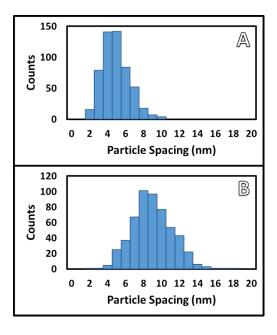
## SUPPORTING INFORMATION

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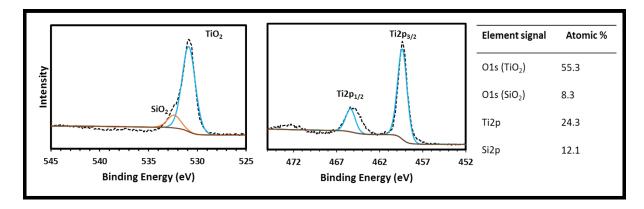
## Ultra-high aspect ratio functional nanoporous silicon via nucleated catalysts

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**Figure S-1.** Nano-island spacing for nucleated Au (A) and Ag (B) catalysts. Spacing is defined as the separation distance between the center of a nanoisland and the center of its closest neighboring pore. Histograms are based on TEM images shown in **Figure 1**.



**Figure S-2.** High resolution XPS scans of O and Ti from ALD-processed NPSi. O1s signal is deconvoluted to separate peaks associated with  $SiO_2$  and  $TiO_2$  oxygen signals. Deconvoluted data yields a final O:Ti ratio of 2.3. Dotted line represents original data, blue line represents fitted  $TiO_2$  data fit, and orange line represents  $SiO_2$  data fit.