The dissociation of the limiting complex of Pu(IV) was investigated by spectrophotometry in carbonate and bicarbonate media. The initial Na₂CO₃ solution (of 0.1 to 1.5 M) was transformed into a NaHCO₃ one by bubbling CO₂. The presence of an isobestic point is a strong indication that only two major species are in equilibrium in the solution under study: the quantitative interpretation indicates that only one CO₃²⁻ is exchanged between these two complexes, that no OH⁻ is exchanged over 3 pH units, and that there is no evidence of polymerisation. It is assumed for the interpretation, that the limiting complex is Pu(CO₃)₅⁶⁻. The new species formed is then Pu(CO₃)₄⁴⁻. This point is discussed and compared with published work on Pu(IV) solubility and spectrophotometry. The influence of the ionic strength is modelled by the S.I.T., then \( \log K_6^{\infty} = -1.36 \pm 0.09 \) is deduced. The results are compared with the values published for chemical analogues U, Np, Pu and Am(IV).