

Figure S1

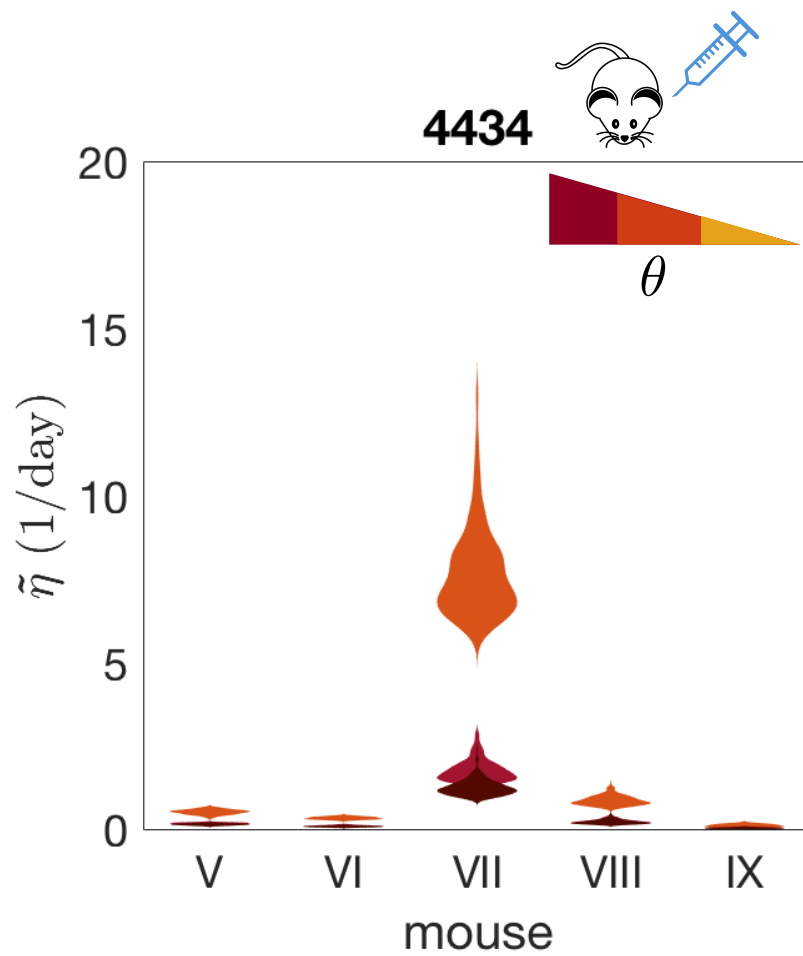
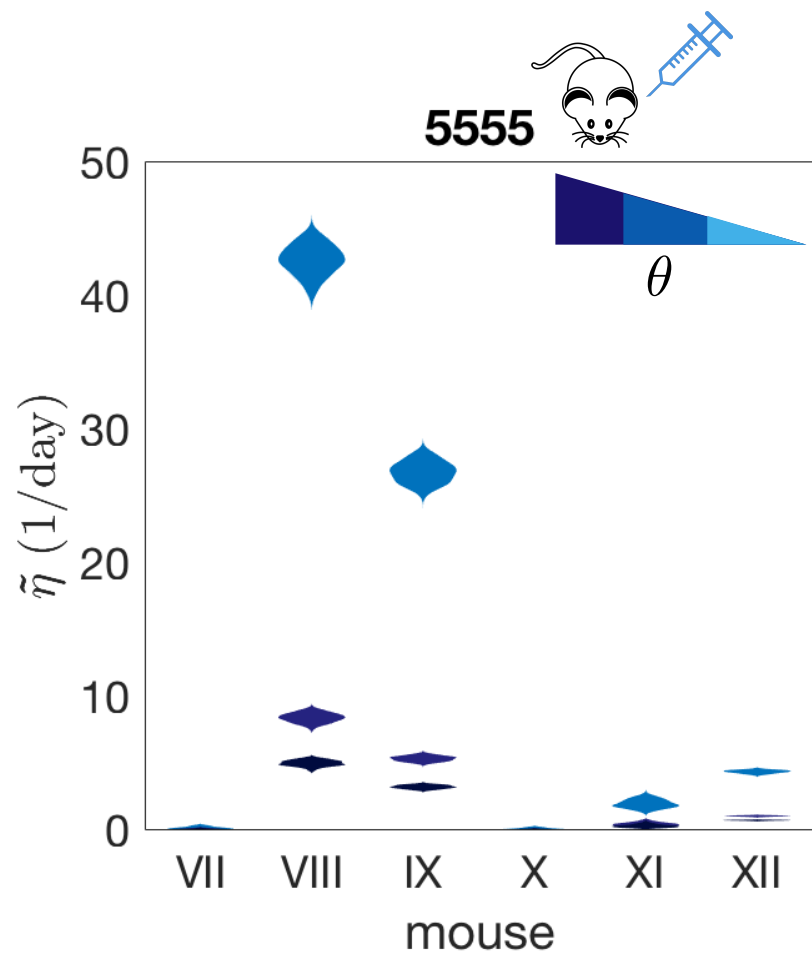


Figure S2

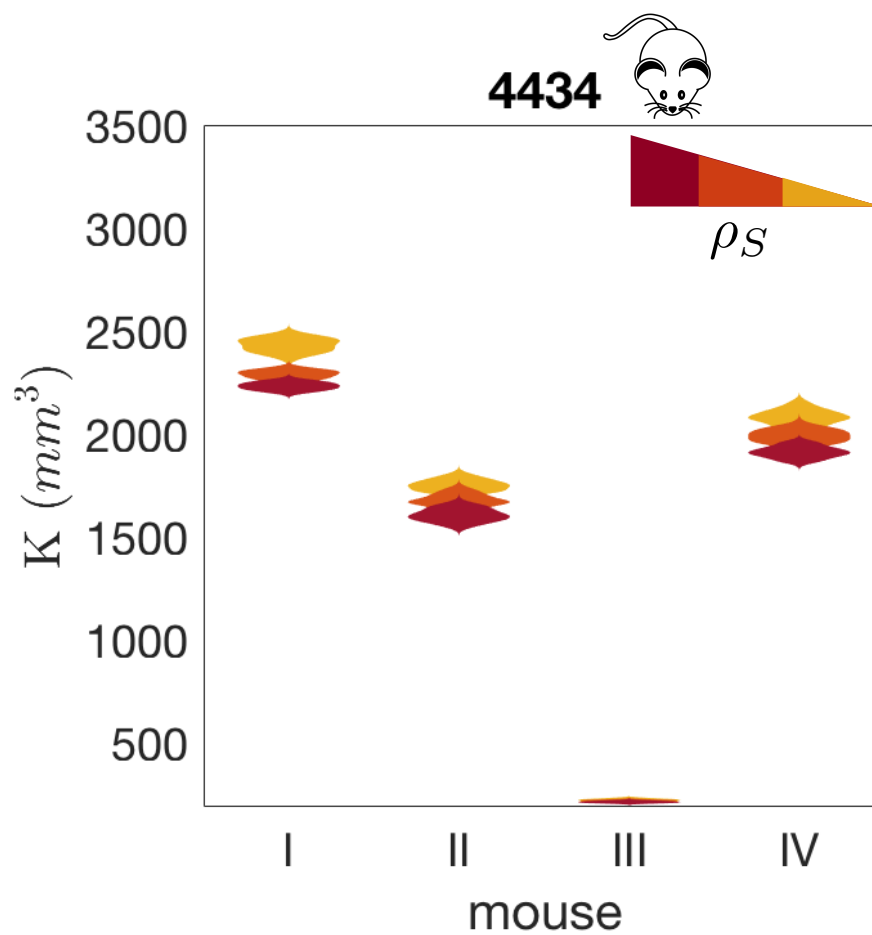
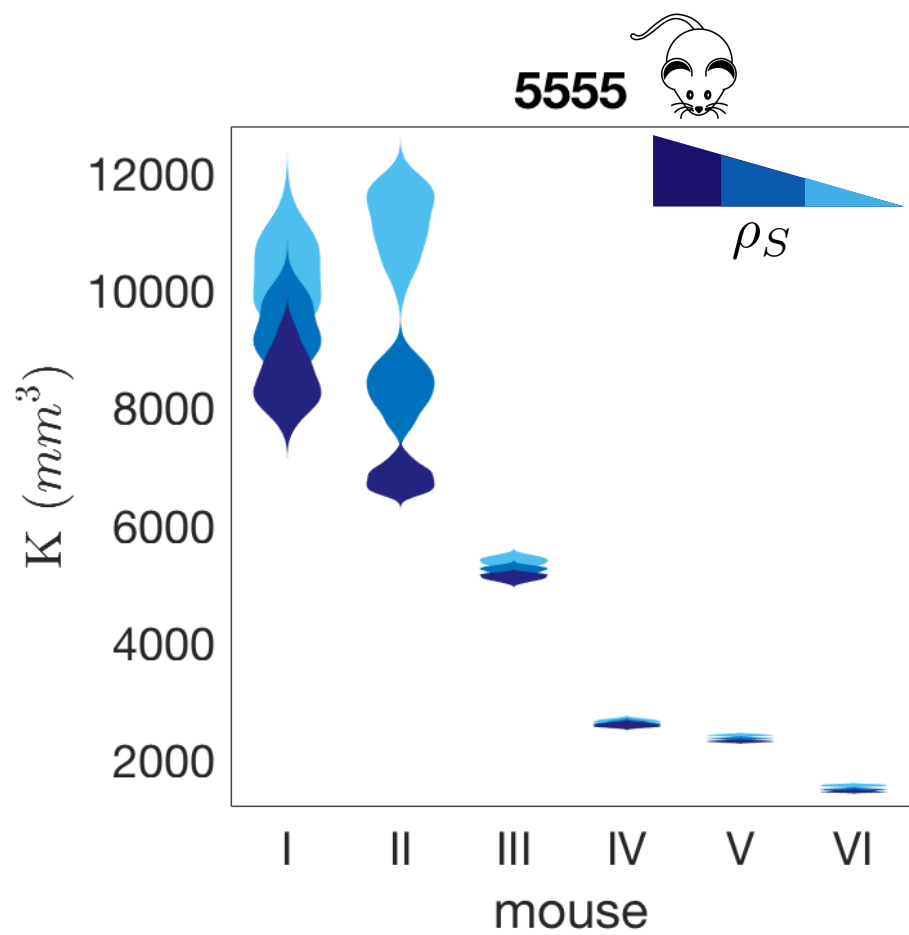


Figure S3

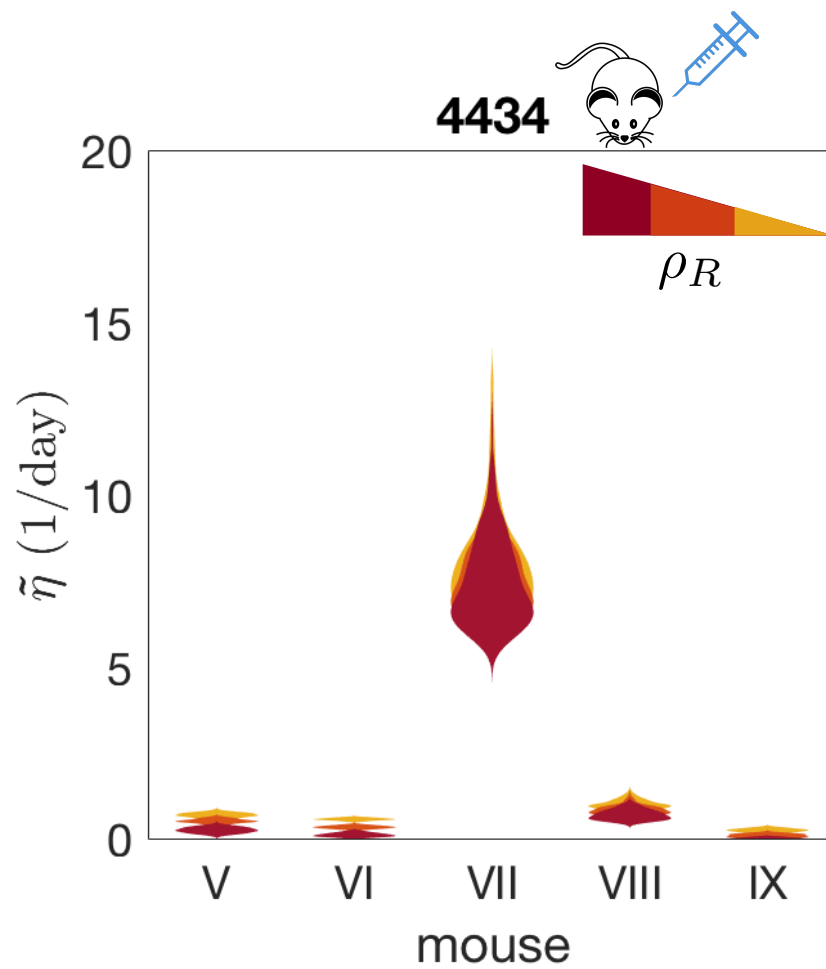
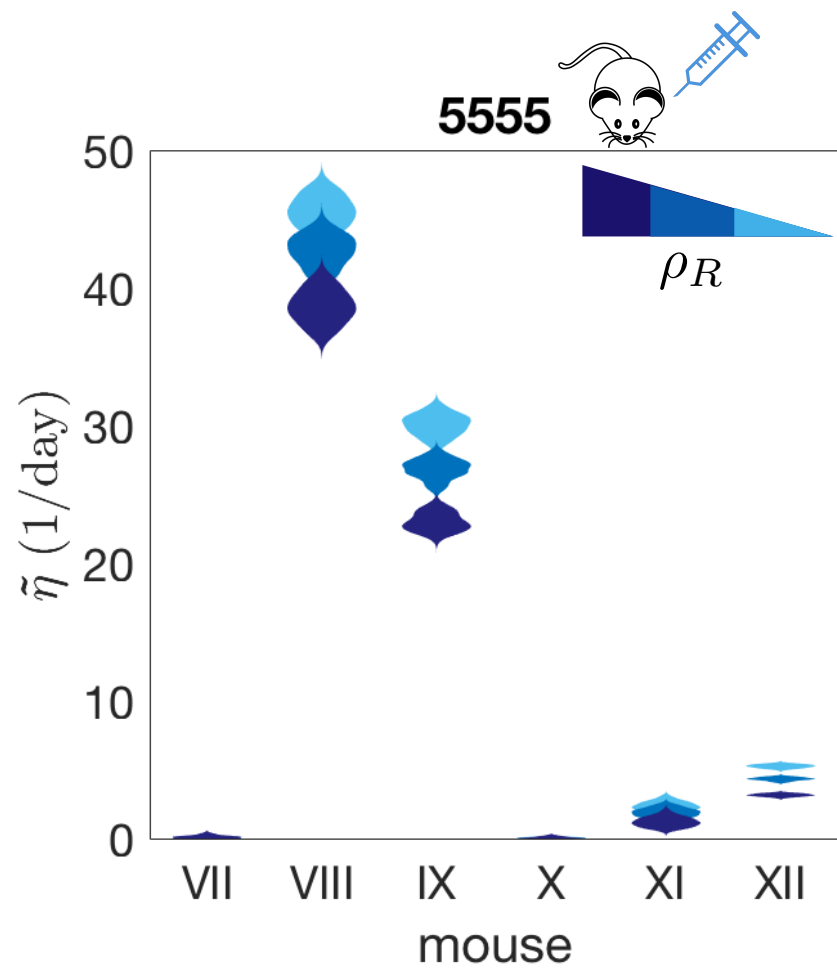


Figure S4

4434 mouse VII

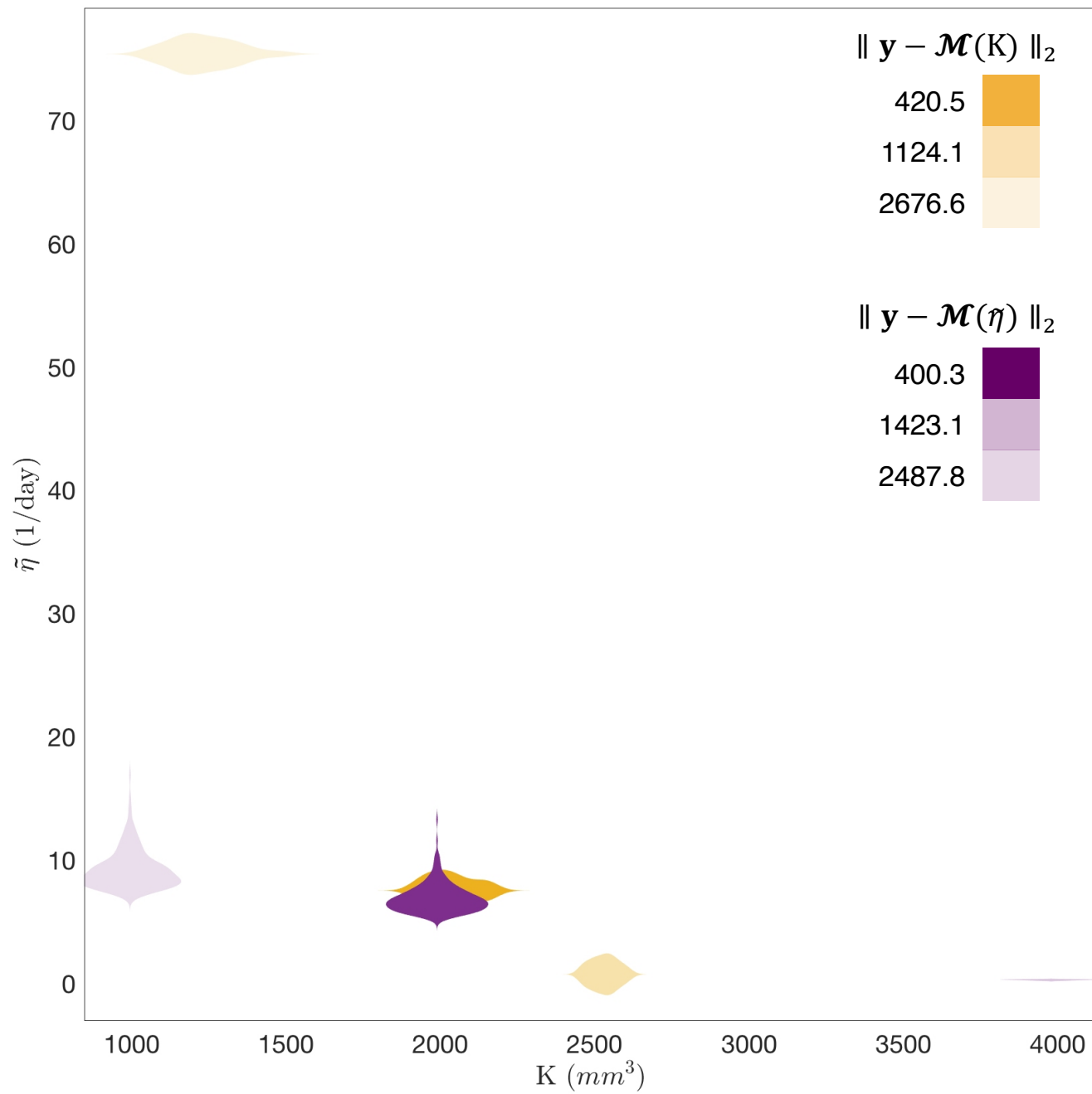
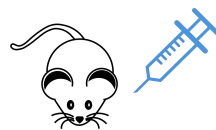


Figure S5

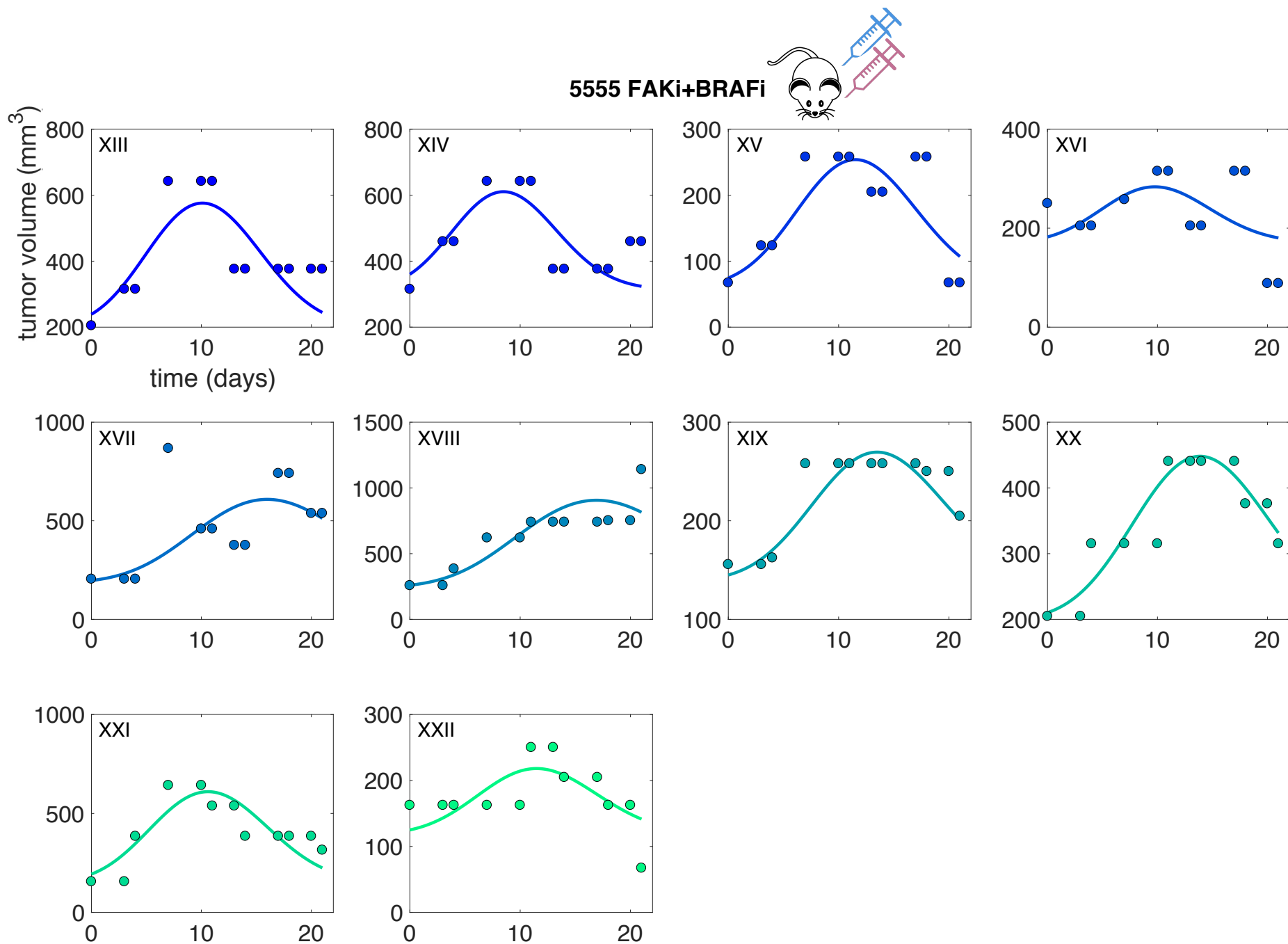


Figure S6

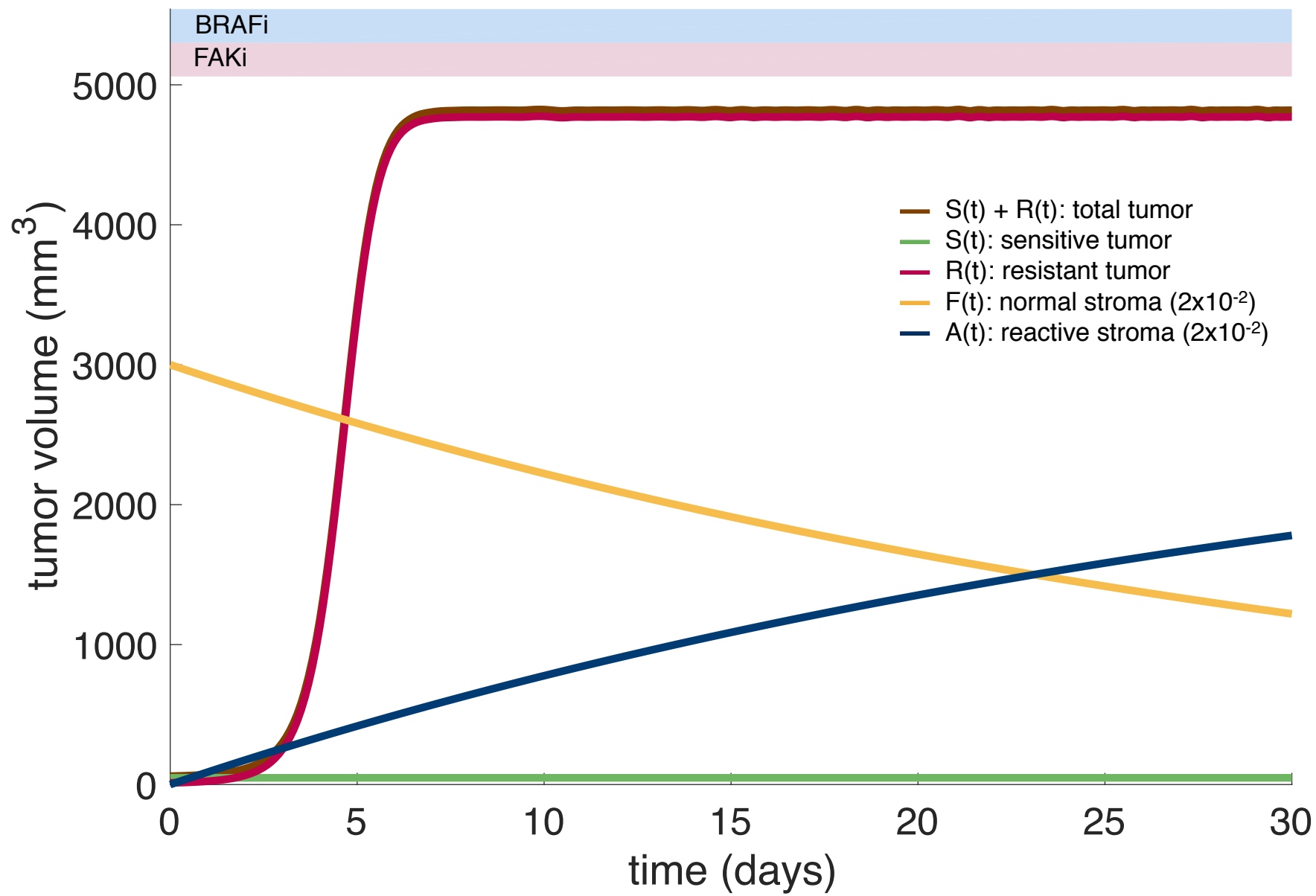
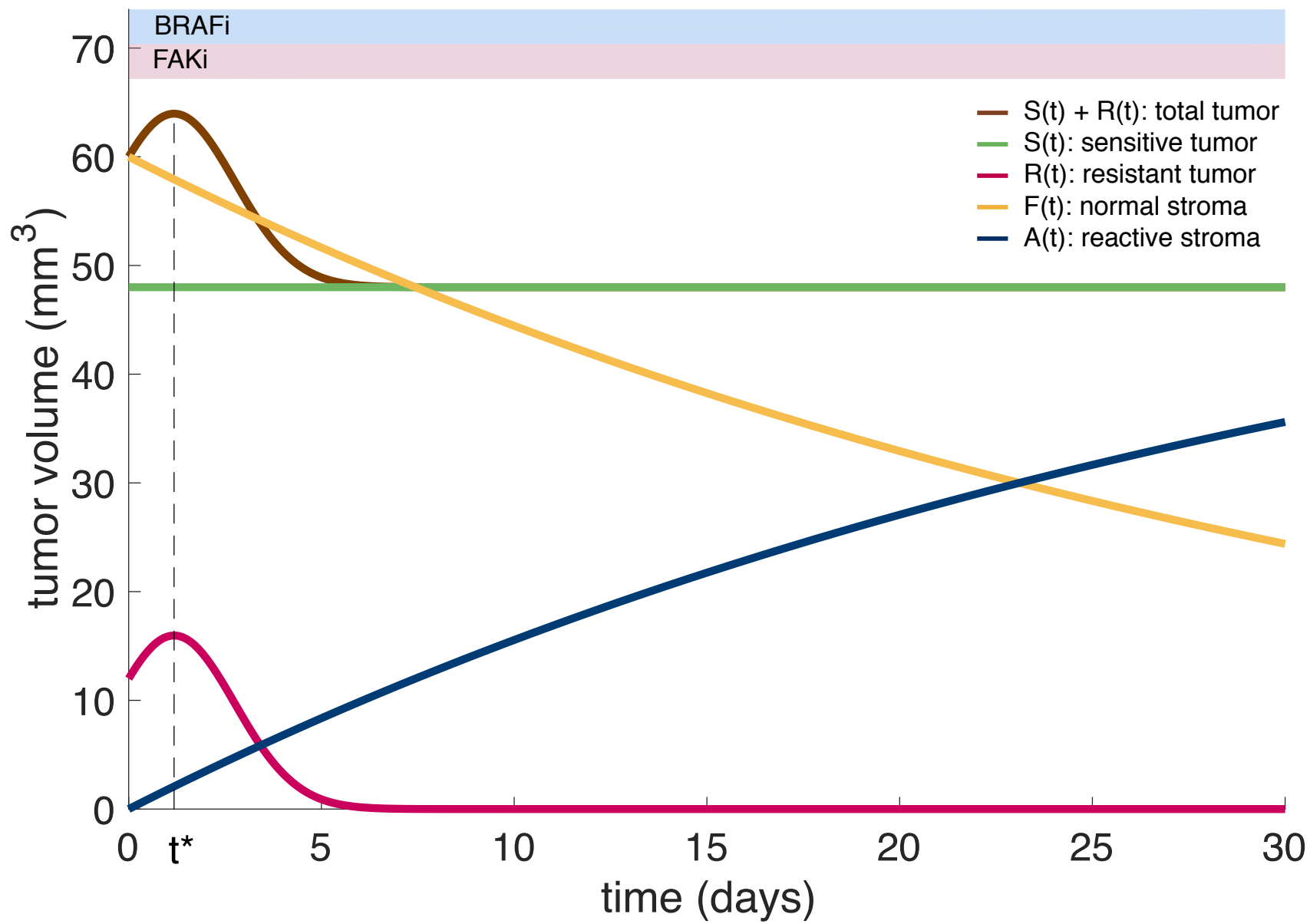


Figure S7



Supplemental Figure Legends

Figure S1.

Posterior distribution for $\tilde{\eta}$ as θ is varied, and average ρ_R value from previous estimate (Table 2). The lighter color violin plots correspond to the value used in the estimates reported in Fig. 3C ($\theta = 0.03$ 1/day). The intermediate and darker colored violin plots are obtained with $\theta = 0.165$ 1/day and $\theta = 0.3$ 1/day, respectively.

Figure S2.

Posterior distribution for K as ρ_S is varied within the range of estimates obtained with fit to *in vitro* data of corresponding cell line. The lighter (darker) colored violin plots are obtained with ρ_S value corresponding to the lower (upper) bound of the range reported in Table 2. The intermediate color violin plots correspond to the average ρ_S value, and correspond to those reported in Fig. 3B.

Figure S3.

Posterior distribution for $\tilde{\eta}$ as ρ_R is varied within the range of estimates obtained with fit to *in vitro* data of corresponding cell line. The lighter (darker) colored violin plots are obtained with ρ_R value corresponding to the lower (upper) bound of the range reported in Table 2. The intermediate color violin plots correspond to the average ρ_R value, and correspond to those reported in Fig. 3C.

Figure S4.

Posterior distribution for $\tilde{\eta}$ as K is varied (purple) and K as $\tilde{\eta}$ is varied (yellow). Mouse VII, cell line 4434, treated with BRAFi. Purple violin plots show probability density functions (x axis) of $\tilde{\eta}$ estimates (y axis) for a given value of K . Yellow violin plots show probability density functions (y axis) of K estimates (x axis) for a given value of $\tilde{\eta}$. The intensity of the color of each violin plot is proportional to the goodness of the fit (norm-2 distance between data and fit). $\theta = 0.03$ 1/day. ρ_R from previous estimates (Table 2).

Figure S5.

In vivo data and fit for 5555 mice XIII through XXII, treated with PLX4720 (BRAFi) and PF562271 (FAKi). Note different y axis scales. Data from ref. 13.

Figure S6.

Example of case (i). Model parameterized on mouse IX of cell line 5555. $\rho_S = 0.66325$ 1/day, $\rho_R = 0.49543$ 1/day, $K = 4818.62$ mm³, $\tilde{\eta} = 26.876$ 1/day, $\tilde{\alpha} = 14.4$ 1/day, $\theta = 0.03$ 1/day, $S_0 = 48$ mm³, $R_0 = 12$ mm³, $F_0 = 60$ mm³, $A_0 = 0$ mm³. The tumour burden (brown) is monotonically increasing under treatment combination of BRAFi and FAKi.

Figure S7.

Example of case (ii). Model parameterized on mouse VII of cell line 5555. $\rho_S = 0.66325$ 1/day, $\rho_R = 0.49543$ 1/day, $K = 4818.62$ mm³, $\tilde{\eta} = 0.1257$ 1/day, $\tilde{\alpha} = 14.4$ 1/day, $\theta = 0.03$ 1/day, $S_0 = 48$ mm³, $R_0 = 12$ mm³, $F_0 = 60$ mm³, $A_0 = 0$ mm³. Under treatment combination of BRAFi and FAKi, the tumor burden (brown) is monotonically decreasing after time $t^* = 1.1771$ day.