Supporting Information

Impact of roadside tree lines on indoor concentrations of traffic-derived particulate matter

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This document contains 6 pages and 4 Figures

Instrumentation details, magnetic measurements.

The 'saturation' remanence ($SIRM_{0.3T}$) was acquired by subjecting the screen swabs and birch tree leaf samples to an applied dc magnetic field of 0.3 T generated using a Molspin pulse magnetizer. All leaf remanence values were measured using a Molspin Minispin magnetometer (sensitivity level ~ 0.1 x 10^{-8} Am^2) and normalized for upper leaf surface area. The magnetometer was calibrated routinely (i.e. after ~ ten sample measurements) against a magnetically-stable, independently-calibrated laboratory rock specimen. All magnetic measurements were made at the Centre for Environmental Magnetism & Palaeomagnetism, Lancaster University.

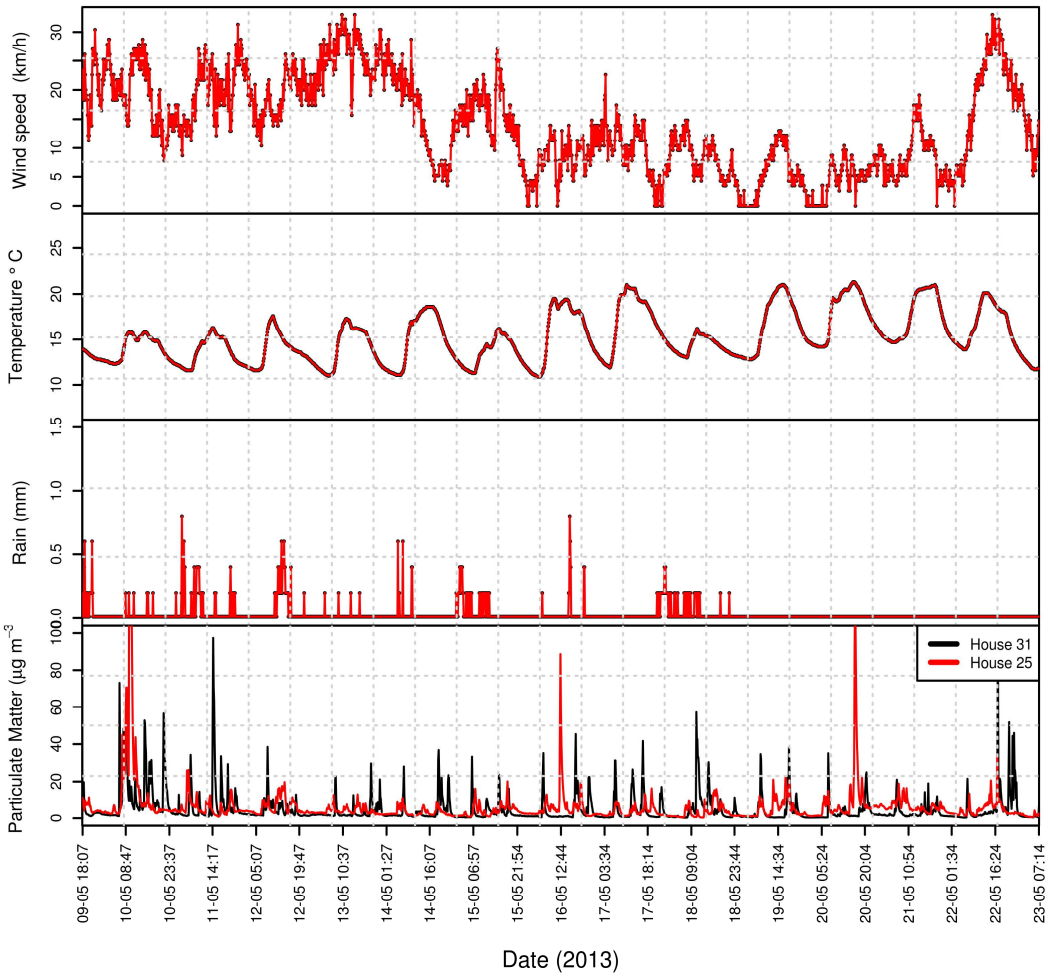

Figure S1. Meteorological data (wind speed, temperature, rain) from Hazelrigg Weather Station, and PM_{10} (µg m^{-3}) measured inside the two monitored houses 31 and 25, from May 9 – 23 2013.

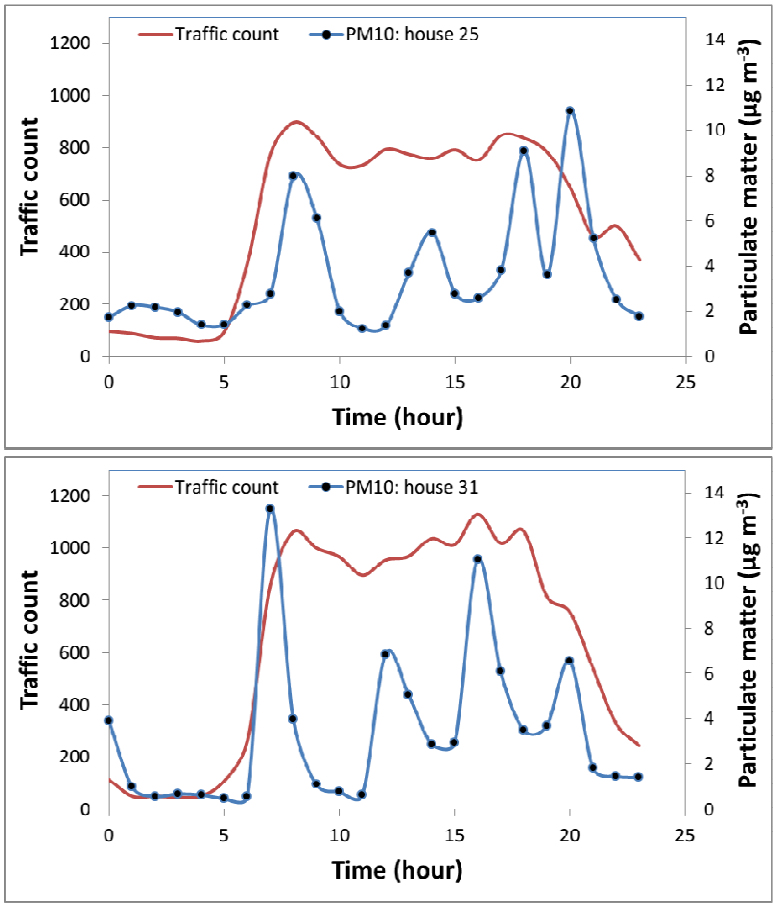

Figure S2. Traffic count data and indoor PM_{10} concentrations (hourly sums) from a) house 25 and b) house 31.

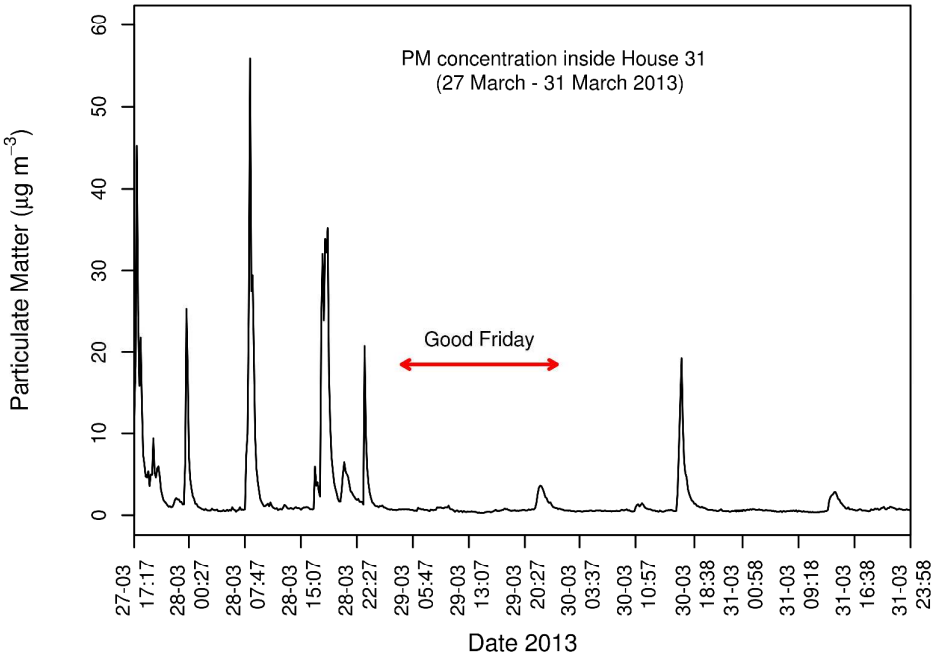

Figure S3. PM_{10} concentration inside house 31 from March 27 – 31 2013, showing the weekday PM_{10} peaks associated with rush hour traffic flows, in contrast to the very low PM_{10} concentrations during Good Friday (29/3/2013, a public holiday in the U.K.) and the following Easter Saturday and Sunday.

Leaf sampling protocol for SEM/EDX.

At the end of the experiment, at least 20 leaves were collected from each tree from the road-distal and -proximal sides for both magnetic and SEM analyses. We selected 4 leaves from each tree organised in two groups: two leaves collected from the side facing the main road and two from the side facing the houses. Then we randomly selected 4 leaves from each group for analysis by SEM.

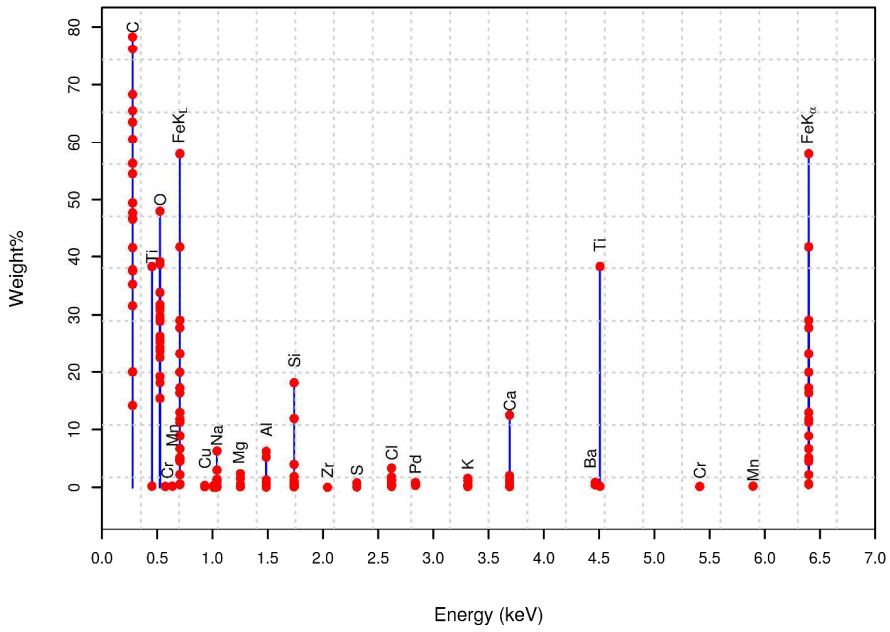

Figure S4. Compilation of SEM-EDXA data from analyses (18) of particle aggregates deposited on the birch leaves. The weight% represents the weight per cent concentration of the element in the analysed region of the sample.