

This thesis entitled “Studies on the Ni-Catalyzed Synthesis of Tertiary Amides and Pd-Catalyzed Synthesis of α -Naphthol-Based Triarylmethanes, *Ortho*-Arylated D-(-)-Phenylglycine Methyl Esters and β -Arylated Keto Acids” deals on (a) the construction of tertiary amides via the Ni(II)-catalyzed *N*-arylation of secondary acyclic amides (2-picolinamides) with aryl halides, (b) palladium-catalyzed desulfitative Heck reaction and synthesis of α -naphthol-based triarylmethanes, (c) palladium-catalyzed *ortho*-arylation of D-(-)-2-phenylglycine methyl ester using bidentate picolinamide directing group and (d) palladium-catalyzed bidentate ligand directed β -C(sp³)-H functionalization on ϵ -, ζ -, η -keto acids.