Supporting Information

for

Ferrous and Cobaltous Chlorides Bearing 2,8-Bis(imino)quinolines: Highly Active Catalysts for Ethylene Polymerization at High Temperature

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Figure S1. Molecular structure of **L4** with thermal ellipsoids at the 30% probability.

Hydrogen atoms have been omitted for clarity. Selected bond lengths (Å) and angles (°):

C2-N1 = 1.260(8), C12-N3 = 1.274(8), C2-N1-C20 = 122.9(6), C12-N3-C19 = 122.7(6).

Table S1. Crystal Data and Structure Refinement for **L4** and **Co1**.

	L4	Co1
Empirical formula	C ₃₇ H ₄₅ N ₃	C ₂₉ H ₂₉ Cl ₂ CoN ₃
Formula weight	531.76	549.38
Crystal color	yellow	red
Temperature (K)	293(2)	293(2)
Wavelength (Å)	0.71073	0.71073
Crystal system	Monoclinic	monoclinic
space group	P2(1)/c	c2/c
a (Å)	16.460(3)	37.761(9)
b (Å)	22.290(5)	8.1979(2)
c (Å)	9.0084(2)	20.037(9)
β (°)	93.53(3)	121.87(2)
Volume (Å ³)	3298.8(1)	5268(3)
Z	4	8
D _{calc} (Mg m ⁻³)	1.071	1.385
μ (mm ⁻¹)	0.062	0.877
F(000)	1152	2280
Crystal size (mm)	0.33×0.28×0.25	0.25×0.20×0.08
θ range (°)	1.24 - 25.01	2.39 - 25.01
Limiting indices	-19≤h≤19, -26≤k≤26, -10≤l≤10	-44≤h≤43, -9≤k≤9, -23≤l≤23
Completeness to θ (%)	99.8 (θ = 25.01)	99.8 (θ = 25.01)
Absorption correction	Empirical	Empirical
Data / restraints / parameters	5804 / 0 / 361	4622 / 0 / 316
Goodness-of-fit on F ²	1.161	1.359
Final R indices [I>2 σ (I)]	R1 = 0.1477, wR2 = 0.2786	R1 = 0.1437, wR2 = 0.2075
R indices (all data)	R1 = 0.2849, wR2 = 0.3435	R1 = 0.1908, wR2 = 0.2215
Largest diff peak and hole (e Å ⁻³)	0.253 and -0.253	0.517 and -0.895

Figure S2. ^1H NMR Spectrum of **Fe1** (600 MHz, 20°C, CD_3OD)

Figure S3. ^1H NMR Spectrum of **Fe2** (600 MHz, 20°C, CD_3OD)

Figure S4. ^1H NMR Spectrum of **Co1** (600 MHz, 20°C, CD_3OD)

Figure S5. ^1H NMR Spectrum of **Co2** (600 MHz, 20°C, CD_3OD)