

### **Polymer nanocomposites based on synthesized lamellar nanoparticles**

The invention relates to polymer nanocomposites comprising lamellar mesostructured nanoparticles dispersed in a polymer matrix. The lamellar mesostructured nanoparticles are synthetically made in a one-step operation by supramolecular assembly of a surfactant and an inorganic precursor and are exfoliated inside the polymer matrix.

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