

Electronic Supplementary Information

2D group-VA fluorinated antimonene: synthesis and saturable absorption

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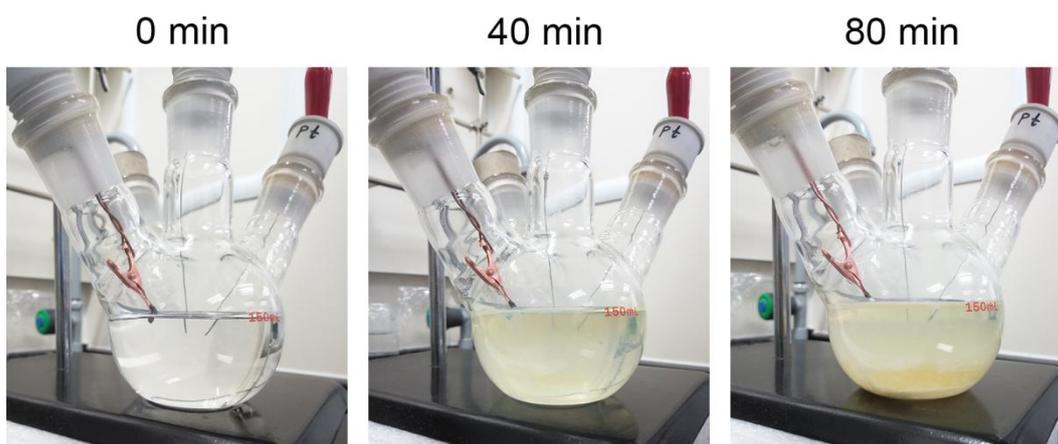


Figure S1. Snapshots of the room temperature ionic liquid-assisted electrochemical exfoliation and synchronous fluorination process of Sb in 0.15 M [BMIM][PF₆]/MeCN electrolyte. The electrolyte is discolored from transparent to light yellow. White precipitates are exfoliated from the anodic Sb.

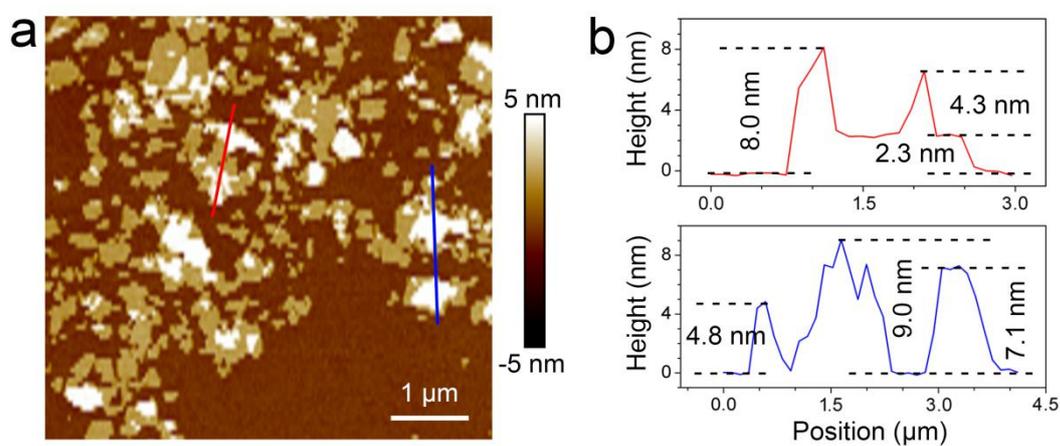


Figure S2. (a) Large-area AFM topographic image of the synthesized FA. The white color terrace regions confirm the existence of the stacking of FA nanosheets. (b) Height profiles of FA in the positions denoted by the red and blue solid lines in (a).

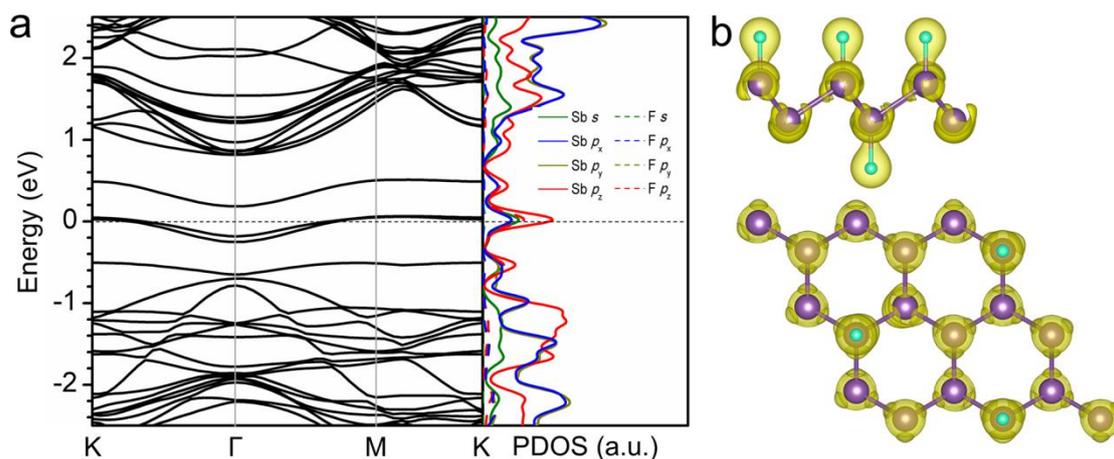


Figure S3. (a) Energy spectrum, (b) PDOS, and (c) charge density distribution of Sb18F4 with F atoms adsorbed on two sides. Sb (F) atoms are presented by purple (light blue) balls.

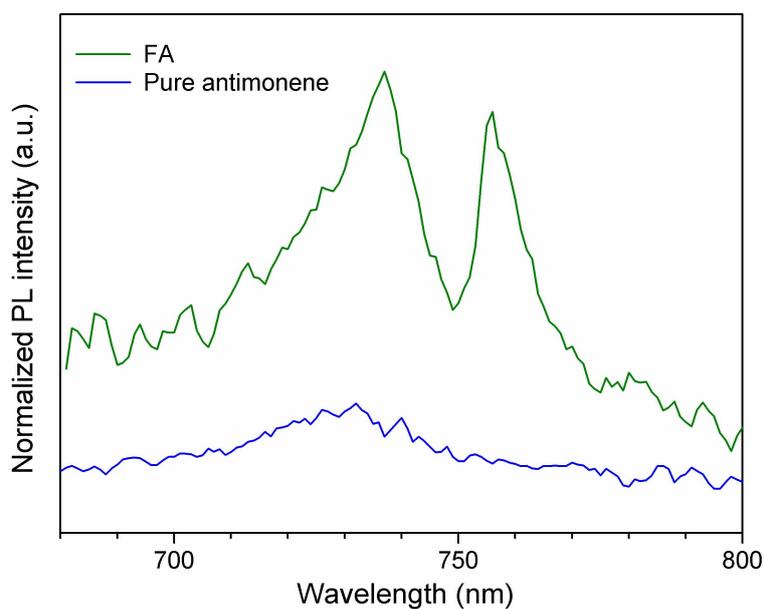


Figure S4. Photoluminescence spectra of fluorinated and pure antimonene excited by a 532 nm laser.