Supplementary information

Metabolites from Microbes Isolated from the skin of the Panamanian rocket frog *Colostethus panamensis* (Anura: Dendrobatidae).

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- 3D files are available at: https://github.com/cmartinhdz/3D-molecular-cartography-of-the-Panamanian-rocket-frog-Colostethus-panamensis-Dendrobatidae-

- Supporting information about annotated molecules available at: https://github.com/cmartinhdz/3D-molecular-cartography-of-the-Panamanian-rocket-frog-Colostethus-panamensis-Dendrobatidae-/blob/master/Supporting%20information_annotated%20molecules.xlsx
Table S1. Frequency of detected molecular features from bacterial isolates based on their corresponding family.

| Bacterial family | m/z 188.0696 | m/z 205.0969 | m/z 166.0870 | m/z 176.0705 | m/z 261.1233 | m/z 245.1286 | m/z 197.1281 | m/z 211.1437 | m/z 227.1386 | m/z 235.1189 |
|------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
|                  | (N=25)       | (N=24)       | (N=8)        | (N=3)        | (N=24)       | (N=85)       | (N=58)       | (N=112)      | (N=70)       | (N=2)        |
| Aeromonadaceae   | 3            | 3            | 1            | 0            | 4            | 13           | 11           | 14           | 10           | 0            |
| Burkholderiaceae | 1            | 1            | 0            | 0            | 0            | 1            | 1            | 2            | 1            | 0            |
| Comamonadaceae   | 10           | 9            | 2            | 0            | 7            | 14           | 18           | 18           | 18           | 0            |
| Enterobacteriaceae| 1            | 1            | 1            | 1            | 1            | 28           | 6            | 44           | 19           | 0            |
| Flavobacteriaceae| 0            | 0            | 0            | 0            | 0            | 1            | 4            | 1            | 5            | 3            |
| Moraxellaceae    | 0            | 0            | 0            | 0            | 1            | 1            | 0            | 1            | 1            | 1            |
| Neisseriaceae    | 1            | 1            | 0            | 0            | 0            | 1            | 5            | 2            | 5            | 2            |
| Oxalobacteriaceae| 1            | 1            | 0            | 0            | 1            | 1            | 3            | 4            | 1            | 0            |
| Pseudomonadaceae | 4            | 4            | 3            | 2            | 3            | 7            | 7            | 8            | 7            | 1            |
| Rhizobiaceae     | 0            | 0            | 0            | 0            | 0            | 1            | 0            | 0            | 0            | 0            |
| Sphingomonadaceae| 0            | 0            | 0            | 0            | 0            | 0            | 1            | 1            | 1            | 1            |
| Staphylococcaceae| 3            | 3            | 1            | 0            | 4            | 9            | 7            | 9            | 6            | 0            |
| Streptomycetaceae| 1            | 1            | 0            | 0            | 1            | 1            | 1            | 1            | 1            | 0            |
Table S2. Frequency in the number of bacterial isolates in which were detected molecular features (peptides) based on their corresponding family.

| Bacterial family | m/z 342.2383 (N=30) | m/z 328.2226 (N=32) | m/z 459.26 (N=27) | m/z 360.1937 (N=26) | m/z 596.3386 (N=7) | m/z 922.3167 (N=5) | m/z 957.5032 (N=20) | m/z 596.395 (N=6) |
|------------------|---------------------|---------------------|--------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| Aeromonadaceae   | 5                   | 6                   | 6                  | 5                   | 0                   | 1                   | 3                   | 1                   |
| Burkholderiaceae | 1                   | 1                   | 1                  | 1                   | 0                   | 0                   | 0                   | 0                   |
| Comamonadaceae   | 14                  | 15                  | 12                 | 12                  | 3                   | 2                   | 9                   | 2                   |
| Enterobacteriaceae | 1               | 1                   | 2                  | 1                   | 0                   | 0                   | 1                   | 0                   |
| Flavobacteriaceae | 1                | 1                   | 1                  | 0                   | 0                   | 0                   | 1                   | 0                   |
| Moraxellaceae    | 1                   | 1                   | 1                  | 1                   | 1                   | 0                   | 1                   | 0                   |
| Neisseriaceae    | 0                   | 0                   | 0                  | 0                   | 0                   | 0                   | 0                   | 0                   |
| Oxalobacteriaceae | 1                | 0                   | 0                  | 0                   | 0                   | 0                   | 0                   | 0                   |
| Pseudomonadaceae | 2                   | 2                   | 4                  | 2                   | 2                   | 1                   | 0                   | 2                   |
| Rhizobiaceae     | 0                   | 0                   | 0                  | 0                   | 0                   | 0                   | 1                   | 0                   |
| Sphingomonadaceae | 1                | 1                   | 1                  | 1                   | 0                   | 0                   | 1                   | 0                   |
| Staphylococcaceae | 2                | 3                   | 3                  | 1                   | 0                   | 1                   | 2                   | 1                   |
| Streptomyctaceae | 1                   | 1                   | 1                  | 1                   | 1                   | 0                   | 1                   | 0                   |
Table S3. Dry mass yield of the organic extracts

| Number | Sample code | Weight 0 | Weight f | gr  | mg |
|--------|-------------|----------|----------|-----|----|
| 1      | CP1D2-01    | 4.6792   | 4.6794   | 0.0002 | 0.20 |
| 2      | CP1V1-01    | 4.6842   | 4.6847   | 0.0005 | 0.50 |
| 3      | CP1V1-02    | 4.6609   | 4.6632   | 0.0023 | 2.30 |
| 4      | CP1V1-03    | 4.6836   | 4.6839   | 0.0003 | 0.30 |
| 5      | CP1V1-04    | 4.6871   | 4.689    | 0.0019 | 1.90 |
| 6      | CP1V1-05    | 4.649    | 4.6491   | 1E-04  | 0.10 |
| 7      | CP1V1-09    | 4.6984   | 4.6985   | 1E-04  | 0.10 |
| 8      | CP1V1-10    | 4.7038   | 4.7043   | 0.0005 | 0.50 |
| 9      | CP1V2-05    | 4.6893   | 4.6896   | 0.0003 | 0.30 |
| 10     | CP1V2-07    | 4.6758   | 4.6762   | 0.0004 | 0.40 |
| 11     | CP1V3-01    | 4.6892   | 4.6897   | 0.0005 | 0.50 |
| 12     | CP1V3-02    | 4.6927   | 4.6931   | 0.0004 | 0.40 |
| 13     | CP1V3-03    | 4.6512   | 4.652    | 0.0008 | 0.80 |
| 14     | CP1V3-04    | 4.6633   | 4.6638   | 0.0005 | 0.50 |
| 15     | CP1V3-08    | 4.6722   | 4.6728   | 0.0006 | 0.60 |
| 16     | CP1V3-09    | 4.6621   | 4.6629   | 0.0008 | 0.80 |
| 17     | CP1V4-01    | 4.6655   | 4.6663   | 0.0008 | 0.80 |
| 18     | CP1V4-02    | 4.6444   | 4.6446   | 0.0002 | 0.20 |
| 19     | CP1V4-03    | 4.7061   | 4.7062   | 1E-04  | 0.10 |
| 20     | CP1V4-06    | 4.6468   | 4.6472   | 0.0004 | 0.40 |
| 21     | CP1V4-07    | 4.7313   | 4.7318   | 0.0005 | 0.50 |
|   |   |   |   |   |
|---|---|---|---|---|
| 22 | CP1V4-08 | 4.7501 | 4.7505 | 0.0004 | 0.40 |
| 23 | CP1V4-09 | 4.7033 | 4.7037 | 0.0004 | 0.40 |
| 24 | CP1V4-10 | 4.6921 | 4.6926 | 0.0005 | 0.50 |
| 25 | CP1V4-11 | 4.6857 | 4.6858 | 0.0001 | 0.10 |
| 26 | CP1V5-04 | 4.6912 | 4.6916 | 0.0004 | 0.40 |
| 27 | CP1V6-01 | 4.6832 | 4.6836 | 0.0004 | 0.40 |
| 28 | CP1V7-01 | 4.6549 | 4.6552 | 0.0003 | 0.30 |
| 29 | CP1V8-01 | 4.6702 | 4.6708 | 0.0006 | 0.60 |
| 30 | CP1V8-02 | 4.649 | 4.6493 | 0.0003 | 0.30 |
| 31 | CP2D1-01 | 4.6904 | 4.6905 | 1E-04 | 0.10 |
| 32 | CP2D1-02 | 4.7281 | 4.7285 | 0.0004 | 0.40 |
| 33 | CP2D1-03 | 4.6302 | 4.6303 | 1E-04 | 0.10 |
| 34 | CP2D1-04 | 4.6571 | 4.6573 | 0.0002 | 0.20 |
| 35 | CP2D1-05 | 4.7035 | 4.704 | 0.0005 | 0.50 |
| 36 | CP2D1-06 | 4.7045 | 4.7046 | 1E-04 | 0.10 |
| 37 | CP2D1-08 | 4.684 | 4.6845 | 0.0005 | 0.50 |
| 38 | CP2D1-09 | 4.6465 | 4.6468 | 0.0003 | 0.30 |
| 39 | CP2D1-10 | 4.6755 | 4.6762 | 0.0007 | 0.70 |
| 40 | CP2D1-11 | 4.6527 | 4.6531 | 0.0004 | 0.40 |
| 41 | CP2D2-01 | 4.6719 | 4.6724 | 0.0005 | 0.50 |
| 42 | CP2D2-03 | 4.6795 | 4.6796 | 1E-04 | 0.10 |
| 43 | CP2D2-05 | 4.6513 | 4.6525 | 0.0012 | 1.20 |
| 44 | CP2D2-06 | 4.6688 | 4.6694 | 0.0006 | 0.60 |
| 45 | CP2D2-07 | 4.7082 | 4.7093 | 0.0011 | 1.10 |
|   |   |   |   |   |   |
|---|---|---|---|---|---|
| 46 | CP2D2-08 | 4.7017 | 4.7027 | 0.001 | 1.00 |
| 47 | CP2D3-01 | 4.6525 | 4.6526 | 1E-04 | 0.10 |
| 48 | CP2D3-02 | 4.7222 | 4.7227 | 0.0005 | 0.50 |
| 49 | CP2D3-03 | 4.69 | 4.6909 | 0.0009 | 0.90 |
| 50 | CP2D3-06 | 4.6573 | 4.6574 | 1E-04 | 0.10 |
| 51 | CP2D3-08 | 4.7035 | 4.704 | 0.0005 | 0.50 |
| 52 | CP2D4-01 | 4.7282 | 4.7292 | 0.001 | 1.00 |
| 53 | CP2D4-03 | 4.7045 | 4.7047 | 0.0002 | 0.20 |
| 54 | CP2D4-05 | 4.6467 | 4.647 | 0.0003 | 0.30 |
| 55 | CP2D4-06 | 4.6754 | 4.6759 | 0.0005 | 0.50 |
| 56 | CP2D4-08 | 4.6719 | 4.6725 | 0.0006 | 0.60 |
| 57 | CP2D4-09 | 4.6527 | 4.6529 | 0.0002 | 0.20 |
| 58 | CP2D4-10 | 4.6795 | 4.6799 | 0.0004 | 0.40 |
| 59 | CP2D5-03 | 4.6615 | 4.6617 | 0.0002 | 0.20 |
| 60 | CP2D5-06 | 4.6608 | 4.6613 | 0.0005 | 0.50 |
| 61 | CP2D6-01 | 4.6798 | 4.6803 | 0.0005 | 0.50 |
| 62 | CP2D6-02 | 4.6778 | 4.6782 | 0.0004 | 0.40 |
| 63 | CP2D6-04 | 4.7126 | 4.713 | 0.0004 | 0.40 |
| 64 | CP2D6-05 | 4.7068 | 4.7072 | 0.0004 | 0.40 |
| 65 | CP2D6-08 | 4.6699 | 4.6707 | 0.0008 | 0.80 |
| 66 | CP2D6-10 | 4.6878 | 4.6884 | 0.0006 | 0.60 |
| 67 | CP2D7-03 | 4.6746 | 4.6755 | 0.0009 | 0.90 |
| 68 | CP2D7-04 | 4.691 | 4.692 | 0.001 | 1.00 |
| 69 | CP2D8-01 | 4.6993 | 4.6995 | 0.0002 | 0.20 |
|    |     |         |         |         |      |      |
|----|-----|---------|---------|---------|------|------|
| 70 | CP2D8-02 | 4.6827  | 4.6828  | 0.0001  | 0.10 |
| 71 | CP2D8-03 | 4.7069  | 4.7072  | 0.0003  | 0.30 |
| 72 | CP2D8-04 | 4.6968  | 4.697   | 0.0002  | 0.20 |
| 73 | CP2D8-05 | 4.6592  | 4.6593  | 1E-04   | 0.10 |
| 74 | CP2D8-08 | 4.7049  | 4.705   | 1E-04   | 0.10 |
| 75 | CP2D8-09 | 4.703   | 4.7032  | 0.0002  | 0.20 |
| 76 | CP2D8-11 | 4.6942  | 4.6947  | 0.0005  | 0.50 |
| 77 | CP2D8-13 | 4.6809  | 4.6811  | 0.0002  | 0.20 |
| 78 | CP2V1-01 | 4.6815  | 4.6821  | 0.0006  | 0.60 |
| 79 | CP2V1-02 | 4.6764  | 4.6766  | 0.0002  | 0.20 |
| 80 | CP2V1-03 | 4.6586  | 4.6592  | 0.0006  | 0.60 |
| 81 | CP2V2-01 | 4.6762  | 4.6766  | 0.0004  | 0.40 |
| 82 | CP2V2-04 | 4.6622  | 4.6625  | 0.0003  | 0.30 |
| 83 | CP2V3-01 | 4.6958  | 4.6959  | 1E-04   | 0.10 |
| 84 | CP2V3-02 | 4.7428  | 4.7432  | 0.0004  | 0.40 |
| 85 | CP2V4-01 | 4.65    | 4.6505  | 0.0005  | 0.50 |
| 86 | CP2V4-02 | 4.6828  | 4.6829  | 1E-04   | 0.10 |
| 87 | CP2V4-03 | 4.6864  | 4.6865  | 1E-04   | 0.10 |
| 88 | CP2V4-04 | 4.6668  | 4.6674  | 0.0006  | 0.60 |
| 89 | CP2V4-05 | 4.6388  | 4.6391  | 0.0003  | 0.30 |
| 90 | CP2V5-01 | 4.6777  | 4.678   | 0.0003  | 0.30 |
| 91 | CP2V5-02 | 4.6511  | 4.6515  | 0.0004  | 0.40 |
| 92 | CP2V6-01 | 4.7036  | 4.7038  | 0.0002  | 0.20 |
| 93 | CP2V7-01 | 4.7204  | 4.7208  | 0.0004  | 0.40 |
| No. | Sample   | Mean1   | Mean2   | Mean3   | Mean4   |
|-----|----------|---------|---------|---------|---------|
| 94  | CP2V7-02 | 4.6435  | 4.644   | 0.0005  | 0.50    |
| 95  | CP2V7-03 | 4.7033  | 4.7037  | 0.0004  | 0.40    |
| 96  | CP2V7-04 | 4.6956  | 4.6959  | 0.0003  | 0.30    |
| 97  | CP2V7-05 | 4.7645  | 4.7649  | 0.0004  | 0.40    |
| 98  | CP2V8-03 | 4.7306  | 4.7307  | 1E-04   | 0.10    |
| 99  | CP2V8-04 | 4.7317  | 4.7321  | 0.0004  | 0.40    |
| 100 | CP2V8-05 | 4.746   | 4.7466  | 0.0006  | 0.60    |
| 101 | CP2V8-06 | 4.724   | 4.7245  | 0.0005  | 0.50    |
| 102 | CP2V8-07 | 4.7872  | 4.7878  | 0.0006  | 0.60    |
| 103 | CP2V8-09 | 4.7441  | 4.7442  | 1E-04   | 0.10    |
| 104 | CP3D3-01 | 4.7383  | 4.7386  | 0.0003  | 0.30    |
| 105 | CP3D3-02 | 4.7736  | 4.7737  | 1E-04   | 0.10    |
| 106 | CP3D3-03 | 4.639   | 4.6398  | 0.0008  | 0.80    |
| 107 | CP3V2-01 | 4.7654  | 4.7656  | 0.0002  | 0.20    |
| 108 | CP3V2-02 | 4.6806  | 4.6812  | 0.0006  | 0.60    |
| 109 | CP3V3-01 | 4.6817  | 4.6822  | 0.0005  | 0.50    |
| 110 | CP3V3-02 | 4.7068  | 4.7075  | 0.0007  | 0.70    |
| 111 | CP3V3-03 | 4.664   | 4.6641  | 0.0001  | 0.10    |
| 112 | CP3V3-04 | 4.6806  | 4.6808  | 0.0002  | 0.20    |
| 113 | CP3V3-05 | 4.6808  | 4.6813  | 0.0005  | 0.50    |
| 114 | CP3V5-01 | 4.7402  | 4.7407  | 0.0005  | 0.50    |
| 115 | CP3V5-02 | 4.7358  | 4.7364  | 0.0006  | 0.60    |
| 116 | CP3V5-03 | 4.7021  | 4.7025  | 0.0004  | 0.40    |
| 117 | CP3V5-04 | 4.7159  | 4.7163  | 0.0004  | 0.40    |
|   |       |     |     |     |  |
|---|-------|-----|-----|-----|---|
|   |       |     |     |     |   |
| 118| CP3V5-05 | 4.6981 | 4.6991 | 0.001 | 1.00 |
| 119| CP4D1-01 | 4.6974 | 4.6974 | 0.0004 | 0.40 |
| 120| CP4D1-02 | 4.7264 | 4.7265 | 1E-04 | 0.10 |
| 121| CP4D1-03 | 4.7192 | 4.7197 | 0.0005 | 0.50 |
| 122| CP4D1-04 | 4.716 | 4.7166 | 0.0006 | 0.60 |
| 123| CP4D1-05 | 4.7318 | 4.7324 | 0.0006 | 0.60 |
| 124| CP4D2-03 | 4.7371 | 4.7374 | 0.0003 | 0.30 |
| 125| CP4D2-04 | 4.7416 | 4.7419 | 0.0003 | 0.30 |
| 126| CP4D2-05 | 4.687 | 4.6873 | 0.0003 | 0.30 |
| 127| CP4D3-01 | 4.7397 | 4.7398 | 1E-04 | 0.10 |
| 128| CP4D3-02 | 4.7322 | 4.7326 | 0.0004 | 0.40 |
| 129| CP4D3-03 | 4.7161 | 4.7165 | 0.0004 | 0.40 |
| 130| CP4D3-04 | 4.704 | 4.7043 | 0.0003 | 0.30 |
| 131| CP4D3-05 | 4.7377 | 4.7382 | 0.0005 | 0.50 |
| 132| CP4D4-01 | 4.7791 | 4.7792 | 0.0001 | 0.10 |
| 133| CP4D4-02 | 4.7218 | 4.7222 | 0.0004 | 0.40 |
| 134| CP4D4-03 | 4.6666 | 4.6668 | 0.0002 | 0.20 |
| 135| CP4D4-05 | 4.7122 | 4.7124 | 0.0002 | 0.20 |
| 136| CP4D5-01 | 4.7302 | 4.7304 | 0.0002 | 0.20 |
| 137| CP4D5-02 | 4.7432 | 4.7433 | 1E-04 | 0.10 |
| 138| CP4D5-03 | 4.7591 | 4.7595 | 0.0004 | 0.40 |
| 139| CP4D5-04 | 4.7365 | 4.7366 | 1E-04 | 0.10 |
| 140| CP4D5-05 | 4.7278 | 4.7283 | 0.0005 | 0.50 |
| 141| CP4D6-02 | 4.7311 | 4.7314 | 0.0003 | 0.30 |
|    |     |        |       |       |        |
|----|-----|--------|-------|-------|--------|
| 142| CP4D6-05 | 4.7477 | 4.748 | 0.0003 | 0.30   |
| 143| CP4D7-02 | 4.7266 | 4.7268 | 0.0002 | 0.20   |
| 144| CP4D7-04 | 4.7376 | 4.7382 | 0.0006 | 0.60   |
| 145| CP4D8-02 | 4.606  | 4.6065 | 0.0005 | 0.50   |
| 146| CP4V1-02 | 4.6375 | 4.6377 | 0.0002 | 0.20   |
| 147| CP4V1-03 | 4.6112 | 4.6114 | 0.0002 | 0.20   |
| 148| CP4V1-05 | 4.6252 | 4.6254 | 0.0002 | 0.20   |
| 149| CP4V2-01 | 4.622  | 4.6226 | 0.0006 | 0.60   |
| 150| CP4V2-02 | 4.5901 | 4.5906 | 0.0005 | 0.50   |
| 151| CP4V2-03 | 4.6302 | 4.6307 | 0.0005 | 0.50   |
| 152| CP4V2-04 | 4.6275 | 4.6278 | 0.0003 | 0.30   |
| 153| CP4V2-05 | 4.6332 | 4.6339 | 0.0007 | 0.70   |
| 154| CP4V3-01 | 4.6302 | 4.6306 | 0.0004 | 0.40   |
| 155| CP4V3-02 | 4.6196 | 4.6198 | 0.0002 | 0.20   |
| 156| CP4V3-03 | 4.6186 | 4.6191 | 0.0005 | 0.50   |
| 157| CP4V3-04 | 4.6316 | 4.632  | 0.0004 | 0.40   |
| 158| CP4V3-05 | 4.6021 | 4.6023 | 0.0002 | 0.20   |
| 159| CP4V4-01 | 4.6322 | 4.6325 | 0.0003 | 0.30   |
| 160| CP4V4-02 | 4.6277 | 4.6286 | 0.0009 | 0.90   |
| 161| CP4V4-05 | 4.6084 | 4.609  | 0.0006 | 0.60   |
| 162| CP4V5-01 | 4.6281 | 4.6287 | 0.0006 | 0.60   |
| 163| CP4V5-02 | 4.6124 | 4.6128 | 0.0004 | 0.40   |
| 164| CP4V5-04 | 4.6123 | 4.6127 | 0.0004 | 0.40   |
| 165| CP4V6-05 | 4.6032 | 4.6036 | 0.0004 | 0.40   |
|    |        |      |      |      |      |
|----|--------|------|------|------|------|
| 166| CP4V7-01 | 4.6233 | 4.6238 | 0.0005 | 0.50 |
| 167| CP4V7-03 | 4.5994 | 4.6002 | 0.0008 | 0.80 |
| 168| CP4V7-05 | 4.6106 | 4.6109 | 0.0003 | 0.30 |
| 169| CP4V8-02 | 4.631  | 4.6314 | 0.0004 | 0.40 |
| 170| CP4V8-04 | 4.6062 | 4.6065 | 0.0003 | 0.30 |
| 171| CP1VENT01 | 4.6099 | 4.6102 | 0.0003 | 0.30 |
| 172| CP1VENT02 | 4.6064 | 4.6067 | 0.0003 | 0.30 |
| 173| CP1VENT03 | 4.5993 | 4.5995 | 0.0002 | 0.20 |
| 174| CP1VENT04 | 4.611  | 4.6112 | 0.0002 | 0.20 |
| 175| CP1VENT05 | 4.6178 | 4.6184 | 0.0006 | 0.60 |
| 176| CP1VENT06 | 4.6001 | 4.6002 | 1E-04  | 0.10 |
| 177| CP1VENT07 | 4.6264 | 4.6268 | 0.0004 | 0.40 |
| 178| CP1VENT08 | 4.6232 | 4.6233 | 0.0001 | 0.10 |
| 179| CP1DORS01 | 4.6207 | 4.6208 | 1E-04  | 0.10 |
| 180| CP1DORS02 | 4.6058 | 4.606  | 0.0002 | 0.20 |
| 181| CP1DORS03 | 4.6161 | 4.6162 | 1E-04  | 0.10 |
| 182| CP1DORS04 | 4.6063 | 4.6064 | 1E-04  | 0.10 |
| 183| CP1DORS05 | 4.612  | 4.6126 | 0.0006 | 0.60 |
| 184| CP1DORS06 | 4.6305 | 4.631  | 0.0005 | 0.50 |
| 185| CP1DORS07 | 4.6073 | 4.6075 | 0.0002 | 0.20 |
| 186| CP1DORS08 | 4.5989 | 4.599  | 1E-04  | 0.10 |
| 187| CP2VENT01 | 4.6085 | 4.6091 | 0.0006 | 0.60 |
| 188| CP2VENT02 | 4.6042 | 4.6047 | 0.0005 | 0.50 |
| 189| CP2VENT03 | 4.5912 | 4.5916 | 0.0004 | 0.40 |
|   |               |       |       |       |       |
|---|---------------|-------|-------|-------|-------|
| 190 | CP2VENT04     | 4.6311| 4.6317| 0.0006| 0.60  |
| 191 | CP2VENT05     | 4.5816| 4.5818| 0.0002| 0.20  |
| 192 | CP2VENT06     | 4.5904| 4.5905| 1E-04 | 0.10  |
| 193 | CP2VENT07     | 4.6082| 4.6086| 0.0004| 0.40  |
| 194 | CP2VENT08     | 4.6228| 4.6233| 0.0005| 0.50  |
| 195 | CP2DORS01     | 4.6024| 4.6025| 1E-04 | 0.10  |
| 196 | CP2DORS02     | 4.5867| 4.587  | 0.0003| 0.30  |
| 197 | CP2DORS03     | 4.6058| 4.6062| 0.0004| 0.40  |
| 198 | CP2DORS04     | 4.6068| 4.607  | 0.0002| 0.20  |
| 199 | CP2DORS05     | 4.61  | 4.6103| 0.0003| 0.30  |
| 200 | CP2DORS06     | 4.609 | 4.6095| 0.0005| 0.50  |
| 201 | CP2DORS07     | 4.6243| 4.6256| 0.0013| 1.30  |
| 202 | CP2DORS08     | 4.6214| 4.622  | 0.0006| 0.60  |
| 203 | CP3VENT01     | 4.6063| 4.6067| 0.0004| 0.40  |
| 204 | CP3VENT02     | 4.6262| 4.6271| 0.0009| 0.90  |
| 205 | CP3VENT03     | 4.6384| 4.6392| 0.0008| 0.80  |
| 206 | CP3VENT04     | 4.6146| 4.6153| 0.0007| 0.70  |
| 207 | CP3VENT05     | 4.5996| 4.5997| 0.0001| 0.10  |
| 208 | CP3VENT06     | 4.6566| 4.6576| 0.001 | 1.00  |
| 209 | CP3VENT07     | 4.6101| 4.6109| 0.0008| 0.80  |
| 210 | CP3VENT08     | 4.6261| 4.6268| 0.0007| 0.70  |
| 211 | CP3DORS01     | 4.6358| 4.6368| 0.001 | 1.00  |
| 212 | CP3DORS02     | 4.589 | 4.5893| 0.0003| 0.30  |
| 213 | CP3DORS03     | 4.6274| 4.628 | 0.0006| 0.60  |
|   | CP3DORS04 | 4.6185   | 4.6194   | 0.0009   | 0.90   |
|---|-----------|-----------|-----------|----------|--------|
| 214 | CP3DORS05 | 4.6117   | 4.6122   | 0.0005   | 0.50   |
| 215 | CP3DORS06 | 4.6456   | 4.6462   | 0.0006   | 0.60   |
| 216 | CP3DORS07 | 4.6123   | 4.613    | 0.0007   | 0.70   |
| 217 | CP3DORS08 | 4.6423   | 4.6429   | 0.0006   | 0.60   |
| 218 | CP4VENT01 | 4.6243   | 4.6251   | 0.0008   | 0.80   |
| 219 | CP4VENT02 | 4.5985   | 4.5987   | 0.0002   | 0.20   |
| 220 | CP4VENT03 | 4.6283   | 4.6289   | 0.0006   | 0.60   |
| 221 | CP4VENT04 | 4.6357   | 4.6362   | 0.0005   | 0.50   |
| 222 | CP4VENT05 | 4.6146   | 4.6151   | 0.0005   | 0.50   |
| 223 | CP4VENT06 | 4.6152   | 4.6155   | 0.0003   | 0.30   |
| 224 | CP4VENT07 | 4.7386   | 4.739    | 0.0004   | 0.40   |
| 225 | CP4VENT08 | 4.7145   | 4.715    | 0.0005   | 0.50   |
| 226 | CP4DORS01 | 4.7162   | 4.7165   | 0.0003   | 0.30   |
| 227 | CP4DORS02 | 4.728    | 4.7289   | 0.0009   | 0.90   |
| 228 | CP4DORS03 | 4.7716   | 4.7719   | 0.0003   | 0.30   |
| 229 | CP4DORS04 | 4.7535   | 4.7542   | 0.0007   | 0.70   |
| 230 | CP4DORS05 | 4.7176   | 4.7185   | 0.0009   | 0.90   |
| 231 | CP4DORS06 | 4.696    | 4.6969   | 0.0009   | 0.90   |
| 232 | CP4DORS07 | 4.489    | 4.4893   | 0.0003   | 0.30   |
| 233 | CP4DORS08 | 4.6996   | 4.6997   | 1E-04    | 0.10   |
| 234 | CTRLR2A   | 4.6591   | 4.6595   | 0.0004   | 0.40   |
| 235 | CTRLSWAB  | 4.4989   | 4.499    | 1E-04    | 0.10   |
| 236 |           |          |          |          |        |
Table S4. Collision energies applied in a Tandem Time-of-Flight (TOF/TOF) Mass Spectrometer for *C. panamensis* samples.

| Type | Mass   | Width | Collision | Charge State |
|------|--------|-------|-----------|--------------|
| Base | 100.00 | 4.00  | 22.00     | 1            |
| Base | 100.00 | 4.00  | 18.00     | 2            |
| Base | 300.00 | 5.00  | 27.00     | 1            |
| Base | 300.00 | 5.00  | 22.00     | 2            |
| Base | 500.00 | 6.00  | 35.00     | 1            |
| Base | 500.00 | 6.00  | 30.00     | 2            |
| Base | 1000.00| 8.00  | 45.00     | 1            |
| Base | 1000.00| 8.00  | 35.00     | 2            |
| Base | 2000.00| 10.00 | 50.00     | 1            |
| Base | 2000.00 | 10.00 | 50.00 | 2     |
|------|---------|-------|-------|-------|
| 51   |         |       |       |       |
| 52   |         |       |       |       |
| 53   |         |       |       |       |
Table S5. Collision ratio frequency, times and transfer time used during LC-MS/MS runs for samples taken from the skin of *C. panamansis*.

| Time | Collision RF | Transfer Time | Collision |
|------|--------------|---------------|-----------|
| 0    | 450.0        | 70.0          | 125       |
| 25   | 550.0        | 75.0          | 100       |
| 50   | 800.0        | 90.0          | 100       |
| 75   | 1100.0       | 95.0          | 75        |

Figure S1. Body parts sampled (dorsal (L) and ventral (R) regions) on the skin of *C. panamansis* for MS, cultivable bacteria and Bd infection analysis. Numbers are represented as follows: 1) Head, 2) trunk, 3) forelimb, 4) manus, 5) thigh, 6) hind limbs, 7) pes and 8) toes.
