

Supplementary Table 1. Time-resolved anisotropy data.

Hairpin	T (°C)	R ₀	φ1 (ns)	β1 (%)	φ2 (ns)	β2 (%)	χ ²
hSLII							
Apex	5	0.30	4.9	57	0.75	43	1.24
	10	0.31	4.2	52	0.68	48	1.22
	20	0.30	3.1	41	0.67	59	1.51
	30	0.30	2	35	0.57	65	1.59
	40	0.29	1.6	23	0.52	77	1.59
hSLIV							
Apex	5	0.37	4.9	53	0.37	47	1.36
	10	0.37	4.2	50	0.38	50	1.46
	20	0.38	3.1	44	0.36	56	1.40
	30	0.38	2.3	37	0.35	63	1.51
	40	0.35	1.8	28	0.37	72	1.54
dSLIV							
Apex	5	0.39	4.9	52	0.32	48	1.37
	10	0.38	4.1	51	0.35	49	1.38
	20	0.37	3.1	45	0.37	54	1.39
	30	0.36	2.4	38	0.38	62	1.57
	40	0.36	1.8	30	0.36	70	1.51
hSLIV							
Side	5	0.27	5.0	66	0.96	34	1.15
	10	0.28	4.2	61	0.90	38	1.16
	20	0.28	3.4	45	0.82	55	1.32
	30	0.29	2.3	37	0.62	63	1.40
	40	0.29	1.8	26	0.53	74	1.53
dSLIV							
Side	5	0.27	5	66	0.82	34	1.10
	10	0.28	4.8	55	0.95	45	1.12
	20	0.29	3.3	45	0.74	55	1.25
	30	0.30	2.2	41	0.52	59	1.25
	40	0.30	1.5	40	0.51	40	1.52

R₀ is the anisotropy at t=0. Errors in β amplitudes are ± 2. [RNA] = 2 μM in 20 mM KCl, 2.5 mM sodium cacodylate pH 7.4, 0.5 mM EDTA.