ABSTRACT

Membrane is a major part of dialyses. It has been use to filter out the unwanted material from human blood in hemodialysis and hemofiltration process. Accurate pour size is very important to filter out the required waste material. Hence AAO membrane has been selected for synthesis with pour size of micro to Nano range. Among other nano-porous structures, anodic aluminum oxide membrane is a highly efficient membrane owing to its highly ordered, continuous and systematic pore size. These porous membranes are use in daily life, biomedical, energy and electronics application. These nano-porous membranes can be fabricated using various methods including ALD and anodization. However anodization is considered as an efficient and significant method for the production of hexagonal well order and uniform nano-porous structures. The two steps of anodization define the nano-porous membrane and the pore widening respectively. The synthesized nano porous aluminum oxide membrane with pore diameter in range of 40-80 nm has been presented. The diameter is controlled by changing the time during the 2nd step of anodization. The prepared membrane with highly ordered pores to the surface will enhance its use as compared to previously used conventional systems.

Key words: AAO, Nano porous membrane, Bio-MEMS, pore diameter