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Title:	Use of 2,4,6-pyridinetricarboxylic acid chloride as a novel co-monomer for the preparation of thin film composite polyamide membrane with improved bacterial resistance
Authors:	Mandal, S. (/jspui/browse?type=author&value=Mandal%2C+S.) Khullar, S. (/jspui/browse?type=author&value=Khullar%2C+S.)
Keywords:	Quaternizable polyamide network Thin film composite membrane Antibiofouling membranes
Issue Date:	2013
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Citation:	Journal of Membrane Science, 439, pp. 87-95.
Abstract:	The hitherto unreported 2,4,6-pyridinetricarboxylic acid chloride (PTC) was used with/without trimesoyl chloride (TMC) in the interfacial polymerization reaction with meta-phenylene diamine (MPD) to produce a salt-rejecting polyamide coating over polysulphone support. Besides exhibiting higher reactivity towards MPD, the resultant thin film composite (TFC) membrane showed a lower tendency towards bacterial attachment in comparison to the membrane prepared with TMC alone. The best results were obtained with 2:3–1:1 M ratio of PTC to TMC, in as much as the flux was also enhanced and the salt rejection efficiency remained almost unaffected. The membranes were characterized by ATR-IR spectroscopy, elemental analysis, SEM, AFM, contact angle and zeta potential measurements.
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