Supporting Information
Dimeric iminophenoxide copper complexes in *rac*-Lactide polymerization

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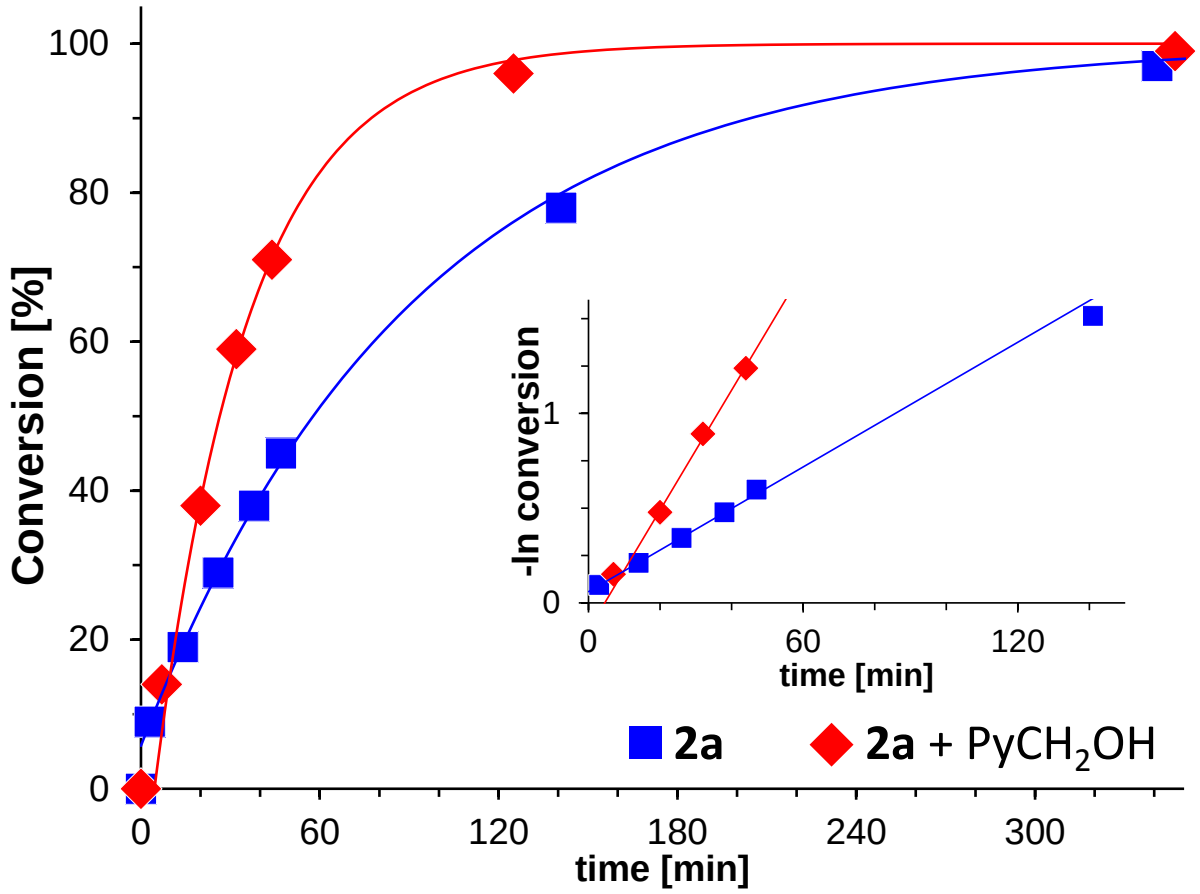

Figure S1. Kinetics of *rac*-lactide polymerization with **2a** without (blue squares) and with addition of 1 equiv pyridylmethanol (red diamonds).
Linear regression provided k_{app} = 0.69(2) h^{-1} and t_0 = –4 min (**2a**) and k_{app} = 1.9(1) h^{-1} and t_0 = 5 min (**2a**/$PyCH_2OH$). Conditions: C_6D_6, RT, [lactide] = 200 mM, $[L_2Cu_2(OR)_2]$ = 2 mM.

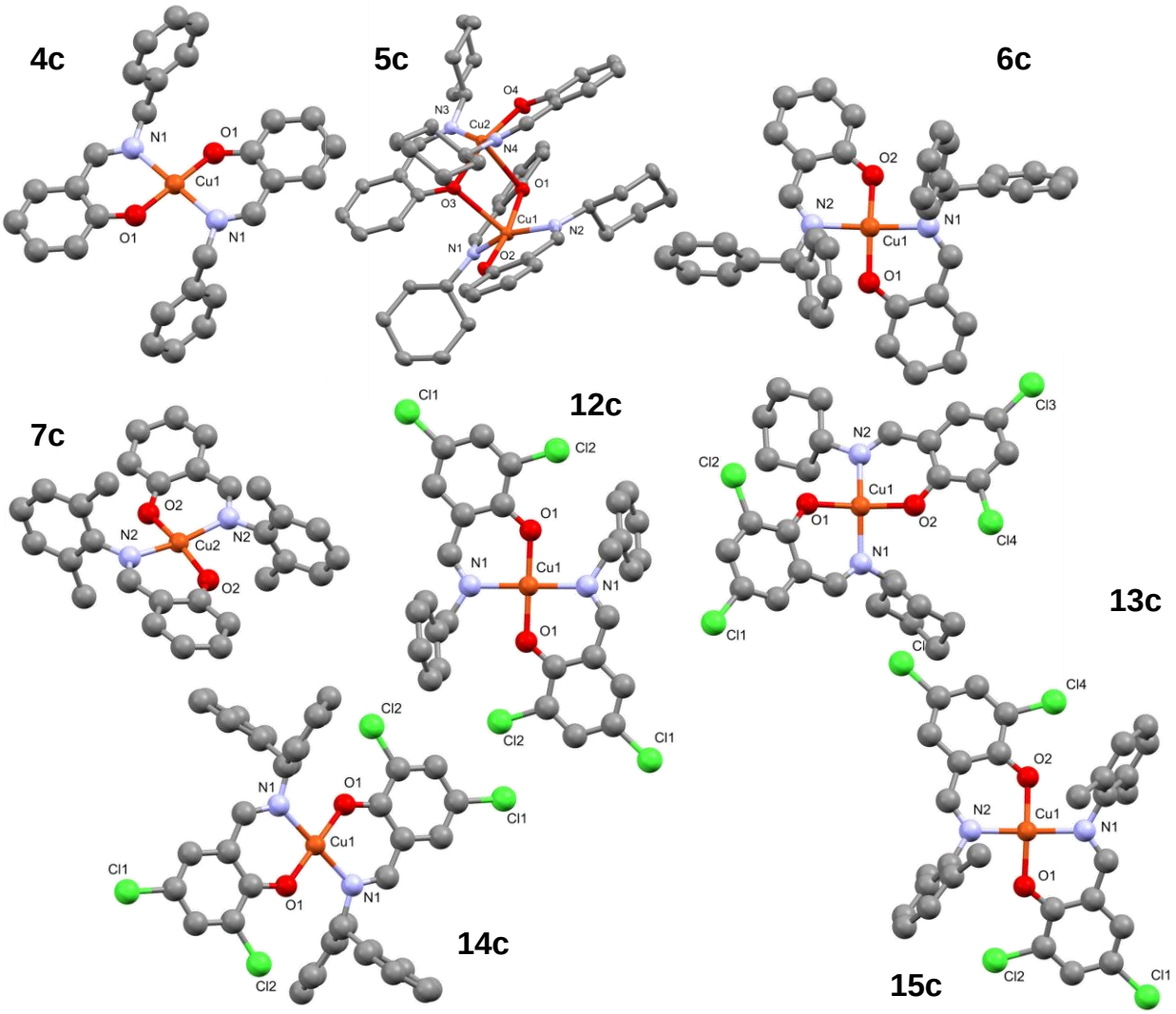

Figure S2. X-ray structures of homoleptic bis(iminoaryloxide) copper complexes **4c**-**7c** and **12c**-**15c**.

The structure of **5c** has been reported before.[1] Complex **5c**, the only dimeric complex, is also the only crystal with a green colour. All other crystals have brownish colours. For **4c**[2] and **6c**[3], the structure of a polymorph has been reported.

Table S1. Experimental details of X-ray diffraction studies of the homoleptic complexes.

	4c	**5c**	**6c**	**7c**	**12c**	**13c**	**14c**	**15c**
Formula	$C_{28}H_{24}CuN_2O_2$	$C_{26}H_{32}CuN_2O_2$	$C_{40}H_{32}CuN_2O_2$	$C_{30}H_{28}CuN_2O_2$	$C_{28}H_{20}Cl_4CuN_2O_2$	$C_{26}H_{28}Cl_4CuN_2O_2$	$C_{40}H_{28}Cl_4CuN_2O_2$	$C_{37}H_{32}Cl_4CuN_2O_2$
M_w (g/mol)	484.03	468.07	636.21	512.08	621.80	605.84	773.98	741.98
T (K); F(000)	150; 502	100; 1976	110; 1324	100; 1068	150; 630	130; 1244	150; 395	150; 762
Crystal System	Monoclinic	Monoclinic	Monoclinic	Monoclinic	Monoclinic	Monoclinic	Triclinic	Monoclinic
Space Group	$P2_1/n$	$P2_1/n$	$P2_1/n$	$P2/n$	$P2_1/c$	$P2_1/c$	$P(-1)$	$P2_1$
Unit Cell: a (Å)	10.1218(3)	21.3119(6)	17.4037(5)	14.3106(5)	10.5290(4)	14.7942(4)	8.4189(3)	11.0291(3)
b (Å)	9.0847(2)	9.3432(3)	10.2071(3)	12.1062(5)	6.0011(2)	12.6835(4)	8.9201(3)	9.5222(3)
c (Å)	12.4074(3)	23.0794(7)	18.7364(5)	14.6604(6)	20.1597(8)	14.0429(4)	12.4839(4)	16.5393(5)
α (°)	90	90	90	90	90	90	72.893(1)	90
β (°)	107.042(1)	99.239(1)	111.805(1)	96.816(2)	99.976(1)	91.930(1)	72.331(1)	96.603(1)
γ (°)	90	90	90	90	90	90	87.649(1)	90
V (Å^3)	1090.81(5)	4536.0(2)	3090.2(2)	2521.9(2)	1254.54(8)	2633.6(1)	852.56(5)	1725.46(9)
μ (mm^{-1}); Z	5.555; 2	1.549; 8	4.012; 4	4.824; 4	7.436; 2	7.067; 4	5.553; 1	5.467; 2
θ (°); completeness	3.2-60.6; 1.0	5.1-71.9; 1.0	2.2-60.8; 0.99	3.6-60.6; 1	3.7-60.7; 1.0	2.6-54.2; 0.95	3.4-60.7; 1.0	3.5-60.6; 0.77
collected reflections; R_σ	27675; 0.026	122428; 0.018	68961; 0.024	43808; 0.038	18642; 0.022	19086; 0.034	20783; 0.036	87742; 0.019
unique reflections; R_{int}	2492; 0.052	8881; 0.040	7097; 0.045	5818; 0.060	2879; 0.042	4639; 0.034	3881; 0.060	6152; 0.030
R1(F) ($I > 2\sigma(I)$)	0.080	0.035	0.047	0.051	0.032	0.047	0.044	0.025
wR(F^2) (all data)	0.253	0.100	0.134	0.130	0.086	0.123	0.124	0.066
GoF(F^2); Flack-x	1.068; -	1.034; -	1.052; -	1.054; -	1.099; -	1.040; -	1.080; -	1.13; –0.011(3)
Residual electron density	0.80; –1.54	0.42; –0.43	0.68; – 0.60	1.08; –0.52	0.26; –1.08	0.41; –0.80	0.48; –1.11	0.24; –0.56

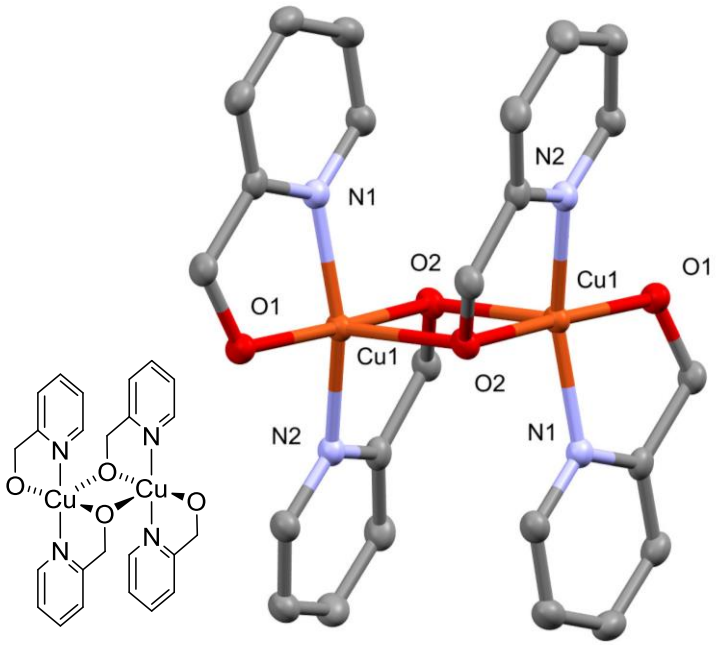

Figure S3. X-ray structure of bis(pyridylmethoxide)copper. Thermal displacements are shown at the 50% probability level. Hydrogen atoms were omitted for clarity.

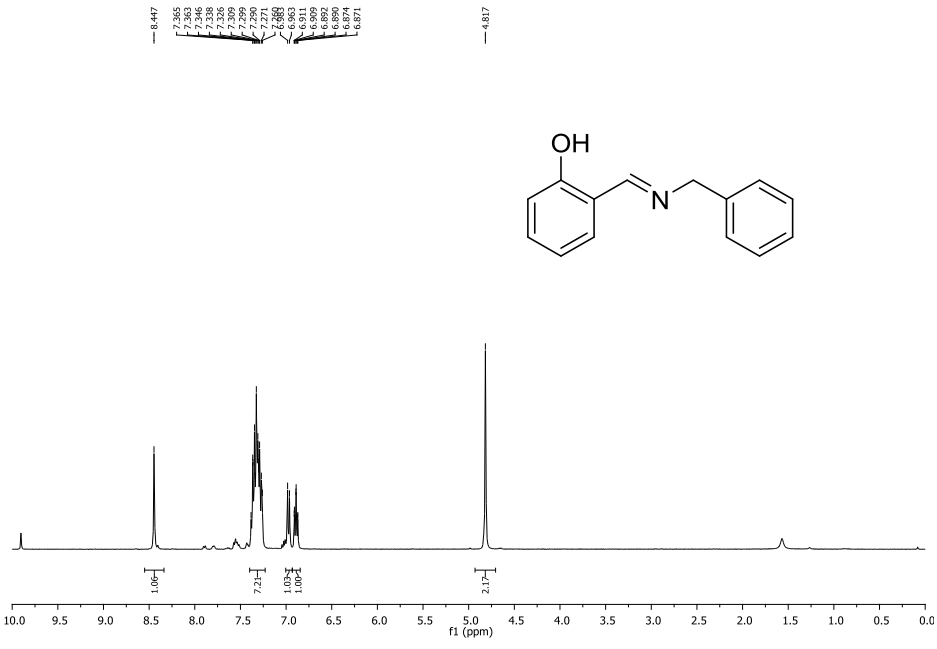

Figure S4. ^{1}H-NMR spectra of **L4**H in $CDCl_3$ (400 MHz).

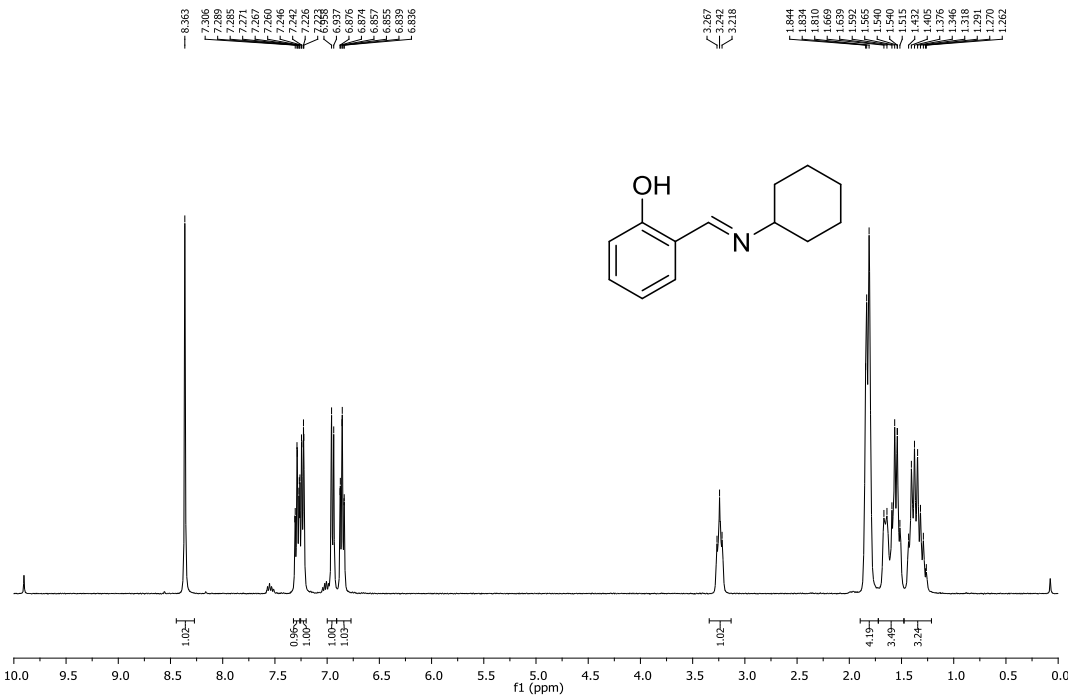

Figure S5. ^{1}H-NMR spectra of **L5**H in $CDCl_3$ (400 MHz).

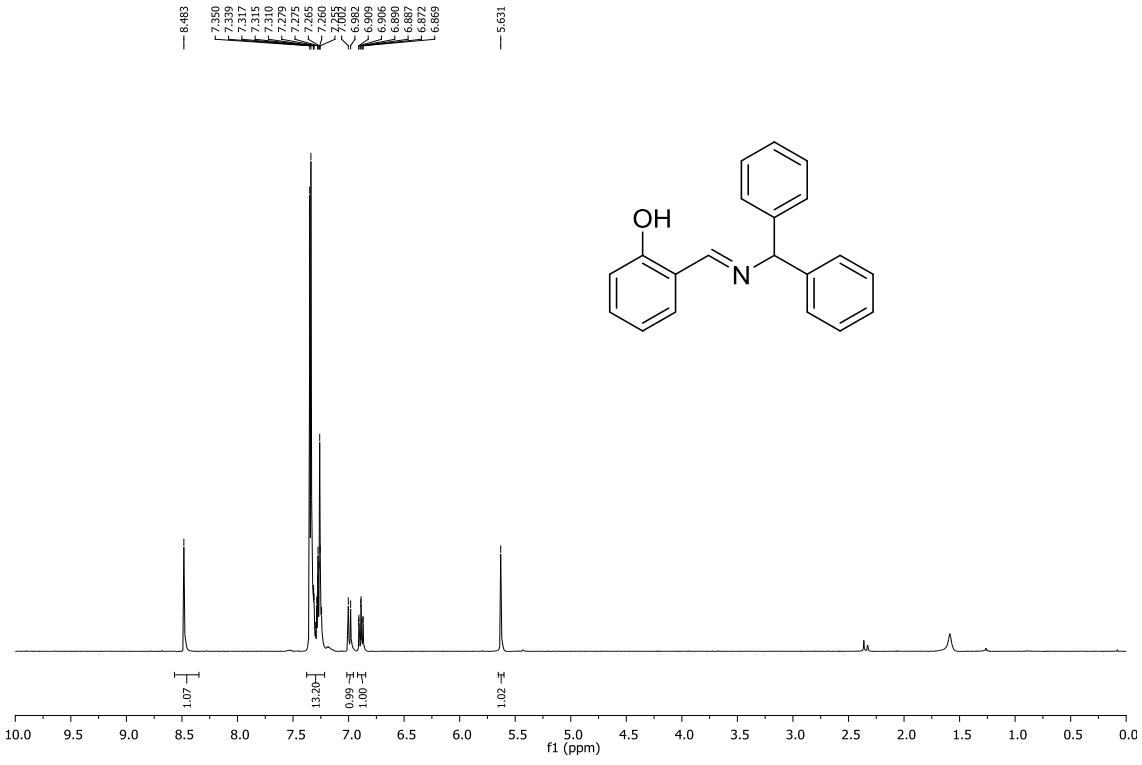

Figure S6. ^{1}H-NMR spectra of **L6**H in $CDCl_3$ (400 MHz).

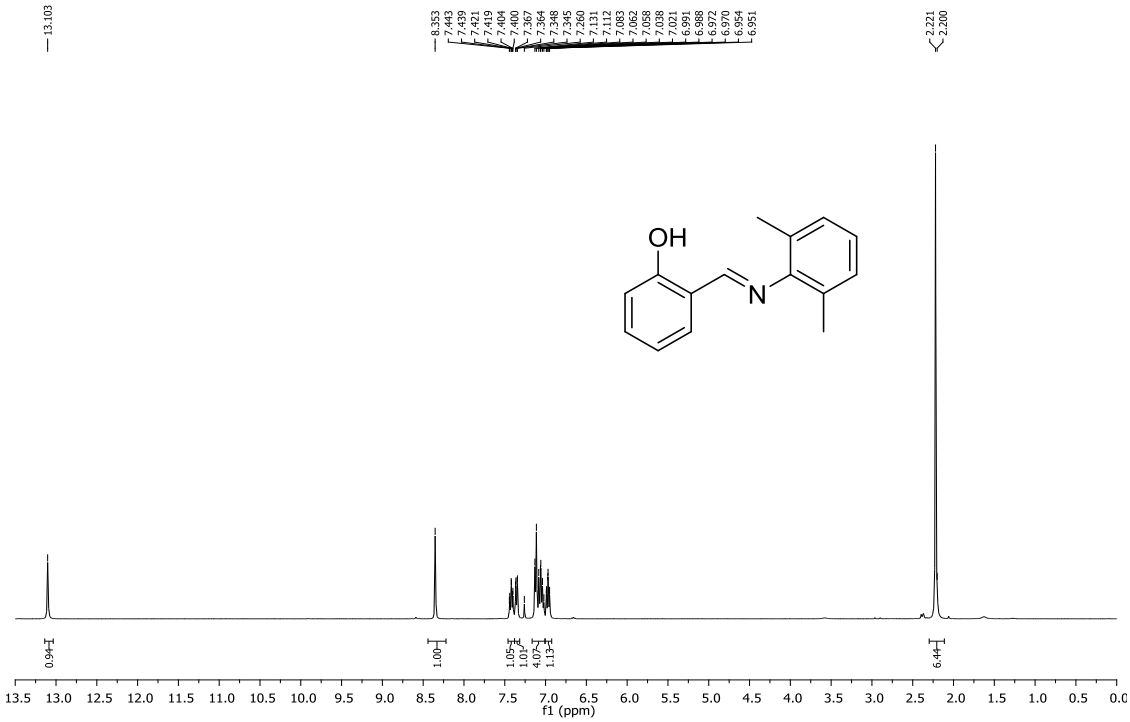

Figure S7. ^{1}H-NMR spectra of **L7**H in $CDCl_3$ (400 MHz).

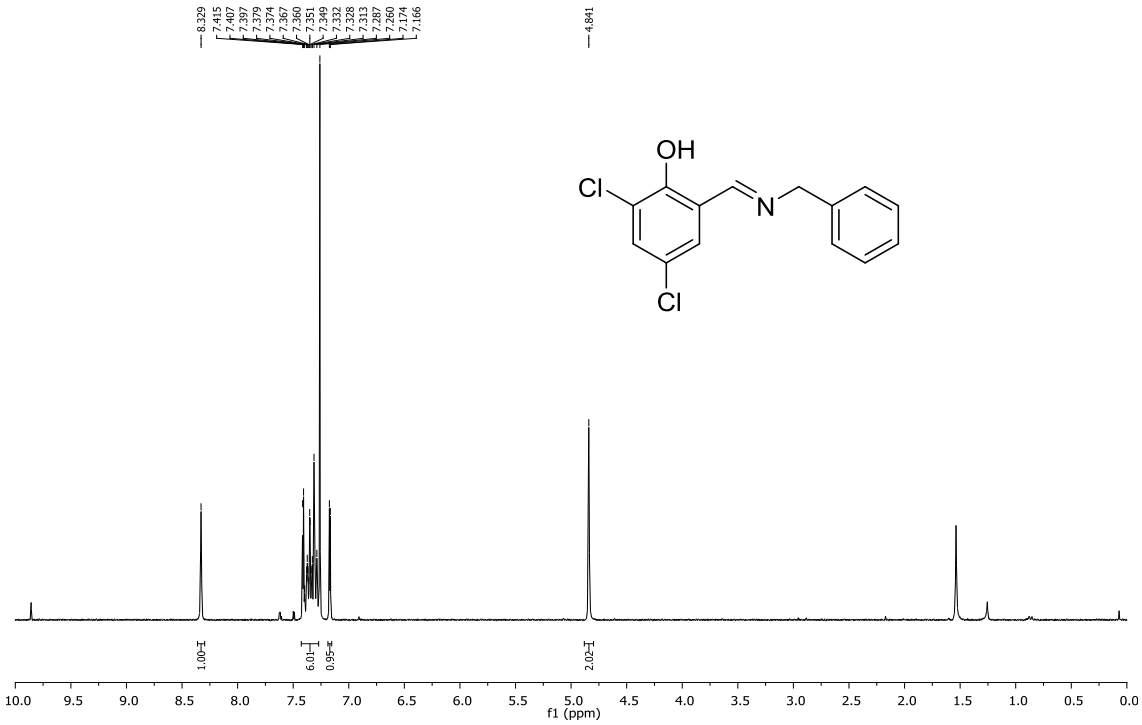

Figure S8. ^{1}H-NMR spectra of **L12**H in $CDCl_3$ (400 MHz).

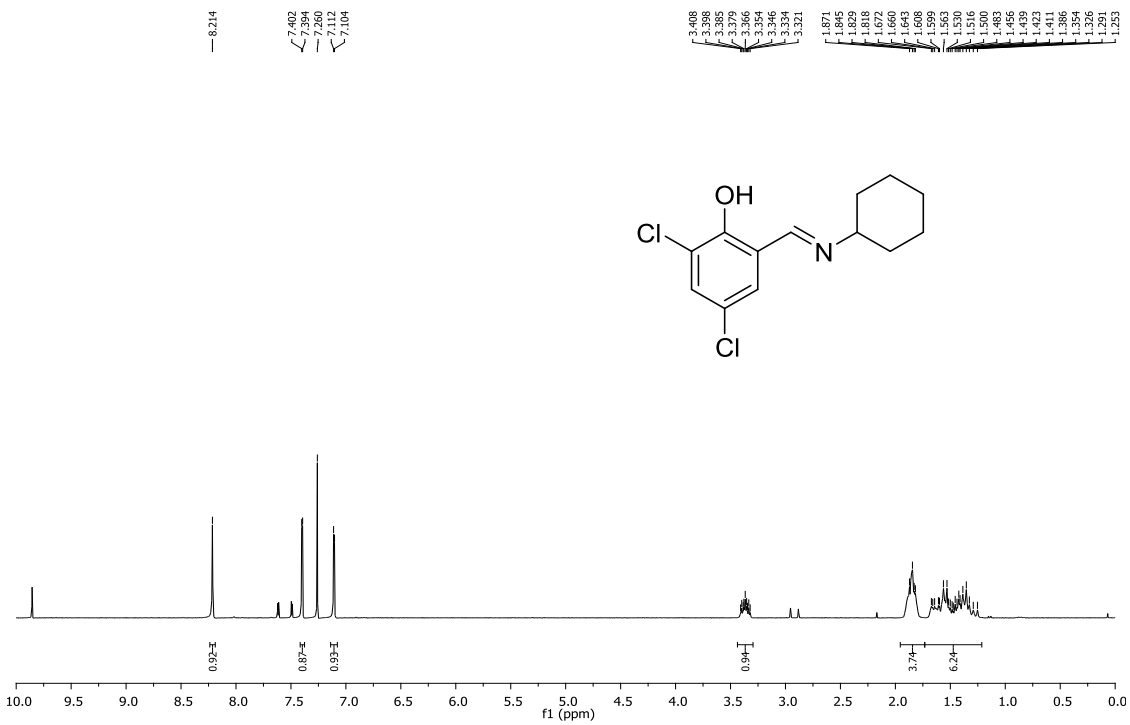

Figure S9. ^{1}H-NMR spectra of **L13**H in $CDCl_3$ (400 MHz).

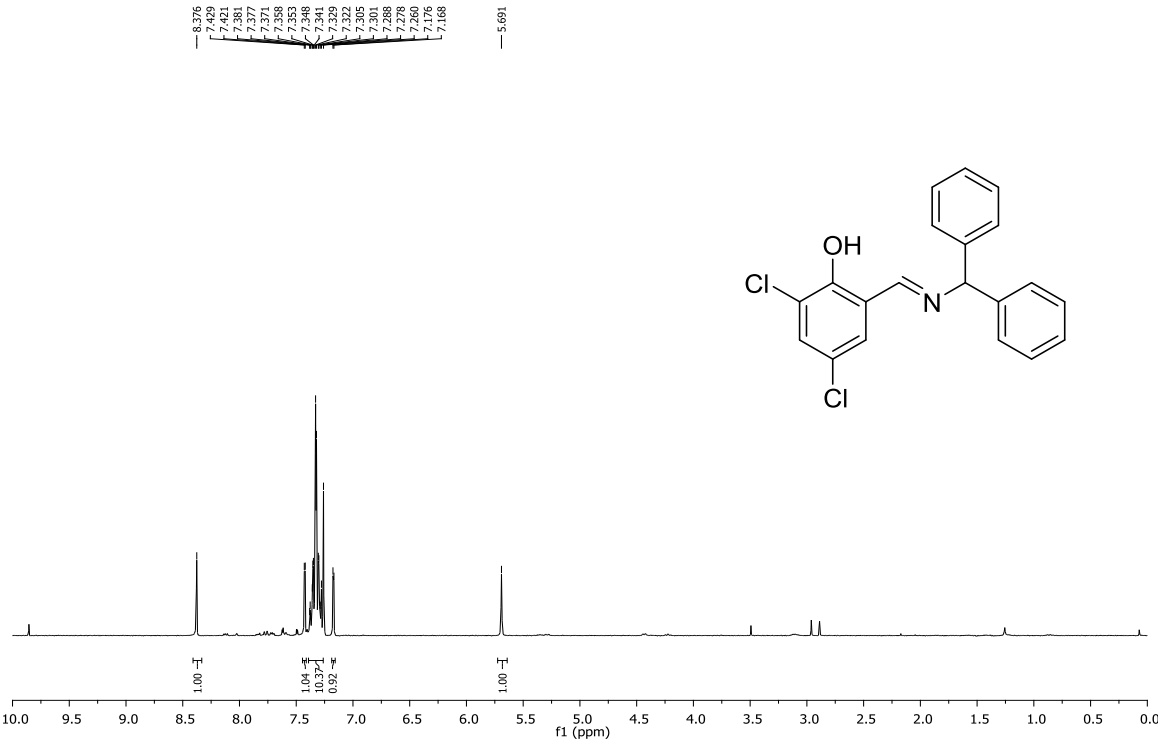

Figure S10. ^{1}H-NMR spectra of **L14**H in $CDCl_3$ (400 MHz).

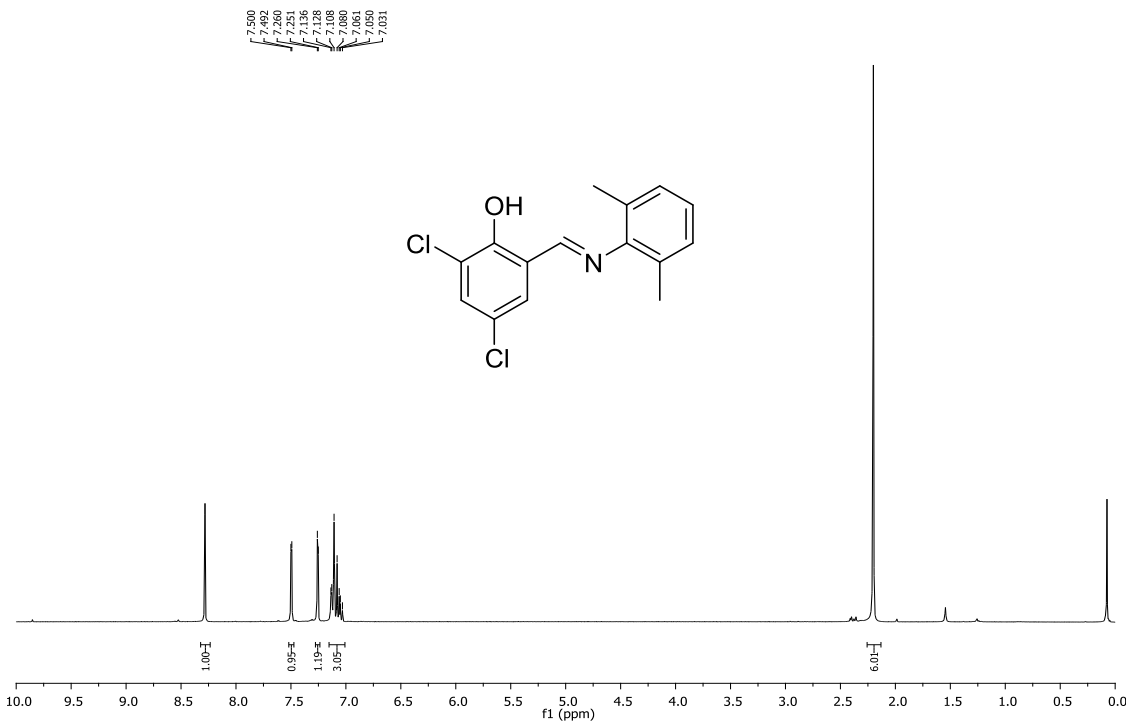

Figure S11. ^{1}H-NMR spectra of **L15**H in $CDCl_3$ (400 MHz).

1. T. Hatsue, O. Kazuhide, T. Akira and Y. Shoichiro, *Bull. Chem. Soc. Jpn.*, 1979, **52**, 3522.
2. J. M. Fernández-G, J. Xochitiotzi-Flores, S. Hernández-Ortega, V. Gómez-Vidales and M. Del Rocío Patiño-Maya, *J. Coord. Chem.*, 2010, **63**, 2132.
3. J. M. Fernández-G, O. L. Ruíz-Ramírez, R. A. Toscano, N. Macías-Ruvalcaba and M. Aguilar-Martínez, *Transition Metal Chemistry*, 2000, **25**, 511.