

Abstract

In the current research four gold(I) (NHC) carbene complexes of the formulae [Au(Ipr)(Imt)]PF₆ (1), [Au(Ipr)(MeImt)]PF₆ (2), [Au(Ipr)(N,Ndi-MeImt)]PF₆ (3), [Au(Ipr)(EtImt)]PF₆ (4) were synthesized. The gold(I) complexes were characterized by elemental analysis, NMR, FTIR-Spectroscopy and single crystal X-ray diffraction method. The gold(I) complexes showed linear geometry. The NMR (¹H, ¹³C), FTIR measurements are consistent with single crystal X-ray structures. All gold(I) complexes exhibited good anticancer activity against three human cancer cell lines such as breast cancer cell line (MCF-7), lung carcinoma (A549), colon adenocarcinoma (HCT15).