



Table 1 Dye parameters for proteins labeled at cysteine

Dye	Dye Parameters					
	# of linker atoms*	L_{link} [Å]	w_{link} [Å]	$R_{\text{dye}(1)}$ [Å]	$R_{\text{dye}(2)}$ [Å]	$R_{\text{dye}(3)}$ [Å]
BodipyFL C1 iodacetamide	6	10.8	4.5	4.5	3.2	0.9
Alexa Fluor 488 C5 maleimide	12	20.5	4.5	5.0	4.5	1.5
Alexa Fluor 594 C5 maleimide	12	20.5	4.5	8.1	4.2	2.1
Alexa Fluor 647 C2 maleimide	14	21	4.5	11.0	4.7	1.5
Atto647N maleimide	14	21	4.5	7.15	4.5	1.5

* The number (#) of linker atoms is counted with the C_{β} atom as starting position. The linker also includes the reactive group, the spacer and the internal dye linker until to the attachment of the fluorophore.

Table 2 Dye parameters for nucleic acids labeled at a pyrimidine base with “C6-amino linker” (with 11 backbone atoms)

Dye	Dye Parameters					
	# of linker atoms**	L_{link} [Å]	w_{link} [Å]	$R_{\text{dye}(1)}$ [Å]	$R_{\text{dye}(2)}$ [Å]	$R_{\text{dye}(3)}$ [Å]
Alexa Fluor 488 NHS ester	12	20	4.5	5.0	4.5	1.5
Atto532 NHS ester	17	20.5	4.5	5.5	4.5	1.5
Atto550 NHS ester	17	20.5	4.5	7.8	4.5	1.5
Atto647N NHS ester	17	20.5	4.5	7.15	4.5	1.5
Sulfo-Cy3-NHS ester	17	20	4.5	6.8	3.0	1.5
Sulfo-Cy5-NHS ester	17	22	4.5	11.0	3.0	1.5

**The number (#) of linker atoms is counted with the linker C atom as starting position that is connected to C5 of the pyrimidine ring. The linker also includes the reactive group, the spacer and the internal dye linker until to the attachment of the fluorophore.