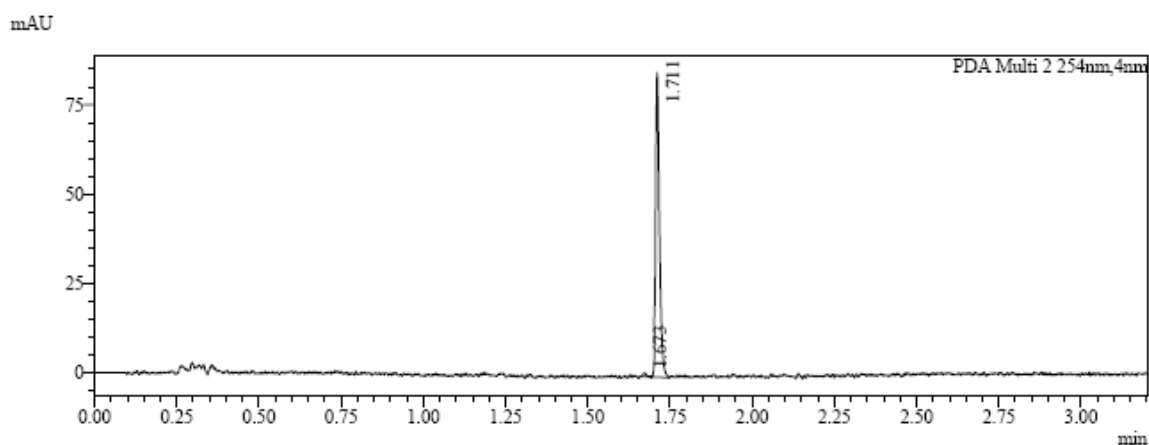


Appendix A. Supplementary data

1. The spectra of HPLC of dyes C1-C6

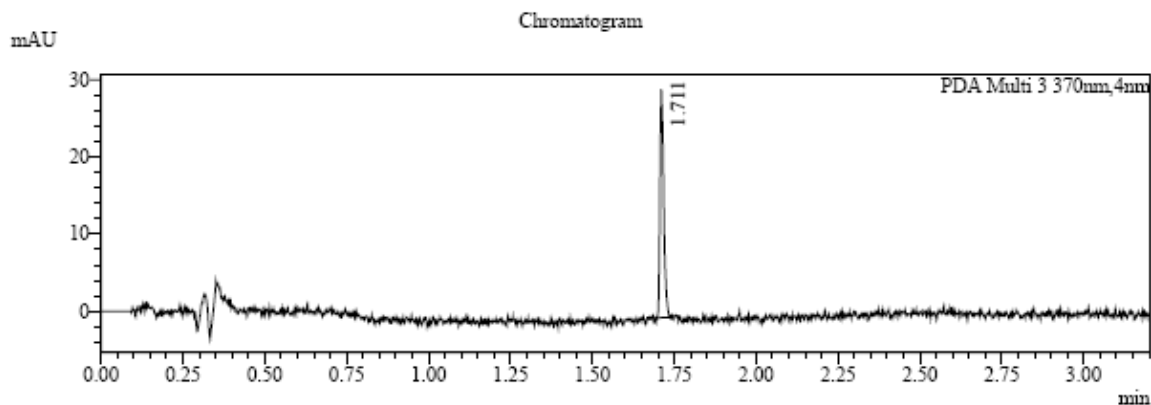
HPLC conditions were set as follows: instrument model: shimadzu LC-20AD; detector: SPD-M20A; waters sunfire C₁₈: 3.0 mm× 50 mm, 2.5 μm. The mobile phase A was water (0.05% TFA) and the mobile phase B was acetonitrile (0.05% TFA). The gradient program was as follows: 0–2 min, 20% to 95% B; 3 min, 95% B (V/V).

a. HPLC-C1



PDA Ch2 254nm

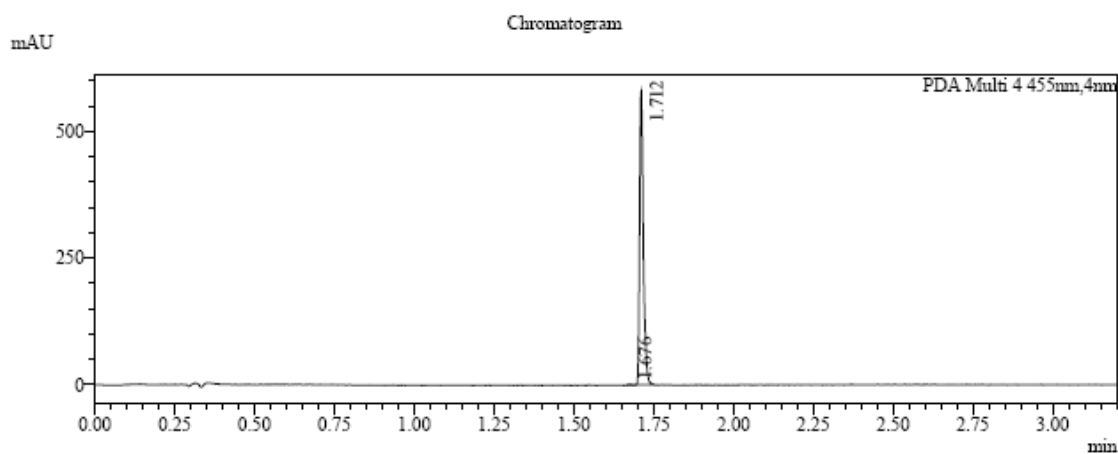
Peak#	Ret. Time	Height	Height%	Area	Area%
1	1.673	926	1.102	674	0.962
2	1.711	83131	98.898	69411	99.038
Total				70086	100.000



Peak Table

PDA Ch3 370nm

Peak#	Ret. Time	Height	Height%	Area	Area%
1	1.711	23079	100.000	23353	100.000
Total		23079	100.000	23353	100.000

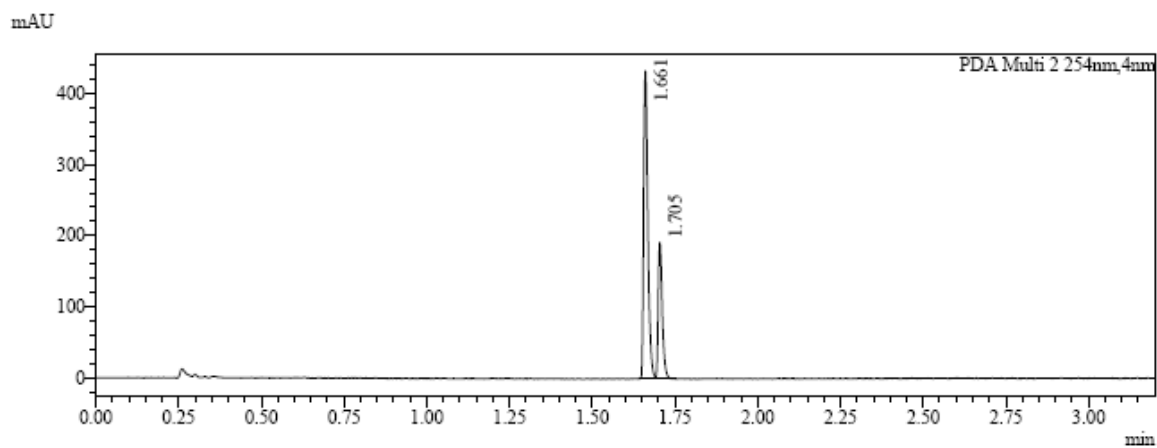


Peak Table

PDA Ch4 455nm

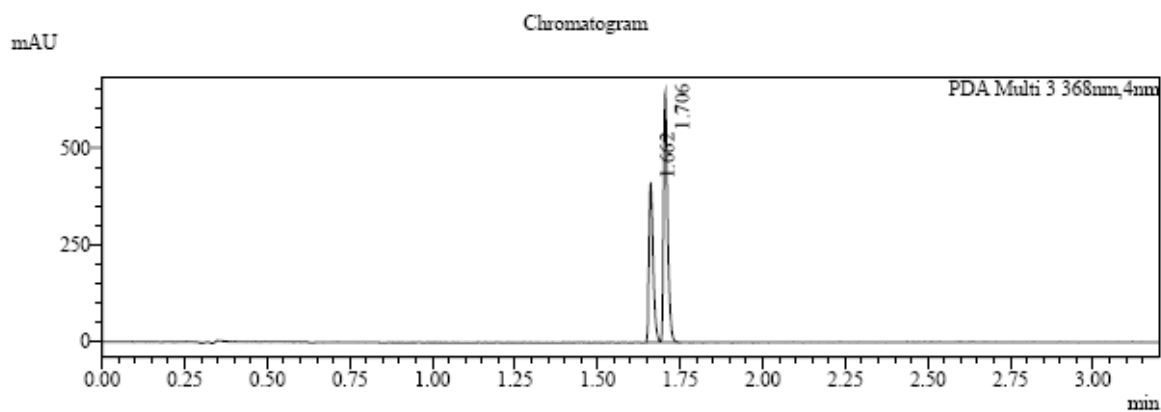
Peak#	Ret. Time	Height	Height%	Area	Area%
1	1.676	1586	0.357	1643	0.350
2	1.712	442736	99.643	467346	99.650
Total		444322	100.000	468989	100.000

b. HPLC-C2



PDA Ch2 254nm

Peak#	Ret. Time	Height	Height%	Area	Area%
1	1.661	403992	69.542	382973	70.356
2	1.705	176942	30.458	161366	29.644
Total				544339	100.000



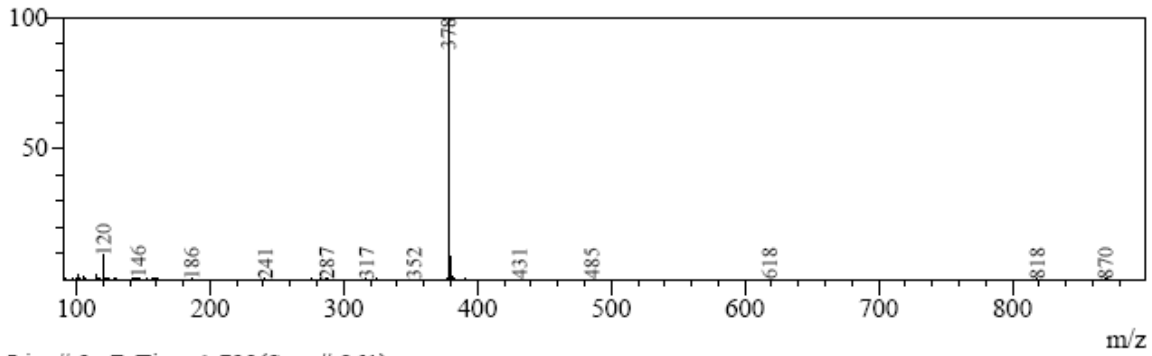
Peak Table

PDA Ch3 368nm

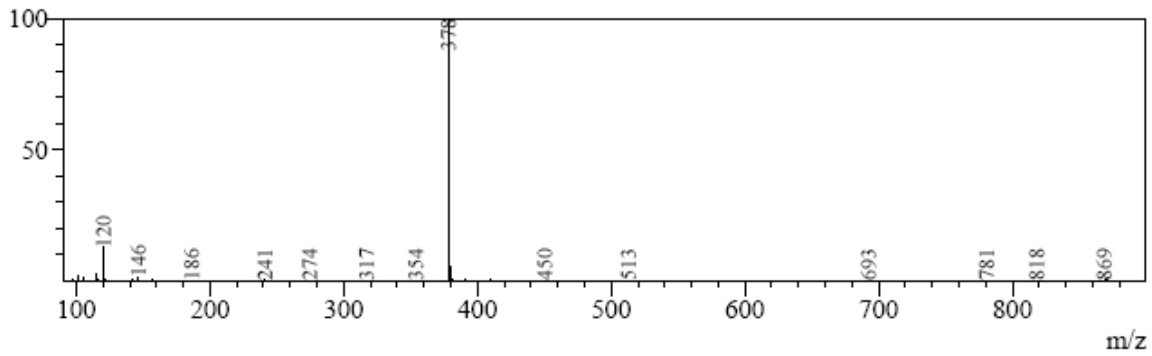
Peak#	Ret. Time	Height	Height%	Area	Area%
1	1.662	377385	43.234	360278	40.160
2	1.706	495507	56.766	536825	59.840
Total		872891	100.000	897103	100.000

Mass Spectrum

Line#:1 R.Time:1.687(Scan#:254)
MassPeaks:140
Spectrum Mode:Single 1.687(254) BasePeak:378(9263381)
BG Mode:None Segment 1 - Event 1

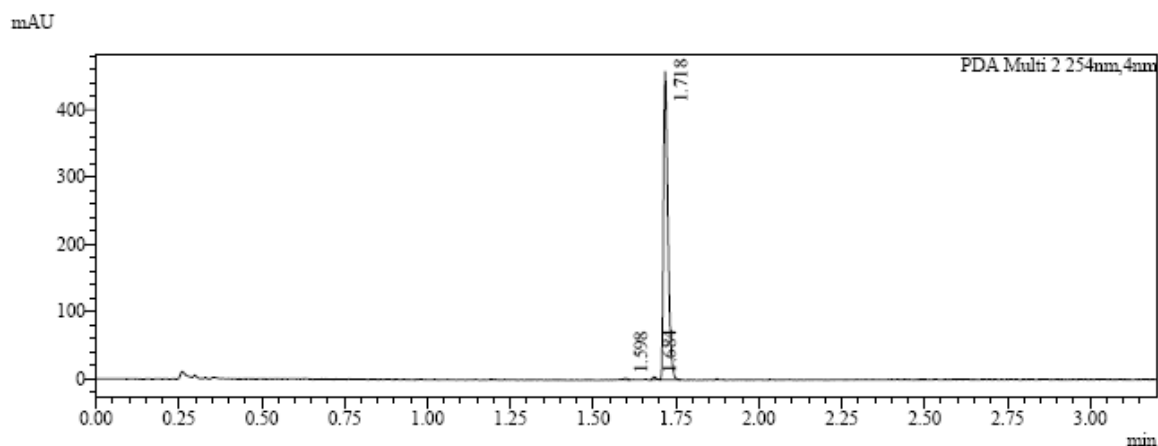


Line#:2 R.Time:1.733(Scan#:261)
MassPeaks:163
Spectrum Mode:Single 1.733(261) BasePeak:378(8026489)
BG Mode:None Segment 1 - Event 1



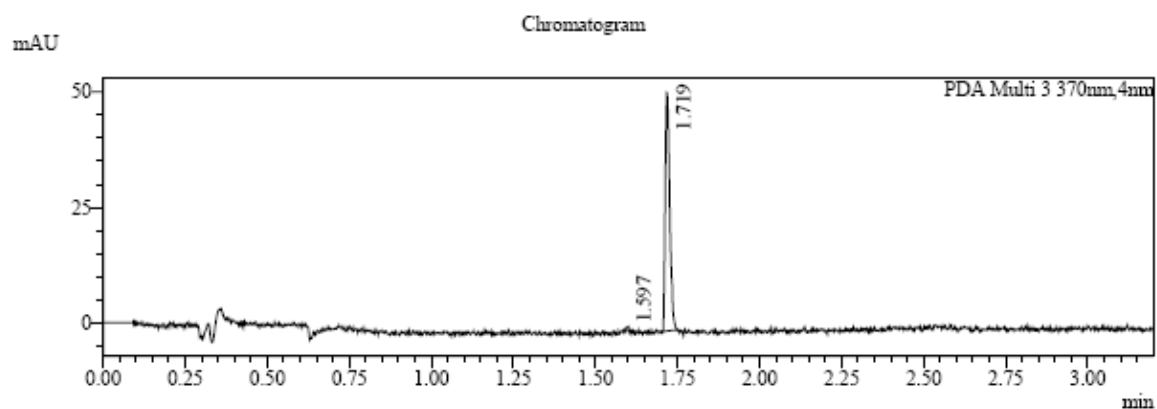
HPLC-C2

c. HPLC-C3



PDA Ch2 254nm

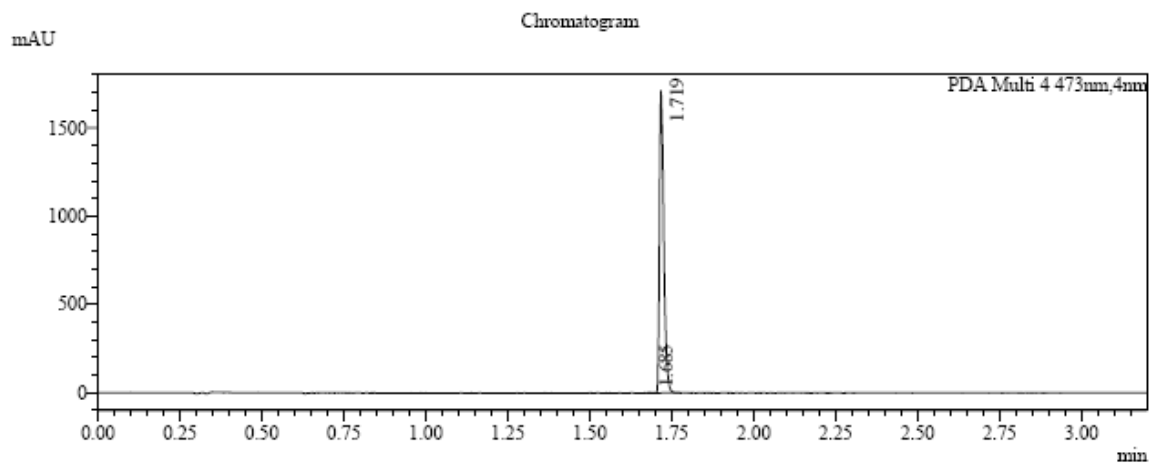
Peak#	Ret. Time	Height	Height%	Area	Area%
1	1.598	1849	0.408	1230	0.284
2	1.684	3692	0.815	2478	0.572
3	1.718	447228	98.776	429587	99.144
Total				433295	100.000



Peak Table

PDA Ch3 370nm

Peak#	Ret. Time	Height	Height%	Area	Area%
1	1.597	755	1.577	210	0.423
2	1.719	47122	98.423	49432	99.577
Total		47877	100.000	49642	100.000

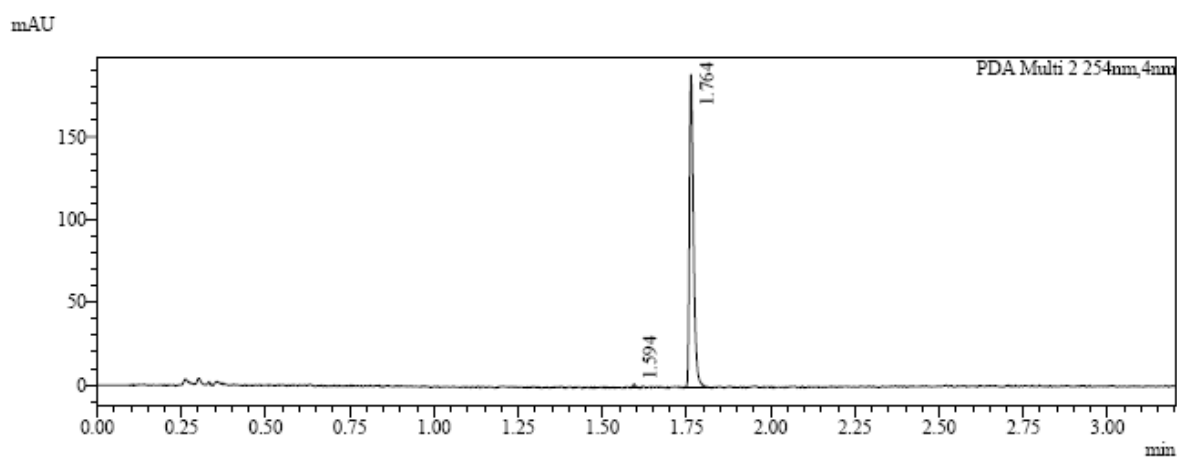


Peak Table

PDA Ch4 473nm

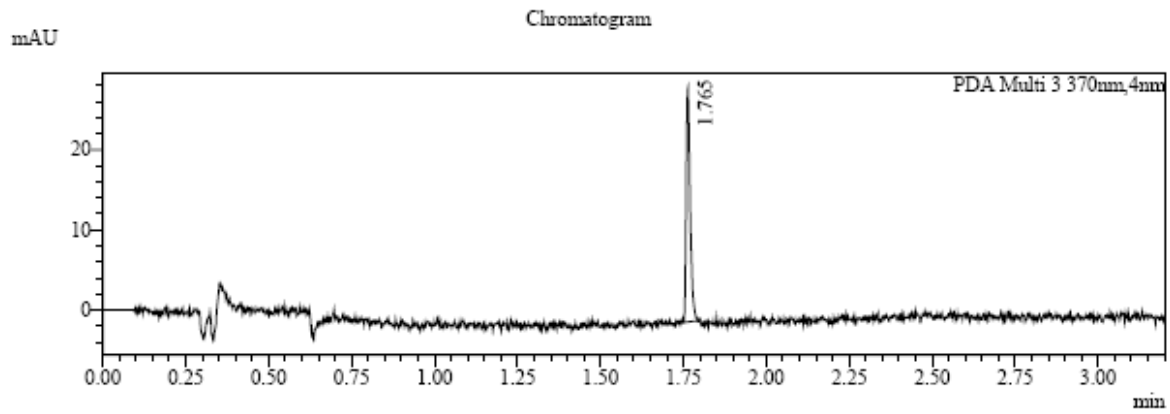
Peak#	Ret. Time	Height	Height%	Area	Area%
1	1.685	2674	0.177	2095	0.133
2	1.719	1507197	99.823	1571711	99.867
Total		1509871	100.000	1573806	100.000

d. HPLC-C4



PDA Ch2 254nm

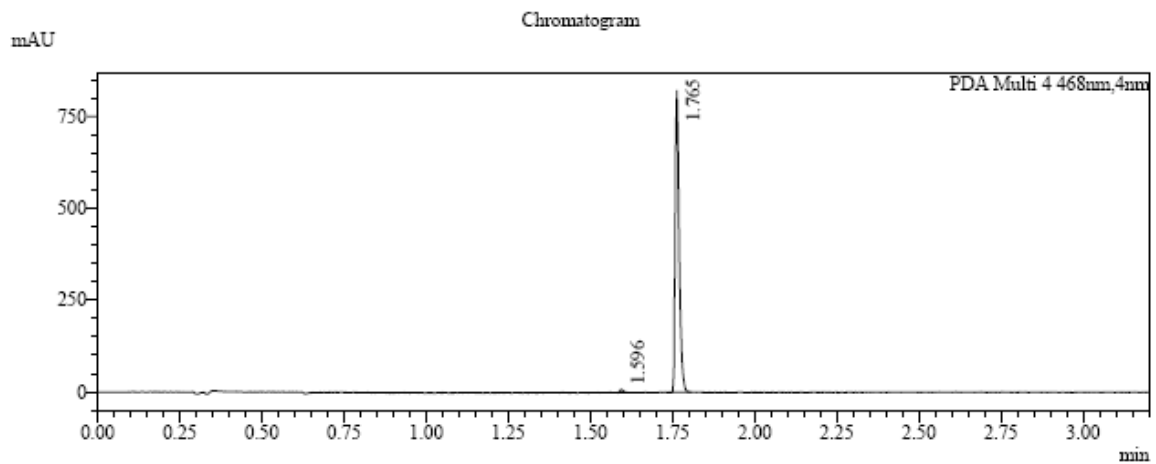
Peak#	Ret. Time	Height	Height%	Area	Area%
1	1.594	1827	0.980	939	0.579
2	1.764	184488	99.020	161162	99.421
Total				162101	100.000



Peak Table

PDA Ch3 370nm

Peak#	Ret. Time	Height	Height%	Area	Area%
1	1.765	26249	100.000	24618	100.000
Total		26249	100.000	24618	100.000



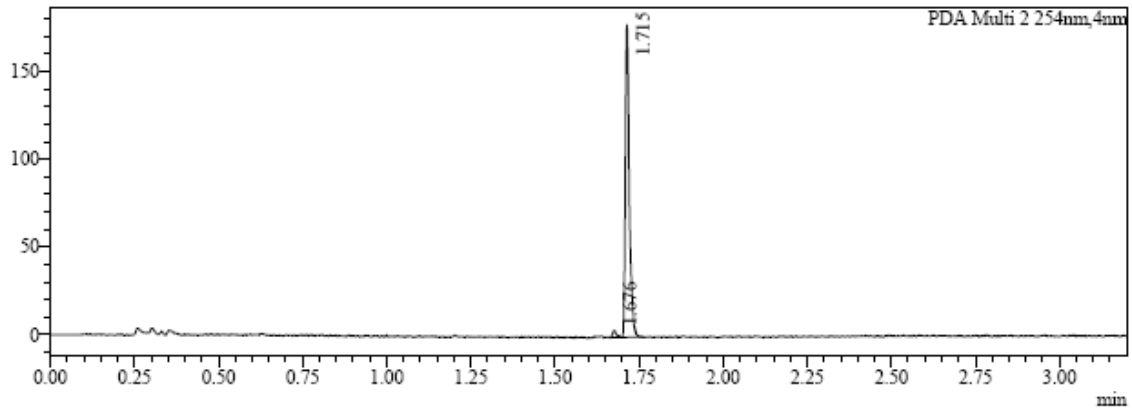
Peak Table

PDA Ch4 468nm

Peak#	Ret. Time	Height	Height%	Area	Area%
1	1.596	6993	0.934	5912	0.861
2	1.765	741445	99.066	681125	99.139
Total		748438	100.000	687038	100.000

e. HPLC-C5

mAU

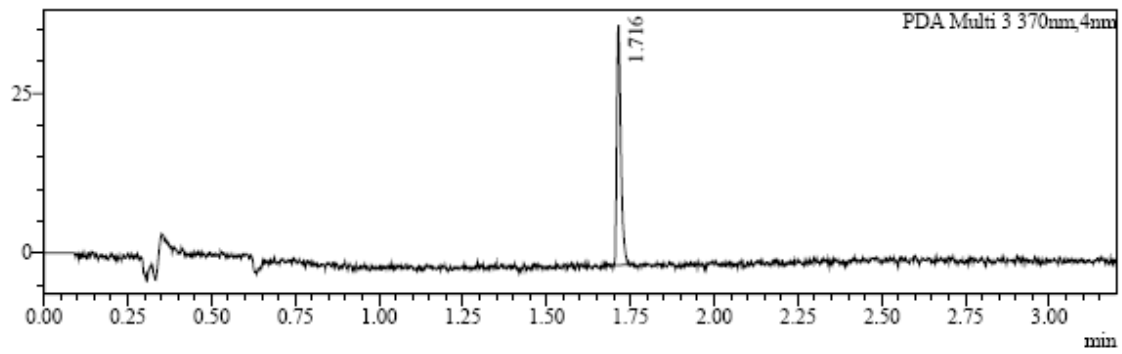


PDA Ch2 254nm

Peak#	Ret. Time	Height	Height%	Area	Area%
1	1.676	3605	2.031	3124	2.057
2	1.715	173859	97.969	148699	97.943
Total				151822	100.000

mAU

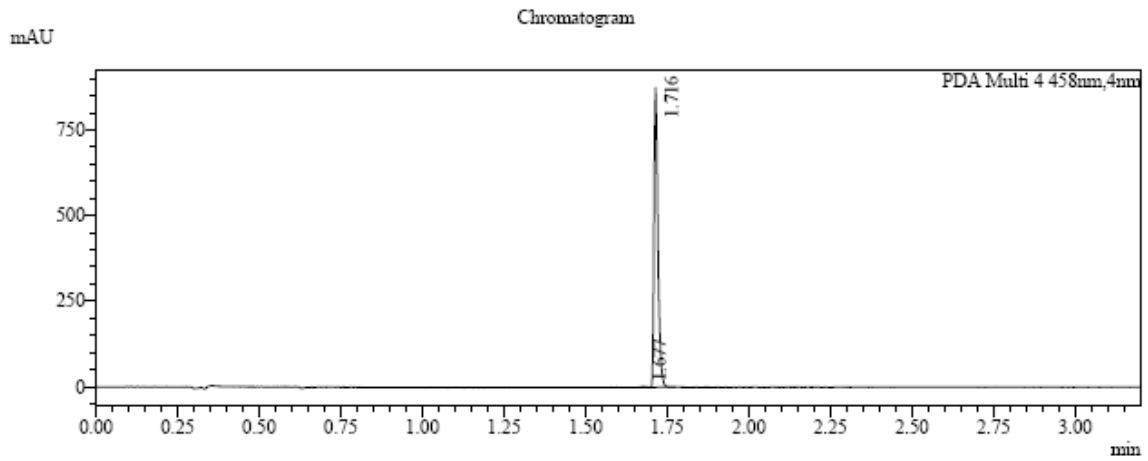
Chromatogram



Peak Table

PDA Ch3 370nm

Peak#	Ret. Time	Height	Height%	Area	Area%
1	1.716	32563	100.000	31496	100.000
Total		32563	100.000	31496	100.000

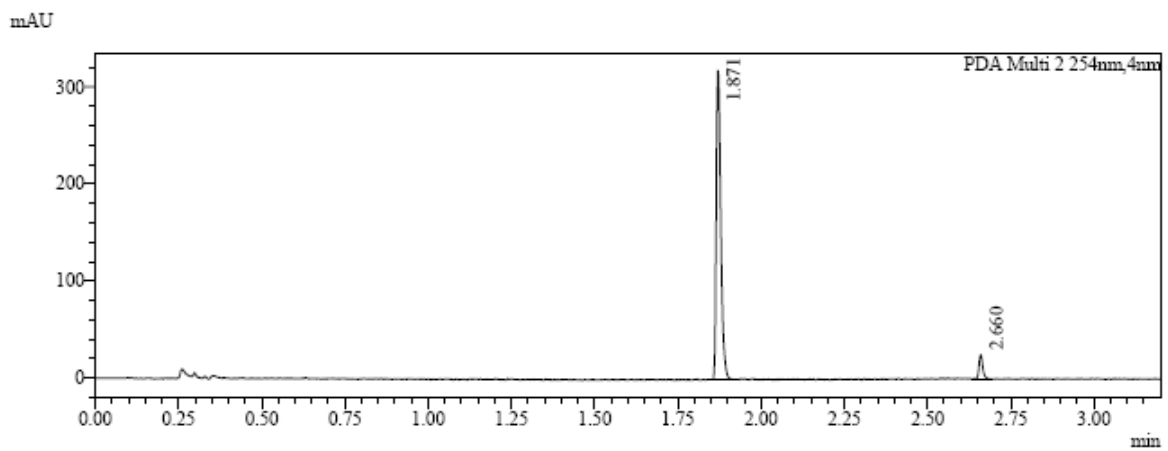


Peak Table

PDA Ch4 458nm

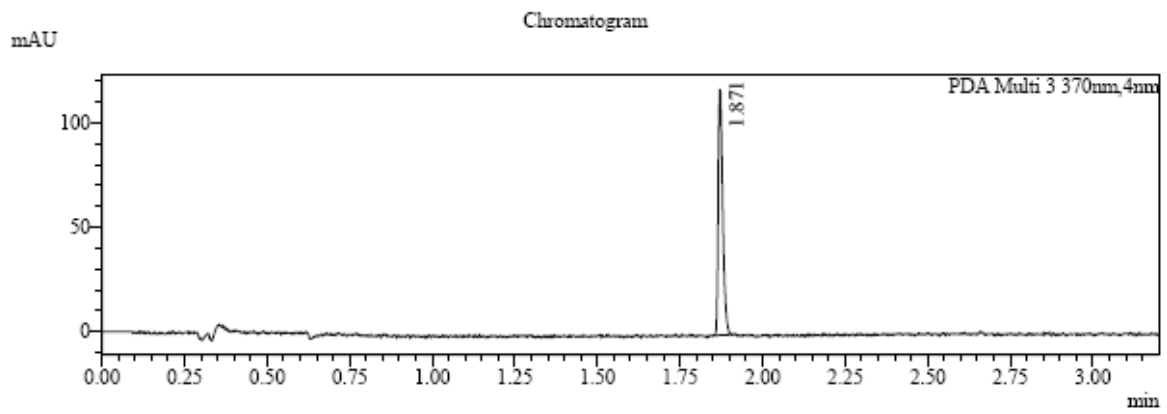
Peak#	Ret. Time	Height	Height%	Area	Area%
1	1.677	2120	0.279	2073	0.286
2	1.716	757793	99.721	721678	99.714
Total		759913	100.000	723751	100.000

f. HPLC-C6



PDA Ch2 254nm

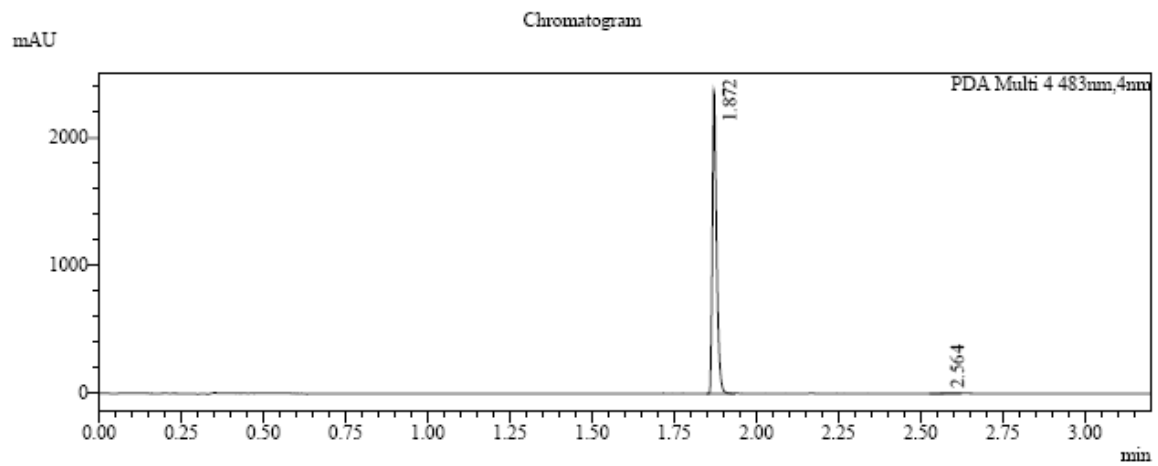
Peak#	Ret. Time	Height	Height%	Area	Area%
1	1.871	313088	93.037	304132	94.006
2	2.660	23430	6.963	19393	5.994
Total				323525	100.000



Peak Table

PDA Ch3 370nm

Peak#	Ret. Time	Height	Height%	Area	Area%
1	1.871	99204	100.000	112439	100.000
Total		99204	100.000	112439	100.000



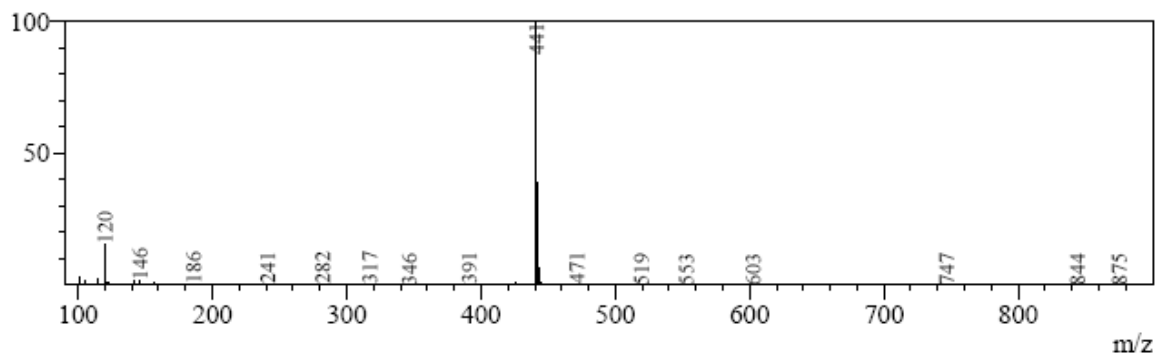
Peak Table

PDA Ch4 483nm

Peak#	Ret. Time	Height	Height%	Area	Area%
1	1.872	1821750	99.940	2080761	99.823
2	2.564	1090	0.060	3682	0.177
Total		1822840	100.000	2084443	100.000

Mass Spectrum

Line#:1 R.Time:1.920(Scan#:289)
MassPeaks:154
Spectrum Mode:Single 1.920(289) BasePeak:441(6036038)
BG Mode:None Segment 1 - Event 1



Line#:2 R.Time:2.680(Scan#:403)
MassPeaks:271
Spectrum Mode:Single 2.680(403) BasePeak:441(3089488)
BG Mode:None Segment 1 - Event 1

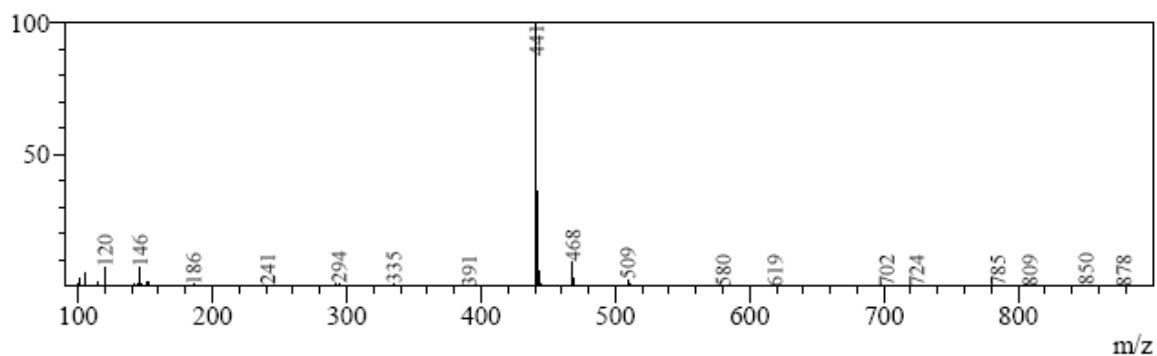
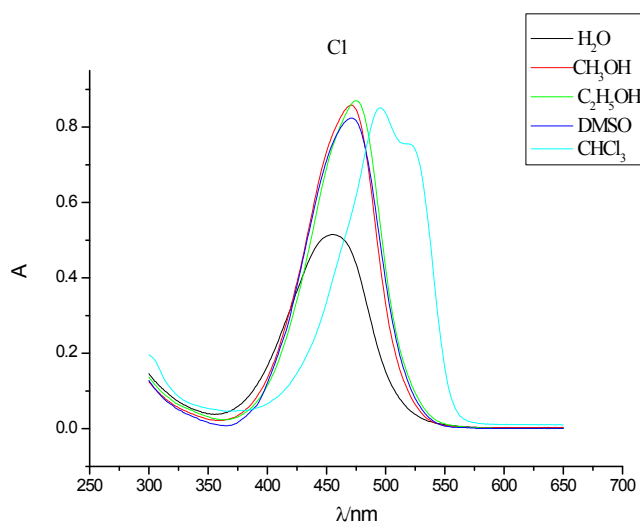
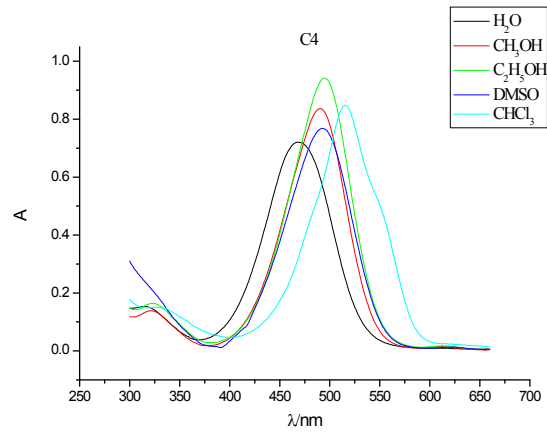
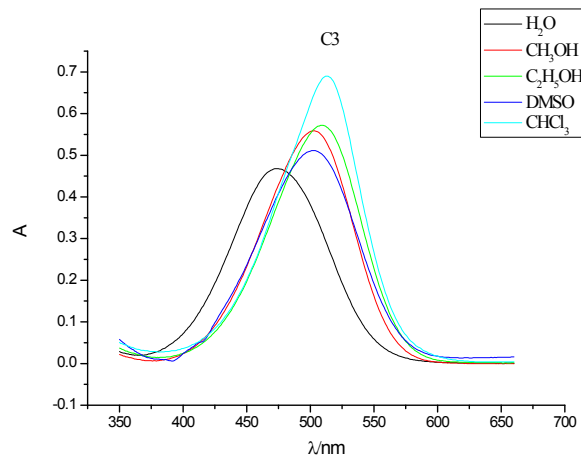
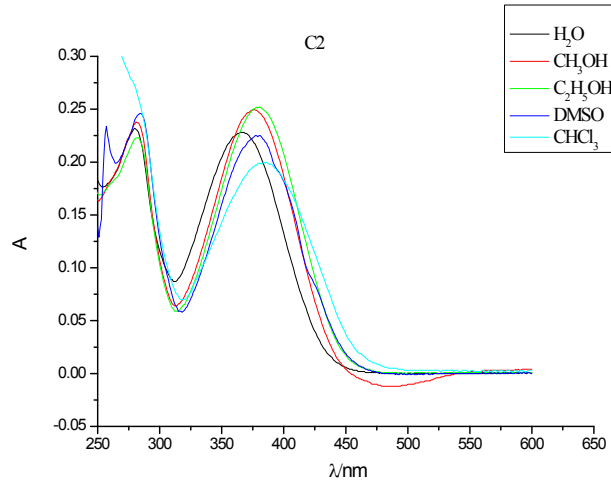


Figure S1. The spectra of HPLC of dyes C1-C6

2. The absorption spectra of dyes C1-C6 in different solvents





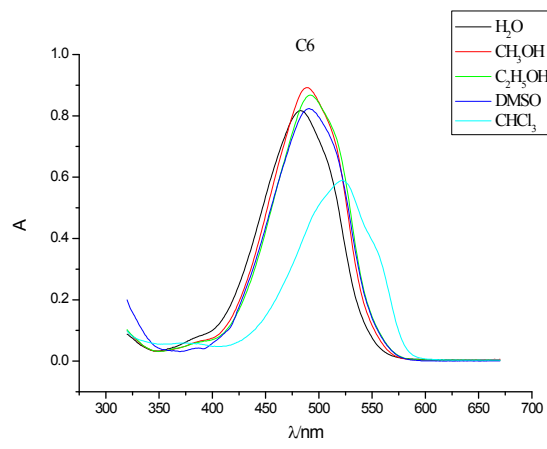
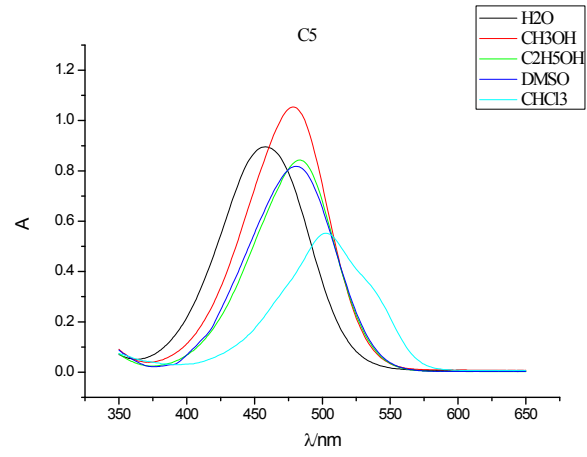


Figure S2. The absorption spectra of dyes **C1-C6** in different solvents