

MULTILAYER MICROFILTRATION MEMBRANE

ABSTRACT OF THE DISCLOSURE

A microfiltration membrane comprising (a) an asymmetric layer, (b) an isometric layer, and (c) an interface layer between the asymmetric layer and the isometric layer, the interface layer having a first portion contacting the asymmetric layer and a second portion contacting the isometric layer; wherein, (i) the asymmetric layer has a region contacting the first portion of the interface layer, the region including cells having a first porous structure; (ii) the isometric layer has a region contacting the second portion of the interface layer, the region including cells having a second porous structure; the first porous structure being larger than the second porous structure; and the first portion of the interface layer comprises cells having the first porous structure, and the second portion of the interface layer comprises cells having the second porous structure, and methods of making and using the membrane, are disclosed. Also disclosed is a microfiltration membrane comprising (a) a first asymmetric layer, (b) a second asymmetric layer, and (c) an interface layer between the first asymmetric layer and the second asymmetric layer, the interface layer having a first portion contacting the first asymmetric layer and a second portion contacting the second asymmetric layer; wherein, (i) the first asymmetric layer has a region contacting the first portion of the interface layer, the region including cells having a first porous structure; (ii) the second asymmetric layer has a region contacting the second portion of the interface layer, the region including cells having a second porous structure; the first porous structure being larger than the second porous structure; and the first portion of the interface layer comprises cells having the first porous structure, and the second portion of the interface layer comprises cells having the second porous structure, as well as methods of making and using the membrane.

Figure 1