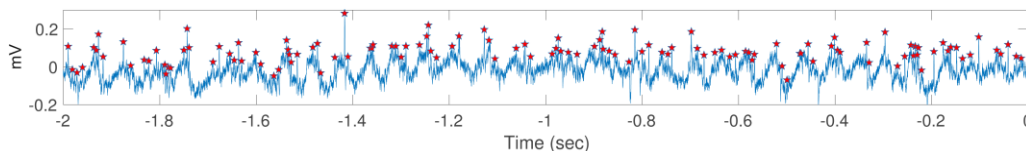


**Figure S1: Spontaneous alpha and odor-induced gamma oscillations in the mushroom body require input from the ipsilateral antennal lobe.** **A:** time-frequency representation of raw power below 40 Hz (alpha and low gamma) (top), baseline-corrected power below (40 Hz) (middle) and baseline-corrected power above 40 Hz (high gamma) (bottom) in the mushroom body ipsilateral (left) and contralateral (right) to the side of antenna amputation.  $N = 5$  bees (stimulations per bee mean/SD 23.2/17.9 **B:** same as in A but after antenna amputation. Left: ipsilateral to antenna amputation; right: contralateral to antenna amputation.  $N = 5$  bees (stimulations per bee mean/SD 8.4/3.4).



**Figure S2: Spike detection.** Raw LFP trace of the pre-stimulus baseline corresponding to the same trial shown in figure 1. Red stars indicate detected spikes.