Supporting Information

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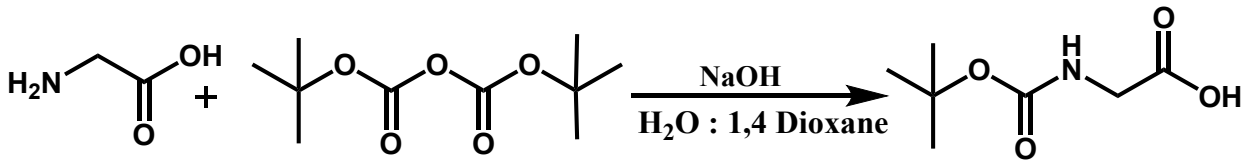
1. Synthetic Procedure

Synthesis of Boc-Glycine (Compound 1):

2g (26.3 mol) of glycine was dissolved in 60 mL of 1,4 dioxane: Water (2:1). To this solution was added 1.164g (26.6 mol) of Sodium hydroxide. The solution was cooled to 0^0C. To this solution 6.4g (29.2 mol) BOC-anhydride was added in portion wise. The solution was allowed to room temperature and stirred for 1hr. After completion of the reaction the solvent was removed by vacuum, the resultant residue was dissolved in 100 mL H_2O and washed with 2 portions of 50 ml EtOAc. The aq. solution was acidified using conc. HCl to PH 1-2. The aqueous fraction was extracted with three portions of 75 ml EtOAc. The organic fraction was dried over Na_2SO_4 and concentrated using rotary evaporator to get the compound 1. Yield:80% ^{1}H NMR (500 MHz, $CDCl_3$, δ): 9.00-8.80 (s,1H), 3.86- 4.00 (m, 2H), 1.50 (s, 9H), ^{13}C (65 MHz, $CDCl_3$, δ): 174.29, 155.67, 80.47, 42.42, 28.31. Cal. Mass: 175.08 Found: 197 (M+Na)

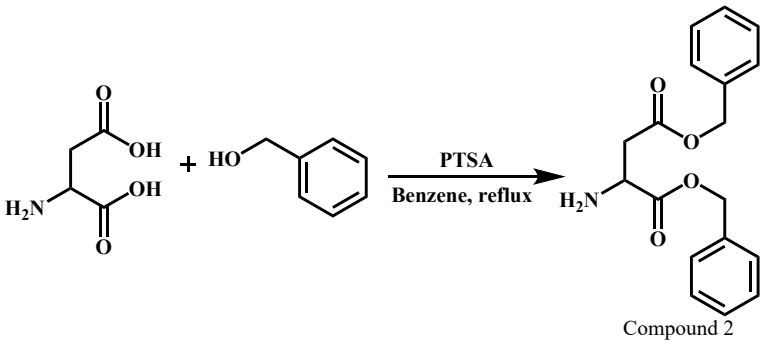


Compound 1

Synthesis of L-Dibenzyl aspartate (Compound 2):

A mixture of L-aspartic acid (12.5g, 0.095 mol) and benzyl alcohol (30 mL), p-tolyl sulfonic acid monohydrate (19.0g, 0.1 mol) and (150 mL) of benzene was refluxed for 8 hrs using a dean stark apparatus. After getting in to the rt ether (150 mL) was added and stirred until to get the white ppt. The ppt was filtered off and washed with ether. The collected white solid was mixed with (200 mL) of water and treated with a saturated solution of $NaHCO_3$ (200 mL). The mixture was extracted with $CHCl_3$ (3x200 ml). The collected organic phase was dried over Na_2SO_4, filtered and concentrated under reduced pressure to afford the title compound as a color less oil. Yield: 90%

^{1}H NMR (400 MHz, $CDCl_3$, δ): 8.38 (s, 2H), 7.68 (s, 1H), 7.34-6.98 (m, 9H), 5.02-4.80 (m, 2H), 4.65 (s, 2H), 3.43 (s, 2H), 3.14-2.90 (m, 1H), ^{13}C (100 MHz, $CDCl_3$, δ): 169.829, 167.741, 140.808, 129.713, 128.466, 127.537, 126.932, 125.893, 125.237, 65.171, 49.557, 33.583. Cal. Mass: 313.13 Found: 314 (M+1)

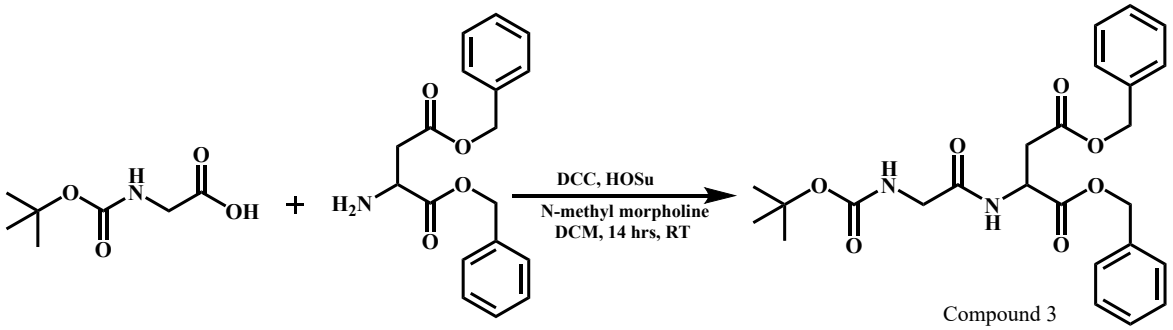


Compound 2

Synthesis of Dibenzyl 2-(2-((tert-butoxycarbonyl) amino) acetamido) succinate (Compound 3):

1g (5.71 mol) of Boc-glycine was dissolved in 40 mL of DCM. To this reaction mixture L-di benzyl aspartic ester 2.6g (8.5 mol) was added and the solution was stirred at rt for 20 min. To this solution DCC (0.30g) and N-hydroxy succinimide (0.900g, 8.5 mol) N-methyl morpholine (2 mL) was added then the mixture was stirred for 14 hrs at rt. White precipitate was removed by filtration, and the resulting crude material was purified by column chromatography (Hexane: EtOAc 5:1). We went to the next step without further purification. Yield: 70 %.

^{1}H NMR (400 MHz, $CDCl_3$, δ): 7.35-7.30 (m, 6H), 7.26-7.20 (m, 4H), 5.24-5.04 (m, 1H), 4.65-4.56 (s, 4H), 3.88-3.76 (m, 2H), 3.40-3.20 (m, 2H), 1.44-1.40 (s, 9H), ^{13}C (100 $CDCl_3$, δ): 170.869, 170.269, 155.749, 140.822, 135.100, 128, 359, 127.388, 126.849, 71.949, 64.936, 52.131, 50.382, 42.121, 28. 172. Cal. Mass: 470.82, Found: 471.



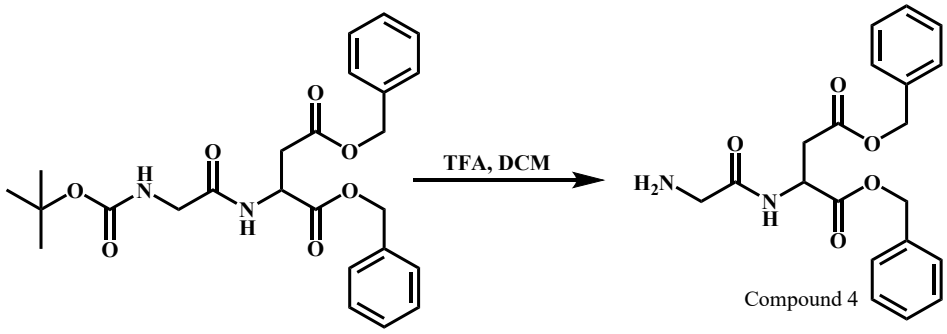
Compound 3

Synthesis of Dibenzyl 2-(2-aminoacetamido) succinate (Compound 4):

To a stirred solution of dibenzyl 2-(2-((tert-butoxycarbonyl) amino) acetamido) succinate (2.35g, 0.005 mol) in dichloromethane (20 mL), added CF_3COOH (6 mL). After being stirred for 1 hr at rt, the reaction mixture was concentrated and precipitated with ethyl ether (200 mL). The white solid of N-de protected dibenzyl 2-(2-aminoacetamido) succinate was obtained by filtration in quantitative yield. Yield: 50%

^{1}H NMR (500 MHz, $CDCl_3$, δ): 7.40-7.26 (m, 6H), 7.28-7.20 (m, 4H), 5.28- 5.20 (m ,1H), 5.16-4.98 (m, 3H), 4.00-3.28 (m, 3H), 3.04-2.52 (m, 2H), ^{13}C (100 MHz, $CDCl_3$, δ): 172. 832,

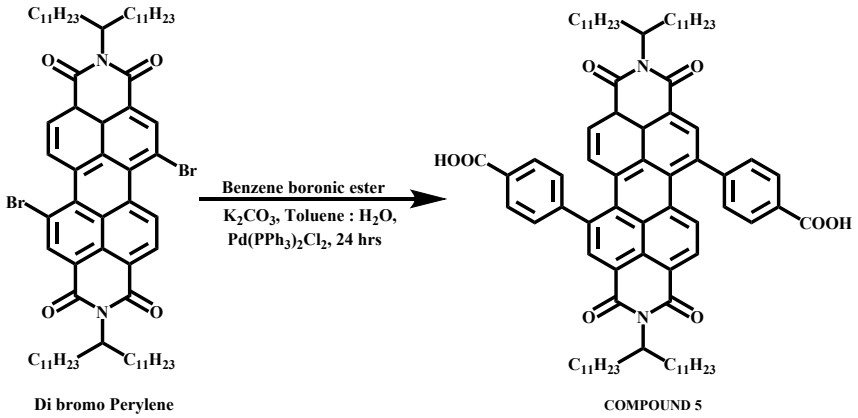
170.100, 161.202, 160.710, 155.773, 140.703, 135.054, 134.824, 129.568, 127.239, 126.795, 64.615, 53.290, 42.242, 35.952. Cal. Mass: 370.40 Found: 392 (M+Na).



Alkylated Perylene dibenzoic acid (Compound 5):

The commercialized di bromo perylene 0.5g (0.419 mol) was dissolved in 30 ml of toluene and benzene boronic ester (0.312g, 1.257 mol), K_2CO_3 (0.200g, 2.09 mol) was added to this reaction mixture. To the reaction mixture catalytic amount of Pd $(PPh_3)_2Cl_2$ was added and the mixture was refluxed for 24 hrs at 110 ^{0}C temperature. After time completion, toluene was evaporated by vacuum and the compound was isolated by column chromatography (hexane: EtOAc). A pink coloured solid was obtained with the yield of 60 %.

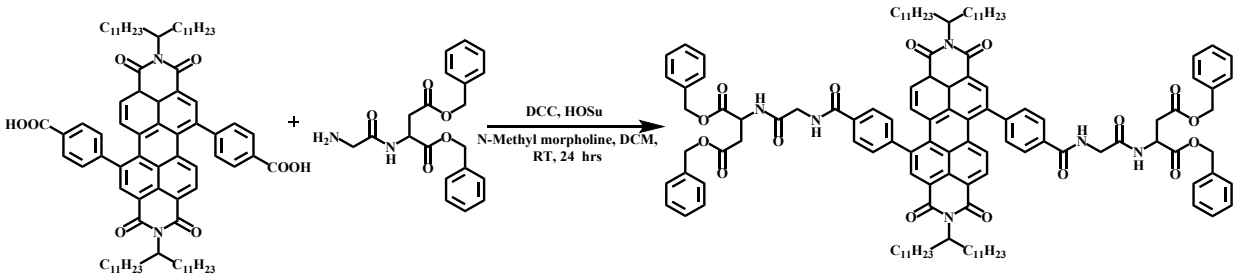
^{1}H NMR (500 MHz, $CDCl_3$, δ): 8.80-8.40 (m, 8H), 8.16-8.10 (m, 2H), 7.66-7.24 (m, 4H), 3.98-3.94 (m, 2H),1.64-1.48 (m, 8H), 1.40-1.04 (m, 72 H), 0.92-0.80 (m, 12 H) ^{13}C (100 MHz, $CDCl_3$, δ): 142.756,142.674, 143.318, 133.391, 133.263, 133.622, 132.520, 132.411, 132.250, 133.144, 131.648, 13.460, 129.862, 129.049, 128.912. 128.518, 128.593, 127.534, 126.907, 125.900, 125.176, 125.350. Cal. Mass:1276.84 Found- 1295.97 (M+F).



Synthesis of Perylene di peptide (PDI-PEP):

0.130g (0.098 mol) of compound 5 was dissolved in dichloromethane (20 mL), 0.110 g (0.095 mol) of dibenzyl 2-(2-aminoacetamido) succinate, DCC (0.0063g, 0.030 mol), N-hydroxy succinimide (0.0045g, 0.038 mol) was added. The reaction was continued up to 24 hrs and removed the solvent by vacuum and the reaction mixture was isolated with the DCM and water and dried over Na_2SO_4 and required compound was purified by using separation techniques. Yield: 80 %.

^{1}H NMR (500 MHz, $CDCl_3$, δ): 8.96-8.86 (m, 4H), 7.78-7.76 (m, 2H), 7.74-7.72 (m, 2H), 7.68-7.60 (m, 2H), 7.46-7.34 (m, 20H), 7.14-7.06 (m, 8H), 4.72-4.70 (m, 4H) 4.12-3.96 (m, 10H),3.58-3.53 (m, 2H), 2.40-2.20 (m, 4H), 1.40-1.20 (m, 80H), 0.90-0.82 (m, 12 H) ^{13}C (100 MHz, $CDCl_3$, δ): 1167.122, 166.531, 157.987, 153.098, 151.903, 150.339, 148.254, 147.612, 143.915, 143.132, 138.547, 98.189, 87.625, 74.432, 53.968, 51.392, 49.654, 48.388, 46.395, 42.451, 42.199, 33.565, 20.448, 19. Cal. Mass: 1982.60 Found: 1983.080 (M+1).

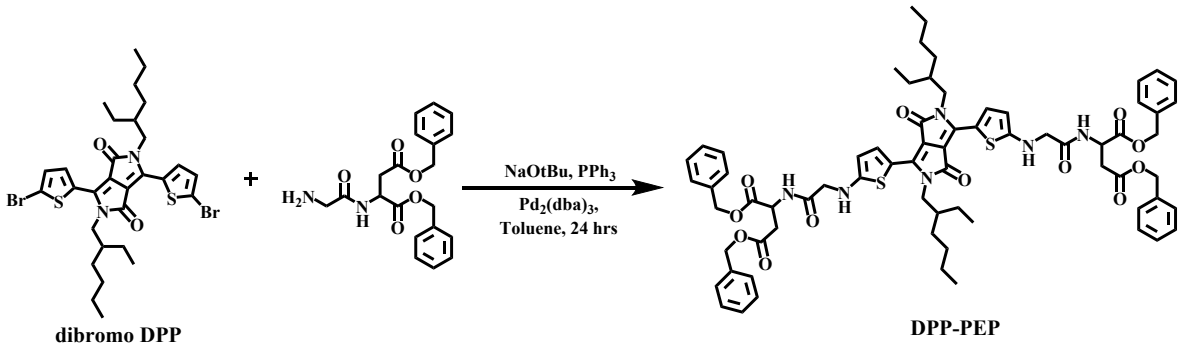


Dipeptide thiophene diketopyrrolopyrrole (DPP-PEP):

In a sealed tube dibromo thiophene diketopyrrolopyrrole (dibromo DPP) 0.100 g (0.410 mol) was dissolved in toluene 20 mL, to this reaction mixture NaO^tBu (0.050 mg, 1.230 mol), dibenzyl 2-(2-aminoacetamido) succinate (0.163 g, 1.230 mol), triphenyl phosphine 20 mg was added. The reaction mixture was purged with nitrogen gas up to 30 min, added catalytic amount of $Pd_2(dba)_3$. The reaction mixture was refluxed at 110 ^{0}C up to 24 hr, after the completion of the reaction the toluene was removed by using rotary evaporator and extracted with the organic solvent and brine solution. The organic layer was collected the reduced the solvent by vacuum, purified by column chromatograph. Yield: 60%.

^{1}H NMR (500 MHz, $CDCl_3$, δ): 8.86-8.64 (m, 4H), 7.78-7.72 (m, 4H), 7.66-7.60 (m, 6H), 7.44-7.36 (m, 10H), 7.12-7.00 (m, 4H), 5.40-4.50 (m, 4H), 4.20-3.98 (m, 10 H), 1.40-1.20 (m, 18H),

1.06-1.08 (m, 12 H) ^{13}C (100 MHz, $CDCl_3$, δ): 161.720, 143.502, 140.396, 135.228, 134.758, 132.104, 131.915,130.467, 130.030, 128.930, 128.526, 128.357, 126.095, 125.383, 125.497, 45.826, 39.639, 31.885, 31.165, 29.662, 28.324, 24.735, 23.504, 23.025, 22.658. 21.965, 14.093, 13,99. 10.45. MALDI-TOF: Experimental: 1260.52 Found: 1299.47 (M+K).



dibromo DPP DPP-PEP

Computational Details

Time-Dependent DFT (TDDFT) and Density Functional Theory (DFT) calculations were performed using the *Gaussian09* program.[1] The **PDI-PEP** and **DPP-PEP** with neutral charge were optimized in the gas phase. B3LYP exchange-correlation functional with Hay and Wadt's double zeta quality Los Alamos electron effective core potential basis set 6-311 g (d,p) was adopted on all atoms.[2-4] The optimized geometries were analyzed by vibrational frequencies, resulting in no imaginary frequencies. Thus, the optimized structures correspond to absolute minima on the potential energy surface. At the optimized geometry, TDDFT calculations were performed at B3LYP/6-311 g (d,p) level of theory in dichloromethane solvent utilizing the Polarizable Continuum Model[5,6.] (PCM), as implemented in *Gaussian 09*.50 singlet-singlet excitations at S_0 optimized geometry are calculated. The software *GaussSum 2.2.5*[7] was used to simulate the major portion of the absorption spectrum and to interpret the nature of transitions. The *Gaussview*[8] was used to make molecular orbital surfaces and *GaussSum* software was used to calculate the percentage contributions of the **PDI-PEP** and **DPP-PEP** molecular orbitals.

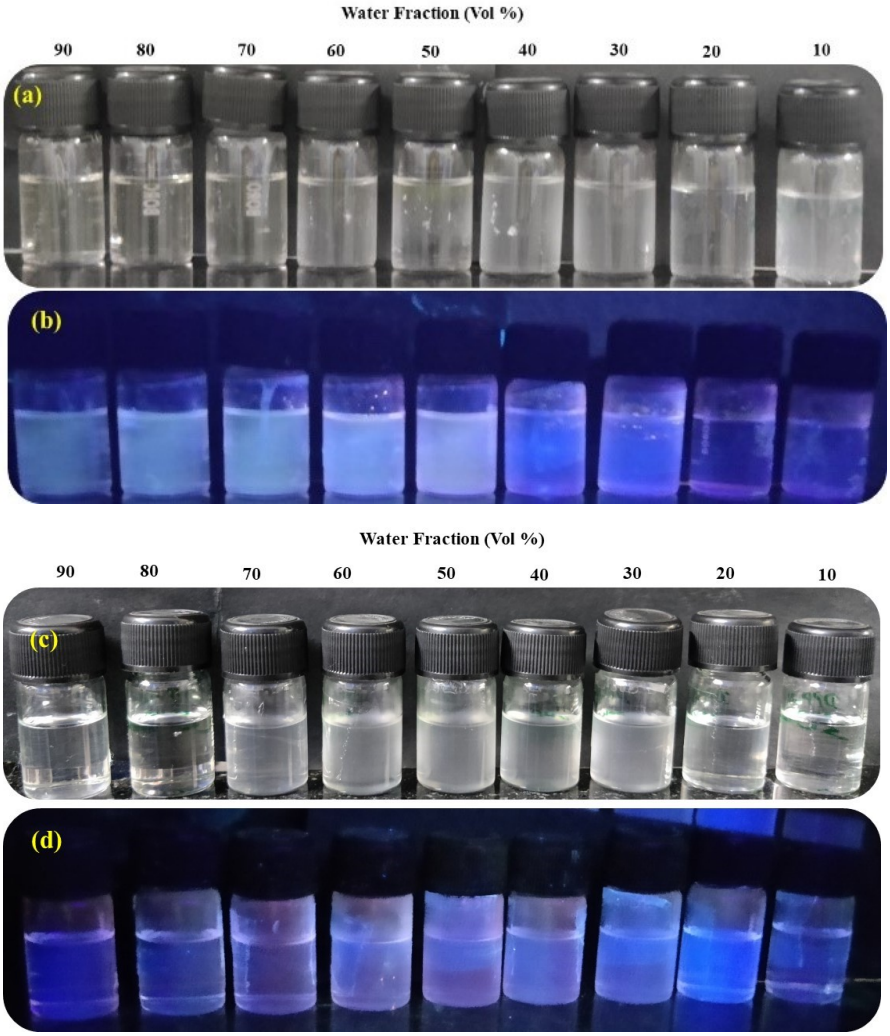


Figure S1. UV absorption images of the molecules of **PDI-PEP** (a,b) and **DPP-PEP** (c,d) under normal light and 365 nm.

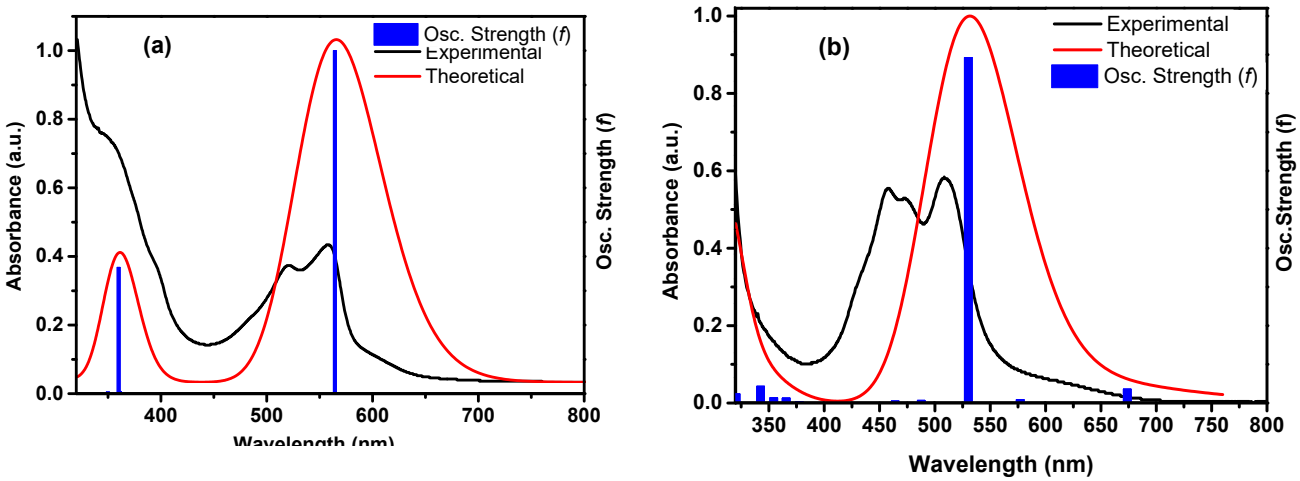


Figure S2. Normalized plots of experimental and simulated absorption spectra of **(A) DPP-PEP (B) PDI-PEP**

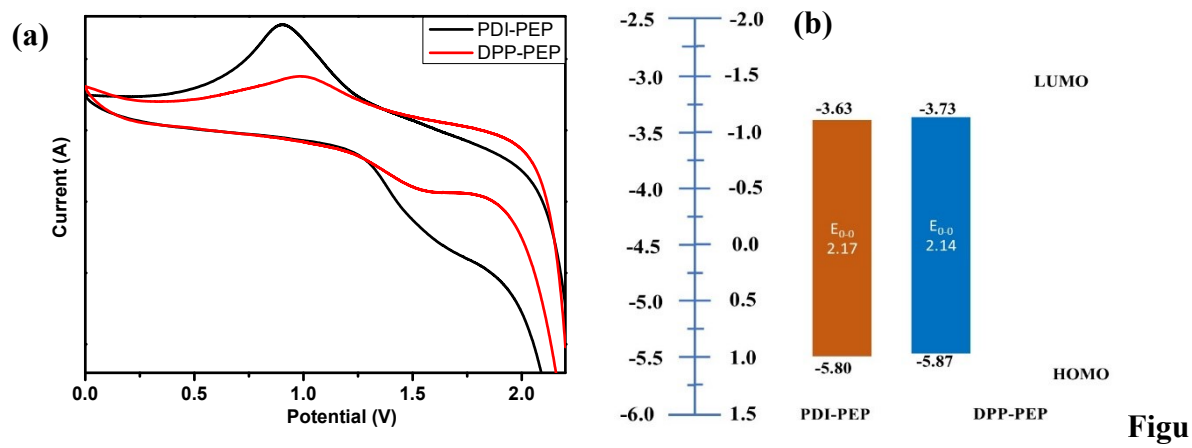


Figure S3. (a) Cyclic voltammogram (b) Energy level diagram of **PDI-PEP** and **DPP-PEP**

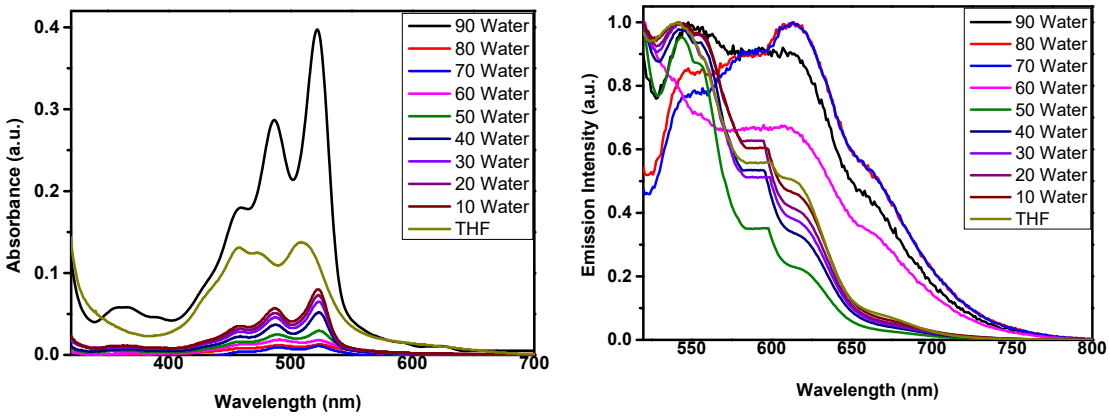


Figure S4. Aggregated emission in **THF in water (fw) for PDI-PEP a) absorption and b) emission**

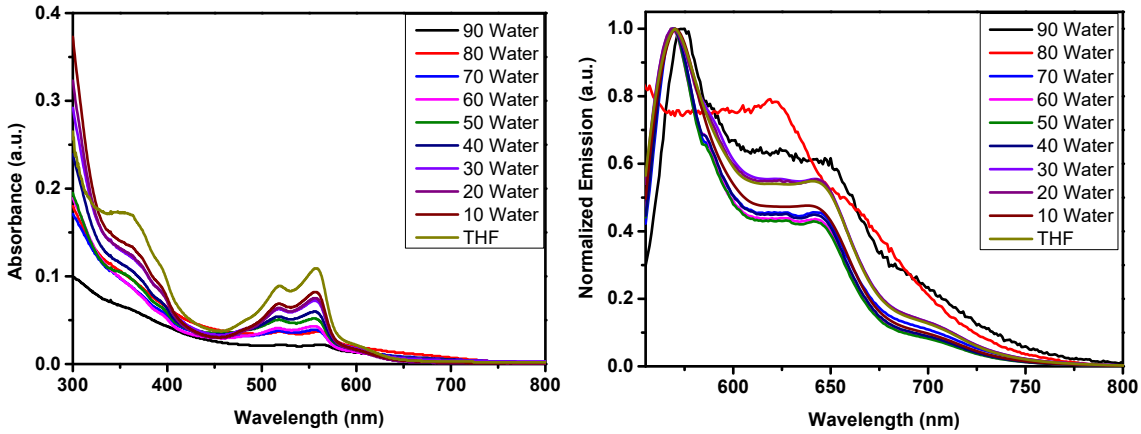


Figure S5. Aggregated emission in THF in water (fw) for **DPP-PEP** a) absorption and b) emission.

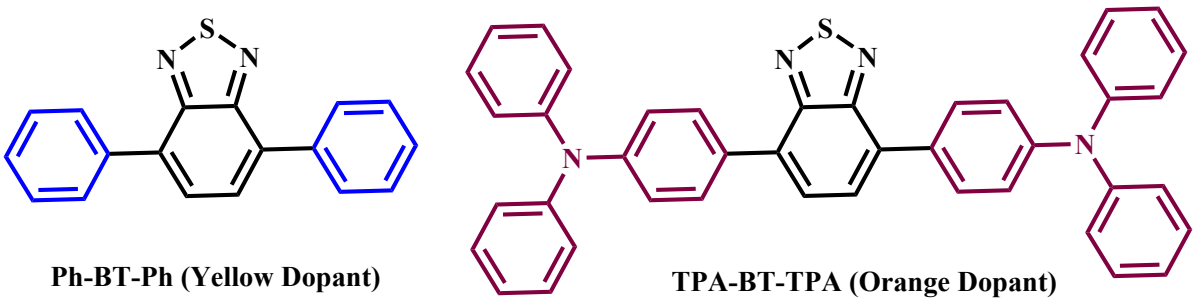


Figure S6. Chemical Structures of the Dopants

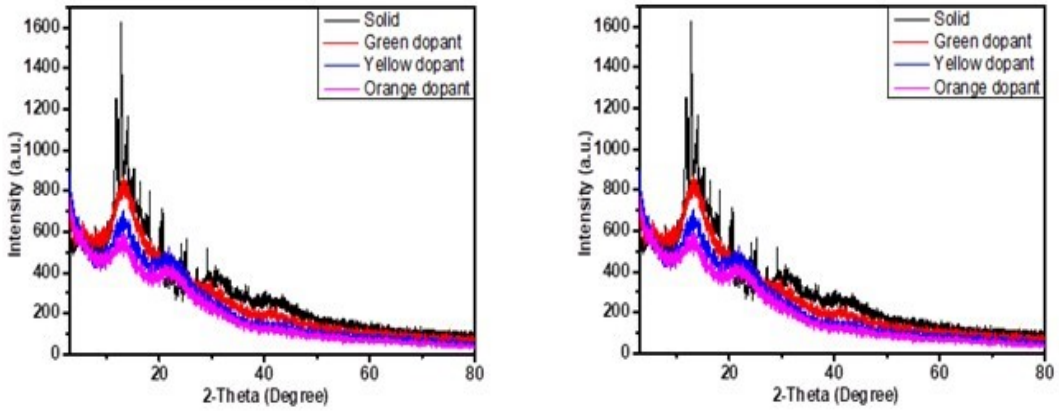


Figure S7. PXRD analysis of the molecules for comparison with different dopants, a) PDI-PEP and 2) DPP-PEP.

Figure S8. Halochromism effect of **DPP-PEP**, 1. Grinding, 2. TFA addition, 3. After 2 mins, 4. After 10 mins, 5. After few mins.

Table S1. Optical Parameters of DPP-PEP and PDI-PEP

Molecule Name	λ_{max} [nm][a]	HOMO [eV] [b]	LUMO (eV)[b]	$E_{0\text{-}0}$[c]
DPP-PEP	555	-5.87	-3.73	2.14
PDI-PEP	520	-5.80	-3.63	2.17

a. UV-Absorption spectra were recorded in DCM solution at 298K, b. Highest occupied molecular orbital values were calculated by adding 4.80 to E_{oxd}; Lowest unoccupied molecular orbital was calculated by LUMO= $E_{0\text{-}0}$-HOMO d. The bandgap, $E_{0\text{-}0}$, was calculated from the intersection point of the absorption and emission spectra

Table S2. Solvatochromism UV absorption, emission and their molar extinction coefficient values of the **DPP-PEP** and **PDI-PEP.**

Solvent	DPP- PEP		PDI-PEP		EMISSION (nm)	
	UV (nm)	Mol. Ext. Coeff (ε)	UV (nm)	Mol. Ext. Coeff (ε)	DPP-PEP	PDI-PEP
TOL	556	7975	508	6310	565	541

DCM	560	9560	515	16359	568	539
THF	551	10970	508	15358	570	543
ACN	557	20930	509	14355	570	536
DMF	560	17085	511	12301	574	539

Table S3. Experimental λ_{max}, calculated λ_{max}, (nm) and oscillator strengths (f) of **DPP-PEP** in DCM solvent, calculated at B3LYP/6-311g (d,p):

Table S4. Experimental λ_{max}, calculated λ_{max}, (nm) and oscillator strengths (f) of **PDI-PEP** in DCM solvent, calculated at B3LYP/6-311g (d,p):

State	Wavelength (nm)	Osc. Strength	Major Contributions	Minor Contributions
S1	520.391	1.1163	HOMO->LUMO (97%)	
S1	859.324	0.0025	H-3->LUMO (26%), H-1->LUMO (46%), HOMO->L+1 (24%)	HOMO->L+1 (4%), HOMO->L+2 (8%), HOMO->L+4 (5%)
S2	336.445	0.0053		
S2	714.766	0.0264	H-3->LUMO (6%), H-1->LUMO (16%), HOMO->L+1 (10%)	HOMO->L+5 (5%), HOMO->L+13 (6%)
S3	324.393	0.002		H-3->L+16 (2%)
S3	618.031	0.005	H-1->LUMO (98%)	
S4	571.167	0.698	H-1->LUMO (31%), HOMO->L+1 (61%)	
S4	309.362	0.0088	H-1->L+1 (97%)	HOMO->LUMO (65%) H-2->L+1 (3%)
S5	307.102	0.7509	H-2->LUMO (90%)	H-1->L+1 (6%)
S5	528.600	0.0038	HOMO->L+4 (49%), HOMO->L+5 (33%)	HOMO->L+2 (3%), HOMO->L+6 (7%)
S6	281.934	0.0003	H-14->LUMO (87%)	H-15->L+1 (4%)
S6	505.106	0.0023	HOMO->L+4 (36%), HOMO->L+5 (49%)	HOMO->L+2 (5%), HOMO->L+3 (4%)
S7	263.996	0.0002	H-1->L+17(18%), HOMO->L+17 (71%)	H-15->LUMO (3%), HOMO->L+16 (3%)
S8	262.198	0.0001	HOMO->L+6 (54%), HOMO->L+9 (11%), H-15->LUMO (77%)	HOMO->L+3 (3%), HOMO->L+5 (4%), H-14->L+1 (7%)
S7	418.579	0.0005	HOMO->L+13 (10%)	HOMO->L+8 (5%)
S9	260.343	0.0001	H-1->L+18(15%), HOMO->L+18 (66%)	H-15->LUMO (3%), HOMO->L+5 (5%), HOMO->L+14 (9%)
S8	406.582	0.0084	HOMO->L+8 (18%), HOMO->L+12 (18%), HOMO->L+13 (27%)	HOMO->L+7 (7%), HOMO->L+11 (6%)
S10	251.451	0.0221	H-10->LUMO (84%)	H-10->L+1 (9%)
S11	395.493	0.0089	HOMO->L+6 (26%), H-13->LUMO (36%), HOMO->L+8 (22%)	HOMO->L+4 (4%), H-13->L+1 (4%), H-1->L+1 (7%),
S9	248.369	0.1554	HOMO->L+16 (39%)	HOMO->L+5 (3%),
S10	383.611	0.0322	H-2->L+1 (85%)	
S12	247.877	0.1716	H-13->LUMO (50%), HOMO->L+16 (28%)	H-13->L+1 (5%), H-1->L+1 (5%)
S11	361.351	0.0166	H-2->LUMO (78%)	H-11->LUMO (3%), H-9->LUMO (7%)
S13	239.317	0.0043	HOMO->L+8 (19%), HOMO->L+2 (70%)	H-1->L+2 (6%), HOMO->L+6 (9%), HOMO->L+3 (6%)
S12	353.793	0.0007	HOMO->L+9 (33%)	HOMO->L+12 (9%)
S14	230.362	0.0053	HOMO->L+11 (41%), HOMO-H-18->L+1 (32%), H-8->L+13 (14%)	H-2->L+11 (3%), H-17->L+1 (7%), H-7->L+1 (9%)
S13	351.386	0.0317	H-8->L+1 (17%)	HOMO->L+7 (8%),
S15	226.1108	0.0101	H-9->L+1 (14%), H-7->L+1 (14%)	H-2->L+1 (8%), H-18->L+1 (7%), H-8->L+1 (8%), H-1->L+14 (4%), H-1->L+16 (6%),
S14	350.304	0.3027	HOMO->L+14 (14%), HOMO->L+19 (44%)	
S15	347.837	0.0005	HOMO->L+7 (30%), HOMO->L+9 (25%)	H-15->L+1 (8%), HOMO->L+11 (5%)

Table S5. Molecular orbital pictures of **DPP-PEP** calculated at B3LYP/6-311g (d,p) level of theory.

DPP-PEP

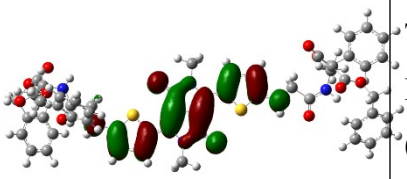
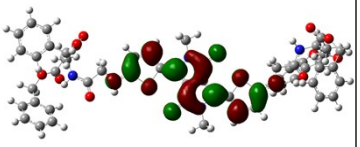
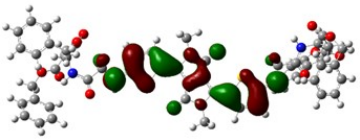
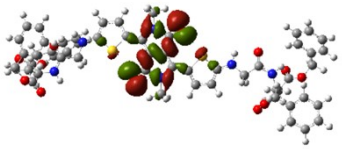
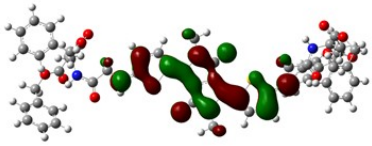
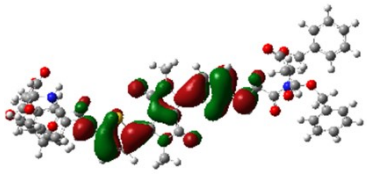
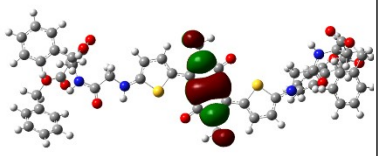
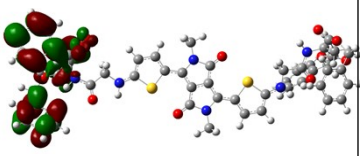
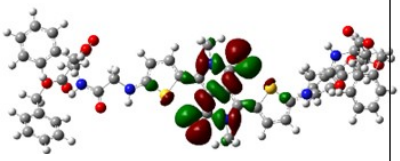
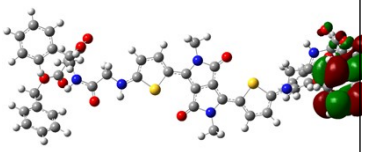
HOMO 	DPP (49%) THIA (39%) LINKER (12%)	LUMO 	DPP (56%) THIA (38%) LINKER (6%)
HOMO-1 	DPP (18%) THIA (52%) LINKER (30%)	LUMO+1 	DPP (90%) THIA (3%) LINKER (3%)
HOMO-2 	DPP (84%) THIA (16%) LINKER (34%)	LUMO+2 	DPP (50%) THIA (37%) LINKER (14%)
HOMO-3 	DPP (99%) THIA (1%) LINKER (0%)	LUMO+3 	DPP (0%) THIA (0%) LINKER (100%)
HOMO-4 	DPP (94%) THIA (16%) LINKER (0%)	LUMO+4 	DPP (0%) THIA (0%) LINKER (100%)

Table S6. Molecular orbital pictures of **PDI-PEP** calculated at B3LYP/6-311 g (d,p) level of theory.

PDI-PEP

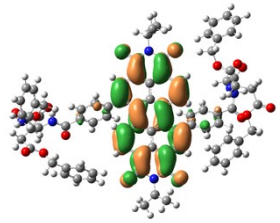
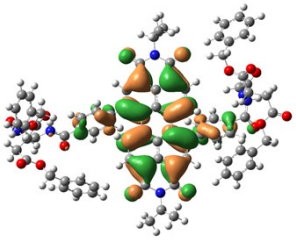
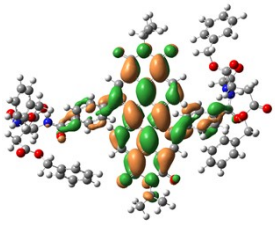
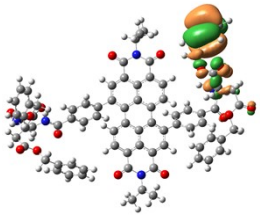
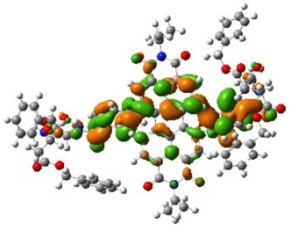
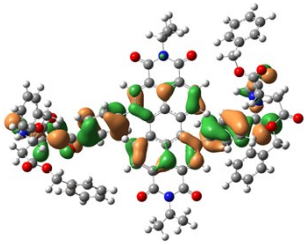
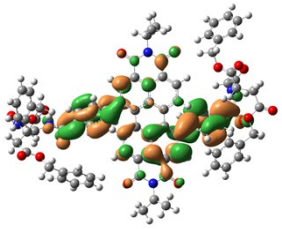
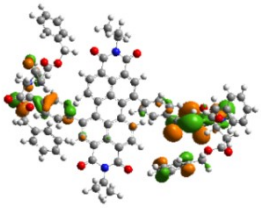
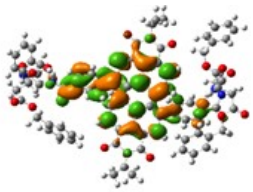
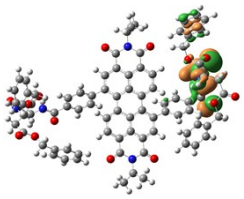
HOMO 	PDI (99%) BENZO (1%) LINKER (0%)	LUMO 	PDI (96%) BENZO (4%) LINKER (0%)
HOMO-1 	PDI (85%) BENZO (13%) LINKER (1%)	LUMO+1 	PDI (0%) BENZO (1%) LINKER (99%)
HOMO-2 	PDI (40%) BENZO (45%) LINKER (15%)	LUMO+2 	PDI (34%) BENZO (48%) LINKER (18%)
HOMO-3 	PDI (1%) BENZO (97%) LINKER (2%)	LUMO+3 	PDI (1%) BENZO (1%) LINKER (98%)
HOMO-4 	PDI (85%) BENZO (13%) LINKER (1%)	LUMO+4 	PDI (1%) BENZO (1%) LINKER (98%)

Table S7. Aggregation emission and respective UV absorption of the **DPP-PEP** and **PDI-PEP.**

% *fw* of Water	**DPP-PEP**			**PDI-PEP**		
	UV (nm)	**EMISSION (nm)**	**PLQY (%)**	**UV (nm)**	**EMISSION (nm)**	**PLQY (%)**
THF	554	570	0.0548	508	543	0.06536

DPP-PEP % *fw* of Water	**τ_1/ns**	**α_1 (%)**	**τ_2/ns**	**α_z(%)**	**Average lifetime τ (ns)**
10	556	570	0.01503	521	547	0.00868
20	569	569	0.01943	521	548	0.00983
30	569	569	0.01805	521	550	0.02829
40	556	570	0.02842	521	549	0.01081
50	558	569	0.02116	521	543	0.06136
60	557	570	0.01043	527	543	0.0629
70	558	570	0.0196	539	612	0.06756
80	563	620	0.00995	539	612	0.07031
90	565	574	0.01111	523	612	0.07742

Table S8. TCPSC life-time data of d **PDI-PEP.**

PDI-PEP % *fw* of Water	**τ_1/ns**	**α_1 (%)**	**τ_2/ns**	**α_z(%)**	**Average lifetime τ (ns)**
THF	$0.002*10^{-9}$	99.95	$4.33*10^{-9}$	0.05	$0.82*10^{-9}$
90	$1.57*10^{-9}$	60.15	$6.82*10^{-9}$	39.85	$5.46*10^{-9}$
80	$0.81*10^{-9}$	72.15	$8.30*10^{-9}$	27.49	$6.72*10^{-9}$
70	$0.63*10^{-9}$	65.47	$4.65*10^{-9}$	34.53	$3.82*10^{-9}$
60	$0.83*10^{-9}$	63.14	$5.52*10^{-9}$	36.86	$4.55*10^{-9}$
50	$1.00*10^{-9}$	24.91	$4.22*10^{-9}$	75.00	$3.98*10^{-9}$
40	$0.76*10^{-9}$	16.40	$4.03*10^{-9}$	83.60	$3.91*10^{-9}$
30	$0.0018*10^{-9}$	99.99	$4.32*10^{-9}$	0.01	$0.83*10^{-9}$
20	$0.004*10^{-9}$	100	$4.34*10^{-9}$	0.00	$3.97*10^{-9}$
10	$0.0015*10^{-9}$	100	$4.30*10^{-9}$	0.00	$4.15*10^{-9}$

THF	$3.13*10^{-9}$	56.98	$5.70*10^{-9}$	43.02	$4.61*10^{-9}$
90	$0.0697*10^{-9}$	84.42	$2.83*10^{-9}$	15.58	$2.49*10^{-9}$
80	$0.70*10^{-9}$	38.50	$2.85*10^{-9}$	61.50	$2.56*10^{-9}$
70	$0.85*10^{-9}$	22.92	$4.29*10^{-9}$	77.08	$4.09*10^{-9}$
60	$0.46*10^{-9}$	24.46	$4.70*10^{-9}$	75.54	$4.57*10^{-9}$
50	$1.74*10^{-9}$	36.55	$6.72*10^{-9}$	63.45	$6.07*10^{-9}$
40	$2.18*10^{-9}$	33.68	$6.57*10^{-9}$	66.32	$5.93*10^{-9}$
30	$0.012*10^{-9}$	100	$5.34*10^{-9}$	0.00	$4.36*10^{-9}$
20	$3.20*10^{-9}$	35.35	$1.92*10^{-9}$	55.15	$2.58*10^{-9}$
10	$2.40*10^{-9}$	39.09	$6.08*10^{-9}$	60.91	$5.33*10^{-9}$

Table S9. TCPSC life-time data of d **DPP-PEP.**

Table S10. TCPSC life-time data of d **DPP-PEP** and **PDI-PEP** in various solvents.

Solvents	**DPP-PEP**					**PDI-PEP**				
	τ_1/ns	α_1 (%)	τ_2/ns	α_2 (%)	Average lifetime τ (ns)	τ_1/ns	α_1 (%)	τ_2/ns	α_2 (%)	Average lifetime τ (ns)
DCM	$1.00*10^{-9}$	3.79	$5.91*10^{-9}$	96.21	$5.87*10^{-9}$	$0.922*10^{-9}$	28.36	$3.22*10^{-9}$	71.64	$2.99*10^{-9}$
THF	$3.13*10^{-9}$	56.98	$5.70*10^{-9}$	43.02	$4.61*10^{-9}$	$0.002*10^{-9}$	99.95	$4.33*10^{-9}$	0.05	$0.82*10^{-9}$
TOL	$0.39*10^{-9}$	2.14	$5.64*10^{-9}$	97.88	$5.63*10^{-9}$	$0.811*10^{-9}$	23.64	$3.13*10^{-9}$	76.36	$3.13*10^{-9}$
DMF	$0.44*10^{-9}$	1.89	$5.98*10^{-9}$	98.11	$5.97*10^{-9}$	$1.13*10^{-9}$	72.74	$2.81*10^{-9}$	27.26	$1.94*10^{-9}$
ACN	$0.42*10^{-9}$	1.08	$5.85*10^{-9}$	98.92	$5.84*10^{-9}$	$0.13*10^{-9}$	80.75	$3.85*10^{-9}$	19.25	$3.81*10^{-9}$

NMR, Mass Spectra:

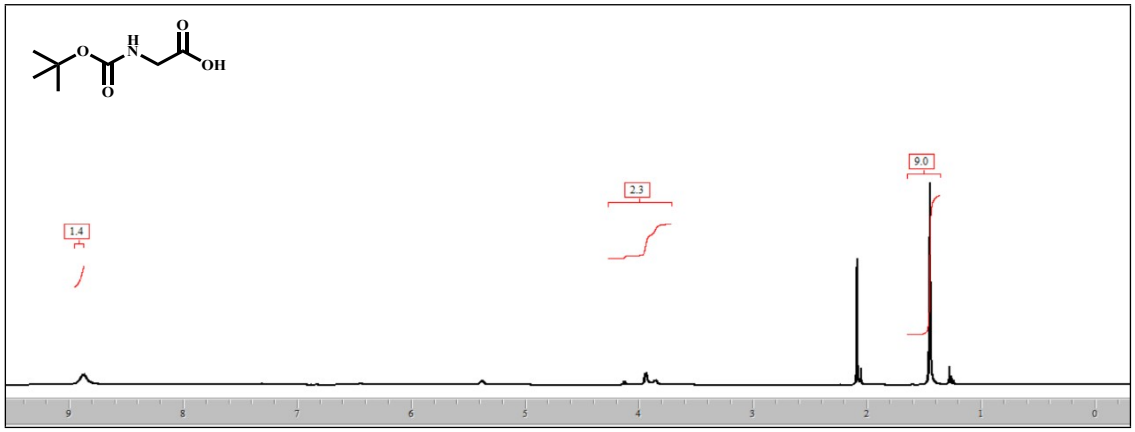


Figure S8. ^{1}H NMR spectrum of compound **1**

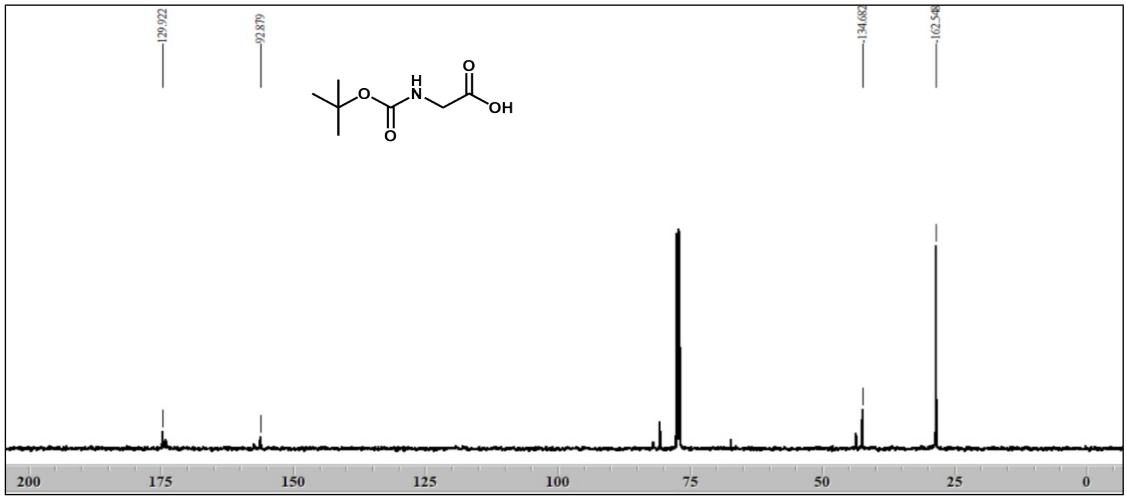


Figure S9 ^{13}C NMR spectrum of compound **1**

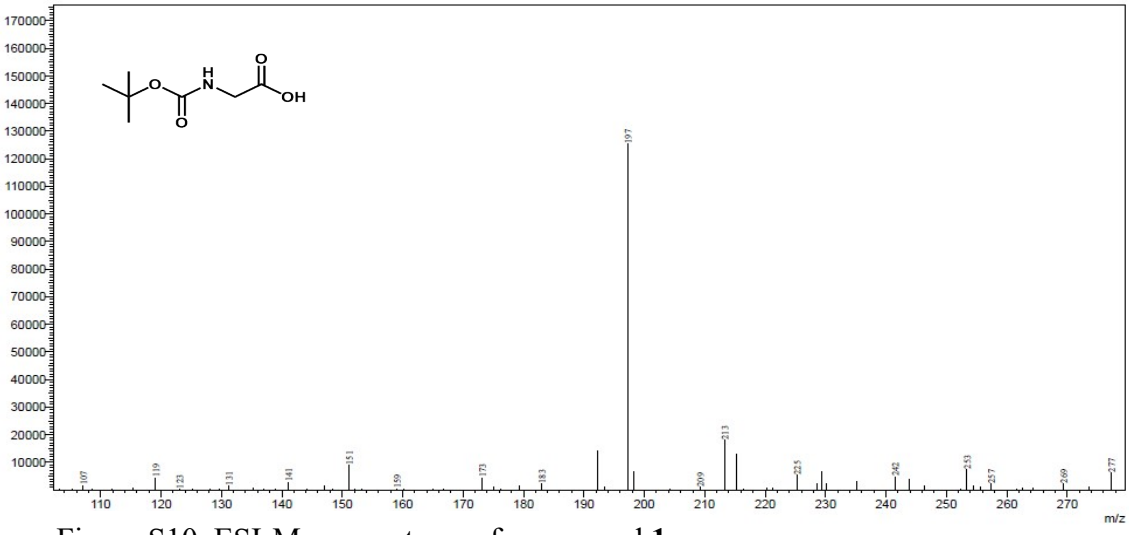


Figure S10. ESI-Mass spectrum of compound **1**

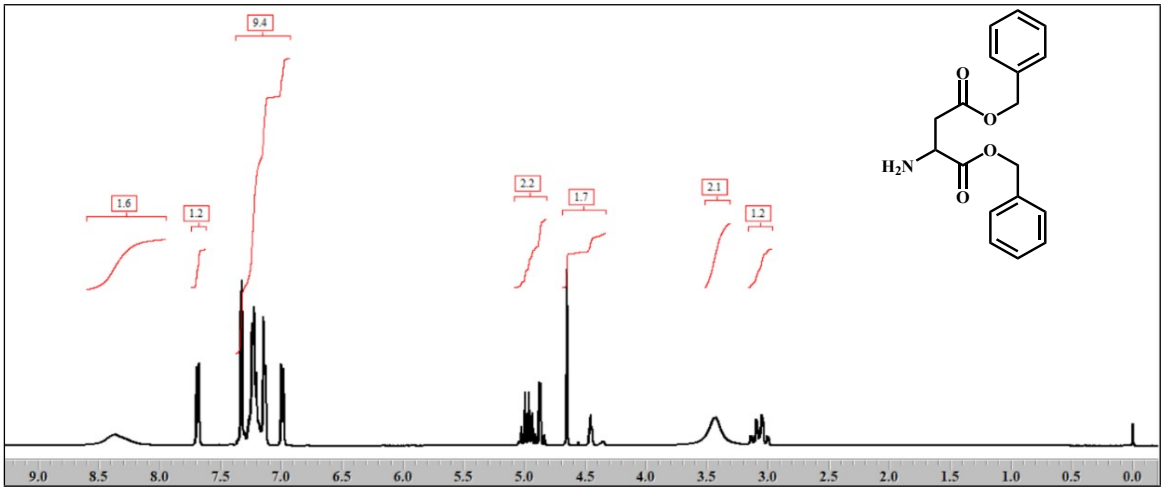


Figure S11. ^{1}H NMR spectrum of compound 2

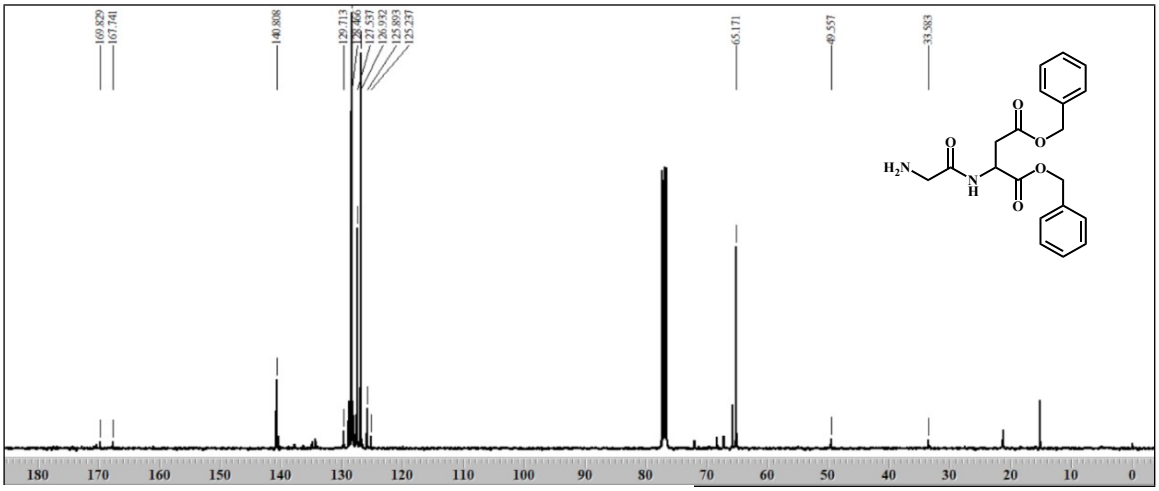


Figure S12. ^{13}C NMR spectrum of compound 2

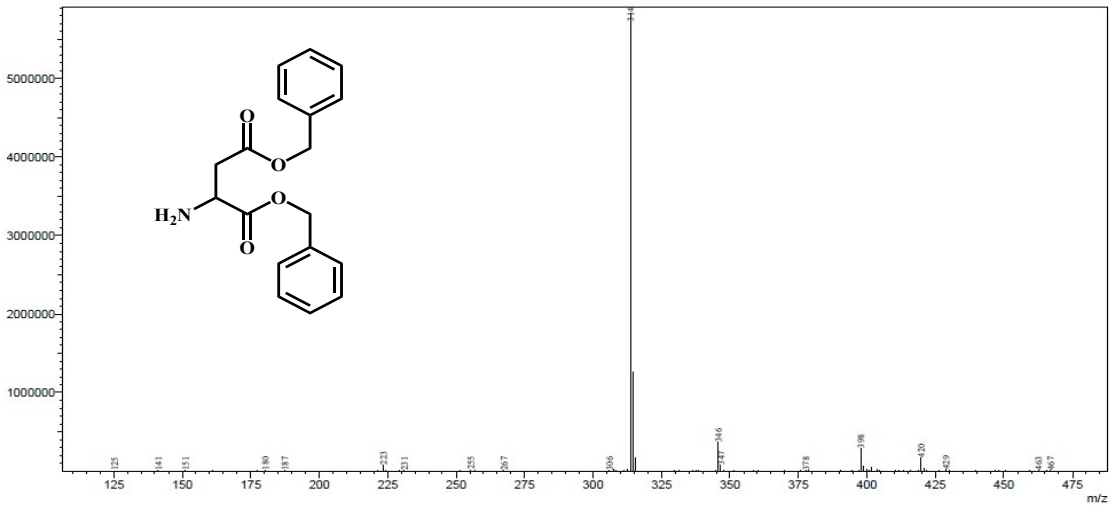


Figure S13. ESI-Mass spectrum of compound 2

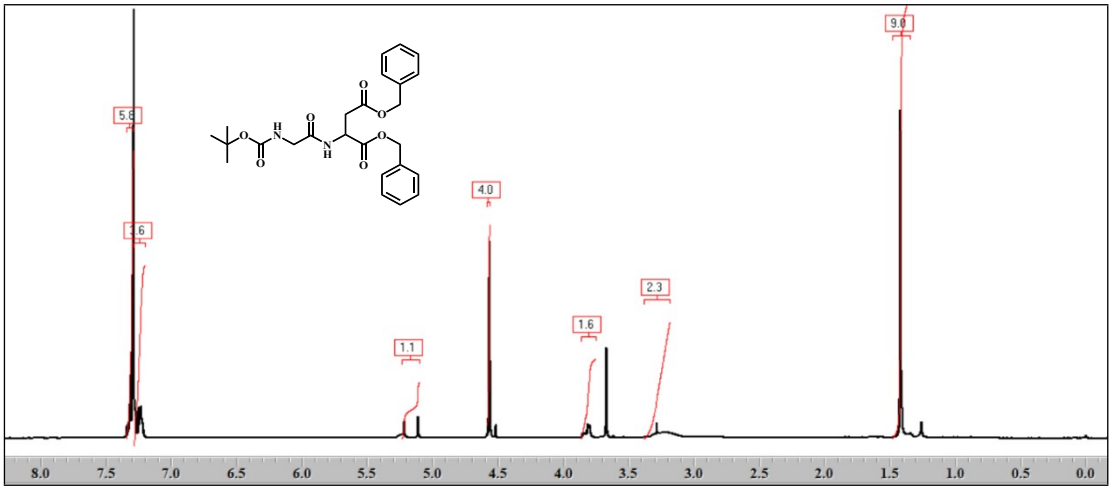


Figure S14. ^{1}H NMR spectrum of compound

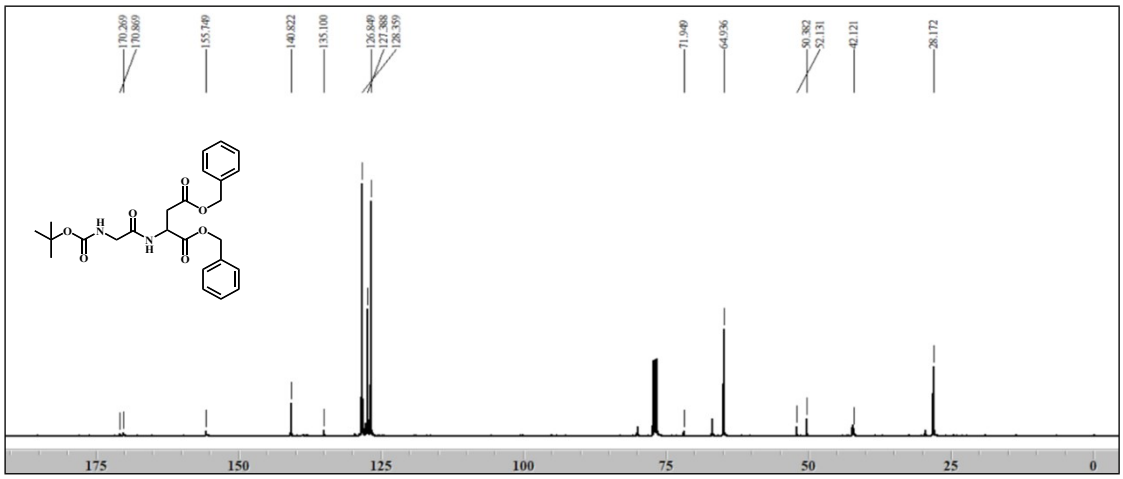


Figure S15. ^{13}CNMR spectrum of compound 3

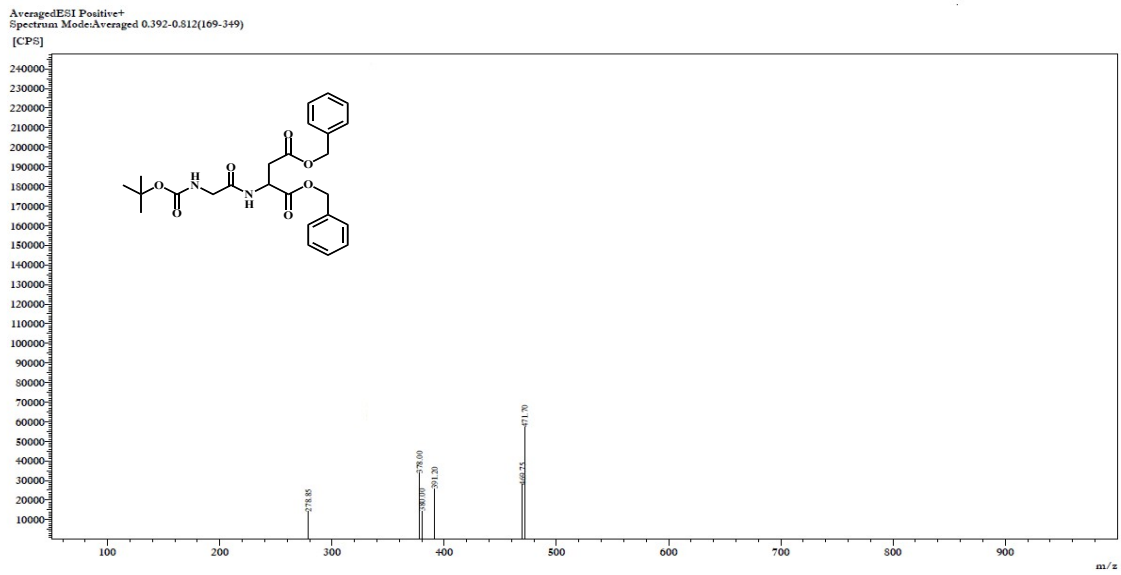


Figure S16. ESI-Mass spectrum of compound 3

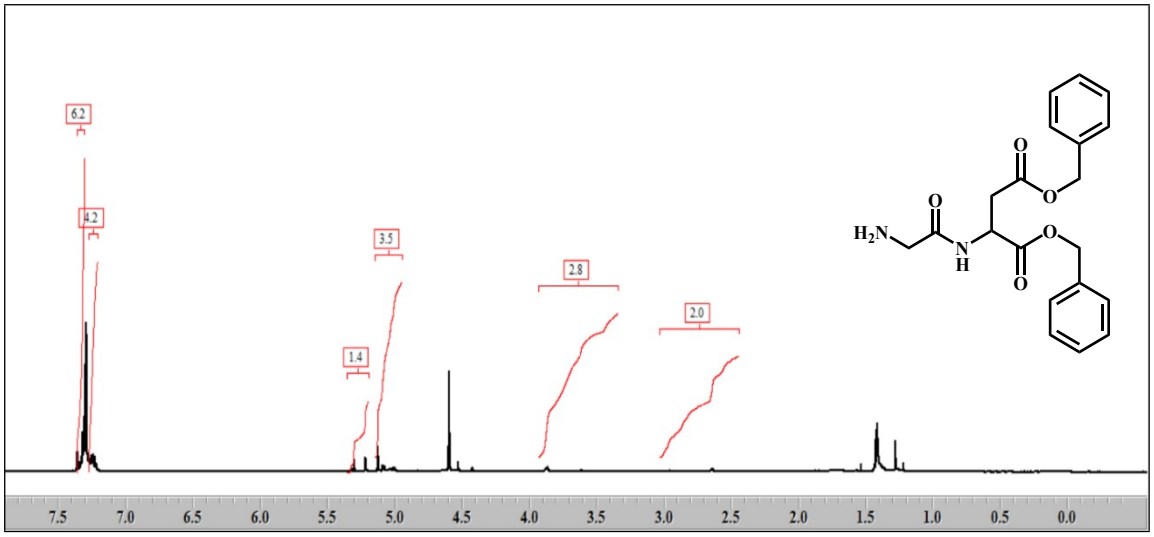


Figure S17. ^{1}NMR spectrum of compound 4

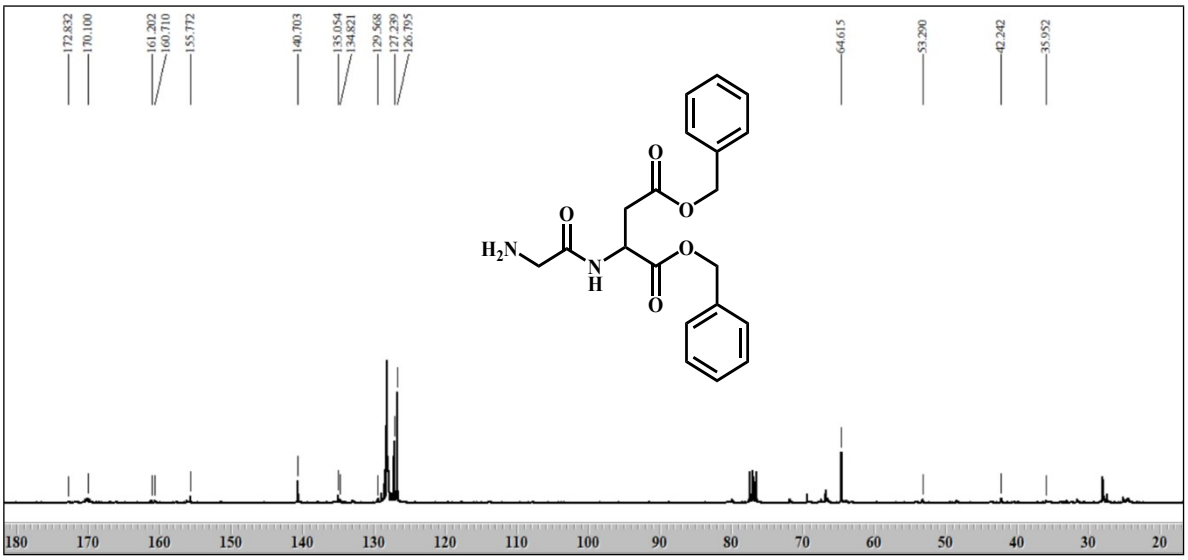


Figure S18. ^{13}C NMR spectrum of compound 4

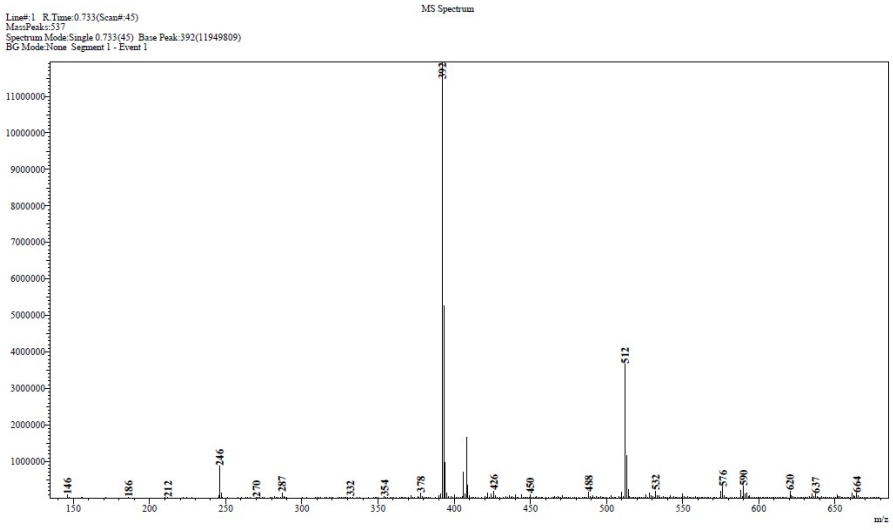


Figure S19. EIS spectrum of compound 4

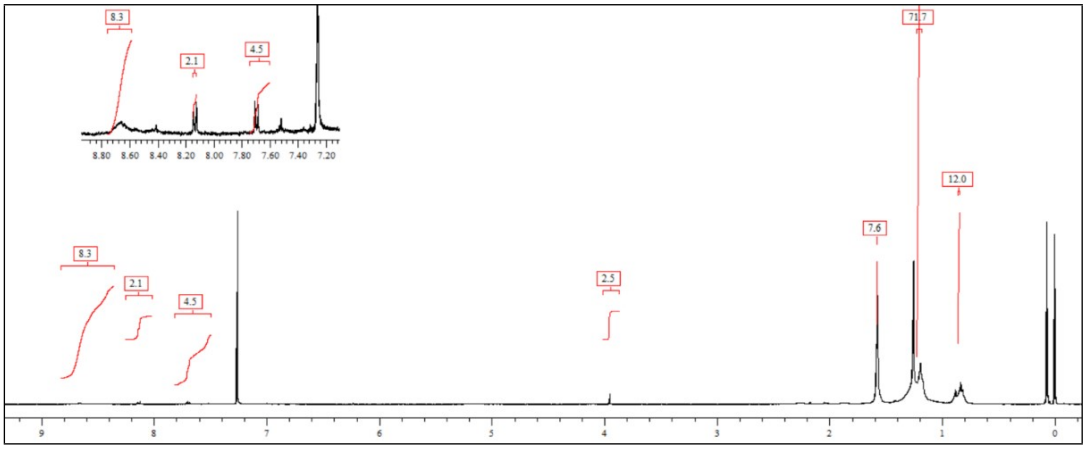


Figure S20. ^{1}H NMR spectrum of compound 5

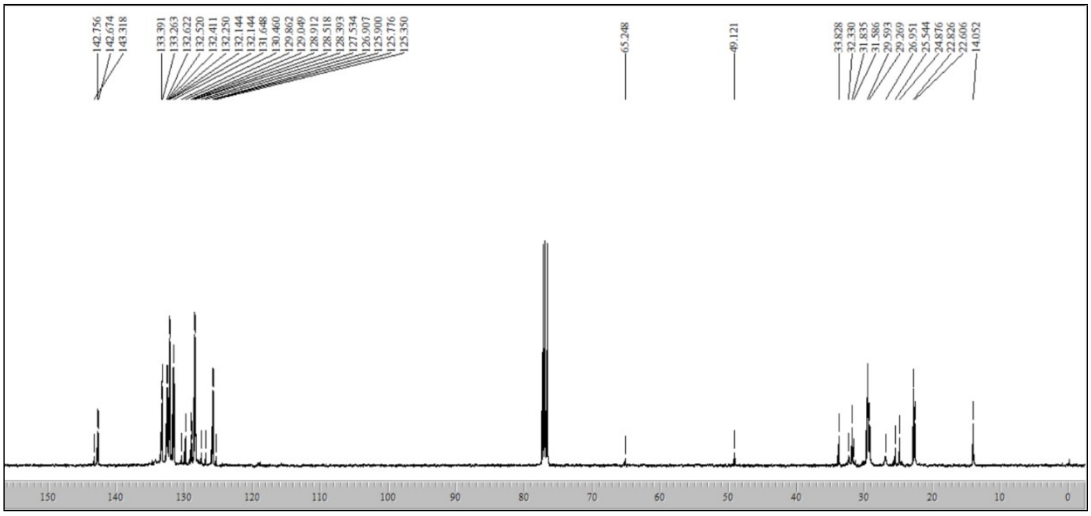


Figure S21. ^{13}C NMR spectrum of compound 5

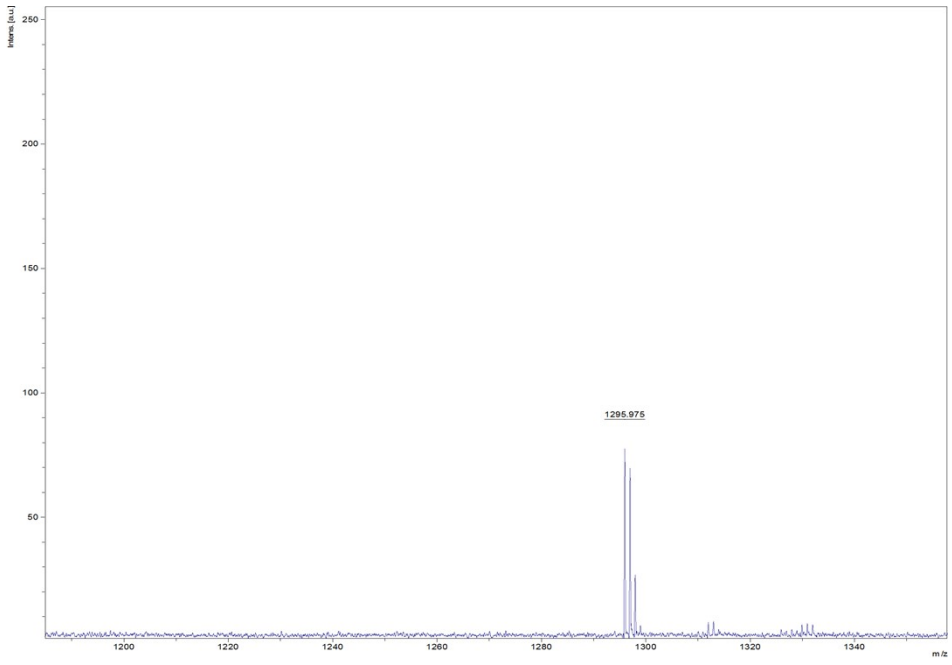


Figure S22. Mass spectrum of compound 5

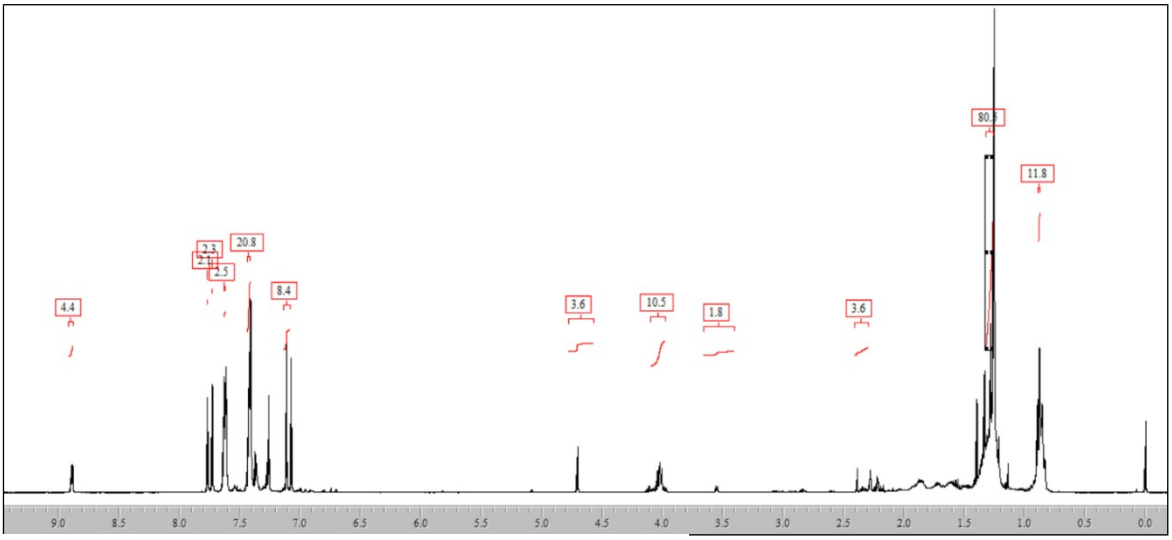


Figure S23. ^{1}H NMR spectrum of PER-PEP

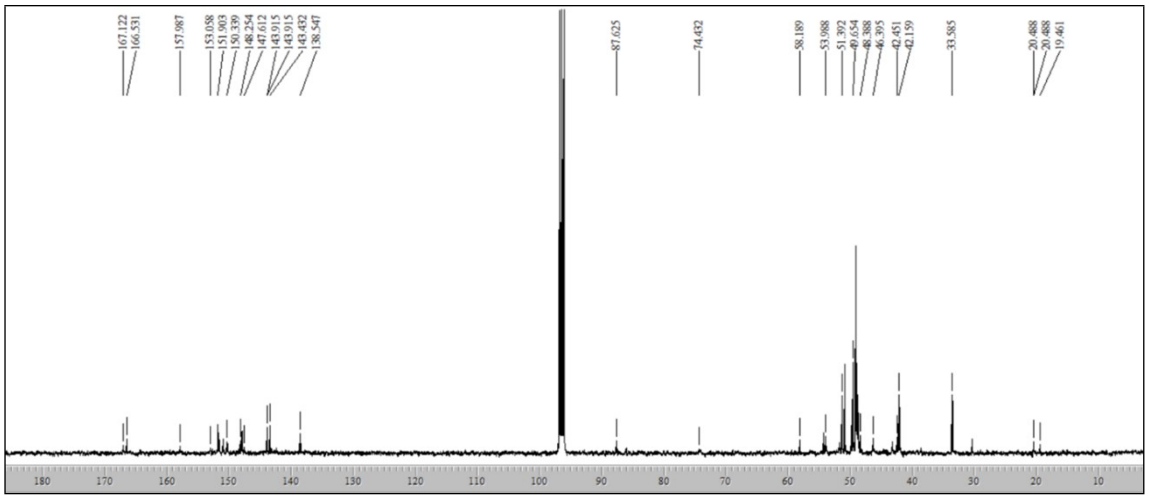


Figure S24. ^{13}CNMR spectrum of PER-PEP

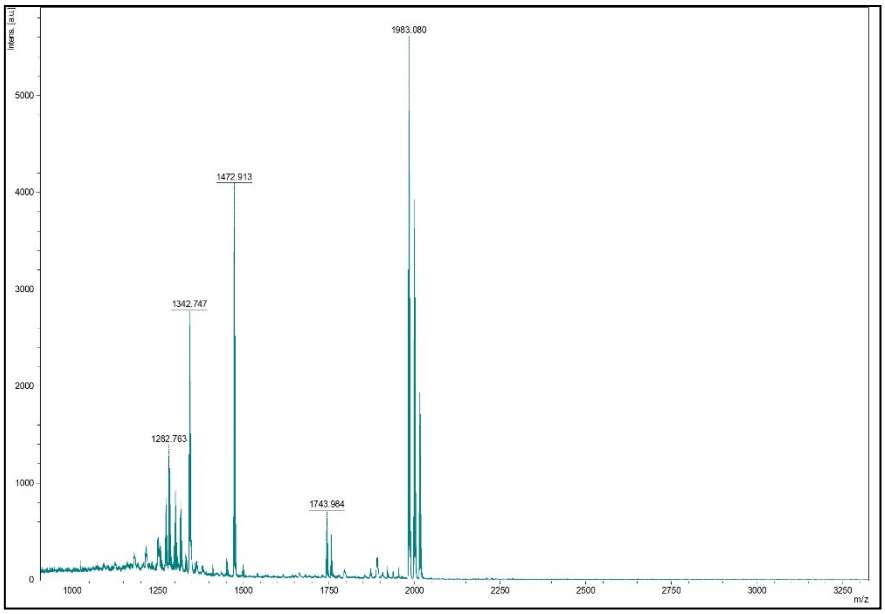


Figure S25. MALDI-TOF spectrum of PER-PEP

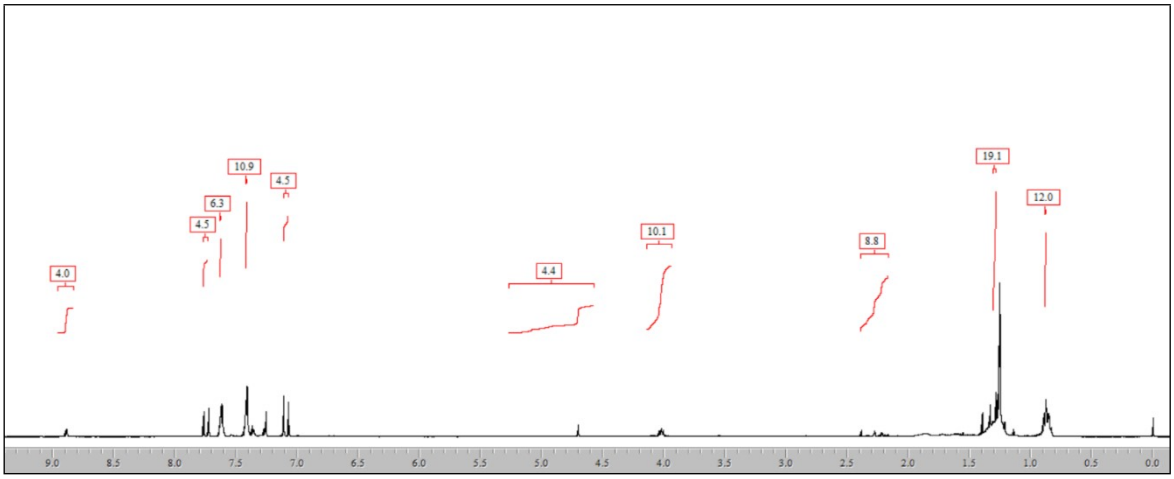


Figure S26. ^{1}H NMR spectrum of DPP-PEP

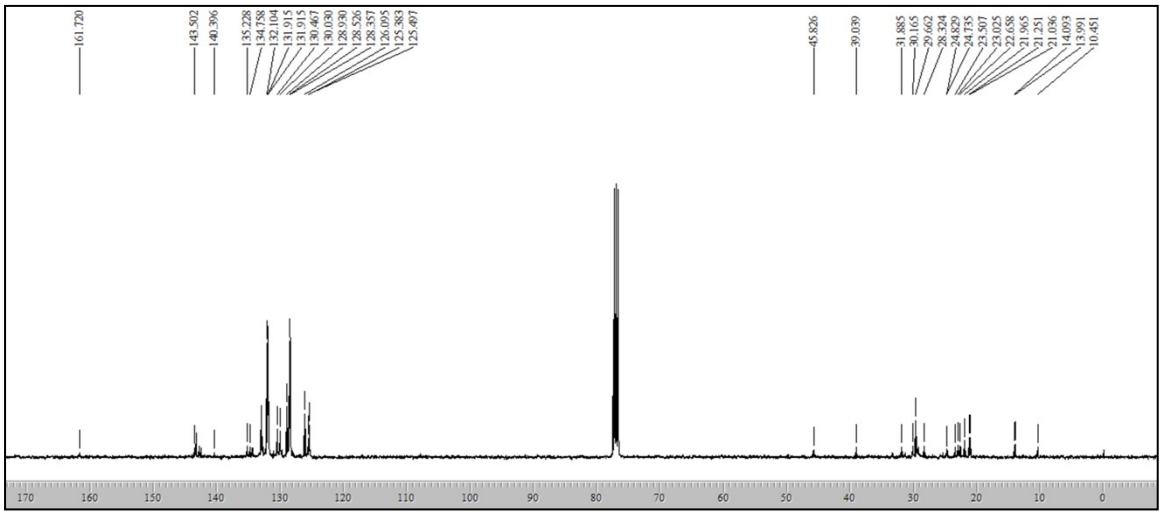


Figure S27. MALDI-TOF spectrum of DPP-PEP

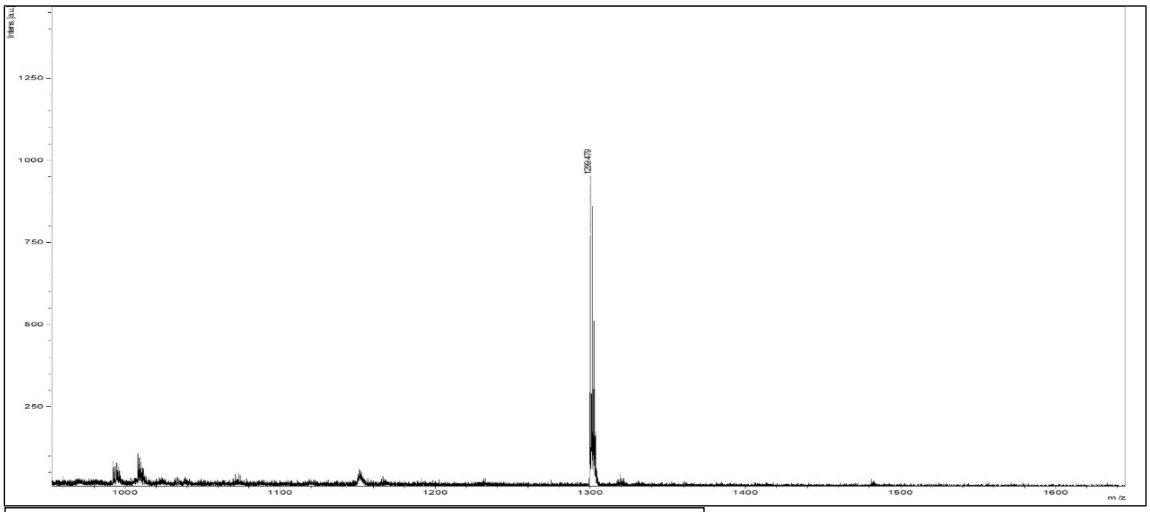


Figure S28. MALDI-TOF spectrum of DPP-PEP

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2. A. D. Becke, *J. Chem. Phys.,* 1993, **98**, 5648.
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