1 Figures & Tables

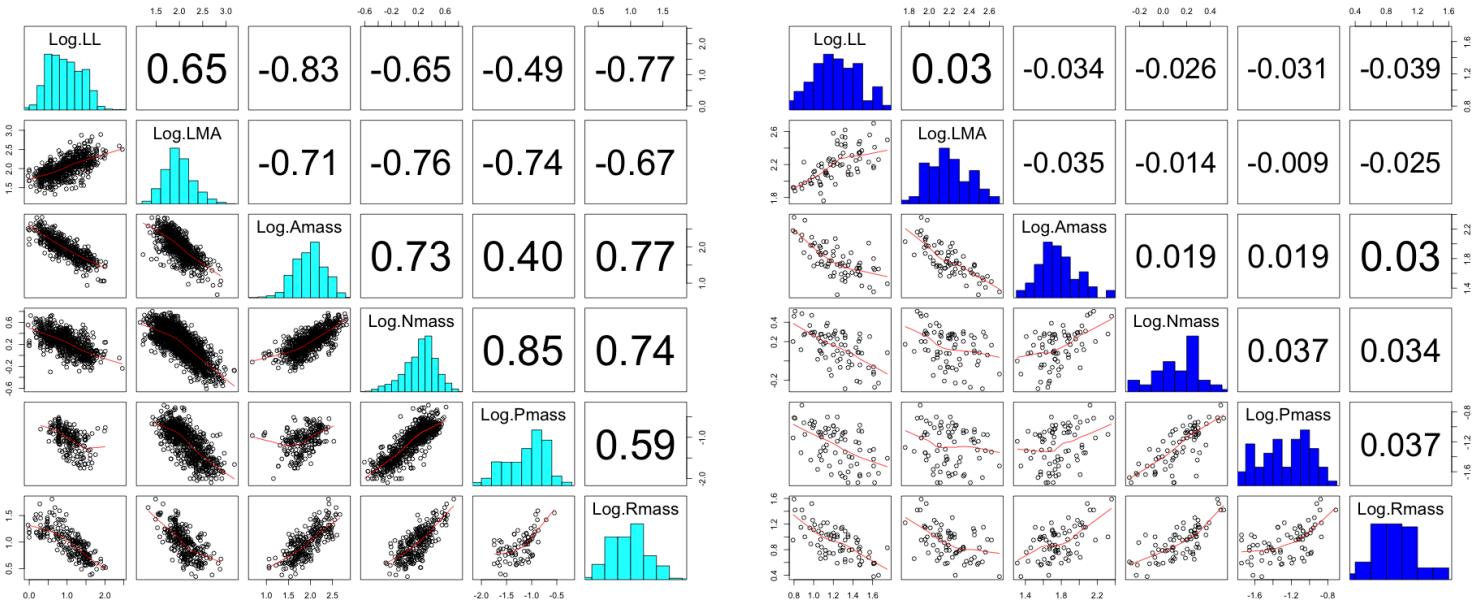

Figure 1: Visual summary of the GLOPNET dataset. The lower left half of the plot matrices show scatterplots of each combination of variables with with a regression line in red if the regression is statistically significant ($p < .01$). The top right half of the plot matrices show pairwise correlation values. The plots on the diagonals show histograms of the collected data. The lefthand matrix shows statistics for all the available data and the righthand matrix shows statistics excluding observations with missing values

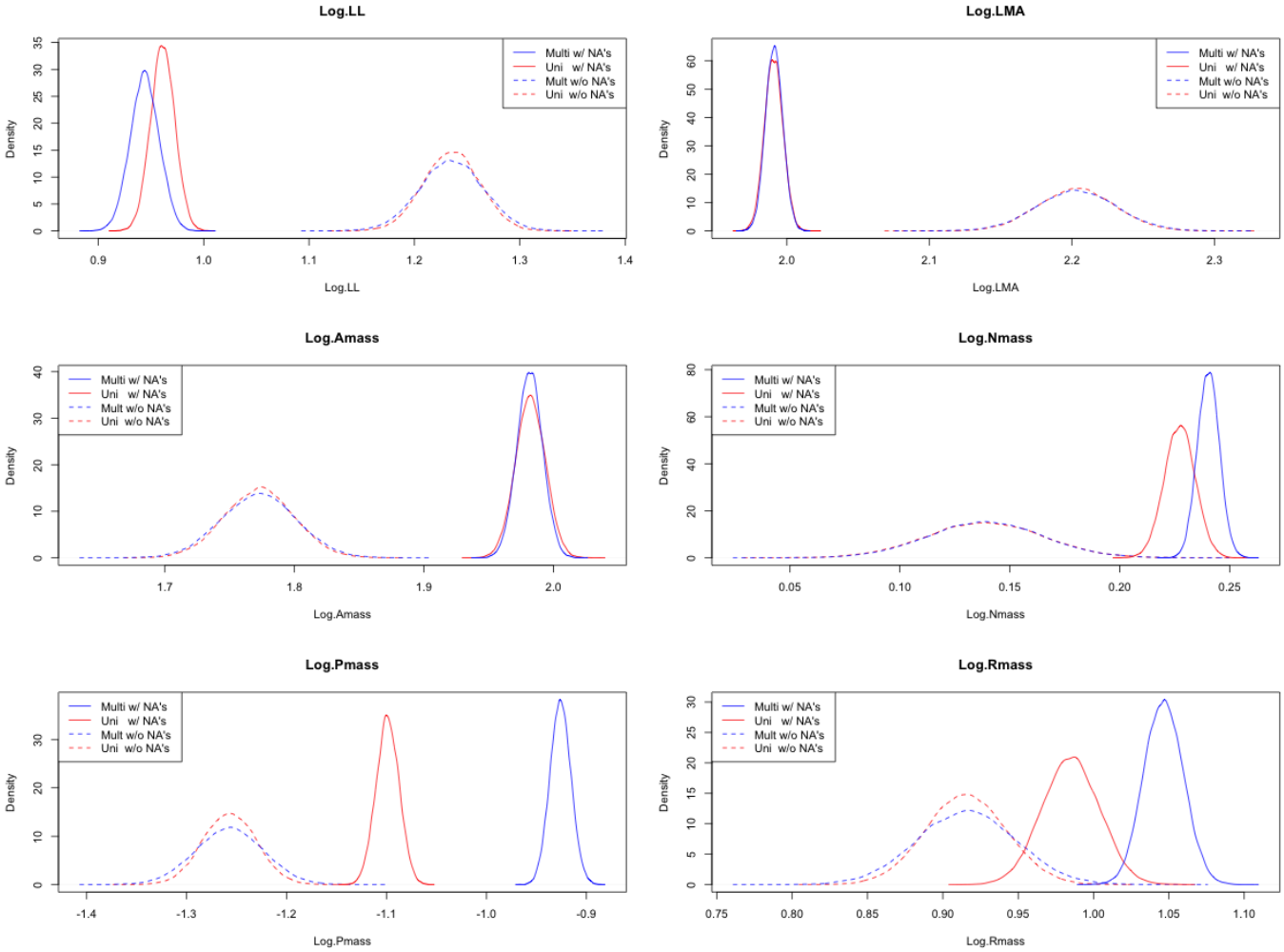

Figure 2: Posterior distributions for each plant trait after running the four model runs : univariate without NA's (red dashed), univariate with NA's (red solid), multivariate without NA's (blue dashed), multivariate with NA's (blue solid).

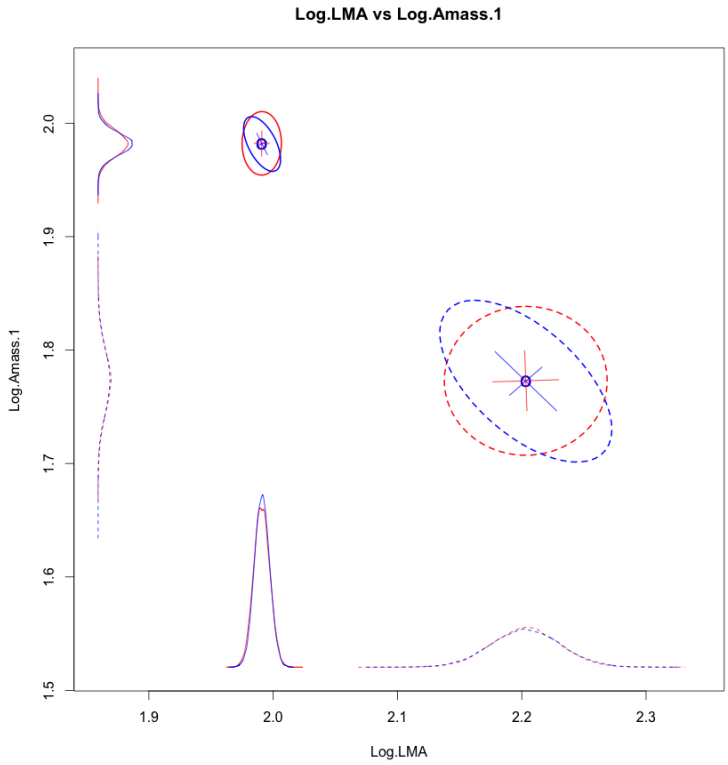

Figure 3: Joint density 95% confidence ellipses for the pairs of plant traits Log.LMA and Log.Amass for four model runs : univariate without NA's (red dashed), univariate with NA's (red solid), multivariate without NA's (blue dashed), multivariate with NA's (blue solid). Plotted inside each ellipse is the normalized eigenvectors of the covariance matrix. Along the x and y axes are plotted the corresponding probability density functions found in figure 2

Table S1: Ratios of the lengths of the major and minor axes of each joint density 95% confidence ellipse

	Univariate excluding NA	Multivariate excluding NA	Univariate including NA	Multivariate including NA
Log.LL vs Log.LMA	1.00	1.73	1.78	2.73
Log.LL vs Log.Amass	1.01	1.80	1.01	2.39
Log.LL vs Log.Nmass	1.01	1.68	1.65	3.36
Log.LL vs Log.Pmass	1.01	1.58	1.00	1.62
Log.LL vs Log.Rmass	1.00	1.88	1.65	1.45
Log.LMA vs Log.Amass	1.00	1.98	1.77	2.28
Log.LMA vs Log.Nmass	1.01	1.32	1.08	2.43
Log.LMA vs Log.Pmass	1.01	1.26	1.78	2.15
Log.LMA vs Log.Rmass	1.01	1.53	2.93	2.33
Log.Amass vs Log.Nmass	1.01	1.48	1.64	2.67
Log.Amass vs Log.Pmass	1.01	1.37	1.01	1.50
Log.Amass vs Log.Rmass	1.01	1.60	1.66	1.62
Log.Nmass vs Log.Pmass	1.00	2.07	1.65	2.85
Log.Nmass vs Log.Rmass	1.01	1.96	2.72	2.87
Log.Pmass vs Log.Rmass	1.01	1.64	1.65	1.37

Table S2: Correlation matrix for the six plant traits in the GLOPNET database, excluding observations with missing values

	Log.LL	Log.LMA	Log.Amass	Log.Nmass	Log.Pmass	Log.Rmass
Log.LL	0.0512	0.0301	-0.0335	-0.0255	-0.0310	-0.0392
Log.LMA	0.0301	0.0422	-0.0345	-0.0138	-0.0090	-0.0249
Log.Amass	-0.0335	-0.0345	0.0468	0.0195	0.0191	0.0297
Log.Nmass	-0.0255	-0.0138	0.0195	0.0342	0.0372	0.0339
Log.Pmass	-0.0310	-0.0090	0.0191	0.0372	0.0690	0.0368
Log.Rmass	-0.0392	-0.0249	0.0297	0.0339	0.0368	0.0637

Table S3: Posterior correlation matrix from the multivariate model for the six plant traits in the GLOPNET database, excluding observations with missing values

	Log.LL	Log.LMA	Log.Amass	Log.Nmass	Log.Pmass	Log.Rmass
Log.LL	0.0661	0.0305	-0.0340	-0.0258	-0.0315	-0.0397
Log.LMA	0.0305	0.0571	-0.0350	-0.0140	-0.0091	-0.0252
Log.Amass	-0.0340	-0.0350	0.0618	0.0198	0.0194	0.0302
Log.Nmass	-0.0258	-0.0140	0.0198	0.0489	0.0377	0.0343
Log.Pmass	-0.0315	-0.0091	0.0194	0.0377	0.0843	0.0372
Log.Rmass	-0.0397	-0.0252	0.0302	0.0343	0.0372	0.0789

Table S4: Posterior correlation matrix from the multivariate model for the six plant traits in the GLOPNET database, including observations with missing values

	Log.LL	Log.LMA	Log.Amass	Log.Nmass	Log.Pmass	Log.Rmass
Log.LL	0.2481	0.1052	-0.1625	-0.0855	-0.1272	-0.1221
Log.LMA	0.1052	0.0902	-0.0860	-0.0524	-0.0747	-0.0655
Log.Amass	-0.1625	-0.0860	0.1445	0.0688	0.0955	0.0941
Log.Nmass	-0.0855	-0.0524	0.0688	0.0558	0.0701	0.0573
Log.Pmass	-0.1272	-0.0747	0.0955	0.0701	0.1329	0.0790
Log.Rmass	-0.1221	-0.0655	0.0941	0.0573	0.0790	0.0977

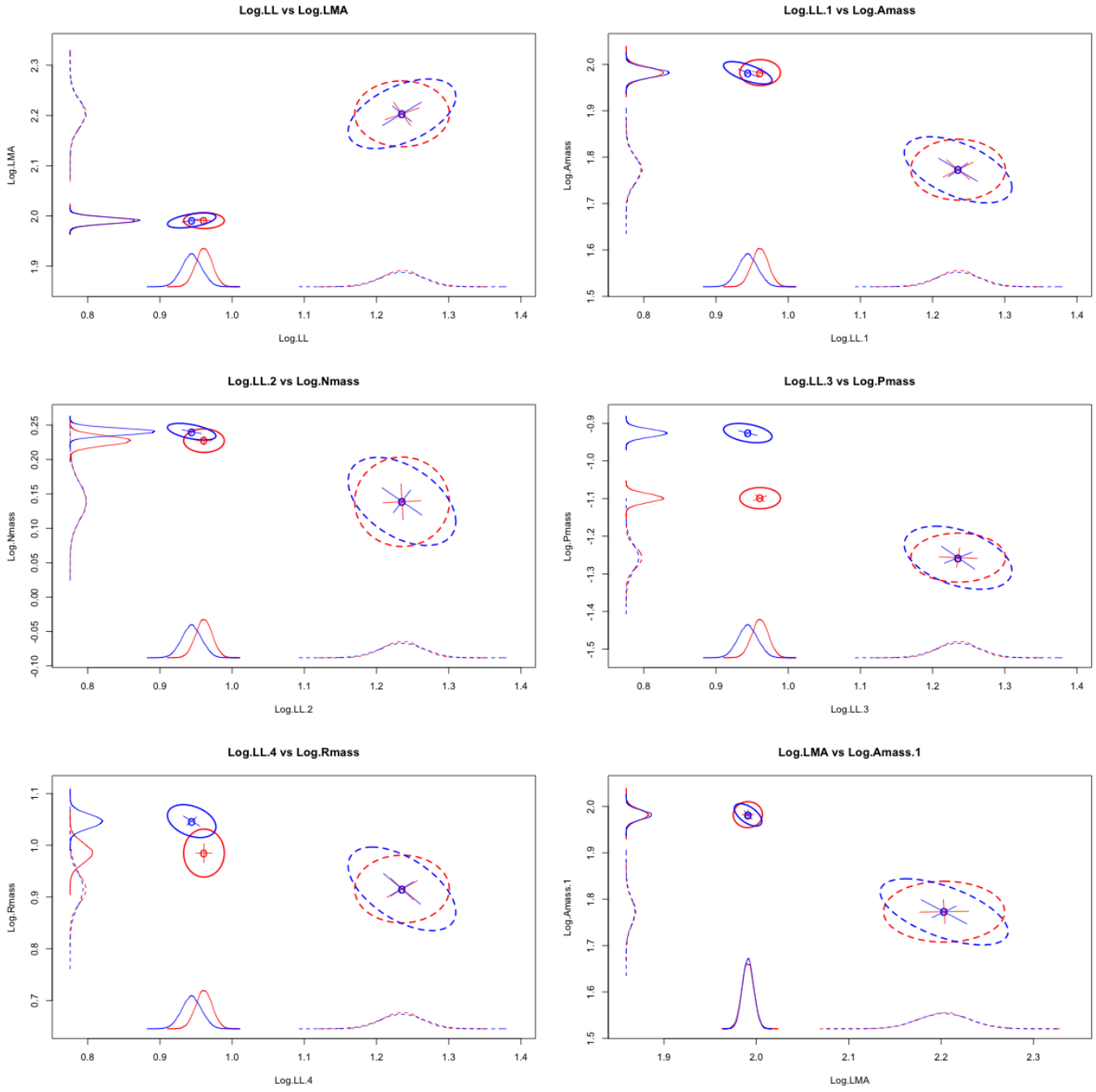

Figure S1: Joint density 95% confidence ellipses for pairs of plant traits corresponding with the four model runs : univariate without NA's (red dashed), univariate with NA's (red solid), multivariate without NA's (blue dashed), multivariate with NA's (blue solid). Plotted inside each ellipse is the normalized eigenvectors of the covariance matrix. Along the x and y axes are plotted the corresponding probability density functions found in figure 2

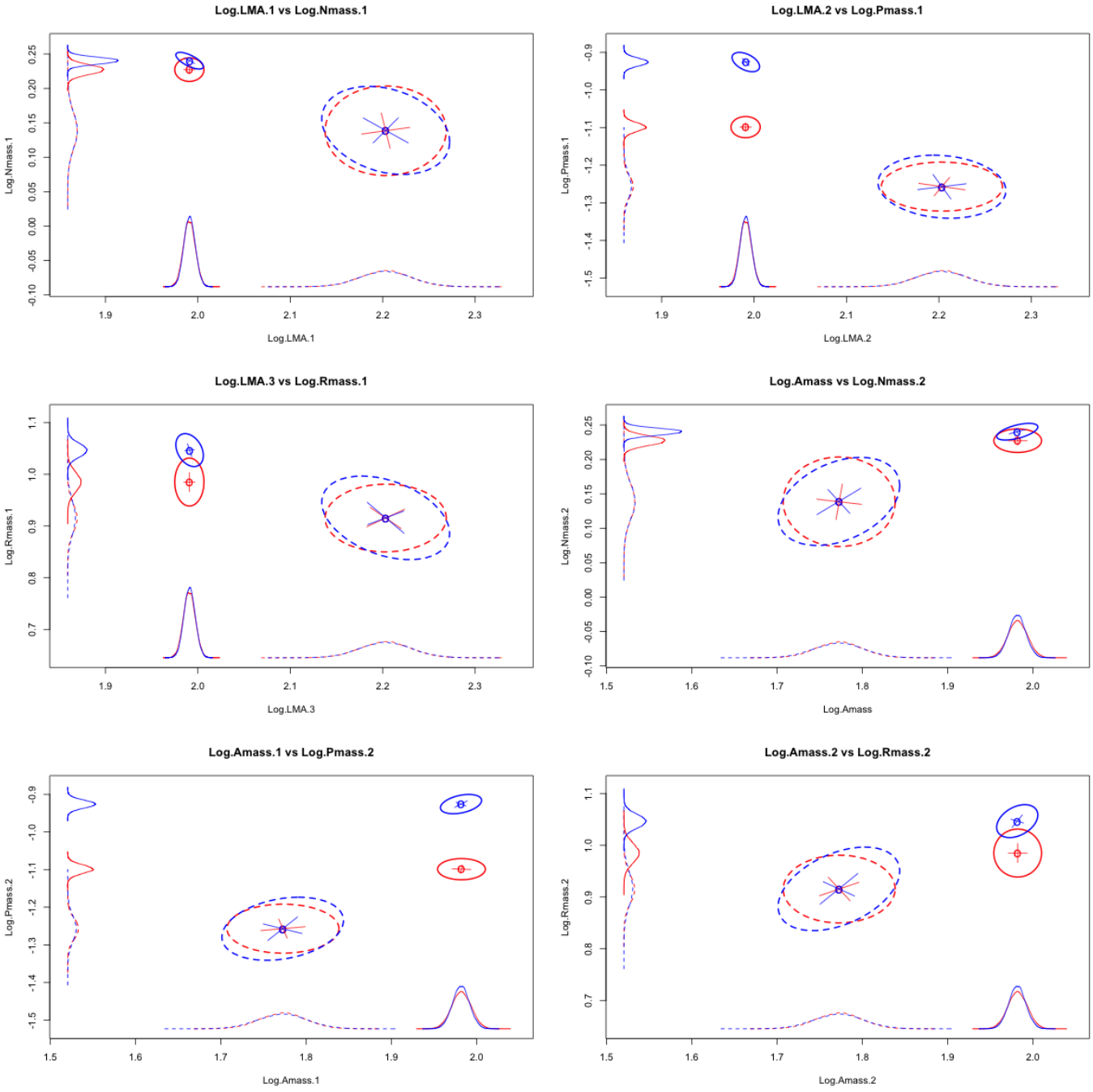

Figure S2: Joint density 95% confidence ellipses for pairs of plant traits corresponding with the four model runs : univariate without NA's (red dashed), univariate with NA's (red solid), multivariate without NA's (blue dashed), multivariate with NA's (blue solid). Plotted inside each ellipse is the normalized eigenvectors of the covariance matrix. Along the x and y axes are plotted the corresponding probability density functions found in figure 2

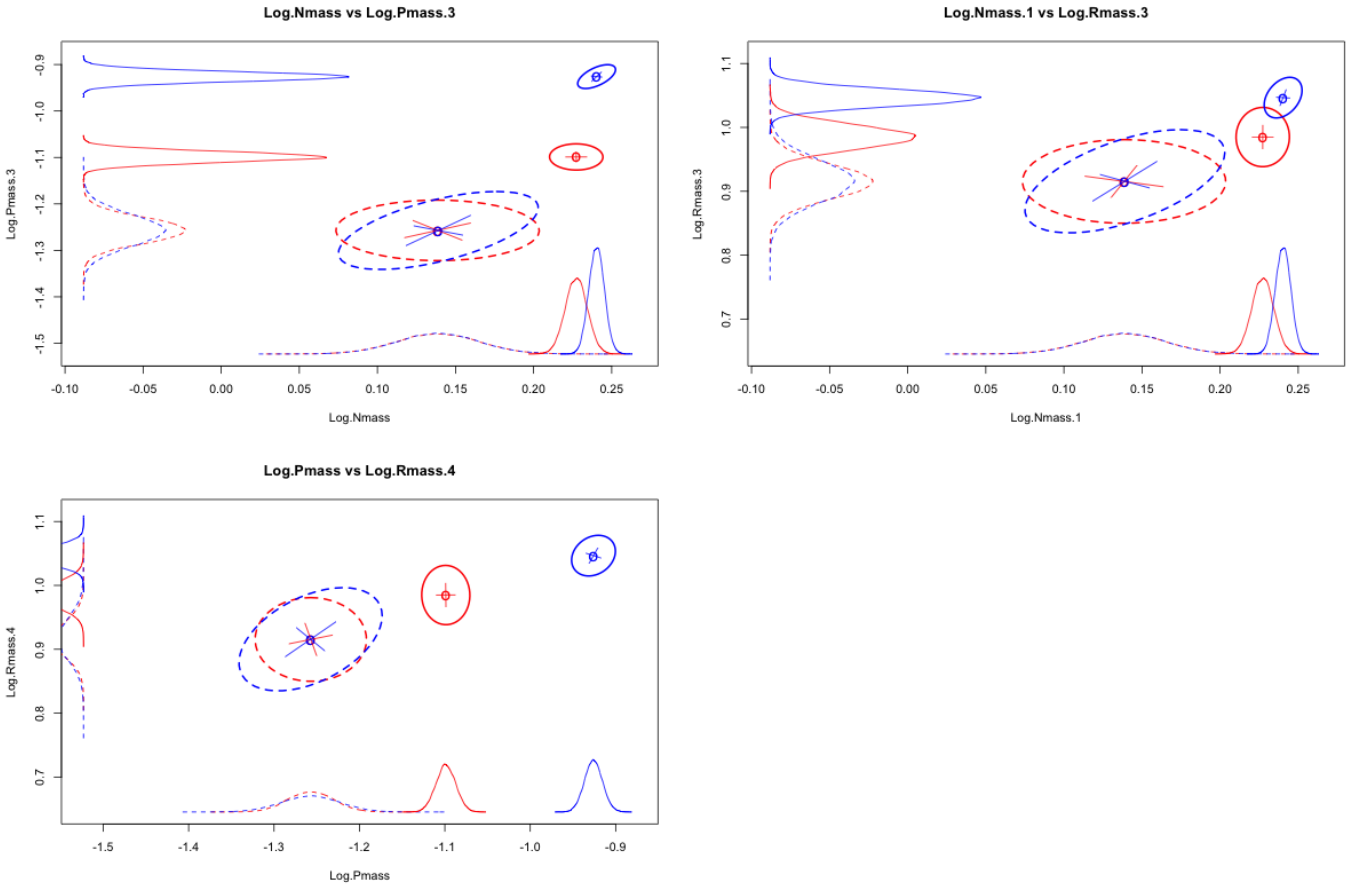

Figure S3: Joint density 95% confidence ellipses for pairs of plant traits corresponding with the four model runs : univariate without NA's (red dashed), univariate with NA's (red solid), multivariate without NA's (blue dashed), multivariate with NA's (blue solid). Plotted inside each ellipse is the normalized eigenvectors of the covariance matrix. Along the x and y axes are plotted the corresponding probability density functions found in figure 2