



**S2 Figure. PS4 formation with the dual-dual mechanism.** Hb – red, Kr – green. Shown at  $t = 10, 20, 30$  minutes into NC14. Hb dual regulates *Kr* (activating at low [Hb] and inhibiting at high [Hb]); and *Kr* dual regulates *hb* (activating at low [Kr] and inhibiting at high [Kr]). This forms the Hb PS4 peak, but the mutual activation-inhibition creates a posteriorly travelling boundary.