

## Electronic Supplementary Information (ESI)

### Pyridine Nitrogen Position Controlled Molecular Packing and Stimuli-responsive Solid-State Fluorescence Switching: Supramolecular Complexation Facilitated Turn-on Fluorescence

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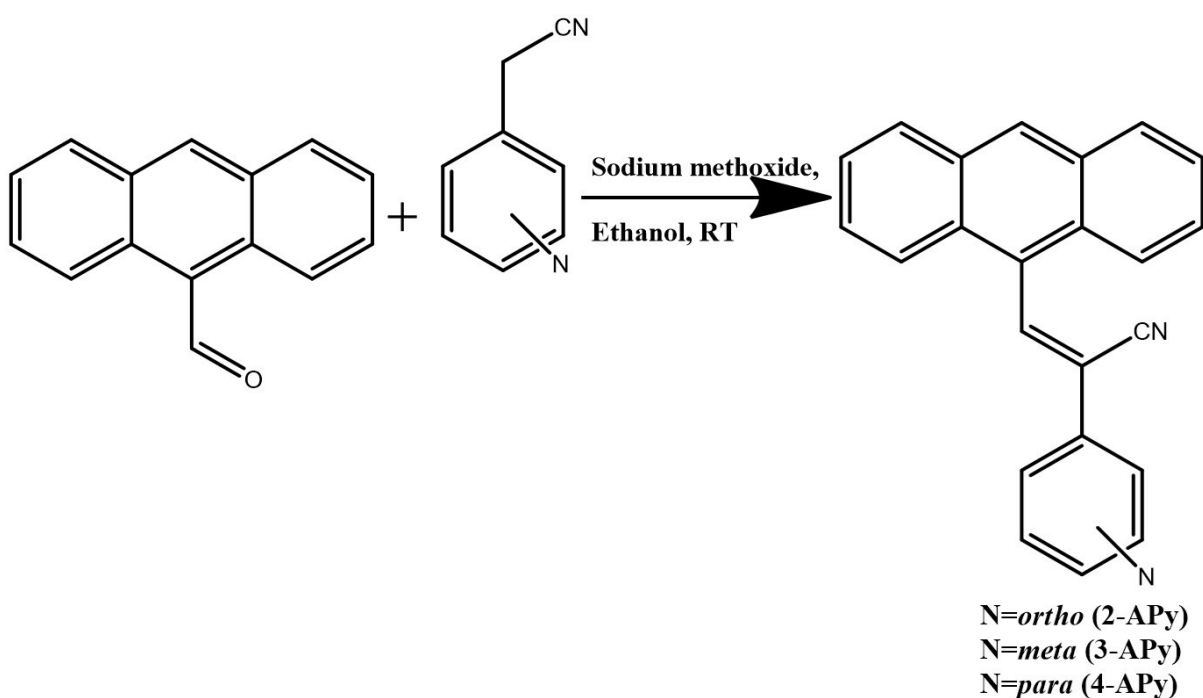
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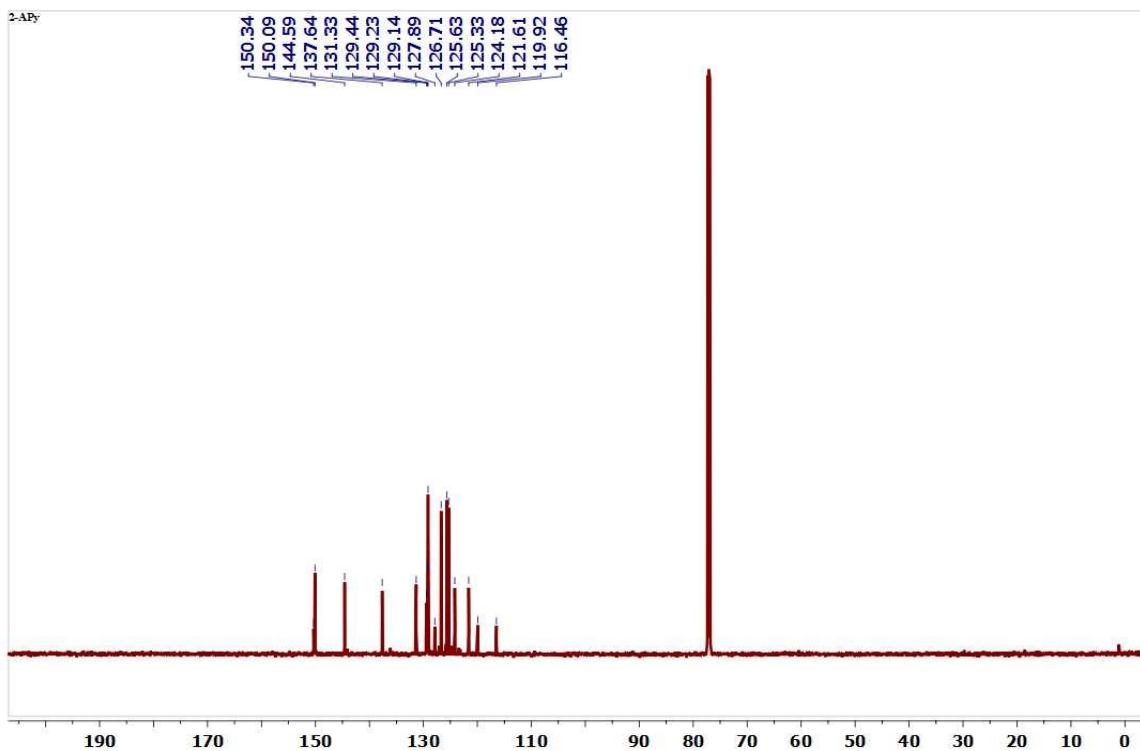
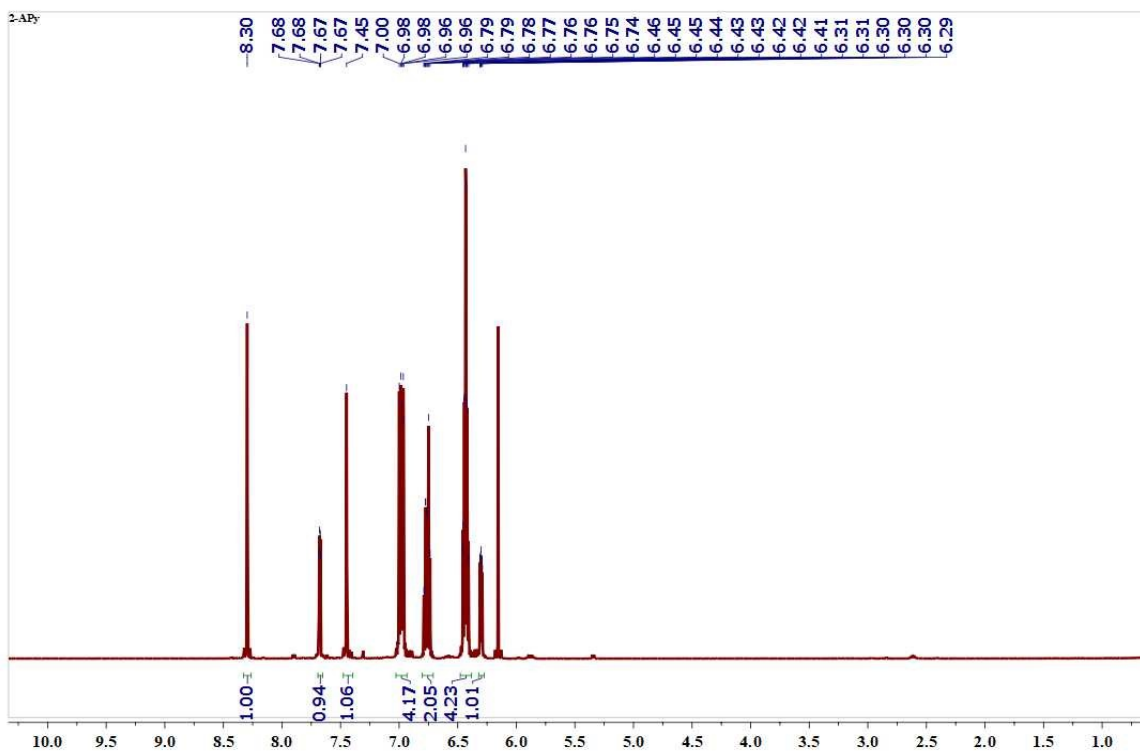
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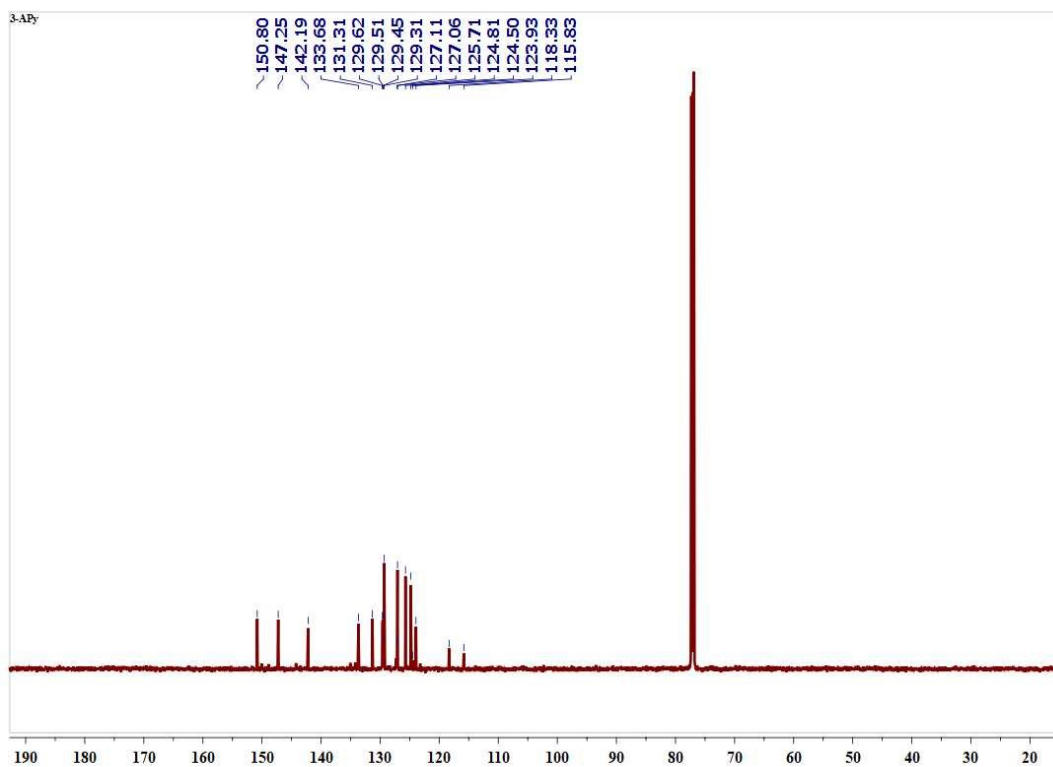
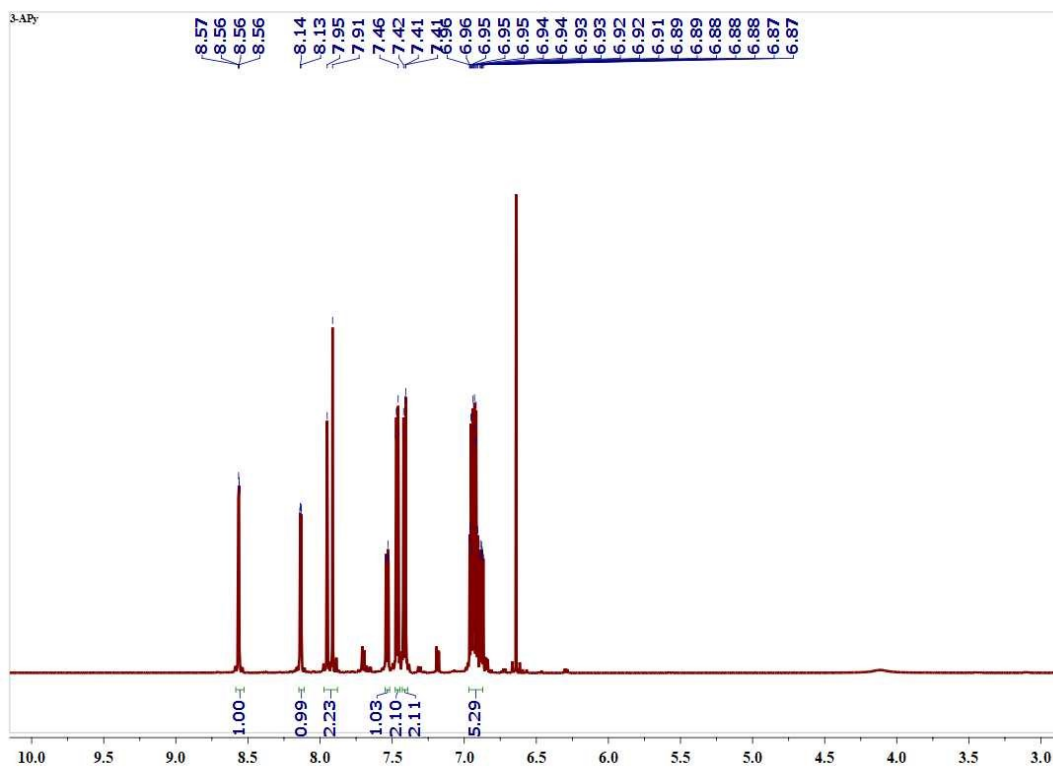
<sup>e</sup>)Beamline Department, Pohang Accelerator Laboratory, 80 Jigokro-127beongil, Nam-gu, Pohang, Gyeongbuk, Korea, Email: dmoon@postech.ac.kr



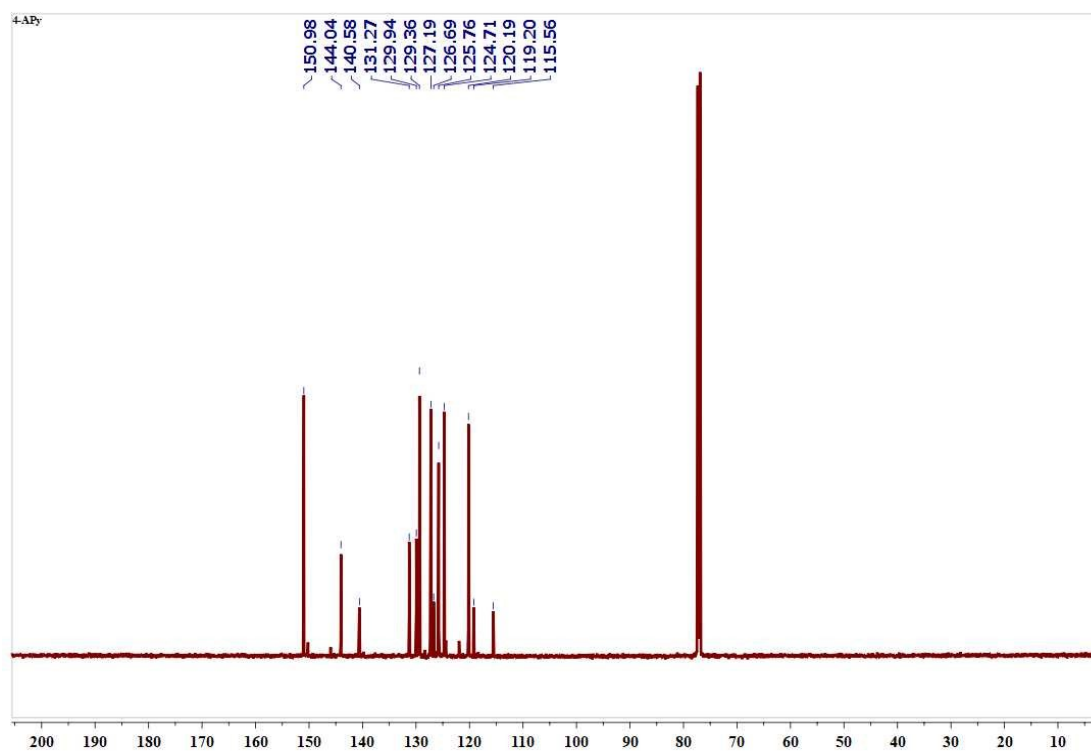
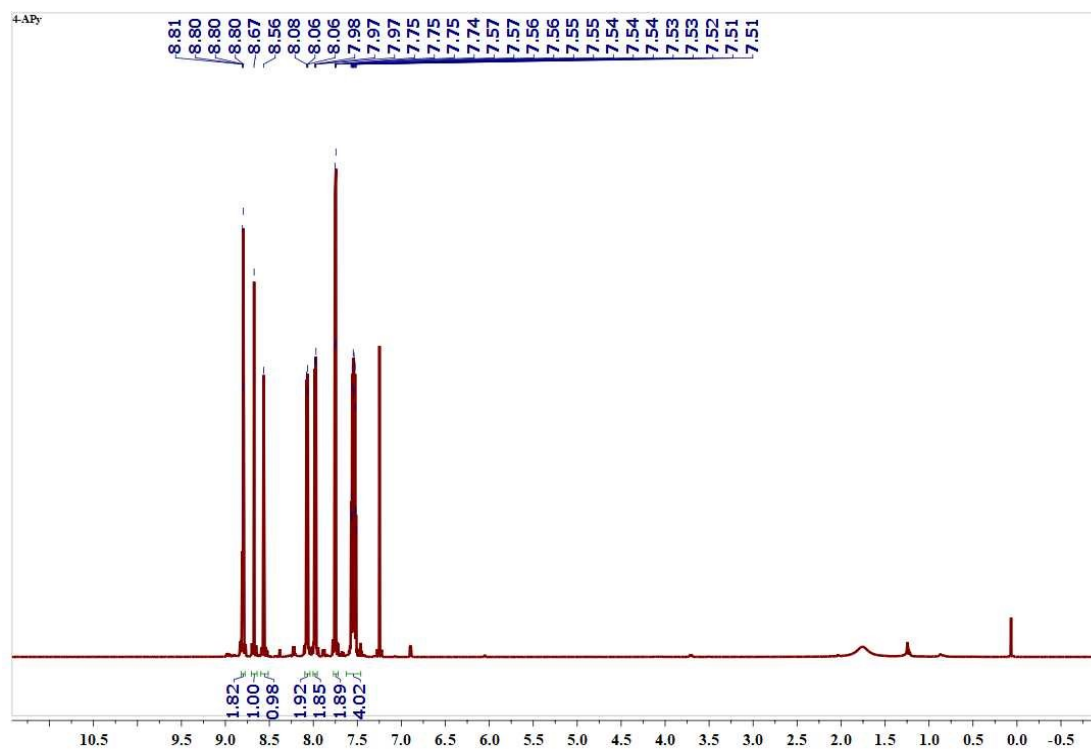
Scheme S1. Synthesis of 2-APy, 3-APy and 4-APy.



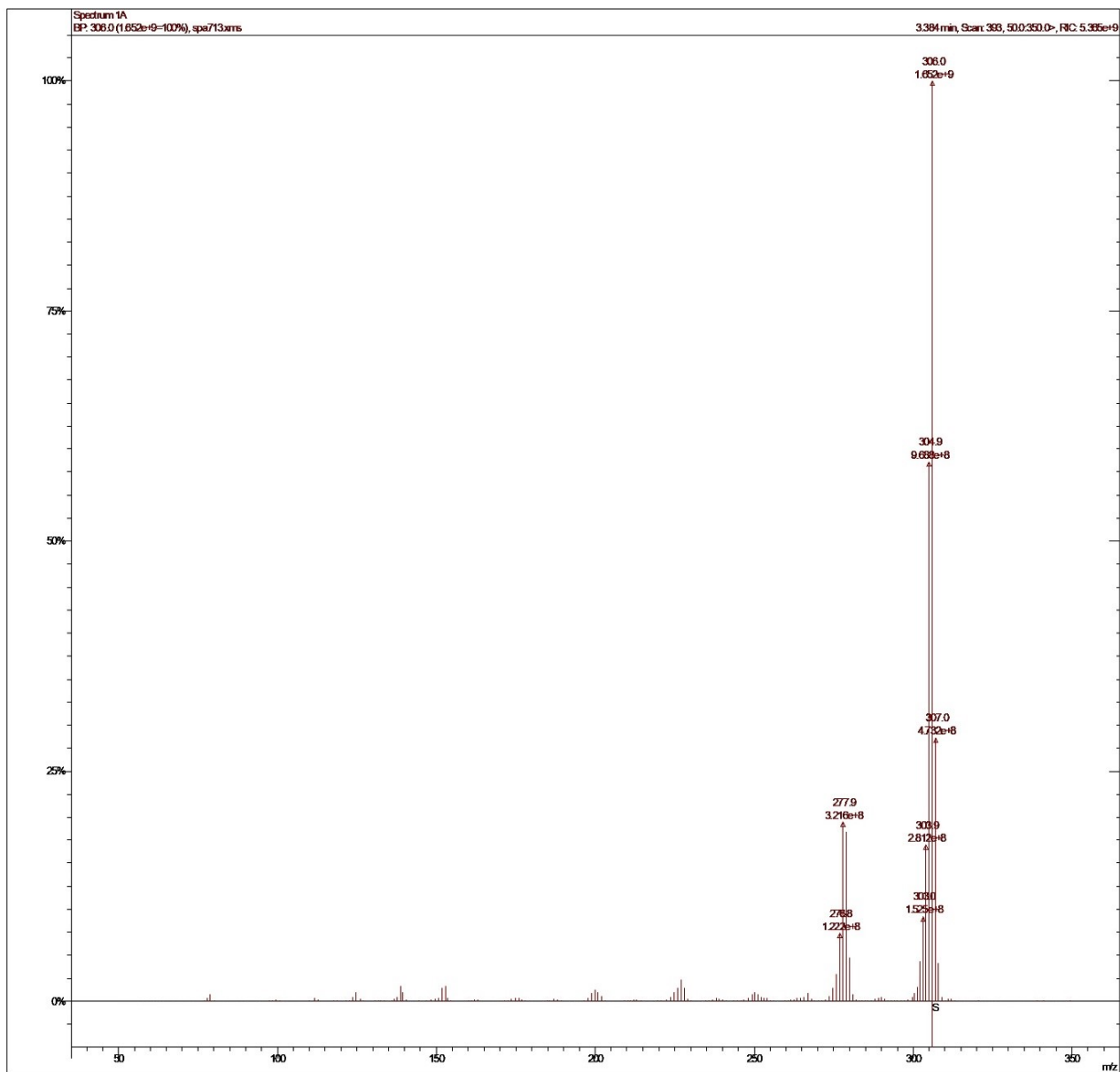
# $^1\text{H}$ and $^{13}\text{C}$ NMR of 2-APy



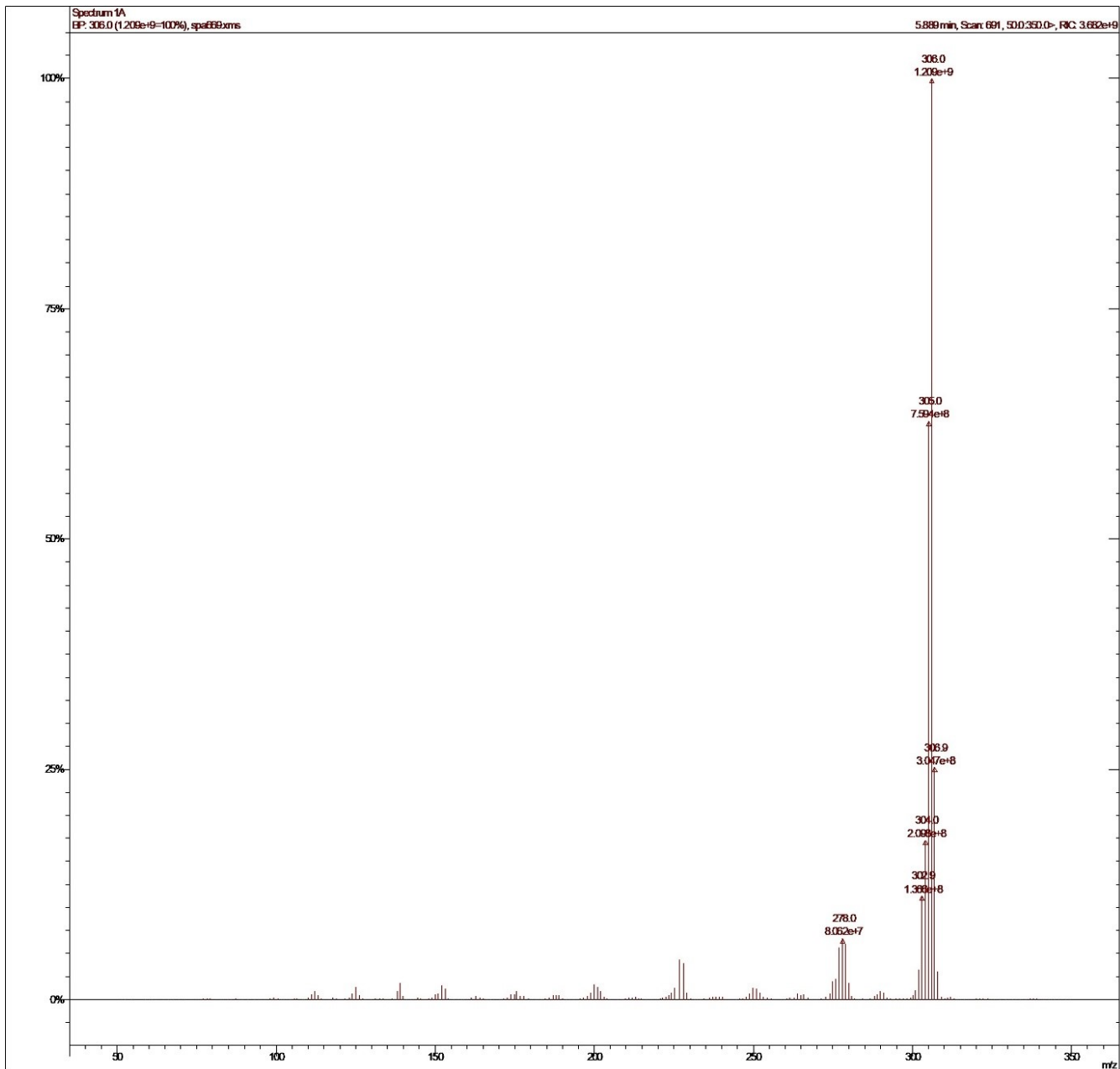
$^1\text{H}$  and  $^{13}\text{C}$  NMR of **3-APy**



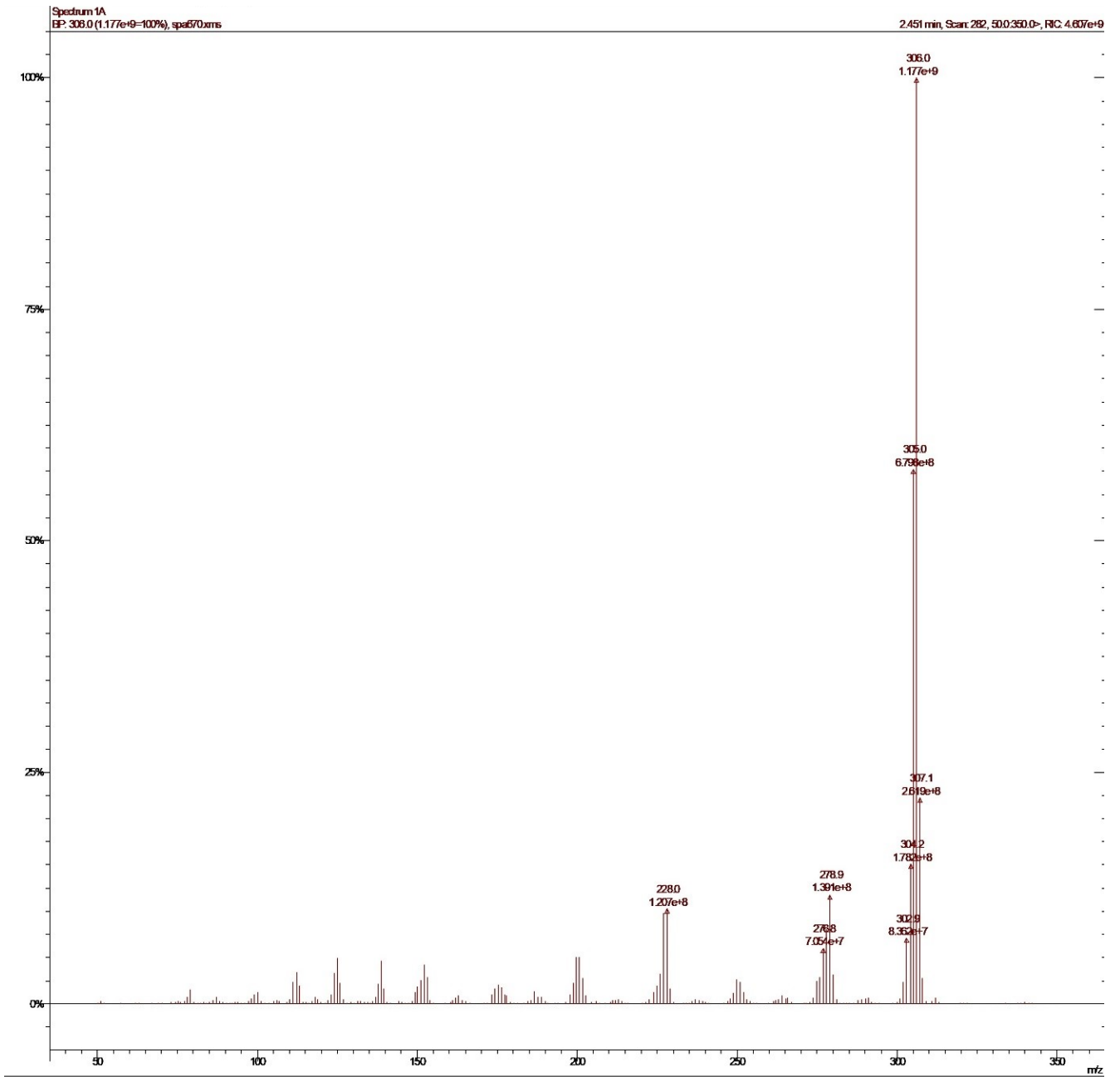
$^1\text{H}$  and  $^{13}\text{C}$  NMR of 4-APy



**2-APy:** m/z calcd for  $\text{C}_{22}\text{H}_{14}\text{N}_2$  (M + H): 306.12, found: 306.0



**3-APy:** m/z calcd for  $C_{22}H_{14}N_2$  (M + H): 306.12, found: 306.0



**4-APy:** m/z calcd for  $C_{22}H_{14}N_2$  (M + H): 306.12, found: 306.0

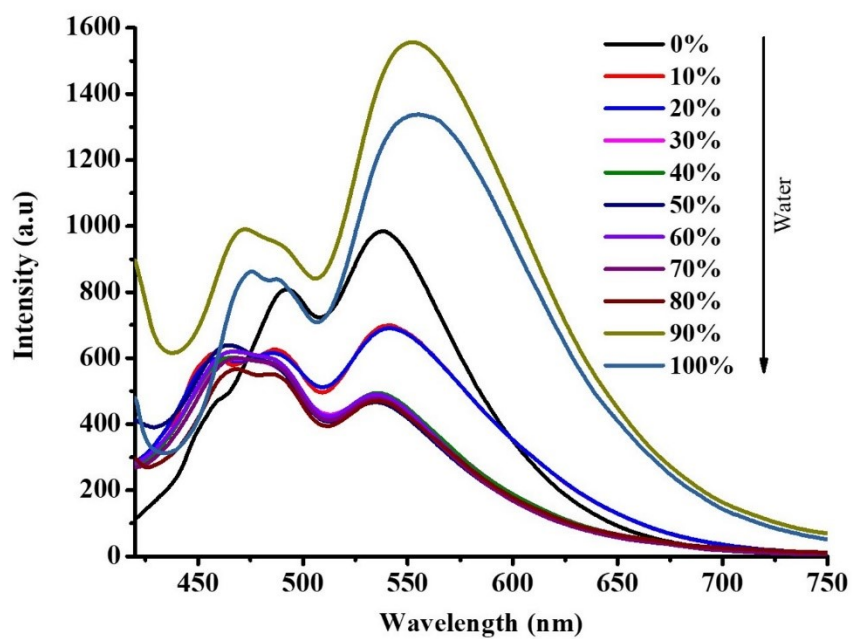


Fig. S1. Aggregation enhanced emission studies of 3-APy in THF/water mixture.

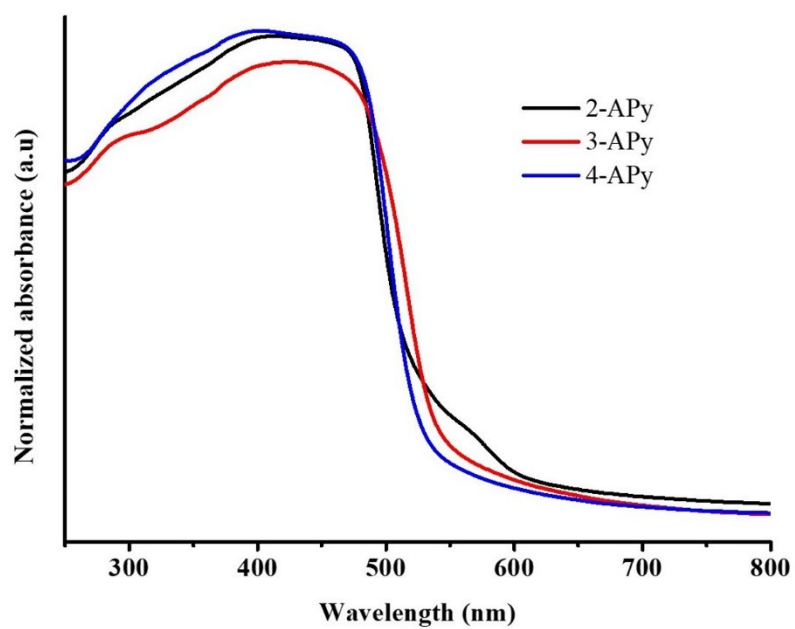
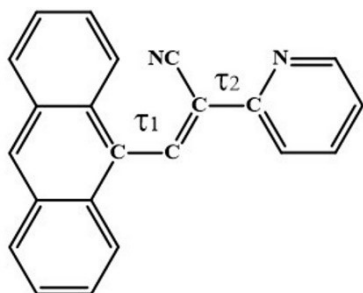


Fig. S2. Solid state absorption spectra of 2-APy, 3-APy and 4-APy.



Table S1. Comparison of conformational twist using dihedral angle ( $\tau$ ) in all four structures.



	$\tau_1$ (°)	$\tau_2$ (°)
<b>2-APy</b>	0.71	7.37
<b>3-APy</b>	3.70	18.43
<b>4-APy</b>	0.26	24.76
<b>2-APy-PTSA</b>	4.13	13.64

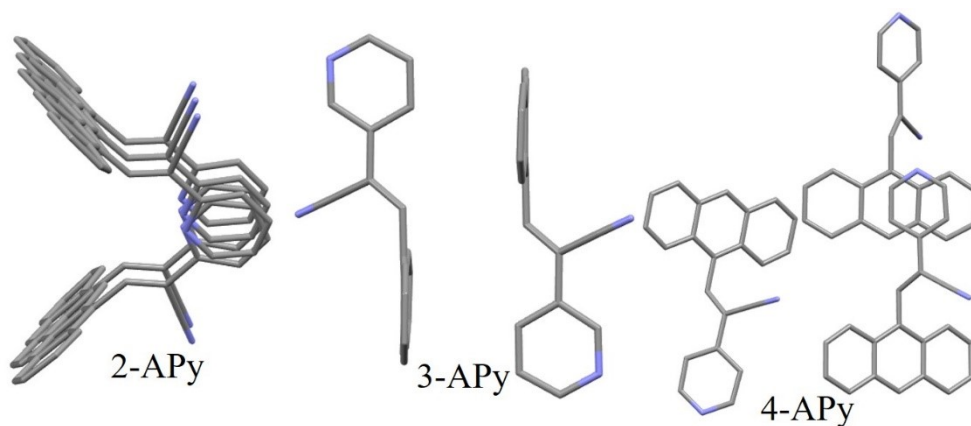


Fig. S3. Molecular stacking in the crystal lattice of 2-APy, 3-APy and 4-APy. C (grey), H (white) and N (blue).

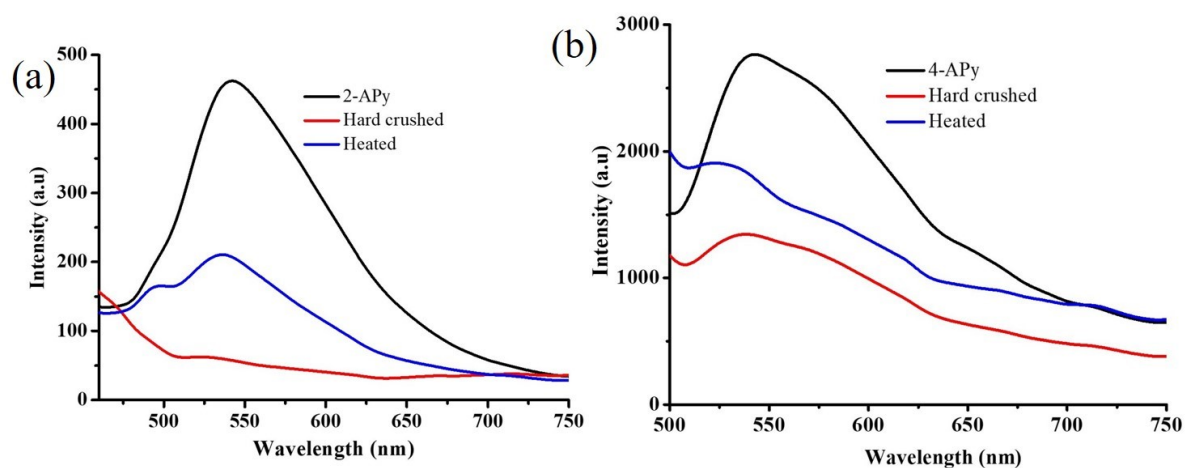


Fig. S4. Mechanofluorochromism of (a) **2-APy** and (b) **4-APy**.

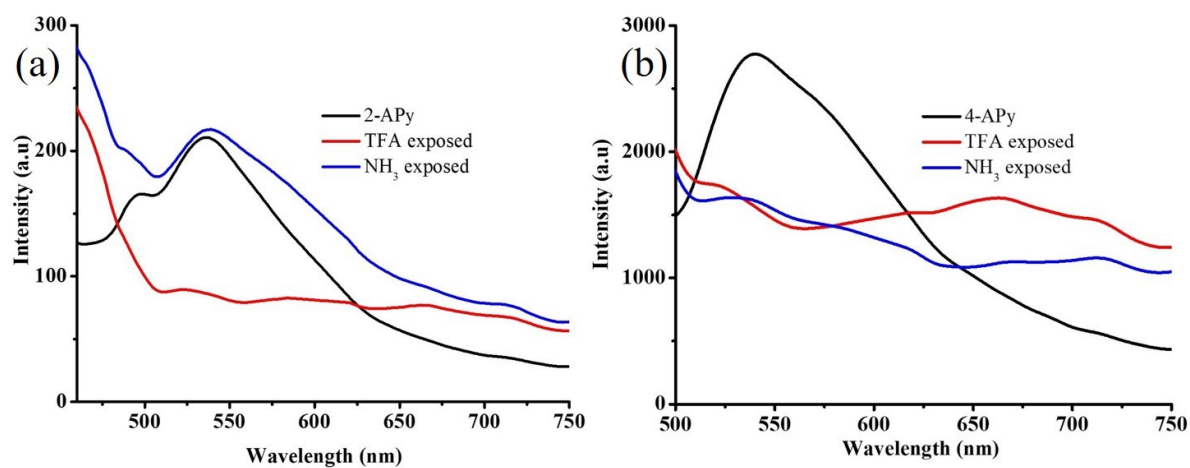


Fig. S5. Halochromism of (a) **2-APy** and (b) **4-APy**.

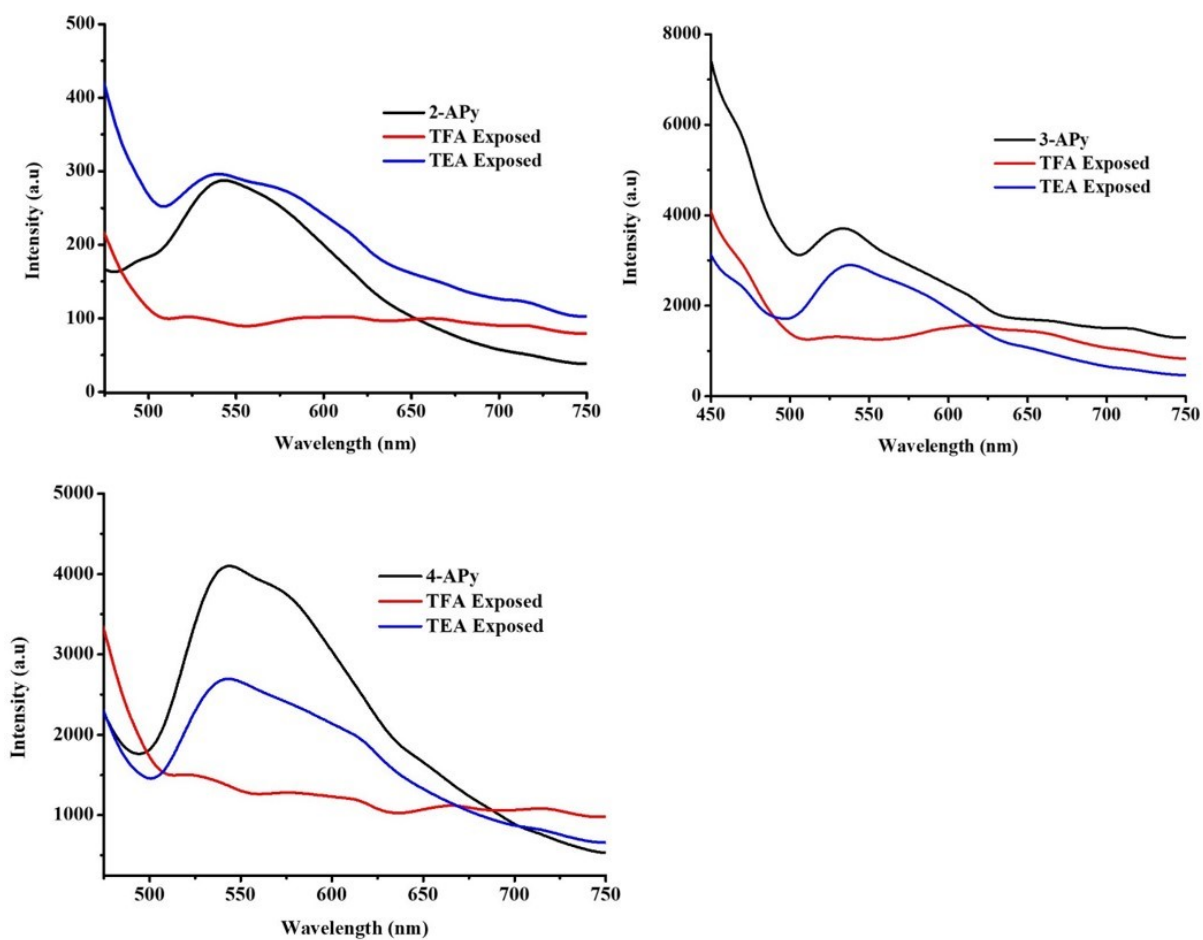


Fig. S6. Halochromism of **2-APy**, **3-APy** and **4-APy** by treating with TFA and triethylamine (TEA).