

Table 1: Experimental results PEX5 data.  $\tau_D$  in *ms*. For 1 species fit,  $N = N(FCS)$ . For 2 species fit,  $N^{sp} = A^{sp} * N(FCS)$  and  $\tau_D$  is sorted in fast and slow. If  $A^{sp} = 100\%$ , only display the corresponding  $\tau_D$  and  $N$  values

type of processing	artifact fit	Hs-PEX5-eGFP		Tb-PEX5-eGFP	
no correction	1	$\tau_D = 0.36$	$N = 1.1$	$\tau_D = 0.52$	$N = 0.8$
	2	$\tau_D^{fast} = 0.36$ $\tau_D^{slow} = 0.36$	$N^{fast} = 0.1$ $N^{slow} = 0.1$	$\tau_D^{fast} = 0.45$ $\tau_D^{slow} = 13.44$	$N^{fast} = 0.2$ $N^{slow} = 0.0$
ff67b	1	$\tau_D = 0.23$	$N = 2.1$	$\tau_D = 0.28$	$N = 1.5$
	2	$\tau_D^{fast} = 0.21$ $\tau_D^{slow} = 86.83$	$N^{fast} = 0.5$ $N^{slow} = 0.0$	$\tau_D^{fast} = 0.24$ $\tau_D^{slow} = 31.23$	$N^{fast} = 0.4$ $N^{slow} = 0.0$
34766	1	$\tau_D = 0.39$	$N = 3.6$	$\tau_D = 1.12$	$N = 4.1$
	2	$\tau_D^{fast} = 0.05$ $\tau_D^{slow} = 6.32$	$N^{fast} = 0.0$ $N^{slow} = 0.0$	$\tau_D^{fast} = 0.04$ $\tau_D^{slow} = 7.78$	$N^{fast} = 0.0$ $N^{slow} = 0.0$
714af	1	$\tau_D = 0.25$	$N = 2.8$	$\tau_D = 0.37$	$N = 2.2$
	2	$\tau_D^{fast} = 0.15$ $\tau_D^{slow} = 11.84$	$N^{fast} = 0.6$ $N^{slow} = 0.1$	$\tau_D^{fast} = 0.13$ $\tau_D^{slow} = 3.61$	$N^{fast} = 0.4$ $N^{slow} = 0.1$
34a6d	1	$\tau_D = 0.39$	$N = 3.7$	$\tau_D = 1.62$	$N = 4.2$
	2	$\tau_D^{fast} = 591.08$	$N^{fast} = 1.9$	$\tau_D^{fast} = 0.00$ $\tau_D^{slow} = 1.29$	$N^{fast} = 0.7$ $N^{slow} = 0.5$
484af	1	$\tau_D = 0.26$	$N = 1.9$	$\tau_D = 0.24$	$N = 2.1$
	2	$\tau_D^{fast} = 0.23$ $\tau_D^{slow} = 73.45$	$N^{fast} = 0.4$ $N^{slow} = 0.0$	$\tau_D^{fast} = 0.20$ $\tau_D^{slow} = 63.57$	$N^{fast} = 0.5$ $N^{slow} = 0.0$
0cd20	1	$\tau_D = 0.32$	$N = 1.1$	$\tau_D = 0.33$	$N = 1.0$
	2	$\tau_D^{fast} = 0.32$	$N^{fast} = 0.2$	$\tau_D^{fast} = 0.33$	$N^{fast} = 0.2$
fe81d	1	$\tau_D = 0.27$	$N = 1.6$	$\tau_D = 0.24$	$N = 1.7$
	2	$\tau_D^{fast} = 0.25$ $\tau_D^{slow} = 177.40$	$N^{fast} = 0.3$ $N^{slow} = 0.0$	$\tau_D^{fast} = 0.22$ $\tau_D^{slow} = 133.87$	$N^{fast} = 0.4$ $N^{slow} = 0.0$
19e3e	1	$\tau_D = 0.25$	$N = 2.0$	$\tau_D = 0.24$	$N = 2.2$
	2	$\tau_D^{fast} = 0.23$ $\tau_D^{slow} = 146.64$	$N^{fast} = 0.4$ $N^{slow} = 0.0$	$\tau_D^{fast} = 0.20$ $\tau_D^{slow} = 78.29$	$N^{fast} = 0.5$ $N^{slow} = 0.0$
c1204	1	$\tau_D = 2.69$	$N = 5.5$	$\tau_D = 7.60$	$N = 6.1$
	2	$\tau_D^{fast} = 2.35$ $\tau_D^{slow} = 2000.00$	$N^{fast} = 3.0$ $N^{slow} = 0.8$	$\tau_D^{fast} = 0.00$ $\tau_D^{slow} = 6.86$	$N^{fast} = 1.1$ $N^{slow} = 0.6$