www.sciencemag.org/content/345/6200/1048/suppl/DC1

Supplementary Material for

Longitudinal analysis of microbial interaction between humans and the indoor environment

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Published 29 August 2014, *Science* **345**, 1048 (2014)
DOI: 10.1126/science.1254529

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Materials and Methods

Sample Collection

Seven households were recruited to this study, including three families who moved to a new house during the course of the study and four families who remained new or long term occupants of a single home for the duration of sampling. Six houses were located in Illinois, two houses were located in Washington State, and two houses were located in California. In total, 15 adults, 3 children, 3 dogs, and 1 cat contributed samples from their nasal cavity, hand, and foot heel to this investigation. These samples were collected by the participants by rubbing sterile swabs pre-moistened with 0.15M saline solution on each body site of interest every other day for six weeks. In addition, samples were collected in the same manner and frequency from the front doorknob, bathroom doorknob, bedroom floor, kitchen floor, kitchen counter, and kitchen light switch. At each time point, participants recorded the day and time. Freezers were provided to each household to allow short-term storage of samples at -20°C pending shipment or transport by car to Argonne National Laboratory on dry ice. Temperature and relative humidity sensors were placed in each home's bedroom, bathroom, and kitchen, and measurements were recorded at an interval of five minutes throughout the six-week study period. All interaction with participants and data processing was conducted in accordance with University of Chicago IRB 12-0123.

Amplicon Library Preparation

All samples were processed using a modified version of the manufacturer's protocol of the Extract-N-Amp kit (Sigma-Aldrich). Swabbed tips were placed into 2ml 96-well Deep Well plates (Axygen). 200µl of Extract-N-Amp Extraction solution was added, vortexed for 5 seconds, and incubated at 90°C for 10 minutes. Samples were centrifuged a 2,500 x g for 1 minute. 200µl of Extract-N-Amp Dilution solution was added to each sample to obtain a 1:1 ratio of extraction to dilution solution. Genomic DNA was amplified using the Earth Microbiome Project barcoded primer set, adapted for Illumina HiSeq2000 and MiSeq by adding nine extra bases in the adapter region of the forward amplification primer that support paired-end sequencing. The V4 region of the 16S rRNA gene (515F-806R) was amplified with region-specific primers that included the Illumina flowcell adapter sequences. The reverse amplification primer also contained a twelve base barcode sequence that supports pooling of up to 2,167 different samples in each lane (***20***). Each 20µl PCR reaction contains 5µl of MoBio PCR Water (Certified DNA-Free), 10µl of Extract-N-Amp Ready Mix, 1µl of Forward Primer (5uM concentration, 200pM final), 1µl Golay Barcode Tagged Reverse Primer (5µM concentration, 200pM final), and 4µl of template DNA. The conditions for PCR were as follows: 94°C for 3 minutes to denature the DNA, with 35 cycles at 94°C for 45s, 50°C for 60s, and 72°C for 90s; with a final extension of 10 minutes at 72°C to ensure complete amplification. PCR amplifications were completed in triplicate, and then pooled. Following pooling, amplicons were quantified using PicoGreen (Invitrogen) and a plate reader. Once quantified, different volumes of each of the products were pooled into a single tube so that each amplicon was represented equally. This pool was then

cleaned using the UltraClean® PCR Clean-Up Kit (MoBIO) and quantified using Qubit (Invitrogen). After quantification, the molarity of the pool was determined and diluted to 2nM, denatured, and then diluted to a final concentration of 4pM with a 30% PhiX spike for loading on the Illumina HiSeq2000 sequencer. Amplicons were then sequenced in a 151bp×12bp HiSeq2000 run using custom sequencing primers and procedures described in the supplementary methods of (***20***).

Sequence Processing and Analysis

Unpaired 151 bp reads were screened for high quality using four criteria. Reads were required to have (1) an exact match to an expected multiplex barcode sequence, (2) zero ambiguous base calls, and (3) a minimum Phred score of 20 across the entire length of the read. In addition, (4) reads were discarded if they matched with 100% identity to a read from a negative control, that is, pre-moistened swabs returned unopened by the participants and processed alongside the other samples.

Downstream processing of sequence data utilized the QIIME v1.6.0-dev software suite (***21***). Samples with more than 12,000 sequences were randomly subsampled to 12,000 sequences, then all 13,953,338 reads were clustered de novo using the QIIME script pick_otus.py at 97% identity. Clusters containing fewer than 10 sequences were discarded, reducing the number of clusters from 136,631 to 22,148. A representative sequence from each of these 22,148 clusters was phylogenetically classified using the QIIME script assign_taxonomy.py with the Greengenes 12.10 database. An OTU table constructed from these clusters was rarefied to a depth of 2,500 sequences. All sequence data was submitted to the EBI's database under accession number ERP005806.

Analysis of beta-diversity was performed by calculating the pairwise weighted UniFrac (***22***) distance between each pair of samples, and the resulting distance matrix was used for all downstream statistical tests of sample similarity. The significance of sample groupings was assessed using ANOSIM (QIIME's *compare_categories.py* script) for categorical variables and Mantel tests (*compare_distance_matricies.py*) for continuous environmental metadata. In all cases, statistical significance was calculated by comparing the R statistic to a distribution generated by 10,000 permutations of the randomized dataset.

Tests employing unweighted UniFrac distance produced uniformly higher ANOSIM results and similarly significant p-values, although weighted UniFrac distance is used throughout the study to minimize the effect the limited number of reads per sample may have on the detection of low abundance OTUs.

Random Forest Models

Random forest supervised learning models were used to determine the diagnostic power of microbial community profiles in predicting the house or surface a sample originated from. These models form "decision trees" using a subset of samples to identify patterns associated with a metadata category, and then test the accuracy of the tree on the remaining samples not used for training. Each model runs a number of independent trees, and reports the ratio of model error to random error as a metric for the predictive power of the category's microbial communities. A greater ratio of baseline to model error

indicates a better ability to classify that grouping by microbial community alone. Table 2 maintains values for Estimated Error (+/- SD); 1 minus the estimated error is the percentage of times the model is able to accurately predict the correct sample subset.

The models were run using the *supervised_learning.py* command in QIIME, with 1,000 trees per model and 10-fold cross validation. All models were trained on OTU-level input tables except for the bottom five models of Table 2, which collapsed the OTU table to the taxonomic level indicated in the "Taxonomic Level" column.

SourceTracker Models

To estimate the proportions of potential source microbial communities (e.g. hand, foot, etc) contributing to the composition of house surfaces, we used a Bayesian source tracking approach (***12***). Generally following QIIME tutorial guidelines (http://qiime.org/tutorials/source_tracking.html), we filtered rare taxa not present in less than 100 samples to get the table to a reasonable size for runtime. We used the hands from all the families as potential sources for sink surfaces that seemed likely to be touched by hands (Kitchen Light Switch, Front Doorknob, Bathroom Doorknob), and the feet from all the family members as potential sources for sink surfaces that seemed likely to be touched by feet (Kitchen Floor, Bedroom Floor). The percent confidence of sink and source matches for each timepoint is shown in Figure 3a. The percent correct family predictions of all feet and hands across all timepoints, for all sources is shown in Figure 3b. The predictions are strengthened by source tests showing the large majority of samples can be correctly identified as coming from the correct source.

Dynamic Bayesian Networks

Dynamic Bayesian Network (DBN) Inference was used to generate causal interaction networks between surfaces in each home. Bayesian Networks (BN) are statistical models that identify the conditional dependencies of set of random variables. The structure of a BN is a directed acyclic graph (DAG). In a DBN, random variables are related across a time step, i.e. in this analysis, the bacterial population on a surface at time t can affect the population of another surface at time t+1.

Population data was prepared before use in DBN inference. Data was considered at the level of taxonomic Phylum and only taxa comprising the top 99.9% of population abundance in at least one home dataset were used in network determination. Taxa in the remaining <0.01% of population abundances were binned into the category 'Other'. There are 18 total taxa in the networks (Acidobacteria, Actinobacteria, AD3, Bacteroidetes, Crenarchaeota, Cyanobacteria, Firmicutes, Fusobacteria, Gemmatimonadetes, Planctomycetes, Proteobacteria, Spirochaetes, SR1, Tenericutes, Thermi, Verrucomicrobia, and WPS-2), although not all taxa are present in every home. Population abundance was reported as percent of total population and log2 transformed. A separate DBN is generated for each taxa in every house (a total of 53 networks generated).

BANJO (http://www.cs.duke.edu/~amink/software/banjo/) was used to generate the networks. In BANJO, a discretization policy of 5 intervals, a maximum of 3 parents, a maximum and minimum Markov lag of 1 time step, random local move proposer, and

greedy searcher were selected for network identification. In order to generate a network that also conforms to the topology of the homes and their occupants, the following restrictions were placed on the network. No house surfaces can directly interact with one another. All occupant surfaces can interact with one another. Hands interact with everything. The only surface feet, dog feet, and dog noses can interact with is the floor.

Separate networks were constructed for homes 1 through 4 and the topology of the resulting networks (e.g. the in- and out-degrees of surface nodes and the frequency with which directed edge for specific bacteria taxa indicate transfer of bacteria from occupant to home surface or home surface to occupant) were compared to identify potential underlying themes of bacterial transfer in the home microbiome.

Metagenome Sequencing and Functional Potential Analysis

A total of 56 samples from home 4 were selected for shotgun metagenomic sequencing. House 4 was chosen because it maintained a complex mixture of animals and people, and we focused on all surface sites over time to explore the potential for transmission events. An additional purification of DNA, using the Zymo Clean and Concentrator Kit, was completed before making shotgun metagnomes. Libraries were generated using 1 ng of genomic DNA and the Nextera XT protocol according to manufacturer's instructions (Illumina). Genomic DNA was extracted using the method described above for amplicon sequencing. Sequencing was performed on an Illumina MiSeq platform, and yielded on average 28 Mbp of sequence per sample. Reads were 2 x 251 bp long, with a paired end insert size of ~500 bp. Raw sequences were uploaded to MG-RAST v3 (***23***) and were quality filtered and annotated following default parameters. For functional analysis, sequences were compared to Subsystems using a minimum e-value cutoff of 10^{-15}, a minimum identity threshold of 60%, and a minimum alignment length cutoff of 15.

Heatmaps and PCoAs of the metagenomic data were constructed with matR and custom R scripts. The heatmap is based on "level 2" functional abundance and ordered as a dendrogram using the default parameters of the heatmap.2 function in R. The PCoA plot is based on the Euclidean distance between "level 2" functional abundances of pairwise sample comparisons. Significant differences in the relative abundance of different gene classes between sources was assessed by FDR corrected Kruskal-Wallis one-way analysis of variance by ranks.

Four samples from highly interlinked kitchen counter and hand samples from home 4 (see Fig. S4) were selected for additional sequencing. We chose to re-run the original libraries for this set of four metagenomes for consistency and comparability. Sequencing was performed on an Illumina HiSeq2000 platform on a single lane. Reads were 2 x 100 bp long, with ~240 bp long inserts. Reads were assembled *de novo* using IDBA_ud (**24**), and annotated using the RAST (**25**) pipeline.

Raw unassembled shotgun metagenome sequences were also analyzed using GENIUS® (GENome Identification Universal System) software package (CosmosID, Maryland, USA) for identification of bacterial and bacteriophage communities and their relative abundance prediction (***26***). Briefly, GENIUS® utilizes two proprietary algorithms, namely, 5VCE (Five Vector Comparator Engine) and NmerCE (N-mer Comparator Engine) and utilizes pre-computed GeneBook® reference libraries derived

from curated genomic databases to achieve identification at species, sub-species, and/or strain level, employing probabilistic matching. The GeneBook® library constitutes hundreds of millions of marker sequences, derived from curated microbial genomes and representing both coding and non-coding sequences that are shared or uniquely identified across taxonomic levels (5VCE) and/or distinct nodes of a phylogenetic tree (NmerCE). Use of large numbers of shared and unique genomic characteristics provides finer resolution in identification and information about individual genome coverage. It also enables assignment of statistical confidence and facilitates accurate measurement of relative abundance by normalizing with individual genome size to represent cellular abundance. Finally, the combination of two independent analyses of the data ensures greatest accuracy and precision in identification, yet requires only minutes to process a large dataset of shotgun metagenomes containing millions of short reads. The relative abundance of gene ontologies did not generally differ significantly among surfaces (**Fig. S7A** and **B; Table S1**), except for the 3 closely related kitchen counter samples.

Antibiotic Resistance Genes in Shotgun Metagenome Data

Quality filtering of shotgun reads was performed using Trimmomatic (***27***) Version 0.30 using the paired end protocol using the following parameters: *ILLUMINACLIP: TruSeq3-PE.fa:2:30:10 LEADING:3 TRAILING:3 SLIDINGWINDOW:4:15 MINLEN:36.* All reads passing this quality filter (paired and unpaired) were used in downstream analysis.

To determine if a read originated from an antibiotic resistance (AR) gene, a total of 17,171 AR genes were used as a BLAST database, including 6,068 live proteins from NCBI that are included in the Antibiotic Resistance Database (ARDB) (***28***). This set of proteins from ARDB was further supplemented with protein homologs from sequenced genomes (***29***) that are currently live in NCBI. All proteins were downloaded from NCBI on January 25, 2013.

All shotgun reads from 60 metagenomes (56 initial, shallow metagenomes and 4 deeper metagenomes) were aligned to the database described above using BLASTx version 2.2.29. Reads were considered to map to an antibiotic resistance gene if they passed an *E*-value threshold of $1e^{-10}$ and had greater than 80% identity over 70% of the query sequence or read. The relative abundance of antibiotic resistance genes was calculated as the percentage of reads that map to a resistance gene using these thresholds. In order to compare the types of antibiotic resistance genes between surfaces, each read is categorized into the antibiotic resistance gene families listed in ARDB and rarified to equal resistome sampling depth across all samples.

Supplementary Results

Analysis of Microbial Community Structure Correlations with Temperature and Humidity

To assess the extent to which differences in microbial community structure between homes can be explained by ambient environmental factors, Mantel tests were used to detect correlation between distance matrices of weighted UniFrac similarity and the mean temperature and humidity of the rooms in which samples were taken from over the preceding 24 hours. Temperature had limited explanatory power for the variance in community structure, with only the kitchen floor samples ($R=0.25$) exhibiting significant correlation ($p<0.001$). Humidity, however, was significantly correlated ($p<0.001$) for all surfaces except the bathroom doorknob, with R-values ranging from 0.17 (kitchen counter and floor) to 0.28 (bedroom floor).

Antibiotic resistance gene abundance varies across surface types

The abundance of verified antibiotic genes across all samples using this technique was extremely low, i.e. <0.3% of total reads in the majority of surfaces investigated (**Fig. S9**). Abundances of up to 5.6% have been found in human intestinal samples (***29,30***); however, those analyses were performed using different sequencing technologies at a reduced stringency, and so are incomparable with the current study.

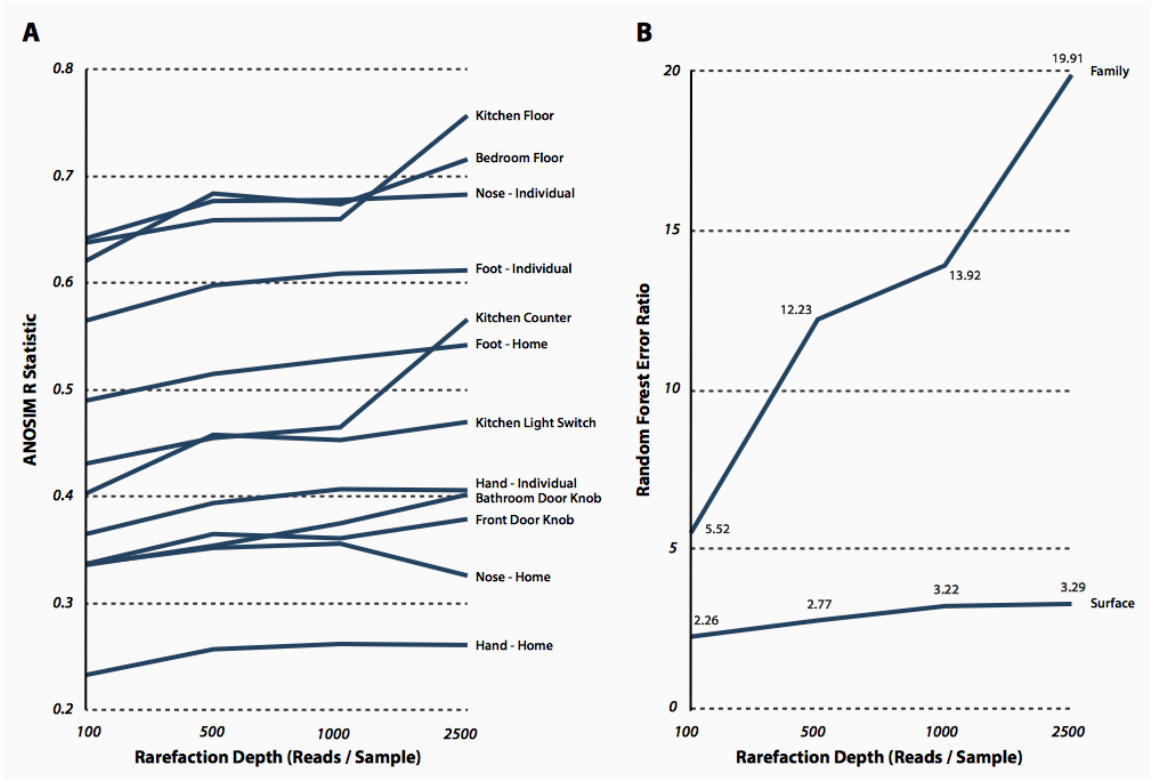


Fig. S1.

Effect of rarefaction to lower sequencing depth on ANOSIM R statistics (A) and random forest predictive accuracy (B).

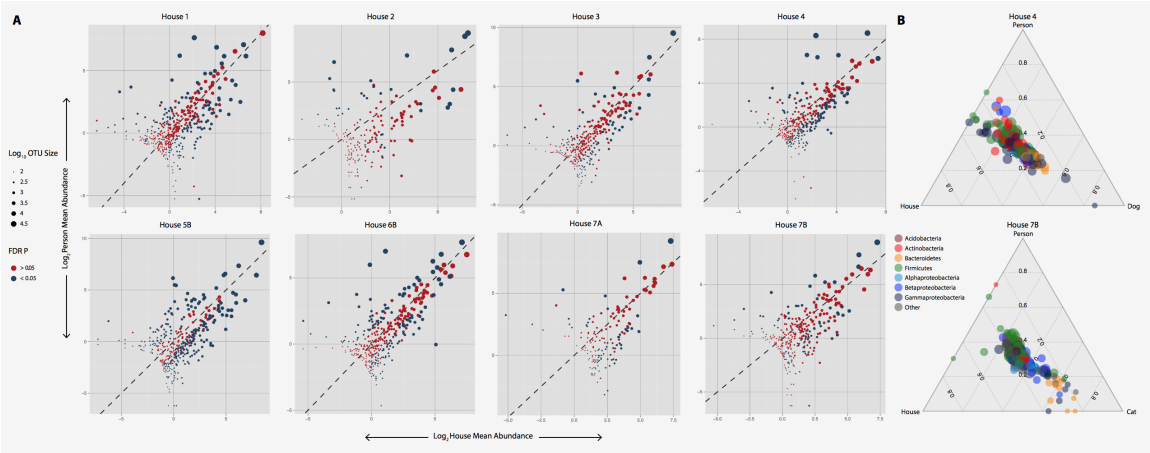


Fig. S2

(A) Plot of log_2-transformed average relative abundances in the human and home samples of individual homes (similar to Figure 2A, except divided by house). For an OTU to be included, it must have been detected at least 100 times within the home. OTUs are colored by whether their average relative abundance is significantly different between the home and person environments based on the FDR corrected p-value from a non-parametric t-test run with 1,000 permutations, and are sized based on their log_{10}-transformed number of reads. The dashed line is y=x, indicating an equal average relative abundance. (B) Ternary plots of average relative abundances of OTUs with greater than 500 reads in the two homes with pets. OTUs are colored by taxonomy (phylum, with Proteobacteria split by class) and scaled to reflect OTU size. Both plots depict strong correlation between the relative abundances of large OTUs in person and home samples, but varying degrees of overlap with pet samples.

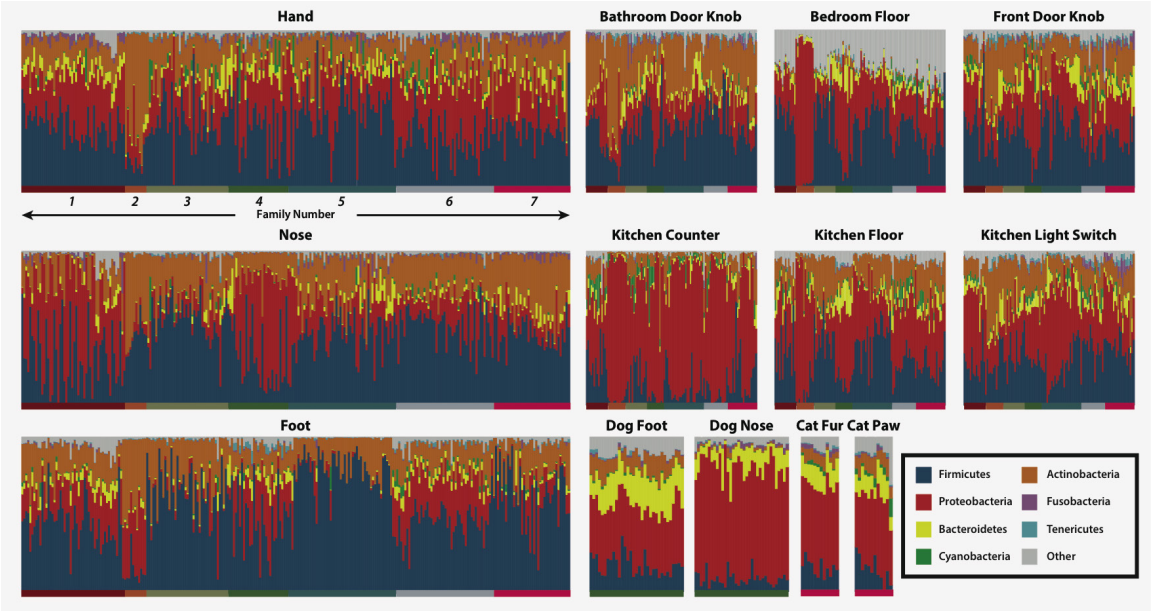


Fig. S3

Summary of observed relative abundance of taxa for every sample in the study, divided by surface. Colors represent the 7 most abundant phyla in the study, and colored bars at base indicate which home a sample was taken from. Home surface samples are ordered by house and then by collection date while human samples are ordered by house, then individual, and then by collection date.

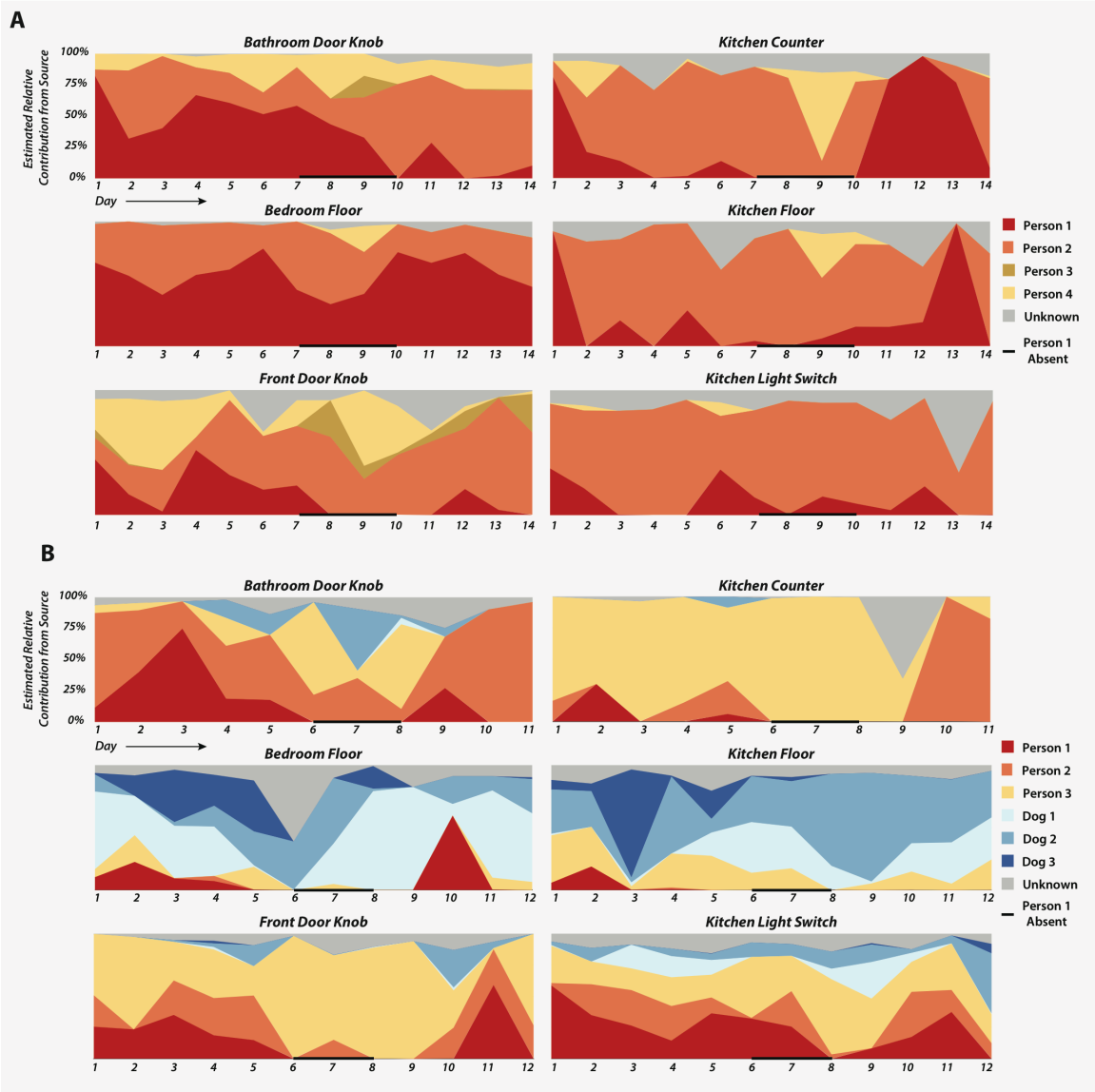


Fig. S4

Time series of SourceTracker source contribution estimates for the 6 home surfaces in houses 1 (A) and 4 (B). All samples taken from the occupants of each home were consolidated and treated as sources impacting the home surface sinks. Data is visualized as a stacked area chart of the proportion of each sink sample estimated to originate from each source, with samples ordered by sampling date along the x-axis. In both houses, Person 1 was traveling and did not interact with the house for the time indicated by the black bar below each time series.

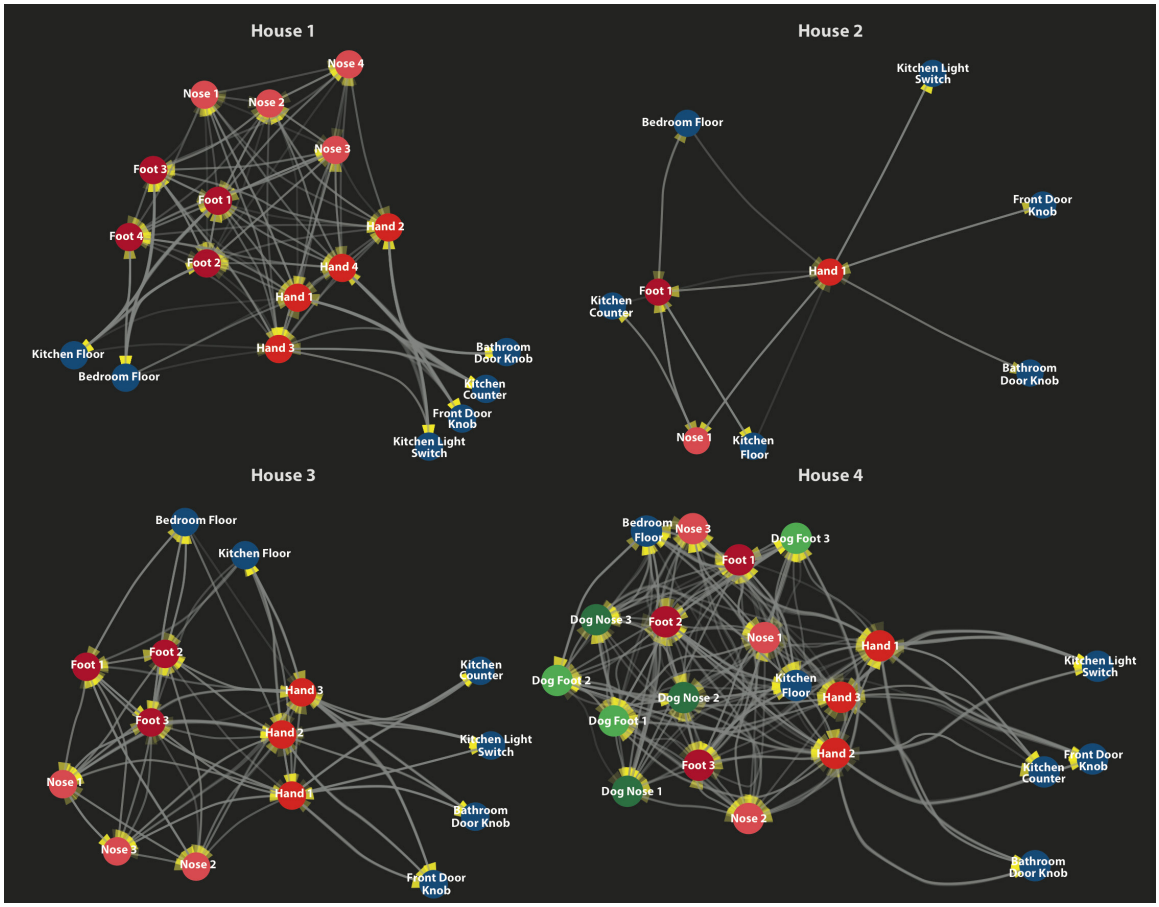


Fig. S5

Dynamic Bayesian networks depicting causal interactions between surfaces in homes 1 though 4. Population data was considered at the phylum level and statistically significant Bayesian co-dependent relationships were defined between surfaces (nodes) in each family and home by phyla level taxonomic associations. Nodes are distributed using a spring-embedded layout that clusters highly-linked surfaces together. The direction of transfer is indicated by yellow arrowheads pointing from source to sink. Edges connecting the same source and sink are binned together and appear darker the more edges they encompass.

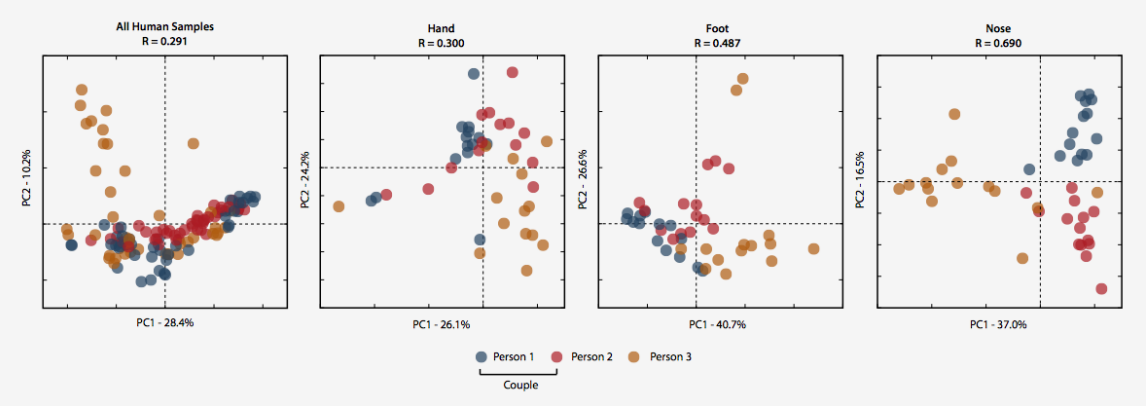


Fig. S6

PCoA plots of human samples taken from home 3 based on weighted Unifrac distance. The left plot includes all human samples while the right three are subdivided by surface. R values are ANOSIM tests for significant differentiation between the two residents in a couple (individuals 1 and 2) and a third roommate (person 3). All p-values are less that 0.0001 based on 10,000 permutations of the randomized dataset.

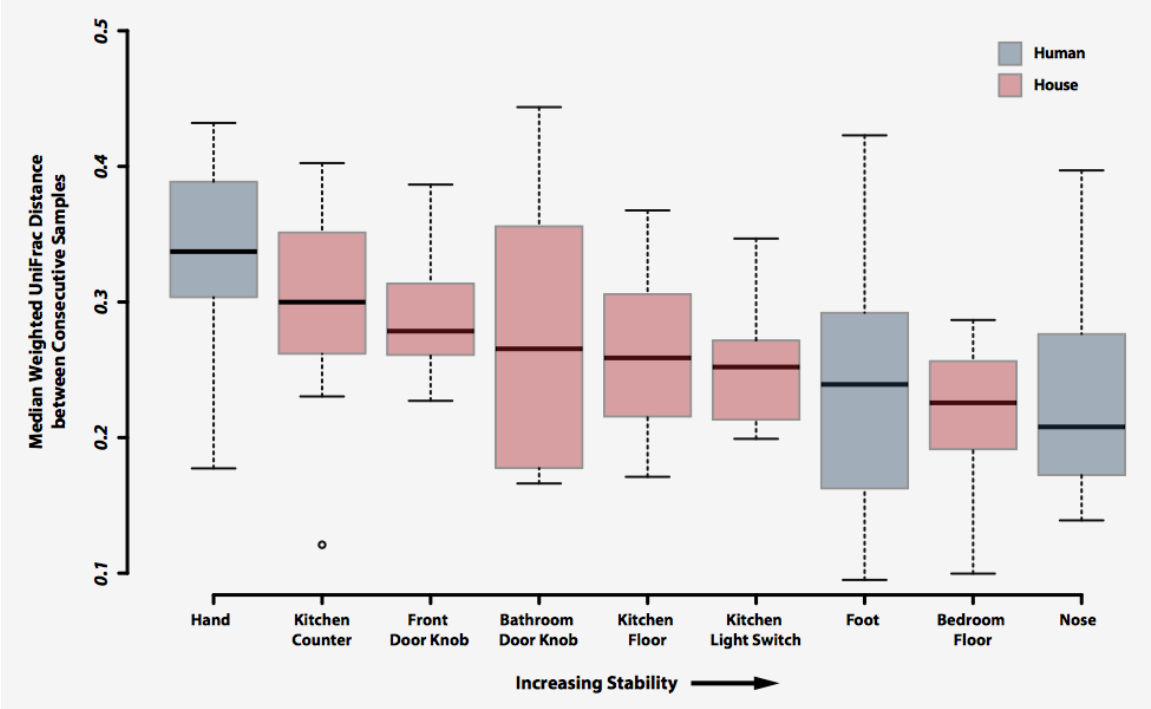


Fig. S7

Temporal community volatility of individual surfaces, measured as the median weighted UniFrac distance between consecutive samples in a timeseries.

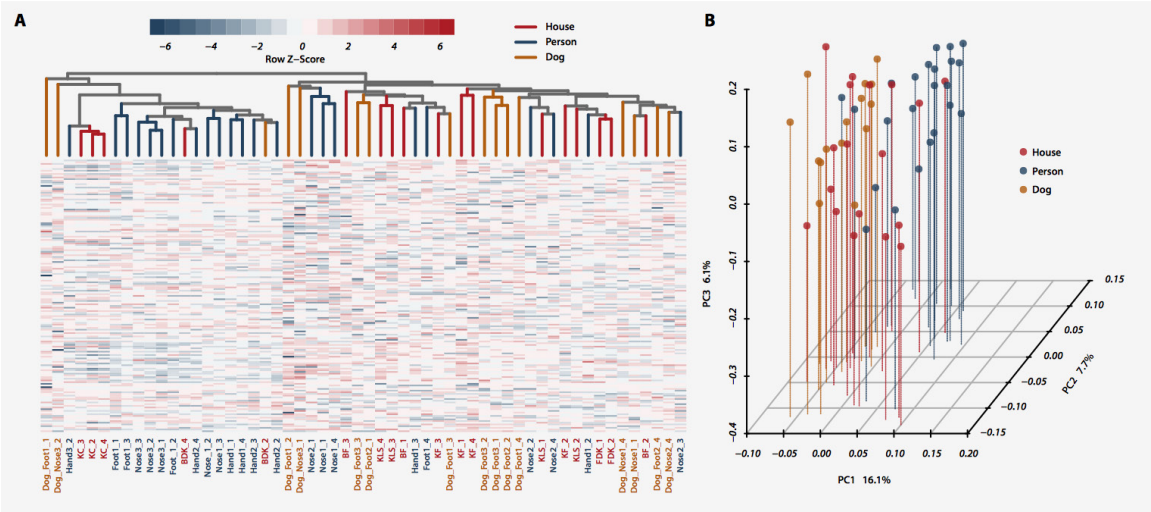
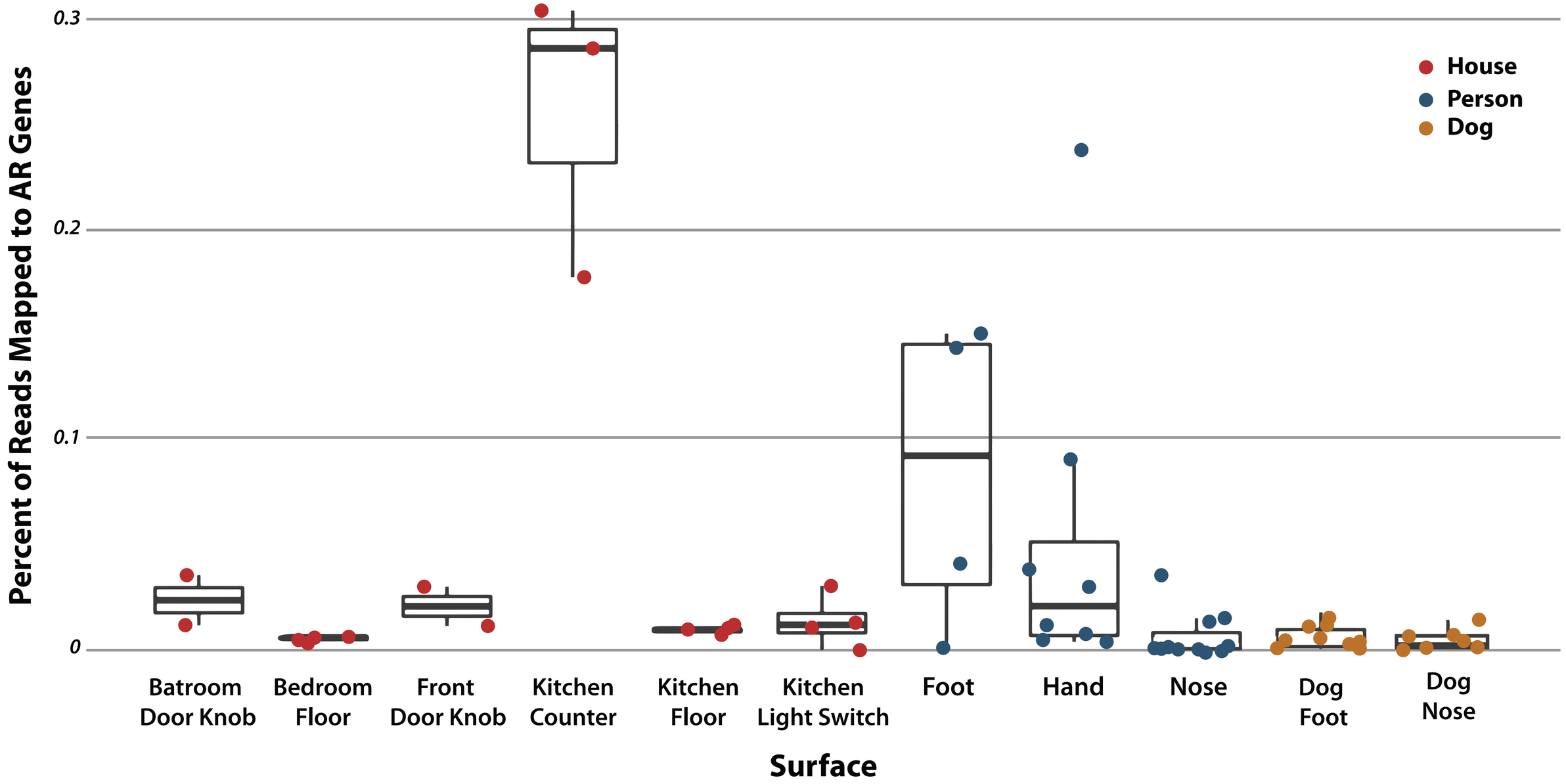


Fig. S8

Summary of house 4 shotgun meteganomic data, analyzed as "level 2" functional abundance with a minimum e-value cutoff of 10^{-15}. (A) Heatmap of functional abundance data, with samples (columns) ordered by similarity (dendrogram at top) and colored by source. (B) Principal coordinate plot of the 56 samples colored by source and based on Euclidean distances between functional abundance data.

Table S1.

Summary of all edges in the dynamic Bayesian network, including taxonomy and direction of transfer. Pairwise comparisons in the overview table are denoted "NA" if the particular transfer was not allowed by model parameters (see supplementary methods).


Percent of Reads Mapped to AR Genes
0.3
0.2
0.1
0
House
Person
Dog
Batroom Door Knob
Bedroom Floor
Front Door Knob
Kitchen Counter
Kitchen Floor
Kitchen Light Switch
Foot
Hand
Nose
Dog Foot
Dog Nose
Surface

		Home 1	Home 2	Home 3	Home 4	Home 5A	Home 5B	Home 6A	Home 6B	Home 7A	Home 7B	Surface Total
Bathroom Door Knob		14	12	13	11	1	25	2	14	6	13	***111***
Bedroom Floor		14	12	14	12	1	25	2	14	6	13	***113***
Front Door Knob		14	12	14	12	1	25	2	14	6	13	***113***
Kitchen Counter		14	12	14	11	1	25	2	14	6	13	***112***
Kitchen Floor		14	12	14	12	1	25	2	14	6	13	***113***
Kitchen Light Switch		14	12	13	12	1	25	2	13	6	13	***111***
Foot	**P1**	10	12	14	8	1	24	2	14	6	13	
	P2	14	NA	14	11	1	25	2	14	6	13	***272***
	P3	13	NA	14	12	NA	NA	2	14	NA	NA	
	P4	13	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Hand	**P1**	10	12	14	8	1	25	2	14	6	13	
	P2	14	NA	14	12	1	25	2	14	6	13	***275***
	P3	14	NA	14	11	NA	NA	2	14	NA	NA	
	P4	14	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Nose	**P1**	10	12	14	7	1	25	2	14	6	13	
	P2	14	NA	14	12	1	24	2	14	6	13	***274***
	P3	14	NA	14	12	NA	NA	2	14	NA	NA	
	P4	14	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Pet		NA	NA	NA	68	NA	NA	NA	NA	NA	24	***92***
Home Total		***238***	***108***	***208***	***231***	***12***	***298***	***30***	***209***	***72***	***180***	

Sample Subset	Predicted Category	Taxonomic Level	N	Estimated Error ± SD	Baseline Error	Ratio
All Home Samples	Family	OTU	673	0.0386 ± 0.0245	0.7682	**19.91**
All Home Samples	Surface	OTU	673	0.2529 ± 0.0243	0.8321	**3.29**
Bathroom Door Knobs	Family	OTU	111	0.0471 ± 0.0738	0.7658	**16.24**
Bedroom Floors	Family	OTU	113	0.0192 ± 0.0427	0.7699	**40.17**
Front Door Knobs	Family	OTU	113	0.0562 ± 0.0666	0.7699	**13.71**
Kitchen Counters	Family	OTU	112	0.0602 ± 0.0751	0.7679	**12.76**
Kitchen Floors	Family	OTU	113	0.0144 ± 0.0304	0.7699	**53.62**
Kitchen Light Switches	Family	OTU	111	0.0593 ± 0.0834	0.7658	**12.92**
Family 1 Home Samples	Surface	OTU	84	0.1083 ± 0.1364	0.8333	**7.69**
Family 2 Home Samples	Surface	OTU	72	0.0833 ± 0.1178	0.8333	**10.00**
Family 3 Home Samples	Surface	OTU	82	0.2650 ± 0.1208	0.8293	**3.13**
Family 4 Home Samples	Surface	OTU	70	0.1367 ± 0.1543	0.8286	**6.06**
Family 5 Home Samples	Surface	OTU	156	0.1583 ± 0.0908	0.8333	**5.26**
Family 6 Home Samples	Surface	OTU	95	0.1083 ± 0.1115	0.8316	**7.68**
Family 7 Home Samples	Surface	OTU	114	0.2833 ± 0.1427	0.8333	**2.94**
All Home Samples	Family	Phylum	673	0.2795 ± 0.0414	0.7682	**2.75**
All Home Samples	Family	Class	673	0.2277 ± 0.0795	0.7682	**3.37**
All Home Samples	Family	Order	673	0.1389 ± 0.0475	0.7682	**5.53**
All Home Samples	Family	Family	673	0.1014 ± 0.0405	0.7682	**7.58**
All Home Samples	Family	Genus	673	0.0532 ± 0.0213	0.7682	**14.43**
Family 5 Home Samples	Pre/Post Move	OTU	156	0.0760 ± 0.0220	0.0769	**1.01**
Family 6 Home Samples	Pre/Post Move	OTU	95	0.1241 ± 0.0306	0.1263	**1.02**
Family 7 Home Samples	Pre/Post Move	OTU	114	0.1923 ± 0.0962	0.3158	**1.64**

House 1

Recipient \ Source	Hand	Foot	Nose	BDK	BF	FDK	KC	KF	KLS
Hand	16	21	25	3	5	3	10	2	3
Foot	26	24	22	NA	9	NA	NA	12	NA
Nose	23	27	17	0	0	0	0	0	0
BDK	14	NA	0	NA	NA	NA	NA	NA	NA
BF	0	20	0	NA	NA	NA	NA	NA	NA
FDK	18	NA	0	NA	NA	NA	NA	NA	NA
KC	21	NA	0	NA	NA	NA	NA	NA	NA
KF	0	25	0	NA	NA	NA	NA	NA	NA
KLS	18	NA	0	NA	NA	NA	NA	NA	NA

House 2

Recipient \ Source	Hand	Foot	Nose	BDK	BF	FDK	KC	KF	KLS
Hand	NA	1	2	1	2	3	1	1	0
Foot	4	NA	4	NA	2	NA	NA	3	NA
Nose	6	4	NA	0	0	0	0	0	0
BDK	4	NA	0	NA	NA	NA	NA	NA	NA
BF	0	3	0	NA	NA	NA	NA	NA	NA
FDK	5	NA	0	NA	NA	NA	NA	NA	NA
KC	0	NA	6	NA	NA	NA	NA	NA	NA
KF	0	8	0	NA	NA	NA	NA	NA	NA
KLS	9	NA	0	NA	NA	NA	NA	NA	NA

House 3

Recipient \ Source	Hand	Foot	Nose	BDK	BF	FDK	KC	KF	KLS
Hand	13	14	21	6	5	8	4	7	4
Foot	20	21	19	NA	7	NA	NA	8	NA
Nose	29	26	20	0	0	0	0	0	0
BDK	18	NA	0	NA	NA	NA	NA	NA	NA
BF	0	16	0	NA	NA	NA	NA	NA	NA
FDK	22	NA	0	NA	NA	NA	NA	NA	NA
KC	17	NA	0	NA	NA	NA	NA	NA	NA
KF	13	0	0	NA	NA	NA	NA	NA	NA
KLS	20	NA	0	NA	NA	NA	NA	NA	NA

House 4

Recipient \ Source	Hand	Foot	Nose	BDK	BF	FDK	KC	KF	KLS	Dog Nose	Dog Foot
Hand	9	13	13	4	5	5	4	5	4	13	10
Foot	20	8	12	NA	5	NA	NA	11	NA	14	18
Nose	15	20	10	0	0	0	0	0	0	12	15
BDK	20	NA	0	NA	NA	NA	NA	NA	NA	0	NA
BF	0	10	0	NA	NA	NA	NA	NA	NA	9	9
FDK	21	NA	0	NA	NA	NA	NA	NA	NA	0	NA
KC	15	NA	0	NA	NA	NA	NA	NA	NA	0	NA
KF	27	12	3	NA	NA	NA	NA	NA	NA	6	7
KLS	0	NA	0	NA	NA	NA	NA	NA	NA	0	NA
Dog Nose	7	14	20	NA	5	NA	NA	5	NA	11	16
Dog Foot	24	8	14	NA	0	NA	NA	6	NA	10	13

House 1

Source	Recipient	Taxonomy
Hand 1	Kitchen Light Switch	Acidobact
Hand 1	Kitchen Light Switch	Actinobact
Hand 1	Kitchen Light Switch	Firmicutes
Hand 1	Kitchen Light Switch	Thermi
Hand 2	Kitchen Light Switch	Acidobact
Hand 2	Kitchen Light Switch	Cyanobact
Hand 2	Kitchen Light Switch	Gemmatimon
Hand 2	Kitchen Light Switch	Plancto
Hand 2	Kitchen Light Switch	WPS2
Hand 3	Kitchen Light Switch	Actinobact
Hand 3	Kitchen Light Switch	Cyanobact
Hand 3	Kitchen Light Switch	Gemmatimon
Hand 3	Kitchen Light Switch	Plancto
Hand 3	Kitchen Light Switch	Proteobact
Hand 4	Kitchen Light Switch	Crenarch
Hand 4	Kitchen Light Switch	Proteobact
Hand 4	Kitchen Light Switch	Thermi
Hand 4	Kitchen Light Switch	WPS2
Foot 1	Kitchen Floor	Acidobact
Foot 1	Kitchen Floor	AD3
Foot 1	Kitchen Floor	Bacteroid
Foot 1	Kitchen Floor	Cyanobact
Foot 1	Kitchen Floor	Firmicutes
Foot 1	Kitchen Floor	Plancto
Foot 1	Kitchen Floor	Proteobact
Foot 1	Kitchen Floor	Verruco
Foot 2	Kitchen Floor	Actinobact
Foot 2	Kitchen Floor	Crenarch
Foot 2	Kitchen Floor	Firmicutes
Foot 2	Kitchen Floor	Gemmatimon
Foot 2	Kitchen Floor	Plancto
Foot 2	Kitchen Floor	Thermi
Foot 2	Kitchen Floor	WPS2
Foot 3	Kitchen Floor	Actinobact
Foot 3	Kitchen Floor	AD3
Foot 3	Kitchen Floor	Crenarch
Foot 3	Kitchen Floor	Thermi
Foot 3	Kitchen Floor	Verruco
Foot 3	Kitchen Floor	WPS2
Foot 4	Kitchen Floor	Acidobact

Foot 4	Kitchen Floor	Cyanobact
Foot 4	Kitchen Floor	Gemmatimon
Foot 4	Kitchen Floor	Proteobact
Hand 1	Kitchen Counter	Acidobact
Hand 1	Kitchen Counter	Actinobact
Hand 1	Kitchen Counter	Bacteroid
Hand 1	Kitchen Counter	Cyanobact
Hand 1	Kitchen Counter	Plancto
Hand 1	Kitchen Counter	Thermi
Hand 2	Kitchen Counter	Acidobact
Hand 2	Kitchen Counter	Firmicutes
Hand 2	Kitchen Counter	Gemmatimon
Hand 2	Kitchen Counter	Proteobact
Hand 2	Kitchen Counter	Thermi
Hand 2	Kitchen Counter	WPS2
Hand 3	Kitchen Counter	Actinobact
Hand 3	Kitchen Counter	Bacteroid
Hand 3	Kitchen Counter	Cyanobact
Hand 3	Kitchen Counter	Gemmatimon
Hand 3	Kitchen Counter	Plancto
Hand 4	Kitchen Counter	Crenarch
Hand 4	Kitchen Counter	Firmicutes
Hand 4	Kitchen Counter	Proteobact
Hand 4	Kitchen Counter	WPS2
Hand 1	Front Door Knob	Acidobact
Hand 1	Front Door Knob	AD3
Hand 1	Front Door Knob	Cyanobact
Hand 1	Front Door Knob	Firmicutes
Hand 1	Front Door Knob	Proteobact
Hand 2	Front Door Knob	Actinobact
Hand 2	Front Door Knob	Bacteroid
Hand 2	Front Door Knob	Cyanobact
Hand 2	Front Door Knob	Gemmatimon
Hand 2	Front Door Knob	Plancto
Hand 3	Front Door Knob	Firmicutes
Hand 3	Front Door Knob	Proteobact
Hand 4	Front Door Knob	Actinobact
Hand 4	Front Door Knob	AD3
Hand 4	Front Door Knob	Crenarch
Hand 4	Front Door Knob	Gemmatimon
Hand 4	Front Door Knob	Plancto
Hand 4	Front Door Knob	WPS2

Foot 1	Bedroom Floor	AD3
Foot 1	Bedroom Floor	Bacteroid
Foot 1	Bedroom Floor	Cyanobact
Foot 1	Bedroom Floor	Plancto
Foot 1	Bedroom Floor	Proteobact
Foot 2	Bedroom Floor	Actinobact
Foot 2	Bedroom Floor	Bacteroid
Foot 2	Bedroom Floor	Crenarch
Foot 2	Bedroom Floor	Firmicutes
Foot 2	Bedroom Floor	Gemmatimon
Foot 2	Bedroom Floor	Thermi
Foot 3	Bedroom Floor	Acidobact
Foot 3	Bedroom Floor	Cyanobact
Foot 3	Bedroom Floor	WPS2
Foot 4	Bedroom Floor	Actinobact
Foot 4	Bedroom Floor	AD3
Foot 4	Bedroom Floor	Firmicutes
Foot 4	Bedroom Floor	Plancto
Foot 4	Bedroom Floor	Proteobact
Foot 4	Bedroom Floor	Thermi
Hand 1	Bathroom Door Knob	Bacteroid
Hand 1	Bathroom Door Knob	Gemmatimon
Hand 2	Bathroom Door Knob	Actinobact
Hand 2	Bathroom Door Knob	AD3
Hand 2	Bathroom Door Knob	Bacteroid
Hand 2	Bathroom Door Knob	Gemmatimon
Hand 2	Bathroom Door Knob	Proteobact
Hand 2	Bathroom Door Knob	Thermi
Hand 3	Bathroom Door Knob	Actinobact
Hand 3	Bathroom Door Knob	Proteobact
Hand 4	Bathroom Door Knob	Cyanobact
Hand 4	Bathroom Door Knob	Plancto
Hand 4	Bathroom Door Knob	Thermi
Hand 4	Bathroom Door Knob	WPS2
Foot 1	Nose 4	Actinobact
Foot 1	Nose 4	Gemmatimon
Foot 1	Nose 4	Proteobact
Hand 1	Nose 4	Bacteroid
Nose 1	Nose 4	Actinobact
Nose 1	Nose 4	Gemmatimon
Foot 2	Nose 4	Bacteroid
Hand 2	Nose 4	Firmicutes

Nose 2	Nose 4	Acidobact
Nose 2	Nose 4	Cyanobact
Nose 2	Nose 4	Proteobact
Nose 2	Nose 4	Verruco
Nose 2	Nose 4	WPS2
Foot 3	Nose 4	Acidobact
Foot 3	Nose 4	Thermi
Hand 4	Nose 4	Firmicutes
Hand 4	Nose 4	WPS2
Foot 1	Hand 4	Bacteroid
Foot 1	Hand 4	Proteobact
Hand 1	Hand 4	Acidobact
Hand 1	Hand 4	Gemmatimon
Nose 1	Hand 4	AD3
Foot 2	Hand 4	Actinobact
Nose 2	Hand 4	WPS2
Foot 3	Hand 4	Actinobact
Foot 3	Hand 4	Cyanobact
Foot 3	Hand 4	WPS2
Nose 3	Hand 4	Cyanobact
Nose 3	Hand 4	Thermi
Bathroom Door Knob	Hand 4	Firmicutes
Bathroom Door Knob	Hand 4	Gemmatimon
Bedroom Floor	Hand 4	Thermi
Kitchen Counter	Hand 4	Bacteroid
Kitchen Counter	Hand 4	Proteobact
Kitchen Counter	Hand 4	Verruco
Kitchen Light Switch	Hand 4	Acidobact
Hand 1	Foot 4	Actinobact
Hand 1	Foot 4	Gemmatimon
Nose 1	Foot 4	Bacteroid
Nose 1	Foot 4	Thermi
Foot 2	Foot 4	AD3
Hand 2	Foot 4	Plancto
Nose 2	Foot 4	Cyanobact
Nose 2	Foot 4	Gemmatimon
Foot 3	Foot 4	Bacteroid
Foot 3	Foot 4	Proteobact
Hand 3	Foot 4	Thermi
Hand 3	Foot 4	WPS2
Nose 3	Foot 4	Actinobact
Nose 3	Foot 4	AD3

Nose 3	Foot 4	Firmicutes
Hand 4	Foot 4	Plancto
Hand 4	Foot 4	Proteobact
Hand 4	Foot 4	WPS2
Bedroom Floor	Foot 4	Acidobact
Kitchen Floor	Foot 4	Acidobact
Kitchen Floor	Foot 4	Cyanobact
Kitchen Floor	Foot 4	Firmicutes
Foot 1	Nose 3	Actinobact
Foot 1	Nose 3	Bacteroid
Foot 1	Nose 3	Plancto
Foot 1	Nose 3	Thermi
Foot 1	Nose 3	WPS2
Foot 2	Nose 3	Bacteroid
Foot 2	Nose 3	Firmicutes
Nose 2	Nose 3	Proteobact
Foot 3	Nose 3	Acidobact
Hand 3	Nose 3	Proteobact
Foot 4	Nose 3	Actinobact
Foot 4	Nose 3	Firmicutes
Hand 4	Nose 3	Acidobact
Hand 4	Nose 3	Plancto
Hand 4	Nose 3	WPS2
Nose 4	Nose 3	Cyanobact
Foot 1	Hand 3	Proteobact
Hand 1	Hand 3	Plancto
Hand 1	Hand 3	Thermi
Nose 1	Hand 3	Actinobact
Nose 1	Hand 3	AD3
Nose 1	Hand 3	Firmicutes
Hand 2	Hand 3	Bacteroid
Hand 2	Hand 3	Gemmatimon
Nose 2	Hand 3	Acidobact
Nose 2	Hand 3	WPS2
Foot 3	Hand 3	Acidobact
Foot 3	Hand 3	Firmicutes
Foot 3	Hand 3	Gemmatimon
Nose 3	Hand 3	Actinobact
Nose 3	Hand 3	Bacteroid
Nose 3	Hand 3	Cyanobact
Nose 3	Hand 3	Thermi
Hand 4	Hand 3	Verruco

Hand 4	Hand 3	WPS2
Bathroom Door Knob	Hand 3	Plancto
Bedroom Floor	Hand 3	Proteobact
Kitchen Counter	Hand 3	Cyanobact
Kitchen Counter	Hand 3	Verruco
Kitchen Floor	Hand 3	Crenarch
Foot 1	Foot 3	Cyanobact
Hand 1	Foot 3	Bacteroid
Foot 2	Foot 3	Bacteroid
Foot 2	Foot 3	Crenarch
Foot 2	Foot 3	Verruco
Hand 2	Foot 3	Thermi
Nose 2	Foot 3	Actinobact
Nose 2	Foot 3	Plancto
Nose 2	Foot 3	Proteobact
Hand 3	Foot 3	Cyanobact
Hand 3	Foot 3	Firmicutes
Hand 3	Foot 3	Gemmatimon
Nose 3	Foot 3	Gemmatimon
Nose 3	Foot 3	Verruco
Nose 3	Foot 3	WPS2
Foot 4	Foot 3	Firmicutes
Hand 4	Foot 3	Thermi
Bedroom Floor	Foot 3	AD3
Bedroom Floor	Foot 3	WPS2
Kitchen Floor	Foot 3	Actinobact
Kitchen Floor	Foot 3	AD3
Kitchen Floor	Foot 3	Crenarch
Kitchen Floor	Foot 3	Plancto
Kitchen Floor	Foot 3	Proteobact
Foot 1	Nose 2	Acidobact
Foot 1	Nose 2	Actinobact
Foot 1	Nose 2	Firmicutes
Foot 1	Nose 2	Gemmatimon
Hand 1	Nose 2	Thermi
Nose 1	Nose 2	Proteobact
Foot 2	Nose 2	Bacteroid
Hand 2	Nose 2	Acidobact
Hand 2	Nose 2	Plancto
Hand 2	Nose 2	WPS2
Foot 3	Nose 2	Bacteroid
Foot 3	Nose 2	Cyanobact

Nose 3	Nose 2	Actinobact
Nose 3	Nose 2	Cyanobact
Nose 3	Nose 2	Proteobact
Nose 3	Nose 2	Thermi
Hand 4	Nose 2	Gemmatimon
Hand 4	Nose 2	Plancto
Hand 4	Nose 2	WPS2
Nose 4	Nose 2	Firmicutes
Foot 1	Hand 2	Firmicutes
Hand 1	Hand 2	Actinobact
Nose 1	Hand 2	AD3
Nose 1	Hand 2	Proteobact
Nose 2	Hand 2	Bacteroid
Nose 2	Hand 2	Plancto
Foot 3	Hand 2	Acidobact
Foot 3	Hand 2	Bacteroid
Foot 3	Hand 2	Thermi
Nose 3	Hand 2	Crenarch
Foot 4	Hand 2	Cyanobact
Hand 4	Hand 2	Actinobact
Hand 4	Hand 2	Verruco
Hand 4	Hand 2	WPS2
Nose 4	Hand 2	Acidobact
Nose 4	Hand 2	Thermi
Front Door Knob	Hand 2	Cyanobact
Front Door Knob	Hand 2	Gemmatimon
Kitchen Counter	Hand 2	Gemmatimon
Kitchen Counter	Hand 2	Proteobact
Kitchen Counter	Hand 2	Verruco
Kitchen Light Switch	Hand 2	Plancto
Kitchen Light Switch	Hand 2	WPS2
Foot 1	Foot 2	Crenarch
Foot 1	Foot 2	Gemmatimon
Hand 1	Foot 2	Plancto
Hand 1	Foot 2	Verruco
Hand 2	Foot 2	Acidobact
Hand 2	Foot 2	Firmicutes
Foot 3	Foot 2	Acidobact
Foot 3	Foot 2	Crenarch
Foot 3	Foot 2	Plancto
Hand 3	Foot 2	Bacteroid
Nose 3	Foot 2	Cyanobact

Nose 3	Foot 2	Firmicutes
Nose 3	Foot 2	Proteobact
Foot 4	Foot 2	Actinobact
Hand 4	Foot 2	Verruco
Hand 4	Foot 2	WPS2
Bedroom Floor	Foot 2	AD3
Bedroom Floor	Foot 2	Cyanobact
Bedroom Floor	Foot 2	Gemmatimon
Bedroom Floor	Foot 2	Proteobact
Kitchen Floor	Foot 2	AD3
Kitchen Floor	Foot 2	Bacteroid
Foot 1	Nose 1	Acidobact
Foot 1	Nose 1	Thermi
Hand 1	Nose 1	Acidobact
Hand 1	Nose 1	Actinobact
Hand 1	Nose 1	Gemmatimon
Hand 1	Nose 1	Plancto
Hand 1	Nose 1	Proteobact
Foot 2	Nose 1	Thermi
Nose 2	Nose 1	Cyanobact
Foot 3	Nose 1	Actinobact
Hand 3	Nose 1	Firmicutes
Nose 3	Nose 1	Firmicutes
Hand 4	Nose 1	Plancto
Hand 4	Nose 1	WPS2
Foot 1	Hand 1	Acidobact
Foot 1	Hand 1	AD3
Foot 1	Hand 1	Verruco
Nose 1	Hand 1	Gemmatimon
Foot 2	Hand 1	Plancto
Hand 2	Hand 1	Actinobact
Hand 3	Hand 1	Proteobact
Hand 3	Hand 1	Thermi
Nose 3	Hand 1	Bacteroid
Nose 3	Hand 1	Gemmatimon
Nose 3	Hand 1	Thermi
Foot 4	Hand 1	Cyanobact
Foot 4	Hand 1	Verruco
Hand 4	Hand 1	Firmicutes
Nose 4	Hand 1	Firmicutes
Bedroom Floor	Hand 1	Acidobact
Bedroom Floor	Hand 1	AD3

Bedroom Floor	Hand 1	Bacteroid
Front Door Knob	Hand 1	Actinobact
Kitchen Counter	Hand 1	Cyanobact
Kitchen Counter	Hand 1	Proteobact
Kitchen Floor	Hand 1	Plancto
Hand 1	Foot 1	Acidobact
Foot 2	Foot 1	Actinobact
Foot 2	Foot 1	Crenarch
Foot 2	Foot 1	Plancto
Foot 2	Foot 1	Thermi
Nose 2	Foot 1	Acidobact
Nose 2	Foot 1	Proteobact
Foot 3	Foot 1	Actinobact
Foot 3	Foot 1	AD3
Hand 3	Foot 1	Firmicutes
Hand 3	Foot 1	Gemmatimon
Nose 3	Foot 1	Bacteroid
Nose 3	Foot 1	Verruco
Nose 3	Foot 1	WPS2
Foot 4	Foot 1	Gemmatimon
Foot 4	Foot 1	Plancto
Foot 4	Foot 1	Proteobact
Foot 4	Foot 1	Thermi
Hand 4	Foot 1	Verruco
Hand 4	Foot 1	WPS2
Nose 4	Foot 1	Firmicutes
Bedroom Floor	Foot 1	AD3
Bedroom Floor	Foot 1	Cyanobact
Kitchen Floor	Foot 1	Crenarch
Kitchen Floor	Foot 1	Cyanobact

House 2

Source	Recipient	Taxonomy
Hand 1	Kitchen Light Switch	Acidobact
Hand 1	Kitchen Light Switch	Actinobact
Hand 1	Kitchen Light Switch	Crenarch
Hand 1	Kitchen Light Switch	Cyanobact
Hand 1	Kitchen Light Switch	Firmicutes
Hand 1	Kitchen Light Switch	Proteobact
Hand 1	Kitchen Light Switch	Tenericutes
Hand 1	Kitchen Light Switch	Thermi
Hand 1	Kitchen Light Switch	Verruco
Foot 1	Kitchen Floor	Acidobact
Foot 1	Kitchen Floor	Actinobact
Foot 1	Kitchen Floor	Cyanobact
Foot 1	Kitchen Floor	Firmicutes
Foot 1	Kitchen Floor	Proteobact
Foot 1	Kitchen Floor	Tenericutes
Foot 1	Kitchen Floor	Thermi
Foot 1	Kitchen Floor	Verruco
Nose 1	Kitchen Counter	Acidobact
Nose 1	Kitchen Counter	Actinobact
Nose 1	Kitchen Counter	Bacteroid
Nose 1	Kitchen Counter	Cyanobact
Nose 1	Kitchen Counter	Proteobact
Nose 1	Kitchen Counter	Verruco
Hand 1	Front Door Knob	Acidobact
Hand 1	Front Door Knob	Cyanobact
Hand 1	Front Door Knob	Firmicutes
Hand 1	Front Door Knob	Proteobact
Hand 1	Front Door Knob	Tenericutes
Foot 1	Bedroom Floor	Acidobact
Foot 1	Bedroom Floor	Actinobact
Foot 1	Bedroom Floor	Cyanobact
Hand 1	Bathroom Door Knob	Actinobact
Hand 1	Bathroom Door Knob	Firmicutes
Hand 1	Bathroom Door Knob	Proteobact
Hand 1	Bathroom Door Knob	Verruco
Foot 1	Nose 1	Actinobact
Foot 1	Nose 1	Cyanobact
Foot 1	Nose 1	Firmicutes
Foot 1	Nose 1	Verruco
Hand 1	Nose 1	Acidobact

Hand 1	Nose 1	Actinobact
Hand 1	Nose 1	Cyanobact
Hand 1	Nose 1	Firmicutes
Hand 1	Nose 1	Tenericutes
Hand 1	Nose 1	Verruco
Foot 1	Hand 1	Cyanobact
Nose 1	Hand 1	Actinobact
Nose 1	Hand 1	Tenericutes
Bathroom Door Knob	Hand 1	Firmicutes
Bedroom Floor	Hand 1	Proteobact
Bedroom Floor	Hand 1	Verruco
Front Door Knob	Hand 1	Acidobact
Front Door Knob	Hand 1	Actinobact
Front Door Knob	Hand 1	Firmicutes
Kitchen Counter	Hand 1	Proteobact
Kitchen Floor	Hand 1	Tenericutes
Hand 1	Foot 1	Acidobact
Hand 1	Foot 1	Actinobact
Hand 1	Foot 1	Cyanobact
Hand 1	Foot 1	Thermi
Nose 1	Foot 1	Acidobact
Nose 1	Foot 1	Cyanobact
Nose 1	Foot 1	Firmicutes
Nose 1	Foot 1	Verruco
Bedroom Floor	Foot 1	Firmicutes
Bedroom Floor	Foot 1	Proteobact
Kitchen Floor	Foot 1	Actinobact
Kitchen Floor	Foot 1	Proteobact
Kitchen Floor	Foot 1	Verruco

House 3

Source	Recipient	Taxonomy
Hand 1	Kitchen Light Switch	Bacteroid
Hand 1	Kitchen Light Switch	Crenarch
Hand 1	Kitchen Light Switch	Firmicutes
Hand 1	Kitchen Light Switch	Gemmatimon
Hand 1	Kitchen Light Switch	SR1
Hand 1	Kitchen Light Switch	Thermi
Hand 1	Kitchen Light Switch	Verruco
Hand 2	Kitchen Light Switch	Acidobact
Hand 2	Kitchen Light Switch	Actinobact
Hand 2	Kitchen Light Switch	Crenarch
Hand 2	Kitchen Light Switch	Gemmatimon
Hand 2	Kitchen Light Switch	Proteobact
Hand 2	Kitchen Light Switch	Thermi
Hand 2	Kitchen Light Switch	Verruco
Hand 3	Kitchen Light Switch	Acidobact
Hand 3	Kitchen Light Switch	Actinobact
Hand 3	Kitchen Light Switch	Bacteroid
Hand 3	Kitchen Light Switch	Firmicutes
Hand 3	Kitchen Light Switch	Proteobact
Hand 3	Kitchen Light Switch	Spiroch
Hand 1	Kitchen Floor	Bacteroid
Hand 1	Kitchen Floor	Cyanobact
Hand 1	Kitchen Floor	Fusobact
Hand 2	Kitchen Floor	Actinobact
Hand 2	Kitchen Floor	Crenarch
Hand 2	Kitchen Floor	Firmicutes
Hand 2	Kitchen Floor	Plancto
Hand 2	Kitchen Floor	Proteobact
Hand 3	Kitchen Floor	Actinobact
Hand 3	Kitchen Floor	Crenarch
Hand 3	Kitchen Floor	Cyanobact
Hand 3	Kitchen Floor	Firmicutes
Hand 3	Kitchen Floor	Proteobact
Hand 1	Kitchen Counter	Actinobact
Hand 1	Kitchen Counter	Bacteroid
Hand 1	Kitchen Counter	Firmicutes
Hand 1	Kitchen Counter	Fusobact
Hand 1	Kitchen Counter	Gemmatimon
Hand 1	Kitchen Counter	Proteobact
Hand 1	Kitchen Counter	Spiroch

Hand 1	Kitchen Counter	Verruco
Hand 2	Kitchen Counter	Acidobact
Hand 2	Kitchen Counter	Actinobact
Hand 2	Kitchen Counter	Bacteroid
Hand 2	Kitchen Counter	Firmicutes
Hand 2	Kitchen Counter	Gemmatimon
Hand 2	Kitchen Counter	Proteobact
Hand 3	Kitchen Counter	Spiroch
Hand 3	Kitchen Counter	Tenericutes
Hand 3	Kitchen Counter	Verruco
Hand 1	Front Door Knob	Acidobact
Hand 1	Front Door Knob	Bacteroid
Hand 1	Front Door Knob	Crenarch
Hand 1	Front Door Knob	Fusobact
Hand 1	Front Door Knob	Gemmatimon
Hand 1	Front Door Knob	Tenericutes
Hand 1	Front Door Knob	Thermi
Hand 2	Front Door Knob	Actinobact
Hand 2	Front Door Knob	Cyanobact
Hand 2	Front Door Knob	Gemmatimon
Hand 2	Front Door Knob	Proteobact
Hand 2	Front Door Knob	Spiroch
Hand 2	Front Door Knob	Thermi
Hand 2	Front Door Knob	Verruco
Hand 3	Front Door Knob	Acidobact
Hand 3	Front Door Knob	Actinobact
Hand 3	Front Door Knob	Bacteroid
Hand 3	Front Door Knob	Cyanobact
Hand 3	Front Door Knob	Firmicutes
Hand 3	Front Door Knob	Proteobact
Hand 3	Front Door Knob	Tenericutes
Hand 3	Front Door Knob	Verruco
Foot 1	Bedroom Floor	Actinobact
Foot 1	Bedroom Floor	Firmicutes
Foot 1	Bedroom Floor	Fusobact
Foot 1	Bedroom Floor	Proteobact
Foot 1	Bedroom Floor	Tenericutes
Foot 2	Bedroom Floor	Actinobact
Foot 2	Bedroom Floor	Cyanobact
Foot 2	Bedroom Floor	Firmicutes
Foot 2	Bedroom Floor	Plancto
Foot 2	Bedroom Floor	Verruco

Foot 3	Bedroom Floor	Crenarch
Foot 3	Bedroom Floor	Cyanobact
Foot 3	Bedroom Floor	Fusobact
Foot 3	Bedroom Floor	Plancto
Foot 3	Bedroom Floor	Proteobact
Foot 3	Bedroom Floor	Verruco
Hand 1	Bathroom Door Knob	Acidobact
Hand 1	Bathroom Door Knob	Actinobact
Hand 1	Bathroom Door Knob	Bacteroid
Hand 1	Bathroom Door Knob	Fusobact
Hand 1	Bathroom Door Knob	Gemmatimon
Hand 1	Bathroom Door Knob	Plancto
Hand 2	Bathroom Door Knob	Actinobact
Hand 2	Bathroom Door Knob	Fusobact
Hand 2	Bathroom Door Knob	Spiroch
Hand 2	Bathroom Door Knob	SR1
Hand 2	Bathroom Door Knob	Tenericutes
Hand 3	Bathroom Door Knob	Acidobact
Hand 3	Bathroom Door Knob	Bacteroid
Hand 3	Bathroom Door Knob	Firmicutes
Hand 3	Bathroom Door Knob	Gemmatimon
Hand 3	Bathroom Door Knob	Plancto
Hand 3	Bathroom Door Knob	Spiroch
Hand 3	Bathroom Door Knob	SR1
Foot 1	Nose 3	Plancto
Hand 1	Nose 3	Acidobact
Hand 1	Nose 3	Gemmatimon
Hand 1	Nose 3	Proteobact
Hand 1	Nose 3	Tenericutes
Nose 1	Nose 3	Actinobact
Nose 1	Nose 3	Bacteroid
Nose 1	Nose 3	Crenarch
Nose 1	Nose 3	Fusobact
Nose 1	Nose 3	Plancto
Nose 1	Nose 3	Spiroch
Nose 1	Nose 3	Thermi
Nose 1	Nose 3	Verruco
Foot 2	Nose 3	Bacteroid
Foot 2	Nose 3	Firmicutes
Foot 2	Nose 3	Tenericutes
Hand 2	Nose 3	Actinobact
Hand 2	Nose 3	Crenarch

Hand 2	Nose 3	Spiroch
Hand 2	Nose 3	Verruco
Nose 2	Nose 3	SR1
Foot 3	Nose 3	Firmicutes
Foot 3	Nose 3	Gemmatimon
Hand 3	Nose 3	Acidobact
Hand 3	Nose 3	Proteobact
Hand 3	Nose 3	Thermi
Foot 1	Hand 3	Acidobact
Hand 1	Hand 3	Fusobact
Hand 1	Hand 3	Gemmatimon
Nose 1	Hand 3	Bacteroid
Nose 1	Hand 3	Cyanobact
Nose 1	Hand 3	Plancto
Foot 2	Hand 3	Plancto
Foot 2	Hand 3	SR1
Hand 2	Hand 3	Tenericutes
Nose 2	Hand 3	Gemmatimon
Nose 2	Hand 3	Thermi
Nose 3	Hand 3	SR1
Bathroom Door Knob	Hand 3	Bacteroid
Bedroom Floor	Hand 3	Fusobact
Front Door Knob	Hand 3	Acidobact
Front Door Knob	Hand 3	Actinobact
Front Door Knob	Hand 3	Firmicutes
Front Door Knob	Hand 3	Proteobact
Kitchen Counter	Hand 3	Crenarch
Kitchen Counter	Hand 3	Tenericutes
Kitchen Counter	Hand 3	Verruco
Kitchen Floor	Hand 3	Actinobact
Kitchen Floor	Hand 3	Crenarch
Kitchen Floor	Hand 3	Cyanobact
Kitchen Floor	Hand 3	Thermi
Kitchen Light Switch	Hand 3	Verruco
Foot 1	Foot 3	Acidobact
Foot 1	Foot 3	Crenarch
Foot 1	Foot 3	Firmicutes
Foot 1	Foot 3	Fusobact
Foot 1	Foot 3	Spiroch
Foot 1	Foot 3	SR1
Foot 1	Foot 3	Tenericutes
Hand 1	Foot 3	Actinobact

Hand 1	Foot 3	Crenarch
Hand 1	Foot 3	Thermi
Nose 1	Foot 3	Actinobact
Nose 1	Foot 3	Proteobact
Nose 1	Foot 3	Verruco
Foot 2	Foot 3	Gemmatimon
Foot 2	Foot 3	Tenericutes
Foot 2	Foot 3	Thermi
Hand 2	Foot 3	Fusobact
Nose 2	Foot 3	Gemmatimon
Hand 3	Foot 3	Spiroch
Nose 3	Foot 3	Firmicutes
Bedroom Floor	Foot 3	Bacteroid
Bedroom Floor	Foot 3	SR1
Kitchen Floor	Foot 3	Acidobact
Kitchen Floor	Foot 3	Bacteroid
Foot 1	Nose 2	Crenarch
Foot 1	Nose 2	Firmicutes
Foot 1	Nose 2	Gemmatimon
Foot 1	Nose 2	Plancto
Foot 1	Nose 2	Verruco
Hand 1	Nose 2	Crenarch
Hand 1	Nose 2	Fusobact
Hand 1	Nose 2	SR1
Nose 1	Nose 2	Acidobact
Nose 1	Nose 2	Plancto
Nose 1	Nose 2	Thermi
Nose 1	Nose 2	Verruco
Foot 2	Nose 2	Actinobact
Foot 2	Nose 2	SR1
Hand 2	Nose 2	Bacteroid
Foot 3	Nose 2	Proteobact
Hand 3	Nose 2	Actinobact
Hand 3	Nose 2	Firmicutes
Nose 3	Nose 2	Bacteroid
Nose 3	Nose 2	Proteobact
Nose 3	Nose 2	Thermi
Hand 1	Hand 2	Actinobact
Nose 1	Hand 2	Crenarch
Nose 1	Hand 2	Gemmatimon
Nose 1	Hand 2	Plancto
Nose 1	Hand 2	Proteobact

Nose 1	Hand 2	Spiroch
Nose 1	Hand 2	Thermi
Foot 2	Hand 2	Proteobact
Foot 2	Hand 2	SR1
Nose 2	Hand 2	Bacteroid
Nose 2	Hand 2	Fusobact
Nose 2	Hand 2	Verruco
Foot 3	Hand 2	Fusobact
Foot 3	Hand 2	Verruco
Hand 3	Hand 2	Spiroch
Nose 3	Hand 2	Gemmatimon
Nose 3	Hand 2	SR1
Bathroom Door Knob	Hand 2	Tenericutes
Bedroom Floor	Hand 2	Acidobact
Bedroom Floor	Hand 2	Bacteroid
Bedroom Floor	Hand 2	Crenarch
Bedroom Floor	Hand 2	Plancto
Front Door Knob	Hand 2	Firmicutes
Front Door Knob	Hand 2	Tenericutes
Kitchen Floor	Hand 2	Firmicutes
Kitchen Floor	Hand 2	Thermi
Kitchen Light Switch	Hand 2	Actinobact
Foot 1	Foot 2	Acidobact
Foot 1	Foot 2	Firmicutes
Foot 1	Foot 2	Fusobact
Foot 1	Foot 2	Gemmatimon
Hand 1	Foot 2	Plancto
Nose 1	Foot 2	Actinobact
Hand 2	Foot 2	Acidobact
Hand 2	Foot 2	Crenarch
Hand 2	Foot 2	Tenericutes
Hand 2	Foot 2	Verruco
Nose 2	Foot 2	Cyanobact
Nose 2	Foot 2	Fusobact
Nose 2	Foot 2	Verruco
Foot 3	Foot 2	Bacteroid
Foot 3	Foot 2	Crenarch
Foot 3	Foot 2	Spiroch
Foot 3	Foot 2	SR1
Hand 3	Foot 2	Firmicutes
Hand 3	Foot 2	Proteobact
Hand 3	Foot 2	Spiroch

Hand 3	Foot 2	Thermi
Nose 3	Foot 2	Proteobact
Bedroom Floor	Foot 2	Plancto
Bedroom Floor	Foot 2	Thermi
Kitchen Floor	Foot 2	Actinobact
Kitchen Floor	Foot 2	Bacteroid
Kitchen Floor	Foot 2	SR1
Foot 1	Nose 1	Acidobact
Foot 1	Nose 1	Cyanobact
Foot 1	Nose 1	Gemmatimon
Foot 1	Nose 1	Proteobact
Hand 1	Nose 1	Acidobact
Hand 1	Nose 1	Bacteroid
Hand 1	Nose 1	Spiroch
Hand 1	Nose 1	Thermi
Foot 2	Nose 1	Actinobact
Foot 2	Nose 1	Crenarch
Foot 2	Nose 1	SR1
Foot 2	Nose 1	Tenericutes
Hand 2	Nose 1	Crenarch
Hand 2	Nose 1	Fusobact
Hand 2	Nose 1	Proteobact
Hand 2	Nose 1	Spiroch
Hand 2	Nose 1	Tenericutes
Nose 2	Nose 1	Cyanobact
Nose 2	Nose 1	Verruco
Foot 3	Nose 1	Firmicutes
Foot 3	Nose 1	Gemmatimon
Foot 3	Nose 1	SR1
Foot 3	Nose 1	Thermi
Hand 3	Nose 1	Bacteroid
Hand 3	Nose 1	Firmicutes
Hand 3	Nose 1	Fusobact
Nose 3	Nose 1	Actinobact
Nose 3	Nose 1	Verruco
Foot 1	Hand 1	Crenarch
Foot 1	Hand 1	Tenericutes
Foot 1	Hand 1	Thermi
Nose 1	Hand 1	Verruco
Foot 2	Hand 1	Firmicutes
Hand 2	Hand 1	Acidobact
Hand 2	Hand 1	Bacteroid

Hand 2	Hand 1	Cyanobact
Hand 2	Hand 1	Gemmatimon
Hand 2	Hand 1	Plancto
Hand 2	Hand 1	Verruco
Foot 3	Hand 1	Bacteroid
Foot 3	Hand 1	Fusobact
Foot 3	Hand 1	SR1
Hand 3	Hand 1	Acidobact
Hand 3	Hand 1	Firmicutes
Nose 3	Hand 1	Gemmatimon
Nose 3	Hand 1	Plancto
Nose 3	Hand 1	Proteobact
Bathroom Door Knob	Hand 1	Actinobact
Bathroom Door Knob	Hand 1	Fusobact
Bathroom Door Knob	Hand 1	Proteobact
Bathroom Door Knob	Hand 1	Spiroch
Front Door Knob	Hand 1	Actinobact
Front Door Knob	Hand 1	Tenericutes
Kitchen Counter	Hand 1	SR1
Kitchen Floor	Hand 1	Crenarch
Kitchen Light Switch	Hand 1	Cyanobact
Kitchen Light Switch	Hand 1	Thermi
Hand 1	Foot 1	Acidobact
Hand 1	Foot 1	Actinobact
Hand 1	Foot 1	Gemmatimon
Nose 1	Foot 1	Crenarch
Foot 2	Foot 1	Proteobact
Hand 2	Foot 1	Actinobact
Nose 2	Foot 1	Firmicutes
Nose 2	Foot 1	Fusobact
Nose 2	Foot 1	Plancto
Nose 2	Foot 1	Thermi
Foot 3	Foot 1	Firmicutes
Foot 3	Foot 1	Spiroch
Hand 3	Foot 1	Acidobact
Hand 3	Foot 1	Cyanobact
Nose 3	Foot 1	Crenarch
Nose 3	Foot 1	Gemmatimon
Nose 3	Foot 1	Proteobact
Nose 3	Foot 1	Verruco
Bedroom Floor	Foot 1	Cyanobact
Bedroom Floor	Foot 1	Fusobact

Bedroom Floor	Foot 1	Plancto
Kitchen Floor	Foot 1	Bacteroid
Kitchen Floor	Foot 1	Spiroch
Kitchen Floor	Foot 1	Thermi

House 4

Source	Recipient	Taxonomy
Hand 1	Kitchen Light Switch	Acidobact
Hand 1	Kitchen Light Switch	Actinobact
Hand 1	Kitchen Light Switch	Bacteroid
Hand 1	Kitchen Light Switch	Crenarch
Hand 1	Kitchen Light Switch	Fusobact
Hand 1	Kitchen Light Switch	Plancto
Hand 1	Kitchen Light Switch	Proteobact
Hand 1	Kitchen Light Switch	SR1
Hand 1	Kitchen Light Switch	Tenericutes
Hand 1	Kitchen Light Switch	Thermi
Hand 1	Kitchen Light Switch	Verruco
Hand 2	Kitchen Light Switch	Actinobact
Hand 2	Kitchen Light Switch	Bacteroid
Hand 2	Kitchen Light Switch	Crenarch
Hand 2	Kitchen Light Switch	Cyanobact
Hand 2	Kitchen Light Switch	Firmicutes
Hand 2	Kitchen Light Switch	Gemmatimon
Hand 2	Kitchen Light Switch	Proteobact
Hand 2	Kitchen Light Switch	Tenericutes
Hand 3	Kitchen Light Switch	Acidobact
Hand 3	Kitchen Light Switch	Cyanobact
Hand 3	Kitchen Light Switch	Fusobact
Hand 3	Kitchen Light Switch	Gemmatimon
Hand 3	Kitchen Light Switch	Plancto
Hand 3	Kitchen Light Switch	SR1
Hand 3	Kitchen Light Switch	Thermi
Hand 3	Kitchen Light Switch	Verruco
Dog Nose 1	Kitchen Floor	Cyanobact
Dog Nose 1	Kitchen Floor	Firmicutes
Dog Foot 2	Kitchen Floor	Bacteroid
Dog Foot 2	Kitchen Floor	Spiroch
Dog Foot 2	Kitchen Floor	Tenericutes
Dog Foot 2	Kitchen Floor	Thermi
Dog Nose 2	Kitchen Floor	Fusobact
Dog Nose 2	Kitchen Floor	Gemmatimon
Dog Foot 3	Kitchen Floor	Acidobact
Dog Foot 3	Kitchen Floor	Fusobact
Dog Foot 3	Kitchen Floor	SR1
Dog Nose 3	Kitchen Floor	Crenarch
Dog Nose 3	Kitchen Floor	Thermi

Foot 1	Kitchen Floor	SR1
Foot 1	Kitchen Floor	Verruco
Foot 2	Kitchen Floor	Actinobact
Foot 2	Kitchen Floor	Crenarch
Foot 2	Kitchen Floor	Plancto
Foot 2	Kitchen Floor	Proteobact
Foot 2	Kitchen Floor	Spiroch
Foot 3	Kitchen Floor	Actinobact
Foot 3	Kitchen Floor	Bacteroid
Foot 3	Kitchen Floor	Cyanobact
Foot 3	Kitchen Floor	Firmicutes
Foot 3	Kitchen Floor	Plancto
Nose 3	Kitchen Floor	Acidobact
Nose 3	Kitchen Floor	Proteobact
Nose 3	Kitchen Floor	Verruco
Hand 1	Kitchen Counter	Acidobact
Hand 1	Kitchen Counter	Actinobact
Hand 1	Kitchen Counter	Bacteroid
Hand 1	Kitchen Counter	Firmicutes
Hand 1	Kitchen Counter	Proteobact
Hand 1	Kitchen Counter	Tenericutes
Hand 1	Kitchen Counter	Verruco
Hand 2	Kitchen Counter	Acidobact
Hand 2	Kitchen Counter	Bacteroid
Hand 2	Kitchen Counter	Crenarch
Hand 2	Kitchen Counter	Proteobact
Hand 2	Kitchen Counter	Verruco
Hand 3	Kitchen Counter	Actinobact
Hand 3	Kitchen Counter	Firmicutes
Hand 3	Kitchen Counter	Tenericutes
Kitchen Floor	Kitchen Counter	Spiroch
Hand 1	Front Door Knob	Actinobact
Hand 1	Front Door Knob	Bacteroid
Hand 1	Front Door Knob	Crenarch
Hand 1	Front Door Knob	Fusobact
Hand 1	Front Door Knob	Gemmatimon
Hand 1	Front Door Knob	Plancto
Hand 1	Front Door Knob	Tenericutes
Hand 2	Front Door Knob	Actinobact
Hand 2	Front Door Knob	Cyanobact
Hand 2	Front Door Knob	Firmicutes
Hand 2	Front Door Knob	Fusobact

Hand 2	Front Door Knob	Plancto
Hand 2	Front Door Knob	Proteobact
Hand 2	Front Door Knob	Spiroch
Hand 2	Front Door Knob	Tenericutes
Hand 3	Front Door Knob	Bacteroid
Hand 3	Front Door Knob	Crenarch
Hand 3	Front Door Knob	Cyanobact
Hand 3	Front Door Knob	Proteobact
Hand 3	Front Door Knob	Spiroch
Hand 3	Front Door Knob	Verruco
Dog Nose 1	Bedroom Floor	Actinobact
Dog Nose 1	Bedroom Floor	Bacteroid
Dog Nose 1	Bedroom Floor	Cyanobact
Dog Nose 1	Bedroom Floor	Fusobact
Dog Foot 2	Bedroom Floor	Crenarch
Dog Foot 2	Bedroom Floor	Proteobact
Dog Foot 2	Bedroom Floor	Verruco
Dog Nose 2	Bedroom Floor	Gemmatimon
Dog Nose 2	Bedroom Floor	Spiroch
Dog Foot 3	Bedroom Floor	Acidobact
Dog Foot 3	Bedroom Floor	Crenarch
Dog Foot 3	Bedroom Floor	Cyanobact
Dog Foot 3	Bedroom Floor	Spiroch
Dog Foot 3	Bedroom Floor	SR1
Dog Foot 3	Bedroom Floor	Thermi
Dog Nose 3	Bedroom Floor	Bacteroid
Dog Nose 3	Bedroom Floor	Plancto
Dog Nose 3	Bedroom Floor	Verruco
Foot 1	Bedroom Floor	Firmicutes
Foot 1	Bedroom Floor	Gemmatimon
Foot 1	Bedroom Floor	SR1
Foot 1	Bedroom Floor	Tenericutes
Foot 2	Bedroom Floor	Firmicutes
Foot 2	Bedroom Floor	Plancto
Foot 3	Bedroom Floor	Acidobact
Foot 3	Bedroom Floor	Fusobact
Foot 3	Bedroom Floor	Proteobact
Foot 3	Bedroom Floor	Tenericutes
Hand 1	Bathroom Door Knob	Acidobact
Hand 1	Bathroom Door Knob	Actinobact
Hand 1	Bathroom Door Knob	Bacteroid
Hand 1	Bathroom Door Knob	Crenarch

Hand 1	Bathroom Door Knob	Spiroch
Hand 1	Bathroom Door Knob	SR1
Hand 1	Bathroom Door Knob	Tenericutes
Hand 1	Bathroom Door Knob	Verruco
Hand 2	Bathroom Door Knob	Actinobact
Hand 2	Bathroom Door Knob	Bacteroid
Hand 2	Bathroom Door Knob	Cyanobact
Hand 2	Bathroom Door Knob	Fusobact
Hand 2	Bathroom Door Knob	Proteobact
Hand 2	Bathroom Door Knob	Spiroch
Hand 2	Bathroom Door Knob	SR1
Hand 2	Bathroom Door Knob	Tenericutes
Hand 3	Bathroom Door Knob	Acidobact
Hand 3	Bathroom Door Knob	Cyanobact
Hand 3	Bathroom Door Knob	Firmicutes
Hand 3	Bathroom Door Knob	Fusobact
Dog Foot 1	Nose 3	Actinobact
Dog Foot 2	Nose 3	Acidobact
Dog Foot 2	Nose 3	Actinobact
Dog Nose 2	Nose 3	Proteobact
Dog Foot 3	Nose 3	Thermi
Dog Nose 3	Nose 3	Crenarch
Dog Nose 3	Nose 3	Spiroch
Foot 1	Nose 3	Cyanobact
Foot 1	Nose 3	SR1
Foot 1	Nose 3	Thermi
Hand 1	Nose 3	Cyanobact
Hand 1	Nose 3	Firmicutes
Hand 1	Nose 3	Plancto
Hand 1	Nose 3	SR1
Nose 1	Nose 3	Firmicutes
Nose 1	Nose 3	Fusobact
Foot 2	Nose 3	Gemmatimon
Foot 2	Nose 3	Plancto
Hand 2	Nose 3	Crenarch
Foot 3	Nose 3	Acidobact
Foot 3	Nose 3	Gemmatimon
Foot 3	Nose 3	Spiroch
Hand 3	Nose 3	Fusobact
Hand 3	Nose 3	Proteobact
Dog Foot 1	Hand 3	Cyanobact
Dog Nose 1	Hand 3	Proteobact

Dog Foot 2	Hand 3	Acidobact
Dog Foot 2	Hand 3	Tenericutes
Dog Nose 2	Hand 3	Bacteroid
Dog Nose 2	Hand 3	Thermi
Dog Nose 3	Hand 3	Firmicutes
Hand 1	Hand 3	Plancto
Nose 1	Hand 3	Spiroch
Foot 2	Hand 3	Plancto
Foot 2	Hand 3	Proteobact
Hand 2	Hand 3	Actinobact
Nose 2	Hand 3	SR1
Nose 2	Hand 3	Tenericutes
Nose 3	Hand 3	Gemmatimon
Nose 3	Hand 3	Thermi
Bathroom Door Knob	Hand 3	Acidobact
Bathroom Door Knob	Hand 3	Actinobact
Bathroom Door Knob	Hand 3	Spiroch
Bedroom Floor	Hand 3	Crenarch
Bedroom Floor	Hand 3	Fusobact
Front Door Knob	Hand 3	Bacteroid
Front Door Knob	Hand 3	Cyanobact
Kitchen Counter	Hand 3	Firmicutes
Kitchen Counter	Hand 3	Verruco
Kitchen Light Switch	Hand 3	Crenarch
Kitchen Light Switch	Hand 3	SR1
Kitchen Light Switch	Hand 3	Verruco
Dog Foot 2	Foot 3	Spiroch
Dog Nose 2	Foot 3	Firmicutes
Dog Nose 2	Foot 3	Gemmatimon
Dog Nose 2	Foot 3	Tenericutes
Dog Foot 3	Foot 3	Cyanobact
Dog Foot 3	Foot 3	Gemmatimon
Dog Foot 3	Foot 3	SR1
Dog Foot 3	Foot 3	Verruco
Dog Nose 3	Foot 3	Plancto
Hand 1	Foot 3	Cyanobact
Hand 1	Foot 3	Fusobact
Hand 1	Foot 3	Plancto
Hand 1	Foot 3	Spiroch
Hand 1	Foot 3	Tenericutes
Hand 1	Foot 3	Verruco
Nose 1	Foot 3	Proteobact

Foot 2	Foot 3	Thermi
Hand 2	Foot 3	Actinobact
Hand 2	Foot 3	Bacteroid
Hand 2	Foot 3	Crenarch
Nose 2	Foot 3	Acidobact
Nose 2	Foot 3	Fusobact
Nose 2	Foot 3	Thermi
Hand 3	Foot 3	Actinobact
Hand 3	Foot 3	Crenarch
Bedroom Floor	Foot 3	Bacteroid
Kitchen Floor	Foot 3	Acidobact
Kitchen Floor	Foot 3	Proteobact
Kitchen Floor	Foot 3	SR1
Dog Foot 1	Nose 2	Actinobact
Dog Foot 1	Nose 2	Proteobact
Dog Nose 1	Nose 2	Fusobact
Dog Nose 1	Nose 2	Plancto
Dog Foot 2	Nose 2	Cyanobact
Dog Foot 2	Nose 2	SR1
Dog Nose 2	Nose 2	Tenericutes
Dog Nose 2	Nose 2	Verruco
Dog Foot 3	Nose 2	Bacteroid
Dog Foot 3	Nose 2	Fusobact
Dog Nose 3	Nose 2	Tenericutes
Dog Nose 3	Nose 2	Thermi
Dog Nose 3	Nose 2	Verruco
Foot 1	Nose 2	Firmicutes
Hand 1	Nose 2	Acidobact
Hand 1	Nose 2	Actinobact
Hand 1	Nose 2	Proteobact
Nose 1	Nose 2	Cyanobact
Nose 1	Nose 2	SR1
Foot 2	Nose 2	Acidobact
Foot 2	Nose 2	Firmicutes
Hand 2	Nose 2	Crenarch
Hand 2	Nose 2	Thermi
Foot 3	Nose 2	Bacteroid
Dog Foot 1	Hand 2	Spiroch
Dog Foot 2	Hand 2	Tenericutes
Dog Nose 2	Hand 2	Bacteroid
Dog Nose 2	Hand 2	Tenericutes
Dog Nose 2	Hand 2	Thermi

Dog Foot 3	Hand 2	Firmicutes
Dog Foot 3	Hand 2	Verruco
Dog Nose 3	Hand 2	Crenarch
Dog Nose 3	Hand 2	Cyanobact
Dog Nose 3	Hand 2	Gemmatimon
Foot 2	Hand 2	Acidobact
Foot 2	Hand 2	Actinobact
Foot 2	Hand 2	Cyanobact
Foot 2	Hand 2	Gemmatimon
Foot 2	Hand 2	Plancto
Foot 2	Hand 2	Verruco
Nose 2	Hand 2	Actinobact
Foot 3	Hand 2	Acidobact
Foot 3	Hand 2	Bacteroid
Foot 3	Hand 2	Plancto
Hand 3	Hand 2	SR1
Nose 3	Hand 2	Spiroch
Bathroom Door Knob	Hand 2	Fusobact
Bedroom Floor	Hand 2	Crenarch
Front Door Knob	Hand 2	Proteobact
Kitchen Counter	Hand 2	SR1
Kitchen Floor	Hand 2	Firmicutes
Kitchen Floor	Hand 2	Fusobact
Kitchen Floor	Hand 2	Proteobact
Kitchen Floor	Hand 2	Thermi
Dog Foot 1	Foot 2	Verruco
Dog Nose 1	Foot 2	Plancto
Dog Nose 1	Foot 2	Proteobact
Dog Foot 2	Foot 2	Proteobact
Dog Nose 2	Foot 2	Crenarch
Dog Nose 2	Foot 2	Firmicutes
Dog Nose 2	Foot 2	SR1
Dog Foot 3	Foot 2	Acidobact
Dog Foot 3	Foot 2	Actinobact
Dog Foot 3	Foot 2	Bacteroid
Dog Foot 3	Foot 2	Fusobact
Dog Nose 3	Foot 2	Bacteroid
Foot 1	Foot 2	Gemmatimon
Foot 1	Foot 2	Spiroch
Hand 1	Foot 2	Cyanobact
Hand 1	Foot 2	Tenericutes
Hand 2	Foot 2	Acidobact

Hand 2	Foot 2	Fusobact
Hand 2	Foot 2	Spiroch
Nose 2	Foot 2	Crenarch
Nose 2	Foot 2	Plancto
Hand 3	Foot 2	Tenericutes
Hand 3	Foot 2	Verruco
Nose 3	Foot 2	Cyanobact
Nose 3	Foot 2	Firmicutes
Bedroom Floor	Foot 2	Gemmatimon
Bedroom Floor	Foot 2	Thermi
Kitchen Floor	Foot 2	Actinobact
Kitchen Floor	Foot 2	Thermi
Dog Foot 1	Nose 1	Spiroch
Dog Foot 1	Nose 1	SR1
Dog Nose 1	Nose 1	Acidobact
Dog Foot 2	Nose 1	Actinobact
Dog Foot 2	Nose 1	Fusobact
Dog Nose 2	Nose 1	Firmicutes
Dog Foot 3	Nose 1	Tenericutes
Foot 1	Nose 1	Actinobact
Foot 1	Nose 1	Bacteroid
Foot 1	Nose 1	Plancto
Foot 1	Nose 1	Verruco
Hand 1	Nose 1	Thermi
Foot 2	Nose 1	Bacteroid
Foot 2	Nose 1	Gemmatimon
Foot 2	Nose 1	Thermi
Hand 2	Nose 1	Cyanobact
Nose 2	Nose 1	Fusobact
Nose 2	Nose 1	Proteobact
Nose 2	Nose 1	Verruco
Foot 3	Nose 1	Gemmatimon
Hand 3	Nose 1	Tenericutes
Nose 3	Nose 1	Crenarch
Nose 3	Nose 1	Proteobact
Nose 3	Nose 1	SR1
Dog Foot 1	Hand 1	Crenarch
Dog Foot 1	Hand 1	Fusobact
Dog Nose 2	Hand 1	Spiroch
Dog Foot 3	Hand 1	Tenericutes
Dog Nose 3	Hand 1	Actinobact
Dog Nose 3	Hand 1	Plancto

Foot 1	Hand 1	Crenarch
Nose 1	Hand 1	Spiroch
Hand 2	Hand 1	Acidobact
Hand 2	Hand 1	Firmicutes
Hand 2	Hand 1	Gemmatimon
Hand 2	Hand 1	SR1
Hand 2	Hand 1	Tenericutes
Hand 2	Hand 1	Thermi
Nose 2	Hand 1	Verruco
Foot 3	Hand 1	Actinobact
Nose 3	Hand 1	Bacteroid
Nose 3	Hand 1	Cyanobact
Nose 3	Hand 1	Fusobact
Nose 3	Hand 1	Plancto
Bedroom Floor	Hand 1	Bacteroid
Bedroom Floor	Hand 1	Cyanobact
Front Door Knob	Hand 1	Gemmatimon
Front Door Knob	Hand 1	Proteobact
Kitchen Counter	Hand 1	SR1
Kitchen Floor	Hand 1	Thermi
Kitchen Light Switch	Hand 1	Acidobact
Dog Foot 1	Foot 1	Tenericutes
Dog Foot 1	Foot 1	Verruco
Dog Nose 1	Foot 1	Bacteroid
Dog Nose 1	Foot 1	SR1
Dog Foot 2	Foot 1	Gemmatimon
Dog Nose 2	Foot 1	Firmicutes
Dog Foot 3	Foot 1	Acidobact
Dog Foot 3	Foot 1	Crenarch
Dog Foot 3	Foot 1	Cyanobact
Dog Foot 3	Foot 1	Spiroch
Dog Nose 3	Foot 1	Spiroch
Nose 1	Foot 1	Crenarch
Nose 1	Foot 1	Tenericutes
Foot 2	Foot 1	Actinobact
Foot 2	Foot 1	Cyanobact
Hand 2	Foot 1	Bacteroid
Nose 2	Foot 1	Firmicutes
Foot 3	Foot 1	Acidobact
Foot 3	Foot 1	Proteobact
Foot 3	Foot 1	Thermi
Hand 3	Foot 1	Plancto

Nose 3	Foot 1	Plancto
Bedroom Floor	Foot 1	Fusobact
Bedroom Floor	Foot 1	Thermi
Kitchen Floor	Foot 1	Actinobact
Kitchen Floor	Foot 1	Fusobact
Kitchen Floor	Foot 1	Gemmatimon
Kitchen Floor	Foot 1	Proteobact
Kitchen Floor	Foot 1	SR1
Kitchen Floor	Foot 1	Verruco
Dog Foot 1	Dog Nose 3	Cyanobact
Dog Nose 1	Dog Nose 3	Cyanobact
Dog Foot 2	Dog Nose 3	Crenarch
Dog Foot 2	Dog Nose 3	Tenericutes
Dog Nose 2	Dog Nose 3	Actinobact
Dog Nose 2	Dog Nose 3	Thermi
Dog Foot 3	Dog Nose 3	SR1
Dog Foot 3	Dog Nose 3	Tenericutes
Foot 1	Dog Nose 3	Proteobact
Foot 1	Dog Nose 3	Spiroch
Nose 1	Dog Nose 3	Proteobact
Nose 1	Dog Nose 3	Verruco
Foot 2	Dog Nose 3	Firmicutes
Foot 2	Dog Nose 3	Fusobact
Nose 2	Dog Nose 3	Acidobact
Nose 2	Dog Nose 3	Actinobact
Nose 2	Dog Nose 3	Fusobact
Nose 2	Dog Nose 3	Gemmatimon
Foot 3	Dog Nose 3	Bacteroid
Hand 3	Dog Nose 3	Firmicutes
Nose 3	Dog Nose 3	Crenarch
Nose 3	Dog Nose 3	Plancto
Nose 3	Dog Nose 3	SR1
Bedroom Floor	Dog Nose 3	Bacteroid
Bedroom Floor	Dog Nose 3	Verruco
Kitchen Floor	Dog Nose 3	Acidobact
Kitchen Floor	Dog Nose 3	Gemmatimon
Kitchen Floor	Dog Nose 3	Spiroch
Dog Foot 1	Dog Foot 3	Gemmatimon
Dog Foot 1	Dog Foot 3	Plancto
Dog Foot 1	Dog Foot 3	Spiroch
Dog Foot 1	Dog Foot 3	Thermi
Dog Foot 2	Dog Foot 3	Crenarch

Dog Foot 2	Dog Foot 3	SR1
Dog Foot 2	Dog Foot 3	Tenericutes
Dog Nose 2	Dog Foot 3	Acidobact
Dog Nose 2	Dog Foot 3	Firmicutes
Hand 1	Dog Foot 3	Acidobact
Hand 1	Dog Foot 3	Fusobact
Hand 2	Dog Foot 3	Gemmatimon
Hand 2	Dog Foot 3	Plancto
Hand 2	Dog Foot 3	Thermi
Nose 2	Dog Foot 3	Actinobact
Nose 2	Dog Foot 3	Bacteroid
Nose 2	Dog Foot 3	Cyanobact
Nose 2	Dog Foot 3	Proteobact
Nose 2	Dog Foot 3	SR1
Foot 3	Dog Foot 3	Crenarch
Foot 3	Dog Foot 3	Verruco
Hand 3	Dog Foot 3	Fusobact
Hand 3	Dog Foot 3	Verruco
Nose 3	Dog Foot 3	Cyanobact
Bedroom Floor	Dog Foot 3	Spiroch
Kitchen Floor	Dog Foot 3	Tenericutes
Dog Foot 1	Dog Nose 2	Firmicutes
Dog Foot 1	Dog Nose 2	Gemmatimon
Dog Foot 1	Dog Nose 2	Proteobact
Dog Nose 1	Dog Nose 2	Crenarch
Dog Nose 1	Dog Nose 2	Proteobact
Dog Foot 2	Dog Nose 2	Crenarch
Dog Foot 2	Dog Nose 2	Fusobact
Dog Foot 2	Dog Nose 2	Tenericutes
Dog Foot 3	Dog Nose 2	Actinobact
Dog Nose 3	Dog Nose 2	Bacteroid
Dog Nose 3	Dog Nose 2	Firmicutes
Dog Nose 3	Dog Nose 2	Plancto
Foot 1	Dog Nose 2	Bacteroid
Hand 1	Dog Nose 2	Spiroch
Nose 1	Dog Nose 2	Fusobact
Nose 1	Dog Nose 2	SR1
Foot 2	Dog Nose 2	SR1
Hand 2	Dog Nose 2	Tenericutes
Nose 2	Dog Nose 2	Actinobact
Foot 3	Dog Nose 2	Plancto
Foot 3	Dog Nose 2	Spiroch

Kitchen Floor	Dog Nose 2	Acidobact
Dog Foot 1	Dog Foot 2	Gemmatimon
Dog Foot 1	Dog Foot 2	Tenericutes
Dog Foot 1	Dog Foot 2	Verruco
Dog Nose 2	Dog Foot 2	Firmicutes
Dog Nose 2	Dog Foot 2	Thermi
Dog Nose 3	Dog Foot 2	Bacteroid
Dog Nose 3	Dog Foot 2	Proteobact
Nose 1	Dog Foot 2	Actinobact
Foot 2	Dog Foot 2	Crenarch
Hand 2	Dog Foot 2	Acidobact
Hand 2	Dog Foot 2	Gemmatimon
Hand 2	Dog Foot 2	Spiroch
Hand 2	Dog Foot 2	SR1
Hand 2	Dog Foot 2	Tenericutes
Nose 2	Dog Foot 2	Cyanobact
Nose 2	Dog Foot 2	Spiroch
Foot 3	Dog Foot 2	Thermi
Hand 3	Dog Foot 2	Acidobact
Hand 3	Dog Foot 2	Actinobact
Nose 3	Dog Foot 2	Bacteroid
Bedroom Floor	Dog Foot 2	Crenarch
Bedroom Floor	Dog Foot 2	Firmicutes
Bedroom Floor	Dog Foot 2	Fusobact
Bedroom Floor	Dog Foot 2	Plancto
Bedroom Floor	Dog Foot 2	Proteobact
Bedroom Floor	Dog Foot 2	Verruco
Kitchen Floor	Dog Foot 2	Cyanobact
Kitchen Floor	Dog Foot 2	Fusobact
Kitchen Floor	Dog Foot 2	SR1
Dog Foot 1	Dog Nose 1	Actinobact
Dog Foot 1	Dog Nose 1	Proteobact
Dog Foot 1	Dog Nose 1	Spiroch
Dog Foot 2	Dog Nose 1	Cyanobact
Dog Nose 2	Dog Nose 1	Gemmatimon
Dog Nose 2	Dog Nose 1	SR1
Dog Nose 3	Dog Nose 1	Verruco
Foot 1	Dog Nose 1	Acidobact
Foot 1	Dog Nose 1	Tenericutes
Hand 1	Dog Nose 1	Firmicutes
Nose 1	Dog Nose 1	Fusobact
Nose 1	Dog Nose 1	Verruco

Foot 2	Dog Nose 1	Bacteroid
Foot 2	Dog Nose 1	Crenarch
Hand 2	Dog Nose 1	Firmicutes
Hand 2	Dog Nose 1	Thermi
Nose 2	Dog Nose 1	Acidobact
Nose 2	Dog Nose 1	Crenarch
Foot 3	Dog Nose 1	Cyanobact
Hand 3	Dog Nose 1	Thermi
Nose 3	Dog Nose 1	Gemmatimon
Nose 3	Dog Nose 1	Plancto
Nose 3	Dog Nose 1	Proteobact
Nose 3	Dog Nose 1	Spiroch
Bedroom Floor	Dog Nose 1	Actinobact
Bedroom Floor	Dog Nose 1	Plancto
Bedroom Floor	Dog Nose 1	Tenericutes
Kitchen Floor	Dog Nose 1	Fusobact
Dog Foot 2	Dog Foot 1	Proteobact
Dog Foot 2	Dog Foot 1	Spiroch
Dog Nose 2	Dog Foot 1	Actinobact
Dog Nose 2	Dog Foot 1	Fusobact
Dog Foot 3	Dog Foot 1	SR1
Dog Nose 3	Dog Foot 1	Bacteroid
Dog Nose 3	Dog Foot 1	Thermi
Hand 1	Dog Foot 1	Acidobact
Hand 1	Dog Foot 1	Cyanobact
Hand 1	Dog Foot 1	Tenericutes
Hand 1	Dog Foot 1	Verruco
Nose 1	Dog Foot 1	Bacteroid
Nose 1	Dog Foot 1	Plancto
Nose 1	Dog Foot 1	Proteobact
Foot 2	Dog Foot 1	Spiroch
Foot 2	Dog Foot 1	Thermi
Hand 2	Dog Foot 1	Actinobact
Hand 2	Dog Foot 1	Firmicutes
Hand 2	Dog Foot 1	Fusobact
Hand 2	Dog Foot 1	Gemmatimon
Nose 2	Dog Foot 1	Verruco
Foot 3	Dog Foot 1	Crenarch
Foot 3	Dog Foot 1	SR1
Hand 3	Dog Foot 1	Crenarch
Hand 3	Dog Foot 1	Cyanobact
Bedroom Floor	Dog Foot 1	Acidobact

Bedroom Floor	Dog Foot 1	Firmicutes
Kitchen Floor	Dog Foot 1	Gemmatimon
Kitchen Floor	Dog Foot 1	Plancto

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