

Abstract

The use of metal isotopes for the study of tissues in the field of nuclear medicine is currently being developed. Metal isotopes are accumulated non-specifically in the body. Therefore, it is necessary for diagnosis and therapy to use suitable ligands, which form a thermodynamically stable and kinetically inert complex with the given metal ion, which can be attached to a suitable targeting group. Isotopes of gallium and copper are suitable for imaging and therapy. The cavity of the 1,4,7-triazacyclononane is suitable for the complexation of gallium, copper and some other metals with a small radius. However, the macrocycle itself does not form thermodynamically stable complexes, so the nitrogen atoms must be substituted by proper pendant arms, such as carboxylates. In recent years organic residues of phosphoric acids are also used. This work deals with substances that are derivatives of 1,4,7-triazacyclononane and contain phosphorus arms, which were studied in recent years.

Keywords

complexes, ligands, dissociation constants, stability constants