

## Supplemental Information

### Isolation and Characterization of Main Group and Late Transition Metal Complexes using *ortho*Metallated Imine Ligands

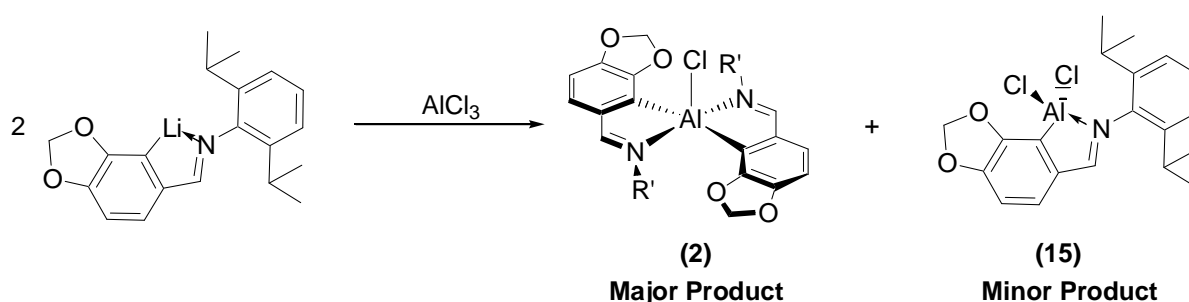
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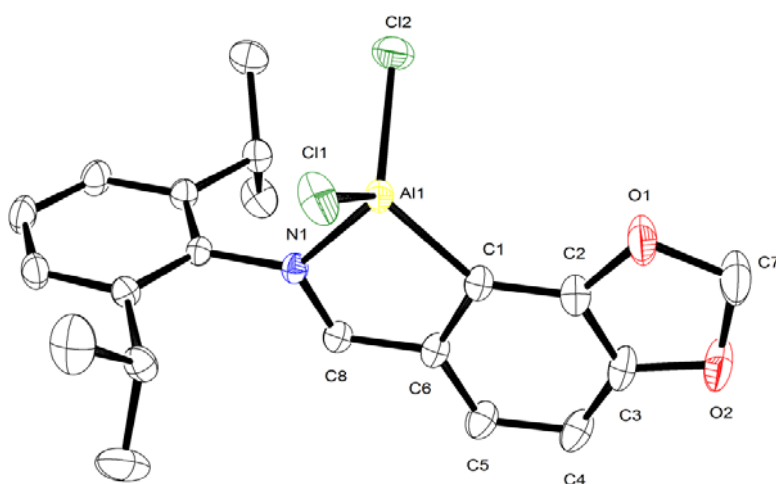
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## Discussion of compound 15

The reaction of  $\text{AlCl}_3$  (1 eq.) and  $\text{Li-L}^1$  (2 eq.) yielded compound **2** in moderate yield; however, upon crystallization from toluene a single crystal of  $\text{Al(L}^1\text{)Cl}_2$  (**15**) was isolated. All attempts to synthesize **15** as a major reaction product failed. Changing the solvent used and the ratio of  $\text{Li-L}^1$  to  $\text{AlCl}_3$  had no effect.



**Scheme S1.** The reaction of  $\text{Li-L}^1$  with  $\text{AlCl}_3$  yields **2** and a small amount of **15**, which was characterized via X-ray crystallography ( $\text{R}' = 2,6\text{-iPr}_2\text{C}_6\text{H}_3$ ).



**Figure S2.** ORTEP diagram (50% thermal ellipsoids) of  $\text{Al(L}^1\text{)Cl}_2$  (**15**). Hydrogen atoms removed for clarity.

**Table S1.** Crystallographic data for compound **15**

Compound	<b>15</b>
Formula	C <sub>20</sub> H <sub>22</sub> AlCl <sub>2</sub> NO <sub>2</sub>
Formula weight	406.27
Space group	<i>P</i> 2 <sub>1</sub> / <i>n</i>
Crystal system	Monoclinic
Temperature (K)	140
<i>a</i> (Å)	10.0807(8)
<i>b</i> (Å)	16.688(1)
<i>c</i> (Å)	12.164(1)
$\alpha$ (°)	90.00
$\beta$ (°)	98.214(2)
$\gamma$ (°)	90.00
<i>V</i> (Å <sup>3</sup> )	2025.3(3)
<i>Z</i>	4
Density <sub>calc</sub> (g/cm <sup>3</sup> )	1.332
Diffractometer	Siemens SMART
Radiation	Mo-K $\alpha$ ( $\lambda$ = 0.71073 Å)
Monochromator	Graphite
Detector	CCD detector
Scan type, width	$\omega$ , 0.3°
Scan speed (s)	25
Reflections measured	Hemisphere
2 $\theta$ range (°)	4.18-56.66
Crystal dimensions (mm)	0.10 x 0.08 x 0.06
Reflections measured	29012
Unique reflections	5049
Observations ( <i>I</i> > 2 $\sigma$ ( <i>I</i> ))	4580
<i>R</i> <sub>int</sub>	0.0358
Parameters	236
<i>R</i> <sub>obs</sub> , <i>R</i> <sub>w</sub> , <i>R</i> <sub>all</sub>	0.0352, 0.0969, 0.0387
GoF	1.047

**15:** X-ray quality crystals were grown from a saturated toluene solution at -25°C. The final cycle of full-matrix least-squares refinement was based on 4580 observed reflections and 236 variable parameters and converged yielding final residuals:  $R = 0.0352$ ,  $R_{\text{all}} = 0.0387$ , and  $\text{GOF} = 1.047$ .