

Figure 1: The limitation of the expectation and standard deviation of alignment with respect to  $m = \frac{\lambda_k}{\lambda_{k+1}}$

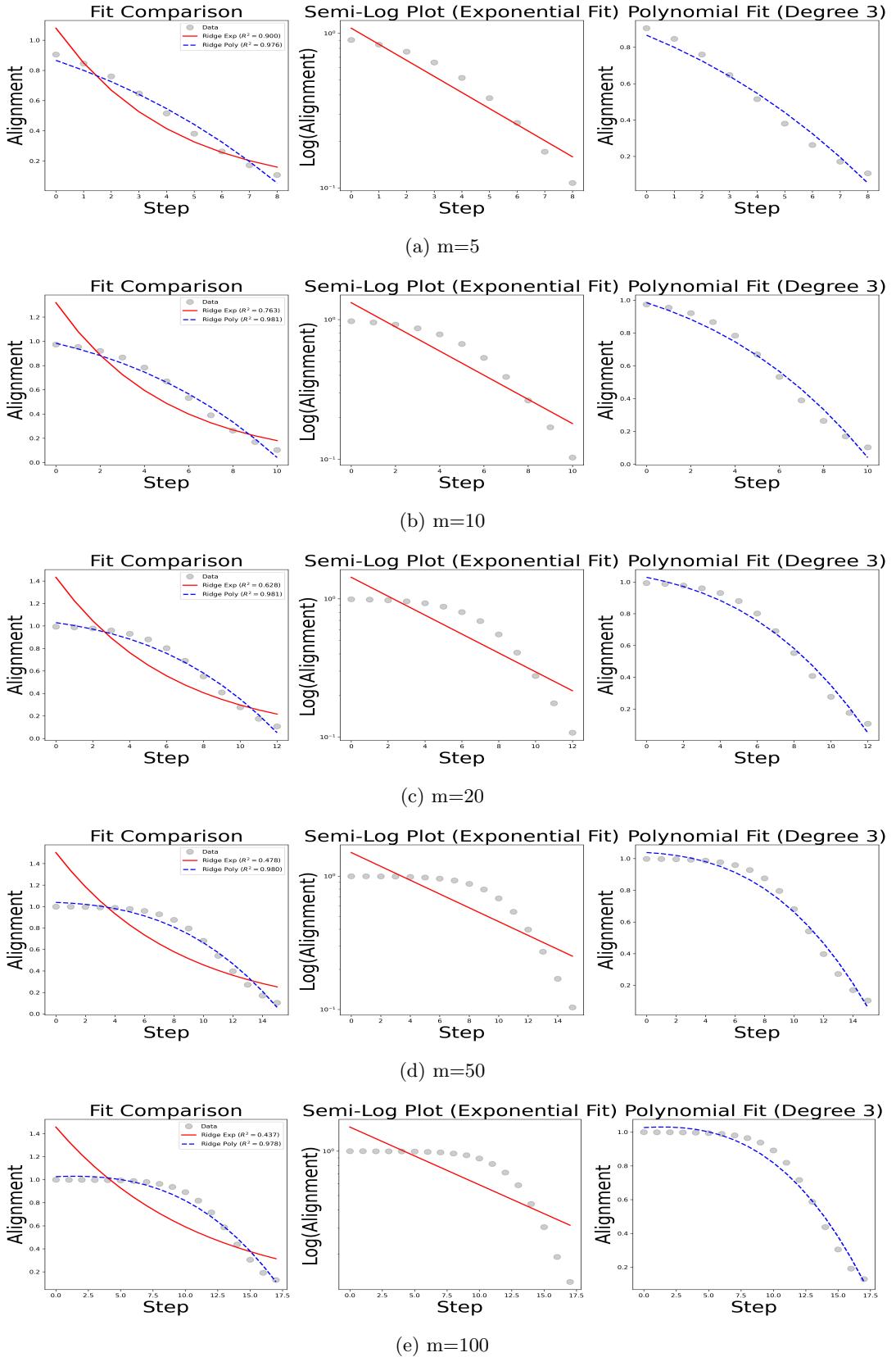
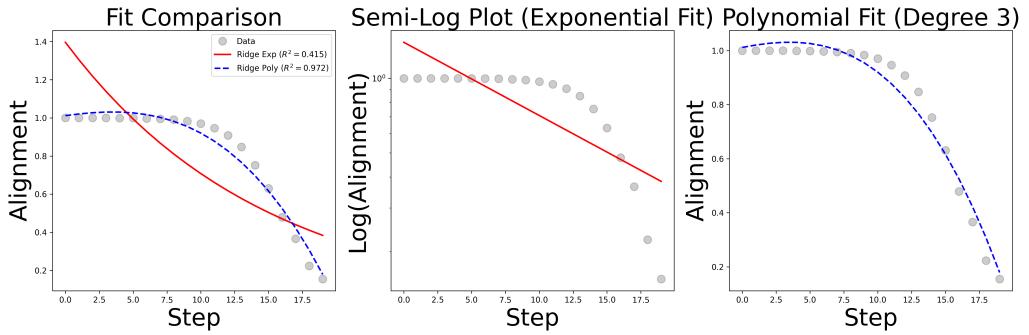
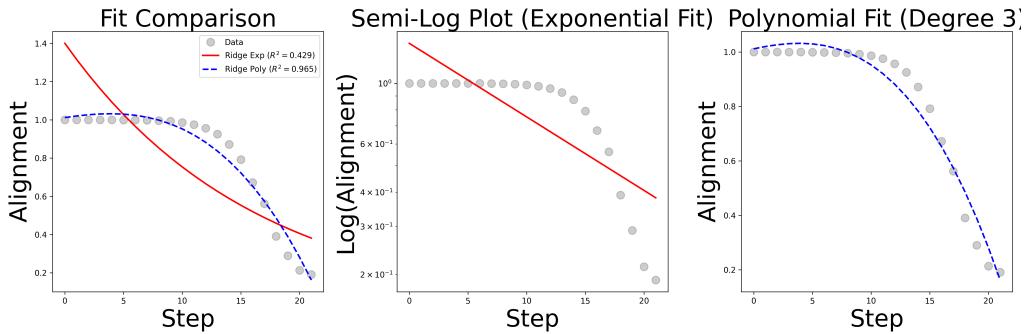


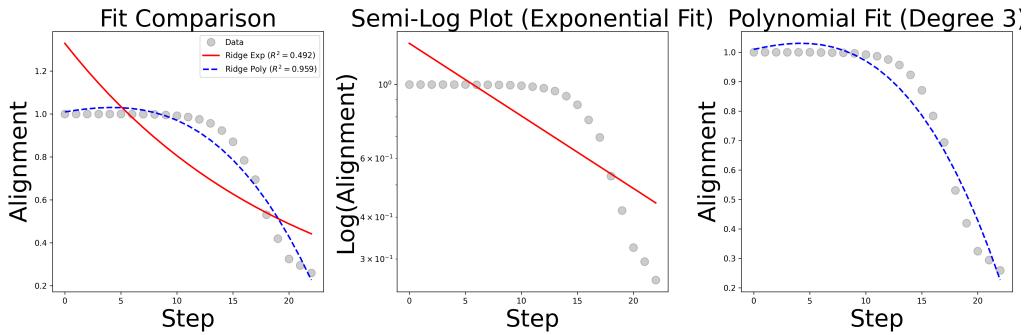
Figure 2: The decay rate of phase I when seed=42 for various  $m = \frac{\lambda_k}{\lambda_{k+1}}$  (Part 1)



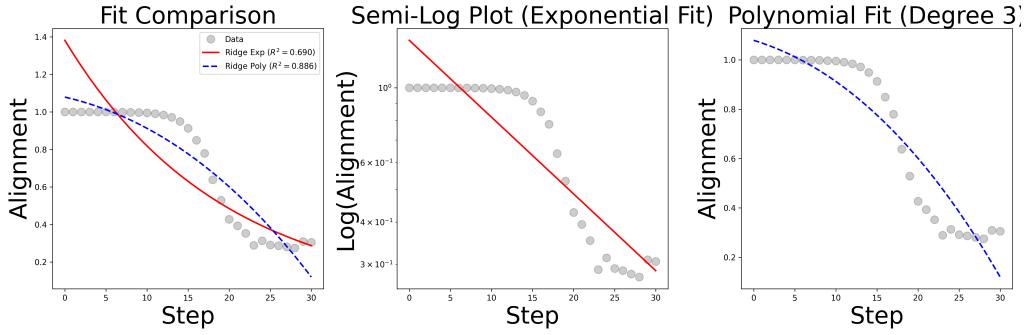
(f)  $m=200$



(g)  $m=300$



(h)  $m=400$



(i)  $m=500$

Figure 2: The decay rate of phase I when seed=42 for various  $m = \frac{\lambda_k}{\lambda_{k+1}}$  (Part 2)

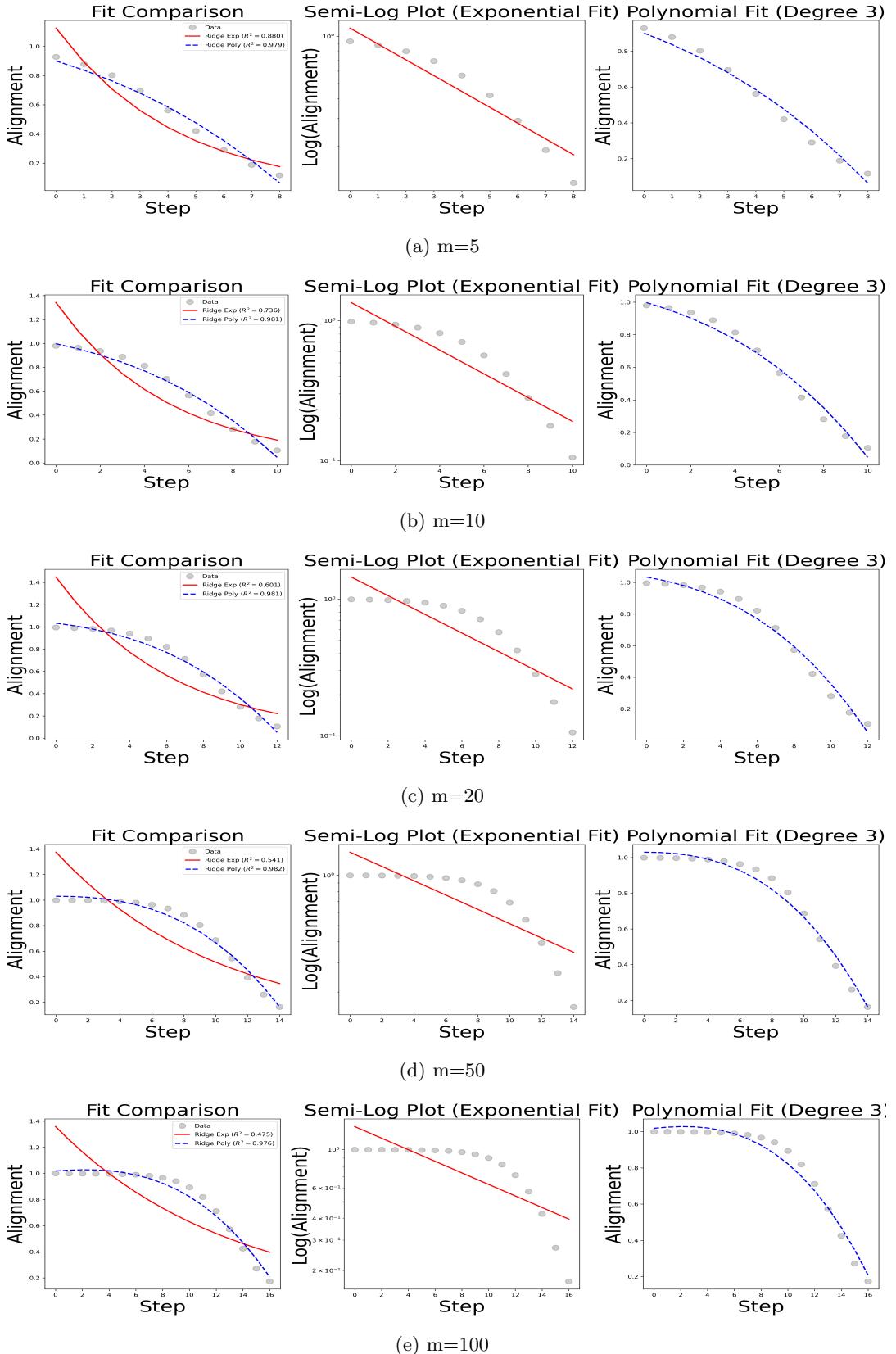
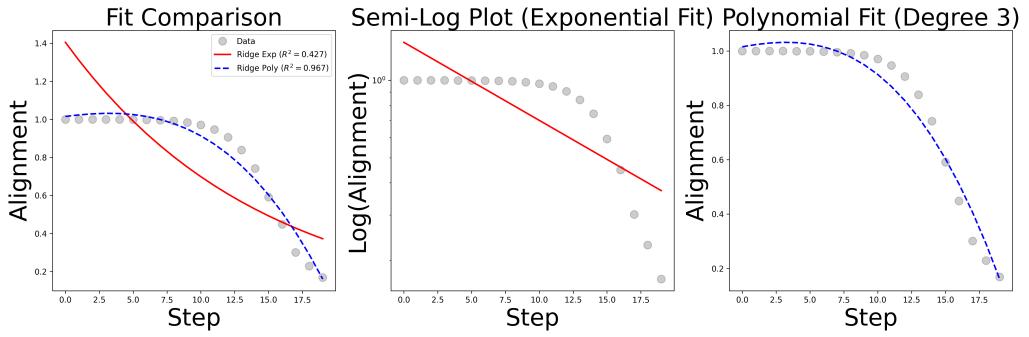
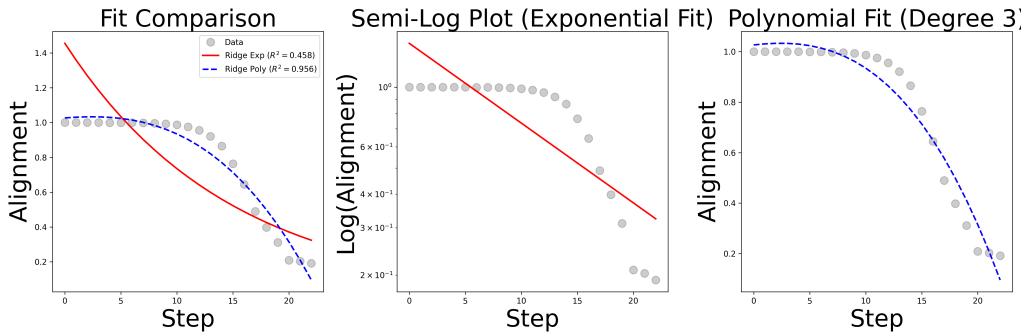


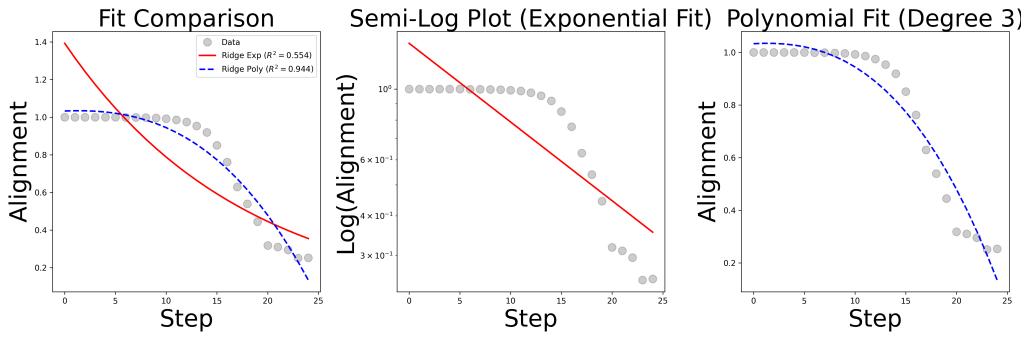
Figure 3: The decay rate of phase I when seed=87 for various  $m = \frac{\lambda_k}{\lambda_{k+1}}$  (Part 1)



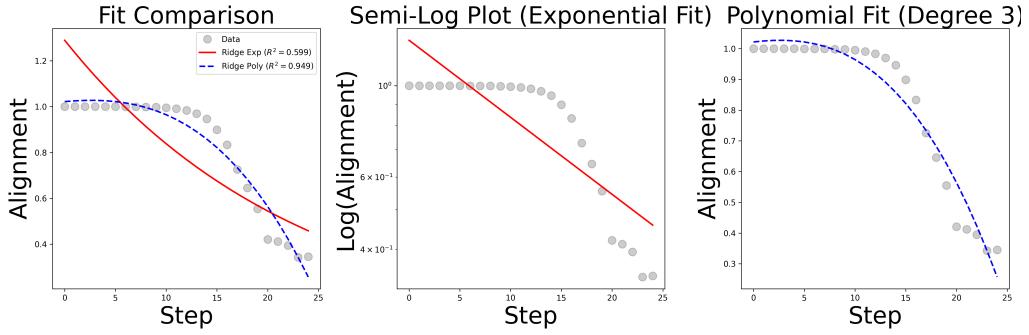
(f)  $m=200$



(g)  $m=300$



(h)  $m=400$



(i)  $m=500$

Figure 3: The decay rate of phase I when seed=87 for various  $m = \frac{\lambda_k}{\lambda_{k+1}}$  (Part 2)

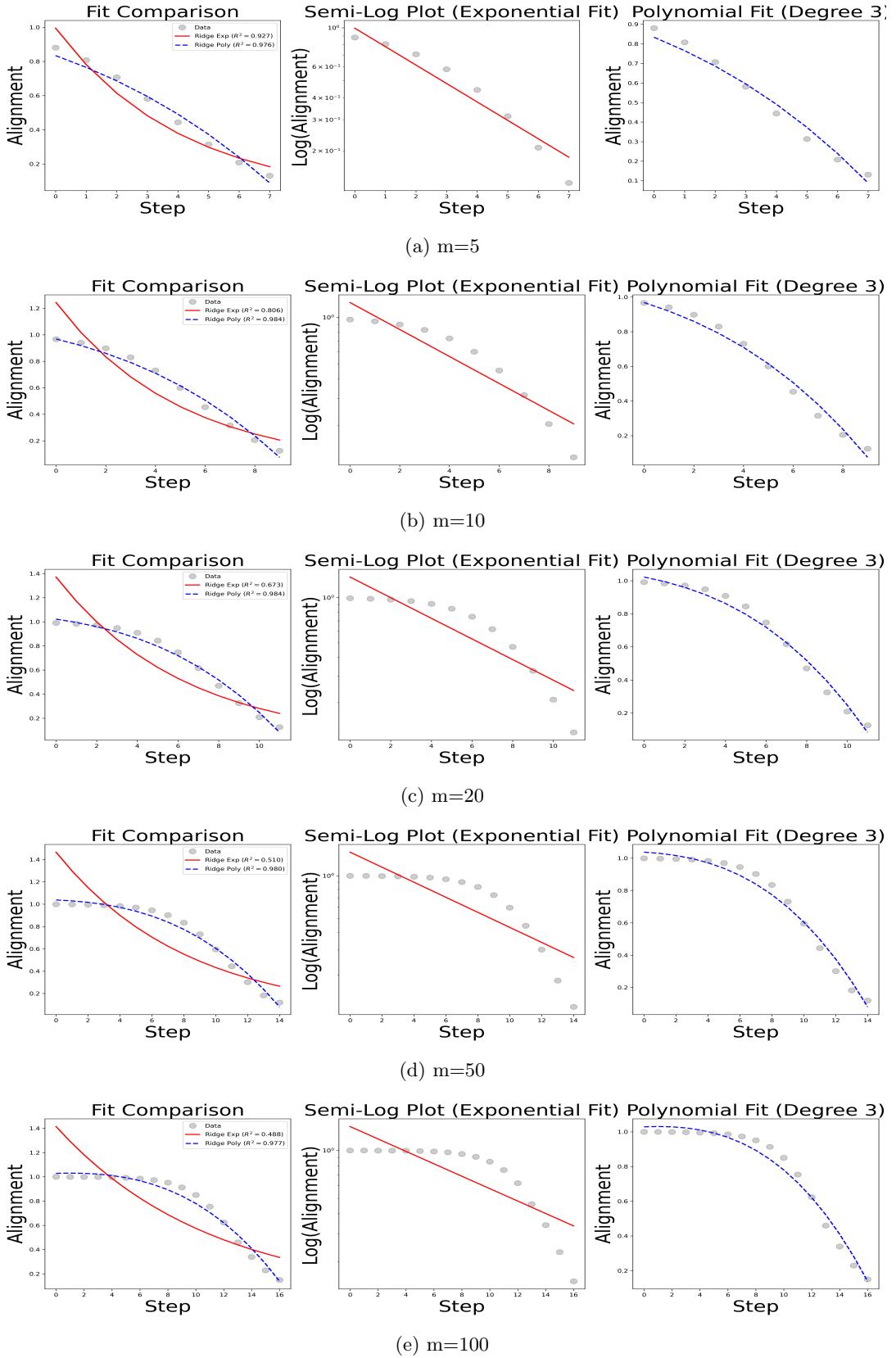
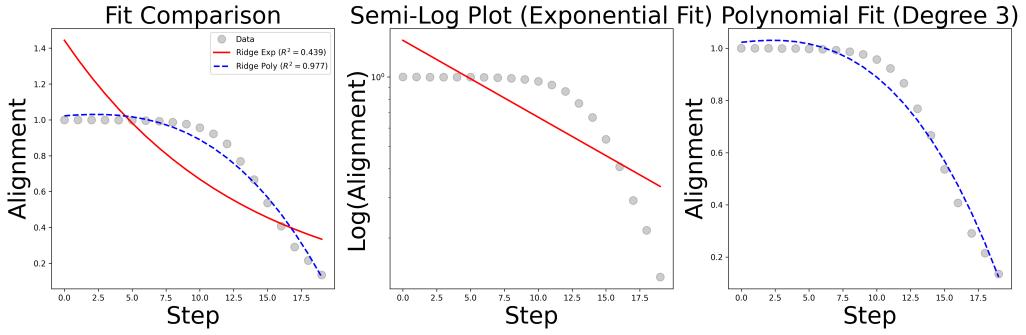
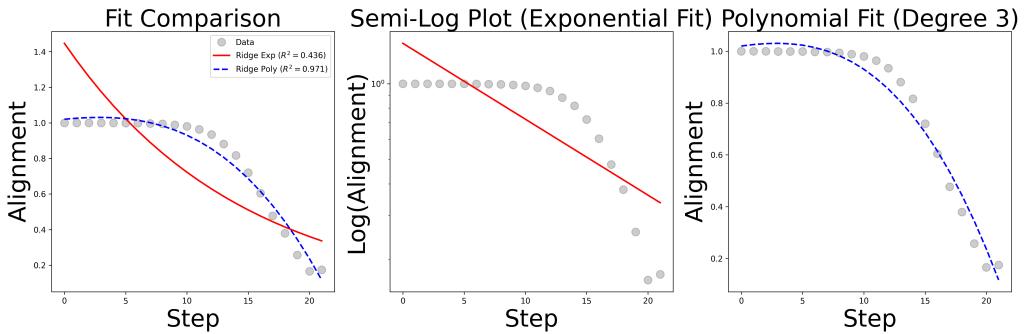


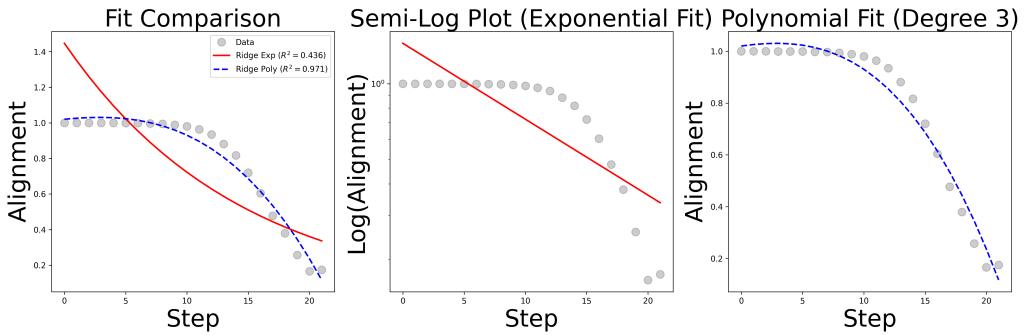
Figure 4: The decay rate of phase I when seed=568 for various  $m = \frac{\lambda_k}{\lambda_{k+1}}$  (Part 1)



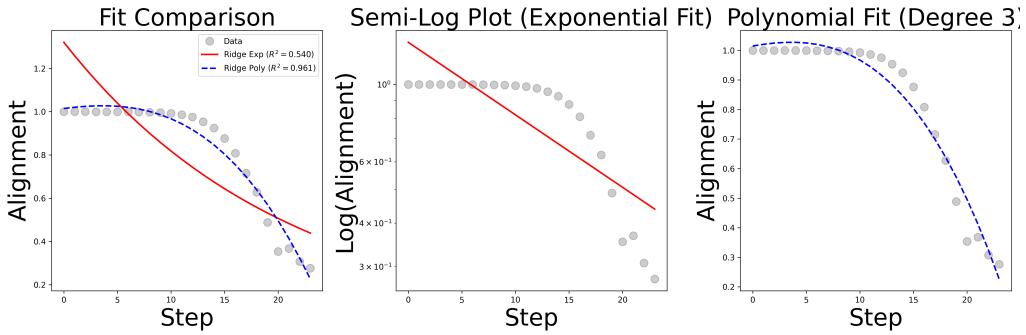
(f)  $m=200$



(g)  $m=300$



(h)  $m=400$



(i)  $m=500$

Figure 4: The decay rate of phase I when seed=568 for various  $m = \frac{\lambda_k}{\lambda_{k+1}}$  (Part 2)

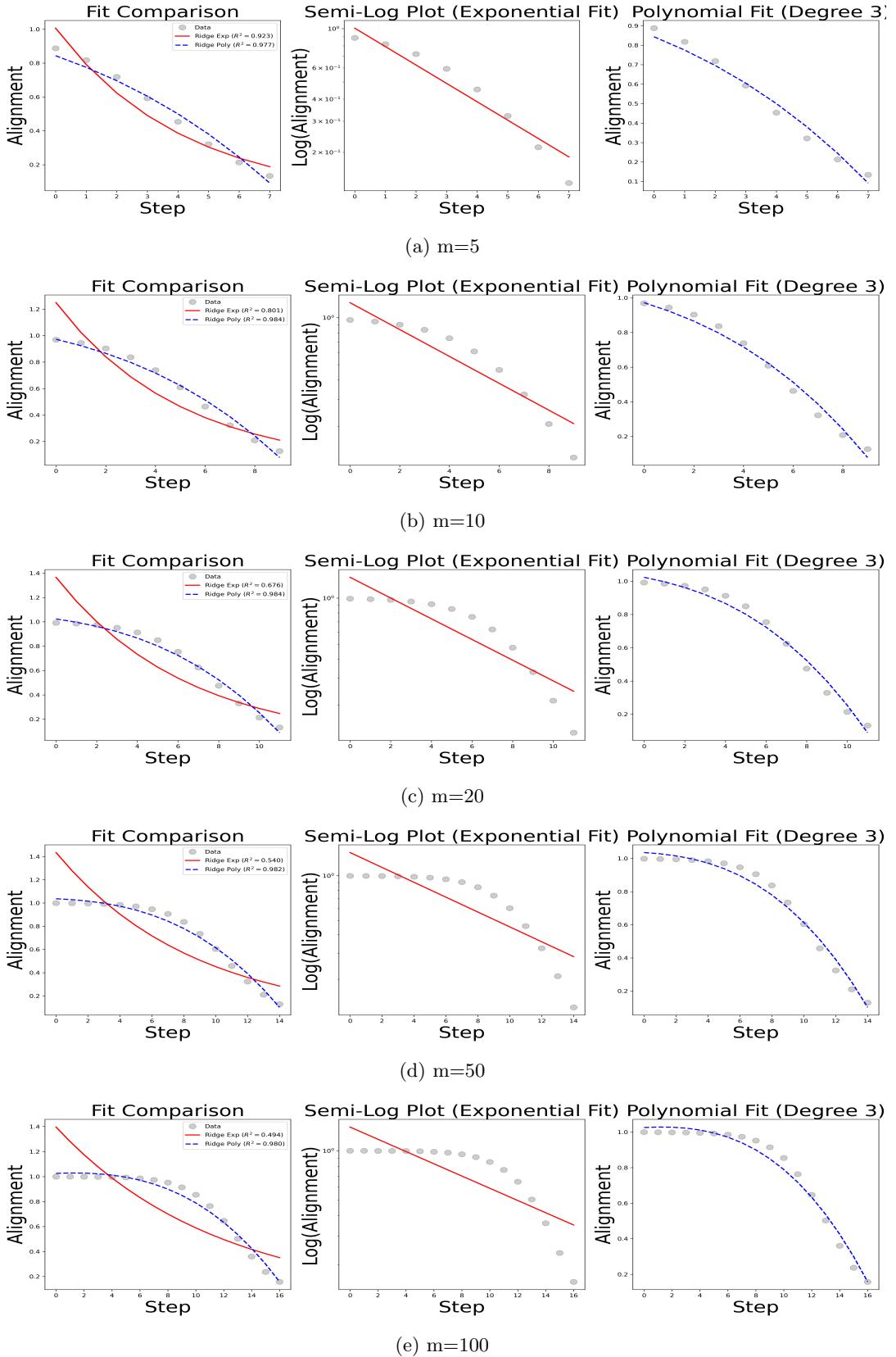
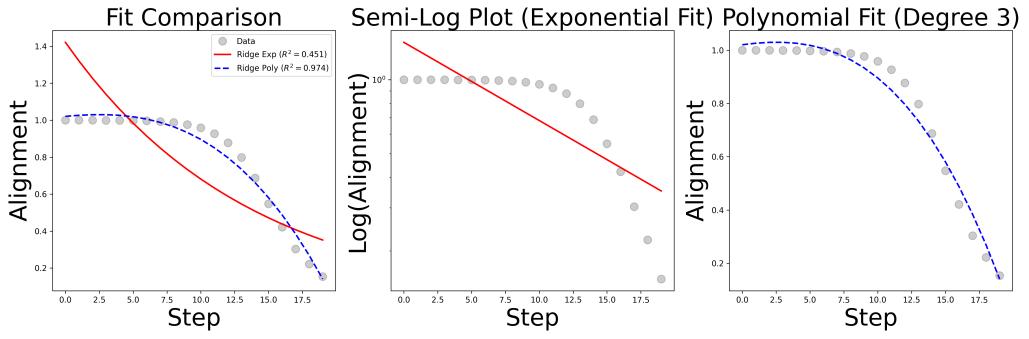
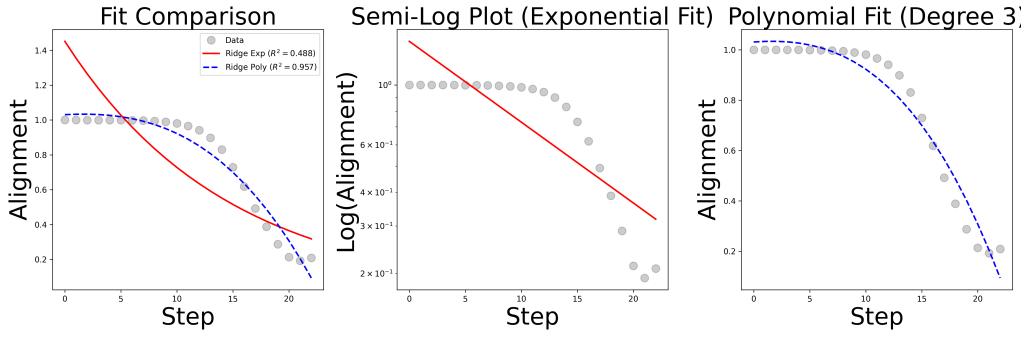


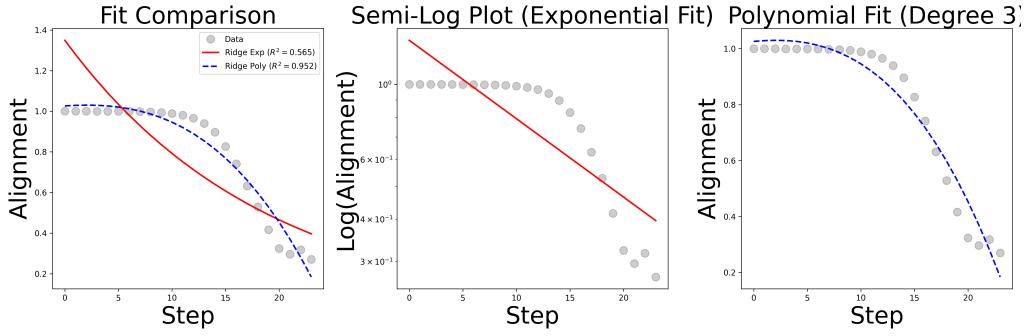
Figure 5: The decay rate of phase I when seed=1101 for various  $m = \frac{\lambda_k}{\lambda_{k+1}}$  (Part 1)



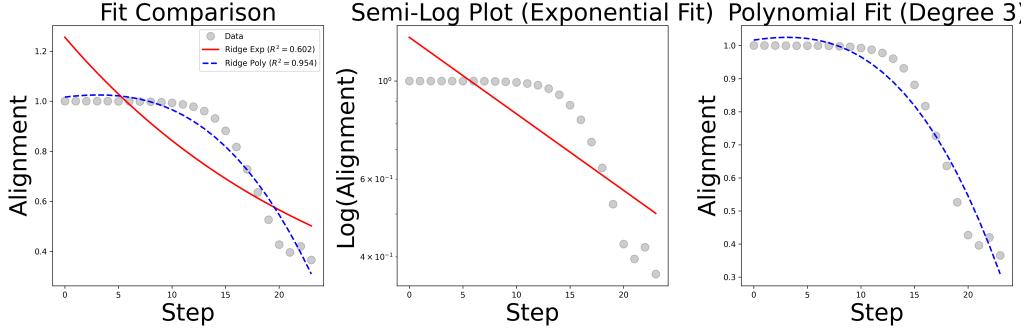
(f)  $m=200$



(g)  $m=300$



(h)  $m=400$



(i)  $m=500$

Figure 5: The decay rate of phase I when seed=1101 for various  $m = \frac{\lambda_k}{\lambda_{k+1}}$  (Part 2)

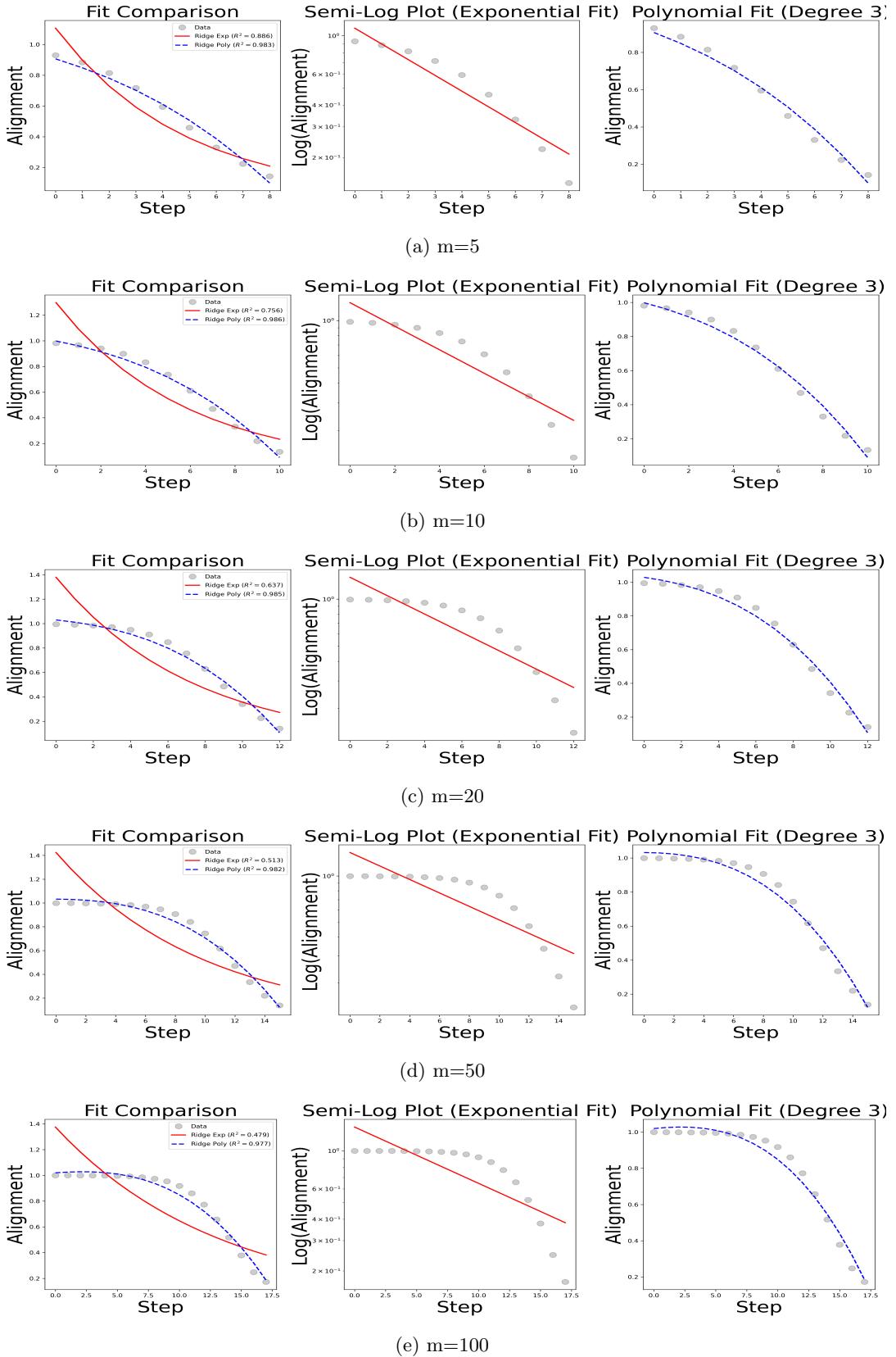
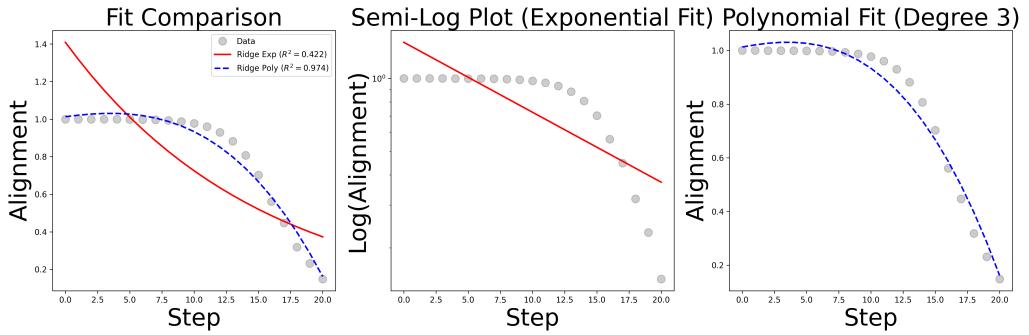
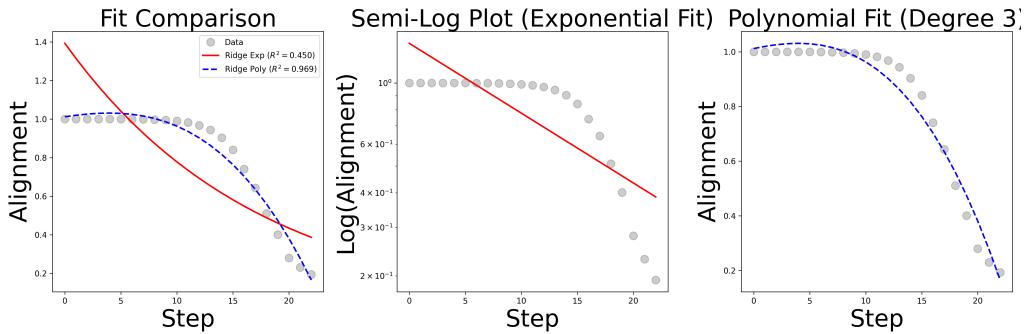


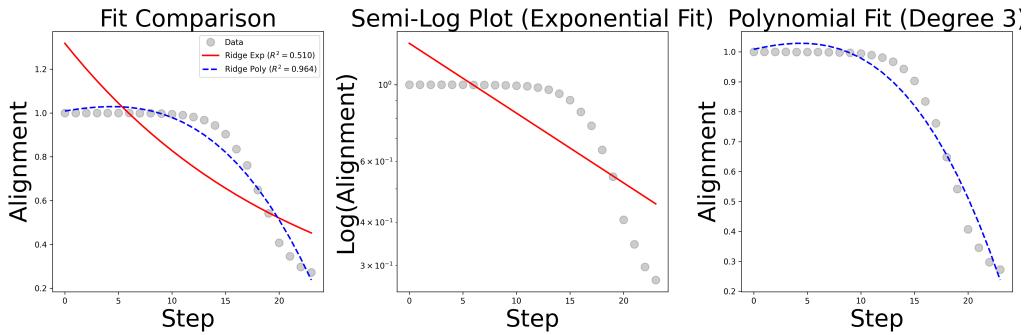
Figure 6: The decay rate of phase I when seed=12138 for various  $m = \frac{\lambda_k}{\lambda_{k+1}}$  (Part 1)



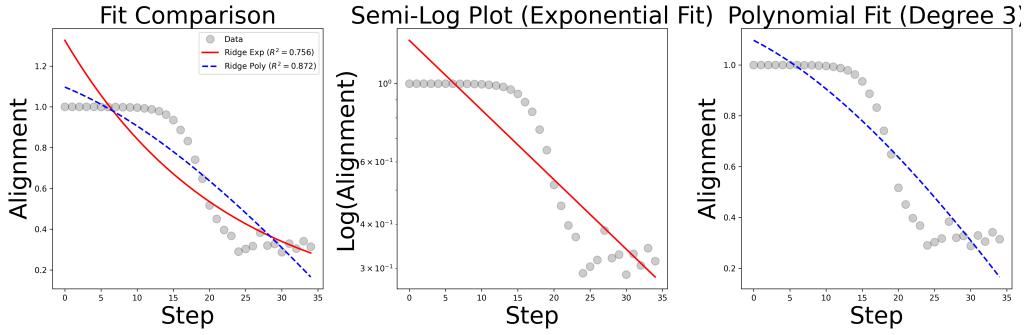
(f)  $m=200$



(g)  $m=300$



(h)  $m=400$



(i)  $m=500$

Figure 6: The decay rate of phase I when seed=12138 for various  $m = \frac{\lambda_k}{\lambda_{k+1}}$  (Part 2)

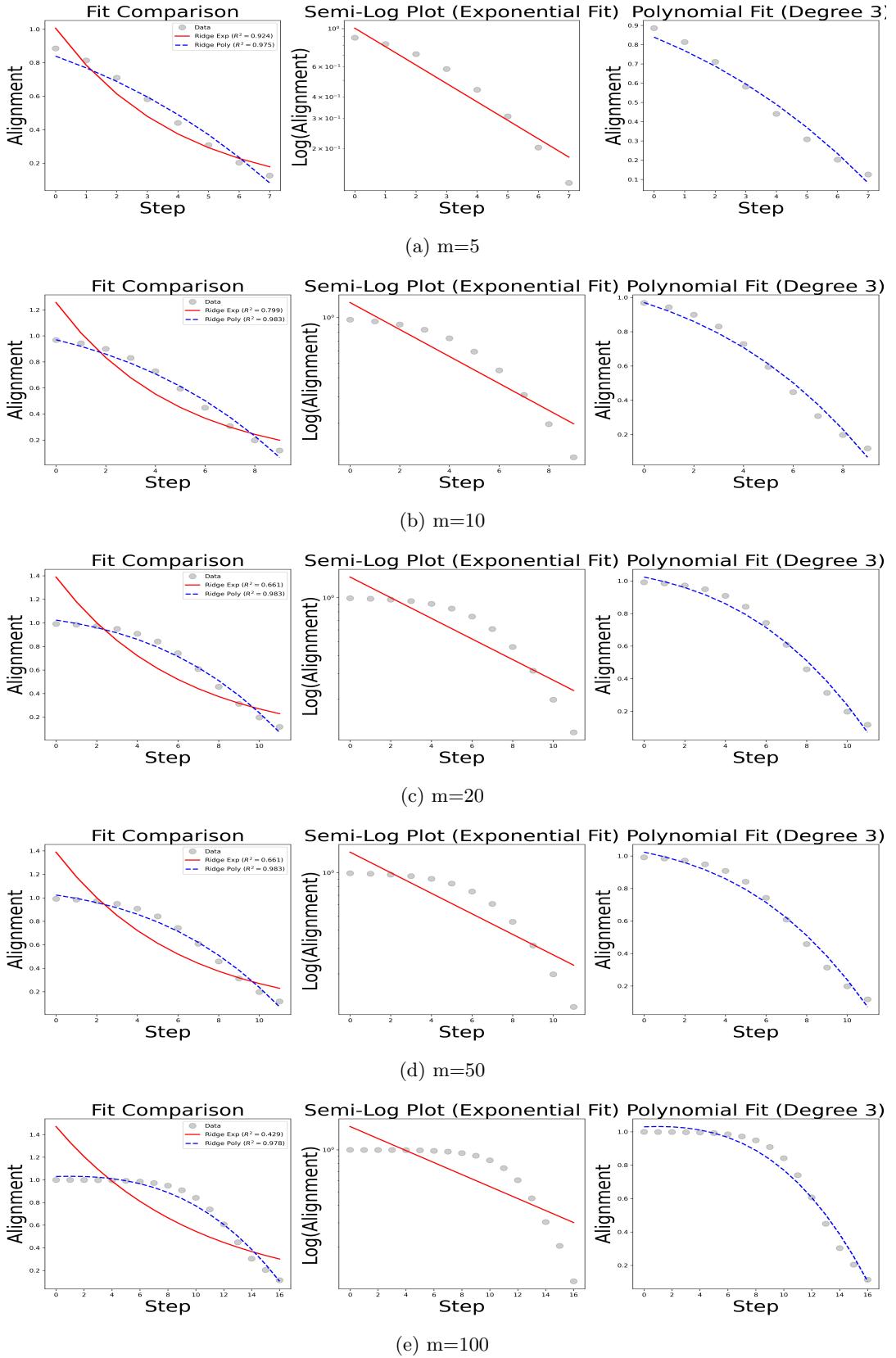
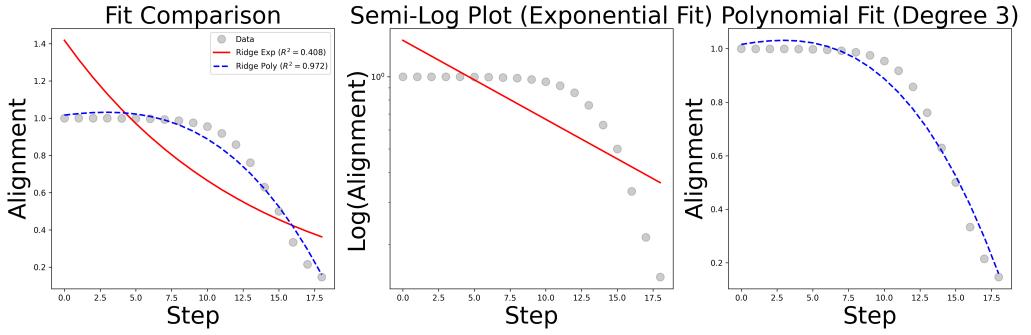
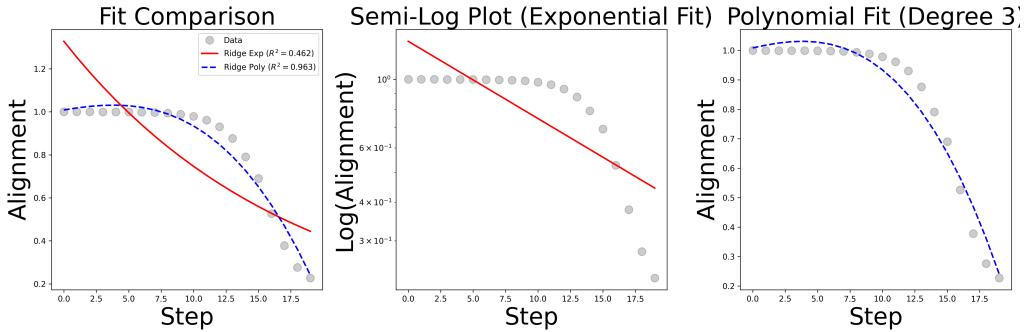


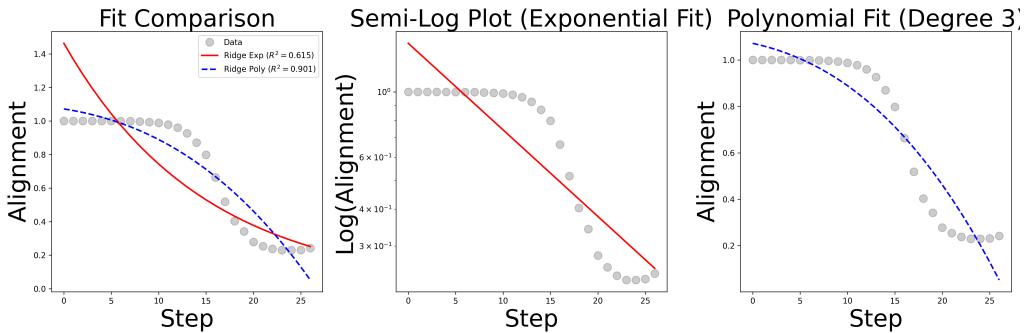
Figure 7: The decay rate of phase I when seed=70425 for various  $m = \frac{\lambda_k}{\lambda_{k+1}}$  (Part 1)



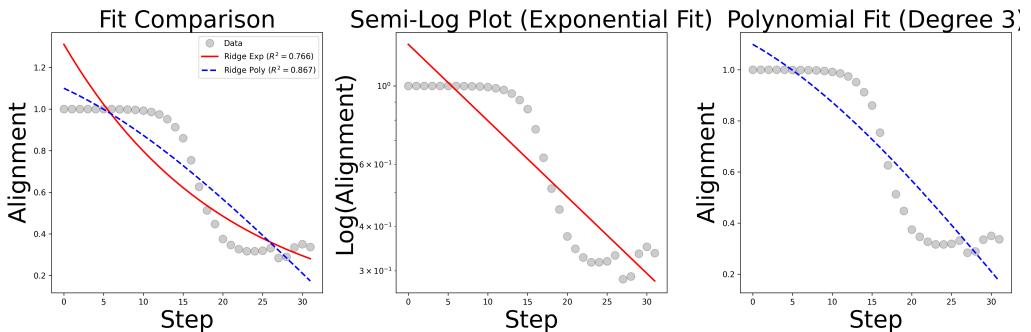
(f)  $m=200$



(g)  $m=300$



(h)  $m=400$



(i)  $m=500$

Figure 7: The decay rate of phase I when seed=70425 for various  $m = \frac{\lambda_k}{\lambda_{k+1}}$  (Part 2)

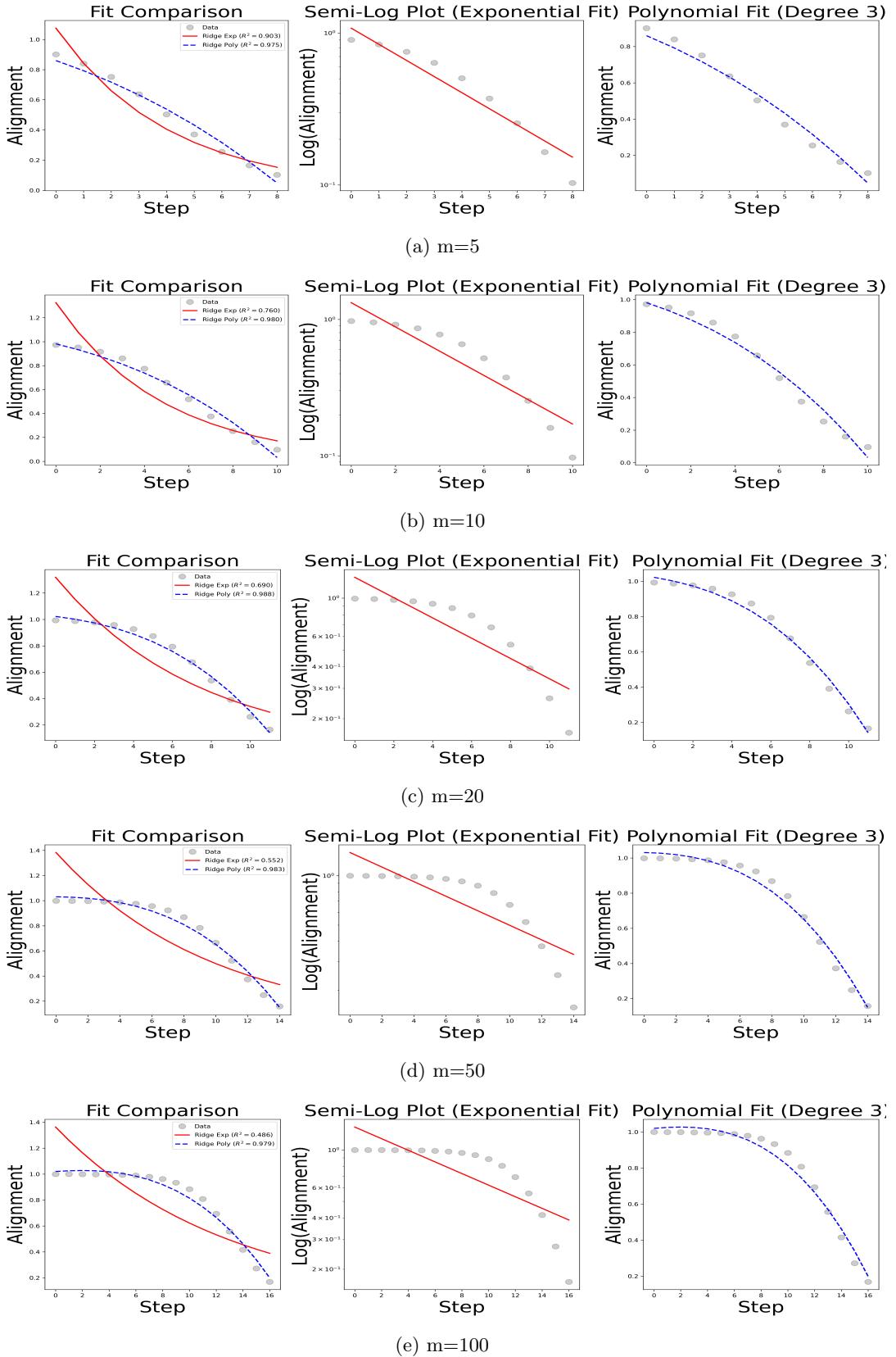
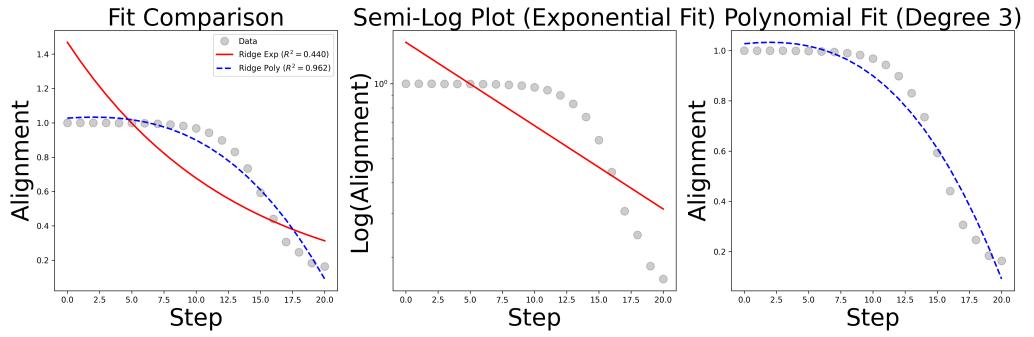
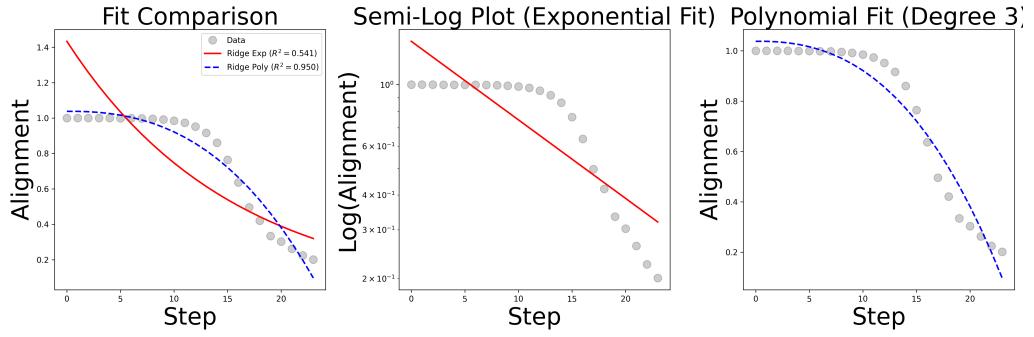


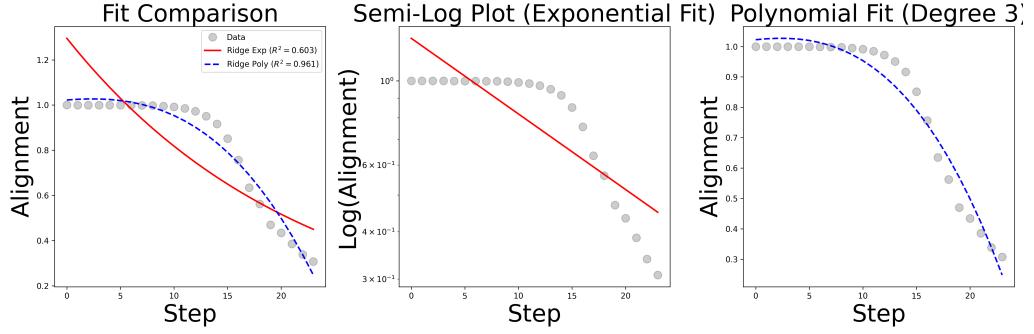
Figure 8: The decay rate of phase I when seed=4008001 for various  $m = \frac{\lambda_k}{\lambda_{k+1}}$  (Part 1)



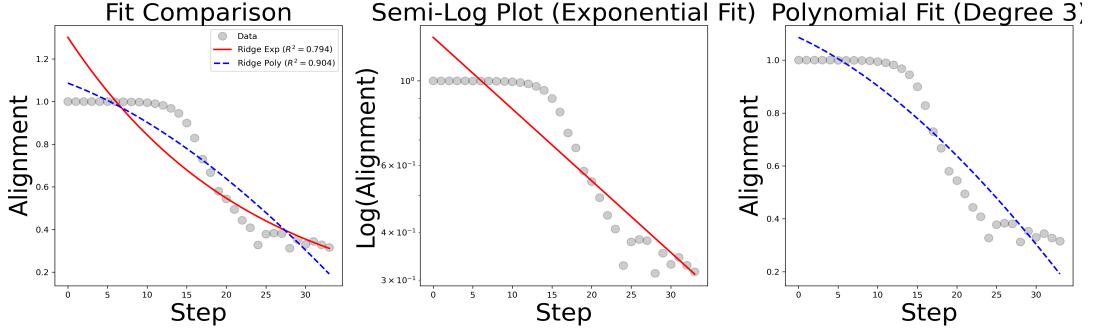
(f)  $m=200$



(g)  $m=300$



(h)  $m=400$



(i)  $m=500$

Figure 8: The decay rate of phase I when seed=4008001 for various  $m = \frac{\lambda_k}{\lambda_{k+1}}$  (Part 2)

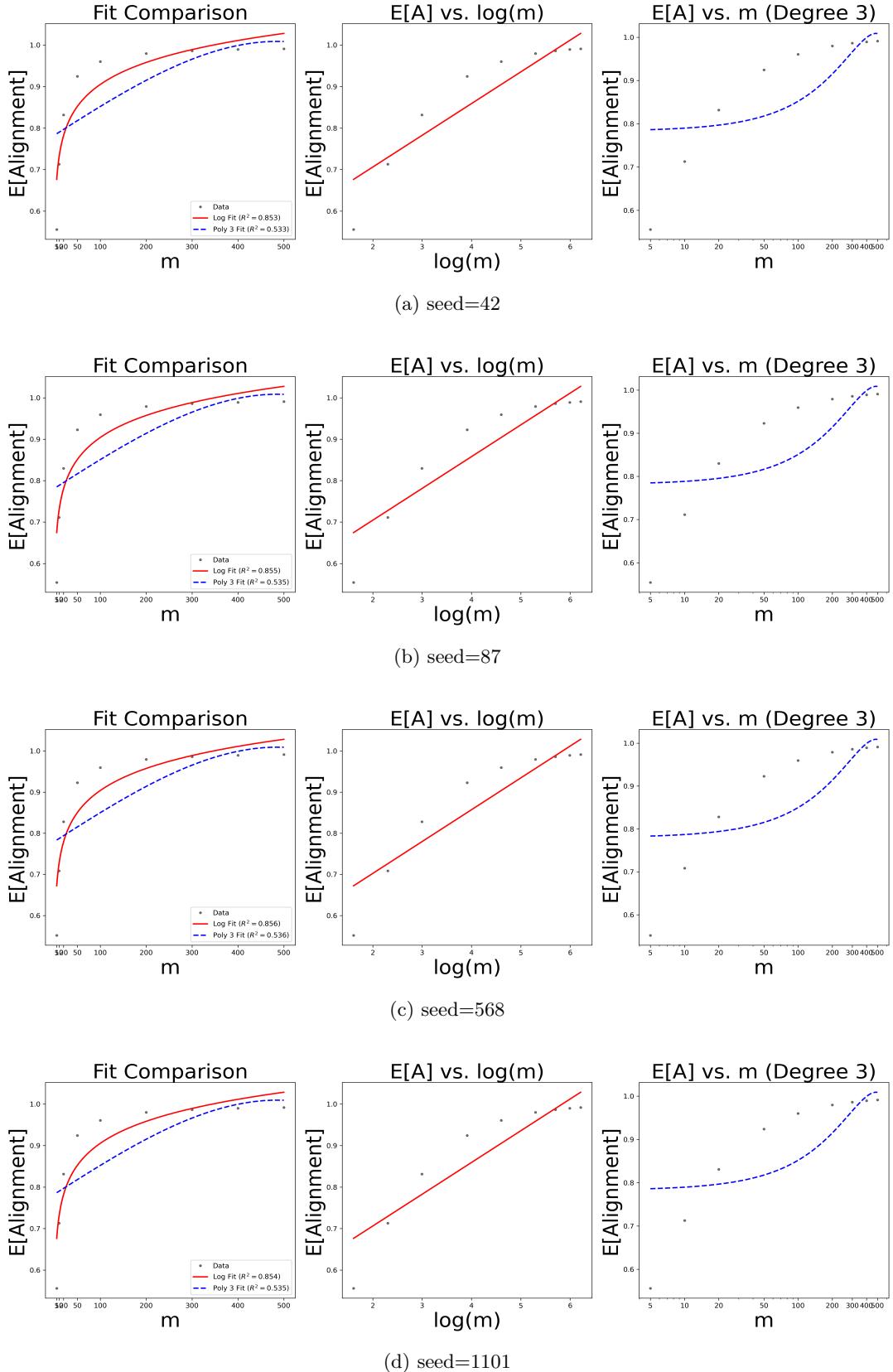
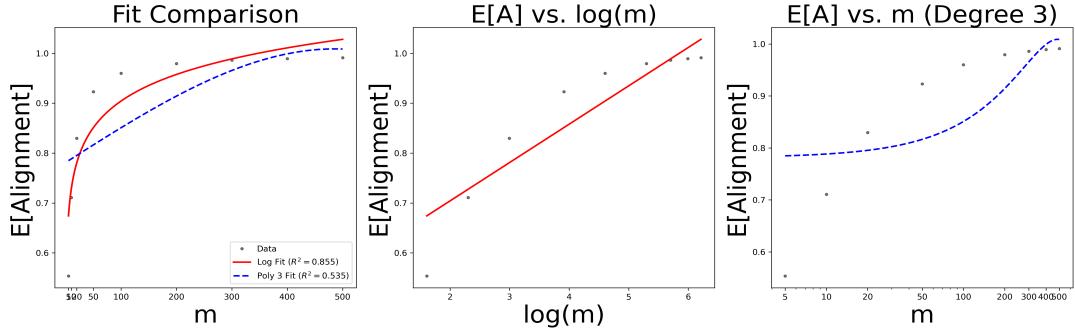
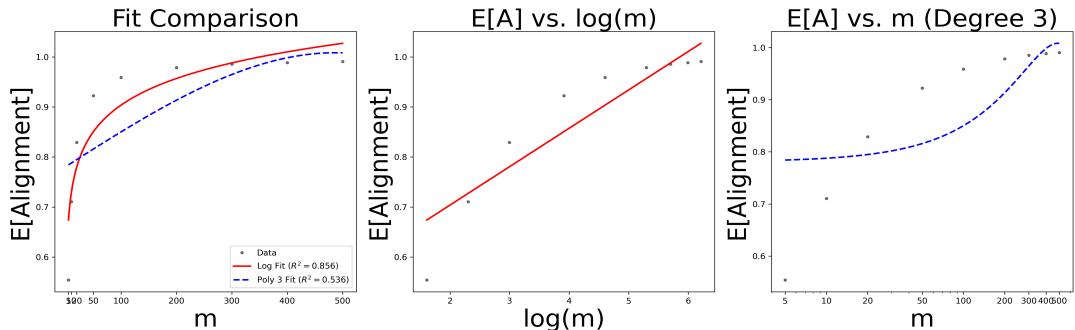


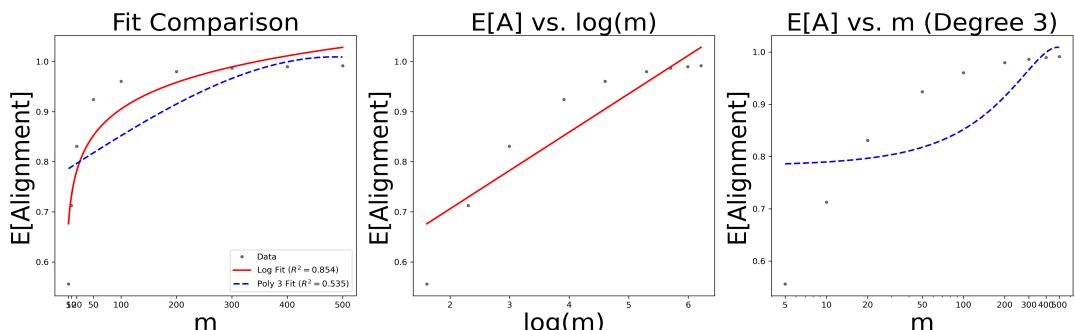
Figure 9: The rate of the expected alignment convergence with respect to  $m = \frac{\lambda_k}{\lambda_{k+1}}$  (Part 1)



(e) seed=12138



(f) seed=70425



(g) seed=4008001

Figure 9: The rate of the expected alignment convergence with respect to  $m = \frac{\lambda_k}{\lambda_{k+1}}$  (Part 2)