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Title: Selective separation of divalent ions from seawater using an integrated ion-exchange/nanofiltration approach

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Selective separation of divalent ions from seawater using an integrated ion-exchange/nanofiltration approach

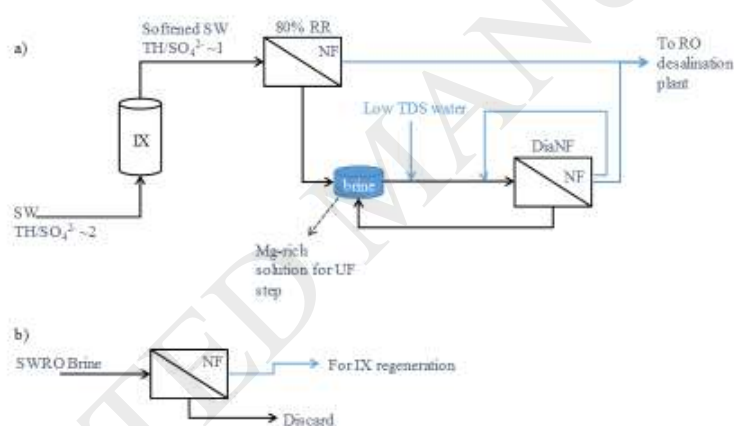
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Graphical abstract

Schematic of the process used for selectively separating Mg^{2+} from seawater



Highlights for Selective separation of divalent ions from seawater using an integrated ion-exchange/nanofiltration approach” by Tang et al.

- We introduce a new process for selective separation of Mg^{2+} from seawater
- Process relies on sequential ion exchange, nanofiltration and diananofiltration
- Ion exchange serves to reduce hardness to result in equal $TH:SO_4^{2-}$ equivalent ratio
- Resin is regenerated with nanofiltration permeate of 1st SWRO step retentate
- Product solution is a selective $MgSO_4$ rich-solution obtained at $\sim \$1.6$ (kg Mg)⁻¹

Abstract

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