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(54) Title: MEMBRANES FOR SEPARATION

(57) Abstract: The present invention relates to a composite membrane for gas separation and/or nanofiltration of a feed stream solution comprising a solvent and dissolved solutes and showing preferential rejection of the solutes. The composite membrane comprises a separating layer with intrinsic microporosity. The separating layer is suitably formed by interfacial polymerisation on a support membrane. Suitably, at least one of the monomers used in the interfacial polymerisation reaction should possess concavity, resulting in a network polymer with interconnected nanopores and a membrane with enhanced permeability. The support membrane may be optionally impregnated with a conditioning agent and may be optionally stable in organic solvents, particularly in polar aprotic solvents. The top layer of the composite membrane is optionally capped with functional groups to change the surface chemistry. The composite membrane may be cured in the oven to enhance rejection. Finally, the composite membrane may be treated with an activating solvent prior to nanofiltration.

