Supporting Information

For

Enhanced Fluorescence of Epicocconone In

Surfactant Assemblies as a Consequence of Depth-

Dependent Microviscosity

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Neutral (fig. 9)				Anion (fig. S1)				
HF = -1416.198075, Nimag = 0					HF = -1415.6347806, Nimag = 0			
С	0.516529	-1.074344	0.299054	С	-0.453761	0.798970	0.407717	
С	-0.656696	-0.211972	0.321591	С	0.566222	-0.321668	0.482796	
С	-1.943417	-0.664091	0.130112	С	1.919749	0.057382	0.312693	
С	-3.054298	0.259112	0.184748	С	3.048903	-0.826501	0.336285	
С	-4.403445	-0.283122	-0.015177	С	4.362994	-0.126119	0.113128	
С	-5.505087	0.504433	0.025912	С	5.535565	-0.796679	0.087862	
С	-6.854292	0.042735	-0.155669	С	6.822794	-0.185460	-0.122892	
С	-7.936788	0.860630	-0.104664	С	8.008441	-0.846531	-0.155679	
С	-9.303666	0.427560	-0.280469	С	9.288676	-0.209308	-0.370926	
С	-10.367402	1.252899	-0.225688	С	10.479932	-0.838348	-0.412380	
С	-11.794144	0.835807	-0.403112	С	11.801636	-0.164960	-0.638328	
0	-2.879097	1.492339	0.398895	0	3.054199	-2.060282	0.510061	
0	-0.398275	1.078570	0.559559	0	0.109975	-1.468579	0.695807	
С	0.474657	-2.540376	0.043249	С	-0.241660	2.258836	0.181828	
0	1.768288	-3.017020	0.042266	0	-1.484977	2.891865	0.135299	
С	2.665448	-1.971672	0.407186	С	-2.503760	1.949235	0.444017	
С	1.828410	-0.712654	0.418850	С	-1.801457	0.612611	0.479517	
С	3.866645	-1.848360	-0.551070	С	-3.663619	1.950308	-0.566486	
С	4.513788	-0.512580	-0.476358	С	-4.450307	0.684707	-0.533142	
С	3.782813	0.643771	0.022344	С	-3.864969	-0.545178	-0.002666	
С	2.493062	0.560829	0.454136	С	-2.593049	-0.590950	0.474253	
С	5.781694	-0.372908	-0.953367	С	-5.703940	0.687656	-1.051142	
0	6.520213	0.735376	-0.863752	0	-6.563611	-0.352229	-1.006696	
С	6.011412	1.791616	-0.002109	С	-6.205159	-1.441141	-0.120046	
С	4.501249	1.960048	-0.164069	С	-4.715013	-1.775369	-0.218972	
0	-0.462752	-3.273256	-0.159795	0	0.759902	2.917205	0.028854	
С	3.232567	-2.302301	1.807696	С	-3.102288	2.330652	1.818436	
С	6.824408	3.039252	-0.354643	С	-7.129875	-2.596280	-0.507246	
0	6.531999	4.108530	0.530479	0	-7.025873	-3.690192	0.392283	
0	4.285253	-2.780307	-1.209268	0	-3.961094	2.919086	-1.244301	
H	-2.106485	-1.716503	-0.055620	H	2.117489	1.109667	0.149913	
H	-4.491293	-1.352053	-0.19/329	H	4.352622	0.954866	-0.032554	
H	-5.351928	1.566817	0.212441	H	5.485561	-1.8/5136	0.238113	
H	-7.001556	-1.021460	-0.341938	H	6.832863	0.89/482	-0.267750	
H	- / . / /8028	1.923494	0.082393	H	8.010280	-1.928139	-0.013096	
H	-9.464/92	-0.635036	-0.467632	H	9.268/08	0.8/443/	-0.510396	
H II	-10.192800	2.313521	-0.037634	H	10.504500	-1.920749	-0.2/4114	
п u	-12.259//6	1.305/02	-1.245660	п	12.308072	-0.551010	-1.535808	
п тт	-12.392087	1.081641	0.485472	п	12.493356	-0.330933	0.201246	
п u	-II.882540	-0.239996 1 E22076	-0.586367	п	2 000401	U.91/505 1 E12070	-0.762789	
л U	-1.310015 1 022776	1 110007	0.546259	п U	-2.009401	-1.513970	-1 544109	
л U	1.923776 6.301945	1.449007 _1 199024	-1 1/5251	п U	-6.120000	1.337207 _1 117793	-1.544100	
п U	6 229465	1 /02001	1 029405	п u	-0.439207	-2 551170	0.503421	
п ц	4 143886	2 707597	0 551228	н	-4.402737	-2.331170	-1 220387	
и Ц	4.291748	2.707357	-1 175409	н	-3 870277	1 616107	2 129174	
н	3 913787	-1 521350	2 156072	н	-3 540892	3 332016	1 759559	
H	3.767368	-3.255083	1.757806	н	-2.299894	2.331818	2.562269	
H	2.404013	-2.392560	2.516257	н	-6.921153	-2.894820	-1.546553	
н	6.648321	3.306864	-1.406822	н	-8.168494	-2.255776	-0.461060	
H	7.888576	2.811962	-0.242811	Н	-6.163959	-4.110583	0.250532	
Н	5.743818	4.568300	0.205987					

Table S1.Cartesian Coordinates of the B3LYP/6-31G* Optimized Geometry of Epicocconone

	Neutral	Anion				
Bond angle (in degree)						
12-9-10	112.33	112.50				
16-12-8	107.81	107.86				
16-12-9	107.11	106.96				
16-12-13	111.96	112.16				
8-12-9	112.96	113.40				
5-13-6	132.92	131.12				
7-6-18	124.27	129.38				
13-6-18	127.99	124.15				
Dihedral angle (in degree)						
4-3-14-28	64.27	65.39				
2-3-14-28	-173.08	-172.18				
12-13-6-18	177.04	177.03				
5-13-6-18	-7.84	-8.41				
13-6-18-19	176.85	176.49				
7-6-18-19	1.15	-0.16				
7-6-13-5	168.43	168.89				
7-6-13-12	-6.69	-5.67				
7-8-12-16	110.52	111.24				
8-12-13-6	9.83	8.93				
8-12-13-5	-166.09	-166.39				
10-9-12-8	161.38	159.45				
11-5-13-6	-152.36	-152.24				
9-12-13-5	-43.12	-43.20				
11-5-13-12	22.34	21.91				
10-11-5-13	0.08	1.06				
12-9-10-11	-22.24	-21.95				
9-10-11-5	0.76	-0.19				
1-10-11-4	5.34	5.80				
1-2-3-4	-41.32	-42.56				

 Table S2. The B3LYP/6-31G* optimized geometrical parameters of epicocconone



Figure S1. Kohn-Sham orbital contours involved in the key vertical excitations computed at the TDDFT/B3LYP/6-31+G*/CPCM//B3LYP/6-31G* level for the anionic form of epicocconone



Figure S2. (a) Absorption (b) emission spectra, (c) decay profiles, and (iv) resonance light scattering (RLS) of epicocconone in the concentration range, (i) 1.5 ul/ml, (ii) 4ul/ml, (iii) 6.5 ul/ml, (iv) 12 ul/ml.



Figure S3. a) Variation of fluorescence intensity, and (b) corresponding quantum yield of epicocconone with mole percent of tertiary butanol in a mixture of tertiary butanol with water, (i) 0, (ii) 4.5, (iii) 11.1, (iv) 21.9, (v) 42.8, (vi) 62.7, (vii) 100



Figure S4. (a) Absorption (b) emission spectra, (c) decay profiles, of epicocconone in pH 4 and pH 7.

Mol% of	τ_1/ns	τ_2/ns	τ ₃ /ns	a1	a2	a3	χ^2
^t BuOH							
100	0.18		1.11	0.91		0.09	1.15
62.7	0.12		1.02	0.91		0.09	1.13
42.8	0.11		0.99	0.90		0.10	1.11
21.9	0.097		1	0.90		0.10	1.10
11.1	0.094		0.98	0.89		0.11	1.29
4.5	0.071	0.26	0.98	0.59	0.21	0.20	1.16
0		0.25	1.1		0.80	0.20	1.03

Table S3. The fluorescence decay parameters of epicocconone in ^tBuOH-water mixture.