Supporting Information

Stabilizing Polysulfide-shuttle in Li-S Battery using Electrocatalytic Transition Metal Carbide Nanostructures

Hesham Al Salem^a, Venkateswara Rao Chitturi^a, Ganguli Babu^a, Juan A. Santana^b, Deepesh Gopalakrishnan^a, and Leela Mohana Reddy Arava^{a,*}
^aDepartment of Mechanical Engineering, Wayne State University, Detroit, MI 48202, USA ^bDepartment of Chemistry, University of Puerto Rico, Cayey, PR 00736, USA



Figure S1. Secondary electron image (SEI) with corresponding EDX spectrum and elemental mapping images of TiC.



Figure S2. Secondary electron image (SEI) with corresponding EDX spectrum and elemental mapping images of WC.



Figure S3. representative cyclic voltammograms of bare carbon with 600 mM of Li2S8 in TEGDME at a scan rate of 0.1 mV/s in the potential range of 1.5 - 3.0 V



Figure S4. Galvanostatic charge discharge profile of TiC in 1M LiTFSI/LiNO₃ electrolyte at 0.1 C rate.



Figure S5. Impedance spectra of WC and TiC after and before cycling.