

Solution and solid-state NMR studies of some cadmium-selenone complexes. Wazeer, Mohammed I. M.; Isab, Anvarhusein A. Department of Chemistry, King Fahd University of Petroleum and Minerals, Dhahran, Saudi Arabia. *Spectrochimica Acta, Part A: Molecular and Biomolecular Spectroscopy* (2005), 62A(4-5), 880-885. Publisher: Elsevier B.V

Abstract

Cadmium(II) complexes of imidazolidine-2-selenone (ImSe) and its derivs., $Cd(1-RImSe)_2Cl_2$ (R = Me, Et, Pr, i-Pr), and $Cd(Diaz)Cl_2$ (Diaz = 1,3-diazinane selenone) were prepd. These complexes were characterized by elemental anal., IR and NMR (1H , ^{13}C , ^{77}Se and ^{113}Cd) spectroscopy. An upfield shift in C:Se resonance of selenones in ^{13}C and ^{77}Se NMR and high-frequency shifts in N-H resonances in 1H are consistent with the selenium coordination to Cd(II). The ^{77}Se nucleus in $Cd(ImSe)_2Cl_2$ is shielded by 38 ppm on coordination, relative to the free ligand. The principal components of the ^{77}Se , ^{113}Cd and ^{13}C shielding tensors for the complexes were detd. from solid-state NMR data. Large selenium chem. shift anisotropies were obsd. for these complexes.