

Polymeric Crown Ether for the Removal of Cesium from Liquid Wastes

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Crown ether-based sorbents developed for the sequestration of cesium from aqueous media operate optimally at neutral or near-neutral pH and exhibit drastic loss in adsorption capacity in acidic or basic media. In this study, a polymeric adsorbent prepared from DB18C6 that remains potent at sequestering Cs⁺ in acidic and alkaline conditions is reported. Factors that give rise to its capacity and selectivity for Cs⁺ under these conditions are navigated. This study was supported by NRF funded by The Ministry of Science and ICT (2017R1A2B2002109 and 2020R1A2C1003560), Ministry of Education (2020R1A6A1A03038817), and by KETEP funded by the Ministry of Trade, Industry & Energy (MOTIE No. 20194010201750).

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