Supplementary Information (SI) for Analyst.

Supplementary information for

A sulphide resistant Ag|AgCl reference electrode for long-term monitoring

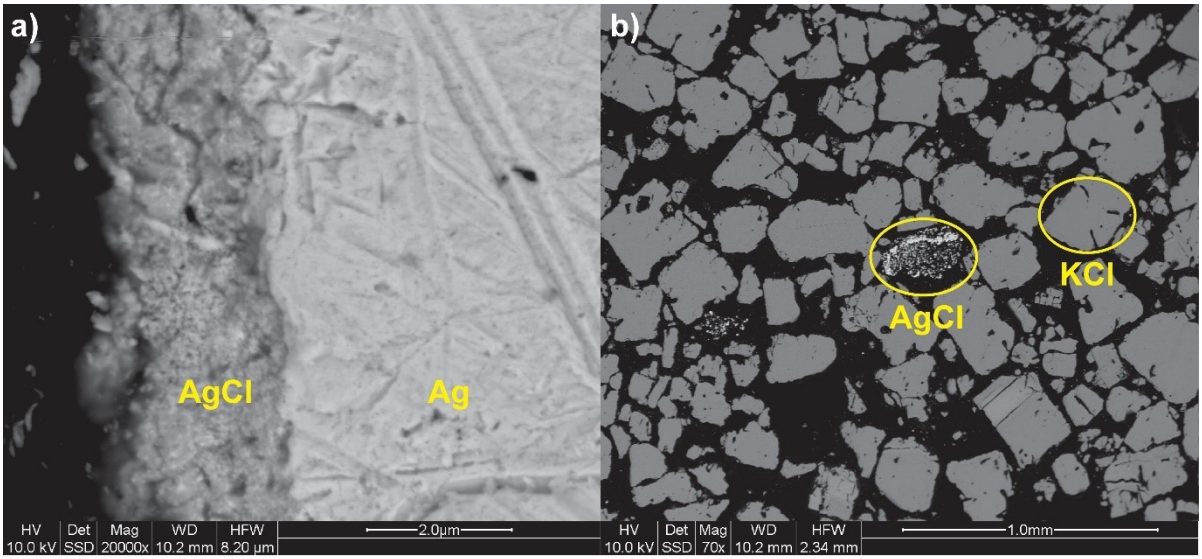
David S. Macedo[a,b,*], Mikko Vepsäläinen[c,*], Theo Rodopoulos[a], Stephen Peacock[a], Conor F. Hogan[b]

[a]Mineral Resources, CSIRO, Melbourne, Victoria 3168, Australia.

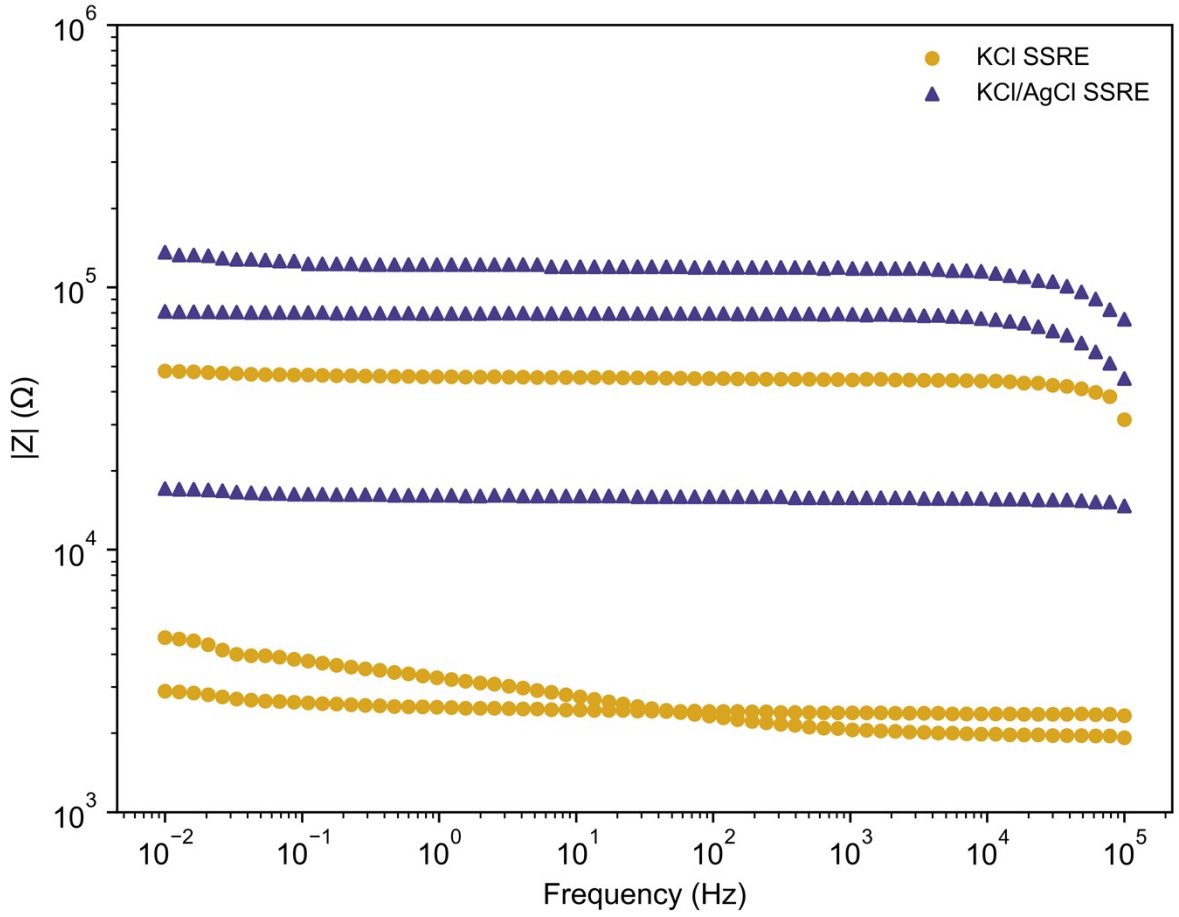
[b]Department of Biochemistry and Chemistry, La Trobe University, Melbourne, Victoria 3086, Australia.

[c]Technical Research Centre of Finland, VTT, Espoo, Finland.

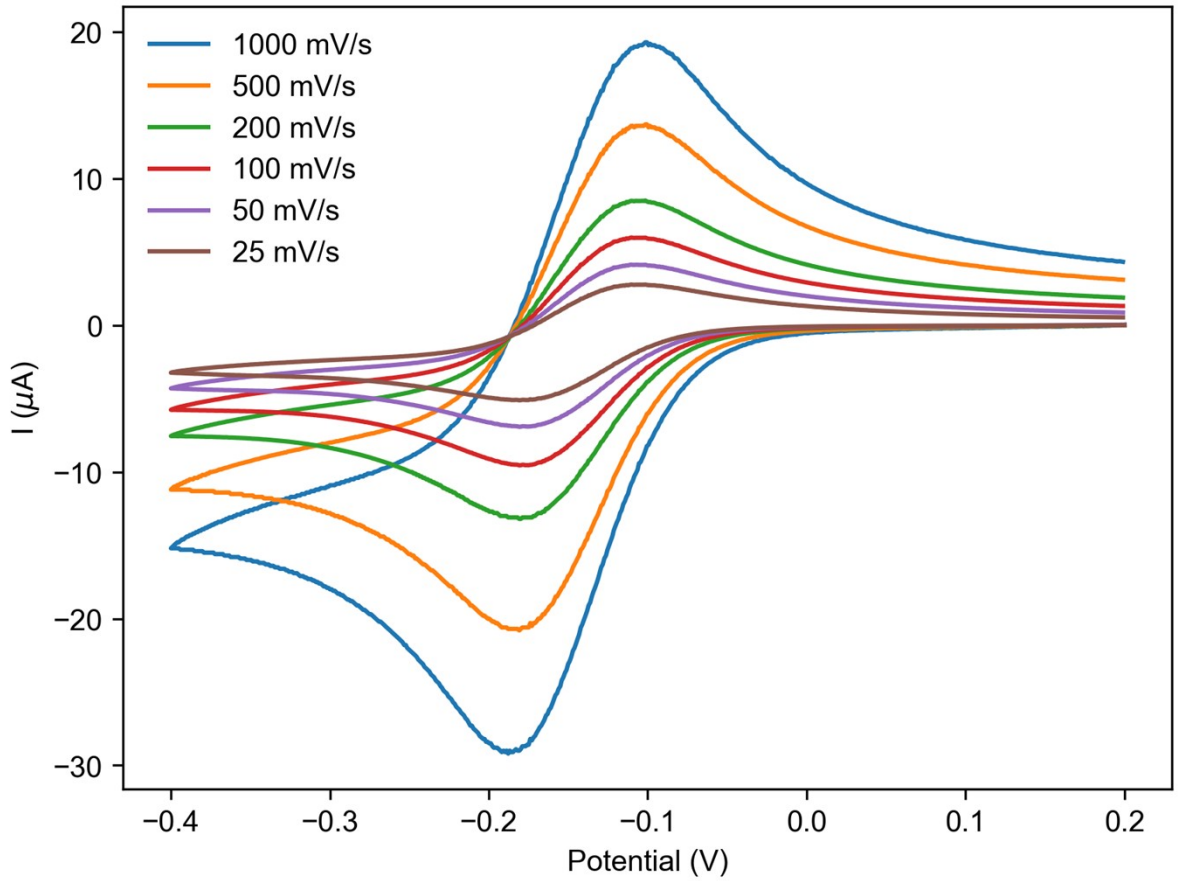
*Email: david.macedo@csiro.au, mikko.vepsalainen@vtt.fi



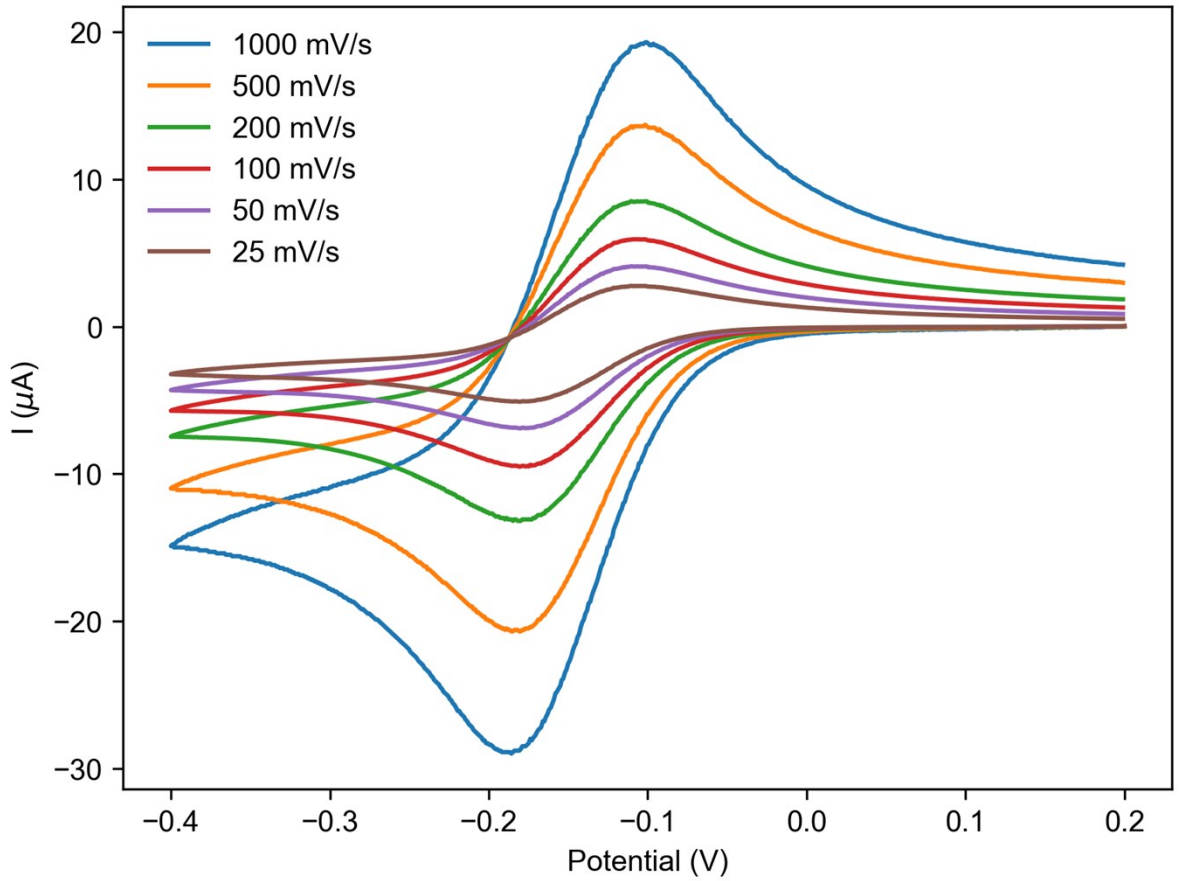
S1: BS-SEM images of cross-sections of a) Ag|AgCl wire, and b) unconditioned KCl/AgCl polymer composite.



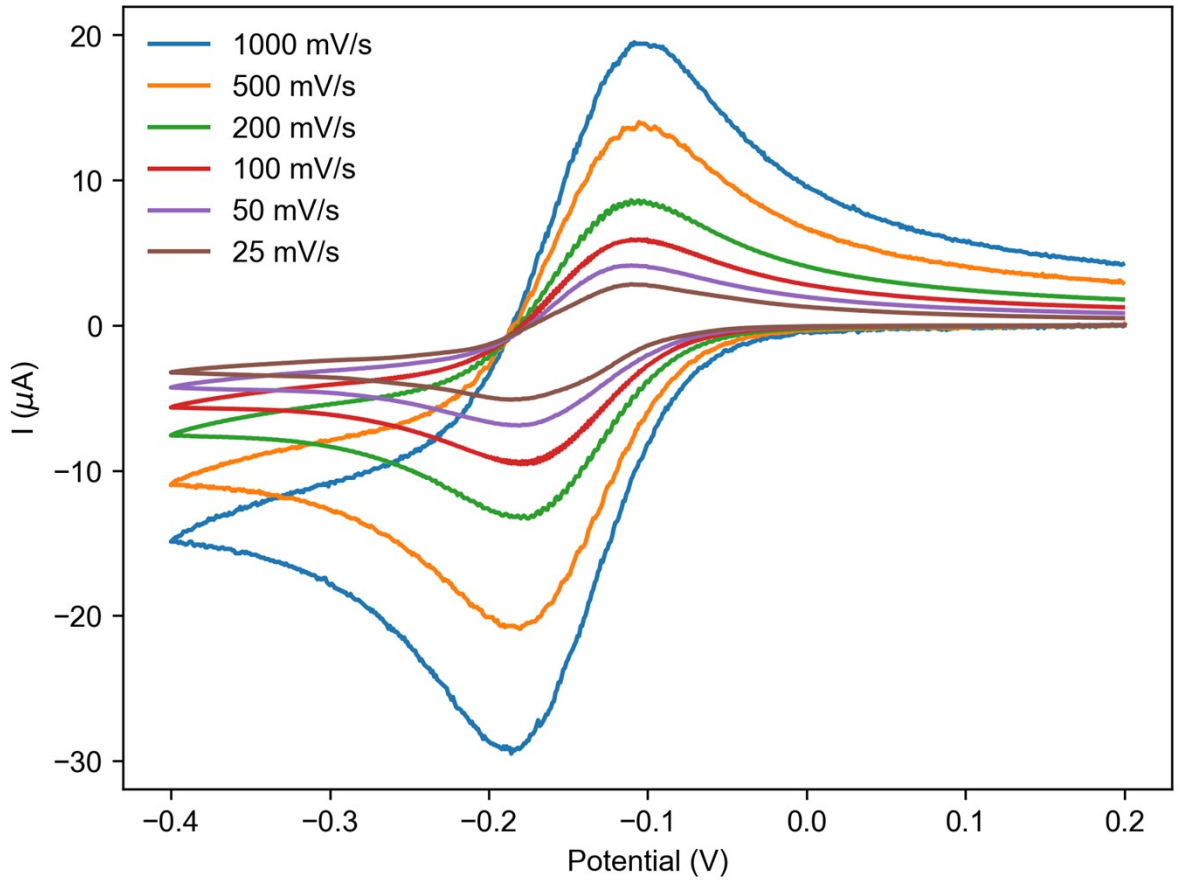
S2: Bode plot with magnitude of impedance for KCl SSRE and KCl/AgCl SSRE replicate electrodes.



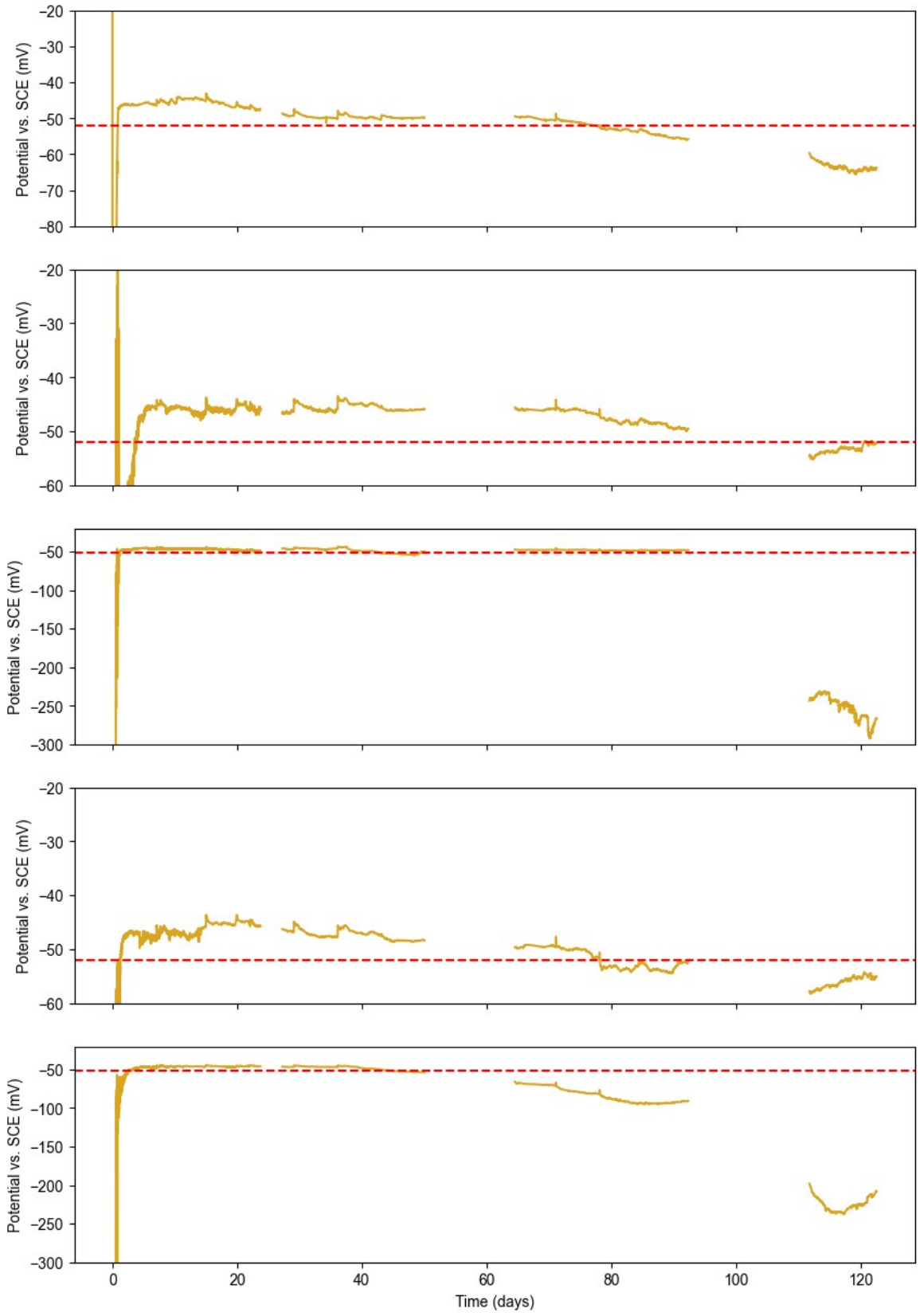
S3: Cyclic voltammograms with 5 mM $[Ru(NH_3)_6]Cl_3$ and 0.2 M KCl supporting electrolyte using a 1 mm diameter GC electrode and liquid filled reference electrode.



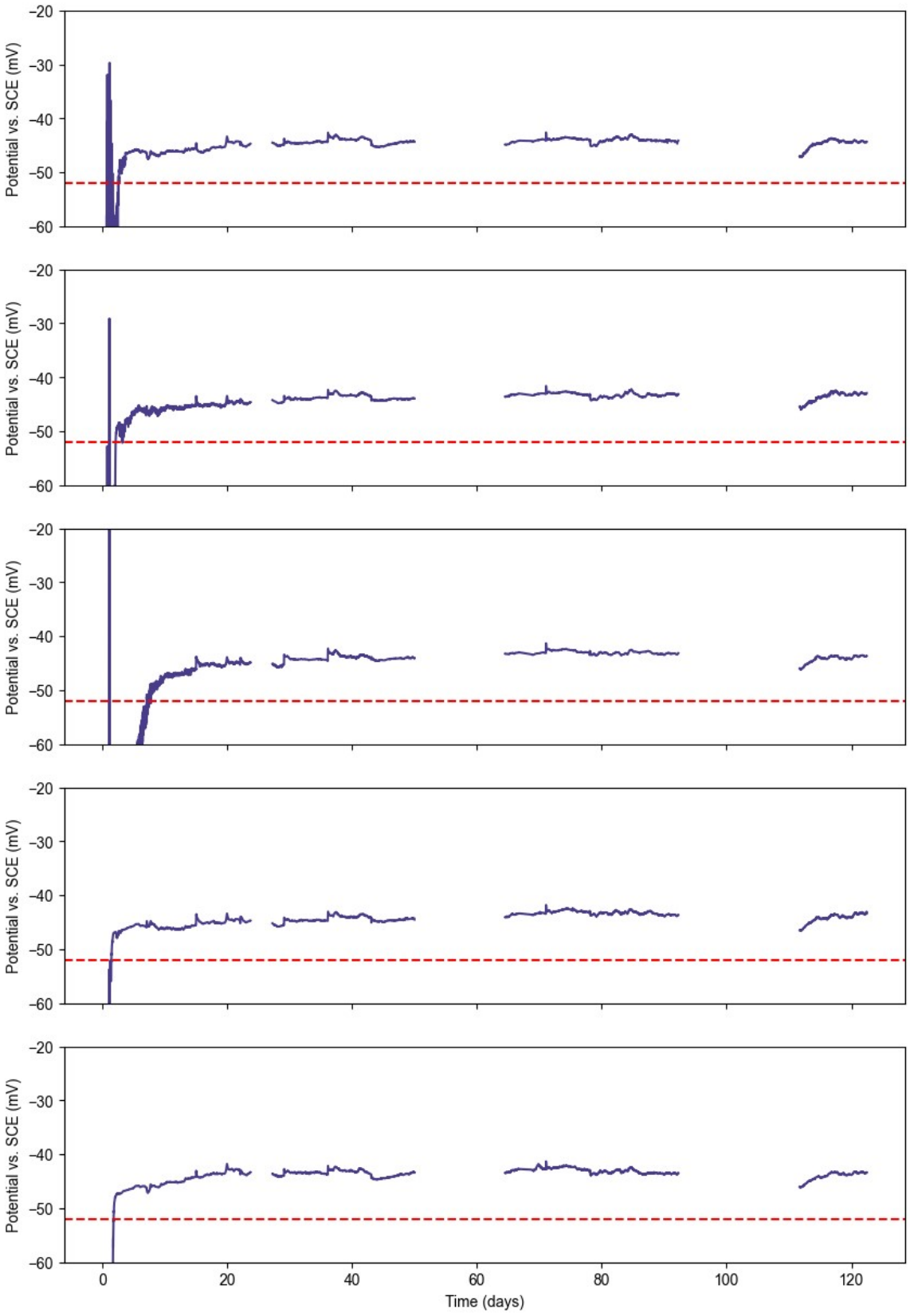
S4: Cyclic voltammograms with 5 mM $[Ru(NH_3)_6]Cl_3$ and 0.2 M KCl supporting electrolyte using a 1 mm diameter GC electrode and KCl SSRE.



S5: Cyclic voltammograms with 5 mM $[Ru(NH_3)_6]Cl_3$ and 0.2 M KCl supporting electrolyte using a 1 mm diameter GC electrode and KCl/AgCl SSRE.



S6: Individual OCP traces for KCl SSREs in 1g/L Na_2S solution. The red dashed reference line is 5 mV under the -47 mV literature value and was used for assessing stabilisation and failure time.



S7: Individual OCP traces for KCl/AgCl SSREs in 1g/L Na_2S solution. The red dashed reference line is 5 mV under the -47 mV literature value and was used for assessing stabilisation and failure time.