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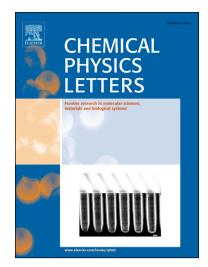
#### Research paper

Large area nanometer thickness graphite freestanding film without transfer process

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## ACCEPTED MANUSCRIPT

#### Large area nanometer thickness graphite freestanding film without transfer process

Tae-Sung Kim<sup>1</sup>, Dong-Wook Shin<sup>2</sup>, Seul-Gi Kim<sup>1</sup>, Mun Ja Kim<sup>3</sup>, and Ji-Beom Yoo<sup>1\*</sup>

<sup>1</sup>SKKU Advanced Institute of Nanotechnology (SAINT), Sungkyunkwan University, Suwon, 440746, Republic of Korea.

<sup>2</sup>College of Engineering, Mathematics and Physical Sciences, University of Exeter, Stocker road, Exeter, EX4 4QL, United Kingdom

<sup>3</sup>Mask Development Team, Semiconductor R&D Center, SAMSUNG ELECTRONICS CO., Ltd, Hwaseong, 445-701, Republic of Korea

\*corresponding author: jbyoo@skku.edu

#### Abstract

We fabricated the large-area (3x3 cm<sup>2</sup>) freestanding nanometer thickness graphite film (NGF) using transfer free process. NGF was grown on Cu foil using CVD and Cu foil is used as the frame of NGF freestanding film. Thickness of the NGF was controlled by gas flow and growth time. Transfer-free process was achieved by selective etching of Cu foil and dipping NGF in alcohol of low surface tension. Freestanding NGF reveals excellent EUV transmittance. This method allowed us to simplify the fabrication process for freestanding film without transfer process and demonstrated a possibility for HVM of pellicle for EUV lithography.

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