Title

Metal-Modified Nucleic Acids: From Silver(I)-Mediated Base Pairs to Phosphorescent Platinum(II)-Bearing DNA

Abstract

Metal-mediated base pairs are conjugates of nucleic acids and metal complexes. They are formed by formally replacing hydrogen bonds within a base pair by coordinate bonds. As a result, metal ions are introduced into the nucleic acid helix along its helical axis. The ability to decorate nucleic acids site-specifically with transition metal ions allows interesting applications in nucleic acid nanotechnology, in sensors, and in responsive nucleic acid systems. This lecture will exemplify the design and characterization of metal-mediated base pairs, ranging from silver(I)-mediated base pairs to the first example of a phosphorescent platinum(II)-containing DNA oligonucleotide.