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Formation and growth of lithium metal dendrites through solid block copolymer membranes KATHERINE HARRY, UC Berkeley, KENNETH HIGA, Lawrence Berkeley National Laboratory, NITASH BALSARA, UC Berkeley — Dendrite growth from lithium metal in electrochemical systems is the primary problem that precludes the wide use of lithium metal as an anode material. While polystyrene-block-poly(ethylene oxide) copolymer electrolytes extend cell life by suppressing dendrite growth, dendrites eventually do grow and the batteries fail by a short-circuit. *In situ* hard X-ray microtomography experiments coupled with stress simulations shed light on the formation and growth of dendritic structures through stiff solid polymer electrolyte membranes.

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