Introduction of axial chirality at a spiro carbon atom in the synthesis of pentaerythritol-imine macrocycles - DTU Orbit (27/12/2018)

Novel chiral macrocyclic polyimines with spiro carbon atoms are described. The key feature of the synthesis is the formation of an axially chiral quaternary carbon atom having four constitutionally identical substituents. This is possible either by the freezing of the labile conformation of a spiro-diboronate moiety or by the diastereomeric fitting of a conformationally stable spiro-acetal moiety into a chiral framework. A general model for the description of this type of axial chirality is proposed.