Supporting Material for publication

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Influence of cooling-induced edge morphology evolution on H2 etching of chemical vapor deposition graphene domains

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6 7 8 Figure S1 shows that the etching trenches were also observed on the graphene domains with jagged edges after 30min etching. The jagged edges were not etched away (the red dotted line region corresponds to the jagged edges), which indicated that the edge etching has no connection with the morphology of edge.



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Figure S1. SEM image of the graphene domains with jagged edges after 30min etching.

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Figure S2a displays an optical microscope image of the two types of etched trenches (A, striated and B, reticular) corresponding to different Cu crystal orientations. The etched trenches with different morphologies were observed via the SEM images (Figure S2b and c). However, the etching from the edge was not observed. Thus, the edge etching is independent of the Cu crystal orientation.



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Figure S2. (a) Optical microscope image of the etched graphene domains. (b) and (c) SEM images of the two types of etched trenches on graphene domains.