

Supplementary Information (SI)

**Electronic and Molecular Adsorption Properties of Pt-doped
BC₆N: An Ab-initio Investigation**

Nada M. Alghamdi¹, Mohamed M. Fadlallah^{2,*}
Hind M. Al-qahtani³, and Ahmed A. Maarouf^{4†}

¹ *Department of Physics, College of Science,
Imam Abdulrahman Bin Faisal University, Dammam 31441, Saudi Arabia*

² *Physics Department, Faculty of Science,
Benha University, Benha 13518, Egypt*

³ *Department of Physics, College of Science and Humanities,
Imam Abdulrahman Bin Faisal University, Jubail 3196, Saudi Arabia and*

⁴ *Department of Physics, Faculty of Basic Sciences,
German University in Cairo, New Cairo City 11835, Egypt*

* mohamed.fadlallah@fsc.bu.edu.eg

† ahmed.maarouf@guc.edu.eg

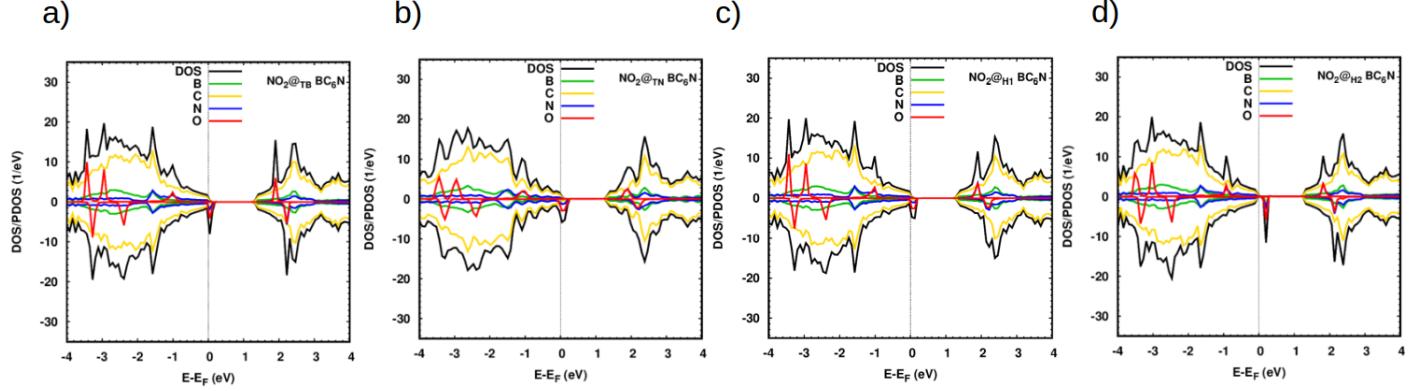


FIG. S 1. DOS/projected DOS (PDOS) of: (a) $\text{NO}_2@\text{TB}\text{BC}_6\text{N}$, (b) $\text{NO}_2@\text{TN}\text{BC}_6\text{N}$, (c) $\text{NO}_2@\text{H}_1\text{BC}_6\text{N}$ and (d) $\text{NO}_2@\text{H}_2\text{BC}_6\text{N}$.

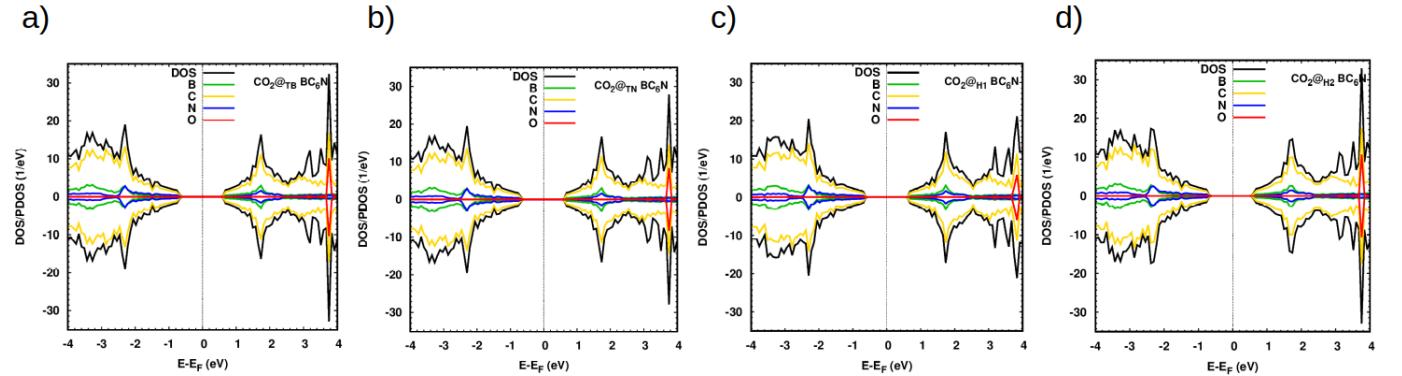


FIG. S 2. DOS/projected DOS (PDOS) of: (a) $\text{CO}_2@\text{TB}\text{BC}_6\text{N}$, (b) $\text{CO}_2@\text{TN}\text{BC}_6\text{N}$, (c) $\text{CO}_2@\text{H}_1\text{BC}_6\text{N}$ and (d) $\text{CO}_2@\text{H}_2\text{BC}_6\text{N}$.

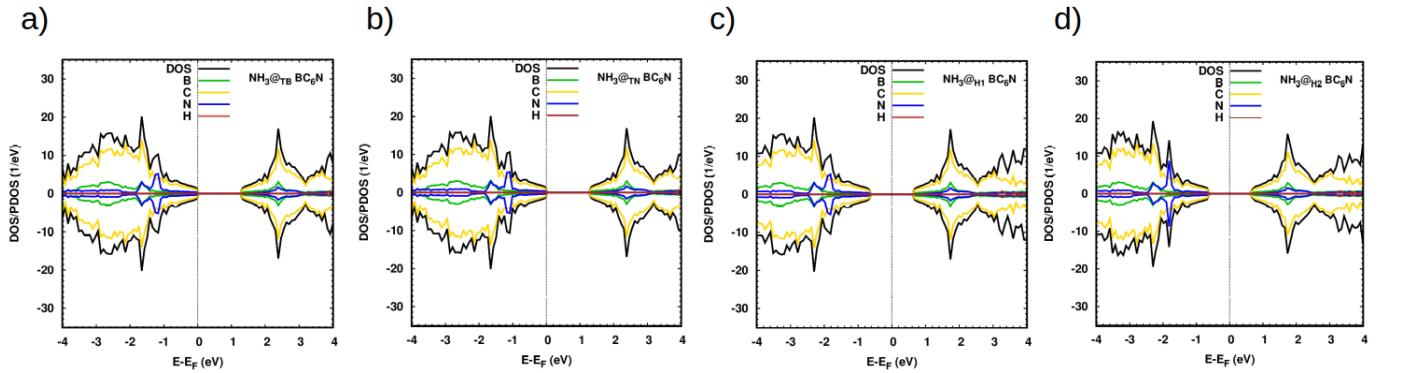


FIG. S 3. DOS/projected DOS (PDOS) of: (a) $\text{NH}_3@\text{TB}\text{BC}_6\text{N}$, (b) $\text{NH}_3@\text{TN}\text{BC}_6\text{N}$, (c) $\text{NH}_3@\text{H}_1\text{BC}_6\text{N}$ and (d) $\text{NH}_3@\text{H}_2\text{BC}_6\text{N}$.