

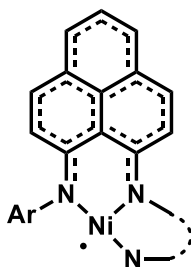
## Synthetic Studies on Nickel(I) Complexes Bearing a Phenalenyl-Based Tridentate Ligand

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Nickel(I) species have been recognized as key intermediates in a number of catalytic processes.<sup>1</sup> However, paramagnetic features and instabilities of these species hamper fundamental investigations of their properties and reactivities, as well as practical applications. Therefore, the design of new types of stable nickel(I) species is essential for their detailed investigations.

Our group recently reported a low-valent germanium complex bearing a phenalenyl-type ligand having a bulky Dip group on the nitrogen ([DipN-PLY]H),<sup>2,3</sup> which allows for high thermal stability. We envisioned that the phenalenyl scaffold could also be used to stabilize nickel(I) species. Herein, we report our efforts for the synthesis of a nickel(I) complex bearing a [DipN-PLY]-based tridentate ligand.



- (1) Selected review on Ni(I) species, see: Lin, C.-Y.; Power, P. P. *Chem. Soc. Rev.* **2017**, 46, 5347.
- (2) Kodama, T.; Uchida, K.; Nakasuji, C.; Kishi, R.; Kitagawa, Y.; Tobisu, M. *ChemRxiv* **2022**, preprint. DOI:10.26434/chemrxiv-2022-z0f7j
- (3) Selected review on phenalenyl-type ligands, see: Mukherjee, A.; Sau, S. C.; Mandal, S. K. *Acc. Chem. Res.* **2017**, 50, 1679.