Dithiocarbazates and their metal complexes have been the subject of many studies because they have a wide range of pharmaceutical applications and great chemical and structural versatility. These Schiff bases present varied structures coordination sites and allow the formation of complexes with several transition metals [1,2]. The present study describe the synthesis and crystal structures of the two new nickel(II) complexes with 2-hydroxyacetophenone-S-benzyldithiocarbazate (H₂L¹) ligand and additionally pyridine or triphenylphosphine to form respectively, [NiL¹Py] (1) and [NiL¹PPh₃] (2). The compounds were characterized also by elemental analysis and spectral measurements (IR, UV-Vis, ¹H NMR and ¹³C NMR) and the results are agreeing with similar works reported in the literature [3,4].

In both complexes the metal center shows planar square geometry connected to the ONS donor-atoms of the dithiocarbazate and additionally the phosphorus of the PPh₃ for the complex 1 and the nitrogen of the Py for the complex 2. The ligand adopts an E configuration and tautomeric and thiol form. Interestingly, π-π stacking interaction between the rings of triphenylphosphine are observed to the complex 1.

Acknowledgements: FAPDF, Capes and UnB.