

Conformal and highly adsorptive metal–organic framework thin films *via* layer-by-layer growth on ALD-coated fiber mats

Electronic Supplementary Information

Junjie Zhao,^a Bo Gong,^a William T. Nunn,^a Paul C. Lemaire,^a Eric C. Stevens,^a Fahim I. Sidi,^a Philip S. Williams,^a Christopher J. Oldham,^a Howard J. Walls,^b Sarah D. Shepherd,^b Matthew A. Browe,^c Gregory W. Peterson,^c Mark D. Losego,^d and Gregory N. Parsons*^a

^a Department of Chemical and Biomolecular Engineering, North Carolina State University, 911 Partners Way, Raleigh, NC 27695, U.S.A.

^b RTI International, 3040 East Cornwallis Road, Research Triangle Park, NC 27709, U.S.A.

^c Edgewood Chemical Biological Center, 5183 Blackhawk Road, Aberdeen Proving Ground, MD 21010, U.S.A.

^d School of Materials Science and Engineering, Georgia Institute of Technology, 771 Ferst Dr. NW, Atlanta, GA 30332, U.S.A.

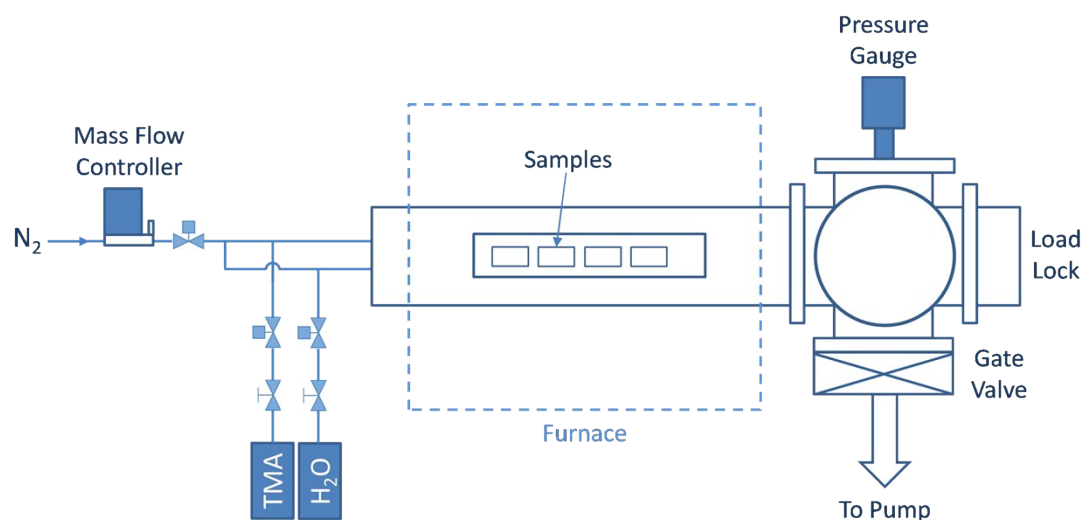


Figure S1. Schematic of the homemade hot-wall viscous-flow ALD reactor used for ALD Al₂O₃ coatings on fibers. In an ALD cycle, trimethylaluminum (TMA) and water are dosed sequentially into the chamber, with a purge step of inert gas (N₂) in between. Deposition temperature is controlled by the furnace, and all the gas lines and valves are wrapped with heating tapes to prevent precursor condensation.