Supplementary Information
Lateral homoepitaxial growth of graphene

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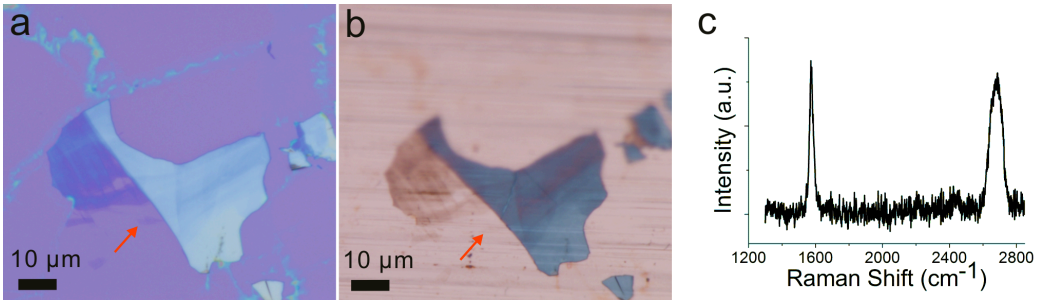

FIG. S1. Optical microscopy (OM) image of thin graphite flakes transferred from (a) a SiO_2 (300 nm) /Si substrate to (b) a copper foil substrate. (c) Raman spectrum taken in the red arrow indicated area in (b) (substrate signal subtracted).

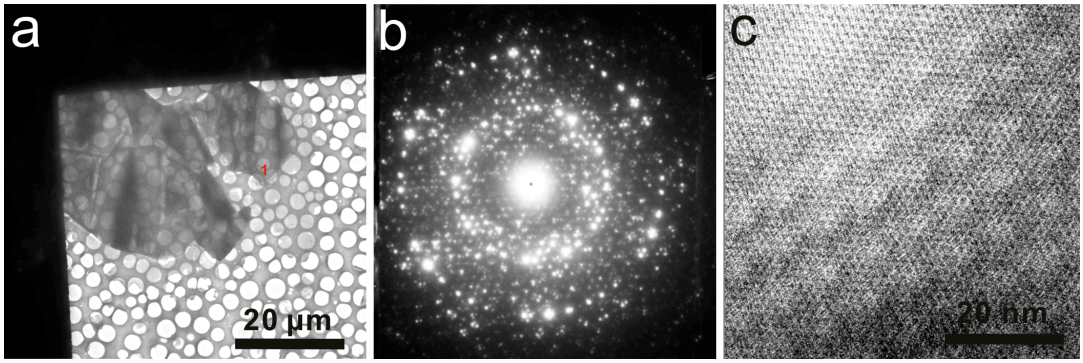

FIG. S2. (a) Low magnification TEM image of an exfoliated graphite flake after CVD process. (b) Complicate SAED patterns taken from the denoted area in (a). (c) Moiré patterns can be observed all over the graphite flake.

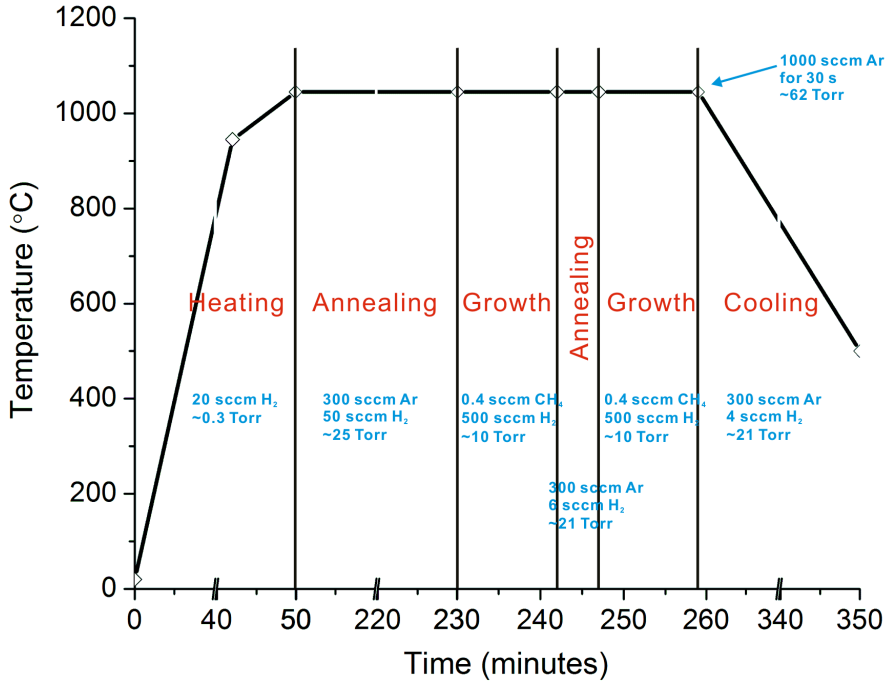

FIG. S3. Temperature diagram of the two-step growth method that resulted large graphene grains.