

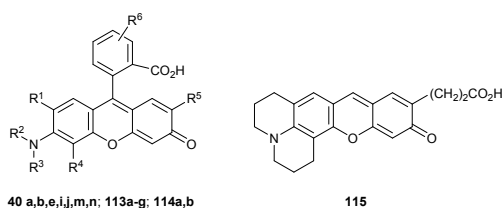
Supporting information

Rhodols – synthesis, photophysical properties and applications as fluorescent probes

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Table S1. Optical properties of substituted rhodol derivatives in PBS buffer.



Dye	R ¹	R ²	R ³	R ⁴	R ⁵	R ⁶	$\lambda_{\text{abs}} / \text{nm}$	$\epsilon_{\text{max}} \cdot 10^{-3} / \text{M}^{-1} \cdot \text{cm}^{-1}$	$\lambda_{\text{em}} / \text{nm}$	Φ
40a ¹	H	H	H	H	H	H	493	70	516	0.98
40b ¹	H	C ₃ H ₇	H	H	H	H	507	61	531	0.94
40e ¹	H	CH ₃	CH ₃	H	H	H	518	64	544	0.20
40i ¹	H	-(CH ₂) ₄ -		H	H	H	519	63	550	0.12
40j ¹	H	-(CH ₂) ₅ -		H	H	H	523	63	555	0.10
113a ²	-(CH ₂) ₃ -		H	H	H	CO ₂ H	516	81	541	0.79
113b ²	-(CH ₂) ₃ -		-(CH ₂) ₃ -		H	CO ₂ H	540	67	570	0.43
40m ¹	H	C ₆ H ₅	H	H	H	H	513	55	-	-
40n ¹	H	C ₆ H ₅	CH ₃	H	H	H	517	57	-	-
40p ¹	H		H	H	H	H	462/490	30	525	0.16
113c ²	Me	Et	H	H	Cl	CO ₂ H	514	81	539	0.82
113d ²	-(CH ₂) ₃ -		-(CH ₂) ₃ -		Cl	CO ₂ H	548	75	575	0.42
113e ²	Me	Et	H	H	CH ₃	CO ₂ H	510	66	536	0.89
113f ²	-(CH ₂) ₃ -		H	H	Cl	CO ₂ H	524	77	548	0.72
113g ²	Me	Et	H	H	Br	CO ₂ H	516	81	539	0.61
114a ¹	Cl	CH ₃	H	H	Cl	H	512	71	533	0.67
114b ¹	Cl	C ₆ H ₅	CH ₃	H	Cl	H	520	62	-	-
115 ²	-						538	70	562	high

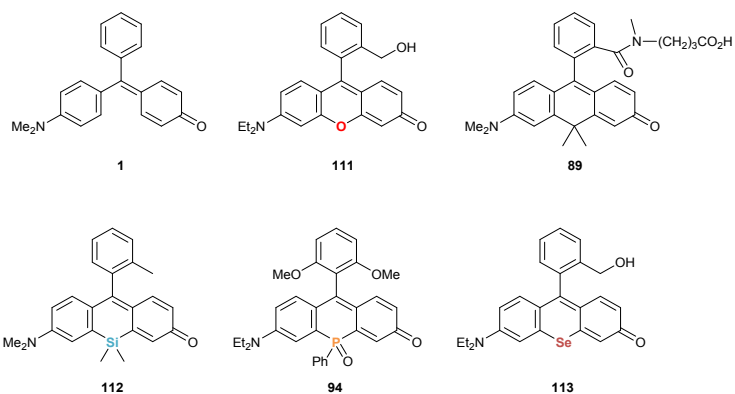


Table S2. Optical properties of rhodol and related compounds in PBS buffer.

Dye	$\lambda_{\text{abs}} / \text{nm}$	$\lambda_{\text{em}} / \text{nm}$	Φ	Bridging atom
1	552 ^a	-	-	-
111	525	543	0.14	O
89	586	613	0.32	C(CH₃)₂
112	612	630	0.28	Si(CH₃)₂
94	670	698	0.11	(P=O)Ph
113	558	590	0.006	Se

^a – in methanol

Literature:

- 1 T. Peng and D. Yang, *Org. Lett.*, 2010, **12**, 496–499.
- 2 J. E. Whitaker, R. P. Haugland, D. Ryan, P. C. Hewitt, R. P. Haugland and F. G. Prendergast, *Anal. Biochem.*, 1992, **207**, 267–279.