

In our recent review, we have highlighted the recent progress in the developments of  $\alpha$ -diimine Ni and Pd complexes achieved in the last decade ([Coord. Chem. Rev. 2023, 474, 214844](#) (32 pp.)). Due to the unique catalytic performance, these late-transition metal complexes can compete with or outperform present-day catalysts for olefin polymerization. In addition, we have developed a series of new fluorine and hydroxyl containing unsymmetrical  $\alpha$ -diimine Ni (II) complexes for ethylene polymerization ([Eur. Polym. J. 2023, 186, 111830](#) (13 pp.)). High catalytic activity and ultrahigh molecular weight PE were observed for these catalysts in this research work. The simultaneous presence of terminal hydroxyl group in the catalysts offers the possibility for its covalent attachment to a solid supports for future heterogeneous polymerization.

