

## **Description of Additional Supplementary Files**

File Name: Supplementary Data 1

Description: Common diseases and prescription medications (found in at least 1% of cohort investigated) within the TwinsUK cohort.

File Name: Supplementary Data 2

Description: Mapping of the 206 gut microbiome features considered to their marker in the 68 marker features used in analyses. The marker is the one selected to have a Spearman correlation of at least 0.8 to the trait, although a trait could also be this correlated with multiple markers.

File Name: Supplementary Data 3

Description: Results from logistic regression analysis of diseases versus microbiome markers.

File Name: Supplementary Data 4

Description: Results from logistic regression analysis of disorders versus microbiome features only adjusting for BMI, age, or neither.

File Name: Supplementary Data 5

Description: Results from logistic regression analysis of prescription medication-classes versus microbiome features.

File Name: Supplementary Data 6

Description: Table showing the overlap of data used to calculate the correlations between the diseases and medication use in Figures 1b and 3b.