Supplementary Information

Effect of cation structure on the oxygen solubility and diffusivity in a range of bis{(trifluoromethyl)sulfonyl}imide anion based ionic liquids for lithiumair battery electrolytes

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Figure S1. Cyclic voltammogram for the reduction of O_2 (black line) at a 10 μ m diameter Pt-microdisk electrode vs. Ag in the dried commercial sample of [Pyrr14][TFSI] at 297 ± 0.5 K. The blank trace (grey) were obtained by cyclic voltammetry under an Ar atmosphere prior to exposure to O_2 gas (1 barg). A scan rate of 100 mV·s⁻¹ was used.



Figure S2. Experimental (—) and simulated (\bigcirc) chronoamperometric transients for the reduction of O₂ at 297 ± 0.5 K under 1 barg O₂ pressure in the dried commercial sample of [Pyrr₁₄][TFSI]. The step potential used in this experiment was -1.83 V vs. Ag.