Qualitative and quantitative methods of determination of the cobalt (II) ion, and by this way the vitamin B_{12} , using a chloroformed solution of crowned ethers, were elaborated. In this paper, the authors report the results of the main steps of the process: vitamin B_{12} quantification with the absorption spectra, influence of reactives, pH and effect of bivalent and trivalent metal ions. The sensibility and selectivity and the low limit of detection were founded