Claims:

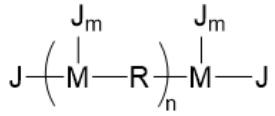
1. A process for preparing an olefin-acrylate block copolymer, the process comprising:

a) combining starting materials comprising an organometallic compound, an acrylate monomer, and a metal salt component,

thereby forming a product comprising the olefin-acrylate block copolymer, wherein:

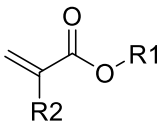
the metal salt component comprises a metal salt, a metal salt complex, or combinations thereof;

the organometallic compound has the formula (I):



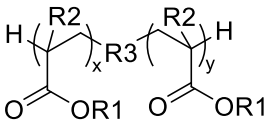
(I);

the acrylate monomer has the formula (II):



(II);

the olefin-acrylate block copolymer has the formula (III):



n is greater than or equal to 0;

each M independently is aluminum or zinc;

if an M is zinc, then the subscript m of the attached J is equal to 0;

if an M is aluminum, then the subscript m of the attached J is equal to 1;

each R and J independently is a C1-C26 hydrocarbyl group or a polymeryl group, wherein each R and J may be the same or different;

each R1 independently is a C1-C30 hydrocarbyl group;

each R2 independently is hydrogen or a methyl group;

R3 is J when n is equal to 0, and R3 is R when n is greater than 0;

x is equal to 0 or a number from 2 to 500;

x is equal to 0 when n is equal to 0; and

y is a number from 2 to 500.

2. The process of claim 1, wherein the starting materials of step a) further comprise a solvent.

3. The process of claim 1, wherein the metal salt or metal salt complex is a copper salt or copper salt complex.

4. The process of claim 1, wherein the metal salt or metal salt complex is a copper salt or copper salt complex selected from the group consisting of: CuBr; CuCN·2LiCl; $(CuI)_4 \cdot 3[(CH_3)_2S]$; $CuBr_2$; $CuBr \cdot CH_3SCH_3$; CuCl; $CuCl_2$; CuTC (copper thiophene-2-carboxylate); Cu(OAc); CuSPh; $[C_6H_{11}(CH_2)_3CO_2]_2Cu$; CuF_2; $C_{12}H_{22}CuO_{14}$; Cu(OH)2; CuI; $Cu(NO_3)_2$; CuSCN; and combinations thereof.

5. The process of claim 1, wherein each R independently is a C1-C26 hydrocarbyl group.

6. The process of claim 1, where each R independently is a polymeryl group that has a number average molecular weight of greater than 365 g/mol.

7. The process of claim 1, wherein each J independently is a C1-C26 hydrocarbyl group.

8. The process of claim 1, wherein each J independently is a polymeryl group that has a number average molecular weight of greater than 365 g/mol.

9. The process of claim 6, wherein the polymeryl group is an ethylene-based polymeryl group.

10. The process of claim 1, wherein each M is zinc, each m is equal to 0, n is equal to 0, x is equal to 0, and each J independently is a C1-C26 hydrocarbyl group or a polymeryl group.