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Started on: March 11, 2021

Type: Disulfide exchange

Chemical reaction scheme showing the synthesis of a fluorescent probe. The reactants are a potassium salt of a phosphonate (K⁺ and a phosphonate group) and a complex molecule containing a fluorescein core, a carboxylic acid group, and a thiol group. The reaction yields a fluorescent probe (a fluorescein derivative with a thiol group) and a byproduct (a phosphonate derivative).

	Reactant	MW	m	n	equiv	d	volume	source	purity/conc./loading
1	molecule 1	711.894		0.400	undefined	1.00	4.00 uL		100 µM In PBS
2	molecule 2	208.257		4.00	undefined	10.0	36.0 uL		111 µM In ...

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	Product ID	MW	m	n	equiv	m obtained	yield	purity/conc./ loading	Results	Name
1	Draft-1-1	0.000	0.00 ug	0.400 undefined	1.00					
2	Draft-1-2	172.267	0.0689 ug	0.400 undefined	1.00					
3	Draft-1-3	214.346	0.0857 ug	0.400 undefined	1.00					
4	Draft-1-4	249.331	0.0997 ug	0.400 undefined	1.00					

Procedure

To a solution of molecule 1 (4 μL , 0.400 μM) in DMSO (100 μM , 4.00 μL , 1.0 eq.) was added a solution of molecule 2 (36.0 μL , 4.00 μM) in PBS buffer (5.56 μM (0.5 eq.), 11.1 μM (1.0 eq.), 22.2 μM (2.0 eq.), 111 μM (10 eq.), or 1.11 mM (100 eq.), 36 μL , pH 7.4). HPLC were measured after 30 min.

HPLC conditions: 5% - 95% ACN over 15 minutes in total, $R_t \sim 13$ min

0.5 eq: 19/81

1 eq: 21/79

2 eq: 18/82

10 eq: 25/75

100 eq: 87/13

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