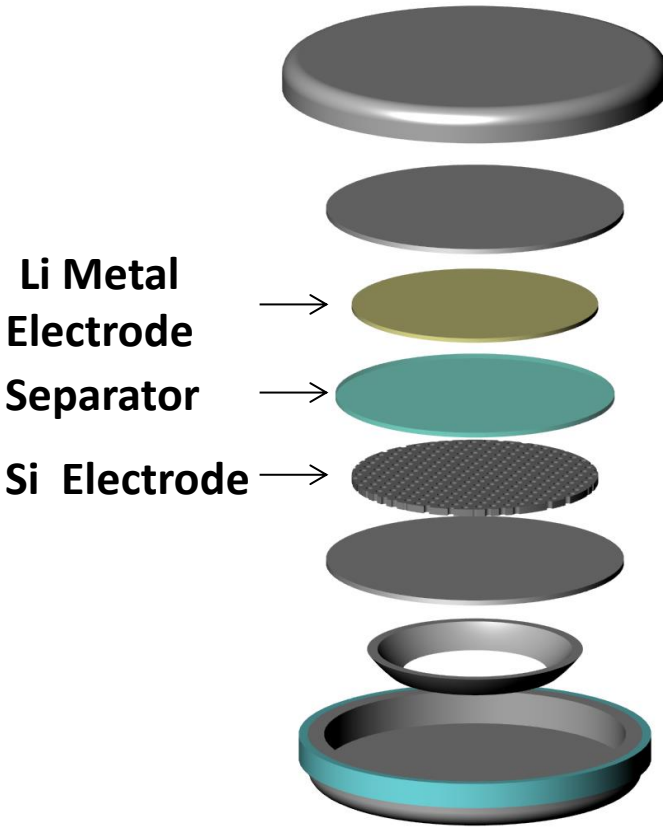
Silicon in Coin Cells vs. Li Metal

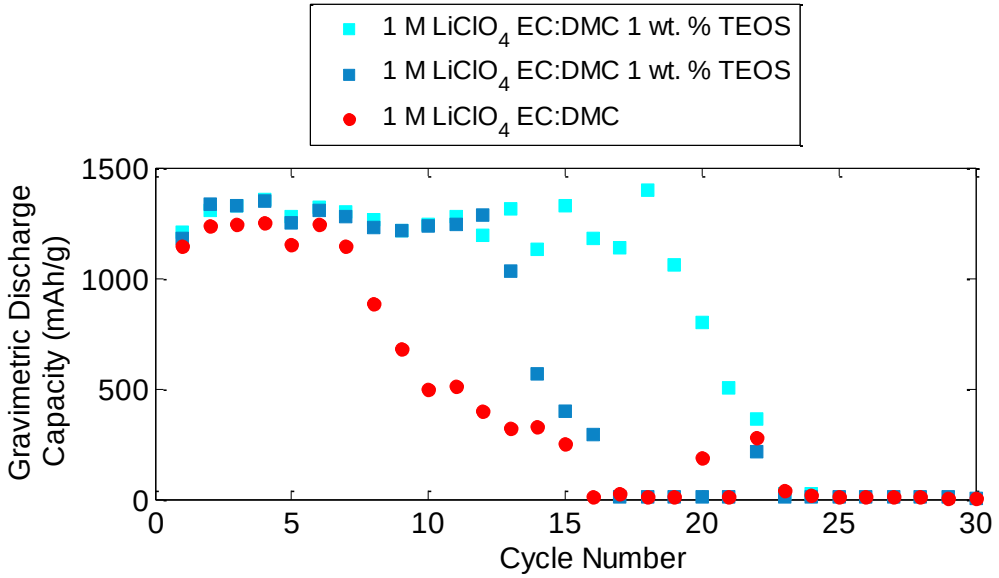
Schematic of Coin Cell

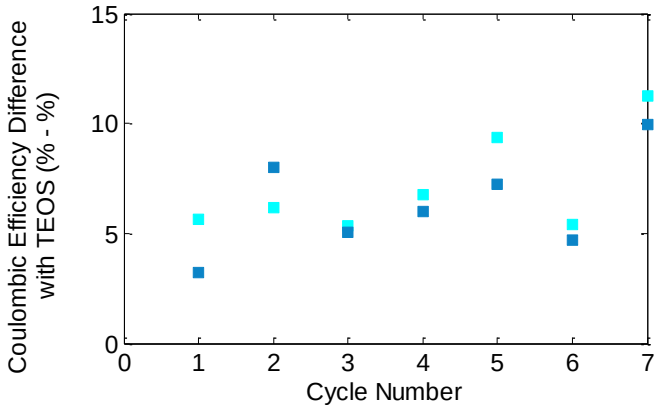


Electrolyte:
6 drops of 1 M $LiClO_4$ 1:1 (v/v) EC:DMC

Electrochemical Performance of Coin Cells

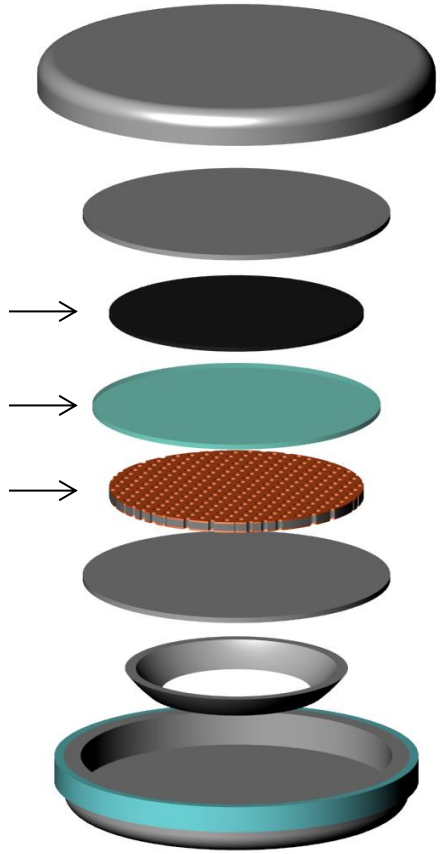
Galvanostatically charged / discharged between 3.0 to 4.2 V up to 1400 mAh/g





Cu/Si/Cu Electrodes in Coin Cells vs. LCO

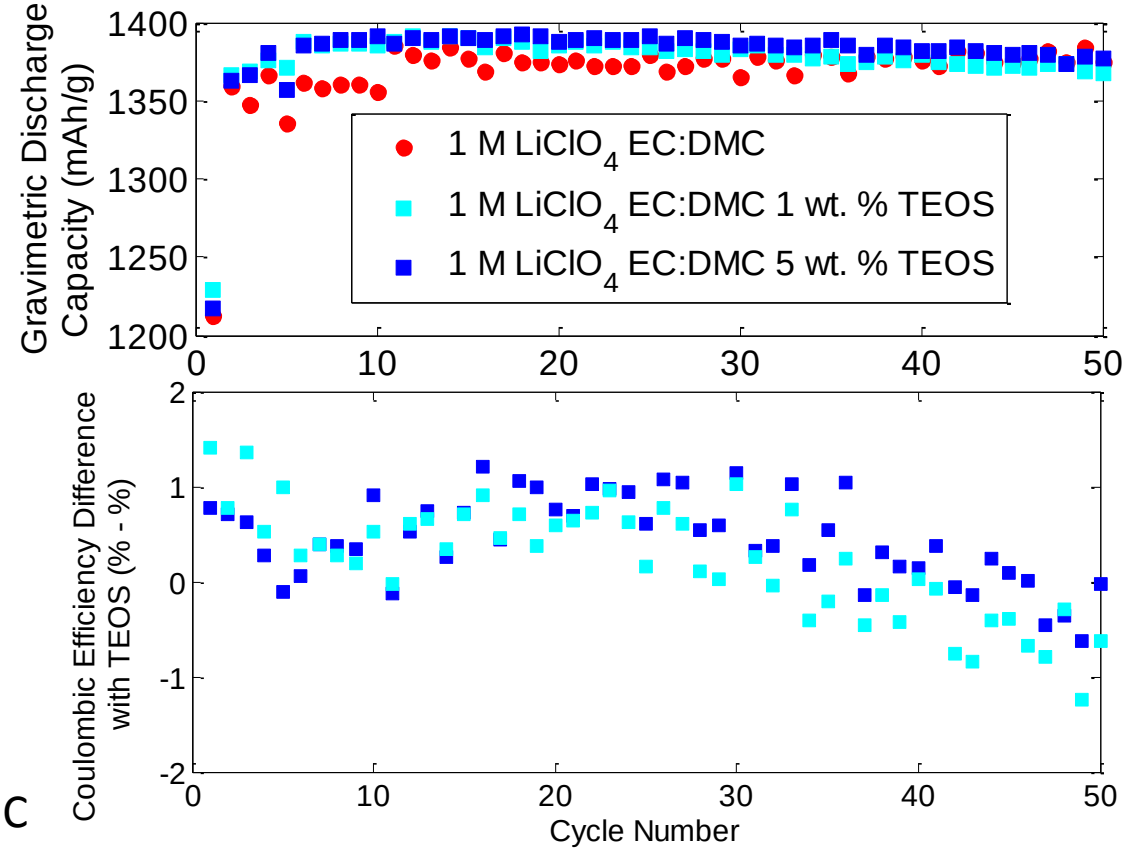
Schematic of Coin Cell



Electrolyte:
6 drops of 1 M $LiClO_4$ 1:1 (v/v) EC:DMC

Electrochemical Performance of Coin Cells

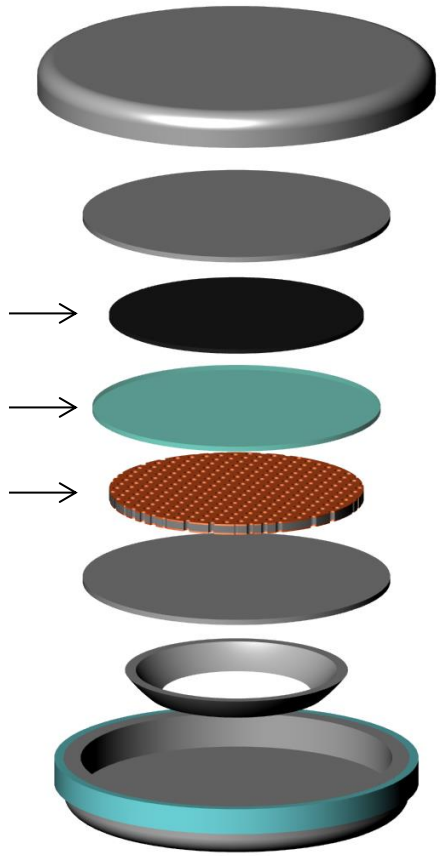
Galvanostatically charged / discharged between 3.0 to 4.2 V up to 1400 mAh/g



Full Coin Cells with TEOS have a performance improvement relative to cells without TEOS for 40 cycles

Cu/Si/Cu Electrodes in Coin Cells vs. LCO

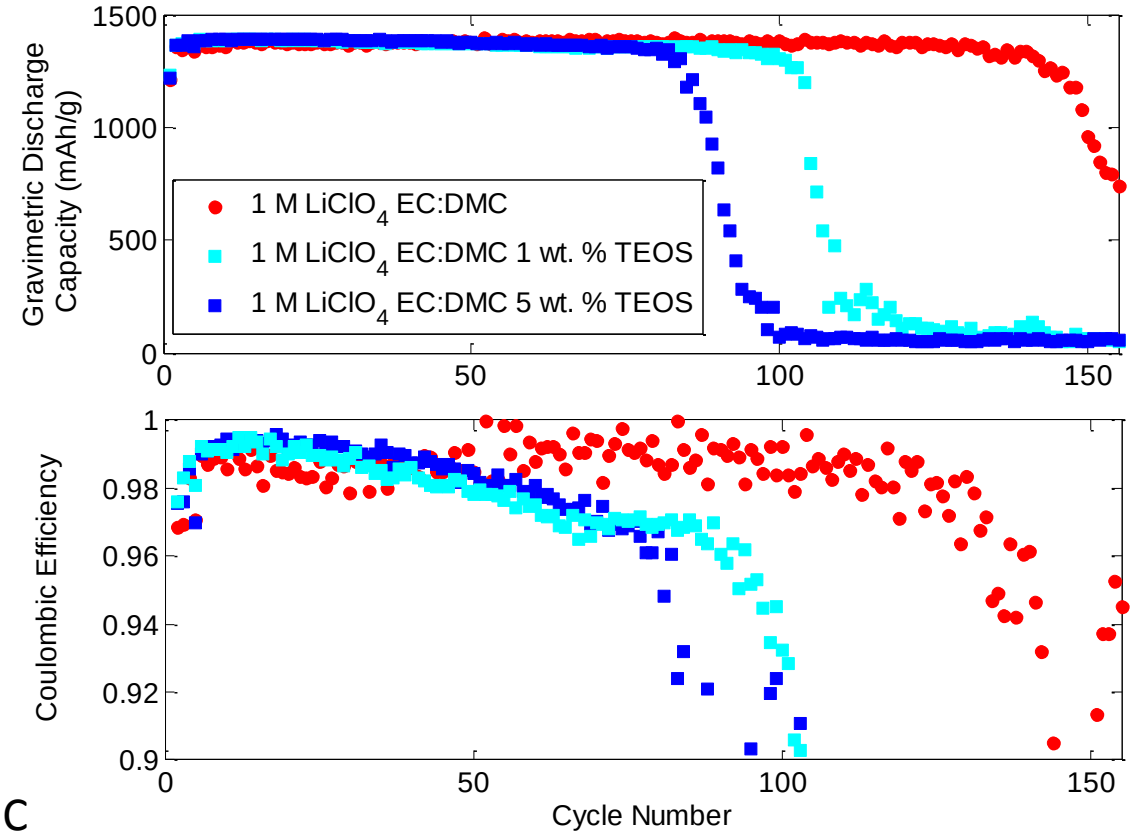
Schematic of Coin Cell



Electrolyte:
6 drops of 1 M $LiClO_4$ 1:1 (v/v) EC:DMC

Electrochemical Performance of Coin Cells

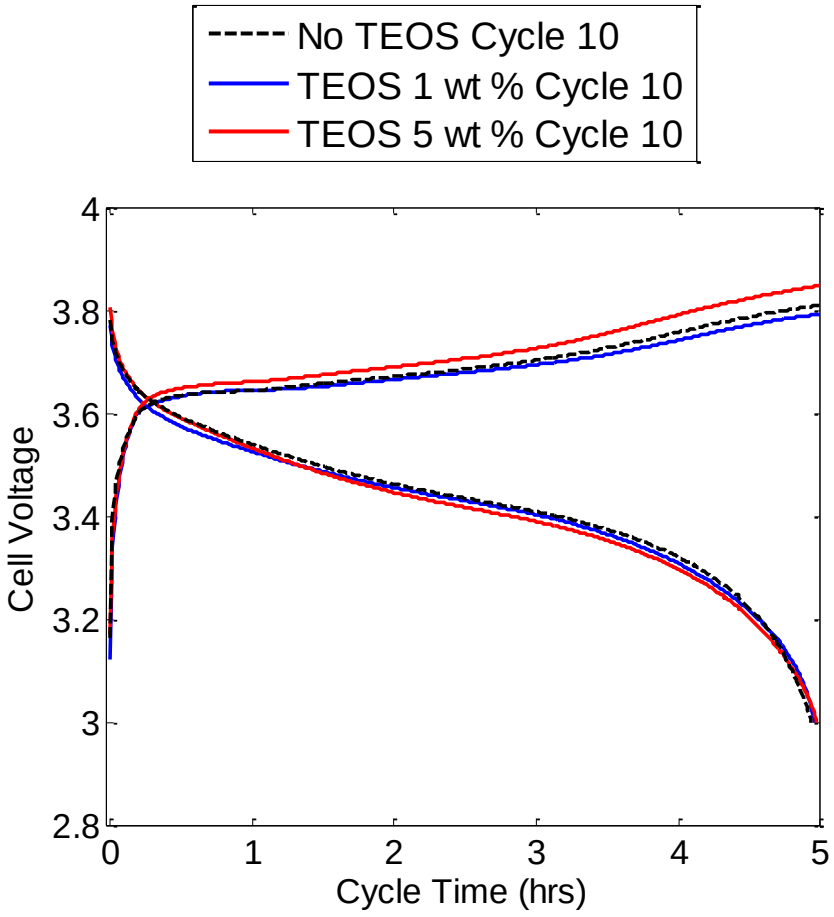
Galvanostatically charged / discharged between 3.0 to 4.2 V up to 1400 mAh/g

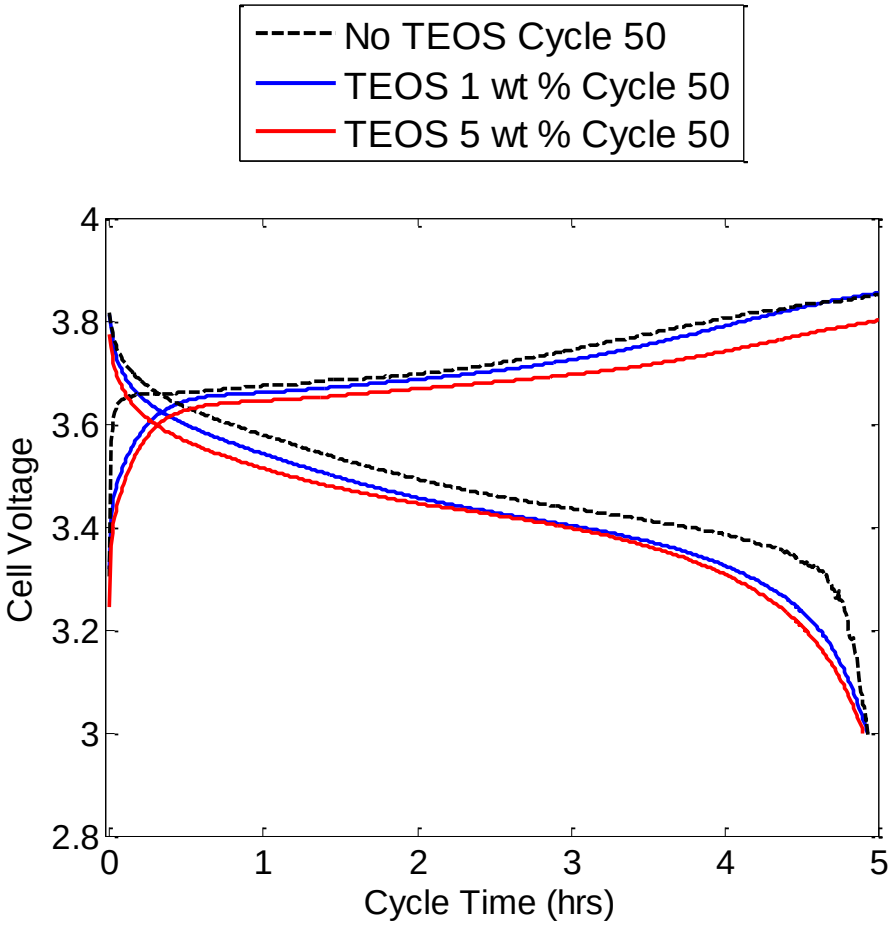


Full Coin Cells with TEOS have a performance improvement relative to cells without TEOS for 40 cycles

Voltage Profiles for Charging/Discharging of Coin Cells

Cu/Si/Cu vs. LCO Coin Cells from previous slide





Difference in Voltage Profile Evolution between Coin Cells with and without TEOS