

## Electronic Supplementary Information

### Three-dimensional Branched SiC Nanowires Field Emitters with Single-crystal Integrated Structures and Increased Emission Sites: Ultralow Turn-on Filed and High Stability

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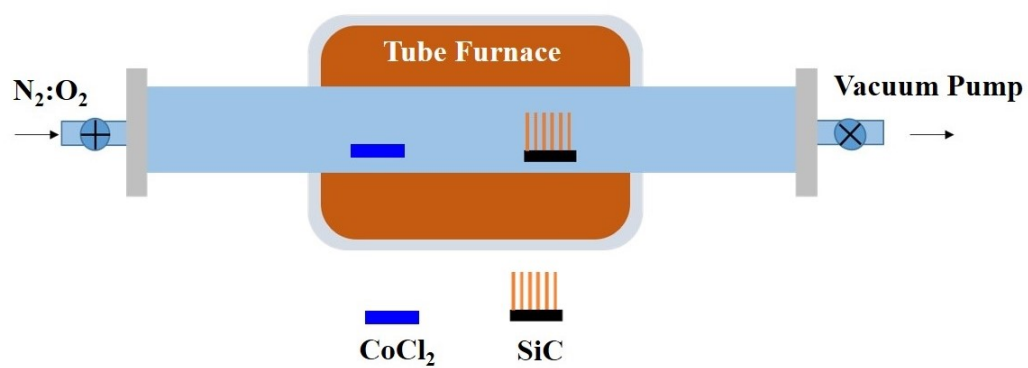
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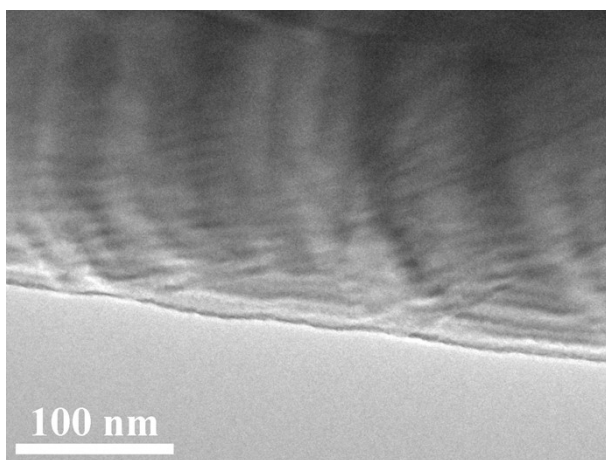
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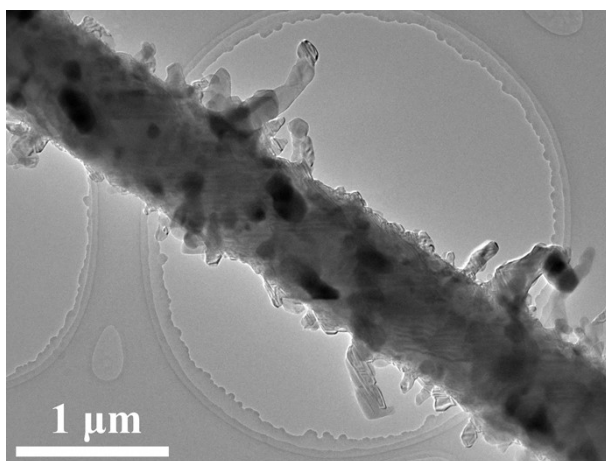
† Electronic supplementary information (ESI) available. See DOI :XXX



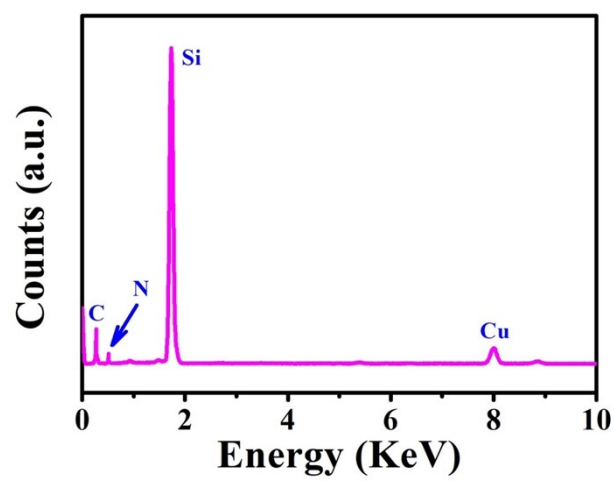
**Fig. S1** Schematic diagram of the catalyst was epitaxial grown on SiC backbone nanowires surface by a gas-phase in-situ cation exchange method.



**Fig. S2** TEM image of S0 under high magnification.



**Fig. S3** TEM image of S24 under low magnification.



**Fig. S4** EDX spectrum recorded from the 3D branched SiC nanowires.