Dendrimers have attracted attention because of their well-defined structure. Dendrimers are globular, hyperbranched polymers which possess a high concentration of surface functional groups and internal cavities. They provide a general approach and template for preparing metallic (Cu, Au, Pt, Ag, and Pd), bimetallic (PdAu, PdPt, PaAu, AuAg and PaRh), and semiconducting (CdS) nanoparticles. Performing a post-synthesis coating of the dendrimer-encapsulated nanoparticles with silica can give these metal nanoparticles many new properties. Magnetic metal nanoparticles have potentially significant applications in high-density magnetic recording media, magnetic refrigeration system, ferrofluids, and biomedicine. Coating magnetic nanoparticles with silica can enhance their stability against oxidation by air and agglomeration by magnetic attraction. Moreover, interparticle interaction can be controlled by the thickness of the shell. We used dendrimer synthesized CoPt nanoparticles and coat with silica shells to increase the stability and control interparticle interactions. Our results show that the thickness of silica shell and dispersion of CoPt nanoparticles influence the coercivity significantly. PAMAM can be utilized as both a host for Au nanoparticles synthesis and an active agent for silica condensation.