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Fabrication of graphene device from graphite intercalation compound RYUTA YAGI, HIROAKI KOBARA, MIDORI SHIMOMURA, FUMIYA TAHARA, SEIYA FUKADA, AdSM, Hiroshima University — The mechanical exfoliation of graphite is possibly the simplest and practical method in laboratories to obtain graphene flakes for scientific research. However efficiency for obtaining graphene, with desired layer-number and size, depends largely on crystal specific characters, eg., dislocations. To improve the issue, we have adopted graphite intercalation compound (GIC) instead of graphite for a starting material. Generally, GIC is chemically active. We used SbCl_5 -GIC, which is stable in the atmosphere. Stage structure of SbCl_5 -GIC could be tuned by temperature of intercalation. We found that considerable number of undoped graphene flakes coexisted with thin SbCl_5 -GIC flakes, on a substrate where flakes were transferred. Statistical inspection of number of graphene layer indicated that it is significantly dependent on the stage number of GIC.

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