## Tetramethylpyrazine: An Electrolyte Additive for High Capacity and Energy

## **Efficiency Lithium Oxygen batteries**

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Fig. S1 Viscosity in 0.5 M LiTFSI/TEGDME with various amounts of TMP content.



Fig. S2 CV curves under Ar atmosphere at a scan rate of 50 mV s<sup>-1</sup> in three-electrode system.



Fig. S3 EIS of cells with different TMP content at an open circuit potential in an oxygen atmosphere.



Fig. S4 Cycling performance of the LOB with/without TMP with a capacity limitation of 500 mAh  $g^{-1}$  at a current density of 0.10 mA cm<sup>-2</sup>.