

1. Record Nr.	UNINA9910367736203321
Autore	Blanco Ignazio
Titolo	POSS-Based Polymers
Pubbl/distr/stampa	MDPI - Multidisciplinary Digital Publishing Institute, 2019
ISBN	3-03921-995-2
Descrizione fisica	1 electronic resource (310 p.)
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Sommario/riassunto	<p>The combination of functional polymers with inorganic nanostructured compounds has become a major area of research and technological development owing to the remarkable properties and multifunctionalities deriving from their nano and hybrid structures. In this context, polyhedral oligomeric silsesquioxanes (POSSs) have increasing importance and a dominant position with respect to the reinforcement of polymeric materials. Although POSSs were first described in 1946 by Scott, these materials, however, have not immediately been successful if we consider that, starting from 1946 and up to 1995, we find in the literature 85 manuscripts regarding POSSs; which means that less than two papers per year were published over 50 years. Since 1995, we observe an exponential growth of scientific manuscripts concerning POSSs. It is changing from an annual average of 20 manuscripts for the period 1995–2000 to an annual average of about 400 manuscripts, with an increase of 2800%. The introduction of POSSs inorganic nanostructures into polymers gives rise to polymer nanostructured materials (PNMs) with interesting mechanical and physical properties, thus representing a radical alternative to the traditional filled polymers or polymer compositions.</p>