

Lithium selective fluoroionophore based on crown ether appended anthraquinone

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Novel 14-crown-4 ether derivatives with two anthraquinone moieties were synthesized in good yields as lithium selective fluoroionophore. The structures of the synthesized compounds were confirmed by NMR, FTIR, HRMS analysis. UV-vis absorbance and fluorescence emission studies showed high selectivity towards lithium in the presence of competing alkali metal ions. The novel fluoroionophore can be applied for selective determination of lithium in environmental or biological samples. This work was supported by Basic Science Research Program through the National Research Foundation of Korea (NRF) funded by the Ministry of Science, ICT and Future Planning (2015R1A2A1A15055407) and by the Ministry of Education (No. 2009-0093816).