Supporting Information

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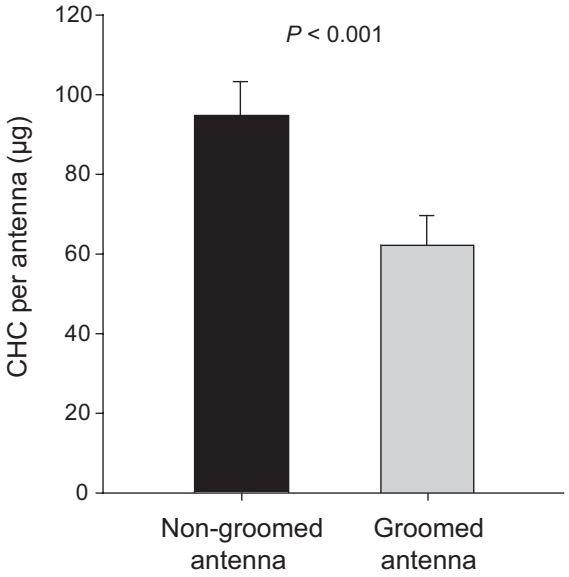

Fig. S1. Male *Periplaneta americana* remove a third of their antennal cuticular hydrocarbons (CHCs) with a single grooming event. Amounts of antennal CHCs (mean ± SEM) are presented (n = 9), and significant differences are indicated between the groomed and nongroomed antennae of the same individuals (Student's paired t test).

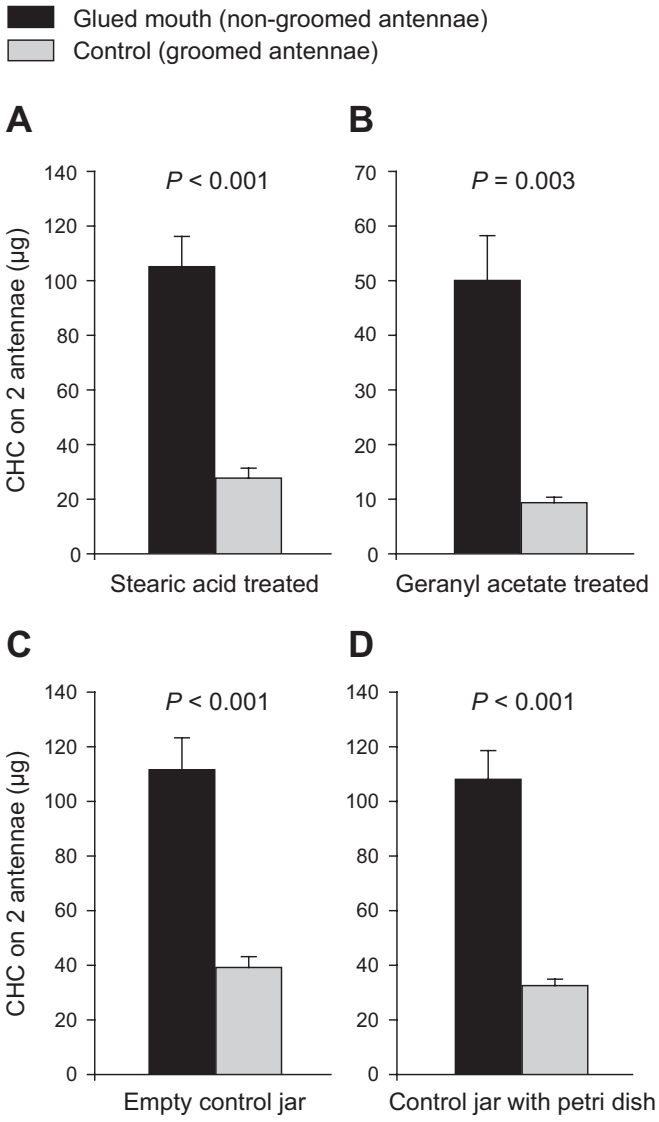

Fig. S2. Native cuticular hydrocarbons (CHCs) accumulate significantly more on nongroomed antennae exposed to stearic acid (*A*) or geranyl acetate (*B*) (Student's unpaired *t* tests, $t = 6.655$ and 4.920, respectively). The CHCs of the mouthparts-glued ($n = 8$) and control ($n = 7$) cockroaches used in Fig. 4 were analyzed by GC. Mean ± SEM are shown. Lower accumulation of CHCs in the geranyl acetate treatment than in the stearic acid treatment could be due to (*i*) an adverse effect of geranyl acetate on CHC production or transport or (*ii*) more wiping and rubbing the antennae on the glass surface in the presence of geranyl acetate in the air within the jar. Control cockroaches were kept in solvent-coated aerated empty canning jars (*C*) ($n = 7$–8) or in canning jars that contained an empty Petri dish with screen lid (*D*) ($n = 7$). Significant differences between groomed and nongroomed antennae are indicated (Student's unpaired *t* tests, $t = 5.848$ and 6.996, respectively).

Movie S1. Grooming of one antenna was prevented in this *Periplaneta americana* male by gluing a small ring cut from a pipette tip to the base of the right antenna and the head. The left antenna is readily groomed, while the right antenna cannot be groomed. Unilateral treatments were alternated between the right and left antenna.

Movie S1