Contents

1. Proteins purification and sequences

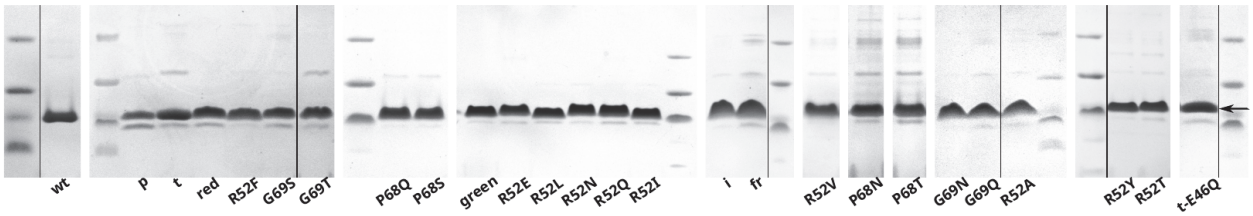


Figure S1.1. Purified nanoFAST and its mutant variants. Protein designations used are listed at **Table S1.1**. The bands corresponding to target proteins are indicated with an arrow. Black vertical separators are introduced between the lines that are not adjacent within the same gel. The full-sized raw Tris-Tricine-SDS-PAGEs for each protein line are shown at Figure S1.2. Protein molecular weight markers: 26.6 kDa, 17 kDa, 14.2 kDa, 6.5 kDa, 3.5 kDa. Molecular weight of the wild type nanoFAST (wt) is 11.9 kDa.

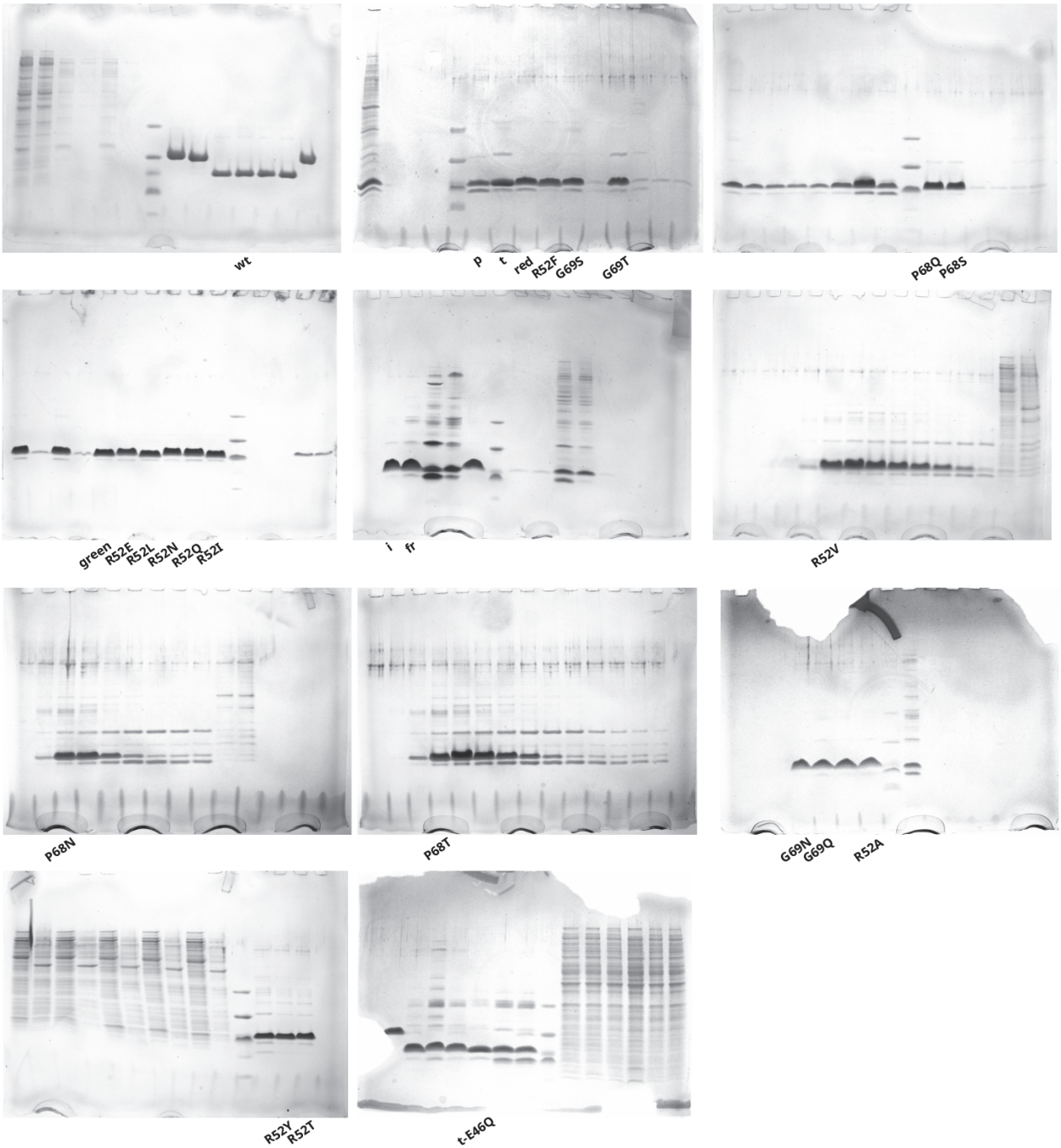


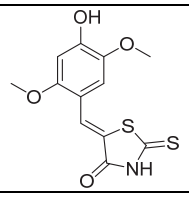
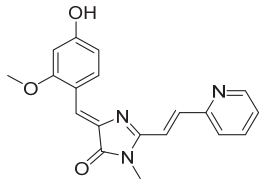
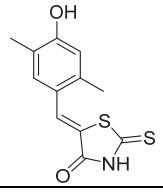
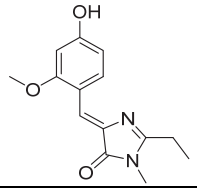
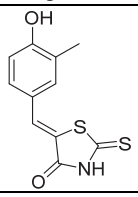
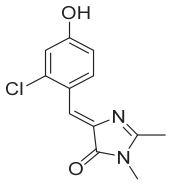
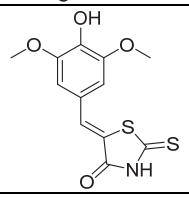
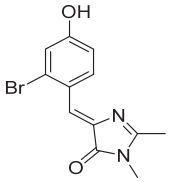
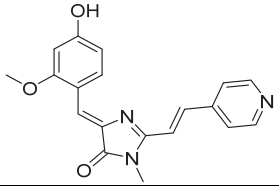
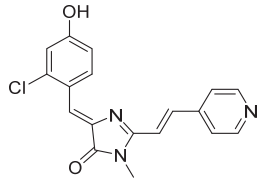
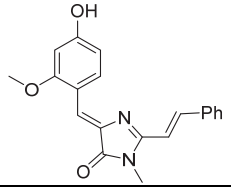
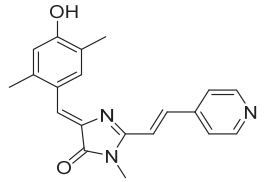
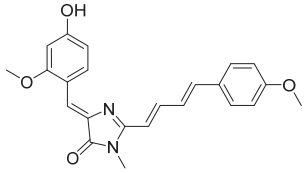
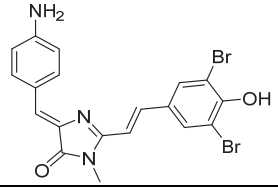
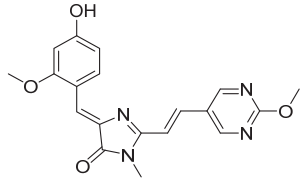
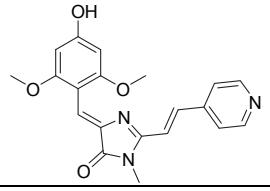
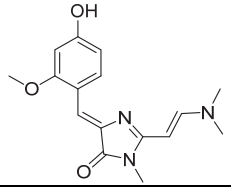
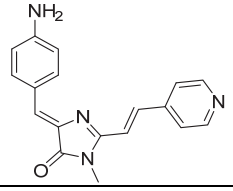
Figure S1.2. The full-sized raw Tris-Tricine-SDS-PAGEs for purified nanoFAST and its mutant variants. The protein samples shown at Fig S1.1 are signed identically (for designations and sequences see **Table S1.1)**. Protein molecular weight markers: 26.6 kDa, 17 kDa, 14.2 kDa, 6.5 kDa, 3.5 kDa. Molecular weight of the wild type nanoFAST (wt) is 11.9 kDa. The raw gels were combined with inscriptions using Inkscape 0.92 (https://www.inkscape.org).

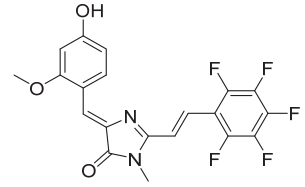
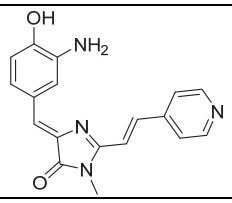
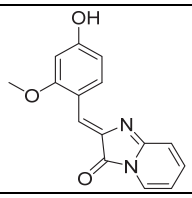
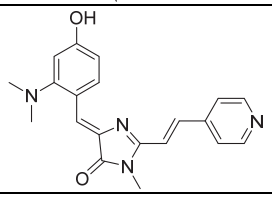
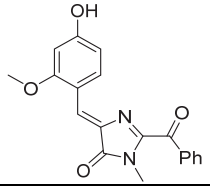
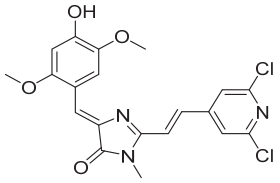
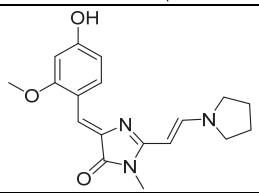
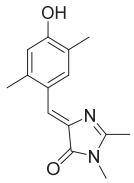
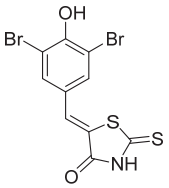
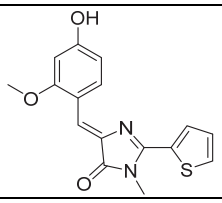
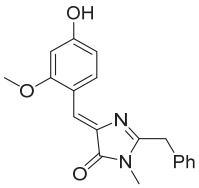
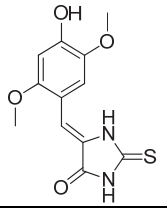
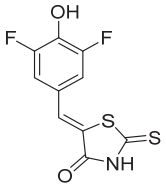
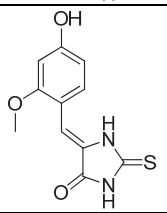
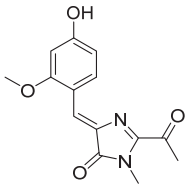
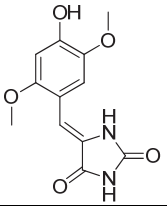
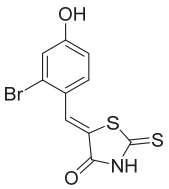
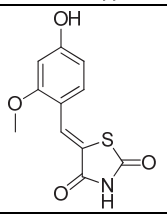
Table S1.1 Aminoacid sequences of the synthesized mutants and yields (in mg of purified protein per liter of minimal salts medium, M9). Mutated residues are shown in bold. Here and after aminoacids numbering correspond to the parent FAST (as well as PYP) protein.

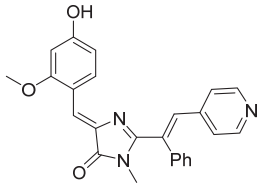
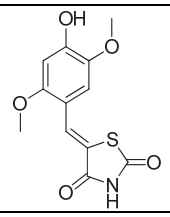
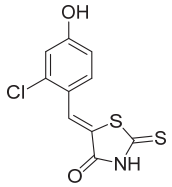
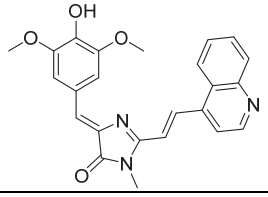
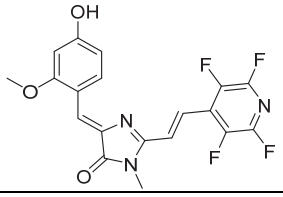
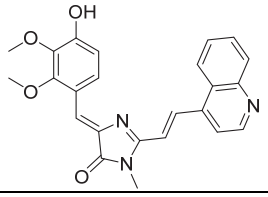
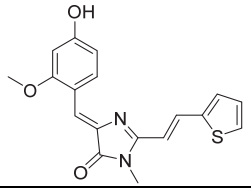
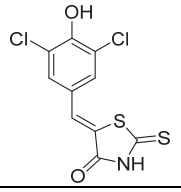
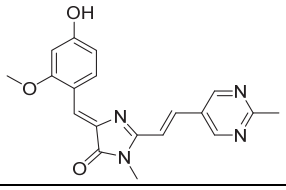
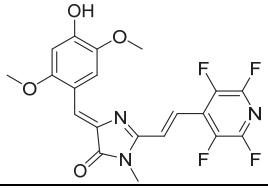
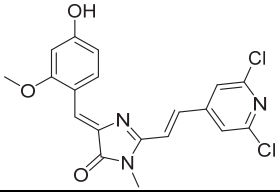
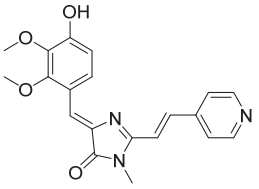
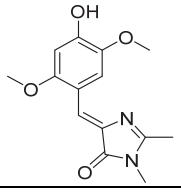
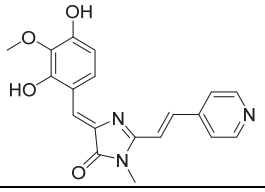
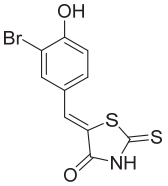
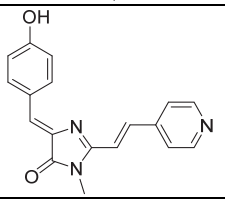
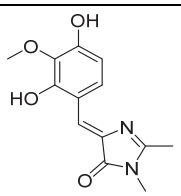
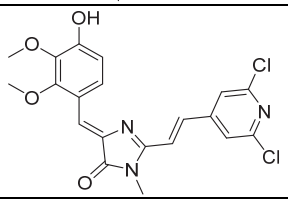
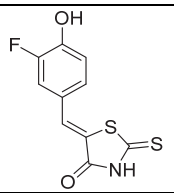
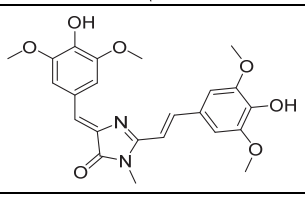
mutant	Designation (Figures S1)	Yield, mg/l M9	sequence
nanoFAST	**wt**	**~ 1.9**	(M)FGAIQLDGDGNILQYNAAEGDITGRDPKQVIGKNFFKD VAPGTDSPEFYGKFKEGVASGNLNTMFEWMIPTSRGPTKV KVHMKKALSGDSYWVFVKRV
nano-iFAST (V107I)	**i**	**~ 2.1**	(M)FGAIQLDGDGNILQYNAAEGDITGRDPKQVIGKNFFKD VAPGTDSPEFYGKFKEGVASGNLNTMFEWMIPTSRGPTKV K**I**HMKKALSGDSYWVFVKRV
nano-greenFAST (P68T, G77R)	**green**	**~ 1.6**	(M)FGAIQLDGDGNILQYNAAEGDITGRDPKQVIGKNFFKD VA**T**GTDSPEFY**R**KFKEGVASGNLNTMFEWMIPTSRGPTKV KVHMKKALSGDSYWVFVKRV
nano-redFAST (F28L E46Q)	**red**	**~ 1.5**	(M)**L**GAIQLDGDGNILQYNAA**Q**GDITGADPKQVIGKNFFKD VAPGTDSPEFYGKFKVGVASGNLNTMFEWMIPTNRGPTKV KVHMKKALSGDSYWVFVKRV
nano-frFAST (F62L, D71V, P73S, E74G, V107I)	**fr**	**~ 0.7**	(M)FGAIQLDGDGNILQYNAAEGDITGRDPKQVIGKN**L**FKD VAPGT**V**S**SG**FYGKFKEGVASGNLNTMFEWMIPTSRGPTKV K**I**HMKKALSGDSYWVFVKRV
nano-pFAST (A30V, Q41L, S72T, V83A, M95T, M109L, S117R)	**p**	**~ 0.2**	(M)FG**V**IQLDGDGNIL**L**YNAAEGDITGRDPKQVIGKNFFKD VAPGTD**T**PEFYGKFKEG**A**ASGNLNTMFEW**T**IPTSRGPTKV KVH**L**KKALSGD**R**YWVFVKRV
nano-tFAST (Q41K, S72T, A84S, M95A, M109L, S117R)	**t**	**~ 1.5**	(M)FGAIQLDGDGNIL**K**YNAAEGDITGRDPKQVIGKNFFKD VAPGTD**T**PEFYGKFKEGV**S**SGNLNTMFEW**A**IPTSRGPTKV KVH**L**KKALSGD**R**YWVFVKRV
nanoFAST-R52X (X = A, E, L, V, I, Q, N, T, Y, F)	**R52X** X = A E L V I Q N T Y F	 **~ 1.4** **~ 2.5** **~ 1.8** **~ 2.0** **~ 1.8** **~ 1.7** **~ 2.5** **~ 2.6** **~ 2.7** **~ 2.4**	(M)FGAIQLDGDGNILQYNAAEGDITG**X**DPKQVIGKNFFKD VAPGTDSPEFYGKFKEGVASGNLNTMFEWMIPTSRGPTKV KVHMKKALSGDSYWVFVKRV
nanoFAST-G69X (X = S, T, N, Q)	**G69X** X = S T N Q	 **~ 3.2** **~ 1.9** **~ 1.4** **~ 1.9**	(M)FGAIQLDGDGNILQYNAAEGDITGRDPKQVIGKNFFKD VAP**X**TDSPEFYGKFKEGVASGNLNTMFEWMIPTSRGPTKV KVHMKKALSGDSYWVFVKRV
nanoFAST-P68X (X = S, T, N, Q)	**P68X** X = S T N Q	 **~ 2.1** **~ 2.1** **~ 1.7** **~ 1.8**	(M)FGAIQLDGDGNILQYNAAEGDITGRDPKQVIGKNFFKD VA**X**GTDSPEFYGKFKEGVASGNLNTMFEWMIPTSRGPTKV KVHMKKALSGDSYWVFVKRV
nano-tFAST-E46Q (Q41K, S72T, A84S, M95A, M109L, S117R, E46Q)	**t-E46Q**	**~ 1.4**	(M)FGAIQLDGDGNIL**K**YNAA**Q**GDITGRDPKQVIGKNFFKD VAPGTD**T**PEFYGKFKEGV**S**SGNLNTMFEW**A**IPTSRGPTKV KVH**L**KKALSGD**R**YWVFVKRV

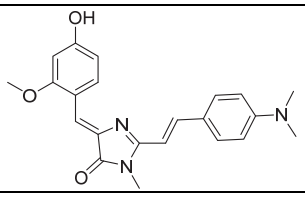
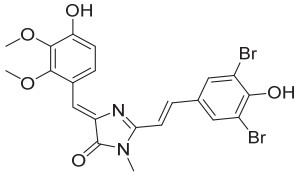
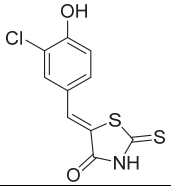
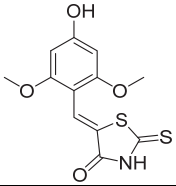
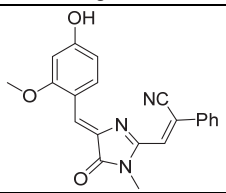
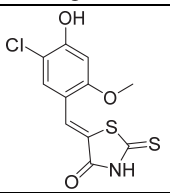
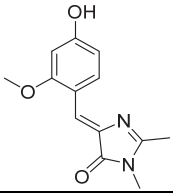
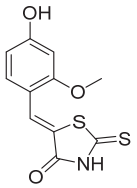
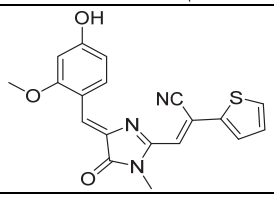
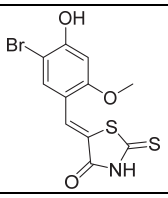
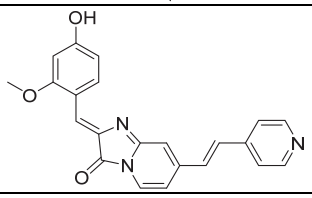
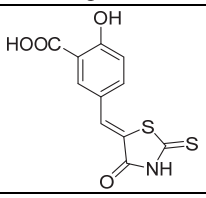
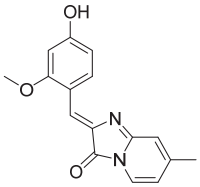
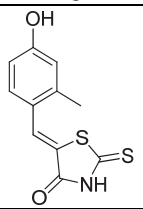
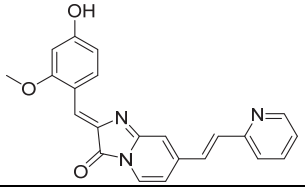
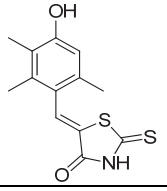
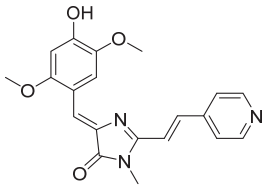
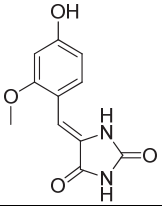
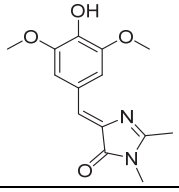
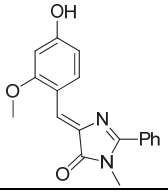
2. Screening in vitro

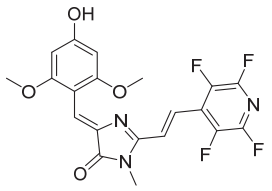
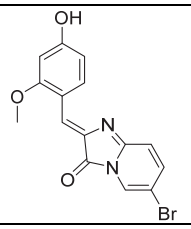
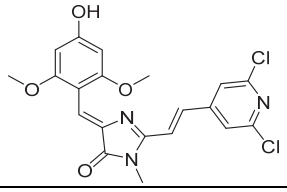
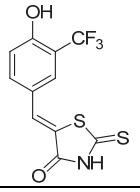
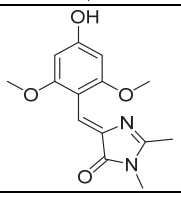
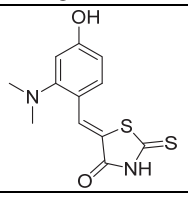
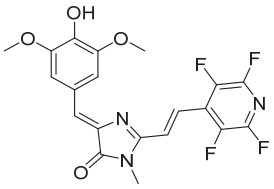
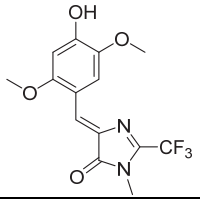
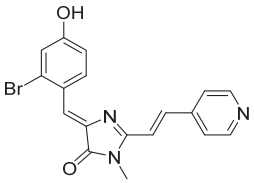
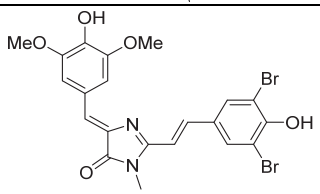
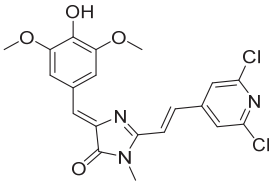
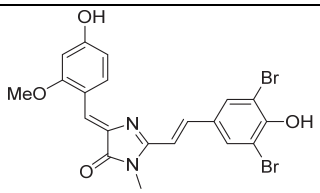
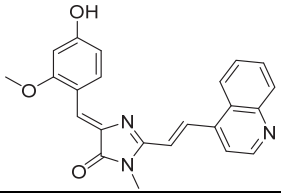
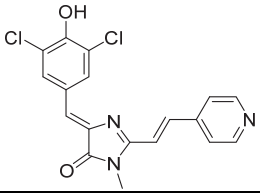
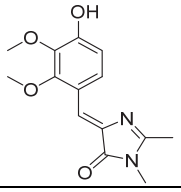
Table S2.1. Structure of chromophores and their optical properties

Cmpd	Structure	Abs[a]	Em[a]	Cmpd	Structure	Abs[a]	Em[a]
HBR-DOM2		~420	~500	**M 2766**		451	552
HBR-2,5-DM		397 [b]	~475 [b]	**ZS 362**		389	456
HMBR		400	493	**N 1179**		368	~400
HBR-DOM		406	530	**N 1180**		367	-[c]
N 871b		455	570	**N 1204**		438	550
MID 145		449	531	**N 1206**		470	-[c]
N 1052		478	575	**ZS 309**		453	583
N 1184		444	545	**ZS 316**		446	550
N 1122		436	507	**ZS 319**		413	615

N 1049		453	570	**ZS 325**		393	-[c]
N 1123		478	545	**MID 213**		460	640
N 1139		469	597	**M 2767**		488	630
N 1118		440	509	**M 2876**		380	~400
SAI 112		384[b]	445[b]	**SH 16**		432	~510
N 1135		394	460	**SAI 472**		412	~550
SAI 118		382[b]	445[b]	**SAI 499**		399	~500
N 1124		447	557	**SAI 503**		366	~500
SAI 122		386[b]	446[b]	**SAI 474**		364[b]	-[c]

N 1142		429	-[c]	**SAI 477**		384 [b]	~480 [b]
SAI 199		387 [b]	448 [b]	**N 1196**		450 [b]	604 [b]
N 967		443	600	**N 1197**		454 [b]	590 [b]
N 1039		453	545	**SAI 127**		383 [b]	448 [b]
N 1202		422	-[c]	**N 1056**		478	590
N 960b		449	596	**N 1068**		453	539
N 1036		410	520	**N 1069**		469	571
SAI 117		387 [b]	445 [b]	**A9**		430	545
N 1042		381	440	**N 1198**		463 [b]	~580 [b]
SAI 121		386 [b]	443 [b]	**N 1193**		448	565

MID 147		493	635	**N 1199**		458 [b]	~560 [b]
SAI 125		386 [b]	445 [b]	**SAI 363**		410 [b]	~470 [b]
MID 151		488	-[c]	**SAI 366**		403 [b]	~480 [b]
N 865		389	466	**SAI 362**		460 [b]	~475 [b]
MID 153		515	-[c]	**SAI 365**		403 [b]	~480 [b]
MID 343		531[d]	595[d]	**SAI 120**		390 [b]	447 [b]
M 3007a		490[d]	~550[d]	**SAI 458**		393 [b]	-[c]
MID 367		529[d]	585[d]	**SAI 459**		359 [b]	-[c]
N 1048		485	615	**SAI 487**		352	~450
N 979		383	485	**N 1131**		411	492

N 971		453	567	**MID 323**		504	555
N 973		453	576	**SAI 379**		388	~500
N 976		393	485	**SAI 367**		402 [b]	~570 [b]
N 980		468	-[c]	**M 2738d**		441	~550
N 1205		438	555	**ZS 260**		430	606
N 960a		437	-[c]	**N 871a**		483	555
ZS 331		473	600	**N 901**		430	542
N 1027		382	450				

a – maxima position in nm;
b – in acetonitrile (non soluble enough in water);
c – non fluorescent;
d – in methanol (non soluble enough in water).

Table S2.2. Results of interaction with nanoFAST

Cmpd	Enhancement			
	430	**480**	**530**	**580**
HBR-DOM2	20.5	>164.6	>265.6	3.3
HBR-2,5-DM	7.4	37.2	8.3	1.2
HMBR	2.5	5.7	1.2	1.5
HBR-DOM	1.3	2.9	6.4	2.3
N 871b	1.1	1.4	2.3	2.9
MID 145	1.2	1.4	1.9	0.9
N 1052	1.2	1.3	1.5	1.8
N 1184	1.2	1.6	2.4	1.8
N 1122	1.2	1.2	1.1	1.4
N 1049	1.1	1.2	1.4	1.8
N 1123	1.1	1.1	1.2	1.3
N 1139	1.1	1.2	2.6	5.2
N 1118	1.2	1.3	1.2	1.2
SAI 112	3.0	7.4	2.2	1.0
N 1135	1.1	1.0	1.1	1.3
SAI 118	1.7	2.0	1.2	1.0
N 1124	1.1	1.1	1.2	1.0
SAI 122	6.4	7.1	1.4	1.2
N 1142	1.1	1.1	1.2	1.1
SAI 199	7.3	7.5	1.1	0.9
N 967	1.1	1.1	1.2	1.5
N 1039	1.2	1.7	2.8	2.3
N 1202	1.2	1.5	2.5	2.5
N 960b	1.1	1.2	1.7	2.9
N 1036	1.1	1.1	1.1	1.0
SAI 117	2.2	2.3	1.2	1.0
N 1042	1.1	1.0	1.0	1.0
SAI 121	2.2	2.8	1.2	0.9
MID 147	1.5	2.2	3.4	3.2
SAI 125	3.6	6.1	1.2	0.9
MID 151	1.1	1.1	1.2	1.5
N 865	1.1	1.0	1.1	1.1
MID 153	1.1	1.1	1.2	1.4
MID 343	1.1	1.2	1.8	3.5
M 3007a	1.1	1.1	1.3	1.2
MID 367	1.1	1.1	1.2	1.6
N 1048	1.2	1.4	2.8	4.7
N 979	1.1	1.0	1.0	0.9
N 971	1.1	1.0	1.0	1.0
N 973	1.1	1.1	1.1	1.2
N 976	1.1	1.1	1.0	1.0
N 980	1.1	1.0	1.1	1.1
N 1205	1.6	2.4	3.9	3.4
N 960a	1.1	1.1	1.2	1.1

ZS 331	1.2	1.3	1.6	2.1
N 1027	1.1	1.0	1.0	1.0
M 2766	1.1	1.5	2.4	2.1
ZS 362	1.1	1.0	1.0	1.3
N 1179	1.0	1.1	1.0	1.0
N 1180	1.0	1.1	1.1	1.2
N 1204	1.3	1.9	2.7	1.8
N 1206	1.2	1.6	2.3	1.8
ZS 309	1.2	1.5	2.2	1.3
ZS 316	1.1	1.1	1.0	0.9
ZS 319	1.0	1.0	1.1	1.1
ZS 325	1.1	1.0	1.0	1.4
MID 213	1.1	1.1	1.1	1.1
M 2767	1.2	1.7	2.7	3.7
M 2876	1.1	1.0	1.0	1.3
SH 16	1.1	1.2	1.2	0.9
SAI 472	1.4	1.9	1.5	1.1
SAI 499	1.1	1.1	1.0	1.1
SAI 503	1.0	1.0	1.0	1.2
SAI 474	1.4	1.0	1.0	1.1
SAI 477	10.7	4.2	1.0	0.9
N 1196	1.0	1.0	1.0	1.0
N 1197	1.0	1.0	1.1	1.2
SAI 127	3.9	8.8	1.7	0.9
N 1056	1.0	1.0	1.2	1.5
N 1068	1.1	1.0	1.1	1.0
N 1069	1.0	1.1	1.2	1.3
A9	1.1	1.0	1.0	1.1
N 1198	1.0	1.0	1.0	0.9
N 1193	1.9	2.6	2.4	2.6
N 1199	1.1	1.3	1.7	1.2
SAI 363	5.0	11.2	1.2	1.0
SAI 366	19.8	>60.7	3.6	1.1
SAI 362	14.6	48.6	2.4	0.9
SAI 365	16.8	50.0	4.1	0.9
SAI 120	1.1	1.0	1.0	1.0
SAI 458	3.0	6.7	1.1	1.0
SAI 459	1.0	1.0	1.0	0.9
SAI 487	1.0	1.0	1.0	1.0
N 1131	1.1	1.1	1.0	1.1
MID 323	1.1	1.1	1.3	1.4
SAI 379	1.7	1.8	1.1	1.0
SAI 367	1.1	1.1	1.0	0.9
M 2738d	1.1	1.8	2.3	0.8
ZS 260	1.6	2.5	2.4	1.3
N 871a	1.4	2.2	3.0	2.3
N 901	1.0	1.1	1.3	1.4

Table S2.3. Results of interaction with nano-iFAST

Cmpd	Enhancement			
	430	**480**	**530**	**580**
HBR-DOM2	19.9	141.1	213.5	1.8
HBR-2,5-DM	15.6	83.0	20.0	0.9
HMBR	4.6	12.7	1.6	1.0
HBR-DOM	1.5	4.1	9.6	1.7
N 871b	1.1	1.3	1.7	1.7
MID 145	1.2	1.4	1.8	1.1
N 1052	1.2	1.4	1.7	1.6
N 1184	1.1	1.4	1.8	1.1
N 1122	1.2	1.3	1.1	1.2
N 1049	1.1	1.2	1.4	1.4
N 1123	1.1	1.1	1.1	1.1
N 1139	1.1	1.3	3.0	4.1
N 1118	1.2	1.3	1.2	1.1
SAI 112	4.7	13.2	2.3	0.9
N 1135	1.1	1.0	1.0	1.0
SAI 118	2.5	3.1	1.4	1.0
N 1124	1.1	1.1	1.2	1.1
SAI 122	7.1	7.9	1.4	1.2
N 1142	1.1	1.1	1.3	1.0
SAI 199	8.6	9.1	1.1	1.0
N 967	1.1	1.1	1.1	1.2
N 1039	1.2	1.5	2.3	1.6
N 1202	1.1	1.3	1.8	1.6
N 960b	1.1	1.2	1.7	2.3
N 1036	1.1	1.1	1.0	1.0
SAI 117	4.4	7.7	1.3	1.0
N 1042	1.1	1.0	1.0	1.0
SAI 121	3.4	4.3	1.2	1.1
MID 147	1.5	2.1	3.0	2.1
SAI 125	6.3	10.8	1.2	1.1
MID 151	1.1	1.1	1.2	1.2
N 865	1.1	1.0	1.1	1.1
MID 153	1.1	1.1	1.3	1.3
MID 343	1.1	1.2	2.4	3.9
M 3007a	1.1	1.1	1.3	1.1
MID 367	1.1	1.1	1.2	1.3
N 1048	1.1	1.2	1.7	1.9
N 979	1.1	1.0	0.9	1.0
N 971	1.1	1.0	1.1	1.1
N 973	1.0	1.1	1.1	1.2
N 976	1.1	1.1	1.0	1.0
N 980	1.1	1.0	1.1	1.1
N 1205	1.7	3.6	7.8	3.1
N 960a	1.1	1.1	1.1	1.0

ZS 331	1.1	1.2	1.5	1.5
N 1027	1.1	1.0	1.0	1.0
M 2766	1.1	1.3	1.9	1.6
ZS 362	1.1	1.0	1.0	0.9
N 1179	1.1	1.1	1.1	1.0
N 1180	1.1	1.0	1.1	0.9
N 1204	1.5	3.0	6.1	2.8
N 1206	1.0	1.1	1.3	1.3
ZS 309	1.2	1.8	3.1	2.3
ZS 316	1.1	1.0	1.0	1.0
ZS 319	1.0	1.0	1.0	1.1
ZS 325	1.1	1.0	1.1	1.0
MID 213	1.1	1.1	1.1	1.1
M 2767	1.1	1.2	1.4	1.7
M 2876	1.1	1.1	1.0	1.0
SH 16	1.1	1.1	1.2	1.0
SAI 472	1.2	1.0	1.0	1.0
SAI 499	1.2	1.4	1.2	1.2
SAI 503	1.0	1.0	1.0	1.1
SAI 474	1.1	1.0	1.0	0.9
SAI 477	1.3	1.0	1.0	1.0
N 1196	5.2	2.5	1.0	1.1
N 1197	1.0	1.0	1.1	1.1
SAI 127	1.1	1.0	1.1	1.1
N 1056	1.0	1.0	1.1	1.2
N 1068	1.0	1.0	1.1	1.1
N 1069	1.0	1.2	1.3	1.1
A9	1.0	1.0	1.0	1.0
N 1198	1.0	1.0	1.1	1.1
N 1193	1.7	2.4	2.4	2.6
N 1199	1.1	1.4	1.9	1.3
SAI 363	4.2	10.4	1.2	1.1
SAI 366	25.6	>79.6	4.4	1.0
SAI 362	11.5	41.3	2.4	1.0
SAI 365	25.0	>75.1	5.6	1.0
SAI 120	1.1	1.1	1.1	1.0
SAI 458	5.0	14.6	1.3	1.0
SAI 459	1.0	1.0	1.0	1.1
SAI 487	1.0	1.0	1.0	0.9
N 1131	1.1	1.1	1.1	1.0
MID 323	1.1	1.1	1.4	1.8
SAI 379	2.3	2.3	1.1	1.1
SAI 367	1.5	1.3	1.1	1.1
M 2738d	1.1	1.5	2.0	1.2
ZS 260	2.0	3.7	4.3	1.8
N 871a	1.7	3.1	4.9	2.7
N 901	1.1	1.2	1.5	1.9

Table S2.4. Results of interaction with nano-frFAST

Cmpd	Enhancement			
	430	**480**	**530**	**580**
HBR-DOM2	2.9	15.9	22.9	1.6
HBR-2,5-DM	3.0	12.8	5.4	1.2
HMBR	2.6	5.8	1.8	1.3
HBR-DOM	4.3	28.2	63.4	15.1
N 871b	1.2	1.5	2.0	2.6
MID 145	1.3	2.1	4.5	2.0
N 1052	1.7	3.4	8.3	14.1
N 1184	1.2	1.4	1.7	2.6
N 1122	1.2	1.5	1.5	1.3
N 1049	1.3	2.0	5.7	13.0
N 1123	1.2	1.2	1.4	1.6
N 1139	1.5	7.4	39.7	51.1
N 1118	1.3	1.6	2.5	2.4
SAI 112	2.7	7.0	3.5	1.6
N 1135	1.2	1.2	1.8	3.0
SAI 118	1.5	1.8	1.5	1.6
N 1124	1.4	3.7	7.2	4.6
SAI 122	2.4	2.8	1.5	1.5
N 1142	2.3	9.9	28.3	19.5
SAI 199	2.8	3.0	1.2	1.2
N 967	1.3	2.2	8.0	26.5
N 1039	1.6	3.7	8.9	7.4
N 1202	1.2	1.3	1.6	2.3
N 960b	1.2	1.9	5.9	15.9
N 1036	1.1	1.2	1.2	1.1
SAI 117	2.0	3.3	1.4	1.0
N 1042	1.2	1.1	1.2	1.3
SAI 121	1.9	2.4	1.5	1.3
MID 147	2.6	6.2	12.4	17.4
SAI 125	2.0	3.1	1.3	1.5
MID 151	1.3	1.9	5.9	12.3
N 865	1.2	1.1	1.2	1.3
MID 153	1.3	1.5	4.9	15.1
MID 343	1.2	1.5	3.5	12.1
M 3007a	1.2	1.3	1.6	2.3
MID 367	1.2	1.2	1.7	4.6
N 1048	1.5	2.7	10.2	18.8
N 979	1.2	1.2	1.2	1.6
N 971	1.2	1.3	2.6	6.7
N 973	1.3	1.4	2.1	2.9
N 976	1.2	1.1	1.2	1.3
N 980	1.1	1.1	1.4	4.6
N 1205	1.8	3.4	5.4	5.5
N 960a	1.2	1.2	2.8	18.9

ZS 331	1.4	2.5	6.5	12.3
N 1027	1.2	1.1	1.1	1.1
M 2766	1.3	1.8	2.9	4.2
ZS 362	1.2	1.1	1.2	1.2
N 1179	1.2	1.2	1.3	1.1
N 1180	1.2	1.2	1.3	1.2
N 1204	1.6	2.7	3.9	2.4
N 1206	1.2	1.5	2.2	2.2
ZS 309	2.5	6.3	9.8	2.6
ZS 316	1.2	1.2	1.2	1.3
ZS 319	1.2	1.1	1.2	1.0
ZS 325	1.2	1.2	1.5	1.5
MID 213	1.4	2.4	5.0	4.2
M 2767	1.6	2.2	12.5	42.6
M 2876	1.2	1.1	1.2	1.0
SH 16	2.0	7.2	7.1	1.2
SAI 472	1.5	2.5	1.8	0.9
SAI 499	1.2	1.1	1.1	1.1
SAI 503	1.3	1.3	1.1	1.1
SAI 474	1.3	1.1	1.1	1.0
SAI 477	3.4	1.8	1.2	1.1
N 1196	1.3	1.4	2.6	5.4
N 1197	1.2	1.2	1.2	1.2
SAI 127	2.4	5.0	2.0	1.1
N 1056	1.2	1.2	1.8	3.8
N 1068	1.2	1.1	1.2	1.1
N 1069	1.2	1.3	1.4	1.3
A9	1.2	1.2	1.2	1.1
N 1198	1.2	1.1	1.3	1.2
N 1193	2.9	5.5	21.5	31.6
N 1199	2.2	6.0	10.6	2.1
SAI 363	2.0	4.6	1.4	0.9
SAI 366	4.2	9.8	2.2	1.2
SAI 362	2.4	5.2	1.5	1.3
SAI 365	3.9	8.7	2.7	1.1
SAI 120	1.3	1.3	1.4	1.2
SAI 458	1.8	2.9	1.3	1.1
SAI 459	1.2	1.2	1.2	1.0
SAI 487	1.2	1.1	1.2	1.2
N 1131	1.9	4.4	1.7	1.1
MID 323	1.2	1.3	2.6	4.2
SAI 379	2.1	2.8	1.4	1.1
SAI 367	2.9	5.1	2.6	1.3
M 2738d	1.6	7.4	13.1	1.1
ZS 260	3.0	7.3	10.3	6.4
N 871a	3.0	7.0	8.6	2.9
N 901	1.7	2.9	4.3	4.7

Table S2.5. Results of interaction with nano-pFAST

Cmpd	Enhancement			
	430	**480**	**530**	**580**
HBR-DOM2	28.0	>206.2	>386.1	3.2
N 1036	1.5	3.7	1.5	1.1
N 1048	1.7	4.6	24.4	43.0
SAI 472	5.8	16.5	9.5	1.0
SAI 503	1.3	1.1	1.0	1.0
SAI 477	39.4	16.6	1.1	1.0
N 1056	1.1	1.1	1.7	2.7
M 2738d	1.9	18.4	37.2	1.1

Table S2.6. Results of interaction with nano-tFAST

Cmpd	Enhancement			
	430	**480**	**530**	**580**
HBR-DOM2	30.2	>235.0	>365.8	2.5
HBR-2,5-DM	27.0	>166.8	35.7	1.1
HMBR	8.4	24.4	2.1	0.9
HBR-DOM	2.1	12.9	26.6	4.0
N 871b	1.5	4.8	9.3	9.0
MID 145	1.6	4.2	6.9	1.3
N 1052	1.3	2.5	4.6	3.4
N 1184	1.4	4.5	8.8	3.0
N 1122	1.3	1.5	1.3	1.2
N 1049	1.2	1.9	3.1	1.9
N 1123	1.1	1.2	1.7	1.8
N 1139	1.1	2.0	6.2	10.6
N 1118	1.4	1.9	1.7	1.2
SAI 112	6.8	17.0	3.3	0.9
N 1135	1.1	1.1	1.2	1.3
SAI 118	4.9	5.3	1.5	0.9
N 1124	1.1	1.2	1.4	1.6
SAI 122	8.7	6.6	1.5	1.2
N 1142	1.2	1.6	2.1	1.3
SAI 199	10.8	8.0	1.1	1.1
N 967	1.0	1.3	2.1	3.0
N 1039	2.0	6.1	12.5	5.6
N 1202	1.5	4.8	9.9	7.9
N 960b	1.2	2.0	4.2	7.2
N 1036	1.1	1.3	1.1	1.1
SAI 117	7.8	10.6	1.4	0.9
N 1042	1.0	1.0	1.1	1.0
SAI 121	6.6	6.1	1.3	1.0
MID 147	2.7	8.1	13.5	8.8
SAI 125	10.4	13.0	1.3	1.1
MID 151	1.1	1.1	1.4	1.9
N 865	1.0	1.0	1.0	1.1
MID 153	1.1	1.1	1.3	1.6
MID 343	1.1	1.4	3.5	8.2
M 3007a	1.1	1.3	2.3	2.4
MID 367	1.1	1.1	1.6	2.4
N 1048	1.3	2.8	8.6	14.6
N 979	1.0	1.0	1.1	1.1
N 971	1.0	1.0	1.0	1.1
N 973	1.1	1.1	1.3	1.5
N 976	1.1	1.0	1.0	1.2
N 980	1.1	1.1	1.1	1.3
N 1205	2.6	7.4	13.4	6.7
N 960a	1.1	1.3	1.4	1.2

ZS 331	1.5	2.8	4.6	4.7
N 1027	1.0	1.0	1.1	0.9
M 2766	1.6	4.6	8.8	5.6
ZS 362	1.0	1.0	1.0	1.1
N 1179	1.1	1.1	1.1	1.2
N 1180	1.1	1.1	1.1	1.2
N 1204	2.0	5.0	9.0	4.1
N 1206	1.1	1.1	1.6	2.3
ZS 309	1.7	3.0	5.2	4.2
ZS 316	1.1	1.0	1.0	1.0
ZS 319	1.0	1.0	1.0	1.0
ZS 325	1.1	1.0	1.1	1.0
MID 213	1.1	1.2	1.5	1.7
M 2767	1.7	4.6	12.0	16.0
M 2876	1.1	1.0	1.0	1.1
SH 16	1.4	2.2	2.5	1.1
SAI 472	3.6	7.2	3.2	1.1
SAI 499	1.5	1.3	1.0	1.0
SAI 503	1.2	1.1	1.0	1.0
SAI 474	2.8	1.0	1.1	1.0
SAI 477	30.2	10.4	1.0	1.0
N 1196	1.1	1.1	1.2	1.1
N 1197	1.1	1.1	1.1	1.1
SAI 127	7.6	20.2	1.8	1.0
N 1056	1.1	1.1	1.6	2.4
N 1068	1.1	1.1	1.1	1.2
N 1069	1.0	1.3	1.3	1.0
A9	1.1	1.1	1.0	0.9
N 1198	1.1	1.1	1.1	1.1
N 1193	4.1	6.6	4.9	6.2
N 1199	1.2	1.7	2.8	2.0
SAI 363	14.4	33.7	1.4	1.1
SAI 366	23.0	>67.5	3.8	1.0
SAI 362	24.7	82.1	3.0	0.9
SAI 365	20.1	>60.3	4.6	1.0
SAI 120	1.2	1.2	1.3	1.2
SAI 458	10.9	31.0	1.7	1.0
SAI 459	1.1	1.0	1.0	0.9
SAI 487	1.0	1.0	1.0	1.1
N 1131	1.2	1.4	1.2	0.8
MID 323	1.1	1.2	2.3	4.2
SAI 379	3.3	3.1	1.1	0.9
SAI 367	2.4	2.2	1.3	1.1
M 2738d	1.4	5.6	10.2	0.9
ZS 260	2.8	6.0	6.5	2.4
N 871a	2.9	7.7	14.8	10.4
N 901	1.1	1.3	1.9	2.7

Table S2.7. Results of interaction with nano-greenFAST

Cmpd	Enhancement			
	430	480	530	580
HBR-DOM2	2.1	7.2	8.8	1.1
HBR-2,5-DM	1.7	2.5	1.4	1.0
HMBR	3.6	7.4	1.2	1.0
HBR-DOM	1.1	1.2	1.5	1.1
N 871b	1.0	1.0	1.0	1.0
MID 145	1.2	1.4	1.2	1.1
N 1052	1.2	1.8	2.4	1.9
N 1184	1.0	1.0	1.1	1.2
N 1122	1.0	1.1	1.1	1.0
N 1049	1.1	1.3	1.6	1.2
N 1123	1.0	1.0	1.1	1.1
N 1139	1.0	1.1	1.7	2.1
N 1118	1.1	1.1	1.1	1.1
SAI 112	2.2	5.2	2.9	1.0
N 1135	1.0	1.0	1.1	1.1
SAI 118	1.5	1.8	1.0	1.1
N 1124	1.0	1.0	1.0	1.1
SAI 122	1.3	1.4	1.3	1.1
N 1142	1.1	1.3	1.4	1.3
SAI 199	1.2	1.1	1.0	1.1
N 967	1.0	1.0	1.1	1.2
N 1039	1.2	1.4	1.5	1.2
N 1202	1.0	0.9	1.0	1.1
N 960b	1.0	1.1	1.2	1.3
N 1036	1.0	0.9	0.9	1.0
SAI 117	3.1	4.5	1.2	1.0
N 1042	1.0	1.0	1.0	1.1
SAI 121	1.5	1.8	1.2	1.0
MID 147	1.9	4.2	6.1	2.2
SAI 125	2.9	3.9	1.1	1.1
MID 151	1.0	0.9	1.0	1.0
N 865	1.0	1.0	1.0	1.2
MID 153	1.0	1.0	1.0	0.9
MID 343	1.1	1.2	2.2	4.3
M 3007a	1.0	1.1	1.2	0.8
MID 367	1.0	1.0	1.1	1.1
N 1048	1.0	1.0	1.1	1.1
N 979	1.0	1.0	1.0	1.2
N 971	1.0	1.0	0.9	0.9
N 973	1.0	1.0	1.1	1.1
N 976	1.0	1.0	1.0	0.8
N 980	1.0	1.0	1.1	1.1
N 1205	1.2	1.3	1.4	1.5
N 960a	1.0	1.0	1.0	1.3

ZS 331	1.1	1.3	1.4	1.3
N 1027	1.0	1.0	1.0	0.9
M 2766	1.0	1.0	1.0	1.1
ZS 362	1.0	1.0	1.0	1.0
N 1179	1.0	1.0	1.0	1.0
N 1180	1.0	1.0	1.0	1.1
N 1204	1.1	1.2	1.2	1.6
N 1206	1.0	1.1	1.1	1.3
ZS 309	1.3	1.8	2.4	2.0
ZS 316	1.0	1.0	1.0	0.8
ZS 319	1.0	0.9	0.9	0.9
ZS 325	1.0	1.0	1.0	1.1
MID 213	1.0	1.0	1.2	1.1
M 2767	1.1	1.3	1.9	2.3
M 2876	1.0	1.0	1.0	1.0
SH 16	1.1	1.0	1.1	0.9
SAI 472	1.1	1.1	1.0	1.0
SAI 499	1.0	1.0	1.0	1.0
SAI 503	1.0	1.0	1.0	1.1
SAI 474	1.0	1.0	1.0	0.9
SAI 477	1.2	1.0	1.0	1.1
N 1196	1.0	1.0	1.1	0.9
N 1197	1.0	1.0	1.0	1.1
SAI 127	1.8	3.9	2.0	0.9
N 1056	1.0	1.0	1.1	1.1
N 1068	1.0	1.0	1.1	1.1
N 1069	1.0	1.2	1.3	1.0
A9	1.0	1.0	0.9	1.1
N 1198	1.0	1.0	1.0	1.1
N 1193	3.6	6.1	2.8	2.6
N 1199	1.1	1.3	1.9	1.2
SAI 363	1.2	1.7	1.2	1.1
SAI 366	3.8	7.6	2.0	0.9
SAI 362	1.3	1.8	1.1	1.2
SAI 365	3.3	6.8	2.7	1.0
SAI 120	1.1	1.1	1.1	1.0
SAI 458	1.0	1.1	1.0	1.0
SAI 459	1.0	1.0	1.0	1.0
SAI 487	1.0	1.0	1.0	1.0
N 1131	1.0	1.0	1.0	0.9
MID 323	1.0	1.1	1.5	1.5
SAI 379	1.4	1.8	1.1	1.1
SAI 367	1.5	1.3	1.1	1.1
M 2738d	1.0	1.5	2.1	1.0
ZS 260	1.7	3.0	2.8	1.4
N 871a	1.9	3.4	3.6	1.8
N 901	1.0	1.0	1.2	1.5

Table S2.8. Results of interaction with nano-redFAST

Cmpd	Enhancement			
	430	**480**	**530**	**580**
HBR-DOM2	14.5	>151.7	>400.5	15.4
HBR-2,5-DM	14.0	>153.1	194.4	1.3
HMBR	9.1	54.8	18.3	0.9
HBR-DOM	4.4	45.0	204.5	69.3
N 871b	1.1	1.9	5.1	12.2
MID 145	1.2	2.1	4.8	1.7
N 1052	1.1	1.5	2.7	2.9
N 1184	1.1	1.7	4.7	5.2
N 1122	1.1	1.2	1.2	0.9
N 1049	1.1	1.5	3.2	3.3
N 1123	1.0	1.0	1.3	1.6
N 1139	1.0	1.2	2.7	4.5
N 1118	1.1	1.4	1.3	1.1
SAI 112	11.9	>65.1	5.1	1.0
N 1135	1.0	1.0	1.1	1.2
SAI 118	13.0	49.5	3.2	1.0
N 1124	1.0	1.0	1.2	1.7
SAI 122	11.0	36.7	1.9	1.2
N 1142	1.1	1.4	2.0	1.5
SAI 199	15.3	51.8	1.8	0.9
N 967	1.0	1.1	1.5	2.4
N 1039	1.3	2.4	7.6	7.5
N 1202	1.0	1.8	5.6	12.0
N 960b	1.0	1.1	2.0	3.8
N 1036	1.0	1.2	1.1	1.1
SAI 117	13.5	52.0	3.0	1.0
N 1042	1.0	1.0	1.0	1.0
SAI 121	9.9	38.8	2.4	0.9
MID 147	1.9	3.7	8.3	10.8
SAI 125	16.5	66.5	4.0	1.1
MID 151	1.0	1.0	1.0	1.2
N 865	1.0	1.0	1.0	1.0
MID 153	1.0	1.0	1.0	1.2
MID 343	1.0	1.0	1.7	4.1
M 3007a	1.0	1.0	1.4	1.8
MID 367	1.0	1.0	1.2	1.7
N 1048	1.1	1.4	4.6	10.7
N 979	1.0	0.9	1.0	1.4
N 971	1.0	1.0	1.0	1.1
N 973	1.0	1.0	1.1	1.2
N 976	1.0	1.0	1.0	1.0
N 980	1.0	1.0	1.1	1.1
N 1205	1.9	7.4	24.7	29.7
N 960a	1.0	1.0	1.1	1.2

ZS 331	1.1	1.3	2.1	3.7
N 1027	1.0	1.0	1.0	1.0
M 2766	1.1	2.0	5.5	9.8
ZS 362	1.0	1.0	1.0	1.1
N 1179	1.1	1.1	1.0	1.1
N 1180	1.0	1.0	1.1	1.3
N 1204	1.6	5.4	17.4	17.1
N 1206	1.0	1.0	1.6	2.8
ZS 309	1.3	1.8	3.0	2.7
ZS 316	1.0	1.0	1.0	1.0
ZS 319	1.0	0.9	1.2	1.0
ZS 325	1.0	1.0	1.0	0.9
MID 213	1.0	1.1	1.1	1.5
M 2767	1.3	2.0	3.1	7.1
M 2876	1.0	1.0	1.1	1.1
SH 16	1.1	1.9	2.6	1.2
SAI 472	1.6	3.5	2.2	0.9
SAI 499	1.1	1.2	1.0	1.1
SAI 503	1.0	1.0	1.1	0.9
SAI 474	2.4	1.0	1.1	1.1
SAI 477	16.7	11.5	3.9	3.4
N 1196	1.0	1.0	1.0	0.9
N 1197	1.0	1.0	1.1	1.0
SAI 127	13.6	>69.8	3.9	1.2
N 1056	1.0	1.0	1.3	1.9
N 1068	1.0	1.0	1.0	0.9
N 1069	1.0	1.1	1.0	1.0
A9	1.0	1.0	1.0	1.0
N 1198	1.0	1.0	1.0	1.0
N 1193	1.6	2.2	2.4	2.9
N 1199	1.1	1.5	2.7	2.3
SAI 363	7.7	35.4	5.3	2.1
SAI 366	19.2	>89.0	7.4	3.3
SAI 362	15.8	>105.4	6.9	2.1
SAI 365	18.3	>86.8	3.7	2.0
SAI 120	1.1	1.1	1.2	1.0
SAI 458	5.7	28.7	8.1	1.5
SAI 459	1.0	1.0	1.1	1.2
SAI 487	1.0	1.0	1.1	1.1
N 1131	1.0	1.3	1.1	1.0
MID 323	1.0	1.1	1.6	2.4
SAI 379	7.1	13.1	1.2	1.0
SAI 367	1.3	1.4	1.4	0.9
M 2738d	1.1	3.2	5.7	1.0
ZS 260	1.5	2.4	2.9	2.0
N 871a	1.8	3.3	6.9	10.4
N 901	2.5	8.4	20.8	26.3

Table S2.9. Results of interaction with nanoFAST-R52F

Cmpd	Enhancement			
	430	**480**	**530**	**580**
HBR-DOM2	4.0	27.4	59.3	1.5
HBR-2,5-DM	1.1	1.5	1.2	0.9
HMBR	1.1	1.3	1.1	1.0
HBR-DOM	1.0	1.1	1.3	1.2
N 871b	1.0	1.1	1.3	1.2
MID 145	1.2	1.3	1.2	1.1
N 1052	1.1	1.4	1.7	1.2
N 1184	1.0	1.1	1.2	1.1
N 1122	1.1	1.2	1.2	1.2
N 1049	1.1	1.3	1.4	1.1
N 1123	1.0	1.0	1.0	1.1
N 1139	1.0	1.1	1.7	2.3
N 1118	1.1	1.3	1.1	1.0
SAI 112	1.3	1.9	1.5	1.0
N 1135	1.0	1.0	1.1	1.2
SAI 118	0.9	1.0	1.0	1.1
N 1124	1.0	1.0	1.0	1.2
SAI 122	3.9	4.3	1.2	1.0
N 1142	1.1	1.2	1.3	1.0
SAI 199	5.2	5.8	1.0	1.0
N 967	1.0	1.0	1.4	1.7
N 1039	1.1	1.3	1.4	1.2
N 1202	1.0	1.0	1.2	1.1
N 960b	1.0	1.1	1.5	1.7
N 1036	1.0	1.0	1.1	1.1
SAI 117	1.1	1.3	1.1	1.0
N 1042	1.0	1.0	1.0	1.0
SAI 121	1.0	1.1	1.1	0.9
MID 147	1.6	2.8	3.8	1.9
SAI 125	1.1	1.2	1.1	0.9
MID 151	1.0	0.9	1.0	1.0
N 865	1.0	1.0	1.0	1.0
MID 153	1.0	0.9	0.9	0.9
MID 343	1.0	1.0	1.3	1.4
M 3007a	1.0	1.0	1.1	1.0
MID 367	1.0	1.0	1.1	1.1
N 1048	1.0	1.1	1.0	0.8
N 979	1.0	0.9	1.0	1.0
N 971	1.0	1.0	0.9	0.9
N 973	1.0	1.1	1.1	1.0
N 976	1.0	1.0	1.0	1.1
N 980	1.0	1.0	1.0	0.9
N 1205	1.3	1.5	1.8	1.5
N 960a	1.0	1.1	1.2	1.1

ZS 331	1.1	1.1	1.2	1.1
N 1027	1.0	1.0	1.0	1.0
M 2766	1.0	1.1	1.2	1.1
ZS 362	1.0	1.0	1.0	1.0
N 1179	1.0	1.0	1.1	1.0
N 1180	1.0	1.0	1.1	0.9
N 1204	1.1	1.3	1.5	1.5
N 1206	1.0	1.0	1.0	0.9
ZS 309	1.2	1.4	1.9	1.7
ZS 316	1.0	1.0	1.0	1.2
ZS 319	1.0	1.0	1.0	0.8
ZS 325	1.0	1.0	1.0	1.2
MID 213	1.0	1.0	1.1	1.0
M 2767	1.2	1.8	2.8	3.8
M 2876	1.0	1.0	1.0	0.9
SH 16	1.0	1.0	1.0	1.0
SAI 472	1.1	1.2	1.1	0.9
SAI 499	1.0	1.0	1.0	1.2
SAI 503	1.0	1.0	1.0	0.8
SAI 474	1.0	1.0	1.0	1.2
SAI 477	1.3	1.2	1.0	1.1
N 1196	1.0	1.0	1.0	1.2
N 1197	1.0	1.0	1.0	1.3
SAI 127	1.1	1.6	1.2	1.1
N 1056	1.0	1.0	1.1	1.2
N 1068	1.0	1.0	1.1	1.0
N 1069	1.0	1.0	1.1	1.1
A9	1.0	1.0	1.0	1.0
N 1198	1.0	1.0	1.0	1.0
N 1193	1.4	1.8	2.0	2.3
N 1199	1.0	1.1	1.4	1.3
SAI 363	1.4	2.5	1.1	1.0
SAI 366	3.7	10.0	2.4	1.0
SAI 362	3.7	11.2	1.3	1.0
SAI 365	3.5	9.3	3.1	0.8
SAI 120	1.1	1.1	1.2	1.2
SAI 458	1.3	2.0	1.1	1.0
SAI 459	1.0	1.0	1.0	1.0
SAI 487	1.0	1.0	1.0	1.0
N 1131	1.0	1.0	1.0	0.9
MID 323	1.0	1.0	1.2	1.7
SAI 379	0.9	1.1	1.0	1.1
SAI 367	1.5	1.2	1.1	1.0
M 2738d	1.0	1.2	1.6	0.9
ZS 260	1.4	2.1	2.1	1.3
N 871a	1.4	2.2	2.5	1.8
N 901	1.0	1.0	1.1	1.3

Table S2.10. Results of interaction with nanoFAST-R52E

Cmpd	Enhancement			
	430	**480**	**530**	**580**
HBR-DOM2	4.4	34.3	90.2	1.6
HBR-2,5-DM	1.2	2.0	1.3	1.0
HMBR	1.1	1.1	1.0	1.3
HBR-DOM	1.1	1.1	1.3	0.9
N 871b	1.0	1.0	1.0	1.1
MID 145	1.2	1.3	1.2	1.0
N 1052	1.1	1.4	1.6	1.4
N 1184	1.0	1.0	1.0	1.0
N 1122	1.1	1.2	1.1	1.1
N 1049	1.1	1.3	1.4	1.1
N 1123	1.0	1.0	1.0	1.0
N 1139	1.0	1.1	1.6	1.8
N 1118	1.1	1.2	1.2	1.4
SAI 112	1.3	1.9	1.3	1.1
N 1135	1.0	1.0	1.0	0.9
SAI 118	1.0	1.0	1.0	1.0
N 1124	1.0	1.0	0.9	1.1
SAI 122	1.9	2.1	1.1	1.0
N 1142	1.1	1.2	1.3	1.1
SAI 199	1.8	1.9	1.0	1.1
N 967	1.0	1.0	1.0	1.1
N 1039	1.2	1.3	1.3	1.2
N 1202	1.0	1.0	1.0	1.0
N 960b	1.0	1.1	1.2	1.3
N 1036	1.0	1.0	1.0	0.9
SAI 117	1.1	1.2	1.1	1.1
N 1042	1.0	1.0	1.0	1.0
SAI 121	1.0	1.1	1.1	1.1
MID 147	1.6	3.1	4.4	2.2
SAI 125	1.0	1.1	1.1	1.1
MID 151	1.0	1.0	1.0	1.0
N 865	1.0	1.0	1.0	0.9
MID 153	1.0	1.0	1.0	1.0
MID 343	1.0	1.1	1.6	2.3
M 3007a	1.0	1.0	1.1	1.0
MID 367	1.0	1.0	1.1	1.1
N 1048	1.1	1.1	1.3	1.4
N 979	1.0	1.0	1.0	1.1
N 971	1.0	1.0	1.0	1.0
N 973	1.0	1.0	1.1	1.1
N 976	1.0	1.0	1.0	0.9
N 980	1.0	1.0	1.1	0.9
N 1205	1.5	1.5	1.5	1.4
N 960a	1.0	1.0	1.1	1.0

ZS 331	1.1	1.3	1.4	1.3
N 1027	1.0	1.0	1.0	0.9
M 2766	1.0	1.1	1.1	1.0
ZS 362	1.0	1.0	1.0	0.9
N 1179	1.0	1.0	1.0	1.0
N 1180	1.0	1.0	1.0	0.8
N 1204	1.3	1.4	1.2	1.4
N 1206	1.0	1.0	1.0	1.0
ZS 309	1.1	1.3	1.6	1.2
ZS 316	1.0	1.0	1.0	1.0
ZS 319	1.0	1.0	1.0	1.0
ZS 325	1.0	1.0	1.0	1.0
MID 213	1.0	1.0	1.1	0.9
M 2767	1.3	2.6	4.7	4.1
M 2876	1.0	1.0	1.0	1.0
SH 16	1.0	1.0	1.0	0.9
SAI 472	1.1	1.2	1.2	1.1
SAI 499	1.0	1.0	1.0	1.1
SAI 503	1.0	1.0	1.0	1.1
SAI 474	1.0	1.0	1.0	0.9
SAI 477	1.7	1.5	1.0	0.9
N 1196	1.0	1.0	1.0	1.0
N 1197	1.0	1.0	1.0	0.9
SAI 127	1.1	1.5	1.1	0.9
N 1056	1.0	1.0	1.1	1.2
N 1068	1.0	1.0	1.0	1.0
N 1069	1.0	1.0	1.1	1.1
A9	1.0	1.0	1.0	0.9
N 1198	1.0	1.0	1.0	0.9
N 1193	1.4	1.9	1.8	2.0
N 1199	1.1	1.1	1.3	1.1
SAI 363	2.5	5.1	1.1	1.1
SAI 366	6.5	15.9	2.3	1.1
SAI 362	1.6	2.9	1.1	1.1
SAI 365	5.4	13.2	2.6	0.9
SAI 120	1.0	1.1	1.1	1.1
SAI 458	1.1	1.1	1.0	1.1
SAI 459	1.0	1.0	1.0	0.8
SAI 487	1.0	1.0	1.0	1.0
N 1131	1.0	1.0	1.0	1.4
MID 323	1.0	1.1	1.2	1.4
SAI 379	1.0	1.1	1.0	1.1
SAI 367	1.2	1.1	1.0	0.9
M 2738d	1.0	1.2	1.4	1.0
ZS 260	1.3	1.9	1.9	1.2
N 871a	1.3	2.0	2.1	1.3
N 901	1.0	0.9	1.0	1.2

Table S2.11. Results of interaction with nanoFAST-R52L

Cmpd	Enhancement			
	430	480	530	580
HBR-DOM2	3.9	26.8	77.6	1.4
HBR-2,5-DM	1.2	2.1	1.3	1.4
HMBR	1.2	1.5	1.0	0.6
HBR-DOM	1.0	1.1	1.4	1.7
N 871b	1.0	1.1	1.6	1.9
MID 145	1.1	1.3	1.4	1.0
N 1052	1.1	1.4	1.7	1.3
N 1184	1.0	1.2	1.5	1.4
N 1122	1.1	1.2	1.1	1.8
N 1049	1.0	1.2	1.6	1.8
N 1123	1.0	1.0	1.1	1.3
N 1139	1.0	1.1	1.7	2.4
N 1118	1.1	1.2	1.2	1.1
SAI 112	1.2	1.8	1.4	1.2
N 1135	1.0	1.0	1.1	1.2
SAI 118	1.0	1.1	1.0	1.0
N 1124	1.0	1.0	1.1	1.3
SAI 122	4.1	5.0	1.2	1.3
N 1142	1.1	1.3	1.5	1.2
SAI 199	4.5	5.4	1.0	0.7
N 967	1.0	1.0	1.2	1.6
N 1039	1.1	1.3	1.7	1.9
N 1202	1.0	1.1	1.6	1.8
N 960b	1.0	1.1	1.5	1.8
N 1036	1.0	1.0	1.0	1.1
SAI 117	1.1	1.4	1.1	0.7
N 1042	1.0	0.9	1.0	1.0
SAI 121	1.1	1.2	1.1	0.8
MID 147	1.6	3.1	4.4	2.5
SAI 125	1.1	1.4	1.0	0.6
MID 151	1.0	1.0	1.0	1.2
N 865	1.0	1.0	1.0	1.3
MID 153	1.0	0.9	0.9	1.1
MID 343	1.0	1.1	1.6	3.7
M 3007a	1.0	1.0	1.2	1.1
MID 367	1.0	1.0	1.2	1.2
N 1048	1.0	1.1	1.3	1.6
N 979	1.0	1.0	1.0	0.9
N 971	1.0	1.0	1.0	0.9
N 973	1.0	1.0	1.1	0.7
N 976	1.0	1.0	1.0	1.2
N 980	1.0	1.0	1.0	0.8
N 1205	1.3	1.6	2.3	1.7
N 960a	1.0	1.1	1.1	1.2

ZS 331	1.1	1.2	1.4	1.5
N 1027	1.0	1.0	1.0	0.8
M 2766	1.0	1.2	1.5	1.5
ZS 362	1.0	1.0	1.0	0.8
N 1179	1.0	1.0	1.0	0.9
N 1180	1.0	1.0	1.0	1.1
N 1204	1.3	1.6	2.0	1.8
N 1206	1.0	1.0	1.0	0.9
ZS 309	1.1	1.3	1.7	1.6
ZS 316	1.0	1.0	1.0	1.0
ZS 319	1.0	1.0	1.0	1.0
ZS 325	1.0	1.0	1.0	1.3
MID 213	1.0	1.0	1.1	1.1
M 2767	1.2	2.0	3.7	3.8
M 2876	1.0	1.0	1.0	1.0
SH 16	1.0	1.1	1.2	0.9
SAI 472	1.1	1.2	1.1	1.0
SAI 499	1.2	1.1	1.0	0.8
SAI 503	1.0	1.0	1.0	1.0
SAI 474	1.1	1.0	1.0	1.0
SAI 477	1.8	1.5	1.0	1.3
N 1196	1.0	1.0	1.0	0.9
N 1197	1.1	1.0	1.0	1.2
SAI 127	1.2	1.8	1.3	0.8
N 1056	1.0	1.0	1.1	1.0
N 1068	1.0	1.0	1.1	1.2
N 1069	1.0	1.0	1.1	1.0
A9	1.0	1.0	1.0	0.9
N 1198	1.0	1.0	1.0	1.1
N 1193	1.7	2.3	2.2	2.5
N 1199	1.1	1.2	1.4	1.0
SAI 363	6.2	16.2	1.4	0.9
SAI 366	8.3	22.9	3.3	1.1
SAI 362	7.4	22.7	1.8	0.9
SAI 365	6.4	17.6	3.4	1.2
SAI 120	1.1	1.1	1.2	0.9
SAI 458	1.5	2.7	1.0	0.8
SAI 459	1.0	1.0	1.0	1.0
SAI 487	1.0	1.0	1.0	0.9
N 1131	1.0	1.0	1.0	1.0
MID 323	1.0	1.1	1.3	1.8
SAI 379	0.9	1.0	1.0	0.9
SAI 367	1.3	1.2	1.1	0.9
M 2738d	1.1	2.2	3.3	1.3
ZS 260	1.4	2.1	2.2	1.3
N 871a	1.3	1.9	2.1	1.5
N 901	1.0	1.0	1.1	1.2

Table S2.12. Results of interaction with nanoFAST-R52N

Cmpd	Enhancement			
	430	480	530	580
HBR-DOM2	9.4	60.8	95.9	2.0
HBR-2,5-DM	1.5	3.2	1.8	1.2
HMBR	1.5	1.6	1.1	0.9
HBR-DOM	1.0	1.3	2.0	1.6
N 871b	1.2	2.0	3.7	3.8
MID 145	1.2	1.8	2.6	1.3
N 1052	1.2	1.7	2.5	1.8
N 1184	1.2	1.9	3.3	1.6
N 1122	1.1	1.2	1.2	1.1
N 1049	1.1	1.5	2.2	1.5
N 1123	1.0	0.9	0.9	0.7
N 1139	1.0	1.2	2.1	3.5
N 1118	1.1	1.4	1.4	1.1
SAI 112	1.4	2.6	1.4	1.1
N 1135	1.0	1.0	1.0	1.1
SAI 118	1.2	1.5	1.1	1.3
N 1124	1.0	1.0	1.0	1.2
SAI 122	5.8	5.3	1.2	1.3
N 1142	1.1	1.2	1.3	1.1
SAI 199	8.1	7.4	1.0	1.2
N 967	1.1	1.2	1.6	2.0
N 1039	1.3	2.1	3.8	2.2
N 1202	1.2	2.0	3.7	2.9
N 960b	1.1	1.3	2.2	3.3
N 1036	1.0	1.0	1.0	1.3
SAI 117	1.3	1.8	1.1	1.3
N 1042	1.0	1.0	1.0	1.1
SAI 121	1.4	1.5	1.1	1.1
MID 147	1.8	3.8	6.3	4.8
SAI 125	1.3	1.8	1.1	1.1
MID 151	1.0	1.0	1.1	1.2
N 865	1.0	1.0	1.0	1.0
MID 153	1.0	1.0	1.0	1.0
MID 343	1.0	1.1	1.9	4.0
M 3007a	1.0	1.0	1.2	1.1
MID 367	1.0	1.0	1.2	1.8
N 1048	1.1	1.2	1.6	1.8
N 979	1.0	1.0	1.0	1.0
N 971	1.0	1.0	1.0	0.9
N 973	1.0	1.1	1.1	1.4
N 976	1.0	1.0	1.0	0.9
N 980	1.0	1.0	1.1	0.9
N 1205	1.9	3.9	6.7	3.4
N 960a	1.0	1.1	1.2	1.6

ZS 331	1.1	1.4	1.9	2.4
N 1027	1.0	1.0	1.0	0.7
M 2766	1.2	2.2	3.7	2.7
ZS 362	1.0	1.0	1.0	1.1
N 1179	1.0	1.0	1.0	1.7
N 1180	1.0	1.0	1.0	1.1
N 1204	1.4	2.4	3.7	2.0
N 1206	1.0	1.0	1.0	0.8
ZS 309	1.1	1.3	1.7	2.2
ZS 316	1.0	0.9	0.9	0.9
ZS 319	1.0	1.0	0.9	1.2
ZS 325	1.0	1.0	1.0	1.0
MID 213	1.0	1.0	1.1	1.1
M 2767	1.2	2.1	4.4	5.5
M 2876	1.0	1.0	1.0	0.9
SH 16	1.1	1.1	1.2	0.6
SAI 472	1.1	1.3	1.1	0.8
SAI 499	1.0	1.0	1.0	0.6
SAI 503	1.0	1.0	1.0	1.0
SAI 474	1.1	1.0	1.0	1.0
SAI 477	2.1	1.4	1.0	0.9
N 1196	1.0	1.0	1.1	1.4
N 1197	1.0	1.0	1.0	1.9
SAI 127	1.2	2.0	1.2	1.2
N 1056	1.0	1.0	1.1	1.8
N 1068	1.0	1.0	1.1	1.1
N 1069	1.0	1.0	1.1	1.1
A9	1.0	1.0	1.0	0.8
N 1198	1.0	1.0	1.0	0.9
N 1193	1.7	2.2	1.9	2.5
N 1199	1.1	1.2	1.5	1.3
SAI 363	2.0	3.4	1.1	1.5
SAI 366	6.3	15.3	2.4	1.2
SAI 362	9.1	23.0	1.6	1.1
SAI 365	4.9	11.7	2.7	1.0
SAI 120	1.0	1.1	1.1	1.3
SAI 458	2.3	3.8	1.1	1.3
SAI 459	1.0	1.0	1.0	0.8
SAI 487	1.0	1.0	1.0	0.7
N 1131	1.0	1.0	1.0	1.2
MID 323	1.0	1.1	1.2	2.4
SAI 379	1.0	1.2	1.0	0.8
SAI 367	1.2	1.1	1.1	1.3
M 2738d	1.0	1.4	1.8	1.1
ZS 260	1.4	2.1	2.0	1.1
N 871a	1.7	3.2	4.4	3.7
N 901	0.9	0.8	0.9	1.2

Table S2.13. Results of interaction with nanoFAST-R52Q

Cmpd	Enhancement			
	430	**480**	**530**	**580**
HBR-DOM2	10.0	86.3	222.0	2.9
HBR-2,5-DM	1.6	3.8	1.7	1.2
HMBR	1.2	1.5	1.1	1.2
HBR-DOM	1.0	1.2	1.8	1.1
N 871b	1.0	1.2	1.6	1.5
MID 145	1.0	1.0	1.3	0.9
N 1052	1.0	1.1	1.2	1.3
N 1184	1.0	1.2	1.5	1.1
N 1122	1.0	1.2	1.1	0.8
N 1049	1.0	1.1	1.2	1.2
N 1123	1.0	1.0	1.1	1.1
N 1139	1.0	1.1	1.8	2.5
N 1118	1.1	1.2	1.2	0.9
SAI 112	1.5	2.4	1.5	1.0
N 1135	1.0	1.0	1.1	0.9
SAI 118	1.1	1.2	1.1	1.0
N 1124	1.0	1.0	1.1	1.2
SAI 122	3.4	4.4	1.2	1.3
N 1142	1.0	1.1	1.1	1.3
SAI 199	4.5	5.3	1.1	0.9
N 967	1.0	1.1	1.4	1.8
N 1039	1.0	1.2	1.6	1.3
N 1202	1.0	1.2	1.6	1.5
N 960b	1.0	1.1	1.4	1.9
N 1036	1.0	1.0	1.1	1.6
SAI 117	1.2	1.5	1.1	1.0
N 1042	1.0	1.0	1.0	1.0
SAI 121	1.1	1.3	1.1	1.0
MID 147	1.2	1.6	2.4	2.4
SAI 125	1.3	1.6	1.1	1.0
MID 151	1.0	1.1	1.2	1.4
N 865	1.0	1.0	1.0	1.0
MID 153	1.0	1.0	1.1	1.2
MID 343	1.0	1.1	1.6	3.3
M 3007a	1.0	1.0	1.1	1.0
MID 367	1.0	1.0	1.2	1.4
N 1048	1.0	1.3	2.3	3.7
N 979	1.0	1.0	1.0	1.0
N 971	1.0	1.0	1.0	1.0
N 973	1.0	1.1	1.1	1.3
N 976	1.0	1.0	1.0	1.4
N 980	1.0	1.0	1.0	0.9
N 1205	1.4	1.8	2.6	2.1
N 960a	1.0	1.1	1.2	1.3

ZS 331	1.1	1.2	1.5	1.8
N 1027	1.0	1.0	1.0	0.8
M 2766	1.0	1.2	1.6	1.6
ZS 362	1.0	1.0	1.0	0.8
N 1179	1.0	1.0	1.0	1.1
N 1180	1.0	1.0	1.1	1.3
N 1204	1.2	1.6	1.9	1.6
N 1206	1.0	1.0	1.1	1.0
ZS 309	1.2	1.5	1.9	1.9
ZS 316	1.0	1.0	1.0	1.0
ZS 319	1.0	1.0	1.0	1.0
ZS 325	1.0	1.0	1.1	1.0
MID 213	1.0	1.1	1.2	1.0
M 2767	1.3	2.5	4.5	5.4
M 2876	1.0	1.0	1.0	1.0
SH 16	1.1	1.1	1.1	1.0
SAI 472	1.2	1.5	1.3	1.2
SAI 499	1.1	1.1	1.0	0.9
SAI 503	1.0	1.0	1.0	0.9
SAI 474	1.0	1.0	1.0	1.4
SAI 477	3.7	2.5	1.1	1.1
N 1196	1.0	1.0	1.1	1.0
N 1197	1.0	1.0	1.1	1.2
SAI 127	1.3	2.0	1.2	0.8
N 1056	1.0	1.0	1.1	1.2
N 1068	1.0	1.0	1.0	1.0
N 1069	1.0	1.1	1.3	0.9
A9	1.0	1.0	1.0	1.1
N 1198	1.0	1.0	1.1	1.1
N 1193	1.6	2.1	2.5	2.7
N 1199	1.0	1.1	1.3	1.3
SAI 363	6.8	14.8	1.1	1.3
SAI 366	11.4	30.1	2.4	1.0
SAI 362	3.7	9.9	1.3	0.7
SAI 365	9.3	24.1	2.6	1.3
SAI 120	1.0	1.1	1.1	0.9
SAI 458	1.3	1.9	1.0	0.9
SAI 459	1.0	1.0	1.0	1.2
SAI 487	1.0	1.0	1.0	0.9
N 1131	1.0	1.0	1.0	1.1
MID 323	1.0	1.1	1.3	1.8
SAI 379	1.0	1.2	1.1	0.9
SAI 367	1.2	1.1	1.0	1.0
M 2738d	1.0	1.5	2.0	1.3
ZS 260	1.5	2.1	2.0	1.3
N 871a	1.4	2.2	2.6	1.7
N 901	1.0	1.0	1.2	1.5

Table S2.14. Results of interaction with nanoFAST-R52I

Cmpd	Enhancement			
	430	480	530	580
HBR-DOM2	7.7	72.0	218.9	4.2
HBR-2,5-DM	1.4	2.8	1.6	0.9
HMBR	1.2	1.5	1.0	1.2
HBR-DOM	1.1	1.2	2.0	1.5
N 871b	1.0	1.1	1.4	1.6
MID 145	1.1	1.2	1.3	1.3
N 1052	1.1	1.4	1.6	1.5
N 1184	1.0	1.1	1.4	1.1
N 1122	1.1	1.2	1.1	1.0
N 1049	1.1	1.2	1.4	1.2
N 1123	1.0	1.0	1.0	1.1
N 1139	1.0	1.1	1.7	2.8
N 1118	1.1	1.2	1.1	1.0
SAI 112	1.3	2.2	1.5	1.1
N 1135	1.0	1.0	1.1	1.2
SAI 118	1.0	1.1	1.0	0.8
N 1124	1.0	1.0	1.1	1.4
SAI 122	3.0	3.9	1.1	1.4
N 1142	1.1	1.2	1.5	1.3
SAI 199	3.7	4.8	1.0	0.9
N 967	1.0	1.2	1.7	2.6
N 1039	1.1	1.3	1.5	1.5
N 1202	1.0	1.1	1.5	1.7
N 960b	1.0	1.1	1.4	2.1
N 1036	1.0	1.0	1.0	1.2
SAI 117	1.1	1.4	1.0	1.0
N 1042	1.0	1.0	1.0	0.7
SAI 121	1.1	1.2	1.2	1.0
MID 147	1.4	2.5	3.2	2.3
SAI 125	1.1	1.4	1.1	1.0
MID 151	1.0	1.0	1.1	1.3
N 865	1.0	1.0	1.0	1.0
MID 153	1.0	1.0	1.0	1.1
MID 343	1.0	1.0	1.3	2.3
M 3007a	1.0	1.0	1.1	0.9
MID 367	1.0	1.0	1.1	1.6
N 1048	1.1	1.2	1.9	3.3
N 979	1.0	1.0	1.0	1.3
N 971	1.0	1.0	1.0	1.0
N 973	1.0	1.1	1.1	1.3
N 976	1.0	1.0	1.0	0.9
N 980	1.0	1.0	1.0	0.9
N 1205	1.2	1.6	2.3	2.2
N 960a	1.0	1.0	1.1	0.9

ZS 331	1.0	1.1	1.3	1.5
N 1027	1.0	1.0	1.0	1.1
M 2766	1.0	1.2	1.5	1.5
ZS 362	1.0	1.0	1.0	0.8
N 1179	1.0	1.0	1.0	1.0
N 1180	1.0	1.0	1.0	1.1
N 1204	1.1	1.2	1.5	1.2
N 1206	1.0	0.9	1.0	1.0
ZS 309	1.1	1.2	1.6	1.7
ZS 316	1.0	1.0	0.9	0.9
ZS 319	1.0	1.0	1.0	1.0
ZS 325	1.0	1.0	1.0	1.1
MID 213	1.0	1.0	1.0	1.0
M 2767	1.3	2.5	4.7	5.7
M 2876	1.0	1.0	1.0	1.0
SH 16	1.0	1.0	1.1	1.1
SAI 472	1.1	1.3	1.2	1.0
SAI 499	1.0	1.0	1.0	0.9
SAI 503	1.0	1.0	1.0	1.1
SAI 474	1.0	1.0	1.0	1.1
SAI 477	3.1	2.6	1.0	1.2
N 1196	1.0	1.0	1.0	0.9
N 1197	1.0	1.0	1.0	1.0
SAI 127	1.2	1.9	1.3	1.1
N 1056	1.0	1.0	1.1	1.4
N 1068	1.0	1.0	1.0	1.0
N 1069	1.0	1.0	1.1	0.9
A9	1.0	0.9	0.9	1.0
N 1198	1.0	1.0	1.0	1.1
N 1193	1.2	1.4	1.6	2.0
N 1199	1.0	1.1	1.2	1.1
SAI 363	4.8	13.5	1.2	1.2
SAI 366	9.2	24.8	3.3	0.8
SAI 362	3.5	11.4	1.5	0.9
SAI 365	8.6	23.8	3.7	1.1
SAI 120	1.1	1.1	1.1	1.0
SAI 458	1.2	1.8	1.0	1.0
SAI 459	1.0	1.0	1.0	1.1
SAI 487	1.0	1.0	1.0	1.1
N 1131	1.0	1.0	1.0	0.9
MID 323	1.0	1.1	1.4	2.0
SAI 379	0.9	1.1	1.0	1.1
SAI 367	1.3	1.1	1.0	1.0
M 2738d	1.1	2.2	3.0	1.2
ZS 260	1.2	1.6	1.6	1.2
N 871a	1.3	1.9	1.9	1.4
N 901	1.0	1.0	1.1	1.4

Table S2.15. Results of interaction with nanoFAST-R52A

Cmpd	Enhancement			
	430	**480**	**530**	**580**
HBR-DOM2	11.0	108.9	>333.5	3.0
HBR-2,5-DM	1.3	3.1	2.3	1.2
HMBR	1.1	1.3	1.0	1.1
HBR-DOM	1.0	1.5	3.5	1.4
N 871b	1.0	1.1	1.3	1.3
MID 145	1.1	1.3	1.4	1.0
N 1052	1.1	1.4	1.5	1.1
N 1184	1.0	1.1	1.3	1.1
N 1122	1.1	1.2	1.2	1.1
N 1049	1.0	1.2	1.4	1.2
N 1123	1.0	1.0	1.0	1.1
N 1139	1.0	1.1	2.0	2.9
N 1118	1.1	1.3	1.3	1.3
SAI 112	1.5	3.2	1.5	1.0
N 1135	1.0	1.0	1.0	1.1
SAI 118	1.0	1.5	1.1	0.9
N 1124	1.0	1.0	1.0	1.0
SAI 122	1.9	2.6	1.1	1.1
N 1142	1.0	1.2	1.3	1.2
SAI 199	2.0	2.9	1.0	0.9
N 967	1.0	1.0	1.2	1.2
N 1039	1.1	1.3	1.6	1.2
N 1202	1.0	1.0	1.3	1.2
N 960b	1.0	1.1	1.3	1.6
N 1036	1.0	1.1	1.0	1.0
SAI 117	1.3	1.1	0.3	0.6
N 1042	1.0	1.0	1.1	1.2
SAI 121	1.1	1.3	1.1	1.1
MID 147	1.5	2.7	3.8	2.1
SAI 125	1.2	1.9	1.1	1.2
MID 151	1.0	1.0	1.0	1.1
N 865	1.0	1.0	1.0	1.0
MID 153	1.0	0.9	1.0	1.0
MID 343	1.0	1.1	1.4	2.1
M 3007a	1.0	1.0	1.1	1.2
MID 367	1.0	1.0	1.1	1.3
N 1048	1.1	1.4	3.9	7.5
N 979	1.0	1.0	1.0	1.0
N 971	1.0	1.0	1.0	1.1
N 973	1.0	1.1	1.1	1.1
N 976	1.0	1.0	1.0	0.9
N 980	1.0	1.0	1.0	0.9
N 1205	1.4	1.7	2.1	1.6
N 960a	1.0	1.0	1.1	1.1

ZS 331	1.0	1.2	1.3	1.2
N 1027	1.0	1.0	1.0	1.0
M 2766	1.0	1.2	1.3	1.2
ZS 362	1.0	1.0	1.0	1.1
N 1179	0.9	0.9	1.0	1.1
N 1180	0.9	0.9	1.0	1.1
N 1204	1.1	1.1	1.3	1.1
N 1206	0.9	0.9	1.0	1.1
ZS 309	1.0	1.2	1.7	1.2
ZS 316	0.9	0.9	1.0	1.0
ZS 319	0.9	0.9	0.9	1.2
ZS 325	0.9	0.9	1.1	0.8
MID 213	0.9	0.9	1.0	0.9
M 2767	1.1	1.7	4.7	5.5
M 2876	0.9	0.9	1.0	0.8
SH 16	1.0	0.9	1.0	0.9
SAI 472	1.1	1.3	1.5	1.1
SAI 499	0.9	0.9	1.0	1.4
SAI 503	0.9	0.9	0.9	0.7
SAI 474	0.9	0.9	1.0	0.8
SAI 477	4.4	2.6	1.0	0.9
N 1196	0.9	0.9	1.0	1.0
N 1197	1.0	0.9	1.1	1.2
SAI 127	1.2	1.4	1.1	1.0
N 1056	0.9	0.9	1.1	0.9
N 1068	0.9	0.9	1.0	1.1
N 1069	0.9	0.9	1.2	1.1
A9	0.9	0.9	0.9	0.8
N 1198	0.9	0.9	1.0	1.0
N 1193	1.4	1.6	2.2	2.2
N 1199	1.0	1.0	1.4	1.0
SAI 363	2.1	3.5	1.1	1.1
SAI 366	8.8	20.4	2.8	1.0
SAI 362	1.4	2.4	1.3	1.1
SAI 365	9.8	23.5	3.5	0.8
SAI 120	1.0	1.0	1.1	1.2
SAI 458	1.0	1.0	1.0	1.0
SAI 459	0.9	0.9	1.0	1.1
SAI 487	0.9	0.9	1.0	1.0
N 1131	1.0	0.9	1.0	0.9
MID 323	1.0	1.0	1.2	1.5
SAI 379	1.0	1.1	1.0	1.0
SAI 367	1.1	1.0	1.0	0.9
M 2738d	1.0	1.4	2.3	1.1
ZS 260	1.3	1.9	2.1	1.2
N 871a	1.3	1.9	2.3	1.4
N 901	1.0	1.0	1.1	1.3

Table S2.16. Results of interaction with nanoFAST-R52Y

Cmpd	Enhancement			
	430	480	530	580
HBR-DOM2	4.2	33.2	81.5	1.6
HBR-2,5-DM	1.1	1.8	1.3	1.0
HMBR	1.1	1.2	1.0	0.9
HBR-DOM	1.0	1.1	1.3	1.3
N 871b	1.1	1.3	1.8	2.2
MID 145	1.1	1.4	1.6	1.2
N 1052	1.1	1.4	1.7	1.4
N 1184	1.0	1.1	1.6	1.2
N 1122	1.1	1.2	1.2	1.5
N 1049	1.1	1.3	1.6	1.4
N 1123	1.0	1.0	1.0	1.0
N 1139	1.0	1.1	1.8	3.0
N 1118	1.1	1.2	1.2	1.1
SAI 112	1.2	1.7	1.4	1.0
N 1135	1.0	1.0	1.1	1.1
SAI 118	0.9	1.0	1.0	1.0
N 1124	1.0	1.0	1.0	1.2
SAI 122	2.7	3.2	1.1	1.2
N 1142	1.1	1.2	1.3	1.2
SAI 199	2.6	3.1	1.0	1.0
N 967	1.0	1.1	1.2	1.6
N 1039	1.1	1.6	2.3	1.5
N 1202	1.0	1.2	2.0	2.0
N 960b	1.0	1.2	1.7	2.8
N 1036	1.0	1.0	1.0	1.2
SAI 117	1.0	1.2	1.0	0.8
N 1042	1.0	1.0	1.0	1.0
SAI 121	1.0	1.1	1.1	1.1
MID 147	1.5	2.7	4.1	2.5
SAI 125	1.0	1.1	1.0	1.0
MID 151	1.0	1.0	1.0	1.2
N 865	1.0	1.0	1.0	1.0
MID 153	1.0	1.0	1.1	1.1
MID 343	1.0	1.1	1.3	1.8
M 3007a	1.0	1.0	1.1	1.1
MID 367	1.0	1.0	1.1	1.2
N 1048	1.0	1.1	1.2	1.6
N 979	1.0	1.0	1.0	1.0
N 971	1.0	1.0	1.0	1.1
N 973	1.1	1.1	1.1	1.0
N 976	1.0	1.0	1.0	1.0
N 980	1.0	1.0	1.0	1.1
N 1205	1.4	2.0	3.0	1.6
N 960a	1.0	1.1	1.1	1.1

ZS 331	1.1	1.2	1.4	1.4
N 1027	1.0	1.0	1.0	1.0
M 2766	1.1	1.2	1.7	1.5
ZS 362	1.0	1.0	1.0	1.0
N 1179	1.0	1.0	1.0	1.1
N 1180	1.0	1.0	1.0	1.1
N 1204	1.2	1.6	2.1	1.4
N 1206	1.0	0.9	1.0	1.1
ZS 309	1.1	1.3	1.7	1.3
ZS 316	1.0	1.0	1.0	0.9
ZS 319	1.0	0.9	0.9	0.9
ZS 325	1.0	1.0	1.0	1.1
MID 213	1.0	1.0	1.1	1.2
M 2767	1.2	1.7	3.0	3.7
M 2876	1.0	1.0	1.0	1.0
SH 16	1.1	1.1	1.1	1.0
SAI 472	1.1	1.2	1.2	0.9
SAI 499	1.0	1.0	1.0	1.0
SAI 503	1.0	1.0	1.0	1.0
SAI 474	1.0	1.0	1.0	1.0
SAI 477	1.6	1.3	1.0	0.9
N 1196	1.0	1.0	1.0	0.9
N 1197	1.0	1.0	1.1	1.0
SAI 127	1.1	1.3	1.2	1.2
N 1056	1.0	1.0	1.0	1.0
N 1068	1.0	1.0	1.0	1.1
N 1069	1.0	1.0	1.2	1.0
A9	1.0	1.0	1.0	0.9
N 1198	1.0	1.0	1.0	0.9
N 1193	1.7	2.5	3.1	3.5
N 1199	1.1	1.2	1.4	1.0
SAI 363	1.5	2.3	1.1	1.0
SAI 366	6.1	15.4	2.5	0.9
SAI 362	2.5	6.0	1.2	1.0
SAI 365	5.9	15.5	3.0	0.9
SAI 120	1.0	1.1	1.1	0.9
SAI 458	1.1	1.4	1.0	1.1
SAI 459	1.0	1.0	0.9	0.9
SAI 487	1.0	1.0	1.0	1.0
N 1131	1.0	1.0	1.0	0.9
MID 323	1.0	1.0	1.2	1.5
SAI 379	1.0	1.1	1.0	1.0
SAI 367	1.3	1.1	1.0	1.0
M 2738d	1.0	1.1	1.3	1.0
ZS 260	1.5	2.4	2.9	1.8
N 871a	1.3	2.0	2.5	1.8
N 901	1.0	1.0	1.1	1.4

Table S2.17. Results of interaction with nanoFAST-R52T

Cmpd	Enhancement			
	430	**480**	**530**	**580**
HBR-DOM2	10.5	96.0	249.1	3.4
HBR-2,5-DM	1.3	2.3	1.4	1.0
HMBR	1.1	1.2	1.0	1.1
HBR-DOM	1.1	1.4	2.3	1.6
N 871b	1.0	1.1	1.2	1.4
MID 145	1.1	1.3	1.3	1.2
N 1052	1.1	1.5	1.9	1.4
N 1184	1.0	1.0	1.0	1.0
N 1122	1.1	1.2	1.2	1.1
N 1049	1.1	1.2	1.4	1.3
N 1123	1.0	1.0	1.0	1.0
N 1139	1.0	1.2	2.0	3.3
N 1118	1.1	1.3	1.3	1.3
SAI 112	1.3	2.1	1.4	1.1
N 1135	1.0	1.0	1.0	1.2
SAI 118	1.0	1.0	1.0	1.1
N 1124	1.0	1.0	1.0	1.1
SAI 122	2.0	2.5	1.1	0.9
N 1142	1.1	1.2	1.3	1.3
SAI 199	2.0	2.5	1.0	0.9
N 967	1.0	1.1	1.3	1.3
N 1039	1.1	1.3	1.6	1.4
N 1202	1.0	1.0	1.2	1.2
N 960b	1.0	1.1	1.4	1.7
N 1036	1.0	1.0	1.0	1.1
SAI 117	1.2	1.4	1.1	0.9
N 1042	1.0	1.0	1.0	1.0
SAI 121	1.0	1.1	1.1	1.0
MID 147	1.5	2.8	3.7	2.3
SAI 125	1.2	1.3	1.0	0.7
MID 151	1.0	1.0	1.1	1.2
N 865	1.0	1.0	1.0	1.2
MID 153	1.0	1.0	1.0	1.1
MID 343	1.0	1.1	1.4	2.2
M 3007a	1.0	1.0	1.1	1.1
MID 367	1.0	1.1	1.1	1.6
N 1048	1.1	1.2	2.2	4.0
N 979	1.0	1.0	1.0	0.8
N 971	1.0	1.0	1.0	1.0
N 973	1.0	1.1	1.1	1.2
N 976	1.0	1.0	1.0	1.1
N 980	1.0	1.0	1.0	1.2
N 1205	1.3	1.8	2.2	1.8
N 960a	1.0	1.1	1.1	1.2

ZS 331	1.1	1.2	1.3	1.4
N 1027	1.0	1.0	1.0	1.0
M 2766	1.0	1.1	1.2	1.3
ZS 362	1.0	1.0	1.0	1.2
N 1179	1.0	1.0	1.0	1.1
N 1180	1.0	1.0	1.0	0.9
N 1204	1.2	1.5	1.8	1.2
N 1206	1.0	0.9	1.0	1.1
ZS 309	1.1	1.4	1.8	1.6
ZS 316	1.0	1.0	1.0	0.8
ZS 319	1.0	0.9	1.0	1.0
ZS 325	1.0	1.0	1.0	1.1
MID 213	1.0	1.0	1.1	1.0
M 2767	1.2	2.1	3.9	4.4
M 2876	1.0	1.0	1.0	0.9
SH 16	1.1	1.0	1.1	1.2
SAI 472	1.2	1.6	1.6	1.0
SAI 499	1.0	1.0	1.0	0.9
SAI 503	1.0	1.0	1.0	0.9
SAI 474	1.0	1.0	1.0	0.9
SAI 477	4.3	3.2	1.0	1.0
N 1196	1.0	1.0	1.0	1.0
N 1197	1.0	1.0	1.0	1.1
SAI 127	1.2	1.7	1.2	1.0
N 1056	1.0	1.0	1.2	1.2
N 1068	1.0	1.0	1.0	1.1
N 1069	1.0	1.0	1.2	1.1
A9	1.0	0.9	1.0	1.0
N 1198	0.9	1.0	1.0	1.0
N 1193	1.3	1.9	2.4	2.1
N 1199	1.0	1.1	1.3	1.1
SAI 363	3.0	7.3	1.2	0.9
SAI 366	10.7	29.7	3.1	1.0
SAI 362	1.7	3.8	1.3	0.9
SAI 365	12.0	34.4	4.3	1.1
SAI 120	1.0	1.1	1.1	1.1
SAI 458	1.1	1.2	1.0	0.9
SAI 459	1.0	1.0	1.0	0.9
SAI 487	1.0	1.0	1.0	1.0
N 1131	1.0	1.0	1.0	1.0
MID 323	1.0	1.0	1.2	1.3
SAI 379	1.0	1.2	1.0	0.9
SAI 367	1.2	1.1	1.0	1.0
M 2738d	1.0	1.4	1.9	1.1
ZS 260	1.4	2.2	2.4	1.4
N 871a	1.4	2.3	2.7	1.6
N 901	1.0	1.0	1.2	1.4

Table S2.18. Results of interaction with nanoFAST-R52V

Cmpd	Enhancement			
	430	480	530	580
HBR-DOM2	9.8	88.6	264.3	4.1
HBR-2,5-DM	1.4	2.9	1.7	1.1
HMBR	1.2	1.3	1.0	0.9
HBR-DOM	1.1	1.3	2.5	2.0
N 871b	1.0	1.1	1.4	1.5
MID 145	1.1	1.3	1.4	1.2
N 1052	1.1	1.4	1.7	1.3
N 1184	1.0	1.1	1.4	1.7
N 1122	1.1	1.2	1.1	0.8
N 1049	1.1	1.4	1.7	1.1
N 1123	1.0	1.0	1.0	0.7
N 1139	1.0	1.1	1.8	2.5
N 1118	1.1	1.2	1.1	1.1
SAI 112	1.3	2.3	1.4	0.8
N 1135	1.0	1.0	1.0	0.8
SAI 118	1.0	1.1	1.1	0.6
N 1124	1.0	1.0	1.1	1.1
SAI 122	2.7	3.5	1.1	0.8
N 1142	1.1	1.3	1.5	1.4
SAI 199	3.0	3.9	1.1	1.1
N 967	1.0	1.1	1.2	1.4
N 1039	1.1	1.3	1.6	1.5
N 1202	1.0	1.1	1.5	1.5
N 960b	1.0	1.2	1.5	1.8
N 1036	1.0	1.0	1.0	1.0
SAI 117	1.1	1.5	1.0	1.2
N 1042	1.0	1.0	1.0	1.0
SAI 121	1.0	1.2	1.1	0.9
MID 147	1.5	2.8	3.5	2.1
SAI 125	1.2	1.4	1.1	0.7
MID 151	1.0	1.0	1.0	1.0
N 865	1.0	1.0	1.0	1.1
MID 153	1.0	1.0	1.0	1.1
MID 343	1.0	1.1	1.3	1.8
M 3007a	1.0	1.0	1.1	0.9
MID 367	1.0	1.0	1.1	1.4
N 1048	1.1	1.4	2.9	5.2
N 979	1.0	1.0	1.0	1.3
N 971	1.0	1.0	1.0	1.2
N 973	1.0	1.1	1.1	1.1
N 976	1.0	1.0	1.0	1.3
N 980	1.0	1.0	1.0	1.0
N 1205	1.3	1.6	2.2	1.8
N 960a	1.0	1.0	1.1	1.3

ZS 331	1.1	1.2	1.3	1.4
N 1027	1.0	1.0	1.0	0.9
M 2766	1.1	1.2	1.4	1.4
ZS 362	1.0	1.0	1.0	0.9
N 1179	1.0	1.0	1.0	1.1
N 1180	1.0	1.0	1.0	1.1
N 1204	1.1	1.3	1.6	1.2
N 1206	1.0	0.9	1.0	1.0
ZS 309	1.1	1.2	1.4	1.4
ZS 316	1.0	1.0	1.0	1.0
ZS 319	1.0	0.9	0.9	1.0
ZS 325	1.0	1.0	1.0	1.0
MID 213	1.0	1.0	1.1	1.0
M 2767	1.2	2.0	4.2	4.3
M 2876	1.0	0.9	1.0	0.8
SH 16	1.0	1.0	1.0	1.0
SAI 472	1.2	1.7	1.5	1.1
SAI 499	1.0	1.0	1.0	1.1
SAI 503	1.0	1.0	1.0	1.2
SAI 474	1.0	0.9	1.0	1.0
SAI 477	4.9	3.6	1.0	1.1
N 1196	1.0	1.0	1.1	1.2
N 1197	1.0	1.0	1.0	1.1
SAI 127	1.3	2.0	1.2	1.0
N 1056	1.0	1.0	1.1	1.1
N 1068	1.0	1.0	1.0	1.1
N 1069	1.0	1.0	1.1	1.2
A9	0.9	0.9	0.9	0.9
N 1198	1.0	1.0	1.0	0.9
N 1193	1.3	1.6	2.0	1.9
N 1199	1.0	1.1	1.3	1.1
SAI 363	7.5	18.8	1.3	1.0
SAI 366	12.1	31.0	3.5	1.0
SAI 362	2.8	7.7	1.4	0.9
SAI 365	11.8	30.9	4.1	1.0
SAI 120	1.0	1.0	1.1	1.0
SAI 458	1.1	1.5	1.1	1.0
SAI 459	1.0	1.0	1.0	1.0
SAI 487	1.0	1.0	1.0	1.0
N 1131	1.0	1.0	1.0	1.0
MID 323	1.0	1.0	1.2	1.5
SAI 379	1.0	1.2	1.0	0.9
SAI 367	1.2	1.1	1.0	1.1
M 2738d	1.1	2.5	3.8	1.0
ZS 260	1.3	1.6	1.7	1.2
N 871a	1.3	1.8	2.0	1.4
N 901	0.9	0.9	1.0	1.2

Table S2.19. Results of interaction with nanoFAST-P68N

Cmpd	Enhancement			
	430	**480**	**530**	**580**
HBR-DOM2	6.3	41.9	66.5	2.6
HBR-2,5-DM	1.9	6.9	5.6	0.8
HMBR	1.3	2.2	1.3	1.1
HBR-DOM	1.1	1.7	3.6	2.1
N 871b	1.0	1.1	1.2	1.3
MID 145	1.2	1.4	1.3	1.1
N 1052	1.2	1.6	2.0	2.3
N 1184	1.0	1.1	1.1	1.3
N 1122	1.1	1.2	1.2	1.0
N 1049	1.1	1.4	1.6	1.7
N 1123	1.0	1.0	1.1	1.0
N 1139	1.0	1.1	1.7	2.8
N 1118	1.1	1.3	1.5	1.6
SAI 112	1.8	5.3	1.9	1.2
N 1135	1.0	1.0	1.1	1.1
SAI 118	1.5	3.0	1.3	1.0
N 1124	1.0	1.0	1.0	1.1
SAI 122	2.4	4.0	1.2	1.0
N 1142	1.1	1.2	1.3	1.2
SAI 199	2.5	4.2	1.1	1.0
N 967	1.0	1.1	1.4	1.6
N 1039	1.2	1.4	1.6	1.5
N 1202	1.0	1.0	1.2	1.2
N 960b	1.1	1.2	1.4	1.6
N 1036	1.0	1.0	1.1	0.9
SAI 117	1.7	3.4	1.2	1.0
N 1042	1.0	1.0	1.0	1.2
SAI 121	1.2	1.8	1.2	1.1
MID 147	1.6	2.8	3.4	2.1
SAI 125	1.7	3.5	1.2	0.8
MID 151	1.0	1.0	1.0	1.0
N 865	1.0	1.0	1.1	1.3
MID 153	1.0	1.0	1.0	1.0
MID 343	1.0	1.1	1.4	1.9
M 3007a	1.0	1.1	1.2	1.3
MID 367	1.0	1.1	1.2	1.3
N 1048	1.1	1.2	1.4	1.7
N 979	1.0	1.0	1.0	0.8
N 971	1.0	1.0	1.0	1.0
N 973	1.1	1.1	1.1	1.2
N 976	1.0	1.0	1.0	1.0
N 980	1.0	1.0	1.1	1.0
N 1205	1.2	1.4	1.8	1.7
N 960a	1.0	1.1	1.2	1.1

ZS 331	1.1	1.3	1.4	1.5
N 1027	1.0	1.0	1.0	1.1
M 2766	1.1	1.1	1.2	1.3
ZS 362	1.0	1.0	1.0	1.4
N 1179	1.0	1.0	1.1	1.2
N 1180	0.9	0.9	1.0	1.1
N 1204	1.0	1.2	1.5	1.2
N 1206	1.0	1.0	1.1	1.0
ZS 309	1.2	1.6	2.2	1.5
ZS 316	1.0	1.0	1.0	1.1
ZS 319	1.0	0.9	0.9	1.0
ZS 325	1.0	1.0	1.0	1.0
MID 213	1.0	1.0	1.1	0.9
M 2767	1.1	1.5	3.0	3.1
M 2876	1.0	1.0	1.1	1.0
SH 16	1.1	1.1	1.1	1.1
SAI 472	1.1	1.1	1.1	0.8
SAI 499	1.0	1.0	1.0	1.0
SAI 503	1.0	1.0	1.0	1.0
SAI 474	1.0	1.0	1.0	0.9
SAI 477	1.7	1.3	1.0	1.0
N 1196	1.0	1.0	1.1	1.1
N 1197	1.0	1.0	1.1	1.0
SAI 127	1.8	5.0	1.7	1.2
N 1056	1.0	1.0	1.1	1.2
N 1068	1.0	1.0	1.0	1.2
N 1069	1.0	1.1	1.2	1.1
A9	1.0	1.0	1.0	1.0
N 1198	1.0	1.0	1.1	1.0
N 1193	2.4	4.0	2.5	2.0
N 1199	1.1	1.2	1.6	1.1
SAI 363	1.3	2.3	1.1	1.0
SAI 366	9.5	26.5	3.7	1.1
SAI 362	2.3	7.1	1.9	1.0
SAI 365	8.2	23.4	4.0	1.0
SAI 120	1.0	0.9	1.1	1.0
SAI 458	1.1	1.6	1.1	0.9
SAI 459	1.0	1.0	1.0	0.9
SAI 487	1.0	1.0	1.0	1.0
N 1131	1.0	1.0	1.0	1.0
MID 323	1.0	1.1	1.4	1.5
SAI 379	1.2	1.6	1.1	1.0
SAI 367	1.2	1.1	1.1	1.0
M 2738d	1.0	1.3	1.6	0.9
ZS 260	1.6	2.5	2.5	1.4
N 871a	1.5	2.6	3.0	1.7
N 901	1.0	1.0	1.3	1.6

Table S2.20. Results of interaction with nanoFAST-P68T

Cmpd	Enhancement			
	430	480	530	580
HBR-DOM2	11.8	81.6	103.8	1.4
HBR-2,5-DM	2.3	7.4	2.4	0.9
HMBR	1.4	2.3	1.1	1.2
HBR-DOM	1.1	1.4	2.2	1.2
N 871b	1.0	1.1	1.2	1.2
MID 145	1.2	1.4	1.3	1.0
N 1052	1.2	1.6	2.0	1.5
N 1184	1.0	1.0	1.1	0.9
N 1122	1.1	1.2	1.2	1.0
N 1049	1.1	1.3	1.7	1.5
N 1123	1.0	1.0	1.1	1.2
N 1139	1.0	1.2	2.1	2.7
N 1118	1.1	1.2	1.2	1.1
SAI 112	1.4	2.7	1.9	1.0
N 1135	1.0	1.0	1.1	1.0
SAI 118	1.1	1.2	1.1	1.0
N 1124	1.0	1.0	1.0	1.1
SAI 122	2.6	2.8	1.2	1.0
N 1142	1.1	1.2	1.3	1.2
SAI 199	3.0	3.1	1.1	1.2
N 967	1.0	1.0	1.3	1.6
N 1039	1.2	1.4	1.5	1.3
N 1202	1.0	1.0	1.2	1.2
N 960b	1.0	1.2	1.5	1.3
N 1036	1.0	1.0	1.0	1.1
SAI 117	1.5	1.9	1.2	0.8
N 1042	1.0	1.0	1.0	1.1
SAI 121	1.2	1.4	1.2	1.0
MID 147	1.6	2.8	3.4	1.8
SAI 125	1.5	2.0	1.1	1.0
MID 151	1.0	1.0	1.1	1.1
N 865	1.0	1.0	1.0	1.1
MID 153	1.0	1.0	1.2	1.3
MID 343	1.0	1.1	1.6	1.9
M 3007a	1.0	1.0	1.2	1.0
MID 367	1.0	1.1	1.2	1.2
N 1048	1.0	1.2	1.7	1.8
N 979	1.0	1.0	1.0	1.0
N 971	1.0	1.0	1.0	1.0
N 973	1.0	1.1	1.1	1.3
N 976	1.0	1.0	1.0	1.0
N 980	1.0	1.0	1.1	1.1
N 1205	1.3	1.5	1.7	1.4
N 960a	1.0	1.1	1.2	1.2

ZS 331	1.2	1.5	1.7	1.4
N 1027	1.0	1.0	1.0	1.1
M 2766	1.1	1.1	1.2	1.1
ZS 362	1.0	1.0	1.0	1.0
N 1179	1.0	1.0	1.1	1.1
N 1180	1.0	1.0	1.0	1.1
N 1204	1.2	1.4	1.4	1.3
N 1206	1.2	1.4	1.1	1.0
ZS 309	1.2	1.8	2.6	1.6
ZS 316	1.0	1.0	1.0	1.0
ZS 319	1.0	1.0	1.0	1.0
ZS 325	1.0	1.0	1.1	1.2
MID 213	1.0	1.1	1.1	1.1
M 2767	1.2	2.0	3.6	3.5
M 2876	1.2	1.1	1.1	1.2
SH 16	1.1	1.1	1.1	1.1
SAI 472	1.2	1.3	1.1	1.1
SAI 499	1.0	1.0	1.0	1.0
SAI 503	1.0	1.0	1.0	1.0
SAI 474	1.1	1.0	1.1	0.8
SAI 477	3.9	1.8	1.0	1.0
N 1196	1.0	1.0	1.2	1.0
N 1197	1.0	1.0	1.0	1.1
SAI 127	1.8	3.1	1.5	1.0
N 1056	1.0	1.0	1.2	1.2
N 1068	1.0	1.0	1.0	1.0
N 1069	1.0	1.1	1.2	1.1
A9	1.0	1.0	0.9	1.1
N 1198	1.0	1.0	1.1	1.0
N 1193	2.6	3.9	2.5	2.4
N 1199	1.1	1.2	1.6	1.5
SAI 363	1.9	3.2	1.1	0.9
SAI 366	11.4	30.2	2.2	1.1
SAI 362	4.9	12.8	1.5	1.0
SAI 365	11.1	29.8	2.6	0.9
SAI 120	1.1	1.1	1.1	0.9
SAI 458	1.4	1.9	1.0	1.0
SAI 459	1.0	1.0	1.0	1.0
SAI 487	1.0	1.0	1.0	1.0
N 1131	1.0	1.0	1.0	1.1
MID 323	1.0	1.1	1.5	2.0
SAI 379	1.2	1.3	1.1	1.0
SAI 367	1.3	1.1	1.1	1.0
M 2738d	1.1	1.4	1.9	1.1
ZS 260	1.6	2.7	2.8	1.5
N 871a	1.6	2.5	2.8	1.7
N 901	1.0	1.1	1.3	1.5

Table S2.21. Results of interaction with nanoFAST-P68Q

Cmpd	Enhancement			
	430	**480**	**530**	**580**
HBR-DOM2	14.5	87.7	135.6	2.0
HBR-2,5-DM	2.9	10.2	3.3	1.1
HMBR	1.4	2.1	1.2	0.9
HBR-DOM	1.0	1.3	1.9	1.3
N 871b	1.0	1.1	1.4	1.3
MID 145	1.2	1.5	1.5	1.2
N 1052	1.2	1.6	2.1	2.3
N 1184	1.0	1.2	1.5	1.2
N 1122	1.0	0.8	1.1	1.2
N 1049	1.1	1.4	1.5	1.7
N 1123	1.0	1.0	1.0	1.0
N 1139	1.0	1.2	1.8	2.9
N 1118	1.1	1.1	1.1	1.4
SAI 112	1.4	2.5	1.8	0.9
N 1135	1.0	1.0	1.0	0.7
SAI 118	1.0	1.2	1.1	0.8
N 1124	1.0	1.0	1.0	1.2
SAI 122	3.1	3.5	1.2	1.0
N 1142	1.1	1.2	1.2	1.0
SAI 199	3.5	3.8	1.0	1.1
N 967	1.0	1.1	1.4	1.5
N 1039	1.2	1.6	1.9	1.3
N 1202	1.0	1.1	1.4	1.4
N 960b	1.0	1.2	1.5	1.7
N 1036	1.0	1.0	1.1	1.1
SAI 117	1.2	1.6	1.1	0.9
N 1042	1.0	1.0	1.0	0.9
SAI 121	1.2	1.3	1.2	1.0
MID 147	1.5	2.8	3.9	2.5
SAI 125	1.3	1.8	1.1	1.2
MID 151	1.0	1.0	1.0	0.9
N 865	1.0	1.0	1.0	1.0
MID 153	1.0	1.0	1.0	0.9
MID 343	1.0	1.1	1.6	2.9
M 3007a	1.0	1.1	1.2	1.1
MID 367	1.0	1.1	1.2	1.5
N 1048	1.0	1.2	1.8	2.3
N 979	1.0	1.0	1.1	1.3
N 971	1.0	1.0	1.0	0.9
N 973	1.0	1.1	1.1	1.2
N 976	1.0	1.0	1.0	1.0
N 980	1.0	1.0	1.1	0.9
N 1205	1.2	1.5	2.0	1.7
N 960a	1.0	1.0	1.1	1.0

ZS 331	1.2	1.4	1.7	2.0
N 1027	1.0	1.0	1.0	1.2
M 2766	1.0	1.2	1.3	1.1
ZS 362	1.0	1.0	1.0	1.0
N 1179	1.1	1.0	1.0	1.0
N 1180	1.1	1.0	1.0	0.9
N 1204	1.2	1.4	1.7	1.4
N 1206	1.1	1.3	1.1	1.0
ZS 309	1.3	1.8	2.5	1.7
ZS 316	1.1	1.0	1.0	1.1
ZS 319	1.1	1.0	1.1	1.0
ZS 325	1.1	1.0	1.0	1.0
MID 213	1.1	1.1	1.2	1.2
M 2767	1.2	1.6	2.1	2.1
M 2876	1.0	1.0	1.0	1.1
SH 16	1.2	1.2	1.2	1.1
SAI 472	1.2	1.3	1.1	1.0
SAI 499	1.1	1.0	1.1	0.9
SAI 503	1.1	1.0	1.0	0.9
SAI 474	1.1	1.0	1.0	1.1
SAI 477	2.7	1.5	1.0	0.9
N 1196	1.1	1.1	1.1	1.1
N 1197	1.1	1.0	1.1	1.0
SAI 127	1.7	2.9	1.4	1.0
N 1056	1.0	1.1	1.1	1.2
N 1068	1.1	1.1	1.1	1.2
N 1069	1.1	1.2	1.3	1.1
A9	1.1	1.0	1.0	1.0
N 1198	1.1	1.1	1.1	1.0
N 1193	1.8	2.6	2.1	2.2
N 1199	1.1	1.2	1.5	1.3
SAI 363	1.9	3.4	1.1	1.0
SAI 366	12.5	37.0	2.7	1.1
SAI 362	4.1	12.2	1.6	1.0
SAI 365	11.8	35.6	3.2	0.9
SAI 120	1.1	1.1	1.1	1.1
SAI 458	1.4	2.1	1.0	1.1
SAI 459	1.0	1.0	1.0	1.0
SAI 487	1.1	1.0	1.1	1.1
N 1131	1.1	1.1	1.0	1.1
MID 323	1.1	1.1	1.4	1.6
SAI 379	1.2	1.3	1.1	1.0
SAI 367	1.2	1.1	1.1	1.1
M 2738d	1.1	1.5	2.1	1.1
ZS 260	1.5	2.3	2.5	1.5
N 871a	1.5	2.5	3.2	2.0
N 901	1.1	1.1	1.3	1.5

Table S2.22. Results of interaction with nanoFAST-P68S

Cmpd	Enhancement			
	430	480	530	580
HBR-DOM2	10.5	70.1	96.7	1.4
HBR-2,5-DM	2.1	6.3	2.2	1.0
HMBR	1.3	1.8	1.1	1.0
HBR-DOM	1.1	1.4	2.0	1.2
N 871b	1.1	1.1	1.3	1.2
MID 145	1.1	1.2	1.2	1.0
N 1052	1.2	1.3	1.4	1.3
N 1184	1.1	1.1	1.3	1.1
N 1122	1.1	1.2	1.1	1.1
N 1049	1.1	1.1	1.2	1.1
N 1123	1.1	1.0	1.1	1.0
N 1139	1.1	1.1	1.8	2.1
N 1118	1.1	1.2	1.2	1.0
SAI 112	1.5	2.4	1.7	1.1
N 1135	1.1	1.0	1.0	1.1
SAI 118	1.2	1.2	1.1	1.0
N 1124	1.1	1.1	1.1	1.1
SAI 122	2.5	2.7	1.2	1.1
N 1142	1.1	1.1	1.1	1.0
SAI 199	2.6	2.6	1.0	1.1
N 967	1.1	1.1	1.2	1.2
N 1039	1.2	1.3	1.4	1.2
N 1202	1.1	1.1	1.3	1.2
N 960b	1.1	1.1	1.2	1.3
N 1036	1.1	1.1	1.1	1.1
SAI 117	1.3	1.6	1.2	0.9
N 1042	1.1	1.0	1.0	1.1
SAI 121	1.2	1.3	1.2	1.0
MID 147	1.3	1.5	1.8	1.4
SAI 125	1.4	1.7	1.1	1.1
MID 151	1.1	1.1	1.1	1.2
N 865	1.1	1.0	1.1	1.0
MID 153	1.1	1.1	1.2	1.2
MID 343	1.1	1.1	1.4	1.4
M 3007a	1.1	1.1	1.2	1.0
MID 367	1.1	1.1	1.1	1.1
N 1048	1.1	1.2	1.7	1.7
N 979	1.1	1.0	1.1	1.0
N 971	1.1	1.0	1.0	1.1
N 973	1.1	1.0	1.1	1.1
N 976	1.1	1.0	1.0	1.2
N 980	1.1	1.0	1.1	0.9
N 1205	1.2	1.4	1.6	1.2
N 960a	1.1	1.1	1.1	1.0

ZS 331	1.1	1.2	1.3	1.2
N 1027	1.1	1.0	1.0	1.0
M 2766	1.1	1.1	1.2	1.0
ZS 362	1.1	1.0	1.0	1.0
N 1179	1.1	1.1	1.0	1.0
N 1180	1.1	1.1	1.1	1.0
N 1204	1.2	1.3	1.4	1.1
N 1206	1.1	1.2	1.1	1.1
ZS 309	1.3	1.6	1.7	1.2
ZS 316	1.1	1.0	1.0	0.9
ZS 319	1.0	0.9	0.8	1.0
ZS 325	1.1	1.0	1.0	1.0
MID 213	1.1	1.1	1.1	1.1
M 2767	1.2	1.5	2.0	2.0
M 2876	1.1	1.0	1.0	1.0
SH 16	1.2	1.2	1.2	1.1
SAI 472	1.2	1.2	1.1	1.1
SAI 499	1.1	1.0	1.0	1.2
SAI 503	1.1	1.0	1.1	1.1
SAI 474	1.1	1.0	1.0	1.0
SAI 477	2.2	1.5	1.0	1.0
N 1196	1.1	1.1	1.1	1.1
N 1197	1.1	1.0	1.1	1.0
SAI 127	1.5	2.4	1.4	1.1
N 1056	1.1	1.0	1.1	1.2
N 1068	1.1	1.1	1.1	1.0
N 1069	1.1	1.2	1.3	1.1
A9	1.1	1.0	1.0	1.0
N 1198	1.1	1.0	1.0	1.1
N 1193	2.3	3.2	2.3	2.2
N 1199	1.1	1.2	1.6	1.3
SAI 363	1.6	2.8	1.1	1.1
SAI 366	10.7	29.2	2.3	1.0
SAI 362	3.1	8.3	1.4	1.0
SAI 365	9.6	26.7	2.5	1.0
SAI 120	1.1	1.1	1.1	1.1
SAI 458	1.3	1.9	1.0	1.0
SAI 459	1.1	1.0	1.0	1.0
SAI 487	1.1	1.0	1.0	1.1
N 1131	1.1	1.1	1.0	1.1
MID 323	1.1	1.1	1.4	1.5
SAI 379	1.2	1.3	1.1	1.1
SAI 367	1.2	1.1	1.1	1.0
M 2738d	1.1	1.5	1.9	1.0
ZS 260	1.5	2.3	2.4	1.5
N 871a	1.5	2.1	2.1	1.2
N 901	0.9	1.1	1.2	1.4

Table S2.23. Results of interaction with nanoFAST-G69S

Cmpd	Enhancement			
	430	480	530	580
HBR-DOM2	3.3	19.7	40.6	1.3
HBR-2,5-DM	1.3	2.6	1.6	1.0
HMBR	1.1	1.2	1.1	1.0
HBR-DOM	1.1	1.2	1.6	1.2
N 871b	1.1	1.1	1.1	1.1
MID 145	1.1	1.1	1.1	1.1
N 1052	1.1	1.2	1.2	1.2
N 1184	1.1	1.1	1.1	1.0
N 1122	1.1	1.1	1.2	1.1
N 1049	1.1	1.1	1.2	1.1
N 1123	1.1	1.0	1.1	1.1
N 1139	1.1	1.3	2.7	4.5
N 1118	1.1	1.2	1.1	1.0
SAI 112	1.5	2.0	1.7	1.0
N 1135	1.1	1.0	1.1	1.2
SAI 118	1.1	1.3	1.4	1.1
N 1124	1.1	1.1	1.1	1.1
SAI 122	2.0	2.6	1.2	1.3
N 1142	1.1	1.1	1.2	1.0
SAI 199	1.9	2.4	1.1	1.0
N 967	1.1	1.0	1.1	1.1
N 1039	1.1	1.2	1.2	1.2
N 1202	1.1	1.0	1.0	1.0
N 960b	1.1	1.2	1.2	1.3
N 1036	1.1	1.0	1.0	1.1
SAI 117	1.2	1.4	1.3	1.0
N 1042	1.1	1.0	1.0	1.1
SAI 121	1.2	1.3	1.2	0.9
MID 147	1.3	1.4	1.6	1.3
SAI 125	1.2	1.4	1.2	1.1
MID 151	1.1	1.1	1.2	1.3
N 865	1.1	1.0	1.0	0.9
MID 153	1.1	1.1	1.2	1.2
MID 343	1.1	1.1	1.2	1.6
M 3007a	1.1	1.1	1.1	1.0
MID 367	1.1	1.0	1.1	1.1
N 1048	1.1	1.2	1.3	1.2
N 979	1.1	1.0	1.1	0.9
N 971	1.1	1.1	1.0	1.0
N 973	1.1	1.1	1.1	1.2
N 976	1.1	1.0	1.0	1.1
N 980	1.1	1.0	1.1	1.0
N 1205	1.3	1.5	1.8	1.5
N 960a	1.1	1.1	1.1	1.1

ZS 331	1.2	1.3	1.3	1.3
N 1027	1.1	1.0	1.0	1.0
M 2766	1.1	1.1	1.1	1.1
ZS 362	1.1	1.0	1.0	1.0
N 1179	1.1	1.1	1.1	1.0
N 1180	1.1	1.1	1.1	1.1
N 1204	1.3	1.4	1.4	1.6
N 1206	1.1	1.0	1.0	1.1
ZS 309	1.3	1.6	2.2	2.0
ZS 316	1.1	1.0	1.0	1.2
ZS 319	1.1	1.0	1.1	1.0
ZS 325	1.1	1.1	1.0	0.9
MID 213	1.1	1.1	1.1	1.0
M 2767	1.3	1.9	2.8	2.3
M 2876	1.1	1.0	1.1	1.0
SH 16	1.1	1.1	1.1	1.2
SAI 472	1.1	1.1	1.1	1.0
SAI 499	1.1	1.1	1.0	0.9
SAI 503	1.1	1.0	1.1	1.4
SAI 474	1.1	1.0	1.0	1.0
SAI 477	1.7	1.4	1.0	0.9
N 1196	1.1	1.1	1.1	1.0
N 1197	1.1	1.1	1.1	0.9
SAI 127	1.4	1.8	1.6	1.1
N 1056	1.1	1.1	1.1	1.5
N 1068	1.1	1.1	1.1	1.2
N 1069	1.1	1.3	1.3	1.2
A9	1.1	1.0	1.0	1.0
N 1198	1.1	1.1	1.0	1.2
N 1193	1.5	1.9	2.0	2.4
N 1199	1.1	1.2	1.5	1.3
SAI 363	1.4	2.3	1.1	1.1
SAI 366	8.3	25.1	3.2	1.1
SAI 362	2.1	5.4	1.4	0.9
SAI 365	6.2	18.6	3.2	1.0
SAI 120	1.2	1.2	1.2	1.0
SAI 458	1.2	1.3	1.1	1.0
SAI 459	1.1	1.0	1.0	0.9
SAI 487	1.1	1.0	1.0	1.1
N 1131	1.1	1.1	1.0	1.1
MID 323	1.1	1.1	1.4	1.9
SAI 379	1.1	1.2	1.2	1.0
SAI 367	1.2	1.2	1.1	1.0
M 2738d	1.1	1.3	1.7	1.2
ZS 260	1.4	2.2	2.3	1.4
N 871a	1.5	2.0	2.3	1.7
N 901	1.1	1.1	1.3	1.7

Table S2.24. Results of interaction with nanoFAST-G69T

Cmpd	Enhancement			
	430	480	530	580
HBR-DOM2	5.2	41.2	73.9	1.9
HBR-2,5-DM	1.4	4.1	2.0	1.1
HMBR	1.1	1.4	1.1	1.3
HBR-DOM	1.0	1.2	1.6	1.3
N 871b	1.0	1.0	1.0	1.0
MID 145	1.1	1.3	1.2	0.8
N 1052	1.1	1.4	1.7	1.6
N 1184	1.0	1.0	1.0	0.9
N 1122	1.0	1.1	1.1	1.1
N 1049	1.1	1.3	1.5	1.2
N 1123	1.0	1.0	1.1	1.7
N 1139	1.0	1.2	2.4	4.1
N 1118	1.0	1.1	1.1	1.5
SAI 112	1.2	1.9	1.7	1.2
N 1135	1.0	1.0	1.1	1.4
SAI 118	1.0	1.1	1.1	0.9
N 1124	1.0	1.0	1.0	1.2
SAI 122	2.3	2.9	1.2	1.0
N 1142	1.1	1.2	1.2	1.4
SAI 199	2.3	2.9	1.0	0.9
N 967	1.0	1.0	1.2	1.4
N 1039	1.2	1.3	1.3	1.3
N 1202	0.9	0.9	1.0	1.3
N 960b	1.1	1.2	1.3	1.4
N 1036	1.0	1.0	1.1	1.3
SAI 117	1.1	1.3	1.1	1.5
N 1042	1.0	1.0	1.0	1.2
SAI 121	1.1	1.3	1.2	1.2
MID 147	1.4	2.4	2.7	1.6
SAI 125	1.1	1.3	1.1	0.8
MID 151	1.0	1.0	1.0	0.9
N 865	1.0	1.0	1.0	0.9
MID 153	1.0	1.0	0.9	0.9
MID 343	1.0	1.0	1.3	1.6
M 3007a	1.0	1.0	1.2	1.1
MID 367	1.0	1.0	1.2	1.6
N 1048	1.0	1.1	1.1	1.0
N 979	1.0	1.0	1.0	1.2
N 971	1.0	1.0	1.0	1.1
N 973	1.0	1.1	1.0	0.9
N 976	1.0	1.0	1.0	0.6
N 980	1.0	1.0	1.1	0.8
N 1205	1.4	1.6	1.6	1.6
N 960a	1.0	1.1	1.2	1.1

ZS 331	1.1	1.3	1.1	1.0
N 1027	1.0	1.0	1.0	1.0
M 2766	1.0	1.1	1.0	1.2
ZS 362	1.0	1.0	1.0	0.9
N 1179	1.0	1.0	1.0	1.0
N 1180	1.0	1.0	1.0	1.1
N 1204	1.2	1.3	1.4	1.4
N 1206	1.0	1.0	1.0	1.1
ZS 309	1.2	1.6	2.2	1.6
ZS 316	1.0	1.0	1.0	1.0
ZS 319	1.0	1.0	0.9	0.9
ZS 325	1.0	1.0	1.0	1.1
MID 213	1.0	1.0	1.1	1.2
M 2767	1.4	2.7	5.8	3.5
M 2876	1.0	1.0	1.0	0.9
SH 16	1.1	1.0	1.1	0.9
SAI 472	1.1	1.2	1.1	1.2
SAI 499	1.0	1.0	1.0	1.1
SAI 503	1.0	1.0	1.0	1.0
SAI 474	1.1	1.0	1.0	1.0
SAI 477	1.9	1.5	1.0	1.0
N 1196	1.0	1.0	1.1	1.0
N 1197	1.0	1.0	1.0	1.1
SAI 127	1.1	1.5	1.3	1.0
N 1056	1.1	1.0	1.1	1.3
N 1068	1.0	1.0	1.0	1.1
N 1069	1.0	1.2	1.4	1.0
A9	1.0	1.0	1.0	1.0
N 1198	1.0	1.1	1.1	0.9
N 1193	1.5	1.9	2.0	2.0
N 1199	1.1	1.2	1.5	1.2
SAI 363	1.4	2.6	1.1	0.9
SAI 366	9.9	29.2	3.7	1.0
SAI 362	2.6	7.5	1.5	1.1
SAI 365	7.4	22.0	3.5	1.2
SAI 120	1.1	1.1	1.1	1.1
SAI 458	1.2	1.6	1.0	1.0
SAI 459	1.0	1.0	1.0	0.9
SAI 487	1.0	1.0	1.0	1.0
N 1131	1.0	1.0	1.0	0.9
MID 323	1.0	1.1	1.7	2.0
SAI 379	1.0	1.1	1.1	0.8
SAI 367	1.1	1.0	0.9	1.0
M 2738d	1.0	1.2	1.5	1.0
ZS 260	1.4	2.2	2.2	1.3
N 871a	1.4	2.2	2.5	1.4
N 901	1.0	1.0	1.1	1.3

Table S2.25. Results of interaction with nanoFAST-G69N

Cmpd	Enhancement			
	430	**480**	**530**	**580**
HBR-DOM2	5.0	39.9	66.2	1.9
HBR-2,5-DM	1.4	3.5	1.5	1.0
HMBR	1.2	1.3	1.0	1.2
HBR-DOM	1.0	1.2	1.6	1.2
N 871b	1.0	1.0	1.0	1.1
MID 145	1.1	1.1	1.1	0.9
N 1052	1.1	1.3	1.4	1.2
N 1184	1.0	1.0	1.0	1.0
N 1122	1.1	1.1	1.1	0.9
N 1049	1.0	1.1	1.2	1.3
N 1123	1.0	1.0	1.0	1.1
N 1139	1.0	1.2	2.5	4.6
N 1118	1.0	1.1	1.1	1.2
SAI 112	1.4	2.4	2.0	1.2
N 1135	1.0	1.0	1.0	1.4
SAI 118	1.1	1.2	1.1	1.0
N 1124	1.0	1.0	1.1	1.2
SAI 122	2.2	2.4	1.2	1.0
N 1142	1.1	1.1	1.1	1.4
SAI 199	2.3	2.6	1.0	1.0
N 967	1.0	1.1	1.3	1.6
N 1039	1.1	1.2	1.2	1.2
N 1202	1.0	1.0	1.0	1.2
N 960b	1.0	1.2	1.4	1.7
N 1036	1.0	1.0	1.0	0.8
SAI 117	1.1	1.4	1.2	1.1
N 1042	1.0	1.0	1.0	0.9
SAI 121	1.1	1.2	1.2	1.1
MID 147	1.4	2.0	2.5	1.9
SAI 125	1.2	1.4	1.2	0.9
MID 151	1.0	1.1	1.1	1.1
N 865	1.0	1.0	1.0	0.8
MID 153	1.0	1.0	1.1	1.2
MID 343	1.0	1.0	1.2	1.6
M 3007a	1.0	1.0	1.1	1.2
MID 367	1.0	1.1	1.2	1.4
N 1048	1.0	1.1	1.2	1.3
N 979	1.0	1.0	1.0	1.0
N 971	1.0	1.0	1.0	1.1
N 973	1.0	1.1	1.1	1.3
N 976	1.0	1.0	1.0	0.9
N 980	1.0	1.0	1.1	1.1
N 1205	1.6	1.7	1.4	1.6
N 960a	1.0	1.1	1.2	1.0

ZS 331	1.1	1.3	1.4	1.2
N 1027	1.0	1.0	1.0	0.9
M 2766	1.0	1.1	1.1	1.2
ZS 362	1.0	1.0	1.0	0.8
N 1179	1.0	1.0	1.0	0.9
N 1180	1.0	1.0	1.0	1.0
N 1204	1.3	1.3	1.2	1.3
N 1206	1.0	1.0	1.0	1.0
ZS 309	1.1	1.5	2.5	2.0
ZS 316	1.0	1.0	1.0	1.0
ZS 319	1.0	1.0	1.0	1.0
ZS 325	1.0	1.0	1.0	1.0
MID 213	1.0	1.1	1.1	1.1
M 2767	1.1	1.5	2.3	2.3
M 2876	1.0	1.0	1.0	1.0
SH 16	1.0	1.0	1.1	1.0
SAI 472	1.0	1.1	1.1	0.9
SAI 499	1.0	1.0	1.0	0.9
SAI 503	1.0	1.0	1.0	1.0
SAI 474	1.1	1.0	1.0	1.0
SAI 477	1.7	1.3	1.0	0.9
N 1196	1.0	1.0	1.1	1.0
N 1197	1.0	1.0	1.0	0.9
SAI 127	1.1	1.7	1.4	1.0
N 1056	1.0	1.0	1.0	1.2
N 1068	1.0	1.0	1.0	0.9
N 1069	1.0	1.3	1.3	1.1
A9	1.0	1.0	1.0	0.8
N 1198	1.0	1.0	1.1	1.1
N 1193	1.5	2.1	2.0	2.3
N 1199	1.1	1.2	1.4	1.2
SAI 363	1.2	1.7	1.1	1.0
SAI 366	6.0	15.9	2.1	0.9
SAI 362	2.0	4.8	1.3	0.9
SAI 365	4.9	13.2	2.2	1.0
SAI 120	1.1	1.1	1.1	1.1
SAI 458	1.1	1.3	1.1	1.0
SAI 459	1.0	1.0	1.0	1.0
SAI 487	1.0	1.0	1.0	1.2
N 1131	1.0	1.0	1.0	1.0
MID 323	1.0	1.1	1.3	2.0
SAI 379	1.0	1.1	1.2	1.0
SAI 367	1.3	1.1	1.1	1.1
M 2738d	1.0	1.4	1.8	1.1
ZS 260	1.5	2.4	2.4	1.4
N 871a	1.4	2.0	2.3	1.6
N 901	1.0	1.0	1.1	1.5

Table S2.26. Results of interaction with nanoFAST-G69Q

Cmpd	Enhancement			
	430	480	530	580
HBR-DOM2	5.0	39.9	66.2	1.9
HBR-2,5-DM	1.4	3.5	1.5	1.0
HMBR	1.2	1.3	1.0	1.2
HBR-DOM	1.0	1.2	1.6	1.2
N 871b	1.0	1.0	1.0	1.1
MID 145	1.1	1.1	1.1	0.9
N 1052	1.1	1.3	1.4	1.2
N 1184	1.0	1.0	1.0	1.0
N 1122	1.1	1.1	1.1	0.9
N 1049	1.0	1.1	1.2	1.3
N 1123	1.0	1.0	1.0	1.1
N 1139	1.0	1.2	2.5	4.6
N 1118	1.0	1.1	1.1	1.2
SAI 112	1.4	2.4	2.0	1.2
N 1135	1.0	1.0	1.0	1.4
SAI 118	1.1	1.2	1.1	1.0
N 1124	1.0	1.0	1.1	1.2
SAI 122	2.2	2.4	1.2	1.0
N 1142	1.1	1.1	1.1	1.4
SAI 199	2.3	2.6	1.0	1.0
N 967	1.0	1.1	1.3	1.6
N 1039	1.1	1.2	1.2	1.2
N 1202	1.0	1.0	1.0	1.2
N 960b	1.0	1.2	1.4	1.7
N 1036	1.0	1.0	1.0	0.8
SAI 117	1.1	1.4	1.2	1.1
N 1042	1.0	1.0	1.0	0.9
SAI 121	1.1	1.2	1.2	1.1
MID 147	1.4	2.0	2.5	1.9
SAI 125	1.2	1.4	1.2	0.9
MID 151	1.0	1.1	1.1	1.1
N 865	1.0	1.0	1.0	0.8
MID 153	1.0	1.0	1.1	1.2
MID 343	1.0	1.0	1.2	1.6
M 3007a	1.0	1.0	1.1	1.2
MID 367	1.0	1.1	1.2	1.4
N 1048	1.0	1.1	1.2	1.3
N 979	1.0	1.0	1.0	1.0
N 971	1.0	1.0	1.0	1.1
N 973	1.0	1.1	1.1	1.3
N 976	1.0	1.0	1.0	0.9
N 980	1.0	1.0	1.1	1.1
N 1205	1.6	1.7	1.4	1.6
N 960a	1.0	1.1	1.2	1.0

ZS 331	1.1	1.3	1.4	1.2
N 1027	1.0	1.0	1.0	0.9
M 2766	1.0	1.1	1.1	1.2
ZS 362	1.0	1.0	1.0	0.8
N 1179	1.0	1.1	1.0	0.9
N 1180	1.0	1.0	1.1	1.0
N 1204	1.2	1.3	1.2	1.3
N 1206	1.0	1.0	1.0	1.1
ZS 309	1.2	1.7	2.5	2.4
ZS 316	1.0	1.0	1.0	1.1
ZS 319	1.0	1.0	1.0	1.1
ZS 325	1.0	1.0	1.0	0.9
MID 213	1.0	1.0	1.2	1.2
M 2767	1.3	2.7	5.5	3.8
M 2876	1.0	1.0	1.0	1.1
SH 16	1.0	1.0	1.1	0.9
SAI 472	1.1	1.1	1.1	0.9
SAI 499	1.0	1.0	1.0	1.1
SAI 503	1.0	1.0	1.0	1.1
SAI 474	1.0	1.0	1.0	1.1
SAI 477	1.2	1.1	1.0	1.0
N 1196	1.0	1.1	1.1	1.0
N 1197	1.0	1.0	1.0	1.1
SAI 127	1.2	1.7	1.4	0.9
N 1056	1.0	1.1	1.2	1.2
N 1068	1.0	1.0	1.0	0.9
N 1069	1.0	1.2	1.3	0.9
A9	1.0	1.0	1.0	1.1
N 1198	1.0	1.0	1.1	0.9
N 1193	1.7	2.3	1.8	1.8
N 1199	1.1	1.2	1.4	1.1
SAI 363	1.2	1.6	1.1	1.0
SAI 366	6.7	15.3	1.7	1.0
SAI 362	1.4	2.4	1.1	1.0
SAI 365	5.2	12.1	1.8	1.1
SAI 120	1.1	1.1	1.1	1.2
SAI 458	1.0	1.1	1.0	0.7
SAI 459	1.0	1.0	1.0	0.7
SAI 487	1.0	1.0	1.0	0.9
N 1131	1.0	1.0	1.0	0.9
MID 323	1.0	1.1	1.4	1.8
SAI 379	1.0	1.1	1.1	1.1
SAI 367	1.2	1.1	1.1	0.9
M 2738d	1.0	1.3	1.5	1.0
ZS 260	1.6	2.6	3.0	1.6
N 871a	1.5	2.3	2.7	1.8
N 901	1.0	1.0	1.1	1.7

Table S2.27. Results of interaction with nanoFAST-E46Q

Cmpd	Enhancement			
	430	**480**	**530**	**580**
HBR-DOM2	13.0	>145.6	>354.5	11.5
HBR-2,5-DM	12.9	121.0	130.5	1.1
HMBR	10.6	54.3	10.7	1.1
HBR-DOM	4.3	38.8	171.0	42.2
N 871b	1.6	5.9	19.5	27.8
MID 145	1.8	7.9	29.5	2.5
N 1052	1.6	4.0	15.9	15.7
N 1184	1.8	7.9	25.9	13.9
N 1122	1.6	4.7	6.1	1.4
N 1049	1.5	5.6	23.5	12.8
N 1123	1.1	1.1	2.3	3.5
N 1139	1.1	1.6	5.0	8.8
N 1118	1.9	6.8	11.3	1.5
SAI 112	12.2	>67.1	4.2	1.0
N 1135	1.1	1.2	1.4	1.7
SAI 118	11.9	41.0	2.7	1.1
N 1124	1.1	2.0	4.2	2.6
SAI 122	8.6	25.9	1.6	1.1
N 1142	1.1	1.3	2.0	1.4
SAI 199	16.9	54.8	1.8	1.0
N 967	1.2	2.7	10.4	20.5
N 1039	1.7	5.1	19.0	11.8
N 1202	1.7	7.0	23.3	24.3
N 960b	1.2	2.6	10.5	26.5
N 1036	1.9	6.6	1.9	1.4
SAI 117	14.8	53.1	2.7	1.0
N 1042	1.1	1.0	1.0	1.1
SAI 121	8.6	27.7	1.8	1.1
MID 147	2.5	5.0	14.1	21.4
SAI 125	16.5	62.2	3.0	1.1
MID 151	1.1	1.7	4.3	9.3
N 865	1.2	1.2	1.2	1.1
MID 153	1.1	1.3	2.7	7.3
MID 343	1.3	1.5	6.7	18.1
M 3007a	1.1	1.2	2.7	3.3
MID 367	1.2	1.2	4.2	14.4
N 1048	1.2	1.9	7.9	17.8
N 979	1.1	1.1	1.2	1.0
N 971	1.1	1.6	4.3	6.6
N 973	1.1	1.6	4.1	5.5
N 976	1.1	1.2	1.3	1.5
N 980	1.1	1.1	1.1	1.2
N 1205	2.2	8.4	27.0	18.4
N 960a	1.1	1.1	1.2	1.4

ZS 331	1.3	2.4	8.4	16.2
N 1027	2.4	1.1	1.1	1.1
M 2766	1.7	6.3	21.1	16.8
ZS 362	1.2	1.1	1.0	1.2
N 1179	1.2	1.1	1.1	1.0
N 1180	1.2	1.1	1.1	0.9
N 1204	2.0	7.4	21.5	14.0
N 1206	1.3	3.2	19.9	57.8
ZS 309	1.4	2.2	3.4	3.3
ZS 316	1.1	1.9	3.9	1.4
ZS 319	1.1	1.1	1.0	1.0
ZS 325	1.1	1.1	1.1	1.0
MID 213	1.3	2.3	10.3	23.0
M 2767	1.3	2.1	4.6	9.7
M 2876	1.2	1.5	1.0	1.3
SH 16	1.5	4.1	6.2	1.6
SAI 472	2.9	7.6	4.8	1.4
SAI 499	1.6	1.7	1.1	1.0
SAI 503	2.3	1.3	1.0	1.0
SAI 474	2.0	1.0	1.0	0.9
SAI 477	11.7	7.4	1.1	0.9
N 1196	1.1	1.1	1.1	0.9
N 1197	1.1	1.1	1.0	1.0
SAI 127	12.9	59.7	3.2	1.0
N 1056	1.1	1.2	1.8	3.3
N 1068	1.1	1.0	1.1	1.1
N 1069	1.1	1.1	1.2	1.2
A9	1.1	1.0	1.1	1.1
N 1198	1.1	1.0	1.2	1.2
N 1193	1.8	2.7	4.2	7.1
N 1199	1.2	1.6	3.1	2.6
SAI 363	7.5	30.2	1.8	0.9
SAI 366	19.7	>93.8	28.2	1.1
SAI 362	15.4	87.4	14.7	1.0
SAI 365	15.9	>87.3	27.4	0.9
SAI 120	1.1	1.2	1.2	1.1
SAI 458	7.0	31.6	5.7	1.2
SAI 459	1.1	1.1	1.0	1.2
SAI 487	1.1	1.0	1.0	0.9
N 1131	1.3	3.1	1.6	1.0
MID 323	1.1	1.2	2.2	4.0
SAI 379	6.8	11.0	1.2	1.3
SAI 367	1.6	2.3	1.7	1.2
M 2738d	1.5	13.2	28.9	1.1
ZS 260	1.9	3.0	3.6	3.0
N 871a	2.6	6.9	16.9	17.9
N 901	2.4	7.9	21.2	24.7

Table S2.28. Results of interaction with nano tFAST-E46Q

Cmpd	Enhancement			
	430	**480**	**530**	**580**
HBR-DOM2	13.2	>155.2	>420.8	20.3
HBR-2,5-DM	15.4	>170.4	228.3	1.0
HMBR	18.3	>116.2	35.1	1.6
HBR-DOM	7.1	77.7	389.6	122.4
N 871b	1.5	5.0	20.0	51.8
MID 145	1.3	2.9	10.0	2.5
N 1052	1.3	2.0	5.2	7.7
N 1184	1.7	6.4	25.0	35.0
N 1122	1.2	1.7	1.6	1.0
N 1049	1.2	1.9	5.7	6.3
N 1123	1.1	1.2	2.1	3.8
N 1139	1.1	2.0	8.4	16.4
N 1118	1.4	2.1	2.6	1.1
SAI 112	13.7	>78.5	5.6	1.2
N 1135	1.1	1.1	1.3	1.8
SAI 118	13.6	49.4	2.9	1.1
N 1124	1.1	1.5	3.0	2.7
SAI 122	10.2	33.8	1.9	1.2
N 1142	1.1	1.4	2.7	1.8
SAI 199	17.4	59.3	1.9	1.3
N 967	1.1	1.4	3.2	7.0
N 1039	1.9	6.1	26.5	37.9
N 1202	1.7	6.1	23.8	48.8
N 960b	1.2	1.8	5.0	14.7
N 1036	1.2	2.2	1.5	1.3
SAI 117	17.0	65.4	3.5	0.9
N 1042	1.1	1.0	1.1	1.0
SAI 121	11.7	46.4	2.5	1.1
MID 147	2.4	4.1	10.2	20.0
SAI 125	17.6	71.1	3.6	1.0
MID 151	1.1	1.2	1.8	2.8
N 865	1.1	1.1	1.1	1.1
MID 153	1.1	1.2	1.6	2.2
MID 343	1.2	1.3	3.6	12.6
M 3007a	1.1	1.3	3.2	5.0
MID 367	1.1	1.1	1.7	4.3
N 1048	1.4	2.2	10.8	30.2
N 979	1.1	1.1	1.1	1.1
N 971	1.1	1.1	1.2	1.3
N 973	1.1	1.1	1.2	1.3
N 976	1.1	1.1	1.3	1.6
N 980	1.1	1.0	1.1	1.0
N 1205	3.4	19.5	76.4	76.1
N 960a	1.1	1.2	1.4	1.5

ZS 331	1.4	2.3	4.8	9.5
N 1027	1.1	1.0	1.0	1.0
M 2766	1.7	5.8	22.5	36.7
ZS 362	1.1	1.1	1.0	1.0
N 1179	1.2	1.2	1.2	0.9
N 1180	1.2	1.2	1.1	1.0
N 1204	2.8	14.6	56.2	35.3
N 1206	1.1	1.4	4.1	8.1
ZS 309	1.8	3.0	5.0	4.3
ZS 316	1.1	1.1	1.2	1.0
ZS 319	1.1	1.1	1.1	1.0
ZS 325	1.1	1.1	1.2	1.1
MID 213	1.2	1.3	1.9	2.4
M 2767	1.5	2.9	6.7	10.6
M 2876	1.1	1.2	1.1	1.0
SH 16	1.7	5.6	12.9	1.1
SAI 472	4.3	14.6	6.2	1.1
SAI 499	1.6	2.2	1.2	1.1
SAI 503	1.3	1.1	1.2	1.0
SAI 474	5.1	1.1	1.1	1.0
SAI 477	45.1	31.6	1.1	1.0
N 1196	1.1	1.2	1.2	1.1
N 1197	1.1	1.1	1.1	1.0
SAI 127	14.3	>77.9	3.8	1.0
N 1056	1.1	1.1	1.5	1.9
N 1068	1.1	1.1	1.2	1.1
N 1069	1.1	1.3	1.4	1.1
A9	1.1	1.2	1.2	1.1
N 1198	1.1	1.1	1.1	1.0
N 1193	3.4	5.6	5.2	5.8
N 1199	1.3	2.0	4.7	2.7
SAI 363	9.5	51.4	2.9	1.0
SAI 366	18.6	>99.8	28.7	1.0
SAI 362	19.0	>134.4	21.4	1.0
SAI 365	16.9	>95.7	32.4	1.0
SAI 120	1.2	1.3	1.3	1.1
SAI 458	14.3	85.9	20.2	1.0
SAI 459	1.1	1.1	1.1	1.1
SAI 487	1.1	1.1	1.1	1.1
N 1131	1.3	2.8	2.2	1.0
MID 323	1.2	1.3	3.2	4.6
SAI 379	7.4	12.5	1.4	1.1
SAI 367	2.7	3.1	2.5	1.0
M 2738d	1.3	6.1	12.0	1.2
ZS 260	2.7	6.1	8.1	3.6
N 871a	3.3	7.9	20.3	23.1
N 901	4.2	19.2	60.0	57.8

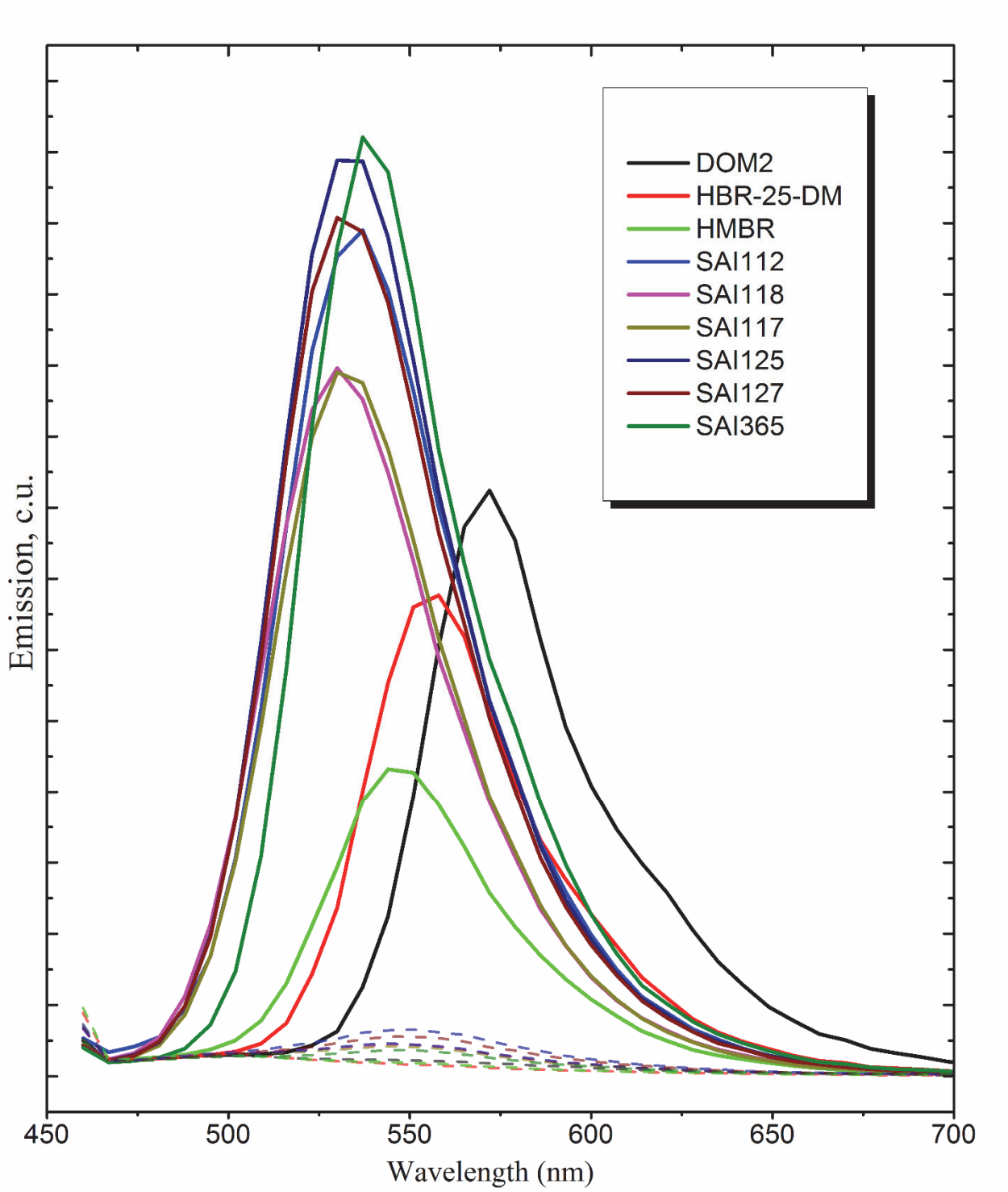


Figure S2.1. Emission spectra of various compounds in bound (solid lines) with nano-redFAST protein and free (dash lines) forms obtained from plate reader screening. The spectra are presented as is, without normalization (see the relevant part of the Methods section). Solutions with a concentration of 10 μM of corresponding fluorogens and 1 μM of nanoFAST variants in the PBS buffer were used.

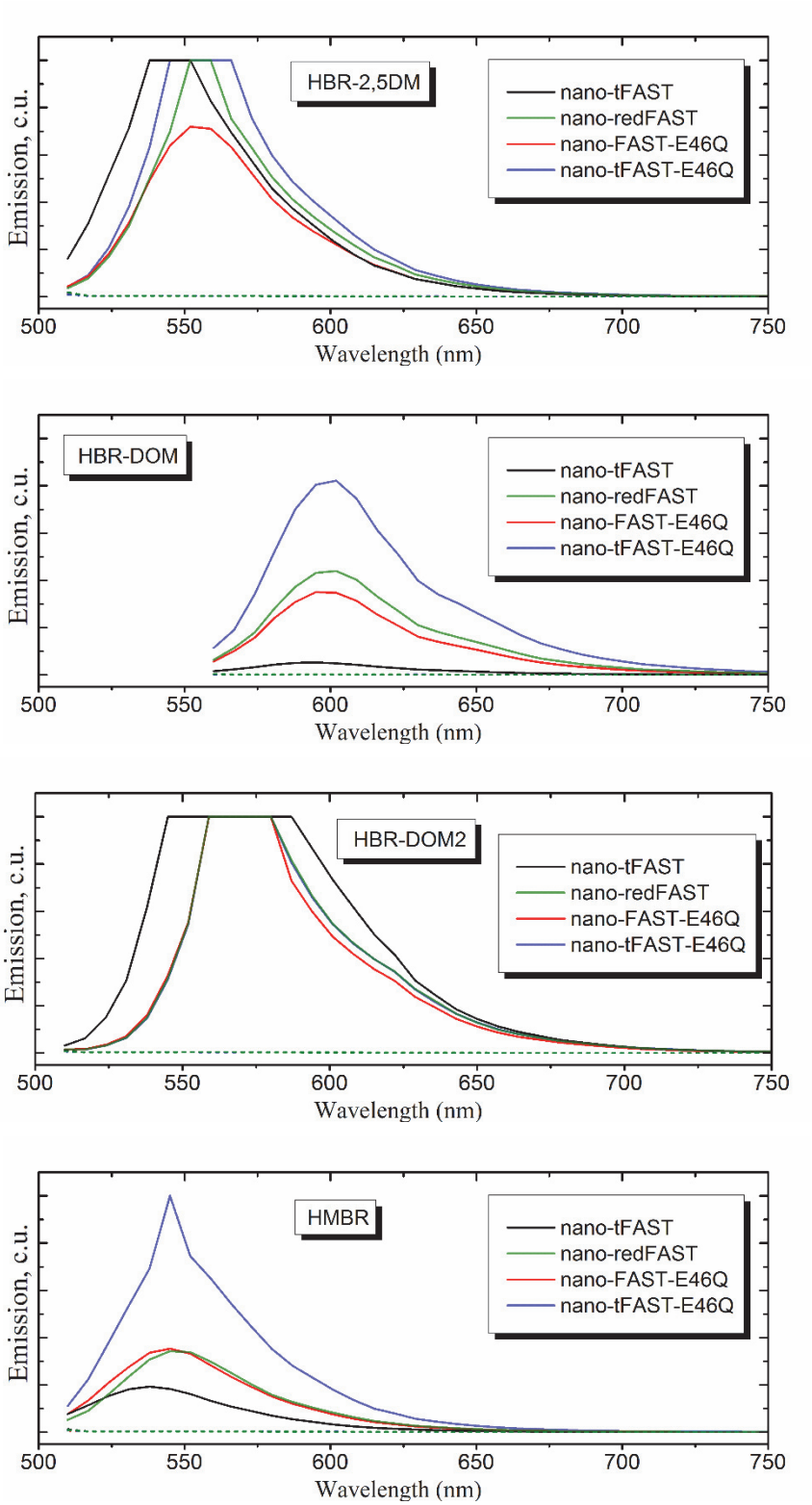


Figure S2.2. Emission spectra of various compounds in bound (solid lines) with nano-FAST variants and free (dash lines) forms obtained from plate reader screening. The spectra are presented as is, without normalization (see the relevant part of the Methods section). Solutions with a concentration of 10 μM of corresponding fluorogens and 1 μM of nanoFAST variants in the PBS buffer were used.

3. Determination of affinity constants

Table S3.1. Dissociation constants values of complexes [mutant-**HBR-DOM2**]

Mutant	$K_{D.}$ µM
nano-iFAST	1.19±0.06
nano-frFAST	1.12±0.22
nano-pFAST	0.074±0.016
nano-tFAST	0.19±0.02
nano-redFAST	0.70±0.13
nanoFAST-E46Q	0.43±0.05
nano tFAST-E46Q	0.13±0.01
K_D of complexes of others mutants >3	

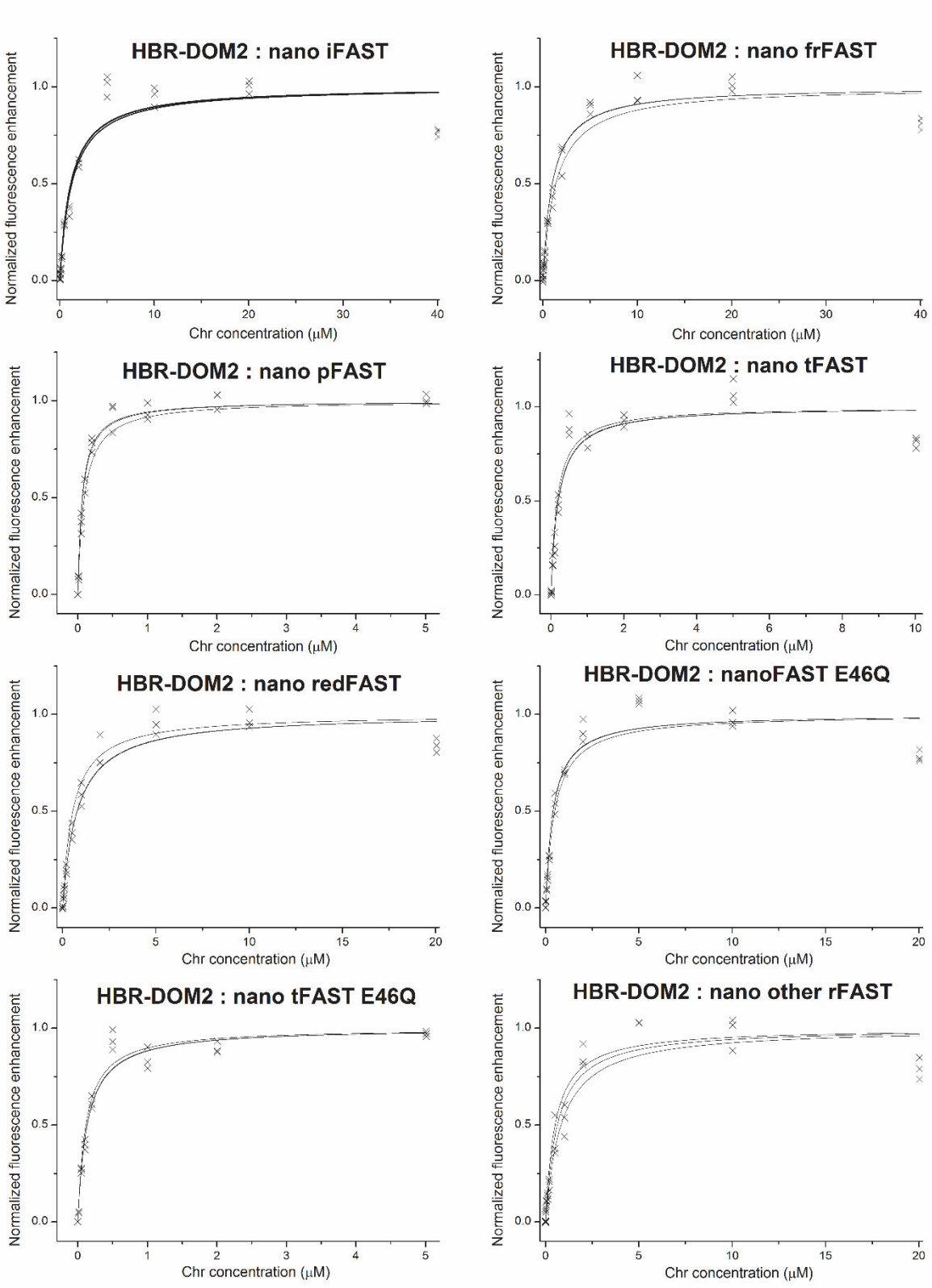


Figure S3.1. The graphs show the bound fraction for various **HBR-DOM2** concentrations.

Table S3.2. Dissociation constants values of complexes [mutant-**HBR-2,5-DM**]

Mutant	$K_{D,}$ µM
nano-tFAST	0.93±0.19
nano-redFAST	1.26±0.33
nano-tFAST E46Q	0.50±0.16

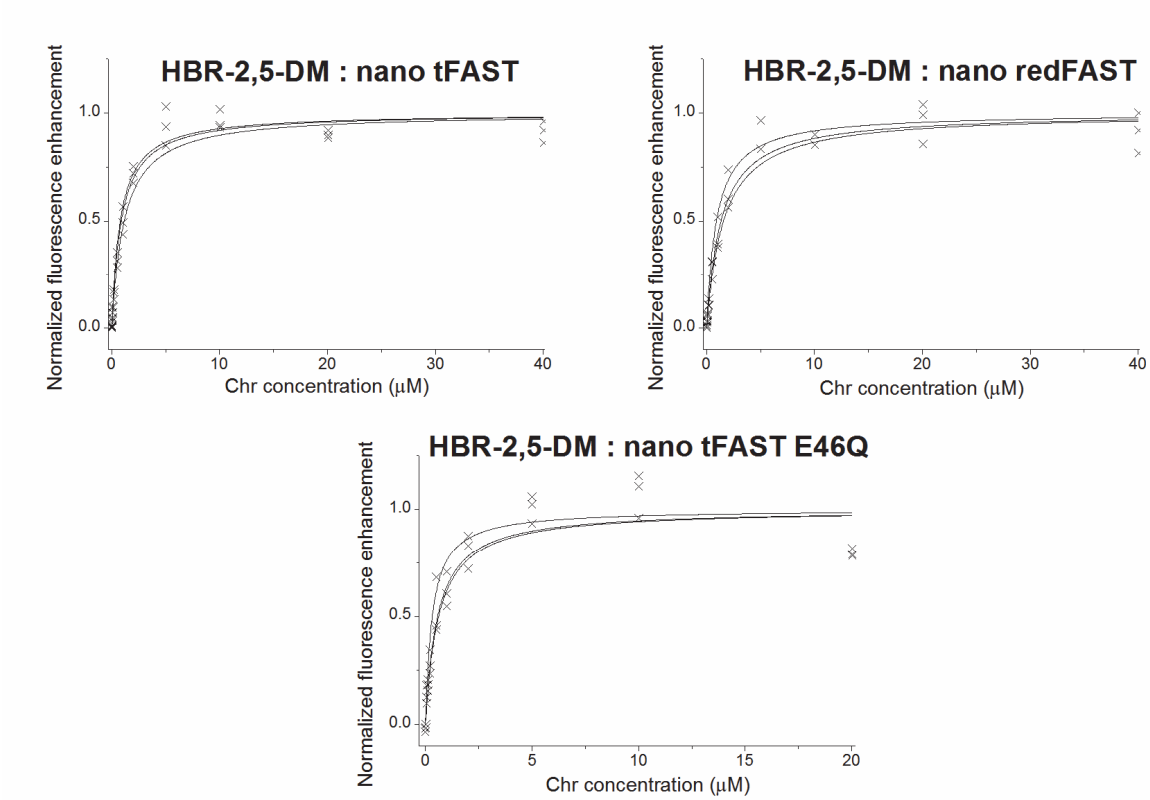


Figure S3.2. The graphs show the bound fraction for various **HBR-2,5-DM** concentrations.

Table S3.3. Dissociation constants values of complexes [mutant-**HMBR**]

Mutant	$K_{D.}$ µM
nano-redFAST	>3
nano-tFAST-E46Q	>3

Table S3.4. Dissociation constants values of complexes [mutant-**HBR-DOM**]

Mutant	$K_{D.}$ µM
nano-redFAST	>3
nano-tFAST-E46Q	1.69±0.32

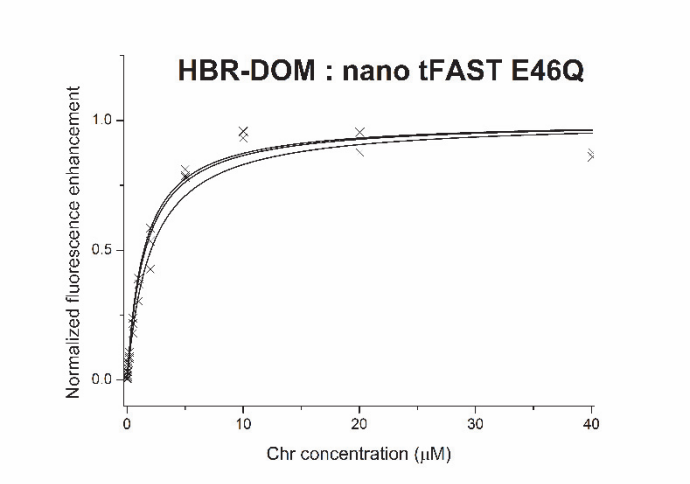


Figure S3.3. The graph shows the bound fraction for various **HBR-DOM** concentrations.

Table S3.5. Dissociation constants values of complexes [**nano-tFAST**-chromophore]

Chromophore	$K_{D.}$ µM
HBR-DOM2	0.19±0.02
HBR-2,5-DM	0.93±0.19

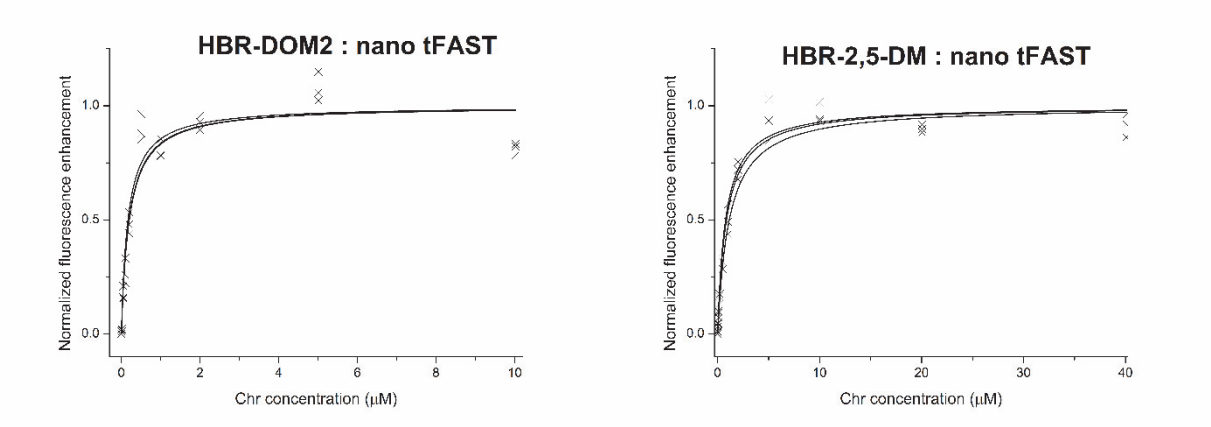
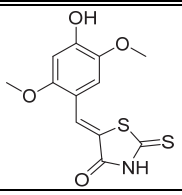
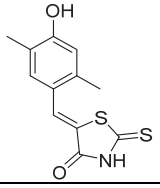
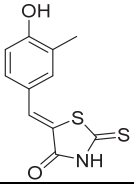
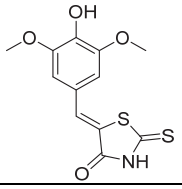
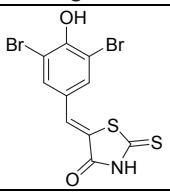
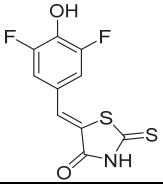
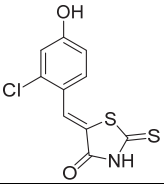
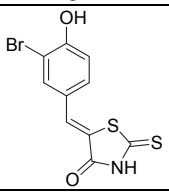
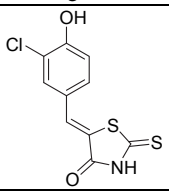
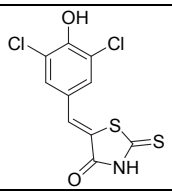
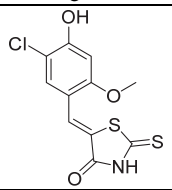
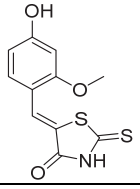
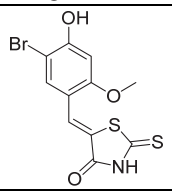
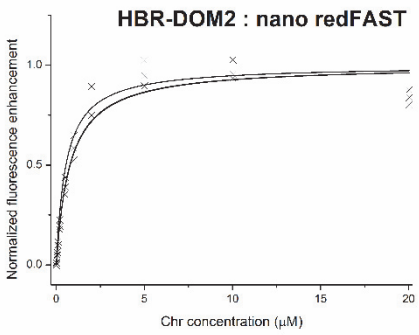


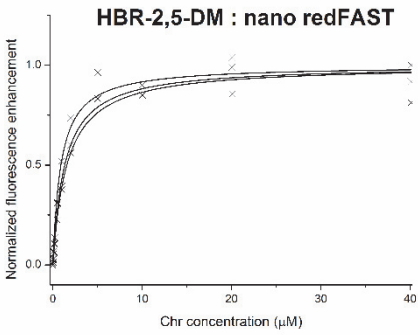
Figure S3.4. The graph shows the bound fraction for various chromophore concentrations.

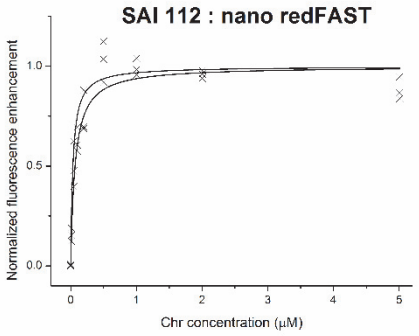
Table S3.6. Dissociation constants values of complexes [**nano-redFAST**- chromophore]

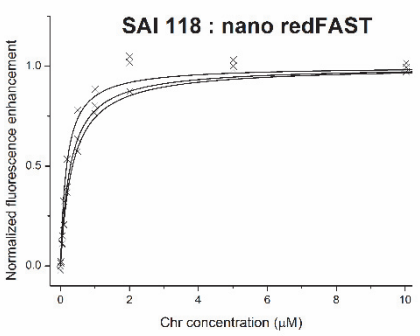
Chromophore	Enhancement in screening	Structure	$K_{D,}$ µM
HBR-DOM2	>400		0.69±0.08
HBR-2,5-DM	194		1.23±0.13
HMBR	55		>3
HBR-DOM	205		>3
SAI 112	>65		0.055±0.018
SAI 118	50		0.27±0.08
SAI 199	52		0.16±0.04
SAI 117	52		0.27±0.06
SAI 125	67		0.59±0.11

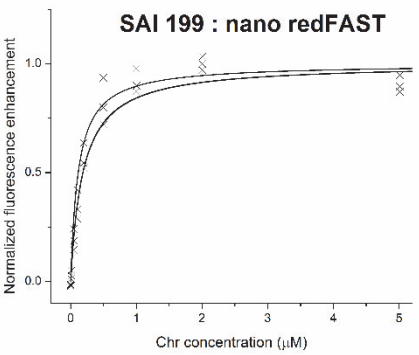
SAI 127	>70		0.041±0.004
SAI 366	>89		0.022±0.008
SAI 362	>105		1.01±0.10
SAI 365	>87		0.026±0.009

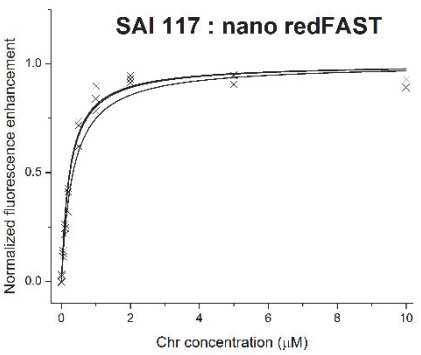

HBR-DOM2 : nano redFAST
Normalized fluorescence enhancement
Chr concentration (μM)

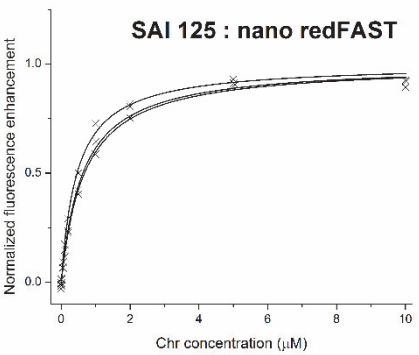

HBR-2,5-DM : nano redFAST
Normalized fluorescence enhancement
Chr concentration (μM)

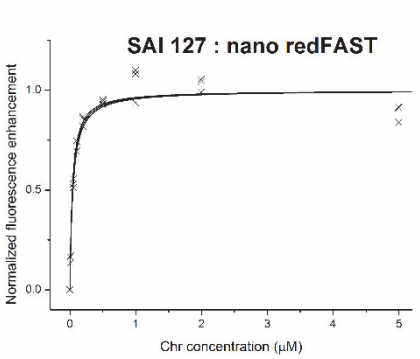

SAI 112 : nano redFAST
Normalized fluorescence enhancement
Chr concentration (μM)


SAI 118 : nano redFAST
Normalized fluorescence enhancement
Chr concentration (μM)


SAI 199 : nano redFAST
Normalized fluorescence enhancement
Chr concentration (μM)


SAI 117 : nano redFAST
Normalized fluorescence enhancement
Chr concentration (μM)


SAI 125 : nano redFAST
Normalized fluorescence enhancement
Chr concentration (μM)


SAI 127 : nano redFAST
Normalized fluorescence enhancement
Chr concentration (μM)

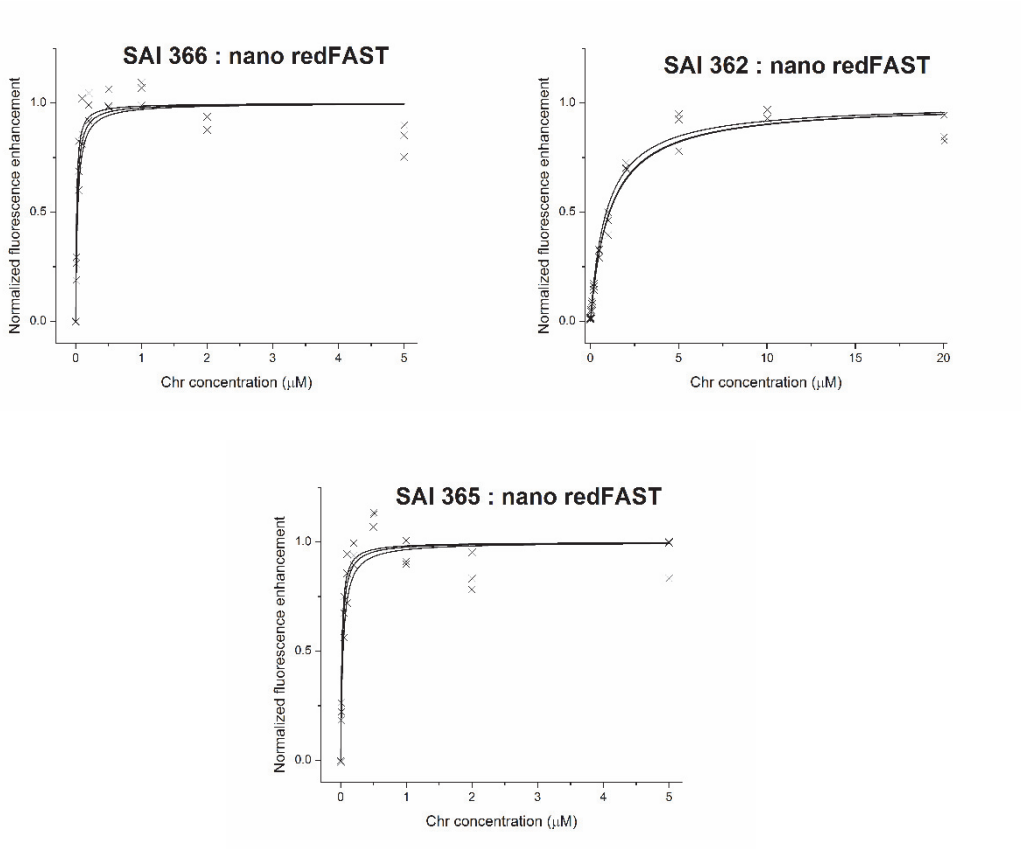


Figure S3.5. The graph shows the bound fraction for various chromophore concentrations.

Table S3.7. Dissociation constants values of complexes [**nano-tFAST-E46Q**-chromophore]

Chromophore	$K_{D.}$ µM
HBR-DOM2	0.13±0.01
HBR-2,5-DM	0.50±0.16
HMBR	>3
HBR-DOM	1.69±0.32

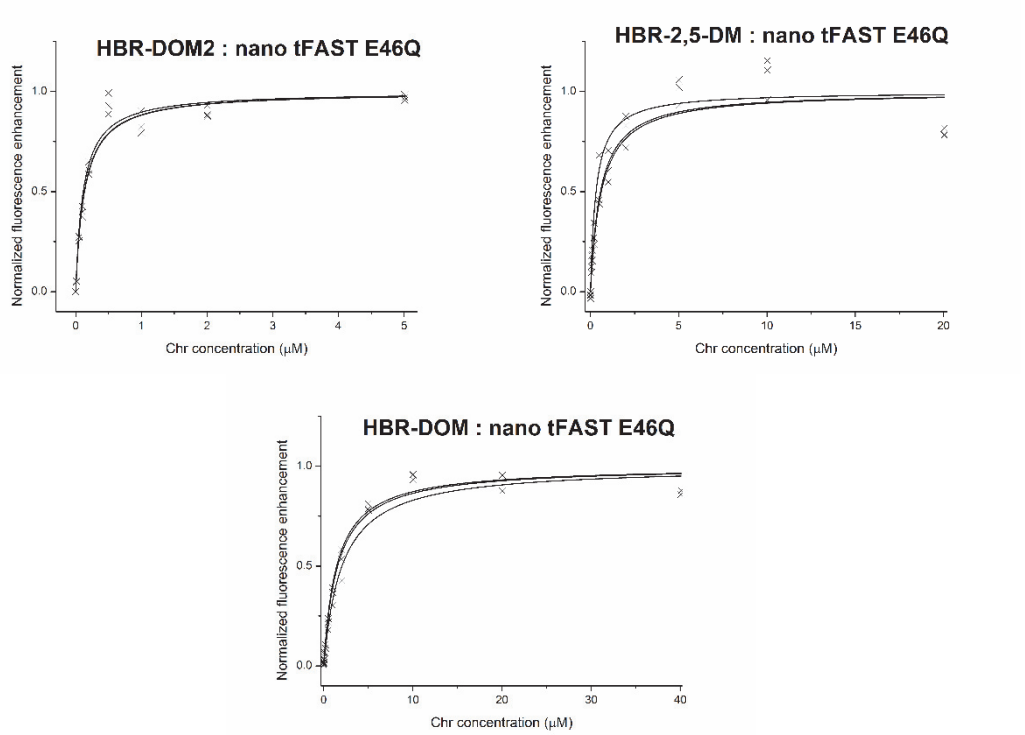


Figure S3.6. The graph shows the bound fraction for various chromophore concentrations.

4. Fluorescence Lifetime Measurements

Table S.4.1. Fluorescence lifetimes (τ) of **HBR-DOM2**, **HBR-DOM**, and **HBR-2,5-DM** fluorogen in complexes with nanoFAST variants. τ is the fluorescence lifetime of the corresponding exponential component; A is a relative contribution of the exponential decay component; χ^2 is a value of the Pearson's chi-squared test.

Fluoorogen	FAST variant	τ_1 ± SD, ns	A_1, %	τ_2 ± SD, ns	A_2, %	χ^2
HBR-DOM2	**nanoFAST**	0.095 ± 0.008	4	3.802 ± 0.007	96	1.166
	nano-iFAST	0.106 ± 0.008	4	3.644 ± 0.007	96	1.182
	nano-redFAST	0.091 ± 0.008	3	3.993 ± 0.007	97	1.196
	nano tFAST	0.090 ± 0.009	4	3.920 ± 0.007	96	1.226
	nano tFAST-E46Q	0.100 ± 0.008	3	4.038 ± 0.007	97	1.196
HBR-DOM	**nano tFAST-E46Q**	0.121 ± 0.008	5	3.377 ± 0.007	95	1.172
HBR-2,5-DM	**nano tFAST-E46Q**	0.102 ± 0.007	7	2.399 ± 0.006	93	1.200

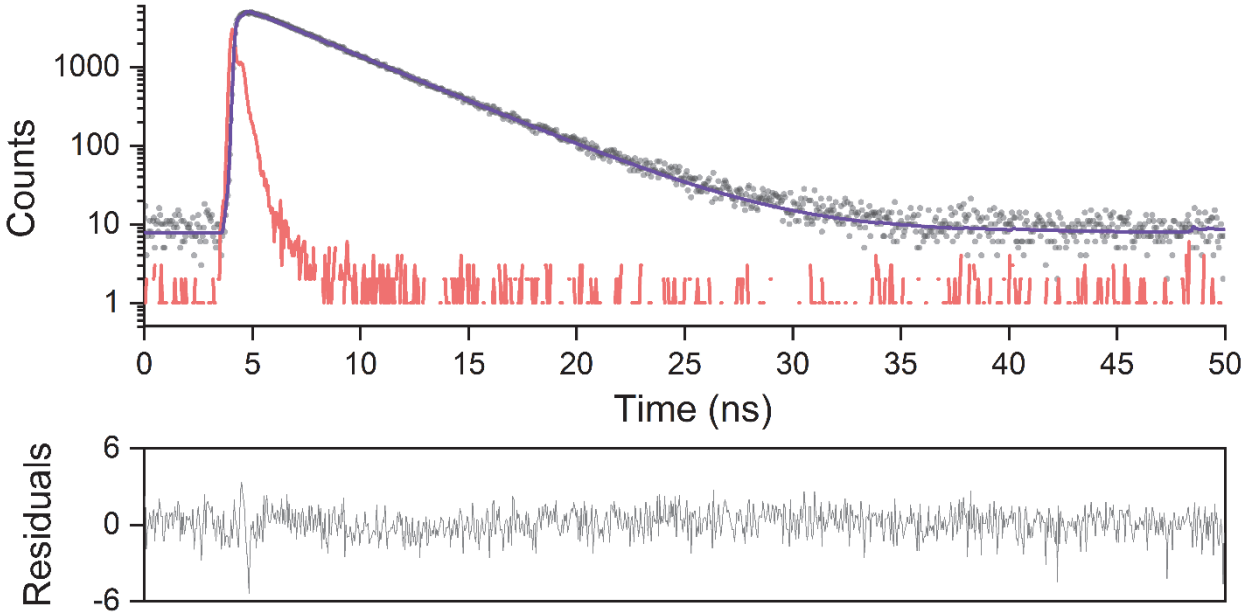


Figure S4.1. Fluorescence decay kinetics of the **HBR-DOM2** fluorogen bound by nanoFAST. Gray dots represent experimental decay data (photon arrivals), violet line shows exponential fit of the data, red curve denotes instrument response function (IRF). Residuals of fitting results are shown below.

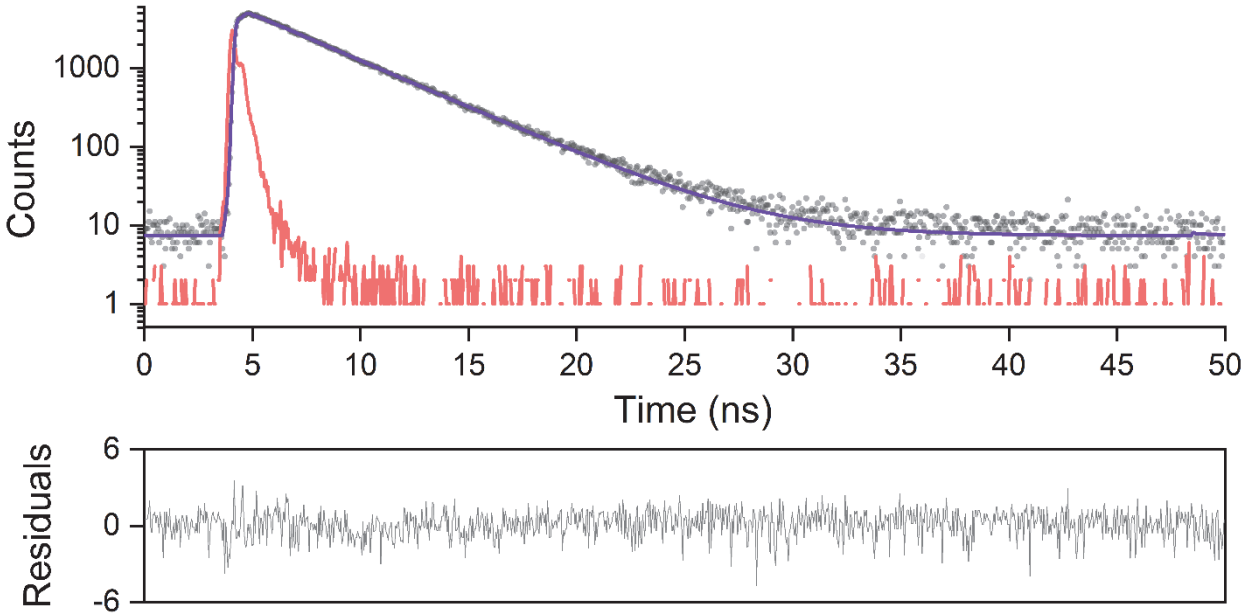


Figure S4.2. Fluorescence decay kinetics of the **HBR-DOM2** fluorogen bound by nano-iFAST. Gray dots represent experimental decay data (photon arrivals), violet line shows exponential fit of the data, red curve denotes instrument response function (IRF). Residuals of fitting results are shown below.

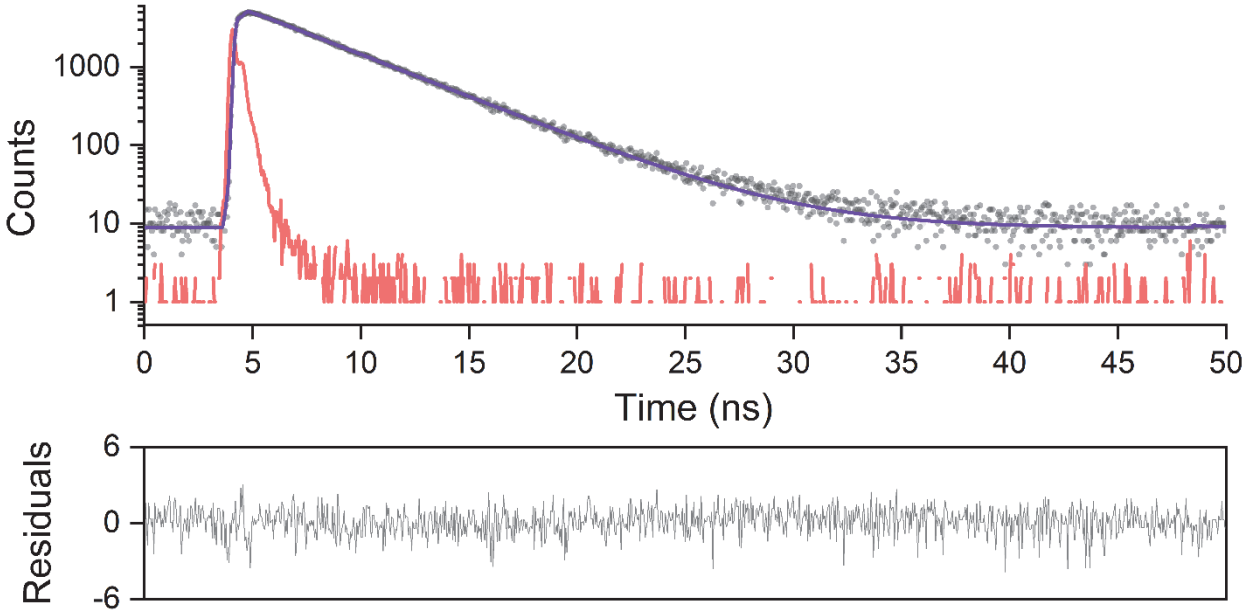


Figure S4.3. Fluorescence decay kinetics of the **HBR-DOM2** fluorogen bound by nano-redFAST. Gray dots represent experimental decay data (photon arrivals), violet line shows exponential fit of the data, red curve denotes instrument response function (IRF). Residuals of fitting results are shown below.

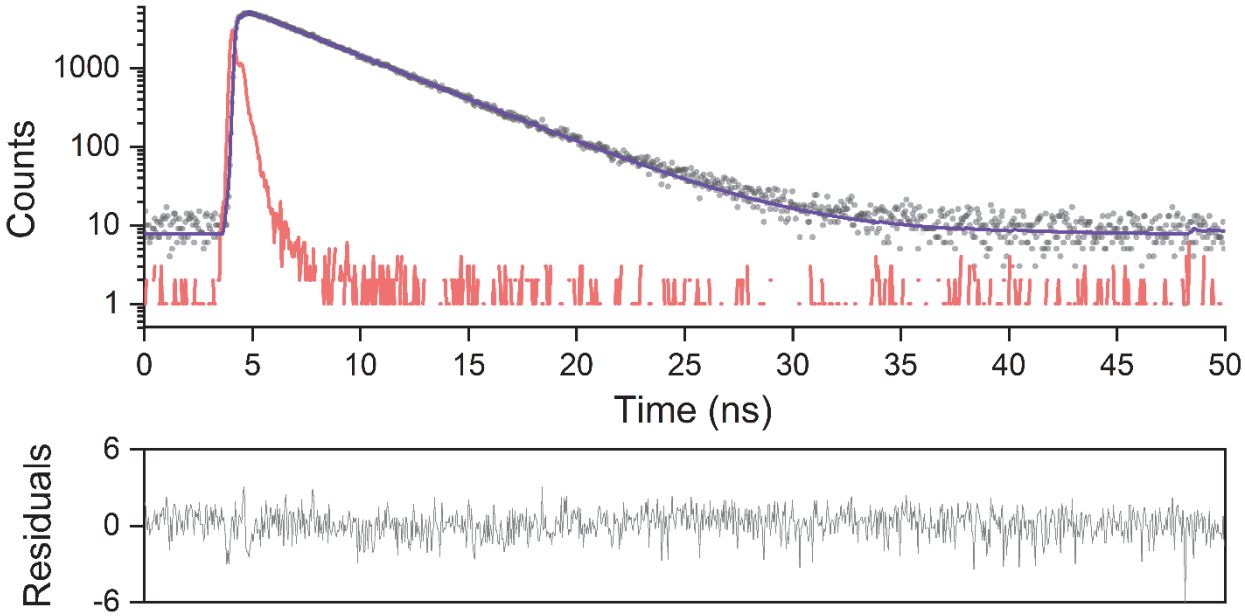


Figure S4.4. Fluorescence decay kinetics of the **HBR-DOM2** fluorogen bound by nano-tFAST. Gray dots represent experimental decay data (photon arrivals), violet line shows exponential fit of the data, red curve denotes instrument response function (IRF). Residuals of fitting results are shown below.

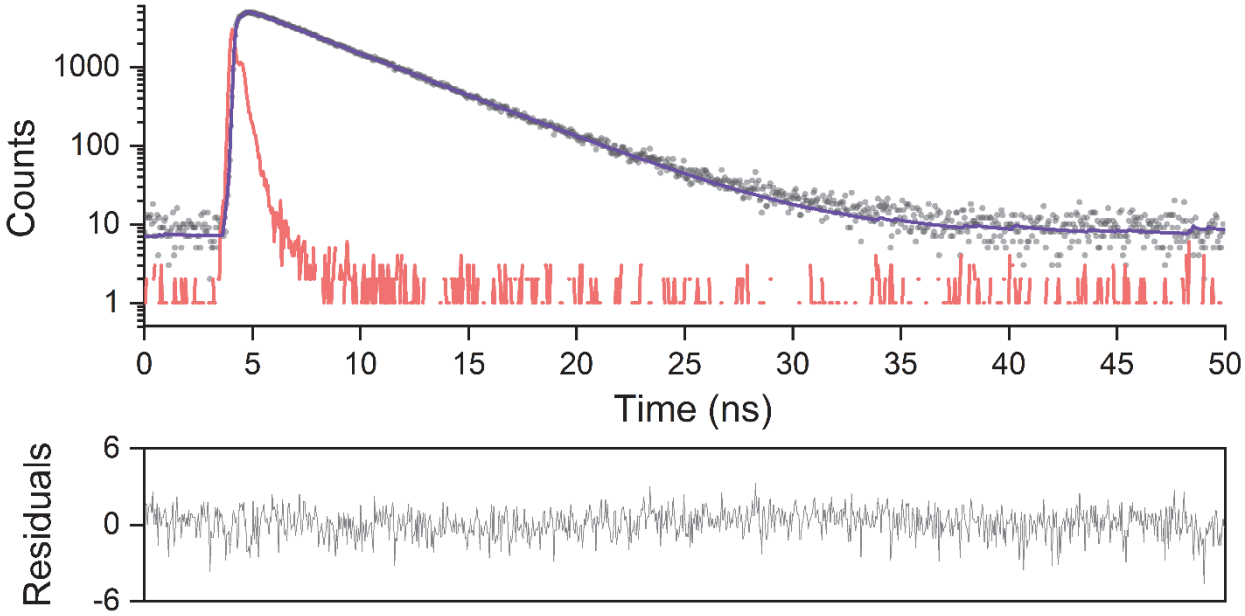


Figure S4.5. Fluorescence decay kinetics of the **HBR-DOM2** fluorogen bound by nano-tFAST-E46Q. Gray dots represent experimental decay data (photon arrivals), violet line shows exponential fit of the data, red curve denotes instrument response function (IRF). Residuals of fitting results are shown below.

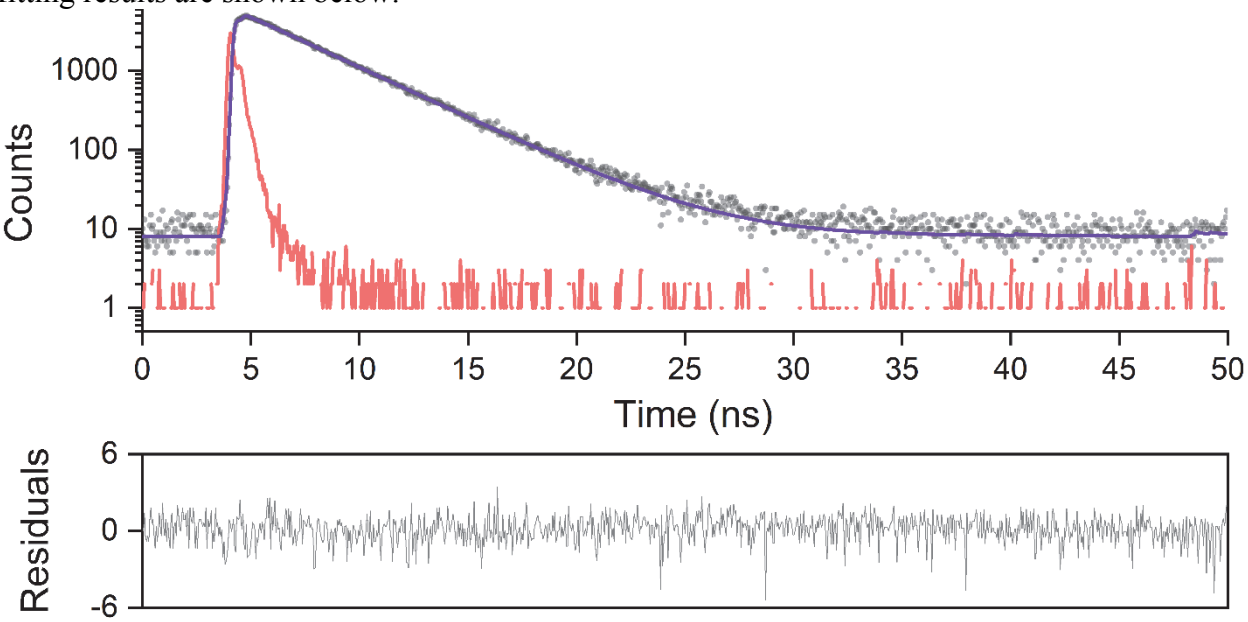


Figure S4.6. Fluorescence decay kinetics of the **HBR-DOM** fluorogen bound by nano-tFAST-E46Q. Gray dots represent experimental decay data (photon arrivals), violet line shows exponential fit of the data, red curve denotes instrument response function (IRF). Residuals of fitting results are shown below.

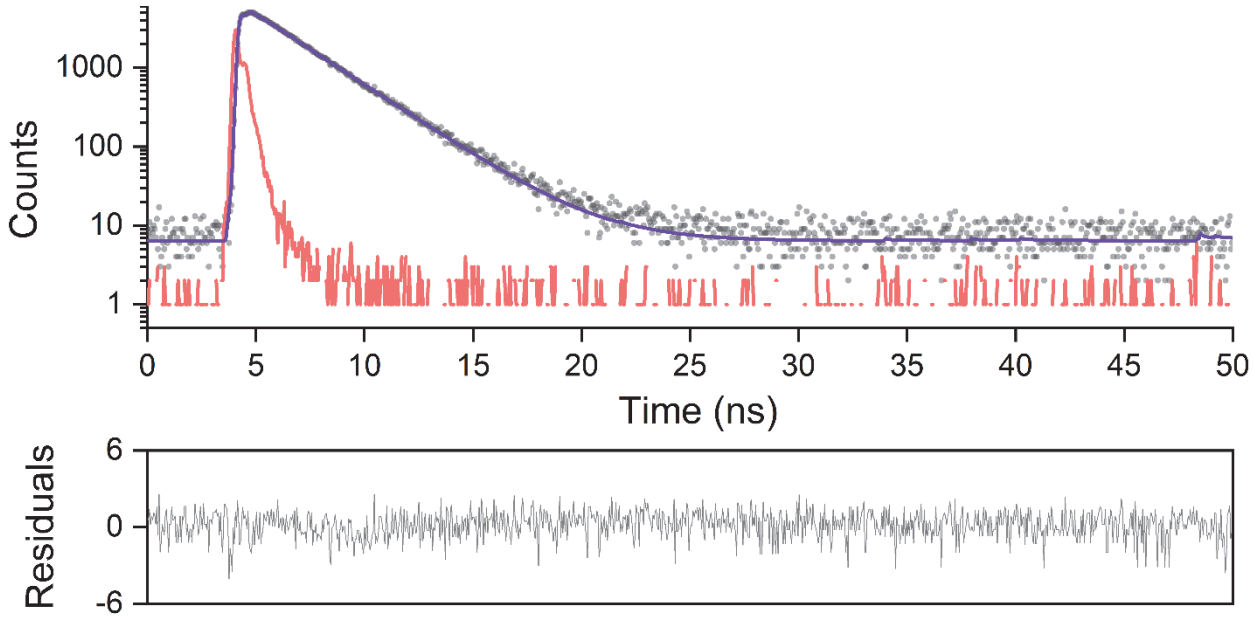


Figure S4.7. Fluorescence decay kinetics of the **HBR-2,5DM** fluorogen bound by nano-tFAST-E46Q. Gray dots represent experimental decay data (photon arrivals), violet line shows exponential fit of the data, red curve denotes instrument response function (IRF). Residuals of fitting results are shown below.

5. Spectra of complexes

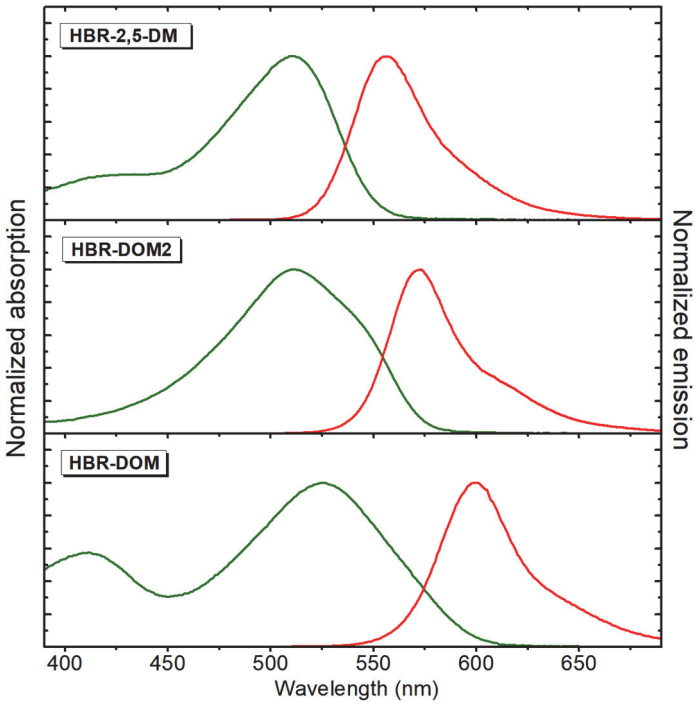


Figure S5.1. The absorption (green) and emission (red) spectra of various chromophores in complexes with nano-tFAST-E46Q.

6. Fluorescent microscopy

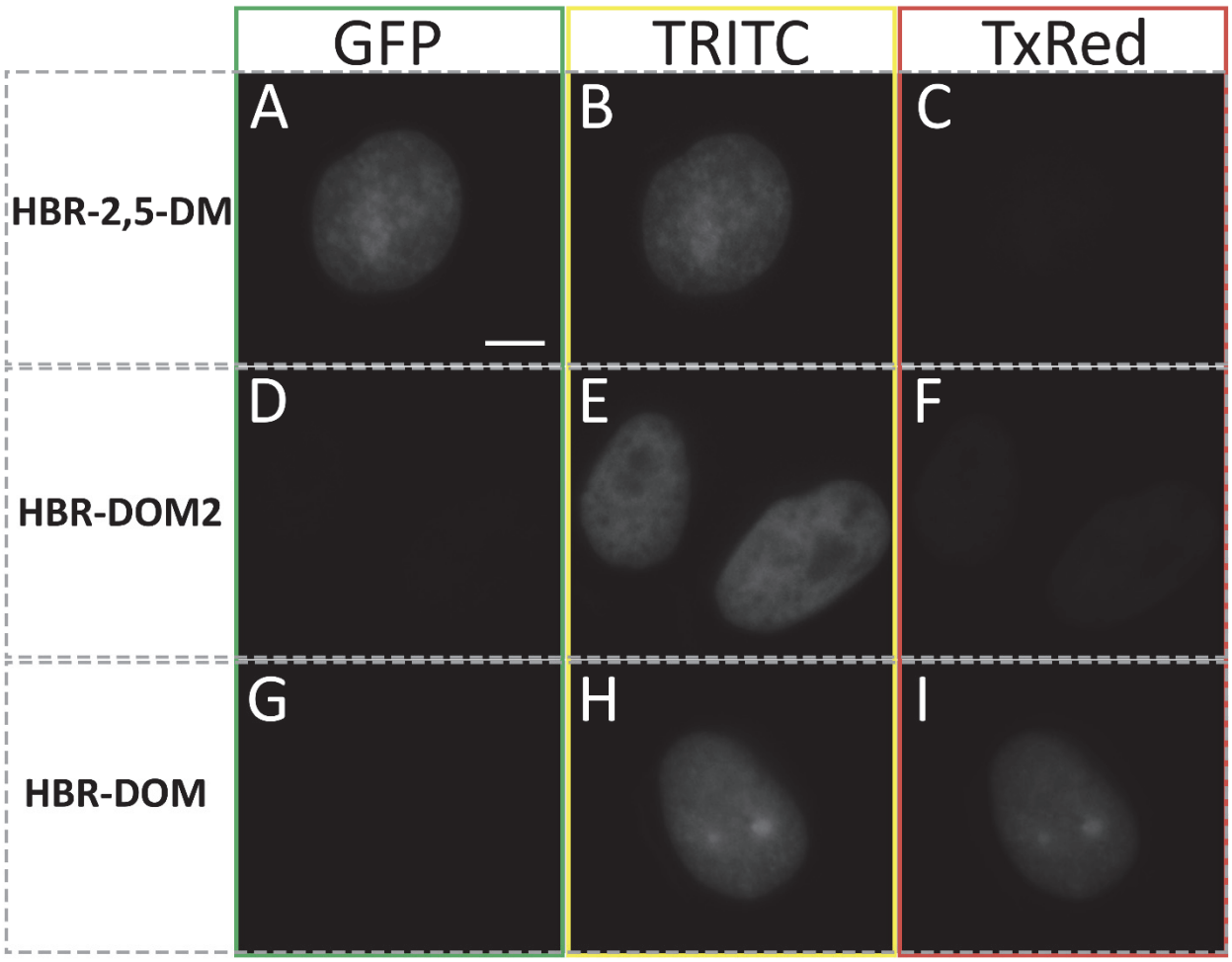
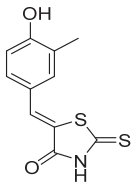


Figure S6.1. Live-cell imaging with a set of fluorogens using different filter sets. HeLa Kyoto cells transiently transfected with nano-tFast-E46Q-H2B. Cells were imaged using GFP filter (A, D, G), TRITC filter (B, E, H), and TxRed filter (C, F, I) in the presence of 5 μM **HBR-2,5-DM** (A, B, C), 5 μM **HBR-DOM2** (D, E, F), and 5 μM **HBR-DOM** (G, H, I). The scale bar is 10 μm. Imaging conditions, e.g. light intensity, gain, and exposure time for every filter set, were kept constant.

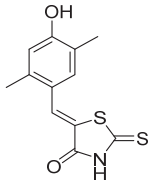
7. Compounds description

(*Z*)-5-(4-hydroxybenzylidene)-2-thioxothiazolidin-4-ones



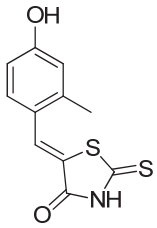
(Z)-5-(4-Hydroxy-3-methylbenzylidene)-2-thioxothiazolidin-4-one (HMBR)

Previously characterized. Spectral properties correspond to the previously reported.[3]



(Z)-5-(4-Hydroxy-2,5-dimethylbenzylidene)-2-thioxothiazolidin-4-one (HBR-2,5-DM)

Previously characterized. Spectral properties correspond to the previously reported.[4]



(Z)-5-(4-Hydroxy-2-methylbenzylidene)-2-thioxothiazolidin-4-one (SAI458)

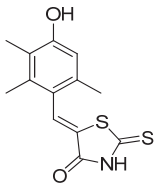
Yield 204 mg (27%). Orange solid. M.p. over 250°C.

E/Z isomerism is observed for this compound. A description for the major isomer is given below.

^{1}H NMR (700 MHz, DMSO-d_6) δ 13.69 (brs, 1H), 10.24 (s, 1H), 7.67 (s, 1H), 7.25 (d, J = 8.5 Hz, 1H), 6.79 (dd, J = 8.5, 2.6 Hz, 1H), 6.75 (d, J = 2.6 Hz, 1H), 2.37 (s, 3H).

^{13}C NMR (176 MHz, DMSO-d_6) δ 195.8, 169.3, 160.1, 142.1, 130.1, 129.4, 122.7, 122.0, 118.0, 114.2, 19.5,

HRMS (ESI) m/z $[M+H]^+$ calcd for $C_{11}H_{10}NO_2S_2$: 252.0147, found: 252.0147.



(Z)-5-(4-Hydroxy-2,3,6-trimethylbenzylidene)-2-thioxothiazolidin-4-one (SAI459)

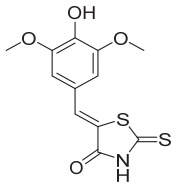
Yield 142 mg (17%). Orange solid. M.p. 246-248°C.

E/Z isomerism is observed for this compound. A description for the major isomer is given below.

^{1}H NMR (700 MHz, DMSO-d_6) δ 13.64 (brs, 1H), 9.47 (s, 1H), 7.68 (s, 1H), 6.58 (s, 1H), 2.10 (s, 3H), 2.07 (s, 3H), 2.03 (s, 3H).

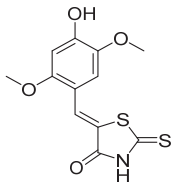
^{13}C NMR (176 MHz, DMSO-d_6) δ 196.4, 167.8, 155.8, 135.1, 134.0, 133.3, 130.9, 124.2, 120.7, 114.2, 19.8, 17.1, 11.5,

HRMS (ESI) m/z $[M+H]^+$ calcd for $C_{13}H_{14}NO_2S_2$: 280.0460, found: 280.0454.



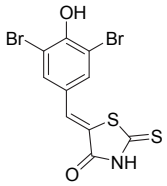
(Z)-5-(4-Hydroxy-3,5-dimethoxybenzylidene)-2-thioxothiazolidin-4-one (HBR-DOM)

Previously characterized. Spectral properties correspond to the previously reported.[4]



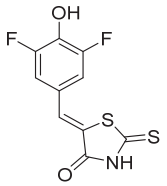
(Z)-5-(4-Hydroxy-2,5-dimethoxybenzylidene)-2-thioxothiazolidin-4-one (HBR-DOM2)

Previously characterized. Spectral properties correspond to the previously reported.[2]



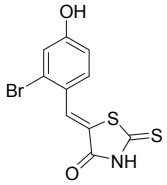
(*Z*)-5-(3,5-Dibromo-4-hydroxybenzylidene)-2-thioxothiazolidin-4-one (SAI112)

Previously characterized. Spectral properties correspond to the previously reported.[2]



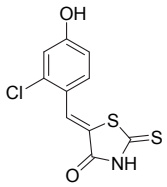
(*Z*)-5-(3,5-Difluoro-4-hydroxybenzylidene)-2-thioxothiazolidin-4-one (SAI118)

Previously characterized. Spectral properties correspond to the previously reported.[2]



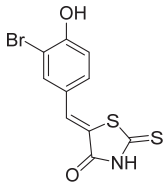
(*Z*)-5-(2-Bromo-4-hydroxybenzylidene)-2-thioxothiazolidin-4-one (SAI122)

Previously characterized. Spectral properties correspond to the previously reported.[2]



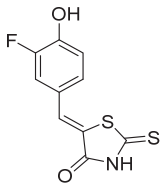
(*Z*)-5-(2-Chloro-4-hydroxybenzylidene)-2-thioxothiazolidin-4-one (SAI199)

Previously characterized. Spectral properties correspond to the previously reported.[2]



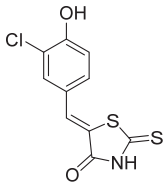
(*Z*)-5-(3-Bromo-4-hydroxybenzylidene)-2-thioxothiazolidin-4-one (SAI117)

Previously characterized. Spectral properties correspond to the previously reported.[2]



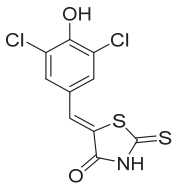
(*Z*)-5-(3-Fluoro-4-hydroxybenzylidene)-2-thioxothiazolidin-4-one (SAI121)

Previously characterized. Spectral properties correspond to the previously reported.[2]



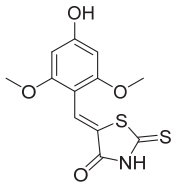
(*Z*)-5-(3-Chloro-4-hydroxybenzylidene)-2-thioxothiazolidin-4-one (SAI125)

Previously characterized. Spectral properties correspond to the previously reported.[2]



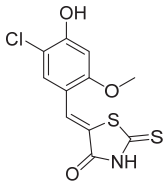
(*Z*)-5-(3,5-Dichloro-4-hydroxybenzylidene)-2-thioxothiazolidin-4-one (SAI127)

Previously characterized. Spectral properties correspond to the previously reported.[2]



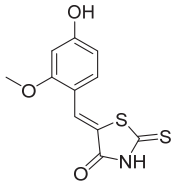
(*Z*)-5-(4-Hydroxy-2,6-dimethoxybenzylidene)-2-thioxothiazolidin-4-one (SAI363)

Previously characterized. Spectral properties correspond to the previously reported.[2]



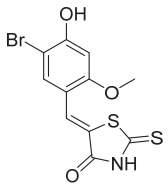
(*Z*)-5-(5-Chloro-4-hydroxy-2-methoxybenzylidene)-2-thioxothiazolidin-4-one (SAI366)

Previously characterized. Spectral properties correspond to the previously reported.[2]



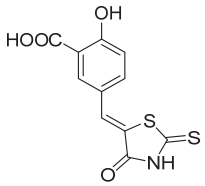
(*Z*)-5-(4-Hydroxy-2-methoxybenzylidene)-2-thioxothiazolidin-4-one (SAI362)

Previously characterized. Spectral properties correspond to the previously reported.[2]



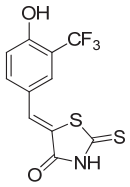
(*Z*)-5-(5-Bromo-4-hydroxy-2-methoxybenzylidene)-2-thioxothiazolidin-4-one (SAI365)

Previously characterized. Spectral properties correspond to the previously reported.[2]



(*Z*)-2-Hydroxy-5-((4-oxo-2-thioxothiazolidin-5-ylidene)methyl)benzoic acid (SAI120)

Previously characterized. Spectral properties correspond to the previously reported.[2]



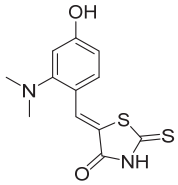
(*Z*)-5-(4-Hydroxy-3-(trifluoromethyl)benzylidene)-2-thioxothiazolidin-4-one (SAI379)

Yield 198 mg (22%). Yellow solid. M.p. 254-256°C.

^{1}H NMR (700 MHz, DMSO-d_6) δ 7.18 (d, J = 8.7 Hz, 1H), 7.63 (s, 1H), 7.66 (dd, J = 8.7, 2.3 Hz, 1H), 7.79 (d, J = 2.4 Hz, 1H), 11.50 (brs, 1H), 13.76 (brs, 1H).

^{13}C NMR (176 MHz, DMSO-d_6) δ 116.5 (q, J = 30.5 Hz), 118.2, 123.1, 123.4 (q, J = 272.4 Hz), 123.8, 130.2 (q, J = 4.8 Hz), 130.9, 135.3, 157.9, 169.3, 195.2.

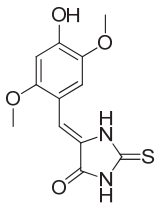
HRMS (ESI) m/z $[M+H]^+$ calcd for $C_{11}H_7F_3NO_2S_2$: 305.9865, found: 305.9866.



(*Z*)-5-(2-(Dimethylamino)-4-hydroxybenzylidene)-2-thioxothiazolidin-4-one (SAI 367)

Previously characterized. Spectral properties correspond to the previously reported.[2]

5-(4-hydroxybenzylidene)-2-thioxoimidazolidin-4-ones



(Z)-5-(4-Hydroxy-2,5-dimethoxybenzylidene)-2-thioxoimidazolidin-4-one (SAI472)

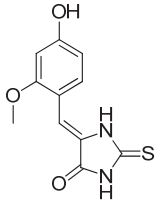
The dried precipitate was subject to flash column chromatography (gradient elution with $CHCl_3$ to $CHCl_3$/MeOH, 100:4). Yield 160 mg (19%). Orange solid. M.p. over 250°C.

E/Z isomerism is observed for this compound. A description for the major isomer is given below.

^{1}H NMR (700 MHz, DMSO-d_6) δ 12.19 (s, 1H), 11.98 (s, 1H), 9.77 (s, 1H), 7.19 (s, 1H), 6.71 (s, 1H), 6.54 (s, 1H), 3.84 (s, 3H), 3.77 (s, 3H).

^{13}C NMR (176 MHz, DMSO-d_6) δ 177.8, 165.8, 153.9, 150.5, 141.8, 124.9, 114.4, 111.2, 107.4, 100.2, 57.0, 56.0.

HRMS (ESI) m/z $[M+H]^+$ calcd for $C_{12}H_{13}N_2O_4S$: 281.0591, found: 281.0590.



(Z)-5-(4-Hydroxy-2-methoxybenzylidene)-2-thioxoimidazolidin-4-one (SAI499)

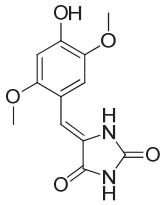
Yield 240 mg (32%). Brown solid. M.p. over 250°C.

^{1}H NMR (700 MHz, DMSO-d_6) δ 12.17 (s, 1H), 11.81 (s, 1H), 10.10 (brs, 1H), 7.65 (d, J = 8.5 Hz, 1H), 6.69 (s, 1H), 6.45 (d, J = 2.3 Hz, 1H), 6.42 (dd, J = 8.5, 2.3 Hz, 1H), 3.81 (s, 3H).

^{13}C NMR (75 MHz, DMSO-d_6) δ 177.8, 165.8, 161.0, 159.5, 131.5, 125.0, 112.2, 108.0, 107.2, 99.0, 55.6.

HRMS (ESI) m/z $[M+H]^+$ calcd for $C_{11}H_{11}N_2O_3S$: 251.0485, found: 251.0483.

5-(4-hydroxybenzylidene)-imidazolidine-2,4-diones



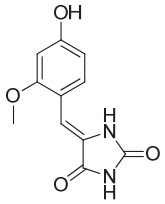
(Z)-5-(4-Hydroxy-2,5-dimethoxybenzylidene)imidazolidine-2,4-dione (SAI503)

Yield 274 mg (52%). Yellow solid. M.p. over 250°C.

^{1}H NMR (700 MHz, DMSO-d_6) δ 11.05 (brs, 1H), 10.32 (brs, 1H), 9.52 (brs, 1H), 7.04 (s, 1H), 6.62 (s, 1H), 6.53 (s, 1H), 3.81 (s, 3H), 3.75 (s, 3H).

^{13}C NMR (75 MHz, DMSO-d_6) δ 165.7, 155.7, 153.0, 149.2, 141.6, 125.3, 113.4, 111.7, 104.0, 100.3, 56.7, 56.0.

HRMS (ESI) m/z $[M+H]^+$ calcd for $C_{12}H_{13}N_2O_5$: 265.0819, found: 265.0818.



(Z)-5-(4-Hydroxy-2-methoxybenzylidene)imidazolidine-2.4-dione (SAI487)

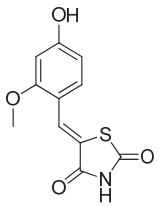
Yield 84 mg (18%). Brown solid. M.p. 237-239°C.

^{1}H NMR (700 MHz, DMSO-d_6) δ 10.21 (brs, 3H), 7.45 (d, J = 8.4 Hz, 1H), 6.61 (s, 1H), 6.44 (d, J = 2.3 Hz, 1H), 6.39 (dd, J = 8.4, 2.3 Hz, 1H), 3.79 (s, 3H).

^{13}C NMR (176 MHz, DMSO-d_6) δ 165.6, 159.8, 158.8, 155.4, 130.3, 125.3, 112.6, 107.7, 103.7, 99.0, 55.5.

HRMS (ESI) m/z $[M+H]^+$ calcd for $C_{11}H_{11}N_2O_4$: 235.0713, found: 235.0715.

5-(4-hydroxybenzylidene)-thiazolidine-2,4-diones

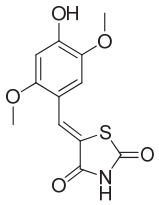


(Z)-5-(4-Hydroxy-2-methoxybenzylidene)thiazolidine-2,4-dione (SAI474)

Yield 452 mg (90%). Yellow solid.

^{1}H NMR (700 MHz, DMSO-d_6) δ 12.35 (brs, 1H), 10.36 (brs, 1H), 7.92 (s, 1H), 7.25 (d, J = 8.5 Hz, 1H), 6.53 (dd, J = 8.5, 2.3 Hz, 1H), 6.51 (d, J = 2.3 Hz, 1H), 3.83 (s, 3H).

Previously characterized. Spectral properties correspond to the previously reported.[5]



(Z)-5-(4-Hydroxy-2,5-dimethoxybenzylidene)thiazolidine-2,4-dione (SAI477)

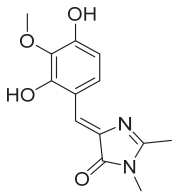
Yield 472 mg (84%). Orange solid. M.p. over 250°C.

^{1}H NMR (700 MHz, DMSO-d_6) δ 12.37 (brs, 1H), 10.11 (s, 1H), 7.92 (s, 1H), 6.90 (s, 1H), 6.61 (s, 1H), 3.80 (s, 3H), 3.77 (s, 3H).

^{13}C NMR (176 MHz, DMSO-d_6) δ 168.1, 167.5, 154.4, 151.4, 142.0, 127.0, 118.4, 112.2, 111.5, 100.6, 56.2, 56.0.

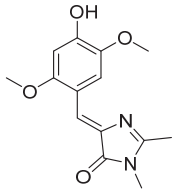
HRMS (ESI) m/z $[M+H]^+$ calcd for $C_{12}H_{12}NO_5S$: 282.0431, found: 282.0430.

5-(Z)-benzylidene-2-methyl-3-alkyl/aryl-3,5-dihydro-4H-imidazol-4-ones



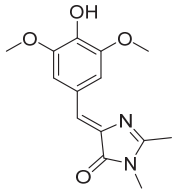
(*Z*)-5-(2,4-Dihydroxy-3-methoxybenzylidene)-2,3-dimethyl-3,5-dihydro-4H-imidazol-4-one (N1042)

Previously characterized. Spectral properties correspond to the previously reported.[2]



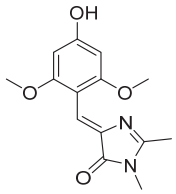
(*Z*)-5-(4-Hydroxy-2,5-dimethoxybenzylidene)-2,3-dimethyl-3,5-dihydro-4H-imidazol-4-one (N1036)

Previously characterized. Spectral properties correspond to the previously reported.[2]



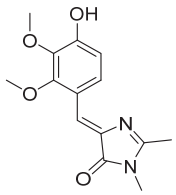
(*Z*)-5-(4-Hydroxy-3,5-dimethoxybenzylidene)-2,3-dimethyl-3,5-dihydro-4H-imidazol-4-one (N979)

Previously characterized. Spectral properties correspond to the previously reported.[2]



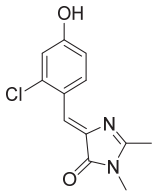
(*Z*)-5-(4-Hydroxy-2,6-dimethoxybenzylidene)-2,3-dimethyl-3,5-dihydro-4H-imidazol-4-one (N976)

Previously characterized. Spectral properties correspond to the previously reported.[2]



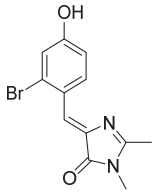
(*Z*)-5-(4-Hydroxy-2,3-dimethoxybenzylidene)-2,3-dimethyl-3,5-dihydro-4H-imidazol-4-one (N1027)

Previously characterized. Spectral properties correspond to the previously reported.[2]



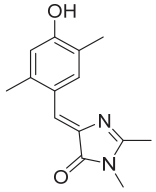
(*Z*)-5-(2-Chloro-4-hyroxybenzylidene)-2,3-dimethyl-3,5-dihydro-4H-imidazol-4-one (N1179)

Previously characterized. Spectral properties correspond to the previously reported.[2]



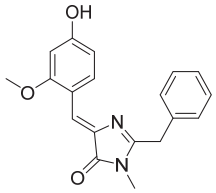
(*Z*)-5-(2-Bromo-4-hyroxybenzylidene)-2,3-dimethyl-3,5-dihydro-4H-imidazol-4-one (N1180)

Previously characterized. Spectral properties correspond to the previously reported.[2]



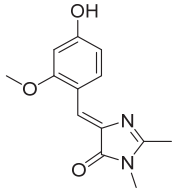
(*Z*)-5-(4-Hydroxy-2,5-dimethylbenzylidene)-2,3-dimethyl-3,5-dihydro-4H-imidazol-4-one (M2876)

Previously characterized. Spectral properties correspond to the previously reported.[2]



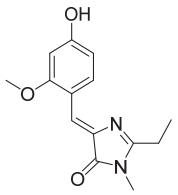
(Z)-2-Benzyl-5-(4-hydroxy-2-methoxybenzylidene)-3-methyl-3,5-dihydro-4H-imidazol-4-one (N1135)

Previously characterized. Spectral properties correspond to the previously reported.[7]



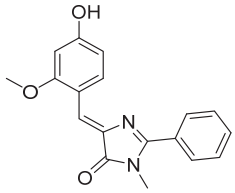
(Z)-5-(4-Hydroxy-2-methoxybenzylidene)-2,3-dimethyl-3,5-dihydro-4H-imidazol-4-one (N865)

Previously characterized. Spectral properties correspond to the previously reported.[8]



(Z)-5-(4-Hydroxy-2-methoxybenzylidene)-2-ethyl-3-methyl-3,5-dihydro-4H-imidazol-4-one (ZS362)

Previously characterized. Spectral properties correspond to the previously reported.[7]



(Z)-5-(4-hydroxy-2-methoxybenzylidene)-3-methyl-2-phenyl-3,5-dihydro-4H-imidazol-4-one (N1131)

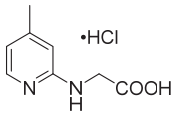
Orange solid (1.91 g. 62%). M. p. = 262-265 ºC.

^{1}H NMR (700 MHz, DMSO-d_6) δ ppm 10.32 (br. s.. 1 H), 8.76 (d, J=8.6 Hz, 1 H), 7.90 (d, J=6.9 Hz, 2 H), 7.57 - 7.63 (m. 3 H), 7.46 (s, 1 H), 6.51 (dd, J=8.8, 2.1 Hz, 1 H), 6.47 (d, J=2.1 Hz, 1 H), 3.86 (s, 3 H), 3.25 (s, 3 H).

^{13}C NMR (75 MHz, DMSO-d_6) δ ppm 170.6, 162.1, 160.8, 160.4, 135.4, 134.1, 131.2, 129.3, 128.8, 128.6, 120.9, 114.1, 108.8, 98.7, 55.7, 28.6.

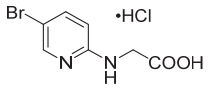
HRMS (ESI) m/z: 309.1234 found (calcd for $C_{18}H_{17}N_2O_3^+$, $[M+H]^+$ 309.1234).

(Z)-2-(4-hydroxy-2-methoxybenzylidene)imidazo[1,2-a]pyridin-3(2H)-ones



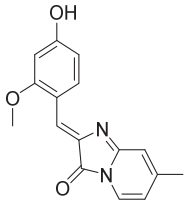
2-((4-methylpyridin-2-yl)amino)acetic acid hydrochloride

Synthetic routes and spectral characteristics were previously described.[7]



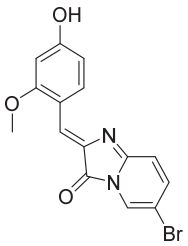
(5-Bromopyridin-2-yl)glycine hydrochloride

Synthetic routes and spectral characteristics were previously described.[9]



(Z)-2-(4-Hydroxy-2-methoxybenzylidene)-7-methylimidazo[1,2-a]pyridin-3(2H)-one (M3007a)

Previously characterized. Spectral properties correspond to the previously reported.[7]



(Z)-6-Bromo-2-(4-hydroxy-2-methoxybenzylidene)imidazo[1,2-a]pyridin-3(2H)-one (MID323)

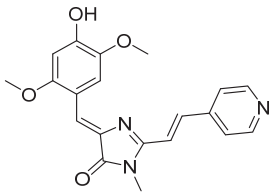
Red solid (0.2 g, 10%). M. p. ~ 285 ºC with decomposition.

^{1}H NMR (700 MHz, DMSO-d_6) δ ppm 10.52 (br. s., 1 H), 8.79 (d, *J*=8.8 Hz, 1 H), 7.97 (d, *J*=1.0 Hz, 1 H), 7.57 (s, 1 H), 7.32 (dd, *J*=9.8, 1.8 Hz, 1 H), 6.98 (d, *J*=9.7 Hz, 1 H), 6.53 (dd, *J*=8.7, 2.0 Hz, 1 H), 6.47 (d, *J*=2.1 Hz, 1 H), 3.87 (s, 3 H).

^{13}C NMR (176 MHz, DMSO-d_6) δ ppm 165.1, 163.0, 161.3, 151.9, 139.3, 134.7, 134.4, 126.0, 122.9, 120.0, 114.7, 109.1, 103.0, 98.7, 55.7.

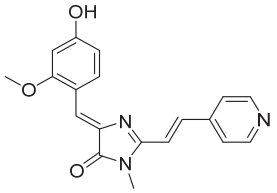
HRMS (ESI) m/z: 347.0032 found (calcd for $C_{15}H_{12}BrN_2O_3^+$, $[M+H]^+$ 347.0026).

5-(Z)-benzylidene-2-(E)-arylvinyl-3-methyl-3,5-dihydro-4H-imidazol-4-ones



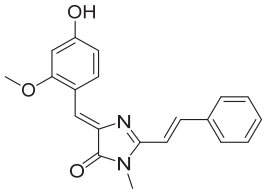
5-((Z)-4-Hydroxy-2,5-dimethoxybenzylidene)-3-methyl-2-((E)-2-(pyridin-4-yl)vinyl)-3,5-dihydro-4H-imidazol-4-one (N1048)

Previously characterized. Spectral properties correspond to the previously reported.[2]



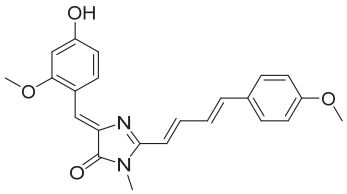
(Z)-5-(4-Hydroxy-2-methoxybenzylidene)-3-methyl-2-((E)-2(pyridine-4-yl)vinyl)-3,5-dihydro-4H-imidazol-4-one (N871b)

Previously characterized. Spectral properties correspond to the previously reported.[8]



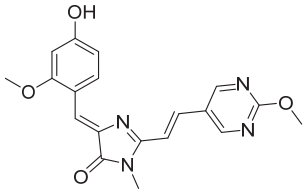
(Z)-5-(4-Hydroxy-2-methoxybenzylidene)-3-methyl-2-((E)-styryl)-3,5-dihydro-4H-imidazol-4-one (MID145)

Previously characterized. Spectral properties correspond to the previously reported.[7]



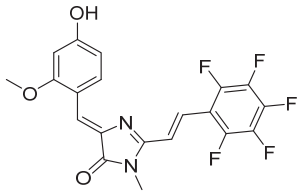
(Z)-5-(4-Hydroxy-2-methoxybenzylidene)-2-((1E,3E)-4-(4-methoxyphenyl)buta-1,3-dien-1-yl)-3-methyl-3,5-dihydro-4H-imidazol-4-one (N1052)

Previously characterized. Spectral properties correspond to the previously reported.[7]



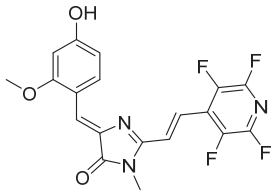
5-((Z)-4-Hydroxy-2-methoxybenzylidene)-2-((E)-2-(2-methoxypyrimidin-5-yl)vinyl)-3-methyl-3,5-dihydro-4H-imidazol-4-one (N1184)

Previously characterized. Spectral properties correspond to the previously reported.[7]



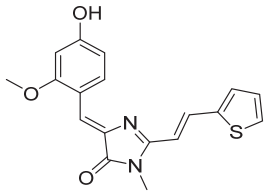
5-((Z)-4-Hydroxy-2-methoxybenzylidene)-3-methyl-2-((E)-2-(perfluorophenyl)vinyl)-3,5-dihydro-4H-imidazol-4-one (N1049)

Previously characterized. Spectral properties correspond to the previously reported.[7]



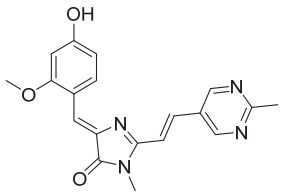
5-((Z)-4-Hydroxy-2-methoxybenzylidene)-3-methyl-2-((E)-2-(perfluoropyridin-4-yl)vinyl)-3,5-dihydro-4H-imidazol-4-one (N967)

Previously characterized. Spectral properties correspond to the previously reported.[7]



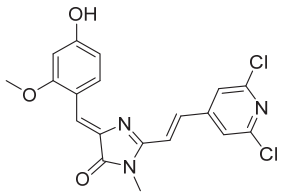
5-((Z)-4-Hydroxy-2-methoxybenzylidene)-3-methyl-2-((E)-2-(thiophen-2-yl)vinyl)-3,5-dihydro-4H-imidazol-4-one (N1039)

Previously characterized. Spectral properties correspond to the previously reported.[7]



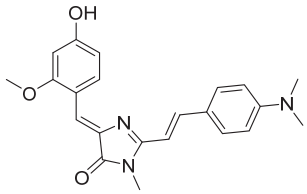
5-((Z)-4-Hydroxy-2-methoxybenzylidene)-3-methyl-2-((E)-2-(2-methylpyrimidin-5-yl)vinyl)-3,5-dihydro-4H-imidazol-4-one (N1202)

Previously characterized. Spectral properties correspond to the previously reported.[7]



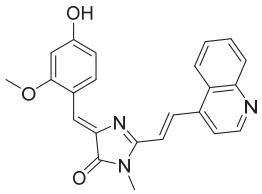
5-((Z)-4-Hydroxy-2-methoxybenzylidene)-2-((E)-2-(2,6-dichloropyridin-4-yl)vinyl)-3-methyl-3,5-dihydro-4H-imidazol-4-one (N960b)

Previously characterized. Spectral properties correspond to the previously reported.[7]



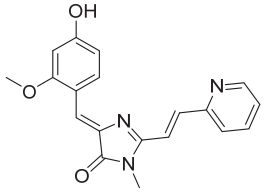
5-((Z)-4-Hydroxy-2-methoxybenzylidene)-3-methyl-2-((E)-4-(dimethylamino)styryl)-3,5-dihydro-4H-imidazol-4-one (MID147)

Previously characterized. Spectral properties correspond to the previously reported.[7]



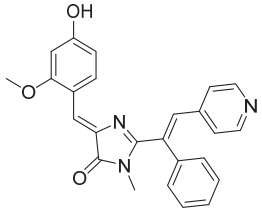
5-((Z)-4-Hydroxy-2-methoxybenzylidene)-3-methyl-2-((E)-2-(quinolin-4-yl)vinyl)-3,5-dihydro-4H-imidazol-4-one (ZS331)

Previously characterized. Spectral properties correspond to the previously reported.[7]



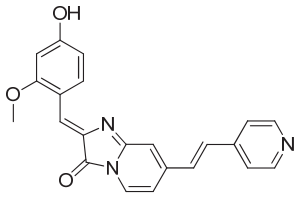
5-((Z)-4-Hydroxy-2-methoxybenzylidene)-3-methyl-2-((E)-2-(pyridin-2-yl)vinyl)-3,5-dihydro-4H-imidazol-4-one (M2766)

Previously characterized. Spectral properties correspond to the previously reported.[7]



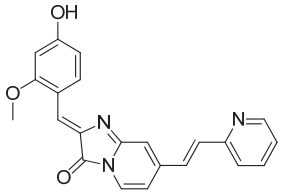
5-((Z)-4-Hydroxy-2-methoxybenzylidene)-3-methyl-2-((E)-1-phenyl-2-(pyridin-4-yl)vinyl)-3,5-dihydro-4H-imidazol-4-one (N1142)

Previously characterized. Spectral properties correspond to the previously reported.[7]



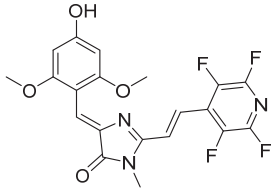
(Z)-2-(4-Hydroxy-2-methoxybenzylidene)-7-((E)-2-(pyridin-4-yl)vinyl)imidazo[1,2-a]pyridin-3(2H)-one (MID343)

Previously characterized. Spectral properties correspond to the previously reported.[7]



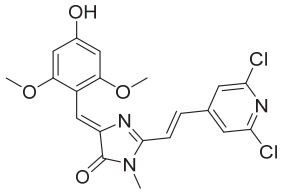
(Z)-2-(4-Hydroxy-2-methoxybenzylidene)-7-((E)-2-(pyridin-2-yl)vinyl)imidazo[1,2-a]pyridin-3(2H)-one (MID367)

Previously characterized. Spectral properties correspond to the previously reported.[7]



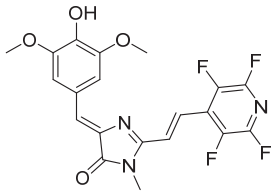
5-((Z)-4-Hydroxy-2,6-dimethoxybenzylidene)-3-methyl-2-((E)-2-(perfluoropyridin-4-yl)vinyl)-3,5-dihydro-4H-imidazol-4-one (N971)

Previously characterized. Spectral properties correspond to the previously reported.[2]



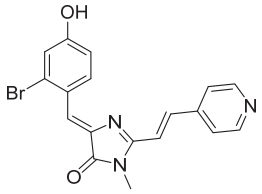
5-((Z)-4-Hydroxy-2,6-dimethoxybenzylidene)-2-((E)-2-(2,6-dichloropyridin-4-yl)vinyl)-3-methyl-3,5-dihydro-4H-imidazol-4-one (N973)

Previously characterized. Spectral properties correspond to the previously reported.[2]



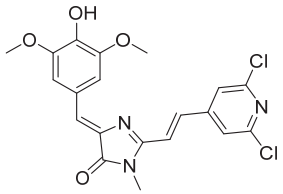
5-((Z)-4-Hydroxy-3,5-dimethoxybenzylidene)-2-((E)-2-(perfluoropyridin-4-yl)vinyl)-3-methyl-3,5-dihydro-4H-imidazol-4-one (N980)

Previously characterized. Spectral properties correspond to the previously reported.[2]



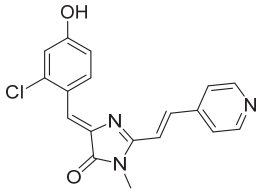
5-((Z)-2-Bromo-4-hydroxybenzylidene)-3-methyl-2-((E)-2-(pyridine-4-yl)vinyl)-3,5-dihydro-4H-imidazol-4-one (N1205)

Previously characterized. Spectral properties correspond to the previously reported.[2]



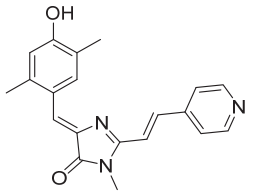
5-((Z)-4-Hydroxy-3,5-dimethoxybenzylidene)-2-((E)-2-(2,6-dichloropyridin-4-yl)vinyl)-3-methyl-3,5-dihydro-4H-imidazol-4-one (N960a)

Previously characterized. Spectral properties correspond to the previously reported.[2]



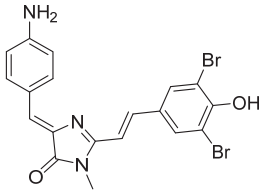
5-((Z)-2-Chloro-4-hydroxybenzylidene)-3-methyl-2-((E)-2-(pyridine-4-yl)vinyl)-3,5-dihydro-4H-imidazol-4-one (N1204)

Previously characterized. Spectral properties correspond to the previously reported.[2]



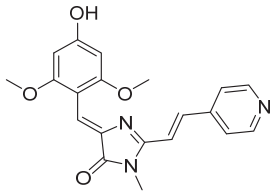
5-((Z)-4-Hydroxy-2,5-dimethylbenzylidene)-3-methyl-2-((E)-2-(pyridine-4-yl)vinyl)-3,5-dihydro-4H-imidazol-4-one (N1206)

Previously characterized. Spectral properties correspond to the previously reported.[2]



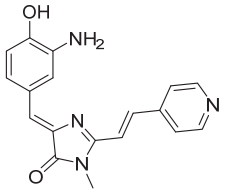
5-((Z)-4-Aminobenzylidene)-2-((E)-3,5-dibromo-4-hyrdoxystyryl)-3-methyl-3,5-dihydro-4H-imidazol-4-one (ZS309)

Previously characterized. Spectral properties correspond to the previously reported.[2]



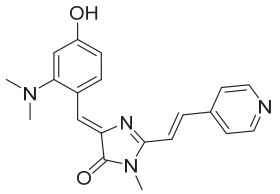
5-((Z)-4-Hydroxy-2,6-dimethoxybenzylidene)-3-methyl-2-((E)-2-(pyridin-4-yl)vinyl)-3,5-dihydro-4H-imidazol-4-one (ZS316)

Previously characterized. Spectral properties correspond to the previously reported.[2]



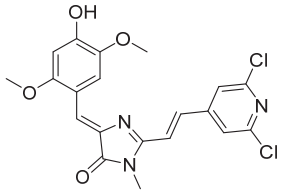
5-((Z)-3-Amino-4-hydroxybenzylidene)-3-methyl-2-((E)-2-(pyridin-4-yl)vinyl)-3,5-dihydro-4H-imidazol-4-one (ZS325)

Previously characterized. Spectral properties correspond to the previously reported.[2]



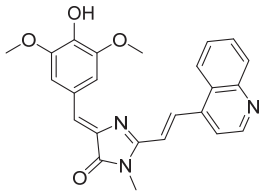
5-((Z)-2-(Dimethylamino)-4-hydroxybenzylidene)-3-methyl-2-((E)-2-(pyridin-4-yl)vinyl)-3,5-dihydro-4H-imidazol-4-one (MID213)

Previously characterized. Spectral properties correspond to the previously reported.[2]



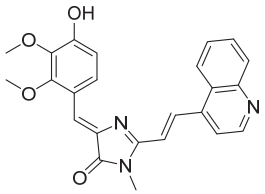
5-((Z)-4-Hydroxy-2,5-dimethoxybenzylidene)-3-methyl-2-((E)-2-(2,6-dichloropyridin-4-yl)vinyl)-3,5-dihydro-4H-imidazol-4-one (M2767)

Previously characterized. Spectral properties correspond to the previously reported.[2]



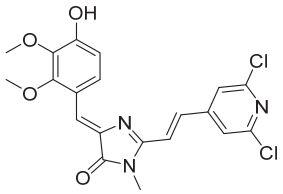
5-((*Z*)-4-Hydroxy-3,5-dimethoxybenzylidene)-3-methyl-2-((*E*)-2-(quinolin-4-yl)vinyl)-3,5-dihydro-4*H*-imidazol-4-one (N1196)

Previously characterized. Spectral properties correspond to the previously reported.[10]



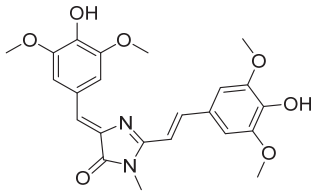
5-((*Z*)-4-Hydroxy-2,3-dimethoxybenzylidene)-3-methyl-2-((*E*)-2-(quinolin-4-yl)vinyl)-3,5-dihydro-4*H*-imidazol-4-one (N1197)

Previously characterized. Spectral properties correspond to the previously reported.[10]



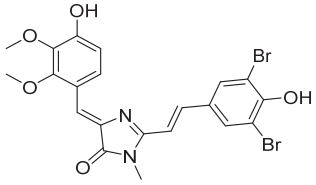
2-((*E*)-2-(2,6-dichloropyridin-4-yl)vinyl)-5-((*Z*)-4-hydroxy-2,3-dimethoxybenzylidene)-3-methyl-3,5-dihydro-4*H*-imidazol-4-one (N1198)

Previously characterized. Spectral properties correspond to the previously reported.[10]



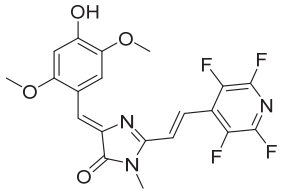
5-((*Z*)-4-hydroxy-3,5-dimethoxybenzylidene)-2-((*E*)-4-hydroxy-3,5-dimethoxystyryl)-3-methyl-3,5-dihydro-4*H*-imidazol-4-one (N1193)

Previously characterized. Spectral properties correspond to the previously reported.[10]



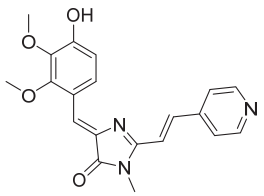
2-((*E*)-3,5-dibromo-4-hydroxystyryl)-5-((*Z*)-4-hydroxy-2,3-dimethoxybenzylidene)-3-methyl-3,5-dihydro-4*H*-imidazol-4-one (N1199)

Previously characterized. Spectral properties correspond to the previously reported.[10]



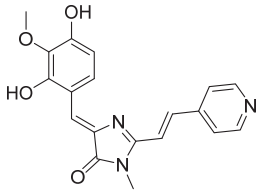
5-((Z)-4-Hydroxy-2,5-dimethoxybenzylidene)-3-methyl-2-((E)-2-(perfluoropyridin-4-yl)vinyl)-3,5-dihydro-4H-imidazol-4-one (N1056)

Previously characterized. Spectral properties correspond to the previously reported.[2]



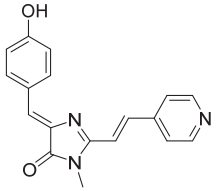
5-((Z)-4-Hydroxy-2,3-dimethoxybenzylidene)-3-methyl-2-((E)-2-(pyridin-4-yl)vinyl)-3,5-dihydro-4H-imidazol-4-one (N1068)

Previously characterized. Spectral properties correspond to the previously reported.[2]



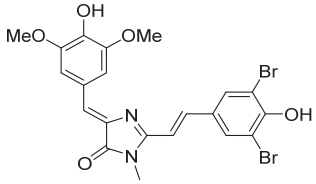
5-((Z)-2,4-Dihydroxy-3-methoxybenzylidene)-3-methyl-2-((E)-2-(pyridin-4-yl)vinyl)-3,5-dihydro-4H-imidazol-4-one (N1069)

Previously characterized. Spectral properties correspond to the previously reported.[2]



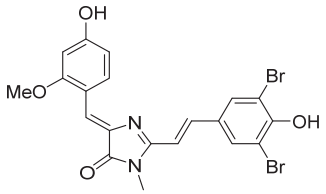
5-((Z)-4-Hydroxybenzylidene)-3-methyl-2-((E)-2-(pyridin-4-yl)vinyl)-3,5-dihydro-4H-imidazol-4-one (A9)

Previously characterized. Spectral properties correspond to the previously reported.[8]



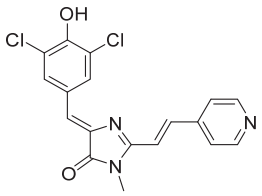
2-((E)-3,5-dibromo-4-hydroxystyryl)-5-((Z)-4-hydroxy-3,5-dimethoxybenzylidene)-3-methyl-3,5-dihydro-4H-imidazol-4-one (Z260)

Previously characterized. Spectral properties correspond to the previously reported.[8]



2-((E)-3,5-dibromo-4-hydroxystyryl)-5-((Z)-4-hydroxy-2-methoxybenzylidene)-3-methyl-3,5-dihydro-4H-imidazol-4-one (N871a)

Previously characterized. Spectral properties correspond to the previously reported.[8]

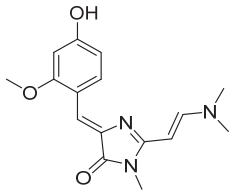


5-((Z)-3,5-dichloro-4-hydroxybenzylidene)-3-methyl-2-((E)-2-(pyridin-4-yl)vinyl)-3,5-dihydro-4H-imidazol-4-one (N901)

Previously characterized. Spectral properties correspond to the previously reported.[8]

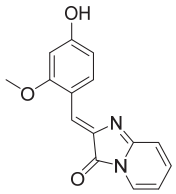
Other compounds

Several compounds were prepeared in accordnce with previously reported procedures (see references below) or were taken from stock of our laboratory.



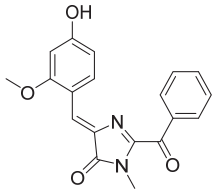
5-((Z)-4-Hydroxy-2-methoxybenzylidene)-3-methyl-2-((E)-2-(dimethylamino)vinyl)-3,5-dihydro-4H-imidazol-4-one (N1122)

Synthetic routes and spectral characteristics were previously described.[7]



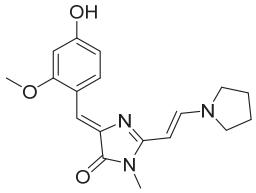
(Z)-2-(4-Hydroxy-2-methoxybenzylidene)imidazo[1,2-a]pyrydin-3(2H)-one (N1123)

Synthetic routes and spectral characteristics were previously described.[7]



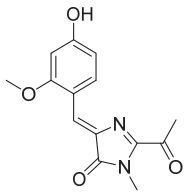
(Z)-2-Benzoyl-5-(4-hydroxy-2-methoxybenzylidene)-3-methyl-3,5-dihydro-4H-imidazol-4-one (N1139)

Synthetic routes and spectral characteristics were previously described.[7]



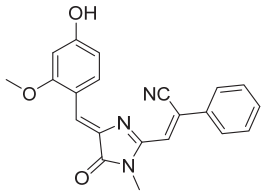
5-((Z)-4-Hydroxy-2-methoxybenzylidene)-3-methyl-2-((E)-2-(pyrrolidin-1-yl)vinyl)-3,5-dihydro-4H-imidazol-4-one (N1118)

Synthetic routes and spectral characteristics were previously described.[7]



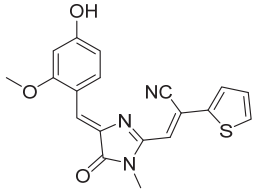
(Z)-2-Acetyl-5-(4-hydroxy-2-methoxybenzylidene)-3-methyl-3,5-dihydro-4H-imidazol-4-one (N1124)

Synthetic routes and spectral characteristics were previously described.[7]



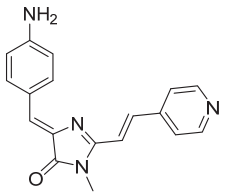
(Z)-3-(4-((Z)-4-Hydroxy-2-methoxybenzylidene)-1-methyl-5-oxo-4.5-dihydro-1H-imidazol-2-yl)-2-phenylacrylonitrile (MID151)

Synthetic routes and spectral characteristics were previously described.[7]



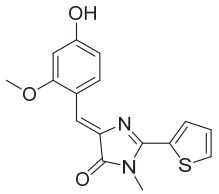
(Z)-3-(4-((Z)-4-Hydroxy-2-methoxybenzylidene)-1-methyl-5-oxo-4.5-dihydro-1H-imidazol-2-yl)-2-(thiophen-2-yl)acrylonitrile (MID153)

Synthetic routes and spectral characteristics were previously described.[7]



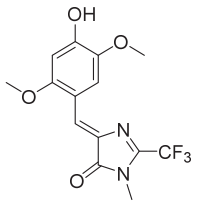
5-((Z)-4-Aminobenzylidene)-3-methyl-2-((E)-2-(pyrydin-4-yl)vinyl)-3,5-dihydro-4H-imidazol-4-one (ZS319)

Synthetic routes and spectral characteristics were previously described.[2]



(*Z*)-5-(4-Hydroxy-2-methoxylbenzylidene)-3-methyl-2-(thiophene-2-yl)-3,5-dihydro-4H-imidazol-4-one (SH16)

Synthetic routes and spectral characteristics were previously described.[11]



(Z)-5-(4-Hydroxy-2,5-dimethoxybenzylidene)-3-methyl-2-(trifluoromethyl)-3,5-dihydro-4H-imidazol-4-one (M2738d)

Synthetic routes and spectral characteristics were previously described.[12]

8. References

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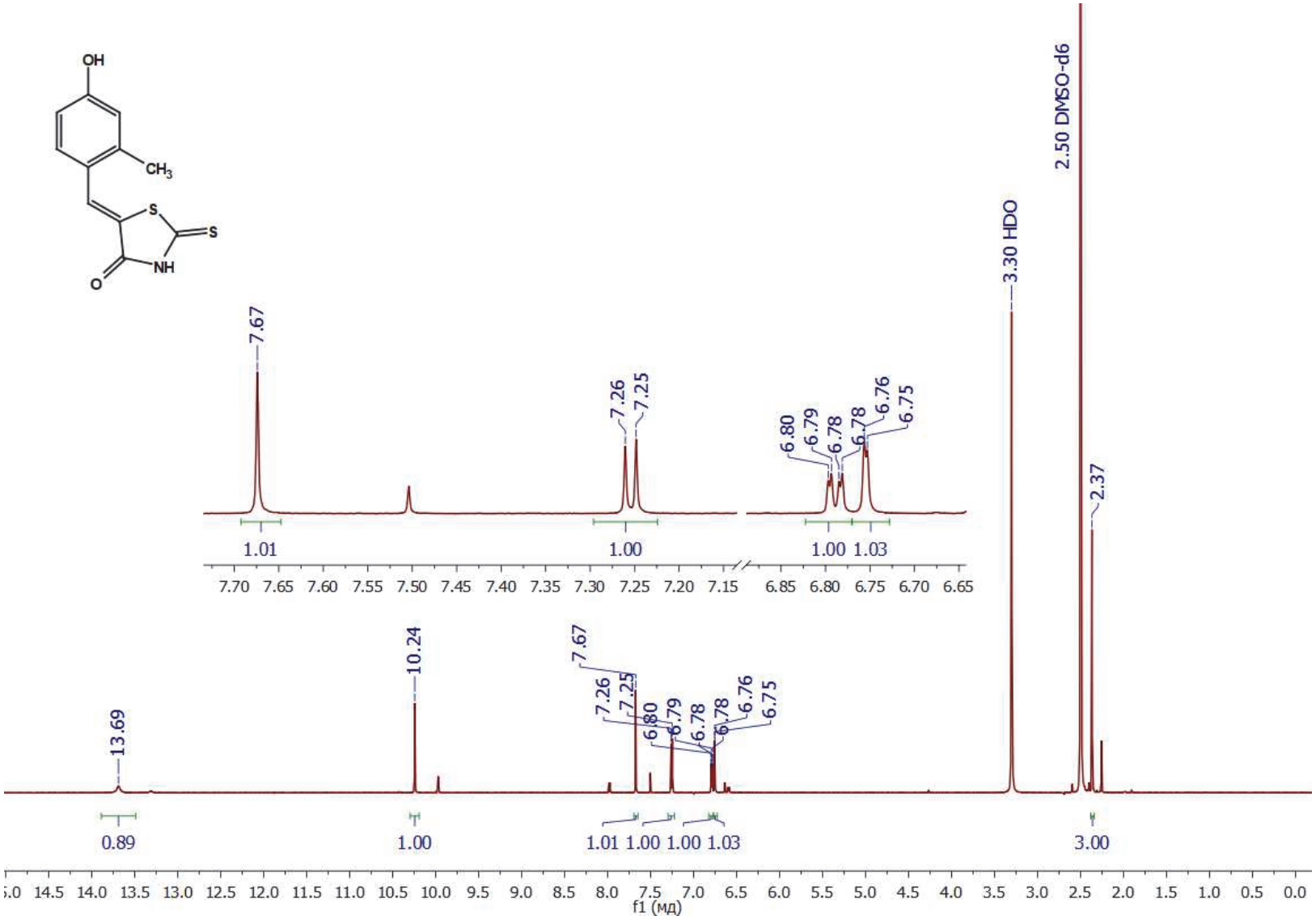
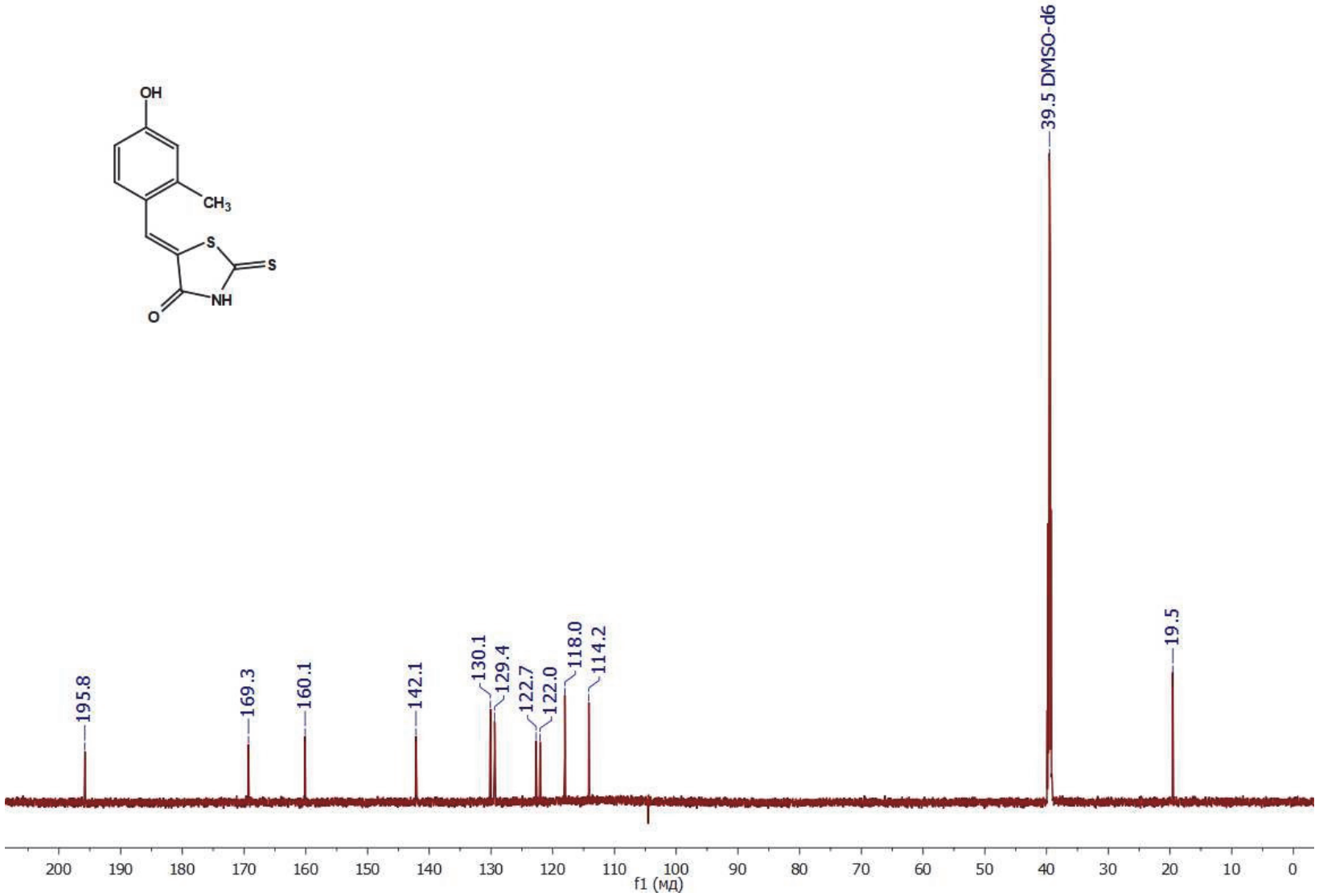
12. Chen C., Tachibana S.R., Baleeva N.S., Myasnyanko I.N., Bogdanov A.M., Gavrikov A.S., Mishin A.S., Malyshevskaya K.K., Baranov M.S., Fang C. Developing Bright Green Fluorescent Protein (GFP)-like Fluorogens for Live-Cell Imaging with Nonpolar Protein-Chromophore Interactions. *Chemistry A European Journal.* **2021**, 27(35), 8946.

9. Copies of 1H and 13C NMR spectra

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CH3
S
S
NH
O
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195.8
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142.1
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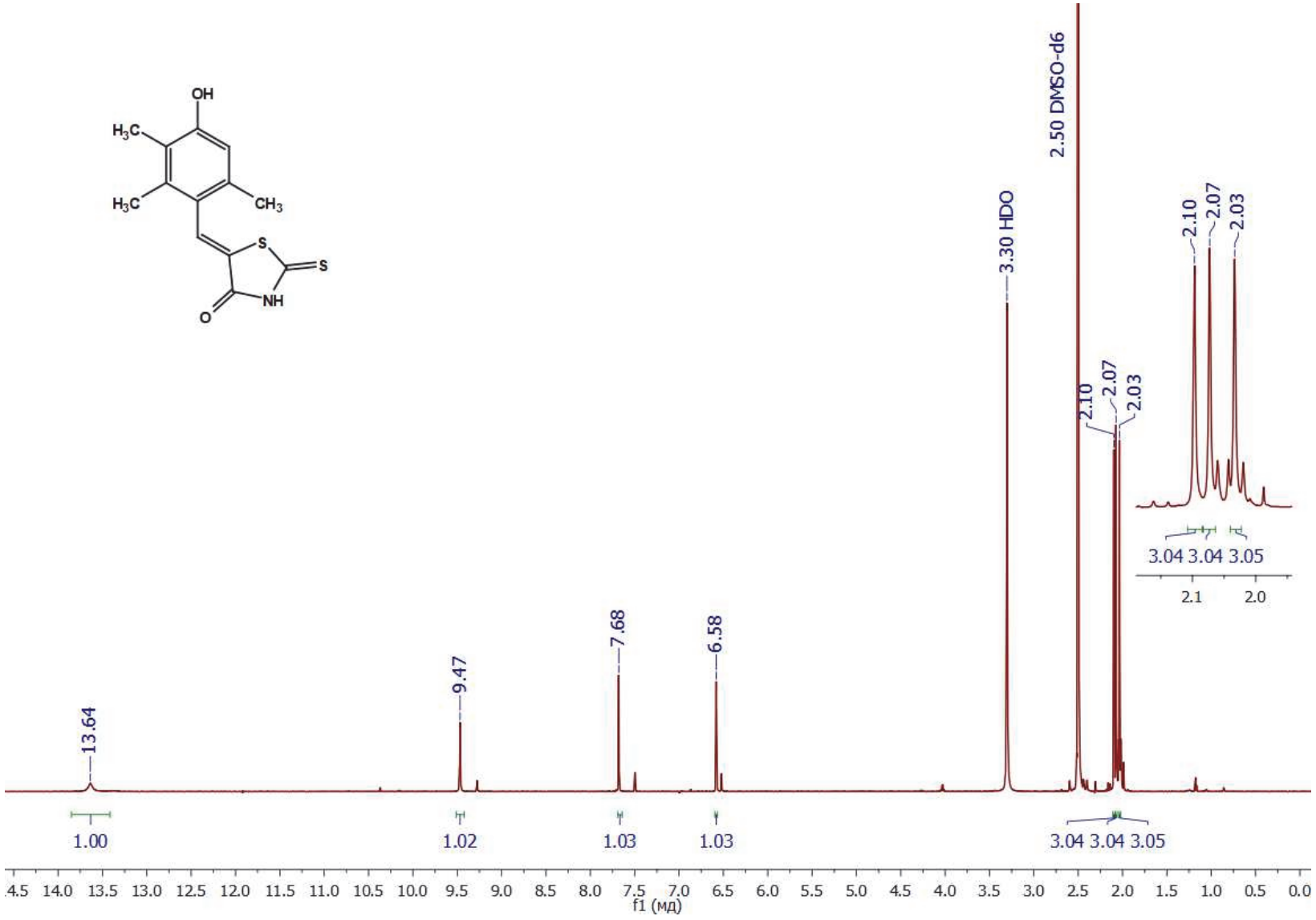
f1 (мд)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S
NH
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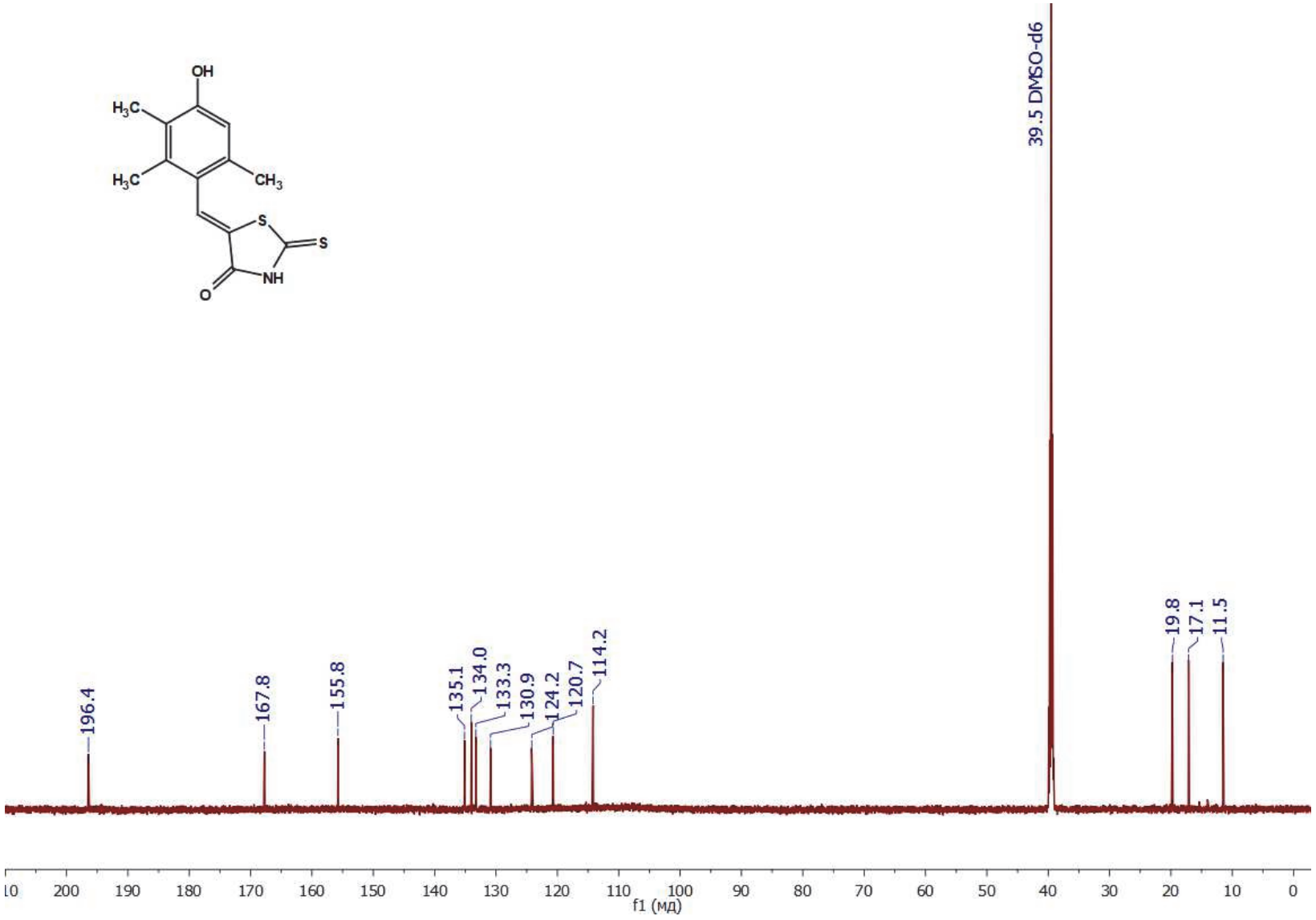
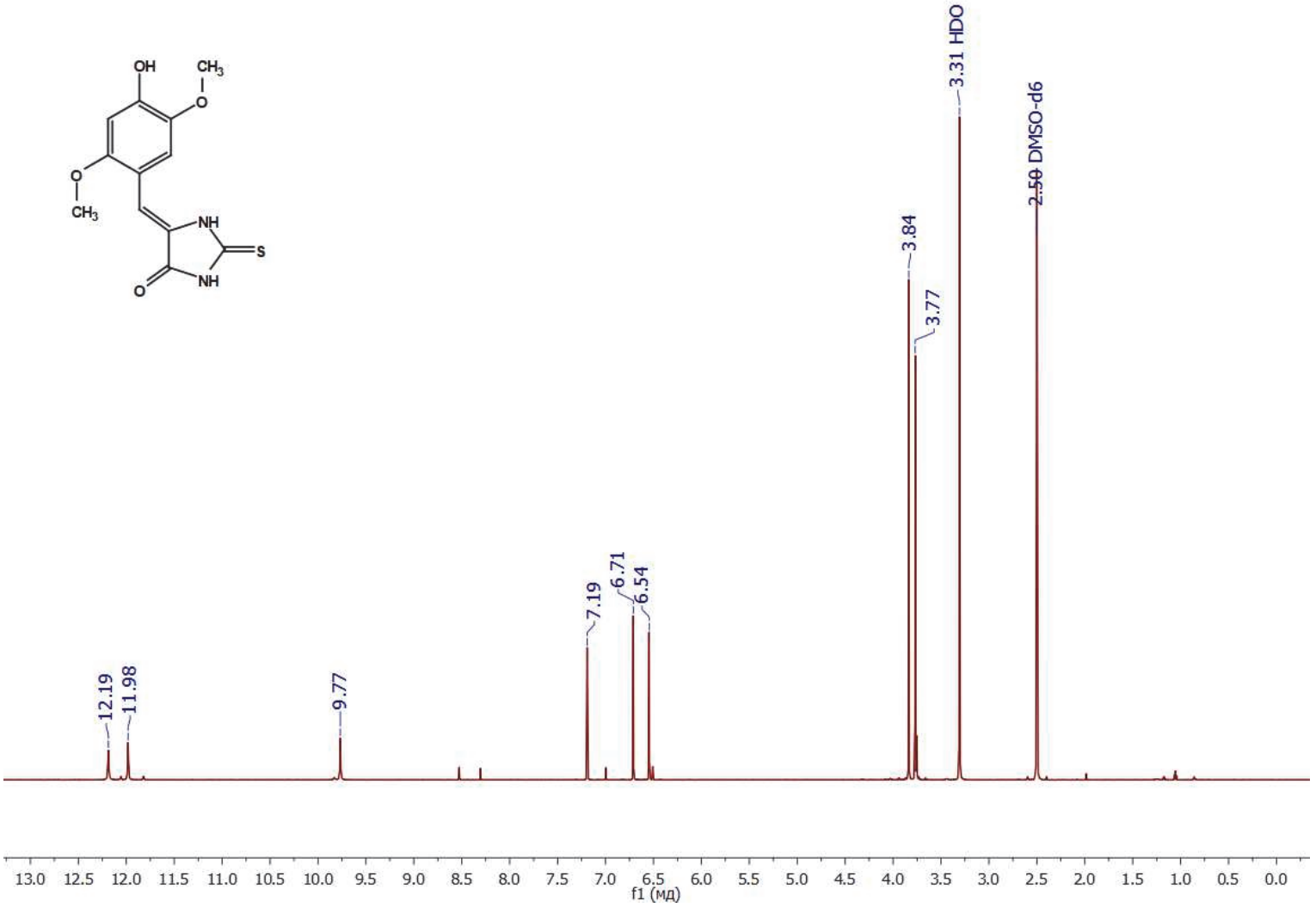
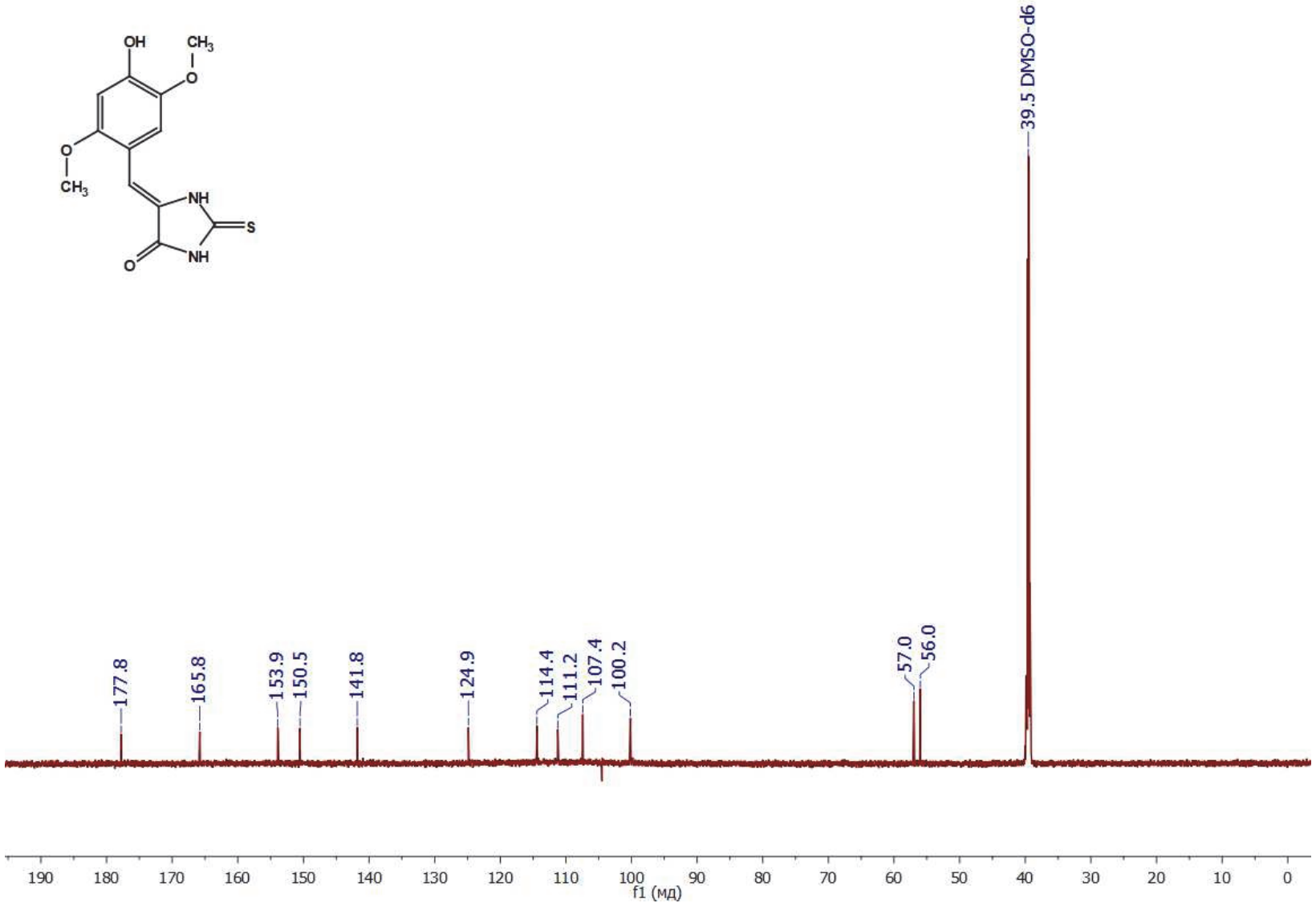
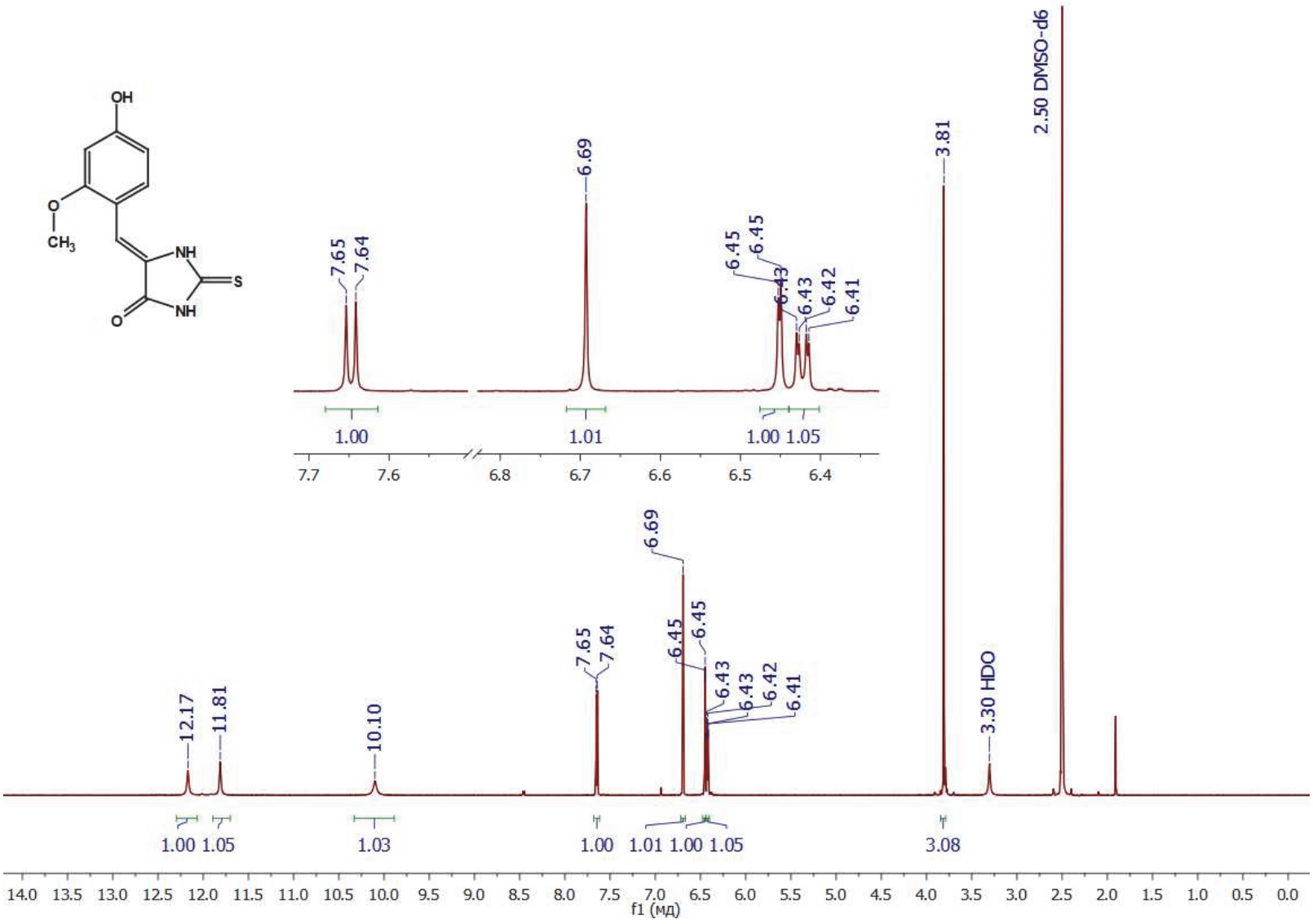
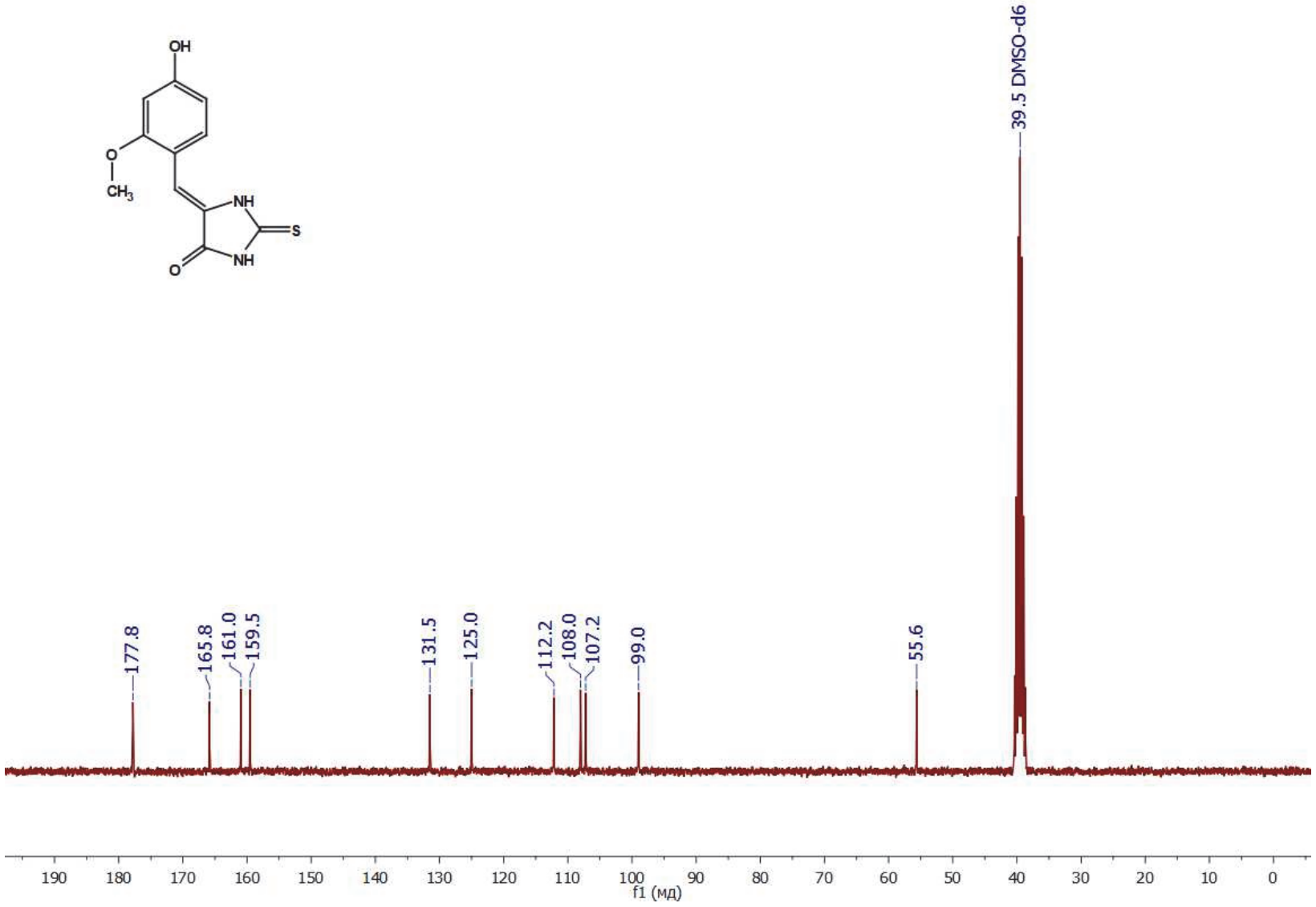
13.64
9.47
7.68
6.58
3.30 HDO
2.50 DMSO-d6
2.10
2.07
2.03
1.00
1.02
1.03
1.03
3.04 3.04 3.05
f1 (мд)

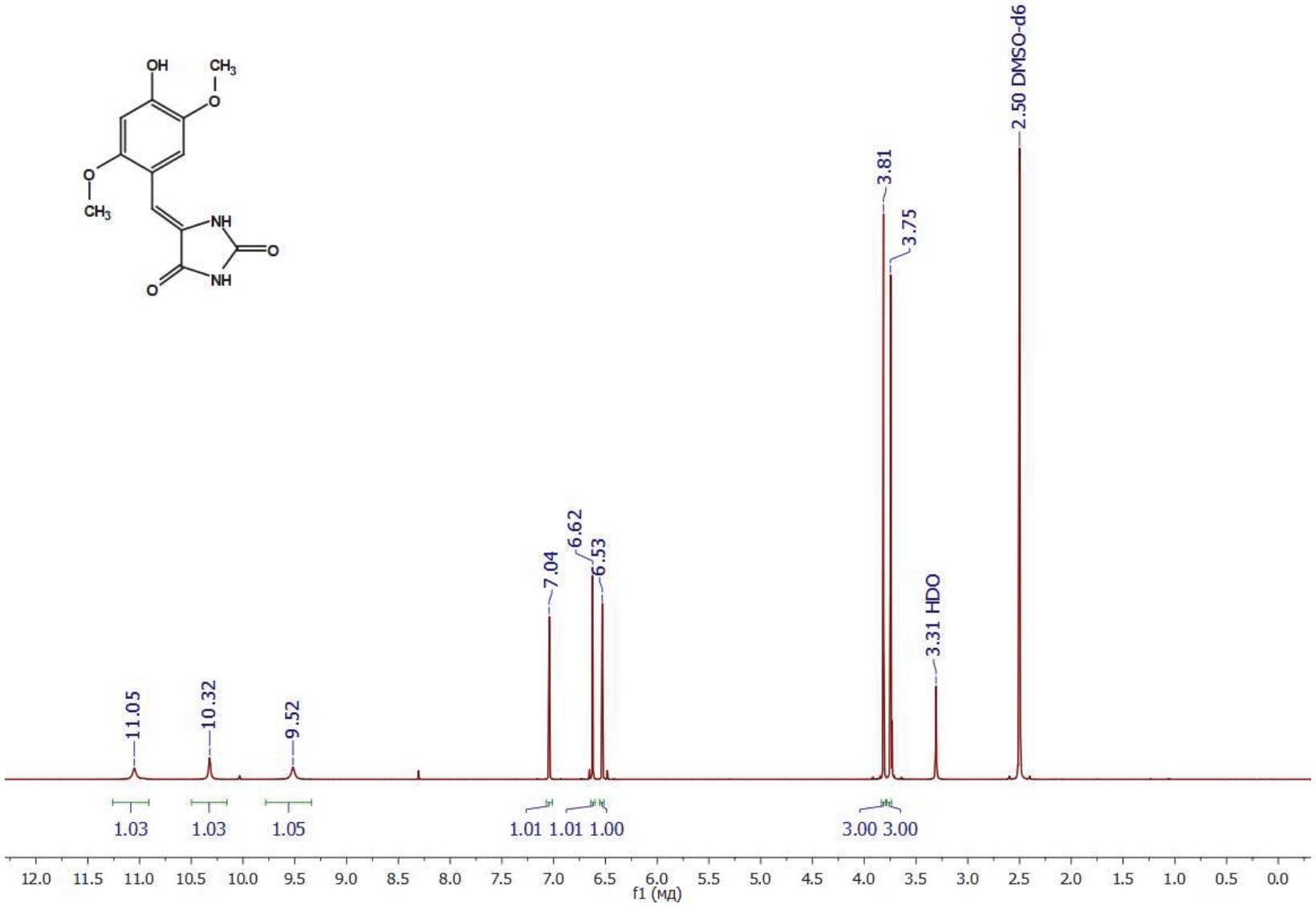

OH
H3C
H3C
CH3
S
S
NH
O
39.5 DMSO-d6
196.4
167.8
155.8
135.1
134.0
133.3
130.9
124.2
120.7
114.2
19.8
17.1
11.5
f1 (мд)

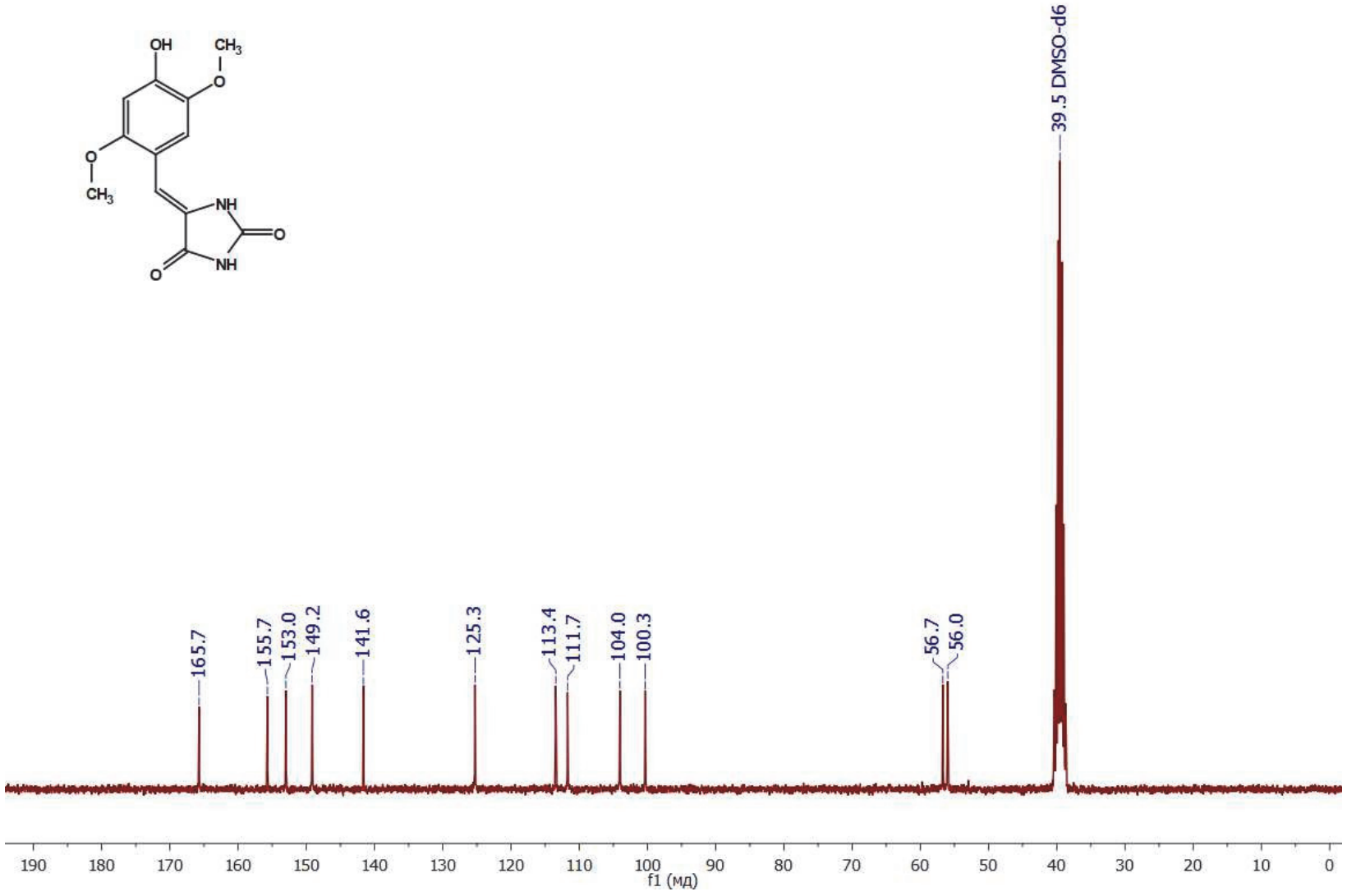

OH
CH3
O
O
CH3
NH
S
O
NH
12.19
11.98
9.77
7.19
6.71
6.54
3.84
3.77
3.31 HDO
2.50 DMSO-d6
13.0 12.5 12.0 11.5 11.0 10.5 10.0 9.5 9.0 8.5 8.0 7.5 7.0 6.5 6.0 5.5 5.0 4.5 4.0 3.5 3.0 2.5 2.0 1.5 1.0 0.5 0.0
f1 (мд)

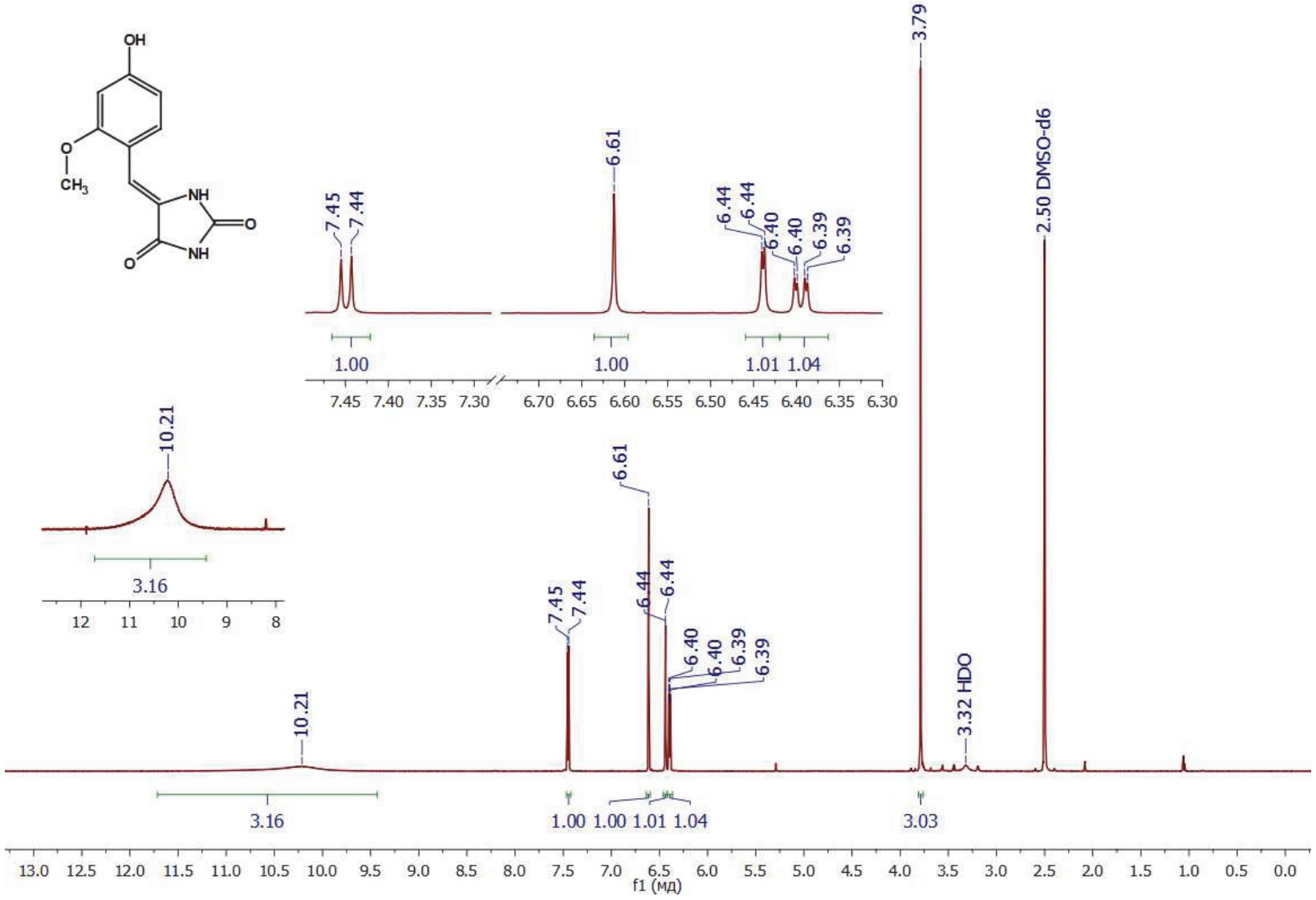

OH
CH3
O
O
CH3
NH
S
O
NH
39.5 DMSO-d6
177.8
165.8
153.9
150.5
141.8
124.9
114.4
111.2
107.4
100.2
57.0
56.0
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
f1 (мд)

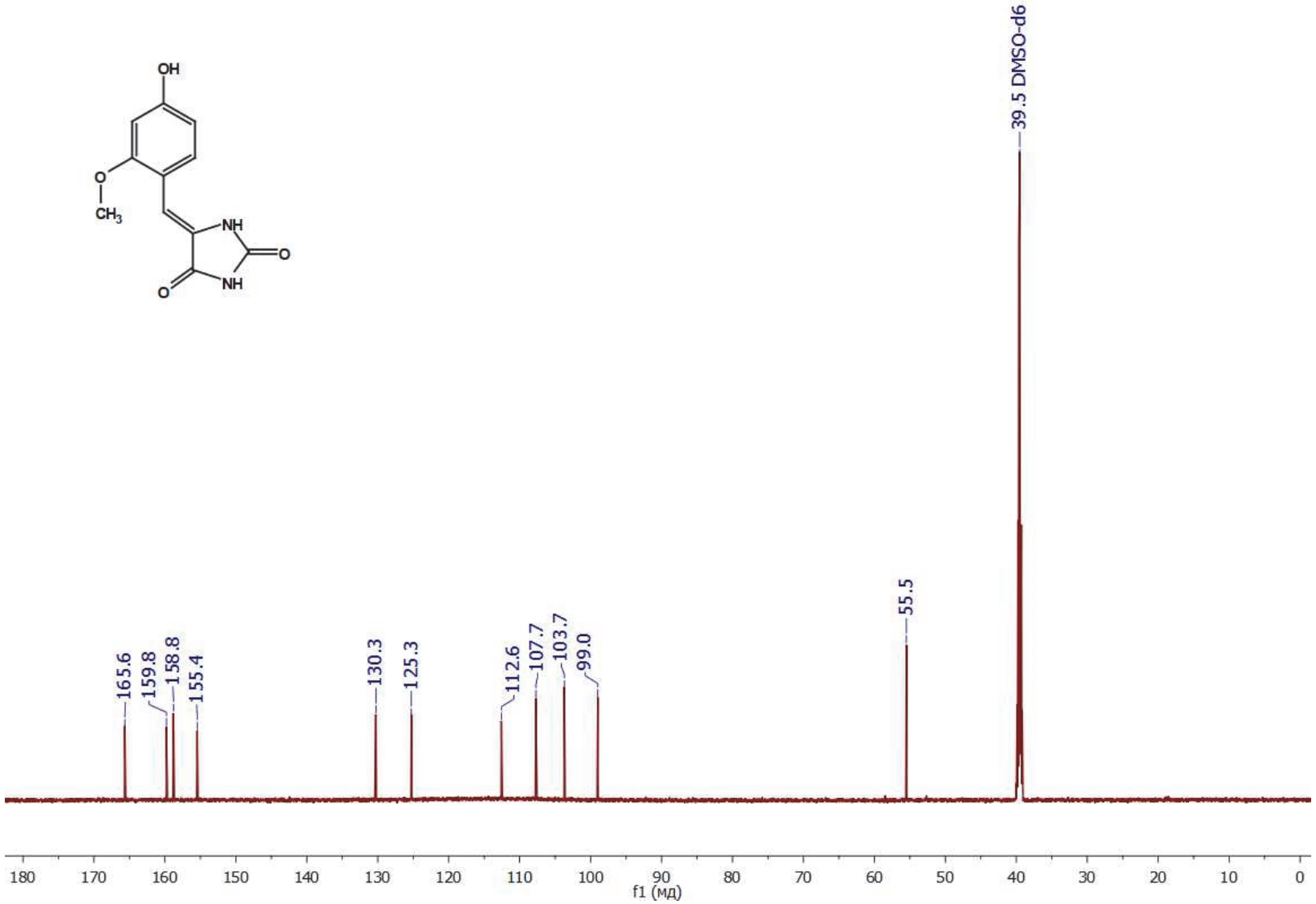

OH
O
CH3
NH
S
O
NH
7.65
7.64
6.69
6.45
6.45
6.43
6.43
6.42
6.41
1.00
1.01
1.00 1.05
7.7
7.6
6.8
6.7
6.6
6.5
6.4
3.81
2.50 DMSO-d6
12.17
11.81
10.10
7.65
7.64
6.69
6.45
6.45
6.43
6.43
6.42
6.41
3.30 HDO
1.00 1.05
1.03
1.00
1.01 1.00 1.05
3.08
14.0 13.5 13.0 12.5 12.0 11.5 11.0 10.5 10.0 9.5 9.0 8.5 8.0 7.5 7.0 6.5 6.0 5.5 5.0 4.5 4.0 3.5 3.0 2.5 2.0 1.5 1.0 0.5 0.0
f1 (мд)

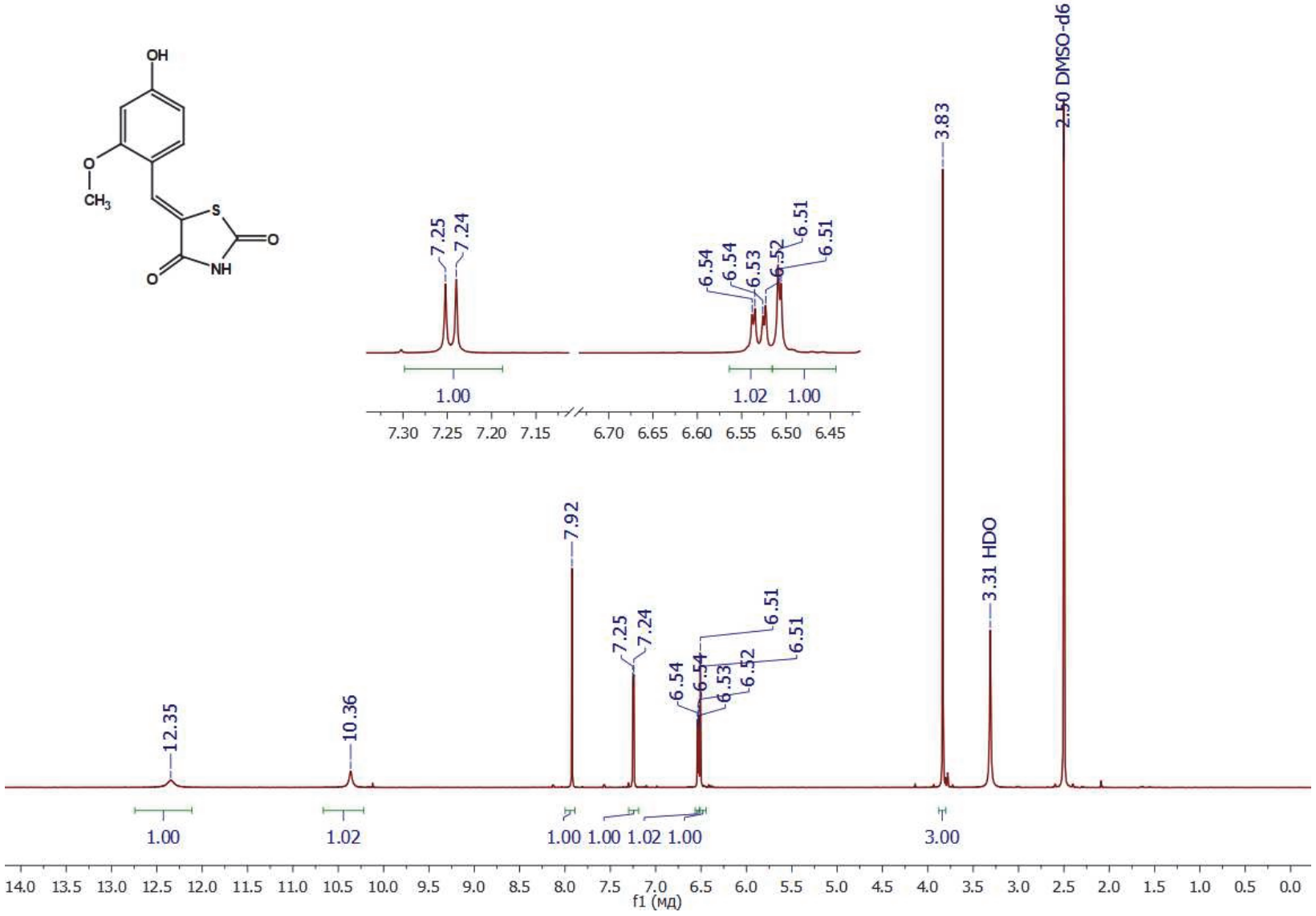

OH
O
CH3
NH
S
O
NH
39.5 DMSO-d6
177.8
165.8
161.0
159.5
131.5
125.0
112.2
108.0
107.2
99.0
55.6
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
f1 (мд)

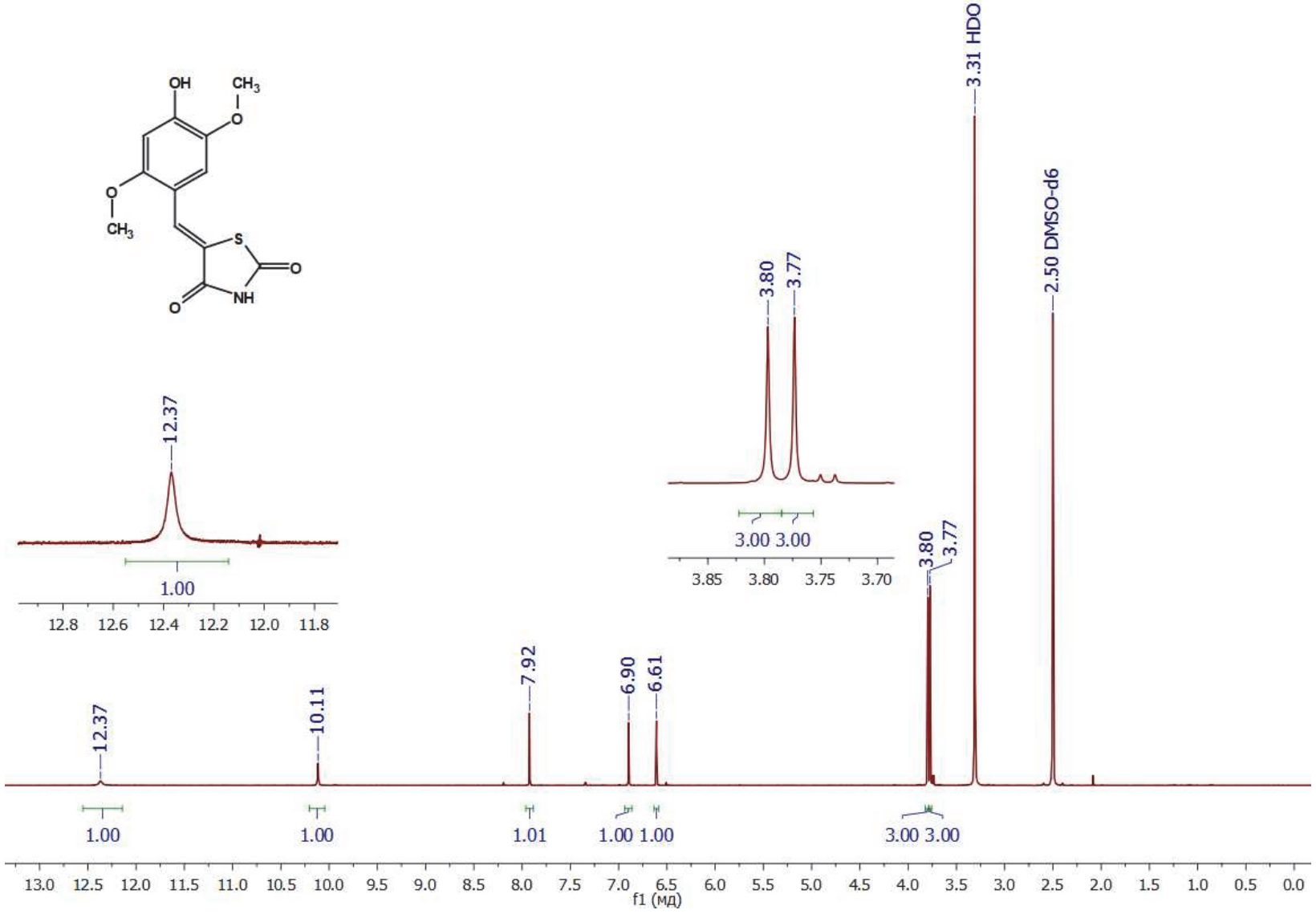

OH
CH3
O
O
CH3
NH
O
O
NH
11.05
10.32
9.52
7.04
6.62
6.53
3.81
3.75
3.31 HDO
2.50 DMSO-d6
1.03
1.03
1.05
1.01
1.01
1.00
3.00
3.00
12.0 11.5 11.0 10.5 10.0 9.5 9.0 8.5 8.0 7.5 7.0 6.5 6.0 5.5 5.0 4.5 4.0 3.5 3.0 2.5 2.0 1.5 1.0 0.5 0.0
f1 (мд)

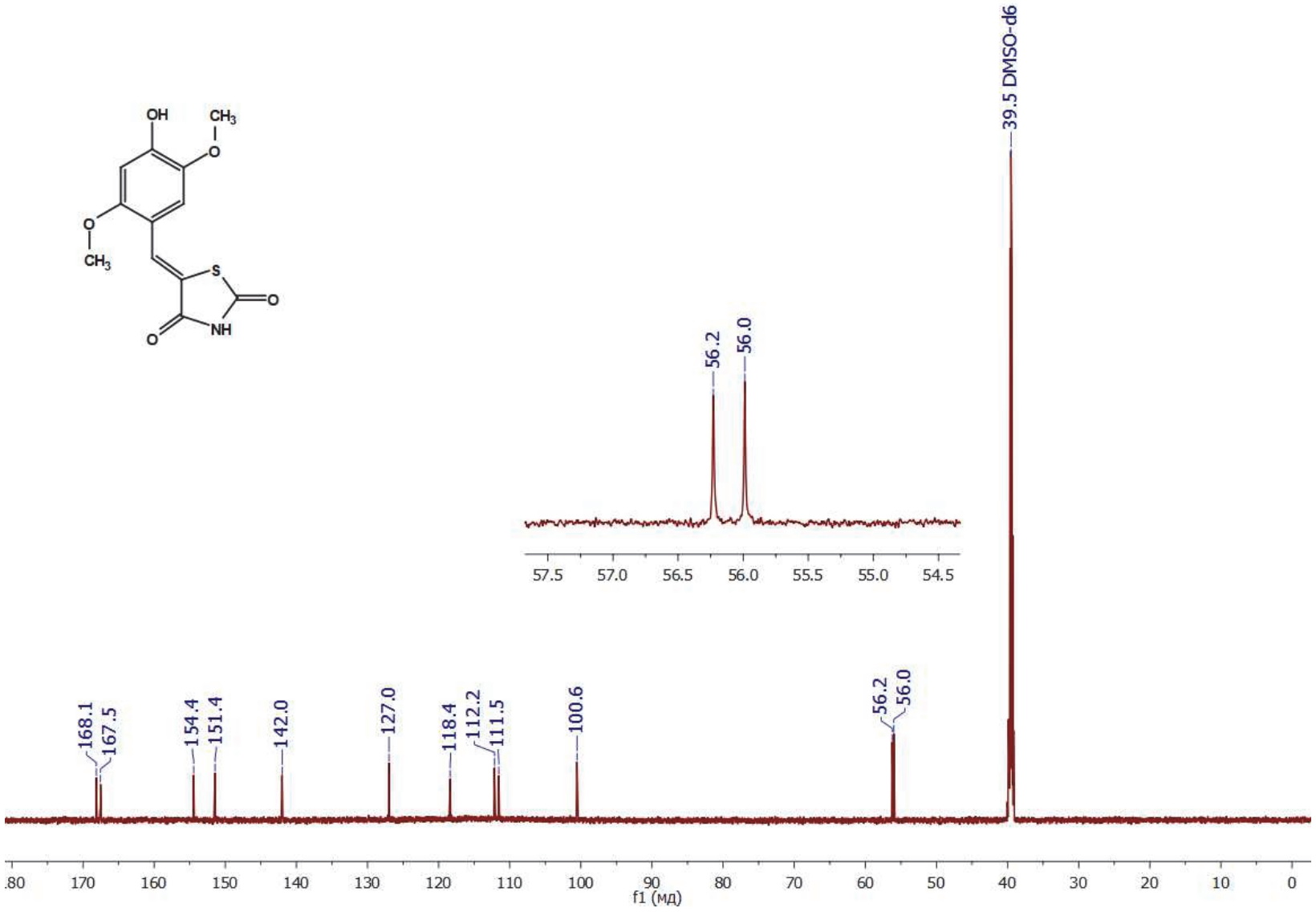

OH
CH3
O
O
CH3
NH
O
O
NH
39.5 DMSO-d6
165.7
155.7
153.0
149.2
141.6
125.3
113.4
111.7
104.0
100.3
56.7
56.0
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
f1 (мд)

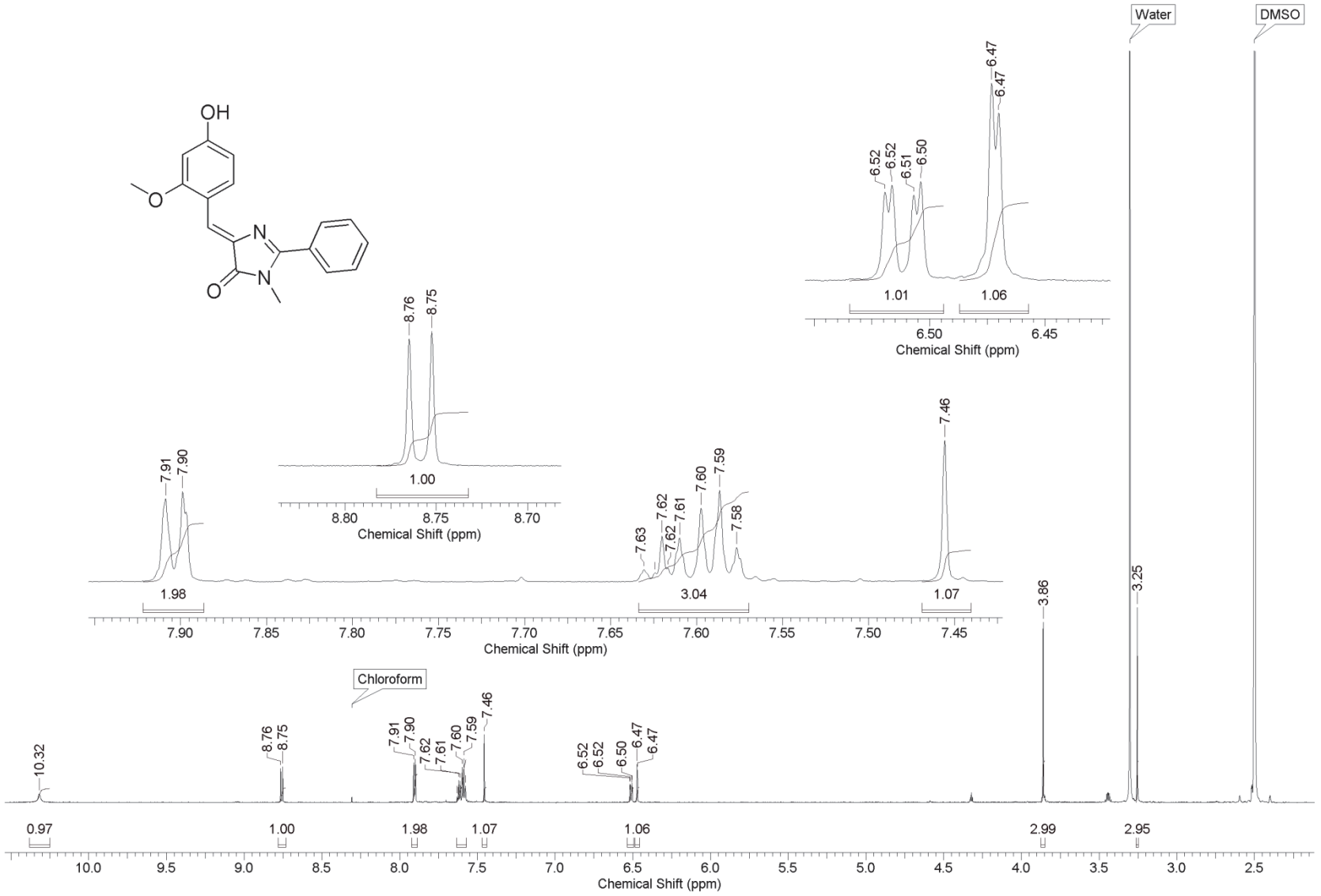

OH
O
CH3
NH
O
O
NH
10.21
3.16
12 11 10 9 8
7.45
7.44
6.61
6.44
6.44
6.40
6.40
6.39
6.39
1.00
1.00
1.01 1.04
7.45 7.40 7.35 7.30
6.70 6.65 6.60 6.55 6.50 6.45 6.40 6.35 6.30
3.79
2.50 DMSO-d6
3.32 HDO
3.03
1.00 1.00 1.01 1.04
13.0 12.5 12.0 11.5 11.0 10.5 10.0 9.5 9.0 8.5 8.0 7.5 7.0 6.5 6.0 5.5 5.0 4.5 4.0 3.5 3.0 2.5 2.0 1.5 1.0 0.5 0.0
f1 (мд)

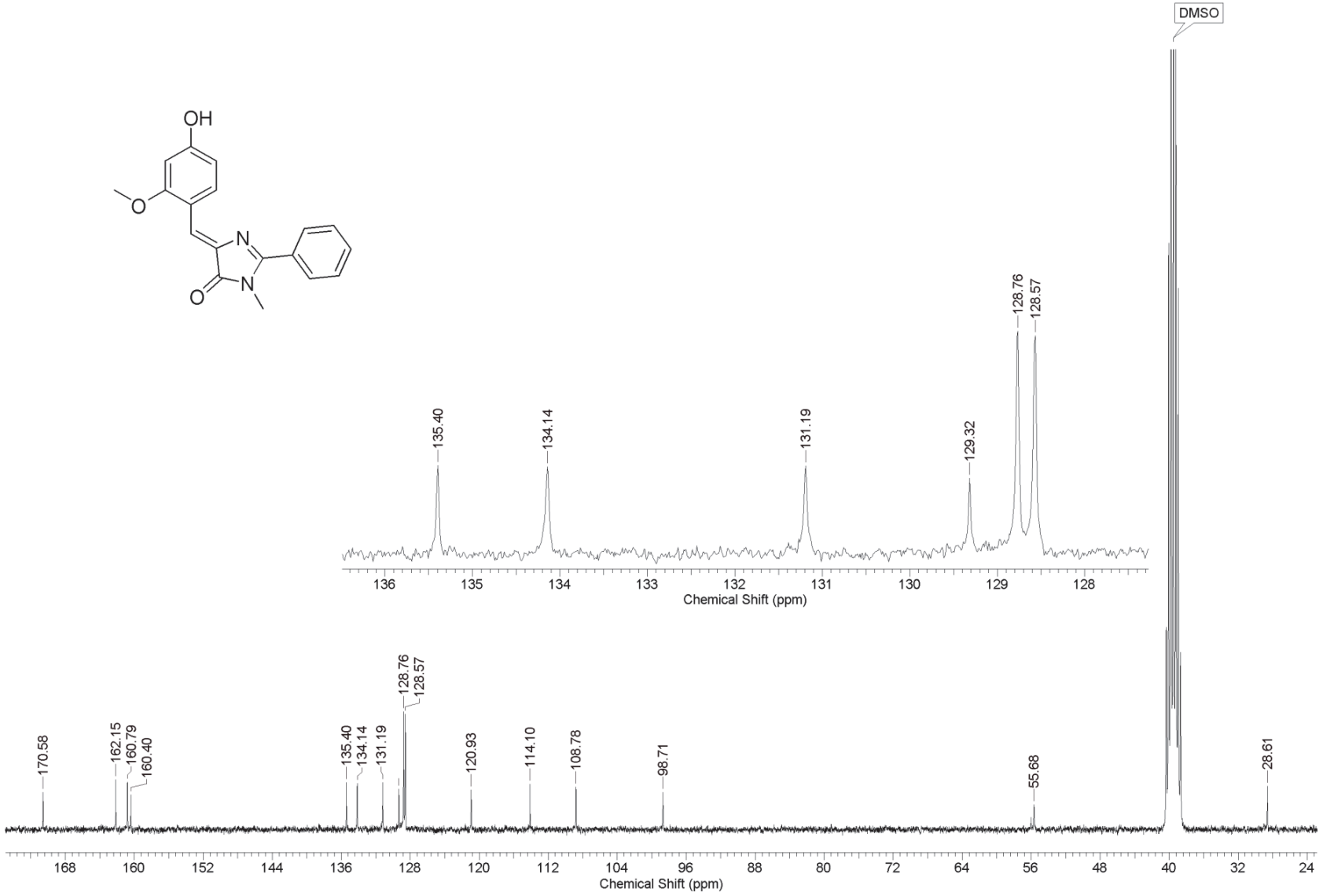

OH
O
CH3
NH
O
O
NH
39.5 DMSO-d6
165.6
159.8
158.8
155.4
130.3
125.3
112.6
107.7
103.7
99.0
55.5
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
f1 (мд)

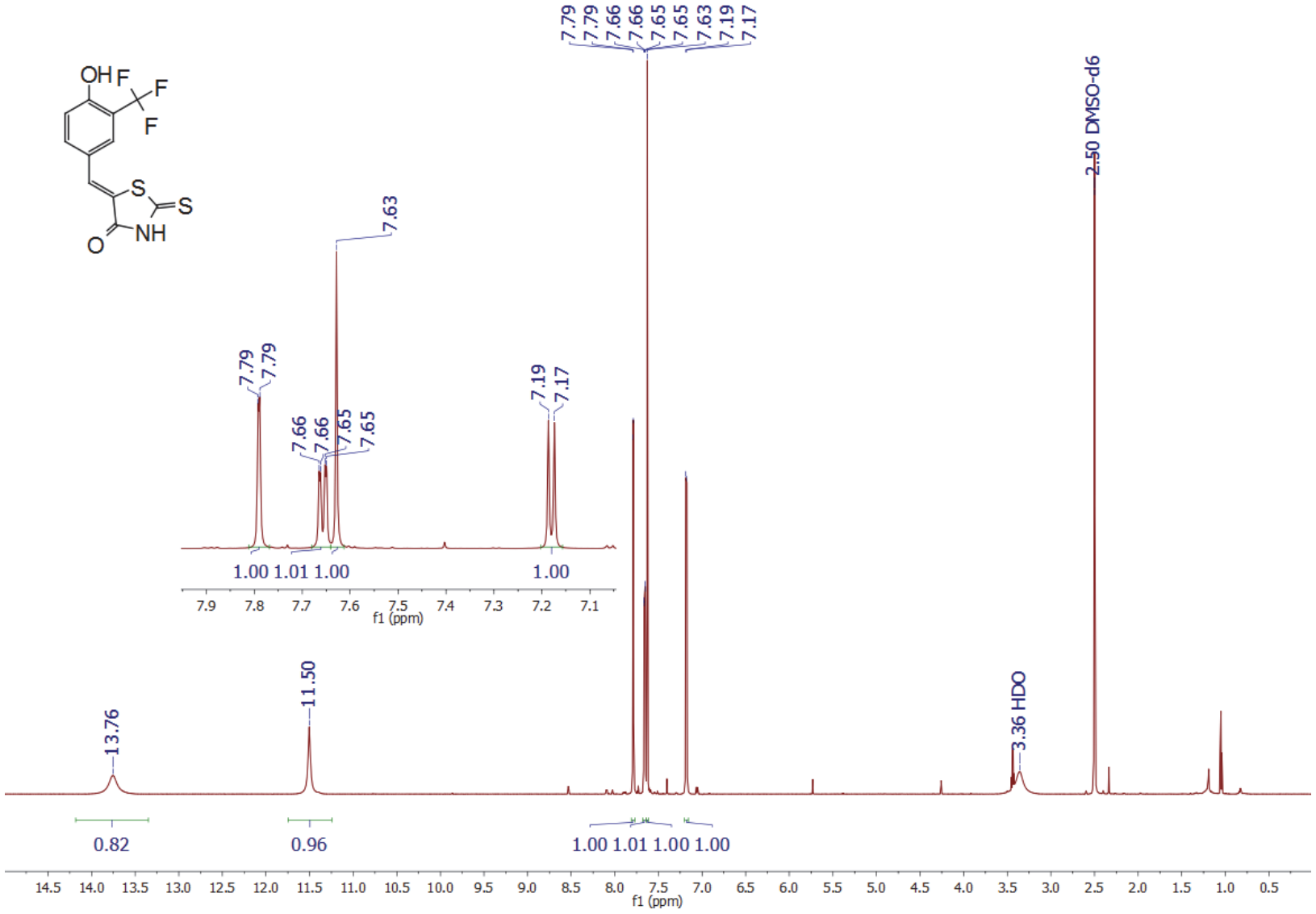

OH
O
CH3
S
O
NH
O
12.35
10.36
7.92
7.25
7.24
6.54
6.54
6.53
6.52
6.51
6.51
3.83
3.31 HDO
2.50 DMSO-d6
1.00
1.02
1.00 1.00 1.02 1.00
3.00
f1 (мд)

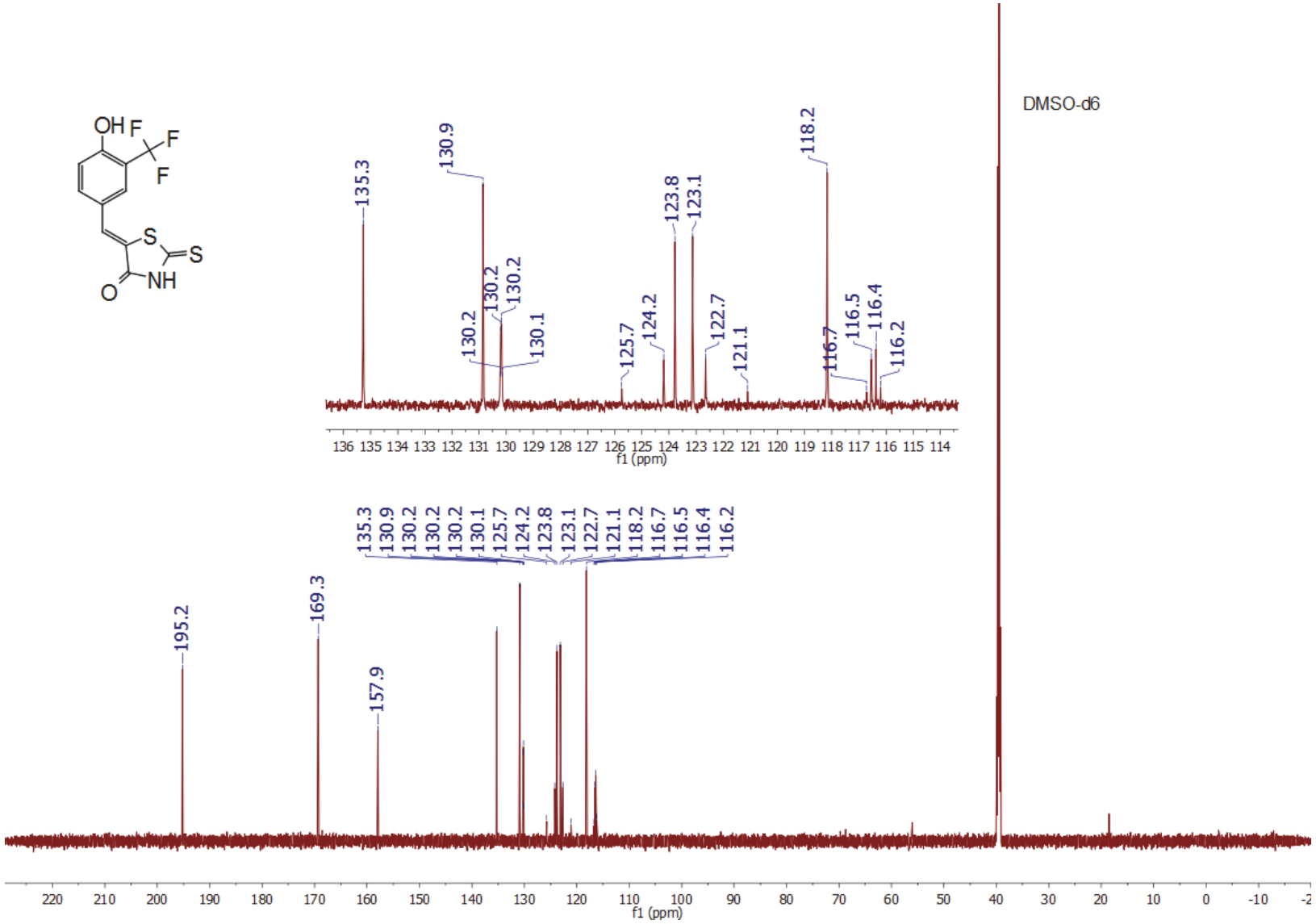

OH
CH3
O
O
CH3
S
O
O
NH
12.37
1.00
12.8 12.6 12.4 12.2 12.0 11.8
3.80
3.77
3.00 3.00
3.85 3.80 3.75 3.70
3.31 HDO
2.50 DMSO-d6
12.37
10.11
7.92
6.90
6.61
3.80
3.77
1.00
1.00
1.01
1.00 1.00
3.00 3.00
13.0 12.5 12.0 11.5 11.0 10.5 10.0 9.5 9.0 8.5 8.0 7.5 7.0 6.5 6.0 5.5 5.0 4.5 4.0 3.5 3.0 2.5 2.0 1.5 1.0 0.5 0.0
f1 (мд)


OH
CH3
O
O
CH3
S
O
NH
O
39.5 DMSO-d6
56.2
56.0
57.5
57.0
56.5
56.0
55.5
55.0
54.5
168.1
167.5
154.4
151.4
142.0
127.0
118.4
112.2
111.5
100.6
56.2
56.0
.80
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
f1 (мд)

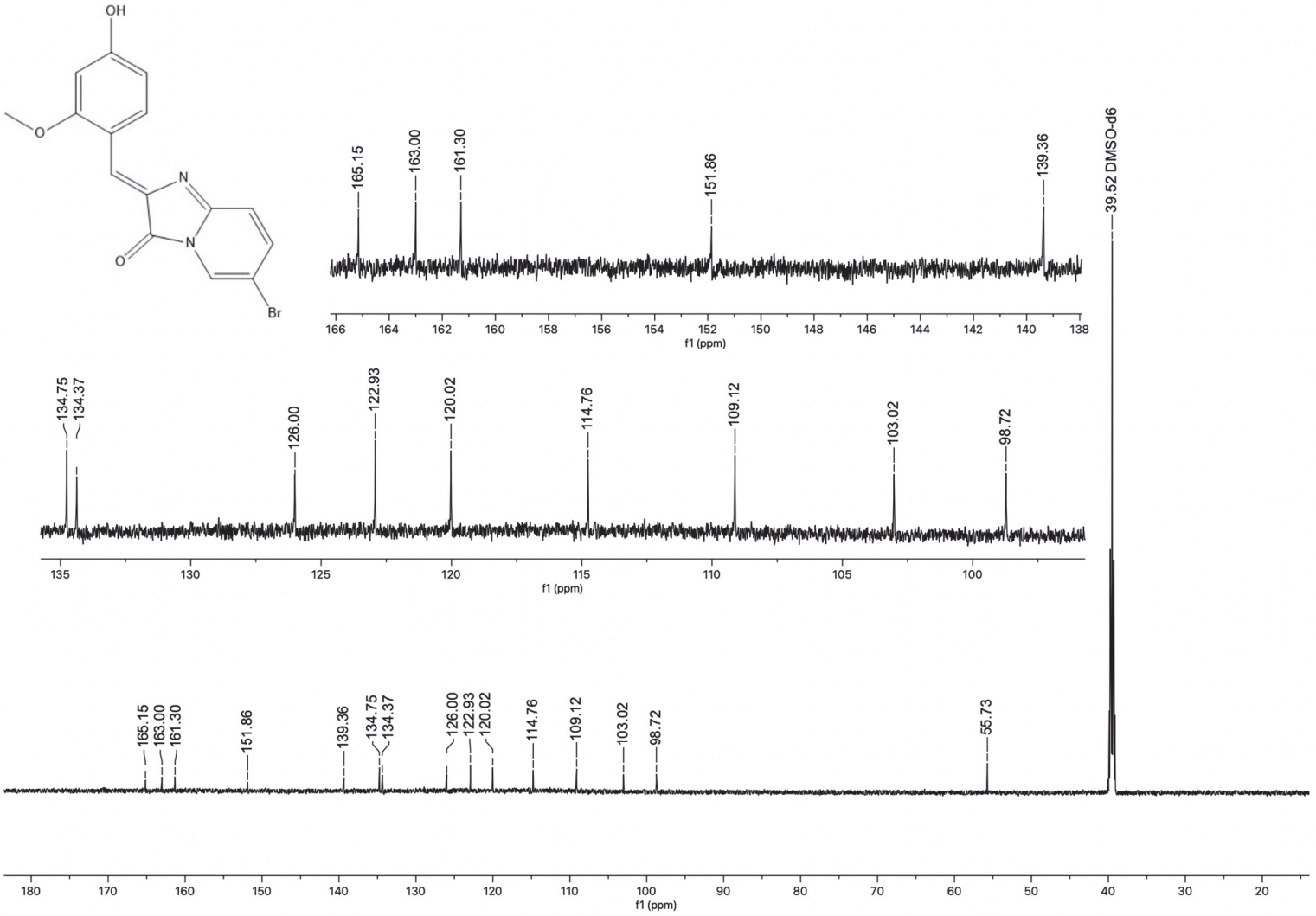

OH
O
N
N
O
Water
DMSO
Chloroform
10.32
8.76
8.75
7.91
7.90
7.62
7.61
7.60
7.59
7.46
6.52
6.52
6.50
6.47
6.47
3.86
3.25
0.97
1.00
1.98
1.07
1.06
2.99
2.95
Chemical Shift (ppm)


OH
O
N
O
N
DMSO
135.40
134.14
131.19
129.32
128.76
128.57
136
135
134
133
132
131
130
129
128
Chemical Shift (ppm)
170.58
162.15
160.79
160.40
135.40
134.14
131.19
128.76
128.57
120.93
114.10
108.78
98.71
55.68
28.61
168
160
152
144
136
128
120
112
104
96
88
80
72
64
56
48
40
32
24
Chemical Shift (ppm)


OH
F
F
F
S
S
NH
O
7.79
7.79
7.66
7.66
7.65
7.65
7.63
7.19
7.17
2.50 DMSO-d6
7.63
7.79
7.79
7.66
7.66
7.65
7.65
7.19
7.17
1.00 1.01 1.00
1.00
f1 (ppm)
13.76
11.50
3.36 HDO
0.82
0.96
1.00 1.01 1.00 1.00
f1 (ppm)


OH
F
F
F
S
S
NH
O
DMSO-d6
135.3
130.9
130.2
130.2
130.1
125.7
124.2
123.8
123.1
122.7
121.1
118.2
116.7
116.5
116.4
116.2
136 135 134 133 132 131 130 129 128 127 126 125 124 123 122 121 120 119 118 117 116 115 114
f1 (ppm)
195.2
169.3
157.9
220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 -10 -2
f1 (ppm)


OH
O
N
N
O
Br
8.79
8.78
7.97
7.97
7.97
7.97
7.57
7.33
7.33
7.32
7.32
6.99
6.99
6.98
6.98
6.54
6.54
6.53
6.52
6.47
6.47
2.50 DMSO-d6
0.96
1.02
1.02
1.00
0.98
1.00
1.06
f1 (ppm)
10.52
8.79
8.78
7.97
7.97
7.97
7.97
7.57
7.33
7.32
7.32
6.99
6.99
6.98
6.54
6.54
6.52
6.47
6.47
5.75 CH2Cl2
3.87
3.30 H2O
0.94
0.96
1.02
1.02
1.00
0.98
1.00
1.06
3.12
f1 (ppm)


OH
O
N
N
O
Br
165.15
163.00
161.30
151.86
139.36
39.52 DMSO-d6
f1 (ppm)
134.75
134.37
126.00
122.93
120.02
114.76
109.12
103.02
98.72
55.73