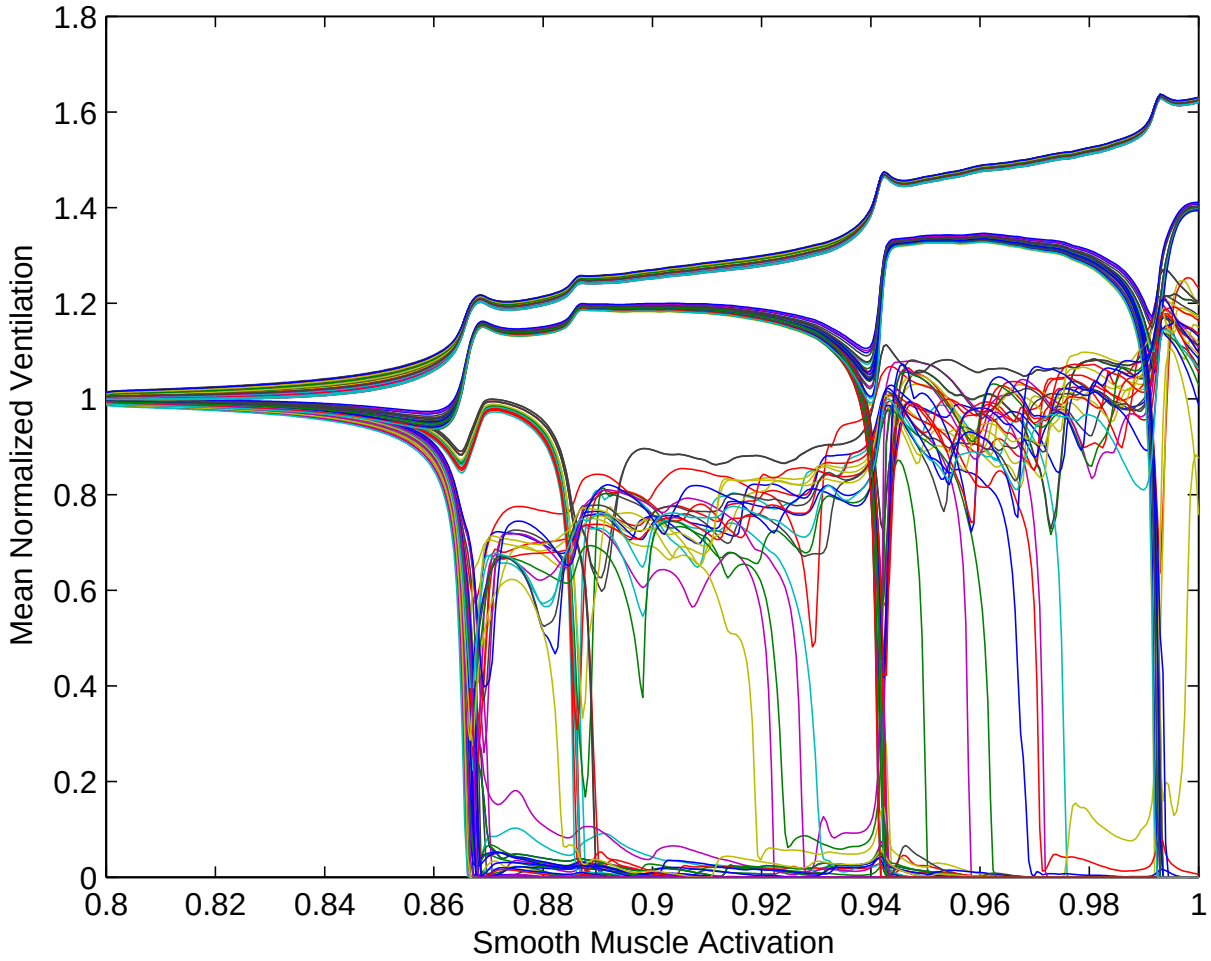

S7 Supplementary Figure Complex dynamics of a random sample of 256 terminal units within the model during the simulation displayed in the Suppl. Video S6 as a function of smooth muscle activation level. Note the initial bifurcation at smooth muscle activation around 0.8 where a fraction of spatially correlated units (located in the left side of the lung model) begin to receive higher ventilation while the rest of the terminal units ventilation falls. As smooth muscle activation continues to increase, the terminal units loosing ventilation get separated into distinct ventilation states in a series of additional bifurcations. With each of those bifurcations large groups of units catastrophically move towards virtual closure, shifting ventilation towards units remaining open and further increasing their ventilation. Each bifurcation is linked to a catastrophic increase in cluster size in the Suppl. Video S6.