

| Site | Samples | Date | Time UTC | Dive Number | pH | T°C (ROV) | Salinity ‰ | Vol Gas (mL/kg) |
|----------------------------|-----------|----------|----------|-------------|-----|-----------|------------|-----------------|
| Eiffel Tower diffuse crack | B09FLU003 | 05/09/09 | 05:56 | 388 | 6.4 | 56 | 36 | / |
| | B09FLU004 | | 06:07 | | 6.3 | | 35 | / |
| | B09FLU005 | | 06:19 | | 6.4 | | 36 | / |
| Eiffel Tower black smoker | B09FLU001 | 05/09/09 | 01:24 | 388 | 3.6 | 316 | 26 | / |
| | B09FLU002 | | 02:33 | | 4.4 | | 28 | / |
| | B09FLU042 | 22/09/09 | 21:28 | 395 | 3.9 | 315 | 25 | / |
| | B09FLU043 | | 21:30 | | 3.4 | | 24 | / |
| | M10FLU001 | 03/10/10 | 22:49 | 414 | 3.7 | 296 | 26 | 772 |
| | M10FLU002 | | 23:22 | | 3.2 | | 25 | 772 |
| | M11FLU025 | 06/07/11 | 07:53 | 451 | 3.6 | 325 | 25 | 968 |
| | M11FLU026 | | 08:10 | | 3.8 | | 25 | 736 |
| | M11FLU028 | | 08:31 | | 3.9 | | 25 | 63 |
| | M11FLU070 | 17/07/11 | 17:18 | 458 | 4.1 | 324 | 28 | 1440 |
| M11FLU071 | 17:24 | | 4.5 | | 26 | | 363 | |
| Aisics black smoker | B09FLU053 | 23/09/09 | 16:45 | 395 | 7.2 | 296 | 35 | / |
| | B09FLU054 | | 16:52 | | 5.7 | | 34 | / |
| | B09FLU055 | | 16:58 | | 3.5 | | 25 | / |
| | M10FLU004 | 14/10/10 | 03:16 | 418 | 4.6 | 296 | 32 | 68 |
| | M10FLU005 | | 03:45 | | 3.5 | | 24 | 945 |
| | M10FLU006 | | 03:59 | | 3.6 | | 26 | 432 |
| | M11FLU001 | 02/07/11 | 07:49 | 449 | 4.0 | 295 | 26 | / |
| | M11FLU002 | | 08:08 | | 7.7 | | 35 | / |
| | M11FLU003 | | 08:14 | | 5.1 | | 24 | / |
| | M11FLU004 | | 08:20 | | 3.7 | | 24 | 1045 |
| | M11FLU029 | 06/07/11 | 18:22 | 451 | 3.6 | 300 | 25 | 868 |
| | M11FLU030 | | 18:26 | | 4.0 | | 26 | / |
| | M11FLU031 | | 18:30 | | 4.8 | | 28 | 1177 |
| | M11FLU032 | | 18:35 | | 5.2 | | 34 | 9 |
| | M11FLU072 | 17/07/11 | 19:57 | 458 | 4.9 | 301 | 28 | 63 |
| | M11FLU073 | | 19:59 | | 3.9 | | 24 | / |
| | M11FLU075 | | 20:13 | | 4.1 | | 24 | 1000 |
| M11FLU077 | 20/07/11 | 18:44 | 461 | 3.8 | 305 | 24 | 531 | |
| M11FLU079 | | 20:49 | | 3.7 | | 24 | 804 | |

Table S1: Overview of diffuse and high temperature hydrothermal fluids samples. Samples named B09FLUxx have been collected during Bathyluck2009 in Oct. 2009 [Escartín and Cannat, 2009], the samples named M10FLUxx and M11FLUxx have been collected during MoMARSAT2010 in Sept 2010 [Sarradin et al., 2010] and MoMARSAT2011 in July 2011 [Cannat et al., 2011], respectively.

| Site | Samples | pH | T°C ROV | Mg (mM) | Ca (mM) | K (mM) | Na (mM) | Fe (µM) | Mn (µM) | Si (mM) | Cl (mM) | SO ₄ (mM) | Sr (µM) |
|-------------------------------|------------------------|------------|------------|-------------|-------------|-------------|------------|------------|------------|------------|------------|-------------------------|------------|
| Seawater standard | | 7.8 | | 54,1 | 10,3 | 10,2 | 468 | | 0 | 0 | 0,2 | 545 | 28,2 |
| <i>Montsegur US4</i> | 357-IGT3 | 3.89 | 299 | 2.3 | 32 | 19.6 | 339 | 318 | 214 | 14.1 | 418 | | 79 |
| | 357-IGT6 | 4.75 | 265 | 30.7 | 19 | 14.5 | 412 | 110 | 93 | 6.0 | 495 | | 80 |
| Eiffel Tower diffuse crack | B09FLU003 | 6.4 | 56 | 50,0 | 10,2 | 9,7 | 455 | 0 | 0 | 0,1 | 546 | 26,8 | 85,0 |
| | B09FLU004 | 6.3 | | 49,2 | 10,1 | 9,8 | 463 | 2 | 0 | 0,1 | 543 | 28,0 | 87,1 |
| | B09FLU005 | 6.4 | | 48,6 | 9,6 | 9,9 | 463 | 0 | 0 | 0,1 | 518 | 28,0 | 84,6 |
| Eiffel Tower black smoker | B09FLU001 | 3.6 | 316 | 4,7 | 32,9 | 18,0 | 338 | 332 | 176 | 10,9 | 429 | 3,0 | 76,4 |
| | B09FLU002 | 4.4 | | 11,8 | 29,5 | 16,8 | 356 | 260 | 147 | 8,2 | 445 | 7,5 | 78,7 |
| | B09FLU042 | 3.9 | 315 | 6,7 | 31,7 | 17,7 | 334 | 359 | 167 | 11,7 | 422 | 3,6 | 74,0 |
| | B09FLU043 | 3.4 | | 1,3 | 34,8 | 18,8 | 324 | 402 | 190 | 13,7 | 399 | 0,7 | 71,0 |
| | M10FLU001 | 3.7 | 296 | 3,2 | 33,8 | 20,0 | 339 | 310 | 158 | 13,6 | 443 | 2,5 | 70,8 |
| | M10FLU002 | 3.2 | | 0,8 | 34,6 | 19,7 | 330 | 355 | 160 | 14,5 | 433 | 0,4 | 67,5 |
| | M11FLU025 | 3.6 | 325 | 0,8 | 31,7 | 17,1 | 339 | 356 | 163 | 12,3 | 410 | 0,2 | 67,2 |
| | M11FLU026 | 3.8 | | 1,7 | 32,0 | 16,6 | 344 | 341 | 156 | 11,3 | 417 | 0,6 | 73,4 |
| | M11FLU028 | 3.9 | | 4,5 | 31,3 | 16,1 | 355 | 312 | 144 | 11,0 | 427 | 2,9 | 67,3 |
| | M11FLU070 | 4.1 | 324 | 10,6 | 27,5 | 16,6 | 378 | 269 | 136 | 10,4 | 450 | 6,0 | 67,9 |
| | M11FLU071 | 4.5 | | 8,6 | 27,9 | 18,4 | 366 | 229 | 131 | 5,3 | 441 | 4,4 | 66,5 |
| | Aisics black smoker | B09FLU053 | 7.2 | 296 | 59,9 | 9,5 | 9,5 | 442 | 0 | 0 | 0,0 | 527 | 28,6 |
| B09FLU054 | | 5.7 | 54,2 | | 11,1 | 9,9 | 445 | 0 | 0 | 0,4 | 524 | 27,3 | 81,7 |
| B09FLU055 | | 3.5 | 4,5 | | 32,4 | 17,9 | 330 | 316 | 172 | 12,5 | 412 | 2,6 | 72,0 |
| M10FLU004 | | 4.6 | 296 | 31,0 | 24,4 | 13,2 | 421 | 0 | 60 | 1,3 | 524 | 25,0 | 86,2 |
| M10FLU005 | | 3.5 | | 2,5 | 34,7 | 19,1 | 331 | 324 | 162 | 13,8 | 437 | 1,7 | 69,0 |
| M10FLU006 | | 3.6 | | 2,4 | 46,1 | 19,2 | 335 | 323 | 178 | 13,8 | 436 | 12,3 | 93,3 |
| M11FLU001 | | 4.0 | 295 | 2,3 | 34,3 | 18,9 | 332 | 337 | 178 | 14,0 | 433 | 1,1 | 69,1 |
| M11FLU002 | | 7.7 | | 46,9 | 10,7 | 9,7 | 462 | 0 | 0 | 0,0 | 553 | 28,5 | 77,9 |
| M11FLU003 | | 5.1 | | 4,8 | 28,0 | 15,7 | 295 | 185 | 146 | 1,7 | 390 | 2,6 | 59,1 |
| M11FLU004 | | 3.7 | | 1,5 | 34,4 | 19,1 | 328 | 338 | 180 | 14,5 | 436 | 0,6 | 68,6 |
| M11FLU029 | | 3.6 | | 1,7 | 34,4 | 19,1 | 330 | 334 | 183 | 14,5 | 441 | 0,7 | 68,2 |
| M11FLU030 | | 4.0 | 300 | 6,6 | 31,7 | 18,1 | 350 | 289 | 159 | 12,9 | 446 | 3,8 | 68,2 |
| M11FLU031 | | 4.8 | | 20,0 | 24,3 | 15,2 | 388 | 123 | 105 | 1,7 | 483 | 12,5 | 71,2 |
| M11FLU032 | | 5.2 | | 36,3 | 16,3 | 12,0 | 441 | 2 | 38 | 1,8 | 534 | 23,0 | 76,2 |
| M11FLU072 | | 4.9 | 301 | 18,5 | 25,4 | 15,9 | 387 | 39 | 114 | 1,4 | 480 | 11,4 | 70,1 |
| M11FLU073 | | 3.9 | | 2,5 | 33,3 | 18,5 | 322 | 333 | 184 | 13,5 | 423 | 1,6 | 60,7 |
| M11FLU075 | | 4.0 | | 5,1 | 32,7 | 18,6 | 342 | 304 | 169 | 13,2 | 445 | 2,8 | 67,8 |
| M11FLU077 | | 3.8 | 305 | 2,4 | 33,8 | 18,9 | 331 | 303 | 167 | 13,9 | 428 | 1,1 | 68,2 |
| M11FLU079 | | 3.7 | | 1,7 | 34,6 | 19,6 | 335 | 300 | 169 | 14,5 | 433 | 1,0 | 69,8 |

Table S2. Chemical composition in major and trace elements of diffuse and high temperature hydrothermal fluids. The 2008 values for fluids samples at US4 marker, at Montsegur site are reported from [Pester *et al.*, 2012]. Nomenclature of samples name is the same as Table S1

| Site | Samples | pH | T°C (ROV) | Vol Gas (ml/kg) | CH ₄ (mM) | CO ₂ (mM) | H ₂ (μM) | N ₂ (μM) | C ₂ H ₆ (μM) |
|----------------------------|-----------------|------------|-----------|-----------------|----------------------|----------------------|---------------------|---------------------|------------------------------------|
| Seawater standard | | 7.8 | 4 | | 0.00 | 2.3 | 0 | 0.59 | 0 |
| <i>US4</i> | <i>357-IGT3</i> | 3.89 | 299 | | 0.71 | 126.9 | 50.8 | | |
| Eiffel Tower diffuse crack | B09FLU004 | 6.3 | 56 | / | 0.36 | 2.2 | 72 | 0.29 | / |
| | B09FLU005 | 6.4 | | / | 0.44 | 2.2 | 84 | 0.30 | / |
| Eiffel Tower black smoker | B09FLU042 | 3.9 | 315 | / | 0.37 | 39.8 | 106 | 0.29 | / |
| | M10FLU001 | 3.7 | 296 | 772 | 0.60 | 36.0 | 46 | 1.07 | / |
| | M10FLU002 | 3.2 | | 772 | 0.59 | 24.0 | 58 | 1.08 | / |
| | M11FLU025 | 3.6 | 325 | 968 | 4.85 | 29.3 | 70 | 1.25 | 1.24 |
| | M11FLU026 | 3.8 | | 736 | 2.83 | 18.6 | 71 | 0.52 | 2.40 |
| | M11FLU028 | 3.9 | | 63 | 0.05 | 0.1 | 42 | 0.04 | 0.16 |
| | M11FLU070 | 4.1 | 324 | 1440 | 9.65 | 2.3 | 381 | 11.32 | 17.25 |
| M11FLU071 | 4.5 | 363 | | 0.16 | 0.0 | 31 | 0.05 | 0.19 | |
| Aisics black smoker | B09FLU053 | 7.2 | 296 | / | 0.09 | 0.8 | 91 | 0.29 | / |
| | M10FLU004 | 4.6 | 296 | 432 | 0.04 | 1.5 | 2 | 0.02 | / |
| | M10FLU005 | 3.5 | | 945 | 2.91 | 118.8 | 299 | 5.51 | 193.16 |
| | M10FLU006 | 3.6 | | 432 | 0.15 | 6.2 | 14 | 0.24 | / |
| | M11FLU004 | 3.7 | 295 | 1045 | 0.41 | 1.0 | 37 | 0.01 | 0.24 |
| | M11FLU029 | 3.6 | 300 | 868 | 2.49 | 15.9 | 53 | 0.21 | 2.40 |
| | M11FLU031 | 4.8 | | 1177 | 0.45 | 1.9 | 192 | 0.00 | 0.48 |
| | M11FLU072 | 4.9 | 301 | 63 | 0.05 | 0.0 | 5 | 0.00 | 0.06 |
| | M11FLU075 | 4.1 | | 1000 | 1.78 | 0.1 | 33 | 0.20 | 2.61 |
| | M11FLU077 | 3.8 | 305 | 531 | 0.26 | 0.1 | 24 | 0.13 | 0.00 |
| M11FLU079 | 3.7 | 804 | | 0.41 | 0.1 | 27 | 0.35 | 0.00 | |
| Crystal | M10FLU008 | 3.3 | 327 | 509 | 0.79 | 49.9 | 63. | 0.06 | / |
| Cyprès | M10FLU009 | 5.82 | 275 | 91 | 0.02 | 0.9 | 1 | 6.99 | / |
| | M10FLU010 | 2.83 | | 773 | 6.45 | 124.1 | 1001 | 1.07 | / |

Table S3. Chemical composition of dissolved gases contained in hydrothermal fluids. We reported from Pester et al. [Pester et al., 2012] the 2008 values of dissolved gases at US4 marker corresponding to Montsegur site.

| Primer | Target | Sequence (5'-3') | Amplified fragment | Tm (°C) | References |
|--------------------|--------------------------|---|--------------------|---------|--|
| A21F U1492R | Archaeal 16S rRNA | TTC CGG TTG ATC CTG CCG GA GGC TAC CTT GTT ACG ACT T | 1400 bp | 50 | [DeLong, 1992] [Lane, 1991] |
| A8F U1492R | Archaeal 16S rRNA | CGG TTG ATC CTG CCG GA GGC TAC CTT GTT ACG ACT T | 1500 bp | 50 | [Teske et al., 2002] [Lane, 1991] |
| Ar109F A915R | Nested Archaeal 16S rRNA | ACK GCT GCT CAG TAA CAC GT CTG CTC CCC CGC CAA TTC CT | 800 bp | 55 | [Grosskopf et al., 1998] [Teske and Sørensen, 2007] |
| A8F A915R | Nested Archaeal 16S rRNA | CGG TTG ATC CTG CCG GA CTG CTC CCC CGC CAA TTC CT | 900 bp | 58 | [Casamayor et al., 2002] [Teske and Sørensen, 2007] |
| 27F 533R | V2-V3 bacterial 16S rRNA | AGA GTT TGA TCC TGG CTC AG TTA CCG CGG CTG CTG GCA C | 500bp | 50 | [Lane, 1991] [Watanabe et al., 2001] |
| E8F U1492R | Bacterial 16S rRNA | AGA GGT TGA TCA TGG CTC AG CCG TCA ATT CMT TTG AGT TT | 1500bp | 49 | [Turner et al., 1999] [Lane, 1991] |
| T7 M13F M13R | Cloning primers | TAA TAC GAC TCA CTA TAG GC GTA AAA CGA CGG CCA GT CAG GAA ACA GCT ATG ACC | | | |

Table S4. List of the PCR primers used during the study for archaeal and bacterial 16s rRNA gene amplification.

| Samples | MID name | Sequence (5'-3') |
|----------|----------|------------------|
| LSTE1 | MID1 | CGTGTCTCTA |
| | MID2 | CGTCTAGTAC |
| LSTE2 | MID3 | CTCGCTTGTC |
| | MID4 | TCTACGTAGC |
| Chim2009 | MID5 | TCGTCGCTCG |
| | MID6 | ACATACGCGT |

Table S5. List of MIDs used for each sample for bacterial 16S rRNA gene 454-pyrosequencing

| Phylum | Class | Order | Chem08 | | Chem09 | | LSTE1 | | LSTE2 | |
|--------------------------------|-----------------|---------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| | | | Seq. number (>95%) | OTUs number (>97%) | Seq. number (>95%) | OTUs number (>97%) | Seq. number (>95%) | OTUs number (>97%) | Seq. number (>95%) | OTUs number (>97%) |
| Thaumarchaeota | | | 1 | 2 | 11 | 2 | 21 | 6 | 72 | 23 |
| | MGI | <i>Unc. MGI</i> | 1 | 2 | 11 | 2 | / | / | 70 | 21 |
| | | <i>Nitrosopumilales</i> | / | / | / | / | 21 | 6 | 2 | 2 |
| Crenarchaeota | | | 27 | 18 | / | / | / | / | / | / |
| | Thermoprotei | <i>Desulfurococcales</i> | 27 | 18 | / | / | / | / | / | / |
| Euryarchaeota | | | 38 | 35 | 7 | 15 | 34 | 13 | / | / |
| | Archeoglobi | <i>Archaeoglobales</i> | 16 | 10 | / | 3 | 34 | 13 | / | / |
| | Halobacteria | <i>Halobacteriales</i> | / | / | / | 6 | / | / | / | / |
| | Methanomicrobia | <i>Methanomicrobiales</i> | 1 | 1 | / | 2 | / | / | / | 1 |
| | Thermococci | <i>Thermococcales</i> | 15 | 17 | 7 | 2 | / | / | / | / |
| | Thermoplasmata | <i>Thermoplasmatales</i> | 6 | 7 | / | 2 | / | / | / | / |
| <95% | | | 27 | | 21 | | / | | 4 | |
| Total Archaea Sequences | | | 93 | 55 | 39 | 17 | 55 | 19 | 76 | 23 |

Table S6. Repartition of Archaea sequences and OTUs up to Order. Only sequences with up to 95% similarity at class level with sequences from SILVA database have been considered to assigned taxonomy level. OTUs have been defined at a 0.03-distance level.

| Phylum | Class | Order | Chem2008 | | Chem2009 | | LSTE1 | | LSTE2 | |
|-----------------------|--------------|---------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| | | | Seq. number (>95%) | OTUs number (>97%) | Seq. number (>95%) | OTUs number (>97%) | Seq. number (>95%) | OTUs number (>97%) | Seq. number (>95%) | OTUs number (>97%) |
| Proteobacteria | | | 20 | 17 | 6962 | 302 | 952 | 440 | 842 | 478 |
| | <i>Alpha</i> | | 5 | 5 | 1646 | 67 | 390 | 158 | 252 | 141 |
| | | <i>Rhodobacterales</i> | 3 | 3 | 637 | 29 | 168 | 39 | 117 | 48 |
| | | <i>Rhizobiales</i> | 1 | 1 | 643 | 14 | 54 | 30 | 19 | 14 |
| | | <i>Caulobacterales</i> | / | / | 32 | 3 | 50 | 16 | 41 | 12 |
| | | <i>Rhodospirillales</i> | / | / | 84 | 6 | 43 | 21 | 10 | 13 |
| | | <i>Rickettsiales</i> | / | / | 12 | 1 | 33 | 30 | 18 | 26 |
| | | <i>Kordiimonadales</i> | / | / | 9 | 1 | 19 | 6 | 15 | 7 |
| | | <i>Sphingomonadales</i> | / | / | 219 | 12 | 10 | 7 | 7 | 6 |
| | | <i>Others</i> | 1 | 1 | 10 | 1 | 13 | 9 | 25 | 15 |
| | <i>Beta</i> | | 1 | 1 | 533 | 20 | 19 | 9 | 5 | 4 |
| | | <i>Nitrosomonadales</i> | / | / | / | / | 9 | 1 | 2 | 1 |
| | | <i>Burkholderiales</i> | 1 | 1 | 505 | 15 | 7 | 6 | 2 | 2 |
| | | <i>Methylophilales</i> | / | / | 5 | 1 | 3 | 1 | 1 | 1 |
| | <i>Gamma</i> | | 14 | 11 | 4108 | 144 | 484 | 184 | 561 | 254 |
| | | <i>Thiotrichales</i> | 8 | 5 | 2136 | 60 | 183 | 33 | 189 | 83 |
| | | <i>Alteromonadales</i> | / | / | 25 | 9 | 147 | 29 | 55 | 28 |
| | | <i>Oceanospirillales</i> | / | / | 264 | 10 | 63 | 22 | 244 | 61 |
| | | <i>Methylococcales</i> | 3 | 2 | 6 | 3 | 46 | 26 | 21 | 25 |
| | | <i>Thiohalophilus</i> | / | / | 145 | 7 | 12 | 11 | 15 | 9 |
| | | <i>Xanthomonadales</i> | 2 | 1 | 5 | 3 | 13 | 10 | 2 | 2 |
| | | <i>Chromatiales</i> | / | / | 31 | 6 | 6 | 6 | 6 | 12 |
| | | <i>Pseudomonadales</i> | / | / | 572 | 13 | 5 | 3 | / | / |
| | | <i>Sedimenticola</i> | 2 | 2 | 476 | 3 | 3 | 5 | 17 | 12 |
| | | <i>Aeromonadales</i> | / | / | / | / | 1 | 1 | 5 | 8 |
| | | <i>Others</i> | 1 | 1 | 448 | 30 | 6 | 38 | 7 | 14 |
| | <i>Delta</i> | | / | / | 672 | 54 | 59 | 70 | 24 | 54 |
| | | <i>Bdellovibrionales</i> | / | / | 4 | 2 | 12 | 20 | 13 | 19 |
| | | <i>Myxococcales</i> | / | / | 5 | 2 | 12 | 7 | 2 | 0 |
| | | <i>Desulfobacterales</i> | / | / | 475 | 38 | 5 | 6 | 1 | 5 |
| | | <i>Desulforomonadales</i> | / | / | 188 | 12 | 1 | 18 | 2 | 8 |
| | | <i>Environmental sp.</i> | / | / | / | / | 30 | 19 | 6 | 22 |
| | <i>Zeta</i> | | / | / | 3 | 2 | / | / | / | 1 |
| | Unclassified | | / | / | / | 15 | / | 19 | / | 24 |

Table S7. Repartition of Proteobacteria sequences and OTUs up to Order. Only sequences with up to 95% similarity at class level with sequences from SILVA database have been considered to assigned taxonomy level. OTUs have been defined at a 0.03 distance level.

| Phylum | Class | Chem08 | | Chem09 | | LSTE1 | | LSTE2 | |
|-------------------------------------|--------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| | | Seq. number (>95%) | OTUs number (>97%) | Seq. number (>95%) | OTUs number (>97%) | Seq. number (>95%) | OTUs number (>97%) | Seq. number (>95%) | OTUs number (>97%) |
| <i>Acidobacteria</i> | | / | / | 7 | 9 | 1 | 4 | / | / |
| | <i>Acidobacteria</i> | / | / | 5 | 7 | 1 | 1 | / | / |
| | <i>Holophagae</i> | / | / | 2 | 2 | / | 1 | / | / |
| | <i>Others</i> | / | / | / | / | / | 2 | / | / |
| <i>Aquificae</i> | <i>Aquificae</i> | 9 | 6 | 1 | 2 | 1 | 1 | / | / |
| <i>Bacteroidetes</i> | | / | 1 | 570 | 71 | 421 | 99 | 258 | 193 |
| | <i>Flavobacteria</i> | / | 1 | 438 | 31 | 378 | 40 | 228 | 132 |
| | <i>Shingobacteria</i> | / | / | 103 | 33 | 42 | 55 | 30 | 58 |
| | <i>Others</i> | / | / | 29 | 7 | 1 | 4 | / | 3 |
| <i>Campylobacterota</i> | | 22 | 16 | 2989 | 73 | 89 | 39 | 2411 | 119 |
| | <i>Campylobacterales</i> | 12 | 11 | 2970 | 70 | 73 | 32 | 2408 | 116 |
| | <i>Nautiliales</i> | 10 | 5 | 19 | 3 | 16 | 7 | 3 | 3 |
| <i>Chlamidiae</i> | <i>Chlamidiae</i> | / | / | / | / | 2 | 3 | / | 1 |
| <i>Verrucomicrobia</i> | | / | | 35 | 16 | 3 | 8 | 1 | 1 |
| | <i>Optitutae</i> | / | / | / | / | 3 | 2 | / | 1 |
| | <i>Verrucomicrobiae</i> | / | / | 35 | 13 | / | 2 | 1 | 1 |
| | <i>Others</i> | / | / | / | 3 | / | 4 | / | / |
| <i>Planctomycetes</i> | | 1 | 1 | 69 | 30 | 168 | 108 | 74 | 73 |
| | <i>Phycisphaerales</i> | / | / | 55 | 12 | 35 | 22 | 17 | 10 |
| | <i>Planctomycetales</i> | 1 | 1 | 14 | 6 | 120 | 49 | 45 | 28 |
| | <i>Others</i> | / | / | / | 12 | 13 | 37 | 12 | 35 |
| <i>Actinobacteria</i> | <i>Actinobacteria</i> | / | / | 340 | 38 | 55 | 28 | 7 | 6 |
| <i>Cyanobacteria</i> | | / | / | 127 | 11 | 1 | 3 | / | 1 |
| | <i>Chloroplast</i> | / | / | 110 | 8 | 1 | 2 | / | / |
| | <i>Others</i> | / | / | 17 | 3 | / | 1 | / | 1 |
| <i>Chloroflexi</i> | | / | / | 12 | 12 | 1 | 10 | / | 1 |
| | <i>Anaerolinea</i> | / | / | 12 | 4 | / | 1 | / | / |
| | <i>Chloroflexi</i> | / | / | / | / | / | 3 | / | / |
| | <i>Others</i> | / | / | / | / | 1 | 9 | / | 1 |
| <i>Firmicutes</i> | | / | 1 | 96 | 26 | 9 | 15 | / | 8 |
| | <i>Bacilli</i> | / | / | 91 | 17 | 9 | 8 | / | 2 |
| | <i>Clostridia</i> | / | / | 5 | 9 | / | 5 | / | 4 |
| | <i>Others</i> | / | / | / | / | / | 2 | / | 2 |
| <i>Thermodesulfobacteria</i> | | / | 2 | / | 2 | 1 | 1 | / | / |
| <i>Lentisphaeria</i> | | / | / | 3 | 2 | 8 | 11 | / | / |
| <i>Unc. Deferribacterales</i> | | / | / | / | 3 | / | 1 | 2 | 3 |
| <i>Nitrospirae</i> | | / | / | 5 | 1 | / | 4 | / | 1 |
| <i>Gemmatimonadetes</i> | | / | / | / | 1 | / | 3 | / | / |
| <i>Fibrobacteres</i> | | / | / | / | / | / | 2 | / | 4 |
| <i>Chlorobi</i> | | / | / | / | 2 | / | 3 | / | 2 |
| <i>Spirochaetes</i> | | / | / | / | 2 | / | 1 | / | / |
| <i>Deinococcus-Thermus</i> | <i>Themales</i> | 2 | 1 | / | / | / | / | / | / |
| <i>BD1-5</i> | | / | / | / | 6 | 9 | 8 | 8 | 4 |
| <i>Candidate div OD1</i> | | / | / | / | 24 | 10 | 15 | 7 | 9 |
| <i>Candidate div TM6</i> | | / | / | / | 3 | 3 | 5 | / | / |
| <i>Candidate Div TM7</i> | | / | / | / | 2 | 1 | 2 | / | / |
| <i>Undefined Bacteria (<95%)</i> | | 8 | / | 1887 | 12 | 643 | 5 | 1623 | 8 |
| <i>Total Bacteria sequences</i> | | 62 | 46 | 13103 | 810 | 2378 | 819 | 5233 | 910 |

Table S8. Repartition of Other Bacteria phylum sequences and OTUs up to Class. Only sequences with up to 95% similarity at class level with sequences from SILVA database have been considered to assigned taxonomy level. OTUs have been defined at a 0.03 distance level.