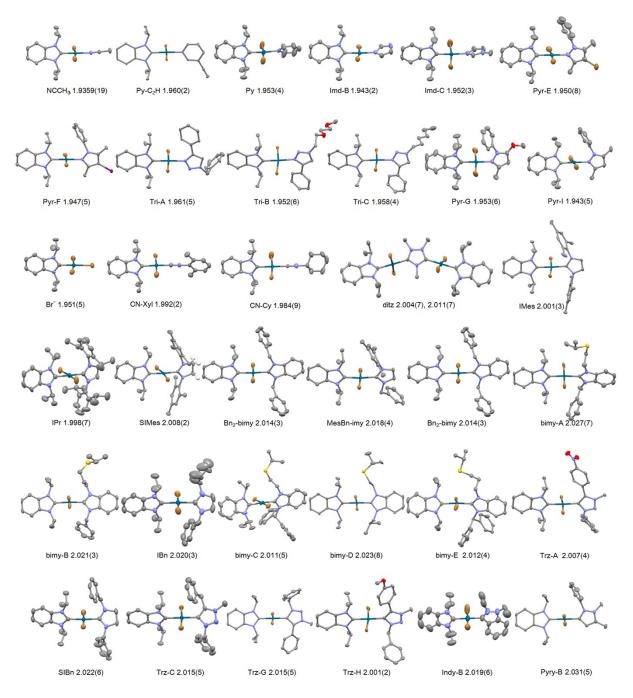
## **Electronic Supplementary Information**

## A unified ligand electronic parameter based on 13C NMR spectroscopy of N-Heterocyclic carbene complexes

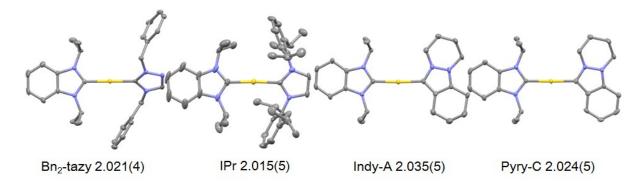
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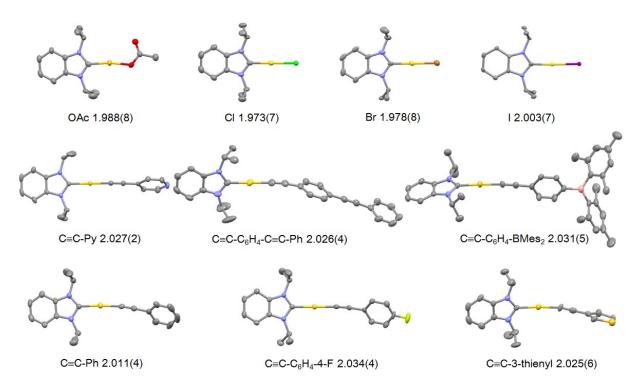
## Molecular structures of complex probes ranked in order of increasing donor strengths of the co-ligand.



**Figure S1**. Molecular structures of *trans*-[PdBr<sub>2</sub>( $^{i}$ Pr<sub>2</sub>-bimy)(NHC)] complexes and *trans*-[PdBr<sub>2</sub>( $^{i}$ Pr<sub>2</sub>-bimy)]<sub>2</sub>( $\mu$ -ditz).



**Figure S2.** Molecular structures of [Au(<sup>*i*</sup>Pr<sub>2</sub>-bimy)(NHC)]BF<sub>4</sub> complexes.



**Figure S3.** Molecular structures of [AuX(<sup>*i*</sup>Pr<sub>2</sub>-bimy)] complexes.

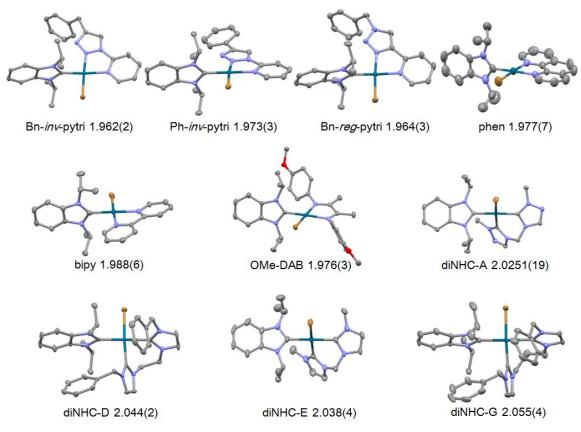


Figure S4. Molecular structures of  $[PdBr(Pr_2-bimy)(L_2)]PF_6$ .