**Metadata**

Sokol & Bradford. ‘Microbial formation of stable soil carbon more efficient from below- than above-ground inputs.’ *Nature Geoscience* 2018.

The file Pathway.csv contains all the data associated with the main microcosm experiment. All data associated with the additional assay (i.e. the field-isolated rhizosphere and bulk communities) can be found in the supplementary information of the article.

Note that six data points are missing for stable 13C-MASOC, as these six samples were lost during the chemical stabilization assay due to human error (see Methods section).

All values are expressed in µg of C. For all response variables, the suffix “.Conc” (i.e. columns 5 to 10) refer to the fact that the value is expressed as a concentration of 13C per gram of either rhizosphere or bulk soil (based on the region-of-entry for a particular treatment – shown in the column ‘Region.of.Entry’ and described in detail in the Methods section of the manuscript). All values shown contain the prefix 13C, to indicate that they are the amount of 13C recovered within a C pool, with the exception of ‘MBC.All.Conc’ which shows the combined value of 12C + 13C microbial biomass C.

The suffix ‘.Microcosm’ (i.e. columns 11 – 16) refers to the fact that the value is expressed as the total of amount of 13C recovered within the entire microcosm unit (i.e. 221 dry grams of soil).

MASOC = mineral-associated soil organic carbon

POC = particulate organic carbon

Stable 13C-MASOC = the subset of MASOC that remained after a chemical stabilization assay (see Methods for details)

MBC = microbial biomass carbon

DOC = dissolved organic carbon

ORG = organic horizon carbon

Percent.Stabilized.Microcosm = the percentage of total added 13C that was recovered in the stable MASOC pool at the end of the experimental period within the whole microcosm.