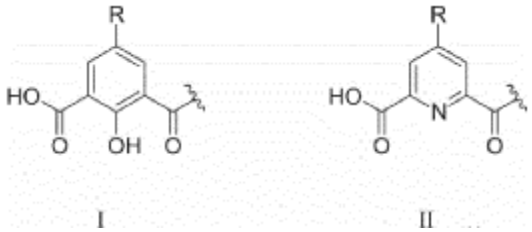
Summary

According to one aspect, there is provided a luminescent lanthanide nanoparticle, having at the same time an improved brightness and an increased lifetime of the excited-state, comprising a lanthanide ion nanoparticle including terbium, and several molecules of chromophore ligand that are bonded to the surface of the lanthanide ion nanoparticle, characterized in that:

- said lanthanide ion nanoparticle comprises terbium ions and ions of at least a second lanthanide selected from the group consisting of: cerium, praseodymium, neodymium, samarium, europium, dysprosium, holmium, erbium, thulium and ytterbium;

- said ligand is an organic molecule comprising at least one chromophore radical of formula I or of formula II:



wherein R is selected from H, CN group or COOH group.