

Supporting Information to the Paper

Metal (Mg, Fe, Co, Zr and Ti) complexes derived from aminosilyl substituted aminopyridinato ligand: synthesis, structures and ethylene polymerization behaviors of the group 4 complexes

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Table S1 Selected bond lengths (Å) and angles (°) for complex **3**

Mg-N2	2.090(5)	N1-C1	1.368(6)
Mg-N3	2.283(6)	N2-C1	1.361(7)
Mg-N1'	2.091(4)	N2-Si1	1.734(5)
Mg-O1	2.257(5)	N3-Si1	1.791(5)
Mg-Br1	2.522(2)		
N2-Mg-N1'	133.8(2)	Si1-N3-Mg	87.7(2)
N2-Mg-Br1	120.22(15)	Si1-N2-Mg	95.7(2)
N1'-Mg-Br1	105.61(14)	N2-Si1-N3	96.3(2)
O1-Mg-N3	164.88(18)	C1-N2-Mg	138.7(4)
N2-Mg-N3	73.68(19)	N2-C1-N1	117.3(4)
Mg-O1-Mg'	91.5(2)	C1-N1-Mg'	120.1(3)

Table S2 Selected bond lengths (Å) and angles (°) for complexes **4** and **5**

	4		5
Fe1-N2	2.025(5)	Co1-N2	1.991(3)
Fe1-N4	2.066(4)	Co1-N4	2.032(3)
Fe1-N3	2.356(5)	Co1-N3	2.313(3)
Fe1-O1	2.321(4)	Co1-O1	2.272(2)
Fe1-Cl1	2.3070(17)	Co1-Cl1	2.2911(10)
Fe2-N5	2.042(5)	Co2-N5	1.979(3)
Fe2-N1	2.076(5)	Co2-N1	2.020(2)
Fe2-N6	2.344(5)	Co2-N6	2.325(3)
Fe2-O1	2.291(4)	Co2-O1	2.295(2)
Fe2-Cl2	2.3153(18)	Co2-Cl2	2.2868(10)
N1-C1	1.368(7)	N1-C1	1.355(4)
N2-C1	1.347(7)	N2-C1	1.350(4)
N4-C10	1.370(7)	N4-C10	1.355(4)
N5-C10	1.344(7)	N5-C10	1.351(4)
N2-Si1	1.722(5)	N2-Si1	1.720(3)
N3-Si1	1.756(5)	N3-Si1	1.763(3)
N5-Si2	1.715(5)	N5-Si2	1.718(3)
N6-Si2	1.759(5)	N6-Si2	1.759(3)
N2-Fe1-N4	131.66(19)	N2-Co1-N4	133.23(11)
N2-Fe1-Cl1	122.06(15)	N2-Co1-Cl1	120.25(8)
N4-Fe1-Cl1	105.40(14)	N4-Co1-Cl1	105.81(8)
O1-Fe1-N3	168.84(16)	O1-Co1-N3	169.64(9)
N2-Fe1-N3	72.95(17)	N2-Co1-N3	74.12(10)
N5-Fe2-N6	72.72(18)	N5-Co2-N6	73.97(10)
N5-Fe2-N1	131.77(19)	N5-Co2-N1	132.93(11)
N5-Fe2-Cl2	123.29(14)	N5-Co2-Cl2	119.06(8)
N1-Fe2-Cl2	104.14(14)	N1-Co2-Cl2	107.17(8)
O1-Fe2-N6	167.97(16)	O1-Co2-N6	170.16(9)
Fe1-O1-Fe2	87.08(14)	Co1-O1-Co2	86.66(8)
N2-C1-N1	117.6(5)	N2-C1-N1	117.7(3)
N5-C10-N4	117.8(5)	N5-C10-N4	117.9(3)
N2-Si1-N3	97.7(2)	N2-Si1-N3	96.93(13)
N5-Si2-N6	97.4(2)	N5-Si2-N6	96.96(13)
Si1-N2-Fe1	96.6(2)	Si1-N2-Co1	96.68(12)
Si1-N3-Fe1	84.69(19)	Si1-N3-Co1	84.78(11)
Si2-N5-Fe2	96.3(2)	Si2-N5-Co2	97.20(12)
Si2-N6-Fe2	85.02(19)	Si2-N6-Co2	84.54(10)

Table S3 Selected bond lengths (Å) and angles (°) for complex **6**

Zr1-N2	2.147(8)	Cl4-Li1	2.40(2)
Zr1-N1	2.326(8)	Cl3-Li1	2.41(2)
Zr1-N3	2.536(9)	N2-C1	1.337(15)
Zr1-Cl1	2.460(4)	N1-C1	1.365(15)
Zr1-Cl2	2.457(4)	N2-Si1	1.694(9)
Zr1-Cl3	2.569(3)	N3-Si1	1.801(9)
Zr1-Cl4	2.570(3)		
N2-Zr1-N1	58.8(3)	C1-N2-Si1	147.2(9)
N2-Zr1-N3	64.8(3)	N2-Si1-N3	92.7(4)
Cl3-Zr1-Cl4	82.36(11)	Si1-N2-Zr1	110.0(4)
N1-Zr1-Cl3	76.7(2)	Si1-N3-Zr1	91.8(4)
N3-Zr1-Cl4	77.4(2)	C1-N1Zr1	91.4(7)
Cl2-Zr1-Cl1	178.78(14)	Cl4-Li1-Cl3	89.4(7)
N2-C1-N1	109.1(11)		

Table S4 Selected bond lengths (Å) and angles (°) for complex **7**

Ti1-N2	2.066(2)	Ti2-N4	1.855(2)
Ti1-N4	2.084(2)	Ti2-N2	1.869(2)
Ti1-N3	2.190(2)	Ti2-O2	2.103(2)
Ti1-N1	2.208(3)	Ti2-O3	2.121(2)
Ti1-O1	2.243(2)	Ti2-Cl3	2.4141(11)
Ti1-Cl1	2.3308(12)	Ti2-Cl4	2.4392(11)
Ti1-Cl2	2.3385(12)	N4-C6	1.369(4)
N2-C1	1.361(4)	N3-C6	1.347(4)
N1-C1	1.347(4)		
N2-Ti1-N4	75.36(9)	N4-Ti2-N2	85.85(10)
N2-Ti1-N1	62.25(9)	N4-Ti2-O2	90.88(10)
N4-Ti1-N3	62.22(9)	N2-Ti2-O3	90.71(10)
N1-Ti1-Cl1	90.26(8)	O2-Ti2-O3	169.69(8)
N3-Ti1-Cl2	90.50(8)	N2-Ti2-Cl3	175.60(8)
Cl1-Ti1-Cl2	169.98(3)	N4-Ti2-Cl4	175.20(8)
Ti2-N2-Ti1	99.48(11)	C1-N2-Ti1	97.05(17)
Ti2-N4-Ti1	99.30(10)	C6-N4-Ti1	96.27(17)
C1-N1-Ti1	91.16(17)	C6-N3-Ti1	92.24(16)
N1-C1-N2	109.5(2)	N3-C6-N4	108.9(2)