

Supporting Information

Few-layer Graphene-like Boron Nitride Induced Remarkable Adsorption Capacity for Dibenzothiophene in Fuels

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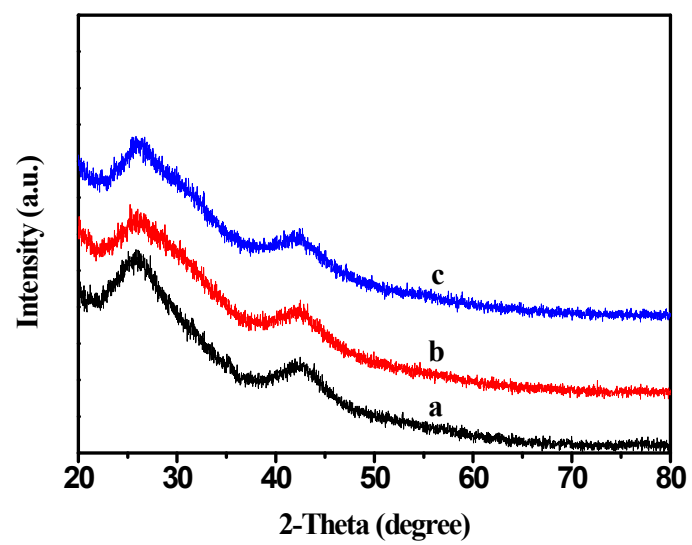


Figure S1. XRD pattern of BN-6 (a), BN-12 (b) and BN-24 (c).

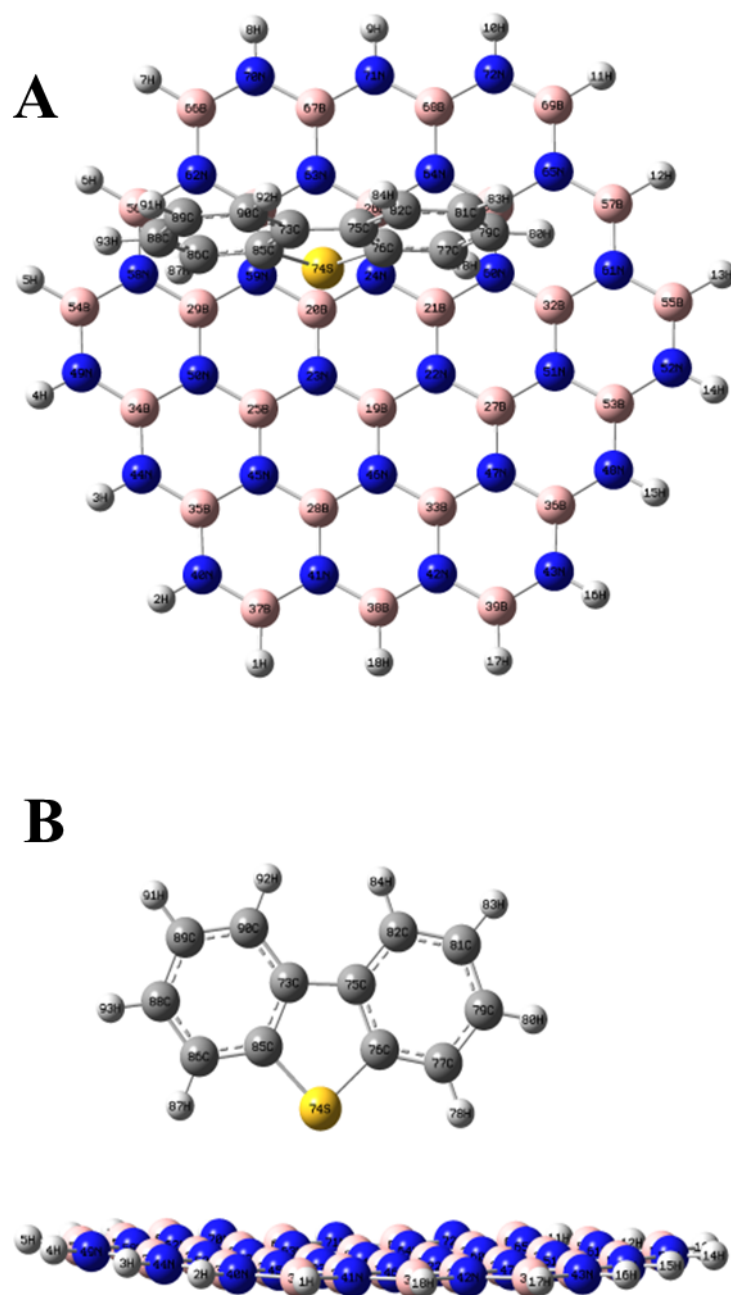


Figure S2. Optimized vertical adsorption structure of DBT adsorption on BN surface. (A) Top view, (B) Side view.

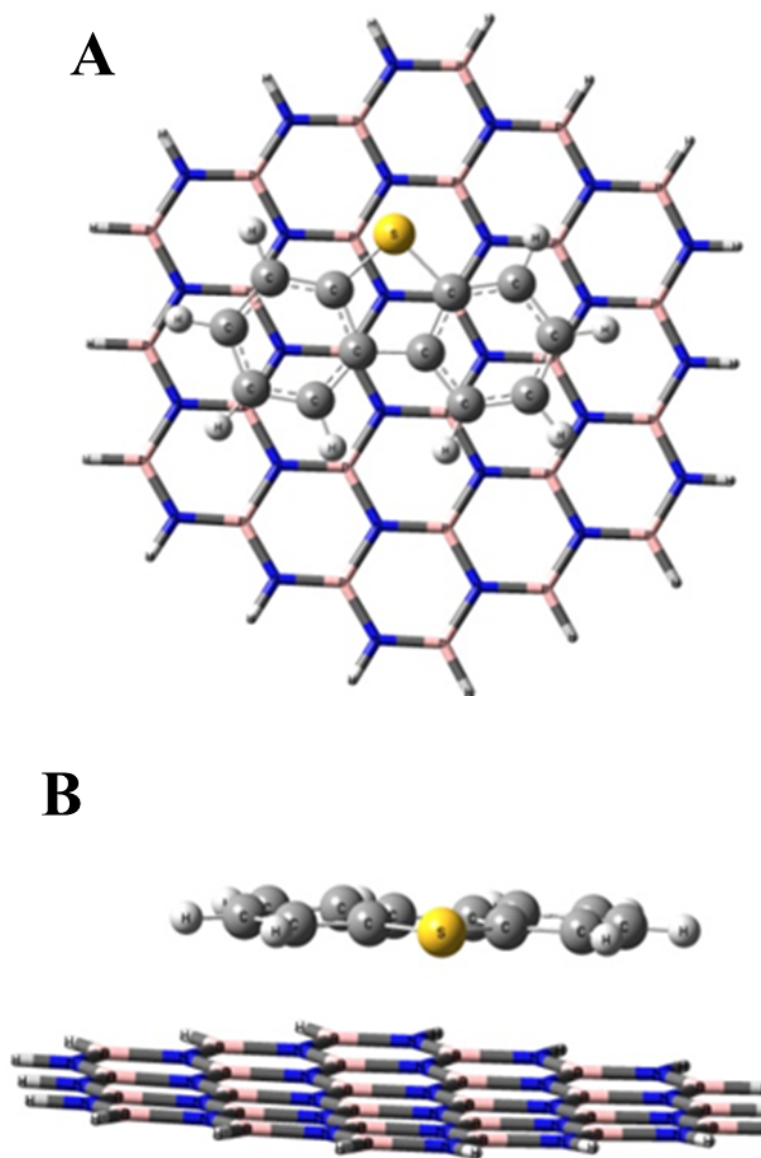


Figure S3. Optimized paralleled adsorption structure of DBT adsorption on BN surface. (A) Top view (B) Side view.

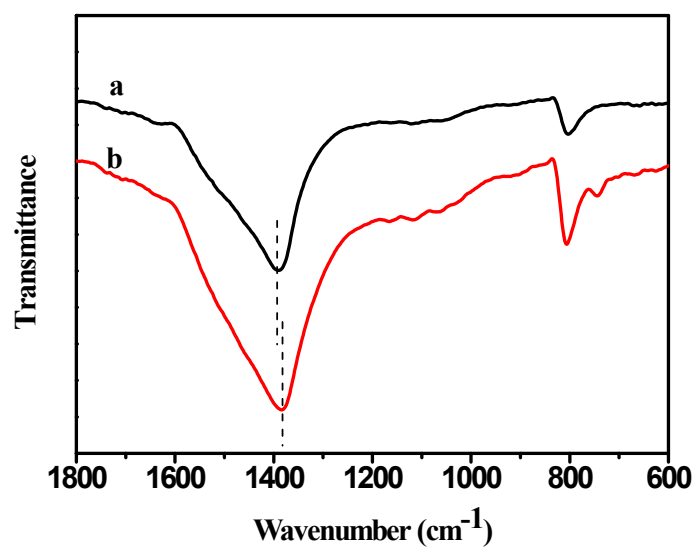


Figure S4. FTIR spectra of BN-24 before adsorption (a) and after adsorption (b).

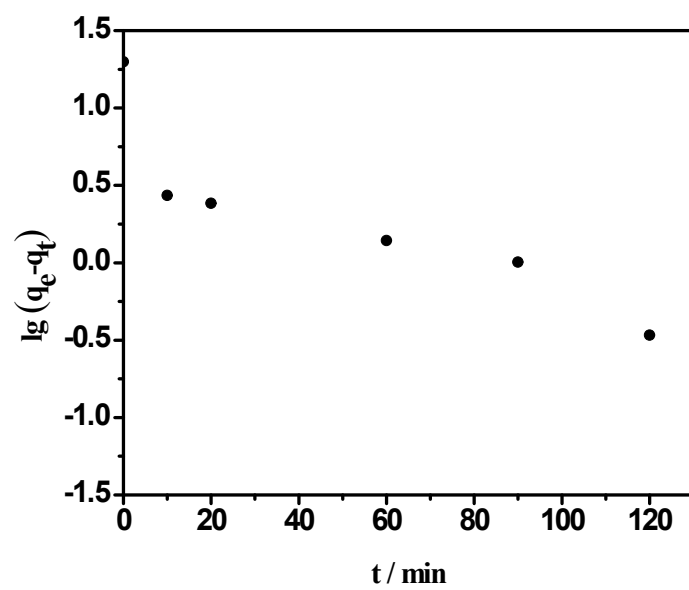


Figure S5. The plots of pseudo-first-order kinetic model for DBT adsorption onto the BN-24.

Table S1. Adsorptive capacities of different adsorbents for DBT.

Entry	Adsorbent	Initial concentration (ppm(S))/System	T (K)	Adsorptive capacity (mg S g ⁻¹ adsorbent)	Ref.
1	Novel mixed matrix membranes (MMMs)	430/ fixed bed	298	9.5	1
2	Activated carbon	1474/ batch	303	10.39	2
3	Reduced NiY	1474/ batch	303	9.17	2
4	AgY	1474/ batch	303	7.6	2
5	Alumina	1474/ batch	303	1.35	2
6	CeY	216/ batch	298	2.96	3
7	rice hull-based carbons	300/ batch	298	6.43	4
8	magnetic mesoporous carbon (Ni-CMK-3)	654.8/ batch	313	10.79	5
9	CMK-5	654.8/ batch	298	21.75	6
10	sewage sludge-derived activated carbons (S-ACs)	100/ batch	303	14.12	7
11	porous glass beads	500/ batch	303	8.58	8
12	UMCM-150	300/fixed bed	room temperature	25.1	9
13	C-Fe	20/ fixed bed	room temperature	25.13	10
14	C-Cu	20/ fixed bed	room temperature	27.45	10
15	MIL-101(Cr)	500/batch	293	10.24	11
16	PTA@MIL-101(Cr)	500/batch	293	11.34	11
17	activated alumina	1000/ batch	303	16.61	12
18	Carbon aerogels	696/ batch	room temperature	15.1	13
19	Activated carbon spheres	500/ batch	298	17.65	14
20	Ce/Ni-Y zeolite	500/ batch	298	10.9	15
21	MOF-derived porous carbon	<160/batch	298	26.7	16
22	BN-24	500/ batch	298	28.17	This work

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