CLAIM(S):

1. A porous polymeric membrane comprising:
   (a) a first microporous skin surface, the microporous skin surface comprising a pore density of at least about 20 pores/50,000 μm^2;
   (b) a second porous surface; and,
   (c) a bulk between the first microporous skin surface and the second porous surface wherein the bulk has a pore density of at least about 120 pores/mm^2.

2. The membrane of claim 1, wherein the bulk of the membrane comprises an MFP size of at least about 15 µm.

3. The membrane of claim 1 or 2, wherein the polymeric membrane comprises an isotropic membrane.

4. The membrane of claim 1 or 2, wherein the polymeric membrane comprises an asymmetric membrane, wherein the second porous surface comprises pores having a mean pore size that is at least about 1.3 times the mean pore size of the pores in the first microporous skin surface.

5. The asymmetric membrane of claim 4, wherein the second porous surface comprises pores having a mean pore size in the range of from about 2 to about 15 times the mean pore size of the pores in the first microporous skin surface.

6. The membrane of any one of claims 1-5, wherein the first microporous skin surface has a mean pore size of at least about 10 µm.

7. The membrane of any one of claims 1-6, wherein the polymeric membrane comprises a sulfone membrane.

8. The membrane of claim 7, wherein the polymeric membrane comprises a polyethersulfone membrane.

9. A method for processing a fluid comprising:
passing the fluid through the membrane of any one of claims 1-8.

10. A method for making asymmetric porous polymeric membranes comprising:
    (a) casting a polymer solution on a support
    (b) exposing the cast solution to a temperature of at least about 95 °F for at least about 40 seconds;
    (c) inducing thermal phase inversion of the solution to form a pre-membrane; and,
    (d) quenching the pre-membrane.

11. The method of claim 10, wherein the support has a temperature of at least about 100 °F.

12. The method of claim 10 or 11, wherein the support comprises a stone support.

Claim(s):

1. A porous polymeric membrane comprising:
   (a) a first microporous skin surface, the microporous skin surface comprising a pore density of 20 pores/50,000 μm^2 to 26 pores/50,000 μm^2;
   (b) a second porous surface; and,
   (c) a bulk between the first microporous skin surface and the second porous surface wherein the bulk has a pore density of at least 120 pores/mm^2, and a mean flow pore size (MFP) of at least 15 μm.

2. The membrane of claim 1, comprising an asymmetric membrane, wherein the membrane has an asymmetry ratio of 3.7 or less.

3. The membrane of claim 2, wherein the polymeric membrane an asymmetry ratio of 1.8 to 3.7.

4. The membrane of claim 2 or 3, wherein the second porous surface comprises pores having a mean pore size that is at least 1.3 times the mean pore size of the pores in the first microporous skin surface.

5. The asymmetric membrane of claim 4, wherein the second porous surface comprises pores having a mean pore size in the range of from 2 to 15 times the mean pore size of the pores in the first microporous skin surface.

6. The membrane of any one of claims 1-5, wherein the first microporous skin surface has a mean pore size of at least 10 μm.

7. The membrane of any one of claims 1-6, wherein the polymeric membrane comprises a sulfone membrane.

8. The membrane of claim 7, wherein the polymeric membrane comprises a polyethersulfone membrane.

9. A method for processing a fluid comprising:
passing the fluid through the membrane of any one of claims 1-8.

10. A method for making the porous polymeric membrane according to any one of claims 1-8, comprising:
(a) casting a polymer solution on a heated stone support;
(b) exposing the cast solution to a temperature of at least 95 °F for at least 40 seconds while exposing the cast solution to air velocity provided by controlled fan speed;
(c) inducing thermal phase inversion of the solution to form a pre-membrane; and,
(d) quenching the pre-membrane.

11. The method of claim 10, wherein the heated stone support has a temperature of at least 100 °F.

12. The membrane of any one of claims 1, or 6-8, comprising an isotropic membrane.