Electronic Supplementary Material (ESI) for Nanoscale.

Supplementary Information

An Emission Stable Vertical Air Channel Diode by Low-cost and IC Compatible BOE Etching Process

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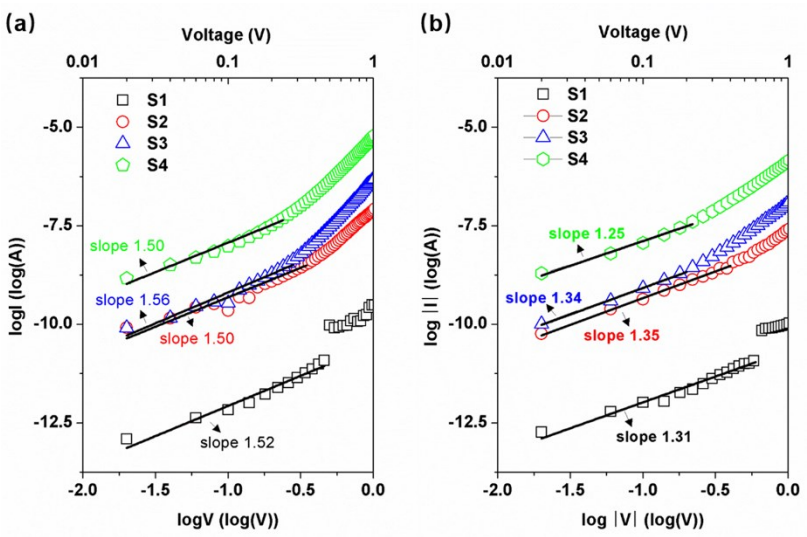

Supplementary Fig. S1 The SCL emission in the low voltage range (＜0.5 V). (a) The log-log plot for forward currents with the slope close to 1.50. (b) The log-log plot for reverse currents with the slope smaller than 1.50.

Table 1 Comparison of the field to induce field emission in air.

Structure Type	Channel Length (nm)	Turn-on Voltage (V)	Turn-on Field (V/nm)	Reference
Planar transistor	34	-	0.0176	6a
Planar diode	10	0.46	0.0460	6b
Vertical diode	-	-	0.0029	16a
Graphene	100000	-	0.001	16b
Nanofiber bundles	500000	-	0.0008	16c
Planar diode	24	0.2	0.0083	5
Planar transistor	190	2	0.0053	17a
This work	80	＞1	＞0.0125	-

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