



### Figure 3 - Figure Supplement 3: Circuit diagram of MBONs and LHNs.

**a.** The EM circuit graph of the 22 LHNs downstream of PN42a and PN42b olfactory PNs (tuned to attractive odors). The network reveals many common targets for the two types of PNs and tight interconnection between these putatively appetitive LHNs. Each node represents a pair of left-right homologous neurons. Connections with fewer than 10 synapses are not included. The left cluster of LHNs 1-8 is not postsynaptic to MBONs, whereas the right cluster of LHNs 9-22 is.

**b.** Detailed EM circuit graph showing MBONs and LHN interactions: (i) synaptic connections from MBONs to LHNs (*blue* and *red*; MBON that promote approach and avoidance, respectively), (ii) synaptic connections from LHNs to MBONs (*yellow* arrows), (iii) MBON-c1 from/to LHNs. Unlike other MBONs, MBON-c1 has reciprocal connections with some LHNs (*yellow* arrows from LHNs, *purple* arrows to LHNs).