

Supplementary Materials for

High Photo Response Black Phosphorus TFTs Capping with Transparent Hexagonal Boron Nitride

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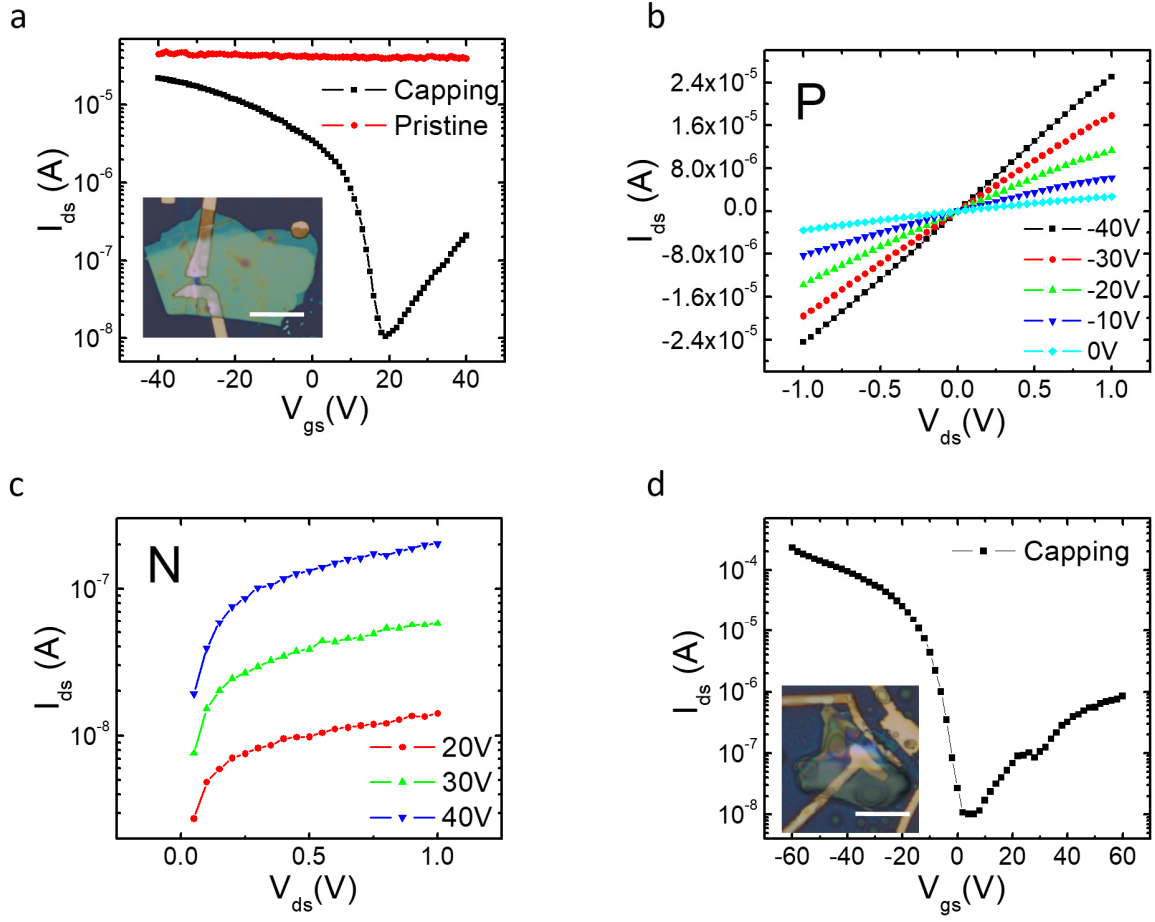


Figure S1, a, shows ambipolar characteristic of h-BN capped BP devices (hBN2) and **b, c**, show output characteristics of the device (hBN2) in P- and N-type operations, respectively. **d**, shows ambipolar characteristic of h-BN capped BP devices (hBN3). The scale bar indicates 5 μ m.

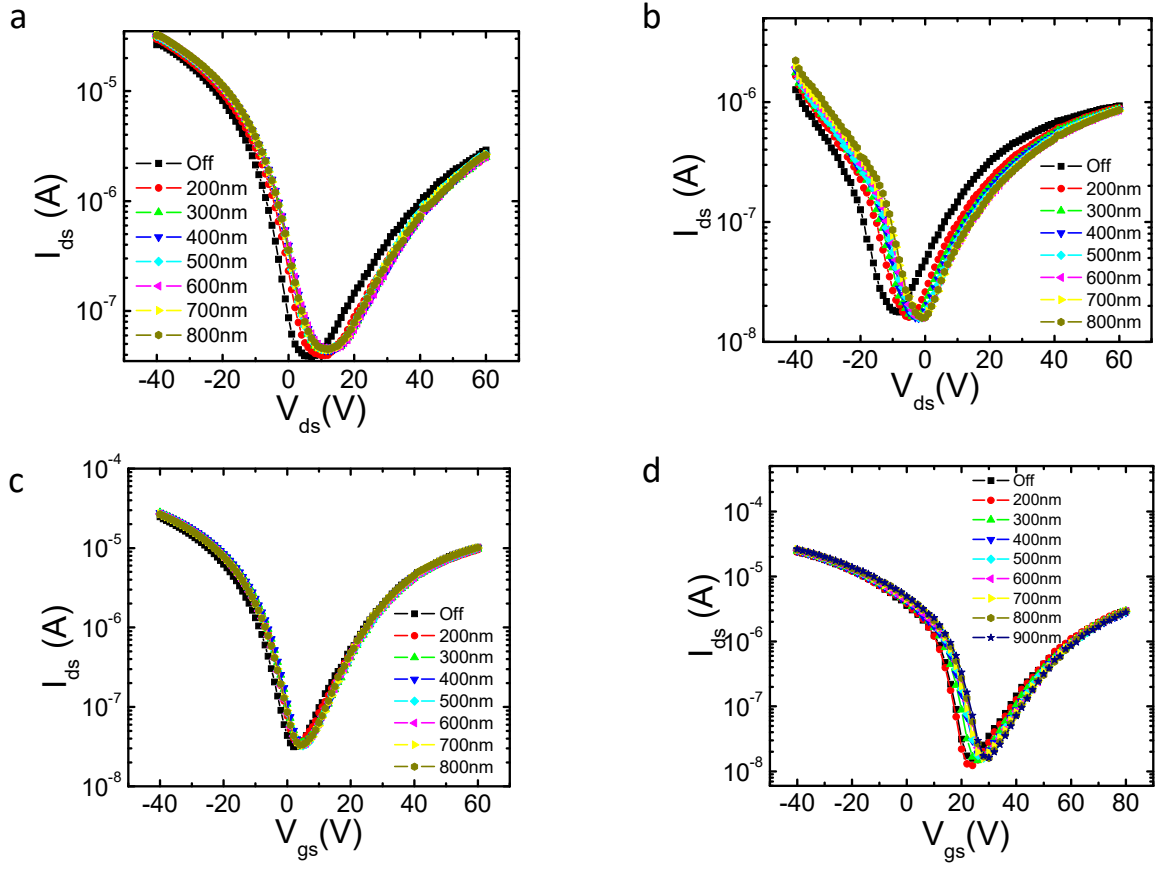


Figure S2 a, b, c, and d shows photocurrent generated upon monochromatic light illumination (wavelength ranging from 200 to 900 nm) of BP devices hBN1 and hBN2.

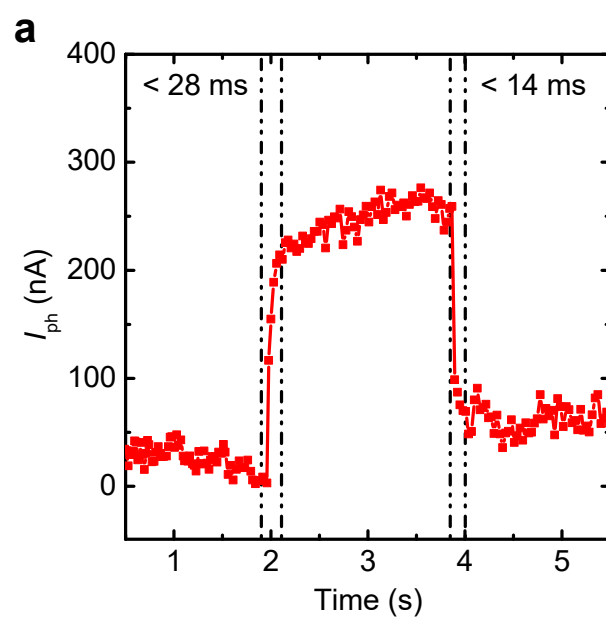


Figure S3, a, The photocurrent response.

Strategy	Electron Mobility (cm ² /Vs)	Reference
h-BN capping	78	This work
AlO _x encapsulated	<30	Ref. ¹
MoO ₃ or Cs ₂ CO ₃ doping	27	Ref. ²
Ni or Pd contact	<20	Ref. ³
Al ₂ O ₃ capping	38	Ref. ⁴
Gr electrode	40	Ref. ⁵

Table S1 Comparison of electron mobility.

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