1. Running plank_likelihood.py as is gives a chi-squared value 15267.94. I would reject these parameters because the chi-squared is outside of 2σ of the expected value (number of degrees of freedom). With the improved parameters, the chi-squared value becomes 3272.21. We expect these parameters to be closer to the real parameters because the chi-squared is closer to the expected value, well within 1σ.

2. See planck_fit_params.txt for results.

3. Because of time constraints I was only able to run a 1000 step chain. I do not think my chain has converged yet because the chi-squared value plot (fig1.txt) does not look Gaussian. Regardless, we find the dark energy density to be 0.7065 ± 0.0012 (see dark_energy_density.txt). Furthermore my step size was too small, so if I had time I would run this again with a larger step size.

4. Importance sampling parameters and errors are shown in the file importance_params.txt, while those from the chain with a tau prior are shown in tauprior_params.txt. Parameters between these two methods are very similar, with the relative differences between the two ranging from about 10^{-2} to 10^{-14}. The errors are also similar. Clearly the long process of computing a whole new chain is not necessary for some decent results.