Table S1: Minimum and maximum measurable viscosity for each shear rate for each spindle. The shear rate, minimum measurable viscosity, and maximum measurable viscosity are calculated and shown following the equations shown in bold for each spindle.

Spindle	Rotation Speed (RPM)	Shear Rate (s^{-1})	Minimum Viscosity (cP)	Maximum Viscosity (cP)
CP-40	**N**	**7.5N**	**30.7/N**	**307/N**
	15	112.5	2.05	20.47
	30	225	1.02	10.23
	45	337.5	0.68	6.82
	60	450	0.51	5.12
	75	562.5	0.41	4.09
	90	675	0.34	3.41
	105	787.5	0.29	2.92
	120	900	0.26	2.56
	135	1012.5	0.23	2.27
CP-51	**N**	**3.84N**	**485.4/N**	**4854/N**
	15	57.6	32.36	323.60
	30	115.2	16.18	161.80
	45	172.8	10.79	107.87
	60	230.4	8.09	80.90
	75	288	6.47	64.72
	90	345.6	5.39	53.93
	105	403.2	4.62	46.23
	120	460.8	4.05	40.45
	135	518.4	3.60	35.96

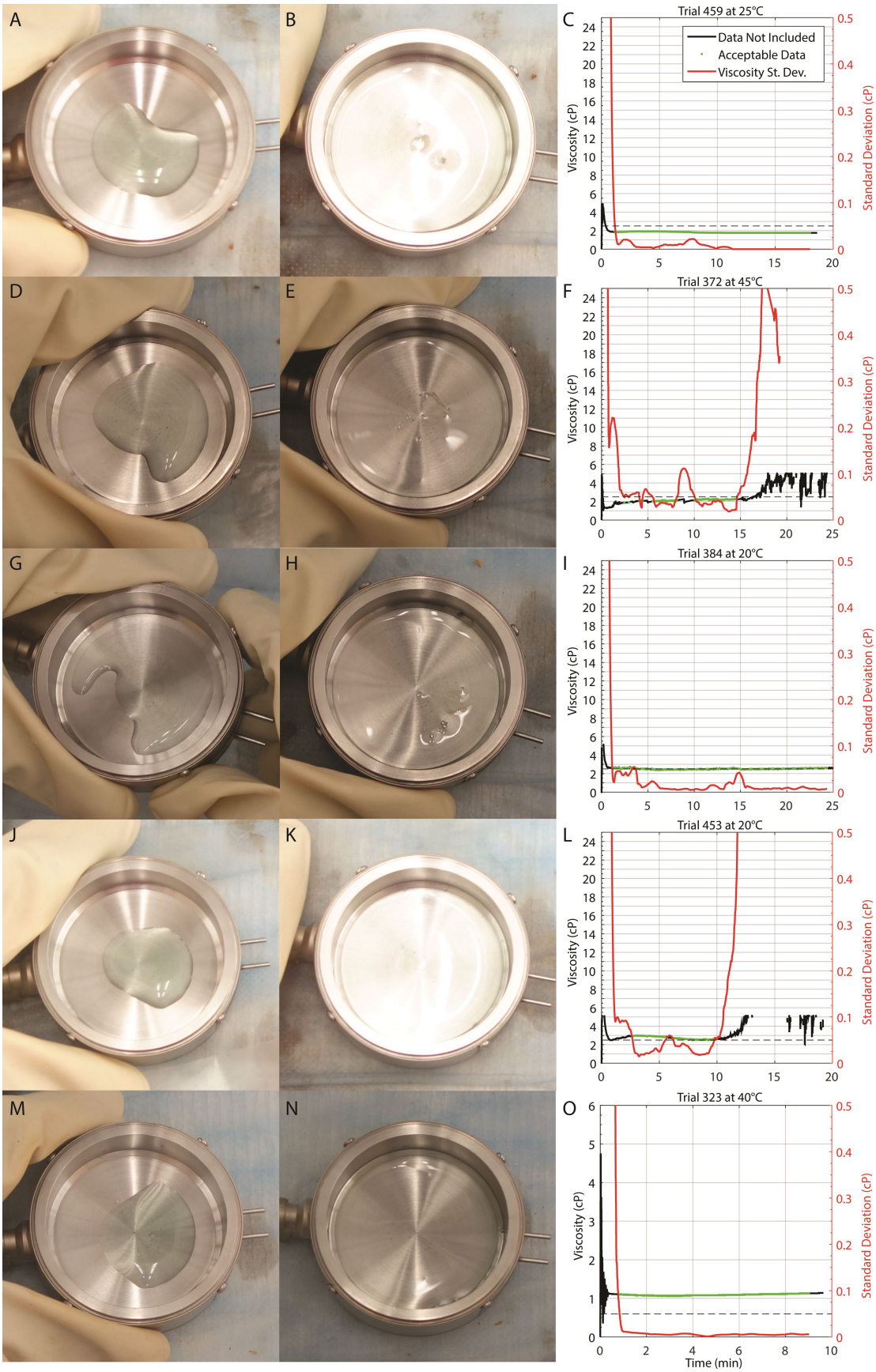

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Figure S1 (previous page): Photos of *Manduca sexta* hemolymph before (left column; A, D, G, J, M) and after (middle column; B, E, H, K, N) trials in the viscometer, with corresponding data traces (right column; C, F, I, L, O). Each row represents an individual trial. From these photos, an estimate of the number of clots and their size was made using ImageJ software. For scale, the outer diameter of the cup was 63.5 mm. Generally, viscosity measurements were more steady for plasma trials than whole hemolymph trials. For some samples, a clot was found on the spindle (held by surface tension), which is not shown in the photo. Due to blur or reflection on the surface of the sample, some images could not be analyzed. Of the whole hemolymph trials, 38 of 55 were analyzed for number and size of clots. Of these, 11 (29%) did not have a clot (e.g., H and K), and 27 showed the presence of one to four clots (e.g., B and E). These clots ranged in size from 0.4 to 8.6 mm in diameter. The presence of clots did not always indicate a steady (e.g., C and I) or unsteady (e.g., F and L) viscosity measurement over time. Of the plasma trials, 36 of 50 were analyzed. Of these, 28 (77.8%) did not have a clot (N), and 8 showed the presence of one or two small clots, ranging in size from 0.6 to 2.8 mm in diameter. Typically, when large clots (>3 mm) were found, only one such clot was present. For the traces in the right column, the title indicates the temperature and trial number. The raw viscosity data are indicated in black and green, with green indicating that the standard deviation (plotted in red) was below 0.05. Only green data were included in the calculated average for the trial.

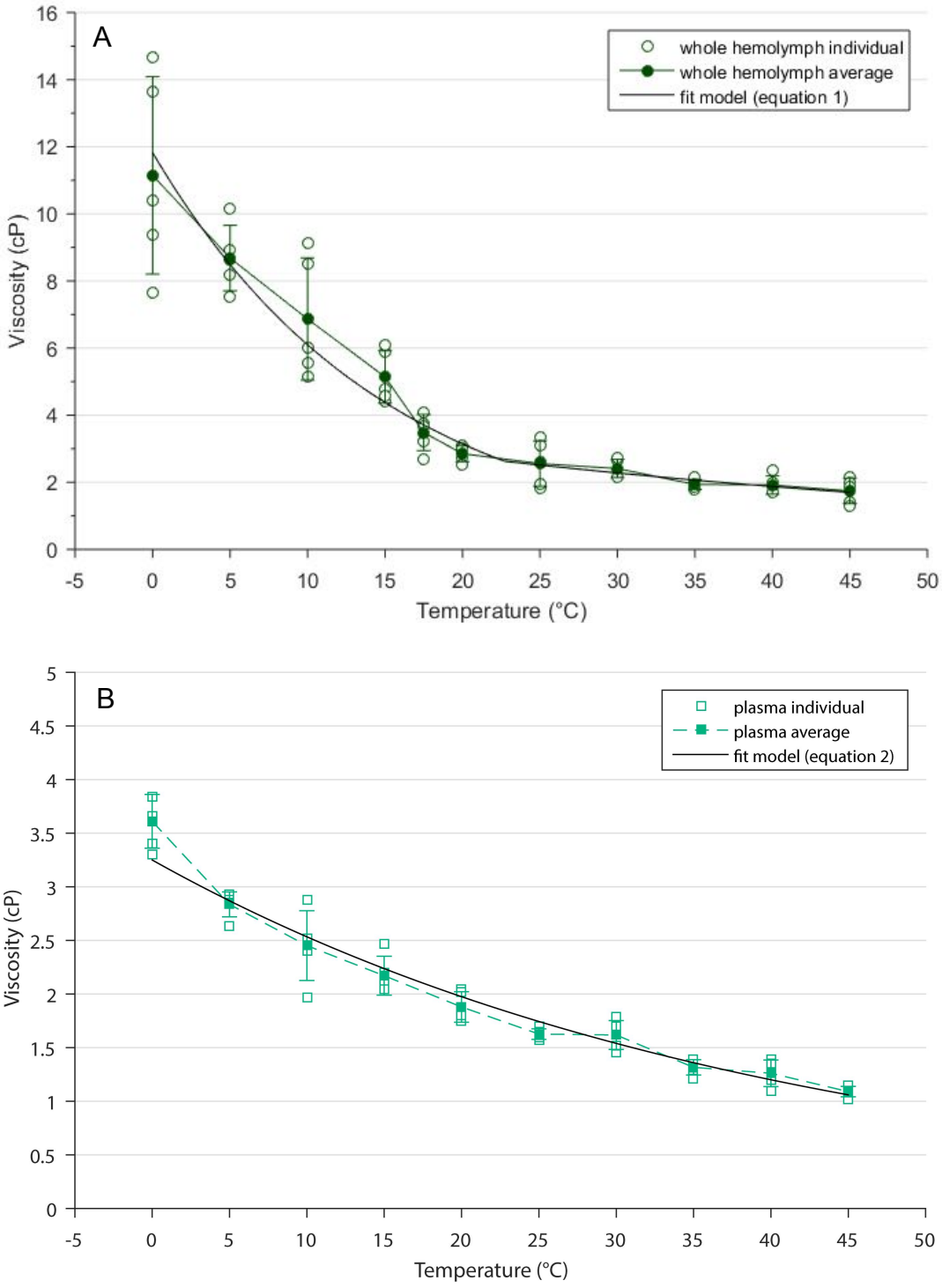
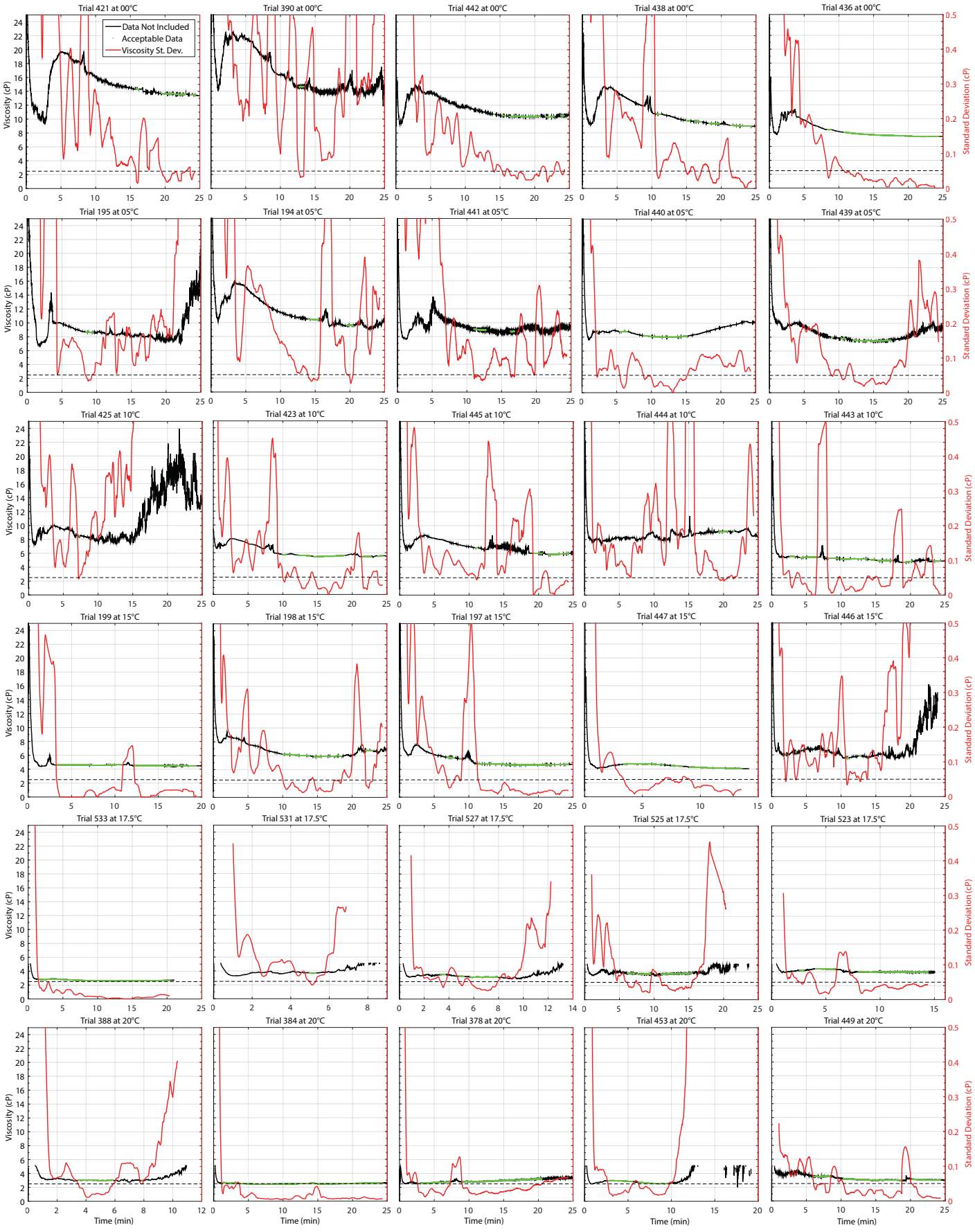


Figure S2: Viscosity versus temperature for whole hemolymph (A) and plasma (B), including the exponential fit line Eqn. 1 (A) and Eqn. 2 (B).

Whole hemolymph



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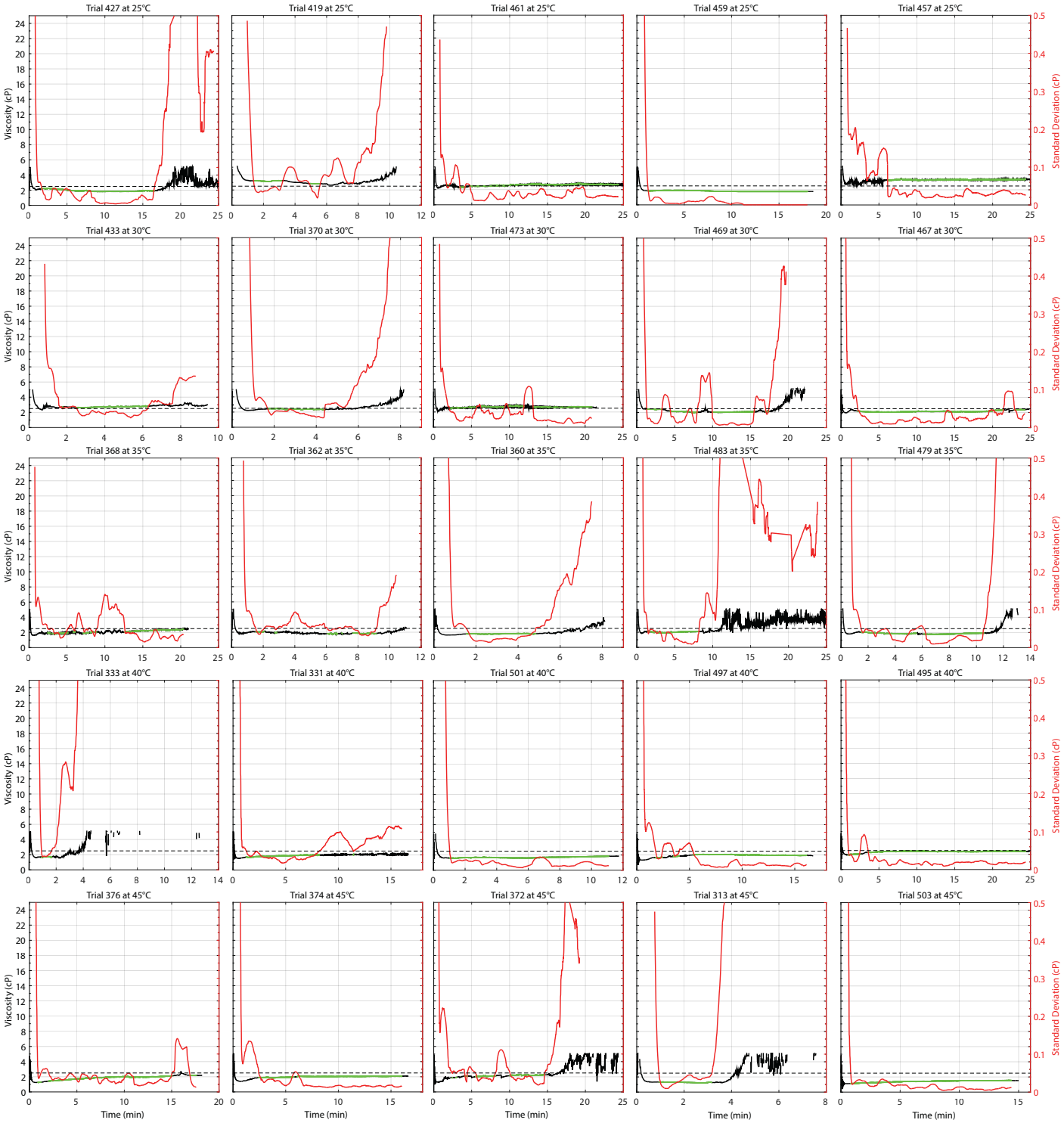
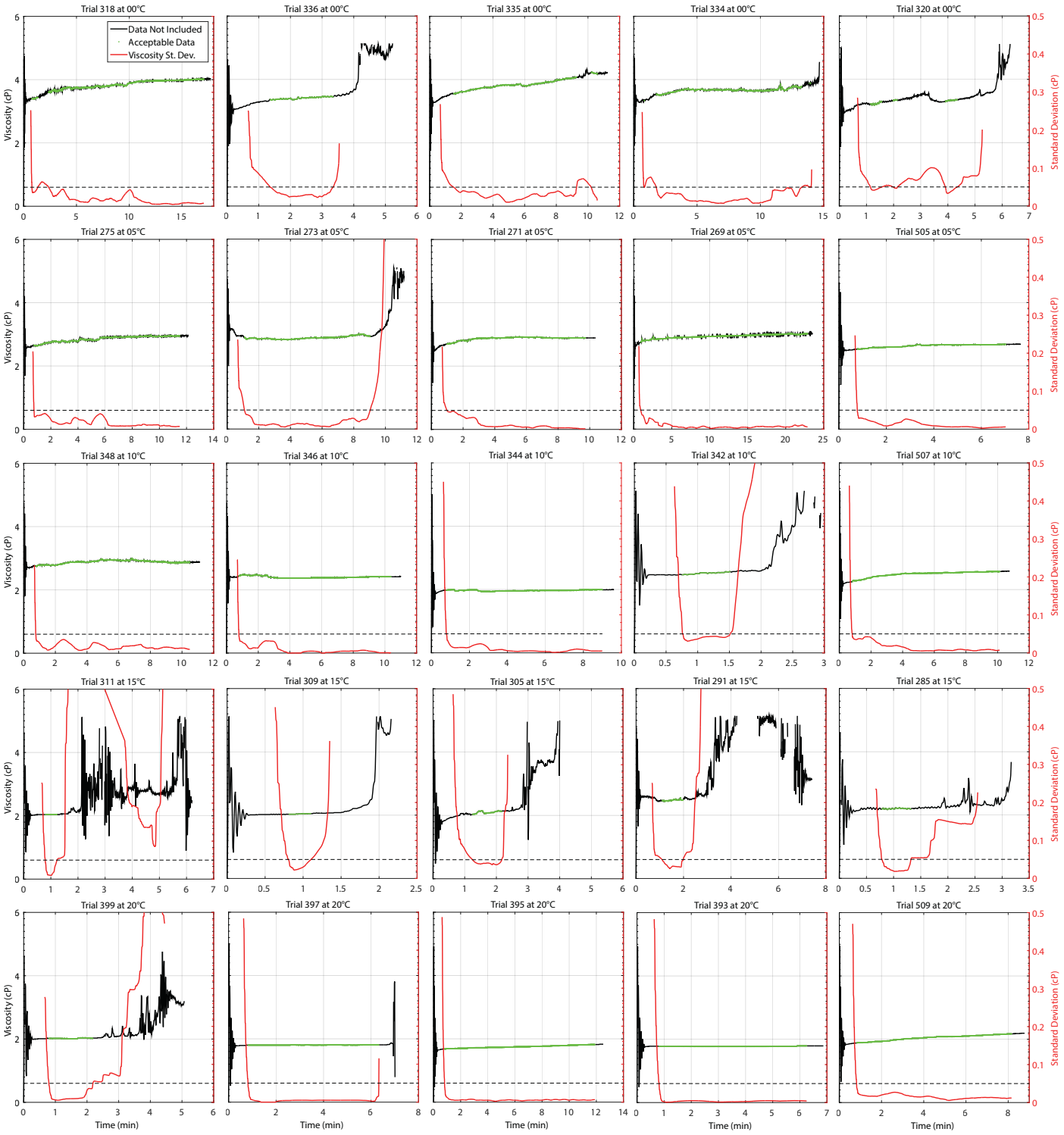
Whole hemolymph



Plasma



Plasma

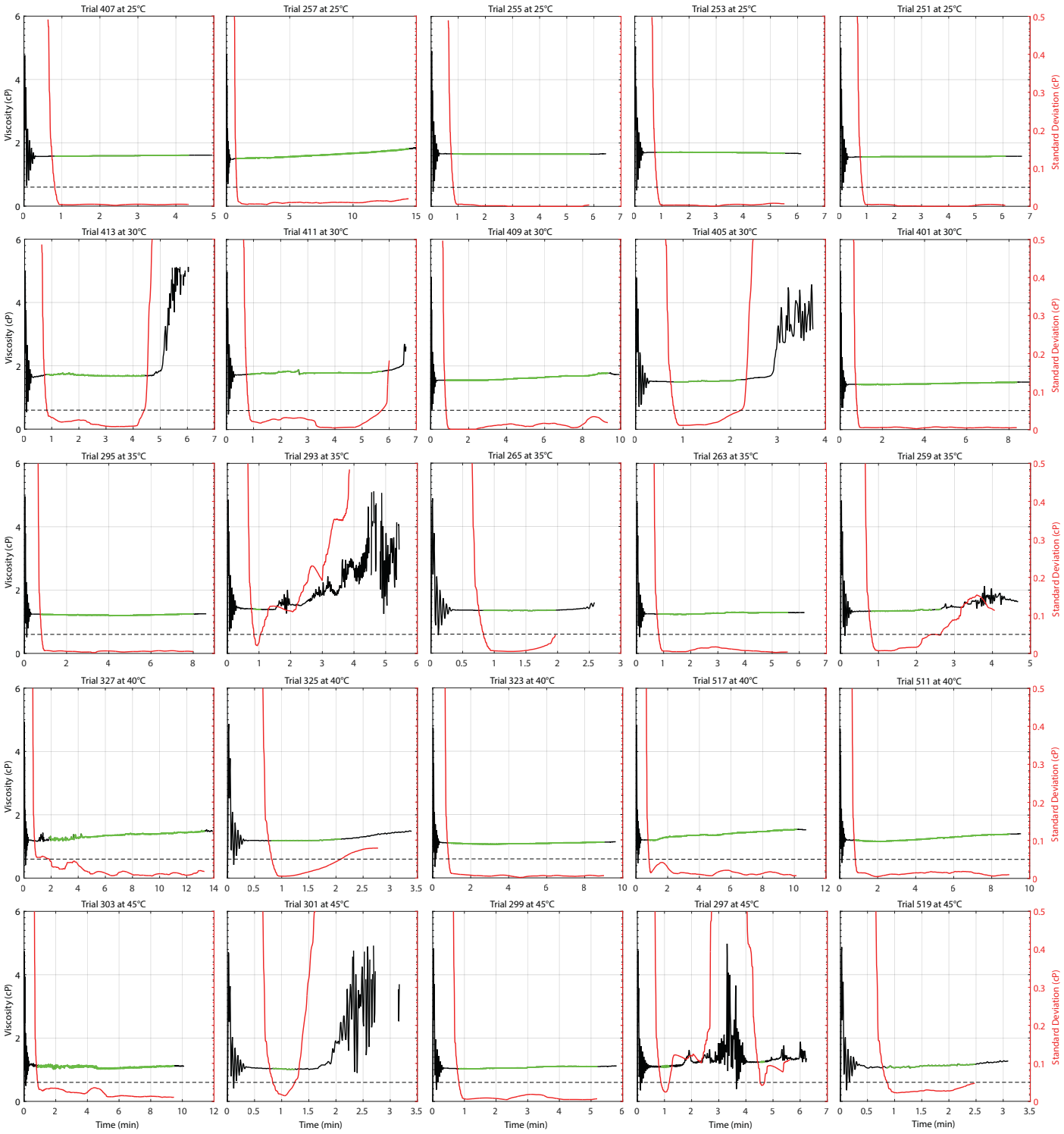


Figure S3 (previous page): Traces of viscosity over time for each whole hemolymph (n=55) and plasma (n=50) trial. Each row represents a different temperature of the water bath for that trial. The first 11 rows are trials using whole hemolymph while the following 10 are using plasma. The title of each graph indicates the temperature and trial number. The raw viscosity data are indicated in black and green, with green indicating that the standard deviation (plotted in red) was below 0.05. Only green data were included in the calculated average for the trial.

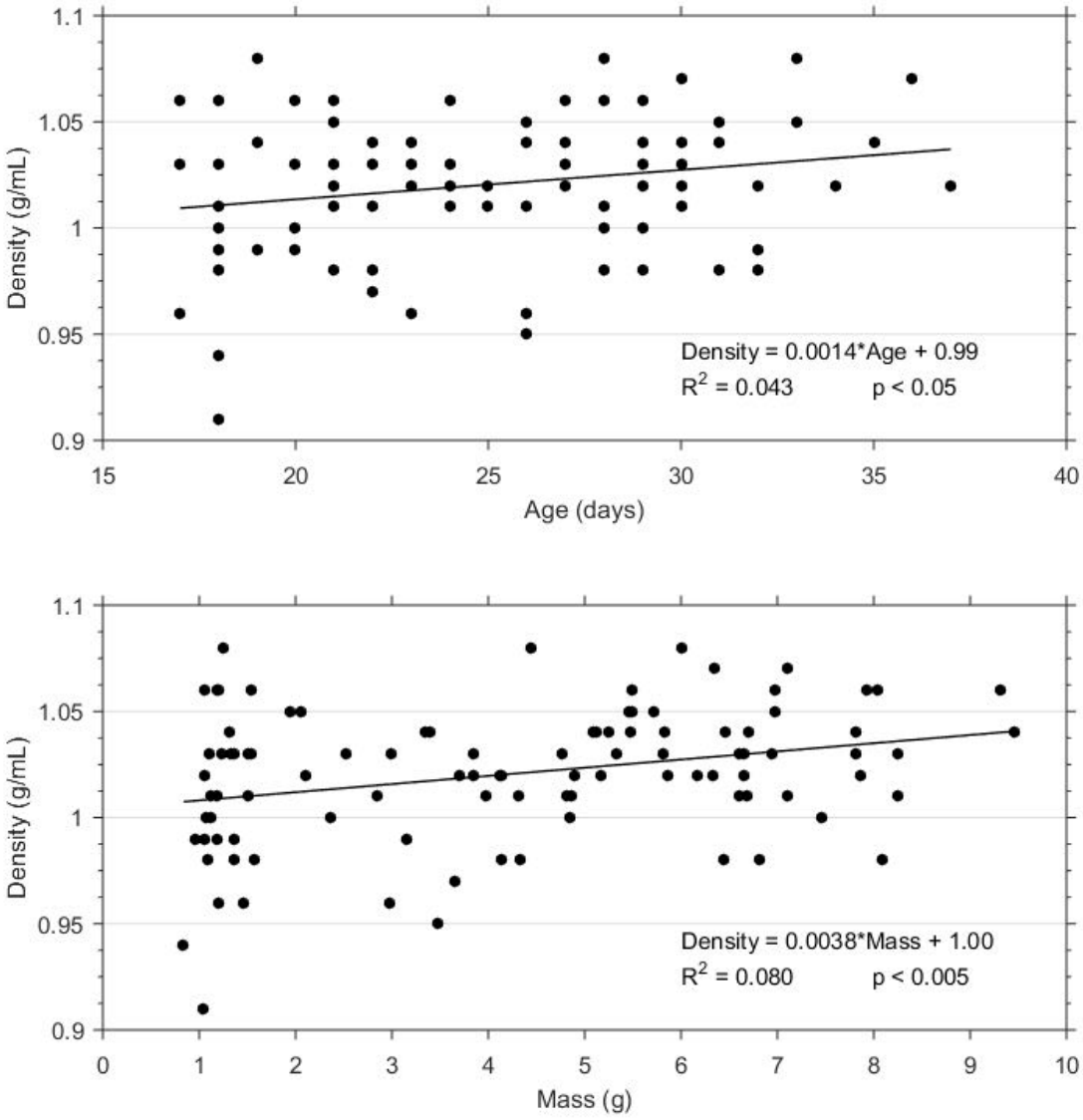


Figure S4: Density of whole hemolymph versus age of larvae (top) and density of whole hemolymph versus mass of larvae (bottom). There is a significant positive correlation between both age and mass with density of the whole hemolymph.

Movie 1: Hemolymph of *Manduca sexta* exposed to air for approximately 27 minutes, showing oxidization through black discoloration and formation of clots through string-like formations.