

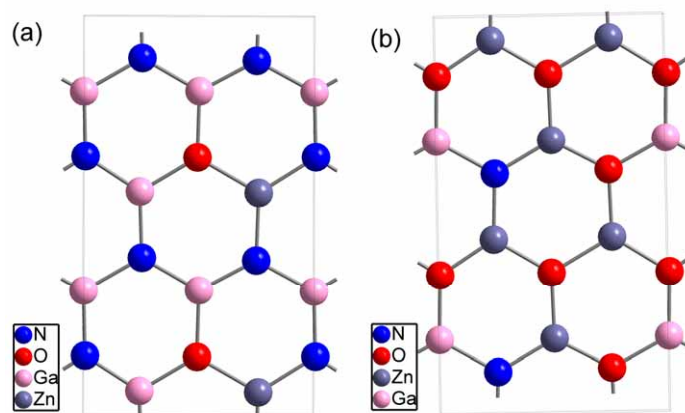
# Graphitic GaN-ZnO and corresponding nanotubes

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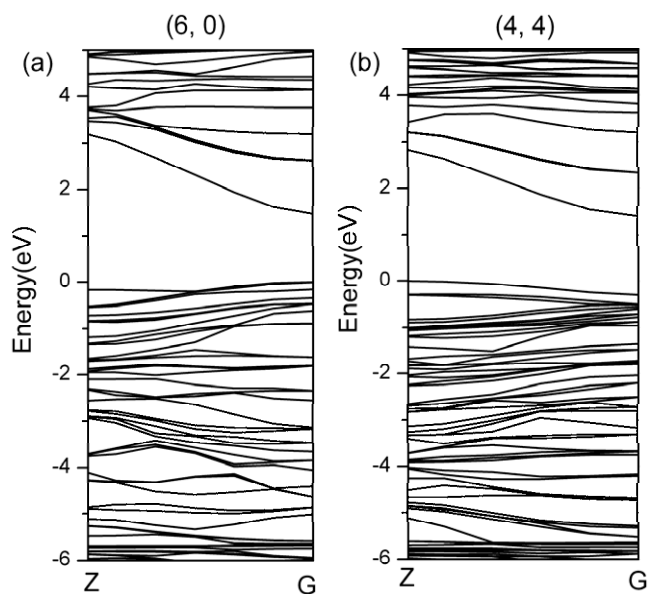
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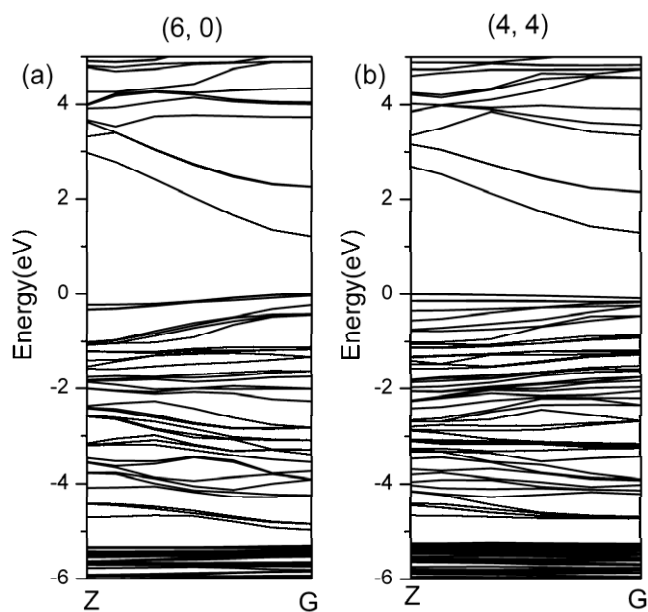
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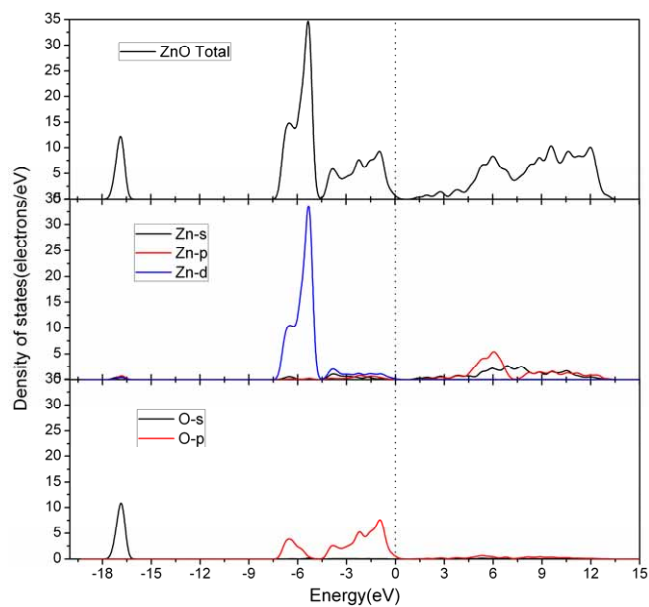
**Figure S1:** The most stable configurations of GaN-ZnO nanosheets with ZnO concentrations of (a) 25% and (b) 75%.



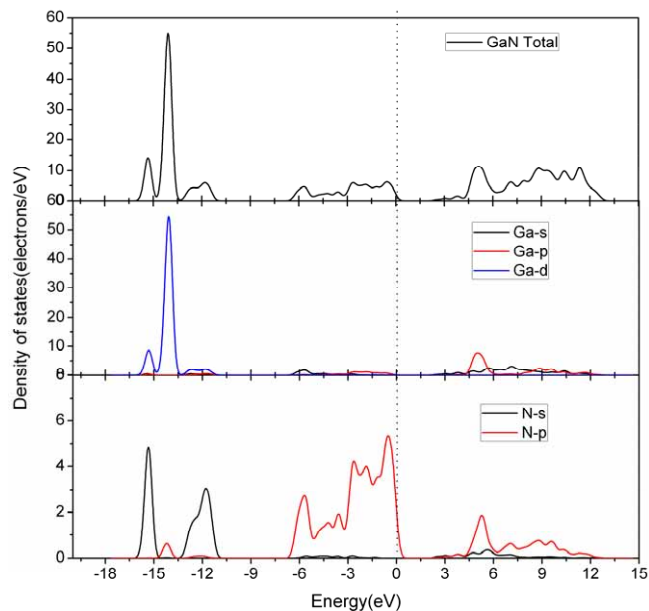
**Figure S2:** Band structures of (a) (6, 0) and (b) (4, 4) GaN-ZnO nanotubes with ZnO concentrations of 25%.



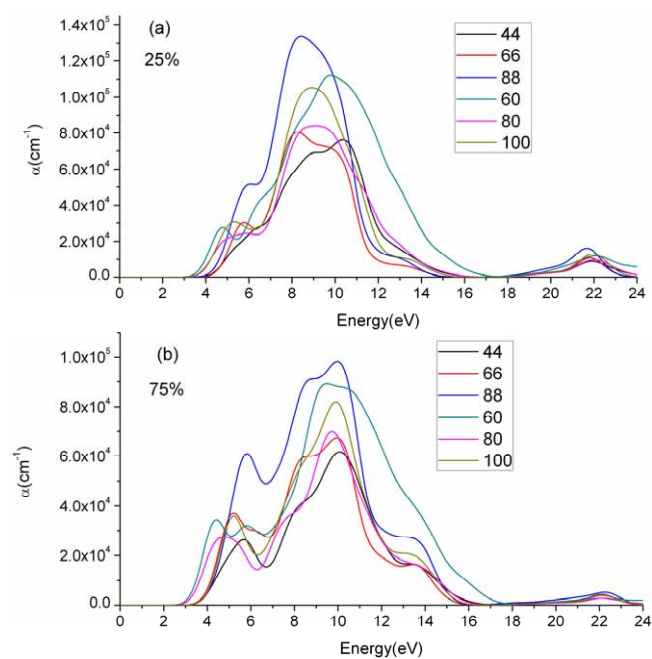
**Figure S3:** Band structures of (a) (6, 0) and (b) (4, 4) GaN-ZnO nanotubes with ZnO concentrations of 75%.



**Figure S4:** The total and partial density of states of pure ZnO nanosheet.



**Figure S5:** The total and partial density of states of pure GaN nanosheet.



**Figure S6:** The absorption spectra of the GaN-ZnO nanotubes with ZnO concentrations of (a) 25% and (b) 75%.