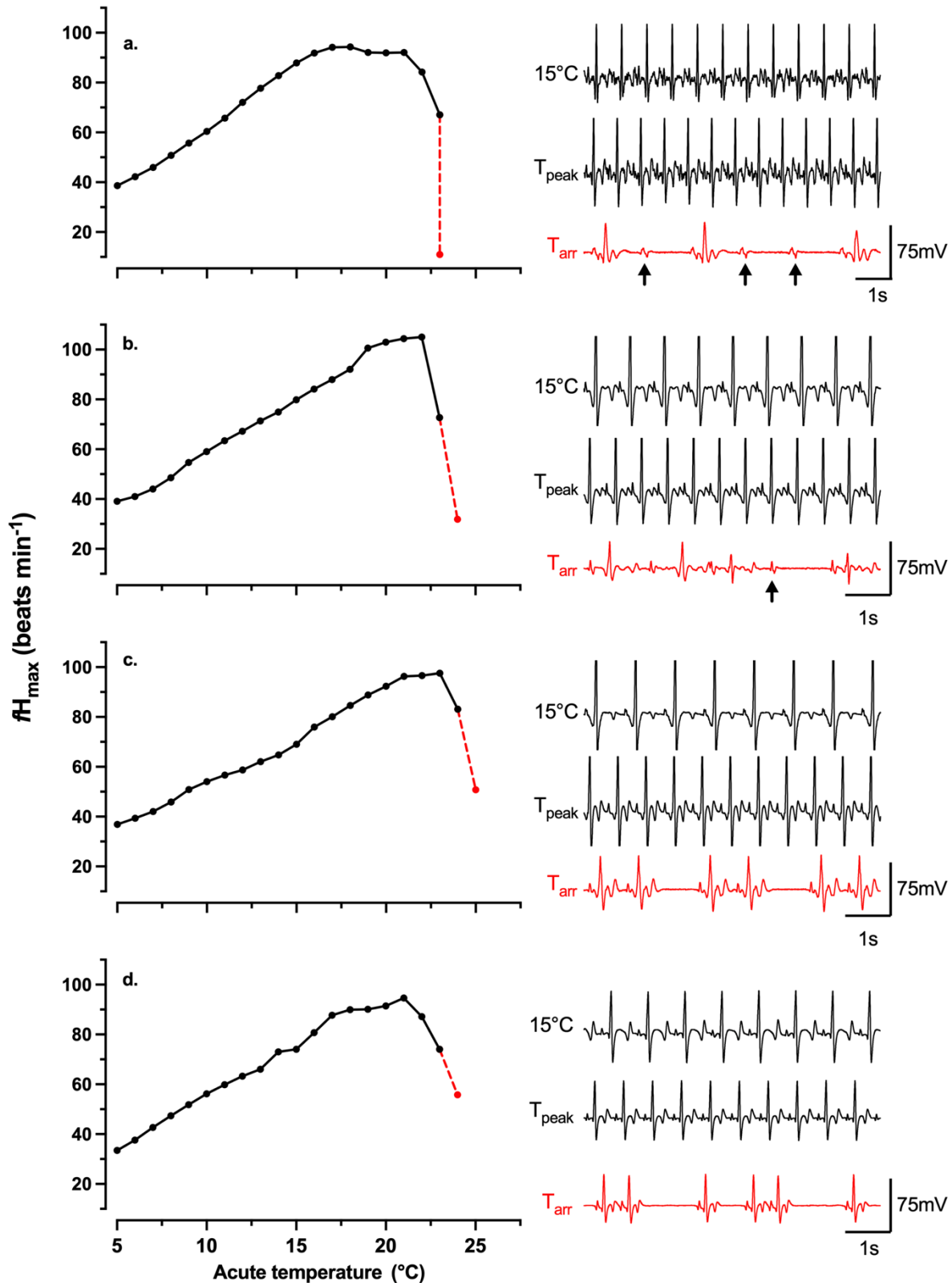


**Fig. S1.** The study area (red box in a, and enlarged in b) in the Kitikmeot Region of Nunavut, Canada. The acoustic telemetry work characterized the migration duration between Halokvik and Pangniktok (b). The cardiac thermal acclimation experiment was performed using a mobile laboratory at Palik.



**Fig. S2.** The response of maximum heart rate ( $f_{Hmax}$ ) to acute warming and representative heat induced changes in the electrocardiograms of four individual Arctic char (a-d). The  $f_{Hmax}$  during warming are shown (black points) with the  $f_{Hmax}$  at the onset of the cardiac arrhythmia indicated by a red point and the drop from the last rhythmic  $f_{Hmax}$  measurement with a dashed red line. Corresponding electrocardiogram traces are shown at  $15^{\circ}C$  and the temperatures at peak  $f_{Hmax}$  ( $T_{peak}$ ) and arrhythmia ( $T_{arr}$ ). Arrows mark unambiguous P-waves with no QRS complex, which indicates a severe AV-block (a and b).

**Table S1.** Linear mixed effect model statistics for the change in maximum heart rate ( $f_{Hmax}$ ) and incremental  $Q_{10}$  for  $f_{Hmax}$  during acute warming in control and warm acclimated (treatment) wild Arctic char. The  $f_{Hmax}$  was modelled from 5-17°C and  $Q_{10}$  from 5-25°C. Fish ID was included as a random effect.

	Coefficient	SE	Df	t	p
$f_{Hmax}$ (beats $min^{-1}$ )					
Intercept	75.737	32.973	1, 21	2.297	0.032
Acute temp. (°C)	4.511	0.033	1, 287	135.077	<0.001
Warm acclimation	-4.908	1.996	1, 21	-2.459	0.023
Log <sub>10</sub> (mass)	-17.421	9.310	1, 21	-1.871	0.075
<i>marginal R<sup>2</sup> = 0.93, conditional R<sup>2</sup> = 0.98</i>					
$Q_{10}$ for $f_{Hmax}$					
Intercept	3.482	0.050	1, 225	69.461	<0.001
Acute temp. (°C)	-0.127	0.003	1, 414	-42.067	<0.001
Warm acclimation	0.138	0.042	1, 22	3.343	0.003
<i>marginal R<sup>2</sup> = 0.80, conditional R<sup>2</sup> = 0.81</i>					