What is claimed is:

1. A medical article formed from a polyurethane-based resin, which is a random copolymer of a reaction product of the following ingredients:

a diisocyanate;

a diol chain extender;

a polyglycol; and

a modifying oligomer incorporated into a backbone of the polyurethane-based resin formed by the diisocyanate, the polyglycol, and the diol chain extender, the modifying oligomer having an alcohol (C-OH) moiety and a functional moiety comprising a fluoroether, and the modifying oligomer further comprising a monofunctional polysiloxane incorporated as the side chain;

wherein a hard segment content is in the range of from 25% to 75% by weight and a soft segment content of the resin is in the range of from 75% to 25% by weight; and

wherein a concentration of the modifying oligomer of the polyurethane-based resin at a surface of the medical article is higher than a theoretical concentration based on uniform distribution of ingredients of the polyurethane-based resin, and the medical article is effective as a self-lubricating and/or self-anti-fouling medical article.

2. The medical article of claim 1, wherein the modifying oligomer is present in an amount ranging from about 0.1 to about 10 weight percent of the overall composition of the polyurethane-based resin.

3. The medical article of any of the preceding claims, wherein the diisocyanate is selected from the group consisting of: an aliphatic diisocyanate, alicyclic diisocyanate and an aromatic diisocyanate.

4. The medical article of any of the preceding claims, wherein the diol chain extender is selected from the group consisting of: ethylene glycol, 1,3-propylene glycol, 1,4-butanediol, neopentyl glycol, and alicyclic glycols having up to 10 carbon atoms.

5. The medical article of any of the preceding claims, wherein the polyglycol is selected from the group consisting of: polyalkylene glycol, polyester glycol, polycarbonate glycol, and combinations thereof.

6. The medical article of any of the preceding claims, wherein the polyalkylene glycol comprises one or both of: a polytetramethylene ether glycol and a polyethylene glycol.

7. A medical article formed from a polyurethane-based resin, which is a reaction product of the following ingredients:

a diisocyanate;

a diol chain extender;

a polyglycol; and

a modifying oligomer incorporated into a backbone, as a side chain, or both of the polyurethane-based resin formed by the diisocyanate, the polyglycol, and the diol chain extender, the modifying oligomer comprising a diol-containing perfluoropolyether incorporated into the backbone and a monofunctional polysiloxane incorporated as the side chain;

wherein a hard segment content is in the range of from 25% to 75% by weight and a soft segment content of the resin is in the range of from 75% to 25% by weight; and

wherein the medical article has a contact angle with water that is 90° or greater.

8. The medical article of claim 7, wherein the modifying oligomer has an alcohol (C-OH) moiety and a functional moiety.

9. The medical article of claim 7, wherein the functional moiety comprises a fluoroether, a silicone, or a combination thereof.

10. The medical article of any of claims 7 to 9 comprising a concentration of the modifying oligomer of the polyurethane-based resin at a surface of the medical article is higher than a theoretical concentration based on uniform distribution of ingredients of the polyurethane-based resin.

11. The medical article of any of the claims 7 to 9comprising a coefficient of static friction that is 0.28 or less, and/or a water sorption of 2.2% by weight or less.

12. The medical article of any of claims 7 to 11, which is effective to reduce bacterial biofilm colony formation.

13. The medical article of any of claims 7 to 12, wherein the polyglycol comprises a polyalkylene glycol comprising one or both of: a polytetramethylene ether glycol and a polyethylene glycol.