Electronic Supplementary Material (ESI) for Journal of Materials Chemistry C.
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Electronic Supporting Information

for

Microwave Growth and Tunable Photoluminescence of Nitrogen-doped Graphene and Carbon Nitride Quantum Dots

Table S1. Total energy comparison for Model 1-4.

Model No.	Configuration	Total energy (kcal/mole)
1	Figure S3(a)	-107,339
2	Figure S3(b)	-107,507
3	Figure S3(c)	-107,715
4	Figure S3(d)	-108,426

Table S2. Total energy comparison with different N/C ratios.

No.	C/U ratio	N/C atomic ratio	Configuration	Total energy (kcal/mol)
1	3/1	15/53	Figure S4(c)	**-115,470**
2			Figure S4(d)	-113,975
3	1/1	24/49	Figure S4(a)	**-110,556**
4			Figure S4(b)	-110,303
5	1/2	27/29	Figure S3 (c)	-107,715
6			Figure S3(d)	**-108,426**

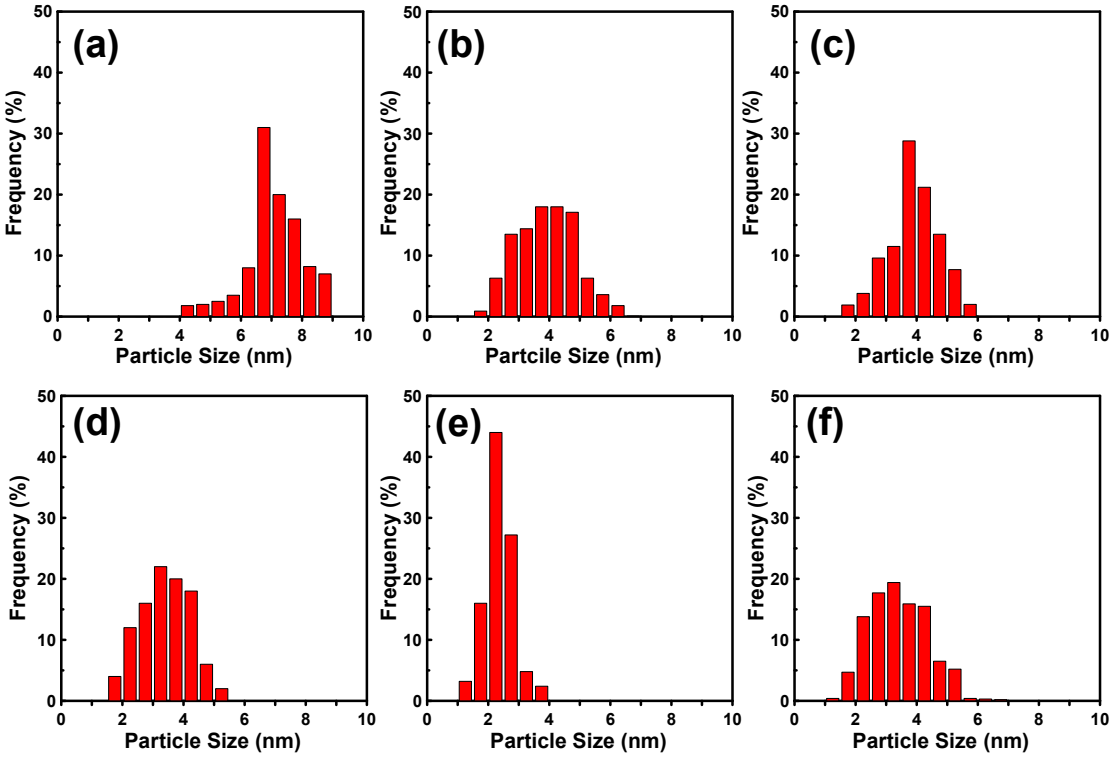

Figure S1. Particle size distributions of N-doped CND samples prepared using the SPMA method with C/U weight ratios of (a) 3/1, (b) 2/1, (c) 1/1, (d) 1/1.5, (e) 1/2, and (f) 1/3.

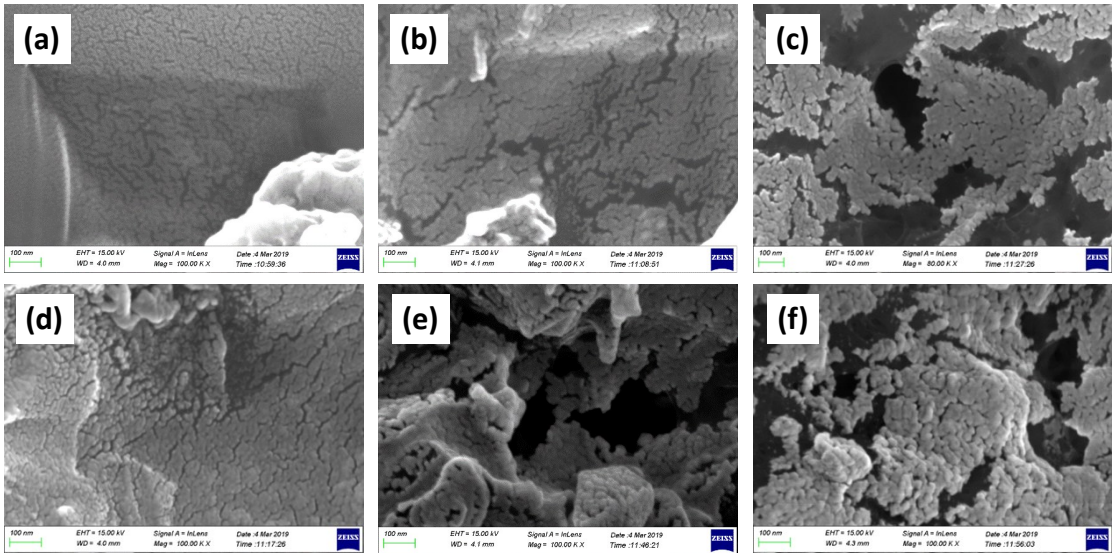

Figure S2. SEM micrographs of N-doped CND samples prepared using the SPMA method with C/U weight ratios of (a) 3/1, (b) 2/1, (c) 1/1, (d) 1/1.5, (e) 1/2, and (f) 1/3.

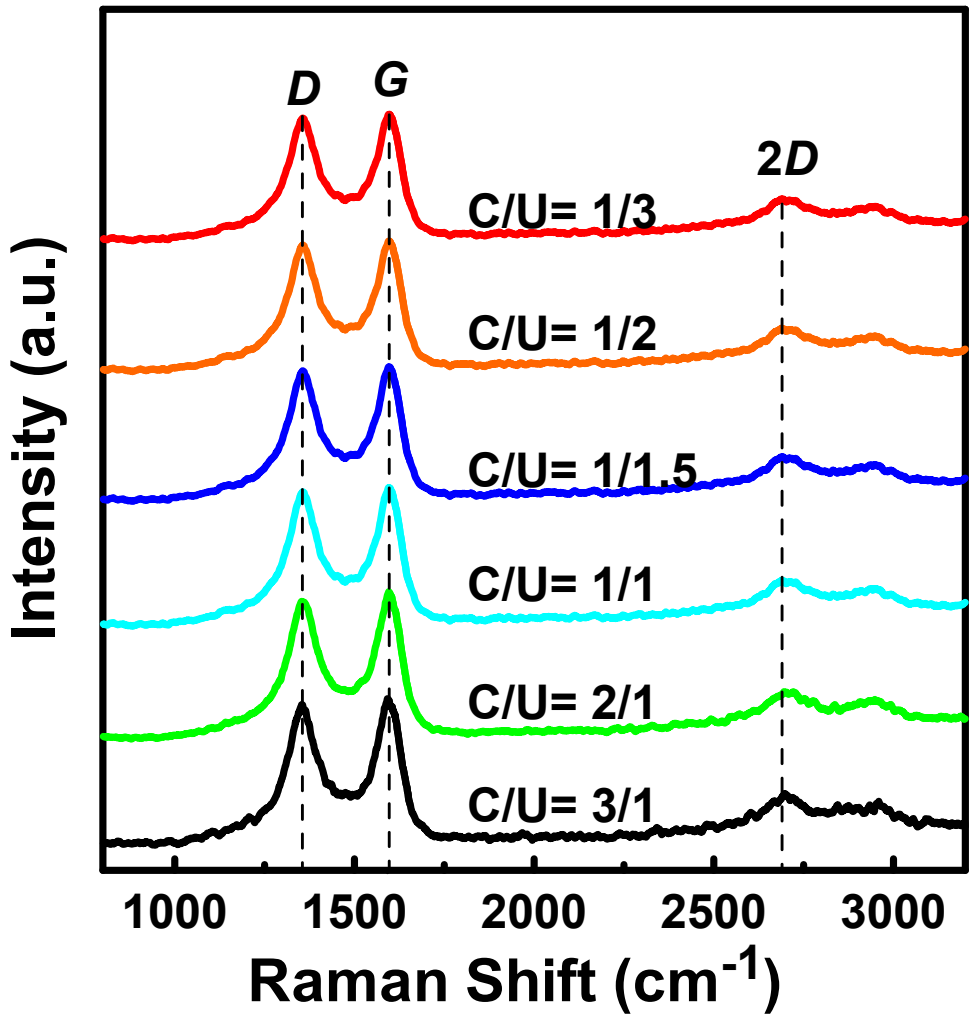

Figure S3. Typical Raman spectra of CND samples determined by the laser at 514 nm excitation wavelength.

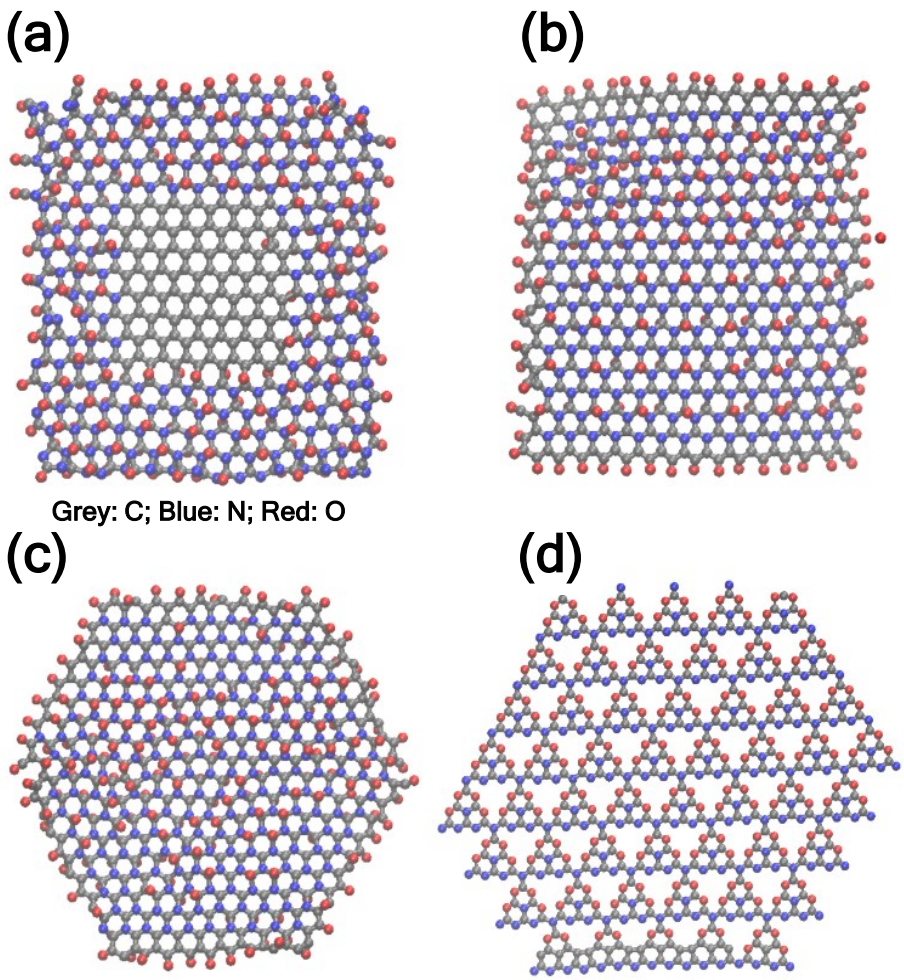

Figure S4. Proposed atomic configurations of different 740-atom models (C/U: 1/2) with the C: N: O atomic ratio of 325: 215: 200: (a,b,c) heavily N-doped graphene with O adsorption and (d) heavily O-doped g-C_3N_4.

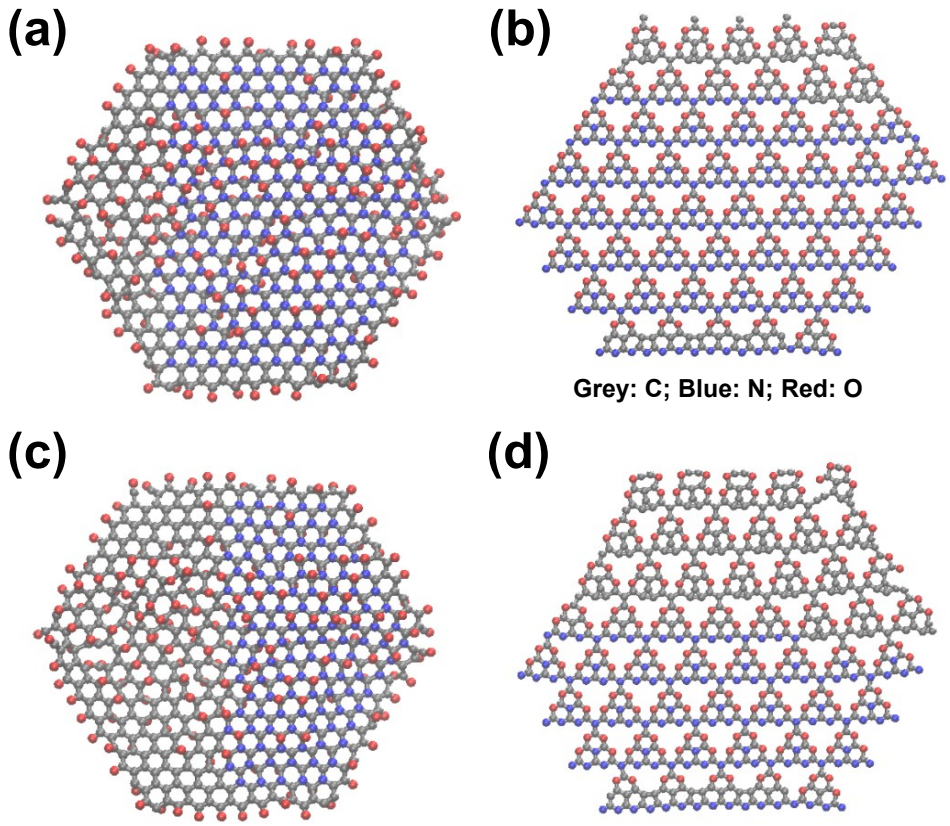

Figure S5. Proposed atomic configurations of 740-atom models with different N/C ratios: heavily N-doped graphene with O adsorption: (a) N/C= 24/49 and (c) N/C= 15/53 and heavily O-doped g-C_3N_4: (b) N/C= 24/49 and (d) N/C= 15/53.

Figure S6. Photographs of N-doped CND samples prepared using the SPMA method with C/U weight ratios of 3/1, 2/1, 1/1, 1/1.5, 1/2, and 1/3, showing almost no sediments after six months.