Supporting Information

6*H*-benzo[4,5]thieno[2,3-*b*]indole as a Novel Donor for Efficient Thermally Activated Delayed Fluorescence Emitters with EQE Over 20%

*Rajendra Kumar Konidena, Kyung Hyung Lee, and Jun Yeob Lee**

School of Chemical Engineering, Sungkyunkwan University, 2066 Seobu-ro, Jangan-gu,

Suwon, Gyeonggi 440-746, Korea

Email: leej17@skku.edu

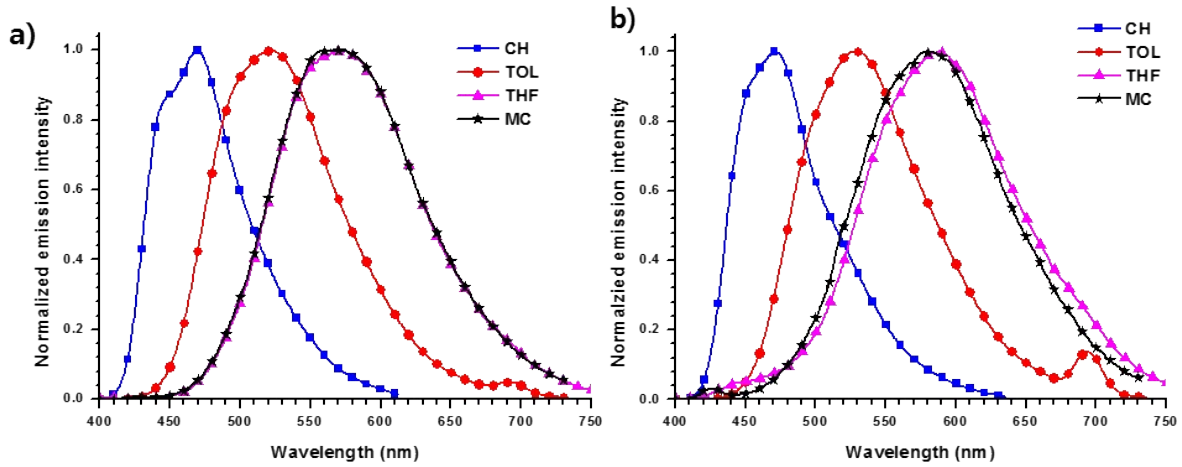

Figure S1. Emission spectra of the compounds **BTITrz** (a) and **BFITrz** (b) recorded in different solvents.

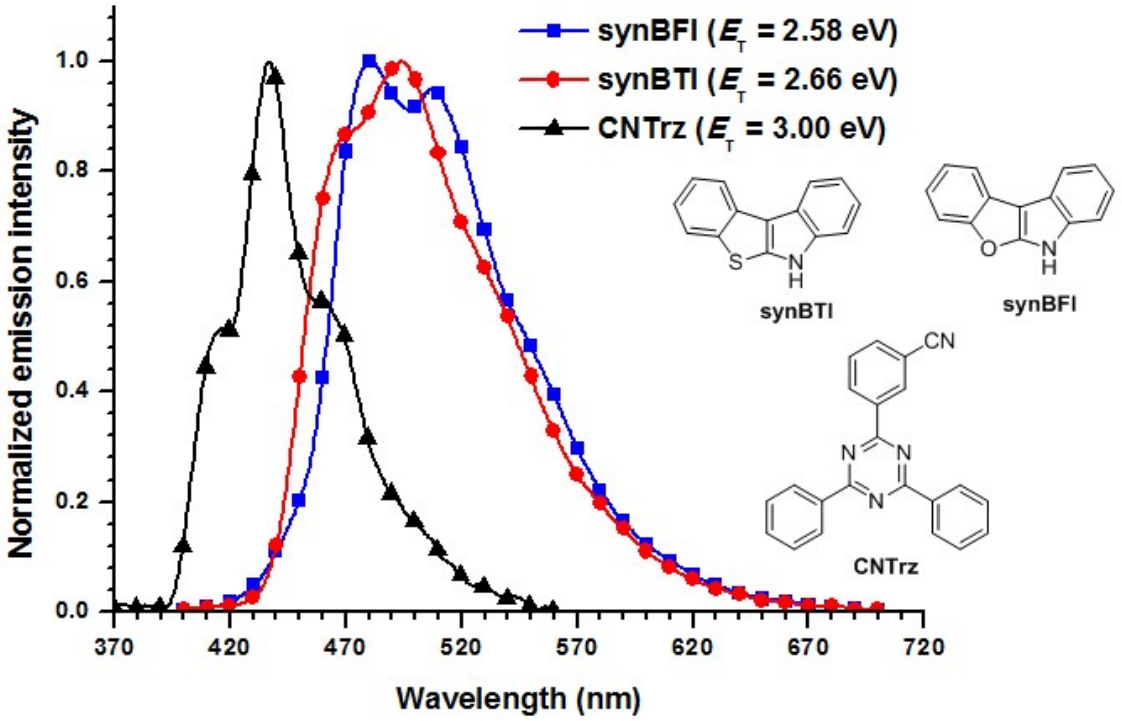

Figure S2. Phosphorescence spectra of the donor and acceptor scaffolds.

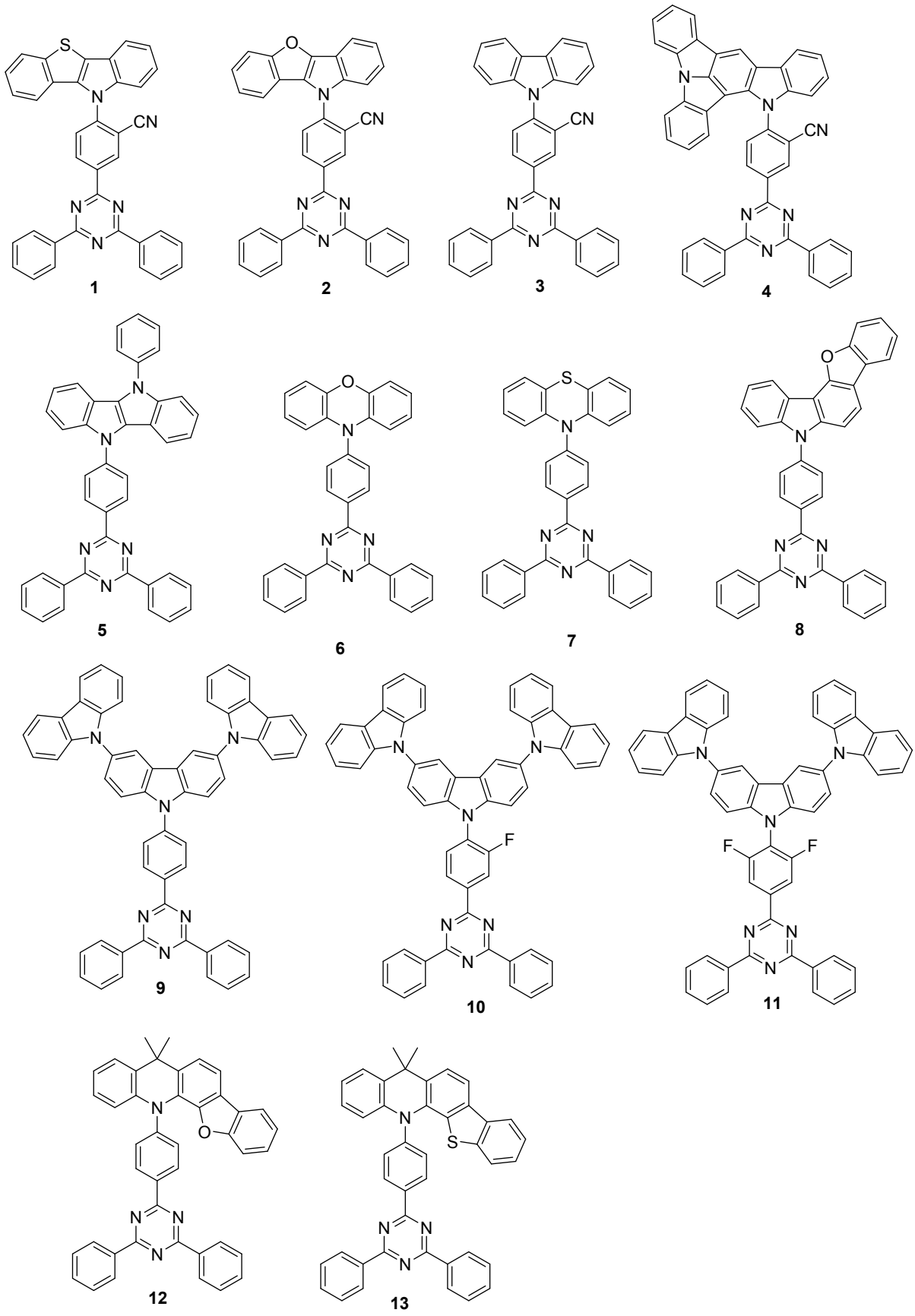

Chart S1. Chemical structures of the similar kind of materials reported in the literature.

Table S1. Comparison of EL performance of similar kind of materials reported in the literature

Compound	EQE_{max}/1000 cd/m2	CE_{max}/1000 cd/m2	Ref.
BTITrz	20.7/15.7	63.6/47.5	This work
1	15.2/13.5	46.8/41.0	1
2	6.4/3.5	19.8/10.5	1
3	13.9/9.5	18.3/12.3	2
4	21.4/18.5	60.3/51.5	2
5	20.8/-	56.4/-	3
6	12.5/-	-	4
7	10.8/-	-	5
8	16.7/-	-	6
9	17.1/-	28.0/-	7
10	22.5/-	56.5/-	7
11	19.6/-	52.5/-	7
12	20.4/-	58.7	8
13	21.8/-	68.9	8

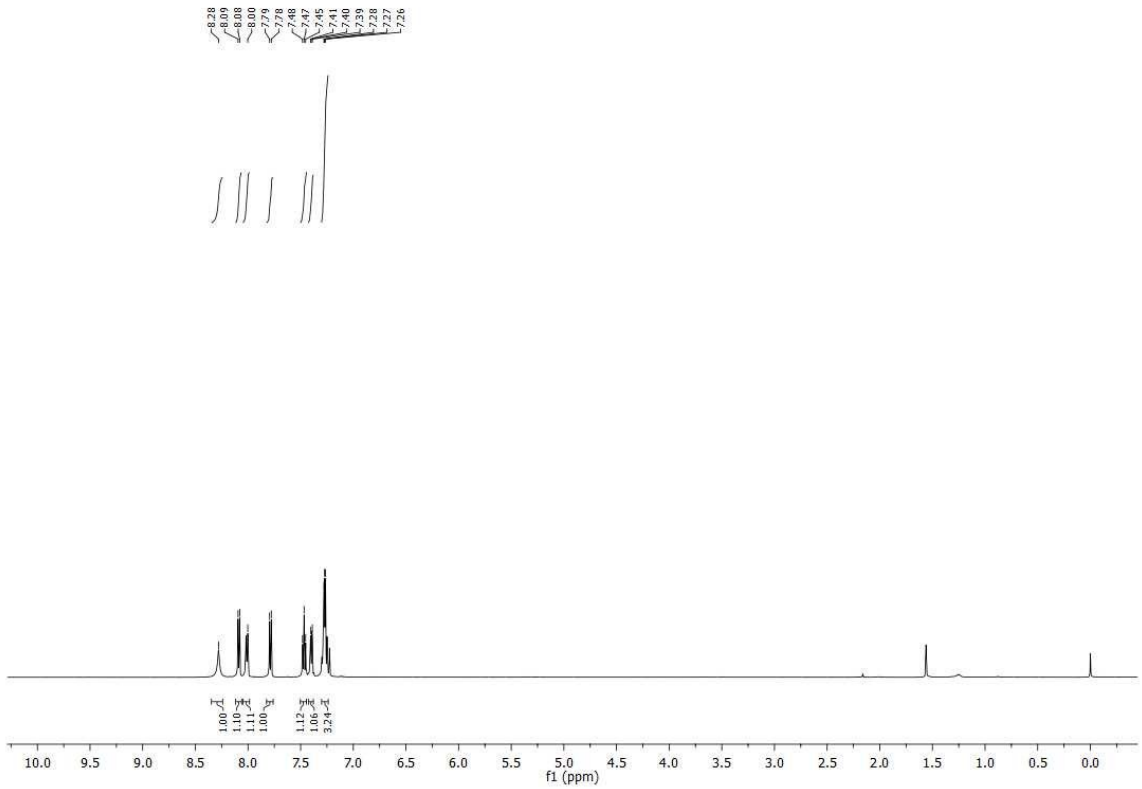

Figure S3. ^{1}H NMR spectra of **synBTI** recorded in $CDCl_3$

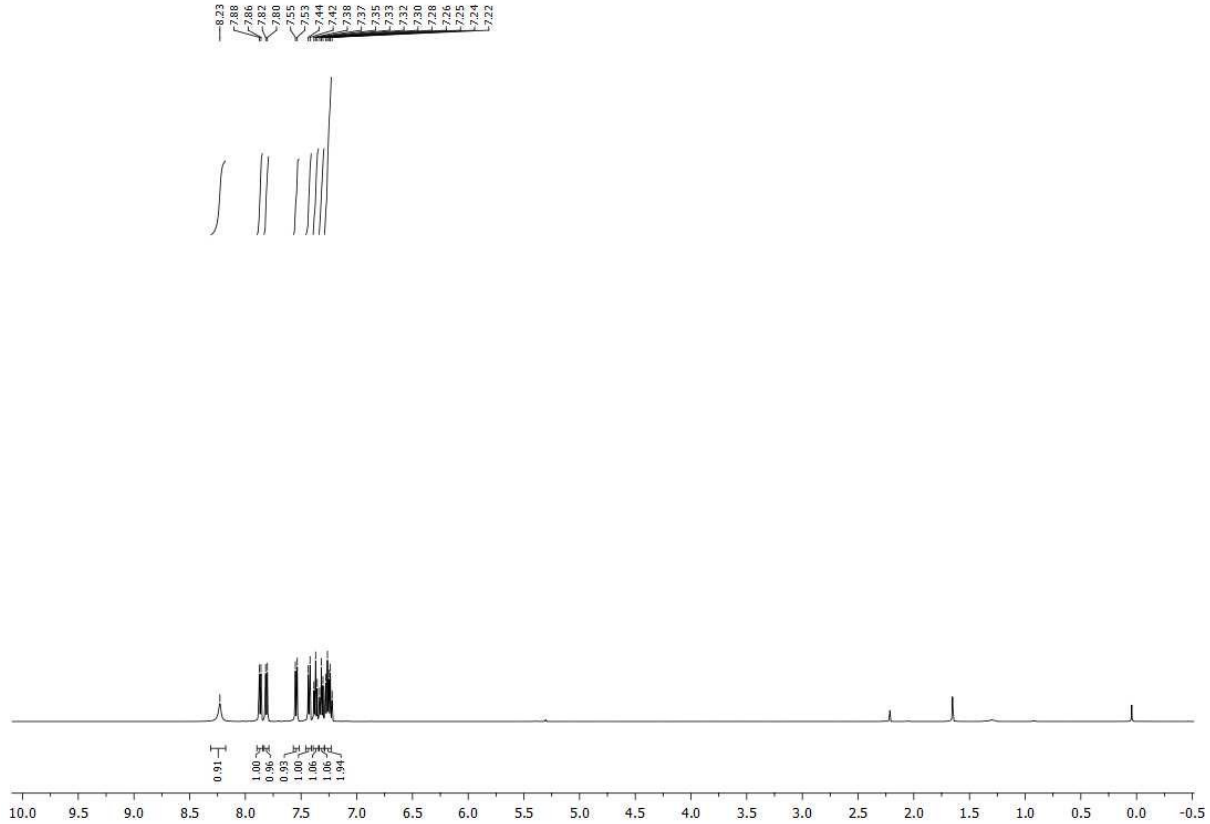

Figure S4. ^{1}H NMR spectra of **synBFI** recorded in $CDCl_3$.

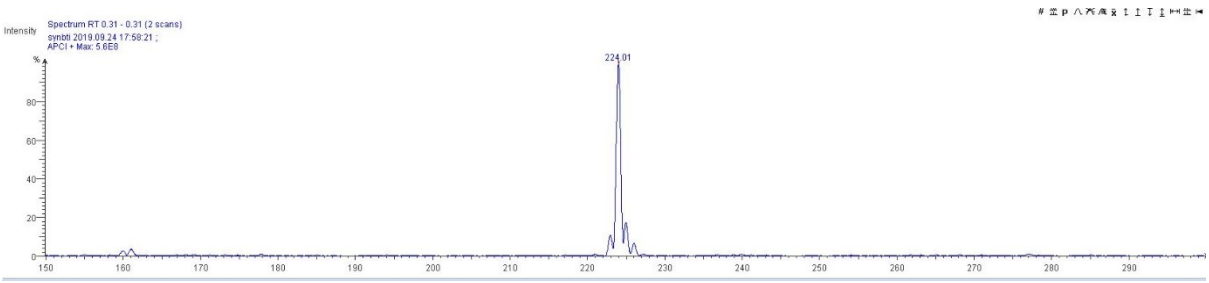

Figure S5. Mass spectra of **synBTI**.

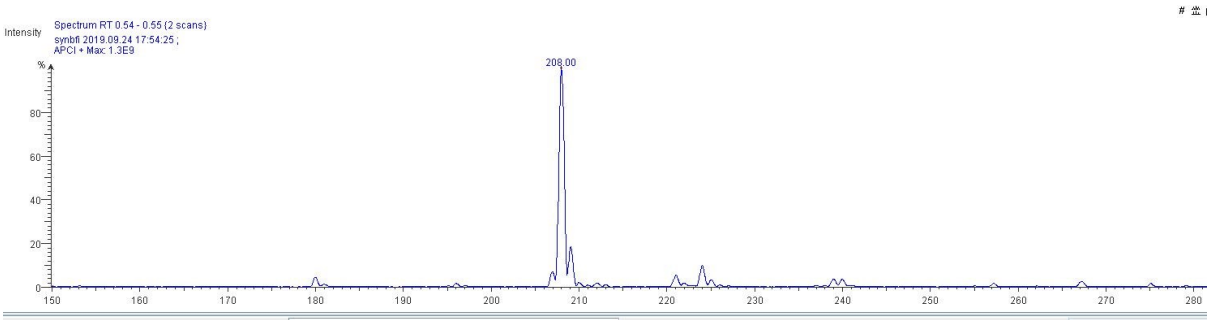

Figure S6. Mass spectra of **synBFI**.

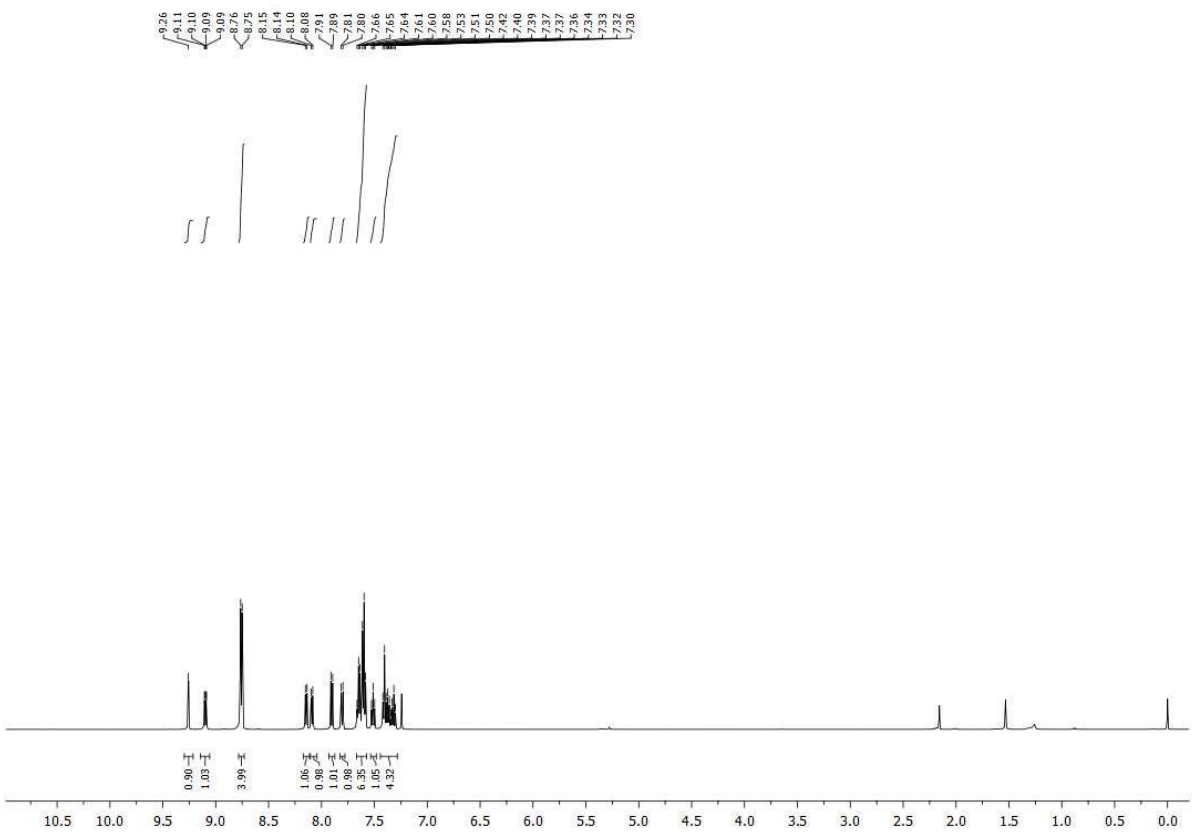

Figure S7. ^{1}H NMR spectra of **BTITrz** recorded in $CDCl_3$

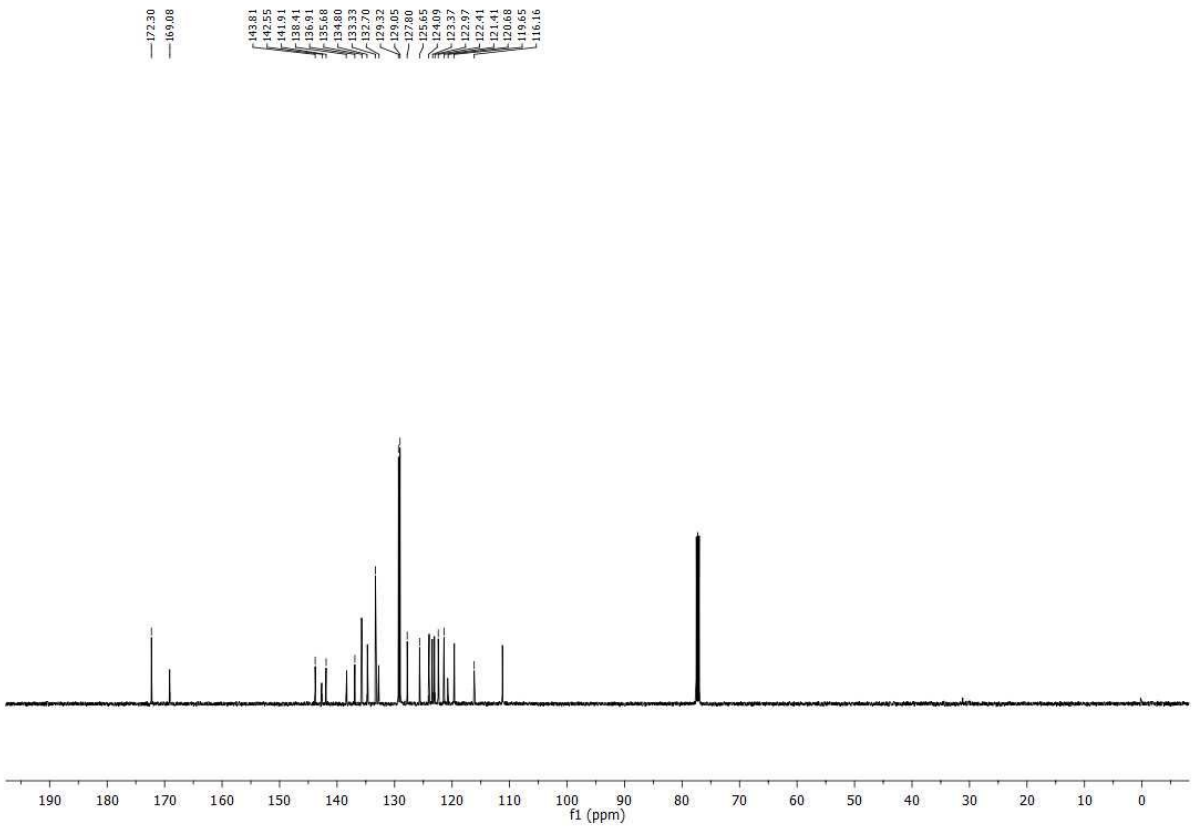

Figure S8. ^{13}C NMR spectra of **BTITrz** recorded in $CDCl_3$

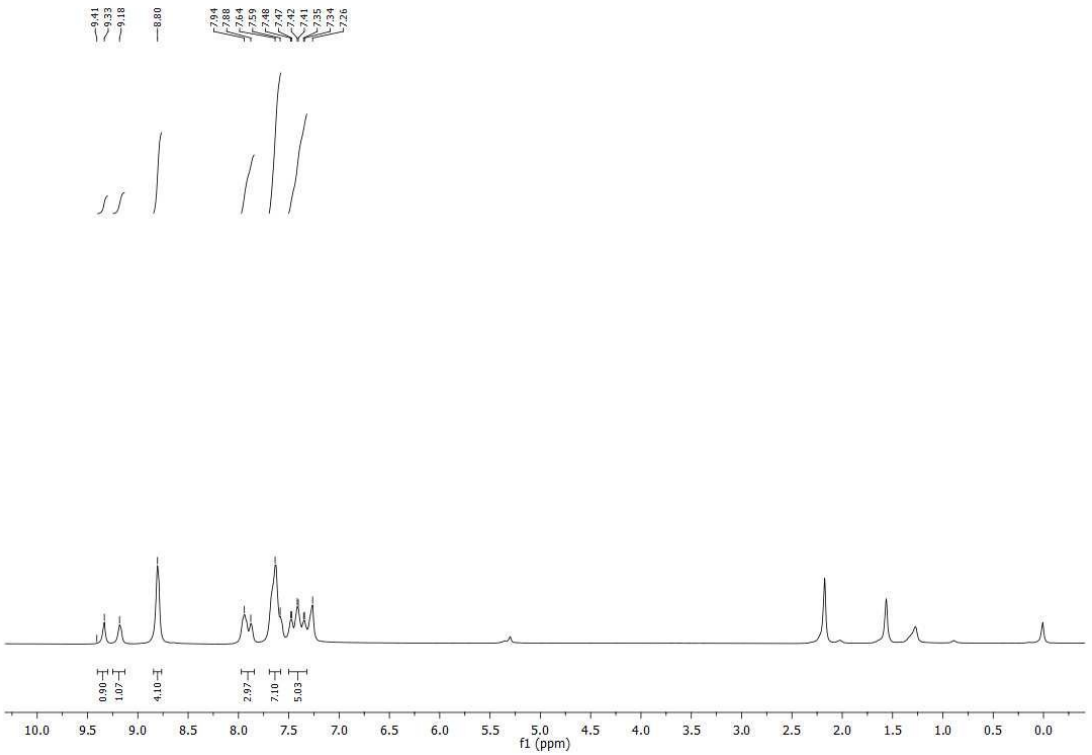

Figure S9. ^{1}H NMR spectra of **BFITrz** recorded in $CDCl_3$

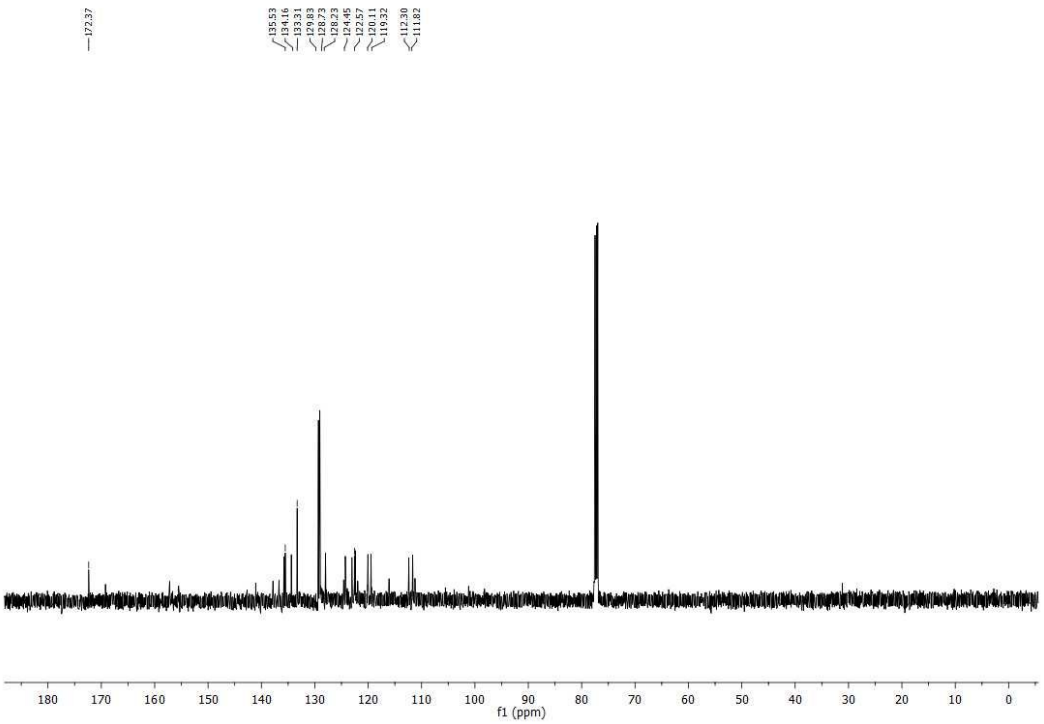

Figure S10. ^{13}C NMR spectra of **BFITrz** recorded in $CDCl_3$

References

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