

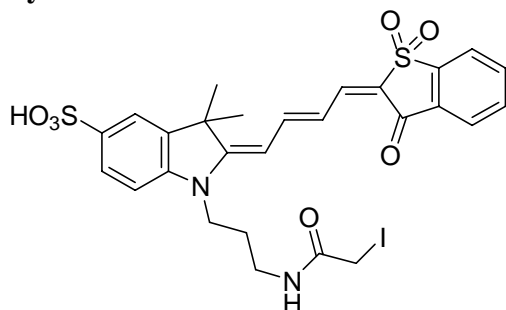
Dye Kit
Hahn Lab (khahn@med.unc.edu)

Dye #	Donor/Acceptor Legend	Data
53	s-I-SO-IA	x
58	TD-BA-sIA	x
59	TD-SO-sIA	x
60	I-Pht-sIA	x
61	I-BA-sIA	x
62	I-TBA-sIA	x
87	I-SO-sIA	x
199	AI-BA	x

Note that each fluorophore is shown with different side chain configurations. The configuration without iodine will most likely resemble behavior on the protein. Iodine quenches fluorescence, but is lost upon labeling. The version with iodine is the one that is used in the labeling solution. The extinction coefficient from that version should be used when determining concentrations for labeling.

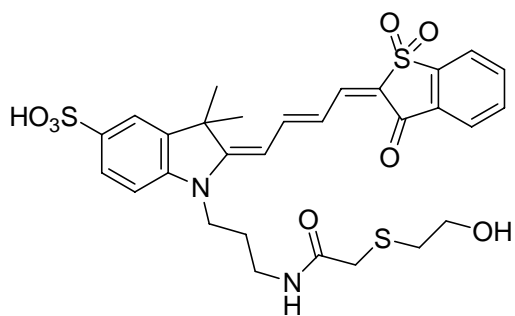
Dye number: 53 (s-I-SO-IA)

Dye Structure:



Molecular Weight: 682.55

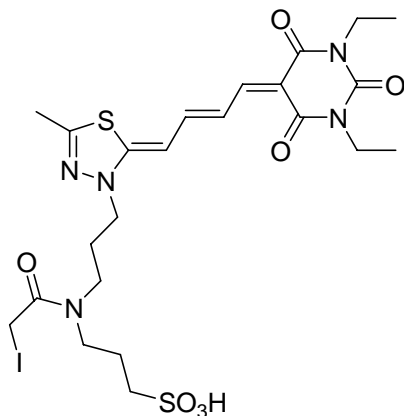
Solvent	X_{\max}	M_{\max}	ϵ	QY	$\epsilon \times \text{QY}$
H2O	593	616	119763	0.016	1916
MeOH	584	619	92920	0.128	11894
BuOH	589	624	99630	0.258	25705



Molecular Weight: 632.77

Solvent	X_{\max}	M_{\max}	ϵ	QY	$\epsilon \times \text{QY}$
DMF	592	624	136641	0.46	62350
MeOH	582	620	115384	0.14	16613
BuOH	590	624	119394	0.35	41566
Water	594	618	134328	0.04	4884

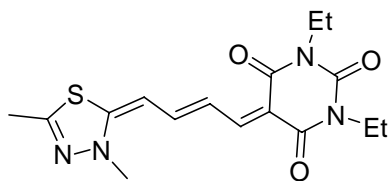
Dye number: 58 (TD.BA.sIA)



structure:

Mol. Wt.: 681.56

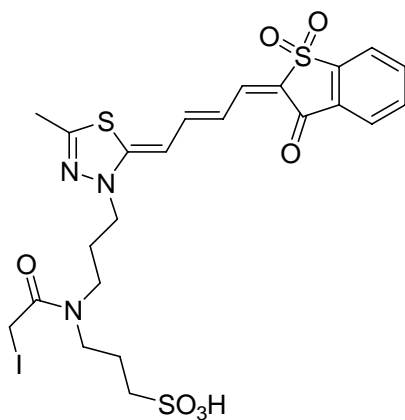
Solvent	X_{max}	M_{max}	ε	QY	ε x QY
DMF	557	578	73268.16	0.1361	9969
MeOH	548	572	58441.34	0.0789	4609
BuOH	556	578	64016.76	0.2175	13925
Water	522	566	28095.53	0.0502	1409



MW = 348.42

Solvent	X_{max}	M_{max}	ε	QY	ε x QY
DMSO	556	577	149709	0.19	28445
Dioxane	550	574	141927	0.02	2839
MeOH	542	568	128796	0.04	5152
BuOH	550	572	155438	0.11	17098

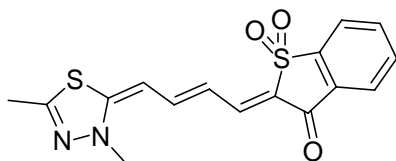
Dye number: 59 (TD.SO.sIA)



structure:

Mol. Wt.: 679.57

Solvent	X _{max}	M _{max}	ε	QY	ε x QY
DMF	581	600	99929.49	0.2430	24284
MeOH	577	598	84506.41	0.0531	4487
BuOH	585	604	86012.82	0.2016	17343
Water	525	588	31762.82	0.0198	627

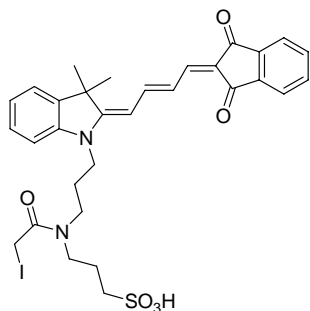


structure:

MW = 346.42

Solvent	X _{max}	M _{max}	ε	QY	ε x QY
DMSO	578	596	149173	0.26	38785
Dioxane	574	594	130000	0.12	15600
MeOH	572	592	111905	0.04	4476
BuOH	578	596	137755	0.17	23418

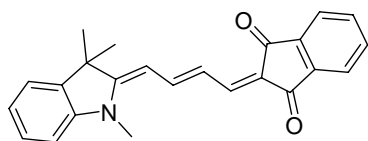
Dye number: 60 (I.Pht.SIA)



structure:

Mol. Wt.: 688.57

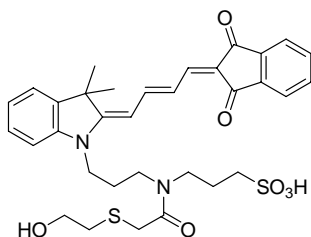
Solvent	X _{max}	M _{max}	ε	QY	ε x QY
DMF	591	618	92143.34	0.2284	21046
MeOH	591	614	106317.41	0.0104	1103
BuOH	593	616	100317.41	0.0972	9752
Water	595	608	106897.61	0.0001	10



structure:

MW = 355.43

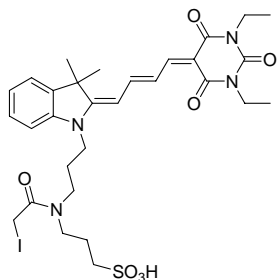
Solvent	X _{max}	M _{max}	ε	QY	ε x QY
DMSO	590	616	201114	0.29	58323
Dioxane	570	596	120945	0.05	6047
MeOH	584	608	224426	0.01	2244
BuOH	586	613	213990	0.10	21399



Molecular Weight: 638.79

Solvent	X _{max}	M _{max}	ε	QY	ε x QY
DMF	592	618	120579	0.40	48050
MeOH	591	614	127512	0.02	2892
BuOH	593	616	119061	0.21	25275
Water	595	610	127762	0.00	67

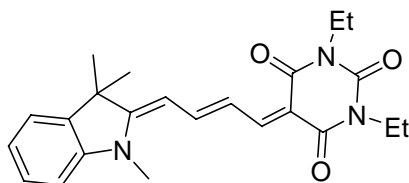
Dye number: 61 (I.BA.SIA)



structure:

Mol. Wt.: 726.62

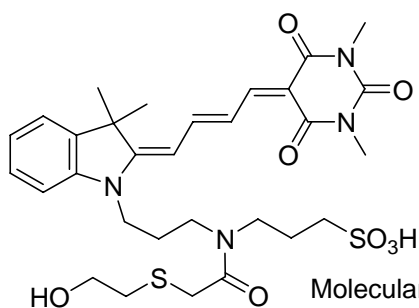
Solvent	X _{max}	M _{max}	ε	QY	ε x QY
DMF	566	590	140147.71	0.1522	21323.4812
MeOH	565	588	167326.44	0.0714	11939.8268
BuOH	570	592	146351.55	0.1752	25640.8939
Water	565	586	131726.74	0.0348	4581.1425



Dye structure:

MW = 393.48

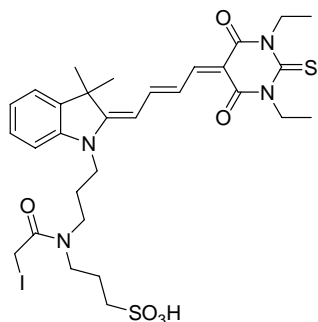
Solvent	X _{max}	M _{max}	ε	QY	ε x QY
DMSO	568	590	175147	0.40	70024
Dioxane	554	576	88794	0.02	1510
MeOH	560	582	58980	0.10	5603
BuOH	564	586	81107	0.19	15410



Molecular Weight: 648.79

Solvent	X _{max}	M _{max}	ε	QY	ε x QY
DMF	566	590	93750	0.25	23310
MeOH	565	588	103935	0.13	13310
BuOH	568	592	104029	0.28	28699
Water	565	588	87169	0.07	5788

Dye number: 62 (I.TBA.SIA)

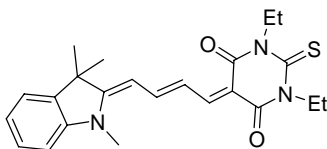


structure:

Mol. Wt.: 742.69

Solvent	X _{max}	M _{max}	ε	QY	ε x QY
DMF	594	612	189009.67	0.2376	44916
MeOH	590	608	202901.35	0.0694	14075
BuOH	594	614	165164.41	0.3115	51449
Water	585	608	89442.94	0.0290	2595

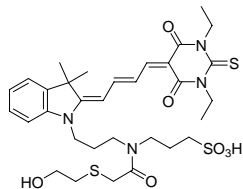
Dye structure:



MW = 409.54

Solvent	X _{max}	M _{max}	ε	QY	ε x QY
DMSO	590	612	239549	0.58	138938
Dioxane	584	602	190865	0.14	26721
MeOH	584	603	234260	0.07	16398
BuOH	588	609	230097	0.47	108146
DMF*	589	611	183000	0.94	172000
Octanol*	590	609	180000	0.99	178000

* - Data from JACS, 2003, v125, 4132-4145

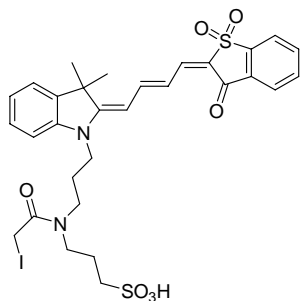


Molecular Weight: 692.91

Solvent	X _{max}	M _{max}	ε	QY	ε x QY
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DMF	593	614	198536	0.42	83966
MeOH	589	610	182855	0.21	38315
BuOH	594	614	196012	0.45	88215
Water	586	608	108807	0.06	6532

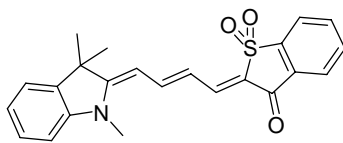
Dye number: 87 (I.SO.SIA)



Mol. Wt.: 724.63

structure:

Solvent	A _{max}	M _{max}	ε	QY	ε x QY
DMSO	596	620	135301	0.29	39237
MeOH	584	620	119760	0.04	4790
BuOH	590	620	113963	0.19	21652
Water	592	586	97929	0.02	1958

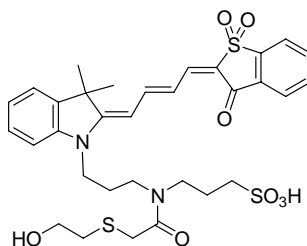


Dye structure:

MW = 391.48

Solvent	X _{max}	M _{max}	ε	QY	ε x QY
DMSO	586	614	170992	0.30	51298
Dioxane	574	606	127049	0.12	15246
MeOH	582	614	161763	0.03	4853
BuOH	582	616	141426	0.50	70713
DMF*	586	615	143000	0.97	140000
Octanol*	587	617	125000	0.98	123000

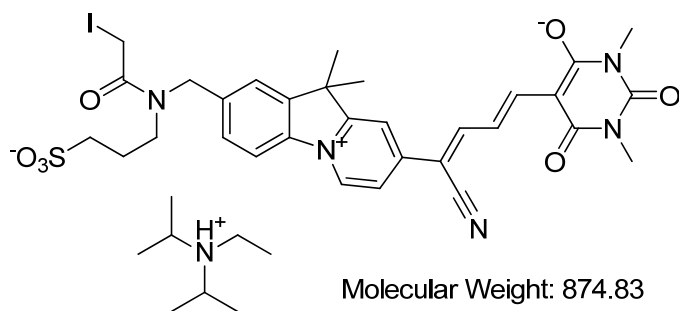
* - Data from JACS, 2003, v125, 4132-4145



Molecular Weight: 674.85

Solvent	X _{max}	M _{max}	ε	QY	ε x QY
DMF	587	618	102520	0.423	43415
MeOH	588	620	83774	0.082	6863
BuOH	592	622	100337	0.255	25554
Water	591	616	75488	0.015	1096

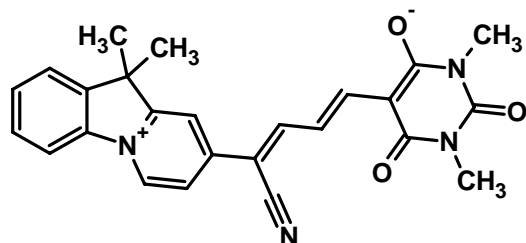
Dye number: 199



structure:

Solvent	A _{max}	M _{max}	ε	QY	ε x QY
Water/MeOH	578	607	123000	0.15	18500
MeOH	589	613	180000	0.05	9000
BuOH	600	620	190000	0.25	47500

Dye Structure:



MW: 426

Solvent	X _{max}	M _{max}	ε	QY	ε x QY
H2O/MeOH	578	607	268162	0.148	39688
MeOH	589	613	369602	0.047	17371
BuOH	600	620	284901	0.246	70086
CH2Cl2	607	625	440576	0.011	4846