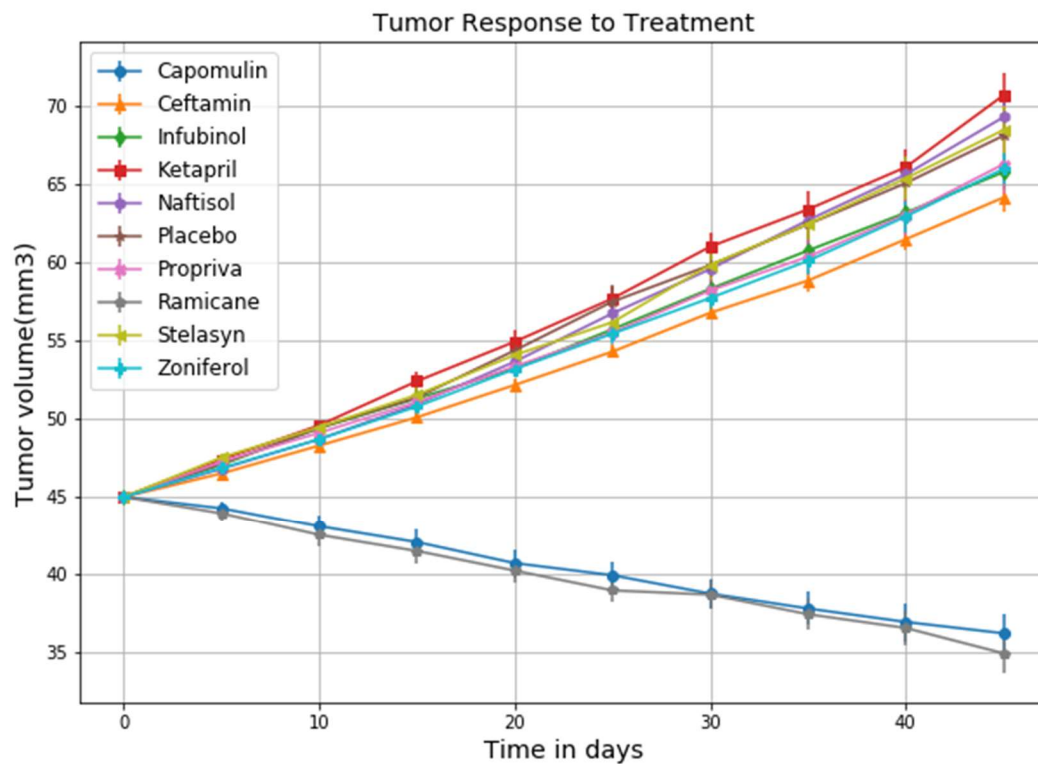
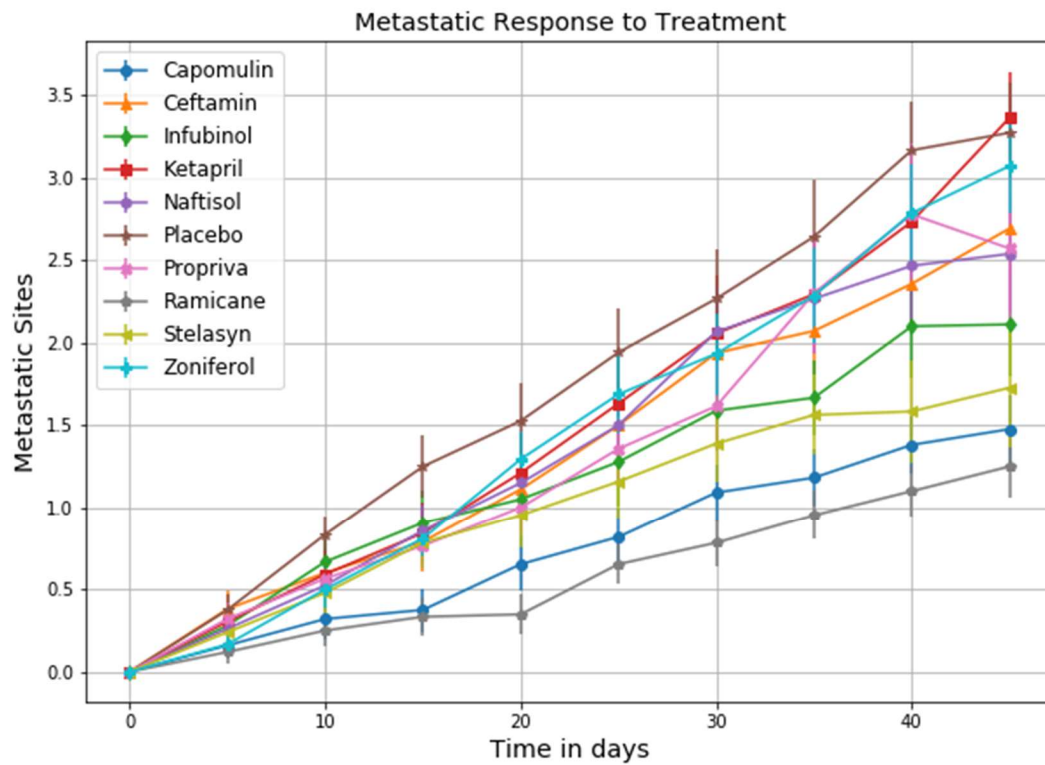


Observations on data: Pymaceuticals – Matplotlib Homework

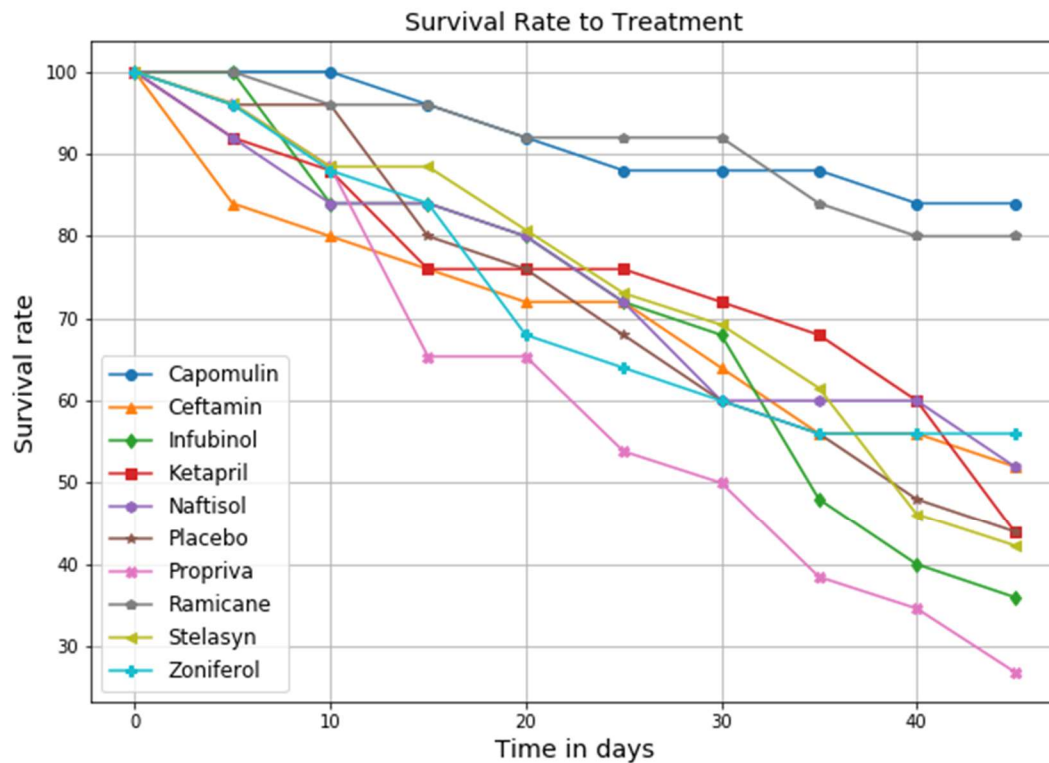
1. 'Capomulin' and 'Ramicanine' are the drugs showing the results indicating that these are the drugs which can cure Cancer.



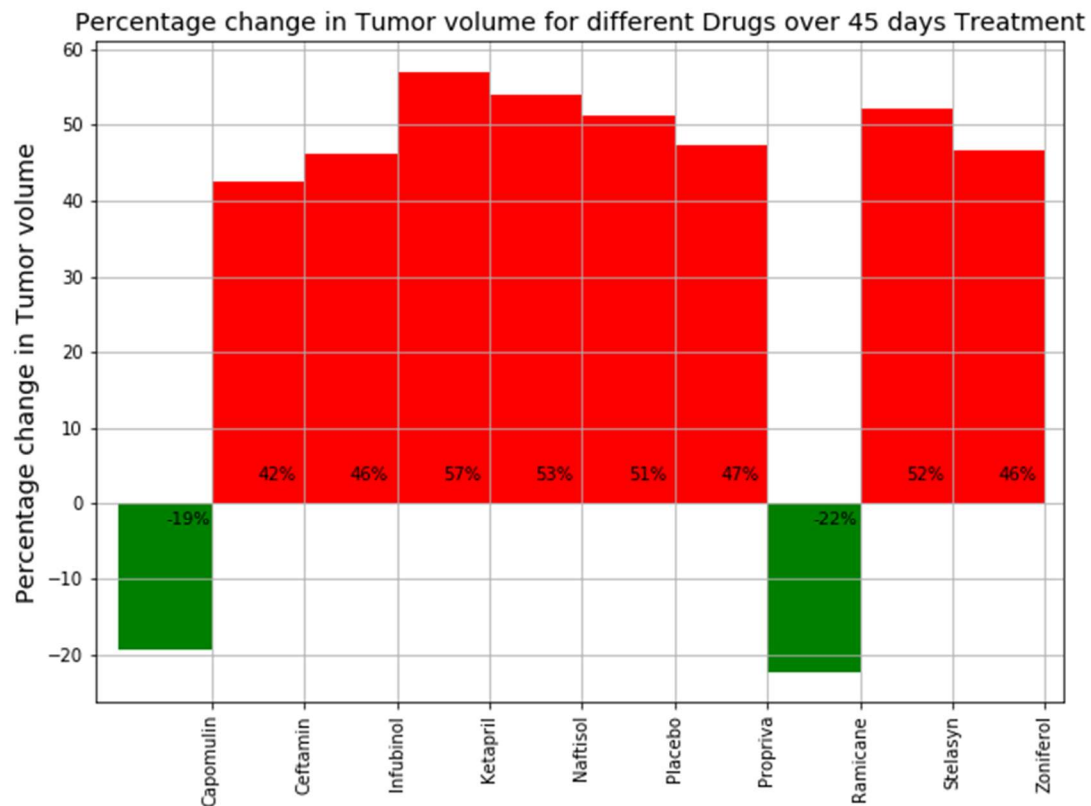
- a) From the figure 'Tumor Response to Treatment', we observe that the Tumor volume of the mice, who are given drugs 'Capomulin' and 'Ramicanine', is showing decreasing trend while the other mice's tumor volume has increasing trend.



- b) From the figure 'Metastatic Response to Treatment' we observe that the metastatic response, i.e. the cancer spread to different locations, is less in the mice who were given drugs 'Capomulin' and 'Ramicane' compared to the mice who were given other drugs.



- c) From the figure 'SurvivalRate_To_Treatment' we observe that 80 to 85% of the mice survived the 45 days treatment when given the drugs 'Capomulin' or 'Ramicane'. The survival rate of the mice which were given other drugs was drastically low between 25 to 55%. The drug Propriva performed the worst compared to even placebo. Meaning it is doing harm forget about cure.



- d) From the figure 'Percent_Tumor_Vol_change_to_Treatement' we observe that the percentage change of the Tumor volume was around -20% over the period of 45days in the mice which were given 'Capomulin' and 'Ramicane' where as the other mice had more than 40% increase in the tumor volume.
- We can observe that **all the drugs except** 'Capomulin' and 'Ramicane' have similar effect as a 'Placebo', meaning a harmless medicine prescribed only for the psychological comfort, thus we can conclude they are not useful to treat a cancer.
 - Amongst 'Capomulin' and 'Ramicane', the Ramicane has better Tumor volume reduction and metastatic response whereas Capomulin have a slightly better survival rate than Ramicane at the end of 45 days.