

Electronic Supplementary Information

Ionophore-Based Ion Optodes without a Reference Ion: Electrogenerated Chemiluminescence for Potentiometric Sensors

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Fig 1S – Linear sweep voltammograms using calcium, sodium and potassium ion selective electrodes as reference counterpart in the ECL read-out respectively. The horizontal arrow indicates the increasing concentration of primary analyte. **Inset:** Calibration curve, difference of potential as a function of the log ion activity shows the Nernstian behavior of each individual shift.

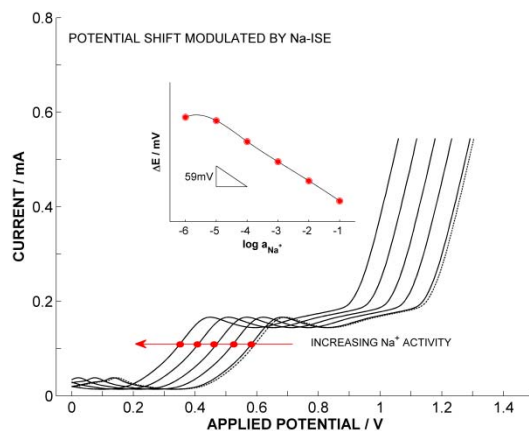
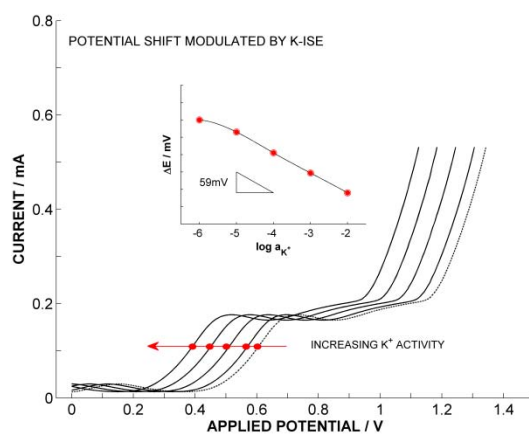
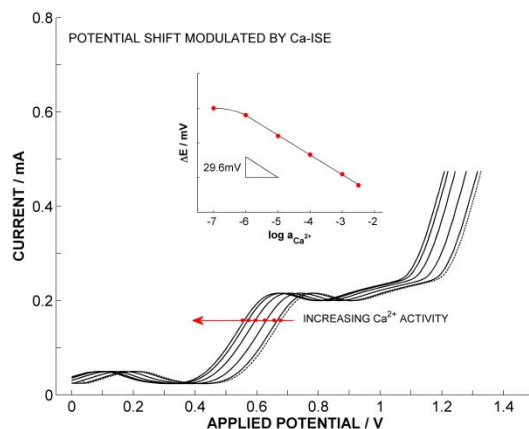


Fig 2S- ECL peaks for Na-ISM at three different applied potentials (0.7, 0.75 and 0.8V)

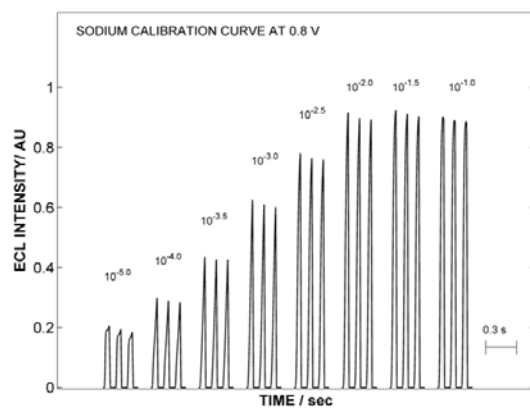
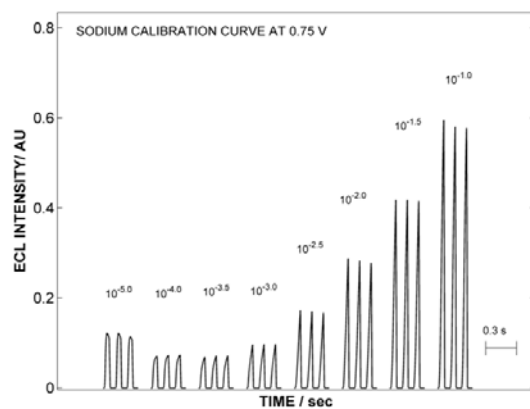
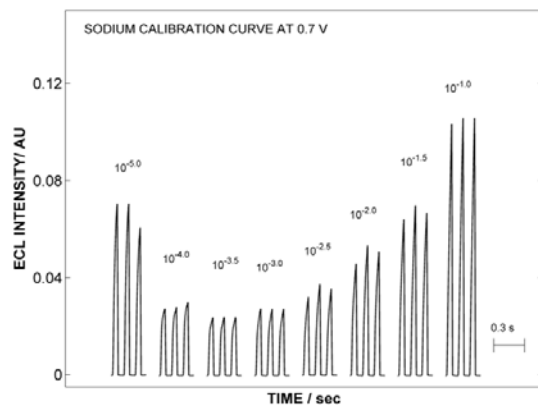


Fig 3S - ECL peaks for K-ISM at three different applied potentials (0.7, 0.8 and 0.85V).

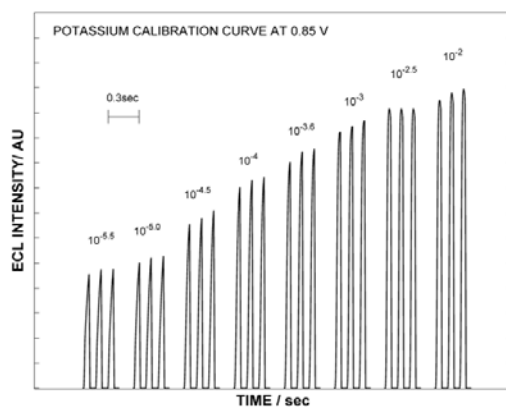
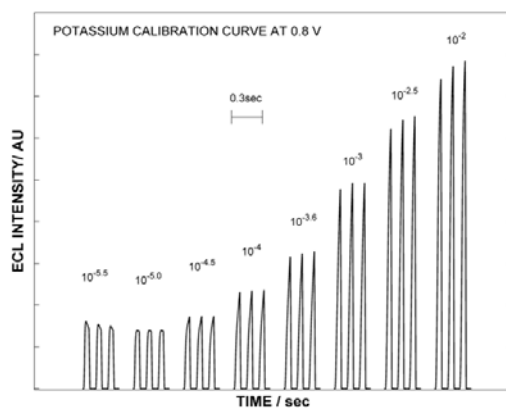
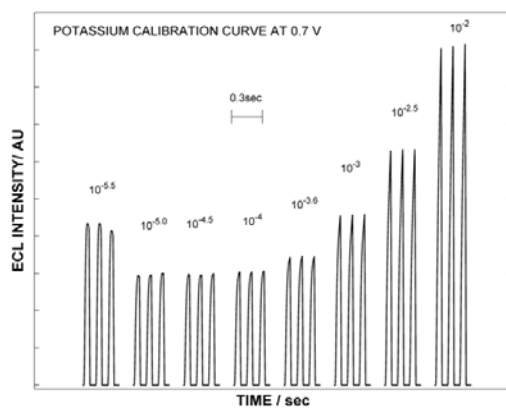


Fig 4S – Calcium selectivity coefficients determination by SSM.

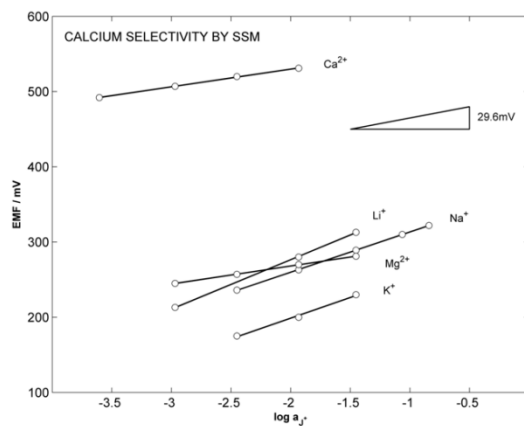


Fig 5S – Sodium selectivity coefficients determination by SSM.

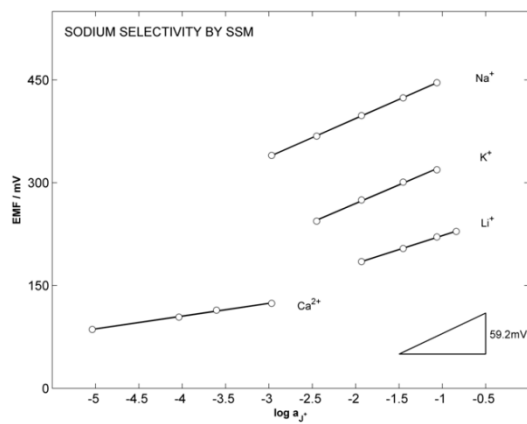


Fig 6S – Potassium selectivity coefficients determination by SSM.

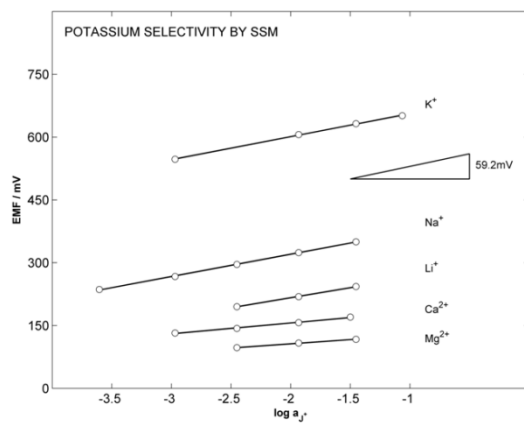


Fig 7S – Potentiometric calibration curve for calcium in different background electrolytes. (o) Water, (•) 10 mM LiCl and (□) 150 mM Na⁺ + 1 mM K⁺ + 10mM LiCl

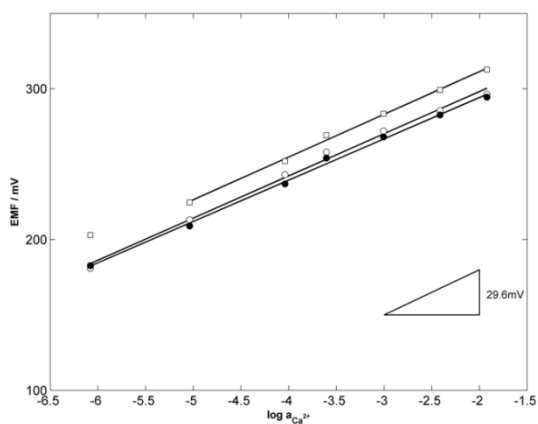


Fig 8S – Potentiometric calibration curve for sodium in different background electrolytes. (o) Water, (•) 10 mM LiCl and (□) 1 mM Ca²⁺ + 1 mM K⁺ + 10mM LiCl

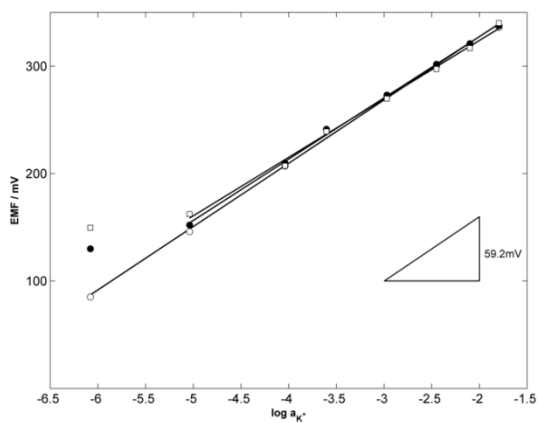


Fig 9S – Potentiometric calibration curve for potassium in different background electrolytes. (o) Water, (•) 10 mM LiCl and (□) 1 mM Ca²⁺ + 150 mM Na⁺ + 10mM LiCl

