Supporting Information

A Self-Encapsulated Broadband Phototransistor Based on the Hybrid of Graphene and Black Phosphorus Nanosheets

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Figure S1. Raman spectrum of graphene on SiO2 substrate.
Figure S2. Transfer characteristics ($V_{DS}=0.1$ V) of the phototransistor based on graphene-BP characterized under different radiant fluxes with the wavelengths of a) 405 nm, b) 532 nm, and c) 785 nm; d) Transfer characteristics ($V_{DS}=0.5$ V) of the phototransistor without BP nanosheets under the illumination of four different light sources with each the highest intensity.
Figure S3. Responsivities as functions of $V_{DS}$ ($R \sim V_{DS}, V_G = 0$) with different radiant fluxes for light of a) 360 nm, b) 405 nm, c) 532 nm, and d) 785 nm.