Figure S1: Initial and maximum resistances vs cycle number for Li-S cells containing different amounts of electrolyte at a constant current density of 167.2 mA g$^{-1}$. 
Figure S2: Median resistance vs cycle number for Li-S cells containing different amounts of electrolyte at a constant current density of 167.2 mA g\textsuperscript{−1}.

Figure S3: Voltage profile for the fifth cycle of a Li-S cell containing 4 µL mg\textsuperscript{−1} of electrolyte at a constant current density of 167.2 mA g\textsuperscript{−1}.
Figure S4: Voltage profiles at the 2\textsuperscript{nd} cycle for Li-S cells containing 1M of LiTFSI, LiTDI or mixtures thereof. Electrolyte also contains 0.25 M LiNO\textsubscript{3}, 1:1 DME:DOL. Cell is cycled at a constant current density of 167.2 mA gs\textsuperscript{-1}.

Figure S5: Resistance profiles between the 2\textsuperscript{nd} and 15\textsuperscript{th} cycles for a Li-S cell with an electrolyte of 1 M LiTDI, 0.25 M LiNO\textsubscript{3}, 1:1 DME:DOL at a constant current density of 167.2 mA gs\textsuperscript{-1}.
Figure S6: Resistance profiles between the 70\textsuperscript{th} and 80\textsuperscript{th} cycles for a Li-S cell with an electrolyte of 1 M LiTDI, 0.25 M LiNO\textsubscript{3}, 1:1 DME:DOL at a constant current density of 167.2 mA g\textsuperscript{S}\textsuperscript{-1}.

Figure S7: Median resistance vs cycle number for Li-S cells containing electrolytes with different DME:DOL ratios (salt content: 1 M LiTFSI, 0.25 M LiNO\textsubscript{3}).