Supporting Information

Complete radiationless energy transfer from excited triplet state of a dim phosphor to a covalently linked adjacent fluorescent dye in purely organic tandem luminophores

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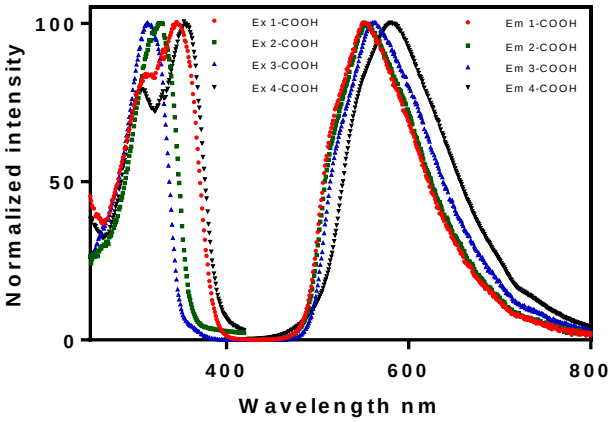


Figure SI1. Excitation and emission spectra of phosphorescence of carboxylic acid analogues of **1**-**4**. 6-10 nmol of **1** - **4** in 0.7 mg of PVA *per* well were used.

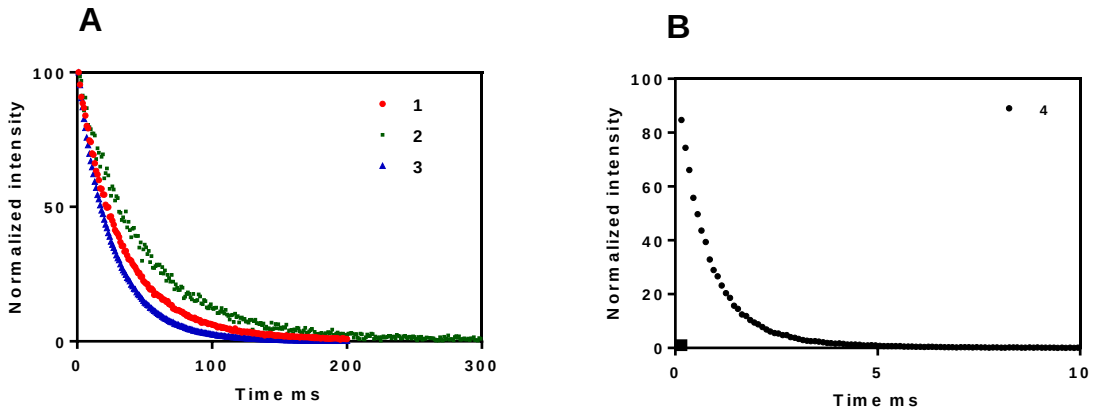


Figure SI2. Phosphorescence decays of **1**-**3** (A) and **4** (B) in PVA.

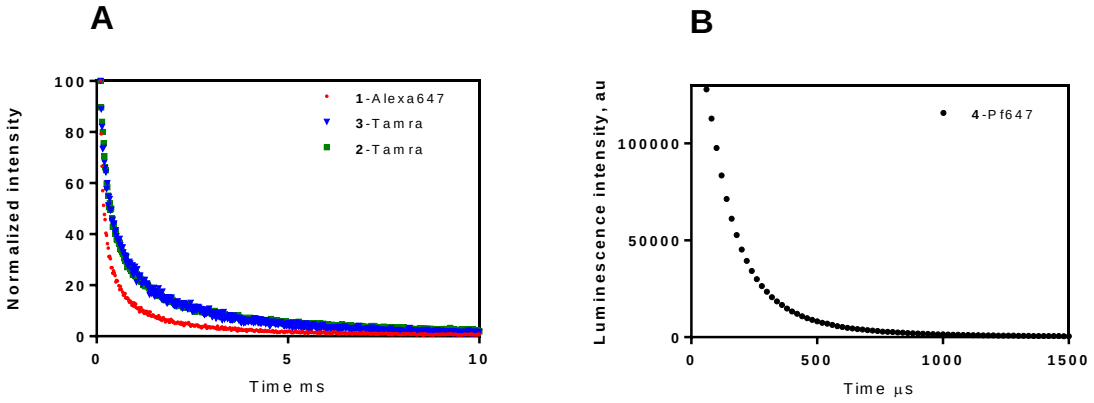


Figure SI3. Luminescence decays of donor-acceptor compounds in PVA.

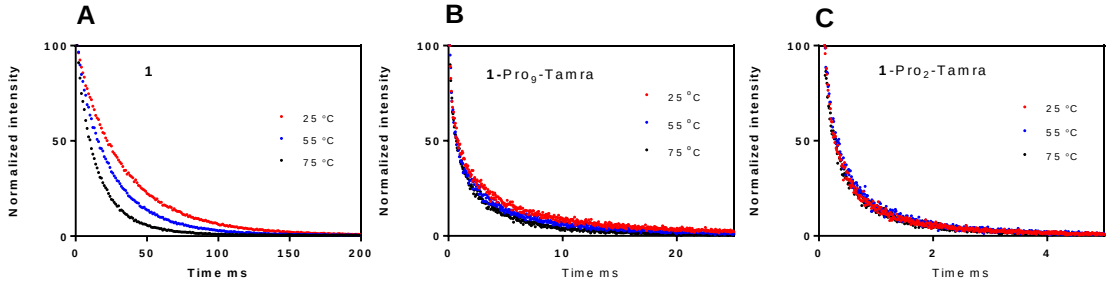


Figure SI4. Temperature dependence of luminescence decays of compounds in PVA.

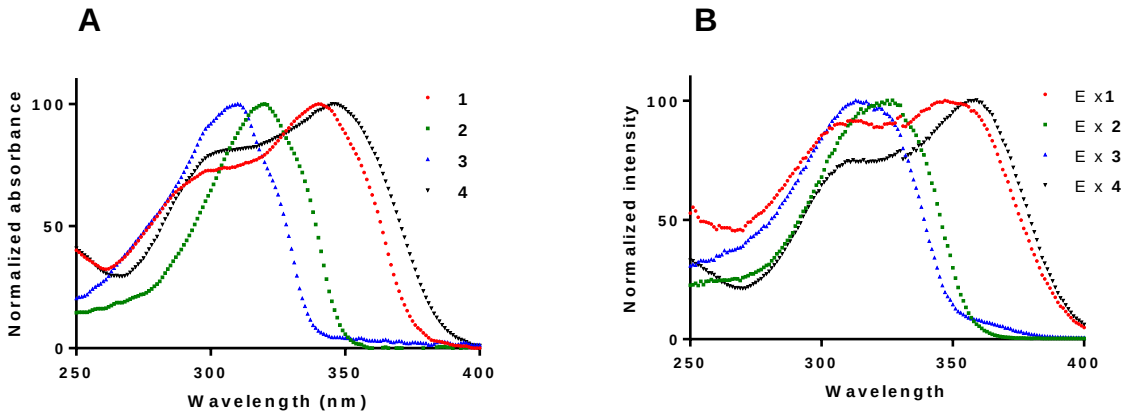
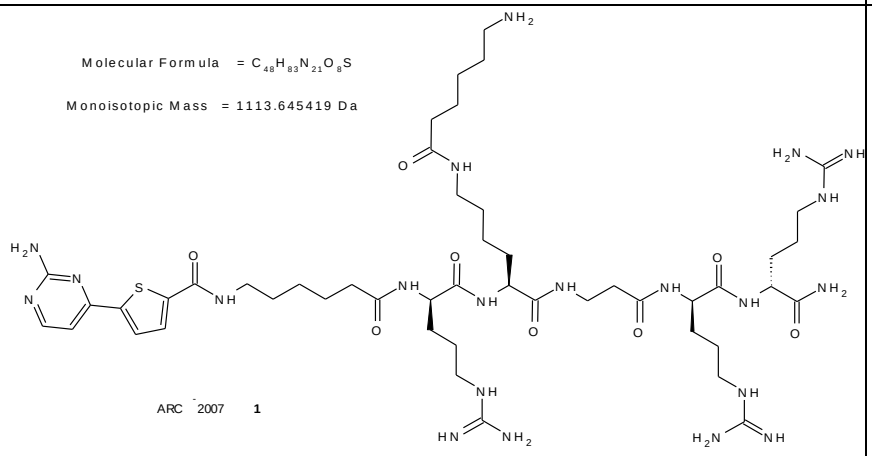
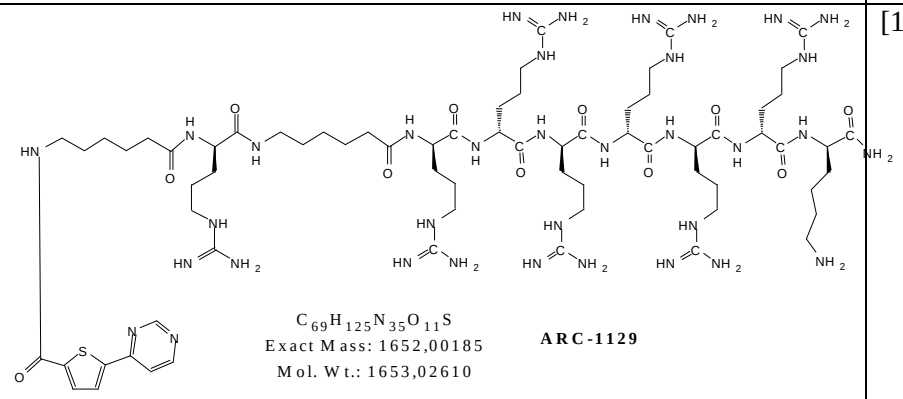
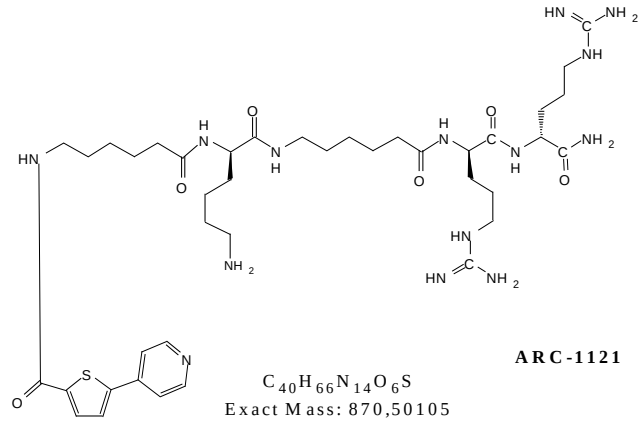
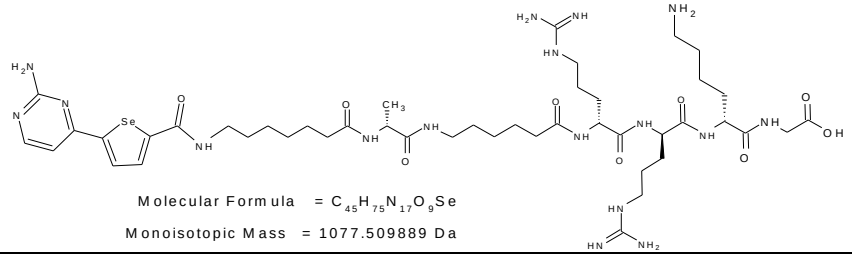
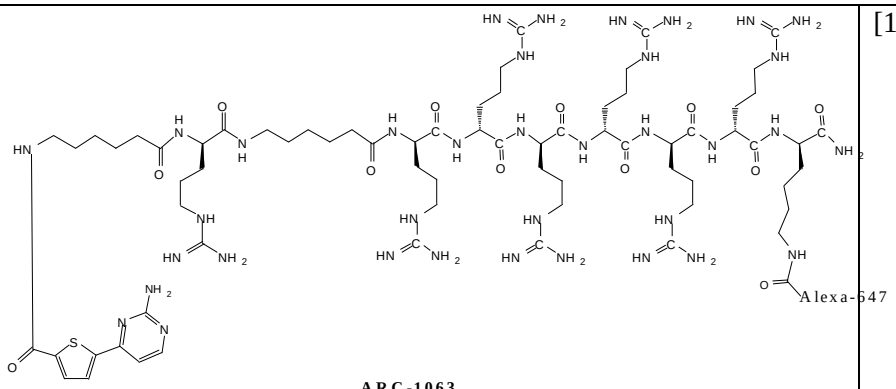
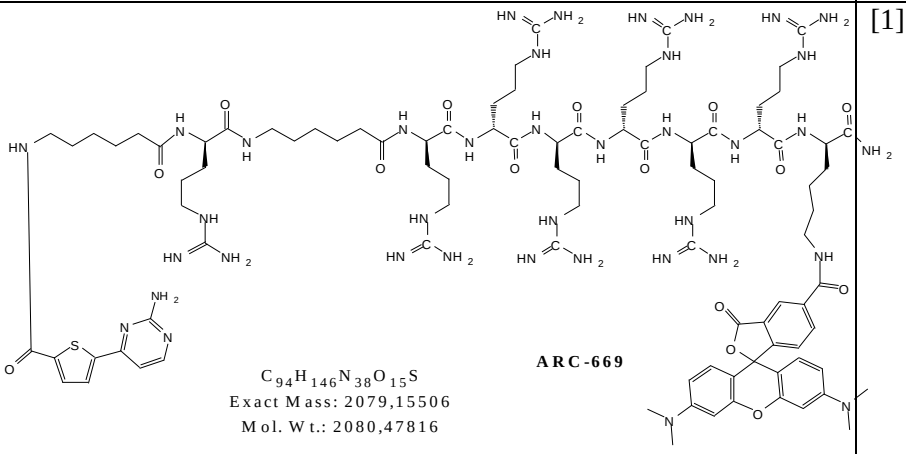
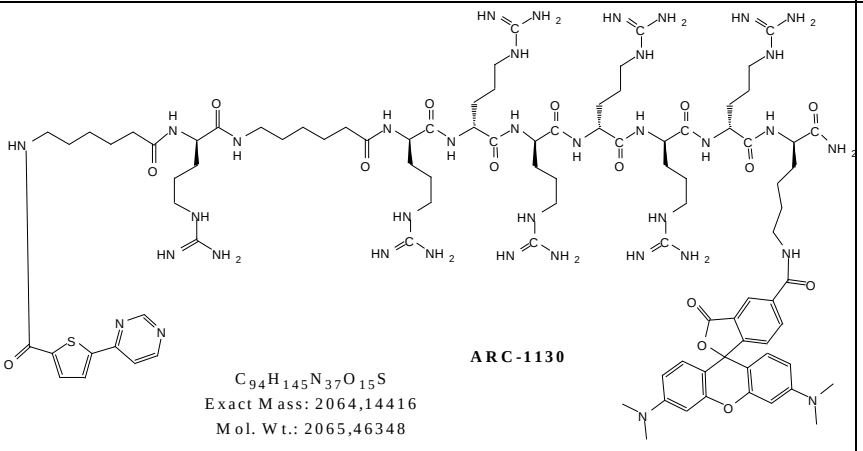
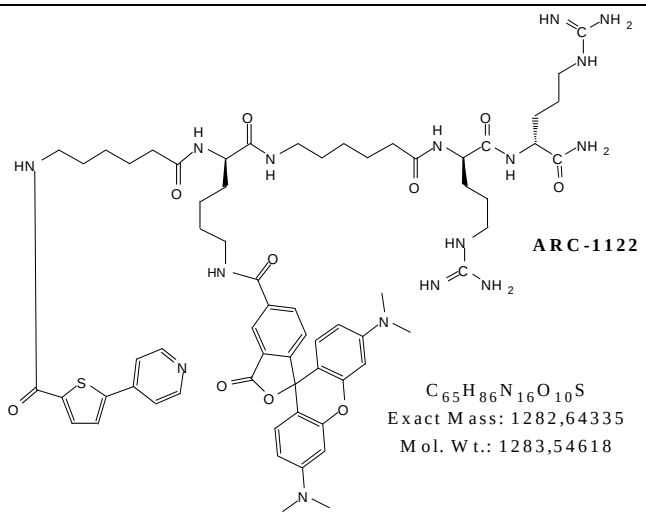
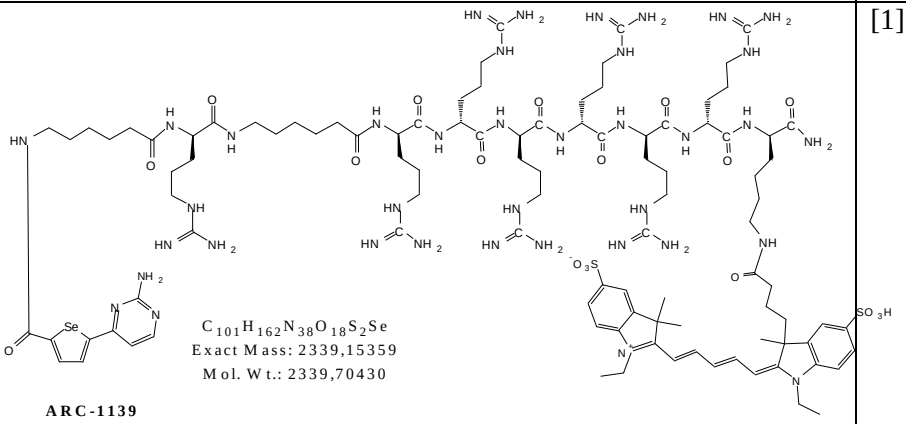
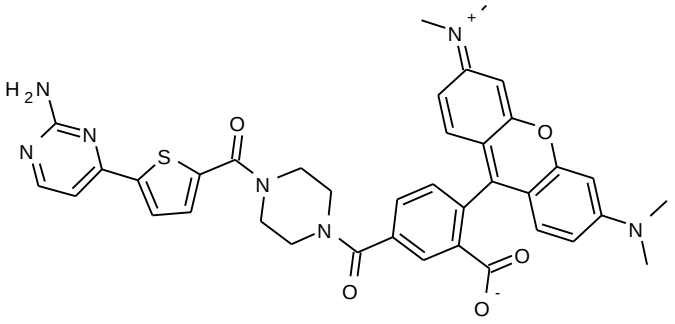


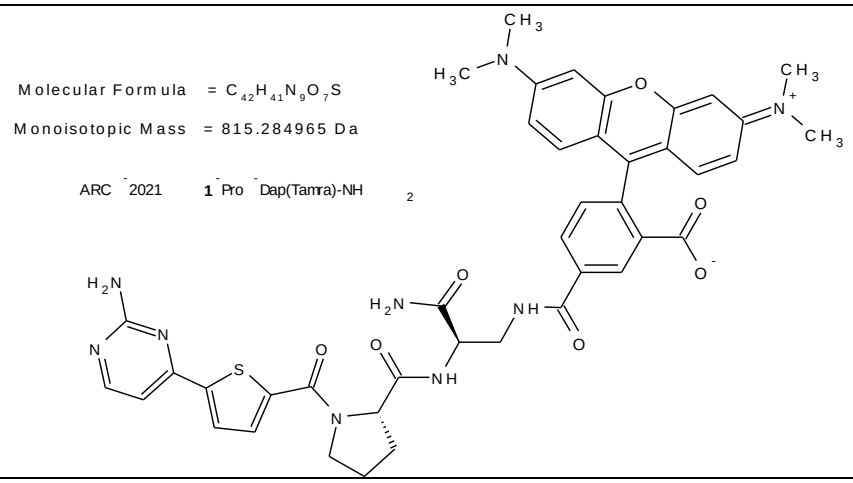
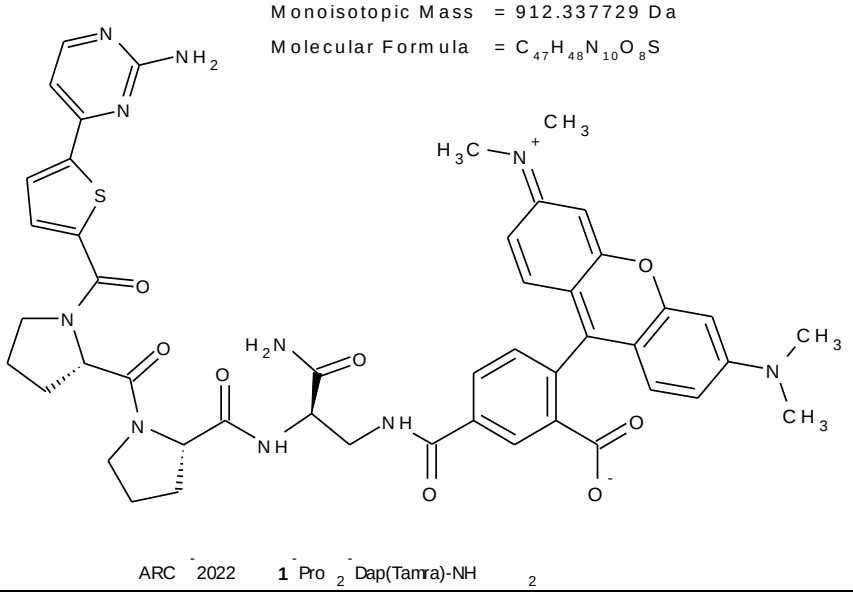
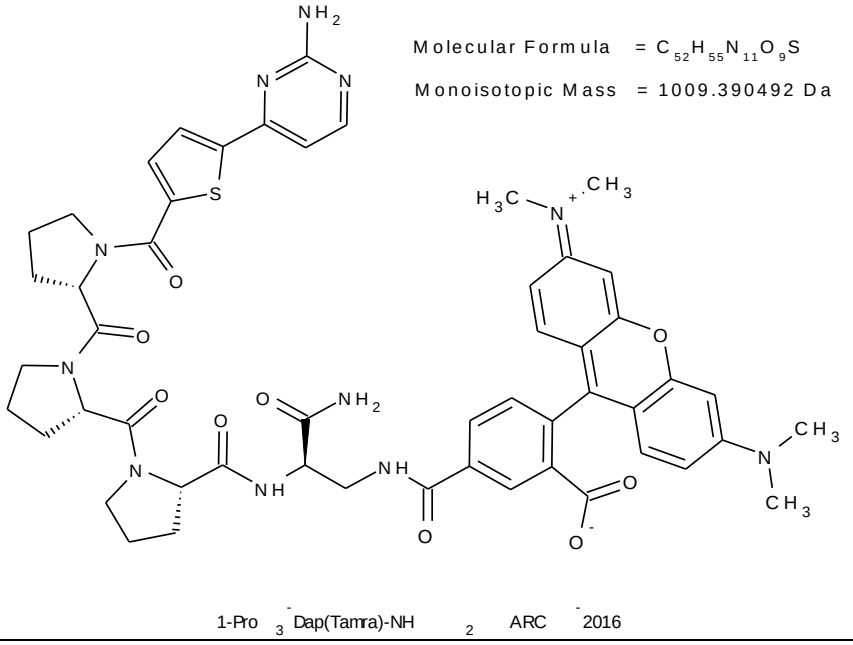
Figure SI5. A) Normalized UV-spectra of **1** – **4**. B) Normalized phosphorescence excitation spectra of **1** – **4**. Minor differences between absorption and excitation spectra are probably mainly caused by slit width used in the measurements of excitation spectra.

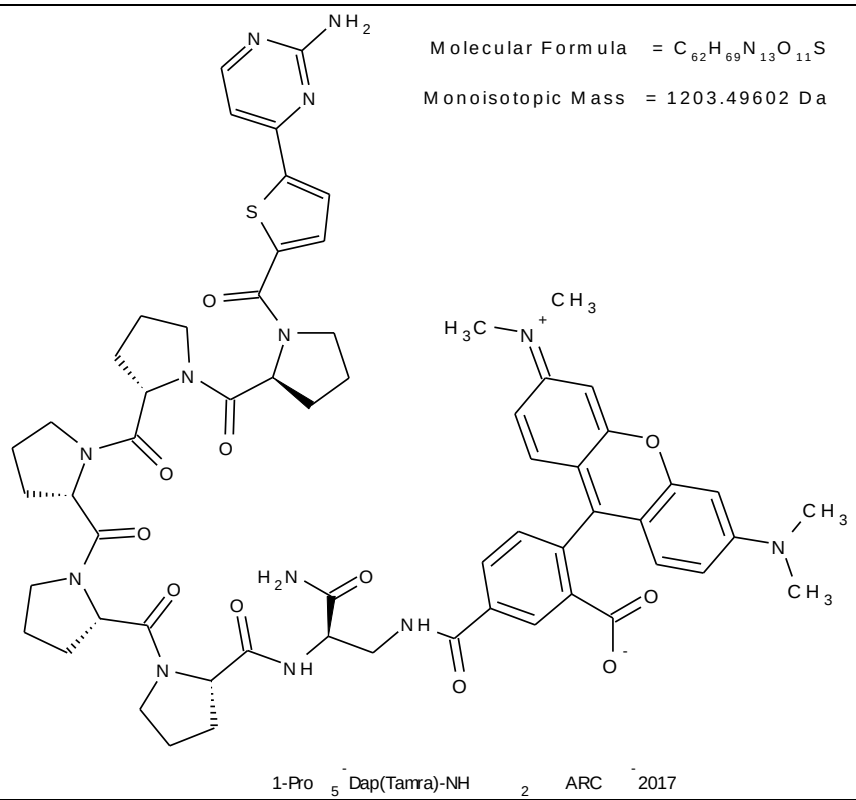
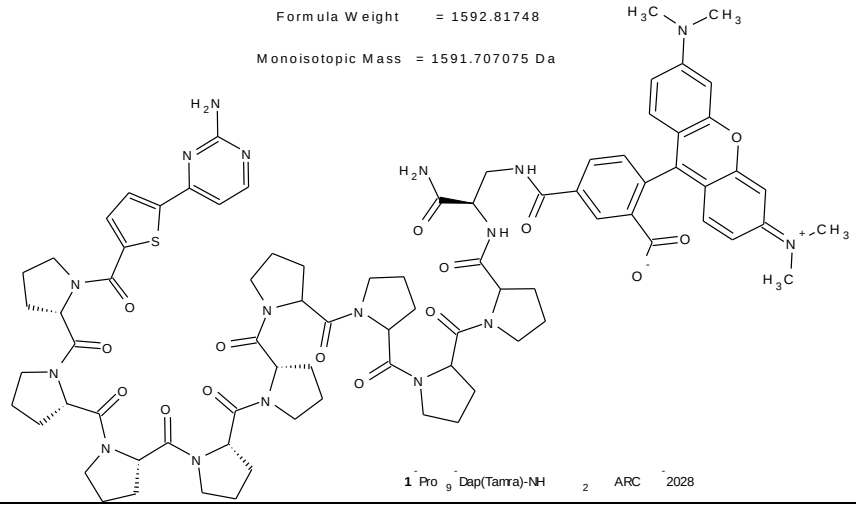
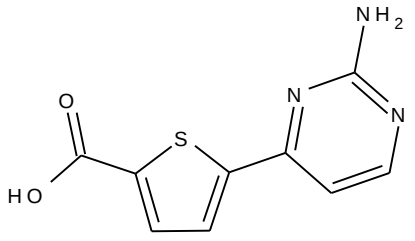
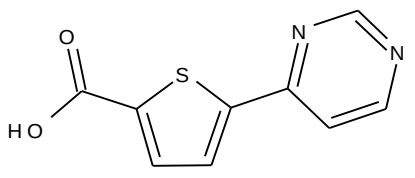
SI Table 1. Table of full structures

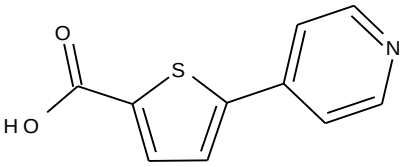
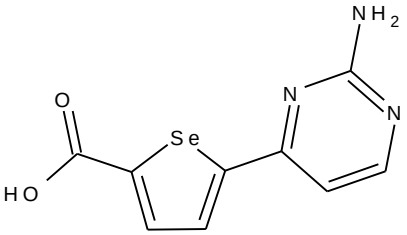
Compound codes	Structure	Reference or HRMS
1 (ARC-2007)		1113.6447
2 (ARC-1129)		[1]
3 (ARC-1121)		[1]
4 (ARC-1180)		1077.5105

1-Alexa647 (ARC-1063)	 **ARC-1063**	[1]
1-Tamra (ARC-669)	 $C_{94}H_{146}N_{38}O_{15}S$ Exact Mass: 2079,15506 Mol. Wt.: 2080,47816 **ARC-669**	[1]
2-Tamra (ARC-1130)	 $C_{94}H_{145}N_{37}O_{15}S$ Exact Mass: 2064,14416 Mol. Wt.: 2065,46348 **ARC-1130**	[1]

3-Tamra (ARC-1122)		[1]
4-PF647 (ARC-1139)		[1]
1-Pip-Tamra (ARC-2024)	Molecular Formula = $C_{38}H_{35}N_7O_5S$ Monoisotopic Mass = 701.242037 Da  ARC - 2024 **1** - Pip - Tamra	701.2405

1-Pro-Dap(Tamra)-NH_2 (ARC-2021)		815.2837
1-Pro_2-Dap(Tamra)-NH_2 (ARC-2021)		912.3369
1-Pro_3-Dap(Tamra)-NH_2 (ARC-2016)		1009.3886

1-Pro$_5$-Dap(Tamra)-NH$_2$ (ARC-2017)		1203.4968
1-Pro$_9$-Dap(Tamra)-NH$_2$ (ARC-2028)		1591.7086
1-COOH		[1]
2-COOH		[1]

3-COOH		[1]
4-COOH		[1]

SI references

1) E. Enkvist, A. Vaasa, M. Kasari, M. Kriisa, T. Ivan, K. Ligi, G. Raidaru, A. Uri, *ACS Chem. Biol*. **2011**, *6*, 1052 –1062.