Supporting Information

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1. Experimental section

General procedures: All experiments were perfomed under dry argon gas using standard Schlenk techniques. Toluene, benzene, di-*n*-butylether and *n*-heptane were dried over Na/K respectively $LiAlH_4$ and stored under argon-atmosphere. C_6D_6 was dried over Na/K and stored over activated molecular sieve (3 Å). ($Dipp_2$NacNac)Ga was prepared according to literature procedure.[1] $SbCl_3$ was sublimed prior to use, $LiAlH_4$, PH_3 and AsH_3 were used as purchased.

^{1}H, ^{13}C and ^{31}P NMR-spectra were recorded on a Bruker AV II 300 MHz and AV III HD 300 MHz relative to the tetramethylsilane standard. IR-spectra were recorded on a Bruker Alpha FT-IR with a diamond ATR (500-4000 cm^{-1}). Elemental analyses were performed on an ELEMENTAR vario Microcube and the content is reported in %. The TGA/DSC were performed on a DSC-TGA 3 from METTLER TOLEDO. X-ray crystallographic data were collected on a Bruker D8 Quest diffractometer using monochromatic Mo-Kα radiation (λ = 0.71073 Å) and a PHOTON 100 detector. Multi-scan and numerical absorption corrections were applied using the SADABS program.[2,3] The solution of the structure was performed with intrinsic phasing with the SHELXT-2015 solution program, while for the structure refinement with full-matrix least-squares against F^2 the SHELXL-2015 or SHELXL-2018 packages were used, both within either the OLEX^2 or SHELXLE environments.[4–7] All non-hydrogen atoms were refined with anisotropic displacement parameters. The hydrogen atoms at the carbon atoms were refined using the "riding model" approach with isotropic displacement parameters 1.2 times (1.5 times for terminal methyl groups) of that of the preceding carbon atom. More details regarding the refinements of individual structures are given in the next section. The hydrogen atoms at the Ga and Sb atoms were refined using appropriate distance restraints. CCDC 2053170 (**1**), 2053171 (**2**) 2053167 (**3**), 2053168 (**4**) and 2053169 (**5**) contain the supplementary crystallographic data for this publication. These data can be obtained free of charge from The Cambridge Crystallographic Data Centre via www.ccdc.cam.ac.uk/structures.

Synthesis of ($Dipp_2$NacNac)GaH(PH_2) (1). A constant PH_3 gas flow was passed through a solution of 0.18 g ($Dipp_2$NacNac)Ga (0.37 mmol, 1 eq) in 10 mL toluene at -20 °C. The reaction was stopped after the former yellow solution was discoloured. Excess of PH_3 was removed from the solution and toluene was removed *in vacuo*. The obtained colourless solid was dissolved in 10 mL *n*-heptane and centrifugation to remove traces of insolvable contamination. Subsequently the solution was concentrated to 1 mL. Storage at -32 °C afforded colourless blocks of **1** in a yield of 0.095 g (0.18 mmol, 49%).

Elemental analysis calcd: for $C_{29}H_{44}GaN_2P$: C, 66.81; H, 8.51; N, 5.37. Found: C, 66.41; H, 8.427; N, 5.51. **^{1}H NMR** (300 MHz, C_6D_6) δ (ppm) = 0.46 (d, 2H, PH_2, $^1J_{HP}$ = 175.5 Hz), 1.14

(d, 6H, CH(CH_3)$_2$, $^2J_{HH}$ = 6.8 Hz), 1.17 (d, 6H, CH(CH_3)$_2$, $^3J_{HH}$ = 6.9 Hz), 1.29 (d, 6H, CH(CH_3)$_2$, $^3J_{HH}$ = 6.8 Hz), 1.44 (d, 6H, CH(CH_3)$_2$, $^3J_{HH}$ = 6.9 Hz), 1.57 (s, 6H, β-CH_3), 3.31-3.43 (m, 4H, C*H*(CH$_3$)$_2$), 4.81 (s, 1H, γ-C*H*), 6.00 (d, 1H, Ga*H*, $^3J_{HP}$ = 25.4 Hz), 7.05-7.12 (m, 6H, Aryl-*H*). **^{13}C{^{1}H} NMR** (75.5 MHz, C_6D_6) δ (ppm) = 23.3, 24.2, 24.5, 24.6, 26.4, 28.2, 29.0 (*C*(*C*H$_3$)$_3$, *C*H(*C*H$_3$)$_2$), 96.0 (γ-CH), 124.3, 124.7, 127.2, 128.1, 141.3, 143.3, 144.9 (Aryl-*C*), 169.1 (N*C*CH$_3$). **^{31}P{^{1}H} NMR** (121.5 MHz, C_6D_6) δ (ppm) = -286.0 (s). **^{31}P NMR** (121.5 MHz, C_6D_6) δ (ppm) = -286.0 (td, $^1J_{PH}$ = 174.8 Hz, $^2J_{PH}$ = 25.3 Hz). **IR** (ATR) ν (cm^{-1}) = 3034, 3023, 2959, 2923, 2865, 2283 (*PH*), 1828 (*GaH*), 1554, 1519, 1457, 1440, 1384, 1316, 1259, 1177, 1103, 1053, 1019, 934, 904, 866, 801, 795, 754, 713, 632, 600, 576, 521, 438.

Synthesis of (Dipp$_2$NacNac)GaH(AsH$_2$) (2). The synthesis of **2** was carried out similar to **1** with a constant AsH$_3$-gas flow at 0 °C. 0.137 g (Dipp$_2$NacNac)Ga (0.28 mmol) afforded 0.097 g of **2** (0.17 mmol, 61%) as colourless blocks from *n*-heptane at -32 °C.

Elemental analysis calcd.(%) for $C_{29}H_{44}GaN_2As$: C, 61.61; H, 7.85; N, 4.96. Found: C, 61.51; H, 8.021; N, 5.35. **^{1}H NMR** (300 MHz, C_6D_6) δ (ppm) = -0.16 (s, 2H, As*H*$_2$), 1.14 (d, 6H, CH(C*H*$_3$)$_2$, $^2J_{HH}$ = 6.8 Hz), 1.17 (d, 6H, CH(C*H*$_3$)$_2$, $^3J_{HH}$ = 6.7 Hz), 1.30 (d, 6H, CH(C*H*$_3$)$_2$, $^3J_{HH}$ = 6.8 Hz), 1.43 (d, 6H, CH(C*H*$_3$)2, $^3J_{HH}$ = 6.9 Hz), 1.57 (s, 6H, β-C*H*$_3$), 3.29-3.46 (m, 4H, C*H*(CH$_3$)$_2$), 4.82 (s, 1H, γ-C*H*), 6.33 (s, 1H, Ga*H*), 7.05-7.12 (m, 6H, Aryl-*H*). **^{13}C{^{1}H} NMR** (75.5 MHz, C_6D_6) δ (ppm) = 23.4, 24.2, 24.6, 24.8, 26.4, 28.2, 29.1 (*C*(*C*H$_3$)$_3$, *C*H(*C*H$_3$)$_2$), 96.0 (γ-CH), 124.2, 124.7, 127.2, 128.1, 141.4, 143.1, 145.0 (Aryl-*C*), 169.1 (N*C*CH$_3$). **IR** (ATR) ν (cm^{-1}) = 3055, 3022, 2959, 2923, 2864, 2080 (*AsH*), 1823 (*GaH*), 1552, 1519, 1458, 1439, 1384, 1316, 1259, 1176, 1098, 1017, 934, 865, 795, 753, 713, 648, 614, 517, 437.

Synthesis of (Dipp$_2$NacNac)GaH(SbH$_2$) (3). The following synthesis was performed under exclusion of light. A solution of 2 g $SbCl_3$ in 10 mL *n*Bu$_2$O was added dropwise to a solution of 0.5 g $LiAlH_4$ in 70 mL *n*Bu$_2$O at -30 °C. Immediately, evolution of gas and formation of elemental antimony was observed. The formed gases SbH_3 and H_2 were removed *in vacuo* and passed through a cooling trap at -40 °C to remove traces of *n*Bu$_2$O. SbH_3 was collected in a second trap at -196°C. This cooling trap was separated after the reaction was stopped and connected to a schlenk tube with gas inlet pipe containing 0.183 g of (Dipp$_2$NacNac)Ga in 20 mL of toluene. The cooling trap was warmed to -78°C and the gas was passed through the schlenk tube at -50 °C. The reaction mixture was slowly warmed up while the reaction was completed after room temperature was reached. Toluene was removed *in vacuo* and the

remaining solid extracted with *n*-heptane and centrifuged. Colourless blocks of **3** were obtained at -32 °C in a yield of 0.166 g (0.27 mmol, 73%).

Elemental analysis calcd.(%) for $C_{29}H_{44}GaN_2Sb$ C, 56.90; H, 7.25; N, 4.58. Found: C, 57.35; H, 7.102; N, 4.77. **^{1}H NMR** (300 MHz, C_6D_6) δ (ppm) = -1.50 (s, 2H, SbH_2), 1.13 (d, 6H, CH(CH_3)$_2$, $^2J_{HH}$ = 6.8 Hz), 1.17 (d, 6H, CH(CH_3)$_2$, $^3J_{HH}$ = 6.9 Hz), 1.32 (d, 6H, CH(CH_3)$_2$, $^3J_{HH}$ = 6.8 Hz), 1.41 (d, 6H, CH(CH_3)2, $^3J_{HH}$ = 6.9 Hz), 1.58 (s, 6H, β-CH_3), 3.36 (hept, 4H, CH(CH$_3$)$_2$, $^2J_{HH}$ = 6.8 Hz), 4.84 (s, 1H, γ-CH), 7.05-7.12 (m, 7H, GaH and Aryl-H). **^{13}C{^{1}H} NMR** (75.5 MHz, C_6D_6) δ (ppm) = 23.5, 24.2, 24.8, 26.4, 28.2, 29.3 (C(CH_3)$_3$, CH(CH_3)$_2$), 96.2 (γ-CH), 124.2, 124.8, 127.2, 128.1, 141.8, 142.7, 145.3 (Aryl-C), 169.2 (NCCH$_3$). **IR** (ATR) ν (cm^{-1}) = 3066, 3056, 3020, 2960, 2923, 2865, 1845 (*GaH*), 1816 (*SbH*), 1552, 1520, 1458, 1437, 1383, 1317, 1231, 1177, 1101, 1054, 1018, 935, 864, 796, 757, 723, 714, 641, 605, 588, 522.0, 449, 431. **TGA**: decomposition at 273.70 °C.

Synthesis of {(Dipp$_2$NacNac)GaH}$_2$(AsH) (4). 0.07 g (0.12 mmol, 1 eq) of **2** were added to a solution of 0.06 g (Dipp2NacNac)Ga (0.12 mmol, 1 eq) in 4 mL toluene. The solution was stirred over night and the solvent subsequently removed. The remaining colourless solid was extracted with *n*-heptane and centrifuged. Colourless blocks of **4** in a yield of 0.052 g (0.05 mmol, 41%) were obtained from benzene at 6 °C.

Elemental analysis calcd.(%) for $C_{58}H_{85}Ga_2N_4As$: C, 66.18; H, 8.14; N, 5.32. Found: C, 65.92, H, 7.567; N, 4.75. **^{1}H NMR** (300 MHz, C_6D_6) δ (ppm) = -2.10 (s, 1H, AsH), 0.96 (d, 12H, CH(CH_3)$_2$, $^3J_{HH}$ = 6.7 Hz), 1.09 (d, 12H, CH(CH_3)$_2$, $^3J_{HH}$ = 6.8 Hz), 1.17 (d, 12H, CH(CH_3)$_2$, $^3J_{HH}$ = 6.9 Hz), 1.26 (d, 12H, CH(CH_3)$_2$, $^3J_{HH}$ = 6.9 Hz), 1.43 (s, 12H, β-CH_3), 3.11 (hept, 4H, CH(CH$_3$)$_2$, $^3J_{HH}$ = 6.8 Hz), 3.39 (hept, 4H, CH(CH$_3$)$_2$, $^3J_{HH}$ = 7.0 Hz), 4.73 (s, 2H, γ-CH), 6.01 (s, 2H, GaH), 6.98-7.04 (m, 8H, Aryl-H), 7.10-7.12 (m, 4H, Aryl-H). **^{13}C{^{1}H} NMR** (75.5 MHz, C_6D_6) δ (ppm) = 23.7, 23.8, 24.3, 25.0, 27.5, 27.9, 29.3 (C(CH_3)$_3$, CH(CH_3)$_2$), 95.9 (γ-CH), 123.8, 124.3, 126.8, 18.1, 142.4, 143.1 144.8 (Aryl-C), 168.4 (NCCH$_3$). **IR** (ATR) = 3068, 2960, 2925, 2865, 2094 (AsH), 1861 (GaH), 1815, 1585, 1548, 1521, 1456, 1438, 1392, 1315, 1259, 1176, 1096, 1054, 1015, 935, 859, 796, 759, 718, 681, 643, 603, 588, 523, 454, 439.

Synthesis of {(Dipp$_2$NacNac)GaH}$_2$(SbH) (5). 0.093 g (0.15 mmol, 1 eq) of **3** was added to a solution of 0.06 g (Dipp$_2$NacNac)Ga (0.15 mmol, 1 eq) in 5 mL toluene. The solution was stirred over night and the solvent removed. The remaining yellow solid was extracted with *n*-heptane and centrifuged. Light yellow blocks of **5** in a yield of 0.09 g (0.08 mmol, 55%) were obtained from benzene at 6 °C.

Elemental analysis calcd.(%) for $C_{58}H_{85}Ga_2N_4Sb$: C, 63.36; H, 7.79; N, 5.10. Found: C, 62.73; H, 7.750; N, 5.23. **^{1}H NMR** (300 MHz, C_6D_6) δ (ppm) = -4.62 (s, 1H, Sb*H*), 0.94-1.01 (br, m, 12H, CH(C*H*$_3$)$_2$) 1.09 (d, 12H, CH(C*H*$_3$)$_2$, $^3J_{HH}$ = 6.7 Hz), 1.18 (d, 12H, CH(C*H*$_3$)$_2$, $^3J_{HH}$ = 6.8 Hz), 1.30-1.35 (br, m, 12H, CH(C*H*$_3$)$_2$), 1.47 (br, s, 12H, β-C*H*$_3$), 3.13 (hept, 4H, C*H*(CH$_3$)$_2$, $^3J_{HH}$ = 6.7 Hz), 3.30-3.41 (br, m, 4H, C*H*(CH$_3$)$_2$), 4.75 (s, 2H, γ-C*H*), 6.43 (s, 2H, Ga*H*), 7.01-7.07 (m, 8H, Aryl-*H*), 7.12-7.14 (m, 4H, Aryl-*H*). **^{13}C{^{1}H} NMR** (75.5 MHz, C_6D_6) δ (ppm) = 23.9, 24.2, 24.3, 24.5, 24.9, 25.6, 27.4, 27.9, 28.4, 29.5 (*C*(*C*H$_3$)$_3$, *C*H(*C*H$_3$)$_2$), 96.0 (γ-CH), 123.8, 124.3, 124.7, 126.8, 142.6, 142.9, 145.0 (Aryl-*C*), 168.5 (N*C*CH$_3$). **IR** (ATR) ν (cm^{-1}) = 3058, 3013, 2960, 2924, 2865, 1891, 1852 (GaH), 1803 (SbH), 1584, 1548, 1519, 1437, 1392, 1313, 1252, 1175, 1098, 1055, 1016, 934, 858, 796, 758, 730, 669, 641, 598, 583, 521, 453, 437. **TGA** (°C): 247.47.

2. Experimental spectra TGA

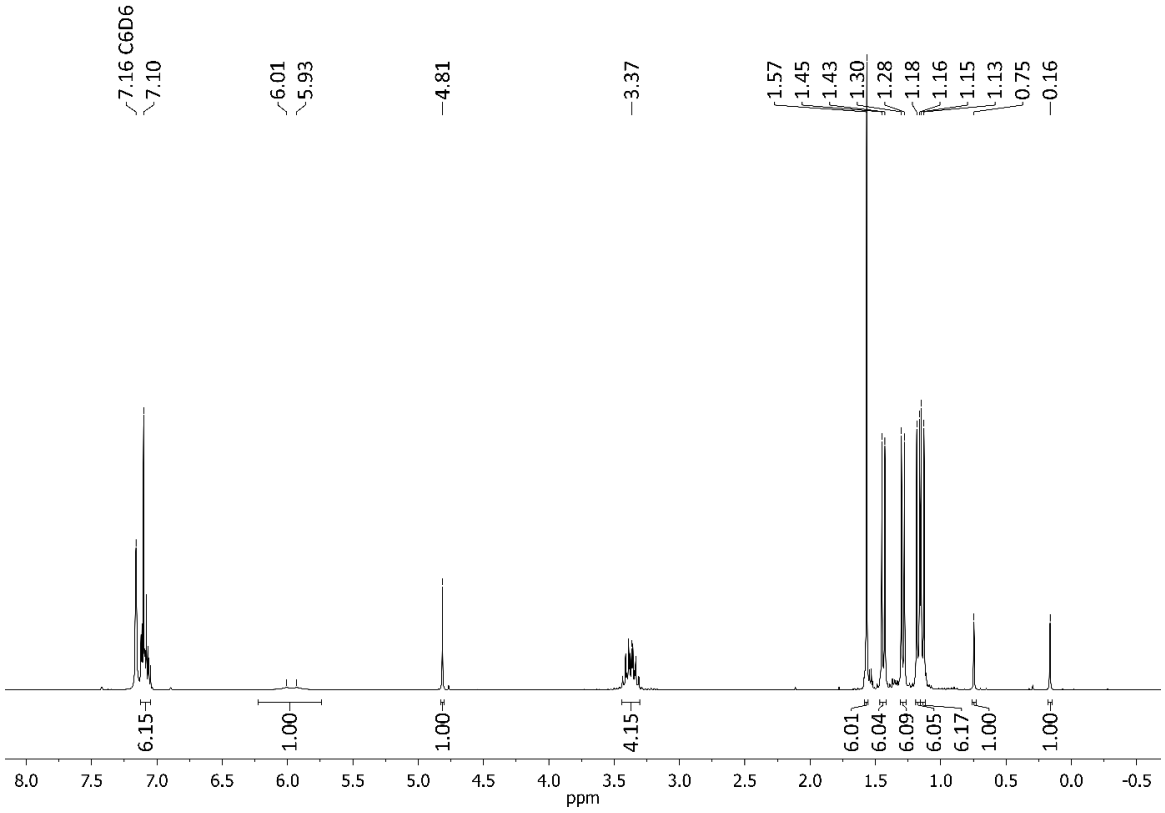

Figure S1. ^{1}H-NMR spectrum (300 MHz, C_6D_6, 25 °C) of (Dipp$_2$NacNac)GaH(PH$_2$) (**1**).

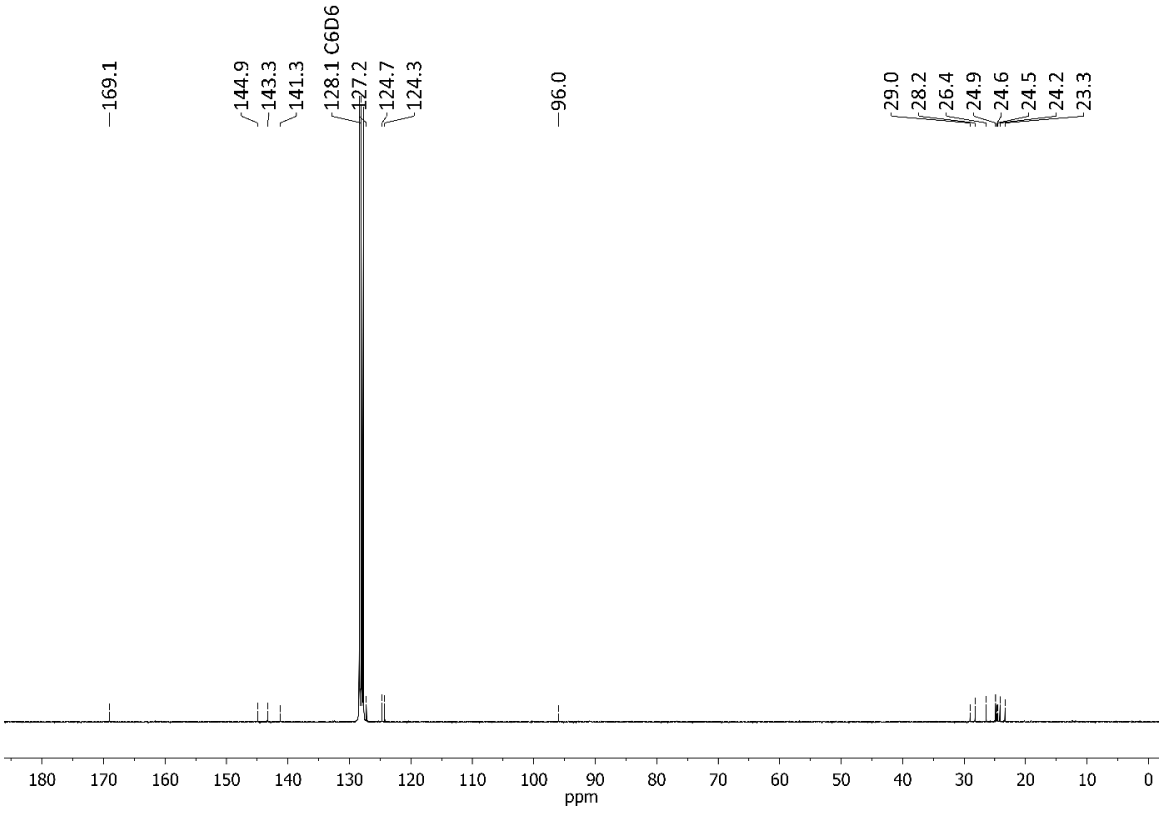

Figure S2. ^{13}C-{^{1}H}-NMR spectrum (75.5 MHz, C_6D_6, 25 °C) of (Dipp$_2$NacNac)GaH(PH$_2$) (**1**).

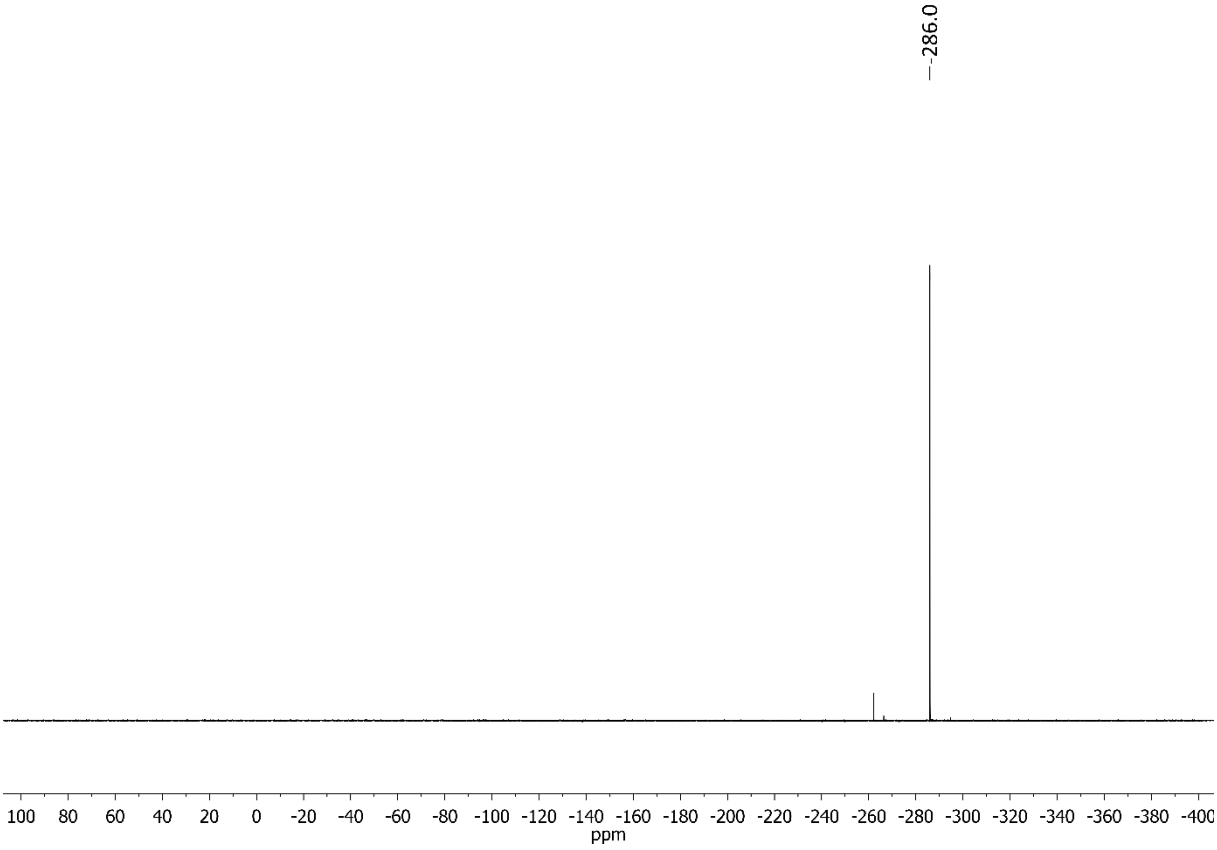

Figure S3. ^{31}P-{^{1}H}-NMR spectrum (121.5 MHz, C_6D_6, 25 °C) of ($Dipp_2$NacNac)GaH(PH_2) (**1**).

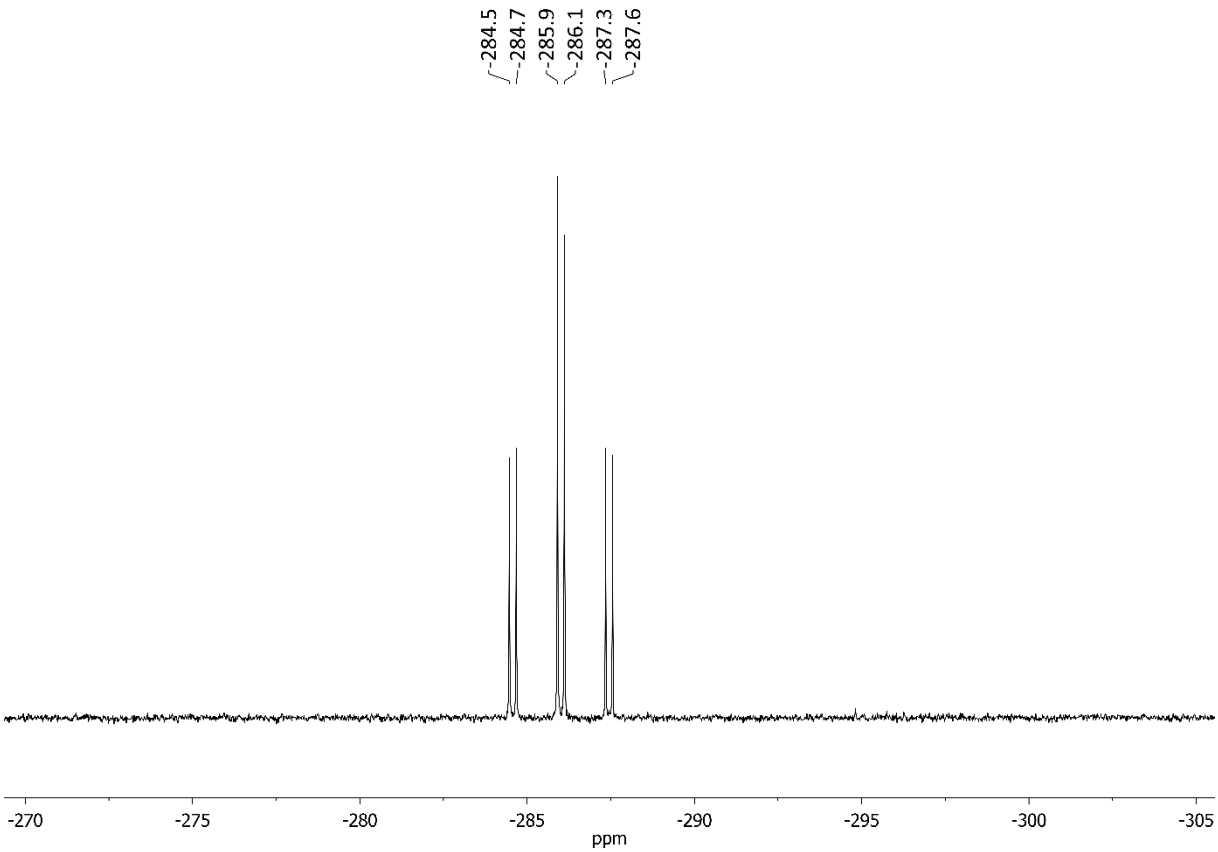

Figure S4. ^{31}P-NMR spectrum (121.5 MHz, C_6D_6, 25 °C) of ($Dipp_2$NacNac)GaH(PH_2) (**1**).

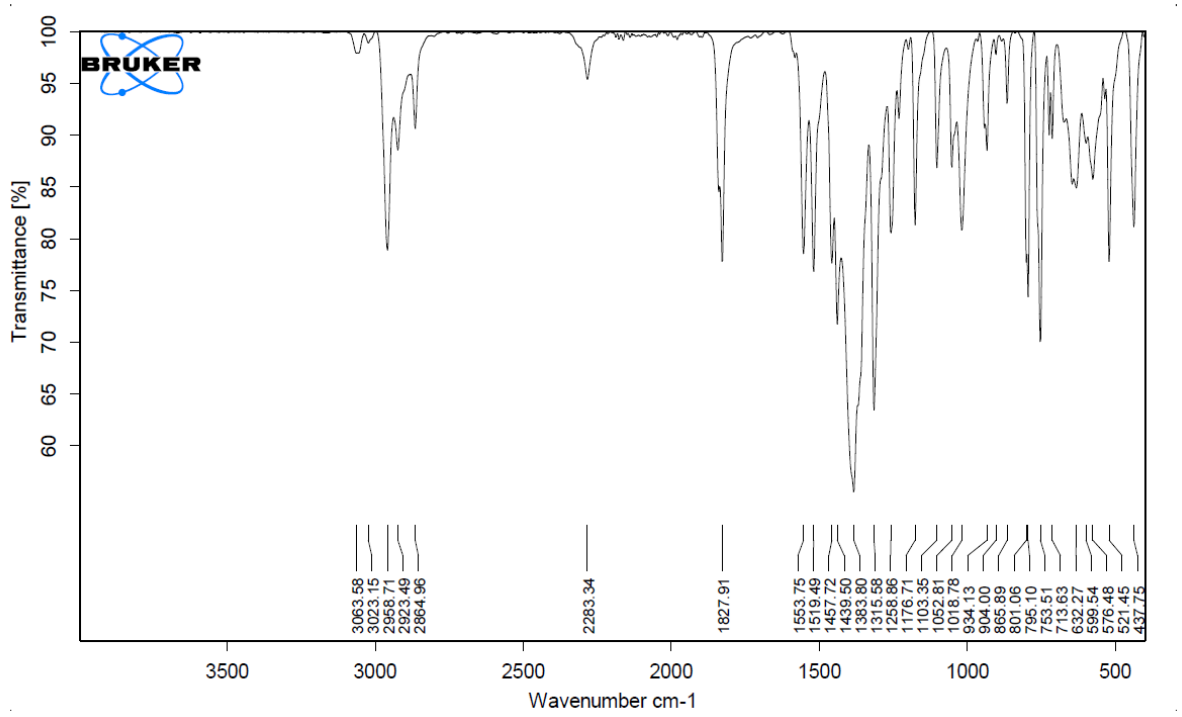

Figure S5. AT-IR spectrum of (Dipp$_2$NacNac)GaH(PH$_2$) (**1**).

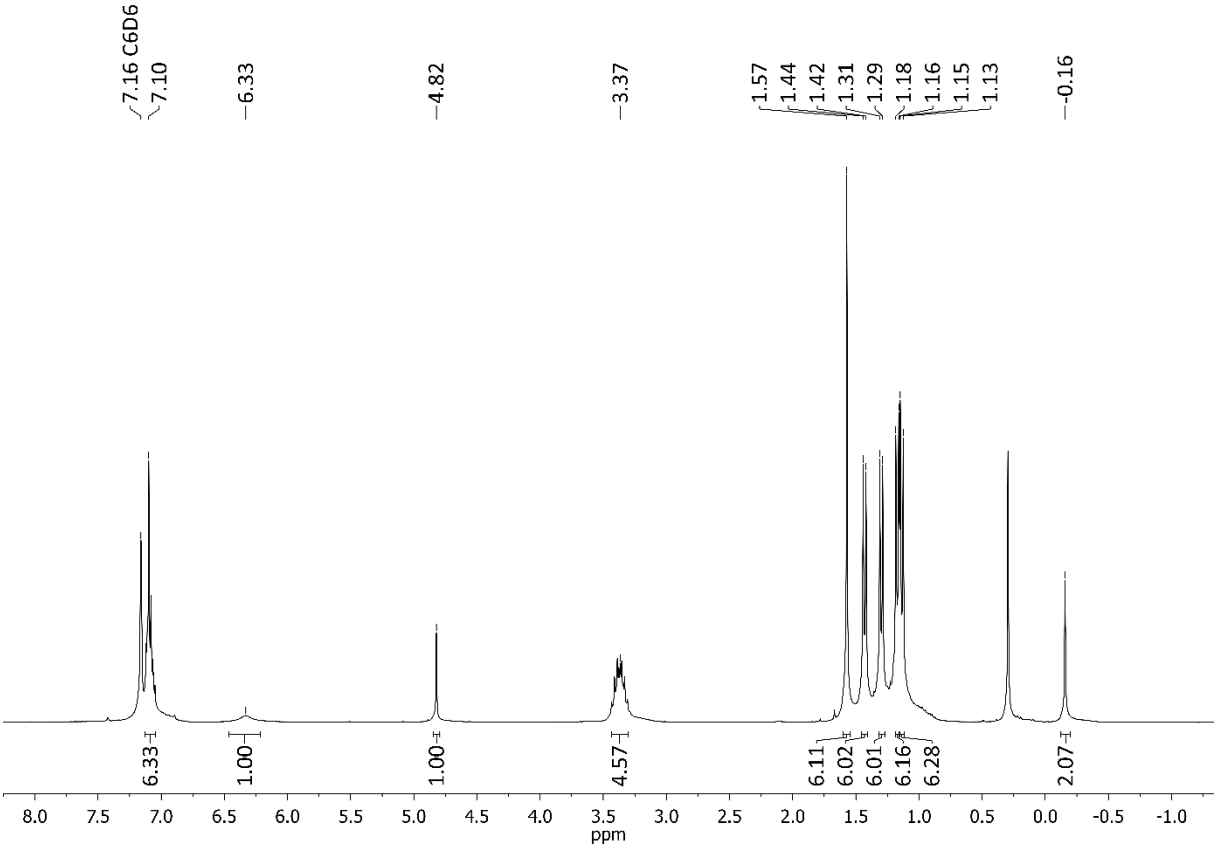

Figure S6. ^{1}H-NMR spectrum (300 MHz, C$_6$D$_6$, 25 °C) of (Dipp$_2$NacNac)GaH(AsH$_2$) (**2**).

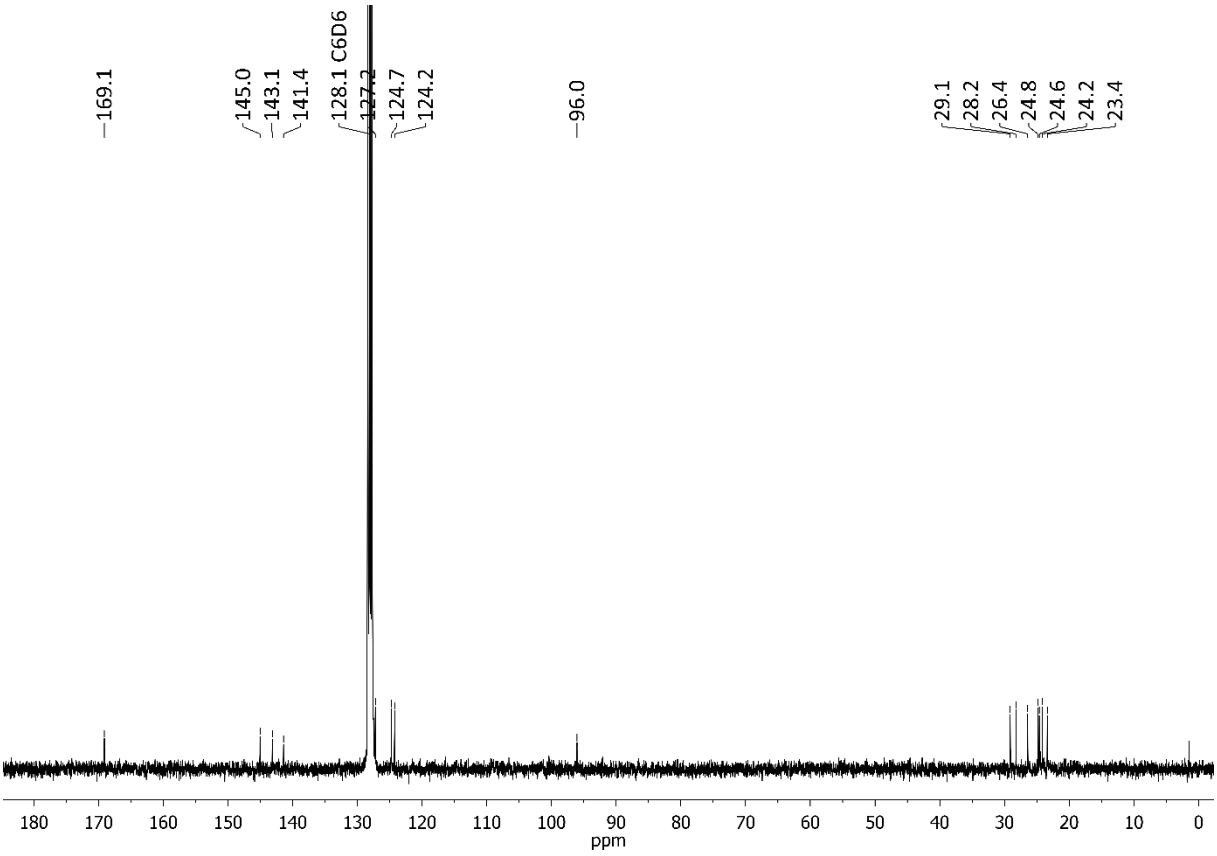

Figure S7. ^{13}C-{^{1}H}-NMR spectrum (75.5 MHz, C_6D_6, 25 °C) of (Dipp$_2$NacNac)GaH(AsH$_2$) (**2**).

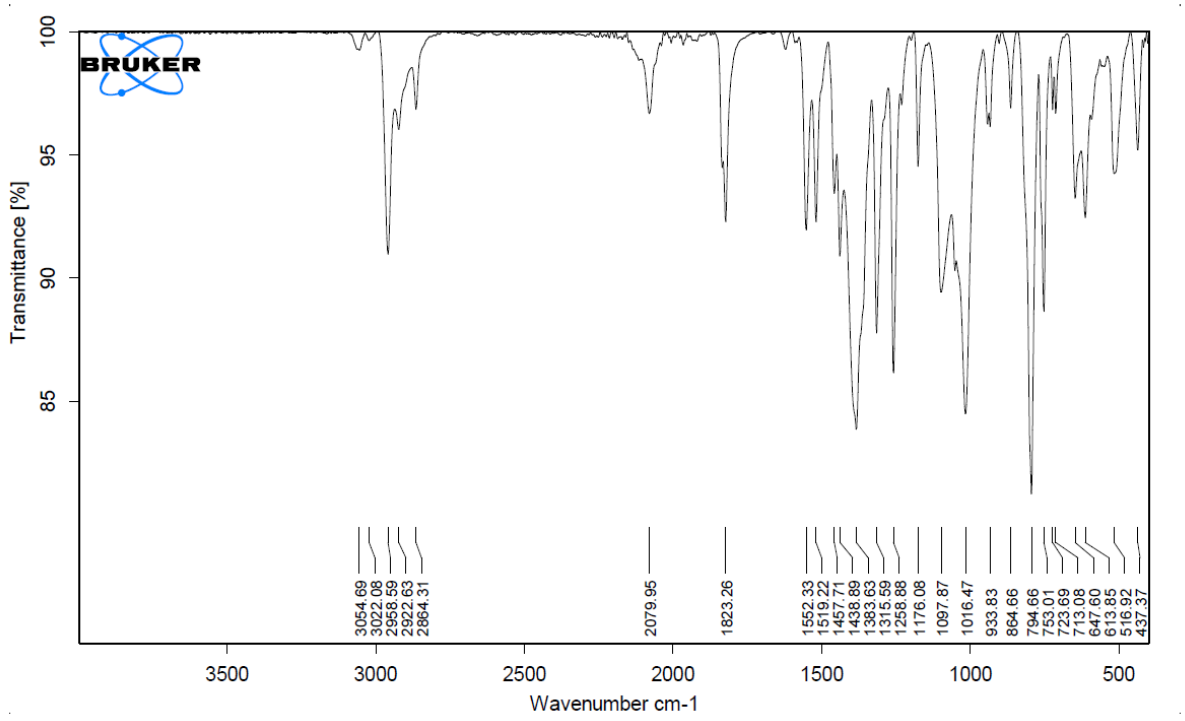

Figure S8. AT-IR spectrum of (Dipp$_2$NacNac)GaH(AsH$_2$) (**2**).

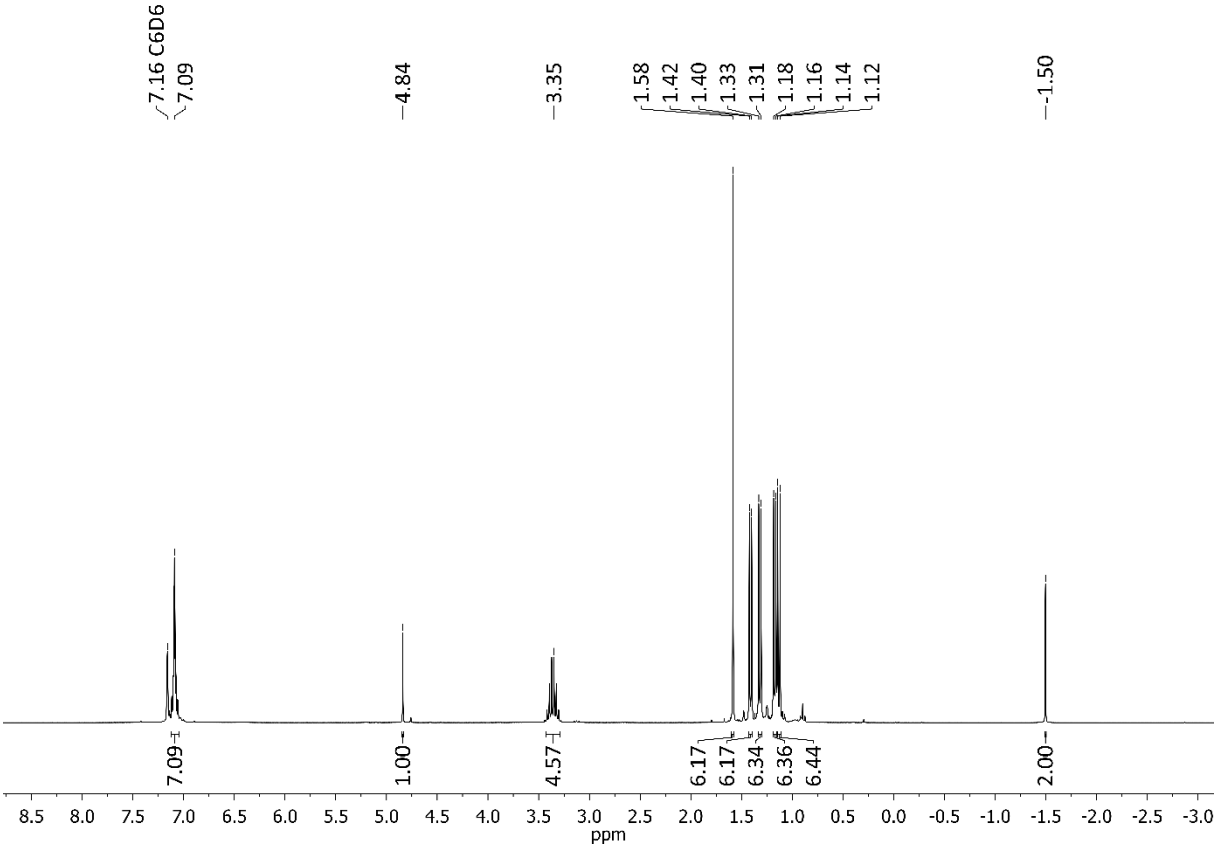

Figure S9. ^{1}H-NMR spectrum (300 MHz, C_6D_6, 25 °C) of ($Dipp_2$NacNac)GaH(SbH_2) (**3**).

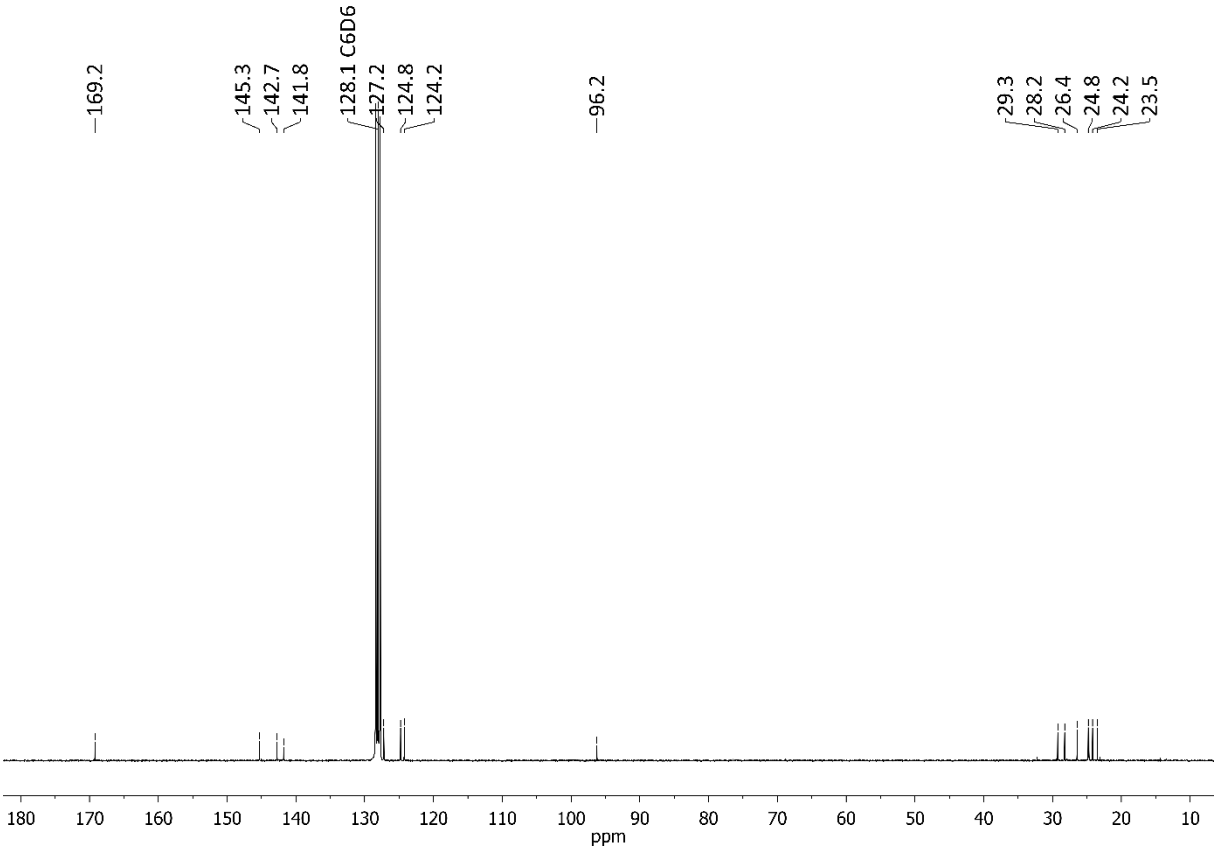

Figure S10. ^{13}C-{^{1}H}-NMR spectrum (75.5 MHz, C_6D_6, 25 °C) of ($Dipp_2$NacNac)GaH(SbH_2) (**3**)

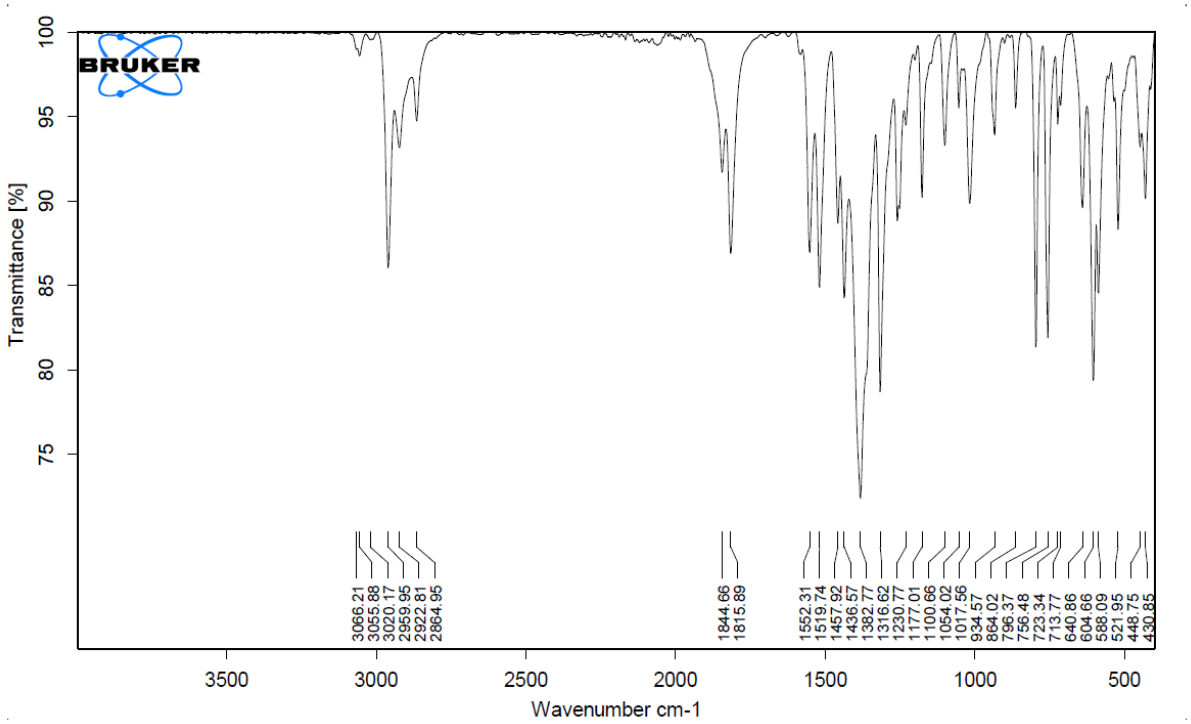

Figure S11. AT-IR spectrum of (Dipp$_2$NacNac)GaH(SbH$_2$) (**3**).

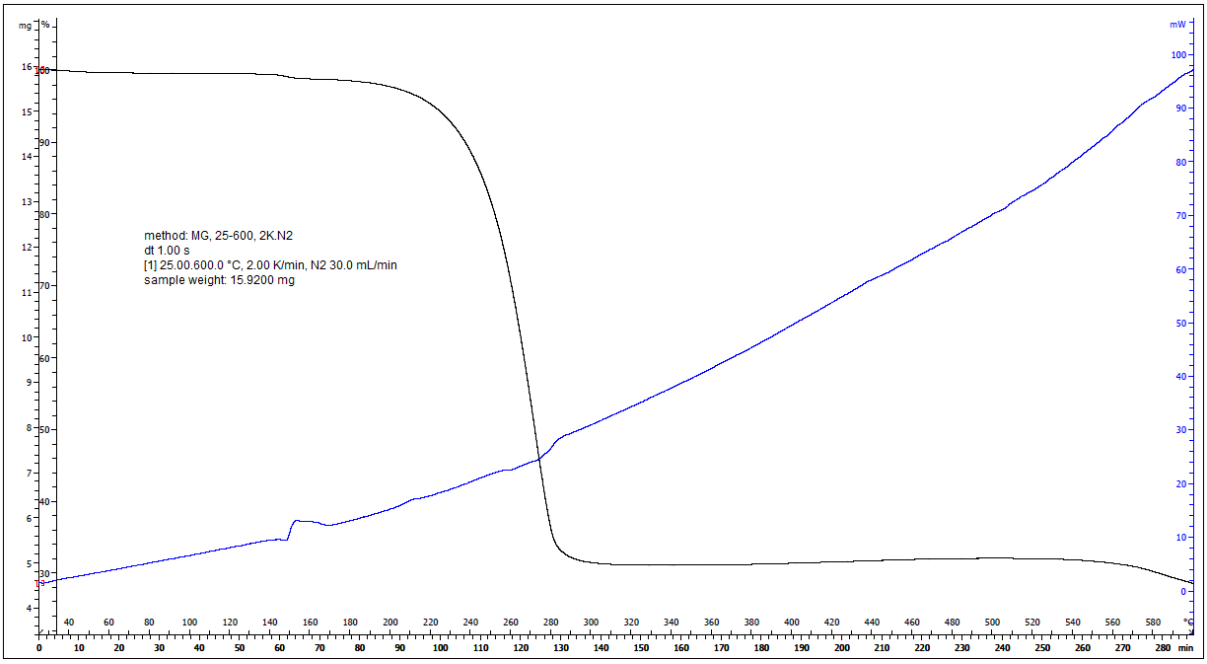

Figure S12. DSC-TGA of (Dipp$_2$NacNac)GaH(SbH$_2$) (**3**). Black: TGA; blue: DSC.

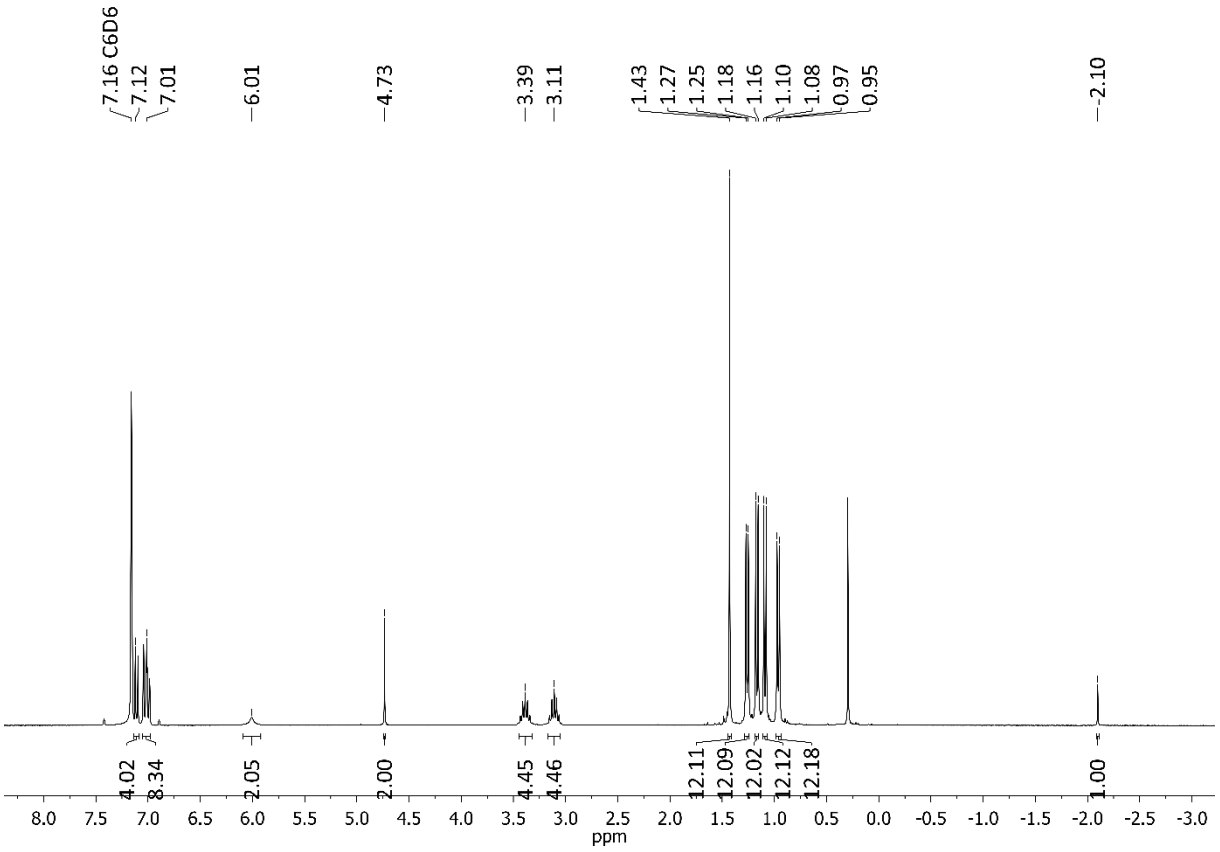

Figure S13. ^{1}H-NMR spectrum (300 MHz, C_6D_6, 25 °C) of [(Dipp$_2$NacNac)GaH]$_2$(AsH) (**4**).

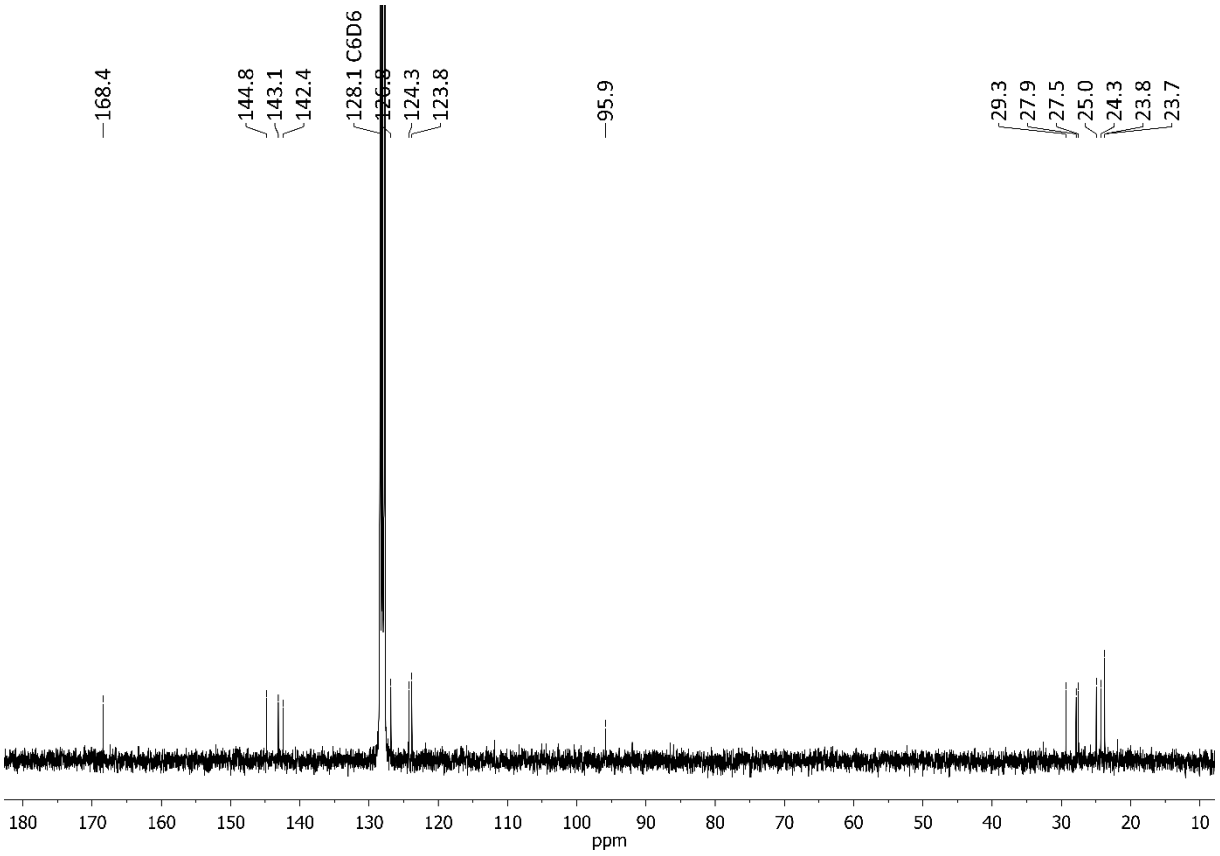

Figure S14. ^{13}C-{^{1}H}-NMR spectrum (75.5 MHz, C_6D_6, 25 °C) of [(Dipp$_2$NacNac)GaH]$_2$(AsH) (**4**).

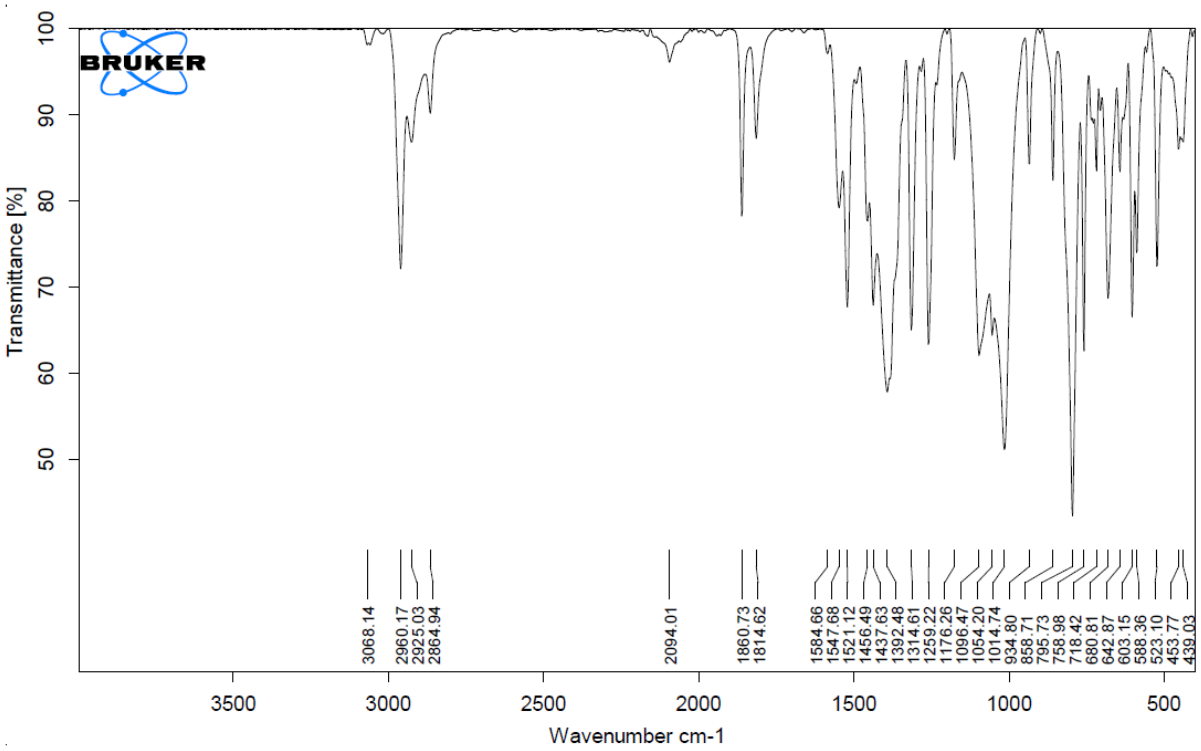

Figure S15. AT-IR spectrum of [(Dipp$_2$NacNac)GaH]$_2$AsH) (**4**).

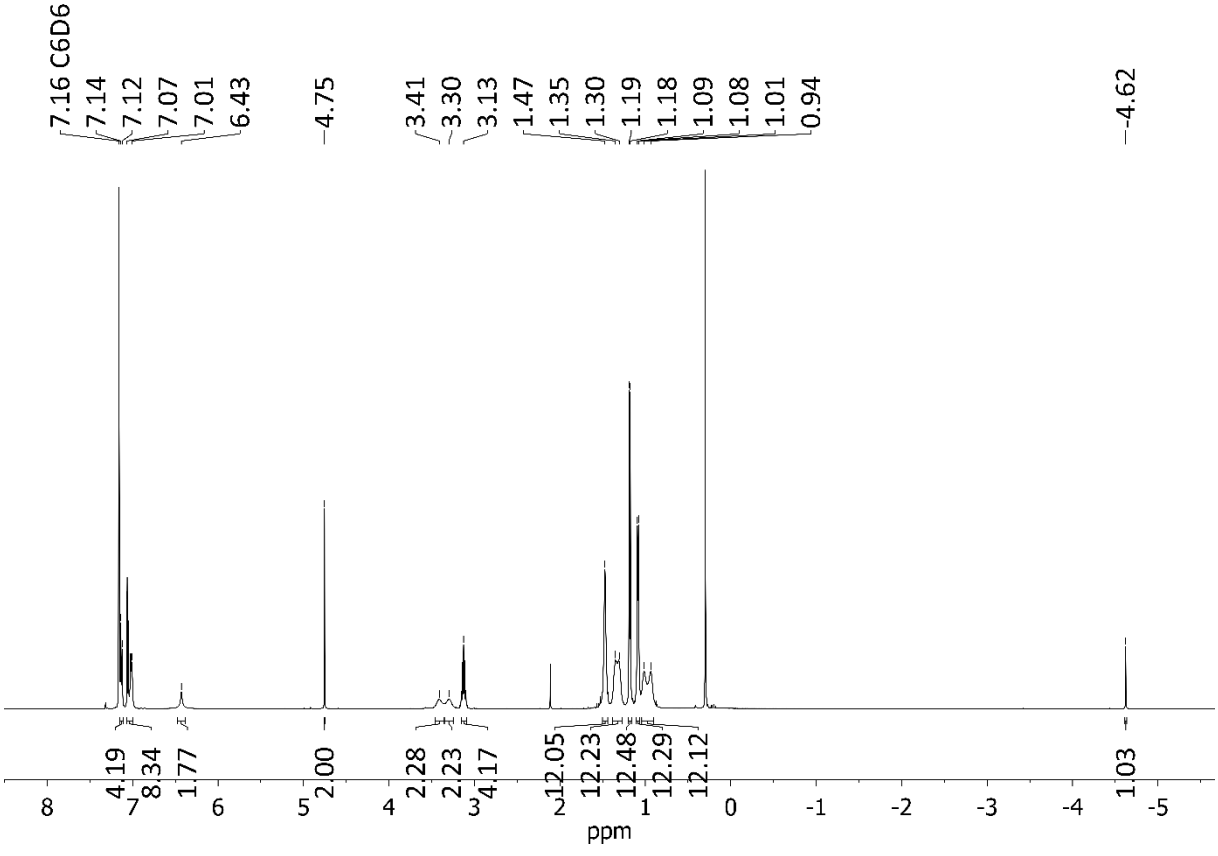

Figure S16. ^{1}H-NMR spectrum (300 MHz, C_6D_6, 25 °C) of [(Dipp$_2$NacNac)GaH]$_2$(SbH) (**5**).

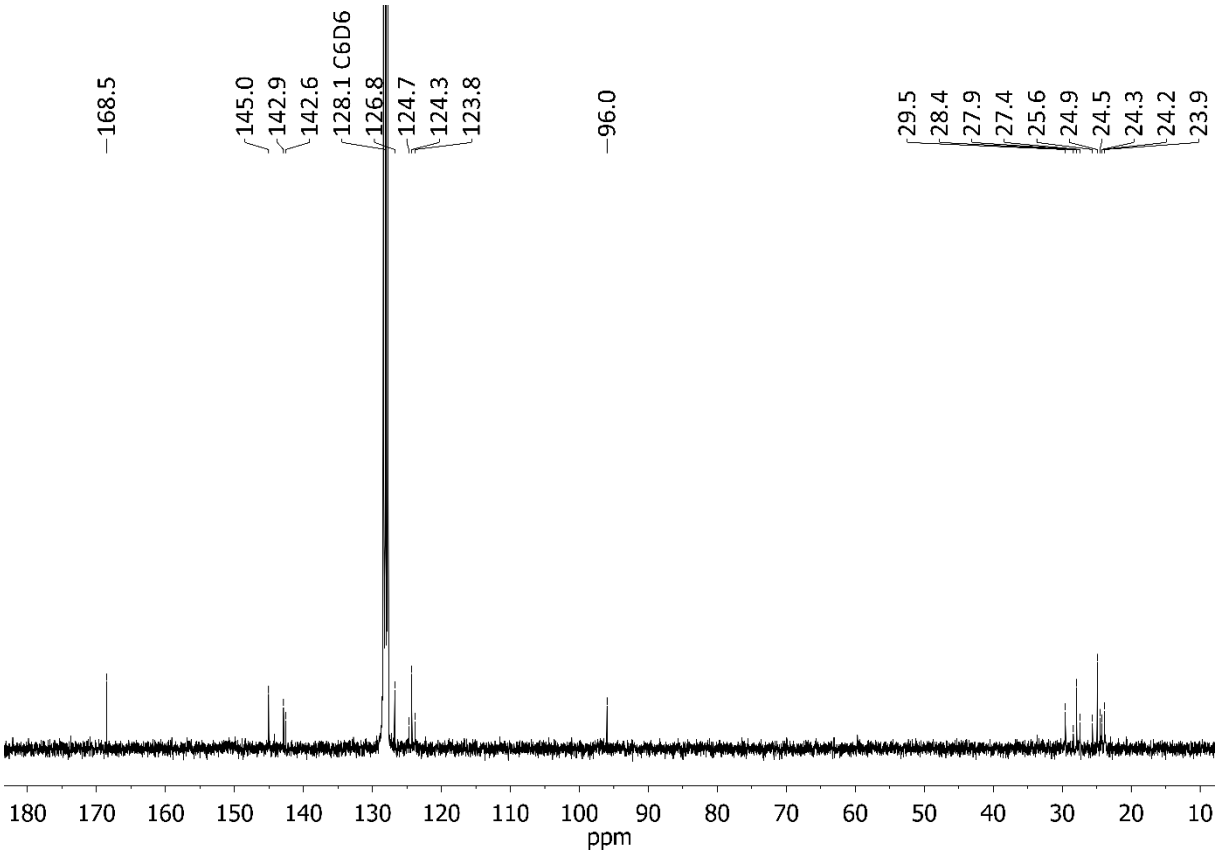

Figure S17. ^{13}C-{^{1}H}-NMR spectrum (75.5 MHz, C_6D_6, 25 °C) of [(Dipp$_2$NacNac)GaH]$_2$(SbH) (**5**).

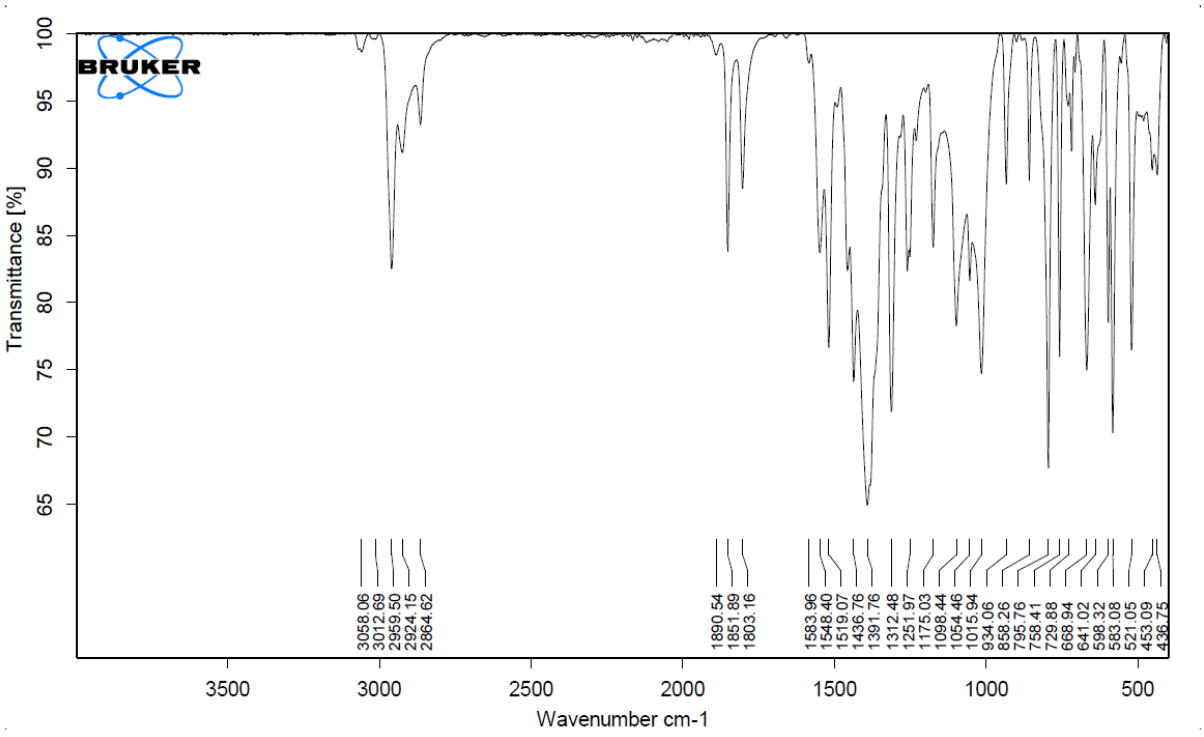

Figure S18. AT-IR spectrum of [(Dipp$_2$NacNac)GaH]$_2$(SbH) (**5**).

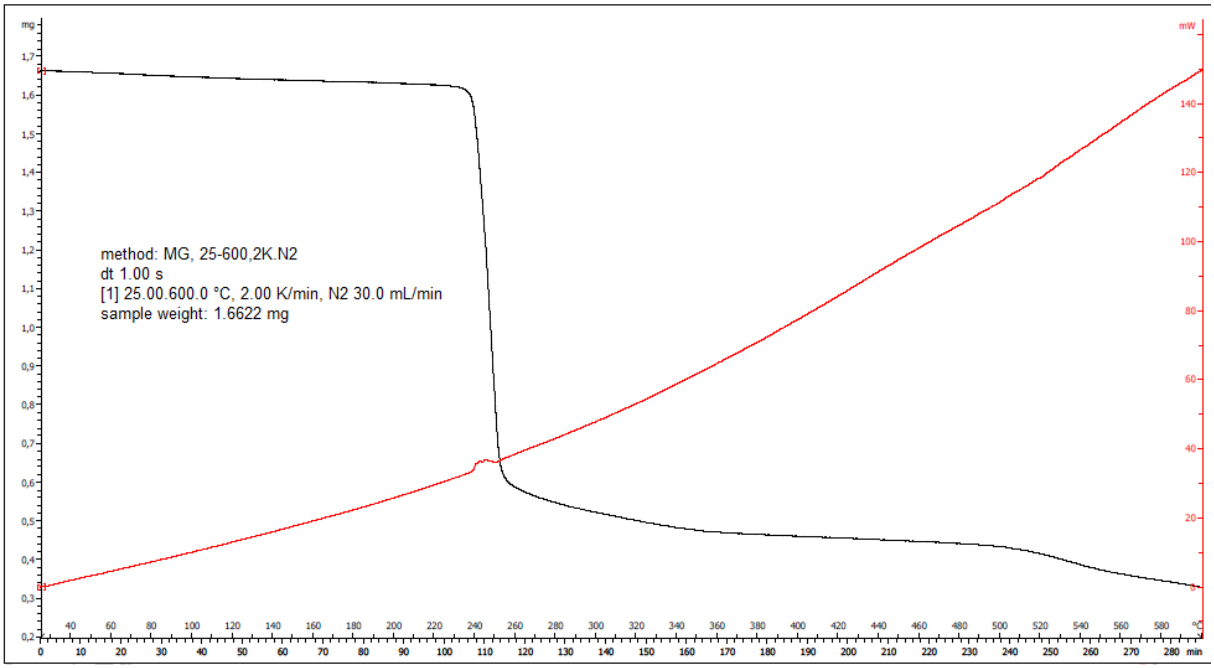

Figure S19. DSC-TGA of [(Dipp$_2$NacNac)GaH]$_2$(SbH) (**5**). Black: TGA; red: DSC.

3. Crystallographic details

Refinement of 2 and 3: both crystal structures exhibit a mild positional disorder of As and Sb atoms respectively, which is justified by different positions of the attached hydrogen atoms making an angle between the disordered *M*–H (*M* = As, Sb) species close to 90° and which leads to essentially identical configuration of the molecule. The distance between the disordered atoms equals 0.387(14) and 0.496(12) Å (two symmetry independent molecules in the As compound) or 0.116(2) Å (the Sb compound). It should be noted that in case of compound **1** the phosphorus atoms were found to describe the corresponding electron density peaks not fully satisfactorily even if various disorder models were applied. However, the other analytical techniques (NMR, IR, elemental analyses) show strong evidence of the high purity of the compound. So far the best model was obtained by using a single phosphorus atom at the highest density peak. Further investigation and a better model will be reported elsewhere.

Refinement of 4 and 5: Both compounds crystallize in the space group *P*1 forming pseudo-merohedrally twinned crystals so that the apparent space group is *C*2. The compounds contain two symmetry independent molecules in the unit cell. The molecules in each case contain a non-crystallographic inversion centre, which results in the disorder of the Ga–Sb–Ga and Ga–As–Ga parts (in case of the Sb compound the disorder in one of the two symmetry independent molecules is resolved via twin refinement). Interestingly, although the Checkcif algorithm suggested a strong evidence of pseudosymmetry and a tentative space group *C*2/*c*, a corresponding refinement led to very poor models and much higher residual electron density. Although a 2-fold rotation, an inversion center and a *c*-glide plane correspond very well to the atom coordinates, the different occupancies of the disordered As/Sb and Ga atoms destroy the corresponding symmetry elements. Inspection of the reciprocal space clearly shows that there are very strong reflections present which are against the *c*-glide plane extinction condition. It should be noted that the structure model of compound **4** contains four residual peaks of a yet unknown origin with a magnitude of 1.08...1.44 e/A at the distances of 2.26...2.40 Å from Ga2A, Ga2B, Ga4A, Ga4B and lying approximately within the planes of Ga–As–Ga, which could not be unambiguously assigned to any plausible atom (a few attempts led to an unstable refinement with unphysical isotropic displacement parameters). Interestingly, a compound **5** could also be obtained either with similar peaks or without them depending on yet not identified conditions. More details will be reported elsewhere.

Table S1: Crystallographic data of compounds **1-3**.

	1	**2**	**3**
Empirical formula	$C_{29}H_{44}GaN_2P$	$C_{29}H_{44}GaN_2As$	$C_{29}H_{44}GaN_2Sb$
M [g•mol^{-1}]	521.35	565.30	612.13
Crystal colour and habitus	colourless block	colourless plate	colourless block
Crystal size [mm]	0.490 x 0.210 x 0.204	0.454 x 0.219 x 0.064	0.426 x 0.407 x 0.346
T [K]	100	100	100
Crystal system	Monoclinic	Monoclinic	Monoclinic
Space group (No.)	$P2_1/c$ (14)	$P2_1/c$ (14)	$P2_1/c$ (14)
a [Å]	18.1045(11)	18.1546(10)	17.1395(9)
b [Å]	9.6018(6)	9.6556(5)	10.0131(5)
c [Å]	33.3947(19)	33.4172(19)	18.1242(9)
β [°]	90.8880(10)	91.133(2)	105.326(2)
V [Å^3]	5804.5(6)	5856.7(6)	2999.9(3)

Z	8	8	4
D_{calc} [g•cm^{-3}]	1.193	1.282	1.355
μ [mm^{-1}]	1.021	2.079	1.816
F(000)	2224.0	2366.3	1256.0
2θ range for data collection [°]	4.414 to 59.328	4.392 to 61.184	4.66 to 59.462
Reflections collected	140725	156482	96904
Independent reflections	16395	17991	8511
R_{int}, R_σ	0.0386, 0.0236	0.0396, 0.0231	0.0329, 0.0168
Data/restraints/parameters	16395/6/640	17991/12/664	8511/1/329
R_1 [I>2σ(I), all data]	0.0389, 0.0526	0.0300, 0.0420	0.0229, 0.0300
wR_2 [I>2σ(I), all data]	0,0945, 0.1008	0,0617, 0.0653	0.0516, 0.0540
S (all data)	1.049	1.044	1.037
$\Delta\rho_{final}$ (max/min) [e•Å^{-3}]	1.43/-0.67	0.47/-0.34	0.48/-0.39

Table S2: Crystallographic data of compounds **4** and **5**.

	4	**5**
Empirical formula	$C_{58}H_{85}AsGa_2N_4$	$C_{58}H_{85}SbGa_2N_4$
M [g•mol^{-1}]	1052.65	1099.48
Crystal colour and habitus	colourless block	yellow block
Crystal size [mm]	0.292 × 0.213 × 0.116	0.215 × 0.212 × 0.136
T [K]	100	100
Crystal system (No.)	P1 (1)	P1 (1)
Space group	Triclinic	Triclinic
a [Å]	14.2902(12)	14.3990(7)
b [Å]	14.2980(12)	14.4137(7)
c [Å]	14.8863(12)	14.9394(7)
α [°]	85.241(2)	85.495(2)
β [°]	85.225(2)	85.477(2)
γ [°]	64.920(2)	64.209(2)
V [Å^3]	2741.4(4)	2779.6(2)
Z	2	2
D_{calc} [g•cm^{-3}]	1.275	1.314
μ [mm^{-1}]	1.621	1.484
F(000)	1112.0	1148.0
2θ range for data collection [°]	4.070 to 63.166	4.522 to 63.182
Reflections collected	183469	96707
Independent reflections	36653	35068
R_{int}, R_σ	0.0312, 0.0249	0.0351, 0.0515
Data/restraints/parameters	36653/187/1295	35068/105/1278
R_1 [I>2σ(I), all data]	0.0247, 0.0276	0.0316, 0.0400
wR_2 [I>2σ(I), all data]	0.0591, 0.0606	0.0562, 0.0588
S (all data)	1.017	0.997
$\Delta\rho_{final}$ (max/min) [e•Å^{-3}]	1.45/-0.32	0.56/-0.58

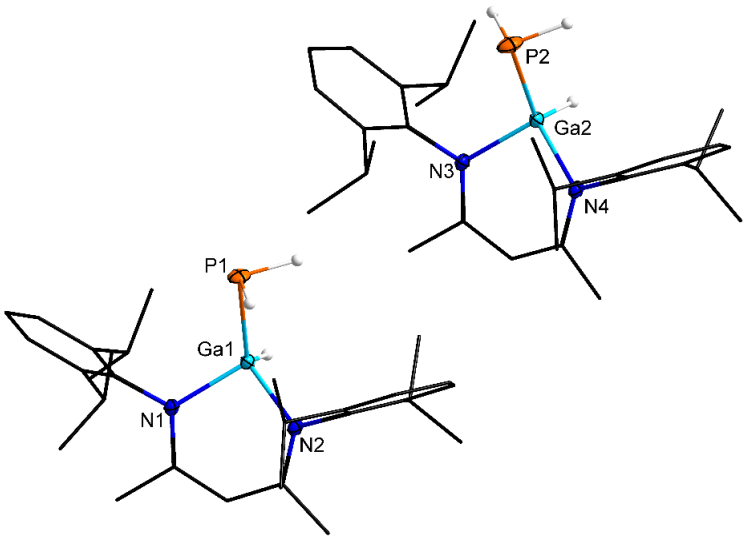

Figure S20: Both independent molecules in the unit cell of compound **1**. All hydrogen atoms on carbon are omitted for clarity. Carbon atoms are shown in the *wires and stick* model. Thermal ellipsoids representa 50% probability level.

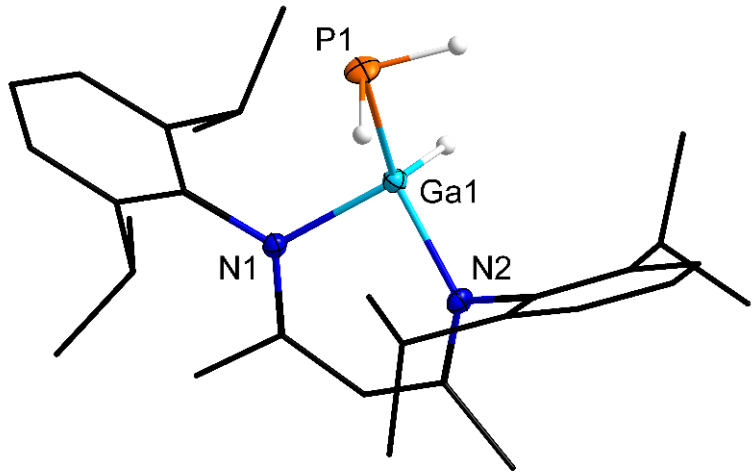

Figure S21: Molecular structure of **1**. Disordered parts are omitted for clarity.

Table S3: Bond length (Å) for **1.**

Ga1	N2	1.9541(14)		C42	C43	1.510(2)
Ga1	N1	1.9577(14)		C44	C45	1.409(2)
Ga1	P1	2.3442(5)		C45	N4	1.326(2)
Ga2	N3	1.9542(14)		C45	C46	1.511(2)
Ga2	N4	1.9548(14)		C47	C48	1.404(2)
Ga2	P2	2.3387(5)		C47	C52	1.411(2)
C1	C2	1.532(3)		C47	N4	1.447(2)
C2	C5	1.516(2)		C48	C49	1.397(2)
C2	C3	1.535(3)		C48	C53	1.522(3)
C20	C21	1.375(3)		C49	C50	1.378(3)

C20	C19	1.401(2)		C50	C51	1.380(3)
C21	C22	1.379(3)		C51	C52	1.397(2)
C22	C23	1.395(2)		C52	C56	1.516(3)
C23	C18	1.405(2)		C53	C55	1.531(3)
C23	C27	1.516(3)		C53	C54	1.531(3)
C24	C19	1.514(3)		C56	C58	1.523(3)
C24	C25	1.527(3)		C56	C57	1.526(3)
C24	C26	1.531(3)		N1	C13	1.333(2)
C27	C28	1.524(4)		N1	C4	1.438(2)
C27	C29	1.528(3)		N2	C16	1.329(2)
C30	C31	1.533(3)		N2	C18	1.445(2)
C31	C34	1.519(2)		C4	C5	1.406(2)
C31	C32	1.536(2)		C4	C9	1.409(2)
C33	C34	1.408(2)		C5	C6	1.399(2)
C33	C38	1.412(2)		C6	C7	1.382(3)
C33	N3	1.441(2)		C7	C8	1.385(3)
C34	C35	1.399(2)		C8	C9	1.395(2)
C35	C36	1.382(3)		C9	C10	1.517(2)
C36	C37	1.383(3)		C10	C11	1.532(3)
C37	C38	1.393(2)		C10	C12	1.534(3)
C38	C39	1.516(2)		C13	C15	1.399(2)
C39	C40	1.530(3)		C13	C14	1.511(2)
C39	C41	1.537(3)		C15	C16	1.404(2)
C42	N3	1.329(2)		C16	C17	1.508(2)
C42	C44	1.402(2)		C18	C19	1.406(2)

Table S4: Bond angles (°) for **1.**

N2	Ga1	N1	95.20(6)		C50	C49	C48	121.26(18)
N2	Ga1	P1	114.13(4)		C49	C50	C51	119.95(17)
N1	Ga1	P1	111.07(4)		C50	C51	C52	121.41(18)
N3	Ga2	N4	95.79(6)		C51	C52	C47	117.94(17)
N3	Ga2	P2	107.35(4)		C51	C52	C56	119.54(17)
N4	Ga2	P2	113.56(4)		C47	C52	C56	122.49(15)
C5	C2	C1	110.14(15)		C48	C53	C55	110.77(18)
C5	C2	C3	112.35(16)		C48	C53	C54	112.01(17)
C1	C2	C3	110.58(17)		C55	C53	C54	109.61(17)
C21	C20	C19	121.27(19)		C52	C56	C58	112.69(17)
C20	C21	C22	120.00(17)		C52	C56	C57	110.60(16)
C21	C22	C23	121.44(19)		C58	C56	C57	109.81(18)
C22	C23	C18	117.98(18)		C13	N1	C4	120.92(13)
C22	C23	C27	120.11(17)		C13	N1	Ga1	118.38(11)
C18	C23	C27	121.91(16)		C4	N1	Ga1	120.09(10)
C19	C24	C25	112.40(18)		C16	N2	C18	120.94(14)
C19	C24	C26	110.46(18)		C16	N2	Ga1	118.52(11)
C25	C24	C26	110.15(19)		C18	N2	Ga1	119.91(11)
C23	C27	C28	111.6(2)		C42	N3	C33	122.32(14)
C23	C27	C29	112.69(19)		C42	N3	Ga2	120.31(11)
C28	C27	C29	109.46(19)		C33	N3	Ga2	117.36(10)
C34	C31	C30	111.65(15)		C45	N4	C47	122.04(14)
C34	C31	C32	110.66(15)		C45	N4	Ga2	120.52(11)
C30	C31	C32	110.70(16)		C47	N4	Ga2	116.97(11)
C34	C33	C38	120.69(15)		C5	C4	C9	121.03(15)
C34	C33	N3	119.39(15)		C5	C4	N1	119.51(15)
C38	C33	N3	119.69(15)		C9	C4	N1	119.42(14)
C35	C34	C33	118.68(16)		C6	C5	C4	118.39(16)
C35	C34	C31	118.89(16)		C6	C5	C2	119.27(15)
C33	C34	C31	122.41(15)		C4	C5	C2	122.33(15)

C36	C35	C34	120.98(17)		C7	C6	C5	121.07(16)
C35	C36	C37	119.76(17)		C6	C7	C8	119.94(16)
C36	C37	C38	121.68(17)		C7	C8	C9	121.21(17)
C37	C38	C33	118.18(16)		C8	C9	C4	118.35(16)
C37	C38	C39	118.70(16)		C8	C9	C10	119.40(16)
C33	C38	C39	123.09(16)		C4	C9	C10	122.24(16)
C38	C39	C40	112.11(16)		C9	C10	C11	111.76(16)
C38	C39	C41	109.81(16)		C9	C10	C12	110.54(17)
C40	C39	C41	110.06(17)		C11	C10	C12	109.36(16)
N3	C42	C44	123.47(15)		N1	C13	C15	123.51(15)
N3	C42	C43	119.60(15)		N1	C13	C14	119.18(15)
C44	C42	C43	116.92(15)		C15	C13	C14	117.30(15)
C42	C44	C45	128.24(15)		C13	C15	C16	128.14(16)
N4	C45	C44	123.49(15)		N2	C16	C15	123.17(16)
N4	C45	C46	120.38(15)		N2	C16	C17	119.91(15)
C44	C45	C46	116.13(15)		C15	C16	C17	116.92(15)
C48	C47	C52	121.12(15)		C23	C18	C19	121.35(15)
C48	C47	N4	119.59(15)		C23	C18	N2	118.61(15)
C52	C47	N4	119.08(15)		C19	C18	N2	119.94(15)
C49	C48	C47	118.31(17)		C20	C19	C18	117.93(17)
C49	C48	C53	118.82(16)		C20	C19	C24	119.43(17)
C47	C48	C53	122.86(15)		C18	C19	C24	122.61(15)

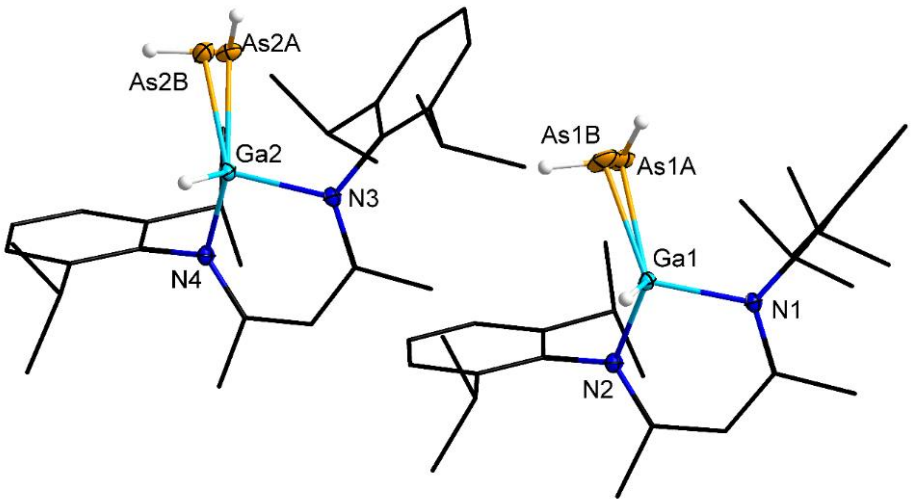

Figure S22: Both independent molecules in the unit cell of compound **2**. All hydrogen atoms on carbon are omitted for clarity. Carbon atoms are shown in the *wires and stick* model. Thermal ellipsoids represent a 50% probability level. Arsenic atoms were refined with split positions 0.91 : 0.09 (As1A, As1B) and 0.87 : 0.13 (As2A, As2B).

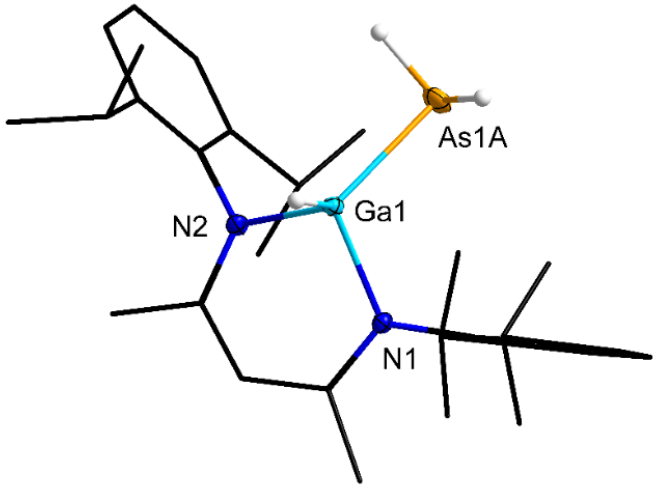

Figure S23: Molecular structure of **2**. Disordered parts are omitted for clarity.

Table S5: Bond length (Å) for **2.**

Ga1	N2	1.9567(11)		C42	C44	1.4016(18)
Ga1	N1	1.9582(11)		C42	C43	1.5077(19)
Ga1	As1B	2.401(7)		C44	C45	1.4078(18)
Ga1	As1A	2.4163(6)		C45	N4	1.3259(17)
Ga2	N4	1.9585(11)		C45	C46	1.5085(19)
Ga2	N3	1.9590(11)		C47	C52	1.406(2)
Ga2	As2B	2.373(3)		C47	C48	1.4065(19)
Ga2	As2A	2.4218(6)		C47	N4	1.4461(16)
C1	C2	1.534(2)		C48	C49	1.397(2)
C2	C5	1.5184(19)		C48	C53	1.517(2)
C2	C3	1.535(2)		C49	C50	1.379(2)

C20	C21	1.378(2)		C50	C51	1.381(2)
C20	C19	1.399(2)		C51	C52	1.3974(19)
C21	C22	1.377(2)		C52	C56	1.521(2)
C22	C23	1.394(2)		C53	C55	1.531(3)
C23	C18	1.4079(19)		C53	C54	1.532(2)
C23	C27	1.518(2)		C56	C58	1.523(2)
C24	C19	1.516(2)		C56	C57	1.525(2)
C24	C25	1.526(2)		N1	C13	1.3326(17)
C24	C26	1.532(2)		N1	C4	1.4394(17)
C27	C28	1.520(3)		N2	C16	1.3283(17)
C27	C29	1.526(3)		N2	C18	1.4438(17)
C30	C31	1.532(2)		C4	C5	1.4074(18)
C31	C34	1.5184(19)		C4	C9	1.4082(18)
C31	C32	1.539(2)		C5	C6	1.3949(19)
C33	C34	1.4078(18)		C6	C7	1.383(2)
C33	C38	1.4110(19)		C7	C8	1.385(2)
C33	N3	1.4394(16)		C8	C9	1.3973(19)
C34	C35	1.3969(19)		C9	C10	1.5189(19)
C35	C36	1.388(2)		C10	C12	1.529(2)
C36	C37	1.383(2)		C10	C11	1.532(2)
C37	C38	1.3933(19)		C13	C15	1.4018(19)
C38	C39	1.5218(18)		C13	C14	1.5054(19)
C39	C40	1.531(2)		C15	C16	1.4065(19)
C39	C41	1.535(2)		C16	C17	1.5067(19)
C42	N3	1.3303(17)		C18	C19	1.399(2)

Table S6: Bond angles (°) for **2.**

N2	Ga1	N1	95.22(5)		C49	C48	C53	118.91(13)
N2	Ga1	As1B	113.85(17)		C47	C48	C53	122.97(12)
N1	Ga1	As1B	117.7(3)		C50	C49	C48	121.24(14)
N2	Ga1	As1A	112.92(4)		C49	C50	C51	120.13(14)
N1	Ga1	As1A	109.25(5)		C50	C51	C52	121.04(14)
N4	Ga2	N3	95.68(5)		C51	C52	C47	118.26(13)
N4	Ga2	As2B	114.48(7)		C51	C52	C56	118.99(13)
N3	Ga2	As2B	116.2(3)		C47	C52	C56	122.73(12)
N4	Ga2	As2A	113.45(3)		C48	C53	C55	110.91(15)
N3	Ga2	As2A	105.20(6)		C48	C53	C54	112.36(13)
C5	C2	C1	110.33(12)		C55	C53	C54	109.36(14)
C5	C2	C3	112.03(12)		C52	C56	C58	112.40(13)
C1	C2	C3	110.49(13)		C52	C56	C57	110.93(12)
C21	C20	C19	120.99(15)		C58	C56	C57	109.79(14)
C22	C21	C20	120.00(14)		C13	N1	C4	121.31(11)
C21	C22	C23	121.57(15)		C13	N1	Ga1	118.37(9)
C22	C23	C18	117.72(14)		C4	N1	Ga1	119.66(8)
C22	C23	C27	120.21(14)		C16	N2	C18	121.34(11)
C18	C23	C27	122.07(13)		C16	N2	Ga1	118.46(9)
C19	C24	C25	112.64(14)		C18	N2	Ga1	119.65(8)
C19	C24	C26	110.57(14)		C42	N3	C33	123.00(11)
C25	C24	C26	110.06(14)		C42	N3	Ga2	120.22(9)
C23	C27	C28	111.52(16)		C33	N3	Ga2	116.77(8)
C23	C27	C29	112.71(15)		C45	N4	C47	122.42(11)
C28	C27	C29	109.60(15)		C45	N4	Ga2	120.51(9)
C34	C31	C30	111.39(12)		C47	N4	Ga2	116.60(8)
C34	C31	C32	110.50(12)		C5	C4	C9	120.97(12)
C30	C31	C32	110.72(12)		C5	C4	N1	119.59(12)

C34	C33	C38	120.84(12)		C9	C4	N1	119.35(11)
C34	C33	N3	119.24(12)		C6	C5	C4	118.44(12)
C38	C33	N3	119.62(11)		C6	C5	C2	119.39(12)
C35	C34	C33	118.56(13)		C4	C5	C2	122.15(12)
C35	C34	C31	119.04(12)		C7	C6	C5	121.32(13)
C33	C34	C31	122.39(12)		C6	C7	C8	119.68(13)
C36	C35	C34	121.12(13)		C7	C8	C9	121.31(13)
C37	C36	C35	119.52(13)		C8	C9	C4	118.27(12)
C36	C37	C38	121.69(13)		C8	C9	C10	119.21(12)
C37	C38	C33	118.22(12)		C4	C9	C10	122.48(12)
C37	C38	C39	118.39(12)		C9	C10	C12	110.72(13)
C33	C38	C39	123.36(12)		C9	C10	C11	111.84(13)
C38	C39	C40	112.49(12)		C12	C10	C11	109.22(13)
C38	C39	C41	109.53(12)		N1	C13	C15	123.35(12)
C40	C39	C41	110.12(12)		N1	C13	C14	119.40(12)
N3	C42	C44	123.48(12)		C15	C13	C14	117.24(12)
N3	C42	C43	119.47(12)		C13	C15	C16	128.19(12)
C44	C42	C43	117.05(12)		N2	C16	C15	123.18(12)
C42	C44	C45	128.40(12)		N2	C16	C17	119.79(12)
N4	C45	C44	123.45(12)		C15	C16	C17	117.03(12)
N4	C45	C46	120.11(12)		C19	C18	C23	121.46(13)
C44	C45	C46	116.44(12)		C19	C18	N2	120.03(12)
C52	C47	C48	121.21(12)		C23	C18	N2	118.37(12)
C52	C47	N4	119.21(12)		C18	C19	C20	118.22(13)
C48	C47	N4	119.37(12)		C18	C19	C24	122.70(12)
C49	C48	C47	118.11(13)		C20	C19	C24	119.07(13)

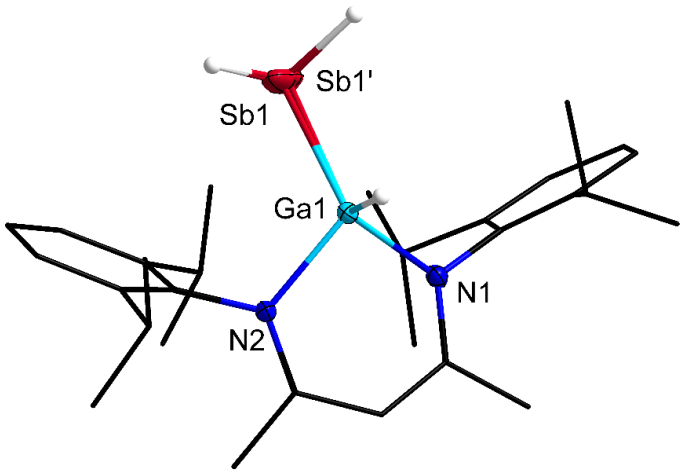

Figure S24: Molecular structure of **2**. All hydrogen atoms on carbon are omitted for clarity. Carbon atoms are shown in the *wires and stick* model. Thermal ellipsoids represent a 50% probability level. Antimony atoms were refined with split positions 0.5 : 0.5.

Table S7: Bond length (Å) for **3.**

Sb1	Ga1	2.6189(19)		C27	C29	1.524(2)
Ga1	N2	1.9656(11)		C27	C28	1.537(2)
Ga1	N1	1.9565(12)		C6	C11	1.405(2)
Ga1	Sb1'	2.600(2)		C6	C7	1.404(2)
N2	C3	1.3215(17)		C20	C21	1.381(2)
N2	C18	1.4387(17)		C11	C15	1.516(2)

N1	C1	1.3330(17)		C11	C10	1.394(2)
N1	C6	1.4420(17)		C12	C7	1.516(2)
C3	C2	1.4050(19)		C12	C13	1.533(2)
C3	C5	1.5074(19)		C12	C14	1.534(2)
C1	C2	1.4002(19)		C22	C21	1.380(2)
C1	C4	1.5054(19)		C7	C8	1.398(2)
C18	C19	1.404(2)		C24	C25	1.529(2)
C18	C23	1.406(2)		C24	C26	1.530(2)
C19	C20	1.396(2)		C8	C9	1.374(3)
C19	C24	1.517(2)		C15	C16	1.518(2)
C23	C27	1.525(2)		C15	C17	1.523(3)
C23	C22	1.398(2)		C10	C9	1.382(3)

Table S8: Bond angles (°) for **3.**

N2	Ga1	Sb1	112.49(6)		C23	C27	C28	110.73(13)
N2	Ga1	Sb1'	110.74(6)		C29	C27	C23	112.93(14)
N1	Ga1	Sb1	111.89(5)		C29	C27	C28	109.00(14)
N1	Ga1	N2	94.34(5)		C11	C6	N1	118.66(13)
N1	Ga1	Sb1'	114.08(5)		C7	C6	N1	119.93(13)
C3	N2	Ga1	120.36(9)		C7	C6	C11	121.39(13)
C3	N2	C18	122.82(11)		C21	C20	C19	120.96(15)
C18	N2	Ga1	116.45(8)		C6	C11	C15	121.55(13)
C1	N1	Ga1	119.34(9)		C10	C11	C6	118.07(15)
C1	N1	C6	119.46(11)		C10	C11	C15	120.38(15)
C6	N1	Ga1	120.67(9)		C7	C12	C13	108.94(13)
N2	C3	C2	123.13(13)		C7	C12	C14	113.72(15)
N2	C3	C5	120.09(12)		C13	C12	C14	110.05(14)
C2	C3	C5	116.78(12)		C21	C22	C23	121.24(15)
N1	C1	C2	123.64(12)		C6	C7	C12	122.12(13)
N1	C1	C4	119.45(12)		C8	C7	C6	117.89(15)
C2	C1	C4	116.90(12)		C8	C7	C12	119.84(14)
C1	C2	C3	127.72(13)		C19	C24	C25	110.22(15)
C19	C18	N2	118.69(12)		C19	C24	C26	112.64(14)
C19	C18	C23	121.79(13)		C25	C24	C26	110.92(15)
C23	C18	N2	119.29(12)		C22	C21	C20	120.28(14)
C18	C19	C24	122.03(13)		C9	C8	C7	121.31(16)
C20	C19	C18	117.98(14)		C11	C15	C16	112.99(15)
C20	C19	C24	119.93(14)		C11	C15	C17	111.42(15)
C18	C23	C27	122.49(12)		C16	C15	C17	109.57(16)
C22	C23	C18	117.60(14)		C9	C10	C11	121.10(16)
C22	C23	C27	119.87(13)		C8	C9	C10	120.09(15)

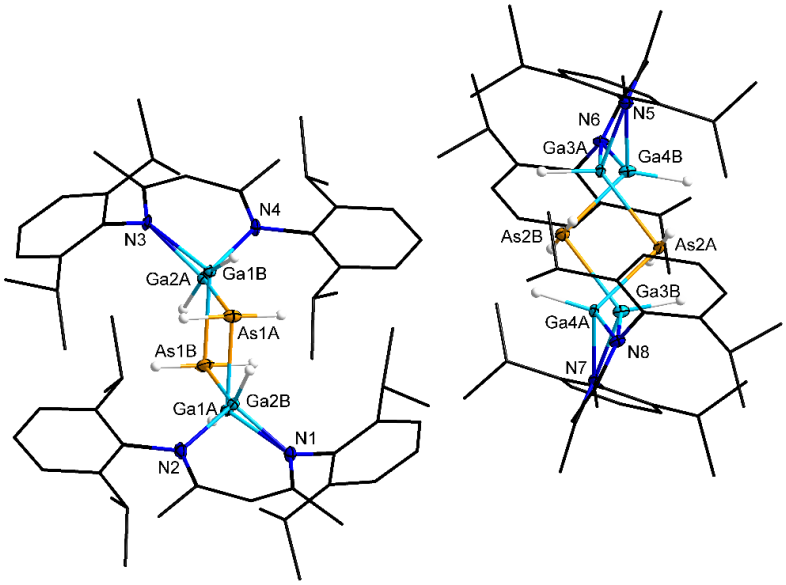

Figure S25: Both independent molecules in the unit cell of compound **4**. All hydrogen atoms on carbon are omitted for clarity. Carbon atoms are shown in the *wires and stick* model. Thermal ellipsoids represent a 50% probability level. Arsenic atoms were refined with split positions 0.9 : 0.1 (As1A, As1B) and 0.7 : 0.3 (As2A, As2B).

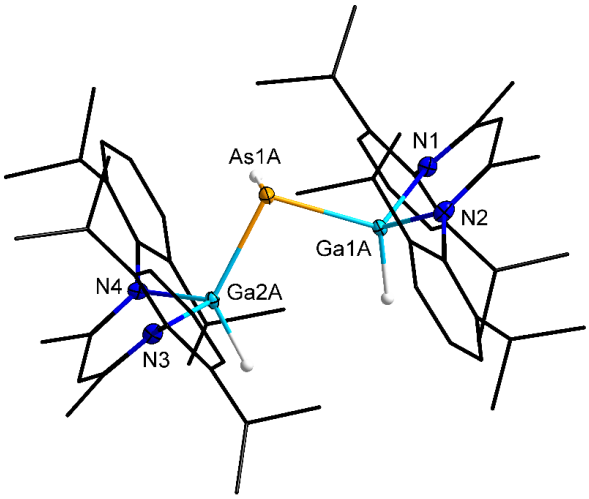

Figure S26: Molecular structure of **4**. Disordered parts are omitted for clarity.

Table S9: Bond length (Å) for **4.**

C1	N1	1.293(7)		C67	C68	1.414(9)
C1	C2	1.441(7)		C68	C69	1.365(9)
C1	C4	1.551(7)		C69	C73	1.525(8)
C2	C3	1.446(7)		C70	C72	1.528(9)
C3	N2	1.296(7)		C70	C71	1.569(9)
C3	C5	1.530(7)		C73	C75	1.507(10)
C6	C11	1.385(8)		C73	C74	1.537(8)

C6	C7	1.402(8)		C76	C81	1.366(8)
C6	N1	1.471(7)		C76	N6	1.409(7)
C7	C8	1.422(7)		C76	C77	1.469(7)
C7	C12	1.515(8)		C77	C78	1.328(9)
C8	C9	1.347(10)		C77	C82	1.543(9)
C9	C10	1.349(11)		C78	C79	1.364(10)
C10	C11	1.464(8)		C79	C80	1.425(9)
C11	C15	1.476(9)		C80	C81	1.373(8)
C12	C13	1.528(9)		C81	C85	1.544(9)
C12	C14	1.559(9)		C82	C83	1.539(9)
C15	C16	1.477(10)		C82	C84	1.574(9)
C15	C17	1.541(9)		C85	C86	1.484(10)
C18	C23	1.343(8)		C85	C87	1.570(9)
C18	C19	1.444(6)		C88	C89	1.350(8)
C18	N2	1.479(6)		C88	N7	1.372(7)
C19	C20	1.424(7)		C88	C91	1.495(8)
C19	C24	1.496(9)		C89	C90	1.345(9)
C20	C21	1.335(10)		C90	N8	1.378(7)
C21	C22	1.402(10)		C90	C92	1.502(8)
C22	C23	1.447(8)		C93	C94	1.373(8)
C23	C27	1.511(8)		C93	N8	1.418(7)
C24	C26	1.486(9)		C93	C98	1.439(7)
C24	C25	1.577(9)		C94	C95	1.383(8)
C27	C29	1.488(10)		C94	C99	1.550(8)
C27	C28	1.513(10)		C95	C96	1.436(9)
C30	N3	1.293(8)		C96	C97	1.365(10)
C30	C31	1.451(7)		C97	C98	1.358(9)
C30	C33	1.531(7)		C98	C102	1.548(8)
C31	C32	1.447(6)		C99	C100	1.471(10)
C32	N4	1.286(7)		C99	C101	1.558(9)
C32	C34	1.520(7)		C102	C103	1.530(10)
C35	C36	1.385(8)		C102	C104	1.544(9)
C35	C40	1.396(8)		C105	N7	1.398(7)
C35	N3	1.467(7)		C105	C110	1.425(7)
C36	C37	1.435(7)		C105	C106	1.431(7)
C36	C41	1.516(9)		C106	C107	1.346(9)
C37	C38	1.343(10)		C106	C111	1.529(8)
C38	C39	1.367(10)		C107	C108	1.419(10)
C39	C40	1.433(8)		C108	C109	1.403(10)
C40	C44	1.482(9)		C109	C110	1.349(8)
C41	C42	1.509(9)		C110	C114	1.557(8)
C41	C43	1.564(9)		C111	C112	1.493(9)
C44	C46	1.519(10)		C111	C113	1.538(9)
C44	C45	1.527(10)		C114	C116	1.534(9)
C47	C52	1.376(8)		C114	C115	1.543(9)
C47	C48	1.442(7)		N1	Ga2B	1.919(9)
C47	N4	1.463(6)		N1	Ga1A	1.994(5)
C48	C49	1.418(7)		N2	Ga2B	1.891(9)
C48	C53	1.486(8)		N2	Ga1A	1.992(5)
C49	C50	1.338(9)		N3	Ga2A	1.990(4)
C50	C51	1.389(8)		N3	Ga1B	2.058(9)
C51	C52	1.436(8)		N4	Ga2A	1.976(4)
C52	C56	1.494(9)		N4	Ga1B	2.070(9)
C53	C55	1.504(8)		N5	Ga4B	1.983(5)
C53	C54	1.570(9)		N5	Ga3A	2.010(5)
C56	C57	1.500(10)		N6	Ga4B	1.980(5)
C56	C58	1.535(9)		N6	Ga3A	2.023(5)
C59	C60	1.342(8)		N7	Ga4A	1.991(5)
C59	N5	1.373(7)		N7	Ga3B	2.022(6)

C59	C62	1.484(8)		N8	Ga4A	1.975(5)
C60	C61	1.358(9)		N8	Ga3B	2.038(6)
C61	N6	1.366(7)		Ga1A	As1A	2.4434(10)
C61	C63	1.500(8)		Ga2A	As1A	2.4263(11)
C64	N5	1.405(7)		As1B	Ga2B	2.443(10)
C64	C69	1.425(7)		As1B	Ga1B	2.457(10)
C64	C65	1.433(7)		Ga3A	As2A	2.4409(12)
C65	C66	1.320(8)		Ga4A	As2A	2.4302(12)
C65	C70	1.575(9)		Ga3B	As2B	2.446(3)
C66	C67	1.412(10)		Ga4B	As2B	2.429(3)

Table S10: Bond angles (°) for **4.**

N1	C1	C2	126.1(5)		C76	C81	C80	120.5(5)
N1	C1	C4	122.3(4)		C76	C81	C85	121.6(5)
C2	C1	C4	111.5(5)		C80	C81	C85	117.9(5)
C1	C2	C3	123.1(5)		C83	C82	C77	109.7(6)
N2	C3	C2	125.2(5)		C83	C82	C84	109.5(5)
N2	C3	C5	122.9(4)		C77	C82	C84	108.1(6)
C2	C3	C5	112.0(5)		C86	C85	C81	110.9(5)
C11	C6	C7	124.5(5)		C86	C85	C87	108.3(6)
C11	C6	N1	117.4(5)		C81	C85	C87	110.1(5)
C7	C6	N1	118.1(5)		C89	C88	N7	122.3(5)
C6	C7	C8	117.0(5)		C89	C88	C91	120.2(5)
C6	C7	C12	124.9(5)		N7	C88	C91	117.4(5)
C8	C7	C12	118.2(5)		C90	C89	C88	132.6(6)
C9	C8	C7	121.0(6)		C89	C90	N8	122.0(5)
C8	C9	C10	121.0(6)		C89	C90	C92	120.2(5)
C9	C10	C11	122.6(6)		N8	C90	C92	117.7(5)
C6	C11	C10	113.8(5)		C94	C93	N8	121.9(4)
C6	C11	C15	125.8(5)		C94	C93	C98	119.5(5)
C10	C11	C15	120.4(5)		N8	C93	C98	118.6(5)
C7	C12	C13	111.2(5)		C93	C94	C95	120.1(5)
C7	C12	C14	112.2(5)		C93	C94	C99	121.3(5)
C13	C12	C14	108.5(5)		C95	C94	C99	118.5(5)
C11	C15	C16	114.0(5)		C94	C95	C96	119.6(5)
C11	C15	C17	111.3(5)		C97	C96	C95	119.4(6)
C16	C15	C17	112.3(6)		C98	C97	C96	121.2(6)
C23	C18	C19	124.1(4)		C97	C98	C93	119.9(5)
C23	C18	N2	119.0(4)		C97	C98	C102	121.0(5)
C19	C18	N2	116.8(4)		C93	C98	C102	119.1(5)
C20	C19	C18	115.1(5)		C100	C99	C94	110.4(5)
C20	C19	C24	120.8(5)		C100	C99	C101	109.6(6)
C18	C19	C24	124.1(4)		C94	C99	C101	109.7(5)
C21	C20	C19	123.0(5)		C103	C102	C104	109.7(6)
C20	C21	C22	120.2(5)		C103	C102	C98	109.9(6)
C21	C22	C23	120.5(6)		C104	C102	C98	110.6(5)
C18	C23	C22	117.0(5)		N7	C105	C110	120.4(5)
C18	C23	C27	125.6(5)		N7	C105	C106	121.4(4)
C22	C23	C27	117.3(5)		C110	C105	C106	118.2(5)
C26	C24	C19	114.8(6)		C107	C106	C105	119.2(5)
C26	C24	C25	108.4(5)		C107	C106	C111	120.9(5)
C19	C24	C25	109.6(5)		C105	C106	C111	119.9(5)
C29	C27	C23	112.8(6)		C106	C107	C108	122.7(6)
C29	C27	C28	112.4(6)		C109	C108	C107	117.6(6)
C23	C27	C28	114.6(5)		C110	C109	C108	121.3(6)
N3	C30	C31	124.3(5)		C109	C110	C105	121.0(5)
N3	C30	C33	122.3(5)		C109	C110	C114	119.4(5)
C31	C30	C33	113.3(5)		C105	C110	C114	119.6(5)

C32	C31	C30	123.5(5)		C112	C111	C106	111.5(5)
N4	C32	C31	124.5(5)		C112	C111	C113	110.9(5)
N4	C32	C34	122.7(4)		C106	C111	C113	108.2(5)
C31	C32	C34	112.7(5)		C116	C114	C115	109.8(5)
C36	C35	C40	123.9(5)		C116	C114	C110	109.9(6)
C36	C35	N3	118.0(5)		C115	C114	C110	111.0(5)
C40	C35	N3	118.1(5)		C1	N1	C6	117.6(4)
C35	C36	C37	117.9(5)		C1	N1	Ga2B	113.7(4)
C35	C36	C41	123.4(5)		C6	N1	Ga2B	128.0(4)
C37	C36	C41	118.7(5)		C1	N1	Ga1A	124.5(4)
C38	C37	C36	119.2(6)		C6	N1	Ga1A	117.3(4)
C37	C38	C39	122.4(6)		C3	N2	C18	117.6(4)
C38	C39	C40	121.5(6)		C3	N2	Ga2B	114.9(4)
C35	C40	C39	115.0(6)		C18	N2	Ga2B	126.4(4)
C35	C40	C44	123.9(5)		C3	N2	Ga1A	125.2(4)
C39	C40	C44	121.1(5)		C18	N2	Ga1A	116.8(4)
C42	C41	C36	112.1(5)		C30	N3	C35	116.9(4)
C42	C41	C43	111.7(5)		C30	N3	Ga2A	118.3(3)
C36	C41	C43	112.7(5)		C35	N3	Ga2A	123.9(4)
C40	C44	C46	112.5(6)		C30	N3	Ga1B	128.2(4)
C40	C44	C45	112.6(6)		C35	N3	Ga1B	114.5(4)
C46	C44	C45	110.4(6)		C32	N4	C47	117.4(4)
C52	C47	C48	123.8(4)		C32	N4	Ga2A	119.1(4)
C52	C47	N4	119.9(4)		C47	N4	Ga2A	122.9(4)
C48	C47	N4	116.3(5)		C32	N4	Ga1B	128.1(4)
C49	C48	C47	115.5(5)		C47	N4	Ga1B	113.9(4)
C49	C48	C53	121.2(5)		C59	N5	C64	118.9(5)
C47	C48	C53	123.3(4)		C59	N5	Ga4B	112.8(4)
C50	C49	C48	122.6(5)		C64	N5	Ga4B	126.9(4)
C49	C50	C51	120.3(5)		C59	N5	Ga3A	123.4(4)
C50	C51	C52	121.8(5)		C64	N5	Ga3A	117.3(4)
C47	C52	C51	115.7(5)		C61	N6	C76	119.7(5)
C47	C52	C56	123.4(5)		C61	N6	Ga4B	111.7(4)
C51	C52	C56	120.9(5)		C76	N6	Ga4B	125.7(4)
C48	C53	C55	115.7(5)		C61	N6	Ga3A	122.2(4)
C48	C53	C54	108.8(5)		C76	N6	Ga3A	118.1(3)
C55	C53	C54	110.2(5)		C88	N7	C105	118.8(5)
C52	C56	C57	114.5(6)		C88	N7	Ga4A	114.7(4)
C52	C56	C58	111.3(6)		C105	N7	Ga4A	125.4(4)
C57	C56	C58	111.6(6)		C88	N7	Ga3B	124.8(4)
C60	C59	N5	122.5(5)		C105	N7	Ga3B	115.8(3)
C60	C59	C62	119.5(5)		C90	N8	C93	118.5(5)
N5	C59	C62	117.9(5)		C90	N8	Ga4A	114.9(4)
C59	C60	C61	132.4(6)		C93	N8	Ga4A	124.5(4)
C60	C61	N6	123.5(5)		C90	N8	Ga3B	124.5(4)
C60	C61	C63	118.8(5)		C93	N8	Ga3B	116.8(4)
N6	C61	C63	117.5(6)		N2	Ga1A	N1	93.3(2)
N5	C64	C69	121.7(5)		N2	Ga1A	As1A	111.33(15)
N5	C64	C65	120.5(5)		N1	Ga1A	As1A	115.55(15)
C69	C64	C65	117.9(5)		N4	Ga2A	N3	92.95(19)
C66	C65	C64	121.9(5)		N4	Ga2A	As1A	111.39(15)
C66	C65	C70	119.7(5)		N3	Ga2A	As1A	116.00(15)
C64	C65	C70	118.4(5)		Ga2A	As1A	Ga1A	97.56(4)
C65	C66	C67	121.0(5)		Ga2B	As1B	Ga1B	97.5(3)
C66	C67	C68	118.3(6)		N3	Ga1B	N4	88.3(4)
C69	C68	C67	121.6(6)		N3	Ga1B	As1B	117.6(4)
C68	C69	C64	119.3(5)		N4	Ga1B	As1B	112.2(4)
C68	C69	C73	120.3(5)		N2	Ga2B	N1	99.0(4)
C64	C69	C73	120.4(5)		N2	Ga2B	As1B	108.9(4)

C72	C70	C71	108.5(5)		N1	Ga2B	As1B	113.9(4)
C72	C70	C65	111.3(5)		N5	Ga3A	N6	93.5(2)
C71	C70	C65	109.7(5)		N5	Ga3A	As2A	115.57(15)
C75	C73	C69	112.0(6)		N6	Ga3A	As2A	111.59(15)
C75	C73	C74	109.1(6)		N8	Ga4A	N7	94.3(2)
C69	C73	C74	108.5(5)		N8	Ga4A	As2A	109.55(16)
C81	C76	N6	122.6(4)		N7	Ga4A	As2A	114.48(14)
C81	C76	C77	118.8(5)		Ga4A	As2A	Ga3A	97.38(4)
N6	C76	C77	118.5(5)		N7	Ga3B	N8	91.5(2)
C78	C77	C76	119.2(6)		N7	Ga3B	As2B	115.61(18)
C78	C77	C82	122.4(6)		N8	Ga3B	As2B	110.53(18)
C76	C77	C82	118.4(5)		N6	Ga4B	N5	95.6(2)
C77	C78	C79	122.1(6)		N6	Ga4B	As2B	107.46(18)
C78	C79	C80	119.5(6)		N5	Ga4B	As2B	113.03(19)
C81	C80	C79	119.7(6)		Ga4B	As2B	Ga3B	97.63(11)

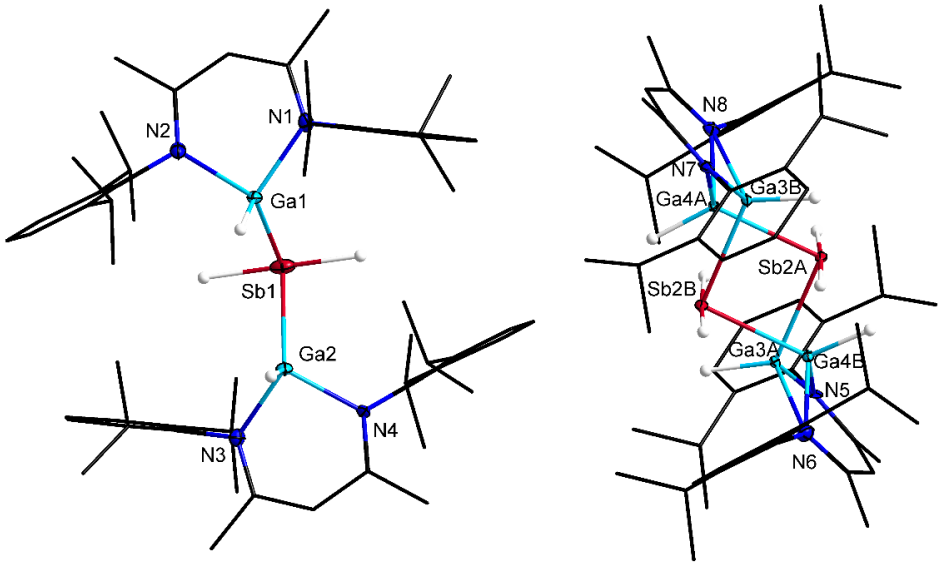

Figure S27: Both independent molecules in the unit cell of compound **5**. All hydrogen atoms on carbon are omitted for clarity. Carbon atoms are shown in the *wires and stick* model. Thermal ellipsoids represent a 50% probability level. Antimony atoms were refined with split positions 0.65 : 0.35.

Table S11: Bond length (Å) for **5.**

C1	N1	1.344(10)		C65	C66	1.321(12)
C1	C2	1.401(11)		C65	C70	1.570(11)
C1	C4	1.500(11)		C66	C67	1.441(14)
C2	C3	1.422(11)		C67	C68	1.387(14)
C3	N2	1.332(9)		C68	C69	1.395(12)
C3	C5	1.484(11)		C69	C73	1.519(11)
C6	C11	1.375(11)		C70	C71	1.501(13)
C6	C7	1.412(12)		C70	C72	1.550(12)
C6	N1	1.490(9)		C73	C75	1.527(14)
C7	C8	1.394(12)		C73	C74	1.540(12)
C7	C12	1.508(13)		C76	N6	1.379(11)
C8	C9	1.384(15)		C76	C81	1.412(11)
C9	C10	1.314(15)		C76	C77	1.448(10)
C10	C11	1.466(11)		C77	C78	1.343(13)

C11	C15	1.461(13)		C77	C82	1.536(12)
C12	C13	1.537(12)		C78	C79	1.374(13)
C12	C14	1.545(13)		C79	C80	1.415(13)
C15	C17	1.505(13)		C80	C81	1.377(12)
C15	C16	1.559(12)		C81	C85	1.541(11)
C18	C23	1.384(12)		C82	C84	1.535(14)
C18	C19	1.407(12)		C82	C83	1.541(12)
C18	N2	1.497(10)		C85	C87	1.522(12)
C19	C20	1.420(12)		C85	C86	1.546(11)
C19	C24	1.509(12)		C88	N7	1.306(11)
C20	C21	1.345(14)		C88	C89	1.394(11)
C21	C22	1.386(13)		C88	C91	1.530(11)
C22	C23	1.433(11)		C89	C90	1.354(12)
C23	C27	1.495(12)		C90	N8	1.335(10)
C24	C26	1.529(11)		C90	C92	1.555(11)
C24	C25	1.531(12)		C93	N8	1.393(11)
C27	C28	1.514(14)		C93	C94	1.404(11)
C27	C29	1.527(12)		C93	C98	1.445(10)
C30	N3	1.340(10)		C94	C95	1.370(11)
C30	C31	1.422(10)		C94	C99	1.548(11)
C30	C33	1.499(11)		C95	C96	1.423(12)
C31	C32	1.452(10)		C96	C97	1.410(13)
C32	N4	1.318(9)		C97	C98	1.349(12)
C32	C34	1.482(10)		C98	C102	1.530(11)
C35	C36	1.369(12)		C99	C101	1.517(12)
C35	C40	1.397(11)		C99	C100	1.543(11)
C35	N3	1.481(10)		C102	C103	1.492(14)
C36	C37	1.413(12)		C102	C104	1.530(12)
C36	C41	1.510(13)		C105	N7	1.406(10)
C37	C38	1.401(14)		C105	C110	1.410(10)
C38	C39	1.284(15)		C105	C106	1.441(11)
C39	C40	1.446(11)		C106	C107	1.389(12)
C40	C44	1.477(13)		C106	C111	1.529(12)
C41	C42	1.530(11)		C107	C108	1.352(15)
C41	C43	1.545(13)		C108	C109	1.467(13)
C44	C45	1.489(13)		C109	C110	1.332(12)
C44	C46	1.554(13)		C110	C114	1.569(12)
C47	C52	1.362(12)		C111	C112	1.508(14)
C47	C48	1.412(12)		C111	C113	1.519(11)
C47	N4	1.492(10)		C114	C116	1.492(14)
C48	C49	1.414(11)		C114	C115	1.580(12)
C48	C53	1.471(12)		N1	Ga1	1.982(7)
C49	C50	1.346(13)		N2	Ga1	1.981(7)
C50	C51	1.358(13)		N3	Ga2	1.977(7)
C51	C52	1.447(12)		N4	Ga2	1.975(7)
C52	C56	1.511(12)		N5	Ga4B	1.979(6)
C53	C54	1.522(12)		N5	Ga3A	2.013(7)
C53	C55	1.544(11)		N6	Ga4B	1.970(7)
C56	C57	1.524(13)		N6	Ga3A	2.038(7)
C56	C58	1.557(13)		N7	Ga4A	1.999(6)
C59	N5	1.330(11)		N7	Ga3B	2.041(7)
C59	C60	1.401(12)		N8	Ga4A	1.975(7)
C59	C62	1.518(13)		N8	Ga3B	2.071(7)
C60	C61	1.379(12)		Ga1	Sb1	2.6142(8)
C61	N6	1.330(11)		Ga2	Sb1	2.5961(8)
C61	C63	1.546(11)		Ga3A	Sb2A	2.6281(11)
C64	N5	1.395(10)		Ga4A	Sb2A	2.6194(12)
C64	C69	1.417(11)		Ga3B	Sb2B	2.6266(15)
C64	C65	1.449(10)		Ga4B	Sb2B	2.6118(16)

Table S12: Bond angles (°) for **5.**

N1	C1	C2	121.4(7)		C81	C76	C77	118.8(7)
N1	C1	C4	122.0(7)		C78	C77	C76	119.6(7)
C2	C1	C4	116.5(7)		C78	C77	C82	120.3(7)
C1	C2	C3	129.8(7)		C76	C77	C82	120.1(8)
N2	C3	C2	121.0(7)		C77	C78	C79	123.1(8)
N2	C3	C5	123.0(7)		C78	C79	C80	117.4(8)
C2	C3	C5	116.0(7)		C81	C80	C79	122.8(8)
C11	C6	C7	124.5(7)		C80	C81	C76	118.2(7)
C11	C6	N1	116.9(7)		C80	C81	C85	120.8(7)
C7	C6	N1	118.7(7)		C76	C81	C85	121.0(7)
C8	C7	C6	117.6(8)		C84	C82	C77	108.7(7)
C8	C7	C12	119.0(8)		C84	C82	C83	110.7(8)
C6	C7	C12	123.4(8)		C77	C82	C83	112.2(8)
C9	C8	C7	119.3(9)		C87	C85	C81	111.2(7)
C10	C9	C8	122.8(8)		C87	C85	C86	111.2(7)
C9	C10	C11	121.8(8)		C81	C85	C86	107.2(7)
C6	C11	C15	125.9(7)		N7	C88	C89	125.5(7)
C6	C11	C10	114.1(8)		N7	C88	C91	118.3(7)
C15	C11	C10	120.0(8)		C89	C88	C91	116.1(7)
C7	C12	C13	110.9(7)		C90	C89	C88	127.7(7)
C7	C12	C14	112.7(8)		N8	C90	C89	126.5(7)
C13	C12	C14	107.8(7)		N8	C90	C92	117.5(7)
C11	C15	C17	112.5(7)		C89	C90	C92	116.0(7)
C11	C15	C16	113.6(8)		N8	C93	C94	121.3(6)
C17	C15	C16	109.8(7)		N8	C93	C98	120.1(6)
C23	C18	C19	123.7(7)		C94	C93	C98	118.5(7)
C23	C18	N2	117.5(7)		C95	C94	C93	120.0(7)
C19	C18	N2	118.8(7)		C95	C94	C99	118.9(7)
C18	C19	C20	117.6(8)		C93	C94	C99	121.1(7)
C18	C19	C24	124.4(7)		C94	C95	C96	122.3(7)
C20	C19	C24	117.9(7)		C97	C96	C95	116.4(7)
C21	C20	C19	119.7(8)		C98	C97	C96	123.0(8)
C20	C21	C22	122.6(8)		C97	C98	C93	119.7(7)
C21	C22	C23	120.2(8)		C97	C98	C102	121.3(7)
C18	C23	C22	116.1(7)		C93	C98	C102	119.0(7)
C18	C23	C27	124.7(7)		C101	C99	C100	110.1(7)
C22	C23	C27	119.1(7)		C101	C99	C94	111.8(7)
C19	C24	C26	113.7(8)		C100	C99	C94	107.5(6)
C19	C24	C25	111.5(7)		C103	C102	C98	110.4(7)
C26	C24	C25	106.7(7)		C103	C102	C104	111.7(8)
C23	C27	C28	112.1(8)		C98	C102	C104	112.5(7)
C23	C27	C29	112.8(8)		N7	C105	C110	121.4(7)
C28	C27	C29	110.3(8)		N7	C105	C106	120.4(6)
N3	C30	C31	121.8(7)		C110	C105	C106	118.2(7)
N3	C30	C33	121.5(7)		C107	C106	C105	118.4(8)
C31	C30	C33	116.7(6)		C107	C106	C111	121.0(8)
C30	C31	C32	127.5(7)		C105	C106	C111	120.6(7)
N4	C32	C31	120.8(7)		C108	C107	C106	123.2(9)
N4	C32	C34	123.2(7)		C107	C108	C109	118.0(8)
C31	C32	C34	116.1(6)		C110	C109	C108	120.0(8)
C36	C35	C40	124.9(8)		C109	C110	C105	122.1(8)
C36	C35	N3	117.7(7)		C109	C110	C114	118.4(7)
C40	C35	N3	117.4(7)		C105	C110	C114	119.4(7)
C35	C36	C37	117.3(8)		C112	C111	C113	110.9(8)
C35	C36	C41	123.8(8)		C112	C111	C106	111.8(8)

C37	C36	C41	118.8(8)		C113	C111	C106	108.6(7)
C38	C37	C36	118.8(9)		C116	C114	C110	110.4(8)
C39	C38	C37	122.1(8)		C116	C114	C115	111.0(7)
C38	C39	C40	123.1(8)		C110	C114	C115	110.2(7)
C35	C40	C39	113.7(8)		C1	N1	C6	117.2(6)
C35	C40	C44	123.8(7)		C1	N1	Ga1	125.0(5)
C39	C40	C44	122.4(7)		C6	N1	Ga1	117.2(5)
C36	C41	C42	111.4(7)		C3	N2	C18	117.5(7)
C36	C41	C43	112.5(8)		C3	N2	Ga1	125.6(6)
C42	C41	C43	110.9(8)		C18	N2	Ga1	116.7(5)
C40	C44	C45	113.4(7)		C30	N3	C35	116.2(6)
C40	C44	C46	112.5(8)		C30	N3	Ga2	119.3(5)
C45	C44	C46	109.3(8)		C35	N3	Ga2	123.5(5)
C52	C47	C48	124.6(7)		C32	N4	C47	116.2(6)
C52	C47	N4	117.7(7)		C32	N4	Ga2	120.8(5)
C48	C47	N4	117.7(7)		C47	N4	Ga2	122.2(5)
C47	C48	C49	115.8(8)		C59	N5	C64	120.2(7)
C47	C48	C53	123.8(7)		C59	N5	Ga4B	111.2(5)
C49	C48	C53	120.4(8)		C64	N5	Ga4B	127.1(5)
C50	C49	C48	120.9(8)		C59	N5	Ga3A	123.0(5)
C49	C50	C51	122.5(8)		C64	N5	Ga3A	116.5(5)
C50	C51	C52	120.0(8)		C61	N6	C76	121.0(7)
C47	C52	C51	115.9(8)		C61	N6	Ga4B	110.1(6)
C47	C52	C56	123.7(7)		C76	N6	Ga4B	126.6(6)
C51	C52	C56	120.3(8)		C61	N6	Ga3A	121.4(6)
C48	C53	C54	112.5(7)		C76	N6	Ga3A	117.6(5)
C48	C53	C55	114.0(7)		C88	N7	C105	121.1(7)
C54	C53	C55	109.4(7)		C88	N7	Ga4A	113.3(5)
C52	C56	C57	112.6(8)		C105	N7	Ga4A	124.5(5)
C52	C56	C58	111.8(8)		C88	N7	Ga3B	124.6(5)
C57	C56	C58	109.5(8)		C105	N7	Ga3B	113.9(5)
N5	C59	C60	125.5(8)		C90	N8	C93	121.1(7)
N5	C59	C62	119.0(7)		C90	N8	Ga4A	112.5(6)
C60	C59	C62	115.4(8)		C93	N8	Ga4A	124.7(5)
C61	C60	C59	127.0(8)		C90	N8	Ga3B	122.5(6)
N6	C61	C60	127.0(7)		C93	N8	Ga3B	116.1(5)
N6	C61	C63	118.3(7)		N2	Ga1	N1	93.6(3)
C60	C61	C63	114.5(8)		N2	Ga1	Sb1	112.2(2)
N5	C64	C69	121.9(6)		N1	Ga1	Sb1	114.4(2)
N5	C64	C65	120.3(7)		N4	Ga2	N3	92.8(3)
C69	C64	C65	117.9(7)		N4	Ga2	Sb1	110.8(2)
C66	C65	C64	121.4(8)		N3	Ga2	Sb1	116.33(19)
C66	C65	C70	119.8(7)		Ga2	Sb1	Ga1	95.67(3)
C64	C65	C70	118.7(7)		N5	Ga3A	N6	93.9(3)
C65	C66	C67	121.5(8)		N5	Ga3A	Sb2A	113.49(18)
C68	C67	C66	117.7(8)		N6	Ga3A	Sb2A	111.4(2)
C67	C68	C69	122.2(9)		N8	Ga4A	N7	95.5(3)
C68	C69	C64	119.3(8)		N8	Ga4A	Sb2A	107.5(2)
C68	C69	C73	119.5(8)		N7	Ga4A	Sb2A	114.16(19)
C64	C69	C73	121.2(7)		Ga4A	Sb2A	Ga3A	94.58(4)
C71	C70	C72	110.7(7)		N7	Ga3B	N8	91.4(3)
C71	C70	C65	109.9(7)		N7	Ga3B	Sb2B	114.53(19)
C72	C70	C65	111.8(7)		N8	Ga3B	Sb2B	109.73(19)
C69	C73	C75	111.8(8)		N6	Ga4B	N5	97.1(3)
C69	C73	C74	109.0(7)		N6	Ga4B	Sb2B	104.8(2)
C75	C73	C74	109.2(8)		N5	Ga4B	Sb2B	112.1(2)
N6	C76	C81	122.1(7)		Ga4B	Sb2B	Ga3B	95.14(5)
N6	C76	C77	119.1(7)					

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