Supporting Information:

Dimeric n-Alkyl Complexes of Rare Earth Metals Supported by a Linked Amido-Cyclopentadienyl Ligand: Evidence for a β-Agostic Bonding in Bridging n-Alkyl Ligands and its Role in Styrene Polymerization

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Table S24. Anisotropic displacement parameters ($Å^2 \times 10^3$) for $[Yb(\eta^5:\eta^1\text{-}C_5Me_4SiMe_2NCMe_3)(\mu\text{-}CH_2)_5CH_3]_2$ (**6a**).
Table S25. Hydrogen coordinates ($\times 10^4$) and isotropic displacement parameters ($Å^2 \times 10^3$) for $[Yb(\eta^5:\eta^1\text{-}C_5Me_4SiMe_2NCMe_3)(\mu\text{-}CH_2)_5CH_3]_2$ (**6a**).
Table S26. Experimental Data of the Crystal Structure Determination of $[Y(\eta^5:\eta^1\text{-}C_5Me_4SiMe_2NCMe_3)(DME)\text{-}(CH_2)_3CH_3]$ (**9a**).
Table S27. Atomic coordinates ($\times 10^4$) and equivalent isotropic displacement parameters ($Å^2 \times 10^3$) for $[Y(\eta^5:\eta^1\text{-}C_5Me_4SiMe_2NCMe_3)(DME)\ (CH_2)_3CH_3]$ (**9a**).
Table S28. Bond lengths [Å] and angles [°] for $[Y(\eta^5:\eta^1\text{-}C_5Me_4SiMe_2NCMe_3)(DME)\ (CH_2)_3CH_3]$ (**9a**).
Table S29. Anisotropic displacement parameters ($Å^2 \times 10^3$) for $[Y(\eta^5:\eta^1\text{-}C_5Me_4SiMe_2NCMe_3)(DME)\ (CH_2)_3CH_3]$ (**9a**).
Table S30. Hydrogen coordinates ($\times 10^4$) and isotropic displacement parameters ($Å^2 \times 10^3$) for $[Y(\eta^5:\eta^1\text{-}C_5Me_4SiMe_2NCMe_3)(DME)\ (CH_2)_3CH_3]$ (**9a**).

Table S1. Experimental Data of the Crystal Structure Determination of $[Y(\eta^5:\eta^1\text{-}C_5Me_4SiMe_2NCMe_3)(\mu\text{-}(CH_2)_3CH_3]_2$ (**2a**).

Crystal data:

habitus, color	irregular, colorless
crystal size	0.35 × 0.32 × 0.12 mm
crystal system	monoclinic
space group	$P2_1/n$, $Z = 4$
unit cell dimensions	a = 11.3212(8) Å
	b = 13.961(1) Å β = 106.492(1)°
	c = 13.906(1) Å
volume	2107.5(3) $Å^3$
empirical formula	$C_{19}H_{36}NSiY$
formula weight	395.50
F(000)	840
density (calculated)	1.246 Mg/m^3
absorption coefficient	2.822 mm^{-1}

Data collection:

diffractometer type	Bruker AXS
wavelength	0.71073 Å (Mo Kα)
temperature	183(2) K
θ range for data collection	2.52 to 28.30°
index ranges	$-15 \le h \le 15, -18 \le k \le 18, -18 \le l \le 18$
scan method	ω-scans
absorption correction	SADABS
data collection software	SMART
cell refinement software	SMART
data reduction software	SMART, SADABS

solution and refinement:

reflections collected	18930
independent reflections	(R_{int} = 0.0310)
largest diff. peak and hole	0.480 and -0.282 $e \cdot Å^{-3}$
solution	Patterson and difference Fourier syntheses
refinement method	Full-matrix least-squares on F^2
data / restraints / parameters	5219 / 0 / 389
weighting scheme	$w=1/[\sigma^2(F_O)+(0.0299P)^2]$
	where $P=(F_o^2+2F_c^2)/3$
goodness-of-fit on F^2	0.960
final R indices ($I > 2\sigma(I)$)	R1 = 0.0257, wR2 = 0.0559
R indices (all data)	R1 = 0.0399, wR2 = 0.0581

Table S2. Atomic coordinates (× 10^4) and equivalent isotropic displacement parameters (Å^2 × 10^3) of [Y(η^5:η^1-$C_5Me_4SiMe_2NCMe_3$)(μ-CH_2)$_3$$CH_3$]$_2$ (**2a**). U(eq) is defined as one third of the trace of the orthogonalized U_{ij} tensor.

	x	y	z	U(eq)
Y	219.2(2)	8957.6(1)	752.7(1)	22(1)
Si	-467.8(5)	7044.9(1)	1669.6(4)	26(1)
N	-1177(1)	8122(1)	1252(1)	26(1)
C(1)	1072(2)	7347(1)	1481(1)	25(1)
C(2)	1317(2)	7363(1)	524(1)	28(1)
C(3)	2259(2)	8040(1)	551(1)	29(1)
C(4)	2622(2)	8454(1)	1525(1)	29(1)
C(5)	1905(2)	8030(1)	2095(1)	27(1)
C(6)	743(3)	6741(2)	-376(2)	40(1)
C(7)	2884(2)	8182(2)	-261(2)	41(1)
C(8)	3684(2)	9137(2)	1911(2)	41(1)
C(9)	2051(2)	8224(2)	3186(2)	36(1)
C(10)	-1157(3)	5941(2)	956(2)	44(1)
C(11)	-356(2)	6704(2)	2999(2)	42(1)
C(12)	-2416(2)	8429(1)	1284(2)	33(1)
C(13)	-3357(2)	7613(2)	1007(2)	52(1)
C(14)	-2377(3)	8795(2)	2331(2)	55(1)
C(15)	-2844(2)	9226(2)	522(2)	51(1)
C(16)	575(2)	10736(2)	1122(1)	36(1)
C(17A)	721(8)	10447(10)	2214(9)	40(2)
C(17B)	276(7)	10503(10)	2073(9)	29(2)
C(18A)	648(10)	11094(8)	2999(8)	49(2)
C(18B)	1153(8)	10923(8)	3067(8)	41(2)
C(19)	786(4)	10658(2)	4005(2)	55(1)

Table S3. Bond lengths [Å] and angles [°] for [Y(η^5:η^1-$C_5Me_4SiMe_2NCMe_3$)(μ-CH_2)$_3$$CH_3$]$_2$ (**2a**).

Y-N	2.2289(14)	C(4)-C(8)	1.508(3)
Y-C(1)	2.5418(16)	C(5)-C(9)	1.503(3)
Y-C(16)#1	2.542(2)	C(6)-H(6A)	0.95(3)
Y-C(16)	2.544(2)	C(6)-H(6B)	0.94(3)
Y-C(5)	2.6038(17)	C(6)-H(6C)	0.89(3)
Y-C(2)	2.6125(17)	C(7)-H(7A)	1.02(3)
Y-C(4)	2.7186(17)	C(7)-H(7B)	0.97(2)
Y-C(3)	2.7243(17)	C(7)-H(7C)	0.91(3)
Y-C(17B)	2.822(13)	C(8)-H(8A)	0.94(3)
Y-C(17A)	2.850(13)	C(8)-H(8B)	0.89(2)
Y-Si	3.1502(5)	C(8)-H(8C)	0.95(3)
Y-Y#1	3.5370(4)	C(9)-H(9A)	0.94(2)
Y-H(17A)	2.43(2)	C(9)-H(9B)	0.90(3)
Si-N	1.7255(15)	C(9)-H(9C)	0.99(2)
Si-C(10)	1.878(2)	C(10)-H(10A)	0.91(3)
Si-C(11)	1.879(2)	C(10)-H(10B)	0.88(3)
Si-C(1)	1.8826(18)	C(10)-H(10C)	0.97(3)
N-C(12)	1.478(2)	C(11)-H(11A)	0.87(2)
C(1)-C(2)	1.434(2)	C(11)-H(11B)	0.92(3)
C(1)-C(5)	1.439(2)	C(11)-H(11C)	0.98(3)
C(2)-C(3)	1.418(2)	C(12)-C(15)	1.519(3)
C(2)-C(6)	1.510(3)	C(12)-C(14)	1.532(3)
C(3)-C(4)	1.422(2)	C(12)-C(13)	1.532(3)
C(3)-C(7)	1.506(3)	C(13)-H(13A)	1.02(2)
C(4)-C(5)	1.416(2)	C(13)-H(13B)	0.94(2)

C(13)-H(13C)	0.95(2)
C(14)-H(14A)	0.99(3)
C(14)-H(14B)	0.99(2)
C(14)-H(14C)	0.99(3)
C(15)-H(15A)	0.93(2)
C(15)-H(15B)	1.01(2)
C(15)-H(15C)	0.97(3)
C(16)-C(17B)	1.491(14)
C(16)-C(17A)	1.533(13)
C(16)-Y#1	2.542(2)
C(16)-H(16A)	1.14(7)
C(16)-H(16B)	0.92(5)
C(16)-H(16C)	1.17(4)
C(16)-H(16D)	1.02(4)
C(17A)-C(18B)	1.326(16)
C(17A)-C(18A)	1.437(17)
C(17A)-H(17A)	0.93(3)
C(17A)-H(17B)	1.33(7)
C(17A)-H(17C)	1.44(4)
C(17B)-C(18A)	1.486(16)
C(17B)-C(18B)	1.569(14)
C(17B)-H(16A)	1.44(7)
C(17B)-H(17A)	0.90(3)
C(17B)-H(17C)	0.97(5)
C(17B)-H(18B)	1.42(8)
C(18A)-C(18B)	0.601(9)
C(18A)-C(19)	1.492(11)
C(18A)-H(18A)	0.91(3)
C(18A)-H(18B)	0.75(7)
C(18A)-H(18C)	1.45(5)
C(18B)-C(19)	1.523(11)
C(18B)-H(17B)	1.57(7)
C(18B)-H(18A)	0.98(3)
C(18B)-H(18B)	1.32(8)
C(18B)-H(18C)	0.86(5)
C(19)-H(19A)	0.91(6)
C(19)-H(19B)	1.17(8)
C(19)-H(19C)	0.85(7)
C(19)-H(19D)	1.01(5)
C(19)-H(19E)	1.01(5)
C(19)-H(19F)	0.98(6)
N-Y-C(1)	68.61(5)
N-Y-C(16)#1	109.41(6)
C(1)-Y-C(16)#1	122.79(6)
N-Y-C(16)	122.25(7)
C(1)-Y-C(16)	139.69(6)
C(16)#1-Y-C(16)	91.86(6)
N-Y-C(5)	87.50(5)
C(1)-Y-C(5)	32.45(5)
C(16)#1-Y-C(5)	142.46(7)
C(16)-Y-C(5)	107.39(6)
N-Y-C(2)	89.75(5)
C(1)-Y-C(2)	32.28(5)
C(16)#1-Y-C(2)	93.48(6)
C(16)-Y-C(2)	143.38(7)
C(5)-Y-C(2)	52.14(5)
N-Y-C(4)	117.41(5)
C(1)-Y-C(4)	52.38(5)
C(16)#1-Y-C(4)	118.15(7)
C(16)-Y-C(4)	95.11(7)
C(5)-Y-C(4)	30.75(5)
C(2)-Y-C(4)	50.99(5)
N-Y-C(3)	118.88(5)
C(1)-Y-C(3)	52.25(5)
C(16)#1-Y-C(3)	92.11(7)
C(16)-Y-C(3)	112.92(7)
C(5)-Y-C(3)	50.93(5)
C(2)-Y-C(3)	30.72(5)
C(4)-Y-C(3)	30.29(5)
N-Y-C(17B)	94.9(3)
C(1)-Y-C(17B)	118.8(2)
C(16)#1-Y-C(17B)	118.4(2)
C(16)-Y-C(17B)	31.7(3)
C(5)-Y-C(17B)	92.13(19)
C(2)-Y-C(17B)	143.78(17)
C(4)-Y-C(17B)	96.03(15)
C(3)-Y-C(17B)	124.27(17)
N-Y-C(17A)	100.1(3)
C(1)-Y-C(17A)	112.7(2)
C(16)#1-Y-C(17A)	123.3(3)
C(16)-Y-C(17A)	32.4(3)
C(5)-Y-C(17A)	84.0(2)
C(2)-Y-C(17A)	134.69(19)
C(4)-Y-C(17A)	86.13(19)
C(3)-Y-C(17A)	114.4(2)
C(17B)-Y-C(17A)	9.9(3)
N-Y-Si	31.96(4)
C(1)-Y-Si	36.70(4)
C(16)#1-Y-Si	120.13(5)
C(16)-Y-Si	142.04(5)
C(5)-Y-Si	60.20(4)
C(2)-Y-Si	60.50(4)
C(4)-Y-Si	87.44(4)
C(3)-Y-Si	87.53(4)
C(17B)-Y-Si	110.3(3)
C(17A)-Y-Si	110.6(3)
N-Y-Y#1	128.50(4)
C(1)-Y-Y#1	159.64(4)
C(16)#1-Y-Y#1	45.95(5)
C(16)-Y-Y#1	45.91(4)
C(5)-Y-Y#1	141.70(4)
C(2)-Y-Y#1	128.38(4)
C(4)-Y-Y#1	113.78(4)
C(3)-Y-Y#1	107.86(4)
C(17B)-Y-Y#1	74.3(3)
C(17A)-Y-Y#1	77.7(3)
Si-Y-Y#1	158.092(12)
N-Y-H(17A)	82.4(5)
C(1)-Y-H(17A)	102.0(5)
C(16)#1-Y-H(17A)	135.1(5)
C(16)-Y-H(17A)	49.1(5)
C(5)-Y-H(17A)	78.8(5)
C(2)-Y-H(17A)	130.7(5)
C(4)-Y-H(17A)	90.4(5)
C(3)-Y-H(17A)	120.7(5)
C(17B)-Y-H(17A)	17.9(6)
C(17A)-Y-H(17A)	18.2(6)
Si-Y-H(17A)	93.2(5)
Y#1-Y-H(17A)	92.1(5)
N-Si-C(10)	116.94(10)
N-Si-C(11)	116.52(10)
C(10)-Si-C(11)	102.37(12)
N-Si-C(1)	96.85(7)
C(10)-Si-C(1)	111.83(10)

C(11)-Si-C(1)	112.80(10)
N-Si-Y	43.13(5)
C(10)-Si-Y	126.49(8)
C(11)-Si-Y	131.12(9)
C(1)-Si-Y	53.79(5)
C(12)-N-Si	126.69(12)
C(12)-N-Y	128.31(11)
Si-N-Y	104.91(7)
C(2)-C(1)-C(5)	105.85(15)
C(2)-C(1)-Si	124.29(13)
C(5)-C(1)-Si	122.83(13)
C(2)-C(1)-Y	76.57(9)
C(5)-C(1)-Y	76.15(9)
Si-C(1)-Y	89.51(6)
C(3)-C(2)-C(1)	109.17(15)
C(3)-C(2)-C(6)	123.27(17)
C(1)-C(2)-C(6)	127.48(18)
C(3)-C(2)-Y	79.00(10)
C(1)-C(2)-Y	71.15(9)
C(6)-C(2)-Y	118.92(14)
C(2)-C(3)-C(4)	107.94(16)
C(2)-C(3)-C(7)	125.31(18)
C(4)-C(3)-C(7)	126.20(18)
C(2)-C(3)-Y	70.28(10)
C(4)-C(3)-Y	74.63(10)
C(7)-C(3)-Y	127.42(13)
C(5)-C(4)-C(3)	107.83(16)
C(5)-C(4)-C(8)	126.29(18)
C(3)-C(4)-C(8)	125.54(18)
C(5)-C(4)-Y	70.14(9)
C(3)-C(4)-Y	75.07(10)
C(8)-C(4)-Y	125.73(13)
C(4)-C(5)-C(1)	109.21(15)
C(4)-C(5)-C(9)	124.92(17)
C(1)-C(5)-C(9)	125.77(17)
C(4)-C(5)-Y	79.10(10)
C(1)-C(5)-Y	71.41(9)
C(9)-C(5)-Y	118.81(12)
C(2)-C(6)-H(6A)	113.7(16)
C(2)-C(6)-H(6B)	109.9(19)
H(6A)-C(6)-H(6B)	123(2)
C(2)-C(6)-H(6C)	115.7(17)
H(6A)-C(6)-H(6C)	90(2)
H(6B)-C(6)-H(6C)	103(2)
C(3)-C(7)-H(7A)	110.6(14)
C(3)-C(7)-H(7B)	111.2(14)
H(7A)-C(7)-H(7B)	107(2)
C(3)-C(7)-H(7C)	111.1(15)
H(7A)-C(7)-H(7C)	106.4(19)
H(7B)-C(7)-H(7C)	110(2)
C(4)-C(8)-H(8A)	110.2(15)
C(4)-C(8)-H(8B)	111.6(15)
H(8A)-C(8)-H(8B)	111(2)
C(4)-C(8)-H(8C)	111.1(15)
H(8A)-C(8)-H(8C)	104(2)
H(8B)-C(8)-H(8C)	108(2)
C(5)-C(9)-H(9A)	113.6(12)
C(5)-C(9)-H(9B)	110.9(16)
H(9A)-C(9)-H(9B)	108(2)
C(5)-C(9)-H(9C)	113.1(12)
H(9A)-C(9)-H(9C)	105.2(16)
H(9B)-C(9)-H(9C)	106.0(19)
Si-C(10)-H(10A)	110.9(15)
Si-C(10)-H(10B)	107.5(17)
H(10A)-C(10)-H(10B)	111(2)
Si-C(10)-H(10C)	115.9(13)
H(10A)-C(10)-H(10C)	106(2)
H(10B)-C(10)-H(10C)	106(2)
Si-C(11)-H(11A)	115.2(15)
Si-C(11)-H(11B)	108.2(17)
H(11A)-C(11)-H(11B)	109(2)
Si-C(11)-H(11C)	109.1(14)
H(11A)-C(11)-H(11C)	111(2)
H(11B)-C(11)-H(11C)	104(2)
N-C(12)-C(15)	108.03(16)
N-C(12)-C(14)	110.70(17)
C(15)-C(12)-C(14)	109.6(2)
N-C(12)-C(13)	112.05(17)
C(15)-C(12)-C(13)	107.9(2)
C(14)-C(12)-C(13)	108.4(2)
C(12)-C(13)-H(13A)	109.9(14)
C(12)-C(13)-H(13B)	108.8(14)
H(13A)-C(13)-H(13B)	112.1(19)
C(12)-C(13)-H(13C)	110.5(15)
H(13A)-C(13)-H(13C)	107(2)
H(13B)-C(13)-H(13C)	108.7(19)
C(12)-C(14)-H(14A)	108.8(15)
C(12)-C(14)-H(14B)	112.0(13)
H(14A)-C(14)-H(14B)	106.0(19)
C(12)-C(14)-H(14C)	111.4(16)
H(14A)-C(14)-H(14C)	112(2)
H(14B)-C(14)-H(14C	106(2)
C(12)-C(15)-H(15A)	109.2(13)
C(12)-C(15)-H(15B)	110.7(12)
H(15A)-C(15)-H(15B)	101.9(18)
C(12)-C(15)-H(15C)	110.7(14)
H(15A)-C(15)-H(15C)	111(2)
H(15B)-C(15)-H(15C)	112.5(19)
C(17B)-C(16)-C(17A)	18.6(5)
C(17B)-C(16)-Y#1	147.5(3)
C(17A)-C(16)-Y#1	165.3(4)
C(17B)-C(16)-Y	84.5(5)
C(17A)-C(16)-Y	84.9(5)
Y#1-C(16)-Y	88.14(6)
C(17B)-C(16)-H(16A)	65(4)
C(17A)-C(16)-H(16A)	81(4)
Y#1-C(16)-H(16A)	89(4)
Y-C(16)-H(16A)	111(4)
C(17B)-C(16)-H(16B)	123(3)
C(17A)-C(16)-H(16B)	113(3)
Y#1-C(16)-H(16B)	80(3)
Y-C(16)-H(16B)	142(3)
H(16A)-C(16)-H(16B)	105(4)
C(17B)-C(16)-H(16C)	105.7(18)
C(17A)-C(16)-H(16C)	87.1(18)
Y#1-C(16)-H(16C)	106.0(17)
Y-C(16)-H(16C)	91.0(18)
H(16A)-C(16)-H(16C)	154(4)
H(16B)-C(16)-H(16C)	59(3)
C(17B)-C(16)-H(16D)	106(2)
C(17A)-C(16)-H(16D)	111(2)
Y#1-C(16)-H(16D)	73(2)
Y-C(16)-H(16D)	159(2)
H(16A)-C(16)-H(16D)	60(3)

H(16B)-C(16)-H(16D)	45(3)
H(16C)-C(16)-H(16D)	103(3)
C(18B)-C(17A)-C(18A)	24.7(5)
C(18B)-C(17A)-C(16)	131.5(11)
C(18A)-C(17A)-C(16)	125.0(10)
C(18B)-C(17A)-Y	162.1(9)
C(18A)-C(17A)-Y	163.2(9)
C(16)-C(17A)-Y	62.7(5)
C(18B)-C(17A)-H(17A)	115.9(18)
C(18A)-C(17A)-H(17A)	110.4(18)
C(16)-C(17A)-H(17A)	111.6(16)
Y-C(17A)-H(17A)	54.6(15)
C(18B)-C(17A)-H(17B)	72(3)
C(18A)-C(17A)-H(17B)	97(3)
C(16)-C(17A)-H(17B)	100(3)
Y-C(17A)-H(17B)	96(3)
H(17A)-C(17A)-H(17B)	111(3)
C(18B)-C(17A)-H(17C)	100(2)
C(18A)-C(17A)-H(17C)	75.1(19)
C(16)-C(17A)-H(17C)	86.2(19)
Y-C(17A)-H(17C)	91.6(19)
H(17A)-C(17A)-H(17C)	72(2)
H(17B)-C(17A)-H(17C)	172(4)
C(18A)-C(17B)-C(16)	124.6(10)
C(18A)-C(17B)-C(18B)	22.5(4)
C(16)-C(17B)-C(18B)	117.0(9)
C(18A)-C(17B)-Y	159.5(7)
C(16)-C(17B)-Y	63.8(5)
C(18B)-C(17B)-Y	138.7(6)
C(18A)-C(17B)-H(16A)	110(3)
C(16)-C(17B)-H(16A)	46(3)
C(18B)-C(17B)-H(16A)	122(3)
Y-C(17B)-H(16A)	89(3)
C(18A)-C(17B)-H(17A)	108.4(17)
C(16)-C(17B)-H(17A)	117.3(17)
C(18B)-C(17B)-H(17A)	98.9(16)
Y-C(17B)-H(17A)	55.8(15)
H(16A)-C(17B)-H(17A)	139(3)
C(18A)-C(17B)-H(17C)	89(3)
C(16)-C(17B)-H(17C)	110(3)
C(18B)-C(17B)-H(17C)	111(3)
Y-C(17B)-H(17C)	106(3)
H(16A)-C(17B)-H(17C)	66(3)
H(17A)-C(17B)-H(17C)	102(3)
C(18A)-C(17B)-H(18B)	30(3)
C(16)-C(17B)-H(18B)	130(3)
C(18B)-C(17B)-H(18B)	52(3)
Y-C(17B)-H(18B)	161(3)
H(16A)-C(17B)-H(18B)	95(4)
H(17A)-C(17B)-H(18B)	113(4)
H(17C)-C(17B)-H(18B)	59(3)
C(18B)-C(18A)-C(17A)	67.3(18)
C(18B)-C(18A)-C(17B)	86.5(19)
C(17A)-C(18A)-C(17B)	19.3(5)
C(18B)-C(18A)-C(19)	81(2)
C(17A)-C(18A)-C(19)	116.3(9)
C(17B)-C(18A)-C(19)	121.0(9)
C(18B)-C(18A)-H(18A)	78(3)
C(17A)-C(18A)-H(18A)	110.5(19)
C(17B)-C(18A)-H(18A)	118.0(19)
C(19)-C(18A)-H(18A)	115.5(18)
C(18B)-C(18A)-H(18B)	155(6)
C(17A)-C(18A)-H(18B)	89(6)
C(17B)-C(18A)-H(18B)	70(6)
C(19)-C(18A)-H(18B)	103(6)
H(18A)-C(18A)-H(18B)	120(6)
C(18B)-C(18A)-H(18C)	7(2)
C(17A)-C(18A)-H(18C)	68(2)
C(17B)-C(18A)-H(18C)	87(2)
C(19)-C(18A)-H(18C)	87(2)
H(18A)-C(18A)-H(18C)	72(3)
H(18B)-C(18A)-H(18C)	158(6)
C(18A)-C(18B)-C(17A)	88.0(19)
C(18A)-C(18B)-C(19)	76(2)
C(17A)-C(18B)-C(19)	121.6(10)
C(18A)-C(18B)-C(17B)	71.0(18)
C(17A)-C(18B)-C(17B)	17.0(8)
C(19)-C(18B)-C(17B)	113.9(8)
C(18A)-C(18B)-H(17B)	141(3)
C(17A)-C(18B)-H(17B)	54(3)
C(19)-C(18B)-H(17B)	128(3)
C(17B)-C(18B)-H(17B)	71(3)
C(18A)-C(18B)-H(18A)	65(2)
C(17A)-C(18B)-H(18A)	114.4(17)
C(19)-C(18B)-H(18A)	108.2(16)
C(17B)-C(18B)-H(18A)	106.4(17)
H(17B)-C(18B)-H(18A)	121(3)
C(18A)-C(18B)-H(18B)	14(4)
C(17A)-C(18B)-H(18B)	75(4)
C(19)-C(18B)-H(18B)	79(4)
C(17B)-C(18B)-H(18B)	58(4)
H(17B)-C(18B)-H(18B)	129(4)
H(18A)-C(18B)-H(18B)	75(4)
C(18A)-C(18B)-H(18C)	168(4)
C(17A)-C(18B)-H(18C)	93(3)
C(19)-C(18B)-H(18C)	114(3)
C(17B)-C(18B)-H(18C)	110(3)
H(17B)-C(18B)-H(18C)	39(4)
H(18A)-C(18B)-H(18C)	104(3)
H(18B)-C(18B)-H(18C)	166(5)
C(18A)-C(19)-C(18B)	23.0(4)
C(18A)-C(19)-H(19A)	116(3)
C(18B)-C(19)-H(19A)	129(3)
C(18A)-C(19)-H(19B)	124(3)
C(18B)-C(19)-H(19B)	127(3)
H(19A)-C(19)-H(19B)	99(5)
C(18A)-C(19)-H(19C)	111(4)
C(18B)-C(19)-H(19C)	88(4)
H(19A)-C(19)-H(19C)	108(6)
H(19B)-C(19)-H(19C)	97(6)
C(18A)-C(19)-H(19D)	90(3)
C(18B)-C(19)-H(19D)	113(3)
H(19A)-C(19)-H(19D)	65(4)
H(19B)-C(19)-H(19D)	65(4)
H(19C)-C(19)-H(19D)	158(5)
C(18A)-C(19)-H(19E)	123(2)
C(18B)-C(19)-H(19E)	114(2)
H(19A)-C(19)-H(19E)	117(4)
H(19B)-C(19)-H(19E)	27(5)
H(19C)-C(19)-H(19E)	71(5)
H(19D)-C(19)-H(19E)	92(4)
C(18A)-C(19)-H(19F)	124(3)
C(18B)-C(19)-H(19F)	114(3)
H(19A)-C(19)-H(19F)	51(4)

H(19B)-C(19)-H(19F)	113(4)	H(19D)-C(19)-H(19F)	116(5)
H(19C)-C(19)-H(19F)	58(4)	H(19E)-C(19)-H(19F)	106(4)

Table S4. Anisotropic displacement parameters ($Å^2 \times 10^3$) for $[Y(\eta^5:\eta^1\text{-}C_5Me_4SiMe_2NCMe_3)(\mu\text{-}CH_2)_3CH_3]_2$ **(2a)**. The anisotropic displacement factor exponent takes the form: $-2\pi^2 [h^2 a^{*2} U_{11} + ... + 2 h k a^* b^* U_{12}]$

	U11	U22	U33	U23	U13	U12
Y	24.62(9)	20.58(8)	21.11(9)	2.11(7)	5.63(6)	0.57(7)
Si	29.4(3)	23.7(2)	26.4(3)	3.6(2)	8.3(2)	0.0(2)
N	23.9(8)	26.8(8)	27.6(8)	3.1(6)	6.5(6)	1.0(6)
C(1)	29(1)	21.8(9)	24.7(9)	3.8(7)	6.6(7)	6.5(7)
C(2)	32(1)	23.9(9)	30(1)	-0.6(7)	11.4(8)	5.6(8)
C(3)	28(1)	29.5(9)	33(1)	2.6(8)	13.3(8)	6.6(8)
C(4)	23.2(9)	27(1)	35(1)	2(1)	5(1)	4(1)
C(5)	24.4(9)	26.3(9)	27.3(9)	3.1(8)	3.4(7)	6.6(7)
C(6)	52(2)	35(1)	36(1)	-9(1)	15(1)	-3(1)
C(7)	43(1)	38(1)	48(1)	5(1)	25(1)	7(1)
C(8)	29(1)	43(1)	48(1)	2(1)	4(1)	-4(1)
C(9)	39(1)	38(1)	26(1)	1(1)	1(1)	2(1)
C(10)	48(1)	32(1)	50(2)	0(1)	13(1)	-8(1)
C(11)	47(2)	48(1)	36(1)	13(1)	16(1)	5(1)
C(12)	26(1)	35(1)	41(1)	6.2(7)	10.6(8)	2.1(8)
C(13)	29(1)	51(2)	75(2)	6(1)	14(1)	-3(1)
C(14)	45(2)	67(2)	61(2)	-4(1)	27(1)	9(1)
C(15)	35(1)	46(1)	71(2)	19(1)	14(1)	11(1)
C(16)	52(1)	28(1)	26(1)	1.4(8)	6.9(9)	-9(1)
C(17A)	62(7)	29(3)	21(4)	1(3)	0(5)	-7(5)
C(17B)	32(5)	27(3)	20(4)	-6(2)	-5(3)	-6(4)
C(18A)	74(8)	37(4)	37(4)	-10(3)	20(6)	-8(5)
C(18B)	45(5)	42(5)	35(3)	-9(3)	9(4)	-11(4)
C(19)	84(3)	51(2)	30(1)	-6(1)	16(1)	3(2)

Table S5. Hydrogen coordinates ($\times 10^4$) and isotropic displacement parameters ($Å^2 \times 10^3$) for $[Y(\eta^5:\eta^1\text{-}C_5Me_4SiMe_2NCMe_3)(\mu\text{-}CH_2)_3CH_3]_2$ **(2a)**.

	x	y	z	U(eq)
H(6A)	720(20)	6081(19)	-220(20)	73(8)
H(6B)	980(30)	6960(20)	-930(20)	112(12)
H(6C)	-70(20)	6760(20)	-596(18)	73(9)
H(7A)	3490(20)	8735(18)	-88(18)	66(8)
H(7B)	2290(20)	8338(17)	-896(18)	61(7)
H(7C)	3330(20)	7656(18)	-328(17)	64(8)
H(8A)	4400(30)	8797(17)	2232(19)	72(8)
H(8B)	3510(20)	9579(17)	2316(17)	56(7)
H(8C)	3880(20)	9455(18)	1376(19)	66(8)
H(9A)	1300(19)	8319(14)	3335(14)	37(6)
H(9B)	2520(20)	8745(18)	3393(19)	67(8)
H(9C)	2464(18)	7693(15)	3631(15)	44(6)
H(10A)	-1800(20)	5724(17)	1162(18)	63(8)
H(10B)	-580(20)	5510(20)	1058(19)	75(9)
H(10C)	-1460(20)	6013(16)	240(20)	67(8)
H(11A)	-170(20)	7170(17)	3431(17)	51(7)
H(11B)	220(30)	6227(19)	3190(20)	77(9)

H(11C)	-1130(20)	6392(18)	3018(18)	68(8)
H(13A)	-3360(20)	7328(18)	333(19)	70(8)
H(13B)	-4130(20)	7851(16)	1001(16)	56(7)
H(13C)	-3140(20)	7109(18)	1490(17)	62(8)
H(14A)	-2150(20)	8250(20)	2810(20)	83(9)
H(14B)	-3190(20)	9023(14)	2363(17)	53(7)
H(14C)	-1810(30)	9340(20)	2530(20)	89(10)
H(15A)	-2290(20)	9734(16)	684(16)	53(7)
H(15B)	-3630(20)	9530(15)	593(15)	46(6)
H(15C)	-2930(20)	8993(16)	-150(20)	65(8)
H(16A)	-290(70)	11090(50)	1220(50)	120(20)
H(16B)	1080(50)	11240(40)	1070(30)	42(14)
H(16C)	1650(30)	10630(30)	1300(30)	28(10)
H(16D)	460(40)	11460(30)	1030(30)	20(10)
H(17A)	300(20)	9879(16)	2253(15)	45(6)
H(17B)	1940(60)	10310(50)	2520(50)	120(20)
H(17C)	-570(40)	10660(30)	2010(30)	41(12)
H(18A)	1110(20)	11625(18)	2995(17)	59(7)
H(18B)	-40(70)	11120(50)	2780(60)	110(30)
H(18C)	1900(50)	10790(40)	3110(40)	47(16)
H(19A)	610(60)	11050(40)	4470(50)	62(17)
H(19B)	260(70)	9970(60)	4130(50)	100(30)
H(19C)	1510(60)	10430(50)	4250(50)	90(20)
H(19D)	-120(50)	10750(40)	3920(40)	59(15)
H(19E)	720(50)	9940(30)	4110(30)	16(11)
H(19F)	1340(60)	10910(40)	4620(40)	54(15)

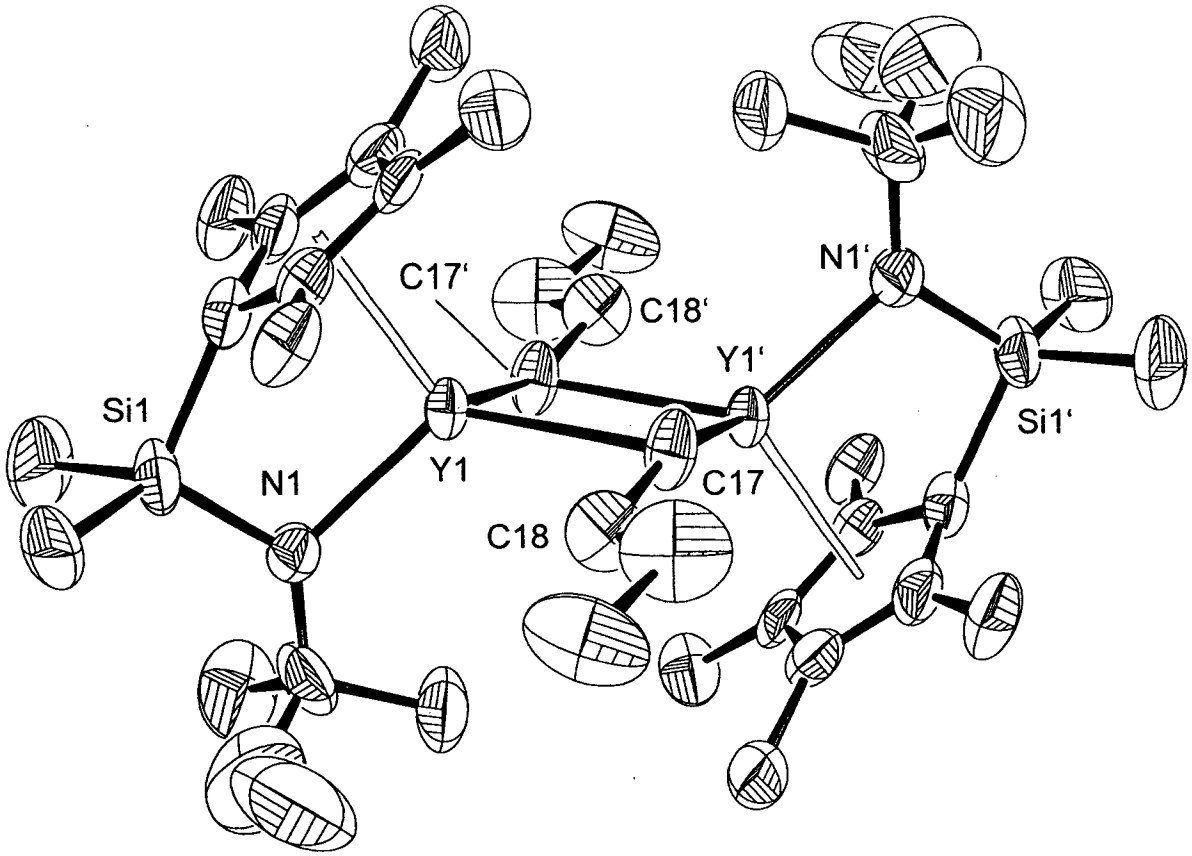

Figure S1. ORTEP diagram of the molecular structure of $[Y(\eta^5:\eta^1\text{-}C_5Me_4SiMe_2NCMe_2Et)(\mu\text{-}CH_2)_3CH_3]_2$ **(2b)**.Thermal ellipsoids are drawn at the 50% probality level. All hydrogen atoms are omitted for the the sake of clarity.

Table S6. Experimental Data of the Crystal Structure Determination of [Y(η^5:η^1-$C_5Me_4SiMe_2NCMe_2Et$)(μ-$(CH_2)_3CH_3]_2$ (**2b**).

Crystal data:

habitus, color	irregular, colorless
crystal size	0.58 × 0.5 × 0.3 mm
crystal system	monoclinic
space group	$P2_1/n$, $Z = 4$
unit cell dimensions	a = 12.967(2) Å
	b = 13.388(2) Å β = 110.700(10)°
	c = 13.850(2) Å
volume	2249.2(6) Å^3
cell determination	25 reflections
empirical formula	$C_{20}H_{38}NSiY$
formula weight	409.51
F(000)	872
density (calculated)	1.209 Mg/m^3
absorption coefficient	2.647 mm^{-1}

Data collection:

diffractometer type	Enraf Nonius CAD4
wavelength	0.71073 Å (Mo Kα)
temperature	296(2) K
θ range for data collection	3.04 to 23.97°
index ranges	$-14 \le h \le 13$, $-14 \le k \le 15$, $-15 \le l \le 15$
scan method	ω-scans
absorption correction	
data collection software	CAD4
cell refinement software	CAD4
data reduction software	XCAD4

solution and refinement:

reflections collected	12013
independent reflections	(R_{int} = 0.1414)
largest diff. peak and hole	1.222 and –0.716 e·Å^{-3}
solution	Patterson and difference Fourier syntheses
refinement method	Full-matrix least-squares on F^2
data / restraints / parameters	3509 / 0 / 213
weighting scheme	$w=1/[\sigma^2(F_O)+(0.1770P)^2]$
	where $P=(F_o^2+2F_c^2)/3$
goodness-of-fit on F^2	0.985
final R indices ($I > 2\sigma(I)$)	R1 = 0.0850, wR2 = 0.2239
R indices (all data)	R1 = 0.1797, wR2 = 0.2826

Table S7. Atomic coordinates and equivalent isotropic displacement parameters (Å^2) of [Y(η^5:η^1-$C_5Me_4SiMe_2NCMe_2Et$)(μ-CH_2)$_3$$CH_3]_2$ (**2b**). U(eq) is defined as one third of the trace of the orthogonalized U_{ij} tensor.

Atom	x	y	z	U(eq)
Y	0.06409(8)	0.99376(8)	0.90632(7)	0.0516(5)
Si	0.2046(3)	1.0586(3)	0.7746(3)	0.0776(12)
N	0.1290(8)	1.1144(7)	0.8356(7)	0.064(3)
C1	0.1830(9)	0.9274(9)	0.8093(8)	0.061(3)
C2	0.0816(9)	0.8712(9)	0.7652(8)	0.060(3)
C3	0.0688(9)	0.8041(9)	0.8373(10)	0.064(3)

C4	0.1638(10)	0.8148(10)	0.9264(10)	0.071(4)
C5	0.2329(9)	0.8855(10)	0.9101(9)	0.070(3)
C6	0.0001(11)	0.8841(11)	0.6560(9)	0.094(5)
C7	-0.0204(11)	0.7275(10)	0.8127(12)	0.096(5)
C8	0.1928(12)	0.7430(11)	1.0202(11)	0.107(5)
C9	0.3468(9)	0.9137(13)	0.9892(11)	0.106(5)
C10	0.1610(15)	1.0779(13)	0.6305(11)	0.133(7)
C11	0.3543(11)	1.0938(14)	0.8199(15)	0.140(7)
C12	0.1153(12)	1.2232(11)	0.8426(10)	0.088(4)
C13	0.0379(13)	1.2397(14)	0.9045(12)	0.122(6)
C14	0.2213(16)	1.2787(15)	0.8938(16)	0.164(8)
C15	0.0701(17)	1.2722(17)	0.7443(16)	0.169(9)
C16	-0.036(2)	1.244(2)	0.681(2)	0.245(13)
C17	0.1352(12)	1.0184(13)	1.0993(10)	0.077(4)
C18	0.1636(12)	0.9850(12)	1.2068(11)	0.095(5)
C19	0.2791(16)	1.0159(15)	1.2816(15)	0.159(9)
C20	0.301(2)	0.9759(14)	1.3893(12)	0.159(10)

Table S8. Bond lengths [Å] and angles [°] for $[Y(\eta^5:\eta^1\text{-}C_5Me_4SiMe_2NCMe_2Et)(\mu\text{-}CH_2)_3CH_3]_2$ (**2b**).

		C1-Y-C17	139.2(4)
Y-N	2.205(9)	N-Y-C5	88.1(4)
Y-C17	2.522(13)	C17-Y-C5	93.5(4)
Y-C1	2.537(10)	C1-Y-C5	32.2(3)
Y-C17	2.563(14)	C17-Y-C5	142.7(5)
Y-C5	2.610(11)	N-Y-C2	88.8(4)
Y-C2	2.623(10)	C17-Y-C2	140.9(5)
Y-C4	2.690(11)	C1-Y-C2	32.6(3)
Y-C3	2.721(11)	C17-Y-C2	106.8(4)
Y-C18	2.825(14)	C5-Y-C2	51.3(4)
Y-Si	3.122(4)	N-Y-C4	117.0(4)
Y-Y	3.5459(19)	C17-Y-C4	91.4(5)
Si-N	1.678(10)	C1-Y-C4	51.9(4)
Si-C1	1.869(13)	C17-Y-C4	112.9(5)
Si-C11	1.878(14)	C5-Y-C4	30.0(3)
Si-C10	1.891(14)	C2-Y-C4	49.8(4)
N-C12	1.475(16)	N-Y-C3	117.9(3)
C1-C5	1.429(15)	C17-Y-C3	116.7(5)
C1-C2	1.449(14)	C1-Y-C3	52.7(4)
C2-C3	1.396(15)	C17-Y-C3	94.5(4)
C2-C6	1.518(15)	C5-Y-C3	50.7(4)
C3-C4	1.410(16)	C2-Y-C3	30.2(3)
C3-C7	1.493(15)	C4-Y-C3	30.2(3)
C4-C5	1.376(16)	N-Y-C18	99.7(4)
C4-C8	1.552(17)	C17-Y-C18	119.6(5)
C5-C9	1.543(16)	C1-Y-C18	116.9(4)
C12-C15	1.44(2)	C17-Y-C18	31.2(5)
C12-C14	1.50(2)	C5-Y-C18	140.5(4)
C12-C13	1.549(19)	C2-Y-C18	89.9(4)
C15-C16	1.39(3)	C4-Y-C18	121.1(4)
C17-C18	1.47(2)	C3-Y-C18	92.7(4)
C17-Y	2.563(14)	N-Y-Si	31.1(3)
C18-C19	1.55(2)	C17-Y-Si	120.8(4)
C18-Y	2.825(13)	C1-Y-Si	36.8(3)
C19-C20	1.52(3)	C17-Y-Si	142.2(3)
N-Y-C17	108.7(4)	C5-Y-Si	60.5(3)
N-Y-C1	67.8(4)	C2-Y-Si	61.1(3)
C17-Y-C1	123.0(4)	C4-Y-Si	87.1(3)
N-Y-C17	124.9(5)	C3-Y-Si	87.9(3)
C17-Y-C17	91.6(5)	C18-Y-Si	111.0(4)

N-Y-Y	129.9(2)
C17-Y-Y	46.3(3)
C1-Y-Y	159.0(3)
C17-Y-Y	45.3(3)
C5-Y-Y	128.2(3)
C2-Y-Y	139.6(3)
C4-Y-Y	107.4(3)
C3-Y-Y	112.1(3)
C18-Y-Y	74.5(4)
Si-Y-Y	159.33(10)
N-Si-C1	97.0(5)
N-Si-C11	116.0(7)
C1-Si-C11	112.4(7)
N-Si-C10	117.4(6)
C1-Si-C10	112.6(7)
C11-Si-C10	101.9(8)
N-Si-Y	42.7(3)
C1-Si-Y	54.3(3)
C11-Si-Y	128.5(6)
C10-Si-Y	129.5(6)
C12-N-Si	125.4(8)
C12-N-Y	128.3(8)
Si-N-Y	106.2(5)
C5-C1-C2	103.9(10)
C5-C1-Si	124.2(9)
C2-C1-Si	125.1(9)
C5-C1-Y	76.7(6)
C2-C1-Y	77.0(6)
Si-C1-Y	88.9(4)
C3-C2-C1	110.6(10)
C3-C2-C6	124.7(11)
C1-C2-C6	124.8(11)
C3-C2-Y	78.8(6)
C1-C2-Y	70.5(6)
C6-C2-Y	117.3(8)
C2-C3-C4	105.9(10)
C2-C3-C7	123.9(12)
C4-C3-C7	129.5(12)
C2-C3-Y	71.0(6)
C4-C3-Y	73.7(7)
C7-C3-Y	127.6(8)
C5-C4-C3	110.1(11)
C5-C4-C8	125.8(12)
C3-C4-C8	123.2(13)
C5-C4-Y	71.8(7)
C3-C4-Y	76.1(6)
C8-C4-Y	127.2(8)
C4-C5-C1	109.5(10)
C4-C5-C9	124.5(12)
C1-C5-C9	126.0(12)
C4-C5-Y	78.2(6)
C1-C5-Y	71.1(6)
C9-C5-Y	117.7(8)
C15-C12-N	114.0(14)
C15-C12-C14	102.7(15)
N-C12-C14	114.0(14)
C15-C12-C13	109.4(15)
N-C12-C13	107.1(12)
C14-C12-C13	109.5(14)
C16-C15-C12	117(2)
C18-C17-Y	154.1(13)
C18-C17-Y	84.3(9)
Y-C17-Y	88.4(5)
C17-C18-C19	115.6(16)
C17-C18-Y	64.5(7)
C19-C18-Y	156.9(12)
C20-C19-C18	111(2)

Table S9. Anisotropic displacement parameters ($Å^2$) for [Y(η^5:η^1-$C_5Me_4SiMe_2NCMe_3Et$)(μ-CH_2)$_3CH_3$]$_2$ (**2b**). The anisotropic displacement factor exponent takes the form: $-2\pi^2$ [$h^2 a^{*2} U_{11}$ + ... + 2 h k a* b* U_{12}]

Atom	U_{11}	U_{22}	U_{33}	U_{23}	U_{13}	U_{12}
Y	0.0497(7)	0.0674(8)	0.0450(7)	-0.0021(6)	0.0259(5)	-0.0035(6)
Si	0.078(2)	0.096(3)	0.079(2)	0.003(2)	0.054(2)	-0.010(2)
N	0.071(7)	0.065(6)	0.066(6)	-0.006(5)	0.035(5)	-0.007(5)
C1	0.055(7)	0.084(8)	0.052(7)	-0.013(6)	0.029(6)	-0.004(6)
C2	0.054(7)	0.079(8)	0.049(7)	-0.021(6)	0.020(6)	-0.002(6)
C3	0.055(7)	0.065(8)	0.087(9)	-0.004(7)	0.043(7)	0.002(6)
C4	0.054(7)	0.087(9)	0.082(9)	0.029(8)	0.037(7)	0.027(7)
C5	0.052(7)	0.108(10)	0.059(7)	0.002(7)	0.030(6)	0.011(7)
C6	0.076(9)	0.133(12)	0.064(8)	-0.033(8)	0.014(7)	-0.001(9)
C7	0.099(11)	0.080(9)	0.131(13)	-0.039(9)	0.067(10)	-0.032(8)
C8	0.109(11)	0.126(12)	0.109(11)	0.049(10)	0.068(10)	0.059(10)
C9	0.047(8)	0.167(16)	0.099(11)	-0.016(11)	0.021(7)	0.018(9)
C10	0.197(19)	0.146(16)	0.100(12)	0.034(11)	0.108(13)	0.014(14)
C11	0.073(10)	0.176(18)	0.183(19)	-0.004(14)	0.060(12)	-0.039(11)
C12	0.093(10)	0.112(12)	0.075(9)	0.015(8)	0.051(8)	0.000(9)
C17	0.076(9)	0.110(13)	0.054(7)	-0.007(8)	0.036(6)	-0.011(9)
C18	0.072(9)	0.119(13)	0.068(9)	0.003(8)	-0.007(7)	-0.006(8)
C19	0.122(16)	0.20(2)	0.099(14)	-0.016(13)	-0.029(12)	0.034(14)
C20	0.22(2)	0.156(18)	0.052(9)	0.012(10)	-0.010(12)	0.039(15)

Table S10. Hydrogen coordinates and isotropic displacement parameters ($Å^2$) for [Y(η^5:η^1-$C_5Me_4SiMe_2NCMe_2Et$)(μ-CH_2)$_3CH_3$]$_2$ (**2b**).

Atom	x	y	z	U(eq)
H6A	0.0343	0.8649	0.6076	0.141
H6B	-0.0223	0.9528	0.6448	0.141
H6C	-0.0633	0.8428	0.6464	0.141
H7A	-0.0559	0.7309	0.8628	0.144
H7B	0.0109	0.6622	0.8144	0.144
H7C	-0.0735	0.7399	0.7452	0.144
H8A	0.2250	0.6830	1.0053	0.160
H8B	0.1270	0.7265	1.0335	0.160
H8C	0.2444	0.7749	1.0799	0.160
H9A	0.3522	0.9850	0.9964	0.159
H9B	0.4036	0.8896	0.9657	0.159
H9C	0.3555	0.8840	1.0547	0.159
H10A	0.1885	1.0241	0.6007	0.199
H10B	0.1904	1.1400	0.6169	0.199
H10C	0.0820	1.0795	0.6006	0.199
H11A	0.3614	1.1615	0.8003	0.210
H11B	0.3925	1.0500	0.7889	0.210
H11C	0.3857	1.0877	0.8937	0.210
H13A	-0.0281	1.2010	0.8742	0.183
H13B	0.0192	1.3092	0.9030	0.183
H13C	0.0746	1.2190	0.9747	0.183
H14A	0.2626	1.2466	0.9578	0.246
H14B	0.2054	1.3463	0.9070	0.246
H14C	0.2637	1.2786	0.8493	0.246
H15A	0.0698	1.3436	0.7564	0.203
H15B	0.1193	1.2604	0.7066	0.203
H16A	-0.0809	1.2363	0.7228	0.367

H16B	-0.0324	1.1824	0.6478	0.367
H16C	-0.0665	1.2952	0.6305	0.367
H17A	0.152(9)	1.077(8)	1.088(9)	0.07(4)
H17B	0.249(5)	0.996(4)	1.098(4)	0.000(14)
H18A	0.180(10)	0.886(10)	1.230(10)	0.114
H18B	0.136(13)	0.994(8)	1.292(13)	0.114
H19A	0.3347	0.9906	1.2560	0.191
H19B	0.2845	1.0882	1.2841	0.191
H20A	0.3786	0.9778	1.4280	0.238
H20B	0.2752	0.9082	1.3851	0.238
H20C	0.2627	1.0162	1.4232	0.238

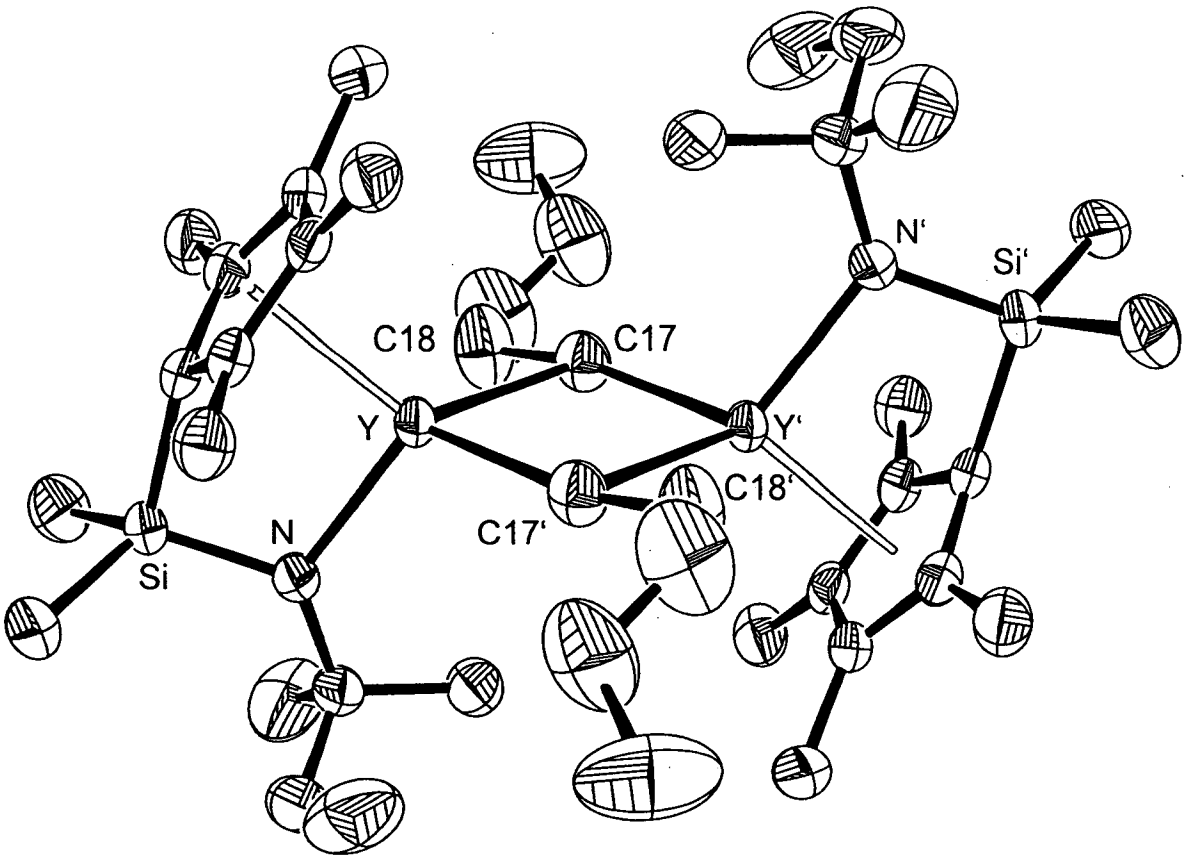

Figure S2. ORTEP diagram of the molecular structure of $[Y(\eta^5:\eta^1\text{-}C_5Me_4SiMe_2NCMe_2Et)(\mu\text{-}(CH_2)_4CH_3]_2$ **(3b)**.Thermal ellipsoids are drawn at the 50% probality level. All hydrogen atoms are omitted for the the sake of clarity.

Table S11. Experimental Data of the Crystal Structure Determination of $[Y(\eta^5:\eta^1\text{-}C_5Me_4SiMe_2NCMe_2Et)(\mu\text{-}(CH_2)_4CH_3]_2$ (**3b**).

Crystal data:

habitus, color	prism, colorless
crystal size	0.85 × 0.73 × 0.5 mm
crystal system	monoclinic
space group	$P2_1/n$, $Z = 4$
unit cell dimensions	a = 11.4118(7) Å
	b = 15.122(2) Å β = 109.795(7)°
	c = 14.1820(10) Å
volume	2302.8(4) Å^3
cell determination	25 reflections
empirical formula	$C_{21}H_{40}NSiY$
formula weight	423.54
F(000)	904
density (calculated)	1.222 Mg/m^3
absorption coefficient	2.588 mm^{-1}

Data collection:

diffractometer type	Enraf Nonius CAD4
wavelength	0.71073 Å (Mo Kα)
temperature	296(2) K
θ range for data collection	3.05 to 29.95°
index ranges	$0 \le h \le 15$, $-21 \le k \le 21$, $-19 \le l \le 18$
scan method	ω-scans
absorption correction	
data collection software	CAD4 Express
cell refinement software	CAD4 Express
data reduction software	XCAD4

solution and refinement:

reflections collected	12766
independent reflections	(R_{int} = 0.1102)
largest diff. peak and hole	0.688 and –0.622 e·Å^{-3}
solution	Patterson and difference Fourier syntheses
refinement method	Full-matrix least-squares on F^2
data / restraints / parameters	6061 / 0 / 245
weighting scheme	$w=1/[\sigma^2(F_O)+(0.0667P)^2]$
	where $P=(F_o^2+2F_c^2)/3$
goodness-of-fit on F^2	0.940
final R indices ($I > 2\sigma(I)$)	R1 = 0.0558, wR2 = 0.1217
R indices (all data)	R1 = 0.1474, wR2 = 0.1493

Table S12. Atomic coordinates and equivalent isotropic displacement parameters (Å^2) of $[Y(\eta^5:\eta^1\text{-}C_5Me_4SiMe_2NCMe_2Et)(\mu\text{-}CH_2)_4CH_3]_2$ (**3b**). U(eq) is defined as one third of the trace of the orthogonalized U_{ij} tensor.

Atom	x	y	z	U(eq)
Y1	0.39279(4)	0.47660(3)	0.06185(3)	0.04861(15)
Si1	0.29180(12)	0.46604(10)	0.24093(9)	0.0601(4)
N1	0.4326(3)	0.4857(3)	0.2256(3)	0.0545(9)
C1	0.1961(4)	0.4581(3)	0.1046(3)	0.0502(11)
C2	0.1936(4)	0.3830(3)	0.0427(4)	0.0576(12)
C3	0.1706(4)	0.4115(4)	-0.0560(3)	0.0580(12)

C4	0.1539(4)	0.5033(3)	-0.0592(3)	0.0586(13)
C5	0.1701(4)	0.5325(3)	0.0391(4)	0.0569(12)
C6	0.2018(5)	0.2874(4)	0.0735(4)	0.0823(17)
C7	0.1464(5)	0.3533(4)	-0.1464(4)	0.0829(17)
C8	0.1087(5)	0.5603(5)	-0.1519(4)	0.0818(17)
C9	0.1565(5)	0.6277(4)	0.0667(4)	0.0753(15)
C10	0.2807(6)	0.3615(4)	0.3099(4)	0.099(2)
C11	0.2328(5)	0.5535(5)	0.3075(4)	0.0906(19)
C12	0.5542(5)	0.4976(4)	0.3043(4)	0.0719(16)
C13	0.6529(5)	0.5036(5)	0.2554(4)	0.106(3)
C14	0.5879(6)	0.4187(7)	0.3778(6)	0.142(3)
C15	0.5583(6)	0.5809(7)	0.3656(5)	0.129(3)
C16	0.5359(8)	0.6666(6)	0.3037(7)	0.147(3)
C17	0.4625(6)	0.6162(4)	-0.0006(5)	0.0683(14)
C18	0.4956(7)	0.6873(4)	-0.0560(6)	0.102(2)
C19	0.4498(10)	0.7801(5)	-0.0629(7)	0.156(4)
C20	0.4282(10)	0.8224(6)	0.0138(8)	0.159(4)
C21A	0.469(3)	0.9220(13)	0.0331(19)	0.206(11)
C21B	0.5398(15)	0.8456(15)	0.0855(13)	0.153(8)

Table S13. Bond lengths [Å] and angles [°] for $[Y(\eta^5:\eta^1\text{-}C_5Me_4SiMe_2NCMe_2Et)(\mu\text{-}CH_2)_4CH_3]_2$ **(3b)**.

		C10-H10A	0.9600
Y1-N1	2.214(3)	C10-H10B	0.9600
Y1-C17	2.519(6)	C10-H10C	0.9600
Y1-C1	2.531(4)	C11-H11A	0.9600
Y1-C17	2.535(6)	C11-H11B	0.9600
Y1-C5	2.593(4)	C11-H11C	0.9600
Y1-C2	2.613(4)	C12-C13	1.512(7)
Y1-C3	2.705(4)	C12-C15	1.523(10)
Y1-C4	2.715(4)	C12-C14	1.544(10)
Y1-C18	2.801(6)	C13-H13A	0.9600
Y1-Si1	3.1283(12)	C13-H13B	0.9600
Y1-Y1	3.5318(8)	C13-H13C	0.9600
Si1-N1	1.719(4)	C14-H14A	0.9600
Si1-C1	1.875(5)	C14-H14B	0.9600
Si1-C11	1.878(5)	C14-H14C	0.9600
Si1-C10	1.886(6)	C15-C16	1.537(11)
N1-C12	1.468(6)	C15-H15A	0.9700
C1-C5	1.425(6)	C15-H15B	0.9700
C1-C2	1.431(6)	C16-H16A	0.9600
C2-C3	1.402(6)	C16-H16B	0.9600
C2-C6	1.504(7)	C16-H16C	0.9600
C3-C4	1.400(7)	C17-C18	1.456(8)
C3-C7	1.502(7)	C17-Y1	2.535(6)
C4-C5	1.414(6)	C17-H17A	0.92(4)
C4-C8	1.510(7)	C17-H17B	0.86(6)
C5-C9	1.514(7)	C18-C19	1.489(9)
C6-H6A	0.9600	C18-Y1	2.801(6)
C6-H6B	0.9600	C18-H18A	1.1782
C6-H6C	0.9600	C18-H18B	1.0811
C7-H7A	0.9600	C19-C20	1.354(10)
C7-H7B	0.9600	C19-H19A	0.9700
C7-H7C	0.9600	C19-H19B	0.9700
C8-H8A	0.9600	C20-C21B	1.379(15)
C8-H8B	0.9600	C20-C21A	1.57(2)
C8-H8C	0.9600	C20-H20A	0.9700
C9-H9A	0.9600	C20-H20B	0.9700
C9-H9B	0.9600	C20-H20C	0.9700
C9-H9C	0.9600	C20-H20D	0.9700

C21A-H21A	0.9600	N1-Si1-C11	116.8(2)
C21A-H21B	0.9600	C1-Si1-C11	112.4(2)
C21A-H21C	0.9600	N1-Si1-C10	116.2(2)
C21B-H21D	0.9600	C1-Si1-C10	111.3(2)
C21B-H21E	0.9600	C11-Si1-C10	103.4(3)
C21B-H21F	0.9600	N1-Si1-Y1	43.20(12)
N1-Y1-C17	109.84(18)	C1-Si1-Y1	54.00(12)
N1-Y1-C1	68.85(13)	C11-Si1-Y1	131.7(2)
C17-Y1-C1	126.00(17)	C10-Si1-Y1	124.9(2)
N1-Y1-C17	117.91(19)	C12-N1-Si1	127.5(3)
C17-Y1-C17	91.33(19)	C12-N1-Y1	127.6(3)
C1-Y1-C17	139.01(16)	Si1-N1-Y1	104.70(17)
N1-Y1-C5	87.38(14)	C5-C1-C2	105.7(4)
C17-Y1-C5	95.49(18)	C5-C1-Si1	122.8(3)
C1-Y1-C5	32.27(14)	C2-C1-Si1	124.6(4)
C17-Y1-C5	149.67(19)	C5-C1-Y1	76.2(2)
N1-Y1-C2	90.29(14)	C2-C1-Y1	77.0(2)
C17-Y1-C2	141.6(2)	Si1-C1-Y1	89.18(16)
C1-Y1-C2	32.24(14)	C3-C2-C1	109.1(4)
C17-Y1-C2	108.03(18)	C3-C2-C6	124.0(5)
C5-Y1-C2	51.85(16)	C1-C2-C6	126.7(4)
N1-Y1-C3	119.14(13)	C3-C2-Y1	78.4(3)
C17-Y1-C3	115.4(2)	C1-C2-Y1	70.7(2)
C1-Y1-C3	52.14(13)	C6-C2-Y1	121.6(3)
C17-Y1-C3	99.79(19)	C4-C3-C2	108.3(4)
C5-Y1-C3	50.80(15)	C4-C3-C7	124.8(5)
C2-Y1-C3	30.50(13)	C2-C3-C7	126.1(5)
N1-Y1-C4	117.33(13)	C4-C3-Y1	75.4(3)
C17-Y1-C4	91.26(19)	C2-C3-Y1	71.1(3)
C1-Y1-C4	52.11(13)	C7-C3-Y1	127.2(3)
C17-Y1-C4	119.8(2)	C3-C4-C5	107.9(4)
C5-Y1-C4	30.79(14)	C3-C4-C8	126.6(5)
C2-Y1-C4	50.42(15)	C5-C4-C8	124.9(5)
C3-Y1-C4	29.93(15)	C3-C4-Y1	74.7(3)
N1-Y1-C18	98.76(18)	C5-C4-Y1	69.8(2)
C17-Y1-C18	122.02(19)	C8-C4-Y1	127.6(3)
C1-Y1-C18	111.00(17)	C4-C5-C1	108.9(4)
C17-Y1-C18	31.17(18)	C4-C5-C9	124.2(5)
C5-Y1-C18	136.17(19)	C1-C5-C9	126.8(4)
C2-Y1-C18	84.59(18)	C4-C5-Y1	79.4(3)
C3-Y1-C18	90.0(2)	C1-C5-Y1	71.5(2)
C4-Y1-C18	118.8(2)	C9-C5-Y1	117.4(3)
N1-Y1-Si1	32.10(9)	C2-C6-H6A	109.5
C17-Y1-Si1	125.09(14)	C2-C6-H6B	109.5
C1-Y1-Si1	36.82(10)	H6A-C6-H6B	109.5
C17-Y1-Si1	135.42(14)	C2-C6-H6C	109.5
C5-Y1-Si1	60.16(11)	H6A-C6-H6C	109.5
C2-Y1-Si1	60.67(10)	H6B-C6-H6C	109.5
C3-Y1-Si1	87.55(9)	C3-C7-H7A	109.5
C4-Y1-Si1	87.35(9)	C3-C7-H7B	109.5
C18-Y1-Si1	105.97(14)	H7A-C7-H7B	109.5
N1-Y1-Y1	125.31(9)	C3-C7-H7C	109.5
C17-Y1-Y1	45.84(13)	H7A-C7-H7C	109.5
C1-Y1-Y1	163.94(10)	H7B-C7-H7C	109.5
C17-Y1-Y1	45.49(12)	C4-C8-H8A	109.5
C5-Y1-Y1	133.44(11)	C4-C8-H8B	109.5
C2-Y1-Y1	141.40(10)	H8A-C8-H8B	109.5
C3-Y1-Y1	115.33(9)	C4-C8-H8C	109.5
C4-Y1-Y1	111.86(9)	H8A-C8-H8C	109.5
C18-Y1-Y1	76.36(13)	H8B-C8-H8C	109.5
Si1-Y1-Y1	157.10(3)	C5-C9-H9A	109.5
N1-Si1-C1	97.09(17)	C5-C9-H9B	109.5

H9A-C9-H9B	109.5
C5-C9-H9C	109.5
H9A-C9-H9C	109.5
H9B-C9-H9C	109.5
Si1-C10-H10A	109.5
Si1-C10-H10B	109.5
H10A-C10-H10B	109.5
Si1-C10-H10C	109.5
H10A-C10-H10C	109.5
H10B-C10-H10C	109.5
Si1-C11-H11A	109.5
Si1-C11-H11B	109.5
H11A-C11-H11B	109.5
Si1-C11-H11C	109.5
H11A-C11-H11C	109.5
H11B-C11-H11C	109.5
N1-C12-C13	108.5(4)
N1-C12-C15	112.0(5)
C13-C12-C15	109.2(5)
N1-C12-C14	111.9(5)
C13-C12-C14	107.6(5)
C15-C12-C14	107.5(6)
C12-C13-H13A	109.5
C12-C13-H13B	109.5
H13A-C13-H13B	109.5
C12-C13-H13C	109.5
H13A-C13-H13C	109.5
H13B-C13-H13C	109.5
C12-C14-H14A	109.5
C12-C14-H14B	109.5
H14A-C14-H14B	109.5
C12-C14-H14C	109.5
H14A-C14-H14C	109.5
H14B-C14-H14C	109.5
C12-C15-C16	113.8(6)
C12-C15-H15A	108.8
C16-C15-H15A	108.8
C12-C15-H15B	108.8
C16-C15-H15B	108.8
H15A-C15-H15B	107.7
C15-C16-H16A	109.5
C15-C16-H16B	109.5
H16A-C16-H16B	109.5
C15-C16-H16C	109.5
H16A-C16-H16C	109.5
H16B-C16-H16C	109.5
C18-C17-Y1	168.3(5)
C18-C17-Y1	84.6(4)
Y1-C17-Y1	88.67(18)
C18-C17-H17A	99(3)
Y1-C17-H17A	93(3)
Y1-C17-H17A	139(3)
C18-C17-H17B	87(5)
Y1-C17-H17B	91(5)
Y1-C17-H17B	135(5)
H17A-C17-H17B	87(5)
C17-C18-C19	125.6(6)
C17-C18-Y1	64.3(3)
C19-C18-Y1	170.1(5)
C17-C18-H18A	110.9
C19-C18-H18A	118.8
Y1-C18-H18A	52.9
C17-C18-H18B	90.9
C19-C18-H18B	98.6
Y1-C18-H18B	79.5
H18A-C18-H18B	102.2
C20-C19-C18	123.2(8)
C20-C19-H19A	106.5
C18-C19-H19A	106.5
C20-C19-H19B	106.5
C18-C19-H19B	106.5
H19A-C19-H19B	106.5
C19-C20-C21B	109.8(13)
C19-C20-C21A	117.9(13)
C21B-C20-C21A	58.8(11)
C19-C20-H20A	107.8
C21B-C20-H20A	54.6
C21A-C20-H20A	107.8
C19-C20-H20B	107.8
C21B-C20-H20B	141.8
C21A-C20-H20B	107.8
H20A-C20-H20B	107.2
C19-C20-H20C	109.7
C21B-C20-H20C	109.7
C21A-C20-H20C	132.2
H20A-C20-H20C	59.1
H20B-C20-H20C	49.7
C19-C20-H20D	109.7
C21B-C20-H20D	109.7
C21A-C20-H20D	51.7
H20A-C20-H20D	142.4
H20B-C20-H20D	62.1
H20C-C20-H20D	108.2
C20-C21A-H21A	109.5
C20-C21A-H21B	109.5
C20-C21A-H21C	109.5
C20-C21B-H21D	109.5
C20-C21B-H21E	109.5
H21D-C21B-H21E	109.5
C20-C21B-H21F	109.5
H21D-C21B-H21F	109.5
H21E-C21B-H21F	109.5

Table S14. Anisotropic displacement parameters ($Å^2$) for $[Y(\eta^5:\eta^1\text{-}C_5Me_4SiMe_2NCMe_2Et)(\mu\text{-}CH_2)_4CH_3]_2$ (**3b**). The anisotropic displacement factor exponent takes the form: $-2\pi^2 [h^2 a^{*2} U_{11} + ... + 2 h k a^* b^* U_{12}]$

Atom	U11	U22	U33	U23	U13	U12
Y1	0.0411(2)	0.0640(3)	0.0460(2)	-0.0004(2)	0.02154(16)	-0.0028(2)

Si1	0.0578(7)	0.0789(10)	0.0525(7)	-0.0030(7)	0.0303(6)	-0.0086(7)
N1	0.0500(19)	0.070(2)	0.0442(18)	-0.0010(18)	0.0173(16)	-0.003(2)
C1	0.044(2)	0.058(3)	0.055(2)	-0.003(2)	0.0249(19)	-0.010(2)
C2	0.053(3)	0.060(3)	0.068(3)	-0.006(2)	0.031(2)	-0.014(2)
C3	0.047(2)	0.075(4)	0.057(3)	-0.009(2)	0.025(2)	-0.009(2)
C4	0.0372(19)	0.088(4)	0.053(3)	0.003(2)	0.0178(19)	-0.005(2)
C5	0.043(2)	0.066(3)	0.068(3)	0.002(3)	0.027(2)	-0.002(2)
C6	0.089(4)	0.078(4)	0.091(4)	0.000(3)	0.046(3)	-0.013(4)
C7	0.071(3)	0.107(5)	0.072(3)	-0.025(3)	0.026(3)	-0.022(3)
C8	0.055(3)	0.123(5)	0.066(3)	0.016(3)	0.019(3)	0.004(3)
C9	0.064(3)	0.077(4)	0.091(4)	0.006(3)	0.035(3)	0.014(3)
C10	0.112(5)	0.126(6)	0.065(4)	0.021(4)	0.038(3)	-0.019(4)
C11	0.074(3)	0.130(6)	0.080(4)	-0.033(4)	0.042(3)	-0.008(4)
C12	0.056(3)	0.109(5)	0.051(3)	-0.008(3)	0.019(2)	-0.013(3)
C13	0.053(3)	0.189(8)	0.076(4)	-0.033(4)	0.021(3)	-0.006(4)
C14	0.090(5)	0.204(10)	0.106(5)	0.061(6)	0.001(4)	0.000(6)
C15	0.072(4)	0.219(10)	0.098(5)	-0.078(6)	0.032(4)	-0.028(6)
C16	0.123(7)	0.106(6)	0.198(10)	-0.050(7)	0.034(7)	-0.014(6)
C17	0.079(4)	0.054(3)	0.083(4)	0.000(3)	0.043(3)	0.001(3)
C18	0.136(6)	0.067(4)	0.125(5)	0.011(4)	0.070(5)	0.018(4)
C19	0.225(11)	0.094(6)	0.181(9)	0.028(6)	0.108(8)	0.040(7)
C20	0.216(12)	0.128(8)	0.166(9)	-0.004(7)	0.109(9)	0.057(8)
C21A	0.24(3)	0.110(16)	0.22(3)	-0.058(18)	0.01(2)	-0.016(19)
C21B	0.111(13)	0.18(2)	0.110(12)	-0.038(14)	-0.033(10)	-0.012(13)

Table S15. Hydrogen coordinates and isotropic displacement parameters ($Å^2$) for [Y(η^5:η^1-$C_5Me_4SiMe_2NCMe_2Et$)(μ-CH_2)$_4CH_3$]$_2$ (**3b**).

Atom	x	y	z	U(eq)
H6A	0.1322	0.2728	0.0940	0.123
H6B	0.2778	0.2777	0.1283	0.123
H6C	0.2007	0.2508	0.0179	0.123
H7A	0.1638	0.3854	-0.1985	0.124
H7B	0.0608	0.3350	-0.1696	0.124
H7C	0.1991	0.3021	-0.1288	0.124
H8A	0.1073	0.5261	-0.2093	0.123
H8B	0.1637	0.6098	-0.1447	0.123
H8C	0.0262	0.5812	-0.1608	0.123
H9A	0.2352	0.6492	0.1106	0.113
H9B	0.0961	0.6312	0.1001	0.113
H9C	0.1294	0.6632	0.0071	0.113
H10A	0.1947	0.3456	0.2943	0.149
H10B	0.3178	0.3710	0.3807	0.149
H10C	0.3238	0.3146	0.2897	0.149
H11A	0.2757	0.5489	0.3784	0.136
H11B	0.1451	0.5455	0.2936	0.136
H11C	0.2475	0.6109	0.2847	0.136
H13A	0.6297	0.5479	0.2039	0.159
H13B	0.6605	0.4475	0.2264	0.159
H13C	0.7312	0.5192	0.3049	0.159
H14A	0.5275	0.4140	0.4110	0.213
H14B	0.6690	0.4280	0.4266	0.213
H14C	0.5880	0.3652	0.3414	0.213
H15A	0.6390	0.5845	0.4181	0.155
H15B	0.4956	0.5763	0.3976	0.155
H16A	0.6025	0.6751	0.2777	0.221
H16B	0.5328	0.7158	0.3456	0.221

H16C	0.4583	0.6623	0.2492	0.221
H17A	0.465(4)	0.647(3)	0.056(3)	0.055(13)
H17B	0.386(6)	0.634(5)	-0.026(5)	0.12(3)
H18A	0.5260	0.6590	-0.1216	0.123
H18B	0.5841	0.6961	0.0033	0.123
H19A	0.5090	0.8160	-0.0813	0.188
H19B	0.3723	0.7820	-0.1192	0.188
H20A	0.4700	0.7896	0.0748	0.190
H20B	0.3396	0.8194	0.0024	0.190
H20C	0.3818	0.7840	0.0433	0.190
H21A	0.4060	0.9550	0.0481	0.308
H21B	0.4811	0.9460	-0.0257	0.308
H21C	0.5460	0.9257	0.0886	0.308
H21D	0.5245	0.8691	0.1431	0.229
H21E	0.5804	0.8896	0.0587	0.229
H21F	0.5921	0.7943	0.1046	0.229

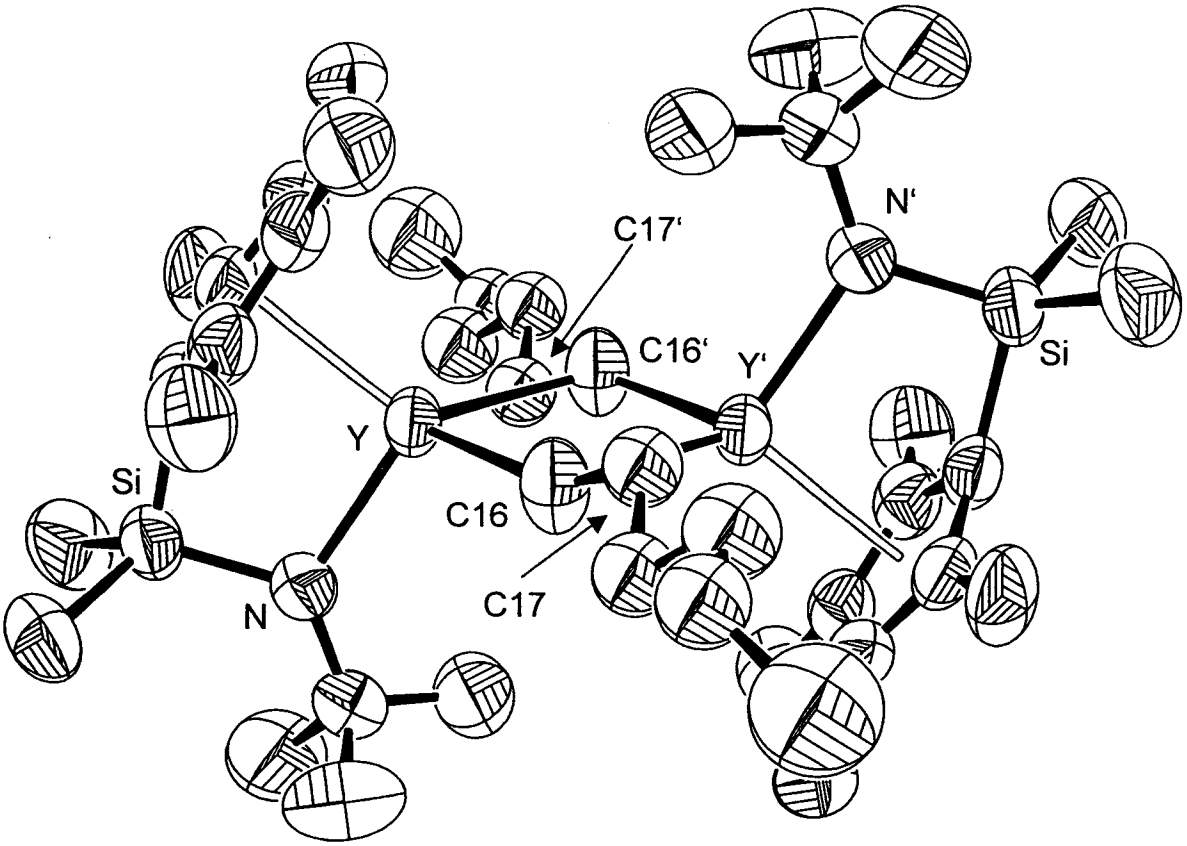

Figure S3. ORTEP diagram of the molecular structure of $[Y(\eta^5:\eta^1\text{-}C_5Me_4SiMe_2NCMe_3)(\mu\text{-}(CH_2)_5CH_3]_2$ (**4a**). Thermal ellipsoids are drawn at the 50% probality level. All hydrogen atoms and disorder positions in the hexylchain are omitted for the the sake of clarity.

Table S16. Experimental Data of the Crystal Structure Determination of [Y(η^5:η^1-$C_5Me_4SiMe_2NCMe_3$)(μ-$(CH_2)_5CH_3]_2$ (**4a**).

Crystal data:

habitus, color	prism, colorless	
crystal size	0.43 × 0.42 × 0.28 mm	
crystal system	triclinic	
space group	P-1, $Z = 2$	
unit cell dimensions	a = 10.1087(8) Å,	α = 101.686(5)°
	b = 10.5126(6) Å,	β = 101.380(6)°
	c = 11.6309(8) Å,	γ = 97.043(5)°
volume	1169.78(13) Å^3	
cell determination	25 reflections	
empirical formula	$C_{21}H_{40}NSiY$	
formula weight	423.55	
F(000)	452	
density (calculated)	1.202 Mg/m^3	
absorption coefficient	2.547 mm^{-1}	

Data collection:

diffractometer type	Enraf Nonius CAD4
wavelength	0.71073 Å (Mo Kα)
temperature	296(2) K
θ range for data collection	3.02 to 25.96°
index ranges	$-12 \le h \le 2$, $-12 \le k \le 12$, $-13 \le l \le 13$
scan method	ω-scans
absorption correction	
data collection software	CAD4
cell refinement software	CAD4
data reduction software	XCAD4

solution and refinement:

reflections collected	4916
independent reflections	(R_{int} = 0.0404)
largest diff. peak and hole	0.499 and –0.557 e·Å^{-3}
solution	Patterson and difference Fourier syntheses
refinement method	Full-matrix least-squares on F^2
data / restraints / parameters	4314 / 0 / 261
weighting scheme	$w=1/[\sigma^2(F_O)+(0.0683P)^2]$ where $P=(F_o^2+2F_c^2)/3$
goodness-of-fit on F^2	1.023
final R indices ($I > 2\sigma(I)$)	R1 = 0.0491, wR2 = 0.1104
R indices (all data)	R1 = 0.1212, wR2 = 0.1297

Table S17. Atomic coordinates and equivalent isotropic displacement parameters (Å^2) of [Y(η^5:η^1-$C_5Me_4SiMe_2NCMe_3$)(μ-$CH_2)_5CH_3]_2$ (**4a**). U(eq) is defined as one third of the trace of the orthogonalized U_{ij} tensor.

Atom	x	y	z	U(eq)
Y	0.05684(5)	0.45499(5)	0.13754(4)	0.05251(18)
Si	0.18073(17)	0.27059(14)	0.29445(12)	0.0675(4)
N	0.1845(4)	0.3003(4)	0.1554(4)	0.0604(10)
C1	0.0643(6)	0.3881(5)	0.3356(4)	0.0621(13)
C2	0.1075(6)	0.5291(5)	0.3719(4)	0.0656(14)
C3	-0.0044(7)	0.5907(5)	0.3382(5)	0.0699(15)

C4	-0.1199(6)	0.4906(6)	0.2833(5)	0.0704(15)
C5	-0.0773(6)	0.3690(5)	0.2819(5)	0.0673(14)
C6	0.2469(7)	0.6015(6)	0.4419(5)	0.096(2)
C7	-0.0073(8)	0.7366(6)	0.3714(6)	0.096(2)
C8	-0.2651(7)	0.5140(7)	0.2490(6)	0.101(2)
C9	-0.1734(7)	0.2375(6)	0.2341(6)	0.095(2)
C10	0.3509(7)	0.3067(7)	0.4047(6)	0.106(2)
C11	0.1114(8)	0.0968(6)	0.2968(6)	0.098(2)
C12	0.2564(6)	0.2365(6)	0.0680(5)	0.0741(15)
C13A	0.399(2)	0.209(2)	0.1258(18)	0.133(7)
C14A	0.274(3)	0.314(2)	-0.0186(19)	0.135(8)
C15A	0.175(2)	0.102(2)	-0.001(2)	0.131(7)
C13B	0.3980(16)	0.310(2)	0.0938(19)	0.133(7)
C14B	0.1739(18)	0.246(2)	-0.0616(14)	0.103(6)
C15B	0.251(2)	0.0888(17)	0.0602(18)	0.108(6)
C16	0.1331(8)	0.6402(7)	0.0448(6)	0.0772(19)
C17A	0.2718(12)	0.6571(11)	0.1248(11)	0.066(3)
C18A	0.3428(13)	0.7965(12)	0.1868(12)	0.070(4)
C19A	0.4919(14)	0.7971(14)	0.2573(13)	0.087(4)
C20A	0.5964(13)	0.9227(13)	0.2882(11)	0.075(4)
C21A	0.652(2)	0.996(2)	0.4145(18)	0.142(8)
C17B	0.2395(12)	0.6887(12)	0.1584(11)	0.064(3)
C18B	0.3755(14)	0.7782(13)	0.1627(12)	0.069(4)
C19B	0.4617(14)	0.8410(14)	0.2876(12)	0.080(4)
C20B	0.5554(17)	0.9572(17)	0.3158(15)	0.100(5)
C21B	0.7031(15)	0.9628(15)	0.3927(14)	0.092(4)

Table S18. Bond lengths [Å] and angles [°] for $[Y(\eta^5{:}\eta^1\text{-}C_5Me_4SiMe_2NCMe_3)(\mu\text{-}CH_2)_5CH_3]_2$ (**4a**).

		C7-H7A	0.9600
Y-N	2.213(4)	C7-H7B	0.9600
Y-C16	2.499(6)	C7-H7C	0.9600
Y-C16	2.522(6)	C8-H8A	0.9600
Y-C1	2.531(4)	C8-H8B	0.9600
Y-C5	2.586(5)	C8-H8C	0.9600
Y-C2	2.606(4)	C9-H9A	0.9600
Y-C3	2.703(5)	C9-H9B	0.9600
Y-C4	2.703(5)	C9-H9C	0.9600
Y-C17B	2.824(11)	C10-H10A	0.9600
Y-C17A	2.895(12)	C10-H10B	0.9600
Y-Si	3.1283(14)	C10-H10C	0.9600
Y-Y	3.5350(9)	C11-H11A	0.9600
Y-H17B	2.3749	C11-H11B	0.9600
Si-N	1.715(4)	C11-H11C	0.9600
Si-C1	1.865(6)	C12-C14A	1.444(18)
Si-C10	1.876(6)	C12-C13B	1.483(17)
Si-C11	1.883(6)	C12-C15A	1.52(2)
N-C12	1.465(7)	C12-C15B	1.531(17)
C1-C5	1.416(7)	C12-C13A	1.548(17)
C1-C2	1.443(7)	C12-C14B	1.602(17)
C2-C3	1.400(8)	C13A-H13A	0.9600
C2-C6	1.504(8)	C13A-H13B	0.9600
C3-C4	1.418(8)	C13A-H13C	0.9600
C3-C7	1.510(7)	C13A-H13D	1.4075
C4-C5	1.397(7)	C13A-H13E	1.1183
C4-C8	1.508(8)	C14A-H14A	0.9600
C5-C9	1.520(8)	C14A-H14B	0.9600
C6-H6A	0.9600	C14A-H14C	0.9600
C6-H6B	0.9600	C14A-H13F	1.5511
C6-H6C	0.9600	C14A-H14D	1.1121

C14A-H14F	1.4660	C20B-H20B	0.9542
C15A-H15A	0.9600	C20B-H21A	1.5156
C15A-H15B	0.9600	C20B-H20C	0.9700
C15A-H15C	0.9600	C21B-H20A	1.5546
C15A-H15D	1.4001	C21B-H21B	0.9058
C15A-H15E	0.8486	C21B-H21C	1.0743
C13B-H13A	1.5271	C21B-H21D	0.9600
C13B-H13C	1.0918	C21B-H21E	0.9600
C13B-H14C	1.3251	C21B-H21F	0.9600
C13B-H13D	0.9600	N-Y-C16	106.3(2)
C13B-H13E	0.9600	N-Y-C16	119.5(2)
C13B-H13F	0.9600	C16-Y-C16	90.5(2)
C14B-H14A	1.1371	N-Y-C1	68.59(16)
C14B-H14B	1.2166	C16-Y-C1	122.6(2)
C14B-H14D	0.9600	C16-Y-C1	143.71(19)
C14B-H14E	0.9600	N-Y-C5	88.39(17)
C14B-H14F	0.9600	C16-Y-C5	93.7(2)
C15B-H15B	0.8756	C16-Y-C5	149.4(3)
C15B-H15C	1.3560	C1-Y-C5	32.11(16)
C15B-H15D	0.9600	N-Y-C2	89.13(16)
C15B-H15E	0.9600	C16-Y-C2	142.4(2)
C15B-H15F	0.9600	C16-Y-C2	111.8(2)
C16-C17B	1.482(12)	C1-Y-C2	32.59(15)
C16-C17A	1.490(13)	C5-Y-C2	51.89(17)
C16-Y	2.499(6)	N-Y-C3	118.39(15)
C16-H16A	0.93(10)	C16-Y-C3	118.5(3)
C16-H16B	1.30(10)	C16-Y-C3	101.0(2)
C16-H16C	0.85(10)	C1-Y-C3	52.43(16)
C16-H16D	1.01(12)	C5-Y-C3	50.90(16)
C17A-C18A	1.514(17)	C2-Y-C3	30.50(16)
C17A-H16C	1.40(11)	N-Y-C4	117.84(15)
C17A-H17A	0.9700	C16-Y-C4	92.3(2)
C17A-H17B	0.9700	C16-Y-C4	119.0(3)
C18A-C19A	1.565(18)	C1-Y-C4	52.11(17)
C18A-H18A	0.9700	C5-Y-C4	30.52(16)
C18A-H18B	0.9700	C2-Y-C4	50.70(18)
C18A-H18C	1.4674	C3-Y-C4	30.41(17)
C19A-C20A	1.518(17)	N-Y-C17B	106.2(3)
C19A-H19A	0.9700	C16-Y-C17B	122.0(3)
C19A-H19B	0.9700	C16-Y-C17B	31.5(3)
C19A-H18C	1.5871	C1-Y-C17B	113.5(3)
C19A-H19C	1.5773	C5-Y-C17B	133.7(3)
C20A-C21A	1.48(2)	C2-Y-C17B	83.9(3)
C20A-H20A	0.9700	C3-Y-C17B	84.4(3)
C20A-H20B	0.9700	C4-Y-C17B	112.4(3)
C21A-H21A	0.9600	N-Y-C17A	97.0(3)
C21A-H21B	0.9600	C16-Y-C17A	118.8(3)
C21A-H21C	0.9600	C16-Y-C17A	31.0(3)
C21A-H20C	1.5133	C1-Y-C17A	118.6(3)
C21A-H21D	0.9234	C5-Y-C17A	143.7(3)
C21A-H21E	1.2308	C2-Y-C17A	92.1(3)
C17B-C18B	1.554(18)	C3-Y-C17A	96.3(3)
C17B-H17B	0.9999	C4-Y-C17A	124.8(3)
C17B-H17C	0.9700	C17B-Y-C17A	12.5(3)
C18B-C19B	1.508(19)	N-Y-Si	32.00(11)
C18B-H18A	1.4730	C16-Y-Si	119.79(17)
C18B-H18B	0.9500	C16-Y-Si	140.07(18)
C18B-H18C	0.9700	C1-Y-Si	36.60(13)
C19B-C20B	1.389(19)	C5-Y-Si	60.34(13)
C19B-H19B	0.9185	C2-Y-Si	60.36(12)
C19B-H19C	0.9700	C3-Y-Si	87.38(12)
C20B-C21B	1.57(2)	C4-Y-Si	87.29(12)

C17B-Y-Si	113.2(2)	C4-C5-C1	110.0(5)
C17A-Y-Si	109.8(2)	C4-C5-C9	123.6(6)
N-Y-Y	123.31(10)	C1-C5-C9	126.3(5)
C16-Y-Y	45.52(15)	C4-C5-Y	79.4(3)
C16-Y-Y	44.98(13)	C1-C5-Y	71.8(3)
C1-Y-Y	163.03(13)	C9-C5-Y	117.9(4)
C5-Y-Y	131.22(13)	C2-C6-H6A	109.5
C2-Y-Y	145.57(12)	C2-C6-H6B	109.5
C3-Y-Y	118.22(12)	H6A-C6-H6B	109.5
C4-Y-Y	112.02(12)	C2-C6-H6C	109.5
C17B-Y-Y	76.5(2)	H6A-C6-H6C	109.5
C17A-Y-Y	74.2(2)	H6B-C6-H6C	109.5
Si-Y-Y	153.94(4)	C3-C7-H7A	109.5
N-Y-H17B	87.5	C3-C7-H7B	109.5
C16-Y-H17B	136.5	H7A-C7-H7B	109.5
C16-Y-H17B	48.3	C3-C7-H7C	109.5
C1-Y-H17B	100.9	H7A-C7-H7C	109.5
C5-Y-H17B	128.5	H7B-C7-H7C	109.5
C2-Y-H17B	76.7	C4-C8-H8A	109.5
C3-Y-H17B	87.5	C4-C8-H8B	109.5
C4-Y-H17B	117.8	H8A-C8-H8B	109.5
C17B-Y-H17B	19.9	C4-C8-H8C	109.5
C17A-Y-H17B	18.0	H8A-C8-H8C	109.5
Si-Y-H17B	93.9	H8B-C8-H8C	109.5
Y-Y-H17B	92.2	C5-C9-H9A	109.5
N-Si-C1	97.1(2)	C5-C9-H9B	109.5
N-Si-C10	115.3(3)	H9A-C9-H9B	109.5
C1-Si-C10	113.0(3)	C5-C9-H9C	109.5
N-Si-C11	116.3(3)	H9A-C9-H9C	109.5
C1-Si-C11	112.3(3)	H9B-C9-H9C	109.5
C10-Si-C11	103.2(3)	Si-C10-H10A	109.5
N-Si-Y	43.15(14)	Si-C10-H10B	109.5
C1-Si-Y	54.00(13)	H10A-C10-H10B	109.5
C10-Si-Y	127.1(2)	Si-C10-H10C	109.5
C11-Si-Y	129.7(2)	H10A-C10-H10C	109.5
C12-N-Si	127.2(3)	H10B-C10-H10C	109.5
C12-N-Y	127.9(3)	Si-C11-H11A	109.5
Si-N-Y	104.8(2)	Si-C11-H11B	109.5
C5-C1-C2	105.2(5)	H11A-C11-H11B	109.5
C5-C1-Si	124.4(4)	Si-C11-H11C	109.5
C2-C1-Si	123.3(4)	H11A-C11-H11C	109.5
C5-C1-Y	76.1(3)	H11B-C11-H11C	109.5
C2-C1-Y	76.6(2)	C14A-C12-N	111.1(8)
Si-C1-Y	89.40(18)	C14A-C12-C13B	67.8(13)
C3-C2-C1	109.2(5)	N-C12-C13B	109.1(8)
C3-C2-C6	124.2(5)	C14A-C12-C15A	107.9(14)
C1-C2-C6	126.6(5)	N-C12-C15A	110.2(9)
C3-C2-Y	78.6(3)	C13B-C12-C15A	138.8(11)
C1-C2-Y	70.8(2)	C14A-C12-C15B	131.2(12)
C6-C2-Y	120.0(4)	N-C12-C15B	113.7(8)
C2-C3-C4	107.7(5)	C13B-C12-C15B	112.9(12)
C2-C3-C7	126.1(6)	C15A-C12-C15B	37.7(9)
C4-C3-C7	125.6(6)	C14A-C12-C13A	108.1(13)
C2-C3-Y	70.9(3)	N-C12-C13A	114.0(8)
C4-C3-Y	74.8(3)	C13B-C12-C13A	46.1(10)
C7-C3-Y	127.0(4)	C15A-C12-C13A	105.2(12)
C5-C4-C3	107.9(5)	C15B-C12-C13A	69.8(11)
C5-C4-C8	126.6(6)	C14A-C12-C14B	43.1(10)
C3-C4-C8	125.0(6)	N-C12-C14B	105.9(7)
C5-C4-Y	70.1(3)	C13B-C12-C14B	109.8(12)
C3-C4-Y	74.8(3)	C15A-C12-C14B	70.2(11)
C8-C4-Y	127.1(4)	C15B-C12-C14B	105.1(11)

C13A-C12-C14B	138.3(10)	C12-C13B-H13E	109.7
C12-C13A-H13A	109.6	H13A-C13B-H13E	85.0
C12-C13A-H13B	109.3	H13C-C13B-H13E	13.8
H13A-C13A-H13B	109.5	H14C-C13B-H13E	146.2
C12-C13A-H13C	109.5	H13D-C13B-H13E	109.5
H13A-C13A-H13C	109.5	C12-C13B-H13F	109.1
H13B-C13A-H13C	109.5	H13A-C13B-H13F	151.6
C12-C13A-H13D	86.0	H13C-C13B-H13F	122.4
H13A-C13A-H13D	47.6	H14C-C13B-H13F	36.7
H13B-C13A-H13D	156.8	H13D-C13B-H13F	109.5
H13C-C13A-H13D	80.1	H13E-C13B-H13F	109.5
C12-C13A-H13E	97.2	C12-C14B-H14A	91.0
H13A-C13A-H13E	112.7	C12-C14B-H14B	88.7
H13B-C13A-H13E	117.8	H14A-C14B-H14B	83.5
H13C-C13A-H13E	12.7	C12-C14B-H14D	109.6
H13D-C13A-H13E	75.8	H14A-C14B-H14D	18.6
C12-C14A-H14A	109.4	H14B-C14B-H14D	85.0
C12-C14A-H14B	110.0	C12-C14B-H14E	109.4
H14A-C14A-H14B	109.5	H14A-C14B-H14E	118.5
C12-C14A-H14C	109.0	H14B-C14B-H14E	150.2
H14A-C14A-H14C	109.5	H14D-C14B-H14E	109.5
H14B-C14A-H14C	109.5	C12-C14B-H14F	109.4
C12-C14A-H13F	84.4	H14A-C14B-H14F	117.1
H14A-C14A-H13F	113.5	H14B-C14B-H14F	40.9
H14B-C14A-H13F	126.3	H14D-C14B-H14F	109.5
H14C-C14A-H13F	25.5	H14E-C14B-H14F	109.5
C12-C14A-H14D	111.9	C12-C15B-H15B	114.1
H14A-C14A-H14D	19.5	C12-C15B-H15C	90.3
H14B-C14A-H14D	91.0	H15B-C15B-H15C	86.4
H14C-C14A-H14D	123.6	C12-C15B-H15D	109.6
H13F-C14A-H14D	132.3	H15B-C15B-H15D	114.6
C12-C14A-H14F	93.7	H15C-C15B-H15D	47.0
H14A-C14A-H14F	92.8	C12-C15B-H15E	109.3
H14B-C14A-H14F	30.1	H15B-C15B-H15E	10.5
H14C-C14A-H14F	139.6	H15C-C15B-H15E	76.9
H13F-C14A-H14F	152.7	H15D-C15B-H15E	109.5
H14D-C14A-H14F	73.5	C12-C15B-H15F	109.5
C12-C15A-H15A	109.3	H15B-C15B-H15F	99.0
C12-C15A-H15B	109.6	H15C-C15B-H15F	154.7
H15A-C15A-H15B	109.5	H15D-C15B-H15F	109.5
C12-C15A-H15C	109.5	H15E-C15B-H15F	109.5
H15A-C15A-H15C	109.5	C17B-C16-C17A	24.4(6)
H15B-C15A-H15C	109.5	C17B-C16-Y	174.9(6)
C12-C15A-H15D	89.8	C17A-C16-Y	156.9(8)
H15A-C15A-H15D	153.6	C17B-C16-Y	85.5(5)
H15B-C15A-H15D	79.4	C17A-C16-Y	88.5(5)
H15C-C15A-H15D	45.2	Y-C16-Y	89.5(2)
C12-C15A-H15E	118.0	C17B-C16-H16A	114(6)
H15A-C15A-H15E	101.2	C17A-C16-H16A	102(6)
H15B-C15A-H15E	9.6	Y-C16-H16A	71(6)
H15C-C15A-H15E	108.9	Y-C16-H16A	153(7)
H15D-C15A-H15E	84.6	C17B-C16-H16B	81(4)
C12-C13B-H13A	87.3	C17A-C16-H16B	106(4)
C12-C13B-H13C	106.5	Y-C16-H16B	97(4)
H13A-C13B-H13C	71.3	Y-C16-H16B	90(4)
C12-C13B-H14C	89.3	H16A-C16-H16B	110(8)
H13A-C13B-H14C	124.7	C17B-C16-H16C	90(8)
H13C-C13B-H14C	158.7	C17A-C16-H16C	67(8)
C12-C13B-H13D	109.6	Y-C16-H16C	92(8)
H13A-C13B-H13D	42.2	Y-C16-H16C	109(8)
H13C-C13B-H13D	98.9	H16A-C16-H16C	55(8)
H14C-C13B-H13D	88.7	H16B-C16-H16C	158(9)

C17B-C16-H16D	98(7)	H21C-C21A-H20C	125.8
C17A-C16-H16D	105(6)	C20A-C21A-H21D	123.8
Y-C16-H16D	86(6)	H21A-C21A-H21D	115.3
Y-C16-H16D	154(8)	H21B-C21A-H21D	86.5
H16A-C16-H16D	46(7)	H21C-C21A-H21D	23.4
H16B-C16-H16D	65(8)	H20C-C21A-H21D	145.9
H16C-C16-H16D	97(10)	C20A-C21A-H21E	93.4
C16-C17A-C18A	117.4(9)	H21A-C21A-H21E	120.9
C16-C17A-Y	60.6(5)	H21B-C21A-H21E	17.1
C18A-C17A-Y	141.7(10)	H21C-C21A-H21E	113.0
C16-C17A-H16C	34(4)	H20C-C21A-H21E	121.0
C18A-C17A-H16C	125(5)	H21D-C21A-H21E	92.3
Y-C17A-H16C	77(5)	C16-C17B-C18B	121.1(9)
C16-C17A-H17A	108.3	C16-C17B-Y	62.9(5)
C18A-C17A-H17A	107.9	C18B-C17B-Y	158.4(9)
Y-C17A-H17A	108.6	C16-C17B-H17B	106.5
H16C-C17A-H17A	74.7	C18B-C17B-H17B	107.6
C16-C17A-H17B	107.6	Y-C17B-H17B	53.8
C18A-C17A-H17B	108.0	C16-C17B-H17C	106.7
Y-C17A-H17B	49.0	C18B-C17B-H17C	107.1
H16C-C17A-H17B	124.3	Y-C17B-H17C	90.4
H17A-C17A-H17B	107.2	H17B-C17B-H17C	107.1
C17A-C18A-C19A	110.7(11)	C19B-C18B-C17B	115.1(11)
C17A-C18A-H18A	108.8	C19B-C18B-H18A	71.0
C19A-C18A-H18A	112.6	C17B-C18B-H18A	64.1
C17A-C18A-H18B	108.9	C19B-C18B-H18B	107.8
C19A-C18A-H18B	108.2	C17B-C18B-H18B	105.1
H18A-C18A-H18B	107.7	H18A-C18B-H18B	77.2
C17A-C18A-H18C	69.4	C19B-C18B-H18C	107.3
C19A-C18A-H18C	63.0	C17B-C18B-H18C	108.8
H18A-C18A-H18C	173.0	H18A-C18B-H18C	169.5
H18B-C18A-H18C	79.1	H18B-C18B-H18C	112.8
C20A-C19A-C18A	119.0(11)	C20B-C19B-C18B	124.0(12)
C20A-C19A-H19A	110.8	C20B-C19B-H19B	115.6
C18A-C19A-H19A	110.5	C18B-C19B-H19B	114.4
C20A-C19A-H19B	104.4	C20B-C19B-H19C	104.5
C18A-C19A-H19B	104.5	C18B-C19B-H19C	104.8
H19A-C19A-H19B	106.6	H19B-C19B-H19C	83.2
C20A-C19A-H18C	118.7	C19B-C20B-C21B	119.2(13)
C18A-C19A-H18C	55.5	C19B-C20B-H20B	108.4
H19A-C19A-H18C	59.3	C21B-C20B-H20B	110.2
H19B-C19A-H18C	136.9	C19B-C20B-H21A	122.3
C20A-C19A-H19C	93.9	C21B-C20B-H21A	65.4
C18A-C19A-H19C	65.0	H20B-C20B-H21A	124.1
H19A-C19A-H19C	152.1	C19B-C20B-H20C	109.1
H19B-C19A-H19C	52.7	C21B-C20B-H20C	107.6
H18C-C19A-H19C	120.1	H20B-C20B-H20C	101.0
C21A-C20A-C19A	121.0(13)	H21A-C20B-H20C	43.2
C21A-C20A-H20A	107.2	C20B-C21B-H20A	62.7
C19A-C20A-H20A	103.6	C20B-C21B-H21B	106.0
C21A-C20A-H20B	108.0	H20A-C21B-H21B	122.4
C19A-C20A-H20B	109.0	C20B-C21B-H21C	92.6
H20A-C20A-H20B	107.1	H20A-C21B-H21C	130.9
C20A-C21A-H21A	109.0	H21B-C21B-H21C	104.4
C20A-C21A-H21B	109.9	C20B-C21B-H21D	109.2
H21A-C21A-H21B	109.5	H20A-C21B-H21D	150.0
C20A-C21A-H21C	109.5	H21B-C21B-H21D	87.5
H21A-C21A-H21C	109.5	H21C-C21B-H21D	20.8
H21B-C21A-H21C	109.5	C20B-C21B-H21E	109.6
C20A-C21A-H20C	65.7	H20A-C21B-H21E	100.3
H21A-C21A-H20C	43.3	H21B-C21B-H21E	25.9
H21B-C21A-H20C	123.1	H21C-C21B-H21E	128.6

H21D-C21B-H21E	109.5	H21D-C21B-H21F	109.5
C20B-C21B-H21F	109.7	H21E-C21B-H21F	109.5
H20A-C21B-H21F	54.5		
H21B-C21B-H21F	131.9		
H21C-C21B-H21F	105.1		

Table S19. Anisotropic displacement parameters ($Å^2$) for $[Y(\eta^5:\eta^1\text{-}C_5Me_4SiMe_2NCMe_3)(\mu\text{-}CH_2)_5CH_3]_2$ (**4a**). The anisotropic displacement factor exponent takes the form: $-2\pi^2 [h^2 a^{*2} U_{11} + ... + 2 h k a^* b^* U_{12}]$

Atom	U_{11}	U_{22}	U_{33}	U_{23}	U_{13}	U_{12}
Y	0.0635(3)	0.0520(3)	0.0418(2)	0.01584(18)	0.00762(18)	0.0079(2)
Si	0.0851(11)	0.0613(9)	0.0552(8)	0.0212(7)	0.0048(7)	0.0153(8)
N	0.066(3)	0.058(2)	0.057(2)	0.0149(19)	0.010(2)	0.016(2)
C1	0.086(4)	0.057(3)	0.043(2)	0.017(2)	0.013(3)	0.008(3)
C2	0.092(4)	0.063(3)	0.039(2)	0.010(2)	0.012(3)	0.009(3)
C3	0.103(4)	0.057(3)	0.054(3)	0.016(2)	0.025(3)	0.017(3)
C4	0.081(4)	0.081(4)	0.063(3)	0.030(3)	0.031(3)	0.020(3)
C5	0.082(4)	0.064(3)	0.060(3)	0.023(3)	0.023(3)	0.002(3)
C6	0.130(5)	0.078(4)	0.054(3)	0.010(3)	-0.019(3)	-0.005(4)
C7	0.147(6)	0.072(4)	0.075(4)	0.013(3)	0.037(4)	0.035(4)
C8	0.092(5)	0.127(6)	0.111(5)	0.053(5)	0.049(4)	0.039(4)
C9	0.092(5)	0.084(4)	0.109(5)	0.037(4)	0.024(4)	-0.007(4)
C10	0.109(5)	0.105(5)	0.088(4)	0.022(4)	-0.020(4)	0.032(4)
C11	0.143(6)	0.066(4)	0.094(4)	0.037(3)	0.024(4)	0.024(4)
C12	0.082(4)	0.069(4)	0.078(4)	0.020(3)	0.022(3)	0.026(3)
C13A	0.116(15)	0.17(2)	0.130(14)	0.037(14)	0.031(11)	0.086(16)
C14A	0.19(2)	0.16(2)	0.123(17)	0.077(15)	0.099(17)	0.110(18)
C15A	0.134(18)	0.111(16)	0.136(18)	-0.016(14)	0.046(14)	0.029(13)
C13B	0.068(10)	0.160(19)	0.160(18)	0.001(15)	0.043(11)	0.016(12)
C14B	0.105(12)	0.148(17)	0.071(9)	0.022(10)	0.042(9)	0.052(11)
C15B	0.143(19)	0.079(10)	0.128(16)	0.034(11)	0.054(13)	0.061(13)
C16	0.089(5)	0.073(4)	0.062(4)	0.027(3)	-0.002(4)	-0.002(4)

Table S20. Hydrogen coordinates and isotropic displacement parameters ($Å^2$) for $[Y(\eta^5:\eta^1\text{-}C_5Me_4SiMe_2NCMe_3)(\mu\text{-}CH_2)_5CH_3]_2$ (**4a**).

Atom	x	y	z	U(eq)
H6A	0.2638	0.5857	0.5216	0.144
H6B	0.2507	0.6942	0.4473	0.144
H6C	0.3151	0.5707	0.4016	0.144
H7A	-0.0060	0.7632	0.4557	0.143
H7B	-0.0891	0.7552	0.3248	0.143
H7C	0.0714	0.7843	0.3550	0.143
H8A	-0.3087	0.4599	0.1705	0.151
H8B	-0.2648	0.6051	0.2479	0.151
H8C	-0.3144	0.4919	0.3069	0.151
H9A	-0.1844	0.1983	0.3001	0.142
H9B	-0.1356	0.1800	0.1788	0.142
H9C	-0.2608	0.2512	0.1932	0.142
H10A	0.3986	0.2338	0.3894	0.159
H10B	0.3370	0.3200	0.4853	0.159
H10C	0.4041	0.3848	0.3959	0.159
H11A	0.0335	0.0622	0.2306	0.147

H11B	0.0842	0.0965	0.3714	0.147
H11C	0.1809	0.0431	0.2897	0.147
H13A	0.4439	0.1763	0.0636	0.200
H13B	0.3870	0.1451	0.1726	0.200
H13C	0.4528	0.2895	0.1771	0.200
H14A	0.1972	0.3581	-0.0341	0.203
H14B	0.2820	0.2584	-0.0925	0.203
H14C	0.3563	0.3785	0.0139	0.203
H15A	0.0844	0.1124	-0.0378	0.196
H15B	0.1693	0.0456	0.0538	0.196
H15C	0.2193	0.0643	-0.0619	0.196
H13D	0.4471	0.2663	0.0392	0.199
H13E	0.4437	0.3131	0.1752	0.199
H13F	0.3946	0.3977	0.0836	0.199
H14D	0.1757	0.3370	-0.0641	0.154
H14E	0.0807	0.2033	-0.0757	0.154
H14F	0.2157	0.2036	-0.1228	0.154
H15D	0.2971	0.0523	-0.0003	0.162
H15E	0.1574	0.0459	0.0393	0.162
H15F	0.2955	0.0756	0.1368	0.162
H16A	0.152(10)	0.674(11)	-0.019(9)	0.05(3)
H16B	0.066(9)	0.717(9)	0.105(8)	0.06(3)
H16C	0.194(11)	0.619(11)	0.007(11)	0.05(4)
H16D	0.127(11)	0.728(12)	0.022(12)	0.08(4)
H17A	0.3308	0.6160	0.0777	0.080
H17B	0.2636	0.6090	0.1866	0.080
H18A	0.2876	0.8370	0.2385	0.084
H18B	0.3486	0.8468	0.1261	0.084
H19A	0.5281	0.7225	0.2192	0.105
H19B	0.4812	0.7826	0.3350	0.105
H20A	0.6725	0.8946	0.2564	0.090
H20B	0.5605	0.9837	0.2429	0.090
H21A	0.5892	1.0510	0.4391	0.213
H21B	0.7389	1.0494	0.4215	0.213
H21C	0.6646	0.9347	0.4653	0.213
H17C	0.1963	0.7365	0.2170	0.076
H18C	0.4308	0.7259	0.1196	0.083
H19C	0.3962	0.8600	0.3367	0.095
H20C	0.5168	1.0283	0.3569	0.120
H21D	0.6979	0.9597	0.4737	0.137
H21E	0.7602	1.0432	0.3937	0.137
H21F	0.7414	0.8890	0.3582	0.137

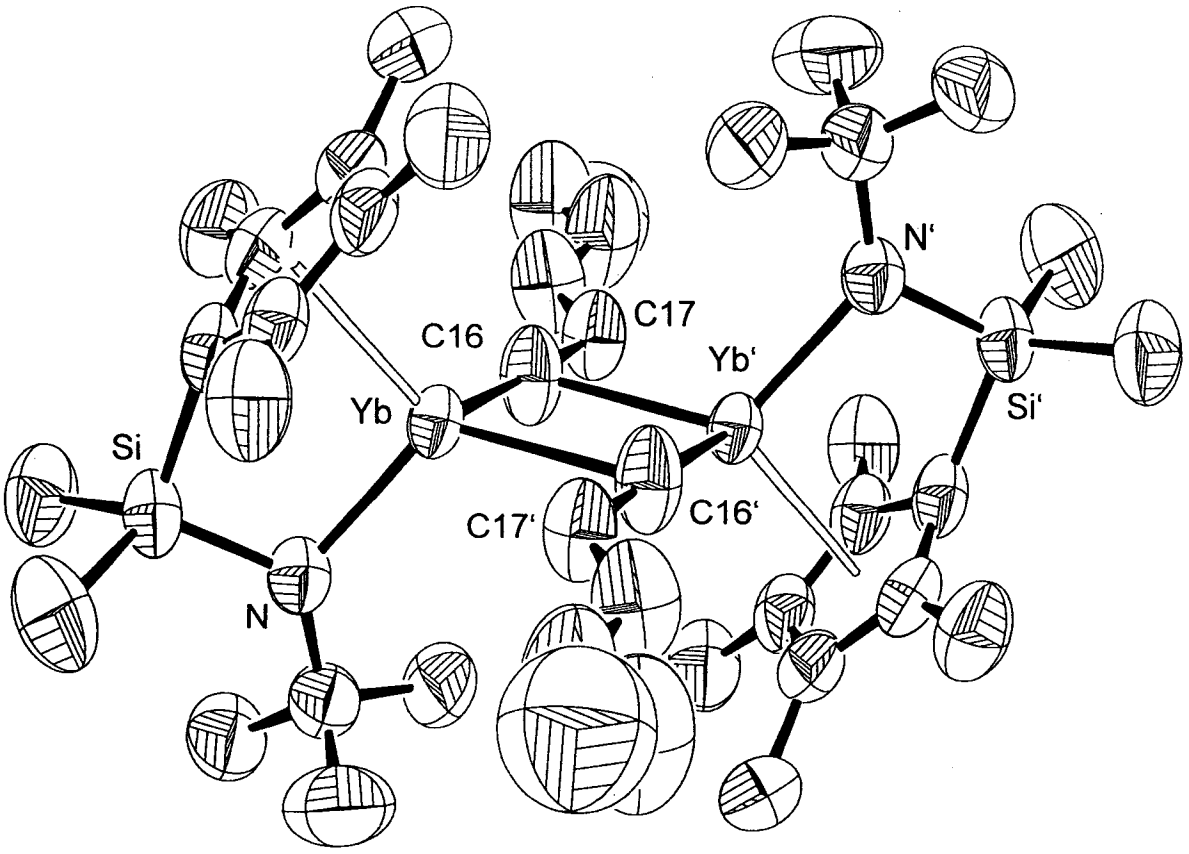

Figure S4. ORTEP diagram of the molecular structure of $[Yb(\eta^5:\eta^1\text{-}C_5Me_4SiMe_2NCMe_3)(\mu\text{-}CH_2)_5CH_3]_2$ (**6a**). Thermal ellipsoids are drawn at the 50% probality level. All hydrogen atoms are omitted for the the sake of clarity.

Table S21. Experimental Data of the Crystal Structure Determination of $[Yb(\eta^5:\eta^1\text{-}C_5Me_4SiMe_2NCMe_3)(\mu\text{-}(CH_2)_5CH_3]_2$ (**6a**).

Crystal data:

habitus, color	prism, colorless
crystal size	0.86 × 0.72 × 0.38 mm
crystal system	triclinic
space group	P-1, $Z = 2$
unit cell dimensions	a = 10.153(5) Å, α = 101.10(4)°
	b = 10.471(4) Å, β = 101.88(5)°
	c = 11.514(8) Å, γ = 97.54(4)°
volume	1156.7(11) Å^3
cell determination	25 reflections
empirical formula	$C_{21}H_{40}NSiYb$
formula weight	507.67
F(000)	514
density (calculated)	1.458 Mg/m^3
absorption coefficient	4.097 mm^{-1}

Data collection:

diffractometer type	Enraf Nonius CAD4
wavelength	0.71073 Å (Mo Kα)
temperature	296(2) K
θ range for data collection	3.03 to 30.02°
index ranges	$-12 \le h \le 14$, $-14 \le k \le 14$, $-16 \le l \le 15$
scan method	ω-scans
absorption correction	
data collection software	CAD4
cell refinement software	CAD4
data reduction software	XCAD4

solution and refinement:

reflections collected	10914
independent reflections	(R_{int} = 0.0498)
largest diff. peak and hole	1.807 and –1.369 e·Å^{-3}
solution	Patterson and difference Fourier syntheses
refinement method	Full-matrix least-squares on F^2
data / restraints / parameters	6684 / 0 / 258
weighting scheme	$w=1/[\sigma^2(F_O)+(0.0274P)^2+0.8225P]$
	where $P=(F_o^2+2F_c^2)/3$
goodness-of-fit on F^2	1.068
final R indices ($I > 2\sigma(I)$)	R1 = 0.0358, wR2 = 0.0772
R indices (all data)	R1 = 0.0455, wR2 = 0.0809

Table S22. Atomic coordinates and equivalent isotropic displacement parameters of $[Y(\eta^5:\eta^1\text{-}C_5Me_4SiMe_2NCMe_3)(\mu\text{-}CH_2)_5CH_3]_2$ (**6a**). U(eq) is defined as one third of the trace of the orthogonalized U_{ij} tensor.

Atom	x	y	z	U(eq)
Yb	0.05528(2)	0.45566(2)	0.136118(14)	0.04691(8)
Si	0.1804(2)	0.2734(2)	0.29327(12)	0.0618(4)
N	0.1816(5)	0.3029(5)	0.1519(4)	0.0568(10)
C1	0.0650(6)	0.3902(6)	0.3341(4)	0.0616(13)
C2	-0.0790(6)	0.3686(6)	0.2785(5)	0.0642(14)
C3	-0.1210(7)	0.4905(7)	0.2787(5)	0.0676(15)

C4	-0.0076(7)	0.5913(6)	0.3352(4)	0.0646(14)
C5	0.1032(6)	0.5307(6)	0.3695(4)	0.0624(13)
C6	-0.1739(8)	0.2368(8)	0.2300(7)	0.093(2)
C7	-0.2691(8)	0.5103(10)	0.2435(7)	0.094(2)
C8	-0.0114(10)	0.7363(8)	0.3690(6)	0.092(2)
C9	0.2442(8)	0.6067(7)	0.4417(5)	0.087(2)
C10	0.1115(9)	0.0993(7)	0.2957(7)	0.089(2)
C11	0.3500(8)	0.3119(9)	0.4051(7)	0.101(3)
C12	0.2547(7)	0.2408(7)	0.0648(5)	0.0690(15)
C13A	0.1743(19)	0.2403(21)	-0.0641(13)	0.090(5)
C14A	0.2574(23)	0.1005(18)	0.0643(16)	0.094(5)
C15A	0.3952(18)	0.3140(27)	0.0923(19)	0.118(7)
C13B	0.2869(38)	0.3280(30)	-0.0133(26)	0.180(16)
C14B	0.1748(23)	0.1092(26)	-0.0033(20)	0.131(8)
C15B	0.3943(19)	0.2108(26)	0.1269(19)	0.114(7)
C16	0.1269(7)	0.6449(7)	0.0492(6)	0.077(2)
C17A	0.2452(19)	0.6903(20)	0.1596(14)	0.070(4)
C17B	0.2654(21)	0.6531(17)	0.1190(15)	0.065(4)
C18	0.3534(8)	0.7872(8)	0.1775(7)	0.093(2)
C19	0.4762(9)	0.8188(11)	0.2692(9)	0.123(4)
C20	0.5723(10)	0.9395(12)	0.2992(10)	0.137(5)
C21A	0.6379(33)	0.9982(37)	0.4047(29)	0.187(13)
C21B	0.6988(15)	0.9648(16)	0.3910(12)	0.076(3)

Table S23. Bond lengths [Å] and angles [°] for $[Yb(\eta^5:\eta^1\text{-}C_5Me_4SiMe_2NCMe_3)(\mu\text{-}CH_2)_5CH_3]_2$ (**6a**).

		C16-C17B	1.435(18)
Yb-N	2.187(4)	C16-C17A	1.510(13)
Yb-C16	2.460(5)	C16-Yb	2.460(5)
Yb-C16	2.470(5)	C16-C16	3.523(11)
Yb-C1	2.490(4)	C17A-C18	1.358(15)
Yb-C2	2.560(4)	C17B-C18	1.517(16)
Yb-C5	2.574(4)	C18-C19	1.411(8)
Yb-C3	2.682(5)	C19-C20	1.423(10)
Yb-C4	2.696(5)	C20-C21A	1.23(3)
Yb-C17B	2.832(17)	C20-C21B	1.446(13)
Yb-C17A	2.838(15)	N-Yb-C16	104.03(18)
Yb-Si	3.0904(18)	N-Yb-C16	120.14(18)
Yb-Yb	3.449(2)	C16-Yb-C16	91.22(18)
Si-N	1.717(3)	N-Yb-C1	69.75(15)
Si-C1	1.867(5)	C16-Yb-C1	123.49(17)
Si-C11	1.871(6)	C16-Yb-C1	142.04(17)
Si-C10	1.871(6)	N-Yb-C2	89.63(15)
N-C12	1.466(6)	C16-Yb-C2	94.05(18)
C1-C5	1.426(7)	C16-Yb-C2	147.4(2)
C1-C2	1.433(7)	C1-Yb-C2	32.94(16)
C2-C3	1.402(7)	N-Yb-C5	90.72(15)
C2-C6	1.506(8)	C16-Yb-C5	143.69(19)
C3-C4	1.406(8)	C16-Yb-C5	109.94(17)
C3-C7	1.520(8)	C1-Yb-C5	32.66(15)
C4-C5	1.399(7)	C2-Yb-C5	52.42(17)
C4-C8	1.503(8)	N-Yb-C3	119.54(14)
C5-C9	1.516(7)	C16-Yb-C3	93.5(2)
C12-C13B	1.456(16)	C16-Yb-C3	116.7(2)
C12-C14B	1.47(2)	C1-Yb-C3	52.93(16)
C12-C15A	1.475(17)	C2-Yb-C3	30.92(16)
C12-C14A	1.495(15)	C5-Yb-C3	50.95(17)
C12-C13A	1.535(13)	N-Yb-C4	120.15(13)
C12-C15B	1.552(13)	C16-Yb-C4	119.7(2)
		C16-Yb-C4	98.80(19)

C1-Yb-C4	52.83(15)	C3-C2-C6	123.6(5)
C2-Yb-C4	51.23(17)	C1-C2-C6	127.1(5)
C5-Yb-C4	30.68(15)	C3-C2-Yb	79.4(2)
C3-Yb-C4	30.30(17)	C1-C2-Yb	70.9(2)
N-Yb-C17B	96.4(3)	C6-C2-Yb	118.0(4)
C16-Yb-C17B	117.2(3)	C2-C3-C4	108.2(5)
C16-Yb-C17B	30.4(3)	C2-C3-C7	125.4(6)
C1-Yb-C17B	119.3(3)	C4-C3-C7	125.6(6)
C2-Yb-C17B	145.4(3)	C2-C3-Yb	69.7(3)
C5-Yb-C17B	93.3(3)	C4-C3-Yb	75.4(3)
C3-Yb-C17B	125.7(3)	C7-C3-Yb	128.5(3)
C4-Yb-C17B	97.5(3)	C5-C4-C3	107.6(5)
N-Yb-C17A	104.2(4)	C5-C4-C8	126.4(5)
C16-Yb-C17A	123.1(3)	C3-C4-C8	125.4(5)
C16-Yb-C17A	32.1(3)	C5-C4-Yb	69.9(2)
C1-Yb-C17A	112.3(3)	C3-C4-Yb	74.3(3)
C2-Yb-C17A	134.1(3)	C8-C4-Yb	128.3(3)
C5-Yb-C17A	83.4(3)	C4-C5-C1	110.0(5)
C3-Yb-C17A	113.1(3)	C4-C5-C9	123.6(5)
C4-Yb-C17A	85.0(3)	C1-C5-C9	126.3(5)
C17B-Yb-C17A	12.6(3)	C4-C5-Yb	79.5(2)
N-Yb-Si	32.61(9)	C1-C5-Yb	70.4(2)
C16-Yb-Si	118.95(13)	C9-C5-Yb	120.0(3)
C16-Yb-Si	140.21(12)	C13B-C12-N	110.9(8)
C1-Yb-Si	37.15(12)	C13B-C12-C14B	113.9(15)
C2-Yb-Si	61.31(12)	N-C12-C14B	109.0(8)
C5-Yb-Si	61.24(12)	C13B-C12-C15A	62.0(14)
C3-Yb-Si	88.56(11)	N-C12-C15A	109.5(8)
C4-Yb-Si	88.45(11)	C14B-C12-C15A	139.5(11)
C17B-Yb-Si	110.0(3)	C13B-C12-C14A	135.1(10)
C17A-Yb-Si	111.4(3)	N-C12-C14A	113.1(7)
N-Yb-Yb	122.18(9)	C14B-C12-C14A	41.9(9)
C16-Yb-Yb	45.73(12)	C15A-C12-C14A	109.5(11)
C16-Yb-Yb	45.50(11)	C13B-C12-C13A	52.1(13)
C1-Yb-Yb	163.39(12)	N-C12-C13A	107.9(6)
C2-Yb-Yb	130.84(12)	C14B-C12-C13A	66.6(11)
C5-Yb-Yb	144.99(11)	C15A-C12-C13A	111.8(9)
C3-Yb-Yb	111.40(11)	C14A-C12-C13A	104.9(10)
C4-Yb-Yb	117.58(10)	C13B-C12-C15B	105.5(14)
C17B-Yb-Yb	73.0(3)	N-C12-C15B	113.5(7)
C17A-Yb-Yb	77.5(3)	C14B-C12-C15B	103.8(12)
Si-Yb-Yb	153.58(3)	C15A-C12-C15B	48.4(10)
N-Si-C1	97.01(17)	C14A-C12-C15B	63.9(10)
N-Si-C11	115.7(3)	C13A-C12-C15B	138.2(9)
C1-Si-C11	112.6(3)	C17B-C16-C17A	24.2(7)
N-Si-C10	115.7(2)	C17B-C16-Yb	149.8(7)
C1-Si-C10	112.4(3)	C17A-C16-Yb	173.0(8)
C11-Si-C10	103.9(3)	C17B-C16-Yb	88.9(7)
N-Si-Yb	43.35(13)	C17A-C16-Yb	87.5(6)
C1-Si-Yb	53.68(11)	Yb-C16-Yb	88.78(18)
C11-Si-Yb	126.9(2)	C17B-C16-C16	126.1(7)
C10-Si-Yb	129.2(2)	C17A-C16-C16	131.5(7)
C12-N-Si	127.1(3)	Yb-C16-C16	44.50(11)
C12-N-Yb	128.8(3)	Yb-C16-C16	44.28(11)
Si-N-Yb	104.04(19)	C18-C17A-C16	127.0(11)
C5-C1-C2	104.9(4)	C18-C17A-Yb	169.7(11)
C5-C1-Si	124.3(4)	C16-C17A-Yb	60.4(5)
C2-C1-Si	123.7(4)	C16-C17B-C18	120.8(11)
C5-C1-Yb	76.9(2)	C16-C17B-Yb	60.7(6)
C2-C1-Yb	76.2(2)	C18-C17B-Yb	146.3(8)
Si-C1-Yb	89.16(16)	C17A-C18-C19	128.8(8)
C3-C2-C1	109.2(5)	C17A-C18-C17B	24.2(7)

C19-C18-C17B	129.1(9)	C19-C20-C21B	123.6(8)
C18-C19-C20	125.6(7)		
C21A-C20-C19	122.2(17)		
C21A-C20-C21B	33.7(13)		

Table S24. Anisotropic displacement parameters for [Yb(η^5:η^1-$C_5Me_4SiMe_2NCMe_3$)(μ-CH_2)$_5CH_3$]$_2$ (**6a**). The anisotropic displacement factor exponent takes the form: $-2\pi^2$ [$h^2 a^{*2} U_{11}$ +.. + 2 h k a* b* U_{12}]

Atom	U_{11}	U_{22}	U_{33}	U_{23}	U_{13}	U_{12}
Yb	0.05669(13)	0.04824(12)	0.03572(9)	0.01395(7)	0.00839(7)	0.00654(8)
Si	0.0820(10)	0.0540(8)	0.0483(6)	0.0193(6)	0.0051(6)	0.0134(7)
N	0.066(3)	0.055(3)	0.049(2)	0.016(2)	0.010(2)	0.011(2)
C1	0.091(4)	0.057(3)	0.040(2)	0.021(2)	0.014(2)	0.010(3)
C2	0.077(4)	0.066(4)	0.056(3)	0.025(2)	0.026(2)	0.001(3)
C3	0.080(4)	0.076(4)	0.061(3)	0.027(3)	0.033(3)	0.020(3)
C4	0.097(4)	0.060(3)	0.045(2)	0.016(2)	0.026(2)	0.020(3)
C5	0.087(4)	0.062(3)	0.035(2)	0.011(2)	0.013(2)	0.006(3)
C6	0.093(5)	0.081(5)	0.106(5)	0.038(4)	0.028(4)	-0.009(4)
C7	0.086(5)	0.121(7)	0.102(5)	0.051(5)	0.050(4)	0.035(5)
C8	0.146(7)	0.070(5)	0.070(4)	0.015(3)	0.034(4)	0.037(5)
C9	0.115(5)	0.068(4)	0.053(3)	0.006(3)	-0.011(3)	-0.009(4)
C10	0.129(6)	0.056(4)	0.089(4)	0.030(3)	0.028(4)	0.015(4)
C11	0.102(5)	0.104(7)	0.083(4)	0.026(4)	-0.017(4)	0.026(5)
C12	0.079(4)	0.068(4)	0.069(3)	0.022(3)	0.025(3)	0.025(3)
C13A	0.115(13)	0.113(16)	0.061(7)	0.028(8)	0.039(8)	0.041(11)
C14A	0.135(16)	0.080(11)	0.089(10)	0.026(8)	0.046(10)	0.058(11)
C15A	0.083(11)	0.157(23)	0.120(14)	0.025(14)	0.042(10)	0.027(13)
C13B	0.313(40)	0.178(29)	0.180(25)	0.125(24)	0.192(29)	0.167(29)
C14B	0.124(17)	0.137(22)	0.116(15)	-0.027(14)	0.036(12)	0.031(15)
C15B	0.093(12)	0.146(21)	0.131(15)	0.057(15)	0.039(11)	0.066(14)
C16	0.084(4)	0.067(4)	0.062(3)	0.024(3)	-0.013(3)	-0.014(3)
C17A	0.071(9)	0.067(11)	0.056(8)	0.014(7)	-0.007(7)	-0.010(8)
C17B	0.076(9)	0.046(8)	0.063(9)	0.005(6)	0.009(7)	-0.002(6)
C18	0.095(5)	0.068(5)	0.090(4)	0.018(4)	-0.015(4)	-0.014(4)
C19	0.094(6)	0.128(9)	0.128(7)	0.064(7)	-0.018(5)	-0.032(5)
C20	0.108(7)	0.124(10)	0.140(8)	0.045(7)	-0.034(6)	-0.043(6)

Table S25. Hydrogen coordinates and isotropic displacement parameters for [Yb(η^5:η^1-$C_5Me_4SiMe_2NCMe_3$)(μ-CH_2)$_5CH_3$]$_2$ (**6a**).

Atom	x	y	z	U(eq)
H6A	-0.1712(47)	0.1892(26)	0.2936(17)	0.139
H6B	-0.1454(36)	0.1864(24)	0.1636(36)	0.139
H6C	-0.2655(12)	0.2508(8)	0.2018(49)	0.139
H7A	-0.2708(8)	0.6003(17)	0.2374(61)	0.141
H7B	-0.3155(22)	0.4910(70)	0.3045(34)	0.141
H7C	-0.3141(21)	0.4520(47)	0.1663(32)	0.141
H8A	-0.0077(62)	0.7619(15)	0.4544(12)	0.139
H8B	-0.0945(28)	0.7539(12)	0.3230(39)	0.139
H8C	0.0656(33)	0.7858(8)	0.3513(49)	0.139
H9A	0.2550(24)	0.6952(18)	0.4295(42)	0.130
H9B	0.3135(8)	0.5632(32)	0.4142(37)	0.130
H9C	0.2528(23)	0.6093(51)	0.5268(8)	0.130
H10A	0.1839(16)	0.0486(16)	0.2989(52)	0.134

H10B	0.0407(41)	0.0608(20)	0.2233(26)	0.134
H10C	0.0746(52)	0.0992(8)	0.3660(29)	0.134
H11A	0.3995(31)	0.2409(34)	0.3889(42)	0.152
H11B	0.3365(8)	0.3220(73)	0.4862(8)	0.152
H11C	0.4014(31)	0.3924(39)	0.3976(47)	0.152
H13A	0.0833(19)	0.1917(21)	-0.0786(13)	0.135
H13B	0.2194(19)	0.1993(21)	-0.1231(13)	0.135
H13C	0.1700(19)	0.3296(21)	-0.0713(13)	0.135
H14A	0.1655(23)	0.0528(18)	0.0464(16)	0.141
H14B	0.3060(23)	0.0930(18)	0.1429(16)	0.141
H14C	0.3026(23)	0.0642(18)	0.0034(16)	0.141
H15A	0.3932(18)	0.4055(27)	0.0925(19)	0.176
H15B	0.4404(18)	0.2778(27)	0.0314(19)	0.176
H15C	0.4439(18)	0.3066(27)	0.1708(19)	0.176
H13D	0.3384(38)	0.4111(30)	0.0361(26)	0.270
H13E	0.2037(38)	0.3423(30)	-0.0620(26)	0.270
H13F	0.3400(38)	0.2883(30)	-0.0655(26)	0.270
H14D	0.1569(23)	0.0565(26)	0.0532(20)	0.197
H14E	0.2261(23)	0.0659(26)	-0.0554(20)	0.197
H14F	0.0898(23)	0.1199(26)	-0.0518(20)	0.197
H15D	0.3802(19)	0.1530(26)	0.1803(19)	0.170
H15E	0.4529(19)	0.2919(26)	0.1730(19)	0.170
H15F	0.4361(19)	0.1689(26)	0.0657(19)	0.170
H16A	0.0912(7)	0.7005(7)	-0.0036(6)	0.025(18)
H16B	0.1536(7)	0.5760(7)	-0.0058(6)	0.059(32)
H16C	0.0719(7)	0.6851(7)	0.1005(6)	0.107(57)
H16D	0.1477(7)	0.6792(7)	-0.0187(6)	0.140(69)
H17A	0.2039(19)	0.7643(20)	0.2187(14)	0.338(205)
H17B	0.2718(19)	0.6177(20)	0.1888(14)	0.085(21)
H17C	0.2853(21)	0.5977(17)	0.0362(15)	0.071(35)
H18A	0.3159(8)	0.8682(8)	0.1836(7)	0.111
H18B	0.3818(8)	0.7738(8)	0.1013(7)	0.111
H19A	0.5273(9)	0.7487(11)	0.2500(9)	0.148
H19B	0.4502(9)	0.8097(11)	0.3441(9)	0.148
H20A	0.6401(10)	0.9236(12)	0.2524(10)	0.165
H20B	0.5234(10)	1.0031(12)	0.2663(10)	0.165
H21A	0.6958(33)	1.0769(37)	0.4013(29)	0.280
H21B	0.6931(33)	0.9411(37)	0.4398(29)	0.280
H21C	0.5752(33)	1.0215(37)	0.4539(29)	0.280
H21D	0.7477(15)	1.0515(16)	0.3964(12)	0.114
H21E	0.7536(15)	0.9001(16)	0.3693(12)	0.114
H21F	0.6794(15)	0.9597(16)	0.4683(12)	0.114

Table S26. Experimental Data of the Crystal Structure Determination of [Y(η^5:η^1-$C_5Me_4SiMe_2NCMe_3$)(DME)$(CH_2)_3CH_3$] (**9a**).

Crystal data:

habitus, color	irregular, colorless
crystal size	0.18 × 0.08 × 0.07 mm
crystal system	monoclinic
space group	P2/c, $Z = 4$
unit cell dimensions	a = 20.173(1) Å
	b = 8.9298(8) Å β = 109.005(2)°
	c = 15.431(2) Å
volume	2628.2(4) Å^3
empirical formula	$C_{23}H_{46}NO_2SiY$
formula weight	485.62
F(000)	1040
density (calculated)	1.227 Mg/m^3
absorption coefficient	2.281 mm^{-1}

Data collection:

diffractometer type	Bruker AXS
wavelength	0.71073 Å (Mo Kα)
temperature	293(2) K
θ range for data collection	2.28 to 28.26°
index ranges	$-26 \le h \le 26$, $-11 \le k \le 11$, $-20 \le l \le 20$
scan method	ω-scans
absorption correction	SADABS
data collection software	SMART
cell refinement software	SMART
data reduction software	SMART, SADABS

solution and refinement:

reflections collected	23687
independent reflections	(R_{int} = 0.1397)
largest diff. peak and hole	0.450 and –0.635 e·Å^{-3}
solution	Patterson and difference Fourier syntheses
refinement method	Full-matrix least-squares on F^2
data / restraints / parameters	6497 / 0 / 427
weighting scheme	$w=1/[\sigma^2(F_O)+(0.0369P)^2]$
	where $P=(F_o^2+2F_c^2)/3$
goodness-of-fit on F^2	0.877
final R indices ($I > 2\sigma(I)$)	R1 = 0.0513, wR2 = 0.0874
R indices (all data)	R1 = 0.1609, wR2 = 0.1163

Table S27. Atomic coordinates (× 10^4) and equivalent isotropic displacement parameters (Å^2 × 10^3) of [Y(η^5:η^1-$C_5Me_4SiMe_2NCMe_2Et$)(η^2–DME)$CH_2(CH_2)_2CH_3$] (**9a**). U(eq) is defined as one third of the trace of the orthogonalized U_{ij} tensor.

Atom	x	y	z	U(eq)
Y	2576.3(2)	1378.2(5)	1344.4(3)	24.66(14)
Si	1409.0(7)	2324.8(17)	-480.8(9)	33.5(4)
O1	2045.9(16)	-837(3)	1758(2)	32.6(8)
O2	3408.8(17)	-327(4)	2436(2)	37.4(9)
N	1497.3(18)	2303(4)	663(2)	26.4(9)
C1	2310(2)	1635(6)	-374(3)	31.2(13)

C2	2927(2)	2539(6)	5(3)	30.7(12)
C3	3509(2)	1600(6)	389(3)	32.9(12)
C4	3273(3)	101(6)	259(3)	33.7(13)
C5	2547(3)	113(6)	-199(3)	32.3(12)
C6	2950(4)	4223(7)	25(5)	45.5(16)
C7	4269(3)	2089(11)	751(6)	52.0(19)
C8	3733(5)	-1270(10)	506(6)	56.2(19)
C9	2132(4)	-1313(9)	-503(5)	52.4(17)
C10A	707(7)	1326(15)	-1259(9)	0.033(3)
C11A	1264(9)	4397(16)	-1015(10)	0.034(4)
C10B	717(8)	833(17)	-1245(12)	0.044(4)
C11B	1154(7)	3963(14)	-1165(9)	0.032(4)
C12	993(2)	2941(6)	1088(3)	31.4(13)
C13	241(3)	2511(8)	557(5)	42.5(16)
C14	1045(4)	4637(7)	1116(5)	41.1(16)
C15	1190(3)	2379(7)	2070(4)	40.8(15)
C16	3127(3)	3284(6)	2479(4)	39.1(15)
C17	3798(3)	4151(7)	2629(4)	38.7(14)
C18	4115(3)	4923(8)	3527(4)	42.6(16)
C19	4743(4)	5898(8)	3613(6)	57.3(19)
C20	1348(3)	-1377(8)	1264(4)	44.6(15)
C21	2474(3)	-1966(7)	2332(4)	46.8(16)
C22	3101(3)	-1244(8)	2962(4)	44.6(16)
C23	4093(3)	175(9)	2971(6)	52.0(19)

Table S28. Bond lengths [Å] and angles [°] for [Y(η^5:η^1-$C_5Me_4SiMe_2NCMe_2Et$)(η^2-DME)$CH_2(CH_2)_2CH_3$] (**9a**).

		C12-C13	1.520(7)
Y-N	2.244(3)	C12-C15	1.522(7)
Y-O1	2.431(3)	C16-C17	1.511(7)
Y-C16	2.435(5)	C17-C18	1.492(7)
Y-O2	2.477(3)	C18-C19	1.506(8)
Y-C1	2.539(4)	C21-C22	1.469(8)
Y-C2	2.607(5)	N-Y-O1	88.83(12)
Y-C5	2.619(5)	N-Y-C16	103.03(17)
Y-C3	2.749(5)	O1-Y-C16	121.08(16)
Y-C4	2.760(5)	N-Y-O2	152.17(12)
Y-Si	3.1420(14)	O1-Y-O2	65.17(11)
Si-N	1.716(4)	C16-Y-O2	83.74(16)
Si-C10A	1.772(12)	N-Y-C1	68.57(14)
Si-C11B	1.779(12)	O1-Y-C1	112.73(13)
Si-C1	1.875(5)	C16-Y-C1	125.44(18)
Si-C11A	2.008(13)	O2-Y-C1	129.19(14)
Si-C10B	2.011(13)	N-Y-C2	87.41(14)
O1-C21	1.431(6)	O1-Y-C2	142.00(14)
O1-C20	1.449(6)	C16-Y-C2	96.56(18)
O2-C22	1.429(6)	O2-Y-C2	118.98(13)
O2-C23	1.430(7)	C1-Y-C2	32.43(14)
N-C12	1.491(6)	N-Y-C5	90.10(14)
C1-C5	1.437(6)	O1-Y-C5	90.39(13)
C1-C2	1.438(6)	C16-Y-C5	145.60(18)
C2-C3	1.406(6)	O2-Y-C5	99.37(13)
C2-C6	1.505(8)	C1-Y-C5	32.29(14)
C3-C4	1.412(7)	C2-Y-C5	51.84(15)
C3-C7	1.515(8)	N-Y-C3	116.82(14)
C4-C5	1.404(6)	O1-Y-C3	129.50(13)
C4-C8	1.508(8)	C16-Y-C3	95.95(17)
C5-C9	1.513(8)	O2-Y-C3	88.75(13)
C12-C14	1.517(7)	C1-Y-C3	51.86(14)
		C2-Y-C3	30.30(13)

C5-Y-C3	50.21(15)	C12-N-Y	129.2(3)
N-Y-C4	118.43(13)	Si-N-Y	104.23(18)
O1-Y-C4	100.27(14)	C5-C1-C2	105.2(4)
C16-Y-C4	121.45(17)	C5-C1-Si	125.5(4)
O2-Y-C4	78.00(12)	C2-C1-Si	122.5(4)
C1-Y-C4	51.66(14)	C5-C1-Y	76.9(3)
C2-Y-C4	50.19(15)	C2-C1-Y	76.4(3)
C5-Y-C4	30.11(13)	Si-C1-Y	89.46(18)
C3-Y-C4	29.70(14)	C3-C2-C1	109.3(4)
N-Y-Si	31.96(10)	C3-C2-C6	124.9(5)
O1-Y-Si	100.89(8)	C1-C2-C6	125.8(5)
C16-Y-Si	119.33(15)	C3-C2-Y	80.5(3)
O2-Y-Si	156.83(8)	C1-C2-Y	71.2(3)
C1-Y-Si	36.63(11)	C6-C2-Y	113.3(4)
C2-Y-Si	60.02(11)	C2-C3-C4	108.0(4)
C5-Y-Si	60.83(11)	C2-C3-C7	126.1(6)
C3-Y-Si	86.79(10)	C4-C3-C7	125.4(5)
C4-Y-Si	87.04(10)	C2-C3-Y	69.2(3)
N-Si-C10A	118.9(4)	C4-C3-Y	75.6(3)
N-Si-C11B	122.2(5)	C7-C3-Y	127.6(4)
C10A-Si-C11B	89.9(6)	C5-C4-C3	108.2(4)
N-Si-C1	97.65(18)	C5-C4-C8	126.1(6)
C10A-Si-C1	115.6(5)	C3-C4-C8	125.6(6)
C11B-Si-C1	114.0(5)	C5-C4-Y	69.4(3)
N-Si-C11A	112.7(4)	C3-C4-Y	74.7(3)
C10A-Si-C11A	102.0(7)	C8-C4-Y	125.1(4)
C11B-Si-C11A	12.4(7)	C4-C5-C1	109.3(4)
C1-Si-C11A	110.3(5)	C4-C5-C9	122.1(5)
N-Si-C10B	114.6(6)	C1-C5-C9	128.4(5)
C10A-Si-C10B	11.3(8)	C4-C5-Y	80.5(3)
C11B-Si-C10B	100.7(6)	C1-C5-Y	70.8(3)
C1-Si-C10B	107.5(5)	C9-C5-Y	119.4(4)
C11A-Si-C10B	112.9(7)	N-C12-C14	110.1(5)
N-Si-Y	43.80(12)	N-C12-C13	111.8(4)
C10A-Si-Y	132.3(4)	C14-C12-C13	108.3(5)
C11B-Si-Y	137.8(4)	N-C12-C15	108.5(4)
C1-Si-Y	53.90(14)	C14-C12-C15	107.9(5)
C11A-Si-Y	125.6(5)	C13-C12-C15	110.2(5)
C10B-Si-Y	121.5(5)	C17-C16-Y	130.1(4)
C21-O1-C20	112.3(4)	C18-C17-C16	118.1(5)
C21-O1-Y	120.4(3)	C17-C18-C19	116.2(6)
C20-O1-Y	124.6(3)	O1-C21-C22	108.5(5)
C22-O2-C23	111.6(5)	O2-C22-C21	108.3(5)
C22-O2-Y	114.5(3)		
C23-O2-Y	120.9(4)		
C12-N-Si	126.2(3)		

Table S29. Anisotropic displacement parameters ($Å^2 \times 10^3$) for [$Y(\eta^5:\eta^1\text{-}C_5Me_4SiMe_2NCMe_2Et)(\eta^2\text{-}DME)$ $CH_2(CH_2)_2CH_3$] (**9a**). The anisotropic displacement factor exponent takes the form: $-2\pi^2$ [$h^2 a^{*2} U_{11}$ +.. + 2 h k a* b* U_{12}].

Atom	U_{11}	U_{22}	U_{33}	U_{23}	U_{13}	U_{12}
Y	22.5(2)	26.9(2)	22.2(2)	1.4(3)	3.96(17)	-6(3)
Si	25.4(8)	47.5(10)	25.3(8)	7.9(7)	4.9(6)	3.7(7)
O1	29(2)	29(2)	35(2)	5.6(16)	3.9(16)	1.4(15)
O2	30(2)	42(2)	34(2)	11.1(18)	2.3(17)	-1.5(17)
N	23(2)	28(2)	26(2)	2.8(19)	5.1(18)	1.0(18)
C1	31(3)	43(4)	21(3)	1(2)	9(2)	-2(3)

C2	26(3)	41(3)	27(3)	4(3)	13(2)	2(3)
C3	29(3)	44(4)	28(3)	-2(3)	12(2)	-1(3)
C4	34(3)	40(3)	23(3)	-5(2)	3(2)	12(3)
C5	36(3)	39(3)	22(3)	-4(2)	9(2)	1(3)
C6	48(4)	47(4)	49(4)	11(3)	26(4)	0(3)
C7	33(4)	69(6)	56(5)	-2(4)	17(4)	-6(4)
C8	66(5)	54(5)	51(5)	7(4)	22(4)	24(4)
C9	58(5)	57(4)	39(4)	-15(4)	11(3)	-15(4)
C12	28(3)	32(3)	33(3)	2(2)	8(2)	6(2)
C13	31(3)	53(5)	46(4)	-5(4)	15(3)	5(3)
C14	46(4)	32(4)	43(4)	1(3)	11(3)	3(3)
C15	38(4)	44(4)	42(4)	7(3)	16(3)	3(3)
C16	32(3)	37(4)	45(4)	-7(3)	8(3)	-3(3)
C17	39(3)	38(4)	37(4)	-9(3)	10(3)	-5(3)
C18	32(3)	47(4)	47(4)	-17(4)	11(3)	-9(3)
C19	51(5)	49(5)	72(6)	-20(4)	21(4)	-12(4)
C20	35(3)	43(4)	47(4)	6(4)	1(3)	-9(3)
C21	50(4)	39(4)	43(4)	16(3)	4(3)	-7(3)
C22	41(4)	48(4)	40(4)	19(4)	6(3)	4(3)
C23	32(4)	57(5)	59(5)	10(4)	4(4)	14(3)

Table S30. Hydrogen coordinates and isotropic displacement parameters ($Å^2$) for [$Y(\eta^5:\eta^1$-$C_5Me_4SiMe_2NCMe_2Et)(\eta^2$-DME)$CH_2(CH_2)_2CH_3$] (**9a**).

Atom	x	y	z	U(eq)
H6A	0.274(3)	0.474(7)	0.041(5)	0.11(3)
H6B	0.277(2)	0.462(5)	-0.062(3)	0.047(16)
H6C	0.340(3)	0.452(6)	0.027(4)	0.07(2)
H7A	0.445(4)	0.146(9)	0.119(5)	0.14(4)
H7B	0.436(4)	0.317(9)	0.077(5)	0.13(3)
H7C	0.444(4)	0.168(8)	0.038(5)	0.11(3)
H8A	0.370(4)	-0.182(8)	0.090(5)	0.11(3)
H8B	0.416(3)	-0.114(8)	0.050(4)	0.09(3)
H8C	0.360(3)	-0.204(7)	0.001(4)	0.09(2)
H9A	0.215(3)	-0.172(6)	-0.107(4)	0.07(2)
H9B	0.166(3)	-0.118(6)	-0.062(4)	0.07(2)
H9C	0.214(2)	-0.203(5)	0.001(3)	0.050(17)
H10A	0.0610	0.0444	-0.0965	0.01(3)
H10B	0.0832	0.1041	-0.1785	0.03(4)
H10C	0.0297	0.1950	-0.1449	0.000(19)
H11A	0.0781	0.4676	-0.1155	0.09(6)
H11B	0.1387	0.4415	-0.1566	0.02(2)
H11C	0.1554	0.5091	-0.0580	0.04(3)
H10D	0.0824	-0.0144	-0.0976	0.02(2)
H10E	0.0745	0.0817	-0.1855	0.12(8)
H10F	0.0252	0.1113	-0.1270	0.01(2)
H11D	0.0693	0.4261	-0.1180	0.04(4)
H11E	0.1150	0.3756	-0.1777	0.03(2)
H11F	0.1480	0.4755	-0.0908	0.03(4)
H13A	0.007(2)	0.281(5)	-0.008(3)	0.034(15)
H13B	-0.001(2)	0.287(5)	0.087(3)	0.038(16)
H13C	0.023(2)	0.142(6)	0.059(3)	0.047(16)
H14A	0.142(2)	0.501(5)	0.144(3)	0.024(15)
H14B	0.069(2)	0.513(5)	0.141(3)	0.046(15)
H14C	0.094(2)	0.513(5)	0.051(3)	0.051(17)
H15A	0.112(2)	0.135(5)	0.204(3)	0.021(13)
H15B	0.086(2)	0.269(6)	0.237(3)	0.049(17)