This project considers a non-mixture cure model for right censored data. The maximum likelihood method used to estimate model parameters in the non-mixture cure model with modified Gompertz distribution. The simulation study is based on non-mixture cure model with modified Gompertz susceptible distribution to evaluate the performance of the method. The proposed model is applied to a real data set on allogeneic marrow HLA-matched donors and ECOG phase III clinical trial e1684. (Received September 24, 2018)