

Electronic Supplementary Information for:

Catalytic bond forming reactions promoted by amidinate, guanidinate and phosphaguanidinate compounds of magnesium

R. J. Schwamm, B. M. Day, N. E. Mansfield, W. Knowelden, P. B. Hitchcock and M. P. Coles*

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Figure S1 Thermal ellipsoid plot (30% probability) of $[\text{Mg}(\text{Cy}_2\text{PC}\{\text{NCy}\}_2)\text{Br}(\text{OEt}_2)]_2$ [7]₂ (H-atoms omitted)

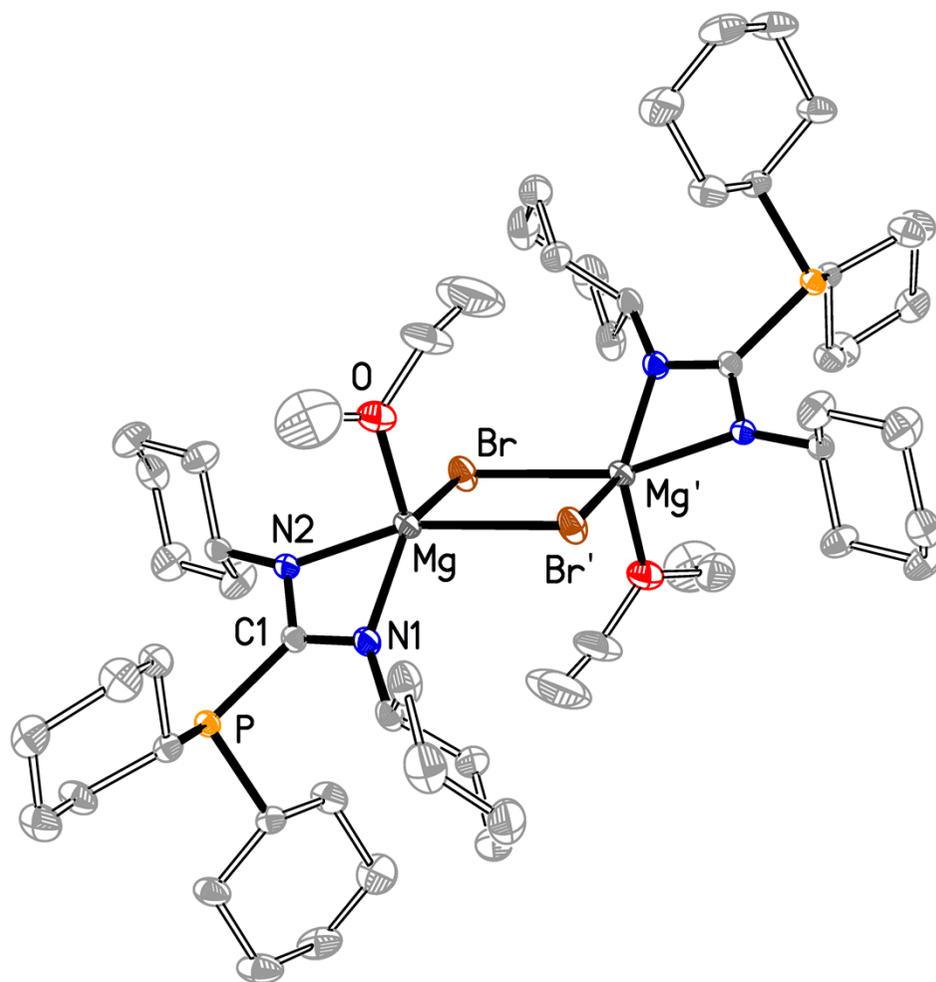


Figure S2 Thermal ellipsoid plot (30% probability) of $[\text{Mg}(\text{Cy}_2\text{PC}\{\text{N}^i\text{Pr}\}_2)\text{Cl}(\text{THF})]_2$ **[8]**₂ (H-atoms omitted)

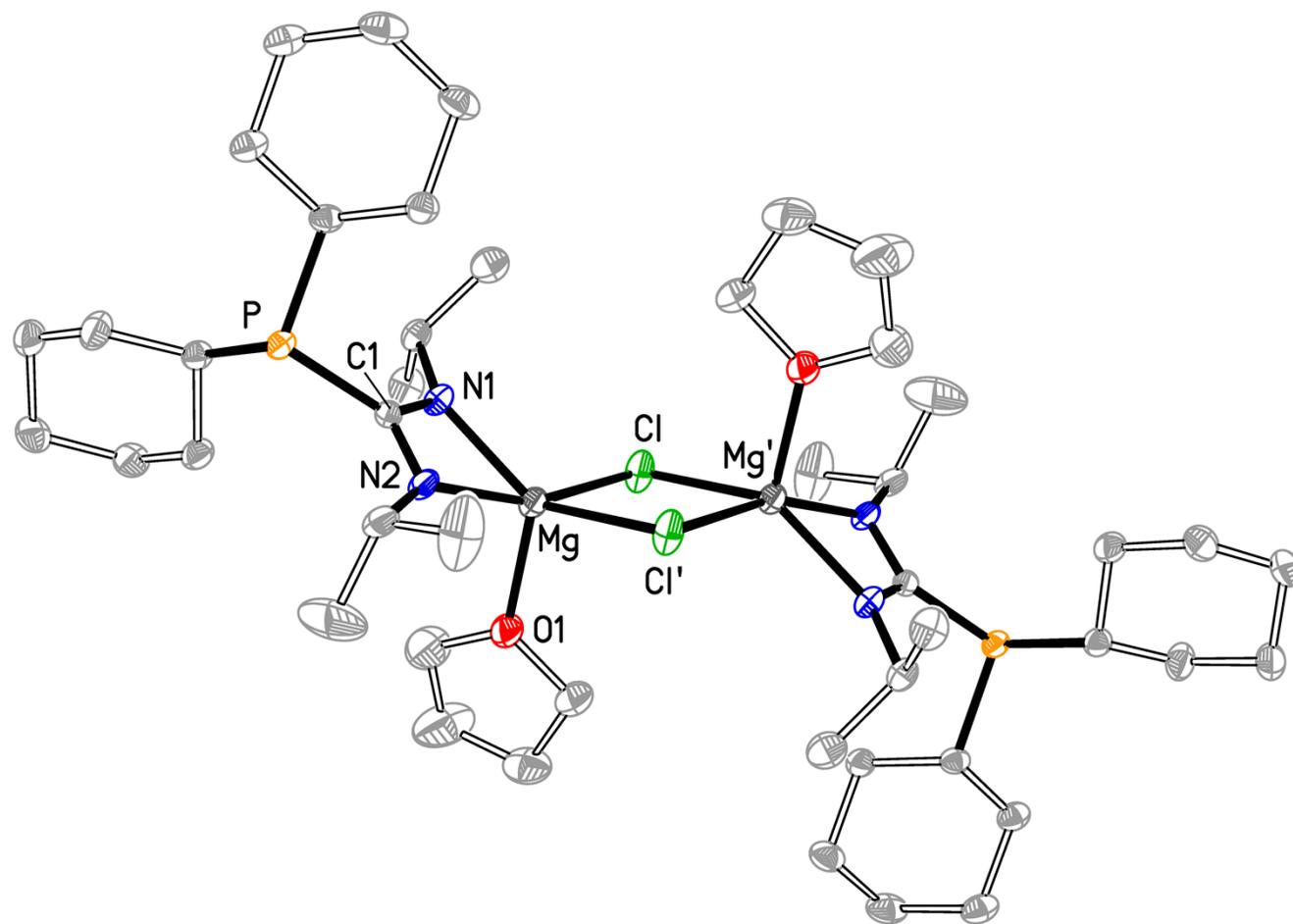


Figure S3 Thermal ellipsoid plot (30% probability) of $[\text{Mg}(\text{Ph}_2\text{PC}\{\text{NCy}\}_2)(\text{N}\{\text{SiMe}_3\}_2)(\text{THF})]$ **14** (H-atoms omitted)

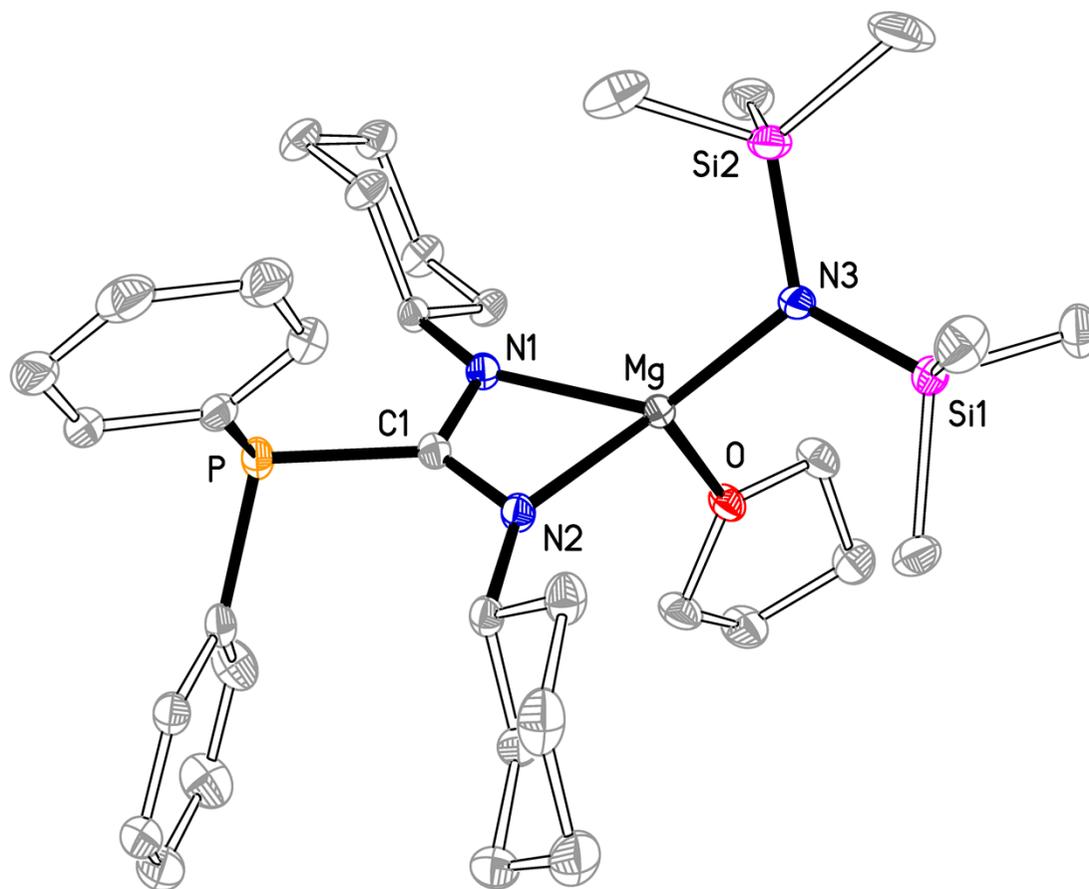


Figure S4 Thermal ellipsoid plot (30% probability) of $[\text{Mg}(p\text{-tolC}\{\text{NCy}\}_2)_2](\text{THF})_2$ (H-atoms omitted)

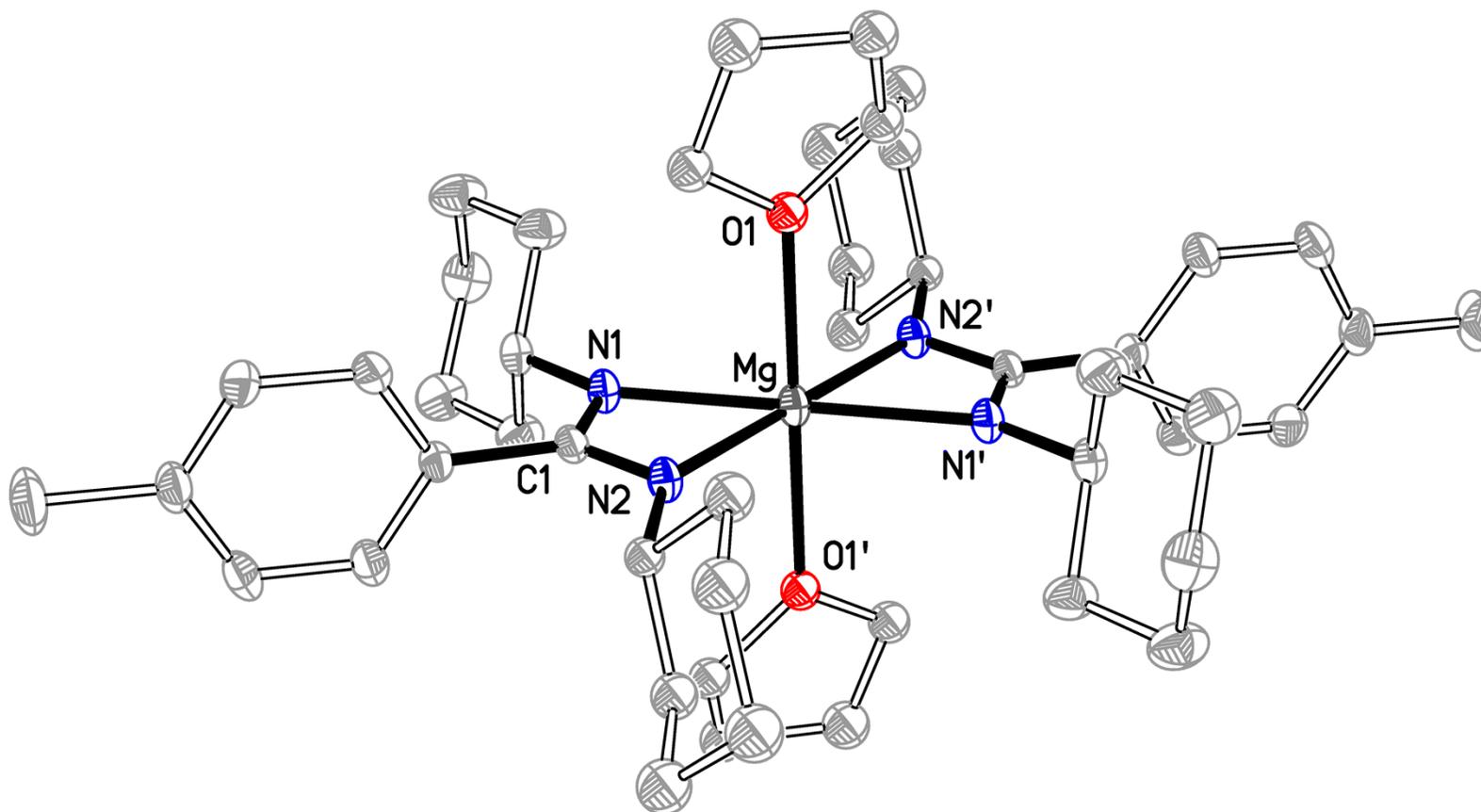


Figure S5 2nd order kinetic analysis of the NMR reaction of PhC≡CH and PhC≡CD with ⁱPrN=C=NⁱPr and **13**.

