

Suppl. Table 2. *Haloferax volcanii* genome-wide base substitution and inserion-deletion (indel) summary statistics

| MA Line | Substitutions | | | | | | | | | | | Indels | | | | | | Ts/Tv * | Total sites | Gen. | Base- sub Rate | Indel Rate |
|------------|---------------|-------|-------|---------------|-------|-------|-------|---------|------|------|---|--------|---|-------|---|-------|-------|------------|----------------|-------|----------------------|---------------|
| | Transitions | | | Transversions | | | | | Ins. | Del. | | | | | | | | | | | | |
| | GC>AT | AT>GC | AT>TA | GC>TA | AT>CG | | GC>CG | | | | | | | | | | | | | | | |
| Hv1 | 3 | 5E-10 | 0 | 0 | 0 | 0 | 1 | 1.5E-10 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1E-10 | 3 | 3E+06 | 3384 | 4E-10 | 1E-10 | |
| Hv2 | 2 | 3E-10 | 2 | 5E-10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3E+06 | 3456 | 4E-10 | 0 | | |
| Hv4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3E+06 | 3456 | 0 | 0 | | |
| Hv5 | 1 | 1E-10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3E+06 | 3456 | 1E-10 | 0 | | |
| Hv7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1E-10 | 3E+06 | 3072 | 0 | 1E-10 | | |
| Hv8 | 2 | 3E-10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3E+06 | 3384 | 2E-10 | 0 | | |
| Hv16 | 2 | 3E-10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3E+06 | 3504 | 2E-10 | 0 | | |
| Hv17 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1.5E-10 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 9E-11 | 0 | 3E+06 | 3528 | 9E-11 | 9E-11 | |
| Hv18 | 2 | 3E-10 | 0 | 0 | 1 | 3E-10 | 1 | 1.5E-10 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2E-10 | 1 | 3E+06 | 3312 | 4E-10 | 2E-10 | |
| Hv19 | 1 | 2E-10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1E-10 | 3E+06 | 3288 | 1E-10 | 1E-10 | | |
| Hv20 | 0 | 0 | 1 | 3E-10 | 1 | 3E-10 | 1 | 1.6E-10 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1E-10 | 0.5 | 3E+06 | 3168 | 3E-10 | 1E-10 | |
| Hv21 | 1 | 2E-10 | 0 | 0 | 1 | 3E-10 | 1 | 1.7E-10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.5 | 3E+06 | 3096 | 3E-10 | 0 | |
| Hv22 | 0 | 0 | 0 | 0 | 1 | 3E-10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3E+06 | 2832 | 1E-10 | 0 | |
| Hv23 | 1 | 2E-10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3E+06 | 3240 | 1E-10 | 0 | | |
| Hv25 | 2 | 3E-10 | 0 | 0 | 0 | 0 | 2 | 3.1E-10 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1E-10 | 1 | 3E+06 | 3360 | 4E-10 | 1E-10 | |
| Hv26 | 0 | 0 | 1 | 3E-10 | 0 | 0 | 1 | 1.5E-10 | 0 | 0 | 1 | 2E-10 | 0 | 0 | 0 | 0 | 0.5 | 3E+06 | 3360 | 3E-10 | 0 | |
| Hv29 | 3 | 5E-10 | 0 | 0 | 0 | 0 | 1 | 1.6E-10 | 0 | 0 | 1 | 2E-10 | 0 | 0 | 0 | 0 | 1.5 | 3E+06 | 3168 | 5E-10 | 0 | |
| Hv30 | 1 | 2E-10 | 0 | 0 | 1 | 3E-10 | 1 | 1.5E-10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.5 | 3E+06 | 3360 | 3E-10 | 0 | |
| Hv32 | 0 | 0 | 1 | 3E-10 | 1 | 3E-10 | 1 | 1.5E-10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.5 | 3E+06 | 3312 | 3E-10 | 0 | |
| Hv33 | 5 | 8E-10 | 0 | 0 | 2 | 6E-10 | 2 | 3.2E-10 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2E-10 | 1.25 | 3E+06 | 3240 | 9E-10 | 2E-10 | |
| Hv34 | 1 | 2E-10 | 0 | 0 | 2 | 6E-10 | 1 | 1.5E-10 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1E-10 | 0.33 | 3E+06 | 3336 | 4E-10 | 1E-10 | |
| Hv35 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 3.1E-10 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1E-10 | 0 | 3E+06 | 3288 | 2E-10 | 1E-10 | |
| Hv41 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2E-10 | 0 | 0 | 0 | 0 | 0 | 3E+06 | 3216 | 1E-10 | 0 | |
| Hv42 | 1 | 2E-10 | 0 | 0 | 1 | 3E-10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1E-10 | 1 | 3E+06 | 3192 | 2E-10 | 1E-10 | |
| Hv43 | 3 | 5E-10 | 0 | 0 | 1 | 3E-10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 3E+06 | 3360 | 4E-10 | 0 | |
| Hv44 | 1 | 2E-10 | 1 | 3E-10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1E-10 | 0 | 0 | 3E+06 | 2904 | 2E-10 | 1E-10 | | |
| Hv45 | 3 | 5E-10 | 1 | 3E-10 | 0 | 0 | 1 | 1.6E-10 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1E-10 | 4 | 3E+06 | 3120 | 5E-10 | 1E-10 | |

| | | | | | | | | | | | | | | | | | | | | | |
|-----------------|-------|-------|----|-------|----|-------|----|---------|---|-------|---|-------|---|-------|----|-------|------|-------|------|-------|-------|
| Hv46 | 1 | 2E-10 | 0 | 0 | 1 | 3E-10 | 2 | 3.1E-10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.33 | 3E+06 | 3288 | 4E-10 | 0 |
| Hv47 | 1 | 2E-10 | 3 | 8E-10 | 2 | 6E-10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 3E+06 | 3408 | 6E-10 | 0 |
| Hv48 | 0 | 0 | 1 | 3E-10 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2E-10 | 0 | 0 | 1 | 1E-10 | 1 | 3E+06 | 3312 | 2E-10 | 1E-10 |
| Hv49 | 1 | 2E-10 | 3 | 9E-10 | 0 | 0 | 2 | 3.1E-10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 3E+06 | 3336 | 6E-10 | 0 |
| Hv50 | 2 | 3E-10 | 0 | 0 | 1 | 3E-10 | 3 | 4.7E-10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.5 | 3E+06 | 3408 | 6E-10 | 0 |
| Hv51 | 1 | 2E-10 | 0 | 0 | 1 | 3E-10 | 2 | 3.1E-10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.33 | 3E+06 | 3288 | 4E-10 | 0 |
| Hv52 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1.4E-10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3E+06 | 3600 | 9E-11 | 0 |
| Hv53 | 0 | 0 | 1 | 3E-10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 3E+06 | 3456 | 1E-10 | 0 |
| Hv54 | 5 | 7E-10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 3E+06 | 3528 | 5E-10 | 0 |
| Hv65 | 3 | 5E-10 | 1 | 3E-10 | 0 | 0 | 1 | 1.5E-10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 3E+06 | 3384 | 5E-10 | 0 |
| Hv66 | 0 | 0 | 0 | 0 | 1 | 3E-10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3E+06 | 3336 | 1E-10 | 0 |
| Hv67 | 0 | 0 | 0 | 0 | 1 | 3E-10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3E+06 | 3168 | 1E-10 | 0 |
| Hv68 | 0 | 0 | 0 | 0 | 1 | 3E-10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 3E+06 | 3216 | 1E-10 | 0 |
| Hv69 | 0 | 0 | 1 | 3E-10 | 1 | 3E-10 | 1 | 1.5E-10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.5 | 3E+06 | 3336 | 3E-10 | 0 |
| Hv73 | 1 | 2E-10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 3E+06 | 3096 | 1E-10 | 0 |
| Hv74 | 1 | 2E-10 | 1 | 3E-10 | 0 | 0 | 1 | 1.6E-10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 3E+06 | 3192 | 3E-10 | 0 |
| Hv75 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 3E+06 | 3192 | 0 | 0 |
| Hv76 | 3 | 5E-10 | 0 | 0 | 2 | 6E-10 | 2 | 3.2E-10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.75 | 3E+06 | 3168 | 7E-10 | 0 |
| Hv77 | 3 | 5E-10 | 0 | 0 | 1 | 3E-10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 3E+06 | 3144 | 4E-10 | 0 |
| Hv79 | 2 | 3E-10 | 0 | 0 | 1 | 3E-10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 3E+06 | 3168 | 3E-10 | 0 |
| Hv80 | 2 | 3E-10 | 1 | 3E-10 | 0 | 0 | 0 | 0 | 2 | 6E-10 | 0 | 0 | 0 | 0 | 0 | 0 | 1.5 | 3E+06 | 3000 | 6E-10 | 0 |
| Hv85 | 3 | 5E-10 | 0 | 0 | 0 | 0 | 1 | 1.7E-10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 3E+06 | 3096 | 4E-10 | 0 |
| Hv86 | 1 | 2E-10 | 0 | 0 | 1 | 3E-10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3E+06 | 3096 | 2E-10 | 0 |
| Hv87 | 3 | 5E-10 | 1 | 3E-10 | 0 | 0 | 0 | 0 | 1 | 3E-10 | 0 | 0 | 1 | 1E-10 | 1 | 1E-10 | 4 | 3E+06 | 3312 | 5E-10 | 2E-10 |
| Hv88 | 2 | 3E-10 | 2 | 6E-10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 3E+06 | 3432 | 4E-10 | 0 |
| Hv90 | 3 | 5E-10 | 0 | 0 | 1 | 3E-10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1E-10 | 3 | 3E+06 | 3144 | 4E-10 | 1E-10 |
| Hv98 | 3 | 5E-10 | 0 | 0 | 1 | 3E-10 | 0 | 0 | 1 | 3E-10 | 0 | 0 | 0 | 0 | 0 | 0 | 1.5 | 3E+06 | 3312 | 5E-10 | 0 |
| | 76 | | 22 | | 28 | | 33 | | 4 | | 4 | | 2 | | 17 | | | | | | |
| Overall mut rat | 2E-10 | | | 1E-10 | | 2E-10 | | 9.6E-11 | | 2E-11 | | 1E-11 | | 4E-12 | | 3E-11 | 1.42 | | | 3E-10 | 4E-11 |
| lower limit | 2E-10 | | | 7E-11 | | 1E-10 | | 6.6E-11 | | 6E-12 | | 3E-12 | | 5E-13 | | 2E-11 | | | | 3E-10 | 2E-11 |
| upper limit | 3E-10 | | | 2E-10 | | 2E-10 | | 1.3E-10 | | 5E-11 | | 3E-11 | | 1E-11 | | 5E-11 | | | | 4E-10 | 6E-11 |
| SEM** | 3E-11 | | | 3E-11 | | 3E-11 | | 1.7E-11 | | 1E-11 | | 6E-12 | | 3E-12 | | 8E-12 | | | | 3E-11 | 8E-12 |

* T_s/T_v is the transition/transversion ratio.

** SEM is the standart error.