†Electronic Supplementary Information

Boron-doped few-layer graphene nanosheet gas sensor for enhanced ammonia sensing at room temperature

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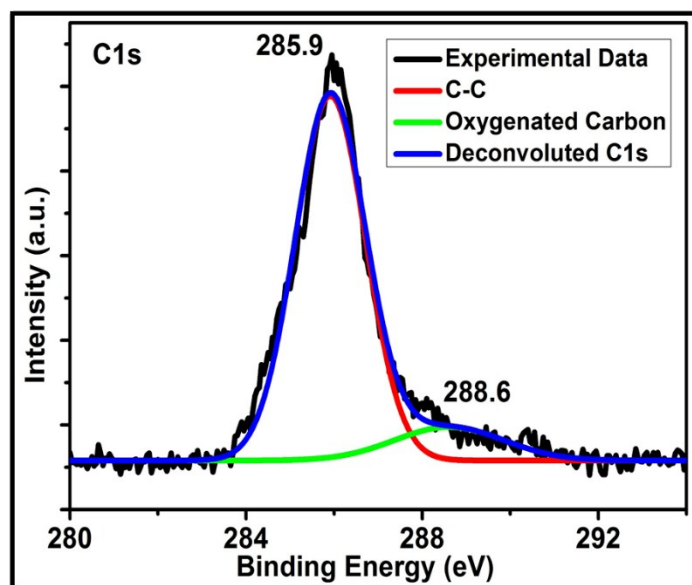*Email: tdsen@nplindia.org, bipinbhu@yahoo.com

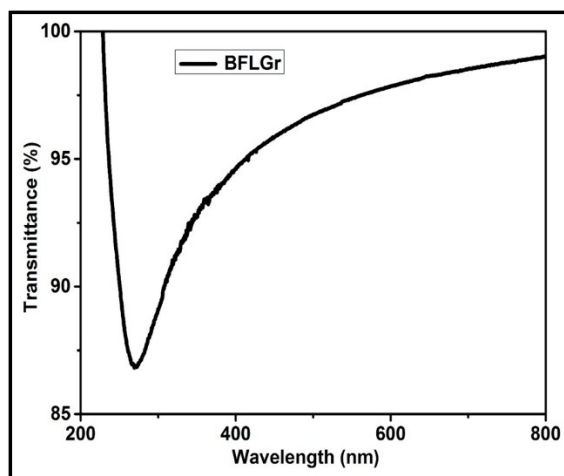**Figure S1.** Deconvoluted C1s core level spectra of PFLGr nanosheets.
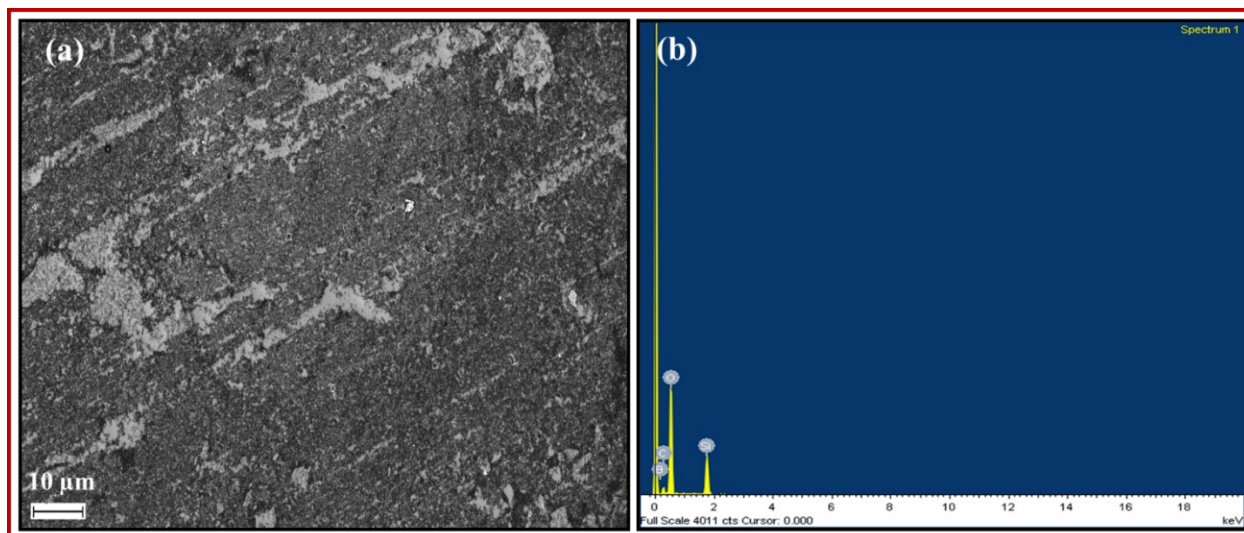
Figure S2. Transmittance spectra of BFLGr nanosheet.

Figure S3. (a) FESEM image, and (b) EDX spectrum of small area of BFLGr nanosheet on Si/SiO$_2$ substrate.
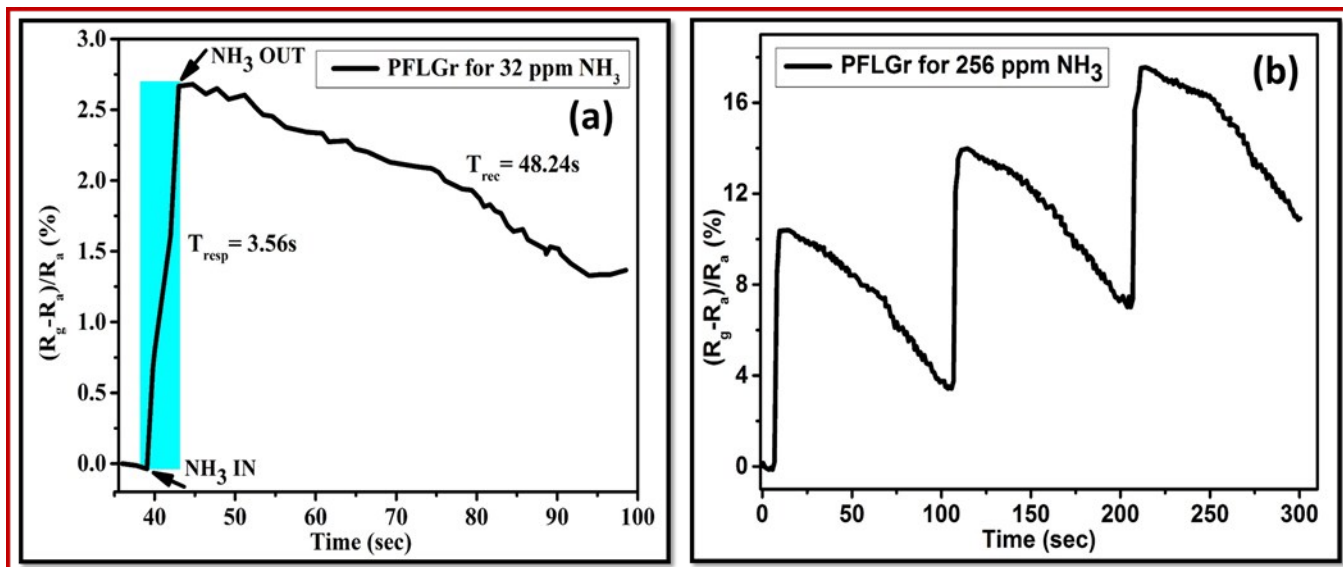
Figure S4. (a) Response –recovery cycle, and (b) Repeatability cycles of PFLGr sensor.
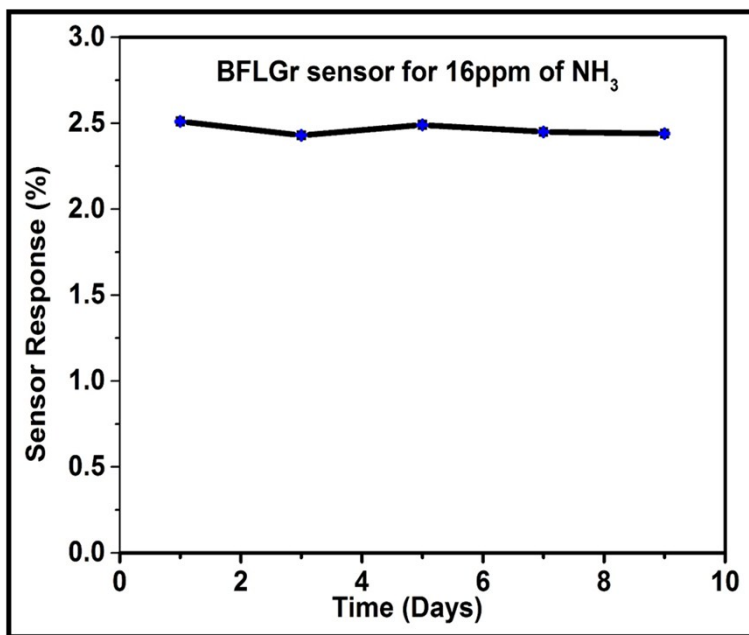

Figure S5. Stability study of BFLGr sensor with error bar for 16ppm of NH_3 as a function of time in days.
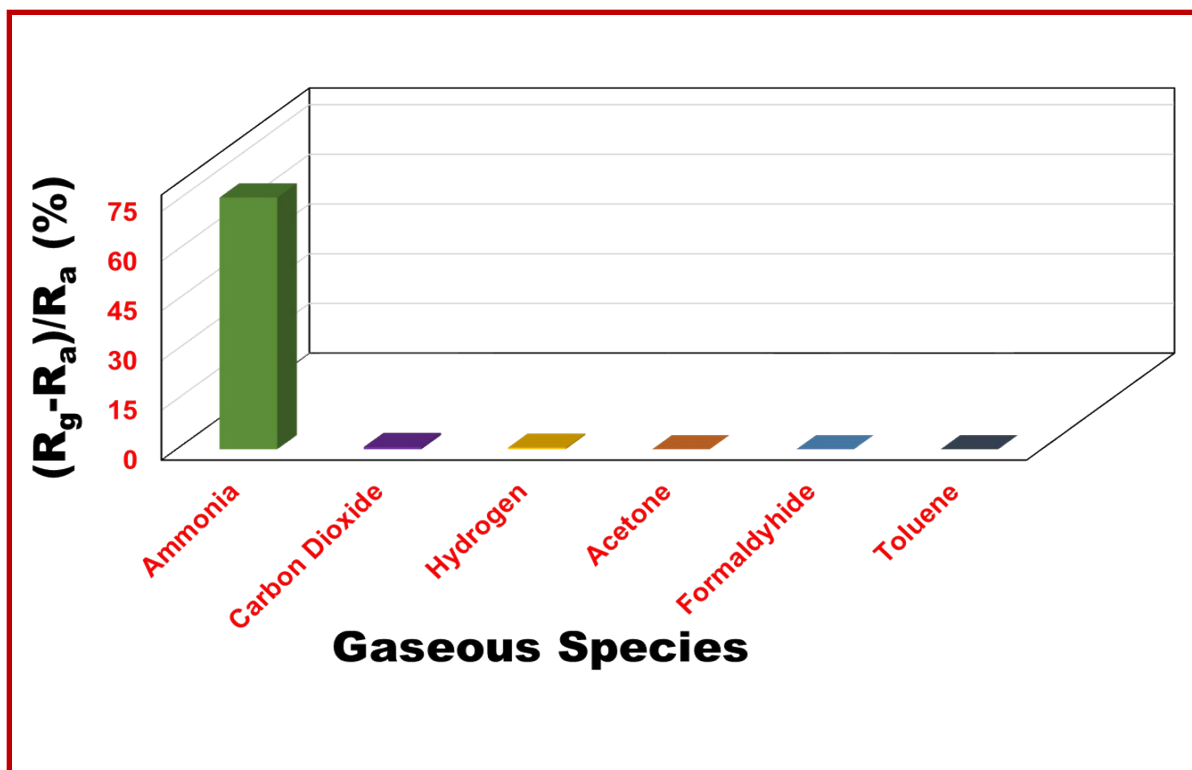
Figure S6. Selectivity plot of BFLGr sensor.

Table S1. Peak positions and intensity ratios of Raman spectra of PFLGr and BFLGr nanosheets.

Sample	D Peak (cm^{-1})	G Peak (cm^{-1})	D' Peak (cm^{-1})	2D Peak (cm^{-1})	I_{2D}/I_G	I_D/I_G	$I_D/I_{D'}$
PFLGr	1350	1581	-	2699	0.91	0.69	-
BFLGr	1353	1584	1623	2705	0.88	0.84	1.25

Table S2. Performance table of Boron doped CVD graphene sensors for ammonia sensing.

Material	Operating temperature (^oC)	Concentration (ppm)	Response (%)	Response Time/Recovery Time (s/s)	Reference
B-doped CVD Graphene	RT (In situ UV illumination)	1	0.9 (estimated from graph published in paper)	200/- (estimated from graph published in paper)	42
B-doped Few layer Graphene	65^0C	250	30 (estimated from graph published in paper)	300/- (estimated from graph published in paper)	43
Boron doped Few Layer CVD Graphene (BFLGr)	**RT**	**16**	**2.6**	**0.85/36.3**	**This work**