



**Supplementary Figure S2.** Pairwise correlation comparison among key experiments. The pairwise Pearson correlations between various measurements were used as a metric for hierarchical clustering and visualized as a heatmap. LD<sub>50</sub> values were log10 transformed. "Toca 511 [DNA]" is the average number of copies of Toca 511 normalized to cell count; "Toca 511 [RNA]" is the average yCD RNA level normalized to cell count; "[yCD]" is yCD protein levels normalized to cell count, 5-FU produced at 24 hr from 66.6 μg/ml of 5-FC; "Toca 511 Permissivity" is 1/number of days to reach 50% Toca GFP-infected cells at MOI 0.1. "5-FU<sub>in</sub>/5-FU<sub>out</sub>" represents the ratio of total yCD-converted intracellular 5-FU concentration to total 5-FU measured in the cultured supernatant. See Supplementary Table S1 for cell doubling time. GFP, green fluorescent protein; MOI, multiplicity of infection.