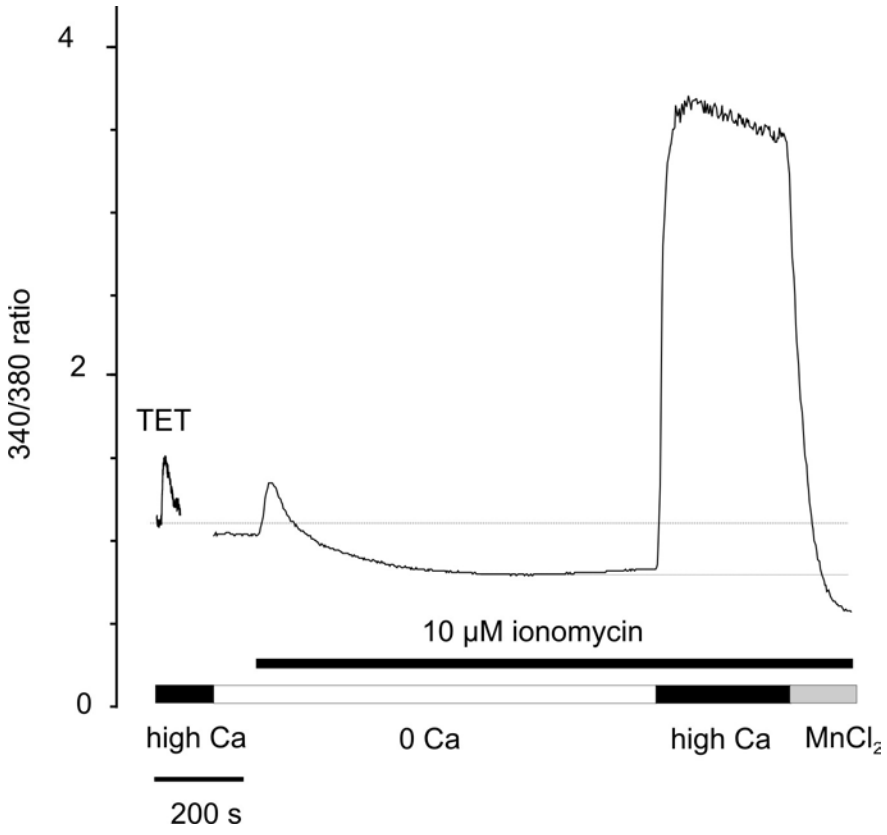
Ukhanov et al. “Imaging ensemble activity in arthropod olfactory receptor neurons *in situ* ”

Appendix A. SUPPLEMENTARY MATERIAL

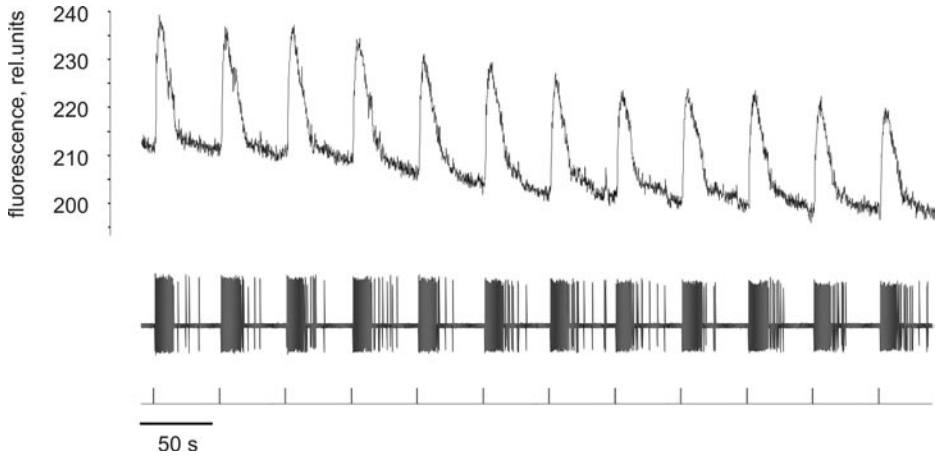
Figure S1.



Calibration of the odorant-induced fura-2 fluorescence changes in lobster ORNs. A representative cell is a functional ORN activated by application of the odorant (TET, 0.5 mg/ml), left trace recorded under normal extracellular Ca^{2+}. The preparation was extensively washed in 0-Ca^{2+} divalent free saline followed by addition of 10 µM ionomycin. After reaching steady-state corresponding to the R_{min}, normal Ca^{2+} (11 mM, high Ca) saline was added to the bath to assay

R_{max}. Finally, the preparation was washed with 10 mM $MnCl_2$ containing saline to quench fura-2 and estimate background. Fluorescence is expressed as a raw 340/380 ratio.

Figure S2.



Simultaneous recording of the odorant-induced Ca_i transient and extracellular spike discharge in the lobster ORN. The cell loaded with Fluo-4/AM was able to repetitively elicit both the responses induced by application of TET (800 ms). Note that the amount of photobleaching was quite low for such a long imaging session. Fluorescence intensity is presented as a raw pixel intensity measured over the whole area of the cell.

Movie 1. Spontaneous changes of Cai recorded with fura-2 in the whole preparation of the lobster antennule (similar to the one shown in Fig.1B). Pseudocolored images represent 340/380 ratio corrected for the background. Time counter represents real time of the captured images.

Movie 2. Representative image sequence recorded from a single cluster of the lobster ORNs loaded with fluo-4/AM (shown in Fig.5). Pseudocolored images represent the relative change in fluorescence intensity corrected for the background. The cells were repetitively stimulated with

TET (800 ms pulse). Time counter shows real time of the images whereby a short subtitle indicates the application of the odor.