

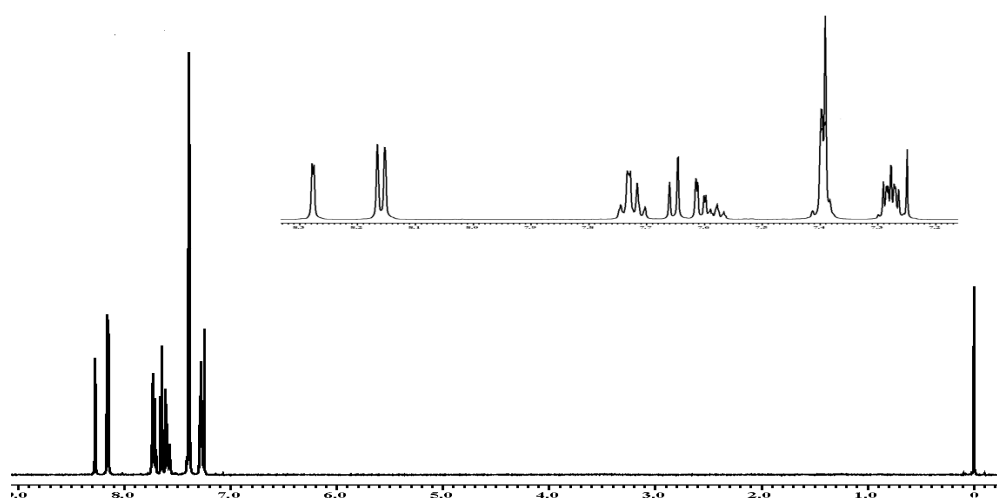
Electronic Supplementary Information (ESI)

High-Triplet-Energy Tri-Carbazoles Derivatives as Host Materials for Efficient Solution-Processed Blue Phosphorescent Devices

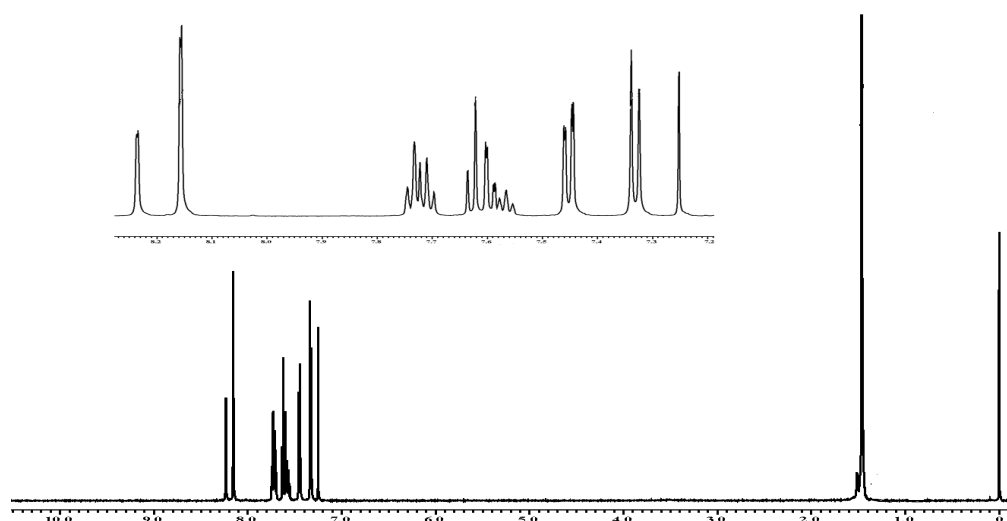
Wei Jiang , Lian Duan, Juan Qiao, Guifang Dong, Deqiang Zhang, Liduo Wang and Yong Qiu*

Key Lab of Organic Optoelectronics and Molecular Engineering of Ministry of Education, Department of Chemistry, Tsinghua University, Beijing 100084, China. E-mail address: qiuy@mails.tsinghua.edu.cn

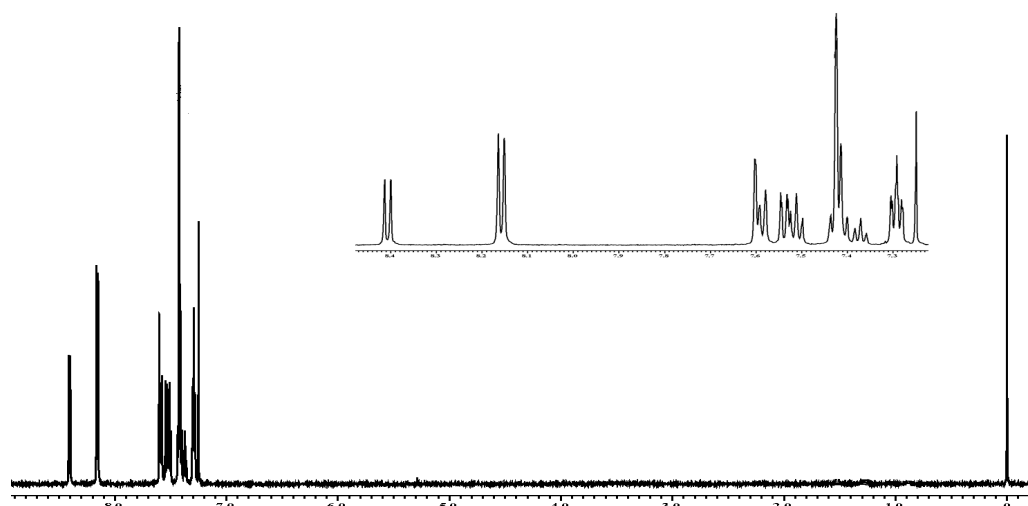
(a)



(b)



(c)



(d)

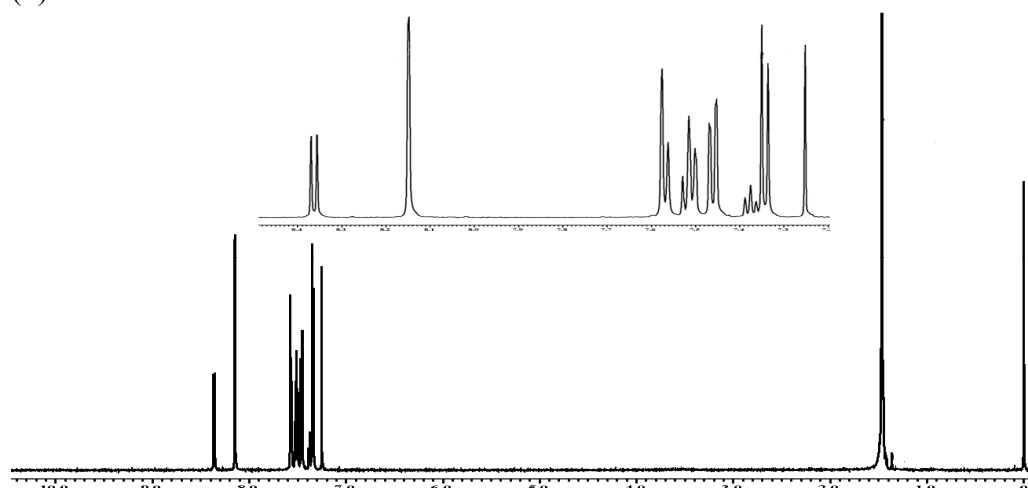
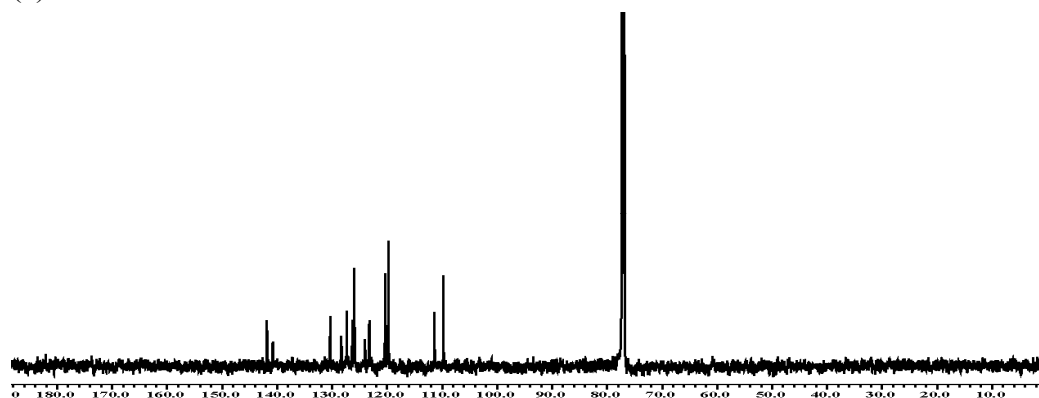
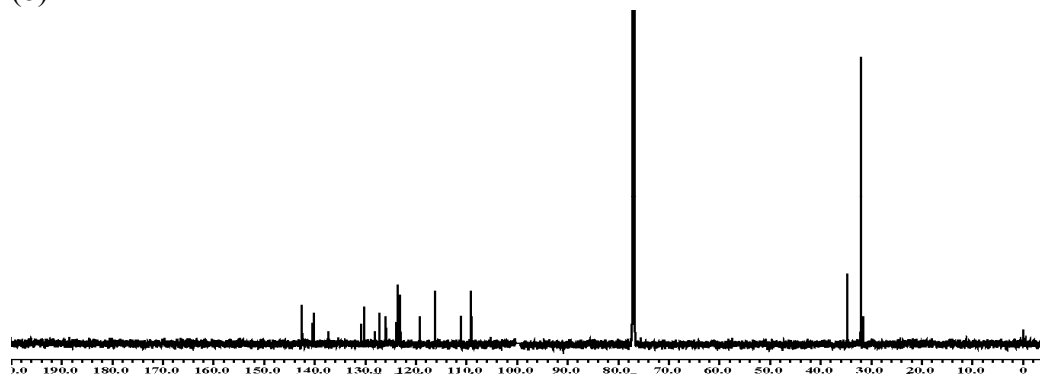


Fig. S1 ^1H -NMR of (a) BCC-36, (b) BTCC-36, (c) BCC-27 and (d) BTCC-27 in CDCl_3 .

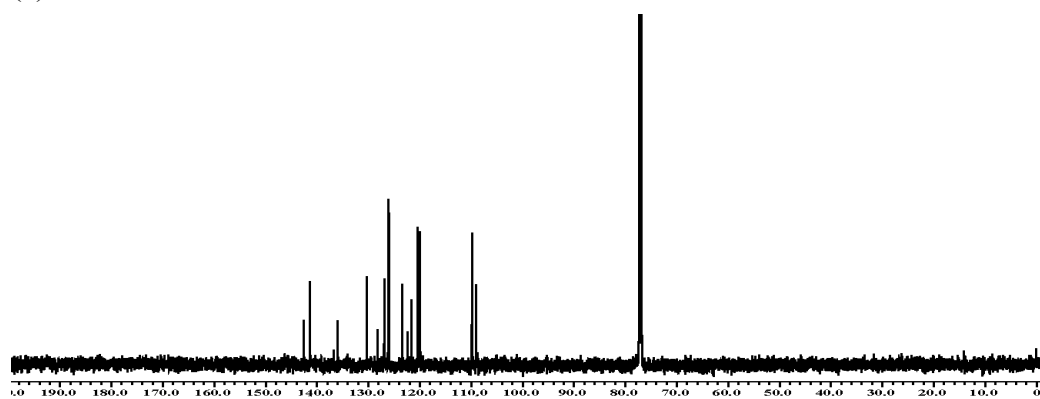
(a)



(b)



(c)



(d)

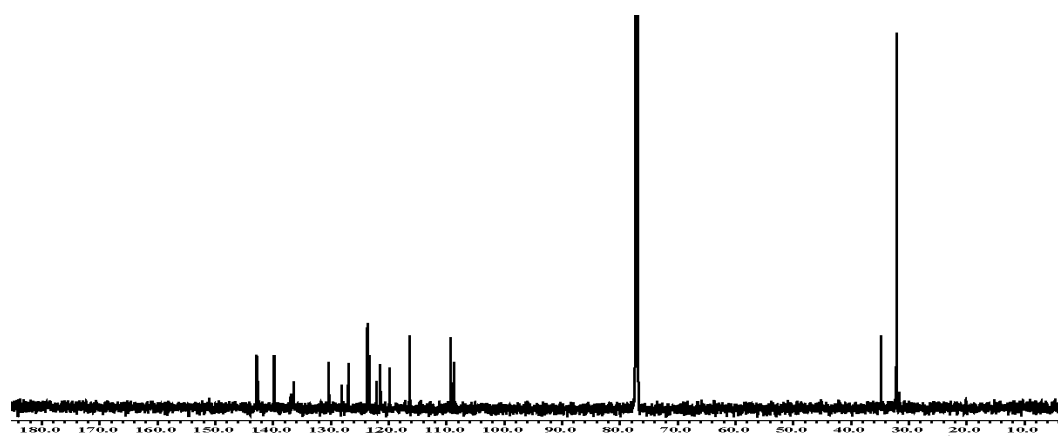
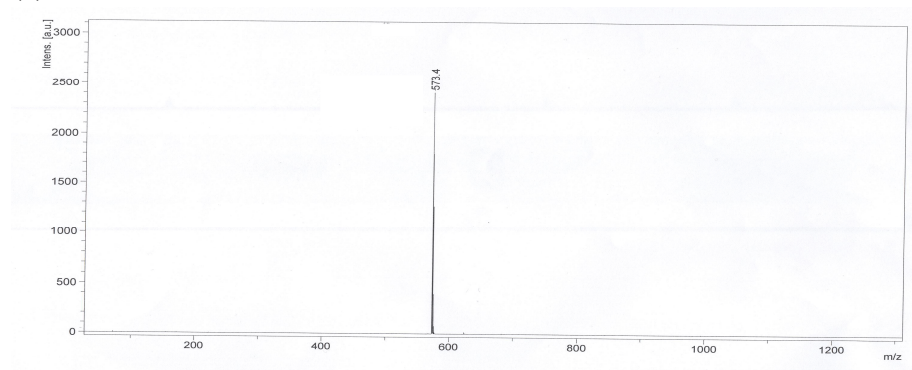
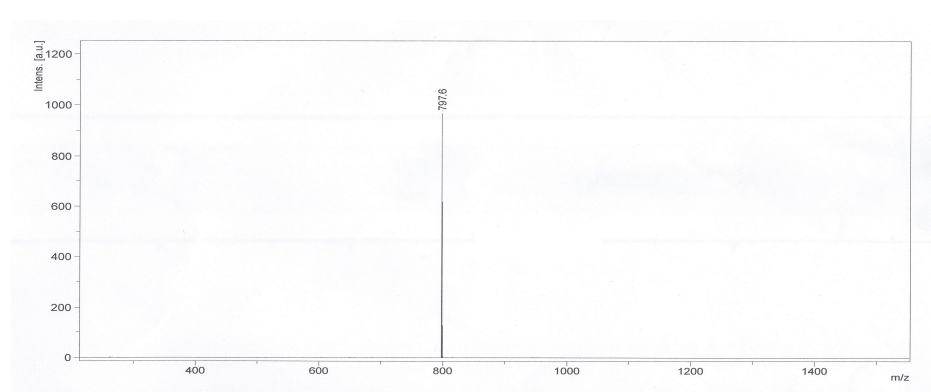


Fig. S2 ^{13}C -NMR of (a) BCC-36, (b) BTCC-36, (c) BCC-27 and (d) BTCC-27 in CDCl_3 .

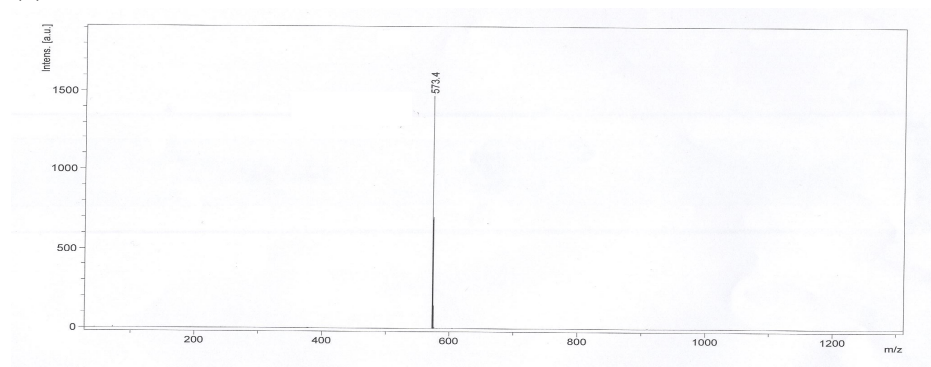
(a)



(b)



(c)



(d)

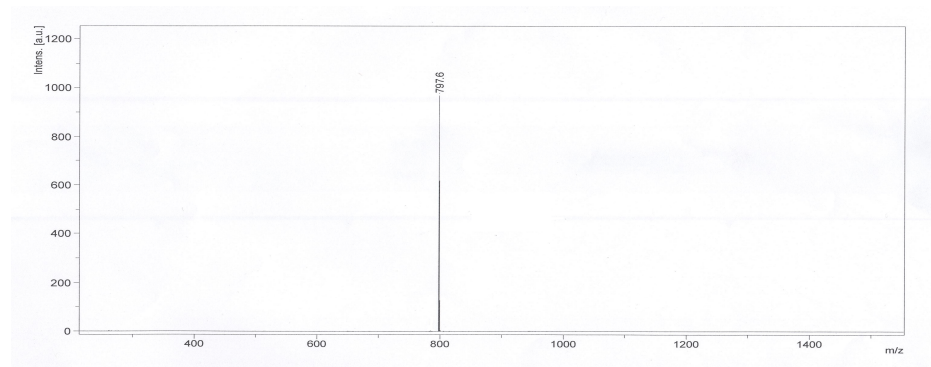


Fig. S3 MALDI-TOF-MS spectra of (a) BCC-36, (b) BTCC-36, c) BCC-27 and (d) BTCC-27.

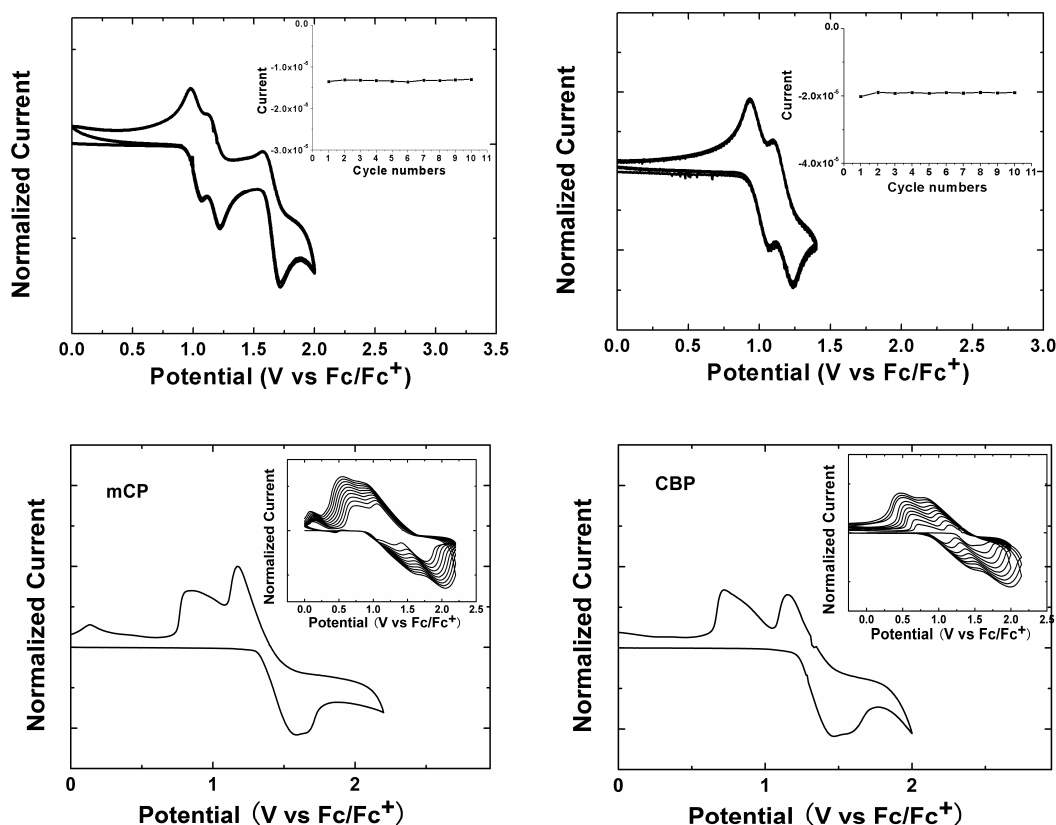


Fig. S4 Oxidation part of the CV curves of BTCC-36 (Inset: current versus cycle numbers for onset potential), BTCC-27 (Inset: current versus cycle numbers for onset potential), mCP (Inset: ten cycles) and CBP (Inset: ten cycles) in CH₂Cl₂ solutions (10⁻³M).

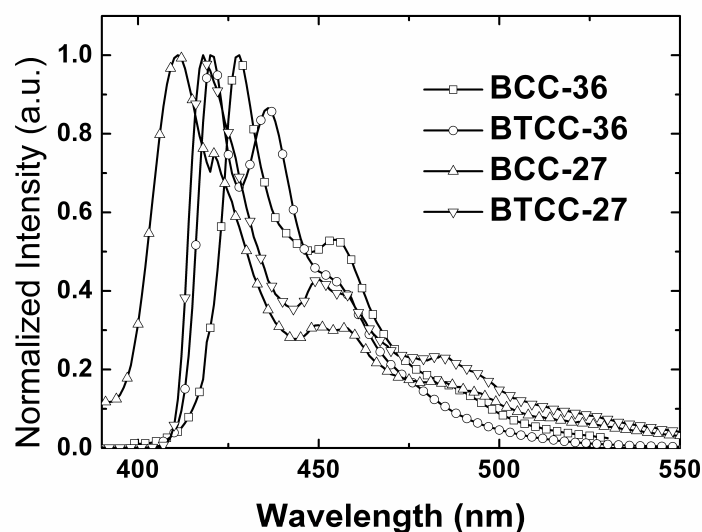


Fig. S5 The phosphorescence emission spectra of BCC-36, BTCC-36, BCC-27, and BTCC-2 in 2-MeTHF glass at 77K.

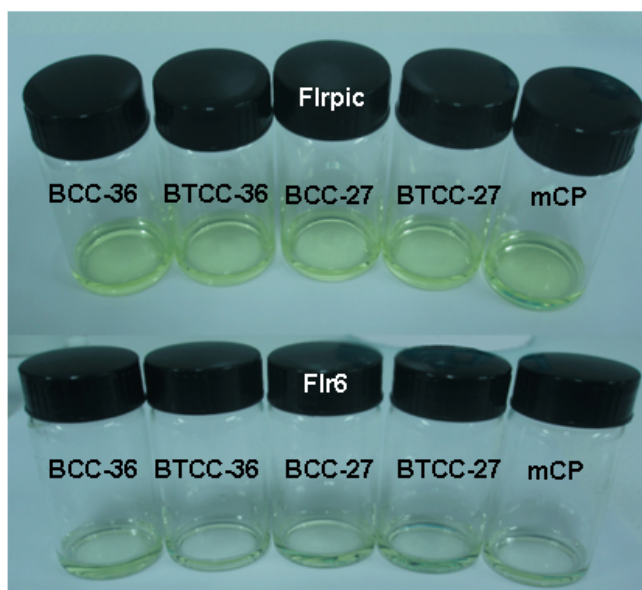


Fig. S6 The photographs of solutions with host and dopant materials (Flrpic and Flr6).

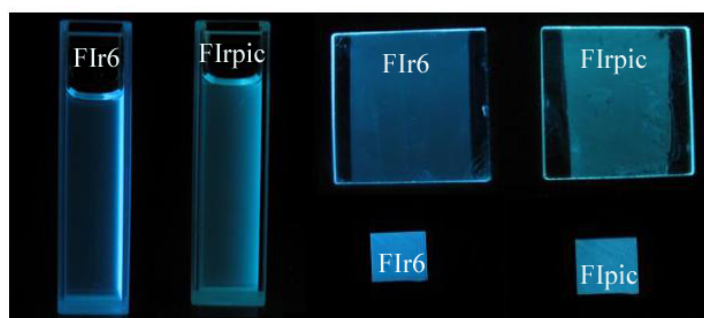


Fig. S7 The PL photos of solutions and active layer films with host (BTCC-36) and dopant materials (Flrpic and Flr6), and the EL photos of devices under operation.