)	C107	Si7	C125	115.95(13)
Ni4	Si8	N8	88.93(10)	Ni4	Si8	C113	118.73(12)
Ni4	Si8	C119	119.33(11)	Ni4	Si8	C135	50.72(9)
N8	Si8	C113	105.63(15)	N8	Si8	C119	109.39(14)
N8	Si8	C135	38.28(12)	C113	Si8	C119	111.00(16)
C113	Si8	C135	118.57(15)	C119	Si8	C135	125.92(13)
Si1	N1	Si2	92.48(14)	Si1	N1	C50	132.8(2)
Si2	N1	C50	134.5(2)	C54	N2	C55	179.0(3)
Si4	N3	C59	85.14(18)	Si4	N3	C60	143.0(3)
C59	N3	C60	128.9(3)	C64	N4	C65	179.5(4)
C72	N5	C73	165.9(4)	Si5	N6	Si6	93.17(15)
Si5	N6	C126	133.5(2)	Si6	N6	C126	133.3(2)
C130	N7	C131	177.9(3)	Si8	N8	C135	85.7(2)
Si8	N8	C136	144.1(2)	C135	N8	C136	128.7(3)
C140	N9	C141	171.4(3)	C145	N10	C146	177.4(4)
Si1	C1	C2	123.6(3)	Si1	C1	C6	120.0(3)
C2	C1	C6	116.3(3)	C1	C2	C3	122.2(3)
C2	C3	C4	120.1(4)	C3	C4	C5	119.6(4)
C4	C5	C6	120.1(4)	C1	C6	C5	121.7(3)
Si1	C7	C8	119.2(2)	Si1	C7	C12	123.4(3)
C8	C7	C12	117.1(3)	C7	C8	C9	122.0(3)

C8	C9	C10	119.6(3)	C9	C10	C11	120.0(3)
C10	C11	C12	120.6(4)	C7	C12	C11	120.6(3)
Si2	C13	C14	120.8(3)	Si2	C13	C18	122.3(3)
C14	C13	C18	116.7(4)	C13	C14	C15	122.0(4)
C14	C15	C16	120.1(6)	C15	C16	C17	120.2(7)
C16	C17	C18	119.0(6)	C13	C18	C17	122.0(5)
Si2	C19	C20	123.3(3)	Si2	C19	C24	120.3(2)
C20	C19	C24	116.4(3)	C19	C20	C21	122.0(3)
C20	C21	C22	120.2(3)	C21	C22	C23	119.4(4)
C22	C23	C24	120.5(4)	C19	C24	C23	121.4(3)
Si3	C25	C26	122.4(2)	Si3	C25	C30	121.2(2)
C26	C25	C30	116.3(3)	C25	C26	C27	121.9(3)
C26	C27	C28	120.3(3)	C27	C28	C29	119.6(3)
C28	C29	C30	120.1(3)	C25	C30	C29	121.7(3)
Si3	C31	C32	119.7(3)	Si3	C31	C36	123.2(2)
C32	C31	C36	117.0(3)	C31	C32	C33	123.7(4)
C32	C33	C34	118.6(4)	C33	C34	C35	120.0(5)
C34	C35	C36	120.4(5)	C31	C36	C35	120.3(3)
Si4	C37	C38	122.7(3)	Si4	C37	C42	121.4(3)
C38	C37	C42	115.9(3)	C37	C38	C39	122.0(4)
C38	C39	C40	120.3(4)	C39	C40	C41	119.1(3)
C40	C41	C42	120.4(3)	C37	C42	C41	122.2(3)
Si4	C43	C44	122.4(3)	Si4	C43	C48	120.4(3)
C44	C43	C48	117.1(4)	C43	C44	C45	119.2(5)
C44	C45	C46	121.2(7)	C45	C46	C47	118.2(6)
C46	C47	C48	120.5(5)	C43	C48	C47	123.4(5)
Ni1	C49	Si1	123.62(16)	Ni1	C49	Si2	107.87(15)
Ni1	C49	Si3	76.88(12)	Si1	C49	Si2	86.39(13)
Si1	C49	Si3	126.13(17)	Si2	C49	Si3	138.72(18)
N1	C50	C51	110.9(3)	N1	C50	C52	109.0(3)
N1	C50	C53	111.5(3)	C51	C50	C52	108.9(4)
C51	C50	C53	108.3(3)	C52	C50	C53	108.1(3)
Ni1	C54	N2	177.9(3)	N2	C55	C56	107.1(2)
N2	C55	C57	107.4(3)	N2	C55	C58	108.6(3)
C56	C55	C57	112.3(3)	C56	C55	C58	111.2(3)
C57	C55	C58	110.1(3)	Ni1	C59	Ni2	83.97(13)
Ni1	C59	Si4	149.64(16)	Ni1	C59	N3	151.9(2)
Ni2	C59	Si4	68.18(10)	Ni2	C59	N3	123.8(2)
Si4	C59	N3	56.20(17)	N3	C60	C61	108.7(3)

N3	C60	C62	107.8(3)	N3	C60	C63	106.6(3)
C61	C60	C62	113.0(3)	C61	C60	C63	110.0(4)
C62	C60	C63	110.4(3)	Ni2	C64	N4	176.2(4)
N4	C65	C66	98.2(5)	N4	C65	C67	115.4(6)
N4	C65	C68	109.2(5)	N4	C65	C69	100.8(4)
N4	C65	C70	109.8(4)	N4	C65	C71	109.7(5)
C66	C65	C67	101.7(8)	C66	C65	C68	114.3(7)
C66	C65	C69	144.1(7)	C66	C65	C70	94.8(7)
C66	C65	C71	40.5(7)	C67	C65	C68	116.4(7)
C67	C65	C69	42.4(7)	C67	C65	C70	128.4(6)
C67	C65	C71	61.6(7)	C68	C65	C69	87.6(6)
C68	C65	C70	20.0(5)	C68	C65	C71	136.2(6)
C69	C65	C70	106.8(6)	C69	C65	C71	104.0(6)
C70	C65	C71	123.1(6)	C65	C66	C71	54.2(8)
C65	C67	C69	81.6(10)	C65	C67	C71	58.2(7)
C69	C67	C71	139.7(12)	C65	C68	C70	71.4(16)
C65	C69	C67	56.0(8)	C65	C70	C68	88.6(17)
C65	C71	C66	85.4(10)	C65	C71	C67	60.2(7)
C66	C71	C67	144.7(13)	Ni2	C72	N5	173.7(4)
N5	C73	C74	107.8(4)	N5	C73	C75	106.9(4)
N5	C73	C76	106.3(4)	C74	C73	C75	124.1(5)
C74	C73	C76	108.0(4)	C75	C73	C76	102.5(5)
Si5	C77	C78	120.4(2)	Si5	C77	C82	122.3(2)
C78	C77	C82	116.9(3)	C77	C78	C79	121.7(3)
C78	C79	C80	120.3(3)	C79	C80	C81	119.8(4)
C80	C81	C82	119.9(3)	C77	C82	C81	121.4(3)
Si5	C83	C84	123.2(2)	Si5	C83	C88	120.4(3)
C84	C83	C88	116.0(3)	C83	C84	C85	122.2(4)
C84	C85	C86	120.3(5)	C85	C86	C87	119.6(4)
C86	C87	C88	120.5(3)	C83	C88	C87	121.4(4)
Si6	C89	C90	120.5(3)	Si6	C89	C94	123.2(3)
C90	C89	C94	116.2(4)	C89	C90	C91	122.1(4)
C90	C91	C92	119.5(5)	C91	C92	C93	119.4(5)
C92	C93	C94	121.2(5)	C89	C94	C93	121.6(4)
Si6	C95	C96	125.4(3)	Si6	C95	C100	116.9(3)
C96	C95	C100	117.6(4)	C95	C96	C97	122.5(5)
C96	C97	C98	119.0(6)	C97	C98	C99	119.8(7)
C98	C99	C100	121.7(7)	C95	C100	C99	119.3(6)
Si7	C101	C102	125.8(2)	Si7	C101	C106	118.3(2)

C102	C101	C106	115.9(2)	C101	C102	C103	122.4(3)
C102	C103	C104	120.1(3)	C103	C104	C105	119.3(3)
C104	C105	C106	119.9(3)	C101	C106	C105	122.3(3)
Si7	C107	C108	126.1(3)	Si7	C107	C112	117.7(3)
C108	C107	C112	116.1(3)	C107	C108	C109	121.9(4)
C108	C109	C110	120.1(5)	C109	C110	C111	119.5(4)
C110	C111	C112	120.3(5)	C107	C112	C111	122.1(4)
Si8	C113	C114	119.4(3)	Si8	C113	C118	122.5(2)
C114	C113	C118	117.8(3)	C113	C114	C115	121.7(3)
C114	C115	C116	118.7(3)	C115	C116	C117	120.7(3)
C116	C117	C118	120.3(4)	C113	C118	C117	120.9(4)
Si8	C119	C120	120.4(2)	Si8	C119	C124	121.6(3)
C120	C119	C124	117.9(3)	C119	C120	C121	120.8(3)
C120	C121	C122	120.0(4)	C121	C122	C123	120.5(4)
C122	C123	C124	119.4(4)	C119	C124	C123	121.3(4)
Ni3	C125	Si5	126.07(16)	Ni3	C125	Si6	100.24(14)
Ni3	C125	Si7	78.06(11)	Si5	C125	Si6	86.26(14)
Si5	C125	Si7	132.20(16)	Si6	C125	Si7	133.99(18)
N6	C126	C127	110.9(3)	N6	C126	C128	109.5(3)
N6	C126	C129	110.3(3)	C127	C126	C128	108.2(4)
C127	C126	C129	109.0(3)	C128	C126	C129	108.9(3)
Ni3	C130	N7	177.7(3)	N7	C131	C132	107.8(5)
N7	C131	C133	106.9(4)	N7	C131	C134	107.5(4)
C132	C131	C133	111.7(6)	C132	C131	C134	111.1(5)
C133	C131	C134	111.5(5)	Ni3	C135	Ni4	84.92(13)
Ni3	C135	Si8	152.30(18)	Ni3	C135	N8	151.6(3)
Ni4	C135	Si8	67.49(12)	Ni4	C135	N8	123.4(3)
Si8	C135	N8	56.06(18)	N8	C136	C137	105.9(3)
N8	C136	C138	108.8(3)	N8	C136	C139	108.6(3)
C137	C136	C138	110.4(3)	C137	C136	C139	110.2(3)
C138	C136	C139	112.8(4)	Ni4	C140	N9	177.9(3)
N9	C141	C142	107.3(3)	N9	C141	C143	107.7(3)
N9	C141	C144	108.0(2)	C142	C141	C143	111.2(3)
C142	C141	C144	111.6(3)	C143	C141	C144	110.8(3)
Ni4	C145	N10	175.7(4)	N10	C146	C147	106.1(4)
N10	C146	C148	109.3(4)	N10	C146	C149	107.7(3)
C147	C146	C148	112.8(4)	C147	C146	C149	109.3(5)
C148	C146	C149	111.3(4)	C150	C151	C152	109.6(8)
C151	C152	C153	109.7(7)	C152	C153	C154	108.4(8)

C156	C155	C157	117.4(13)	C155	C156	C156[1]	116.3(11)	

Symmetry Operators:

(1) -X+1,-Y,-Z+1

Table S5-6. Torsion Angles(°)

(Those having bond angles > 160 or < 20 degrees are excluded.)

atom1	atom2	atom3	atom4	angle	atom1	atom2	atom3	atom4	angle
Ni2	Ni1	Si3	Ni2	0.00(3)	Ni2	Ni1	Si3	C25	-102.02(6)
Ni2	Ni1	Si3	C31	61.04(9)	Ni2	Ni1	Si3	C49	152.13(4)
Si3	Ni1	Ni2	Si3	0.00(3)	Si3	Ni1	Ni2	Si4	170.43(3)
Si3	Ni1	Ni2	C59	159.13(3)	Si3	Ni1	Ni2	C64	57.97(5)
Si3	Ni1	Ni2	C72	-80.64(7)	Ni2	Ni1	C49	Si1	-149.41(12)
Ni2	Ni1	C49	Si2	112.84(12)	Ni2	Ni1	C49	Si3	-24.52(10)
C49	Ni1	Ni2	Si3	20.63(8)	C49	Ni1	Ni2	Si4	-168.93(8)
C49	Ni1	Ni2	C59	179.76(8)	C49	Ni1	Ni2	C64	78.60(9)
C49	Ni1	Ni2	C72	-60.01(10)	C54	Ni1	Ni2	Si3	-168.02(19)
C54	Ni1	Ni2	Si4	2.41(19)	C54	Ni1	Ni2	C59	-8.90(19)
C54	Ni1	Ni2	C64	-110.1(2)	C54	Ni1	Ni2	C72	111.3(2)
Ni2	Ni1	C59	Ni2	0.000(13)	Ni2	Ni1	C59	Si4	-23.1(2)
Ni2	Ni1	C59	N3	-172.6(5)	C59	Ni1	Ni2	Si3	-159.13(12)
C59	Ni1	Ni2	Si4	11.31(12)	C59	Ni1	Ni2	C59	0.00(12)
C59	Ni1	Ni2	C64	-101.15(13)	C59	Ni1	Ni2	C72	120.24(13)
Si3	Ni1	C49	Si1	-124.9(2)	Si3	Ni1	C49	Si2	137.36(19)
Si3	Ni1	C49	Si3	0.00(4)	C49	Ni1	Si3	Ni2	-152.13(12)
C49	Ni1	Si3	C25	105.84(12)	C49	Ni1	Si3	C31	-91.09(14)
C49	Ni1	Si3	C49	0.00(11)	C54	Ni1	Si3	Ni2	170.43(15)
C54	Ni1	Si3	C25	68.40(16)	C54	Ni1	Si3	C31	-128.54(17)
C54	Ni1	Si3	C49	-37.44(15)	Si3	Ni1	C59	Ni2	-18.76(11)
Si3	Ni1	C59	Si4	-41.8(3)	Si3	Ni1	C59	N3	168.6(4)
C59	Ni1	Si3	Ni2	16.29(10)	C59	Ni1	Si3	C25	-85.73(11)
C59	Ni1	Si3	C31	77.33(13)	C59	Ni1	Si3	C49	168.42(10)
C54	Ni1	C49	Si1	34.58(18)	C54	Ni1	C49	Si2	-63.17(16)
C54	Ni1	C49	Si3	159.47(11)	C49	Ni1	C59	Ni2	-0.5(3)
C49	Ni1	C59	Si4	-23.6(5)	C49	Ni1	C59	N3	-173.1(3)
C59	Ni1	C49	Si1	-149.0(2)	C59	Ni1	C49	Si2	113.2(2)
C59	Ni1	C49	Si3	-24.1(3)	C54	Ni1	C59	Ni2	175.88(11)
C54	Ni1	C59	Si4	152.8(3)	C54	Ni1	C59	N3	3.3(5)
Ni1	Ni2	Si3	Ni1	0.000(10)	Ni1	Ni2	Si3	C25	98.41(4)
Ni1	Ni2	Si3	C31	-153.79(5)	Ni1	Ni2	Si3	C49	-24.53(3)

Ni1	Ni2	Si4	N3	-14.48(4)	Ni1	Ni2	Si4	C37	-127.20(5)
Ni1	Ni2	Si4	C43	95.58(4)	Ni1	Ni2	Si4	C59	-9.41(2)
Ni1	Ni2	C59	Ni1	0.000(13)	Ni1	Ni2	C59	Si4	167.68(13)
Ni1	Ni2	C59	N3	175.8(3)	Si3	Ni2	C59	Ni1	18.40(10)
Si3	Ni2	C59	Si4	-173.92(4)	Si3	Ni2	C59	N3	-165.78(19)
C59	Ni2	Si3	Ni1	-15.57(9)	C59	Ni2	Si3	C25	82.84(9)
C59	Ni2	Si3	C31	-169.36(9)	C59	Ni2	Si3	C49	-40.09(10)
C64	Ni2	Si3	Ni1	-139.39(11)	C64	Ni2	Si3	C25	-40.98(11)
C64	Ni2	Si3	C31	66.82(12)	C64	Ni2	Si3	C49	-163.91(11)
C72	Ni2	Si3	Ni1	114.12(9)	C72	Ni2	Si3	C25	-147.47(9)
C72	Ni2	Si3	C31	-39.67(9)	C72	Ni2	Si3	C49	89.60(11)
Si4	Ni2	C59	Ni1	-167.68(13)	Si4	Ni2	C59	Si4	-0.00(3)
Si4	Ni2	C59	N3	8.14(16)	C59	Ni2	Si4	N3	-5.07(10)
C59	Ni2	Si4	C37	-117.79(11)	C59	Ni2	Si4	C43	104.99(10)
C59	Ni2	Si4	C59	0.00(10)	C64	Ni2	Si4	N3	120.11(12)
C64	Ni2	Si4	C37	7.39(11)	C64	Ni2	Si4	C43	-129.83(12)
C64	Ni2	Si4	C59	125.18(11)	C72	Ni2	Si4	N3	-132.11(9)
C72	Ni2	Si4	C37	115.18(11)	C72	Ni2	Si4	C43	-22.05(10)
C72	Ni2	Si4	C59	-127.04(9)	C64	Ni2	C59	Ni1	116.00(17)
C64	Ni2	C59	Si4	-76.32(18)	C64	Ni2	C59	N3	-68.2(3)
C72	Ni2	C59	Ni1	-87.5(2)	C72	Ni2	C59	Si4	80.23(18)
C72	Ni2	C59	N3	88.4(3)	Ni4	Ni3	Si7	Ni4	0.0
Ni4	Ni3	Si7	C101	101.99(6)	Ni4	Ni3	Si7	C107	-72.40(12)
Ni4	Ni3	Si7	C125	-151.22(3)	Si7	Ni3	Ni4	Si7	0.00(3)
Si7	Ni3	Ni4	Si8	-158.90(2)	Si7	Ni3	Ni4	C135	-161.29(3)
Si7	Ni3	Ni4	C140	-45.21(5)	Si7	Ni3	Ni4	C145	91.50(7)
Ni4	Ni3	C125	Si5	158.73(13)	Ni4	Ni3	C125	Si6	-108.43(12)
Ni4	Ni3	C125	Si7	24.67(9)	C125	Ni3	Ni4	Si7	-20.84(7)
C125	Ni3	Ni4	Si8	-179.74(7)	C125	Ni3	Ni4	C135	177.87(7)
C125	Ni3	Ni4	C140	-66.05(8)	C125	Ni3	Ni4	C145	70.66(9)
C130	Ni3	Ni4	Si7	152.4(2)	C130	Ni3	Ni4	Si8	-6.5(2)
C130	Ni3	Ni4	C135	-8.9(2)	C130	Ni3	Ni4	C140	107.2(2)
C130	Ni3	Ni4	C145	-116.1(2)	Ni4	Ni3	C135	Ni4	-0.00(2)
Ni4	Ni3	C135	Si8	-5.1(2)	Ni4	Ni3	C135	N8	177.6(4)
C135	Ni3	Ni4	Si7	161.29(10)	C135	Ni3	Ni4	Si8	2.39(10)
C135	Ni3	Ni4	C135	0.00(10)	C135	Ni3	Ni4	C140	116.08(11)
C135	Ni3	Ni4	C145	-107.21(12)	Si7	Ni3	C125	Si5	134.06(19)
Si7	Ni3	C125	Si6	-133.10(18)	Si7	Ni3	C125	Si7	-0.00(4)
C125	Ni3	Si7	Ni4	151.22(11)	C125	Ni3	Si7	C101	-106.78(12)

C125	Ni3	Si7	C107	78.83(15)	C125	Ni3	Si7	C125	-0.00(11)
C130	Ni3	Si7	Ni4	-160.37(16)	C130	Ni3	Si7	C101	-58.38(17)
C130	Ni3	Si7	C107	127.23(19)	C130	Ni3	Si7	C125	48.41(17)
Si7	Ni3	C135	Ni4	16.45(9)	Si7	Ni3	C135	Si8	11.3(3)
Si7	Ni3	C135	N8	-165.9(3)	C135	Ni3	Si7	Ni4	-14.44(8)
C135	Ni3	Si7	C101	87.55(10)	C135	Ni3	Si7	C107	-86.84(14)
C135	Ni3	Si7	C125	-165.67(9)	C130	Ni3	C125	Si5	-18.22(19)
C130	Ni3	C125	Si6	74.62(17)	C130	Ni3	C125	Si7	-152.28(12)
C125	Ni3	C135	Ni4	-4.1(2)	C125	Ni3	C135	Si8	-9.2(4)
C125	Ni3	C135	N8	173.5(3)	C135	Ni3	C125	Si5	161.85(16)
C135	Ni3	C125	Si6	-105.3(2)	C135	Ni3	C125	Si7	27.8(2)
C130	Ni3	C135	Ni4	175.99(11)	C130	Ni3	C135	Si8	170.9(3)
C130	Ni3	C135	N8	-6.4(4)	Ni3	Ni4	Si7	Ni3	0.000(11)
Ni3	Ni4	Si7	C101	-95.46(6)	Ni3	Ni4	Si7	C107	153.45(4)
Ni3	Ni4	Si7	C125	25.20(4)	Ni3	Ni4	Si8	N8	-4.41(3)
Ni3	Ni4	Si8	C113	102.87(7)	Ni3	Ni4	Si8	C119	-116.15(5)
Ni3	Ni4	Si8	C135	-1.96(2)	Ni3	Ni4	C135	Ni3	0.00(2)
Ni3	Ni4	C135	Si8	177.42(11)	Ni3	Ni4	C135	N8	-178.6(2)
Si7	Ni4	Si8	N8	-58.15(10)	Si7	Ni4	Si8	C113	49.13(13)
Si7	Ni4	Si8	C119	-169.89(7)	Si7	Ni4	Si8	C135	-55.70(9)
Si8	Ni4	Si7	Ni3	62.53(10)	Si8	Ni4	Si7	C101	-32.93(12)
Si8	Ni4	Si7	C107	-144.02(9)	Si8	Ni4	Si7	C125	87.72(9)
Si7	Ni4	C135	Ni3	-16.60(9)	Si7	Ni4	C135	Si8	160.82(3)
Si7	Ni4	C135	N8	164.75(16)	C135	Ni4	Si7	Ni3	13.87(8)
C135	Ni4	Si7	C101	-81.60(10)	C135	Ni4	Si7	C107	167.32(8)
C135	Ni4	Si7	C125	39.06(9)	C140	Ni4	Si7	Ni3	146.79(10)
C140	Ni4	Si7	C101	51.33(10)	C140	Ni4	Si7	C107	-59.76(10)
C140	Ni4	Si7	C125	171.99(10)	C145	Ni4	Si7	Ni3	-106.94(12)
C145	Ni4	Si7	C101	157.59(12)	C145	Ni4	Si7	C107	46.51(13)
C145	Ni4	Si7	C125	-81.75(12)	Si8	Ni4	C135	Ni3	-177.42(11)
Si8	Ni4	C135	Si8	0.00(2)	Si8	Ni4	C135	N8	3.93(14)
C135	Ni4	Si8	N8	-2.45(9)	C135	Ni4	Si8	C113	104.84(11)
C135	Ni4	Si8	C119	-114.19(10)	C135	Ni4	Si8	C135	0.00(8)
C140	Ni4	Si8	N8	-139.77(11)	C140	Ni4	Si8	C113	-32.48(11)
C140	Ni4	Si8	C119	108.49(11)	C140	Ni4	Si8	C135	-137.32(11)
C145	Ni4	Si8	N8	111.33(12)	C145	Ni4	Si8	C113	-141.38(13)
C145	Ni4	Si8	C119	-0.41(13)	C145	Ni4	Si8	C135	113.78(12)
C140	Ni4	C135	Ni3	-108.95(18)	C140	Ni4	C135	Si8	68.48(19)
C140	Ni4	C135	N8	72.4(3)	C145	Ni4	C135	Ni3	93.76(16)

C145	Ni4	C135	Si8	-88.82(15)	C145	Ni4	C135	N8	-84.9(2)
Si2	Si1	N1	Si2	-0.00(4)	Si2	Si1	N1	C50	-174.2(3)
N1	Si1	Si2	N1	-0.00(14)	N1	Si1	Si2	C13	85.17(16)
N1	Si1	Si2	C19	-87.43(16)	N1	Si1	Si2	C49	-176.02(15)
Si2	Si1	C1	C2	168.09(15)	Si2	Si1	C1	C6	-15.6(2)
C1	Si1	Si2	N1	-91.61(14)	C1	Si1	Si2	C13	-6.44(13)
C1	Si1	Si2	C19	-179.04(12)	C1	Si1	Si2	C49	92.36(14)
Si2	Si1	C7	C8	80.1(2)	Si2	Si1	C7	C12	-106.8(2)
C7	Si1	Si2	N1	84.44(16)	C7	Si1	Si2	C13	169.61(14)
C7	Si1	Si2	C19	-2.99(16)	C7	Si1	Si2	C49	-91.58(16)
Si2	Si1	C49	Ni1	-109.10(19)	Si2	Si1	C49	Si2	-0.00(3)
Si2	Si1	C49	Si3	152.4(3)	C49	Si1	Si2	N1	176.02(14)
C49	Si1	Si2	C13	-98.81(15)	C49	Si1	Si2	C19	88.60(15)
C49	Si1	Si2	C49	0.00(12)	N1	Si1	C1	C2	119.1(2)
N1	Si1	C1	C6	-64.5(2)	C1	Si1	N1	Si2	113.02(16)
C1	Si1	N1	C50	-61.1(3)	N1	Si1	C7	C8	130.46(19)
N1	Si1	C7	C12	-56.4(3)	C7	Si1	N1	Si2	-126.63(16)
C7	Si1	N1	C50	59.2(3)	N1	Si1	C49	Ni1	-106.37(17)
N1	Si1	C49	Si2	2.73(13)	N1	Si1	C49	Si3	155.1(2)
C49	Si1	N1	Si2	-2.90(14)	C49	Si1	N1	C50	-177.1(3)
C1	Si1	C7	C8	-103.3(2)	C1	Si1	C7	C12	69.8(2)
C7	Si1	C1	C2	-9.0(2)	C7	Si1	C1	C6	167.32(19)
C1	Si1	C49	Ni1	136.92(15)	C1	Si1	C49	Si2	-113.98(13)
C1	Si1	C49	Si3	38.4(2)	C49	Si1	C1	C2	-139.3(2)
C49	Si1	C1	C6	37.1(2)	C7	Si1	C49	Ni1	15.6(2)
C7	Si1	C49	Si2	124.69(13)	C7	Si1	C49	Si3	-82.9(2)
C49	Si1	C7	C8	23.1(3)	C49	Si1	C7	C12	-163.72(18)
Si1	Si2	N1	Si1	0.00(4)	Si1	Si2	N1	C50	174.0(4)
Si1	Si2	C13	C14	-21.4(3)	Si1	Si2	C13	C18	152.50(18)
Si1	Si2	C19	C20	70.9(2)	Si1	Si2	C19	C24	-109.6(2)
Si1	Si2	C49	Ni1	124.23(18)	Si1	Si2	C49	Si1	0.00(3)
Si1	Si2	C49	Si3	-145.5(3)	N1	Si2	C13	C14	26.5(3)
N1	Si2	C13	C18	-159.6(2)	C13	Si2	N1	Si1	-118.25(15)
C13	Si2	N1	C50	55.8(3)	N1	Si2	C19	C20	19.8(3)
N1	Si2	C19	C24	-160.69(18)	C19	Si2	N1	Si1	122.74(14)
C19	Si2	N1	C50	-63.3(3)	N1	Si2	C49	Ni1	121.47(16)
N1	Si2	C49	Si1	-2.76(13)	N1	Si2	C49	Si3	-148.2(3)
C49	Si2	N1	Si1	2.89(14)	C49	Si2	N1	C50	176.9(3)
C13	Si2	C19	C20	-102.8(3)	C13	Si2	C19	C24	76.7(2)

C19	Si2	C13	C14	152.9(2)	C19	Si2	C13	C18	-33.2(3)
C13	Si2	C49	Ni1	-124.13(17)	C13	Si2	C49	Si1	111.64(17)
C13	Si2	C49	Si3	-33.8(3)	C49	Si2	C13	C14	-76.4(3)
C49	Si2	C13	C18	97.5(3)	C19	Si2	C49	Ni1	1.0(2)
C19	Si2	C49	Si1	-123.25(15)	C19	Si2	C49	Si3	91.3(3)
C49	Si2	C19	C20	125.0(2)	C49	Si2	C19	C24	-55.5(3)
Ni1	Si3	C25	C26	-147.03(16)	Ni1	Si3	C25	C30	33.5(2)
Ni1	Si3	C31	C32	-129.30(17)	Ni1	Si3	C31	C36	51.2(4)
Ni1	Si3	C49	Ni1	0.00(3)	Ni1	Si3	C49	Si1	122.3(2)
Ni1	Si3	C49	Si2	-102.2(3)	Ni2	Si3	C25	C26	149.24(16)
Ni2	Si3	C25	C30	-30.2(2)	Ni2	Si3	C31	C32	-77.9(3)
Ni2	Si3	C31	C36	102.6(3)	Ni2	Si3	C49	Ni1	25.96(10)
Ni2	Si3	C49	Si1	148.21(15)	Ni2	Si3	C49	Si2	-76.3(3)
C25	Si3	C31	C32	34.0(3)	C25	Si3	C31	C36	-145.5(2)
C31	Si3	C25	C26	41.4(2)	C31	Si3	C25	C30	-138.02(19)
C25	Si3	C49	Ni1	-94.78(13)	C25	Si3	C49	Si1	27.5(2)
C25	Si3	C49	Si2	163.0(2)	C49	Si3	C25	C26	-88.1(2)
C49	Si3	C25	C30	92.5(2)	C31	Si3	C49	Ni1	145.42(14)
C31	Si3	C49	Si1	-92.3(2)	C31	Si3	C49	Si2	43.2(3)
C49	Si3	C31	C32	158.3(2)	C49	Si3	C31	C36	-21.2(3)
Ni2	Si4	N3	C59	6.27(11)	Ni2	Si4	N3	C60	165.5(3)
Ni2	Si4	C37	C38	87.5(3)	Ni2	Si4	C37	C42	-90.5(3)
Ni2	Si4	C43	C44	154.88(17)	Ni2	Si4	C43	C48	-25.8(3)
Ni2	Si4	C59	Ni1	24.8(3)	Ni2	Si4	C59	Ni2	0.000(13)
Ni2	Si4	C59	N3	-171.87(15)	N3	Si4	C37	C38	-12.8(3)
N3	Si4	C37	C42	169.2(2)	C37	Si4	N3	C59	126.51(17)
C37	Si4	N3	C60	-74.3(3)	N3	Si4	C43	C44	-105.9(2)
N3	Si4	C43	C48	73.5(2)	C43	Si4	N3	C59	-114.64(17)
C43	Si4	N3	C60	44.6(3)	N3	Si4	C59	Ni1	-163.3(4)
N3	Si4	C59	Ni2	171.9(2)	N3	Si4	C59	N3	0.00(14)
C59	Si4	N3	C59	0.00(12)	C59	Si4	N3	C60	159.2(4)
C37	Si4	C43	C44	13.9(3)	C37	Si4	C43	C48	-166.7(2)
C43	Si4	C37	C38	-131.1(3)	C43	Si4	C37	C42	50.9(3)
C37	Si4	C59	Ni1	122.8(3)	C37	Si4	C59	Ni2	98.00(17)
C37	Si4	C59	N3	-73.86(19)	C59	Si4	C37	C38	27.0(3)
C59	Si4	C37	C42	-151.0(2)	C43	Si4	C59	Ni1	-81.1(3)
C43	Si4	C59	Ni2	-105.88(15)	C43	Si4	C59	N3	82.25(17)
C59	Si4	C43	C44	-146.44(19)	C59	Si4	C43	C48	32.9(3)
Si6	Si5	N6	Si6	0.00(3)	Si6	Si5	N6	C126	176.5(3)

N6	Si5	Si6	N6	0.00(13)	N6	Si5	Si6	C89	-87.96(15)
N6	Si5	Si6	C95	86.19(15)	N6	Si5	Si6	C125	173.68(14)
Si6	Si5	C77	C78	149.96(19)	Si6	Si5	C77	C82	-22.4(3)
C77	Si5	Si6	N6	91.96(14)	C77	Si5	Si6	C89	4.00(14)
C77	Si5	Si6	C95	178.15(13)	C77	Si5	Si6	C125	-94.36(14)
Si6	Si5	C83	C84	114.5(2)	Si6	Si5	C83	C88	-73.2(2)
C83	Si5	Si6	N6	-84.56(17)	C83	Si5	Si6	C89	-172.52(15)
C83	Si5	Si6	C95	1.63(18)	C83	Si5	Si6	C125	89.12(17)
Si6	Si5	C125	Ni3	99.95(19)	Si6	Si5	C125	Si6	0.00(3)
Si6	Si5	C125	Si7	-151.7(3)	C125	Si5	Si6	N6	-173.68(13)
C125	Si5	Si6	C89	98.36(14)	C125	Si5	Si6	C95	-87.49(14)
C125	Si5	Si6	C125	-0.00(12)	N6	Si5	C77	C78	-161.6(2)
N6	Si5	C77	C82	26.0(3)	C77	Si5	N6	Si6	-111.32(16)
C77	Si5	N6	C126	65.1(3)	N6	Si5	C83	C84	62.8(3)
N6	Si5	C83	C88	-124.9(2)	C83	Si5	N6	Si6	129.24(15)
C83	Si5	N6	C126	-54.3(3)	N6	Si5	C125	Ni3	95.61(17)
N6	Si5	C125	Si6	-4.34(12)	N6	Si5	C125	Si7	-156.0(2)
C125	Si5	N6	Si6	4.62(13)	C125	Si5	N6	C126	-178.9(2)
C77	Si5	C83	C84	-62.4(2)	C77	Si5	C83	C88	109.8(2)
C83	Si5	C77	C78	-32.4(3)	C83	Si5	C77	C82	155.2(2)
C77	Si5	C125	Ni3	-148.74(15)	C77	Si5	C125	Si6	111.31(13)
C77	Si5	C125	Si7	-40.4(2)	C125	Si5	C77	C78	97.3(3)
C125	Si5	C77	C82	-75.1(3)	C83	Si5	C125	Ni3	-28.8(2)
C83	Si5	C125	Si6	-128.71(13)	C83	Si5	C125	Si7	79.6(2)
C125	Si5	C83	C84	171.71(18)	C125	Si5	C83	C88	-16.1(3)
Si5	Si6	N6	Si5	0.00(3)	Si5	Si6	N6	C126	-176.5(3)
Si5	Si6	C89	C90	-25.1(3)	Si5	Si6	C89	C94	150.5(2)
Si5	Si6	C95	C96	-44.4(3)	Si5	Si6	C95	C100	130.80(18)
Si5	Si6	C125	Ni3	-126.00(17)	Si5	Si6	C125	Si5	-0.00(3)
Si5	Si6	C125	Si7	150.8(3)	N6	Si6	C89	C90	-73.5(3)
N6	Si6	C89	C94	102.1(3)	C89	Si6	N6	Si5	116.85(14)
C89	Si6	N6	C126	-59.6(3)	N6	Si6	C95	C96	5.4(3)
N6	Si6	C95	C100	-179.42(18)	C95	Si6	N6	Si5	-122.78(16)
C95	Si6	N6	C126	60.7(3)	N6	Si6	C125	Ni3	-121.66(15)
N6	Si6	C125	Si5	4.34(12)	N6	Si6	C125	Si7	155.1(2)
C125	Si6	N6	Si5	-4.60(13)	C125	Si6	N6	C126	178.9(2)
C89	Si6	C95	C96	130.7(3)	C89	Si6	C95	C100	-54.1(3)
C95	Si6	C89	C90	159.5(3)	C95	Si6	C89	C94	-25.0(3)
C89	Si6	C125	Ni3	121.49(17)	C89	Si6	C125	Si5	-112.51(17)

C89	Si6	C125	Si7	38.3(3)	C125	Si6	C89	C90	30.2(3)
C125	Si6	C89	C94	-154.3(2)	C95	Si6	C125	Ni3	-2.5(2)
C95	Si6	C125	Si5	123.47(17)	C95	Si6	C125	Si7	-85.8(3)
C125	Si6	C95	C96	-97.9(3)	C125	Si6	C95	C100	77.3(3)
Ni3	Si7	C101	C102	158.0(2)	Ni3	Si7	C101	C106	-22.8(2)
Ni3	Si7	C107	C108	60.3(4)	Ni3	Si7	C107	C112	-121.7(2)
Ni3	Si7	C125	Ni3	-0.000(12)	Ni3	Si7	C125	Si5	-128.4(2)
Ni3	Si7	C125	Si6	92.8(2)	Ni4	Si7	C101	C102	-138.1(2)
Ni4	Si7	C101	C106	41.1(2)	Ni4	Si7	C107	C108	-1.5(2)
Ni4	Si7	C107	C112	176.40(14)	Ni4	Si7	C125	Ni3	-27.14(9)
Ni4	Si7	C125	Si5	-155.51(16)	Ni4	Si7	C125	Si6	65.6(2)
C101	Si7	C107	C108	-114.0(2)	C101	Si7	C107	C112	63.9(2)
C107	Si7	C101	C102	-24.6(3)	C107	Si7	C101	C106	154.6(2)
C101	Si7	C125	Ni3	90.88(14)	C101	Si7	C125	Si5	-37.5(2)
C101	Si7	C125	Si6	-176.35(19)	C125	Si7	C101	C102	100.6(2)
C125	Si7	C101	C106	-80.2(2)	C107	Si7	C125	Ni3	-150.83(13)
C107	Si7	C125	Si5	80.8(2)	C107	Si7	C125	Si6	-58.1(3)
C125	Si7	C107	C108	124.2(2)	C125	Si7	C107	C112	-57.9(2)
Ni4	Si8	N8	C135	3.06(9)	Ni4	Si8	N8	C136	167.5(3)
Ni4	Si8	C113	C114	-29.7(3)	Ni4	Si8	C113	C118	157.6(2)
Ni4	Si8	C119	C120	-97.3(2)	Ni4	Si8	C119	C124	79.8(2)
Ni4	Si8	C135	Ni3	5.5(2)	Ni4	Si8	C135	Ni4	0.000(10)
Ni4	Si8	C135	N8	-176.05(14)	N8	Si8	C113	C114	67.8(3)
N8	Si8	C113	C118	-104.9(3)	C113	Si8	N8	C135	-116.55(15)
C113	Si8	N8	C136	47.9(3)	N8	Si8	C119	C120	162.6(2)
N8	Si8	C119	C124	-20.2(3)	C119	Si8	N8	C135	123.91(14)
C119	Si8	N8	C136	-71.6(3)	N8	Si8	C135	Ni3	-178.4(4)
N8	Si8	C135	Ni4	176.05(18)	N8	Si8	C135	N8	0.00(12)
C135	Si8	N8	C135	0.00(10)	C135	Si8	N8	C136	164.5(4)
C113	Si8	C119	C120	46.4(3)	C113	Si8	C119	C124	-136.4(2)
C119	Si8	C113	C114	-173.7(2)	C119	Si8	C113	C118	13.6(3)
C113	Si8	C135	Ni3	-99.6(3)	C113	Si8	C135	Ni4	-105.18(15)
C113	Si8	C135	N8	78.77(17)	C135	Si8	C113	C114	28.7(3)
C135	Si8	C113	C118	-144.0(2)	C119	Si8	C135	Ni3	106.4(3)
C119	Si8	C135	Ni4	100.89(16)	C119	Si8	C135	N8	-75.16(18)
C135	Si8	C119	C120	-158.02(18)	C135	Si8	C119	C124	19.2(3)
Si1	N1	C50	C51	-80.3(4)	Si1	N1	C50	C52	39.6(4)
Si1	N1	C50	C53	158.9(2)	Si2	N1	C50	C51	107.8(3)
Si2	N1	C50	C52	-132.2(3)	Si2	N1	C50	C53	-12.9(5)

Si4	N3	C59	Ni1	162.0(5)	Si4	N3	C59	Ni2	-9.1(2)
Si4	N3	C59	Si4	0.00(3)	Si4	N3	C60	C61	-92.6(4)
Si4	N3	C60	C62	144.5(3)	Si4	N3	C60	C63	26.0(5)
C59	N3	C60	C61	60.4(5)	C59	N3	C60	C62	-62.5(4)
C59	N3	C60	C63	178.9(3)	C60	N3	C59	Ni1	-2.0(7)
C60	N3	C59	Ni2	-173.2(3)	C60	N3	C59	Si4	-164.1(4)
Si5	N6	C126	C127	-46.2(4)	Si5	N6	C126	C128	73.1(4)
Si5	N6	C126	C129	-167.1(2)	Si6	N6	C126	C127	128.9(3)
Si6	N6	C126	C128	-111.7(3)	Si6	N6	C126	C129	8.0(4)
Si8	N8	C135	Ni3	178.5(4)	Si8	N8	C135	Ni4	-4.4(2)
Si8	N8	C135	Si8	-0.00(3)	Si8	N8	C136	C137	17.7(4)
Si8	N8	C136	C138	-100.9(4)	Si8	N8	C136	C139	136.0(3)
C135	N8	C136	C137	177.8(2)	C135	N8	C136	C138	59.1(4)
C135	N8	C136	C139	-64.0(4)	C136	N8	C135	Ni3	10.1(6)
C136	N8	C135	Ni4	-172.8(2)	C136	N8	C135	Si8	-168.4(3)
Si1	C1	C2	C3	177.52(19)	Si1	C1	C6	C5	-176.32(18)
C2	C1	C6	C5	0.3(4)	C6	C1	C2	C3	1.1(4)
C1	C2	C3	C4	-1.4(5)	C2	C3	C4	C5	0.2(5)
C3	C4	C5	C6	1.1(5)	C4	C5	C6	C1	-1.3(5)
Si1	C7	C8	C9	172.49(18)	Si1	C7	C12	C11	-172.69(19)
C8	C7	C12	C11	0.6(4)	C12	C7	C8	C9	-1.1(4)
C7	C8	C9	C10	1.0(4)	C8	C9	C10	C11	-0.3(5)
C9	C10	C11	C12	-0.2(5)	C10	C11	C12	C7	0.0(5)
Si2	C13	C14	C15	175.0(2)	Si2	C13	C18	C17	-172.5(3)
C14	C13	C18	C17	1.6(6)	C18	C13	C14	C15	0.7(5)
C13	C14	C15	C16	-2.3(7)	C14	C15	C16	C17	1.5(8)
C15	C16	C17	C18	0.7(9)	C16	C17	C18	C13	-2.3(8)
Si2	C19	C20	C21	178.5(2)	Si2	C19	C24	C23	-178.4(2)
C20	C19	C24	C23	1.1(4)	C24	C19	C20	C21	-1.0(5)
C19	C20	C21	C22	1.1(5)	C20	C21	C22	C23	-1.2(5)
C21	C22	C23	C24	1.4(5)	C22	C23	C24	C19	-1.3(5)
Si3	C25	C26	C27	-179.90(17)	Si3	C25	C30	C29	-179.95(17)
C26	C25	C30	C29	0.6(4)	C30	C25	C26	C27	-0.4(4)
C25	C26	C27	C28	0.9(5)	C26	C27	C28	C29	-1.5(5)
C27	C28	C29	C30	1.6(5)	C28	C29	C30	C25	-1.2(5)
Si3	C31	C32	C33	-179.4(3)	Si3	C31	C36	C35	179.1(2)
C32	C31	C36	C35	-0.5(6)	C36	C31	C32	C33	0.2(6)
C31	C32	C33	C34	-0.4(7)	C32	C33	C34	C35	0.9(8)
C33	C34	C35	C36	-1.2(8)	C34	C35	C36	C31	1.0(7)

Si4	C37	C38	C39	179.9(3)	Si4	C37	C42	C41	179.5(2)
C38	C37	C42	C41	1.4(5)	C42	C37	C38	C39	-2.0(6)
C37	C38	C39	C40	1.0(7)	C38	C39	C40	C41	0.8(7)
C39	C40	C41	C42	-1.5(6)	C40	C41	C42	C37	0.3(6)
Si4	C43	C44	C45	-176.9(3)	Si4	C43	C48	C47	179.2(3)
C44	C43	C48	C47	-1.4(6)	C48	C43	C44	C45	3.8(6)
C43	C44	C45	C46	-0.7(9)	C44	C45	C46	C47	-4.9(10)
C45	C46	C47	C48	7.4(9)	C46	C47	C48	C43	-4.4(9)
N4	C65	C66	C71	-110.9(6)	N4	C65	C67	C69	-77.7(7)
N4	C65	C67	C71	99.7(5)	N4	C65	C68	C70	-95.3(11)
N4	C65	C69	C67	116.1(5)	N4	C65	C70	C68	91.8(8)
N4	C65	C71	C66	79.2(6)	N4	C65	C71	C67	-109.0(4)
C66	C65	C67	C69	177.2(6)	C66	C65	C67	C71	-5.4(6)
C67	C65	C66	C71	7.4(8)	C66	C65	C68	C70	13.5(13)
C68	C65	C66	C71	133.7(7)	C66	C65	C69	C67	-4.7(12)
C69	C65	C66	C71	10.6(13)	C66	C65	C70	C68	-167.7(8)
C70	C65	C66	C71	138.3(6)	C66	C65	C71	C66	0.0(6)
C66	C65	C71	C67	171.8(9)	C71	C65	C66	C71	0.0(6)
C67	C65	C68	C70	131.8(11)	C68	C65	C67	C69	52.2(9)
C68	C65	C67	C71	-130.4(6)	C67	C65	C69	C67	0.0(7)
C69	C65	C67	C69	-0.0(5)	C69	C65	C67	C71	177.4(9)
C67	C65	C70	C68	-58.5(12)	C70	C65	C67	C69	71.2(9)
C70	C65	C67	C71	-111.4(7)	C67	C65	C71	C66	-171.8(8)
C67	C65	C71	C67	0.0(5)	C71	C65	C67	C69	-177.4(9)
C71	C65	C67	C71	0.0(4)	C68	C65	C69	C67	-134.9(6)
C69	C65	C68	C70	164.0(11)	C68	C65	C71	C66	-72.2(10)
C68	C65	C71	C67	99.6(9)	C71	C65	C68	C70	56.2(15)
C69	C65	C70	C68	-16.7(9)	C70	C65	C69	C67	-129.2(5)
C69	C65	C71	C66	-173.6(5)	C69	C65	C71	C67	-1.8(5)
C71	C65	C69	C67	2.4(6)	C70	C65	C71	C66	-52.4(7)
C70	C65	C71	C67	119.4(6)	C71	C65	C70	C68	-136.6(8)
C65	C66	C71	C65	0.00(17)	C65	C66	C71	C67	-12.3(13)
C65	C67	C69	C65	-0.00(17)	C65	C67	C71	C65	-0.0(2)
C65	C67	C71	C66	14.2(14)	C69	C67	C71	C65	4.0(16)
C69	C67	C71	C66	18(3)	C71	C67	C69	C65	-3.4(14)
C65	C68	C70	C65	-0.00(17)	Si5	C77	C78	C79	-172.6(2)
Si5	C77	C82	C81	171.2(2)	C78	C77	C82	C81	-1.4(5)
C82	C77	C78	C79	0.2(5)	C77	C78	C79	C80	1.0(6)
C78	C79	C80	C81	-1.1(6)	C79	C80	C81	C82	-0.1(7)

C80	C81	C82	C77	1.3(7)	Si5	C83	C84	C85	173.4(2)
Si5	C83	C88	C87	-172.89(19)	C84	C83	C88	C87	-0.1(4)
C88	C83	C84	C85	0.9(5)	C83	C84	C85	C86	0.1(6)
C84	C85	C86	C87	-1.9(6)	C85	C86	C87	C88	2.7(6)
C86	C87	C88	C83	-1.7(6)	Si6	C89	C90	C91	175.0(3)
Si6	C89	C94	C93	-175.9(3)	C90	C89	C94	C93	-0.2(6)
C94	C89	C90	C91	-0.9(6)	C89	C90	C91	C92	1.2(8)
C90	C91	C92	C93	-0.4(9)	C91	C92	C93	C94	-0.7(10)
C92	C93	C94	C89	1.0(9)	Si6	C95	C96	C97	174.5(2)
Si6	C95	C100	C99	-174.9(2)	C96	C95	C100	C99	0.7(5)
C100	C95	C96	C97	-0.7(5)	C95	C96	C97	C98	0.3(7)
C96	C97	C98	C99	0.0(9)	C97	C98	C99	C100	0.0(9)
C98	C99	C100	C95	-0.4(8)	Si7	C101	C102	C103	179.35(19)
Si7	C101	C106	C105	-179.40(19)	C102	C101	C106	C105	-0.1(4)
C106	C101	C102	C103	0.1(4)	C101	C102	C103	C104	-0.4(5)
C102	C103	C104	C105	0.6(5)	C103	C104	C105	C106	-0.6(5)
C104	C105	C106	C101	0.3(5)	Si7	C107	C108	C109	177.03(18)
Si7	C107	C112	C111	-177.37(18)	C108	C107	C112	C111	0.7(4)
C112	C107	C108	C109	-0.9(4)	C107	C108	C109	C110	0.3(5)
C108	C109	C110	C111	0.5(6)	C109	C110	C111	C112	-0.7(6)
C110	C111	C112	C107	0.0(5)	Si8	C113	C114	C115	-171.9(2)
Si8	C113	C118	C117	172.9(2)	C114	C113	C118	C117	0.1(6)
C118	C113	C114	C115	1.1(5)	C113	C114	C115	C116	-1.4(6)
C114	C115	C116	C117	0.4(6)	C115	C116	C117	C118	0.8(7)
C116	C117	C118	C113	-1.0(7)	Si8	C119	C120	C121	179.5(2)
Si8	C119	C124	C123	-179.9(2)	C120	C119	C124	C123	-2.7(5)
C124	C119	C120	C121	2.2(5)	C119	C120	C121	C122	-0.3(6)
C120	C121	C122	C123	-1.3(6)	C121	C122	C123	C124	0.8(6)
C122	C123	C124	C119	1.2(6)	C150	C151	C152	C153	180.0(7)
C151	C152	C153	C154	173.1(7)	C157	C155	C156	C156[1]	-177.6(10)
C155	C156	C156[1]	C155[1]	180.0(9)					

Symmetry Operators:

(1) -X+1,-Y,-Z+1

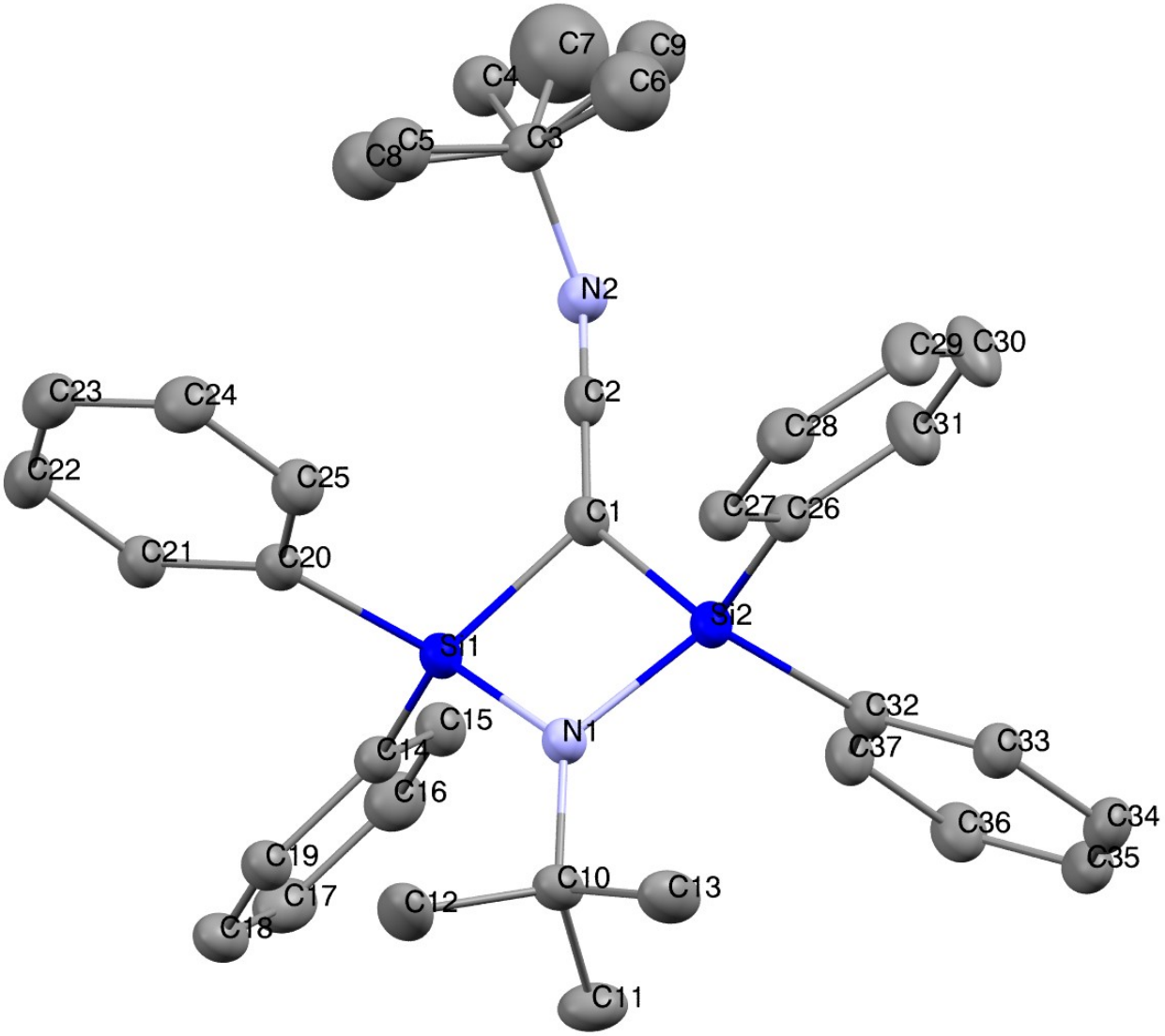


Figure S9. ORTEP drawing of **4** (50% probability of the thermal ellipsoids). Hydrogen atoms were omitted for clarity. One ^{t}Bu group were found to be disordered, and the site occupancy factor for these carbons was defined as follows: 0.7 for C4, C5 and C6, 0.3 for C7, C8 and C9, respectively.

Table S6-1. Crystal data and structure refinement for **4**.

Empirical Formula	$C_{34}H_{29}N_2Si_2$
Formula Weight	521.79
Crystal Color, Habit	colorless, block
Crystal Dimensions	0.050 X 0.050 X 0.030 mm
Crystal System	triclinic
Lattice Type	Primitive
Lattice Parameters	a = 10.310(3) Å
	b = 12.326(3) Å
	c = 12.941(3) Å
	α = 77.219(5) º
	β = 79.312(6) º
	γ = 79.801(6) º
	V = 1560.0(6) Å^3
Space Group	P-1 (#2)
Z value	2
D_{calc}	1.111 g/cm^3
F_{000}	550.00
Diffractometer	R-AXIS IV
Radiation (λ = 0.41260Å)	
	monochromated
Voltage, Current	8kV, 100mA
Temperature	-173.0ºC
Detector Aperture	300.0 x 300.0 mm
Data Images	1440 exposures
ω oscillation Range (χ=45.0, ϕ=0.0)	0.0 - 180.0º
Exposure Rate	240.0 sec./º
Detector Swing Angle	25.00º
ω oscillation Range (χ=45.0, ϕ=90.0)	0.0 - 180.0º
Exposure Rate	240.0 sec./º
Detector Swing Angle	25.00º
ω oscillation Range (χ=45.0, ϕ=180.0)	0.0 - 180.0º
Exposure Rate	240.0 sec./º
Detector Swing Angle	25.00º
ω oscillation Range (χ=45.0, ϕ=270.0)	0.0 - 180.0º
Exposure Rate	240.0 sec./º
Detector Swing Angle	25.00º

Detector Position	130.00 mm
Pixel Size	0.172 mm
$2\theta_{max}$	31.0^{o}
No. of Reflections Measured	Total: 45326
	Unique: 7039 (R_{int} = 0.0347)
Corrections	Lorentz-polarization
	Absorption
	(trans. factors: 0.825 - 1.000)
Structure Solution	Direct Methods
Refinement	Full-matrix least-squares on F^2
Function Minimized	Σ w (Fo^2 - Fc^2)^2
Least Squares Weights	w = 1/ [$\sigma^2(Fo^2)$ + (0.0669 · P)^2
	+ 0.9661 · P]
	where P = (Max(Fo^2,0) + 2Fc^2)/3
$2\theta_{max}$ cutoff	31.0^{o}
Anomalous Dispersion	All non-hydrogen atoms
No. Observations (All reflections)	7039
No. Variables	340
Reflection/Parameter Ratio	20.70
Residuals: R1 (I>2.00σ(I))	0.0451
Residuals: R (All reflections)	0.0507
Residuals: wR2 (All reflections)	0.1258
Goodness of Fit Indicator	1.028
Max Shift/Error in Final Cycle	0.001
Maximum peak in Final Diff. Map	0.81 $e^-/Å^3$
Minimum peak in Final Diff. Map	-0.39 $e^-/Å^3$

Table S6-2. Atomic coordinates and B_{iso}/B_{eq} and occupancy

atom	x	y	z	B_{eq}	occ
Si1	0.34744(4)	0.68613(3)	0.79373(3)	1.407(9)	1
Si2	0.19158(4)	0.87639(3)	0.74386(3)	1.423(9)	1
N1	0.25763(12)	0.79500(10)	0.85701(10)	1.490(19)	1
N2	0.30596(13)	0.71024(11)	0.48856(10)	1.75(2)	1
C1	0.27703(14)	0.76287(12)	0.67046(12)	1.61(2)	1
C2	0.28535(14)	0.73433(12)	0.57732(12)	1.54(2)	1
C3	0.23529(17)	0.63308(14)	0.45107(13)	2.13(3)	1
C4	0.3373(3)	0.5889(2)	0.3585(2)	2.64(4)	0.700000
C5	0.1960(4)	0.5362(3)	0.5417(2)	2.98(5)	0.700000
C6	0.0799(9)	0.6923(8)	0.4636(8)	4.57(16)	0.300000
C7	0.2797(14)	0.6367(12)	0.3362(11)	7.0(3)	0.300000
C8	0.2472(9)	0.5172(7)	0.5348(6)	3.33(13)	0.300000
C9	0.1133(3)	0.7004(3)	0.4046(3)	3.42(5)	0.700000
C10	0.26915(15)	0.82378(13)	0.96049(12)	1.67(2)	1
C11	0.39497(16)	0.88026(16)	0.94773(15)	2.49(3)	1
C12	0.27845(19)	0.71566(15)	1.04636(13)	2.55(3)	1
C13	0.14635(17)	0.90507(15)	0.99588(14)	2.38(3)	1
C14	0.53569(14)	0.66780(12)	0.77506(12)	1.58(2)	1
C15	0.60697(15)	0.71008(13)	0.67428(13)	1.90(2)	1
C16	0.74690(16)	0.69624(15)	0.65612(14)	2.30(3)	1
C17	0.81806(16)	0.63965(15)	0.73878(15)	2.44(3)	1
C18	0.74948(16)	0.59718(14)	0.83955(14)	2.21(3)	1
C19	0.61036(15)	0.61099(13)	0.85715(13)	1.87(2)	1
C20	0.29043(15)	0.54393(12)	0.84488(11)	1.60(2)	1
C21	0.37973(15)	0.44282(13)	0.84764(12)	1.80(2)	1
C22	0.33356(17)	0.33813(14)	0.87300(13)	2.17(3)	1
C23	0.19695(17)	0.33275(14)	0.89597(13)	2.23(3)	1
C24	0.10635(17)	0.43162(15)	0.89386(14)	2.32(3)	1
C25	0.15270(16)	0.53576(14)	0.86898(13)	2.05(3)	1
C26	0.00453(14)	0.90408(12)	0.75341(12)	1.65(2)	1
C27	-0.08238(15)	0.85332(13)	0.84075(13)	1.84(2)	1
C28	-0.22113(16)	0.87737(14)	0.84483(14)	2.22(3)	1
C29	-0.27544(17)	0.95056(15)	0.76028(17)	2.74(3)	1
C30	-0.19132(18)	0.99957(16)	0.67115(17)	3.14(4)	1
C31	-0.05282(17)	0.97701(15)	0.66823(15)	2.55(3)	1
C32	0.25772(14)	1.01459(12)	0.69093(12)	1.59(2)	1

C33	0.18161(15)	1.11855(13)	0.70448(13)	1.91(2)	1
C34	0.23668(17)	1.21904(13)	0.66974(13)	2.18(3)	1
C35	0.36967(17)	1.21721(14)	0.62098(13)	2.17(3)	1
C36	0.44672(16)	1.11542(14)	0.60614(14)	2.24(3)	1
C37	0.39137(15)	1.01530(13)	0.64019(13)	1.98(2)	1

$B_{eq} = 8/3\ \pi^2(U_{11}(aa^*)^2 + U_{22}(bb^*)^2 + U_{33}(cc^*)^2 + 2U_{12}(aa^*bb^*)\cos\gamma + 2U_{13}(aa^*cc^*)\cos\beta + 2U_{23}(bb^*cc^*)\cos\alpha)$

Table S6-3. Anisotropic displacement parameters

atom	U_{11}	U_{22}	U_{33}	U_{12}	U_{13}	U_{23}
Si1	0.01697(19)	0.01759(19)	0.01817(19)	-0.00017(14)	-0.00307(14)	-0.00341(14)
Si2	0.01594(19)	0.01687(19)	0.0205(2)	-0.00109(14)	-0.00323(14)	-0.00262(14)
N1	0.0177(6)	0.0188(6)	0.0198(6)	-0.0007(4)	-0.0031(4)	-0.0045(5)
N2	0.0238(6)	0.0221(6)	0.0205(6)	-0.0046(5)	-0.0017(5)	-0.0042(5)
C1	0.0199(7)	0.0194(7)	0.0209(7)	-0.0010(5)	-0.0035(5)	-0.0028(5)
C2	0.0171(6)	0.0163(6)	0.0230(7)	-0.0023(5)	-0.0029(5)	0.0004(5)
C3	0.0302(8)	0.0244(8)	0.0293(8)	-0.0068(6)	-0.0071(6)	-0.0071(6)
C10	0.0193(7)	0.0244(7)	0.0209(7)	-0.0013(5)	-0.0037(5)	-0.0072(6)
C11	0.0245(8)	0.0413(10)	0.0344(9)	-0.0086(7)	-0.0041(7)	-0.0164(7)
C12	0.0440(10)	0.0309(9)	0.0213(8)	-0.0019(7)	-0.0080(7)	-0.0040(6)
C13	0.0250(8)	0.0367(9)	0.0308(8)	0.0049(6)	-0.0055(6)	-0.0174(7)
C14	0.0185(7)	0.0192(7)	0.0225(7)	-0.0006(5)	-0.0028(5)	-0.0066(5)
C15	0.0220(7)	0.0247(7)	0.0242(7)	-0.0006(6)	-0.0023(6)	-0.0053(6)
C16	0.0230(8)	0.0328(9)	0.0311(8)	-0.0052(6)	0.0032(6)	-0.0101(7)
C17	0.0181(7)	0.0357(9)	0.0421(10)	-0.0015(6)	-0.0034(6)	-0.0173(7)
C18	0.0239(8)	0.0297(8)	0.0333(8)	0.0022(6)	-0.0106(6)	-0.0114(7)
C19	0.0235(7)	0.0240(7)	0.0238(7)	-0.0004(6)	-0.0047(6)	-0.0067(6)
C20	0.0218(7)	0.0210(7)	0.0176(6)	-0.0018(5)	-0.0033(5)	-0.0040(5)
C21	0.0220(7)	0.0223(7)	0.0229(7)	-0.0003(6)	-0.0031(6)	-0.0046(6)
C22	0.0324(8)	0.0213(7)	0.0279(8)	-0.0011(6)	-0.0039(6)	-0.0053(6)
C23	0.0356(9)	0.0246(8)	0.0253(8)	-0.0100(6)	-0.0019(6)	-0.0038(6)
C24	0.0248(8)	0.0324(9)	0.0316(8)	-0.0084(6)	-0.0008(6)	-0.0072(7)
C25	0.0219(7)	0.0255(8)	0.0293(8)	-0.0015(6)	-0.0028(6)	-0.0056(6)
C26	0.0170(6)	0.0189(7)	0.0275(7)	-0.0021(5)	-0.0055(6)	-0.0045(6)
C27	0.0204(7)	0.0226(7)	0.0271(8)	-0.0037(6)	-0.0046(6)	-0.0039(6)
C28	0.0204(7)	0.0284(8)	0.0362(9)	-0.0072(6)	-0.0031(6)	-0.0061(7)
C29	0.0190(7)	0.0322(9)	0.0531(11)	-0.0046(6)	-0.0117(7)	-0.0027(8)
C30	0.0255(8)	0.0380(10)	0.0510(11)	-0.0060(7)	-0.0183(8)	0.0125(8)

C31	0.0242(8)	0.0325(9)	0.0366(9)	-0.0068(7)	-0.0097(7)	0.0071(7)
C32	0.0190(7)	0.0193(7)	0.0217(7)	-0.0023(5)	-0.0047(5)	-0.0022(5)
C33	0.0217(7)	0.0224(7)	0.0273(8)	-0.0019(6)	-0.0020(6)	-0.0046(6)
C34	0.0318(8)	0.0203(7)	0.0307(8)	-0.0033(6)	-0.0051(7)	-0.0048(6)
C35	0.0319(8)	0.0240(8)	0.0275(8)	-0.0103(6)	-0.0071(6)	0.0005(6)
C36	0.0220(7)	0.0306(8)	0.0302(8)	-0.0077(6)	-0.0022(6)	0.0004(6)
C37	0.0195(7)	0.0233(7)	0.0298(8)	-0.0015(6)	-0.0026(6)	-0.0020(6)

The general temperature factor expression: $\exp(-2\pi^2(a^{*2}U_{11}h^2 + b^{*2}U_{22}k^2 + c^{*2}U_{33}l^2 + 2a^*b^*U_{12}hk + 2a^*c^*U_{13}hl + 2b^*c^*U_{23}kl))$

Table S6-4. Bond lengths (Å)

atom	atom	distance	atom	atom	distance
Si1	Si2	2.6228(7)	Si1	N1	1.7589(13)
Si1	C1	1.8669(16)	Si1	C14	1.8897(15)
Si1	C20	1.8876(16)	Si2	N1	1.7585(13)
Si2	C1	1.8648(16)	Si2	C26	1.8835(15)
Si2	C32	1.8862(16)	N1	C10	1.489(2)
N2	C2	1.221(2)	N2	C3	1.500(3)
C1	C2	1.312(2)	C3	C4	1.567(3)
C3	C5	1.530(3)	C3	C6	1.633(9)
C3	C7	1.465(14)	C3	C8	1.591(7)
C3	C9	1.524(4)	C4	C7	0.805(13)
C5	C8	0.537(9)	C6	C9	0.770(10)
C7	C9	1.900(13)	C10	C11	1.544(3)
C10	C12	1.536(2)	C10	C13	1.535(2)
C14	C15	1.411(2)	C14	C19	1.412(2)
C15	C16	1.404(2)	C16	C17	1.396(3)
C17	C18	1.401(2)	C18	C19	1.396(2)
C20	C21	1.410(2)	C20	C25	1.413(2)
C21	C22	1.404(2)	C22	C23	1.395(2)
C23	C24	1.396(2)	C24	C25	1.399(3)
C26	C27	1.408(2)	C26	C31	1.410(2)
C27	C28	1.402(2)	C28	C29	1.391(3)
C29	C30	1.398(3)	C30	C31	1.401(3)
C32	C33	1.407(2)	C32	C37	1.413(2)
C33	C34	1.402(2)	C34	C35	1.397(2)
C35	C36	1.393(2)	C36	C37	1.399(2)

Table S6-5. Bond angles (°)

atom	atom	atom	angle	atom	atom	atom	angle
Si2	Si1	N1	41.78(4)	Si2	Si1	C1	45.31(5)
Si2	Si1	C14	125.46(5)	Si2	Si1	C20	125.46(5)
N1	Si1	C1	87.05(7)	N1	Si1	C14	118.31(7)
N1	Si1	C20	115.75(6)	C1	Si1	C14	113.30(6)
C1	Si1	C20	111.97(7)	C14	Si1	C20	108.95(6)
Si1	Si2	N1	41.79(4)	Si1	Si2	C1	45.38(5)
Si1	Si2	C26	129.33(5)	Si1	Si2	C32	122.58(5)
N1	Si2	C1	87.13(7)	N1	Si2	C26	117.24(6)
N1	Si2	C32	114.22(7)	C1	Si2	C26	115.51(8)
C1	Si2	C32	113.69(7)	C26	Si2	C32	108.09(6)
Si1	N1	Si2	96.43(7)	Si1	N1	C10	129.98(9)
Si2	N1	C10	131.25(10)	C2	N2	C3	126.79(13)
Si1	C1	Si2	89.31(7)	Si1	C1	C2	130.65(11)
Si2	C1	C2	139.88(11)	N2	C2	C1	173.53(16)
N2	C3	C4	104.87(16)	N2	C3	C5	111.54(19)
N2	C3	C6	103.7(4)	N2	C3	C7	109.4(6)
N2	C3	C8	106.4(4)	N2	C3	C9	109.30(18)
C4	C3	C5	111.27(18)	C4	C3	C6	135.1(4)
C4	C3	C7	30.5(5)	C4	C3	C8	95.5(3)
C4	C3	C9	108.66(19)	C5	C3	C6	89.1(3)
C5	C3	C7	130.8(6)	C5	C3	C8	19.7(3)
C5	C3	C9	111.0(2)	C6	C3	C7	106.5(6)
C6	C3	C8	108.8(4)	C6	C3	C9	28.0(4)
C7	C3	C8	120.8(6)	C7	C3	C9	78.9(5)
C8	C3	C9	129.2(4)	C3	C4	C7	67.7(10)
C3	C5	C8	86.6(8)	C3	C6	C9	68.1(7)
C3	C7	C4	81.8(10)	C3	C7	C9	51.9(4)
C4	C7	C9	132.1(12)	C3	C8	C5	73.7(8)
C3	C9	C6	83.9(7)	C3	C9	C7	49.2(4)
C6	C9	C7	132.2(8)	N1	C10	C11	110.04(12)
N1	C10	C12	109.02(14)	N1	C10	C13	110.18(13)
C11	C10	C12	109.64(14)	C11	C10	C13	108.79(15)
C12	C10	C13	109.16(12)	Si1	C14	C15	119.37(11)
Si1	C14	C19	123.07(10)	C15	C14	C19	117.54(13)
C14	C15	C16	121.32(15)	C15	C16	C17	119.86(14)
C16	C17	C18	119.84(15)	C17	C18	C19	120.08(15)
C14	C19	C18	121.36(14)	Si1	C20	C21	122.34(12)

Si1	C20	C25	119.78(11)	C21	C20	C25	117.39(14)
C20	C21	C22	121.30(14)	C21	C22	C23	120.00(14)
C22	C23	C24	119.86(16)	C23	C24	C25	119.99(16)
C20	C25	C24	121.45(14)	Si2	C26	C27	123.33(11)
Si2	C26	C31	119.06(11)	C27	C26	C31	117.59(14)
C26	C27	C28	121.31(14)	C27	C28	C29	120.03(14)
C28	C29	C30	119.83(16)	C29	C30	C31	119.98(17)
C26	C31	C30	121.22(15)	Si2	C32	C33	122.84(11)
Si2	C32	C37	119.55(11)	C33	C32	C37	117.53(14)
C32	C33	C34	121.26(14)	C33	C34	C35	120.04(14)
C34	C35	C36	119.73(16)	C35	C36	C37	120.16(15)
C32	C37	C36	121.27(14)				

Table S6-6. Torsion Angles(°)

(Those having bond angles > 160 or < 20 degrees are excluded.)

atom1	atom2	atom3	atom4	angle	atom1	atom2	atom3	atom4	angle
Si2	Si1	N1	Si2	0.000(15)	Si2	Si1	N1	C10	-163.82(14)
N1	Si1	Si2	N1	0.00(6)	N1	Si1	Si2	C1	-176.84(7)
N1	Si1	Si2	C26	-88.35(7)	N1	Si1	Si2	C32	90.90(7)
Si2	Si1	C1	Si2	-0.000(13)	Si2	Si1	C1	C2	-176.10(17)
C1	Si1	Si2	N1	176.84(7)	C1	Si1	Si2	C1	-0.00(6)
C1	Si1	Si2	C26	88.49(7)	C1	Si1	Si2	C32	-92.26(7)
Si2	Si1	C14	C15	-51.29(14)	Si2	Si1	C14	C19	130.16(9)
C14	Si1	Si2	N1	-94.39(7)	C14	Si1	Si2	C1	88.77(7)
C14	Si1	Si2	C26	177.26(7)	C14	Si1	Si2	C32	-3.49(7)
Si2	Si1	C20	C21	165.59(7)	Si2	Si1	C20	C25	-6.22(13)
C20	Si1	Si2	N1	90.19(6)	C20	Si1	Si2	C1	-86.66(6)
C20	Si1	Si2	C26	1.84(7)	C20	Si1	Si2	C32	-178.91(6)
N1	Si1	C1	Si2	2.11(6)	N1	Si1	C1	C2	-173.99(13)
C1	Si1	N1	Si2	-2.25(7)	C1	Si1	N1	C10	-166.07(11)
N1	Si1	C14	C15	-100.27(12)	N1	Si1	C14	C19	81.18(12)
C14	Si1	N1	Si2	112.72(7)	C14	Si1	N1	C10	-51.10(12)
N1	Si1	C20	C21	-146.71(10)	N1	Si1	C20	C25	41.48(13)
C20	Si1	N1	Si2	-115.27(7)	C20	Si1	N1	C10	80.90(12)
C1	Si1	C14	C15	-0.58(14)	C1	Si1	C14	C19	-179.13(11)
C14	Si1	C1	Si2	-117.55(7)	C14	Si1	C1	C2	66.35(15)
C1	Si1	C20	C21	115.65(11)	C1	Si1	C20	C25	-56.16(12)
C20	Si1	C1	Si2	118.74(7)	C20	Si1	C1	C2	-57.36(14)
C14	Si1	C20	C21	-10.47(13)	C14	Si1	C20	C25	177.72(10)

C20	Si1	C14	C15	124.77(11)	C20	Si1	C14	C19	-53.78(14)
Si1	Si2	N1	Si1	-0.000(15)	Si1	Si2	N1	C10	163.50(14)
Si1	Si2	C1	Si1	-0.000(13)	Si1	Si2	C1	C2	175.4(2)
Si1	Si2	C26	C27	41.37(15)	Si1	Si2	C26	C31	-137.01(8)
Si1	Si2	C32	C33	-153.28(9)	Si1	Si2	C32	C37	23.29(14)
N1	Si2	C1	Si1	-2.11(6)	N1	Si2	C1	C2	173.30(16)
C1	Si2	N1	Si1	2.25(7)	C1	Si2	N1	C10	165.75(11)
N1	Si2	C26	C27	-7.15(15)	N1	Si2	C26	C31	174.47(10)
C26	Si2	N1	Si1	119.58(7)	C26	Si2	N1	C10	-76.91(12)
N1	Si2	C32	C33	-106.34(12)	N1	Si2	C32	C37	70.23(13)
C32	Si2	N1	Si1	-112.50(7)	C32	Si2	N1	C10	51.01(12)
C1	Si2	C26	C27	93.41(13)	C1	Si2	C26	C31	-84.98(12)
C26	Si2	C1	Si1	-121.04(6)	C26	Si2	C1	C2	54.37(17)
C1	Si2	C32	C33	155.77(11)	C1	Si2	C32	C37	-27.67(14)
C32	Si2	C1	Si1	113.15(7)	C32	Si2	C1	C2	-71.45(18)
C26	Si2	C32	C33	26.11(14)	C26	Si2	C32	C37	-157.33(11)
C32	Si2	C26	C27	-137.96(12)	C32	Si2	C26	C31	43.65(13)
Si1	N1	C10	C11	75.08(14)	Si1	N1	C10	C12	-45.19(16)
Si1	N1	C10	C13	-164.96(8)	Si2	N1	C10	C11	-83.31(14)
Si2	N1	C10	C12	156.42(9)	Si2	N1	C10	C13	36.65(17)
C2	N2	C3	C4	-154.51(13)	C2	N2	C3	C5	-33.96(19)
C2	N2	C3	C6	60.54(17)	C2	N2	C3	C7	173.84(13)
C2	N2	C3	C8	-54.09(18)	C2	N2	C3	C9	89.15(16)
N2	C3	C4	C7	-103.1(2)	N2	C3	C5	C8	-78.4(4)
N2	C3	C6	C9	105.5(7)	N2	C3	C7	C4	86.4(11)
N2	C3	C7	C9	-106.7(2)	N2	C3	C8	C5	108.2(9)
N2	C3	C9	C6	-82.8(3)	N2	C3	C9	C7	106.88(13)
C4	C3	C5	C8	38.3(5)	C5	C3	C4	C7	136.2(3)
C4	C3	C6	C9	-22.7(10)	C6	C3	C4	C7	24.7(6)
C4	C3	C7	C4	-0.0(2)	C4	C3	C7	C9	166.8(12)
C7	C3	C4	C7	0.0(12)	C4	C3	C8	C5	-144.5(9)
C8	C3	C4	C7	148.3(4)	C4	C3	C9	C6	163.3(3)
C4	C3	C9	C7	-7.02(14)	C9	C3	C4	C7	13.7(3)
C5	C3	C6	C9	-142.6(7)	C6	C3	C5	C8	177.2(6)
C5	C3	C7	C4	-58.6(14)	C5	C3	C7	C9	108.3(5)
C7	C3	C5	C8	66.0(9)	C5	C3	C9	C6	40.6(3)
C5	C3	C9	C7	-129.7(2)	C9	C3	C5	C8	159.4(4)
C6	C3	C7	C4	-162.1(10)	C6	C3	C7	C9	4.7(5)
C7	C3	C6	C9	-9.9(10)	C6	C3	C8	C5	-2.9(12)

C8	C3	C6	C9	-141.6(7)	C6	C3	C9	C6	-0.0(8)
C6	C3	C9	C7	-170.3(8)	C9	C3	C6	C9	-0.0(3)
C7	C3	C8	C5	-126.4(11)	C8	C3	C7	C4	-37.6(14)
C8	C3	C7	C9	129.3(5)	C7	C3	C9	C6	170.3(7)
C7	C3	C9	C7	-0.0(6)	C9	C3	C7	C4	-166.8(12)
C9	C3	C7	C9	0.00(13)	C8	C3	C9	C6	49.4(5)
C8	C3	C9	C7	-120.9(5)	C9	C3	C8	C5	-25.0(12)
C3	C4	C7	C3	-0.00(8)	C3	C4	C7	C9	-14.0(13)
C3	C5	C8	C3	0.00(7)	C3	C6	C9	C3	0.00(7)
C3	C6	C9	C7	9.9(9)	C3	C7	C9	C3	-0.00(9)
C3	C7	C9	C6	-13.1(9)	C4	C7	C9	C3	17.7(17)
C4	C7	C9	C6	5(3)	Si1	C14	C15	C16	-178.61(10)
Si1	C14	C19	C18	178.66(10)	C15	C14	C19	C18	0.1(2)
C19	C14	C15	C16	0.0(2)	C14	C15	C16	C17	0.0(3)
C15	C16	C17	C18	-0.2(3)	C16	C17	C18	C19	0.3(3)
C17	C18	C19	C14	-0.2(3)	Si1	C20	C21	C22	-171.79(10)
Si1	C20	C25	C24	171.74(10)	C21	C20	C25	C24	-0.5(2)
C25	C20	C21	C22	0.2(2)	C20	C21	C22	C23	0.1(2)
C21	C22	C23	C24	-0.1(2)	C22	C23	C24	C25	-0.1(3)
C23	C24	C25	C20	0.4(3)	Si2	C26	C27	C28	179.37(11)
Si2	C26	C31	C30	179.48(12)	C27	C26	C31	C30	1.0(3)
C31	C26	C27	C28	-2.2(2)	C26	C27	C28	C29	1.6(3)
C27	C28	C29	C30	0.3(3)	C28	C29	C30	C31	-1.5(3)
C29	C30	C31	C26	0.8(3)	Si2	C32	C33	C34	176.10(10)
Si2	C32	C37	C36	-175.77(10)	C33	C32	C37	C36	1.0(2)
C37	C32	C33	C34	-0.5(2)	C32	C33	C34	C35	-0.3(3)
C33	C34	C35	C36	0.6(3)	C34	C35	C36	C37	-0.2(3)
C35	C36	C37	C32	-0.6(3)					

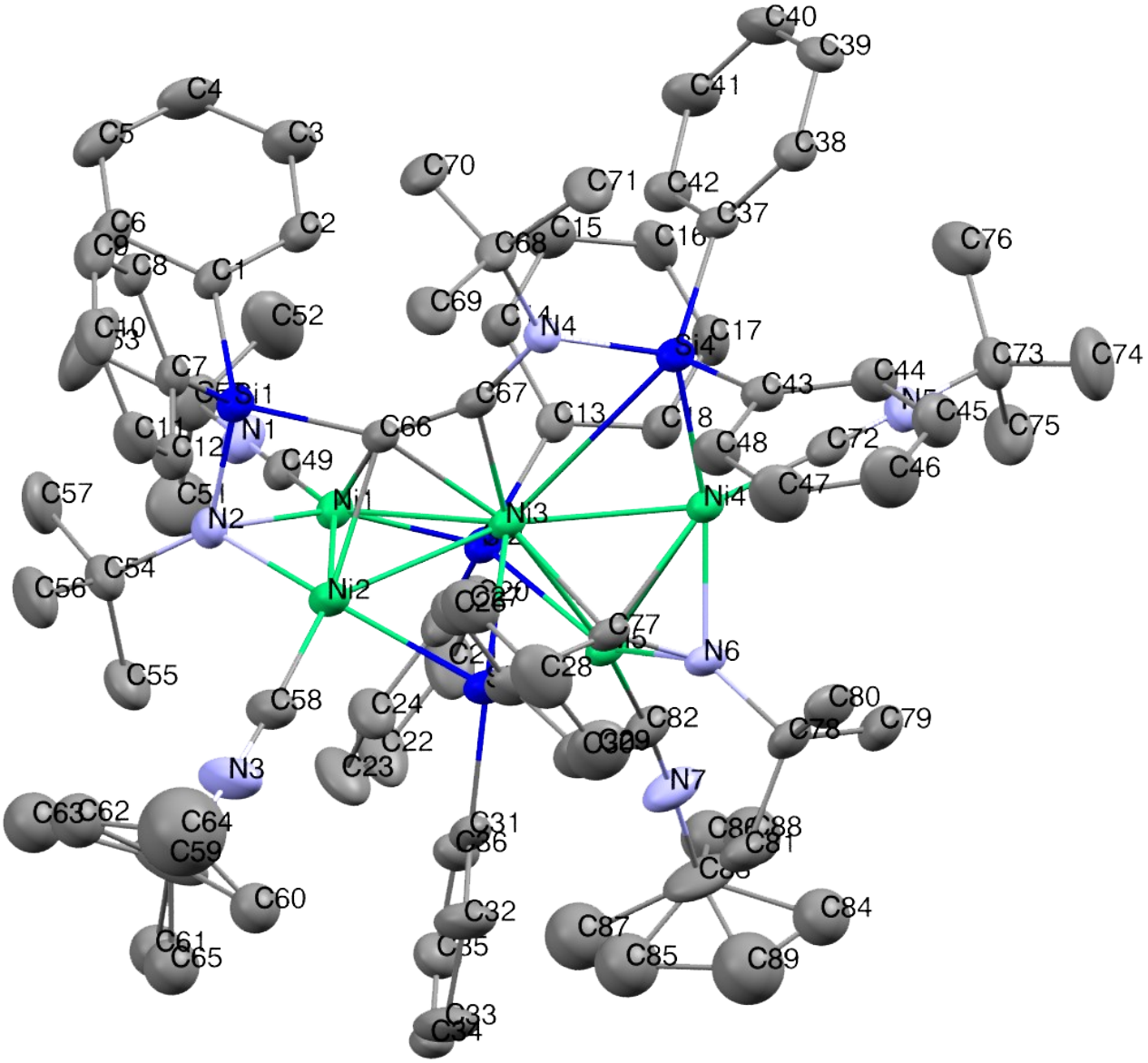


Figure S10. ORTEP drawing of **5** (50% probability of the thermal ellipsoids). Hydrogen atoms were omitted for clarity. Two ^{t}Bu groups were found to be disordered, and the site occupancy factor for six methyl groups was defined to be 0.5.

Table S7-1. Crystal data and structure refinement for **5**.

Empirical Formula	$C_{83}H_{103}N_7Ni_5Si_4$
Formula Weight	1604.62
Crystal Color, Habit	darkred, platelet
Crystal Dimensions	0.100 X 0.100 X 0.010 mm
Crystal System	triclinic
Lattice Type	Primitive
Lattice Parameters	a = 13.9645(4) Å
	b = 14.7686(3) Å
	c = 24.4091(5) Å
	α = 89.5959(19) º
	β = 79.412(2) º
	γ = 63.052(3) º
	V = 4394.3(2) Å^3
Space Group	P-1 (#2)
Z value	2
D_{calc}	1.213 g/cm^3
F_{000}	1692.00
μ(MoKα)	11.492 cm^{-1}
Diffractometer	Saturn724
Radiation	MoKα (λ = 0.71075 Å)
	graphite monochromated
Temperature	-160.0ºC
Detector Aperture	72.8 x 72.8 mm
Data Images	1440 exposures
ω oscillation Range (χ=45.0, ϕ=0.0)	-70.0 - 110.0º
Exposure Rate	32.0 sec./º
Detector Swing Angle	20.00º
ω oscillation Range (χ=45.0, ϕ=90.0)	-70.0 - 110.0º
Exposure Rate	32.0 sec./º
Detector Swing Angle	20.00º
ω oscillation Range (χ=45.0, ϕ=180.0)	-70.0 - 110.0º
Exposure Rate	32.0 sec./º
Detector Swing Angle	20.00º
ω oscillation Range (χ=45.0, ϕ=270.0)	-70.0 - 110.0º
Exposure Rate	32.0 sec./º
Detector Swing Angle	20.00º

Detector Position	0.00 mm
Pixel Size	0.035 mm
$2\theta_{max}$	62.4°
No. of Reflections Measured	Total: 83661
	Unique: 25607 (R_{int} = 0.0676)
Corrections	Lorentz-polarization
	Absorption
	(trans. factors: 0.882 - 0.989)
Structure Solution	Direct Methods (SHELXT Version 2014/5)
Refinement	Full-matrix least-squares on F^2
Function Minimized	Σ w (Fo^2 - Fc^2)^2
Least Squares Weights	w = 1/ [$\sigma^2(Fo^2)$ + (0.0707 · P)^2
	+ 0.0000 · P]
	where P = (Max(Fo^2,0) + 2Fc^2)/3
$2\theta_{max}$ cutoff	62.4°
Anomalous Dispersion	All non-hydrogen atoms
No. Observations (All reflections)	25607
No. Variables	886
Reflection/Parameter Ratio	28.90
Residuals: R1 (I>2.00σ(I))	0.0591
Residuals: R (All reflections)	0.1147
Residuals: wR2 (All reflections)	0.1462
Goodness of Fit Indicator	0.981
Max Shift/Error in Final Cycle	0.001
Maximum peak in Final Diff. Map	0.82 $e^-/Å^3$
Minimum peak in Final Diff. Map	-0.43 $e^-/Å^3$

Table S7-2. Atomic coordinates and B_{iso}/B_{eq} and occupancy

atom	x	y	z	B_{eq}	occ
Ni1	0.71526(3)	0.67216(3)	0.32618(2)	1.862(8)	1
Ni2	0.70568(3)	0.81006(3)	0.26213(2)	2.075(8)	1
Ni3	0.64033(3)	0.68168(3)	0.23767(2)	1.593(7)	1
Ni4	0.58556(3)	0.59855(3)	0.17150(2)	1.699(7)	1
Ni5	0.78953(3)	0.51846(3)	0.18846(2)	1.896(8)	1
Si1	0.56558(7)	0.86202(6)	0.36208(4)	1.852(14)	1
Si2	0.76467(7)	0.51998(6)	0.28227(3)	1.776(14)	1
Si3	0.73238(7)	0.75876(7)	0.17012(4)	2.138(16)	1
Si4	0.41767(7)	0.70660(6)	0.21140(3)	1.647(13)	1
N1	0.7702(2)	0.5574(2)	0.42308(12)	2.75(5)	1
N2	0.7058(2)	0.80924(19)	0.34365(11)	2.10(5)	1
N3	0.8232(3)	0.9238(2)	0.21684(16)	4.07(7)	1
N4	0.4017(2)	0.81114(18)	0.25451(10)	1.76(4)	1
N5	0.5071(2)	0.4504(2)	0.15003(12)	2.44(5)	1
N6	0.7242(2)	0.56776(19)	0.12478(10)	1.91(4)	1
N7	0.9863(3)	0.3212(2)	0.15767(12)	3.30(6)	1
C1	0.5031(3)	0.8214(2)	0.42683(13)	1.96(5)	1
C2	0.4701(3)	0.7476(2)	0.42058(14)	2.31(6)	1
C3	0.4248(3)	0.7133(3)	0.46664(15)	3.03(7)	1
C4	0.4141(3)	0.7525(3)	0.51983(15)	3.28(7)	1
C5	0.4465(3)	0.8251(3)	0.52732(15)	3.15(7)	1
C6	0.4898(3)	0.8599(3)	0.48163(13)	2.60(6)	1
C7	0.4876(3)	1.0057(2)	0.36515(13)	2.04(5)	1
C8	0.3926(3)	1.0637(2)	0.40472(14)	2.21(6)	1
C9	0.3329(3)	1.1688(3)	0.40309(15)	2.68(6)	1
C10	0.3676(3)	1.2174(3)	0.36151(16)	2.83(6)	1
C11	0.4607(3)	1.1612(3)	0.32137(15)	2.85(6)	1
C12	0.5195(3)	1.0579(3)	0.32335(15)	2.61(6)	1
C13	0.6729(2)	0.4582(2)	0.30738(12)	1.82(5)	1
C14	0.6056(3)	0.4849(2)	0.36012(13)	2.22(6)	1
C15	0.5431(3)	0.4355(3)	0.38035(15)	2.73(6)	1
C16	0.5473(3)	0.3589(3)	0.34739(15)	2.85(6)	1
C17	0.6116(3)	0.3319(3)	0.29497(15)	2.95(7)	1
C18	0.6729(3)	0.3809(3)	0.27486(14)	2.61(6)	1
C19	0.9030(3)	0.4247(2)	0.29855(13)	2.29(6)	1
C20	0.9246(3)	0.3273(3)	0.31365(15)	2.86(6)	1
C21	1.0276(3)	0.2585(3)	0.32250(19)	4.13(9)	1

C22	1.1109(3)	0.2853(3)	0.3166(2)	4.81(11)	1
C23	1.0915(3)	0.3815(3)	0.3020(2)	4.42(10)	1
C24	0.9886(3)	0.4497(3)	0.29303(16)	3.14(7)	1
C25	0.6537(3)	0.8708(3)	0.13094(14)	2.58(6)	1
C26	0.5689(3)	0.9596(3)	0.16047(16)	2.83(6)	1
C27	0.5080(3)	1.0439(3)	0.13376(18)	3.55(8)	1
C28	0.5316(4)	1.0409(3)	0.07660(19)	4.10(9)	1
C29	0.6143(4)	0.9537(3)	0.04561(18)	4.32(9)	1
C30	0.6730(3)	0.8705(3)	0.07292(16)	3.58(8)	1
C31	0.8849(3)	0.7052(3)	0.14005(13)	2.42(6)	1
C32	0.9297(3)	0.7502(3)	0.10007(16)	3.47(8)	1
C33	1.0422(3)	0.7112(3)	0.08245(18)	4.00(9)	1
C34	1.1120(3)	0.6263(3)	0.10478(16)	3.37(8)	1
C35	1.0700(3)	0.5803(3)	0.14371(16)	3.36(7)	1
C36	0.9569(3)	0.6200(3)	0.16142(14)	2.77(6)	1
C37	0.3239(2)	0.6579(2)	0.25060(13)	1.92(5)	1
C38	0.2274(3)	0.6671(3)	0.23659(14)	2.39(6)	1
C39	0.1627(3)	0.6294(3)	0.26860(16)	2.98(7)	1
C40	0.1928(3)	0.5829(3)	0.31603(17)	3.43(7)	1
C41	0.2880(3)	0.5706(3)	0.33024(16)	3.29(7)	1
C42	0.3530(3)	0.6068(3)	0.29764(14)	2.53(6)	1
C43	0.3773(3)	0.7581(2)	0.14373(13)	2.07(5)	1
C44	0.3428(3)	0.7113(3)	0.10769(14)	2.62(6)	1
C45	0.3255(3)	0.7456(3)	0.05550(16)	3.78(8)	1
C46	0.3439(4)	0.8256(4)	0.03743(17)	4.43(9)	1
C47	0.3798(4)	0.8727(3)	0.07179(17)	3.90(8)	1
C48	0.3963(3)	0.8386(3)	0.12426(14)	2.71(6)	1
C49	0.7510(3)	0.5998(2)	0.38323(13)	2.15(5)	1
C50	0.7955(3)	0.5032(3)	0.47246(15)	3.12(7)	1
C51	0.9201(4)	0.4395(4)	0.46108(19)	4.61(9)	1
C52	0.7385(4)	0.4376(4)	0.4799(2)	5.56(12)	1
C53	0.7570(5)	0.5806(4)	0.52163(17)	5.86(13)	1
C54	0.7834(3)	0.8241(3)	0.37195(16)	2.92(7)	1
C55	0.8997(3)	0.7515(3)	0.34200(18)	3.77(8)	1
C56	0.7666(4)	0.9326(3)	0.3701(2)	4.29(9)	1
C57	0.7665(4)	0.8032(4)	0.43319(17)	4.49(9)	1
C58	0.7788(3)	0.8765(3)	0.23375(16)	2.90(7)	1
C59	0.8788(3)	0.9854(3)	0.2000(2)	4.59(10)	1
C60	0.8581(6)	1.0166(6)	0.1359(3)	3.40(14)	1/2

C61	1.0031(8)	0.9054(7)	0.1954(4)	3.81(19)	1/2
C62	0.8367(7)	1.0745(7)	0.2353(4)	3.99(16)	1/2
C63	0.8758(8)	1.0461(8)	0.2629(4)	4.85(19)	1/2
C64	0.7984(14)	1.0733(13)	0.1829(7)	10.3(4)	1/2
C65	0.9948(8)	0.9284(8)	0.1768(4)	4.1(2)	1/2
C66	0.5602(2)	0.8011(2)	0.29766(12)	1.74(5)	1
C67	0.4987(2)	0.7865(2)	0.26816(12)	1.71(5)	1
C68	0.3015(3)	0.9068(2)	0.28142(14)	2.28(6)	1
C69	0.3224(3)	0.9985(2)	0.26799(16)	2.89(7)	1
C70	0.2776(3)	0.9002(3)	0.34420(14)	3.01(7)	1
C71	0.2045(3)	0.9174(3)	0.25715(16)	3.06(7)	1
C72	0.5368(3)	0.5098(3)	0.15678(13)	2.20(6)	1
C73	0.4789(3)	0.3680(3)	0.14474(16)	2.93(7)	1
C74	0.4261(4)	0.3808(4)	0.0945(2)	4.97(10)	1
C75	0.5854(3)	0.2697(3)	0.13682(19)	4.04(8)	1
C76	0.4000(4)	0.3743(3)	0.19839(19)	4.39(9)	1
C77	0.6994(2)	0.6498(2)	0.15866(12)	1.82(5)	1
C78	0.7597(3)	0.5457(3)	0.06326(13)	2.66(6)	1
C79	0.7726(3)	0.4392(3)	0.05105(16)	3.51(8)	1
C80	0.6705(3)	0.6227(3)	0.03637(14)	3.36(7)	1
C81	0.8672(3)	0.5480(3)	0.04315(14)	3.19(7)	1
C82	0.9055(3)	0.3948(3)	0.17239(14)	2.62(6)	1
C83	1.0923(3)	0.2378(3)	0.13426(18)	4.33(9)	1
C84	1.0811(7)	0.2133(7)	0.0695(4)	4.32(17)	1/2
C85	1.1742(9)	0.2702(8)	0.1298(5)	5.4(2)	1/2
C86	1.1105(8)	0.1469(8)	0.1674(4)	4.1(2)	1/2
C87	1.1811(9)	0.2580(9)	0.1658(5)	6.0(2)	1/2
C88	1.0949(9)	0.1379(8)	0.1502(5)	4.6(2)	1/2
C89	1.1297(10)	0.2557(10)	0.0751(5)	6.9(3)	1/2

B_{eq} = 8/3 $\pi^2(U_{11}(aa^*)^2 + U_{22}(bb^*)^2 + U_{33}(cc^*)^2 + 2U_{12}(aa^*bb^*)\cos\gamma + 2U_{13}(aa^*cc^*)\cos\beta + 2U_{23}(bb^*cc^*)\cos\alpha)$

Table S7-3. Anisotropic displacement parameters

atom	U_{11}	U_{22}	U_{33}	U_{12}	U_{13}	U_{23}
Ni1	0.0245(2)	0.0229(2)	0.0205(2)	-0.00815(17)	-0.00523(16)	0.00123(15)
Ni2	0.0268(2)	0.0264(2)	0.0248(2)	-0.01392(18)	0.00123(17)	0.00058(16)
Ni3	0.01901(19)	0.02044(19)	0.01700(18)	-0.00645(16)	-0.00130(15)	0.00184(14)
Ni4	0.0200(2)	0.0222(2)	0.01844(19)	-0.00703(16)	-0.00188(15)	0.00120(15)
Ni5	0.0205(2)	0.0236(2)	0.01895(19)	-0.00313(16)	-0.00203(16)	0.00086(15)

Si1	0.0253(4)	0.0211(4)	0.0221(4)	-0.0101(4)	-0.0017(4)	-0.0004(3)
Si2	0.0212(4)	0.0229(4)	0.0192(4)	-0.0064(4)	-0.0043(3)	0.0017(3)
Si3	0.0266(5)	0.0281(5)	0.0232(4)	-0.0122(4)	0.0014(4)	0.0046(4)
Si4	0.0194(4)	0.0199(4)	0.0197(4)	-0.0063(3)	-0.0033(3)	0.0035(3)
N1	0.0382(17)	0.0337(16)	0.0240(15)	-0.0085(13)	-0.0087(13)	0.0021(12)
N2	0.0288(14)	0.0255(14)	0.0268(14)	-0.0138(12)	-0.0046(12)	-0.0014(11)
N3	0.0415(19)	0.0331(18)	0.074(3)	-0.0210(16)	0.0125(17)	-0.0014(17)
N4	0.0198(13)	0.0210(13)	0.0241(13)	-0.0078(11)	-0.0044(11)	0.0022(10)
N5	0.0288(15)	0.0280(15)	0.0342(16)	-0.0098(13)	-0.0106(12)	-0.0018(12)
N6	0.0199(13)	0.0295(14)	0.0179(12)	-0.0081(11)	-0.0003(10)	0.0034(10)
N7	0.0355(17)	0.0332(16)	0.0315(16)	0.0020(14)	0.0037(14)	0.0003(13)
C1	0.0272(16)	0.0222(15)	0.0209(15)	-0.0081(13)	-0.0038(13)	0.0012(12)
C2	0.0284(17)	0.0274(17)	0.0261(17)	-0.0095(14)	-0.0005(14)	-0.0014(13)
C3	0.043(2)	0.0342(19)	0.038(2)	-0.0202(17)	-0.0011(17)	0.0097(16)
C4	0.040(2)	0.046(2)	0.0286(19)	-0.0137(18)	-0.0000(16)	0.0175(16)
C5	0.041(2)	0.039(2)	0.0220(17)	-0.0054(17)	-0.0017(15)	0.0023(14)
C6	0.040(2)	0.0305(18)	0.0232(17)	-0.0120(16)	-0.0053(15)	-0.0005(13)
C7	0.0300(17)	0.0257(16)	0.0245(16)	-0.0144(14)	-0.0072(13)	-0.0001(13)
C8	0.0304(18)	0.0267(17)	0.0258(16)	-0.0116(14)	-0.0067(14)	-0.0009(13)
C9	0.0324(19)	0.0258(17)	0.038(2)	-0.0080(15)	-0.0092(16)	-0.0044(14)
C10	0.040(2)	0.0219(17)	0.047(2)	-0.0115(16)	-0.0189(17)	0.0016(15)
C11	0.050(2)	0.0306(18)	0.040(2)	-0.0265(18)	-0.0141(18)	0.0104(15)
C12	0.040(2)	0.0285(17)	0.0328(19)	-0.0187(16)	-0.0056(16)	0.0012(14)
C13	0.0228(16)	0.0223(15)	0.0213(15)	-0.0060(13)	-0.0094(12)	0.0054(12)
C14	0.0319(18)	0.0259(16)	0.0267(17)	-0.0131(14)	-0.0072(14)	0.0029(13)
C15	0.038(2)	0.0369(19)	0.0270(18)	-0.0159(17)	-0.0047(15)	0.0094(14)
C16	0.047(2)	0.0352(19)	0.040(2)	-0.0281(18)	-0.0164(17)	0.0136(16)
C17	0.047(2)	0.037(2)	0.037(2)	-0.0263(18)	-0.0116(17)	-0.0004(16)
C18	0.0360(19)	0.0366(19)	0.0267(17)	-0.0174(16)	-0.0049(15)	-0.0015(14)
C19	0.0263(17)	0.0279(17)	0.0240(16)	-0.0042(14)	-0.0070(13)	-0.0038(13)
C20	0.0312(19)	0.0302(18)	0.044(2)	-0.0084(15)	-0.0157(16)	0.0011(16)
C21	0.051(3)	0.0216(18)	0.076(3)	-0.0020(18)	-0.035(2)	0.0017(19)
C22	0.034(2)	0.034(2)	0.105(4)	0.0011(18)	-0.039(2)	-0.008(2)
C23	0.027(2)	0.046(2)	0.091(4)	-0.0100(19)	-0.022(2)	-0.004(2)
C24	0.0287(19)	0.0302(19)	0.053(2)	-0.0059(16)	-0.0123(17)	-0.0022(17)
C25	0.0362(19)	0.0307(18)	0.0319(18)	-0.0177(16)	-0.0021(15)	0.0119(14)
C26	0.036(2)	0.0329(19)	0.041(2)	-0.0174(17)	-0.0103(16)	0.0096(16)
C27	0.044(2)	0.0291(19)	0.062(3)	-0.0167(18)	-0.012(2)	0.0132(18)
C28	0.065(3)	0.035(2)	0.066(3)	-0.027(2)	-0.027(2)	0.029(2)

C29	0.074(3)	0.049(3)	0.044(2)	-0.031(2)	-0.013(2)	0.025(2)
C30	0.054(2)	0.038(2)	0.038(2)	-0.0190(19)	-0.0021(19)	0.0142(17)
C31	0.0314(18)	0.0378(19)	0.0230(16)	-0.0192(16)	0.0033(14)	-0.0020(14)
C32	0.035(2)	0.041(2)	0.047(2)	-0.0164(18)	0.0094(18)	0.0067(18)
C33	0.039(2)	0.050(2)	0.054(3)	-0.022(2)	0.0176(19)	0.001(2)
C34	0.0279(19)	0.062(3)	0.038(2)	-0.0247(19)	0.0064(16)	-0.0136(19)
C35	0.031(2)	0.056(2)	0.040(2)	-0.0185(19)	-0.0114(17)	0.0022(18)
C36	0.0289(18)	0.053(2)	0.0268(18)	-0.0212(17)	-0.0059(14)	0.0069(16)
C37	0.0197(15)	0.0235(15)	0.0245(16)	-0.0075(13)	0.0011(12)	0.0011(12)
C38	0.0257(17)	0.0344(18)	0.0264(17)	-0.0104(15)	-0.0047(14)	0.0021(14)
C39	0.0232(17)	0.046(2)	0.044(2)	-0.0181(16)	0.0017(16)	-0.0053(17)
C40	0.036(2)	0.048(2)	0.047(2)	-0.0251(19)	0.0054(18)	0.0059(18)
C41	0.043(2)	0.046(2)	0.038(2)	-0.0237(19)	-0.0032(17)	0.0166(17)
C42	0.0298(18)	0.0362(19)	0.0295(18)	-0.0148(16)	-0.0058(14)	0.0092(14)
C43	0.0221(16)	0.0296(17)	0.0233(16)	-0.0091(14)	-0.0039(13)	0.0054(13)
C44	0.038(2)	0.039(2)	0.0258(17)	-0.0202(17)	-0.0098(15)	0.0126(14)
C45	0.054(3)	0.070(3)	0.032(2)	-0.035(2)	-0.0197(19)	0.0133(19)
C46	0.074(3)	0.074(3)	0.035(2)	-0.042(3)	-0.026(2)	0.031(2)
C47	0.065(3)	0.054(3)	0.042(2)	-0.035(2)	-0.021(2)	0.0308(19)
C48	0.042(2)	0.0353(19)	0.0301(18)	-0.0209(17)	-0.0098(16)	0.0131(15)
C49	0.0273(17)	0.0271(17)	0.0236(16)	-0.0091(14)	-0.0052(13)	-0.0014(13)
C50	0.054(2)	0.036(2)	0.0258(18)	-0.0153(18)	-0.0168(17)	0.0112(15)
C51	0.059(3)	0.057(3)	0.051(3)	-0.013(2)	-0.027(2)	0.022(2)
C52	0.097(4)	0.100(4)	0.049(3)	-0.068(4)	-0.036(3)	0.040(3)
C53	0.115(4)	0.049(3)	0.030(2)	-0.009(3)	-0.024(3)	0.0011(19)
C54	0.0307(19)	0.040(2)	0.043(2)	-0.0179(17)	-0.0091(16)	-0.0052(16)
C55	0.031(2)	0.056(3)	0.059(3)	-0.0202(19)	-0.0149(19)	-0.005(2)
C56	0.050(3)	0.043(2)	0.078(3)	-0.025(2)	-0.018(2)	-0.011(2)
C57	0.066(3)	0.086(3)	0.041(2)	-0.048(3)	-0.028(2)	0.004(2)
C58	0.0327(19)	0.0308(18)	0.043(2)	-0.0152(16)	0.0038(16)	-0.0010(16)
C59	0.032(2)	0.032(2)	0.111(4)	-0.0191(18)	-0.006(2)	0.021(2)
C66	0.0221(15)	0.0181(14)	0.0226(15)	-0.0084(12)	0.0005(12)	-0.0003(11)
C67	0.0229(15)	0.0180(14)	0.0193(14)	-0.0076(12)	0.0025(12)	0.0021(11)
C68	0.0192(16)	0.0256(16)	0.0331(18)	-0.0032(13)	-0.0040(14)	-0.0037(13)
C69	0.0302(18)	0.0221(17)	0.052(2)	-0.0070(15)	-0.0089(17)	0.0024(15)
C70	0.0297(19)	0.039(2)	0.0333(19)	-0.0079(16)	0.0030(15)	-0.0089(15)
C71	0.0244(18)	0.0316(19)	0.050(2)	-0.0037(15)	-0.0075(16)	-0.0028(16)
C72	0.0217(16)	0.0311(18)	0.0213(16)	-0.0044(14)	-0.0030(13)	0.0013(13)
C73	0.038(2)	0.0330(19)	0.044(2)	-0.0163(17)	-0.0163(17)	-0.0012(16)

C74	0.076(3)	0.067(3)	0.065(3)	-0.039(3)	-0.040(3)	0.005(2)
C75	0.049(2)	0.031(2)	0.068(3)	-0.0126(19)	-0.013(2)	-0.0089(19)
C76	0.052(3)	0.046(2)	0.071(3)	-0.028(2)	-0.005(2)	0.001(2)
C77	0.0227(15)	0.0239(15)	0.0167(14)	-0.0072(13)	-0.0005(12)	0.0043(12)
C78	0.0349(19)	0.045(2)	0.0168(15)	-0.0159(17)	-0.0014(14)	0.0002(14)
C79	0.045(2)	0.053(2)	0.031(2)	-0.022(2)	0.0028(17)	-0.0115(17)
C80	0.039(2)	0.069(3)	0.0182(17)	-0.023(2)	-0.0079(15)	0.0095(17)
C81	0.0318(19)	0.057(2)	0.0237(18)	-0.0153(18)	0.0022(15)	-0.0003(16)
C82	0.0326(19)	0.0308(18)	0.0246(17)	-0.0056(16)	-0.0031(14)	0.0004(14)
C83	0.039(2)	0.038(2)	0.046(2)	0.0101(18)	0.0122(19)	0.0025(18)

The general temperature factor expression: $\exp(-2\pi^2(a^{*2}U_{11}h^2 + b^{*2}U_{22}k^2 + c^{*2}U_{33}l^2 + 2a^*b^*U_{12}hk + 2a^*c^*U_{13}hl + 2b^*c^*U_{23}kl))$

Table S7-4. Bond lengths (Å)

atom	atom	distance	atom	atom	distance
Ni1	Ni2	2.5288(7)	Ni1	Ni3	2.5447(7)
Ni1	Si1	2.6549(8)	Ni1	Si2	2.2434(10)
Ni1	N2	2.012(3)	Ni1	C49	1.755(3)
Ni1	C66	2.366(3)	Ni2	Ni3	2.5629(7)
Ni2	Si1	2.6982(10)	Ni2	Si3	2.2841(11)
Ni2	N2	1.990(3)	Ni2	C58	1.767(5)
Ni2	C66	2.119(4)	Ni3	Ni4	2.4564(8)
Ni3	Ni5	2.4826(5)	Ni3	Si2	2.6082(8)
Ni3	Si3	2.4875(12)	Ni3	C66	2.038(3)
Ni3	C67	1.887(2)	Ni3	C77	1.923(3)
Ni4	Ni5	2.6564(6)	Ni4	Si4	2.1871(8)
Ni4	N6	1.911(3)	Ni4	C72	1.793(4)
Ni4	C77	2.025(4)	Ni5	Si2	2.2507(9)
Ni5	N6	1.919(3)	Ni5	C77	1.994(3)
Ni5	C82	1.792(3)	Si1	N2	1.715(3)
Si1	C1	1.890(3)	Si1	C7	1.890(3)
Si1	C66	1.847(3)	Si2	C13	1.900(4)
Si2	C19	1.918(3)	Si3	C25	1.891(3)
Si3	C31	1.900(3)	Si3	C77	1.899(4)
Si4	N4	1.779(3)	Si4	C37	1.879(4)
Si4	C43	1.887(3)	N1	C49	1.160(4)
N1	C50	1.451(5)	N2	C54	1.481(6)
N3	C58	1.158(6)	N3	C59	1.454(7)
N4	C67	1.340(4)	N4	C68	1.506(3)

N5	C72	1.152(6)	N5	C73	1.452(6)
N6	C77	1.341(4)	N6	C78	1.481(4)
N7	C82	1.152(4)	N7	C83	1.443(4)
C1	C2	1.381(6)	C1	C6	1.404(5)
C2	C3	1.394(5)	C3	C4	1.380(5)
C4	C5	1.365(7)	C5	C6	1.378(5)
C7	C8	1.392(4)	C7	C12	1.403(5)
C8	C9	1.395(4)	C9	C10	1.379(6)
C10	C11	1.380(4)	C11	C12	1.372(5)
C13	C14	1.387(4)	C13	C18	1.396(5)
C14	C15	1.396(6)	C15	C16	1.367(6)
C16	C17	1.365(5)	C17	C18	1.378(7)
C19	C20	1.391(5)	C19	C24	1.388(6)
C20	C21	1.391(5)	C21	C22	1.372(8)
C22	C23	1.378(7)	C23	C24	1.388(5)
C25	C26	1.390(4)	C25	C30	1.392(5)
C26	C27	1.390(5)	C27	C28	1.370(6)
C28	C29	1.381(5)	C29	C30	1.380(6)
C31	C32	1.389(6)	C31	C36	1.379(5)
C32	C33	1.385(6)	C33	C34	1.378(5)
C34	C35	1.362(7)	C35	C36	1.393(5)
C37	C38	1.397(5)	C37	C42	1.391(5)
C38	C39	1.388(6)	C39	C40	1.377(6)
C40	C41	1.368(7)	C41	C42	1.383(6)
C43	C44	1.396(6)	C43	C48	1.393(6)
C44	C45	1.390(5)	C45	C46	1.372(8)
C46	C47	1.384(8)	C47	C48	1.393(5)
C50	C51	1.527(6)	C50	C52	1.499(9)
C50	C53	1.504(6)	C54	C55	1.522(4)
C54	C56	1.512(6)	C54	C57	1.522(6)
C59	C60	1.669(10)	C59	C61	1.579(9)
C59	C62	1.395(10)	C59	C63	1.767(13)
C59	C64	1.402(16)	C59	C65	1.445(10)
C60	C64	1.319(17)	C61	C65	0.563(15)
C62	C63	0.923(14)	C62	C64	1.48(2)
C66	C67	1.304(5)	C68	C69	1.530(6)
C68	C70	1.519(5)	C68	C71	1.521(6)
C73	C74	1.511(7)	C73	C75	1.516(4)
C73	C76	1.522(6)	C78	C79	1.525(6)

C78	C80	1.510(5)	C78	C81	1.508(6)
C83	C84	1.674(11)	C83	C85	1.414(15)
C83	C86	1.508(12)	C83	C87	1.704(16)
C83	C88	1.510(14)	C83	C89	1.506(14)
C84	C89	1.14(2)	C85	C87	0.909(18)
C85	C89	1.63(2)	C86	C88	0.550(19)

Table S7-5. Bond angles (°)

atom	atom	atom	angle	atom	atom	atom	angle
Ni2	Ni1	Ni3	60.68(2)	Ni2	Ni1	Si1	62.68(2)
Ni2	Ni1	Si2	114.84(3)	Ni2	Ni1	N2	50.43(8)
Ni2	Ni1	C49	155.55(14)	Ni2	Ni1	C66	51.18(9)
Ni3	Ni1	Si1	91.32(3)	Ni3	Ni1	Si2	65.66(3)
Ni3	Ni1	N2	107.36(8)	Ni3	Ni1	C49	143.50(14)
Ni3	Ni1	C66	48.87(7)	Si1	Ni1	Si2	150.62(4)
Si1	Ni1	N2	40.25(8)	Si1	Ni1	C49	110.16(9)
Si1	Ni1	C66	42.69(8)	Si2	Ni1	N2	161.21(8)
Si2	Ni1	C49	83.07(12)	Si2	Ni1	C66	110.89(9)
N2	Ni1	C49	108.01(15)	N2	Ni1	C66	70.53(12)
C49	Ni1	C66	140.39(12)	Ni1	Ni2	Ni3	59.96(2)
Ni1	Ni2	Si1	60.95(2)	Ni1	Ni2	Si3	112.74(3)
Ni1	Ni2	N2	51.19(9)	Ni1	Ni2	C58	142.18(12)
Ni1	Ni2	C66	60.44(8)	Ni3	Ni2	Si1	89.94(3)
Ni3	Ni2	Si3	61.44(3)	Ni3	Ni2	N2	107.38(10)
Ni3	Ni2	C58	143.73(13)	Ni3	Ni2	C66	50.52(8)
Si1	Ni2	Si3	144.85(4)	Si1	Ni2	N2	39.41(8)
Si1	Ni2	C58	124.93(12)	Si1	Ni2	C66	43.03(9)
Si3	Ni2	N2	162.56(8)	Si3	Ni2	C58	82.48(14)
Si3	Ni2	C66	102.34(9)	N2	Ni2	C58	106.62(17)
N2	Ni2	C66	76.42(13)	C58	Ni2	C66	153.15(12)
Ni1	Ni3	Ni2	59.353(19)	Ni1	Ni3	Ni4	147.67(2)
Ni1	Ni3	Ni5	97.195(19)	Ni1	Ni3	Si2	51.60(2)
Ni1	Ni3	Si3	105.65(3)	Ni1	Ni3	C66	60.99(9)
Ni1	Ni3	C67	95.24(10)	Ni1	Ni3	C77	136.70(10)
Ni2	Ni3	Ni4	151.57(3)	Ni2	Ni3	Ni5	114.04(2)
Ni2	Ni3	Si2	102.19(3)	Ni2	Ni3	Si3	53.75(3)
Ni2	Ni3	C66	53.38(11)	Ni2	Ni3	C67	84.79(12)
Ni2	Ni3	C77	102.17(12)	Ni4	Ni3	Ni5	65.069(18)
Ni4	Ni3	Si2	98.47(3)	Ni4	Ni3	Si3	99.19(3)

Ni4	Ni3	C66	135.49(10)	Ni4	Ni3	C67	97.03(11)
Ni4	Ni3	C77	53.42(12)	Ni5	Ni3	Si2	52.41(2)
Ni5	Ni3	Si3	83.60(2)	Ni5	Ni3	C66	157.87(9)
Ni5	Ni3	C67	160.91(12)	Ni5	Ni3	C77	51.96(8)
Si2	Ni3	Si3	117.63(3)	Si2	Ni3	C66	108.99(9)
Si2	Ni3	C67	129.34(9)	Si2	Ni3	C77	104.15(8)
Si3	Ni3	C66	98.15(10)	Si3	Ni3	C67	106.88(10)
Si3	Ni3	C77	48.98(12)	C66	Ni3	C67	38.57(15)
C66	Ni3	C77	142.06(13)	C67	Ni3	C77	123.55(12)
Ni3	Ni4	Ni5	57.942(17)	Ni3	Ni4	Si4	85.14(3)
Ni3	Ni4	N6	85.12(9)	Ni3	Ni4	C72	149.98(11)
Ni3	Ni4	C77	49.68(8)	Ni5	Ni4	Si4	141.04(3)
Ni5	Ni4	N6	46.20(8)	Ni5	Ni4	C72	116.23(9)
Ni5	Ni4	C77	48.14(8)	Si4	Ni4	N6	151.40(9)
Si4	Ni4	C72	88.91(9)	Si4	Ni4	C77	117.70(8)
N6	Ni4	C72	112.20(13)	N6	Ni4	C77	39.71(12)
C72	Ni4	C77	151.89(11)	Ni3	Ni5	Ni4	56.988(17)
Ni3	Ni5	Si2	66.67(2)	Ni3	Ni5	N6	84.24(6)
Ni3	Ni5	C77	49.41(8)	Ni3	Ni5	C82	163.74(12)
Ni4	Ni5	Si2	102.56(3)	Ni4	Ni5	N6	45.98(8)
Ni4	Ni5	C77	49.14(11)	Ni4	Ni5	C82	133.93(15)
Si2	Ni5	N6	147.03(7)	Si2	Ni5	C77	115.82(8)
Si2	Ni5	C82	97.42(11)	N6	Ni5	C77	40.03(12)
N6	Ni5	C82	111.99(13)	C77	Ni5	C82	145.71(14)
Ni1	Si1	Ni2	56.37(2)	Ni1	Si1	N2	49.27(10)
Ni1	Si1	C1	93.03(9)	Ni1	Si1	C7	159.77(11)
Ni1	Si1	C66	60.28(8)	Ni2	Si1	N2	47.43(10)
Ni2	Si1	C1	148.95(9)	Ni2	Si1	C7	103.64(10)
Ni2	Si1	C66	51.53(11)	N2	Si1	C1	118.39(14)
N2	Si1	C7	116.41(17)	N2	Si1	C66	91.06(14)
C1	Si1	C7	107.14(13)	C1	Si1	C66	111.46(17)
C7	Si1	C66	111.58(15)	Ni1	Si2	Ni3	62.74(2)
Ni1	Si2	Ni5	114.10(4)	Ni1	Si2	C13	115.80(8)
Ni1	Si2	C19	108.10(12)	Ni3	Si2	Ni5	60.93(2)
Ni3	Si2	C13	104.15(9)	Ni3	Si2	C19	152.69(13)
Ni5	Si2	C13	108.62(11)	Ni5	Si2	C19	106.33(9)
C13	Si2	C19	102.89(15)	Ni2	Si3	Ni3	64.81(3)
Ni2	Si3	C25	110.44(11)	Ni2	Si3	C31	106.94(12)
Ni2	Si3	C77	113.94(10)	Ni3	Si3	C25	122.48(13)

Ni3	Si3	C31	127.40(12)	Ni3	Si3	C77	49.81(9)
C25	Si3	C31	109.27(16)	C25	Si3	C77	111.04(18)
C31	Si3	C77	104.90(15)	Ni4	Si4	N4	116.53(10)
Ni4	Si4	C37	119.63(9)	Ni4	Si4	C43	94.29(8)
N4	Si4	C37	106.37(14)	N4	Si4	C43	106.66(14)
C37	Si4	C43	112.29(17)	C49	N1	C50	179.3(3)
Ni1	N2	Ni2	78.38(11)	Ni1	N2	Si1	90.48(16)
Ni1	N2	C54	123.8(2)	Ni2	N2	Si1	93.16(14)
Ni2	N2	C54	126.9(2)	Si1	N2	C54	129.2(2)
C58	N3	C59	175.6(5)	Si4	N4	C67	107.58(17)
Si4	N4	C68	131.7(3)	C67	N4	C68	120.1(3)
C72	N5	C73	173.6(3)	Ni4	N6	Ni5	87.82(10)
Ni4	N6	C77	74.72(18)	Ni4	N6	C78	129.5(3)
Ni5	N6	C77	73.02(17)	Ni5	N6	C78	136.15(18)
C77	N6	C78	132.0(3)	C82	N7	C83	172.0(4)
Si1	C1	C2	118.6(2)	Si1	C1	C6	124.3(3)
C2	C1	C6	117.1(3)	C1	C2	C3	121.5(3)
C2	C3	C4	119.5(4)	C3	C4	C5	120.3(4)
C4	C5	C6	120.0(4)	C1	C6	C5	121.6(4)
Si1	C7	C8	123.2(3)	Si1	C7	C12	119.8(2)
C8	C7	C12	116.7(3)	C7	C8	C9	121.5(3)
C8	C9	C10	120.0(3)	C9	C10	C11	119.6(3)
C10	C11	C12	120.2(4)	C7	C12	C11	122.0(3)
Si2	C13	C14	121.5(3)	Si2	C13	C18	122.0(2)
C14	C13	C18	116.4(4)	C13	C14	C15	122.0(3)
C14	C15	C16	119.5(3)	C15	C16	C17	119.8(4)
C16	C17	C18	120.8(4)	C13	C18	C17	121.5(3)
Si2	C19	C20	122.9(3)	Si2	C19	C24	120.2(3)
C20	C19	C24	116.9(3)	C19	C20	C21	121.3(4)
C20	C21	C22	120.6(4)	C21	C22	C23	119.4(4)
C22	C23	C24	119.8(5)	C19	C24	C23	122.1(4)
Si3	C25	C26	119.7(3)	Si3	C25	C30	124.1(2)
C26	C25	C30	116.1(3)	C25	C26	C27	122.1(3)
C26	C27	C28	119.7(3)	C27	C28	C29	120.1(4)
C28	C29	C30	119.2(4)	C25	C30	C29	122.7(3)
Si3	C31	C32	124.0(2)	Si3	C31	C36	118.5(3)
C32	C31	C36	117.4(3)	C31	C32	C33	121.3(3)
C32	C33	C34	120.0(4)	C33	C34	C35	119.8(4)
C34	C35	C36	120.0(3)	C31	C36	C35	121.5(4)

Si4	C37	C38	126.1(3)	Si4	C37	C42	117.5(3)
C38	C37	C42	116.4(3)	C37	C38	C39	121.9(3)
C38	C39	C40	119.6(4)	C39	C40	C41	120.0(4)
C40	C41	C42	120.1(4)	C37	C42	C41	122.0(4)
Si4	C43	C44	123.4(3)	Si4	C43	C48	119.1(3)
C44	C43	C48	116.9(3)	C43	C44	C45	121.3(4)
C44	C45	C46	120.8(5)	C45	C46	C47	119.4(4)
C46	C47	C48	119.7(5)	C43	C48	C47	121.9(4)
Ni1	C49	N1	175.8(3)	N1	C50	C51	106.0(3)
N1	C50	C52	108.0(4)	N1	C50	C53	108.2(3)
C51	C50	C52	111.8(4)	C51	C50	C53	110.7(4)
C52	C50	C53	111.8(4)	N2	C54	C55	108.3(3)
N2	C54	C56	110.9(3)	N2	C54	C57	110.8(4)
C55	C54	C56	109.4(4)	C55	C54	C57	110.0(3)
C56	C54	C57	107.5(4)	Ni2	C58	N3	176.8(3)
N3	C59	C60	106.0(5)	N3	C59	C61	101.9(5)
N3	C59	C62	112.5(5)	N3	C59	C63	105.3(5)
N3	C59	C64	104.0(10)	N3	C59	C65	115.1(6)
C60	C59	C61	108.4(5)	C60	C59	C62	108.9(5)
C60	C59	C63	137.7(5)	C60	C59	C64	50.0(7)
C60	C59	C65	88.7(6)	C61	C59	C62	118.3(7)
C61	C59	C63	92.1(6)	C61	C59	C64	150.2(10)
C61	C59	C65	20.9(6)	C62	C59	C63	31.2(5)
C62	C59	C64	63.8(9)	C62	C59	C65	121.4(8)
C63	C59	C64	95.0(9)	C63	C59	C65	102.9(7)
C64	C59	C65	130.0(10)	C59	C60	C64	54.4(8)
C59	C61	C65	66.0(13)	C59	C62	C63	97.2(9)
C59	C62	C64	58.3(8)	C63	C62	C64	155.4(13)
C59	C63	C62	51.6(8)	C59	C64	C60	75.6(8)
C59	C64	C62	57.9(8)	C60	C64	C62	126.4(13)
C59	C65	C61	93.1(14)	Ni1	C66	Ni2	68.38(9)
Ni1	C66	Ni3	70.14(8)	Ni1	C66	Si1	77.03(11)
Ni1	C66	C67	125.9(2)	Ni2	C66	Ni3	76.10(9)
Ni2	C66	Si1	85.44(16)	Ni2	C66	C67	123.6(2)
Ni3	C66	Si1	146.39(17)	Ni3	C66	C67	64.46(16)
Si1	C66	C67	146.7(2)	Ni3	C67	N4	130.8(2)
Ni3	C67	C66	76.98(17)	N4	C67	C66	152.2(2)
N4	C68	C69	108.7(3)	N4	C68	C70	109.6(2)
N4	C68	C71	109.0(3)	C69	C68	C70	111.0(3)

C69	C68	C71	108.9(3)	C70	C68	C71	109.6(3)
Ni4	C72	N5	176.2(3)	N5	C73	C74	108.8(4)
N5	C73	C75	106.5(4)	N5	C73	C76	107.5(3)
C74	C73	C75	110.9(3)	C74	C73	C76	111.1(4)
C75	C73	C76	111.8(3)	Ni3	C77	Ni4	76.90(12)
Ni3	C77	Ni5	78.63(11)	Ni3	C77	Si3	81.20(13)
Ni3	C77	N6	131.1(3)	Ni4	C77	Ni5	82.73(14)
Ni4	C77	Si3	147.18(14)	Ni4	C77	N6	65.6(2)
Ni5	C77	Si3	116.58(18)	Ni5	C77	N6	66.95(16)
Si3	C77	N6	145.0(2)	N6	C78	C79	105.7(3)
N6	C78	C80	108.5(2)	N6	C78	C81	110.9(3)
C79	C78	C80	110.0(4)	C79	C78	C81	110.3(3)
C80	C78	C81	111.3(3)	Ni5	C82	N7	171.4(4)
N7	C83	C84	103.5(4)	N7	C83	C85	110.0(5)
N7	C83	C86	109.2(5)	N7	C83	C87	104.3(4)
N7	C83	C88	109.9(5)	N7	C83	C89	109.4(5)
C84	C83	C85	108.1(7)	C84	C83	C86	110.0(6)
C84	C83	C87	138.3(6)	C84	C83	C88	89.9(6)
C84	C83	C89	41.5(8)	C85	C83	C86	115.3(7)
C85	C83	C87	32.2(7)	C85	C83	C88	130.3(7)
C85	C83	C89	67.6(8)	C86	C83	C87	89.3(7)
C86	C83	C88	21.0(7)	C86	C83	C89	136.7(6)
C87	C83	C88	108.9(7)	C87	C83	C89	99.4(8)
C88	C83	C89	122.9(7)	C83	C84	C89	61.3(8)
C83	C85	C87	91.8(14)	C83	C85	C89	58.9(8)
C87	C85	C89	149.7(18)	C83	C86	C88	79.7(17)
C83	C87	C85	56.0(12)	C83	C88	C86	79.3(19)
C83	C89	C84	77.2(10)	C83	C89	C85	53.5(7)
C84	C89	C85	129.2(12)				

Table S7-6. Torsion Angles(°)

(Those having bond angles > 160 or < 20 degrees are excluded.)

atom1	atom2	atom3	atom4	angle	atom1	atom2	atom3	atom4	angle
Ni2	Ni1	Ni3	Ni2	-0.0	Ni2	Ni1	Ni3	Ni4	167.22(3)
Ni2	Ni1	Ni3	Ni5	113.731(18)	Ni2	Ni1	Ni3	Si2	141.519(17)
Ni2	Ni1	Ni3	Si3	28.399(13)	Ni2	Ni1	Ni3	C66	-62.345(13)
Ni2	Ni1	Ni3	C67	-80.780(19)	Ni2	Ni1	Ni3	C77	74.25(3)
Ni3	Ni1	Ni2	Ni3	0.0	Ni3	Ni1	Ni2	Si1	108.650(15)
Ni3	Ni1	Ni2	Si3	-32.739(17)	Ni3	Ni1	Ni2	N2	155.217(17)

Ni3	Ni1	Ni2	C58	-140.71(4)	Ni3	Ni1	Ni2	C66	58.907(14)
Ni2	Ni1	Si1	Ni2	-0.000(13)	Ni2	Ni1	Si1	N2	-60.04(3)
Ni2	Ni1	Si1	C1	174.32(5)	Ni2	Ni1	Si1	C7	-9.80(16)
Ni2	Ni1	Si1	C66	61.27(2)	Si1	Ni1	Ni2	Ni3	-108.65(3)
Si1	Ni1	Ni2	Si1	0.00(3)	Si1	Ni1	Ni2	Si3	-141.39(3)
Si1	Ni1	Ni2	N2	46.57(3)	Si1	Ni1	Ni2	C58	110.64(5)
Si1	Ni1	Ni2	C66	-49.74(3)	Ni2	Ni1	Si2	Ni3	-36.72(3)
Ni2	Ni1	Si2	Ni5	-2.74(5)	Ni2	Ni1	Si2	C13	-129.94(3)
Ni2	Ni1	Si2	C19	115.31(3)	Si2	Ni1	Ni2	Ni3	38.66(3)
Si2	Ni1	Ni2	Si1	147.31(4)	Si2	Ni1	Ni2	Si3	5.93(4)
Si2	Ni1	Ni2	N2	-166.12(4)	Si2	Ni1	Ni2	C58	-102.05(5)
Si2	Ni1	Ni2	C66	97.57(4)	Ni2	Ni1	N2	Ni2	0.000(11)
Ni2	Ni1	N2	Si1	93.13(12)	Ni2	Ni1	N2	C54	-126.8(2)
N2	Ni1	Ni2	Ni3	-155.22(10)	N2	Ni1	Ni2	Si1	-46.57(10)
N2	Ni1	Ni2	Si3	172.04(10)	N2	Ni1	Ni2	N2	0.00(10)
N2	Ni1	Ni2	C58	64.07(10)	N2	Ni1	Ni2	C66	-96.31(10)
C49	Ni1	Ni2	Ni3	172.8(2)	C49	Ni1	Ni2	Si1	-78.5(2)
C49	Ni1	Ni2	Si3	140.1(2)	C49	Ni1	Ni2	N2	-32.0(2)
C49	Ni1	Ni2	C58	32.1(2)	C49	Ni1	Ni2	C66	-128.3(2)
Ni2	Ni1	C66	Ni2	-0.000(14)	Ni2	Ni1	C66	Ni3	82.43(8)
Ni2	Ni1	C66	Si1	-90.20(13)	Ni2	Ni1	C66	C67	116.7(2)
C66	Ni1	Ni2	Ni3	-58.91(10)	C66	Ni1	Ni2	Si1	49.74(10)
C66	Ni1	Ni2	Si3	-91.65(10)	C66	Ni1	Ni2	N2	96.31(10)
C66	Ni1	Ni2	C58	160.38(11)	C66	Ni1	Ni2	C66	-0.00(10)
Ni3	Ni1	Si1	Ni2	-55.726(19)	Ni3	Ni1	Si1	N2	-115.76(3)
Ni3	Ni1	Si1	C1	118.60(4)	Ni3	Ni1	Si1	C7	-65.52(17)
Ni3	Ni1	Si1	C66	5.55(3)	Si1	Ni1	Ni3	Ni2	57.35(2)
Si1	Ni1	Ni3	Ni4	-135.43(4)	Si1	Ni1	Ni3	Ni5	171.08(3)
Si1	Ni1	Ni3	Si2	-161.13(3)	Si1	Ni1	Ni3	Si3	85.75(3)
Si1	Ni1	Ni3	C66	-4.99(3)	Si1	Ni1	Ni3	C67	-23.43(3)
Si1	Ni1	Ni3	C77	131.60(4)	Ni3	Ni1	Si2	Ni3	-0.000(11)
Ni3	Ni1	Si2	Ni5	33.98(3)	Ni3	Ni1	Si2	C13	-93.22(4)
Ni3	Ni1	Si2	C19	152.02(5)	Si2	Ni1	Ni3	Ni2	-141.52(3)
Si2	Ni1	Ni3	Ni4	25.70(4)	Si2	Ni1	Ni3	Ni5	-27.79(3)
Si2	Ni1	Ni3	Si2	0.00(3)	Si2	Ni1	Ni3	Si3	-113.12(3)
Si2	Ni1	Ni3	C66	156.14(3)	Si2	Ni1	Ni3	C67	137.70(3)
Si2	Ni1	Ni3	C77	-67.27(4)	Ni3	Ni1	N2	Ni2	-22.52(8)
Ni3	Ni1	N2	Si1	70.61(10)	Ni3	Ni1	N2	C54	-149.32(15)
N2	Ni1	Ni3	Ni2	19.79(8)	N2	Ni1	Ni3	Ni4	-172.99(8)

N2	Ni1	Ni3	Ni5	133.52(8)	N2	Ni1	Ni3	Si2	161.31(8)
N2	Ni1	Ni3	Si3	48.19(8)	N2	Ni1	Ni3	C66	-42.56(8)
N2	Ni1	Ni3	C67	-60.99(8)	N2	Ni1	Ni3	C77	94.04(8)
C49	Ni1	Ni3	Ni2	-175.02(16)	C49	Ni1	Ni3	Ni4	-7.80(16)
C49	Ni1	Ni3	Ni5	-61.29(16)	C49	Ni1	Ni3	Si2	-33.50(16)
C49	Ni1	Ni3	Si3	-146.62(16)	C49	Ni1	Ni3	C66	122.64(16)
C49	Ni1	Ni3	C67	104.20(16)	C49	Ni1	Ni3	C77	-100.77(16)
Ni3	Ni1	C66	Ni2	-82.43(8)	Ni3	Ni1	C66	Ni3	-0.000(15)
Ni3	Ni1	C66	Si1	-172.63(17)	Ni3	Ni1	C66	C67	34.22(16)
C66	Ni1	Ni3	Ni2	62.35(12)	C66	Ni1	Ni3	Ni4	-130.44(12)
C66	Ni1	Ni3	Ni5	176.08(12)	C66	Ni1	Ni3	Si2	-156.14(12)
C66	Ni1	Ni3	Si3	90.74(12)	C66	Ni1	Ni3	C66	-0.00(12)
C66	Ni1	Ni3	C67	-18.43(12)	C66	Ni1	Ni3	C77	136.59(13)
Si1	Ni1	Si2	Ni3	41.23(7)	Si1	Ni1	Si2	Ni5	75.21(9)
Si1	Ni1	Si2	C13	-51.99(9)	Si1	Ni1	Si2	C19	-166.74(6)
Si2	Ni1	Si1	Ni2	-92.65(7)	Si2	Ni1	Si1	N2	-152.69(7)
Si2	Ni1	Si1	C1	81.68(8)	Si2	Ni1	Si1	C7	-102.44(17)
Si2	Ni1	Si1	C66	-31.37(8)	Si1	Ni1	N2	Ni2	-93.13(12)
Si1	Ni1	N2	Si1	-0.00(3)	Si1	Ni1	N2	C54	140.1(2)
N2	Ni1	Si1	Ni2	60.04(12)	N2	Ni1	Si1	N2	-0.00(12)
N2	Ni1	Si1	C1	-125.64(13)	N2	Ni1	Si1	C7	50.24(19)
N2	Ni1	Si1	C66	121.31(13)	C49	Ni1	Si1	Ni2	154.40(15)
C49	Ni1	Si1	N2	94.36(15)	C49	Ni1	Si1	C1	-31.28(16)
C49	Ni1	Si1	C7	144.6(2)	C49	Ni1	Si1	C66	-144.33(15)
Si1	Ni1	C66	Ni2	90.20(13)	Si1	Ni1	C66	Ni3	172.63(18)
Si1	Ni1	C66	Si1	-0.00(3)	Si1	Ni1	C66	C67	-153.2(3)
C66	Ni1	Si1	Ni2	-61.27(13)	C66	Ni1	Si1	N2	-121.31(13)
C66	Ni1	Si1	C1	113.05(14)	C66	Ni1	Si1	C7	-71.1(2)
C66	Ni1	Si1	C66	-0.00(13)	C49	Ni1	Si2	Ni3	160.69(12)
C49	Ni1	Si2	Ni5	-165.33(13)	C49	Ni1	Si2	C13	67.46(13)
C49	Ni1	Si2	C19	-47.29(13)	Si2	Ni1	C66	Ni2	-105.67(8)
Si2	Ni1	C66	Ni3	-23.24(11)	Si2	Ni1	C66	Si1	164.14(7)
Si2	Ni1	C66	C67	11.0(2)	C66	Ni1	Si2	Ni3	19.04(9)
C66	Ni1	Si2	Ni5	53.02(10)	C66	Ni1	Si2	C13	-74.19(9)
C66	Ni1	Si2	C19	171.06(9)	C49	Ni1	N2	Ni2	166.68(12)
C49	Ni1	N2	Si1	-100.19(14)	C49	Ni1	N2	C54	39.9(2)
N2	Ni1	C66	Ni2	54.36(10)	N2	Ni1	C66	Ni3	136.79(13)
N2	Ni1	C66	Si1	-35.84(11)	N2	Ni1	C66	C67	171.0(3)
C66	Ni1	N2	Ni2	-55.22(9)	C66	Ni1	N2	Si1	37.91(10)

C66	Ni1	N2	C54	178.0(2)	C49	Ni1	C66	Ni2	149.4(2)
C49	Ni1	C66	Ni3	-128.2(2)	C49	Ni1	C66	Si1	59.2(3)
C49	Ni1	C66	C67	-94.0(3)	Ni1	Ni2	Ni3	Ni1	0.0
Ni1	Ni2	Ni3	Ni4	-165.61(3)	Ni1	Ni2	Ni3	Ni5	-83.98(2)
Ni1	Ni2	Ni3	Si2	-29.927(13)	Ni1	Ni2	Ni3	Si3	-145.397(15)
Ni1	Ni2	Ni3	C66	74.806(16)	Ni1	Ni2	Ni3	C67	99.237(19)
Ni1	Ni2	Ni3	C77	-137.531(18)	Ni1	Ni2	Si1	Ni1	0.000(13)
Ni1	Ni2	Si1	N2	63.05(2)	Ni1	Ni2	Si1	C1	-11.04(9)
Ni1	Ni2	Si1	C7	176.53(6)	Ni1	Ni2	Si1	C66	-76.58(3)
Ni1	Ni2	Si3	Ni3	32.21(2)	Ni1	Ni2	Si3	C25	149.47(4)
Ni1	Ni2	Si3	C31	-91.73(5)	Ni1	Ni2	Si3	C77	23.69(5)
Ni1	Ni2	N2	Ni1	0.000(11)	Ni1	Ni2	N2	Si1	-89.84(14)
Ni1	Ni2	N2	C54	123.72(18)	Ni1	Ni2	C66	Ni1	0.000(13)
Ni1	Ni2	C66	Ni3	-73.84(7)	Ni1	Ni2	C66	Si1	77.85(9)
Ni1	Ni2	C66	C67	-119.6(2)	Ni3	Ni2	Si1	Ni1	55.111(18)
Ni3	Ni2	Si1	N2	118.16(3)	Ni3	Ni2	Si1	C1	44.07(11)
Ni3	Ni2	Si1	C7	-128.36(4)	Ni3	Ni2	Si1	C66	-21.47(2)
Si1	Ni2	Ni3	Ni1	-55.92(2)	Si1	Ni2	Ni3	Ni4	138.47(4)
Si1	Ni2	Ni3	Ni5	-139.90(3)	Si1	Ni2	Ni3	Si2	-85.85(2)
Si1	Ni2	Ni3	Si3	158.68(2)	Si1	Ni2	Ni3	C66	18.88(2)
Si1	Ni2	Ni3	C67	43.31(2)	Si1	Ni2	Ni3	C77	166.55(2)
Ni3	Ni2	Si3	Ni3	0.0	Ni3	Ni2	Si3	C25	117.26(5)
Ni3	Ni2	Si3	C31	-123.94(5)	Ni3	Ni2	Si3	C77	-8.52(3)
Si3	Ni2	Ni3	Ni1	145.40(3)	Si3	Ni2	Ni3	Ni4	-20.21(4)
Si3	Ni2	Ni3	Ni5	61.42(3)	Si3	Ni2	Ni3	Si2	115.47(3)
Si3	Ni2	Ni3	Si3	0.00(2)	Si3	Ni2	Ni3	C66	-139.80(3)
Si3	Ni2	Ni3	C67	-115.37(3)	Si3	Ni2	Ni3	C77	7.87(3)
Ni3	Ni2	N2	Ni1	22.35(8)	Ni3	Ni2	N2	Si1	-67.49(11)
Ni3	Ni2	N2	C54	146.07(15)	N2	Ni2	Ni3	Ni1	-20.02(7)
N2	Ni2	Ni3	Ni4	174.37(7)	N2	Ni2	Ni3	Ni5	-104.00(7)
N2	Ni2	Ni3	Si2	-49.94(7)	N2	Ni2	Ni3	Si3	-165.41(7)
N2	Ni2	Ni3	C66	54.79(7)	N2	Ni2	Ni3	C67	79.22(7)
N2	Ni2	Ni3	C77	-157.55(7)	C58	Ni2	Ni3	Ni1	138.97(18)
C58	Ni2	Ni3	Ni4	-26.64(19)	C58	Ni2	Ni3	Ni5	54.99(18)
C58	Ni2	Ni3	Si2	109.05(18)	C58	Ni2	Ni3	Si3	-6.42(18)
C58	Ni2	Ni3	C66	-146.22(18)	C58	Ni2	Ni3	C67	-121.79(18)
C58	Ni2	Ni3	C77	1.44(18)	Ni3	Ni2	C66	Ni1	73.84(7)
Ni3	Ni2	C66	Ni3	0.000(13)	Ni3	Ni2	C66	Si1	151.69(14)
Ni3	Ni2	C66	C67	-45.72(17)	C66	Ni2	Ni3	Ni1	-74.81(10)

C66	Ni2	Ni3	Ni4	119.58(11)	C66	Ni2	Ni3	Ni5	-158.79(10)
C66	Ni2	Ni3	Si2	-104.73(10)	C66	Ni2	Ni3	Si3	139.80(10)
C66	Ni2	Ni3	C66	0.00(10)	C66	Ni2	Ni3	C67	24.43(10)
C66	Ni2	Ni3	C77	147.66(10)	Si1	Ni2	Si3	Ni3	-39.17(6)
Si1	Ni2	Si3	C25	78.09(8)	Si1	Ni2	Si3	C31	-163.11(4)
Si1	Ni2	Si3	C77	-47.69(7)	Si3	Ni2	Si1	Ni1	88.80(6)
Si3	Ni2	Si1	N2	151.85(6)	Si3	Ni2	Si1	C1	77.76(12)
Si3	Ni2	Si1	C7	-94.67(7)	Si3	Ni2	Si1	C66	12.22(6)
Si1	Ni2	N2	Ni1	89.84(15)	Si1	Ni2	N2	Si1	0.00(3)
Si1	Ni2	N2	C54	-146.4(3)	N2	Ni2	Si1	Ni1	-63.05(14)
N2	Ni2	Si1	N2	-0.00(14)	N2	Ni2	Si1	C1	-74.09(17)
N2	Ni2	Si1	C7	113.48(15)	N2	Ni2	Si1	C66	-139.63(14)
C58	Ni2	Si1	Ni1	-135.58(15)	C58	Ni2	Si1	N2	-72.53(15)
C58	Ni2	Si1	C1	-146.62(17)	C58	Ni2	Si1	C7	40.95(16)
C58	Ni2	Si1	C66	147.84(15)	Si1	Ni2	C66	Ni1	-77.85(9)
Si1	Ni2	C66	Ni3	-151.69(14)	Si1	Ni2	C66	Si1	-0.00(2)
Si1	Ni2	C66	C67	162.6(3)	C66	Ni2	Si1	Ni1	76.58(11)
C66	Ni2	Si1	N2	139.63(12)	C66	Ni2	Si1	C1	65.54(15)
C66	Ni2	Si1	C7	-106.89(12)	C66	Ni2	Si1	C66	-0.00(11)
C58	Ni2	Si3	Ni3	176.17(10)	C58	Ni2	Si3	C25	-66.57(11)
C58	Ni2	Si3	C31	52.23(11)	C58	Ni2	Si3	C77	167.65(11)
Si3	Ni2	C66	Ni1	109.32(5)	Si3	Ni2	C66	Ni3	35.47(8)
Si3	Ni2	C66	Si1	-172.84(7)	Si3	Ni2	C66	C67	-10.2(2)
C66	Ni2	Si3	Ni3	-30.66(8)	C66	Ni2	Si3	C25	86.59(9)
C66	Ni2	Si3	C31	-154.61(9)	C66	Ni2	Si3	C77	-39.19(9)
C58	Ni2	N2	Ni1	-144.86(11)	C58	Ni2	N2	Si1	125.29(14)
C58	Ni2	N2	C54	-21.1(2)	N2	Ni2	C66	Ni1	-52.82(8)
N2	Ni2	C66	Ni3	-126.67(10)	N2	Ni2	C66	Si1	25.02(10)
N2	Ni2	C66	C67	-172.4(2)	C66	Ni2	N2	Ni1	62.80(10)
C66	Ni2	N2	Si1	-27.05(12)	C66	Ni2	N2	C54	-173.48(19)
C58	Ni2	C66	Ni1	-152.9(3)	C58	Ni2	C66	Ni3	133.3(3)
C58	Ni2	C66	Si1	-75.0(4)	C58	Ni2	C66	C67	87.6(4)
Ni1	Ni3	Ni4	Ni5	-61.56(3)	Ni1	Ni3	Ni4	Si4	105.37(4)
Ni1	Ni3	Ni4	N6	-101.55(4)	Ni1	Ni3	Ni4	C72	26.05(6)
Ni1	Ni3	Ni4	C77	-121.47(4)	Ni1	Ni3	Ni5	Ni4	151.71(2)
Ni1	Ni3	Ni5	Si2	27.458(18)	Ni1	Ni3	Ni5	N6	-168.42(2)
Ni1	Ni3	Ni5	C77	-146.38(3)	Ni1	Ni3	Si2	Ni1	0.000(13)
Ni1	Ni3	Si2	Ni5	-144.29(4)	Ni1	Ni3	Si2	C13	112.03(3)
Ni1	Ni3	Si2	C19	-76.35(9)	Ni1	Ni3	Si3	Ni2	-30.49(2)

Ni1	Ni3	Si3	C25	-129.58(5)	Ni1	Ni3	Si3	C31	62.13(7)
Ni1	Ni3	Si3	C77	139.30(2)	Ni1	Ni3	C66	Ni1	-0.000(13)
Ni1	Ni3	C66	Ni2	71.69(8)	Ni1	Ni3	C66	Si1	13.1(3)
Ni1	Ni3	C66	C67	-149.66(17)	Ni1	Ni3	C67	N4	-154.6(3)
Ni1	Ni3	C67	C66	26.33(13)	Ni1	Ni3	C77	Ni4	138.31(9)
Ni1	Ni3	C77	Ni5	53.2(2)	Ni1	Ni3	C77	Si3	-66.30(14)
Ni1	Ni3	C77	N6	98.4(3)	Ni2	Ni3	Ni4	Ni5	94.87(4)
Ni2	Ni3	Ni4	Si4	-98.20(4)	Ni2	Ni3	Ni4	N6	54.88(4)
Ni2	Ni3	Ni4	C72	-177.51(3)	Ni2	Ni3	Ni4	C77	34.96(3)
Ni2	Ni3	Ni5	Ni4	-148.71(3)	Ni2	Ni3	Ni5	Si2	87.04(2)
Ni2	Ni3	Ni5	N6	-108.83(2)	Ni2	Ni3	Ni5	C77	-86.80(2)
Ni2	Ni3	Si2	Ni1	33.21(2)	Ni2	Ni3	Si2	Ni5	-111.08(2)
Ni2	Ni3	Si2	C13	145.24(3)	Ni2	Ni3	Si2	C19	-43.14(9)
Ni2	Ni3	Si3	Ni2	0.0	Ni2	Ni3	Si3	C25	-99.09(6)
Ni2	Ni3	Si3	C31	92.62(7)	Ni2	Ni3	Si3	C77	169.79(3)
Ni2	Ni3	C66	Ni1	-71.69(8)	Ni2	Ni3	C66	Ni2	0.000(12)
Ni2	Ni3	C66	Si1	-58.6(3)	Ni2	Ni3	C66	C67	138.64(16)
Ni2	Ni3	C67	N4	146.9(3)	Ni2	Ni3	C67	C66	-32.18(12)
Ni2	Ni3	C77	Ni4	-163.80(5)	Ni2	Ni3	C77	Ni5	111.12(9)
Ni2	Ni3	C77	Si3	-8.41(9)	Ni2	Ni3	C77	N6	156.3(2)
Ni4	Ni3	Ni5	Ni4	0.000(12)	Ni4	Ni3	Ni5	Si2	-124.25(2)
Ni4	Ni3	Ni5	N6	39.877(18)	Ni4	Ni3	Ni5	C77	61.914(18)
Ni5	Ni3	Ni4	Ni5	0.000(12)	Ni5	Ni3	Ni4	Si4	166.93(2)
Ni5	Ni3	Ni4	N6	-39.992(16)	Ni5	Ni3	Ni4	C72	87.62(4)
Ni5	Ni3	Ni4	C77	-59.913(15)	Ni4	Ni3	Si2	Ni1	-166.44(2)
Ni4	Ni3	Si2	Ni5	49.27(3)	Ni4	Ni3	Si2	C13	-54.41(3)
Ni4	Ni3	Si2	C19	117.21(9)	Si2	Ni3	Ni4	Ni5	-41.47(2)
Si2	Ni3	Ni4	Si4	125.47(2)	Si2	Ni3	Ni4	N6	-81.46(2)
Si2	Ni3	Ni4	C72	46.15(4)	Si2	Ni3	Ni4	C77	-101.38(2)
Ni4	Ni3	Si3	Ni2	170.409(18)	Ni4	Ni3	Si3	C25	71.32(6)
Ni4	Ni3	Si3	C31	-96.97(6)	Ni4	Ni3	Si3	C77	-19.80(2)
Si3	Ni3	Ni4	Ni5	78.48(2)	Si3	Ni3	Ni4	Si4	-114.59(2)
Si3	Ni3	Ni4	N6	38.48(2)	Si3	Ni3	Ni4	C72	166.09(4)
Si3	Ni3	Ni4	C77	18.563(19)	Ni4	Ni3	C66	Ni1	144.50(7)
Ni4	Ni3	C66	Ni2	-143.80(7)	Ni4	Ni3	C66	Si1	157.6(3)
Ni4	Ni3	C66	C67	-5.2(2)	C66	Ni3	Ni4	Ni5	-169.84(13)
C66	Ni3	Ni4	Si4	-2.91(13)	C66	Ni3	Ni4	N6	150.16(13)
C66	Ni3	Ni4	C72	-82.23(14)	C66	Ni3	Ni4	C77	130.24(13)
Ni4	Ni3	C67	N4	-4.6(3)	Ni4	Ni3	C67	C66	176.36(11)

C67	Ni3	Ni4	Ni5	-173.08(10)	C67	Ni3	Ni4	Si4	-6.15(10)
C67	Ni3	Ni4	N6	146.93(10)	C67	Ni3	Ni4	C72	-85.47(10)
C67	Ni3	Ni4	C77	127.01(10)	Ni4	Ni3	C77	Ni4	0.000(11)
Ni4	Ni3	C77	Ni5	-85.08(11)	Ni4	Ni3	C77	Si3	155.39(13)
Ni4	Ni3	C77	N6	-39.9(2)	C77	Ni3	Ni4	Ni5	59.91(10)
C77	Ni3	Ni4	Si4	-133.15(10)	C77	Ni3	Ni4	N6	19.92(10)
C77	Ni3	Ni4	C72	147.53(11)	C77	Ni3	Ni4	C77	0.00(10)
Ni5	Ni3	Si2	Ni1	144.29(4)	Ni5	Ni3	Si2	Ni5	0.000(15)
Ni5	Ni3	Si2	C13	-103.68(4)	Ni5	Ni3	Si2	C19	67.94(8)
Si2	Ni3	Ni5	Ni4	124.25(4)	Si2	Ni3	Ni5	Si2	-0.00(3)
Si2	Ni3	Ni5	N6	164.13(4)	Si2	Ni3	Ni5	C77	-173.84(4)
Ni5	Ni3	Si3	Ni2	-126.20(2)	Ni5	Ni3	Si3	C25	134.71(6)
Ni5	Ni3	Si3	C31	-33.58(6)	Ni5	Ni3	Si3	C77	43.59(2)
Si3	Ni3	Ni5	Ni4	-103.26(3)	Si3	Ni3	Ni5	Si2	132.49(3)
Si3	Ni3	Ni5	N6	-63.38(3)	Si3	Ni3	Ni5	C77	-41.35(3)
Ni5	Ni3	C66	Ni1	-10.4(3)	Ni5	Ni3	C66	Ni2	61.3(3)
Ni5	Ni3	C66	Si1	2.7(6)	Ni5	Ni3	C66	C67	-160.04(16)
C66	Ni3	Ni5	Ni4	160.8(3)	C66	Ni3	Ni5	Si2	36.6(3)
C66	Ni3	Ni5	N6	-159.3(3)	C66	Ni3	Ni5	C77	-137.2(3)
Ni5	Ni3	C77	Ni4	85.08(12)	Ni5	Ni3	C77	Ni5	0.000(16)
Ni5	Ni3	C77	Si3	-119.53(15)	Ni5	Ni3	C77	N6	45.13(19)
C77	Ni3	Ni5	Ni4	-61.91(15)	C77	Ni3	Ni5	Si2	173.84(15)
C77	Ni3	Ni5	N6	-22.04(15)	C77	Ni3	Ni5	C77	0.00(15)
Si2	Ni3	Si3	Ni2	-84.93(3)	Si2	Ni3	Si3	C25	175.98(5)
Si2	Ni3	Si3	C31	7.69(8)	Si2	Ni3	Si3	C77	84.86(4)
Si3	Ni3	Si2	Ni1	88.48(4)	Si3	Ni3	Si2	Ni5	-55.81(4)
Si3	Ni3	Si2	C13	-159.49(4)	Si3	Ni3	Si2	C19	12.13(11)
Si2	Ni3	C66	Ni1	19.59(10)	Si2	Ni3	C66	Ni2	91.29(8)
Si2	Ni3	C66	Si1	32.6(4)	Si2	Ni3	C66	C67	-130.07(10)
C66	Ni3	Si2	Ni1	-21.97(12)	C66	Ni3	Si2	Ni5	-166.26(12)
C66	Ni3	Si2	C13	90.06(12)	C66	Ni3	Si2	C19	-98.32(14)
Si2	Ni3	C67	N4	-111.6(2)	Si2	Ni3	C67	C66	69.33(19)
C67	Ni3	Si2	Ni1	-60.06(16)	C67	Ni3	Si2	Ni5	155.65(16)
C67	Ni3	Si2	C13	51.97(16)	C67	Ni3	Si2	C19	-136.41(17)
Si2	Ni3	C77	Ni4	90.11(7)	Si2	Ni3	C77	Ni5	5.03(13)
Si2	Ni3	C77	Si3	-114.50(7)	Si2	Ni3	C77	N6	50.2(3)
C77	Ni3	Si2	Ni1	139.28(13)	C77	Ni3	Si2	Ni5	-5.00(13)
C77	Ni3	Si2	C13	-108.68(13)	C77	Ni3	Si2	C19	62.94(16)
Si3	Ni3	C66	Ni1	-103.42(6)	Si3	Ni3	C66	Ni2	-31.73(8)

Si3	Ni3	C66	Si1	-90.4(3)	Si3	Ni3	C66	C67	106.92(12)
C66	Ni3	Si3	Ni2	31.56(9)	C66	Ni3	Si3	C25	-67.53(11)
C66	Ni3	Si3	C31	124.18(11)	C66	Ni3	Si3	C77	-158.65(9)
Si3	Ni3	C67	N4	97.3(3)	Si3	Ni3	C67	C66	-81.78(13)
C67	Ni3	Si3	Ni2	70.12(12)	C67	Ni3	Si3	C25	-28.97(13)
C67	Ni3	Si3	C31	162.74(13)	C67	Ni3	Si3	C77	-120.09(12)
Si3	Ni3	C77	Ni4	-155.39(13)	Si3	Ni3	C77	Ni5	119.53(15)
Si3	Ni3	C77	Si3	0.00(3)	Si3	Ni3	C77	N6	164.7(3)
C77	Ni3	Si3	Ni2	-169.79(12)	C77	Ni3	Si3	C25	91.12(13)
C77	Ni3	Si3	C31	-77.17(12)	C77	Ni3	Si3	C77	0.00(11)
C66	Ni3	C67	N4	179.1(4)	C66	Ni3	C67	C66	0.00(15)
C67	Ni3	C66	Ni1	149.7(2)	C67	Ni3	C66	Ni2	-138.6(2)
C67	Ni3	C66	Si1	162.7(5)	C67	Ni3	C66	C67	-0.00(16)
C66	Ni3	C77	Ni4	-119.5(2)	C66	Ni3	C77	Ni5	155.42(18)
C66	Ni3	C77	Si3	35.9(3)	C66	Ni3	C77	N6	-159.4(2)
C77	Ni3	C66	Ni1	-130.0(2)	C77	Ni3	C66	Ni2	-58.3(2)
C77	Ni3	C66	Si1	-116.9(3)	C77	Ni3	C66	C67	80.4(3)
C67	Ni3	C77	Ni4	-71.98(18)	C67	Ni3	C77	Ni5	-157.06(15)
C67	Ni3	C77	Si3	83.40(19)	C67	Ni3	C77	N6	-111.9(3)
C77	Ni3	C67	N4	45.7(4)	C77	Ni3	C67	C66	-133.34(17)
Ni3	Ni4	Ni5	Ni3	0.000(13)	Ni3	Ni4	Ni5	Si2	51.042(19)
Ni3	Ni4	Ni5	N6	-117.48(2)	Ni3	Ni4	Ni5	C77	-62.362(18)
Ni3	Ni4	Ni5	C82	164.52(4)	Ni3	Ni4	Si4	N4	14.08(4)
Ni3	Ni4	Si4	C37	-116.19(5)	Ni3	Ni4	Si4	C43	125.11(4)
Ni3	Ni4	N6	Ni5	48.99(8)	Ni3	Ni4	N6	C77	-23.99(8)
Ni3	Ni4	N6	C78	-156.3(2)	Ni3	Ni4	C77	Ni3	0.000(11)
Ni3	Ni4	C77	Ni5	79.96(10)	Ni3	Ni4	C77	Si3	-49.4(3)
Ni3	Ni4	C77	N6	147.90(16)	Ni5	Ni4	Si4	N4	31.83(8)
Ni5	Ni4	Si4	C37	-98.44(7)	Ni5	Ni4	Si4	C43	142.86(4)
Si4	Ni4	Ni5	Ni3	-21.00(5)	Si4	Ni4	Ni5	Si2	30.05(6)
Si4	Ni4	Ni5	N6	-138.48(6)	Si4	Ni4	Ni5	C77	-83.36(5)
Si4	Ni4	Ni5	C82	143.52(5)	Ni5	Ni4	N6	Ni5	-0.000(14)
Ni5	Ni4	N6	C77	-72.98(11)	Ni5	Ni4	N6	C78	154.7(3)
N6	Ni4	Ni5	Ni3	117.48(12)	N6	Ni4	Ni5	Si2	168.52(13)
N6	Ni4	Ni5	N6	0.00(12)	N6	Ni4	Ni5	C77	55.12(12)
N6	Ni4	Ni5	C82	-78.00(13)	C72	Ni4	Ni5	Ni3	-146.13(11)
C72	Ni4	Ni5	Si2	-95.09(11)	C72	Ni4	Ni5	N6	96.39(11)
C72	Ni4	Ni5	C77	151.51(11)	C72	Ni4	Ni5	C82	18.39(12)
Ni5	Ni4	C77	Ni3	-79.96(10)	Ni5	Ni4	C77	Ni5	0.000(13)

Ni5	Ni4	C77	Si3	-129.4(4)	Ni5	Ni4	C77	N6	67.94(9)
C77	Ni4	Ni5	Ni3	62.36(11)	C77	Ni4	Ni5	Si2	113.40(11)
C77	Ni4	Ni5	N6	-55.12(11)	C77	Ni4	Ni5	C77	-0.00(11)
C77	Ni4	Ni5	C82	-133.12(11)	Si4	Ni4	N6	Ni5	119.46(14)
Si4	Ni4	N6	C77	46.5(2)	Si4	Ni4	N6	C78	-85.8(3)
N6	Ni4	Si4	N4	-56.4(2)	N6	Ni4	Si4	C37	173.35(19)
N6	Ni4	Si4	C43	54.6(2)	C72	Ni4	Si4	N4	164.63(11)
C72	Ni4	Si4	C37	34.36(11)	C72	Ni4	Si4	C43	-84.34(11)
Si4	Ni4	C77	Ni3	55.18(10)	Si4	Ni4	C77	Ni5	135.14(6)
Si4	Ni4	C77	Si3	5.8(3)	Si4	Ni4	C77	N6	-156.92(7)
C77	Ni4	Si4	N4	-24.83(11)	C77	Ni4	Si4	C37	-155.10(10)
C77	Ni4	Si4	C43	86.19(11)	C72	Ni4	N6	Ni5	-105.66(14)
C72	Ni4	N6	C77	-178.64(13)	C72	Ni4	N6	C78	49.0(2)
N6	Ni4	C77	Ni3	-147.9(2)	N6	Ni4	C77	Ni5	-67.94(14)
N6	Ni4	C77	Si3	162.7(4)	N6	Ni4	C77	N6	0.00(11)
C77	Ni4	N6	Ni5	72.98(17)	C77	Ni4	N6	C77	0.00(13)
C77	Ni4	N6	C78	-132.3(3)	C72	Ni4	C77	Ni3	-145.2(2)
C72	Ni4	C77	Ni5	-65.3(3)	C72	Ni4	C77	Si3	165.3(3)
C72	Ni4	C77	N6	2.7(3)	Ni3	Ni5	Si2	Ni1	-34.64(3)
Ni3	Ni5	Si2	Ni3	0.000(13)	Ni3	Ni5	Si2	C13	96.19(3)
Ni3	Ni5	Si2	C19	-153.70(6)	Ni3	Ni5	N6	Ni4	-48.39(8)
Ni3	Ni5	N6	C77	26.29(9)	Ni3	Ni5	N6	C78	160.1(3)
Ni3	Ni5	C77	Ni3	-0.000(16)	Ni3	Ni5	C77	Ni4	-78.03(10)
Ni3	Ni5	C77	Si3	74.04(14)	Ni3	Ni5	C77	N6	-144.5(2)
Ni4	Ni5	Si2	Ni1	-79.89(5)	Ni4	Ni5	Si2	Ni3	-45.25(2)
Ni4	Ni5	Si2	C13	50.94(4)	Ni4	Ni5	Si2	C19	161.06(4)
Ni4	Ni5	N6	Ni4	0.000(14)	Ni4	Ni5	N6	C77	74.68(8)
Ni4	Ni5	N6	C78	-151.6(4)	Ni4	Ni5	C77	Ni3	78.03(10)
Ni4	Ni5	C77	Ni4	-0.000(13)	Ni4	Ni5	C77	Si3	152.07(19)
Ni4	Ni5	C77	N6	-66.50(14)	Si2	Ni5	N6	Ni4	-20.9(2)
Si2	Ni5	N6	C77	53.8(3)	Si2	Ni5	N6	C78	-172.47(15)
N6	Ni5	Si2	Ni1	-64.6(2)	N6	Ni5	Si2	Ni3	-30.01(19)
N6	Ni5	Si2	C13	66.18(19)	N6	Ni5	Si2	C19	176.30(18)
Si2	Ni5	C77	Ni3	-6.29(16)	Si2	Ni5	C77	Ni4	-84.32(11)
Si2	Ni5	C77	Si3	67.75(16)	Si2	Ni5	C77	N6	-150.81(8)
C77	Ni5	Si2	Ni1	-29.44(14)	C77	Ni5	Si2	Ni3	5.20(13)
C77	Ni5	Si2	C13	101.38(13)	C77	Ni5	Si2	C19	-148.50(13)
C82	Ni5	Si2	Ni1	141.88(16)	C82	Ni5	Si2	Ni3	176.52(15)
C82	Ni5	Si2	C13	-87.29(15)	C82	Ni5	Si2	C19	22.82(16)

N6	Ni5	C77	Ni3	144.5(3)	N6	Ni5	C77	Ni4	66.50(19)
N6	Ni5	C77	Si3	-141.4(3)	N6	Ni5	C77	N6	-0.00(13)
C77	Ni5	N6	Ni4	-74.68(17)	C77	Ni5	N6	C77	0.00(15)
C77	Ni5	N6	C78	133.8(4)	C82	Ni5	N6	Ni4	130.56(17)
C82	Ni5	N6	C77	-154.75(17)	C82	Ni5	N6	C78	-21.0(4)
C82	Ni5	C77	Ni3	-170.9(3)	C82	Ni5	C77	Ni4	111.1(3)
C82	Ni5	C77	Si3	-96.9(3)	C82	Ni5	C77	N6	44.6(4)
Ni1	Si1	N2	Ni1	-0.000(14)	Ni1	Si1	N2	Ni2	78.39(11)
Ni1	Si1	N2	C54	-136.5(3)	Ni1	Si1	C1	C2	-53.82(19)
Ni1	Si1	C1	C6	124.79(19)	Ni1	Si1	C7	C8	175.82(15)
Ni1	Si1	C7	C12	1.5(6)	Ni1	Si1	C66	Ni1	0.000(12)
Ni1	Si1	C66	Ni2	-68.85(7)	Ni1	Si1	C66	Ni3	-12.6(3)
Ni1	Si1	C66	C67	138.2(5)	Ni2	Si1	N2	Ni1	-78.39(11)
Ni2	Si1	N2	Ni2	-0.000(14)	Ni2	Si1	N2	C54	145.2(3)
Ni2	Si1	C1	C2	-44.6(4)	Ni2	Si1	C1	C6	133.97(17)
Ni2	Si1	C7	C8	167.4(2)	Ni2	Si1	C7	C12	-6.9(3)
Ni2	Si1	C66	Ni1	68.85(7)	Ni2	Si1	C66	Ni2	0.000(11)
Ni2	Si1	C66	Ni3	56.3(3)	Ni2	Si1	C66	C67	-153.0(5)
N2	Si1	C1	C2	-98.3(2)	N2	Si1	C1	C6	80.4(2)
C1	Si1	N2	Ni1	67.30(18)	C1	Si1	N2	Ni2	145.68(15)
C1	Si1	N2	C54	-69.2(3)	N2	Si1	C7	C8	-143.6(3)
N2	Si1	C7	C12	42.0(3)	C7	Si1	N2	Ni1	-162.73(13)
C7	Si1	N2	Ni2	-84.35(17)	C7	Si1	N2	C54	60.8(3)
N2	Si1	C66	Ni1	40.35(12)	N2	Si1	C66	Ni2	-28.50(12)
N2	Si1	C66	Ni3	27.8(4)	N2	Si1	C66	C67	178.5(4)
C66	Si1	N2	Ni1	-47.91(13)	C66	Si1	N2	Ni2	30.48(14)
C66	Si1	N2	C54	175.6(2)	C1	Si1	C7	C8	-8.5(3)
C1	Si1	C7	C12	177.2(3)	C7	Si1	C1	C2	127.7(2)
C7	Si1	C1	C6	-53.7(3)	C1	Si1	C66	Ni1	-80.86(12)
C1	Si1	C66	Ni2	-149.71(11)	C1	Si1	C66	Ni3	-93.5(4)
C1	Si1	C66	C67	57.3(4)	C66	Si1	C1	C2	5.3(2)
C66	Si1	C1	C6	-176.05(18)	C7	Si1	C66	Ni1	159.41(13)
C7	Si1	C66	Ni2	90.56(15)	C7	Si1	C66	Ni3	146.8(3)
C7	Si1	C66	C67	-62.4(5)	C66	Si1	C7	C8	113.8(3)
C66	Si1	C7	C12	-60.6(3)	Ni1	Si2	C13	C14	-21.8(2)
Ni1	Si2	C13	C18	160.91(15)	Ni1	Si2	C19	C20	134.76(19)
Ni1	Si2	C19	C24	-48.2(2)	Ni3	Si2	C13	C14	-88.0(2)
Ni3	Si2	C13	C18	94.67(18)	Ni3	Si2	C19	C20	-159.90(12)
Ni3	Si2	C19	C24	17.1(4)	Ni5	Si2	C13	C14	-151.67(17)

Ni5	Si2	C13	C18	31.0(2)	Ni5	Si2	C19	C20	-102.3(2)
Ni5	Si2	C19	C24	74.7(2)	C13	Si2	C19	C20	11.8(2)
C13	Si2	C19	C24	-171.2(2)	C19	Si2	C13	C14	95.9(2)
C19	Si2	C13	C18	-81.4(2)	Ni2	Si3	C25	C26	-17.8(4)
Ni2	Si3	C25	C30	163.9(3)	Ni2	Si3	C31	C32	-112.7(3)
Ni2	Si3	C31	C36	63.0(3)	Ni2	Si3	C77	Ni3	10.11(11)
Ni2	Si3	C77	Ni4	58.6(3)	Ni2	Si3	C77	Ni5	-62.41(15)
Ni2	Si3	C77	N6	-149.6(3)	Ni3	Si3	C25	C26	54.7(4)
Ni3	Si3	C25	C30	-123.7(3)	Ni3	Si3	C31	C32	176.40(19)
Ni3	Si3	C31	C36	-7.9(4)	Ni3	Si3	C77	Ni3	0.000(11)
Ni3	Si3	C77	Ni4	48.5(3)	Ni3	Si3	C77	Ni5	-72.52(14)
Ni3	Si3	C77	N6	-159.7(4)	C25	Si3	C31	C32	6.9(4)
C25	Si3	C31	C36	-177.4(3)	C31	Si3	C25	C26	-135.1(3)
C31	Si3	C25	C30	46.5(4)	C25	Si3	C77	Ni3	-115.35(13)
C25	Si3	C77	Ni4	-66.9(3)	C25	Si3	C77	Ni5	172.13(14)
C25	Si3	C77	N6	85.0(4)	C77	Si3	C25	C26	109.6(3)
C77	Si3	C25	C30	-68.7(4)	C31	Si3	C77	Ni3	126.72(12)
C31	Si3	C77	Ni4	175.2(3)	C31	Si3	C77	Ni5	54.21(18)
C31	Si3	C77	N6	-33.0(4)	C77	Si3	C31	C32	126.0(3)
C77	Si3	C31	C36	-58.3(3)	Ni4	Si4	N4	C67	-19.14(19)
Ni4	Si4	N4	C68	169.87(17)	Ni4	Si4	C37	C38	-115.88(18)
Ni4	Si4	C37	C42	63.3(2)	Ni4	Si4	C43	C44	83.4(2)
Ni4	Si4	C43	C48	-87.50(17)	N4	Si4	C37	C38	109.5(2)
N4	Si4	C37	C42	-71.3(2)	C37	Si4	N4	C67	117.13(17)
C37	Si4	N4	C68	-53.9(2)	N4	Si4	C43	C44	-157.25(19)
N4	Si4	C43	C48	31.8(2)	C43	Si4	N4	C67	-122.83(17)
C43	Si4	N4	C68	66.2(2)	C37	Si4	C43	C44	-41.1(2)
C37	Si4	C43	C48	147.99(17)	C43	Si4	C37	C38	-6.8(3)
C43	Si4	C37	C42	172.34(17)	Ni1	N2	C54	C55	50.2(3)
Ni1	N2	C54	C56	170.23(16)	Ni1	N2	C54	C57	-70.5(3)
Ni2	N2	C54	C55	-51.2(3)	Ni2	N2	C54	C56	68.8(3)
Ni2	N2	C54	C57	-171.90(14)	Si1	N2	C54	C55	174.2(2)
Si1	N2	C54	C56	-65.7(4)	Si1	N2	C54	C57	53.6(4)
Si4	N4	C67	Ni3	14.8(4)	Si4	N4	C67	C66	-167.1(5)
Si4	N4	C68	C69	-130.2(3)	Si4	N4	C68	C70	108.4(3)
Si4	N4	C68	C71	-11.6(4)	C67	N4	C68	C69	59.8(3)
C67	N4	C68	C70	-61.7(4)	C67	N4	C68	C71	178.4(2)
C68	N4	C67	Ni3	-173.0(2)	C68	N4	C67	C66	5.1(8)
Ni4	N6	C77	Ni3	43.4(3)	Ni4	N6	C77	Ni4	-0.000(15)

Ni4	N6	C77	Ni5	92.42(9)	Ni4	N6	C77	Si3	-163.7(4)
Ni4	N6	C78	C79	-72.7(3)	Ni4	N6	C78	C80	45.2(4)
Ni4	N6	C78	C81	167.76(18)	Ni5	N6	C77	Ni3	-49.0(3)
Ni5	N6	C77	Ni4	-92.42(9)	Ni5	N6	C77	Ni5	0.000(14)
Ni5	N6	C77	Si3	103.9(4)	Ni5	N6	C78	C79	69.2(4)
Ni5	N6	C78	C80	-172.9(2)	Ni5	N6	C78	C81	-50.3(5)
C77	N6	C78	C79	-179.1(3)	C77	N6	C78	C80	-61.2(5)
C77	N6	C78	C81	61.4(4)	C78	N6	C77	Ni3	173.3(3)
C78	N6	C77	Ni4	129.9(3)	C78	N6	C77	Ni5	-137.7(4)
C78	N6	C77	Si3	-33.8(6)	Si1	C1	C2	C3	179.15(17)
Si1	C1	C6	C5	-178.11(18)	C2	C1	C6	C5	0.5(4)
C6	C1	C2	C3	0.4(4)	C1	C2	C3	C4	-1.0(4)
C2	C3	C4	C5	0.7(5)	C3	C4	C5	C6	0.2(5)
C4	C5	C6	C1	-0.9(5)	Si1	C7	C8	C9	-175.2(2)
Si1	C7	C12	C11	174.9(3)	C8	C7	C12	C11	0.2(6)
C12	C7	C8	C9	-0.6(6)	C7	C8	C9	C10	0.2(6)
C8	C9	C10	C11	0.7(6)	C9	C10	C11	C12	-1.1(7)
C10	C11	C12	C7	0.7(7)	Si2	C13	C14	C15	-175.85(18)
Si2	C13	C18	C17	175.54(19)	C14	C13	C18	C17	-1.9(4)
C18	C13	C14	C15	1.6(4)	C13	C14	C15	C16	-0.4(5)
C14	C15	C16	C17	-0.6(5)	C15	C16	C17	C18	0.3(5)
C16	C17	C18	C13	1.0(5)	Si2	C19	C20	C21	176.8(2)
Si2	C19	C24	C23	-177.2(2)	C20	C19	C24	C23	0.0(5)
C24	C19	C20	C21	-0.3(5)	C19	C20	C21	C22	0.1(6)
C20	C21	C22	C23	0.3(7)	C21	C22	C23	C24	-0.6(7)
C22	C23	C24	C19	0.4(7)	Si3	C25	C26	C27	-179.6(3)
Si3	C25	C30	C29	-179.7(3)	C26	C25	C30	C29	1.9(7)
C30	C25	C26	C27	-1.1(7)	C25	C26	C27	C28	-0.4(7)
C26	C27	C28	C29	1.1(8)	C27	C28	C29	C30	-0.4(9)
C28	C29	C30	C25	-1.2(9)	Si3	C31	C32	C33	175.7(3)
Si3	C31	C36	C35	-176.1(3)	C32	C31	C36	C35	-0.1(6)
C36	C31	C32	C33	-0.1(6)	C31	C32	C33	C34	-0.2(7)
C32	C33	C34	C35	0.7(7)	C33	C34	C35	C36	-0.9(7)
C34	C35	C36	C31	0.6(7)	Si4	C37	C38	C39	-179.34(18)
Si4	C37	C42	C41	178.1(2)	C38	C37	C42	C41	-2.6(4)
C42	C37	C38	C39	1.5(4)	C37	C38	C39	C40	1.0(5)
C38	C39	C40	C41	-2.4(5)	C39	C40	C41	C42	1.3(5)
C40	C41	C42	C37	1.3(5)	Si4	C43	C44	C45	-172.82(18)
Si4	C43	C48	C47	172.75(18)	C44	C43	C48	C47	1.3(4)

C48	C43	C44	C45	-1.7(4)	C43	C44	C45	C46	1.3(5)
C44	C45	C46	C47	-0.2(5)	C45	C46	C47	C48	-0.2(5)
C46	C47	C48	C43	-0.3(5)	N3	C59	C60	C64	95.1(4)
N3	C59	C61	C65	131.5(12)	N3	C59	C62	C63	82.4(9)
N3	C59	C62	C64	-95.1(4)	N3	C59	C63	C62	-108.3(7)
N3	C59	C64	C60	-99.2(8)	N3	C59	C64	C62	108.5(6)
N3	C59	C65	C61	-54.0(16)	C60	C59	C61	C65	20.0(14)
C61	C59	C60	C64	-156.1(7)	C60	C59	C62	C63	-160.4(7)
C60	C59	C62	C64	22.1(5)	C62	C59	C60	C64	-26.2(6)
C60	C59	C63	C62	28.2(11)	C63	C59	C60	C64	-41.2(8)
C60	C59	C64	C60	0.0(5)	C60	C59	C64	C62	-152.3(13)
C64	C59	C60	C64	0.0(13)	C60	C59	C65	C61	-161.1(14)
C65	C59	C60	C64	-149.1(7)	C61	C59	C62	C63	-36.0(11)
C61	C59	C62	C64	146.5(6)	C62	C59	C61	C65	-104.6(13)
C61	C59	C63	C62	148.8(8)	C63	C59	C61	C65	-122.3(13)
C61	C59	C64	C60	51(2)	C61	C59	C64	C62	-101.7(18)
C64	C59	C61	C65	-19(3)	C61	C59	C65	C61	-0.0(13)
C65	C59	C61	C65	-0.0(15)	C62	C59	C63	C62	0.0(9)
C63	C59	C62	C63	-0.0(8)	C63	C59	C62	C64	-177.5(12)
C62	C59	C64	C60	152.3(13)	C62	C59	C64	C62	0.0(5)
C64	C59	C62	C63	177.5(14)	C64	C59	C62	C64	0.0(10)
C62	C59	C65	C61	87.4(15)	C65	C59	C62	C63	-59.9(11)
C65	C59	C62	C64	122.6(7)	C63	C59	C64	C60	153.6(9)
C63	C59	C64	C62	1.3(6)	C64	C59	C63	C62	-2.2(11)
C63	C59	C65	C61	60.0(15)	C65	C59	C63	C62	130.8(8)
C64	C59	C65	C61	168.1(16)	C65	C59	C64	C60	42.0(17)
C65	C59	C64	C62	-110.2(11)	C59	C60	C64	C59	0.0(2)
C59	C60	C64	C62	29.3(12)	C59	C61	C65	C59	0.0(2)
C59	C62	C63	C59	-0.0(2)	C59	C62	C64	C59	0.0(2)
C59	C62	C64	C60	-34.0(15)	C63	C62	C64	C59	-6(4)
C63	C62	C64	C60	-40(5)	C64	C62	C63	C59	5(3)
Ni1	C66	C67	Ni3	-35.9(2)	Ni1	C66	C67	N4	145.6(5)
Ni2	C66	C67	Ni3	50.4(2)	Ni2	C66	C67	N4	-128.1(5)
Ni3	C66	C67	Ni3	0.000(15)	Ni3	C66	C67	N4	-178.5(7)
Si1	C66	C67	Ni3	-162.6(5)	Si1	C66	C67	N4	19.0(10)
N7	C83	C84	C89	104.2(4)	N7	C83	C85	C87	85.1(7)
N7	C83	C85	C89	-103.4(4)	N7	C83	C86	C88	95.7(9)
N7	C83	C87	C85	-105.0(6)	N7	C83	C88	C86	-91.9(10)
N7	C83	C89	C84	-88.5(6)	N7	C83	C89	C85	104.3(5)

C84	C83	C85	C87	-162.6(6)	C84	C83	C85	C89	8.9(4)
C85	C83	C84	C89	-12.5(6)	C84	C83	C86	C88	-17.3(11)
C86	C83	C84	C89	-139.2(6)	C84	C83	C87	C85	25.3(11)
C87	C83	C84	C89	-26.4(9)	C84	C83	C88	C86	163.8(10)
C88	C83	C84	C89	-145.3(5)	C84	C83	C89	C84	-0.0(4)
C84	C83	C89	C85	-167.2(7)	C89	C83	C84	C89	-0.0(6)
C85	C83	C86	C88	-139.8(10)	C86	C83	C85	C87	-39.0(9)
C86	C83	C85	C89	132.5(5)	C85	C83	C87	C85	0.0(7)
C87	C83	C85	C87	0.0(6)	C87	C83	C85	C89	171.5(10)
C85	C83	C88	C86	49.9(14)	C88	C83	C85	C87	-56.6(11)
C88	C83	C85	C89	114.8(8)	C85	C83	C89	C84	167.2(7)
C85	C83	C89	C85	0.0(4)	C89	C83	C85	C87	-171.5(9)
C89	C83	C85	C89	-0.0(4)	C86	C83	C87	C85	145.4(7)
C87	C83	C86	C88	-159.4(10)	C86	C83	C88	C86	0.0(10)
C88	C83	C86	C88	0.0(10)	C86	C83	C89	C84	63.5(12)
C86	C83	C89	C85	-103.7(11)	C89	C83	C86	C88	-56.4(16)
C87	C83	C88	C86	21.8(11)	C88	C83	C87	C85	137.7(7)
C87	C83	C89	C84	162.6(5)	C87	C83	C89	C85	-4.6(4)
C89	C83	C87	C85	8.0(7)	C88	C83	C89	C84	42.7(9)
C88	C83	C89	C85	-124.5(7)	C89	C83	C88	C86	137.2(11)
C83	C84	C89	C83	0.00(13)	C83	C84	C89	C85	13.3(7)
C83	C85	C87	C83	0.00(14)	C83	C85	C89	C83	-0.00(16)
C83	C85	C89	C84	-16.3(9)	C87	C85	C89	C83	17(2)
C87	C85	C89	C84	1(3)	C89	C85	C87	C83	-14.6(17)
C83	C86	C88	C83	0.00(14)					

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