Both D001 and G050 rats exhibit a linear psychometric. Changing learning rate affects the slope of psychometric curve. Larger learning rate correspond to steeper slope for 0<a<1. Changing beta value too affects the slope of curve, however, the effect is not significant as beta>3. Additionally, when beta is fairly large(>29), the model prediction tend to show non-linearity. The overall percentage of hitting left and getting reward is .218 and .449 for right(G050). Total reward.right hit=9913, expected reward value = 12168. Total reward left hit = 4906, expected reward value =13043.

Our model seems to fit pretty well with the data in terms of slope but not absolute value. The model prediction is almost like shifting rat’s data upward by 0.15, meaning rats’ choices are consistently conservative over all stimulus. No doubt softmax is a more rational decision maker than the rats here. I wonder what cause the difference? Will examining reward function help?