

**Figure S1** Efficacy of control by untargeted (a) and targeted (b) removal with respect to infection status of a key host species with multiple sources of heterogeneity. In each scenario, the host species is assumed to be responsible for 80% of the total contribution to the parasite's infectious pool ( $T=0.8$ ). The dashed line represents the maximum reduction in transmission possible by treating only the key host (i.e., the proportion of transmission that is due to the other non-host species). For visualization, the gold lines (super-abundant and super shedder key hosts) are offset to avoid overlap with super-abundant, super-infected key hosts (panel a) and super-infected, super-shedder key hosts (panel b).

