

Research

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1 Optimizing gas permeability of a PDMS membrane

Cross-linking additives (10% vinyl groups and tetraethoxysilicone) increased gas permeability (oxygen and nitrogen) above theoretical limits of PDMS [?]

Thickness must be more than tens of micrometers, up to 1 mm. Above 50 μm , the permeability across a PDMS membrane is independent of its thickness. For membranes more than 50 nm and less than 50 μm , gas permeability decreases with membrane thickness until 50nm [?]. Then defect in the PDMS membrane dominate the transport mechanism.