

SUPPLEMENTARY MATERIALS

Table 1s. Spectroscopic properties of Fast-FT, blue precursors, and mutants.

Protein		Absorbance peak, nm	Excitation peak, nm	Emission peak, nm	Extinction coefficient, $M^{-1}cm^{-1}$ *	Quantum yield**
Fast-FT	Blue form	403	403	466	18,400	0.30
	Red form	583	583	606	19,100	0.09
Fast-FT/S217C	Blue form	403	403	466	22,110	0.33
	Red form	580	581	611	57,500	0.10
Fast-FT/S146A	Blue form	403	402	471	16,600	0.27
	Red form	586	587	609	2,300	0.06
Fast-FT/R70K	Blue form	403	407	466	5,700	0.31
	Red form	582	582	604	88,600	0.07
Fast-FT/S217A	Blue form	403	402	466	14,600	0.36
	Red form	581	581	604	81,600	0.07
Fast-FT/W83L	Blue form	410	408	468	4,400	0.21
	Red form	585	585	609	3,400	0.07
Blue 124/I146S	Blue form	403	403	461	22,300	0.10
	Red form	581	583	604	95,500	0.07
Blue 102	Blue form	403	403	454	11,400	0.90
	Red form	—	—	—	—	—
Blue 124	Blue form	403	402	463	19,000	0.10
	Red form	—	—	—	—	—

*Extinction coefficients of the chromophore absorbance peaks were calculated using the absorbance at 280 nm determined for the respective proteins as described³⁷. **Quantum yields were determined with 403 and 580 nm excitation for blue and red forms, respectively; parental FastFT was used as the reference with quantum yields for blue and red forms equal to 0.30 and 0.09, respectively¹¹.

