[5] US Patent No. 7,622,529 relates to olefin interpolymers as compatiblizers, which are prepared by polymerizing one or more monomers or mixtures of monomers, such as ethylene and one or more comonomers, to form an interpolymer product having unique physical properties. The olefin interpolymers contain two or more differing regions or segments (blocks), resulting in unique processing and physical properties.

[6] WO/2011/041696 relates to block composites and their use as impact modifiers; WO/2011/041698 relates to block composites in soft compounds; and WO/2011/041699 relates to block composites in thermoplastic vulcanisates.

SUMMARY

[7] In a first aspect, ~~The~~ the ~~invention~~ disclosure provides a composition comprising a functionalized olefin-based polymer formed from at least (A) and (B):

(A) a block composite comprising:
  i) a block copolymer comprising a crystalline propylene-based ~~crystalline~~ block and an ethylene/α-olefin block;
  ii) a crystalline propylene-based ~~crystalline~~ polymer; and,
  iii) an ethylene/α-olefin polymer; and
(B) at least one functionalization agent.

In a second aspect, ~~The~~ the ~~invention~~ disclosure also provides a composition comprising a functionalized olefin-based polymer formed from at least (A) and (B):

(A) a crystalline block composite comprising:
  i) a block copolymer comprising a crystalline propylene-based block and an crystalline ethylene-based block;
  ii) a crystalline propylene-based polymer; and,
  iii) an crystalline ethylene-based polymer; and
(B) at least one functionalization agent.

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 shows the DSC profile for CBC2.

Figure 2 shows the TREF analysis of CBC2

Figure 3 shows HTLC analysis of CBC2.

Figure 4 shows the IR spectrum for MAH-g-CBC2-4.

Figure 5 shows the DSC profile for MAH-g-CBC2-4.

Figure 6 shows HTLC analysis of MAH-g-CBC2-4.

Figure 7 shows TEM for CBC5, MAH-g-CBC2 (Ex. 5) and MAH-g-(EP1/iPP1 50/50 Blend) (Ex. C).