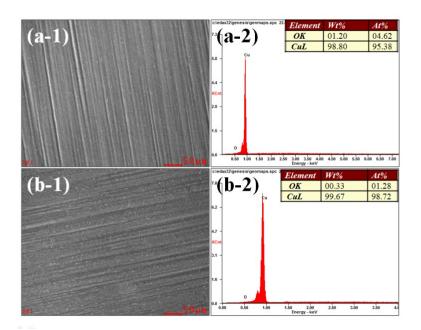
## **Supplementary Information**

## Growth of graphene with large single crystal domain by Ni foam assistant structure and its high-gain field-effect transistors

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**Fig. S1** (a-1), (a-2) SEM and EDX of Cu foil with Ni foam assistant structure after heat treatment, the O atomic ratio on Cu surface is 4.62%; (b-1), (b-2) SEM and EDX of Cu foil without Ni foam assistant after heat treatment, the O atomic ratio on Cu surface is 1.28%.

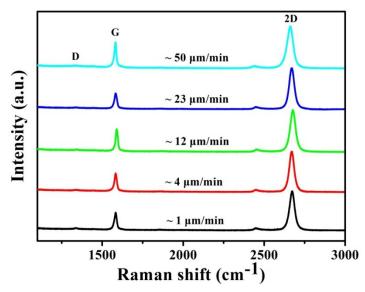


Fig. S2 Raman shifts of graphene samples with different growth rates.

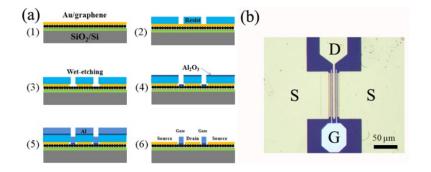


Fig. S3 (a) Fabrication schedule, and (b) OM image of graphene FET.