## **Supporting Information**

## **Optically Transparent Fluor-containing Polycarbonate with High Refractive Index for Thermo-optic Switch**

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Detector A Ch1	
[Average Molecular Weight(Total)]	
Number Average Molecular Weight(Mn)	10530
Weight Average Molecular Weight(Mw)	13826
Z Average Molecular Weight(Mz)	18649
Z+1 Average Molecular Weight(Mz1)	25121
Mw/Mn	1.31303
Mv/Mn	0.00000
MZ/MW	1 34883

Figure S1. The GPC calculation results of FBPA-PC-EP-1. **GPC Calculation Results** 



Detector A Ch1	
[Average Molecular Weight(Total)]	
Number Average Molecular Weight(Mn)	10895
Weight Average Molecular Weight(Mw)	14499
Z Average Molecular Weight(Mz)	19933
Z+1 Average Molecular Weight(Mz1)	27034
Mw/Mn	1.33088
Mv/Mn	0.00000
Mz/Mw	1.37476

Figure S2. The GPC calculation results of FBPA-PC-EP-2. **GPC Calculation Results** 



Detector A Ch1	
[Average Molecular Weight(Total)]	
Number Average Molecular Weight(Mn)	11223
Weight Average Molecular Weight(Mw)	15485
Z Average Molecular Weight(Mz)	21629
Z+1 Average Molecular Weight(Mz1)	28934
Mw/Mn	1.37978
Mv/Mn	0.00000
Mz/Mw	1.39675

Figure S3. The GPC calculation results of FBPA-PC-EP-3.



Figure S4. <sup>1</sup>H NMR spectra of FBPA-PC-OH and FBPA-PC-EP (from top to bottom).



Figure S5. <sup>19</sup>F NMR spectra of FBPA-PC-OH and FBPA-PC-EP (from bottom to top).



Figure S6. <sup>13</sup>C NMR spectra of FBPA-PC-EP 2.



Figure S7. FTIR spectrum of FBPA-PC-OH and FBPA-PC-EP.



Figure S8. TGA thermograms of FPC-PRs 1-3 before and after cross-linking.



Figure S9. DSC thermograms of FPC-PR 1-3 before and after cross-linking.