The sigma receptor has been biologically found to play roles in central nervous system (CNS) disorders and cancer cell proliferation. Lead sigma receptor binding ligands have been identified. Tc-99m is routinely used in nuclear medicine and new sigma receptor imaging agents were designed to include Tc-99m. Since Tc-99m cannot be handled under normal laboratory conditions, rhenium was used. Rhenium complexes has been found to be excellent models of their Tc-99m counterparts and hence provide a good model for the target Tc-99m imaging agents. The current study successfully synthesized the rhenium complexes toward the goal of developing new imaging agents for the sigma receptor.