Electronic Supplementary Material (ESI) for Industrial Chemistry & Materials.

Understanding theinteraction mechanism of carbazole/anthracene with *N, N*-dimethylformamide: NMR study substantiate carbazole separation

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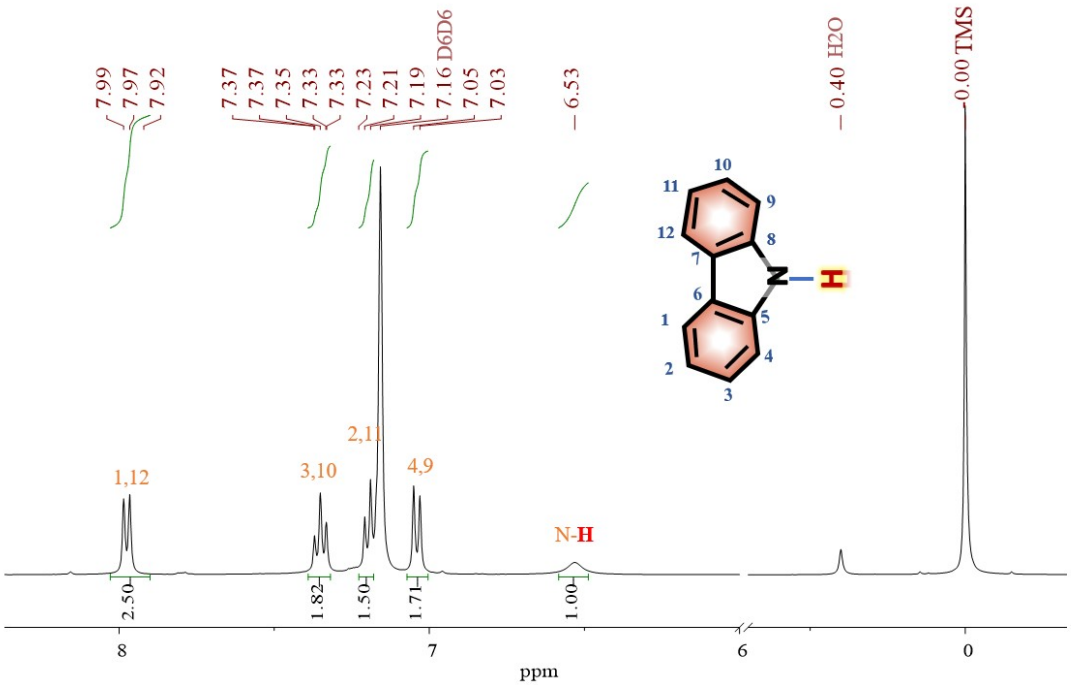

Fig. S1. The ^{1}H NMR spectrum of carbazole in C_6D_6 at 25 °C. The peak area ratio of carbazole from low field to high field is about 2:2:2:2:1, which is consistent with theoretical values.

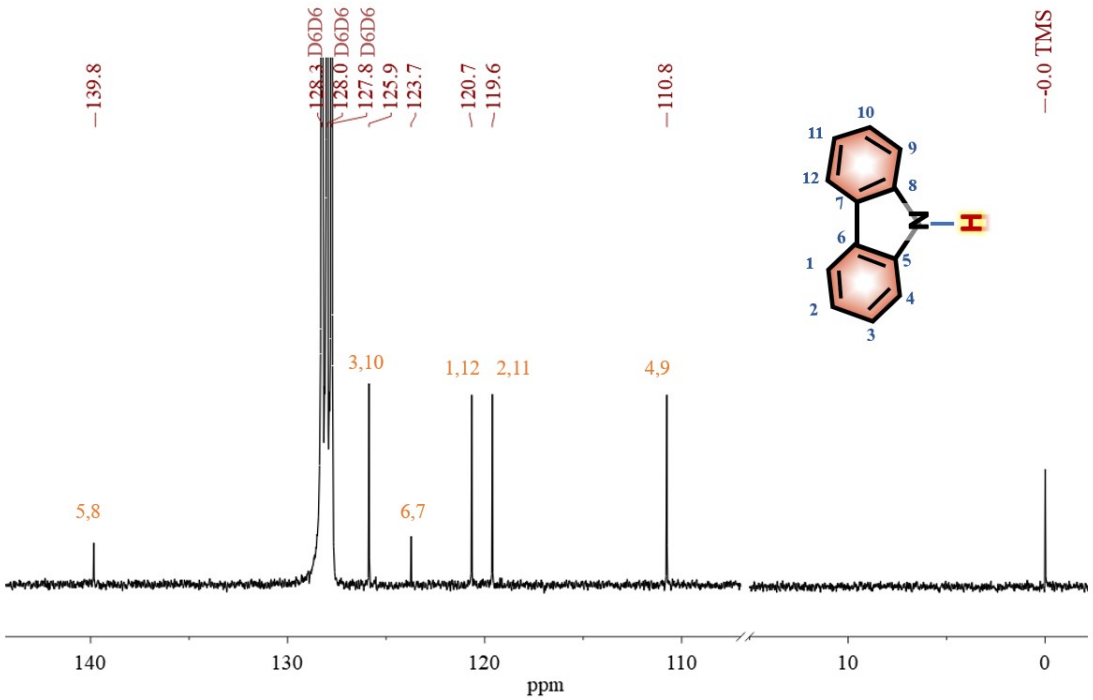

Fig. S2. The ^{13}C NMR spectrum of carbazole in C_6D_6 at 25 °C.

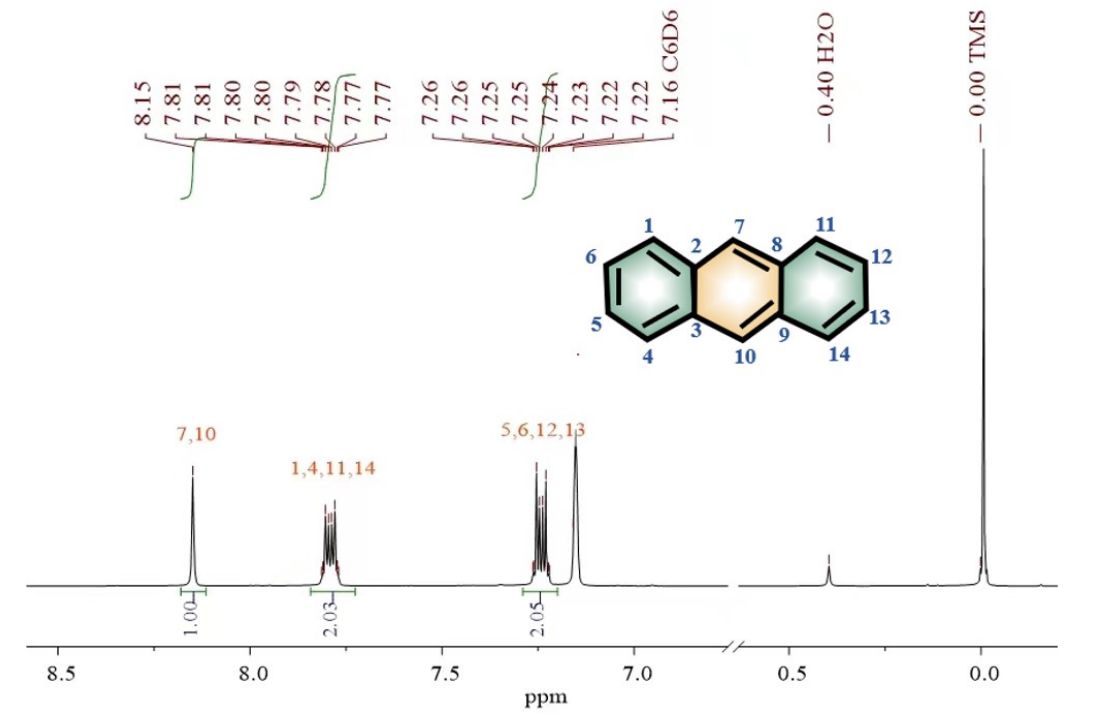

Fig. S3. The ^{1}H NMR spectrum of anthracene in C_6D_6 at 25 °C. the peak area ratio of 1:2:2.

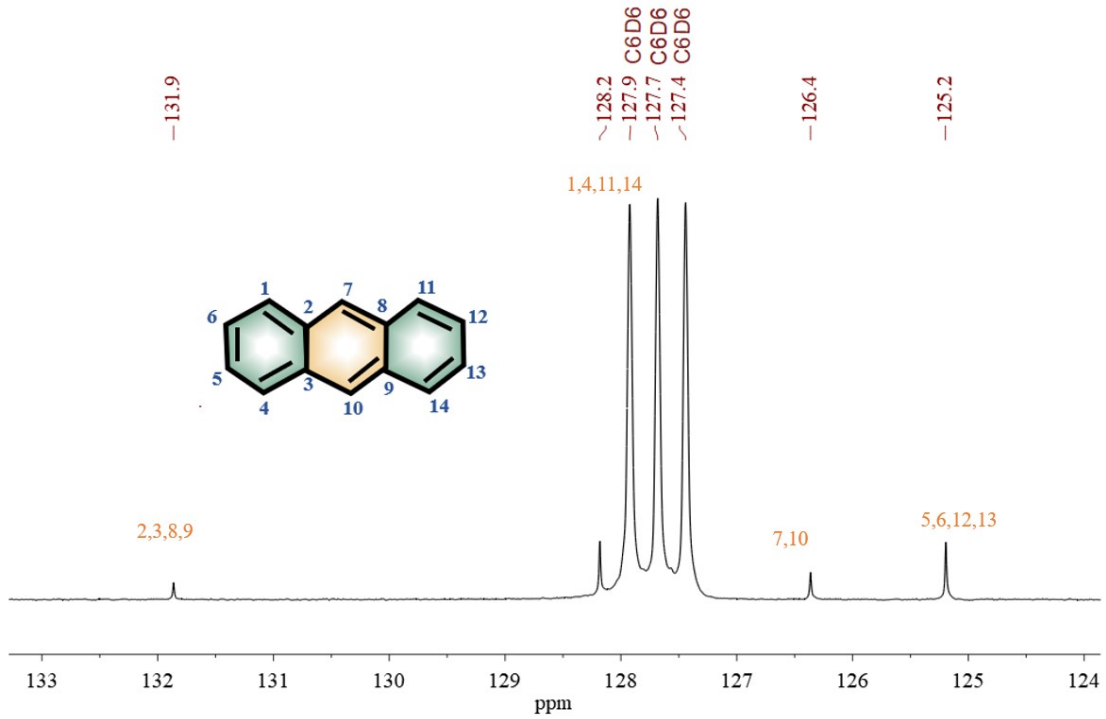

Fig. S4. The ^{13}C NMR spectrum of anthracene in C_6D_6 at 25 °C.

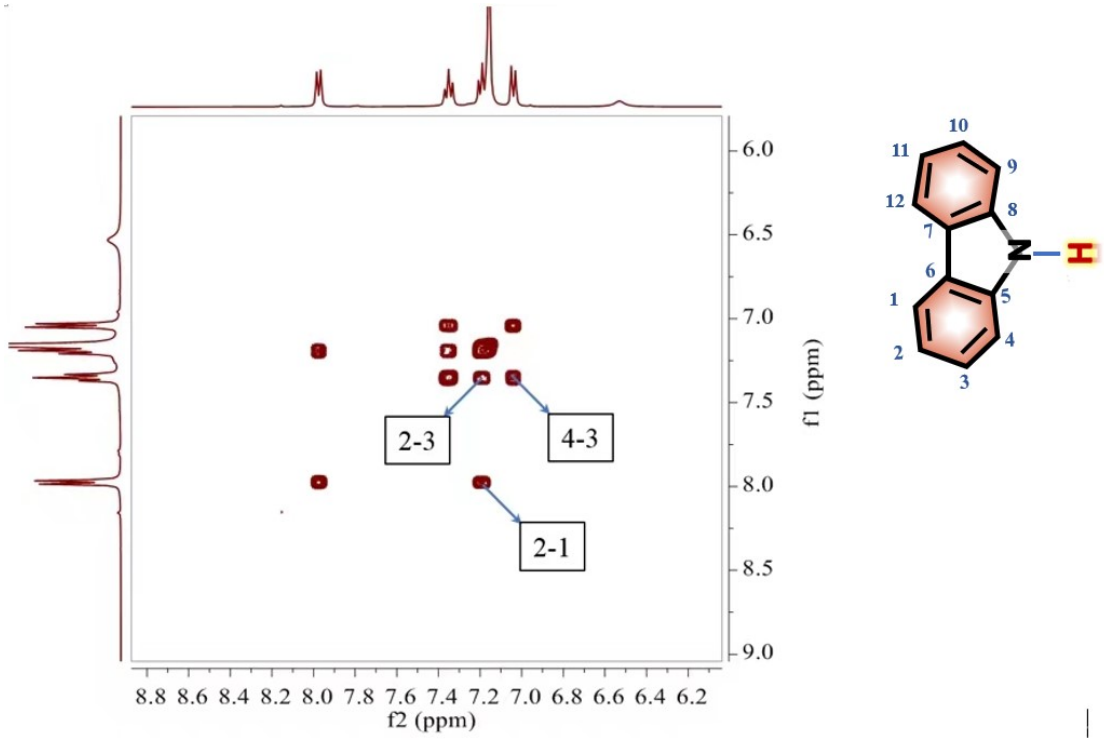

Fig. S5. The ^{1}H-^{1}H COSY spectrum of carbazole in C_6D_6 at 25 °C.

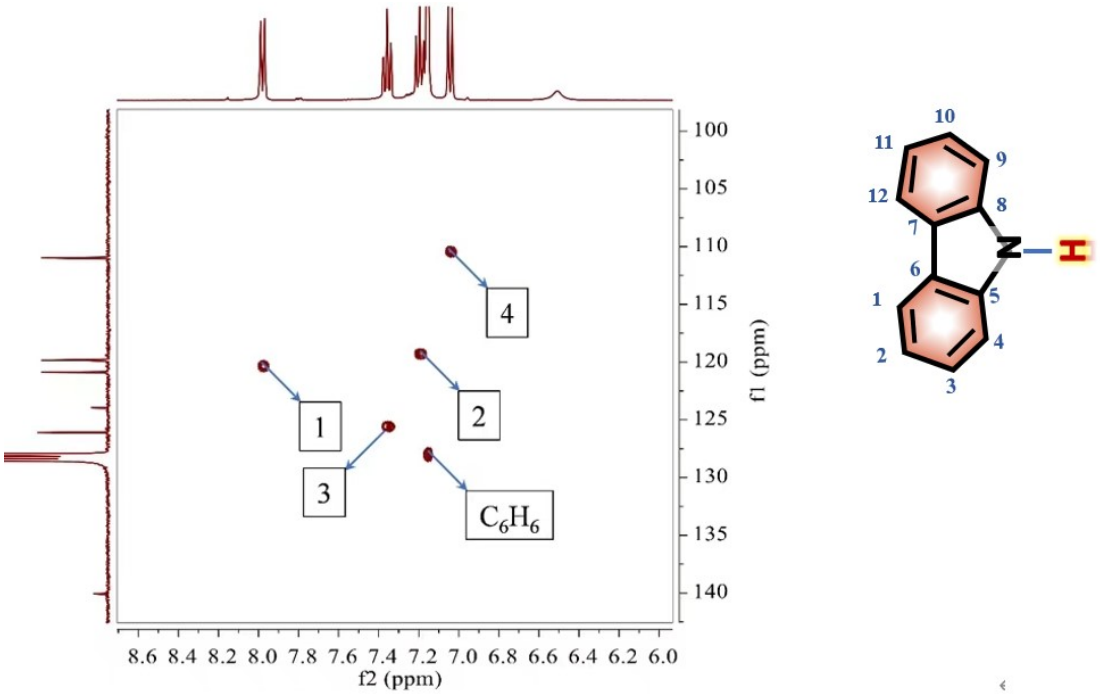

Fig. S6. The ^{1}H-^{13}C HSQC spectrum of carbazole in C_6D_6 at 25 °C.

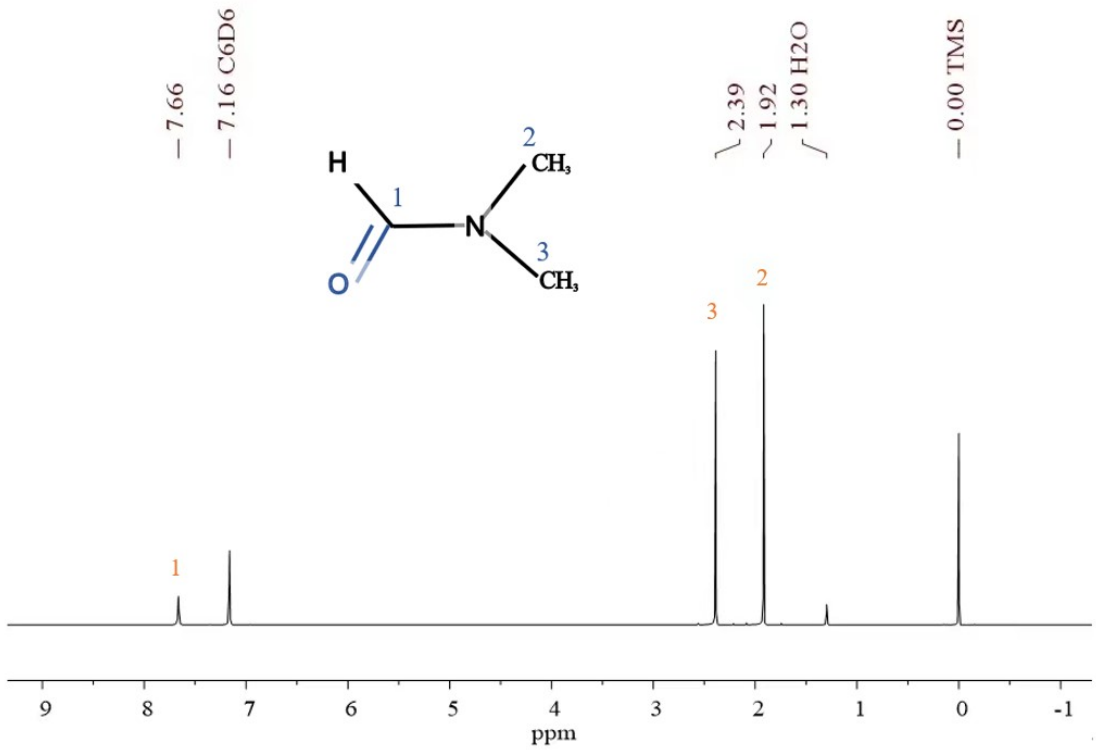

Fig. S7. The ^{1}H NMR spectrum of DMF in C_6D_6 at 25 °C.

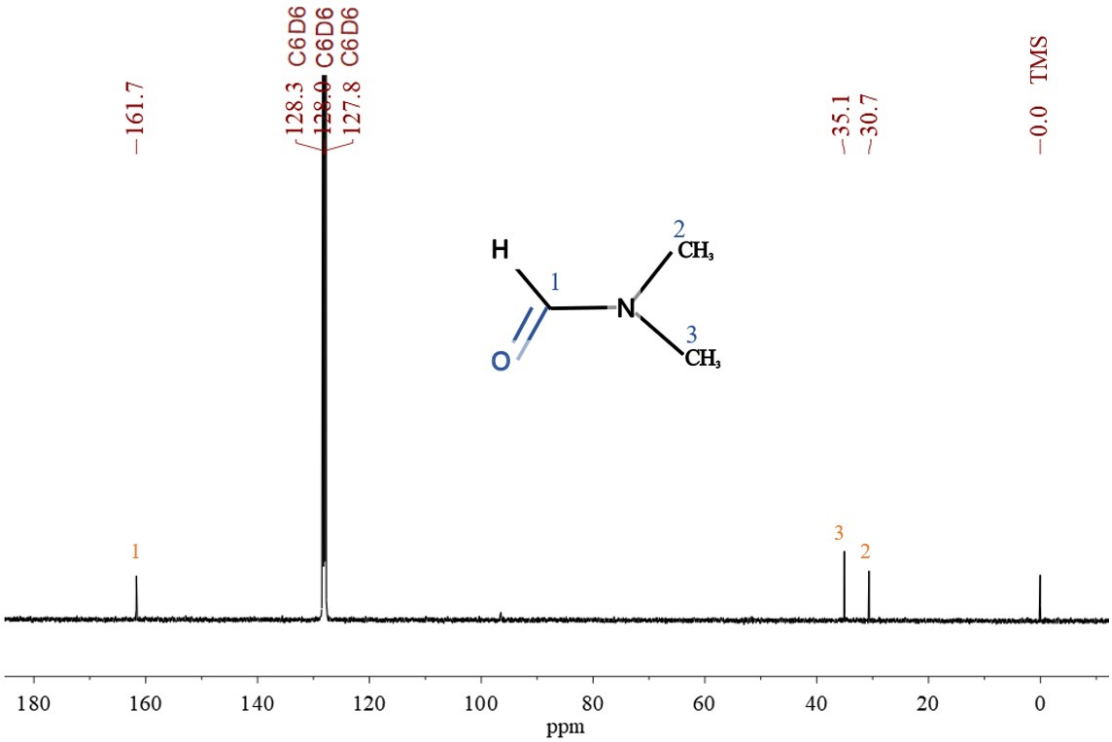

Fig. S8. The ^{13}C NMR spectrum of DMF in C_6D_6 at 25 °C.

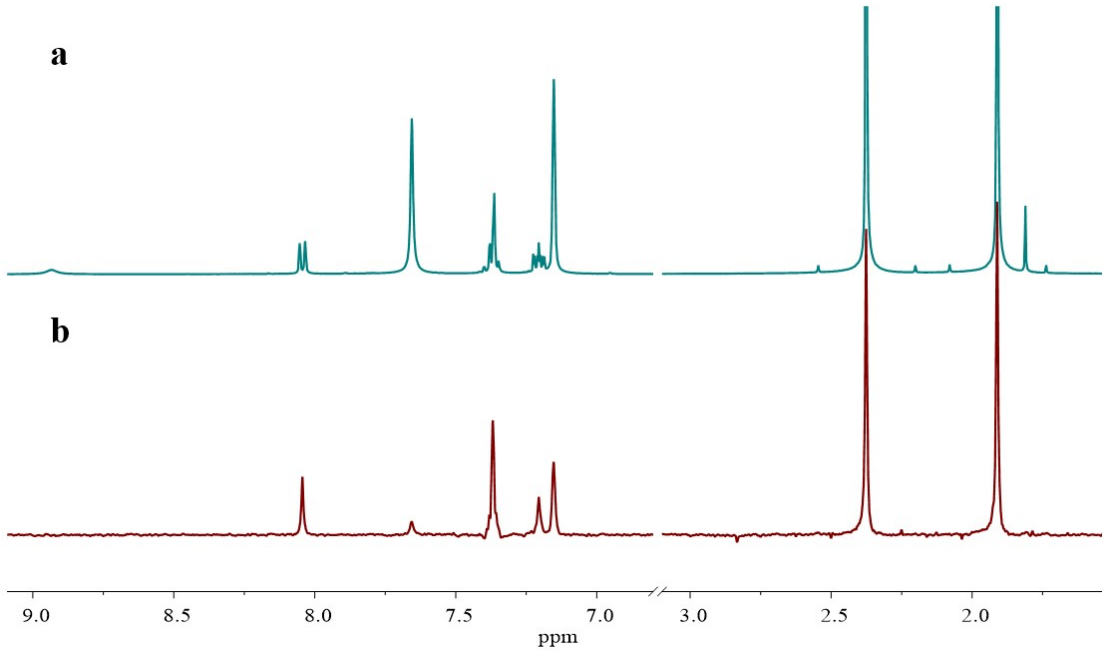

Fig. S9. The ^{1}HNMR spectra of 2.0 mg carbazole and 7.1 mg DMF in deuterated benzene and at 25 °C. (a) Conventional ^{1}H NMR spectrum, (b) Pure shift NMR spectrum.

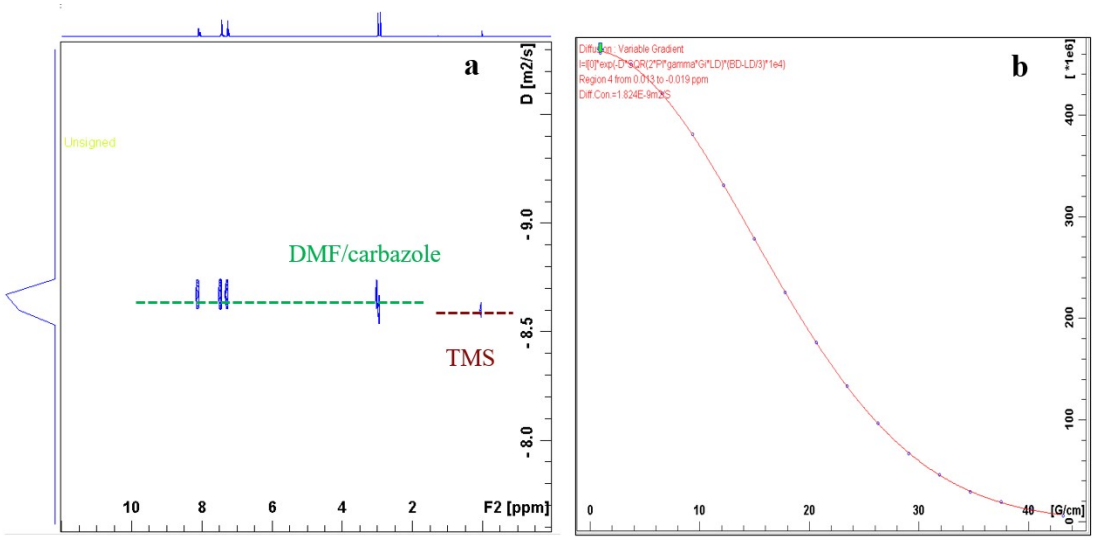

Fig. S10. The spectra of carbazole after adding DMF at 25 °C. (a) DOSY spectrum (b) Diffusion curve.

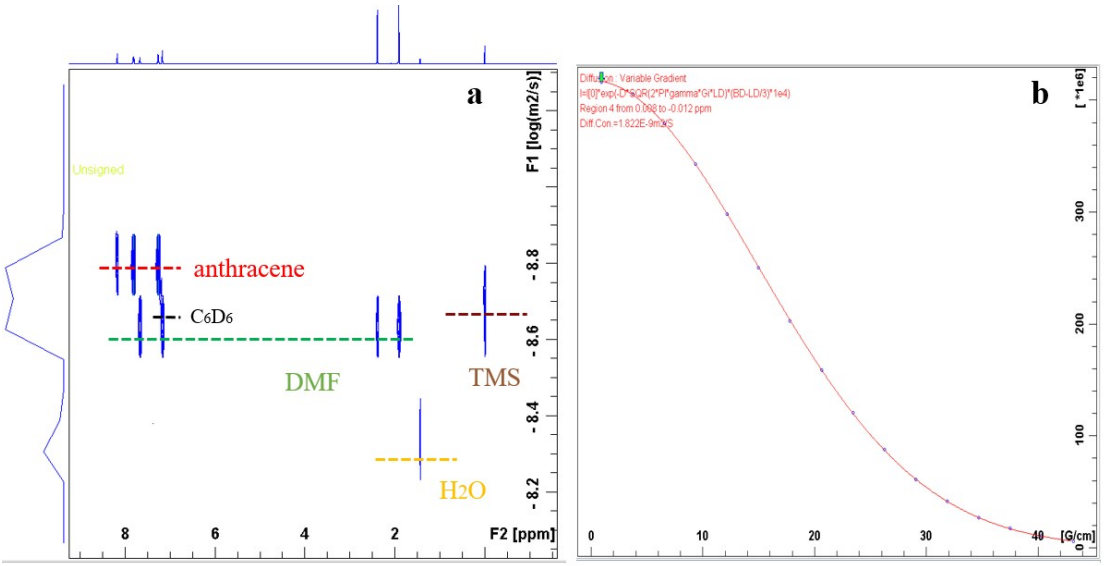

Fig. S11. The spectra of anthracene after adding DMF at 25 °C. (a) DOSY spectrum (b) Diffusion curve.