

## Supporting information

### Reducing the contact and channel resistances of black phosphorus via low-temperature vacuum annealing

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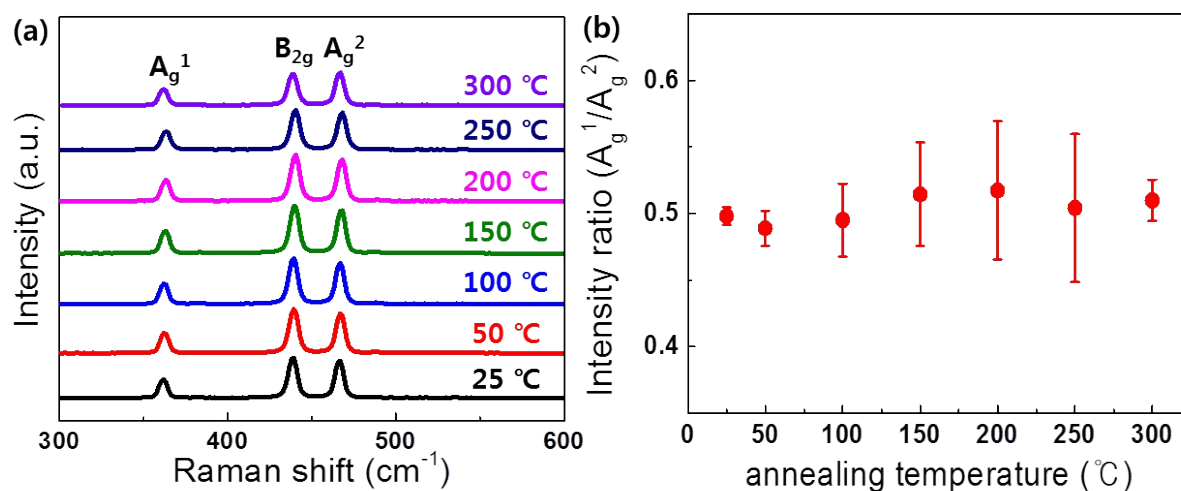


Figure S1 (a) micro-Raman spectra and (b) intensity ratio (A<sub>g</sub><sup>1</sup>/A<sub>g</sub><sup>2</sup>) of BP vacuum-annealed at different temperatures

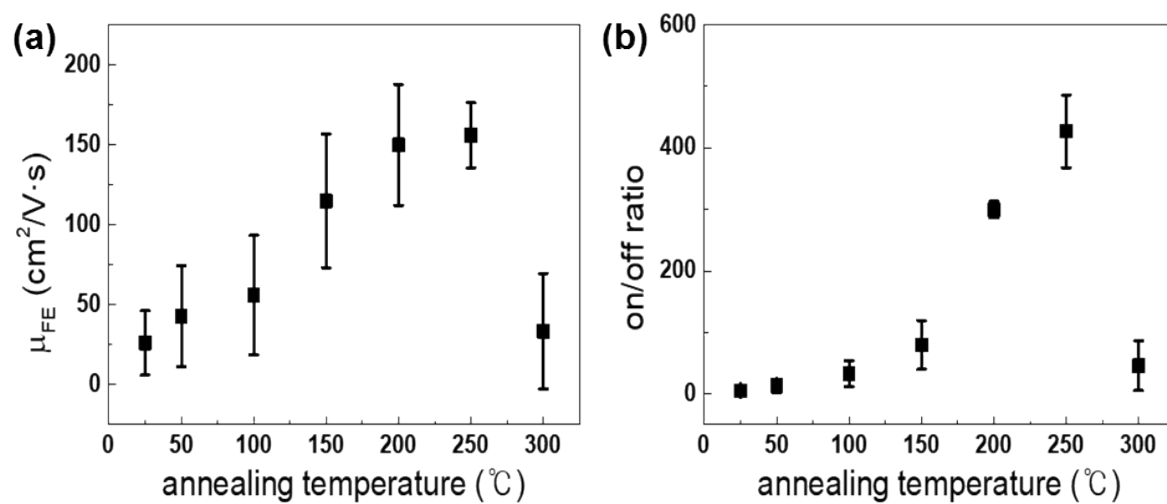


Figure S2 (a)  $\mu_{FE}$  and on/off ratio of BP FETs vacuum-annealed at different temperatures