

Supporting Information

High-performance red electrophosphorescent devices based on all-solution-processed hydrogen-bonding supramolecular material

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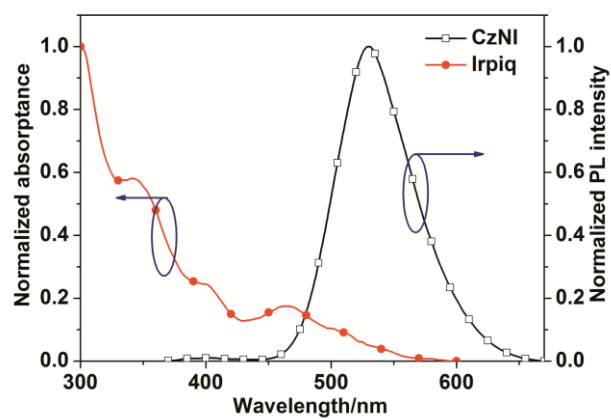


Figure S1. Normalized absorption spectrum of **Irpiq** and fluorescence spectrum of **CzNI** in 10^{-5} mol L $^{-1}$ CH $_2$ Cl $_2$ solution.

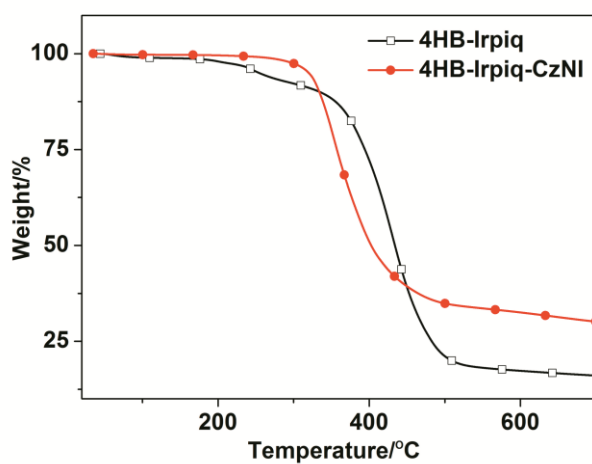


Figure S2. TGA thermograms of **4HB-Irpiq** and **4HB-Irpiq-CzNI**.

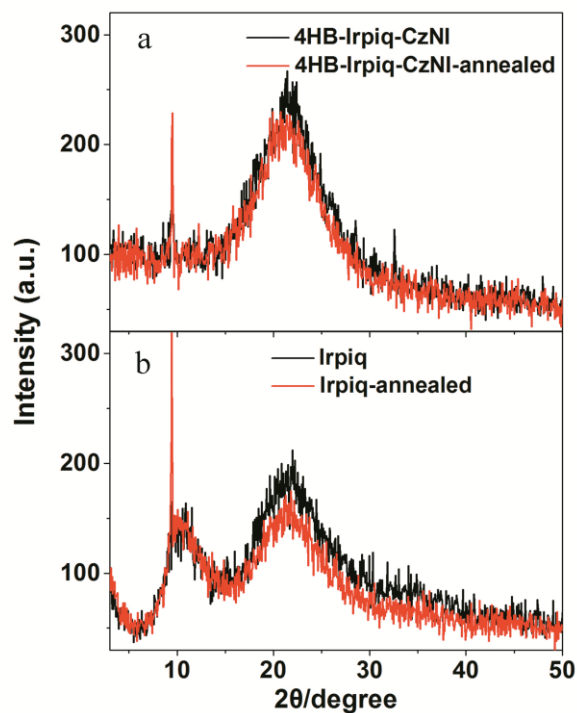


Figure S3. XRD patterns of (a) **Irpiq**; and (b) **4HB-Irpiq-CzNI**. Black line: pristine sample; red line: post-annealed sample (at 100 °C for 10 min).

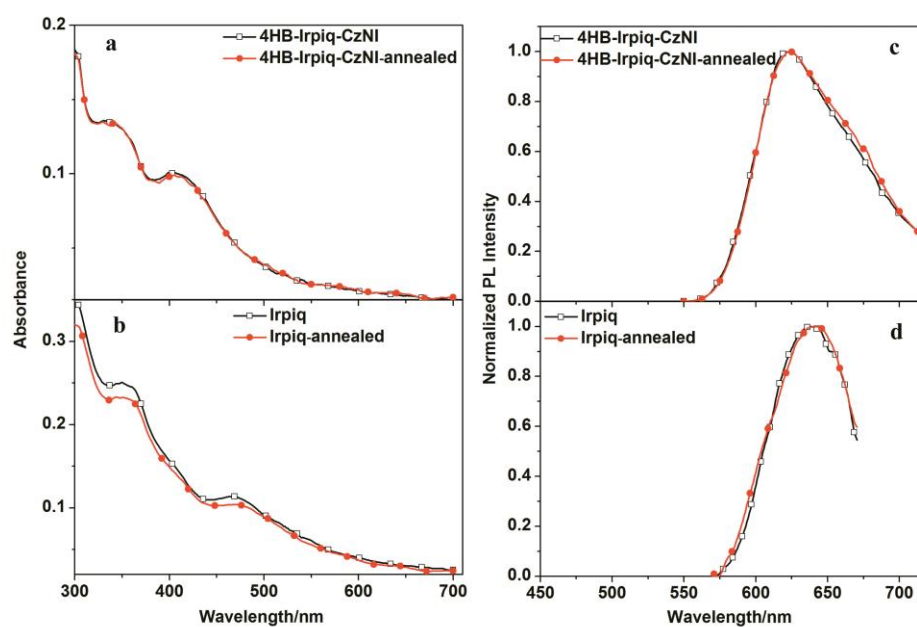


Figure S4. UV–Vis absorption spectra of (a) **4HB-Irpiq-CzNI**; and (b) **Irpiq** in thin film state. PL emission spectra of (c) **4HB-Irpiq-CzNI**; and (d) **Irpiq** in thin film state. Black line: pristine sample; red line: post-annealed sample (at 100 °C for 10 min).

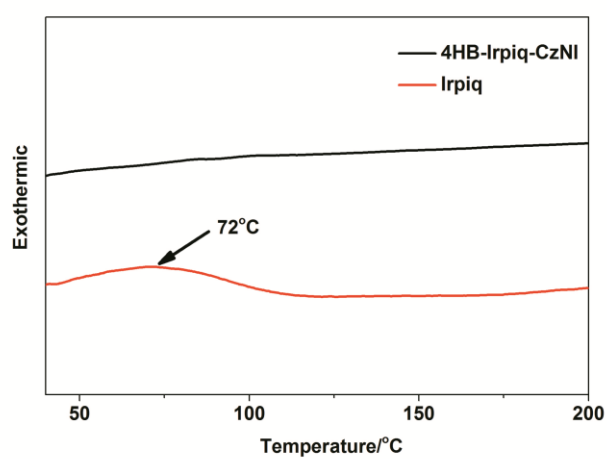


Figure S5. DSC curves for **4HB-Irpiq-CzNI** and **Irpiq**.

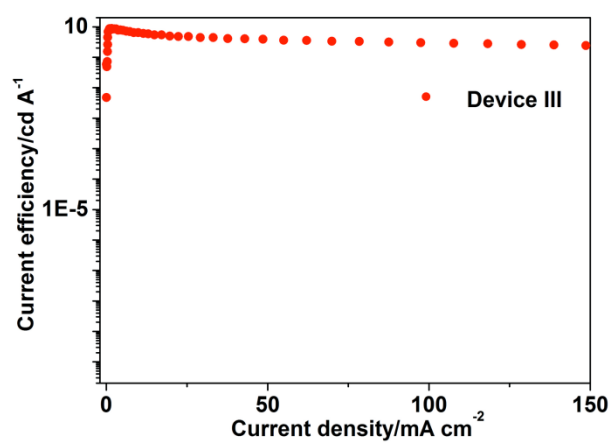


Figure S6. The luminance efficiency-current density characteristics of devices **III**.

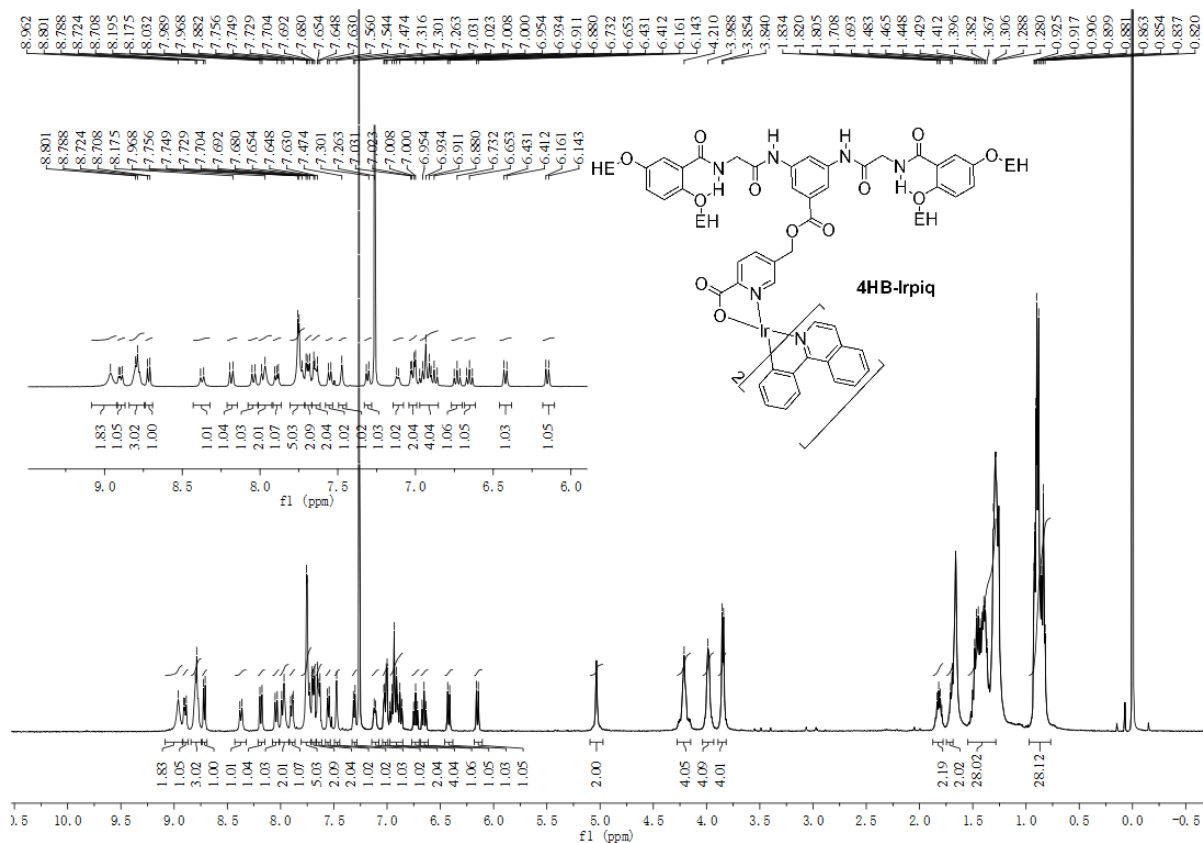


Figure S7. ¹H NMR spectrum of 4HB-Irpiq.

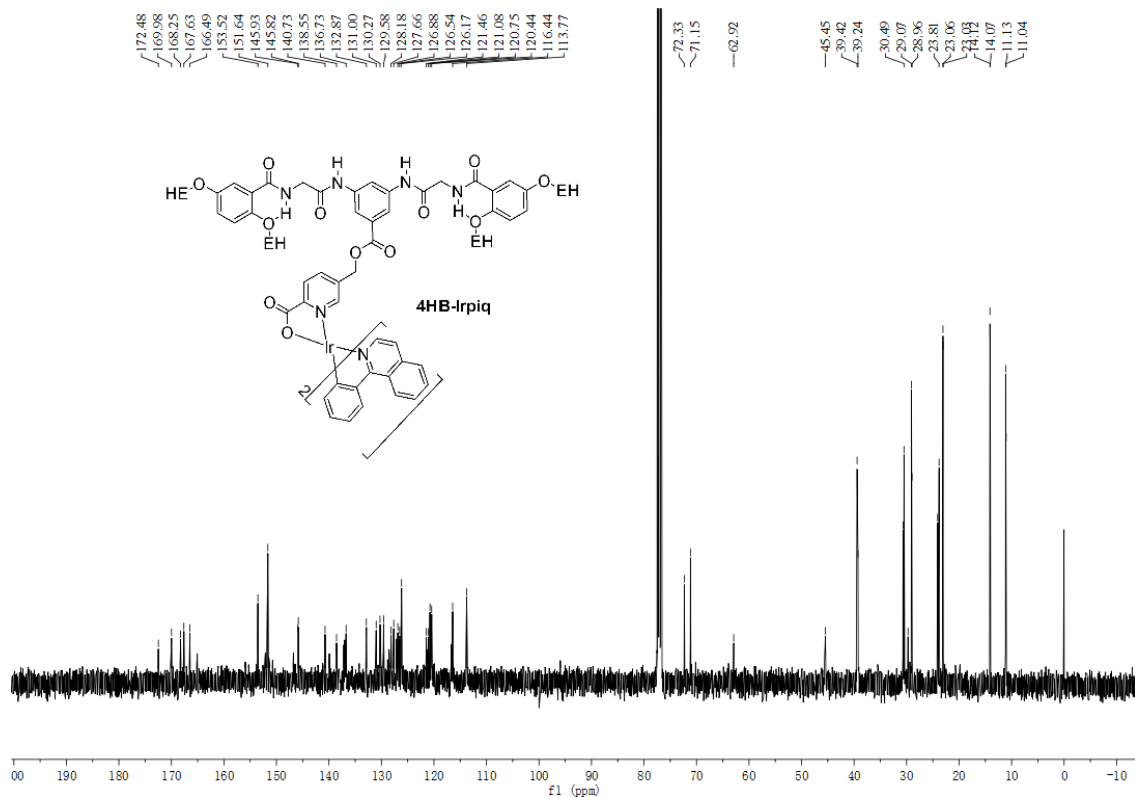


Figure S8. ¹³C NMR spectrum of 4HB-Irpiq.

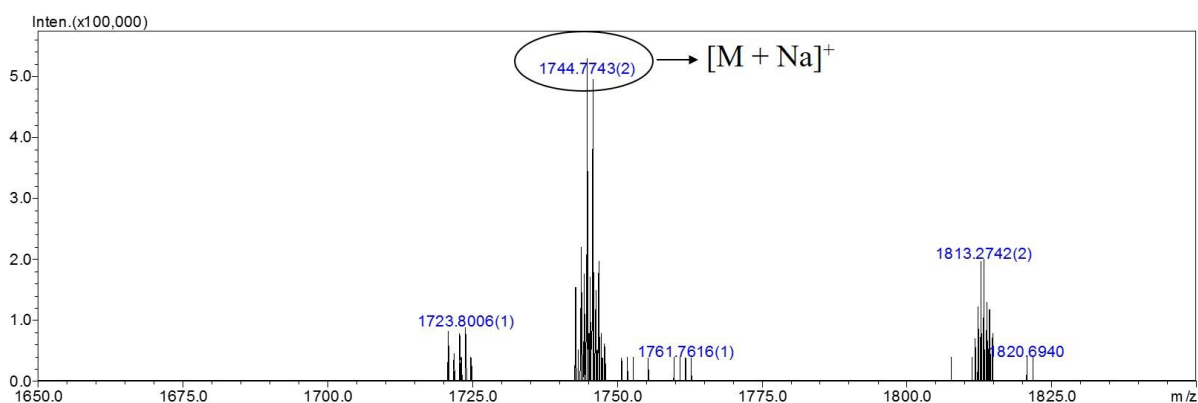


Figure S9. HRMS spectrum of **4HB-Irpiq**.

Atomic coordinates of structure of 4HB-Irpiq-CzNI.

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C	-10.08544000	3.39740600	-2.71129900
O	-7.84641300	3.80745800	-1.86260400
C	-8.16397900	5.19745500	-1.69048700
O	-11.73681300	0.15577000	-3.41260100
C	-7.33248800	0.89727800	-1.70286300
N	-6.21868900	1.64122300	-1.56497100
O	-7.31308600	-0.32505800	-1.46604900
C	-4.96049600	1.04650300	-1.17549600
C	-3.84181000	2.06385400	-1.40666400
N	-2.58496200	1.56231600	-1.21407200
O	-4.10938700	3.21864100	-1.72925200
C	-1.36406400	2.25779700	-1.35488700
C	-0.17606200	1.55505300	-1.10269900
C	1.07246900	2.18243600	-1.23233300
C	1.13833300	3.54000500	-1.57991100
C	-0.05308400	4.22312200	-1.83893100
C	-1.30024600	3.60088100	-1.74742900
N	2.22348600	1.39096800	-1.01379600
C	3.52333300	1.75418200	-1.21550400
C	4.52959600	0.62361200	-0.97589600
O	3.90875000	2.87156500	-1.55808300
N	5.84349900	1.09140200	-1.35027500
C	6.91225300	0.27166900	-1.39489800
C	8.23241200	0.83594500	-1.85578300
O	6.81145800	-0.92993600	-1.08783100
C	9.23702800	-0.10232400	-2.10083800
C	10.51989800	0.26663300	-2.51746500
C	10.79634000	1.62117900	-2.71746400

C	9.80368700	2.57772500	-2.48594500
C	8.52861500	2.21060400	-2.05089600
O	7.54233300	3.12264500	-1.79095600
O	11.41370300	-0.75110700	-2.69644200
C	-0.05590700	5.65449900	-2.25469200
O	1.09873800	6.29705400	-1.94273600
O	-0.99159700	6.20622000	-2.80587400
C	-13.00400300	0.55355000	-3.93408600
C	1.20669000	7.67596600	-2.37435000
C	0.68683500	8.65340400	-1.34503000
C	-0.68558900	8.81111400	-1.09194200
C	-1.09906800	9.73448900	-0.13985500
C	-0.14806000	10.49732600	0.53688300
N	1.17045800	10.35755700	0.28665600
C	1.57493700	9.45531800	-0.62648100
C	-0.57689300	11.53751400	1.57358700
O	0.38802500	12.21968100	2.10377000
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Ir	2.42902700	11.74682200	1.48425900
C	-13.81830600	-0.68924000	-4.31277900
C	-15.31486200	-0.30724700	-4.41525200
C	-16.05352300	-0.18156300	-3.07387600
C	-17.49783500	0.31438600	-3.23183900
C	-18.27142700	0.37841100	-1.91018200
C	-13.34449900	-1.34958900	-5.62617600
C	-11.90584000	-1.88082500	-5.64802700
C	-6.94972800	5.93874900	-1.12529700
C	-5.84765600	6.08406600	-2.19665200
C	-7.40298900	7.30305500	-0.55632700
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C	-8.55210700	8.62096800	1.31662000
C	-9.26643900	8.56284800	2.67098700
C	-4.48916300	6.53518800	-1.64939600
C	12.75475900	-0.41527200	-3.05437300
C	13.59280700	-1.69520800	-3.12132600
C	13.04165200	-2.64682500	-4.20438400
C	13.67526400	-4.04563800	-4.23103900
C	12.97242800	-5.00099300	-5.20605700
C	13.63562600	-6.38074700	-5.27600100
C	15.08105500	-1.34263700	-3.34023200
C	15.76436600	-0.62398300	-2.16798400
C	7.78969400	4.51828800	-1.99850000
C	6.56637200	5.30701100	-1.52545300
C	6.41808400	5.19492800	0.00802800

C	5.04424400	5.62151100	0.54829600
C	4.86623700	5.38895100	2.05901800
C	5.76481400	6.25356100	2.95188700
C	6.67690700	6.77167900	-2.00246300
C	6.42803600	6.98521900	-3.50170700
N	2.42736900	13.08953500	-0.09149300
C	3.52907800	13.11597300	-0.87728600
C	3.67532900	14.17909900	-1.84153700
C	2.54898200	15.03154600	-2.09064100
C	1.38767400	14.87413400	-1.29197800
C	1.38652400	13.95092400	-0.28359100
C	4.47148900	12.02635100	-0.58236000
C	4.19021900	11.30555200	0.62263300
C	5.09334200	10.29576700	1.00158100
C	6.18577200	9.95341700	0.20488300
C	6.38728800	10.59134100	-1.02506000
C	5.53119700	11.61473400	-1.41744500
C	4.89183900	14.48467100	-2.51343700
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C	3.81428800	16.26683700	-3.75798900
C	2.63806000	16.04684700	-3.07799000
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H	-4.77111300	0.13148900	-1.74470800
H	-2.52443100	0.58082400	-0.93387200
H	-0.22166100	0.50915200	-0.81096100
H	2.09221900	4.03279900	-1.67258400
H	-2.19786500	4.15332100	-1.97368800
H	2.06172300	0.41891900	-0.74012300
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H	4.24642000	-0.26415900	-1.55076400
H	5.92885400	2.07239000	-1.59856900
H	9.00827200	-1.15213200	-1.96713900
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H	-2.14231600	9.90120100	0.10288300
H	2.64866200	9.38981700	-0.77979400
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H	-15.40943300	0.63556100	-4.97679400
H	-15.82934800	-1.06355500	-5.02273000
H	-16.05383900	-1.16049700	-2.57209700
H	-15.51540800	0.50189600	-2.40109200
H	-17.48271900	1.30936700	-3.70010400
H	-18.03073900	-0.34209000	-3.93485200
H	-19.27230100	0.80004100	-2.05946600
H	-18.39866600	-0.61653100	-1.46881200
H	-17.75188400	1.00983200	-1.17810100
H	-14.02832300	-2.18233700	-5.84026300
H	-13.48268700	-0.63088600	-6.44857600
H	-11.71319100	-2.41247600	-6.58742600
H	-11.16845400	-1.07939400	-5.55540700
H	-11.73039100	-2.58178500	-4.82368900
H	-6.55103800	5.33030400	-0.30041400
H	-5.71112700	5.11789400	-2.69335500
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H	13.49892000	-2.19565300	-2.14540900
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H	15.32911900	0.36105000	-1.96450200
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