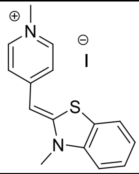
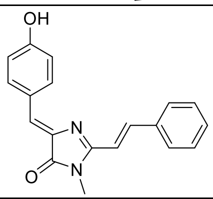
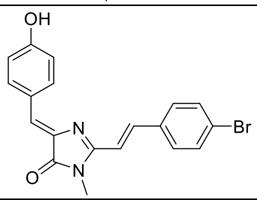
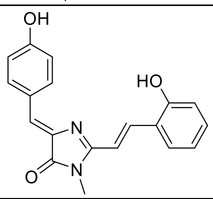
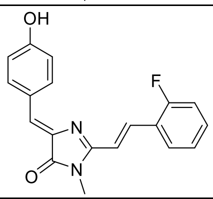
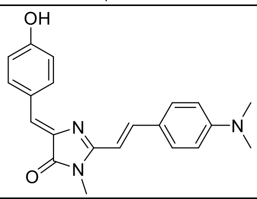
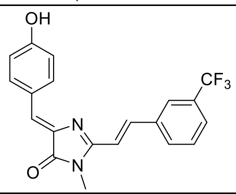
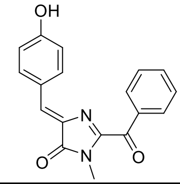
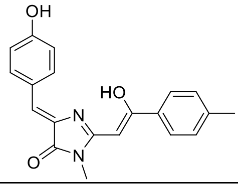
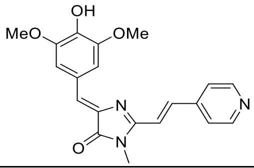
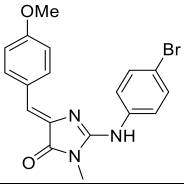
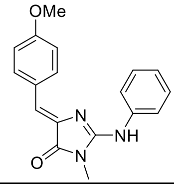
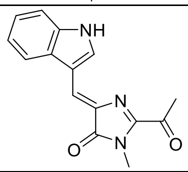
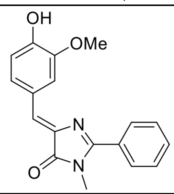
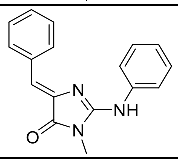
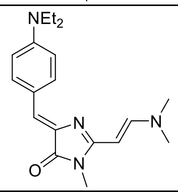
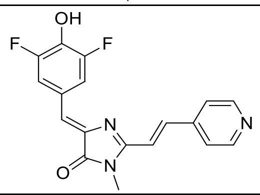
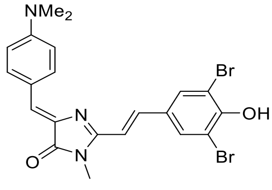
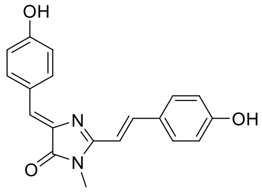
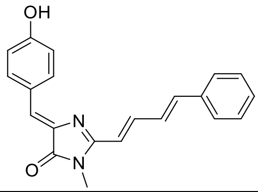
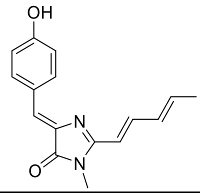
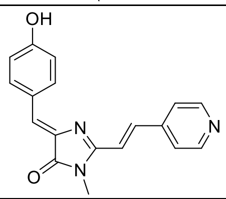
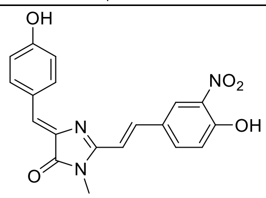
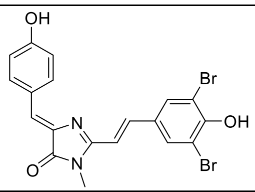
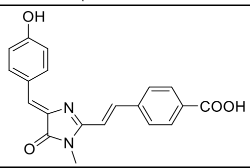
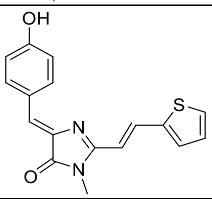
Supplementary Materials:

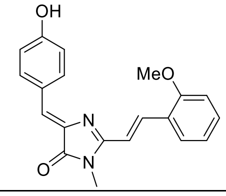
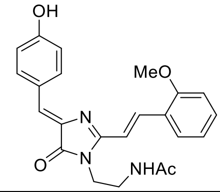
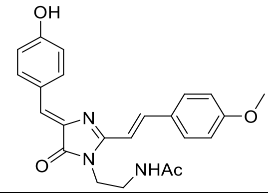
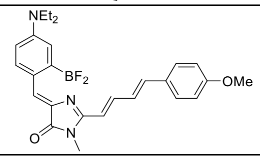
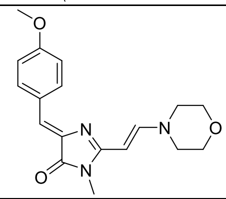
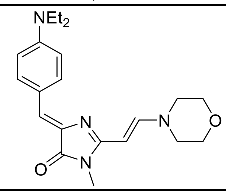
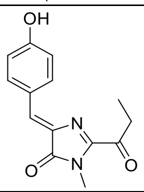
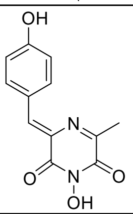
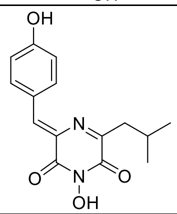
Short Duplex Module Coupled to G-Quadruplexes Increases Fluorescence of Synthetic GFP Chromophore Analogues

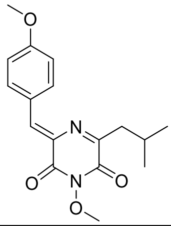
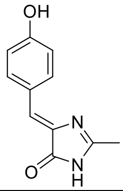
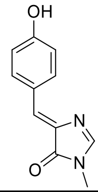
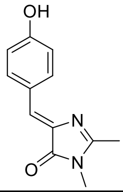
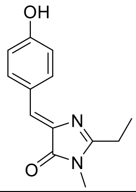
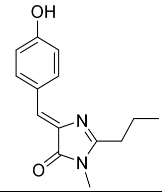
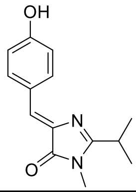
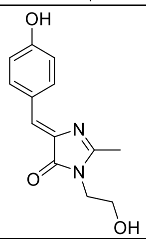
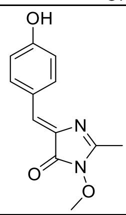
Table S1. Chromophores from the library, their optical properties and the results of interaction with deoxyribo- (**TBA31**, **TBA15** and **LTR-III**) and ribo- (**ON31** and **ON15**) oligonucleotides.

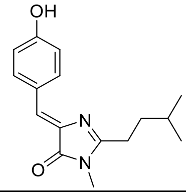
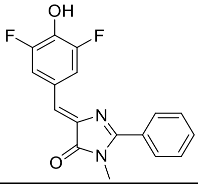
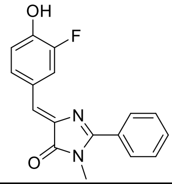
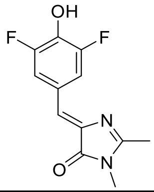
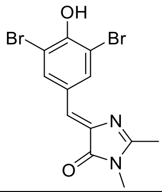
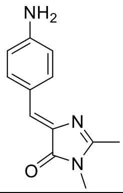
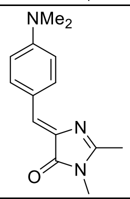
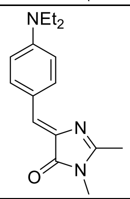
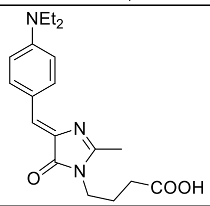
code	Structure	Abs[a]	Em[a]	Maximal emission enhancement					Synthesis
				TBA31	**TBA15**	**ON31**	**ON15**	**LTR-III**	
BO		440	485	2708	34	1240	260	54	[1]
1a (A1)[b]		426	526 (545)[c]	7.9±0.08	2.2±0.09	2.7±0.05	1.7±0.03	3.0±0.08	[2]
1b (A7)		438	532 (550)	7.4±0.08	2.0±0.08	2.7±0.12	1.7±0.08	5.2±0.06	[3]
1c (A15)		428	535 (552)	7.5±0.16	2.3±0.04	3.2±0.10	1.8±0.06	5.1±0.14	[3]
1d (A18)		427	530 (550)	9.9±0.12	2.5±0.03	3.1±0.10	2.4±0.09	3.9±0.08	[3]
1e (A22)		486	595 (616)	12.3±0.13	2.6±0.05	3.6±0.07	2.0±0.05	8.1±0.11	[3]
1f (N873)		430	548 (555)	7.9±0.17	2.0±0.09	2.5±0.03	1.5±0.09	4.2±0.10	[3]

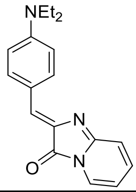
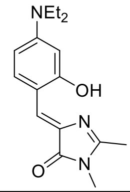
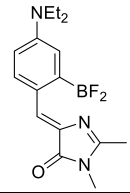
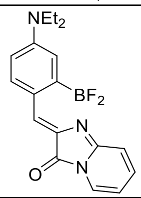
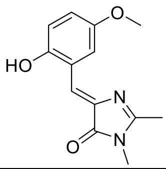
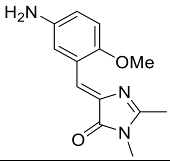
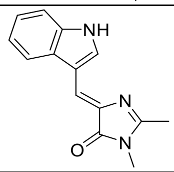
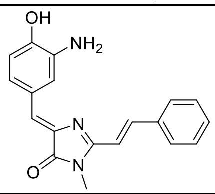
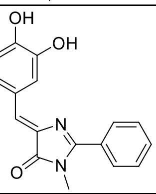
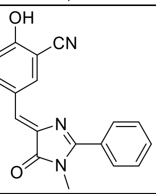
2 (M2372a)		425	590 (565)	10.1±0.16	2.4±0.02	6.2±0.12	6.1±0.10	3.4±0.13	[3]
3 (N154)		433	505 (500)	18.8±0.28	2.1±0.12	6.2±0.14	2.1±0.03	3.4±0.12	[4]
4 (N908)		449	600 (605)	16.5±0.18	3.3±0.13	6.8±0.13	2.6±0.09	14.9±0.20	[3]
5a (SA158)		377	428 (455)	12.4±0.20	3.3±0.06	3.6±0.07	1.9±0.07	2.7±0.10	[5]
5b (M1944b)		376	460 (450)	12.1±0.15	3.0±0.06	3.3±0.03	1.4±0.11	2.3±0.06	[5]
6 (M1975)		473	565 (535)	20.5±0.22	2.9±0.11	19.0±0.25	7.1±0.09	4.9±0.09	[6]
7 (ZS292)		402	495 (505)	8.2±0.09	2.0±0.10	4.6±0.13	2.1±0.03	2.9±0.05	[7]
8 (M2385b)		368	432 (473)	9.2±0.12	2.3±0.06	11.0±0.13	4.7±0.11	1.8±0.07	[5]
9 (M 2371a)		498	592	1.5	1.1	6.2	1.5	6.2	[3]
10(N 848.4)		430	570	2.0	1.4	5.7	1.6	2.7	[3]

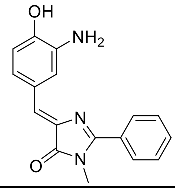
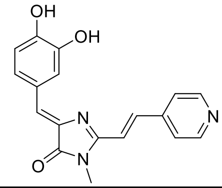
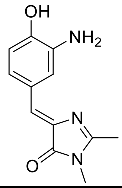
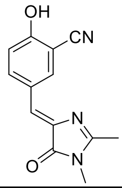
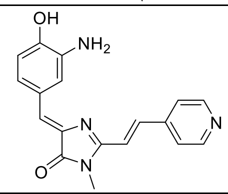
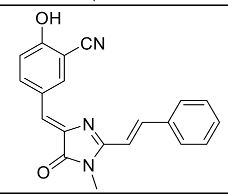
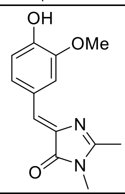
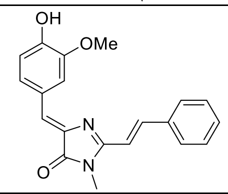
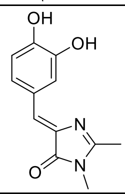
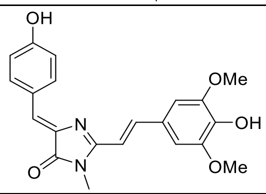
11(M 2368c)		526	620	2.6	1.5	6.1	1.6	3.7	[3]
A 2		437	548	4.7	1.6	2.9	1.7	5.3	[2]
A 4		447	575	2.3	2.3	1.9	1.3	2.8	[3]
A 8		414	520	5.7	3.4	3.1	2.4	2.2	[8]
A 9		430	545	3.4	1.3	2.3	1.6	2.8	[3]
A 11		410	560	1.2	1.2	2.0	1.7	1.5	[3]
A 12		472	550	3.8	1.2	1.9	1.1	3.1	[3]
A 16		430	540	1.8	1.4	1.7	1.9	1.8	[3]
A 19		438	563	2.1	1.3	4.3	1.3	2.6	[9]

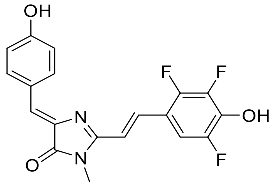
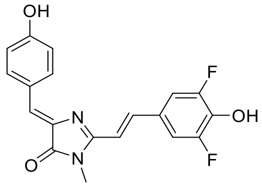
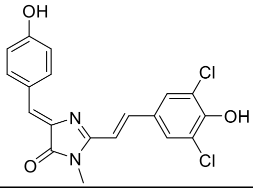
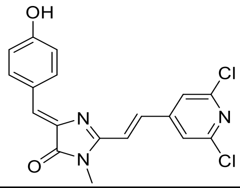
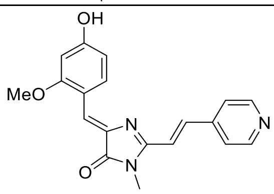
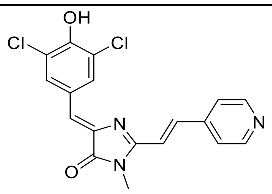
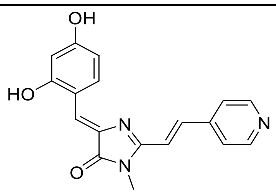
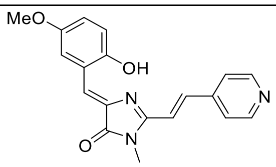
A 20		434	530	4.8	3.8	2.3	1.4	3.7	[3]
E 7		432	530	2.7	1.5	2.2	1.5	3.3	[3]
E 4		435	533	1.9	1.4	1.7	1.3	4.0	[3]
M 1971c		608	742	3.7	1.1	1.9	1.5	1.9	[10]
M 2371c		435	510	1.6	1.1	2.1	1.5	1.8	[3]
M 2371b		496	580	1.5	1.1	2.8	1.7	4.2	[3]
M 2372b		419	546	1.3	1.1	2.0	2.1	1.1	[3]
M 800		406	530	1.3	1.2	4.0	3.5	1.3	[11]
M 790		410	533	1.4	1.2	2.1	2.0	1.3	[11]

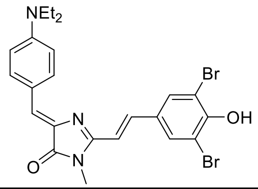
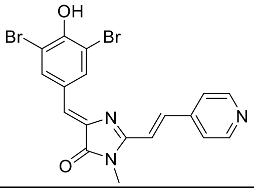
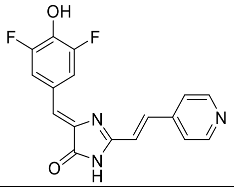
M 802		415	514	1.4	1.5	1.8	1.6	1.1	[11]
GA 01		372	460	1.5	1.2	1.9	1.4	1.1	[12]
GA 02		365	456	1.5	1.2	2.7	1.7	1.1	[12]
GA 03		390	450	1.6	1.2	2.0	1.8	1.6	[13]
GA 04		369	455	1.3	1.4	1.9	2.0	2.0	[14]
12 (GA 05)		370	456	1.3	1.2	1.9	1.7	11.1	[12]
GA 06		370	452	1.5	1.3	1.9	1.9	1.2	[12]
GA 12		370	453	1.6	1.2	1.8	1.7	1.3	[15]
GA 16		370	457	1.6	1.2	1.9	1.3	1.1	[11]

GA 18		369	458	1.6	1.2	2.0	1.5	2.0	[11]
SA 198		386	448	1.2	1.2	2.0	1.4	1.0	[7]
SA 49		392	493	1.1	1.2	1.4	1.1	0.9	[7]
M 2296		363	470	1.0	1.1	1.6	1.2	1.1	[16]
M 2227		365	–[d]	1.3	1.1	1.6	1.5	1.2	[16]
GC 05		392	487	1.5	1.2	1.7	1.2	1.1	[17]
GC 04		442	523	1.6	1.2	1.4	1.2	2.3	[17]
GC 01		453	526	1.4	1.2	3.7	1.2	1.1	[18]
GC 03		457	528	1.3	1.1	1.4	1.3	1.1	[19]

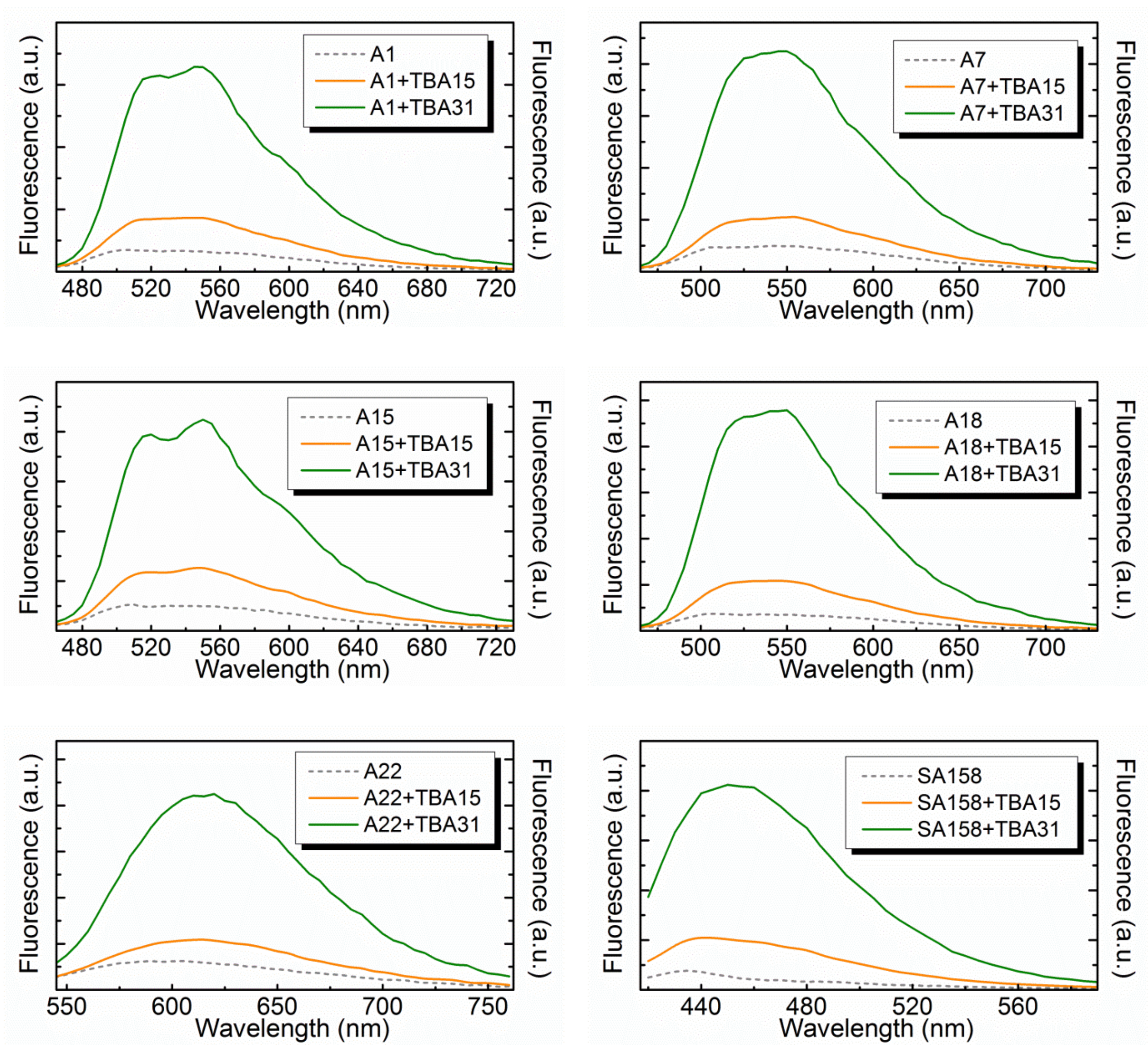
N 641		564	601	5.0	1.4	2.4	1.2	7.2	[20]
13 (M 1933)		464	515	1.8	1.2	1.4	1.2	10.7	[19]
M 739		520	563	1.1	1.1	1.3	1.0	1.3	[17]
MKA 67		603	626	1.1	1.0	-	-	1.2	[20]
M 2360		400	574	1.6	1.2	1.4	1.3	1.3	[21]
ZS 62		348	476	1.2	1.1	2.0	1.5	1.2	[3]
GC 07		404	473	1.8	1.4	1.5	1.5	1.4	[18]
ZS 289a		448	–[d]	3.7	1.9	2.3	1.8	2.7	[7]
ZS 291		401	500	2.9	1.4	2.2	1.6	1.8	[7]
ZS 295		382	475	2.1	1.4	2.1	1.3	1.5	[7]

ZS 297		412	–[d]	2.1	1.5	2.1	1.3	1.7	[7]
14 (ZS 285a)		446	575	3.5	1.3	2.4	1.5	9.5	[7]
ZS 286		388	–[d]	1.5	1.3	1.6	1.2	1.6	[7]
ZS 298		371	485	1.7	1.2	1.6	1.2	1.1	[7]
ZS 299b		450	–[d]	2.2	1.2	1.8	1.8	1.6	[7]
ZS 300a		426	535	5.7	3.7	2.7	1.7	6.2	[7]
M 2491		378	471	1.3	1.2	1.5	1.3	1.2	[7]
M 2499a		370	465	1.7	1.2	1.5	1.4	1.2	[7]
M1583.7		379	475	1.3	1.2	2.3	1.4	1.4	[7]
N 906		430	556	2.8	1.1	2.0	1.5	6.4	[3]

N 860c		461	537	2.6	1.4	1.7	1.7	4.1	[3]
N 860b		450	550	2.9	1.3	1.8	1.5	3.7	[3]
N 914		473	550	2.1	1.1	1.5	1.4	2.9	[3]
N 886		438	565	4.2	1.6	2.9	2.1	2.3	[3]
N 871b		455	570	3.7	1.6	2.5	2.7	7.1	[3]
15 (N 901)		430	–[d]	3.3	1.7	2.8	4.1	8.8	[3]
N 858		424	560	1.3	1.3	1.6	1.6	1.4	[3]
N 848.3		450	531	4.4	1.8	3.1	2.1	2.6	[3]

M 2368d		530	620	1.7	1.2	2.5	1.6	3.7	[3]
16 (N 848.1)		436	550	2.6	1.3	2.9	2.1	8.9	[3]
17 (N 863)		424	590	2.0	1.4	3.0	1.2	7.7	[3]

[a] – maxima position in nm; [b] - the designation used in Figure S1 is shown in parentheses; [c] – maximum emission positions in complex with **TBA31** is shown in brackets; [d] – weak emission.



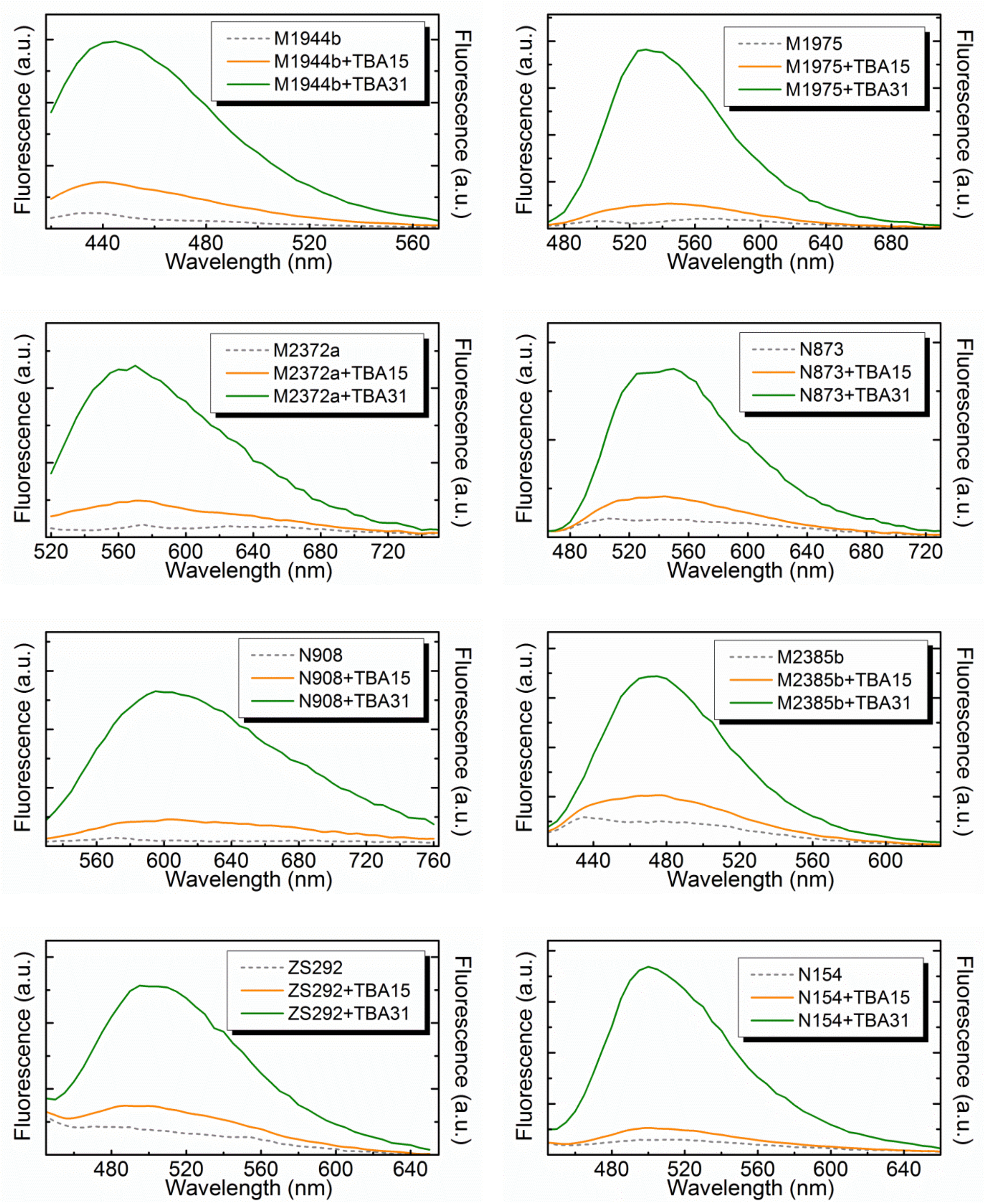


Figure S1. Fluorescence spectra of bound (in buffer) and free (in water) leader fluorophores.

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