Electronic Supplementary Material (ESI) for Journal of Materials Chemistry A.

Supporting information

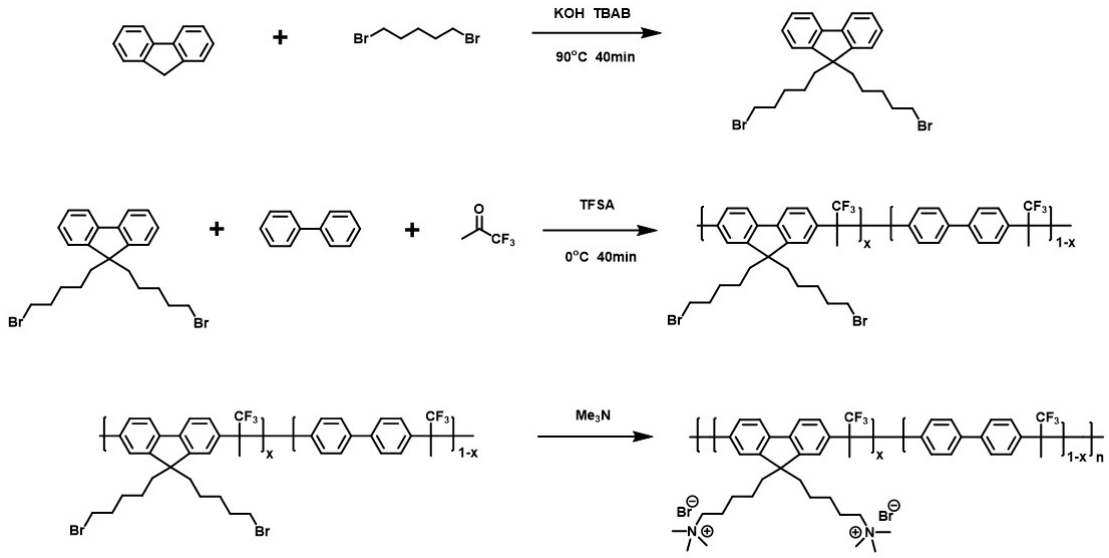

Figure S1. The synthesis route of PFBA-QA-x

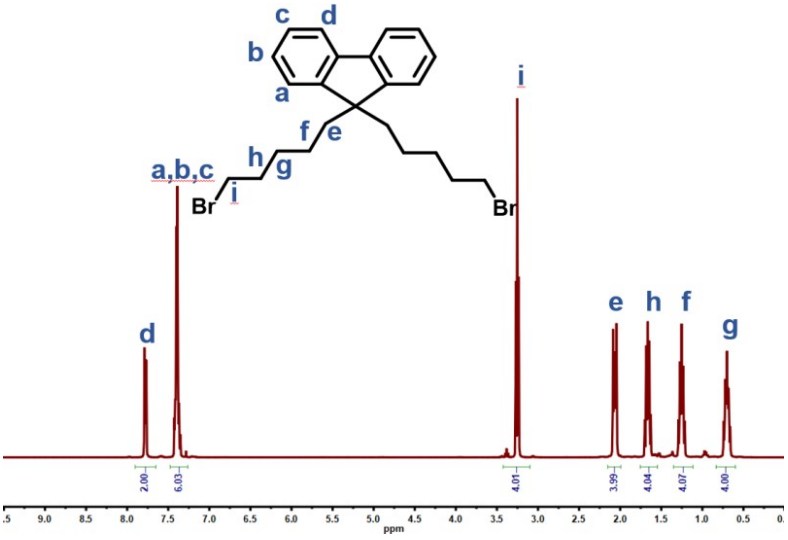

Figure S2. The ^{1}H NMR spectra of BBPF

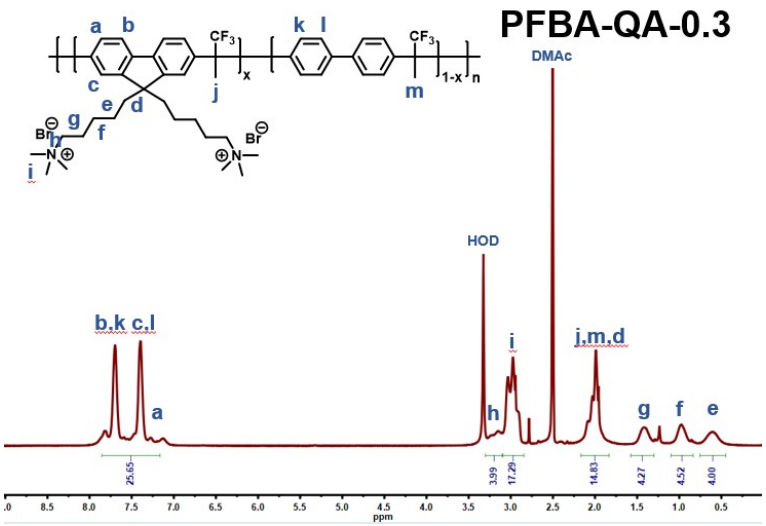

Figure S3. The ^{1}H NMR spectra of PFBA-QA-0.3

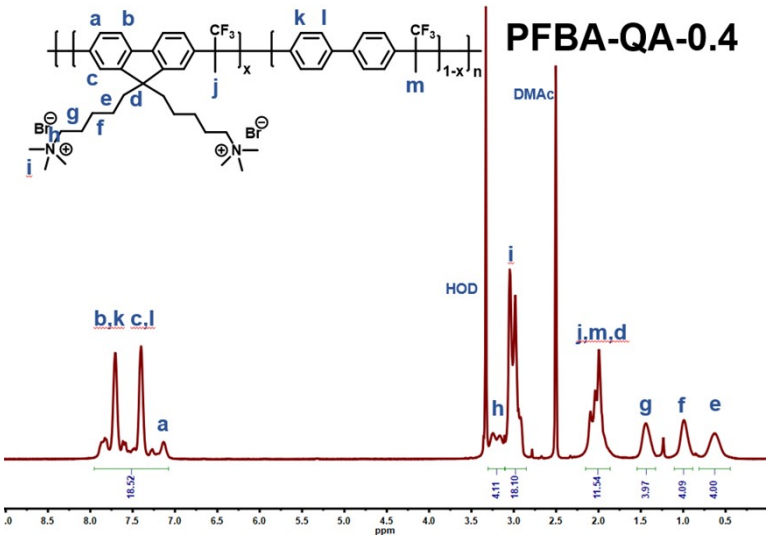

Figure S4. The ^{1}H NMR spectra of PFBA-QA-0.4

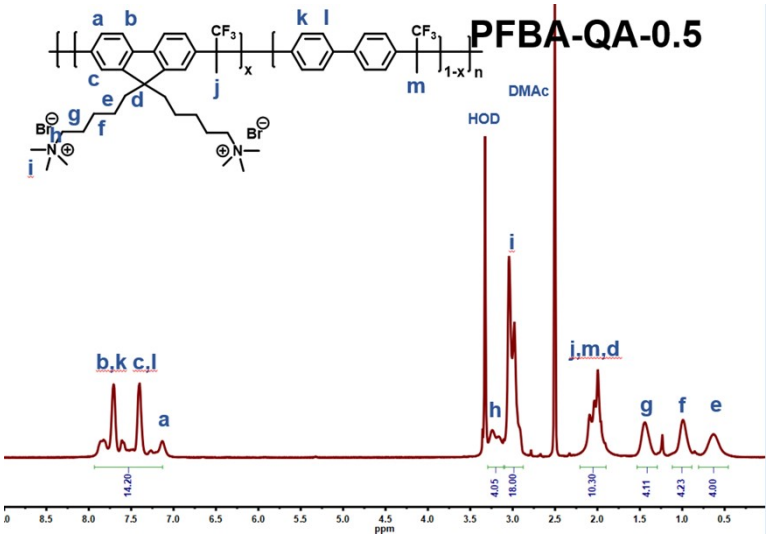

Figure S5. The ^{1}H NMR spectra of PFBA-QA-0.5

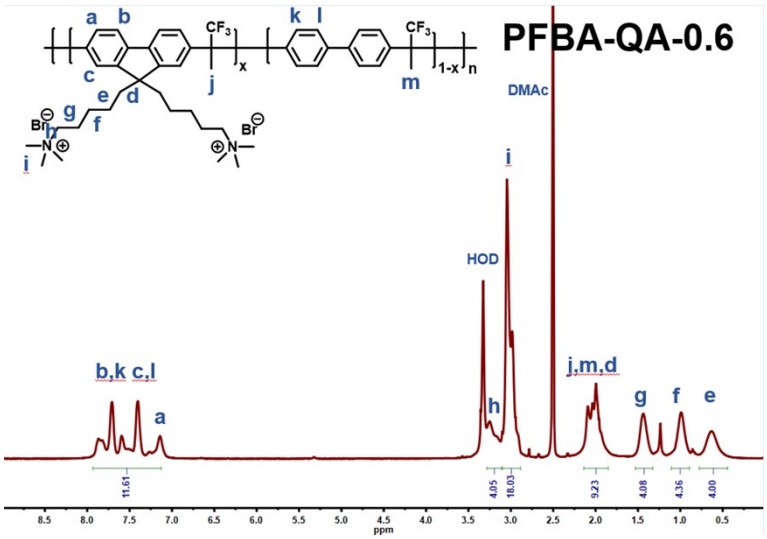

Figure S6. The ^{1}H NMR spectra of PFBA-QA-0.6

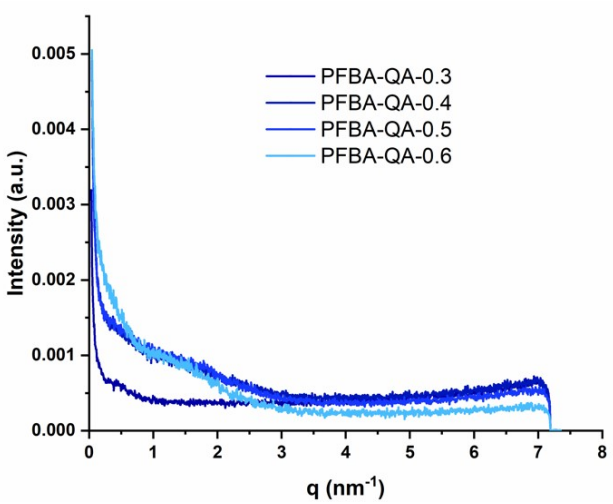

Figure S7. SAXS of PFBA-QA-x (x = 0.3, 0.4, 0.5, 0.6).

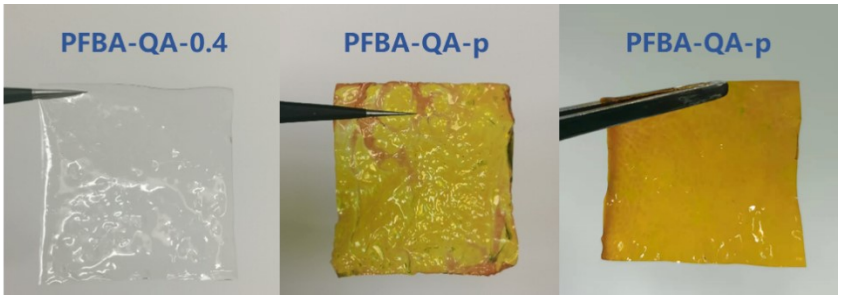

Figure S8. (a) Digital image of PFBA-QA-0.4. (b) Digital image of PFBA-QA-p by on-line method. (c) Digital image of PFBA-QA-p by off-line method.

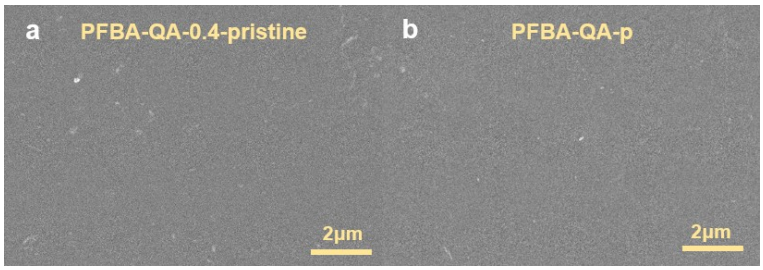

Figure S9. (a) SEM image of PFBA-QA-0.4 (b) SEM image of PFBA-QA-p.

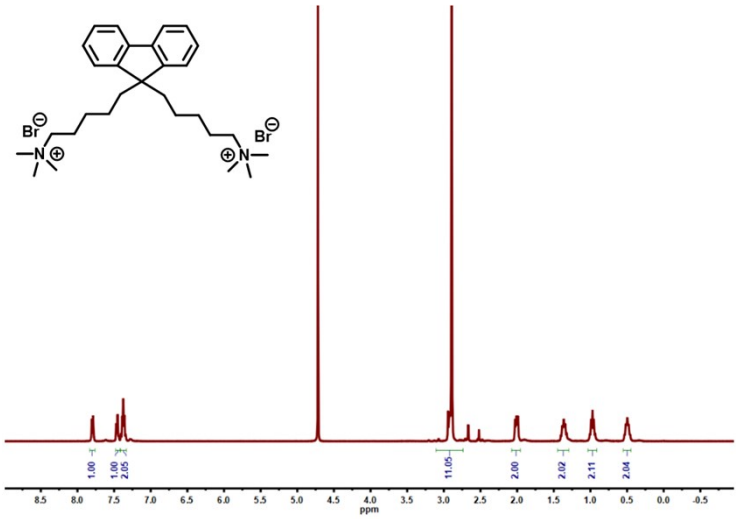

Figure S10. The ^{1}H NMR spectra of model compound.

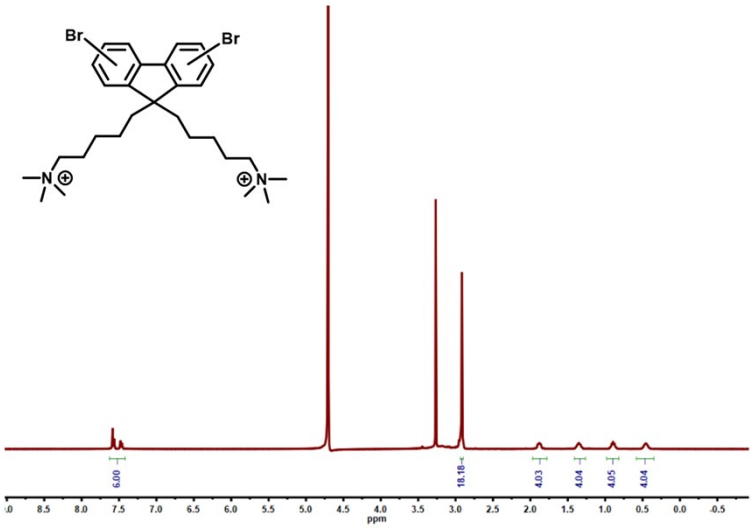

Figure S11. The ^{1}H NMR spectra of degraded model compound.

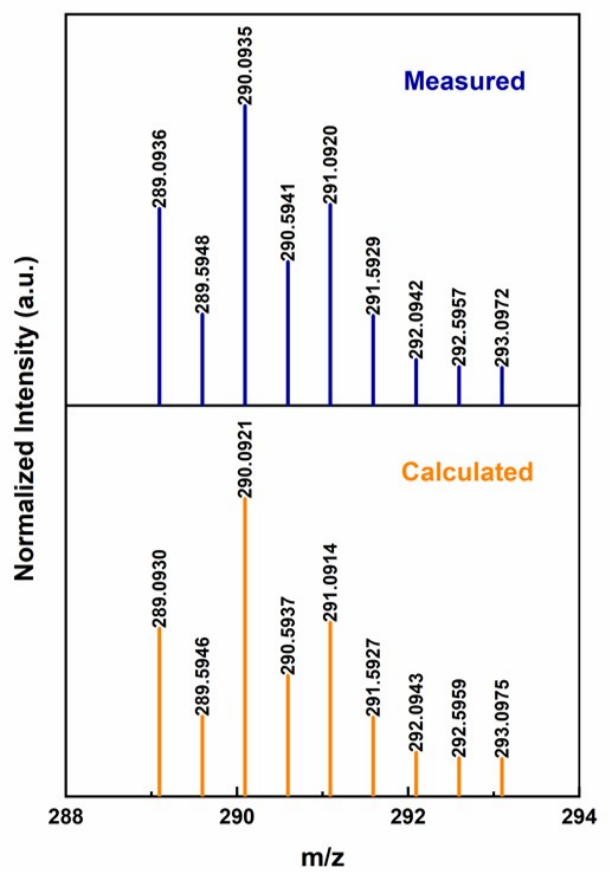

Figure S12. The mass spectrometry of model compound before and after oxidation.

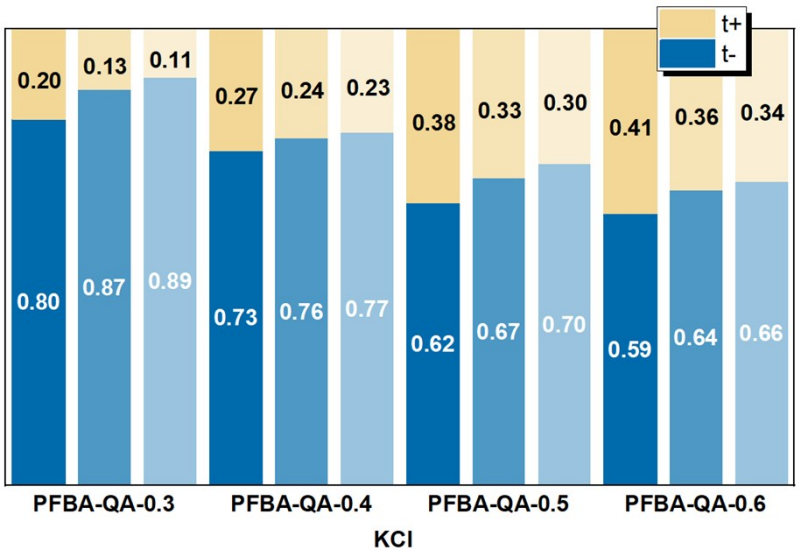

Figure S13. The KCl ITN of PFBA-QA-x.

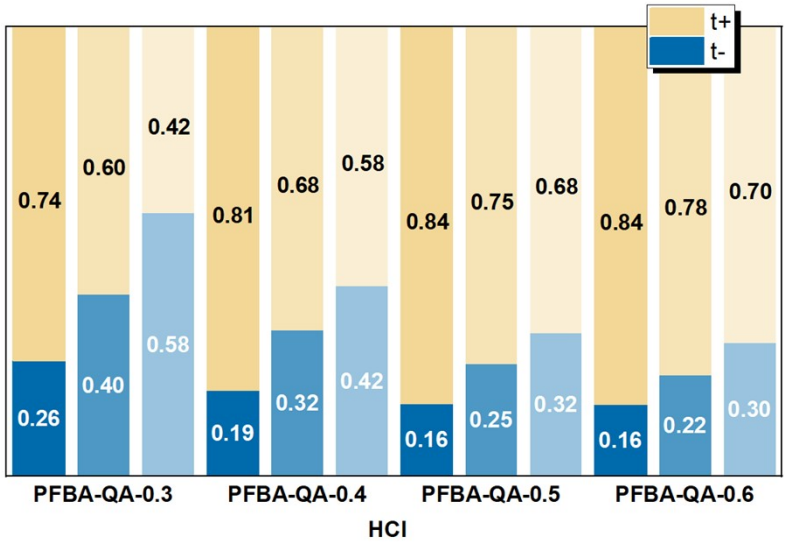

Figure S14. The HCl ITN of PFBA-QA-x.

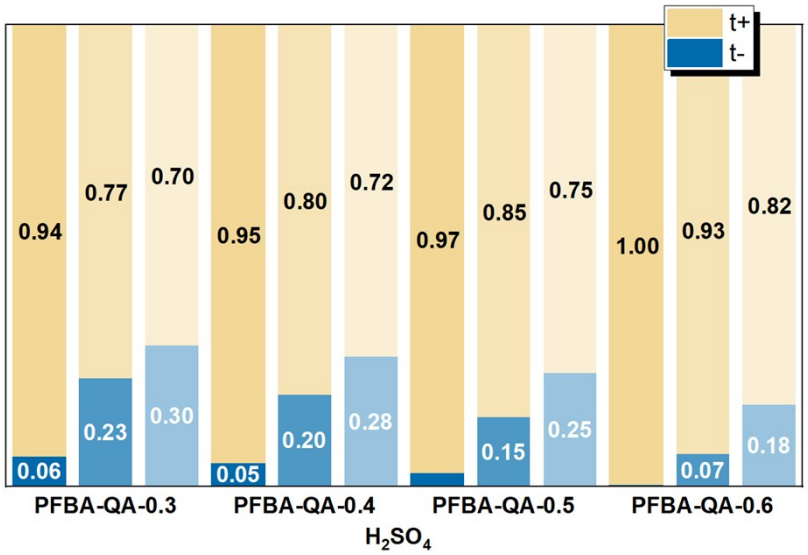

Figure S15. The H_2SO_4 ITN of PFBA-QA-x.

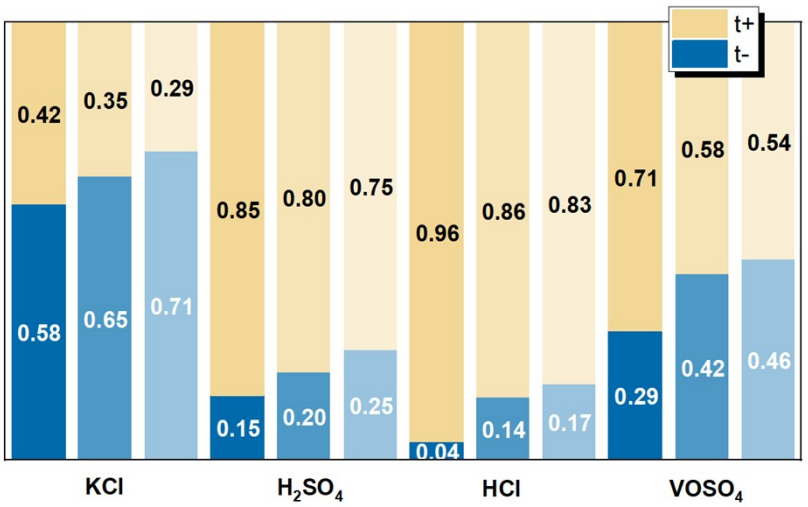

Figure S16. The ITN of PFBA-QA-p in KCl, H_2SO_4, HCl and $VOSO_4$.

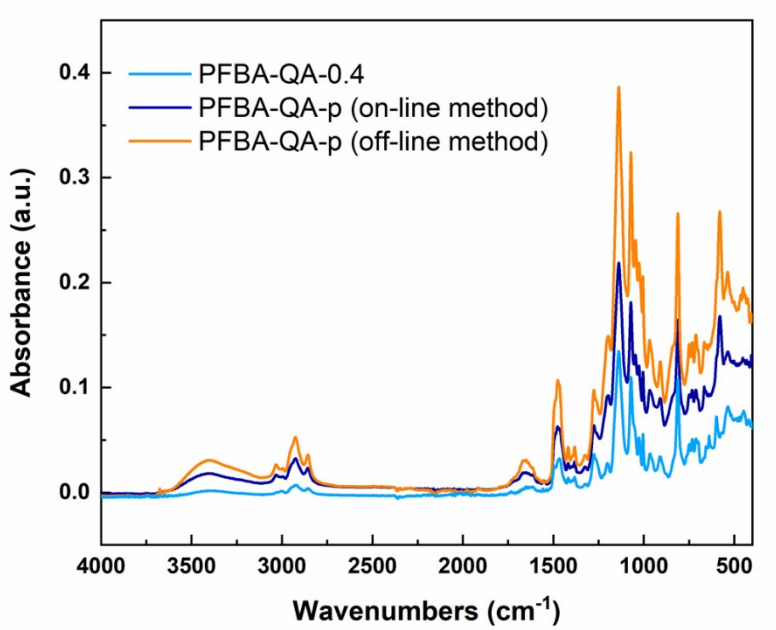

Figure S17. The FTIR image of PFBA-QA-0.4, PFBA-QA-p by on-line and off-line methods.