What Is Claimed Is:

1. A method of preparing a biocompatible polymeric coating comprising:

a) preparing an aqueous polymer solution by contacting and reacting:

i) methacrylic acid (MAA)

ii/) methacryloyloxyethyl phosphorylcholine (MPC); and

iii) at least one methacrylate selected from the list consisting of hydroxyethyl methacrylate (HEMA), poly(ethylene glycol) monomethacrylate (PEGMA), poly(ethylene glycol) methyl ether methacrylate (MAPEG), wherein a weight percent of MPC is at least 60% and a remaining weight percent being one or more of HEMA, PEGMA and MAPEG, provided that a total amount of starting monomers ii) and iii) is 100% by weight;;

b) precipitating a reaction product within the aqueous polymer solution by addition of acetone to produce a clear solid polymer material;

c) dissolving the clear solid polymer material in an alcohol or water to produce a purified polymer solution;

d) preparing an aqueous polyaziridine coupling agent solution; and

e) mixing the purified polymer solution with the aqueous polyaziridine coupling agent solution to form the biocompatible polymeric coating.

2. A method of applying a biocompatible polymeric coating to a substrate surface, the method comprising:

a) preparing the biocompatible polymeric coating in accordance with claim 1; and

b) contacting and reacting the coating solution with the substrate surface to coat the surface with the biocompatible polymeric coating.

3. The method of claim 2 further comprises:

c) loading the purified polymer solution in a first syringe prior to the mixing step; and

d) loading the aqueous polyaziridine coupling agent solution in a second syringe prior to the mixing step,

wherein the mixing step includes dispensing a first volume of polymer solution from the first syringe and dispensing a second volume of coupling agent solution from the second syringe.

4. The method of claim 3 wherein the first syringe and the second syringe comprise a dual cartridge syringe.

5. The method of claim 3 wherein the first volume is the same as the second volume.

6. The method of claim 2 wherein a therapeutic agent solution is further added during at least one of steps a) and b).

7. The method of claim 2 further comprising:

c) pretreating the substrate surface to functionalize the substrate surface for reactivity with aqueous polyaziridine coupling agent solution and/or coating solution, wherein step c) occurs prior to step b).

8. A method of applying a biocompatible polymeric coating to a substrate surface, the method comprising:

a) preparing an aqueous polymer solution by contacting and reacting:

i) methacrylic acid (MAA) and

ii) methacrylate or phosphorylcholine(MPC); and

iii) at least one methacrylate selected from the list consisting of hydroxyethyl methacrylate (HEMA), poly(ethylene glycol) monomethacrylate (PEGMA), and poly(ethylene glycol) methyl ether methacrylate (MAPEG), wherein a weight percent of MPC is at least 60% and a remaining weight percent being one or more of HEMA, PEGMA and MAPEG, provided that a total amount of starting monomers ii) and iii) is 100% by weight;

b) precipitating a reaction product within the aqueous polymer solution by addition of acetone to produce a clear solid polymer material;

c) dissolving the clear solid polymer material in an alcohol or water to produce a purified polymer solution;

d) preparing an aqueous polyaziridine coupling agent solution;

e) contacting and reacting the aqueous polyaziridine coupling agent solution with the substrate surface to form a primed substrate surface; and

f) contacting and reacting the aqueous polymer solution with the primed substrate surface to coat the surface with the biocompatible polymeric coating.

9. The method of claim 12 further comprising:

g) pretreating the substrate surface to functionalize the substrate surface for reactivity with aqueous coupling agent solution, wherein step g) occurs prior to step e).