

Poly (hydroxamic acid) resins and their applications

ABSTRACT

Functional residues of hydroxamic acid render the organic molecule amenable to the formation of chelates with a wide range of metals especially those classed as transition, lanthanide and actinides. This is not the case for the alkali and alkaline earth metals, however. A large number of hydroxamic acids have been synthesized and characterized to date, driven in part by the promise presented towards the development of novel anti-fungal and anti-cancer chemotherapeutic agents. Poly (hydroxamic acid) (PHA) possesses the same coordination functionality as the monomeric form and from review of the literature no other review article to date has reported on PHA and its potential applications. This text aims to review poly (hydroxamic acid), overview its chemical nature and properties and outline its potential applications. This study will review the synthesis of PHA from various sources and present the current understanding and applications of this molecular class of compounds in terms of catalytic properties, and sorption and extraction of rare earth metals and uranium.