

Appendix M Cross-Pollutant Correlations

The following section reviews the correlations between pollutants using the 'corPlot' (Carslaw, 2014) function from the OpenAir package. Figure M1 Cross-Pollutant Correlation Plot - 14/03/2014

to Figure M8 Cross-Pollutant Correlation Plot – 15/08/2014

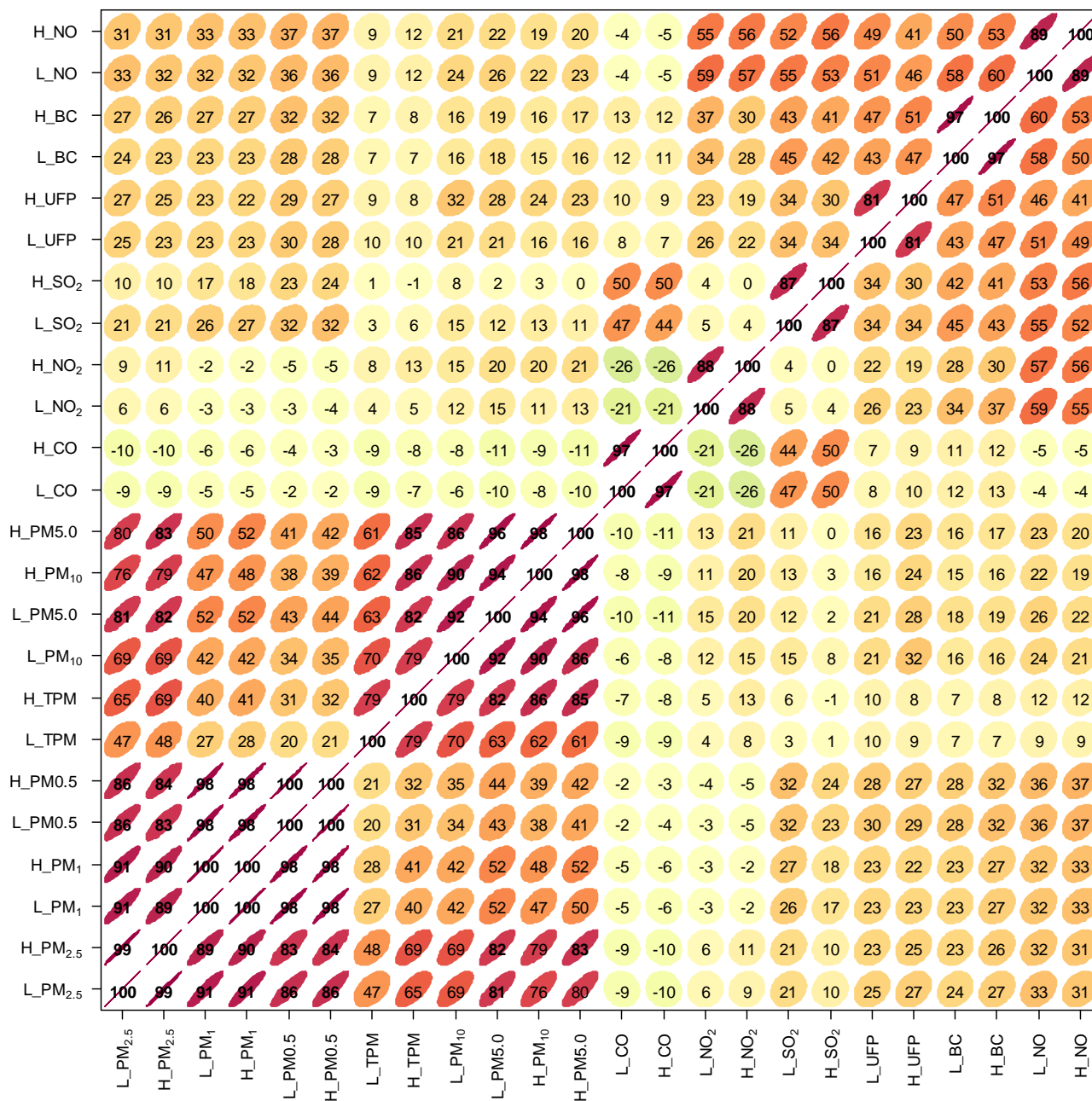
show matrices of the linear correlation coefficients between 1-minute average pollutant concentrations measured at 0.80 m and 1.68 m for each mobile monitoring exercise. A correlation matrix using data from all mobile monitoring exercises is provided in Figure M9 Cross-Pollutant Correlation Plot – All Data

The linear correlation coefficient is the square root of the coefficient of determination ($r = \sqrt{r^2}$), detailed in Appendix A, and is given between -100% (-1.0) to 100% (1.0) with a value of 100% indicating a 1:1 relationship. A positive value for r indicates a proportional relationship and a negative values an inversely proportion relationship. Similarly to r^2 , the following strength of correlation are defined:

- 0 to ± 0.2 = weak, slight
- ± 0.2 to ± 0.4 = mild/modest
- ± 0.4 to ± 0.6 = moderate
- ± 0.6 to ± 0.8 = moderately strong
- ± 0.8 to ± 1.0 = strong

Cluster analysis is also applied to the matrices through this function, which groups similar variables to one another.

Figure M1 Cross-Pollutant Correlation Plot - 14/03/2014



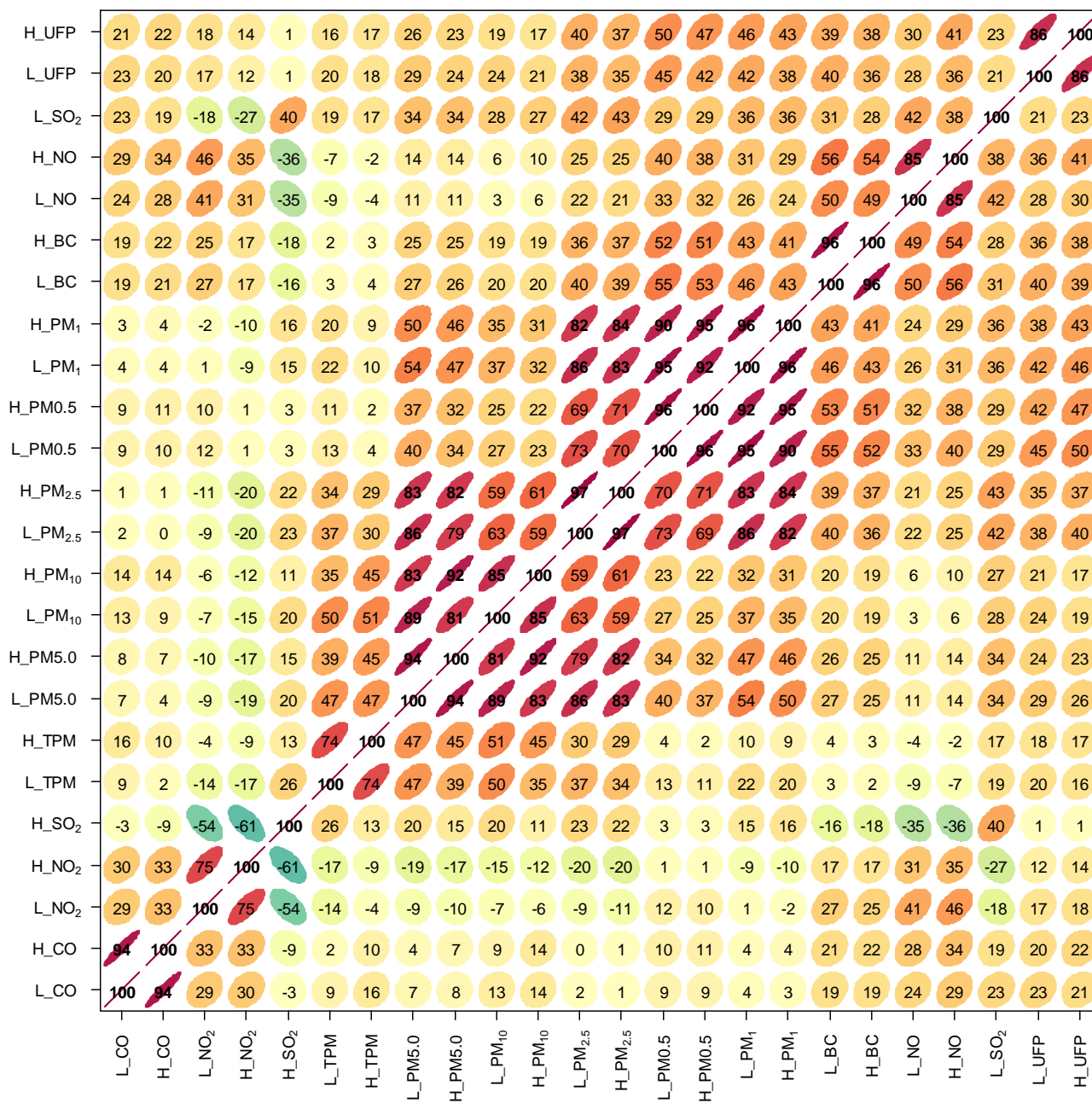


Figure M2 Cross-Pollutant Correlation Plot – 10/04/2014

Figure M3 Cross-Pollutant Correlation Plot – 21/05/2014

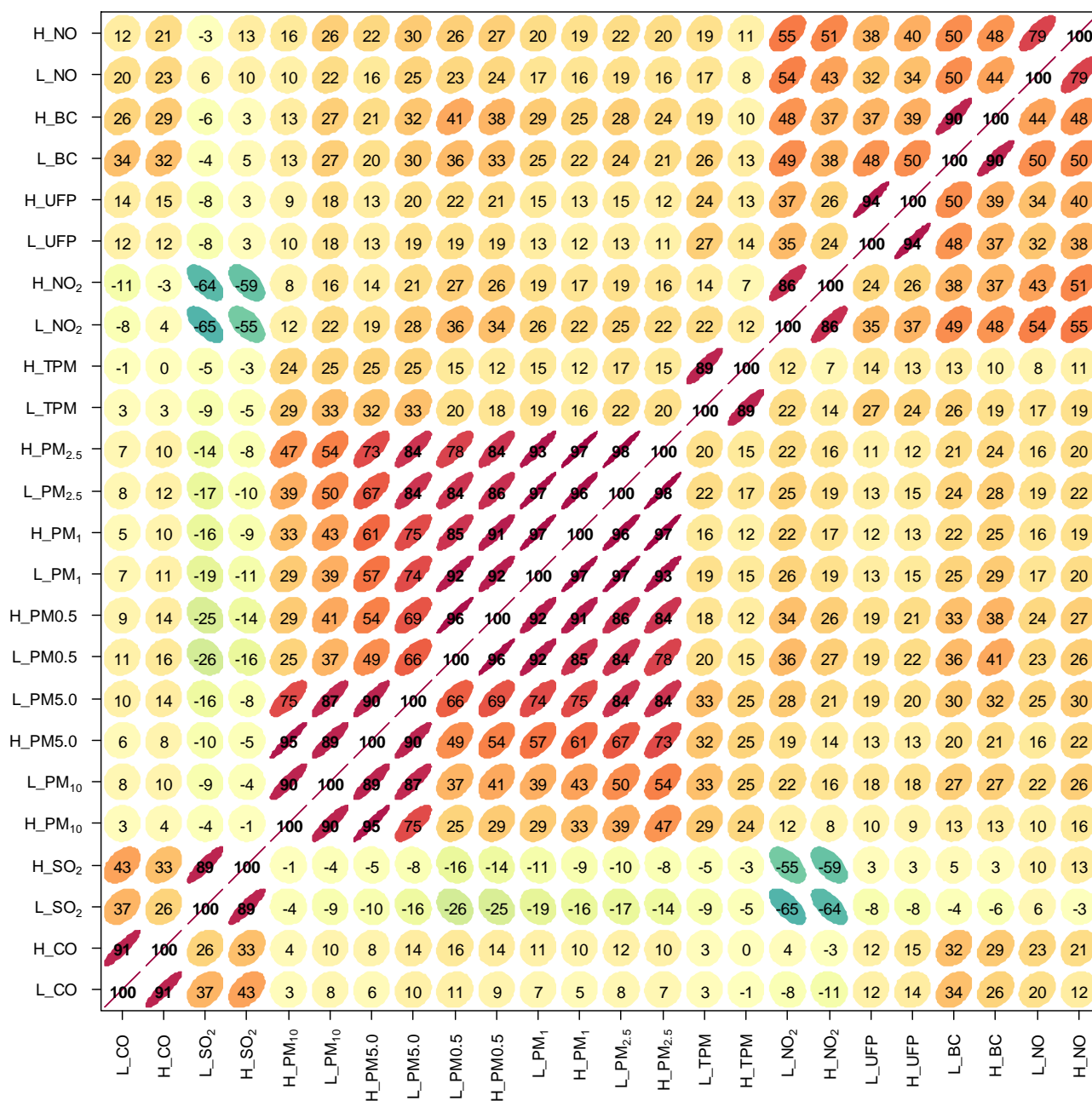


Figure M4 Cross-Pollutant Correlation Plot – 23/06/2014

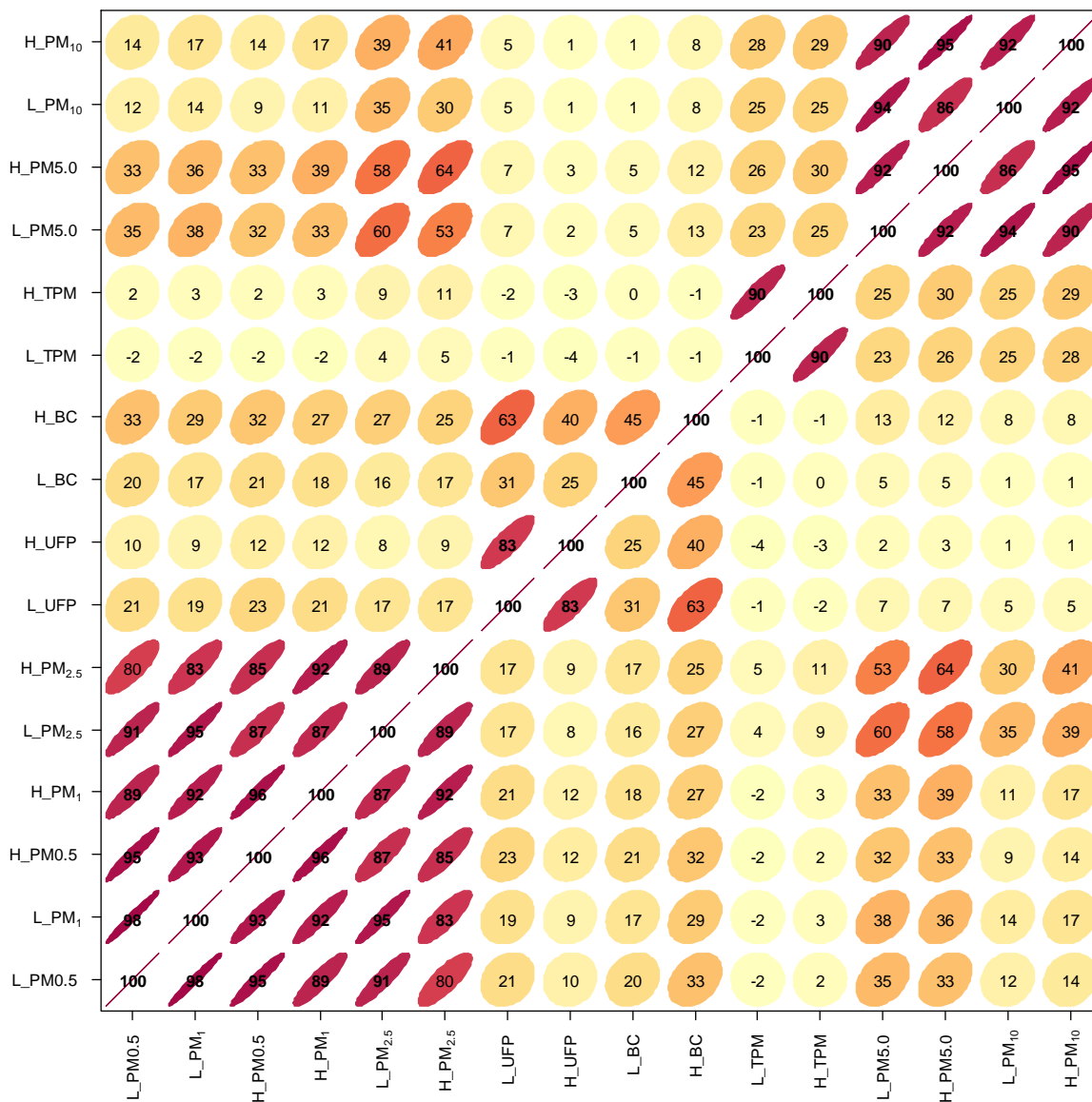


Figure M5 Cross-Pollutant Correlation Plot – 08/07/2014

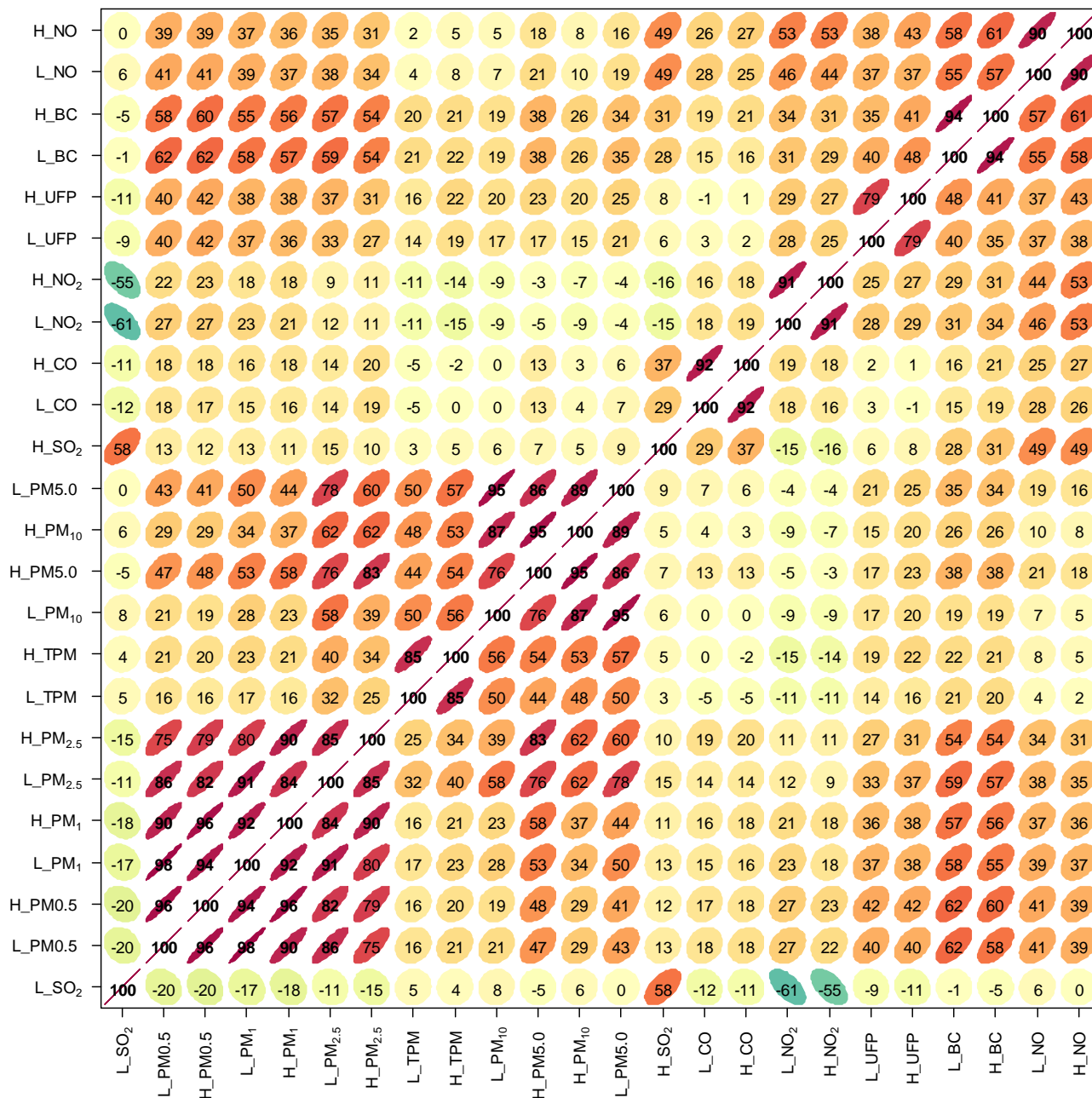


Figure M6 Cross-Pollutant Correlation Plot – 13/07/2014

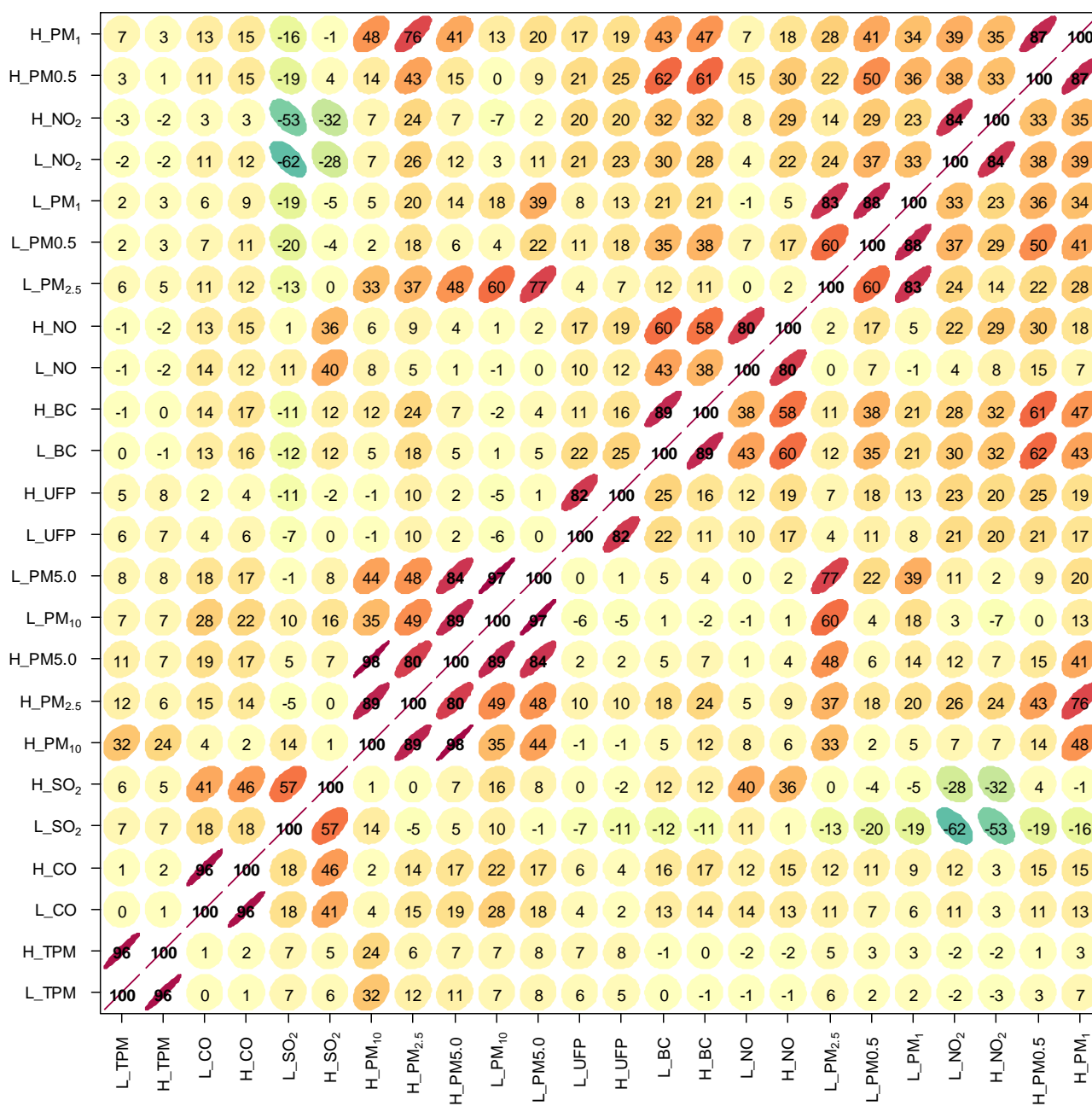
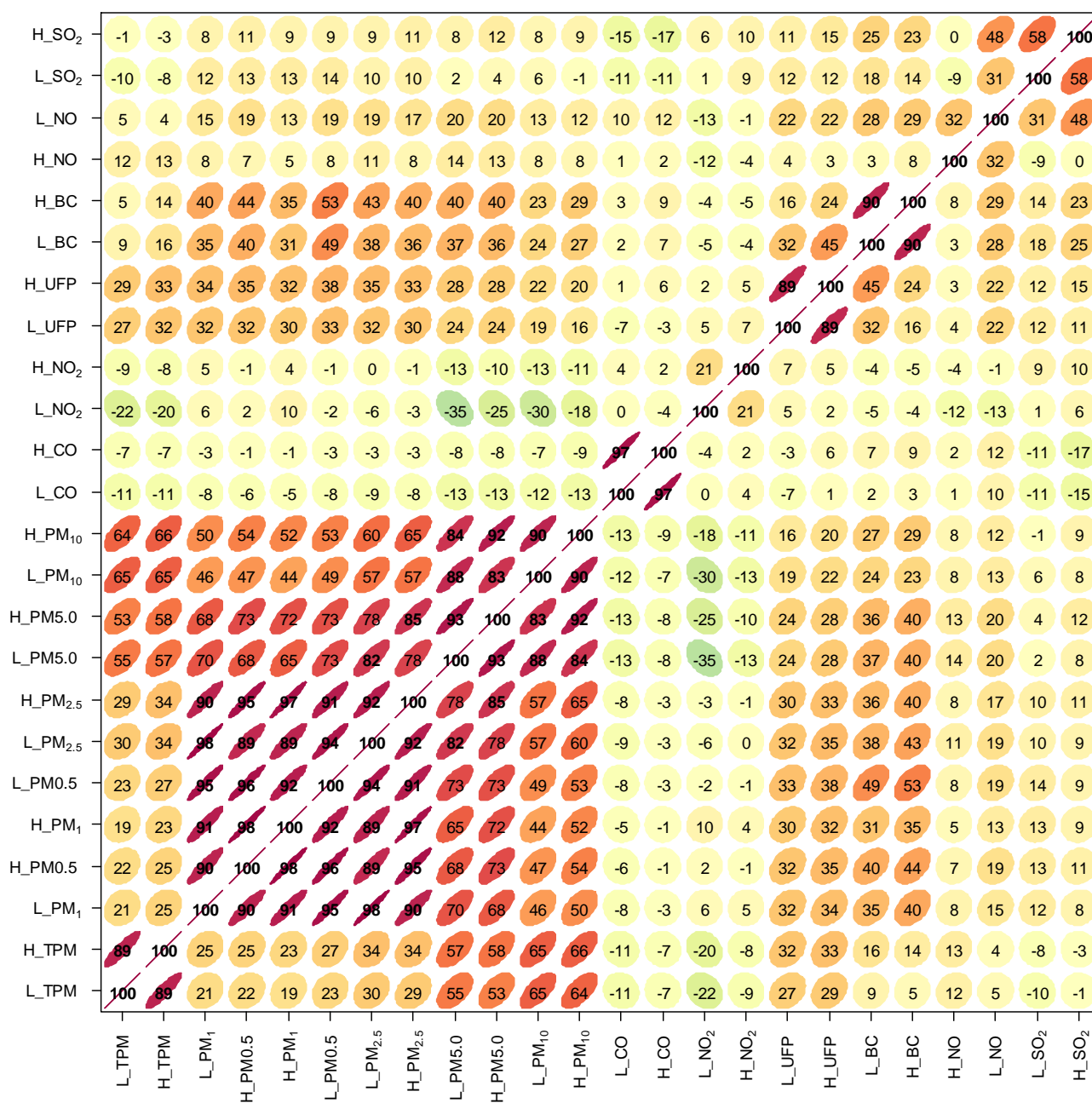


Figure M7 Cross-Pollutant Correlation Plot – 09/08/2014



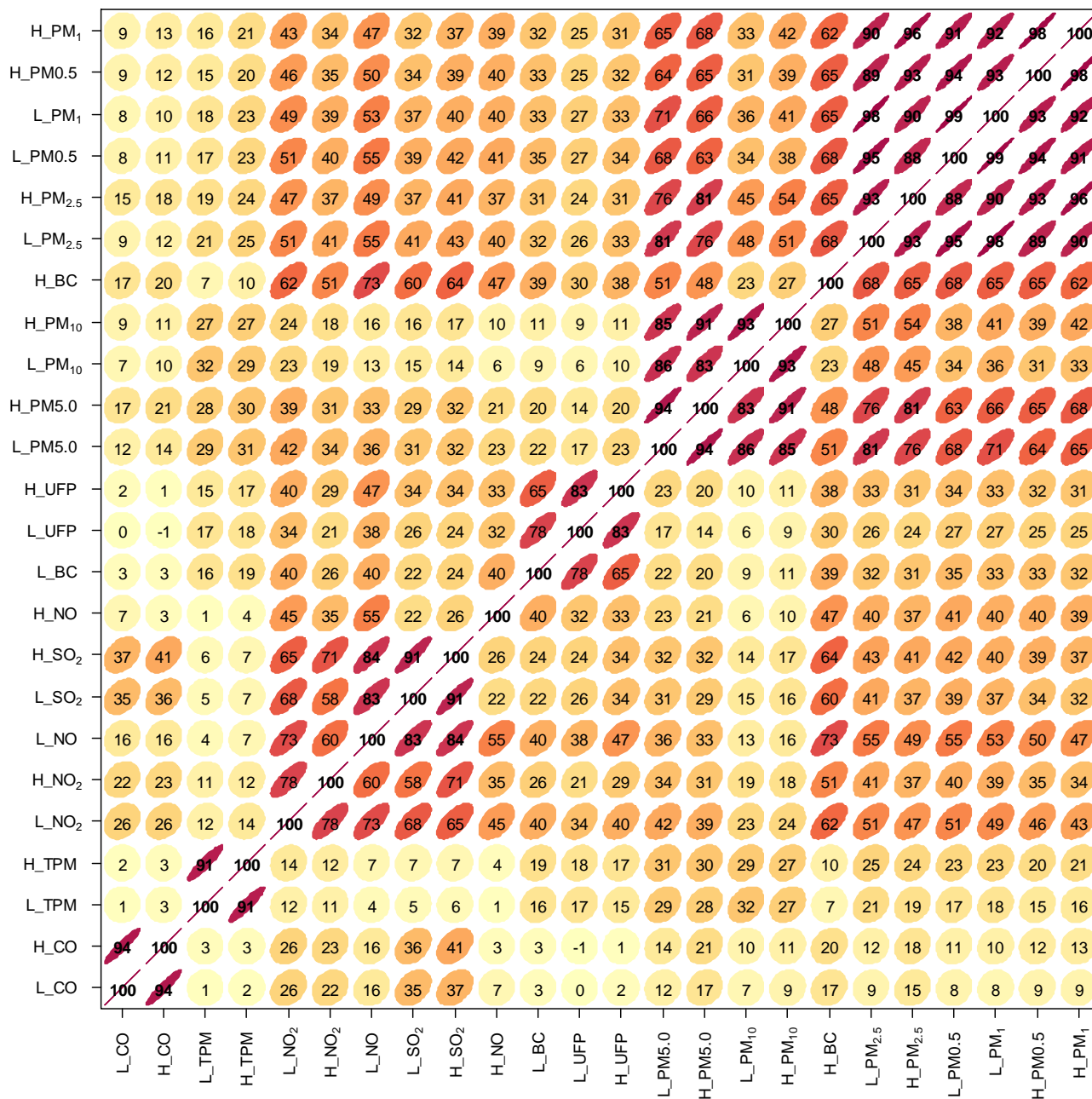


Figure M8 Cross-Pollutant Correlation Plot – 15/08/2014

Figure M9 Cross-Pollutant Correlation Plot – All Data

