Supplementary information for

Synthesis and Properties of n-Type Triphenylpyridine Derivatives and Applications in Deep-Blue Organic Light-emitting Devices as Electron-Transporting Layer

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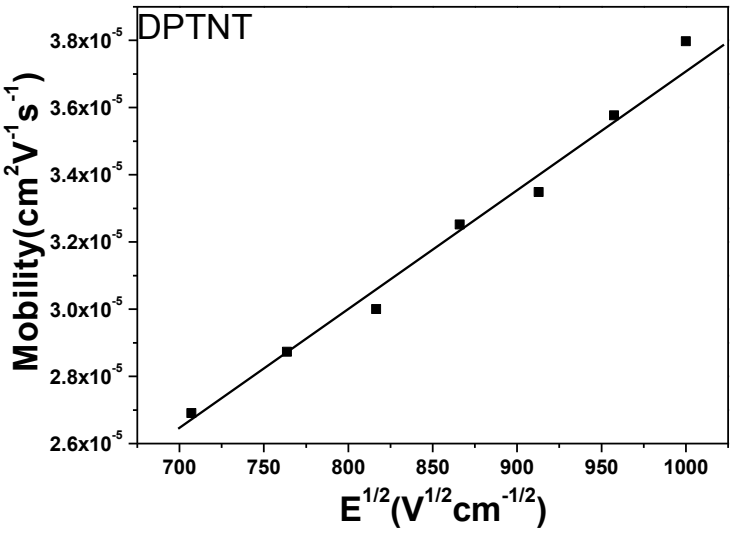
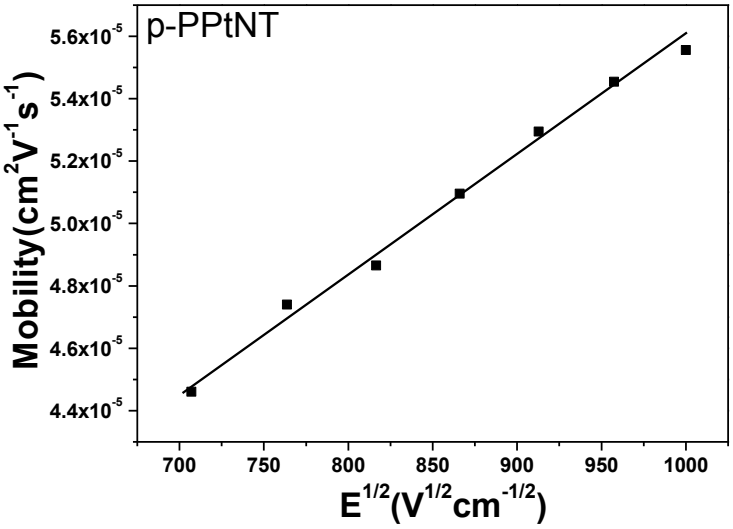
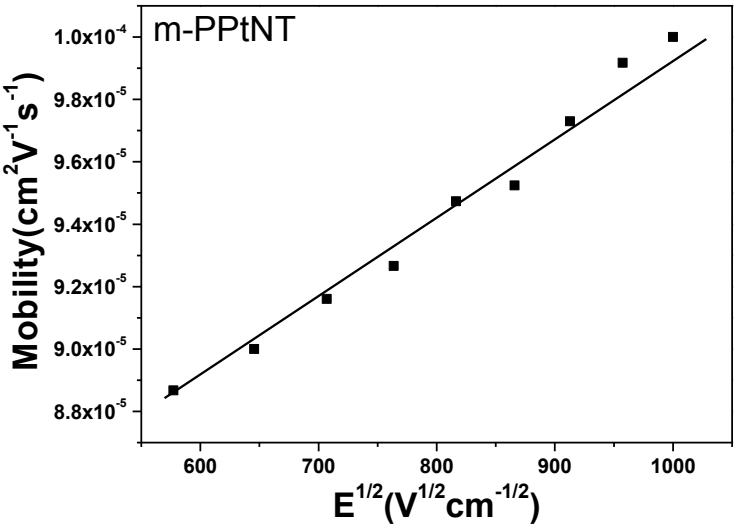
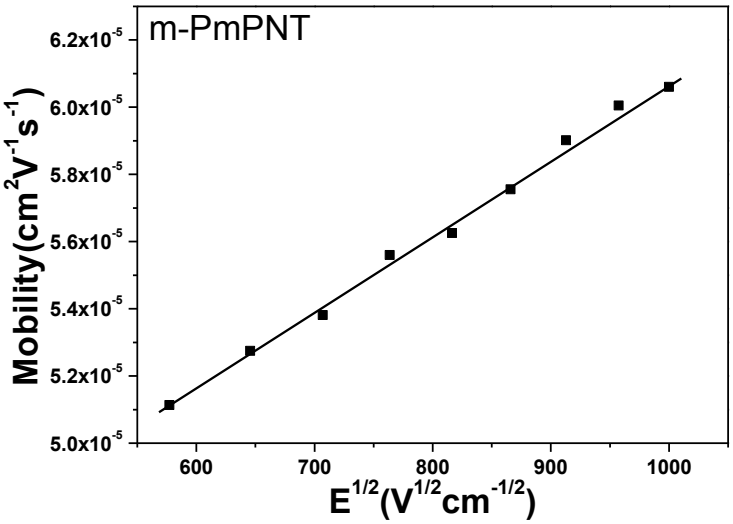
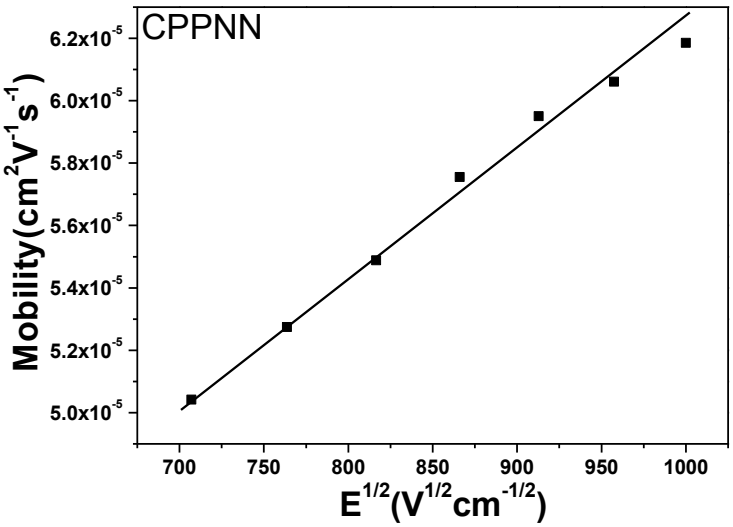
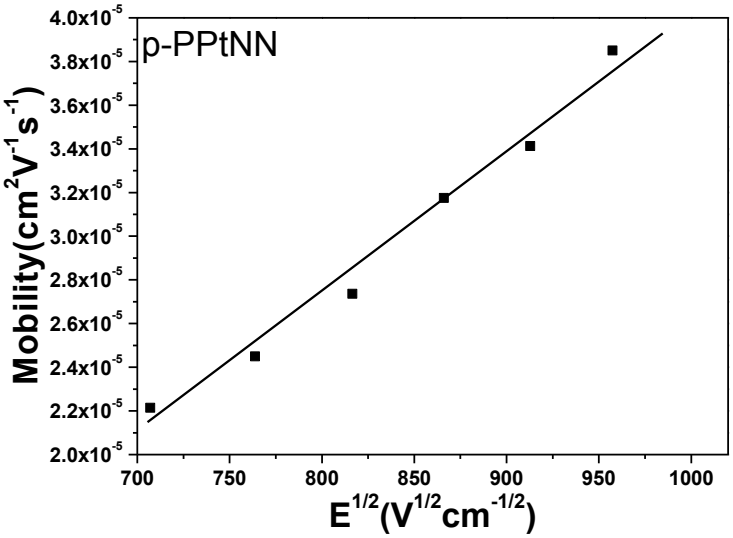












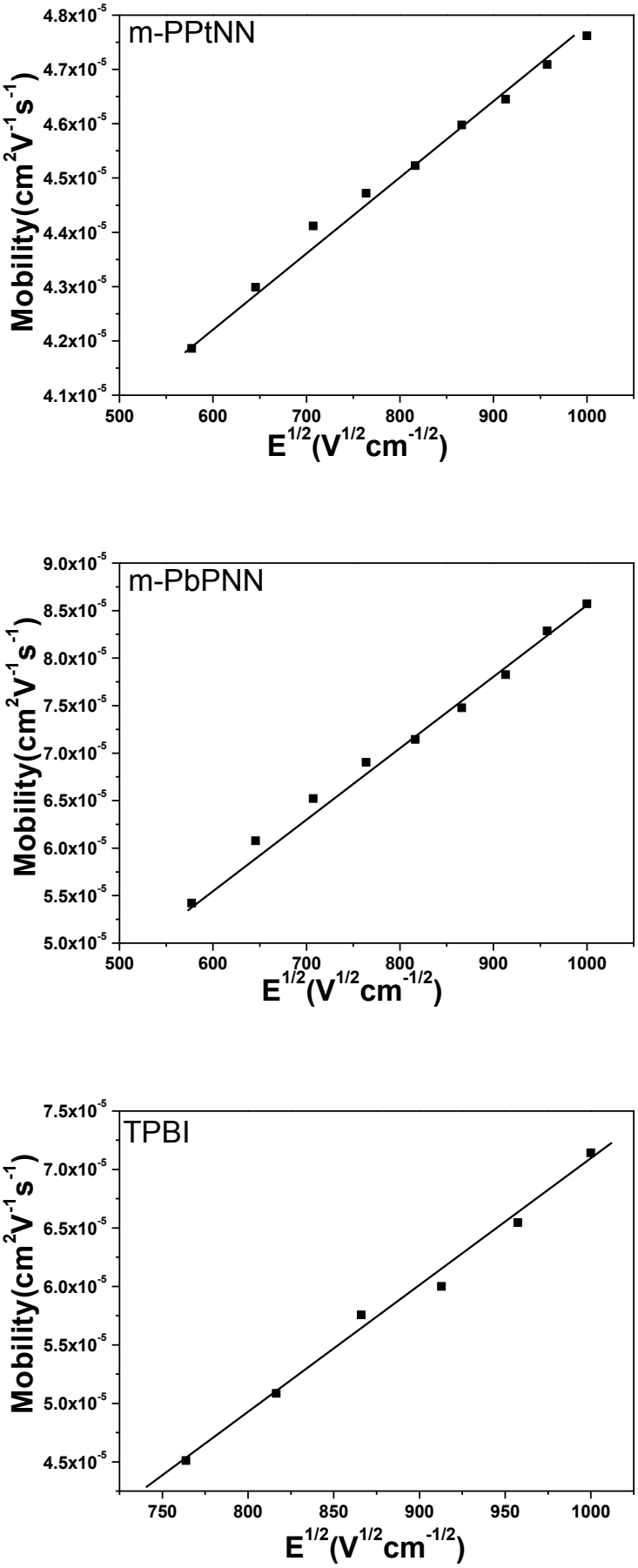
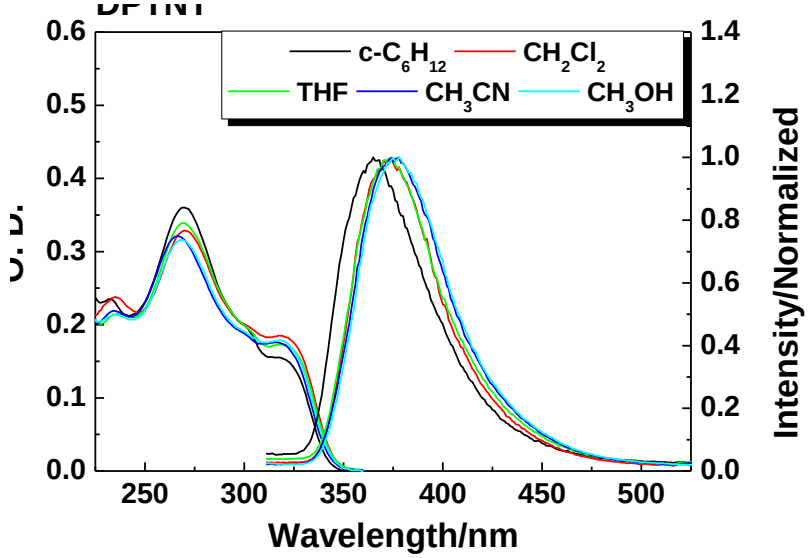


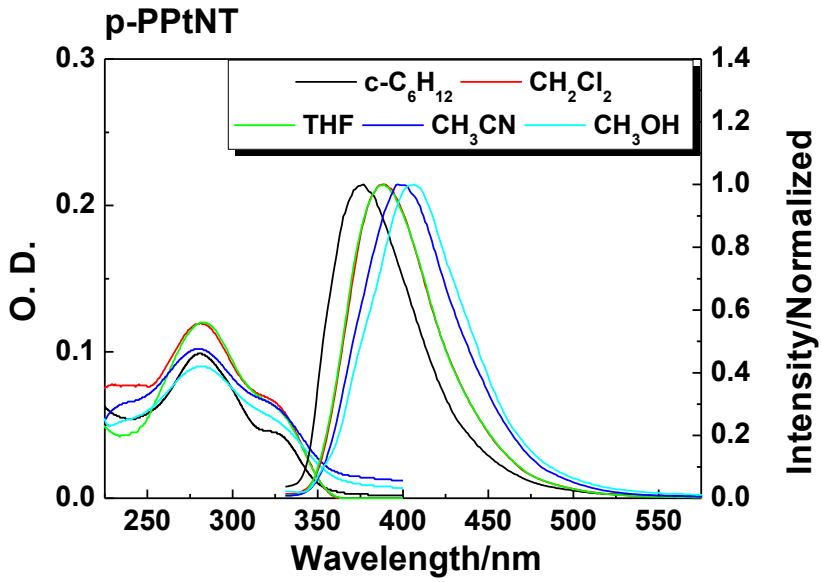
Figure S1. Electron mobilities measured by transient electroluminescence (EL) method.

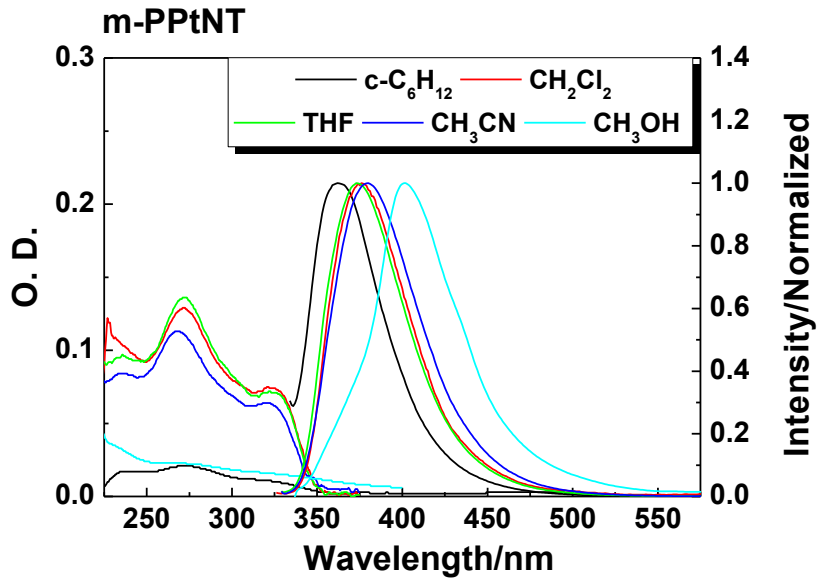
Table S1. Absorption and fluorescent emission spectral data of the two groups of triphenylpyridine derivatives in different solvents at room temperature.

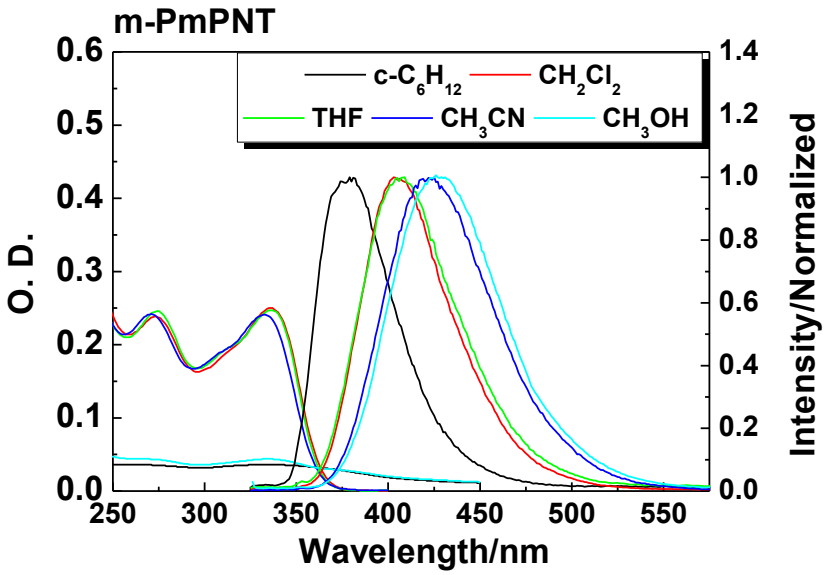
Compound		c-C_6H_{12}[a]	CH_2Cl_2	THF[b]	CH_3CN	CH_3OH
DPTNT [M]=1*10^{-5} mol L^{-1}	$\lambda^{ab.}_{max.}$/nm	270/312	270/311	270/318	267/316	269/318
	ε[c]/$dm^3mol^{-1}cm^{-1}$	36000/ 15600	32900/ 18300	33900/ 17300	32100/ 17600	31600/ 17900
	$\lambda^{em.}_{max.}$/nm	365	374	375	375	378
	$\varphi_{em.}$[d]/ %	6.07	8.64	8.60	7.51	7.33
p-PPtNT [M]=2*10^{-6} mol L^{-1}	$\lambda^{ab.}_{max.}$/nm	281/320	281/323	282/323	280/323	281/333
	ε/$dm^3mol^{-1}cm^{-1}$	49500/ 23000	60000/ 33500	60000/ 32000	51000/ 32000	45000/ 27500
	$\lambda^{em.}_{max.}$/nm	377	389	389	397	406
	$\varphi_{em.}$/ %	9.18	27.48	27.78	20.82	9.34
m-PPtNT [M]=2*10^{-6} mol L^{-1}	$\lambda^{ab.}_{max.}$/nm	272/309	272/321	272/322	268/320	273
	ε/$dm^3mol^{-1}cm^{-1}$	10500/ 6000	64500/ 37500	68000/ 36000	56500/ 32000	11500
	$\lambda^{em.}_{max.}$/nm	362	376	373	380	401
	$\varphi_{em.}$/ %	23.40	27.83	25.93	24.05	24.05
m-PPmPNT [M]=5*10^{-6} mol L^{-1}	$\lambda^{ab.}_{max.}$/nm	271/334	273/336	274/336	271/333	272/334
	ε/$dm^3mol^{-1}cm^{-1}$	7200/ 7200	47800/ 50000	49200/ 49400	48400/ 48200	8600/ 8800
	$\lambda^{em.}_{max.}$/nm	379	403	409	425	431
	$\varphi_{em.}$/ %	41.21	76.77	82.22	73.46	44.44
CPPNN [M]=5*10^{-6} mol L^{-1}	$\lambda^{ab.}_{max.}$/nm	268/318	268/319	268/320	265/316	265/318
	ε/$dm^3mol^{-1}cm^{-1}$	28600/ 7800	32400/ 10800	32000/ 10400	32200/ 10400	32200/ 10400
	$\lambda^{em.}_{max.}$/nm	378	386	389	391	392
	$\varphi_{em.}$/ %	12.11	13.76	12.93	12.62	12.58
p-PPtNN [M]=2*10^{-6} mol L^{-1}	$\lambda^{ab.}_{max.}$/nm	278/338	279/341	280/342	277/340	282/341
	ε/$dm^3mol^{-1}cm^{-1}$	19000/ 13500	57000/ 56000	55500/ 55000	22500/ 23500	19500/ 20500
	$\lambda^{em.}_{max.}$/nm	366/384	371/389	370/389	371/386	372/387
	$\varphi_{em.}$/ %	42.24	100	100	63.12	14.64
m-PPtNN [M]=2*10^{-6} mol L^{-1}	$\lambda^{ab.}_{max.}$/nm	269/311	270/313	271/313	268/313	268/313
	ε/$dm^3mol^{-1}cm^{-1}$	63000/ 19000	90000/ 34000	96000/ 35000	88000/ 34500	33000/ 16000
	$\lambda^{em.}_{max.}$/nm	365	370	368	367	381
	$\varphi_{em.}$/ %	9.70	13.93	13.34	9.26	9.24
m-PbPNN [M]=1*10^{-5} mol L^{-1}	$\lambda^{ab.}_{max.}$/nm	270/311	271/311	271/311	268/307	269/310
	ε/$dm^3mol^{-1}cm^{-1}$	87900/ 26000	82600/ 31400	80900/ 29400	82400/ 32100	81700/ 32000
	$\lambda^{em.}_{max.}$/nm	362	367	368	370	371
	$\varphi_{em.}$/ %	6.28	8.50	7.25	6.36	6.27

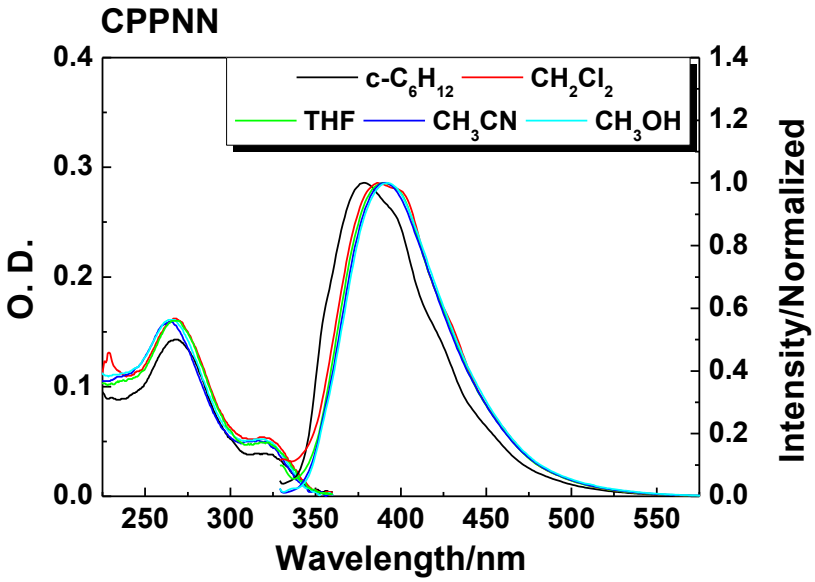
[a] c-C_6H_{12} : cyclohexane. [b] THF: tetrahydrofuran. [c] ε: molar extinction coefficient. [d] $\varphi_{em.}$: emission quantum yield.

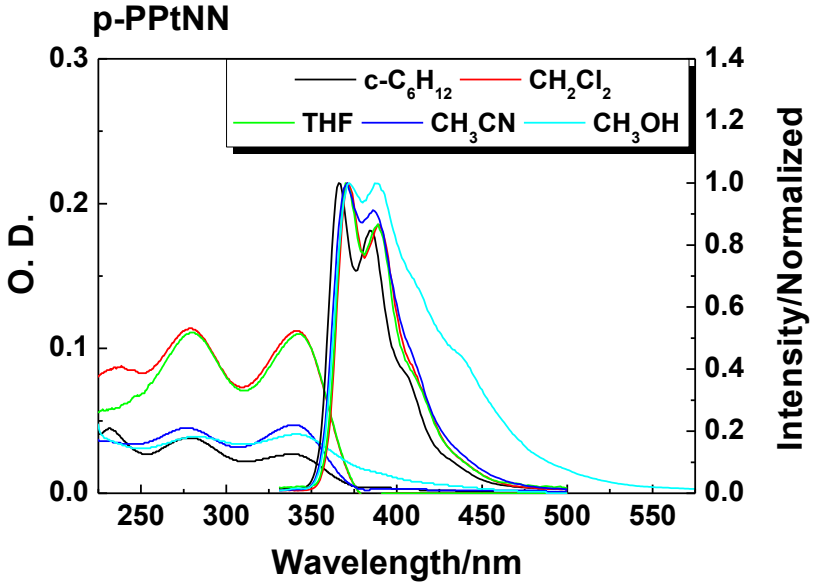












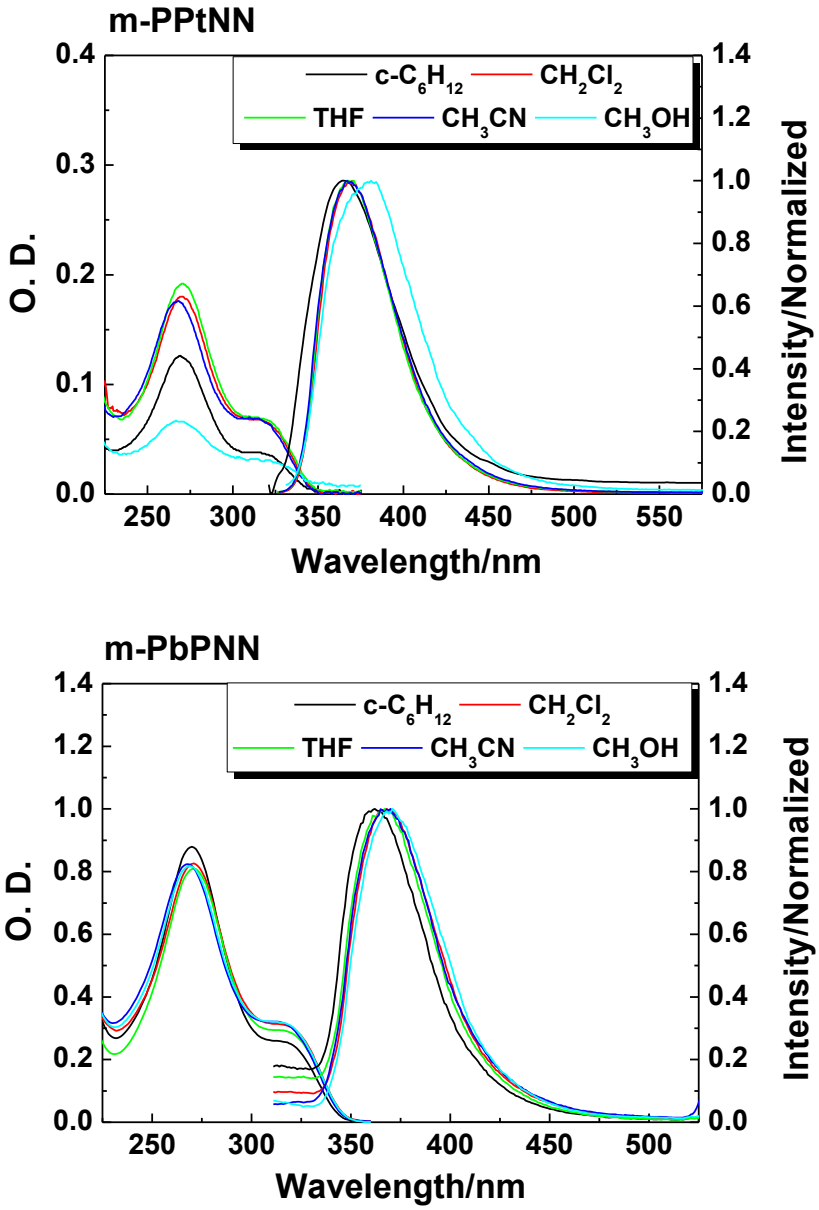
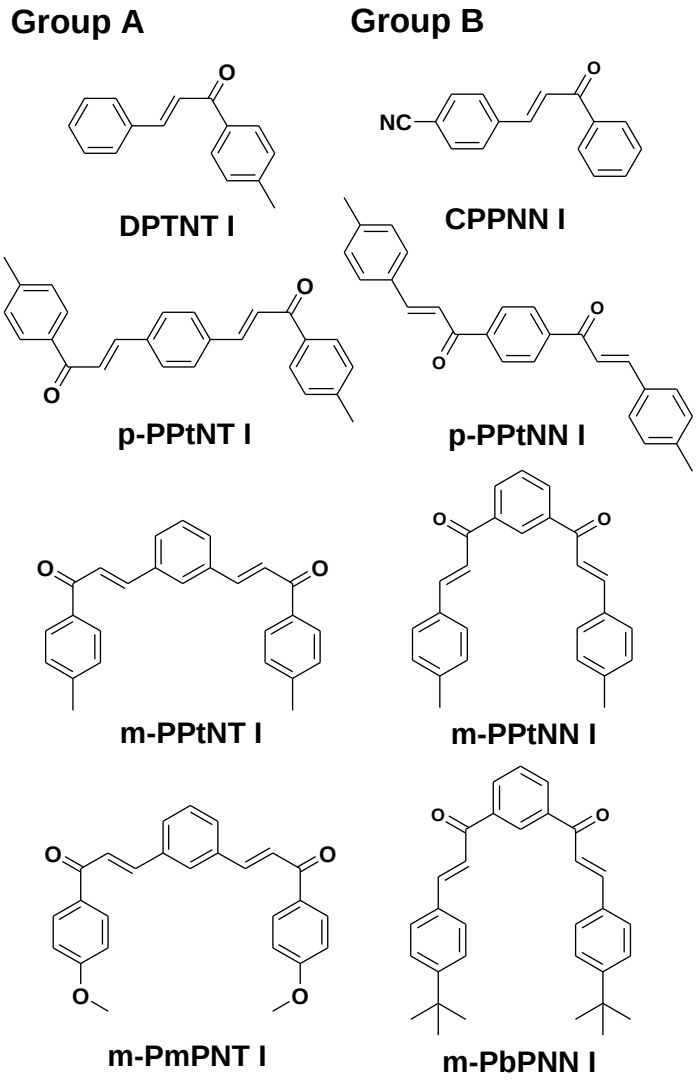


Figure S2. Absorption and fluorescent emission spectra of the two groups of triphenylpyridine derivatives in different solvents at room temperature.



Scheme S1. The molecular structures of the corresponding intermediate products for the two groups of triphenylpyridine derivatives.