Claims

1. A polymer material comprising at least a first polymer or a first monomer of the first polymer and a second polymer or a second monomer of the second polymer, wherein the first polymer has a first rating on a triboelectric series and the second polymer has a second rating on a triboelectric series that is more negative than the first rating, and wherein the polymer material is triboelectrically neutral such that it resists charging when contacted with a material distinct from the polymer material.

2. The polymer material according to claim 1, wherein the polymer material is a copolymer.

3. The polymer material according to claim 1, wherein the polymer material is homogeneous.

4. The polymer material according to claim 1, wherein the polymer material is a composite of the first polymer and the second polymer.

5. The polymer material according to claim 1, wherein the first polymer and the second polymer are non-conductive polymers.

6. The polymer material according to claim 1, wherein the first monomer comprises polyethylene glycol diacrylate (PEGDA) or the first polymer is selected from the group comprising: polymerized polyethylene glycol diacrylate (PEGDA), polyvinyl acetate (PVAc), polyamide and polymethyl methacrylate.

7. The polymer material according to claim 1, wherein the second monomer is 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-Heptadecafluorodecyl methacrylate (HDFDMA) or the second polymer is selected from the group comprising: polymerized 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-Heptadecafluorodecyl methacrylate (HDFDMA), polyacrylonitrile (PAN), polyethylene and polyvinyl chloride.

8. The polymer material according to claim 1, wherein the first monomer is polyethylene glycol diacrylate (PEGDA) or the first polymer is polymerized polyethylene glycol diacrylate (PEGDA) and the second monomer is 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-Heptadecafluorodecyl methacrylate (HDFDMA) or

the second polymer is polymerized 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-Heptadecafluorodecyl methacrylate (HDFDMA).

9. The polymer material according to claim 8, wherein the polymer material comprises 50% polymerized PEGDA and 50% polymerized HDFDMA or 50% PEGDA monomer and 50% HDFDMA monomer.

10. A method of preparing a polymer material comprising the steps of mixing at least a first pre-determined amount of a first polymer or a first monomer of the first polymer and a second pre-determined amount of a second polymer or a second monomer of the second polymer, the first polymer having a first rating on a triboelectric series and the second polymer having a second rating on a triboelectric series that is more negative than the first rating, wherein the first pre-determined amount and the second pre-determined amount are such that the polymer material resists charging when contacted with a material distinct from the polymer material.

11. The method according to claim 10, wherein the mixing comprises co-polymerizing the first monomer of the first polymer and the second monomer of the second polymer.

12. The method according to claim 11, wherein the co-polymerizing is by free radical polymerization.

13. The method according to claim 10, wherein the polymer material is homogeneous.

14. The method according to claim 10, wherein the mixing comprises physically mixing the first polymer and the second polymer.

15. The method according to claim 14, wherein the polymer material is a composite of the first polymer and the second polymer.

16. The method according to claim 10, wherein the first polymer and the second polymer are non-conductive polymers.

17. The method according to claim 10, wherein the first monomer comprises polyethylene glycol diacrylate (PEGDA) or the first polymer is selected from the group comprising: polymerized polyethylene glycol diacrylate (PEGDA), polyvinyl acetate (PVAc), polyamide and polymethyl methacrylate.

18. The method according to claim 10, wherein the second monomer comprises 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-Heptadecafluorodecyl methacrylate (HDFDMA) or the second polymer is selected from the group comprising: polymerized 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-Heptadecafluorodecyl methacrylate (HDFDMA), polyacrylonitrile (PAN), polyethylene and polyvinyl chloride.

19. The method according to claim 10, wherein the first monomer is polyethylene glycol diacrylate (PEGDA) or the first polymer is polymerized polyethylene glycol diacrylate (PEGDA) and the second monomer is 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-Heptadecafluorodecyl methacrylate (HDFDMA) or the second polymer is polymerized 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-Heptadecafluorodecyl methacrylate (HDFDMA).

20. A method of preparing a copolymer comprising the steps of co-polymerizing at least a first pre-determined amount of a first polymer and a second pre-determined amount of a second polymer, the first polymer having a first rating on a triboelectric series and the second polymer having a second rating on a triboelectric series that is more negative than the first rating, wherein the first pre-determined amount and the second pre-determined amount are such that the copolymer resists charging when contacted with a material.