

In [1]:	#install.packages("MDMR")
In [2]:	library(MDMR) library(qvalue)
In [3]:	BRAY<-read.delim("/Users/dagmarschierova/MEGA/MB0/swabs_ZS/outputs/qilme2_results_290230/diversity-D_UST/beta/bray_curtis_distance_matrix_patients.tsv") JACC40<-read.delim("/Users/dagmarschierova/MEGA/MB0/swabs_ZS/outputs/qilme2_results_290230/diversity-D_UST/beta/jaccard_distance_matrix_patients.tsv") U.UNIFRAC<-read.delim("/Users/dagmarschierova/MEGA/MB0/swabs_ZS/outputs/qilme2_results_290230/diversity-D_UST/beta/unweighted_unifrac_distance_matrix_patients.tsv") W.UNIFRAC<-read.delim("/Users/dagmarschierova/MEGA/MB0/swabs_ZS/outputs/qilme2_results_290230/diversity-D_UST/beta/weighted_unifrac_distance_matrix_patients.tsv")  BRAY40<-read.delim("/Users/dagmarschierova/MEGA/MB0/swabs_ZS/outputs/qilme2_results_290230/diversity-D_UST/beta/bray_curtis_distance_matrix_patients040.tsv") JACC40<-read.delim("/Users/dagmarschierova/MEGA/MB0/swabs_ZS/outputs/qilme2_results_290230/diversity-D_UST/beta/jaccard_distance_matrix_patients040.tsv") U.UNIFRAC40<-read.delim("/Users/dagmarschierova/MEGA/MB0/swabs_ZS/outputs/qilme2_results_290230/diversity-D_UST/beta/unweighted_unifrac_distance_matrix_patients040.tsv") W.UNIFRAC40<-read.delim("/Users/dagmarschierova/MEGA/MB0/swabs_ZS/outputs/qilme2_results_290230/diversity-D_UST/beta/weighted_unifrac_distance_matrix_patients040.tsv")
In [4]:	TO_DIST<-function(x){ x<-x[,2:Fcol(x)] rownames(x)<-colnames(x) x<-as.matrix(x) as.dist(x) }  BRAY.DIST<-TO_DIST(BRAY) JACC.DIST<-TO_DIST(JACC) U.UNIFRAC.DIST<-TO_DIST(U.UNIFRAC) W.UNIFRAC.DIST<-TO_DIST(W.UNIFRAC)  BRAY40.DIST<-TO_DIST(BRAY40) JACC40.DIST<-TO_DIST(JACC40) U.UNIFRAC40.DIST<-TO_DIST(U.UNIFRAC40) W.UNIFRAC40.DIST<-TO_DIST(W.UNIFRAC40)
In [5]:	meta<-read.delim("/Users/dagmarschierova/MEGA/MB0/swabs_ZS/inputs/metadata_swabs_cut.tsv")
In [6]:	meta.ordered<-meta[match(attributes(BRAY.DIST)\$Labels, meta\$SampleID),] meta.ordered40<-meta[match(attributes(BRAY40.DIST)\$Labels, meta\$SampleID),] #meta<-merge(meta.ordered, meta.ordered40, by="X") #meta.ordered.sub<-meta.ordered[FILTER,]
In [7]:	mdmr.res.bray <- MDMR::mixed.mdmr(~Week_num*(1 Patient), data=meta.ordered, D=BRAY.DIST) mdmr.res.bray
Sstat	Omnibus: 1.80937630969158 (Intercept): 0.690875327364348 Week_num: 1.8883733906159
Spv	Omnibus: 0.0566151952070968 (Intercept): 0.742763308241948 Week_num: 0.0467261822875573
Sp.prec	Omnibus: 1e-14 (Intercept): 1e-14 Week_num: 1e-14
Sdf	Omnibus: 1 (Intercept): 1 Week_num: 1
Sssd.used	1
In [8]:	mdmr.res.jacc <- MDMR::mixed.mdmr(~Week_num*(1 Patient), data=meta.ordered, D=JACC.DIST) mdmr.res.jacc
Sstat	Omnibus: 1.38219299710885 (Intercept): 0.788010239656286 Week_num: 1.46535706729267
Spv	Omnibus: 0.0735663473356241 (Intercept): 0.801533660166608 Week_num: 0.0451192874612321
Sp.prec	Omnibus: 1e-14 (Intercept): 1e-14 Week_num: 1e-14
Sdf	Omnibus: 1 (Intercept): 1 Week_num: 1
Sssd.used	1
In [9]:	mdmr.res.jacc <- MDMR::mixed.mdmr(~Past_biological_therapy*(1 Patient), data=meta.ordered, D=JACC.DIST) mdmr.res.jacc
Sstat	Omnibus: 1.29684807602079 (Intercept): 1.18044497735285 Past_biological_therapy: 1.66365821729658
Spv	Omnibus: 0.11837164028541 (Intercept): 0.214297745010336 Past_biological_therapy: 0.0130746605055259
Sp.prec	Omnibus: 1e-14 (Intercept): 1e-14 Past_biological_therapy: 1e-14
Sdf	Omnibus: 1 (Intercept): 1 Past_biological_therapy: 1
Sssd.used	1
In [10]:	mdmr.res.unifrac <- MDMR::mixed.mdmr(~Week_num*(1 Patient), data=meta.ordered, D=U.UNIFRAC.DIST) mdmr.res.unifrac
Sstat	Omnibus: 1.22175329873634 (Intercept): 0.649228407863456 Week_num: 1.30676979635733
Spv	Omnibus: 0.193575397157982 (Intercept): 0.919737136298732 Week_num: 0.135008341532958
Sp.prec	Omnibus: 1e-14 (Intercept): 1e-14 Week_num: 1e-14
Sdf	Omnibus: 1 (Intercept): 1 Week_num: 1
Sssd.used	1
In [11]:	mdmr.res.wunifrac <- MDMR::mixed.mdmr(~Week_num*(1 Patient), data=meta.ordered, D=W.UNIFRAC.DIST) mdmr.res.wunifrac
Sstat	Omnibus: 1.33047856888663 (Intercept): 0.80939310522497 Week_num: 1.38387436138499
Spv	Omnibus: 0.223508940035793 (Intercept): 0.534506493316593 Week_num: 0.203622325903462
Sp.prec	Omnibus: 1e-14 (Intercept): 1e-14 Week_num: 1e-14
Sdf	Omnibus: 1 (Intercept): 1 Week_num: 1
Sssd.used	1
In [12]:	mdmr.res.bracy <- MDMR::mixed.mdmr(~Week*(1 Patient), data=meta.ordered, D=BRAY.DIST) mdmr.res.bracy
Sstat	Omnibus: 7.659644465372501 (Intercept): 0.6432272037526729 Week: 8.66970742310063
Spv	Omnibus: 0.01468049708143 (Intercept): 0.795309613953724 Week: 0.00289427869845937
Sp.prec	Omnibus: 1e-14 (Intercept): 1e-14 Week: 1e-14
Sdf	Omnibus: 5 (Intercept): 1 Week: 5
Sssd.used	1
In [13]:	mdmr.res.jaccoc <- MDMR::mixed.mdmr(~Week*(1 Patient), data=meta.ordered, D=JACC.DIST) mdmr.res.jaccoc
Sstat	Omnibus: 5.86960443576682 (Intercept): 0.895072657338486 Week: 6.48354987369469
Spv	Omnibus: 0.0663659218452244 (Intercept): 0.633370045520014 Week: 0.00799145645948962
Sp.prec	Omnibus: 1e-14 (Intercept): 1e-14 Week: 1e-14
Sdf	Omnibus: 5 (Intercept): 1 Week: 5
Sssd.used	1
In [14]:	mdmr.res.unifraccc <- MDMR::mixed.mdmr(~Week*(1 Patient), data=meta.ordered, D=U.UNIFRAC.DIST) mdmr.res.unifraccc
Sstat	Omnibus: 5.89759816117092 (Intercept): 1.04460756630605 Week: 6.68880013724839
Spv	Omnibus: 0.0886046477044529 (Intercept): 0.38092992554953 Week: 0.0107860706952503
Sp.prec	Omnibus: 1e-14 (Intercept): 1e-14 Week: 1e-14
Sdf	Omnibus: 5 (Intercept): 1 Week: 5
Sssd.used	1
In [15]:	mdmr.res.wunifraccc <- MDMR::mixed.mdmr(~Week*(1 Patient), data=meta.ordered, D=W.UNIFRAC.DIST) mdmr.res.wunifraccc
Sstat	Omnibus: 4.90138516253913 (Intercept): 1.03285719790923 Week: 5.39172364079273
Spv	Omnibus: 0.47177479671097 (Intercept): 0.372525340484623 Week: 0.3424496564844
Sp.prec	Omnibus: 1e-14 (Intercept): 1e-14 Week: 1e-14
Sdf	Omnibus: 5 (Intercept): 1 Week: 5
Sssd.used	1
In [16]:	mdmr.res.bray40 <- MDMR::mixed.mdmr(~Week*(1 Patient), data=meta.ordered40, D=BRAY40.DIST) mdmr.res.bray40  Warning message in CompQuadForm:davies(tilde.l[k], lambda = lambda, h = rep(df, : "Consider playing with 'lim' or 'acc'.") Warning message in CompQuadForm:davies(tilde.l[k], lambda = lambda, h = rep(df, : "Consider playing with 'lim' or 'acc'.") Warning message in CompQuadForm:davies(tilde.l[k], lambda = lambda, h = rep(df, : "Consider playing with 'lim' or 'acc'.") Warning message in CompQuadForm:davies(tilde.l[k], lambda = lambda, h = rep