

CONTENTS

1. Membrane materials science: an overview	1
2. Material selection for membrane – based gas separations	25
3. Selection and evaluation of membrane materials for liquid separations	47
4. Aromatic polyamide membranes	81
5. Membrane materials for therapeutic applications in medicine	99
6. Selection of supports for immobilized liquid membranes	119
7. Phase inversion membranes	131
8. Production of microporous media by phase inversion processes	165
9. Rile of microphase separation phenomena in the formation of porous polymeric membranes	197
10. Microporous membranes via upper critical temperature phase separation	229
11. Asymmetric membranes for gas separations	245
12. Evolution of composite reverse osmosis membranes	273
13. Dependence of dynamic membrane performance on formation materials and procedures	295
14. Hollow fiber membrane research: morphology, evaporation, gas separation, and durability problems	305
15. New characterization methods for asymmetric Ultrafiltration membranes	327
16. Pore volume distribution in Ultrafiltration membranes	339
17. Partial solubility parameter characterization of interpenetrating microphase membrane	351
18. Structure and properties of perfluorinated ion – exchange membranes	365
19. Ethanol – water separation by countercurrent reverse osmosis	409
20. Electrically conductive membranes based on polyacetylene chemistry	429
21. Biofunctional synthetic membranes	447
22. Author index	483
23. Subject index	483