

Figure S1. Contralateral differences in wing length, angle of attack, wing elevation and timing do not correspond with torso accelerations during turning wingbeat cycles.

## Supplementary figure caption

Figure S1. Contralateral differences in wing length, angle of attack, wing elevation and timing do not correspond with torso accelerations during turning wingbeat cycles. (A-C) For the same selected turning wingbeats as in Figs. 5-7, the inside wing and the outside wing do not differ consistently in length (A), aerodynamic angle of attack (B), elevation (C), or timing (D). (A) Wing length, the distance between the shoulder marker and the ninth primary marker (Fig 2A), is interpreted as a proxy for wing area. (B) The aerodynamic angle of attack is calculated, under the assumption of still air, as the angle between the wing chord at the ninth primary marker and the velocity direction of the ninth primary marker (after Tobalske et al., 2007). (C) Wing elevation is the dorsal elevation of the wing vector, which connects the shoulder and the ninth primary marker. The range in elevation of a wing during a wingbeat cycle, a proxy for wingbeat amplitude, also does not differ consistently between the inside and outside wing during selected turning wingbeats. (D) Mean $\pm$ sd of the average relative onset and offset (blue and red error bars, respectively) of the outside wing relative to the inside wing.

## Supplementary figure reference

Tobalske, B. W., Warrick, D. R., Clark, C. J., Powers, D. R., Hedrick, T. L., Hyder, G. A., \& Biewener, A. A. (2007). Three-dimensional kinematics of hummingbird flight. J. Exp. Bio. 210, 2368-2382.

