

Figure S1. XPS (a) C 1s and (b) O 1s spectrum of the graphene after non-covalent BP2T functionalization.

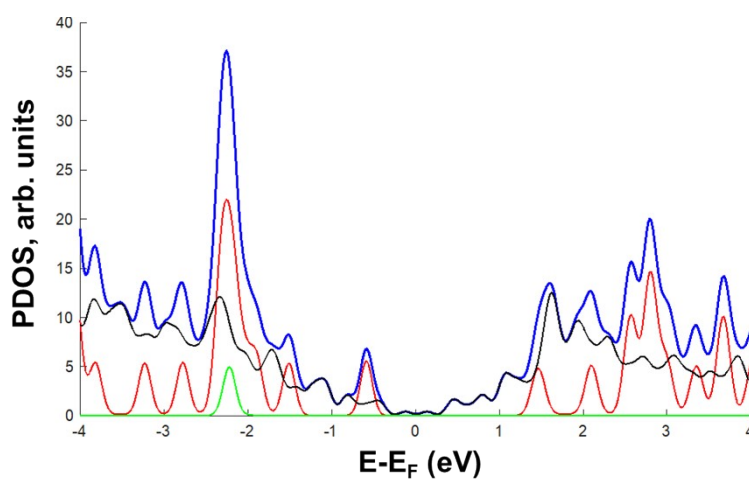


Figure S2. Projected density of states (blue) expanded into graphene (black), BP2T (red) and NH_3 contributions.

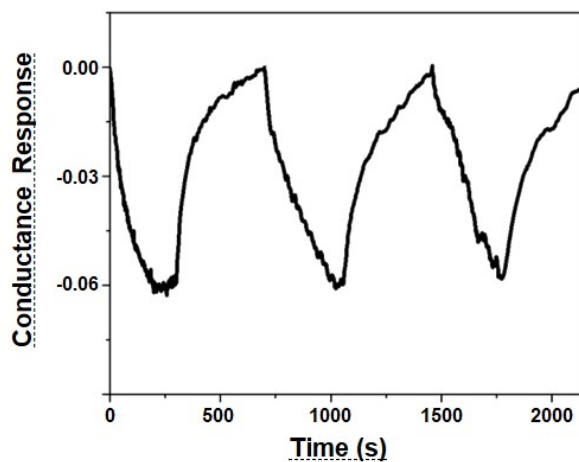


Figure S3. The multiple gas sensing experiment of graphene sensor with 2h non-covalent BP2T functionalization time after 3-month fabrication.

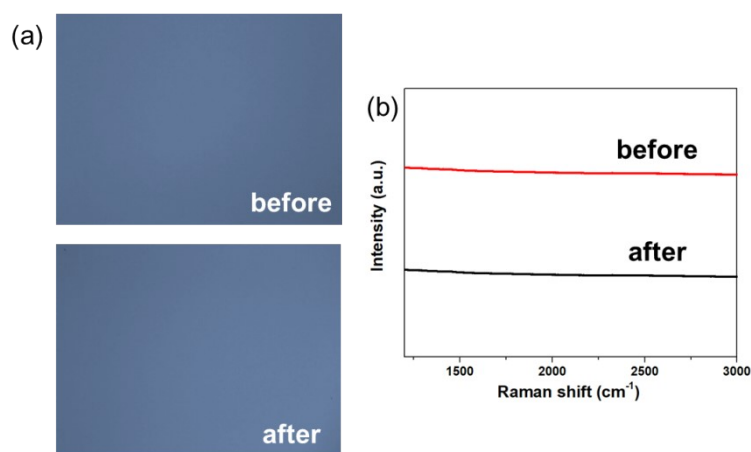


Figure S4. Control experiment by using a SiO₂/Si substrate immersed in the BP2T/toluene solution

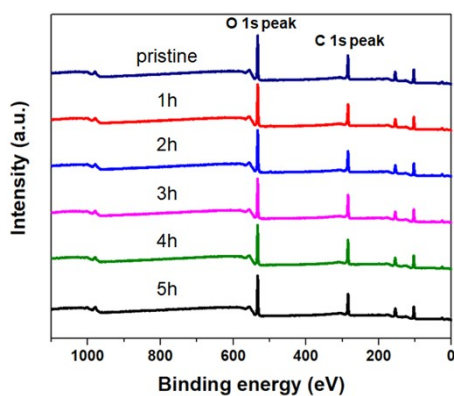


Figure S5. XPS survey comparison of graphene with various non-covalent BP2T functionalization time from pristine (0h) to 5h.