

HUMAN MICROBIOME MULTIPLEX NETWORK

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Reference and Acknowledgments

This README file accompanies the dataset representing the multiplex microbiome network. If you use this dataset in your work either for analysis or for visualization, you should acknowledge/cite the following papers:

```
"Dynamics and associations of microbial community types across the human
T. Ding and P. Schloss
Nature 2014 509, 357–360
```

```
"Spectral Entropies as Information-Theoretic Tools for Complex Network C
M. De Domenico and J. Biamonte
Physical Review X 2016 6, 041062
```

that can be found at the following URLs:

<https://www.nature.com/articles/nature13178>

<https://journals.aps.org/prx/abstract/10.1103/PhysRevX.6.041062>

Description of the dataset

We consider different types of microbial communities across the human body, building an interaction network for each of 18 distinct human body sites. We have elaborated the resulting network from the original work by Ding and Schloss (see above).

The multiplex network used in the paper makes use of the following layers:

1. Anterior_nares
2. Buccal_mucosa
3. Hard_palate
4. Keratinized_gingiva

5. *LAntecubitalfossa*
6. *LRetroauricularcrease*
7. Mid_vagina
8. Palatine_Tonsils
9. Posterior_fornix
10. *RAntecubitalfossa*
11. *RRetroauricularcrease*
12. Saliva
13. Stool
14. Subgingival_plaque
15. Supragingival_plaque
16. Throat
17. Tongue_dorsum
18. Vaginal_introitus

There are 305 nodes, labelled with integer ID between 1 and 305, and 4433 connections. The multiplex is undirected and unweighted, stored as edges list in the file

```
HumanMicrobiome_multiplex.edges
```

with format

```
layerID nodeID nodeID weight
```

(Note: weight is 1 for all edges)

The IDs of all layers are stored in

```
HumanMicrobiome_layers.txt
```

The IDs of nodes, together with their name can be found in the file

```
HumanMicrobiome_nodes.txt
```

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Contacts

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