## Supporting Information for: $CO_2$ capture using boron, nitrogen, and phosphorus-doped $C_{20}$ in the present electric field: DFT study

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Figure S1: Variation of cohesive energy for  $C_{20}$  and  $C_{20-n}X_n$  (n= 1, 2, and 3; X= B, N, and P) in 0–0.02 *a.u.* electric field.



Figure S2: Variation of (a) adsorption energy (eV) (b) adsorption height (Å) (c)  $CO_2$  angle (°) for  $C_{20}$  and  $C_{20-n}X_n$  (n=1, 2, and 3; X=B, N, and P) in 0 – 0.02 *a.u.* electric field.