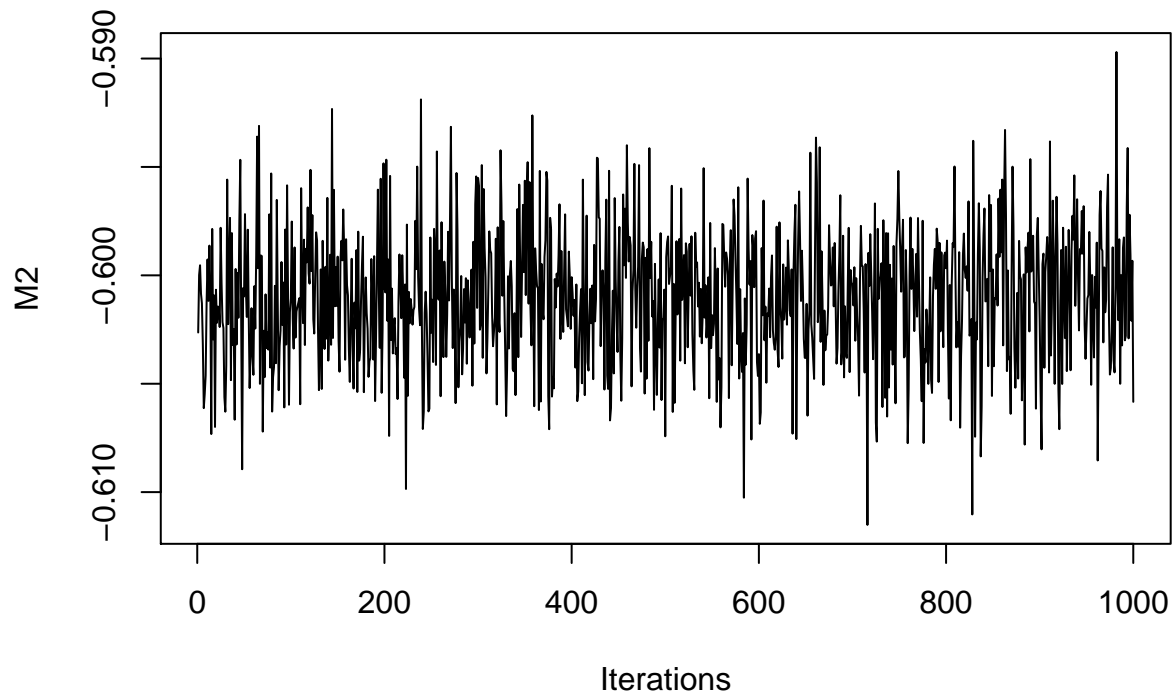
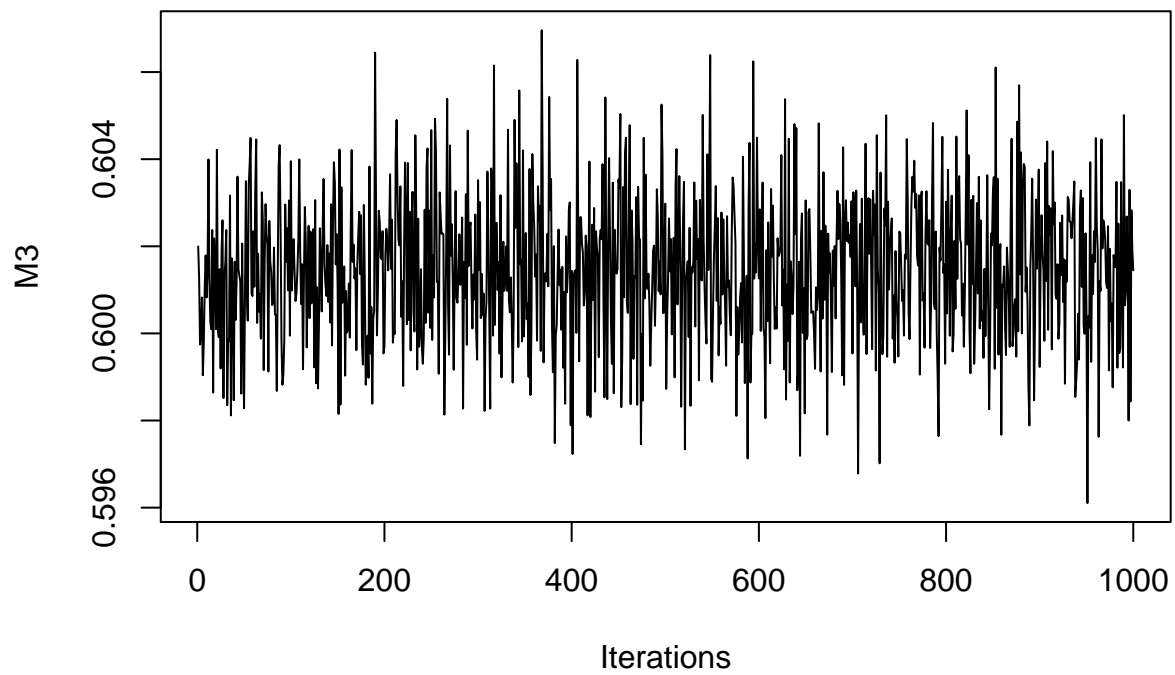


Check M

```
#-----  
# This file is used to  
# 1.check M2, M3 and M4  
# Last updated date: 7/11/2017  
#-----  
  
##set other parameters equal their true values  
eta=eta_sim  
v=v_sim  
beta=beta_sim  
sgmr2=sgmr2_sim  
sgm2=sgm2_sim  
E=E_sim  
c=c_sim  
b=b_sim  
e=e_sim  
X=X_sim    ##rename the simulated complete data X_{it}  
  
##sample M2, M3 and M4  
M_mat1=matrix(0, n, K)  
M_mat2=matrix(0, n, K)  
M=matrix(0,4,1000)  
for(l in 2:K){  
  index=which(c==l)  
  num_index=length(index)  
  for(i in 1:num_index){  
    M_mat1[i,l]=t(D_star[1:T[index[i]], index[i]])%*%D_star[1:T[index[i]], index[i]]  
    M_mat2[i,l]=t(D_star[1:T[index[i]], index[i]])%*%(X[1:T[index[i]],index[i]]-  
                                                    D[1:T[index[i]], c(2*index[i]-1, 2*index[i])])%*%  
                                                    b[index[i]]*D_dstar[1:T[index[i]], index[i]])  
  }  
  var_M=((1/M_pri)+(1/sgm2)*colSums(M_mat1)[l])^(-1)  
  mean_M=(1/sgm2)*var_M*colSums(M_mat2)[l]  
  M[l, ]=rnorm(1000, mean=mean_M, sd=sqrt(var_M))  
}  
  
posterior.mean.M=c(mean(M[2,]), mean(M[3, ]), mean(M[4, ]))  
posterior.mean.M  
  
## [1] -0.6010228  0.6014481  1.2014943  
  
##traceplot  
traceplot(x=as.mcmc(M[2, ]), ylab="M2")
```



```
traceplot(x=as.mcmc(M[3, ]), ylab="M3")
```



```
traceplot(x=as.mcmc(M[4, ]), ylab="M4")
```

