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APPENDICES

Appendix A Degree of swelling of membranes

Table A1 Degree of swelling of the poly(BA-deta) membranes in ethanol, water , and 50:50 ethanol-water mixtures

Time (days)	Degree of Swelling		
	Ethanol	Water	EtOH:Water 50:50
1	0	0	0
3	0	0.88	0.89
5	0	1.02	3.05
7	0	1.52	3.08
10	0	2.06	3.15
15	0.68	2.08	3.16

Table A2 Degree of swelling of the poly(BA-tepa) membranes in ethanol, water , and 50:50 ethanol-water mixtures

Time (days)	Degree of Swelling		
	Ethanol	Water	EtOH:Water 50:50
1	0	0	0
3	0	0.99	1.00
5	0	1.99	4.21
7	0	2.12	4.57
10	0	3.14	4.68
15	0.78	3.14	4.69

Appendix B Pervaporation study

Table B1 Effect of feed temperatures on permeation flux of the poly(BA-deta) and poly(BA-tepa) membranes

Temerature(°C)	Permeation flux(kg/m^{2}h)	
	poly(BA-deta)	poly(BA-tepa)
40	6.70	13.06
50	9.98	13.46
60	10.68	16.15
70	12.05	17.77

Table B2 Effect of ethanol concentrations on permeation flux of the poly(BA-deta) membranes

Ethanol concentration in feed (wt%)	Total permeation flux (g/m^{2}h)	Separation factor
10	19.45	> 10,000
30	16.11	> 10,000
50	12.89	> 10,000
70	12.78	> 10,000
90	12.32	> 10,000

Table B3 Effect of ethanol concentrations on permeation flux of the poly(BA-tepa) membranes

Ethanol concentration in feed (wt%)	Total permeation flux (g/m^{2}h)	Separation factor
10	20.25	> 10,000
30	17.97	> 10,000
50	12.04	> 10,000
70	7.82	> 10,000
90	3.23	> 10,000

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1. Chuntanalerg, P.; Choedchun, C.; SaeLim, N.; Chaisuwan, T.; Wongkasemjit, S. (2013, November 24-26) Preparation of α-Al_2O_3 supporting highly cross-linked polybenzoxazine membranes for ethanol-water separation via pervaporation, Paper presented at The 3rd International Symposium on Frontiers in Materials Science, Hanoi, Vietnam.
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