

Abstract Submitted  
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**Thermal  
and Rheological Properties of Polypropylene/Organoclay/Poly(ethylene-co-octene) Nanocomposites**<sup>1</sup> TONGCHEN SUN, XIA DONG, KAI DU, KUN MENG, CHARLES C. HAN, Institute of Chemistry, Chinese Academy of Sciences, KE WANG, QIANG FU, Sichuan University, Chengdu, China — Poly(ethylene-co-octene) (PEOc) is added to polypropylene/organoclay(organic modified montmorillonite-OMMT) nanocomposites which are prepared by a co-rotating twin-screw extruder to improve the properties of these materials. These ternary materials are investigated in details with the combination of XRD, TGA and rheology measurements. The onset and 5% loss temperatures have increased with clay content increasing and reached to a plateau when clay composition is 2% or higher. The degradation temperatures of the ternary nanocomposites are higher than binary nanocomposites. Storage modulus of these two systems show a pseudo-solid like behavior in low frequency region when clay content is 2% or higher. But ternary nanocomposite is more stable and relaxation slower than binary composites. All results indicated that PEOc plays an important role for thermal stability and structure stability of these nanocomposites.

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Charles C. Han  
Institute of Chemistry, Chinese Academy of Sciences

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