

Abstract

The present invention relates to a method for preparing a high viscosity index poly- α -olefin, comprising: α -olefin is subject to a polymerization reaction in the presence of a metallocene catalyst to obtain a poly- α -olefin. The polymerization reaction is carried out in the absence of a solvent, and the metallocene catalyst is formed of, or is formed by interaction between, a metallocene compound and an activator. The metallocene compound has a structure as represented by formula (I). By the method provided by the present invention, the use of a solvent can be avoided, and a high viscosity index poly- α -olefin with can also be obtained.