

TABLE 5 Conserved portions of hypothetical minimal gene sets for different lifestyles

Functional class of proteins	Organism's lifestyle ^a (number of shared proteins/COGs)			
	Free-living organisms	Autotrophs	Chemoautotrophs	Thermophiles
Translation, ribosome structure and biogenesis	57	64	68	62
Transcription	4	9	11	6
Replication recombination, repair	9	14	18	14
Metabolism	62	152	171	89
Cellular processes: chaperone functions, secretion, cell division, cell wall biogenesis	17	48	50	30
Miscellaneous	13	46	74	44
Total	158	320	379	237

^aThe following species whose genomes have been completely sequenced were included in this analysis: Free-living organisms—*A. fulgidus*, *M. jannaschii*, *M. thermoautotrophicum*, *P. horikoshii*, *S. cerevisiae*, *A. aeolicus*, *T. maritima*, *Synechocystis* sp., *E. coli*, *B. subtilis*; autotrophs—*A. fulgidus*, *M. jannaschii*, *M. thermoautotrophicum*, *A. aeolicus*, *Synechocystis* sp.; chemoautotrophs—*A. fulgidus*, *M. jannaschii*, *M. thermoautotrophicum*, *A. aeolicus*; thermophiles—*A. fulgidus*, *M. jannaschii*, *M. thermoautotrophicum*, *D. horikoshii*, *A. aeolicus*, and *T. maritima*.