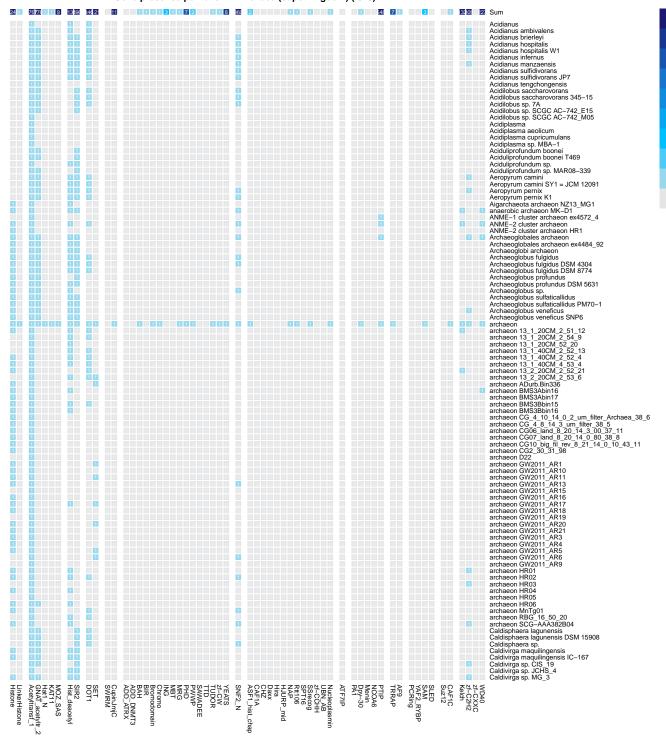
#### Gene presence per taxon in Archaea (superkingdom) (1/20)



### Gene presence per taxon in Archaea (superkingdom) (2/20)

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Caldivirga sp. MU80

candidate division MSBL1 archaeon SCGC—AAA259A05
candidate division MSBL1 archaeon SCGC—AAA259B11
candidate division MSBL1 archaeon SCGC—AAA259B11
candidate division MSBL1 archaeon SCGC—AAA259B14
candidate division MSBL1 archaeon SCGC—AAA259B14
candidate division MSBL1 archaeon SCGC—AAA259B17
candidate division MSBL1 archaeon SCGC—AAA259E17
candidate division MSBL1 archaeon SCGC—AAA259E19
candidate division MSBL1 archaeon SCGC—AAA259E29
candidate division MSBL1 archaeon SCGC—AAA259B19
candidate division MSBL1 archaeon SCGC—AAA259M10
candidate division MSBL1 archaeon SCGC—AAA259M10
candidate division MSBL1 archaeon SCGC—AAA259M10
candidate division MSBL1 archaeon SCGC—AAA2661019
candidate division MSBL1 archaeon SCGC—AAA2661019
candidate division MSBL1 archaeon SCGC—AAA266119
candidate division MSBL1 archaeon SCGC—AAA266119
candidate division MSBL1 archaeon SCGC—AAA266119
candidate division MSBL1 archaeon SCGC—AAA26119
candidate division MSBL1 archaeon SCGC—AAA26119
candidate division MSBL1 archaeon SCGC—AAA261019
candidate division MSBL1 archaeon SCGC—AAA261019
candidate division MSBL1 archaeon SCGC—AAA382A03
candidate Arenigmarchaeota archaeon CG 4 10 14 0 .8 um filter 37 
10110001100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Candidatus Altiarchaeales archaeon Candidatus Altiarchaeales archaeon A3 Candidatus Altiarchaeales archaeon ex4484_2 Candidatus Altiarchaeales archaeon ex4484_96 Candidatus Altiarchaeales archaeon ex4484_96 Candidatus Altiarchaeales archaeon HCW-Altiarchaeales-1 Candidatus Altiarchaeales archaeon HCW-Altiarchaeales-2 Candidatus Altiarchaeales archaeon HCW-Altiarchaeales-2 Candidatus Altiarchaeales archaeon WCR_SM1_79 Candidatus Altiarchaeales archaeon WCR_SM1_79 Candidatus Altiarchaeales archaeon WCR_SM1_86-2 Candidatus Altiarchaeales archaeon WCR_SM1_86-2 Candidatus Altiarchaeales archaeon WCR_SM1_50 Candidatus Altiarchaeales archaeon WCR_SM1_50 Candidatus Altiarchaeales archaeon WCR_SM1_50 Candidatus Altiarchaeales archaeon WCR_SM1_50 Candidatus Altiarchaeum sp. CG 4_8_14_3_um_filter_32_2054 Candidatus Altiarchaeum sp. CG 4_8_14_0_8_um_filter_32_2054 Candidatus Altiarchaeum sp. CG 4_8_14_0_8_um_filter_32_2054 Candidatus Altiarchaeum sp. CG 4_8_14_0_8_um_filter_32_2054 Candidatus Altiarchaeum sp. CG 2_30_32_3053 Candidatus Altiarchaeum sp. CG 2_30_32_3053 Candidatus Altiarchaeum sp. CG 3_30_32_3053 Candidatus Bathyarchaeota archaeon B24 Candidatus Bathyarchaeota archaeon B24 Candidatus Bathyarchaeota archaeon B24 Candidatus Bathyarchaeota archaeon B25 Candidatus Bathyarchaeota archaeon B25 Candidatus Bathyarchaeota archaeon B26_1 Candidatus Bathyarchaeota archaeon B26_2 Candidatus Bathyarchaeota archaeon B26_3 Candidatus Bathyarchaeota archaeon B2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Candidatus Bathyarchaeota archaeon B26-1
Candidatus Bathyarchaeota archaeon B26-2
Candidatus Bathyarchaeota archaeon B63
Candidatus Bathyarchaeota archaeon BA1
Candidatus Bathyarchaeota archaeon BA1
Candidatus Bathyarchaeota archaeon BA1
Candidatus Bathyarchaeota archaeon CG 4 8 14 3 um _filter 42 8
Candidatus Bathyarchaeota archaeon CG 7 land 8 _20_14_0_80_47_9
Candidatus Bathyarchaeota archaeon CG 7 land 8 _20_14_0_80_47_9
Candidatus Bathyarchaeota archaeon ex4484_205
Candidatus Bathyarchaeota archaeon ex4484_205
Candidatus Bathyarchaeota archaeon ex4484_218
Candidatus Bathyarchaeota archaeon ex4484_231
Candidatus Bathyarchaeota archaeon ex4484_231
Candidatus Bathyarchaeota archaeon R6G_13_38_9
Candidatus Bathyarchaeota archaeon R6G_13_52_12
Candidatus Bathyarchaeota archaeon R6G_16_57_9
Candidatus Bathyarchaeota archaeon R6G_16_57_9
Candidatus Bathyarchaeota archaeon R6G_16_57_9
Candidatus Dalpherotrites archaeon ADurb Bin253
Candidatus Dalpherotrites archaeon C608_1 land_2_0_14_0_20_30_16
Candidatus Dalpherotrites archaeon C608_1 land_2_2_0_14_0_20_30_16
Candidatus Dalpherotrites archaeon C608_1 land_2_2_0_14_0_02_34_12
Candidatus Dalpherotrites archaeon C609_1 land_2_0_14_0_10_31_34
Candidatus Dalpherotrites archaeon C610_bing_file_rev_8_21_14_0_10_31_34
Candidatus Dalpherotrites archaeon C610_bing_file_rev_8_21_14_0_10_31_34
Candidatus Dalpherotrites archaeon C610_bing_file_rev_8_21_14_0_10_31_34
Candidatus Dalpherotrites archaeon C610_bing_file_rev_8_21_14_0_20_37_9
Candidatus Bathyarchaeota archaeon C640_bing_file_rev_8_21_14_0_20_37_9
Candidatus Geothermarchaeota archaeon C647_2_27
Candidatus Bathyarchaeota archaeon C647_2_27
Candidatus Bathyarchaeota archaeon C647_2_27
Candidatus Bathyarchaeota archaeon C647_2_27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 1
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Candidatus Halobonum tyrrellensis G22
Candidatus Haloredivivus sp. G17
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## Gene presence per taxon in Archaea (superkingdom) (3/20)

Gene presence per taxon in A	Archaea (superkingdom) (3/20)
	Candidatus Heimdallarchaeota archaeon
1 0 1 1 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0	Candidatus Heimdallarchaeota archaeon AB_125 Candidatus Heimdallarchaeota archaeon B3_Heim
	Candidatus Heimdallarchaeota archaeon LC_3
101000110000000000000000000000000000000	Candidatus Korarchaeon
	Candidatus Korarchaeota archaeon NZ13–K Candidatus Korarchaeum cryptofilum
	Candidatus Korarchaeum cryptofilum OPF8 Candidatus Lokiarchaeota archaeon
	Candidatus Lokiarchaeota archaeon CK_4  Candidatus Lokiarchaeota archaeon Loki b31
	Candidatus Lokiarchaeota archaeon Loki_b32 Candidatus Mancarchaeum acidiphilum
	Candidatus Marsarchaeota G1 archaeon BE_D Candidatus Marsarchaeota G1 archaeon QSP_B
	Candidatus Marsarchaeota 61 anchaeon BE-BC Candidatus Marsarchaeota 61 anchaeon BE-BC Candidatus Marsarchaeota 61 anchaeon OSP-BC Candidatus Marsarchaeota 61 anchaeon OSP-DC Candidatus Marsarchaeota 61 anchaeon OSP-DC Candidatus Marsarchaeota 62 anchaeon BE-DC Candidatus Marsarchaeota 62 anchaeon ECH-BC CANDIDATE C
	Candidatus Marsarchaeota G2 archaeon BE_D Candidatus Marsarchaeota G2 archaeon ECH_B_1
	Candidatus Marsarchaeota G2 archaeon ECH, B2 Candidatus Marsarchaeota G2 archaeon ECH, B3
	Candidatus Marsarchaeota G2 archaeon ECH B. SAG-C16 Candidatus Marsarchaeota G2 archaeon ECH B. SAG-E12 Candidatus Marsarchaeota G2 archaeon ECH B. SAG-F08 Candidatus Marsarchaeota G2 archaeon ECH B. SAG-G06 Candidatus Marsarchaeota G2 archaeon ECH B. SAG-G16 Candidatus Marsarchaeota G2 archaeon ECH B. SAG-G16 Candidatus Marsarchaeota G2 archaeon CSP_D Candidatus Marsarchaeota G2 archaeon OSP_D
	Candidatus Marsarchaeota Oz archaeon ECH_B_SAG-F06 Candidatus Marsarchaeota G2 archaeon ECH_B_SAG-G06 Candidatus Marsarchaeota G2 archaeon ECH_B_SAG-G16
	Candidatus Marsarchaeota G2 archaeon ECH_B_SAG-M15 Candidatus Marsarchaeota G2 archaeon CPP D
	Candidatus Methanohalarchaeum thermophilum
	Candidatus Methanoliparum thermophilum Candidatus Methanolliviera hydrocarbonicum Candidatus Methanolliviera sp. GoM_asphalt
	Candidatus Methanolliviera sp. GoM_oil Candidatus Methanolliviera sp. GoM_oil
	Candidatus Methanomassillicoccus intestinalis
	Candidatus Methanomethylophilus alvus Mx1201 Candidatus Methanomethylophilus alvus Mx1201 Candidatus Methanomethylophilus alvus Mx1201 Candidatus Methanomethylophilus sp. 1R26 Candidatus Methanomethylophilus sp. 1R26 Candidatus Methanoperedenaceae archaeon Candidatus Methanoperedenaceae archaeon HGW-Methanoperedenaceae–1
	Candidatus Methanomethylophilus sp. 1R26 Candidatus Methanomethylophilus sp. 1R26 Candidatus Methanoperedenaceae archaeon
	Crinidatus Meltanoperedenaceae archaeon HGW-Methanoperedenaceae Candidatus Meltanoperedenaceae archaeon HGW-Methanoperedenaceae-1
10 1000 10 10 10 00 00 00 00 00 00 00 00	Candidatus Methanoperedens Candidatus Methanoperedens Candidatus Methanoperedens sp.
	Candidatus Methanoperedens sp. BLZ1 Candidatus Methanoperedens sp. BLZ1 Candidatus Methanoperedens sp. BLZ2
	Candidatus Metnanopiasma termitum
	Candidatus Micrarchaeota archaeon Candidatus Micrarchaeota archaeon CG 4 10 14 0 2 um filter 49 7
	Candidatus Methanosuratus subterraneum  Candidatus Micrarchaeota archaeon CG 4 10 14 0 2 um_filter 49 7 Candidatus Micrarchaeota archaeon CG 4 10 14 0 2 um_filter 55 9 Candidatus Micrarchaeota archaeon CG 4 10 14 0 2 um_filter 55 9 Candidatus Micrarchaeota archaeon CG 4 10 14 0 2 um_filter 60 11 Candidatus Micrarchaeota archaeon CG 4 10 14 0 8 um_filter 60 7 Candidatus Micrarchaeota archaeon CG 60 land 8 20 14 3 00 50 6 Candidatus Micrarchaeota archaeon CG08 land 8 20 14 0 20 49 17 Candidatus Micrarchaeota archaeon CG08 land 8 20 14 0 20 49 17 Candidatus Micrarchaeota archaeon CG08 land 8 20 14 0 10 55 25 Candidatus Micrarchaeota archaeon CG09 land 8 20 14 0 10 55 25 Candidatus Micrarchaeota archaeon CG09 land 8 20 14 0 10 55 25 Candidatus Micrarchaeota archaeon CG1 24 7 40 Candidatus Micrarchaeota archaeon CG1 02 49 24 Candidatus Micrarchaeota archaeon CG1 02 5 1 15
	Candidatus Micrarchaeota archaeon CG -4 10 -14 0 8 um filter 60 7 Candidatus Micrarchaeota archaeon CG06 land 8 20 14 3 00 50 6
	Candidatus Micrarchaeota archaeon CG08 Iand 8 <u>20 14 0 20 49 17</u> Candidatus Micrarchaeota archaeon CG08 Iand 8 <u>20 14 0 20 59 11</u>
	Candidatus Micrarchaeota archaeon CG09 Iand 8, 20, 14, 0, 10, 55, 25 Candidatus Micrarchaeota archaeon CG09 Iand 8, 20, 14, 0, 10, 60, 16
1	Candidatus Micrarchaeota archaeon CG1_02_47_40 Candidatus Micrarchaeota archaeon CG1_02_49_24
	Candidatus Micrarchaeota archaeon CG1 02 49 24 Candidatus Micrarchaeota archaeon CG1 02 51 15 Candidatus Micrarchaeota archaeon CG1 02 55 22 Candidatus Micrarchaeota archaeon CG1 02 55 22 Candidatus Micrarchaeota archaeon CG1 02 55 24 Candidatus Micrarchaeota archaeon CG1 02 60 51 Candidatus Micrarchaeota archaeon CG1 05 60 51 Candidatus Micrarchaeota archaeon CG1 05 60 61 Candidatus Micrarchaeota archaeon CG1 05 60 61 Candidatus Micrarchaeota archaeon CG1 05 60 61 Candidatus Micrarchaeota archaeon CG1 05 61 61 61 62 61 61 61 61 61 61 61 61 61 61 61 61 61
	Candidatus Micrarchaeota archaeon CG1_02_55_41 Candidatus Micrarchaeota archaeon CG1_02_60_51
	Candidatus Micrarchaeota archaeon CG10, big, fil rev. 8. 21,14,0,10, 45, 29 Candidatus Micrarchaeota archaeon CG10, big, fil rev. 8. 21,14,0,10, 54, 18
	Candidatus Micrarchaeota archaeon CG10 big fil rev. 8. 21. 14. 0. 10. 59. 7 Candidatus Micrarchaeota Carchaeon CG10 big fil rev. 8. 21. 14. 0. 10. 60. 32
	Candidatus Micrarchaeota archaeon CG11, big_fil_rev_8_21_14_0_20_47_5 Candidatus Micrarchaeota archaeon RBG_16_36_9
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	Candidatus Micrarchaeota archaeon RBC_16_49_10 Candidatus Micrarchaeum acidiphilum ARMAN-1
1     0     1     0 <td>Candidatus Micrarchaeum adidiphilum ARMAN-2 Candidatus Micrarchaeum sp. A21</td>	Candidatus Micrarchaeum adidiphilum ARMAN-2 Candidatus Micrarchaeum sp. A21
	Candidatus Nanobsidianus stetteri Candidatus Nanoclepta minutus Candidatus Nanohalograchaeota archaeon
1 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Candidatus Nanopusillus acidilobi
1 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Candidatus Nanosalina sp. J07AB43 Candidatus Nanosalinarum sp. J07AB56
	Candidatus Nitrosarchaeum limnium Candidatus Nitrosarchaeum limnium BG20 Candidatus Nitrosarchaeum limnium SFR1
	Candidatus Nitrosocaldus
	Candidatus Nitrosocosmicus arcticus
	Candidatus Nitrosocosmicus franklandus
	Candidatus Nitrosocosmicus oleophilus Candidatus Nitrosocosmicus sp. SS Candidatus Nitrosocosminus catalina
	Candidatus Nitrosomarinus sp. Candidatus Nitrosopelagicus previs
10 10000 00 11 00 0000000000000000	Candidatus Nitrosopelagicus sp.
YEATS NEZ N YEATS ZI-CKW ZI-CK	WD40 zF-CXXC z
NEARS NEZ N NEAR NEW	17 · · · · · · · · · · · · · · · · · · ·
maii iii C C C XXX Signal iii iii iii iii iii iii ii ii ii ii ii	्र हे <sup>श्र</sup>

lomain
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## Gene presence per taxon in Archaea (superkingdom) (4/20)

					sene presence per taxon in Archaea						
1 0	1 0 0 0	0 1	1 0		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0					0 1 0 0	•
1 0	1 0 0 0 0	0 1	1 0		$\begin{array}{cccccccccccccccccccccccccccccccccccc$						Candidatus Nitrosopumilus salaria Candidatus Nitrosopumilus salaria BD31
1 0	1 0 0 0 0	0 1	1 0							0 1 0 0	Candidatus Nitrosopumilus sediminis Candidatus Nitrosopumilus sp. NM25
1 0	1 0 0 0 0	0 1	1 0							0 1 0 0	Candidatus Nitrosopumilus sp. SW
1 0	1 0 0 0 0	1 0	1 0							1 1 0 0	Candidatus Nitrososphaera evergladensis Candidatus Nitrososphaera evergladensis SR1 Candidatus Nitrososphaera gargensis
1 0	1 0 0 0 0	1 0	1 0							1 1 0 0	Candidatus Nitrososphaera gargensis Ga9.2 Candidatus Nitrososphaera gargensis Ga9.2 Candidatus Nitrososphaera sp. 13_1_40CM_48_12
1 0	1 0 0 0 0	0 1	1 0							0 1 0 0	Candidatus Nitrosotalea bavarica
1 0	1 0 0 0 0	0 1	1 0		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0					0 1 0 0	Candidatus Nitrosotalea devanaterra Candidatus Nitrosotalea okcheonensis
1 0	1 0 0 0 0	0 0	1 0		$\begin{array}{cccccccccccccccccccccccccccccccccccc$					0 1 0 0	Candidatus Nitrosotalea sinensis Candidatus Nitrosotalea sp. FS Candidatus Nitrosotalea sp. TS
1 0	1 0 0 0 0	0 1			$\begin{smallmatrix} 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 $						Candidatus Nitrosotenuis
0 0	1 0 0 0 0	0 1	0 0							0 1 0 0	Candidatus Nitrosotenuis aquarius Candidatus Nitrosotenuis chungbukensis
1 0	10000	0 1								0 1 0 0	Candidatus Nitrosotenuis cloacae Candidatus Nitrosotenuis sp.
1 0	10000	0 1								0 1 0 0	Candidatus Nitrosotenuis uzonensis
1 0	10000	1 1	0 0				0 0 0 0 0 1				Candidatus Pacearchaeota archaeon
1 0	1 0 0 0 0		0 0								Candidatus Pacearchaeota archaeoti CG 4 10 14 0 2 um filter 05 32 18  Candidatus Pacearchaeota archaeon CG 4 10 14 0 2 um filter 30 11
0 0	1 0 0 0 0		1 0 0 0								Candidatus Pacearchaeota archaeon CG_4_10_14_0_2_um_filter_31_10 Candidatus Pacearchaeota archaeon CG_4_10_14_0_2_um_filter_35_33
1 0	1 0 0 0 0										Candidatus Pacearchaeota archaeon CG_4_10_14_0_8_um_filter_35_169 Candidatus Pacearchaeota archaeon CG_4_9_14_0_2_um_filter_30_8
0 0	0 0 0 0 0		0 1								Candidatus Pacearchaeota archaeon CG_4_9_14_0_2_um_filter_39_13 Candidatus Pacearchaeota archaeon CG_4_9_14_3_um_filter_30_11
1 0	1 0 0 0 0		1 0								Candidatus Pacearchaeota archaeon CG 4 9 14 3 um filter 31 7 Candidatus Pacearchaeota archaeon CG 4 9 14 3 um filter 35 19
1 0	1 0 0 0 0										Candidatus Pacearchaeota archaeon CG06 land 8 20 14 3 00 35 12 Candidatus Pacearchaeota archaeon CG09 land 8 20 14 0 10 30 9
1 0	1 0 0 0 0		0 0								Candidatus Pacearchaeota archaeon CB. 4 Candidatus Pacearchaeota archaeon CG. 4. 10. 14. 0. 2. um. filter. 30. 11 Candidatus Pacearchaeota archaeon CG. 4. 10. 14. 0. 2. um. filter. 30. 11 Candidatus Pacearchaeota archaeon CG. 4. 10. 14. 0. 2. um. filter. 35. 130 Candidatus Pacearchaeota archaeon CG. 4. 10. 14. 0. 2. um. filter. 35. 130 Candidatus Pacearchaeota archaeon CG. 4. 9. 14. 0. 2. um. filter. 30. 8 Candidatus Pacearchaeota archaeon CG. 4. 9. 14. 0. 2. um. filter. 30. 8 Candidatus Pacearchaeota archaeon CG. 4. 9. 14. 0. 2. um. filter. 30. 8 Candidatus Pacearchaeota archaeon CG. 4. 9. 14. 0. 2. um. filter. 30. 11 Candidatus Pacearchaeota archaeon CG. 4. 9. 14. 3. um. filter. 31. 7 Candidatus Pacearchaeota archaeon CG. 4. 9. 14. 3. um. filter. 35. 19 Candidatus Pacearchaeota archaeon CG. 4. 9. 14. 3. um. filter. 35. 19 Candidatus Pacearchaeota archaeon CG. 609 Jand. 8. 20. 14. 3. 00. 35. 12 Candidatus Pacearchaeota archaeon CG. 02. 30. 18 Candidatus Pacearchaeota archaeon CG. 02. 30. 18 Candidatus Pacearchaeota archaeon CG. 02. 32. 13 Candidatus Pacearchaeota archaeon CG. 03. 10. 11 Candidatus Pacearchaeota archaeon CG. 04. 10. 10. 30. 48 Candidatus Pacearchaeota archaeon CG. 06. 10. 10. 11 Candidatus Pacearchaeota archaeon CG. 10. 10. 10. 11 Candidatus Pacearchaeota a
0 0	1 0 0 0 0		0 0							1 0 0 0	Candidatus Pacearchaeota archaeon CG1_02_32_132
	0 0 0 0 0		0 1								Carididatus Pacearchaeota archaeon CG1_02_32_21  Candidatus Pacearchaeota archaeon CG1_02_39_14
0 0	0 0 0 0 0		0 0		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0					0 1 0 0	Candidatus Pacearchaeota archaeon CG10_big_fil_rev_8_21_14_0_10_30_48  Candidatus Pacearchaeota archaeon CG10_big_fil_rev_8_21_14_0_10_31_24
1 0	1 0 0 0 0		1 0								Candidatus Pacearchaeota archaeon CG10_big_fil_rev_8_21_14_0_10_31_59 Candidatus Pacearchaeota archaeon CG10_big_fil_rev_8_21_14_0_10_31_9
1 0	1 0 0 0 0		1 1								Candidatus Pacearchaeota archaeon CG10_big_fil_rev_8_21_14_0_10_32_14 Candidatus Pacearchaeota archaeon CG10_big_fil_rev_8_21_14_0_10_32_42
1 0	1 0 0 0 0		0 1								Candidatus Pacearchaeota archaeon CG10_big_fil_rev_8_21_14_0_10_34_12
1 0	1 0 0 0 0		0 1								Candidatus Pacearchaeota archaeon CG10_big_fil_rev_8_21_14_0_10_35_13
	1 0 0 0 0		0 1							0 0 0 0	Candidatus Pacearchaeota archaeon ex4484_71
0 0	1 0 0 0 0	1 0	0 1							1 0 0 0	Carididatus Pacearchaeota archaeoti RBG_13_33_26  Candidatus Pacearchaeota archaeoti RBG_13_33_26  Carididatus Pacearchaeota archaeoti RBG_13_33_26
0 0	1 0 0 0 0		0 1								Candidatus Pacearchaeota archaeon RBG_19F1_COMBO_34_9 Candidatus Parvarchaeota archaeon
	1 0 0 0 0 1 0 0 0 0		0 0							0 1 0 0	Candidatus Parvarchaeum acidophilus ARMAN-5
	1 0 0 0 0	1 1	1 0	0 0			0 0 0 0 0 0			1 0 0 1	
1 0	1 0 0 0 0	1 1			000000000000000000000000000000000000000						Candidatus Parvaloriaeum acuopmius Ankuma—g—way F3 Candidatus Syntrophoarchaeum bulanivorans Candidatus Syntrophoarchaeum bulanivorans Candidatus Syntrophoarchaeum bulanivorans Candidatus Syntrophoarchaeum sp. 60M oil Candidatus Syntrophoarchaeum sp. 6W72–LMO15
1 0	1 0 0 0 0	0 1	1 0		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		0 0 0 0 0 1				Candidatus Syntrophoarchaeum sp. GoM_oil Candidatus Syntrophoarchaeum sp. WYZ-LMO15
0 0	1 0 0 0 0	0 0	0 0				0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 1			0 0 0 0	Candidatus Thalassarchaeum betae Candidatus Thorarchaeota archaeon
	1 0 0 0 0	1 1	1 0							0 0 0 1	Candidatus Thorarchaeota archaeon AB_25 Candidatus Thorarchaeota archaeon SMTZ-45
1 0	10000	1 1	1 0							0 0 0 1	Candidatus Thorarchaeota archaeon SMTZ1-45 Candidatus Thorarchaeota archaeon SMTZ1-83
1 0	1 1 0 0 0	1 1	1 0				0 0 0 0 0 0			0 1 0 0	Candidatus Verstraetearchaeota archaeon
1 0	1 0 0 0 0	0 0	1 0							0 0 0 0	Candidatus Woesearchaeota archaeon B3_Woes
1 0	1 0 0 0 0	1 0									Candidatus Woesearchaeota archaeon CG_4_10_14_0_2_um_filter_33_10 Candidatus Woesearchaeota archaeon CG_4_10_14_0_2_um_filter_33_13
1 0	1 0 0 0 0		1 0								Candidatus Woesearchaeota archaeon CG_4_10_14_0_2_um_filter_57_5 Candidatus Woesearchaeota archaeon CG_4_10_14_0_8_um_filter_47_5
1 0	1 0 0 0 0	0 0	1 0							0 0 0 0	Candidatus Woesearchaeota archaeon CG05_land_8_20_14_3_00_33_13 Candidatus Woesearchaeota archaeon CG07_land_8_20_14_0_80_44_23
1 0	1 0 0 0 0	1 0 0 0								1 0 0 0	Candidatus Woesearchaeota archaeon CG08_land_8_20_14_0_20_43_7 Candidatus Woesearchaeota archaeon CG08_land_8_20_14_0_20_47_9
1 0	1 0 0 0 0										Candidatus Woesearchaeota archaeon CG1_02_33_12 Candidatus Woesearchaeota archaeon CG1_02_47_18
1 0	1 0 0 0 0 1 0 0 0 0		1 0								Candidatus Woesearchaeota archaeon Candidatus Woesearchaeota archaeon B3 Woes Candidatus Woesearchaeota archaeon C6 4 10 14 0 2 um. filter 33 10 Candidatus Woesearchaeota archaeon C6 4 10 14 0 2 um. filter 33 13 Candidatus Woesearchaeota archaeon C6 4 10 14 0 2 um. filter 37 13 Candidatus Woesearchaeota archaeon C6 4 10 14 0 2 um. filter 37 5 Candidatus Woesearchaeota archaeon C6 4 10 14 0 2 um. filter 37 5 Candidatus Woesearchaeota archaeon C606 land 8 20 14 0 80 0 33 13 Candidatus Woesearchaeota archaeon C606 land 8 20 14 0 80 0 44 23 Candidatus Woesearchaeota archaeon C608 land 8 20 14 0 20 43 7 Candidatus Woesearchaeota archaeon C608 land 8 20 14 0 20 43 7 Candidatus Woesearchaeota archaeon C61 02 23 21 Candidatus Woesearchaeota archaeon C61 02 257 44 Candidatus Woesearchaeota archaeon C61 02 57 14 Candidatus Woesearchaeota archae
1 0	1 0 0 0 0	1 0	0 0								Candidatus Woesearchaeota archaeon CG10 big_fil_rev_8_21_14_0_10_32_24 Candidatus Woesearchaeota archaeon CG10 big_fil_rev_8_21_14_0_10_32_9
1 0	1 0 0 0 0		1 0								Candidatus Woesearchaeota archaeon CG10_big_fil_rev_8_21_14_0_10_33_12_Candidatus Woesearchaeota archaeon CG10_big_fil_rev_8_21_14_0_10_34_12_Candidatus Woesearchaeota archaeon CG10_big_fil_rev_8_21_14_0_10_34_8
1 0	1 0 0 0 0				0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0						Candidatus Woesearchaeota archaeon CG10_big_fil_rev_8_21_14_0_10_34_8 Candidatus Woesearchaeota archaeon CG10_big_fil_rev_8_21_14_0_10_36_11
1 0	1 0 0 0 0		0 1								Candidatus Woesearchaeota archaeon CG10_big_fil_rev_8_21_14_0_10_36_11 Candidatus Woesearchaeota archaeon CG10_big_fil_rev_8_21_14_0_10_37_12 Candidatus Woesearchaeota archaeon CG10_big_fil_rev_8_21_14_0_10_44_13
1 0	1 0 0 0 0		0 1						0 1 0 0 0		
1 0	1 0 0 0 0	0 0									Candidatus Woesearchaeota archaeon CG10_big_til_rev_8_21_14_0_10_45_5 Candidatus Woesearchaeota archaeon CG10_big_fil_rev_8_21_14_0_10_47_5
	1 0 0 0 0 1 0 0 0 0	1 0	1 0								Candidatus Woesearchaeota archaeon CG10 big fill rev 8 21 14 0 10 45 5 Candidatus Woesearchaeota archaeon CG10 big fill rev 8 21 14 0 10 45 5 Candidatus Woesearchaeota archaeon CG11 big fill rev 8 21 14 0 20 43 8 Candidatus Woesearchaeota archaeon CG11 big fill rev 8 21 14 0 20 43 8 Candidatus Woesearchaeota archaeon CG11 big fill rev 8 21 14 0 20 57 5 Candidatus Woesearchaeota archaeon CG11 big fill rev 8 21 14 0 20 57 5
10	1 0 0 0 0	Τω							<00 00 00 × 00 00 00 00 00 00 00 00 00 00		Candidatus Woesearchaeota archaeon ex4484_78
LinkerHistone Histone	MOZ_SAS KAT11 Hat1_N GNAT_acetyltr_ Acetyltransf_1	Hist_	SET DOT1	CupinJmjC SWIRM	Daxx CHZ CAF1A ASF1_hist_cha SNF2_N YEATS Z1-CW TUDOR	Nucleoplasmin UBN_AB zf-CCHH SSrecog SPT16 Rt106 Rt106 Rt106 RtDRP_mid Hira	PTIP NCOA6 Menin Dpy-30 PA1	PCRing AF9 TRRAP	CAF1C Suz12 SLED SAM YAF2_RYBP	zf-CXXC zf-C2H2 Kelah	
Hist	MOZ_SAS (AT11 Hat1_N HAT_acet NAT_acet	_deacetyl	_	ΣŽ	DNI DNI	E G G S HARRES	P 30	ė g	_RY	) XX	
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	2				aap	3					

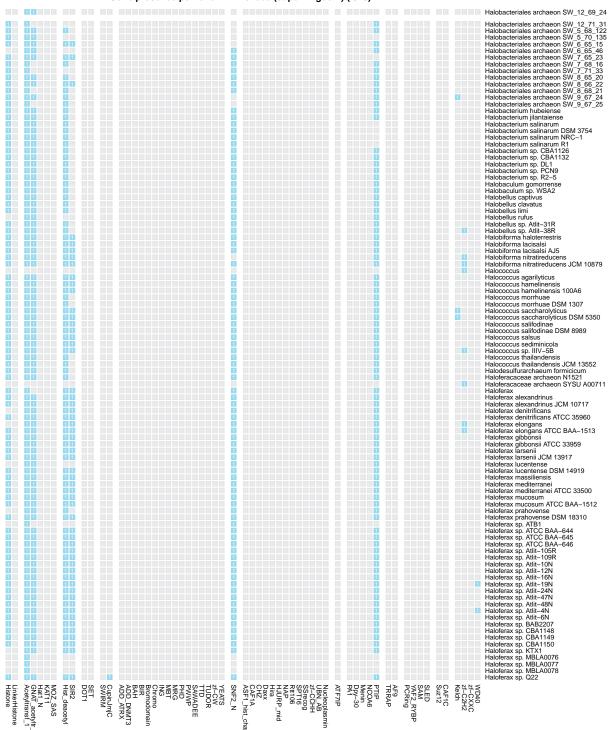
## Gene presence per taxon in Archaea (superkingdom) (5/20)

					ene presence per taxon in i			-				
	1 0 0 0 0											Candidatus Woesearchaeota archaeon RBG_13_36_6
1 0	1 0 0 0 0 1 0 0 0 0		0 0		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0						0 0 0 0	Cenarchaeum symbiosum Cenarchaeum symbiosum A
1 0	1 0 0 0 0	0 1										Conexivisphaera calidus
0 0	1 0 0 0 0	0 1	1 0		$\begin{smallmatrix} 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 $						1 1 0 0	Crenarchaeota archaeon Crenarchaeota archaeon 13 1 20CM 2 51 8
0 0	1 0 0 0 0	1 0	1 0									Crenarchaeota archaeon 13_1_20CM_2_53_14
1 0	1 0 0 0 0	0 0	1 0								1 0 0 0	Crenarchaeota archaeon 13_1_40CM_2_52_14 Crenarchaeota archaeon 13_1_40CM_3_52_10
1 0	1 0 0 0 0	1 0	1 0									Crenarchaeota archaeon 13_1_40CM_3_52_17 Crenarchaeota archaeon 13_1_40CM_3_52_4
1 0	1 0 0 0 0	1 0	1 0									Cleniarchaeud aridaeun 3, 1, 200 M, 2, 51, 8 Crenarchaeud aridaeun 13, 1, 200 M, 2, 53, 14 Crenarchaeud aridaeun 13, 1, 200 M, 2, 53, 14 Crenarchaeud aridaeun 13, 1, 400 M, 2, 52, 14 Crenarchaeud aridaeun 13, 1, 400 M, 3, 52, 14 Crenarchaeud aridaeun 13, 1, 400 M, 3, 52, 17 Crenarchaeud aridaeun 13, 1, 400 M, 3, 52, 17 Crenarchaeud aridaeun 13, 1, 400 M, 3, 52, 53, 53
	1 0 0 0 0											Cuniculiplasma divulgatum Cuniculiplasma sp. C_DKE
	1 1 0 0 0	1 0	1 0									Desulturococcaceae archaeon
	1 1 0 0 0	0 0	0 0								1 0 0 0	Desulfurococcaceae archaeon AG1 Desulfurococcales archaeon ex4484_204
1 0	1 1 0 0 0	1 0	1 0									Desulfurococcales archaeon ex4484_217_1 Desulfurococcales archaeon ex4484_217_2
	1 1 0 0 0	1 0										Desulfurococcales archaeon ex4484_217_2 Desulfurococcales archaeon ex4484_42 Desulfurococcales archaeon ex4484_42
	1 1 0 0 0	1 0	1 0		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1							Desulfurococcales archaeon ex4484_58 Desulfurococcus amylolyticus Desulfurococcus amylolyticus 1221n
	1 1 0 0 0	1 0	1 0									Desulfurococcus amylolyticus DSM 16532
	1 1 0 0 0	1 0										Desulfurococcus mucosus Desulfurococcus mucosus DSM 2162
1 0	1 1 0 0 0 0	0 0			0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0							
1 0	1 1 0 0 0	1 1	1 1	0 1		1000000000000000			1 0 0 0 1 0 0 0 0 0 0		1 0 0 1	Drawin you alcideon LC I'm! Euryarchaeol archaeon 13 1 20CM 2 64 92 Euryarchaeol archaeon 13 1 20CM 4 64-14 Euryarchaeol archaeon 13 1 20CM 4 64-15 Euryarchaeol archaeon ADurb Bin009
	1 0 0 0 0	1 0										Euryarchaeota archaeon 13_1_20CM_4_64_14
1 0	1 0 0 0 0	1 0			0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0						0 0 0 1	Euryarchaeota archaeon 55_53 Euryarchaeota archaeon ADurb.Bin009
1 0	1 0 0 0 0								0 0 0 0 0 0		0 0 0 1	Euryarchaeota archaeon ADurb.Bin023 Euryarchaeota archaeon ADurb.Bin165 Euryarchaeota archaeon ADurb.Bin190
1 0	1 0 0 0 0	1 0			0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0			0000			0 0 0 1	Euryarchaeota archaeon ADurb.Bin190
1 0	1 0 0 0 0	1 0							$egin{array}{cccccccccccccccccccccccccccccccccccc$			Euryarchaeota archaeon ADurb.Bin294 Euryarchaeota archaeon ADurb.BinA087
1 0	1 0 0 0 0	1 0						0 0 0 1			0 0 0 1	Euryarchaeota archaeon CG_4_9_14_3_um_filter_38_12
0 0	1 0 0 0 0	1 0									0 0 0 0	Euryarchaeota archaeon ADurb.Bin294 Euryarchaeota archaeon ADurb.Bin294 Euryarchaeota archaeon ADurb.BinA087 Euryarchaeota archaeon CG 4 9 14 3 um. filter 38 12 Euryarchaeota archaeon CG01 land 8 20 14 3 00 38 12 Euryarchaeota archaeon Ev4844 178 Euryarchaeota archaeon Ev484 178 Euryarchaeota archaeon Ev484 178
1 0	1 0 0 0 0	0 1										Euryarchaeota archaeon ex4484_178 Euryarchaeota archaeon HGW-Euryarchaeota-1
	1 0 0 0 0		0 0		1000000000000000000						0 0 0 0	Euryarchaeota archaeon RBG_13_31_8
	1 0 0 0 0		0 0					0 0 0 1			1 0 0 0	Euryarchaeota archaeoti RBG_13_57_23 Euryarchaeota archaeon RBG_13_61_15
	1 0 0 0 0	1 0										Euryarchaeota archaeon RBG_16_62_10  Euryarchaeota archaeon RBG_16_67_27
	1 0 0 0 0	1 0			0 0 0 0 0 0 0 0 0 0 0 0 0 0							Euryarchaeota archaeon RBG_16_68_12
	1 0 0 0 0	1 1						0 0 0 1			1 0 0 0	Euryarchaeota archaeon RBG_19FT_COMBO_56_21
	1 0 0 0 0	1 0			$\begin{smallmatrix} 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 $						0 0 0 0	Euryarchaeota archaeon RBG_19FT_COMBO_69_17 Euryarchaeota archaeon SG8-5
1 0	1 0 0 0 0	0 0									0 0 0 0	Euryarchaeota archaeon ex4484_178 Euryarchaeota archaeon HGW-Euryarchaeota-1 Euryarchaeota archaeon RBG_13_31_8 Euryarchaeota archaeon RBG_13_57_23 Euryarchaeota archaeon RBG_13_61_15 Euryarchaeota archaeon RBG_13_61_15 Euryarchaeota archaeon RBG_16_62_10 Euryarchaeota archaeon RBG_16_67_27 Euryarchaeota archaeon RBG_16_68_12 Euryarchaeota archaeon RBG_16_68_12 Euryarchaeota archaeon RBG_19FT_COMBO_56_21 Euryarchaeota archaeon RBG_19FT_COMBO_69_17 Euryarchaeota archaeon RBG_19FT_COMBO_69_17 Euryarchaeota archaeon SG8-5 Euryarchaeota archaeon RM23_78 Euryarchaeota archaeon RM27-78 Euryarchaeota archaeon RMED103
	1 0 0 0 0	0 1									1 0 0 0	Euryarchaeota archaeon SM23–78 Euryarchaeota archaeon TMED103 Euryarchaeota archaeon TMED117 Euryarchaeota archaeon TMED129 Euryarchaeota archaeon TMED129 Euryarchaeota archaeon TMED141 Euryarchaeota archaeon TMED141 Euryarchaeota archaeon TMED141 Euryarchaeota archaeon TMED164 Euryarchaeota archaeon TMED164 Euryarchaeota archaeon TMED192 Euryarchaeota archaeon TMED182 Euryarchaeota archaeon TMED218 Euryarchaeota archaeon TMED255 Euryarchaeota archaeon TMED255 Euryarchaeota archaeon TMED279 Euryarchaeota archaeon TMED85 Euryarchaeota archaeon TMED85 Euryarchaeota archaeon TMED85 Euryarchaeota archaeon TMED97 Euryarchaeota archaeon TMED97 Euryarchaeota archaeon TMED99
	1 0 0 0 0			0 1							0 0 0 0	Euryarchaeota archaeon TMED129
	1 0 0 0 0	1 1						0 0 0 1			0 0 0 1	Euryarchaeota archaeon TMED141
	1 0 0 0 0											Euryarchaeota archaeon TMED164 Euryarchaeota archaeon TMED173
	1 0 0 0 0	1 0						0 0 0 1			0 0 0 1	Euryarchaeota archaeon TMED192
	1 0 0 0 0							0 0 0 1			0 0 0 1	Euryarchaeota archaeon TMED218
	1 0 0 0 0	0 0									0 0 0 1	Euryarchaeota archaeon TMED252 Eurvarchaeota archaeon TMED255
	0 0 0 0 0	0 0									1 0 0 0	Euryarchaeota archaeon TMED279
	1 0 0 0 0	1 0			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			0 0 0 1			0 0 0 0	Euryarchaeota archaeon TMED97
1 0	1 1 0 0 0	1 1									1 0 0 1	Euryarchaeota archaeon TMED99 Ferroglobus placidus
1 0	1 1 0 0 0	1 1										Ferroglobus placidus DSM 10642 Ferroplasma
	1 0 0 0 0				0 0 0 0 0 0 0 0 0 0 0 0 0 0 0							Ferroplasma acidarmanus
	1 0 0 0 0				0 0 0 0 0 0 0 0 0 0 0 0 0 0 0							Ferroplasma acidarmanus fer1 Ferroplasma acidiphilum
	1 0 0 0 0	0 0	0 0		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1							Ferroplasma sp. Type II Fervidicoccus fontis
	1 1 0 0 0	0 1	1 0									Fervidicoccus fontis Kam940 Fervidicoccus sp.
1 0	00000				0 0 0 0 0 0 0 0 0 0 0 0 0 0						0 0 0 0	Geoglobus
1 0	1 1 0 0 0	1 1									1 0 0 0	Geoglobus acetivorans Geoglobus ahangari Hadesarchaea archaeon
1 0	1 0 0 0 0	1 1			0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0						0 0 0 1	Hadesarchaea archaeon Hadesarchaea archaeon B3 Hades
1 0	1 0 0 0 0	1 0									0 0 0 0	Hadesarchaea archaeon CG08 land 8 20 14 0 20 51 8
1 0	1 0 0 0 0	0 0										Hadesarchaea archaeon DG-33 Hadesarchaea archaeon DG-33-1
1 0	1 0 0 0 0	1 0	1 0									Hadesarchaea archaeon YNP_45 Hadesarchaea archaeon YNP_N21
0 0	1 0 0 0 0	0 0	0 0								0 0 0 0	Haladaptatus Haladaptatus cibarius
1 0	1 1 0 0 0	1 1			0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0			0 0 0 1				Haladaptatus litoreus
1 0	1 1 0 0 0	1 1			0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1			0 0 0 1				Haladaptatus paucihalophilus Haladaptatus paucihalophilus DX253
1 0	1 1 0 0 0	1 1						0 0 0 1			0 0 0 0	Haladaptatus sp. R4 Haladaptatus sp. W1
1 0	1 1 0 0 0							0 0 0 1			0 0 0 0	Halalkaliarchaeum desulfuricum
1 0	1 1 0 0 0	1 1			0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1			0 0 0 1				Halalkalicoccus jeotgali Halalkalicoccus jeotgali B3
10	>01×5	IΩ	0 0 D 0	S C	>>@@@O=<<\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	>0001177000C7			d α γ	ဖဂ	⊼N N ≤	Halalkalicoccus paucihalophilus
inke	MOZ_SA (AT11 Hat1_N SNAT_ac cetyltra	<u>8</u> 20	SET DOT1	₩ F	SNF2_N YEATS TILDON TIDON TIDON TIDON SAWADE PWWP PHD MRG MRG NMBT ING Chromo Bromodd BBIR ADD_DN	SF1	PA1 PATE FILE	PTIP NCOA6 Menin	SAM YAF2_R PCRing	CAF1C Suz12	100 A	
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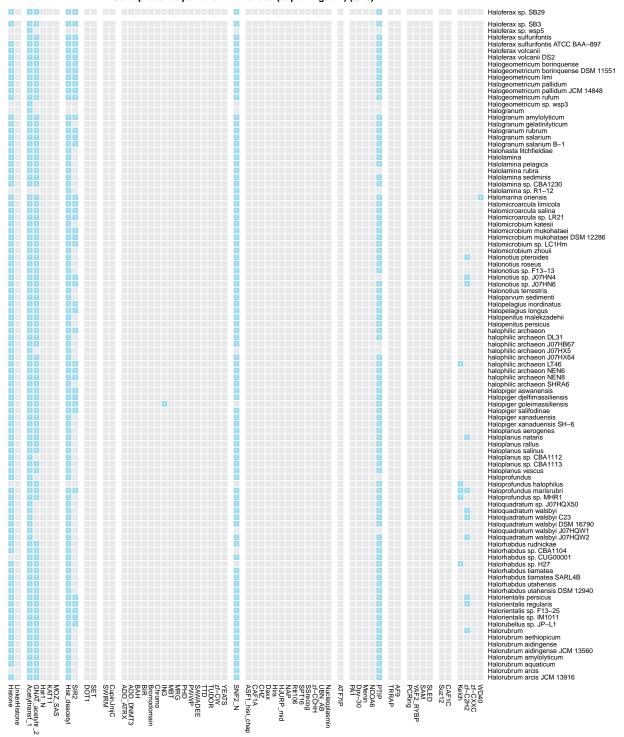
## Gene presence per taxon in Archaea (superkingdom) (6/20)

	1 0 0 0					Halalkalicoccus subterraneus
1 1 0 0 0	1 1 0 0		$\begin{array}{cccccccccccccccccccccccccccccccccccc$			Halanaeroarchaeum sulfurireducens Halapricum salinum
1 0 0 0 0	1 1 0 0					Halapricum sp. CBA1109
			$\begin{smallmatrix} 0 & 0 & 0 & 0 & 0 & 1 & 0 & 0 & 0 & 0 &$			Halarchaeum acidiphilum
1 1 0 0 0	1 1 0 0			0000010		Halarchaeum sp. CBA1220
						Halegenticoccus soli
1 1 0 0 0	1 0 0 0					Haloarchaeobius iranensis haloarchaeon 3A1-DGR
	1 1 0 0 1 1 0 0				$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Haloarcula
	1 1 0 0					
				$\begin{smallmatrix} 0 & 0 & 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 1 & 0 \\ \end{smallmatrix}$		Haloarcula argentinensis
1 1 0 0 0	1 1 0 0		000010000000000000000000000000000000000			Haloarcula argentinensis DSM 1228 Haloarcula californiae
	1 0 0 0 1					Haloarcula californiae ATCC 33799
1 1 0 0 0	1 1 0 0					
	1 1 0 0			$egin{array}{cccccccccccccccccccccccccccccccccccc$		Haloarcula hispanica N601
1 1 0 0 0	1 1 0 0			00000010		Haloarcula japonica DSM 6131
						Haloarcula marismortul
1 1 0 0 0	1 1 0 0					Haloarcula quadrata
1 1 0 0 0	1 1 0 0		100001000000000000	0000010		Haloarcula sinaiiensis ATCC 33800
			$\begin{smallmatrix} & & & & & & & & & & & & & & & & & & &$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$		Haloarcula sp. Atlit-47R
1 1 0 0 0	1 1 0 0			100 0 00001		Haloarcula sp. Atlit-7R
	1 1 0 0 1 1 0 0		$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$		maioarcula sp. CBA1115 Haloarcula sp. CBA1127
1 1 0 0 0	1 1 0 0			100 0 00001		Haloarcula sp. CBA1129
						Haloarcula sp. CBA1130 Haloarcula sp. CBA1131
1 1 0 0 0	1 1 0 0					
1 1 0 0 0	1 1 0 0					Haloarcula sp. K1
1 1 0 0 0	1 1 0 0					Haloarcula sp. MD-130
1 1 0 0 0	1 1 0 0	0 0 0 0 0 0 0 1 0 0 0 0				Haloarcula vallismortis
	1 1 0 0	0 0 0 0 0 0 0 0 <mark>1</mark> 0 0 0 0				Haloarcula vallismortis ATCC 29715
	1 0 0 0					Haloarculaceae archaeon HArcel1
	1 1 0 0	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$egin{array}{cccccccccccccccccccccccccccccccccccc$			Halobacteriaceae archaeon HD8-45 Halobacteriaceae archaeon SHR37
1 1 0 0 0						Halobacteriaceae bacterium SHR40
1 0 0 0 0	1 0 0 0					Halobacteriales Halobacteriales archaeon OH 1 68
1 1 0 0 0						
1 0 0 0 0	1 0 0 0					Halobacteriales archaeon QH_10_6 Halobacteriales archaeon QH 10_6
	1 1 0 0					Halobacteriales archaeon QH_10_7
1 1 0 0 0	1 1 0 0				0 0 0 0 0 0 0 0 0 1 0	Halobacteriales archaeon QH_2_65 Halobacteriales archaeon QH 2 66
	1 0 0 0					Halobacteriales archaeon QH_3_68
	1 1 0 0		$0 \ 0 \ 0 \ 0 \ 0 \ 1$			Halobacteriales archaeon QH_6_64 Halobacteriales archaeon QH_6_66 Halobacteriales archaeon QH_6_68
1 0 0 0 0	0 0 0 0		$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$egin{array}{cccccccccccccccccccccccccccccccccccc$		Halobacteriales archaeon QH_6_68
	1 1 0 0					
1 1 0 0 0	0 1 0 0					Halobacteriales archaeon QH_7_66
	1 1 0 0			0000010		
	1 1 0 0 1		$\begin{smallmatrix} 0 & 0 & 0 & 0 & 1 & 0 & 0 & 0 & 0 & 0 &$			Halobacteriales archaeon QH_8_64
1 1 0 0 0	1 1 0 0					
	1 0 0 0		$\begin{array}{cccccccccccccccccccccccccccccccccccc$			Halobacteriales archaeon QH_8_68
1 1 0 0 0	1 1 0 0			0 0 0 0 0 0 0 1 0		Halobacteriales archaeon QS_1_67
1 0 0 0 0	0 1 0 0 1			$\begin{array}{cccccccccccccccccccccccccccccccccccc$		maiopacteriales archaeon QS_1_68 Halobacteriales archaeon QS_1_68
	1 1 0 0					Halobacteriales archaeon QS_1_68
	1 1 0 0				$\begin{array}{cccccccccccccccccccccccccccccccccccc$	Halobacteriales archaeon QS 1_69 Halobacteriales archaeon QS 3_64
1 1 0 0 0	1 0 0 0					Halobacteriales archaeon QS_4_62
1 1 0 0 0	0 0 0 0		$\begin{array}{cccccccccccccccccccccccccccccccccccc$			Halobacteriales archaeon UH 9 6th Halobacteriales archaeon QS 1 67h Halobacteriales archaeon QS 1 68h Halobacteriales archaeon QS 3 64h Halobacteriales archaeon QS 4 66h Halobacteriales archaeon QS 4 66h Halobacteriales archaeon QS 4 68h Haloba
1 1 0 0 0	1 0 0 0					Halobacteriales archaeon QS_4_69
	1 1 0 0				$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Halobacteriales archaeon QS_4_69 Halobacteriales archaeon QS_4_70
1 1 0 0 0	1 0 0 0					Halobacteriales archaeon QS_4_0s Halobacteriales archaeon QS_5_68 Halobacteriales archaeon QS_5_70 Halobacteriales archaeon QS_5_70 Halobacteriales archaeon QS_5_70
1 1 0 0 0	1 1 0 0					Halobacteriales archaeon QS 5 70
1 0 0 0 0	1 0 0 0		100001000000000000			Halobacteriales archaeon Q5 6 64
1 0 0 0 0	1 0 0 0		$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$		Halobacteriales archaeon QS_6_71 Halobacteriales archaeon QS_7_68
1 1 0 0 0	1 0 0 0					Halobacteriales archaeon QS_7_69
1 1 0 0 0	1 1 0 0			0000000010	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	Halobacteriales archaeon QS 8 69
1 1 0 0 0	1 1 0 0		$f 0 \ 0 \ 0 \ 0 \ 1 \ 0 \ 0 \ 0 \ 0 \ 0 \$	0 0 0 0 0 0 0 1 0		Halobacteriales archaeon QS_8_69
1 1 0 0 0	1 0 0 0					Halobacteriales archaeon QS 9 67
1 1 0 0 0	1 1 0 0			0 0 0 0 0 0 0 1 0		Halobacteriales archaeon QS_9_68
1 1 0 0 0	1 0 0 0					Halobacteriales archaeon QS_9_68 Halobacteriales archaeon QS_9_70
1 1 0 0 0	1 1 0 0			0 0 0 0 0 0 0 1 0		Halobacteriales archaeon SW_10_6
	1 0 0 0					maiopacteriales archaeon SVV_10_6
		PWWP PHD MRG MBT ING	SSTREOGY STORE STORE STORE RETORE RET	000000010		Halobacteriales archaeon SW_12_6

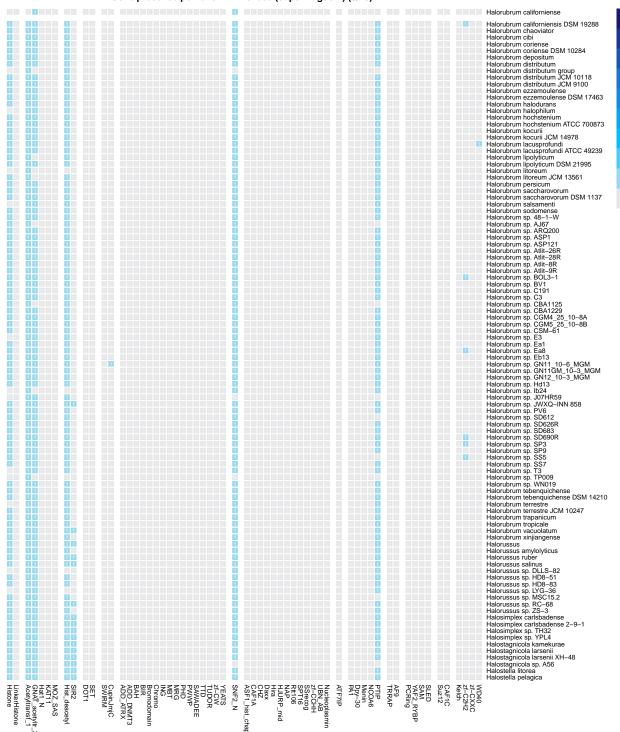
#### Gene presence per taxon in Archaea (superkingdom) (7/20)



#### Gene presence per taxon in Archaea (superkingdom) (8/20)



#### Gene presence per taxon in Archaea (superkingdom) (9/20)

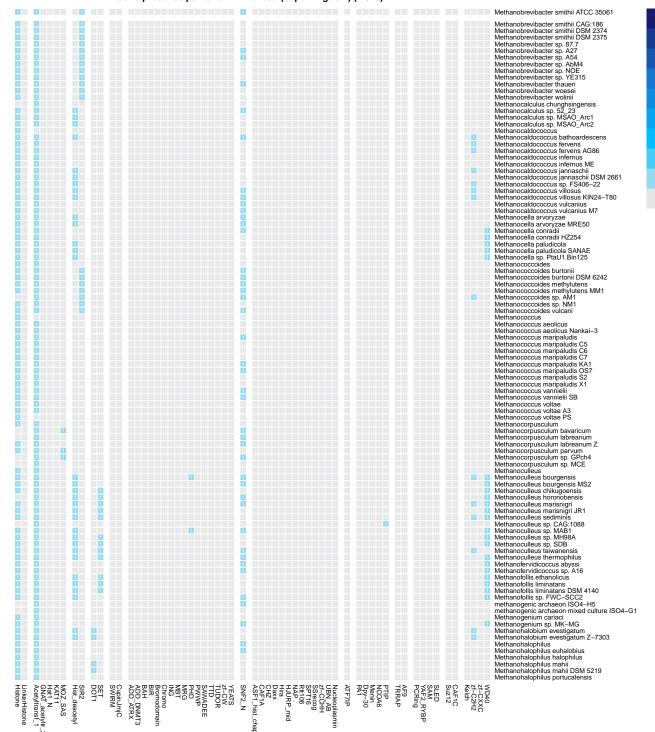


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## Gene presence per taxon in Archaea (superkingdom) (10/20)

	Gene presence per taxon in A	Chaea (Superkinguom) (10/20)
11000 11 00	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1	Halostella salina
1 0 0 0 0 0 0 0 0		Haloterrigena Haloterrigena Haloterrigena
1 1 0 0 0 1 1 0 0	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	and the control of th
1 1 0 0 0 1 1 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1	Haloterrigena jeotgali
1 1 0 0 0 1 1 0 0 1 1 0 0 0 1 1 0 0	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Haloterrigena limicola ICM 12563
1 1 0 0 0 1 1 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1	Haloterrigena manii
1100011100	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Haloterrigena saccharevitans Haloterrigena salifodinae
1 1 0 0 0 1 1 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1	Haloterrigena salina Haloterrigena salina JCM 13891
1 1 0 0 0 1 1 0 0	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Haloterriğena salina JCM 13891 Haloterrigena sp. H1
1 1 0 0 0 1 1 0 0	$\begin{smallmatrix} 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 $	Haloterriğena thermotolerans
11000 11 00	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Haloterigena thermotolerans Haloterigena thermotolerans Haloterigena thermotolerans Haloterigena turkmenica Haloterigena turkmenica Haloterigena turkmenica DSM 5511 Halovenus arangena DSM 5511 Halovenus arangenas Halovenus arangenas Halovenus sp. WSM
1 1 0 0 0 1 1 0 0		Haloterrigena turkmenica DSM 5511
11000 1100	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Halovenus aranensis Halovenus sp. WSH3
1 1 0 0 0 1 0 0 0	$f 0 \ 0 \ 0 \ 0 \ 0 \ 0 \ 0 \ 0 \ 0 \ 0 $	Halovivax asiaticus Halovivax asiaticus JCM 14624
1 1 0 0 0 1 0 0 0	00 00000000000000000	Halovivax ruber
1 1 0 0 0 1 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Halovivax ruber XH-70 Hyperthermus butylicus
1 1 0 0 0 1 1 1 0		Hyperthermus butylicus DSM 5456
0 0 0 0 0 0 1 0 0		Hyperthermus sp.
1 1 0 0 0 1 0 1 0		
1 1 0 0 0 1 0 1 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1	Ignicoccus islandicus
1 1 0 0 0 1 0 1 0	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Ignicoccus islandicus DSM 13165 Ignisphaera aggregans DSM 17230
1 0 0 0 0 1 1 0 1	$f 0 \ 0 \ 0 \ 0 \ 0 \ 0 \ 0 \ 0 \ 0 \ 0 $	Lokiarchaeum sp. GC14_75 Marine Group I thaumarchaeote SCGC AAA799–B03
1 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0	00 00000000000000000	Marine Group I thaumarchaeote SCGC AAA799–B03 Marine Group I thaumarchaeote SCGC AAA799–D07
1 0 0 0 0 0 1 1 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Marine Group I thaumarchaeote SCGC AAA799 - E1
1 0 0 0 0 0 1 1 0		Marine Group I thaumarchaeote SCGC AAA799–E16 Marine Group I thaumarchaeote SCGC AAA799–N04
1 0 0 0 0 0 1 0 0		Marine Group I thaumarchaeote SCGC AAA799-O18 Marine Group I thaumarchaeote SCGC AAA799-P11
1 0 0 0 0 0 1 1 0	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	Marine Group I thaumarchaeote SCGC AAA799–P11 Marine Group I thaumarchaeote SCGC RSA3
1 0 0 0 0 0 1 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1	Marine Group II euryarchaeote MED-G33
10000000000		Marine Group II eur/yarchaeote MED-G34 Marine Group II eur/yarchaeote MED-G35
1000000000		DI D
1 0 0 0 0 0 0 0 0		Marine Group II euryarchaeote MED-G37 Marine Group II euryarchaeote MED-G38
1 0 0 0 0 0 0 0 0		Marine Group III euryarchaeote CG-Bathy1
1000000000		Marine Group III eurýarchaeote CG–Bathý2 Marine Group III euryarchaeote CG–Epi1
100000000		Marine Group III euryarchaeote CG-Epi2
1000000000		Marine Group III eurýarchaeote CG–Epi4 Marine Group III eurýarchaeote CG–Epi6
1 1 0 0 0 1 0 1 0		Metallosphaera cupria
1100011010	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Metallosphaera cuprina Ar-4 Metallosphaera hakonensis
1 1 0 0 0 1 1 1 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1	Metallosphaera hakonensis JCM 8857 = DSM 7519 Metallosphaera prunae
1100011110	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Metallosphaera prunae Metallosphaera sedula Metallosphaera sedula DSM 5348
1 1 0 0 0 1 1 1 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Metallos phaera sedula DSM 5348
1 1 0 0 0 1 0 1 0		Black
1000000000		Metnanimicrococcus diatticoia
1 0 0 0 0 1 0 0 0	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Methanobacteriales archaeon HGW-Methanobacteria
10000 10 00		Methanobacteriales archaeon HGW-Methanobacteria
1 0 0 0 0 1 0 1 0		Methanobacterium Methanobacterium bryantii
10000 10 00		Methanobacterium congolense
1 0 0 0 0 1 0 0 0		Methanobacterium formicicum DSM 3637
1 0 0 0 0 0 0 0 0		Methanohacterium lacus
1 0 0 0 0 1 0 1 0	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Methanobacterium paludis Methanobacterium sp. Methanobacterium sp. 42,216
1 0 0 0 0 1 0 1 0		Methanobacterium sp. 42_16 Methanobacterium sp. A39
1 0 0 0 0 1 0 0 0		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
10000 10 00		Methanobacterium sp. BRmetb2  Methanobacterium sp. Maddingley MBC34
1 0 0 0 0 1 0 1 0		Methanobacterium sp. MB1
1 0 0 0 0 1 0 1 0		Methanobacterium sp. MZ-A1  Methanobacterium sp. PtaB.Bin024
1 0 0 0 0 1 0 1 0		Methanohacterium sp. Ptal I1 Rin097
1 0 0 0 0 1 0 0 0		Metnanobacterium sp. PtaU1.Bin242
1 0 0 0 0 1 0 1 0		Methanohacterium subterraneum
1 0 0 0 0 0 1 0 0		Methanobrevibacter Methanobrevibacter Methanobrevibacter arboriphilus
1 0 0 0 0 0 1 0 0		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
1 0 0 0 0 0 1 0 0	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
1000000000		Methanobrevibacter curvatus Methanobrevibacter cuticularis
1 0 0 0 0 0 1 0 0 1 0 0 0 0 0 1 0 0	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Methanobrevibacter filiformis Methanobrevibacter gottschalkii
100000 01 00	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1	Methanobrevibacter gottschalkii DSM 11977
1 0 0 0 0 0 1 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
1000000000	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	D D D D D D D D D D D D D D D D D D D
1 0 0 0 0 0 1 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
		Methanobrevibacter ruminantium M1 Methanobrevibacter smithii
		ACCONTINUATION A BESIND AND BROWN SO SAFE
<u>&gt;</u> ΘΪΣ≧ ΙΩ ΟΝ	YEATS ZI-CW TUDOR TUDOR TITD SAWWADB PHU WRG MBT ING COMMON OF THE TO THE	WD40 24-C2HX 2
SET DOT1 SIR2 Hist_C MOZ_KAT1-Hat1-GNAT1 GNAT1		
SET DOT1  SIR2 Hist_dea  MOZ_SA KAT11 Hat1_N GNAT_ac Acetyltrar	Maj ATT Odo PAR SANG P	N
SET DOT1  SIR2 Hist_deacetyl  MOZ_SAS KAT11  KAT1_A Hat1_N GNAT_acetylt Acetyltransf 1	SNF2.N YEATS THOW TUDOR TUDOR TUDOR SWAWADEE PHWAP END CHORO	WD40 ZFCCXXC ZFCXXC ZFCXXC ZFCXXC ZFCXXC ZFCXXC ZFCXXC ZFCXXC ZFCXXC ZFCXXC ZFCX ZFCX

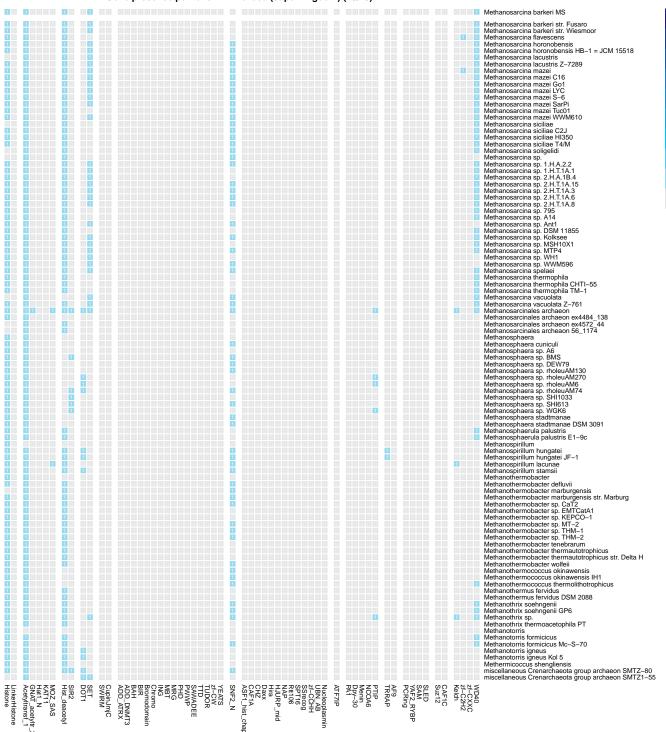
#### Gene presence per taxon in Archaea (superkingdom) (11/20)



## Gene presence per taxon in Archaea (superkingdom) (12/20)

					ene presence per taxon in A							
1 0	10000											Methanohalophilus portucalensis FDF-1
1 0	10000				0 0 0 0 0 0 0 0 0 0 0 0 0 0 0							Methanohalophilus sp.
1 0	1 0 0 0 0				$\begin{smallmatrix} 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 $							Methanohalophilus sp. 2–GBenrich Methanohalophilus sp. DAL1 Methanohalophilus sp. RSK
1 0	1 0 0 0 0				0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1							Methanohalophilus sp. RSK
1 0	1 0 0 0 0											Methanohalophilus sp. SLHTYRO Methanohalophilus sp. T328–1
1 0	10000				0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1							Methanohalophilus sp. T328-1 Methanohalophilus sp. WG1-DM
0 0	0 0 0 0 0										0 0 0 0	Methanolacinia Methanolacinia paynteri
0 0	1 0 0 0 0										0 0 0 1	Methanolacinia petrolearia
1 0	10000	1 1	1 0		$\begin{array}{cccccccccccccccccccccccccccccccccccc$						0 0 0 1	Methanolacinia petrolearia DSM 11571 Methanolinea sp. SDB
1 0	1 0 0 0 0	1 0	1 0		$\begin{smallmatrix} 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 $						0 0 0 0	Methanolinea tarda
1 0	1 0 0 0 0	1 1	1 0								0 0 0 0	Methanolobus profundi Methanolobus psychrophilus R15
1 0	1 0 0 0 0	1 1			$\begin{smallmatrix} 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 $							Methanolobus psychrotolerans
1 0	1 0 0 0 0	1 1			0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1						0 1 0 1	Methanolobus sp. SY-01 Methanolobus sp. T82-4
1 0	10000	1 1									0 0 0 1	Methanolobus tindarius Methanolobus tindarius DSM 2278
1 0	1 0 0 0 0	1 1									0 1 0 0	Methanolobus vulcani
	1 0 0 0 0	1 0			$\begin{array}{cccccccccccccccccccccccccccccccccccc$						0 0 0 0	Methanomassiliicoccaceae archaeon DOK Methanomassiliicoccales archaeon
	1 0 0 0 0	0 0			0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1						0 0 0 0	Methanomassiliicoccales archaeon Mx-02
	10000				$\begin{smallmatrix} 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 $							Methanomassiliicoccales archaeon Mx-03 Methanomassiliicoccales archaeon Mx-06
	1 0 0 0 0	1 0			0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1						1 0 0 0	Methanomassillicoccales archaeon PtaB.Bin134 Methanomassillicoccales archaeon PtaB.Bin215
	1 0 0 0 0				0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0						1 0 0 0	Methanomassiliicoccales archaeon PtaB.Bin215 Methanomassiliicoccales archaeon PtaU1.Bin030
	1 0 0 0 0	1 0			0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1							Methanomassiliicoccales archaeon PtaU1.Bin124 Methanomassiliicoccales archaeon RumEn M1
	100000	1 0										Methanomassiliicoccales archaeon RumEn M2
	1 0 0 0 0	1 0										Methanomassiliicoccus luminyensis Methanomassiliicoccus sp.
1 0	1 0 0 0 0	1 1	1 0		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		0 0 0 0 1				1 0 0 0	ivietnanomassiliicoccus sp. Methanomethylovorans hollandica
1 0	1 0 0 0 0	1 1	1 0		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1						0 0 0 1	Methanomethylovorans hollandica Methanomethylovorans hollandica DSM 15978 Methanomethylovorans sp. PtaU1.Bin073 Methanomethylovorans sp. PtaU1.Bin093
1 0	1 0 0 0 0	1 1	1 0		$\begin{smallmatrix} 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 $						0 0 0 1	Methanomethylovorans sp. PtaU1.Bin0/3 Methanomethylovorans sp. PtaU1.Bin093
1 0	1 0 0 0 0	1 0	0 0		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1						0 0 0 0	Methanomicrobiales archaeon 53_19 Methanomicrobiales archaeon HGW-Methanomicrobiales-1 Methanomicrobiales archaeon HGW-Methanomicrobiales-2 Methanomicrobiales archaeon HGW-Methanomicrobiales-2 Methanomicrobiales archaeon HGW-Methanomicrobiales-3 Methanomicrobiales archaeon HGW-Methanomicrobiales-4 Methanomicrobiales archaeon HGW-Methanomicrobiales-5
1 0	1 0 0 0 0	1 0	0 1		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0						0 0 0 1	Methanomicrobiales archaeon HGW-Methanomicrobiales-2
1 0	1 0 0 0 0	1 0	0 1								0 0 0 1	Methanomicrobiales archaeon HGW-Methanomicrobiales-3
1 0	1 0 0 0 0	1 0	0 0		$\begin{smallmatrix} 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 $							Methanomicrobiales archaeon HGW-Methanomicrobiales-5
1 0	1 0 0 0 0	1 0	0 1								0 0 0 1	Methanomicrobiales archaeon HGW–Methanomicrobiales–6 Methanomicrobium mobile
1 0	1 0 0 0 0	1 0	1 0								0 0 0 0	Methanonatronarchaeia archaeon
1 0	1 0 0 0 0	1 0	1 0		$\begin{smallmatrix} 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 $		0 0 0 0 0					Methanonatronarchaeum thermophilum Methanophagales archaeon
1 0	1 0 0 0 0	1 1			0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1						0 1 0 0	Methanophagales archaeon ANME-1-THS
1 0	1 0 0 0 0	1 0	1 0		$\begin{array}{cccccccccccccccccccccccccccccccccccc$							Methanoplanus limicola
1 0	1 1 0 0 0	1 1	1 0									Methanophagales archaeon ANME-1-1HS Methanoplanus limicola Methanoplanus limicola DSM 2279 Methanoplanus limicola DSM 2279 Methanopyrus kandleri Methanopyrus kandleri AV19 Methanopyrus sp. KOL6 Methanopyrus sp. SNP6 Methanopyrus sp. SNP6 Methanoregula boonei Methanoregula boonei Methanoregula boonei Methanoregula formicica
1 0	1 1 0 0 0	1 1	1 0									Methanopyrus sp. KOI 6
1 0	1 1 0 0 0	1 1	1 0								0 0 0 0	Methanopyrus sp. SNP6
1 0	1 0 0 0 0		0 1								0 0 0 1	Methanoregula boonei Methanoregula boonei 6A8
1 0	1 0 0 0 0	1 0	0 1		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1							Methanoregula formicica Methanoregula formicica SMSP
1 0	1 0 0 0 0	1 0	0 1		$\begin{array}{cccccccccccccccccccccccccccccccccccc$						0 0 0 1	Methanoredula sp.
1 0	1 0 0 0 0	1 0			0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1						0 0 0 1	Methanoregula sp. PtaB.Bin085 Methanoregula sp. PtaU1.Bin006
1 0	1 0 0 0 0	1 0			000000000000000000000000000000000000000						0 0 0 1	
1 0	1 0 0 0 0	1 0									0 0 0 1	Methanoregulaceae archaeon Methanoregulaceae archaeon PtaB.Bin009 Methanoregulaceae archaeon PtaB.Bin056
1 0	1 0 0 0 0	1 0	1 0								0 0 0 1	Methanoregulaceae archaeon PtaB.Bin056
1 0	1 0 0 0 0	1 0									0 0 0 1	Methanoregulaceae archaeon PtaB.Bin108 Methanoregulaceae archaeon PtaB.Bin152 Methanoregulaceae archaeon PtaU1.Bin059
1 0	1 0 0 0 0	1 0									0 0 0 0	Methanoregulaceae archaeon PtaU1.Bin059
1 0	1 0 0 0 0	1 0									0 0 0 1	Methanoregulaceae archaeon PtaU1.Bin066 Methanoregulaceae archaeon PtaU1 Bin222
1 0	1 0 0 0 0	1 0			0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 1						0 0 0 1	Methanoregulaceae archaeon PtaU1.Bin066 Methanoregulaceae archaeon PtaU1.Bin222 Methanosaeta harundinacea
1 0	1 0 0 0 0	1 0			$\begin{array}{cccccccccccccccccccccccccccccccccccc$						0 0 0 1	
0 0	1 0 0 0 0	1 0										Methanosaeta sp. ASM2 Methanosaeta sp. ASO1
1 0	1 0 0 0 0	1 0			$\begin{array}{cccccccccccccccccccccccccccccccccccc$							Methanosaeta sp. ASP1–1 Methanosaeta sp. NSM2
1 0	1 0 0 0 0	1 0										Methanosaeta sp. NSM2 Methanosaeta sp. NSP1
1 0	1 0 0 0 0	1 0	0 0		$\begin{smallmatrix} 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 $						0 0 0 0	Methanosaeta sp. PtaB.Bin005 Methanosaeta sp. PtaB.Bin018
1 0	1 0 0 0 0	1 0	0 0					1 0				Methanosaeta sp. PtaB.Bin018 Methanosaeta sp. PtaB.Bin039
1 0	10000	1 0	0 0								0 0 0 0	Methanosaeta sp. PtaB.Bin08/ Methanosaeta sp. PtaU1.Bin016
	1 0 0 0 0	1 0			0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1							Methanosaeta sp. PtaU1.Bin028
1 0	1 0 0 0 0	1 0	0 0									Methanosaeta sp. PtaU1.Bin055 Methanosaeta sp. PtaU1.Bin060
1 0	1 0 0 0 0	1 0	0 1		0 0 0 0 0 0 0 0 0 0 0 0 0 0 1						0 1 0 0	Methanosaeta sp. PtaU1.Bin112
1 0	1 0 0 0 0	1 0	0 0									Methanosaeta sp. SDB Methanosalsum natronophilum
1 0	1 0 0 0 0	1 0	1 0		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1						0 1 0 0	Methanosalsum zhilinae
1 0	1 0 0 0 0	1 0	0 1		$\begin{array}{cccccccccccccccccccccccccccccccccccc$						0 1 0 0	Methanosalsum zhilinae DSM 4017 Methanosarcina
0 0	1 0 0 0 0	1 0	0 1		$\begin{smallmatrix} 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 $						0 0 0 1	Methanosarcina acetivorans Methanosarcina acetivorans C2A
	1 0 0 0 0	1 0	0 1		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1						0 0 0 1	Methanosarcina barkeri
1 0	1 0 0 0 0 1 0 0 0 0	1 0	0 1		$\begin{smallmatrix} 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 $						0 0 0 1	Methanosarcina barkeri 227 Methanosarcina barkeri 3
1 0	1 0 0 0 0	1 0	0 1								0 0 0 1	
표두	\$9#28	SIR2 Hist_	DSE	δC	AABBBBCZMAPPSTTFK S	SCCOTTE RESPECT A	₽₽≅ZZ	김국무	2388 8	స్	중부부중	
ston	et 127	£ 22	SET DOT1	Şģ.	YEATS ZÍ-CW TUDOR TUD R TUD R TUD R TUD R WWP PHD MRG MBT ING Chromo BRomodo BROmodo BROMOD ADD ATI D ADD	ATF7IP  Nucleop  UBN_A Z1-CCH SS1ecoi SPT16 SPT16 NAP HJURP HJURP Hira Daxx CHZ CAF1A ASF1_F	Menin Dpy-30 PA1	AF9 TRRAP	REZED !	CAF1C Suz12	WD40 zf-CXXC zf-C2H2 Kelch	
LinkerHistone Histone	MOZ_SAS KAT11 Hat1_N GNAT_acetyltr_ Acetyltransf_1	2 _deacetyl		CupinJmjC SWIRM	SNF2_N SNF2_N SAWADEE PWWP PHD MRG	ATE7IP  Nucleoplasmin  UBN_AB  ZI-CCHH SSrecog SPT166  RH106 RH106 NAP HJURP_mid HJURP_mid Daxx CHZ CAF1A ASF1_hist_chap	రే 6	Ō	SLED SAM YAF2_RYBP PCRing	. ° O	H2 XC	
tone	etyl	æţγΙ		C	nair XXT3	nid sm.			쁌			
	1_2				- 5	in in						

#### Gene presence per taxon in Archaea (superkingdom) (13/20)



## Gene presence per taxon in Archaea (superkingdom) (14/20)

				miscellaneous Crenarchaeota group-15 archaeo	
1 0 1 0 0 0 1 0 0 0 0 0 1 0 0 0 0 0				miscellaneous Crenarchaeota group–1 archaeon miscellaneous Crenarchaeota group–15 archaeo miscellaneous Crenarchaeota group–6 archaeon	SG8-32-3 n DG-45
1 0 1 0 0 0 1 0 0 0 0 0 1 0 0 0 0 0	$\begin{smallmatrix} 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 $	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		miscellaneous Crenarchaeota group–15 archaeo miscellaneous Crenarchaeota group–6 archaeon	n DG-45
1 0 0 0 0 0 1 0 0 0 0 0		1 0 0 0 0 0 0 0 0 0 0 0 0 0		iniscellarieous Cieriarchaeota group-o archaeotr	
				Nanoarchaeota archaeon	ADO-1
0 0 0 0 0 0				Nanoarchaeota archaeon NZ13-N	
	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 00000000000000		Nanohaloarchaea archaeon QH_8_44_6	
				Nanohaloarchaea archaeon SG9 Nanohaloarchaea archaeon SW 10 44 10	
	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 00000000000000		Nanohaloarchaea archaeon SW_4_43_9	
		1     0 <td></td> <td>Nanohaloarchaea archaeon SW_7_43_1 Nanohaloarchaea archaeon SW 7_46_7</td> <td></td>		Nanohaloarchaea archaeon SW_7_43_1 Nanohaloarchaea archaeon SW 7_46_7	
1 1 0 0 0 0		1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	00001000000	INALIAICHAEODIUS CHILIIIVOIANS	
				Natrialba	
1 1 0 0 0 0		1 00000000000000		Natrialba aegyptia	
1 1 0 0 0 0	00000000000000000	1 0000000000000000	0000100000	Natrialda asiatica	
1 1 0 0 0 0		1 0000000000000	0000100000	Natrialba chahannaoensis JCM 10990	
1 1 0 0 0 0		1 0 0 0 0 0 0 0 0 0 0 0 0		Natrialba hulunbeirensis JCM 10989	
1 1 0 0 0 0				Natrialha magadii	
1 1 0 0 0 0		1 0 0 0 0 0 0 0 0 0 0 0 0	000010000	Natrialba magadii Ar CC 43099  Natrialba sp. INN-245	
		1 0 0 0 0 0 0 0 0 0 0 0 0 0 0		Natrialba sp. SSL1	
1 1 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 0 0 0 0 0 0 0 0 0 0 0 0	000010000	Natrialba taiwanensis	
0 0 0 0 0				Natrinema	
1 1 0 0 0 0 0			$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	Natrinema altunense Natrinema altunense JCM 12890	
1 1 0 0 0 0		1 00000000000000	000010000	Natrinema ejinorense	
1 1 0 0 0 0		1 0 0 0 0 0 0 0 0 0 0 0 0 0	000010000	Natrinema gari JCM 14663	
1 1 0 0 0 0				Natrinema pallidum	
1 1 0 0 0 0		1 0 0 0 0 0 0 0 0 0 0 0 0	000010000	Natrinema pellirubrum	
		1 0 0 0 0 0 0 0 0 0 0 0 0 0 0		Natrinema pellirubrum DSM 15624	
1 1 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 00000000000000	000010000	Natrinema sp. CBA1119	
1 1 0 0 0 0				Natrinema sp. J7–1 Natrinema sp. J7–2	
1 1 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 00000000000000000	000010000	Natrinema versitorme	
1 0 0 0 0 0				Natrinema versiforme JCM 10478 Natronoarchaeum philippinense	
1 1 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 00000000000000	000010000	Natronobacterium gregoryi	
1 1 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 000000000000000	0000100000	Natronobacterium gregoryi SP2 Natronobacterium texcoconense	
0 0 0 0 0 0			0 0 0 0 0 0 0 0 0 0 0	Natronococcus	
1 1 1 0 0 0		1 0 0 0 0 0 0 0 0 0 0 0 0	0000100000	Natronococcus amylolyticus DSM 10524	
1 1 0 0 0 0		1 0 0 0 0 0 0 0 0 0 0 0 0 0		Natronococcus jeotgali	
1 1 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 0 0 0 0 0 0 0 0 0 0 0 0	0000100000	Natronococcus occultus	
1 1 0 0 0 0		1 0 0 0 0 0 0 0 0 0 0 0 0 0 0		Natronococcus occultus SP4 Natronococcus sp. JC468	
1 1 0 0 0 0	0000000000000000000	1 0000000000000000	0000100000	Natronococcus sp. LS1_42	
1 1 0 0 0 0		1 0 0 0 0 0 0 0 0 0 0 0 0 0		Natronolimnobius aegyptiacus Natronolimnobius baerhuensis	
1 1 0 0 0 0		1 0000000000000	00001000000	Natronolimnobius innermongolicus	
1 1 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 0 0 0 0 0 0 0 0 0 0 0 0	000010000	Natronolimnobius innermongolicus JCW 12255 Natronolimnobius sp. AArcel1	
1 1 0 0 0 0				Natronolimnobius sp. XQ-INN 246	
1 0 0 0 0 0		1 0 0 0 0 0 0 0 0 0 0 0	000010000	Natronomonas moolapensis	
1 0 0 0 0 0		1 0 0 0 0 0 0 0 0 0 0 0 0 0		Natronomonas moolapensis 8.8.11	
1 1 0 0 0 0		1 0 0 0 0 0 0 0 0 0 0 0	000010000	Natronomonas pharaonis DSM 2160	
		1 0 0 0 0 0 0 0 0 0 0 0 0 0 0		Natronomonas sp. CBA1123	
0 1 0 0 0 0	000000000000000000			Natronomonas sp. CBA1134	
1 1 0 0 0 0		1 0 0 0 0 0 0 0 0 0 0 0 0 0 0		Natronomonas sp. F12-1	
1 1 0 0 0 0	0000000000000000000	1 0000000000000000	000010000	Natronomonas sp. F17–44	
1 1 0 0 0 0				Natronomonas sp. F18–79 Natronomonas sp. F19–13	
1 1 0 0 0 0		1 0 0 0 0 0 0 0 0 0 0 0 0	000010000	Natronomonas sp. F20–122	
1 1 0 0 0 0		1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		Natronorubrum albiense	
1 1 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 0 0 0 0 0 0 0 0 0 0 0 0 0	000010000	Natronorubrum bangense JCM 10635	
1 1 0 0 0 0		1 0 0 0 0 0 0 0 0 0 0 0 0	000010000	Natronorubrum sp. JWXQ-INN-674	
1 1 0 0 0 0				Natronorubrum sulfidifaciens	
1 1 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 0 0 0 0 0 0 0 0 0 0 0 0 0		Natronorubrum texcoconense	
				Natronorubrum thiooxidans	
1 1 0 0 0 0	00000000000000000	1 0 0 0 0 0 0 0 0 0 0 0 0 0	00001000000	Natronorubrum tibetense GA33	
0 1 0 0 0 0					
0 1 1 0 0 0	00000000000000000	1 0 0 0 0 0 0 0 0 0 0 0 0 0		Nitrosarchaeum sp.	
				Nitrosonumilales archaeon	
0 1 1 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 0 0 0 0 0 0 0 0 0 0 0 0 0		Nitrosopunilales archaeon CG_4_10_14_0_8_ur	m_filter_3
				Nitrosopumilales archaeon CG_4_9_14_0_2_um Nitrosopumilales archaeon CG_4_9_14_0_8_um	_filter_34_ i filter_34
IN DN NO	>>mmmO=ZZ=Ommm<		g DOZZA ⊣⊳ A≺00	0 のの MAN S	01_04_
CupinJmjC SWIRM SET DOT1 SIR2 Hist_deacet			SLED SAF2 YAF2_R' PCRing AF9 TRRAP TRRAP PTIP NCOA6 Menin Dpy-30 PA1	WD40 zi-CXXC zi-CXXC zi-CAXXC zi-CAXXC Siz-CXXC Siz-CXXC	
inJmjC RM RM	AT PA REST		S AP INGR	, 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5	
ä −⊣					
					Nariaba septim DSM 19077 Nariaba selam DSM 19278 Nariaba chahamacomis CM 10990 Nariaba chahamacomis CM 10990 Nariaba halumberensis CM 10990 Nariaba halumbe

Gene presence per taxon ir	Archaea (superkingdom) (15/20)	
0 4 3 0 4 0 4 4 4 0 0 0 0 0 0 0 0 0 0 0		Nitrosopumilales archaeon CG11_big_fil_rev_8_21_14_0_20_33_24  Nitrosopumilales archaeon CG15_BIG_FIL_POST_REV_8_21_14_020_33_23  Nitrosopumilales archaeon CG15_BIG_FIL_POST_REV_8_21_14_020_37_12
		Nitrosopumilus adriaticus Nitrosopumilus maritimus Nitrosopumilus maritimus Nitrosopumilus maritimus SCM1
		Nitrosopumilus piranensis
		Nitrosopumilus sp. AR Nitrosopumilus sp. B06
		Nitrosopumilus sp. BACL13 MAG-120910-bin56 Nitrosopumilus sp. BACL13 MAG-121220-bin23
		Nitrosopumilus sp. D6  Nitrosopumilus sp. B12
		Nitrosopumilus sp. H8 Nitrosopumilus sp. H8 Nitrosopumilus sp. Nsub
		Nitrosopumilus sp. AR Nitrosopumilus sp. BO6 Nitrosopumilus sp. BOCL 13 MAG-120910-bin56 Nitrosopumilus sp. BACL 13 MAG-121220-bin23 Nitrosopumilus sp. BACL 13 MAG-121220-bin23 Nitrosopumilus sp. C910-big_fil_rev_8_21_14_0_10_33_7 Nitrosopumilus sp. D6 Nitrosopumilus sp. H3 Nitrosopumilus sp. H13 Nitrosopumilus sp. H8 Nitrosopumilus sp. PRT-SC01 Nitrosopumilus sp. PRT-SC01 Nitrosopumilus sp. Sp. PRT-SC01 Nitrosopumilus sp. Sp. Sp. Nitrososphaera sp. Nitrososphaera sp. AFS
		Nitrososphaera sp. Nitrososphaera sp. AFS Nitrososphaera vennensis
		Nitrososphaera viennensis EN76
		Palaeococcus ferrophilus Palaeococcus pacificus Palaeococcus pacificus DY20341
		Picrophilus
		Picrophilus oshimae Picrophilus oshimae DSM 9789 Picrophilus torridus
		Picrophilus torridus DSM 9790 Pyrobaculum aerophilum
		Pyrobaculum aerophilum str. IM2 Pyrobaculum arsenaticum Pyrobaculum arsenaticum DSM 13514
		Pvrobaculum calidifontis JCM 11548
		Pyrobaculum ferrireducens Pyrobaculum islandicum Pyrobaculum islandicum DSM 4184
		Pyrobaculum neutrophilibum 4164 Pyrobaculum neutrophilibum V24Sta Pyrobaculum gouiriense TE7 Pyrobaculum sp. JCHS 4 Pyrobaculum sp. JCHS 4 Pyrobaculum sp. JCHS 1
		Pyrobaculum oguniense IE/ Pyrobaculum sp. JCHS_4
		Pyrobaculum sp. WP30 Pyrococcus
		Pyrococcus abyssi Pyrococcus abyssi GE5
		Pyrococcus furiosus COM1 Pyrococcus furiosus COM1 Pyrococcus furiosus DSM 3638
		Pyrococcus furiosus DSM 3638 Pyrococcus horikoshii Pyrococcus horikoshii OT3
		Pyrococcus kukulkanii Pyrococcus kukulkanii Pyrococcus sp.
		Pyrococcus sp. NA2 Pyrococcus sp. ST04
		Pyrococcus yayanosii Pyrococcus yayanosii CH1 Pyrodictium delaneyi
		Pyrodictium delaneyi Pyrodictium occultum Pyrolobus fumarii
		Pyrolobus fumarii 1A Saccharolobus shibatae
		Saccharolobus solfataricus Saccharolobus solfataricus 98/2
		Saccharolobus solfataricus P2 Salarchaeum sp. JOR-1
		Salinarchaeum sp. Harcht–Bsk1 Salinigranum halophilum Salinigranum rubrum
		Salinigranum salinum Salinirussus salinus
		Saliphagus sp. LR7 Stanbylothermus hellenicus
		Staphylothermus hellenicus DSM 12710 Staphylothermus marinus
		Staphylothermus marinus F1 Stygiolobus azoricus Sulfodiicoccus acidiphilus
		Sulfolohaceae
		Sulfolobales archaeon SCGC AB-777 J03 Sulfolobales archaeon SCGC AB-777 K09 Sulfolobales archaeon SCGC AB-777 K09
0 0 1 1 0 0 0 1 1 1 1 0 0 0 0 0 0 0 0 0		Sulfolobus acidocaldarius DSM 639
		Sulfolobus acidocaldarius N8 Sulfolobus acidocaldarius Ron12/I Sulfolobus acidocaldarius SUSAZ
		Sulfolobus islandicus Sulfolobus islandicus Sulfolobus islandicus HVE10/4
		Sulfolobus islandicus L.D.8.5 Sulfolobus islandicus L.S.2.15
		Sulfolobus islandicus LAL14/1 Sulfolobus islandicus M.16.25 Sulfolobus islandicus M.16.27
		Sulfolobus islandicus M.16.27 Sulfolobus islandicus M.16.4 Sulfolobus islandicus REY15A
	a magaanaanaana a magaa an maga aa 44a,	Sulfolobus islandicus Y.G.57.14
VEATS VICENS VIC	Z-C-CXXC Z-CXXC Z-C-CXXC Z-CXXC Z-C-CXXC Z-CXXC Z-C-CXXC	
P P P P P P P P P P P P P P P P P P P	P_mist_ P_mist_ N	
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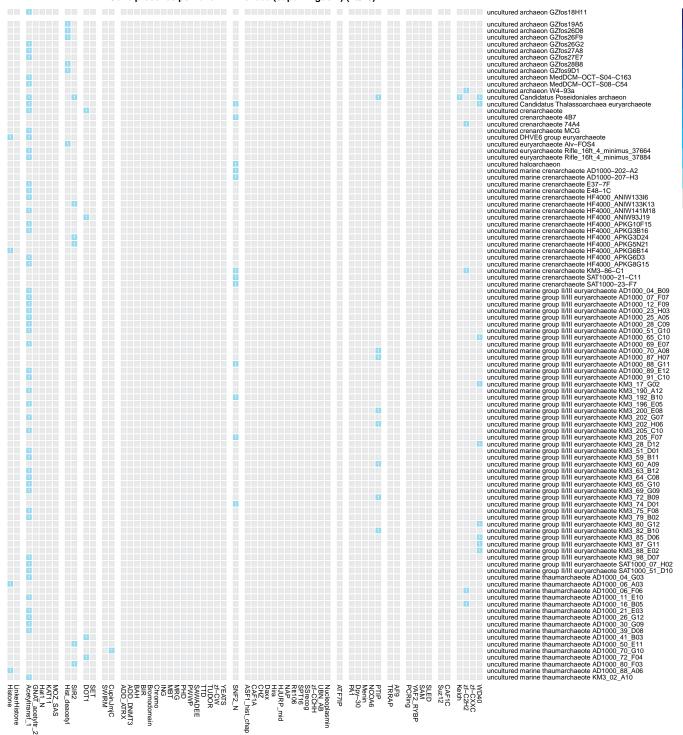
## Gene presence per taxon in Archaea (superkingdom) (16/20)

			Gei	ne presence per taxon in A	Archaea (Superkingdo	111) (16/20)			
0 1 1 0 0 0	1 1	1 0						0 0 1 1 0 0	Sulfolobus islandicus Y.N.15.51
0 0 0 0 0 0 0 <b>1 1</b> 0 0 0	0 0							$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Sulfolobus neozealandicus Sulfolobus sp. A20
0 1 0 0 0 0	1 0	1 0						0 0 1 0 0 0	Sulfolobus sp. A20–N–F6 Sulfolobus sp. A20–N–F8
0 1 1 0 0 0	1 1	1 0						$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Sulfolobus sp. A20-N-F8 Sulfolobus sp. A20-N-G8
0 1 1 0 0 0	1 1	1 0						0 0 1 0 0 0	Sulfolobus sp. B1 Sulfolobus sp. B5
0 1 1 0 0 0	1 1							$\begin{array}{cccccccccccccccccccccccccccccccccccc$	Sulfolobus sp. B5 Sulfolobus sp. C3
0 1 1 0 0 0	1 1	1 0						0 0 1 0 0 0	Sulfolobus sp. D5 Sulfolobus sp. E1
0 1 1 0 0 0	1 1			10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0				$\begin{array}{cccccccccccccccccccccccccccccccccccc$	Sulfolobus sp. E1 Sulfolobus sp. E11–6
0 1 1 0 0 0		1 0		000000000000000000000000000000000000000					Sulfolobus sp. E11–6 Sulfolobus sp. E3
0 1 1 0 0 0	1 0							$\begin{array}{cccccccccccccccccccccccccccccccccccc$	Sulfolobus sp. E5
0 1 1 0 0 0	1 0	1 0						0 0 1 0 0 0	Sulfolobus sp. F1
0 1 1 0 0 0	1 1	1 0		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0				$\begin{array}{cccccccccccccccccccccccccccccccccccc$	Sulfolobus sp. F3 Sulfolobus sp. S–194
0 1 0 0 0 0	1 0	1 0						0 0 1 0 0 0 0 0 1 1 0 0	Sulfolobus sp. E71 Sulfolobus sp. F1 Sulfolobus sp. F3 Sulfolobus sp. S-194 Sulfolobus sp. SCGC AB-777_G06 Sulfolobus sp. SCGC AB-777_L09 Sulfolobus sp. SCGC AB-777_L09
0 1 0 0 0 0	1 0	1 0						0 0 1 0 0 0	
0 1 1 0 0 0	1 1	1 0						0 0 1 0 0 0	Sulfuracidifex tepidarius Sulfurisphaera
0 1 1 0 0 0	1 1	1 0		100000000000000000				0 1 1 0 0	Sulturisphaera ohwakuensis
0 1 1 0 0 0	1 1	1 0		$egin{array}{cccccccccccccccccccccccccccccccccccc$				0 0 1 1 0 0 0 0 1 1 0 0	Sulfurisphaera tokodaii Sulfurisphaera tokodaii str. 7
0 1 1 0 0 0	1 1	1 1						0 1 1 0 1	Thaumarchaeota archaeon
0 1 0 0 0 0		1 0						$\begin{array}{cccccccccccccccccccccccccccccccccccc$	Thaumarchaeota archaeon 13_1_20CM_2_38. Thaumarchaeota archaeon 13_1_20CM_2_39. Thaumarchaeota archaeon 13_1_20CM_2_39. Thaumarchaeota archaeon 13_1_20CM_2_39. Thaumarchaeota archaeon 13_1_40CM_2_39. Thaumarchaeota archaeon 13_1_40CM_2_39. Thaumarchaeota archaeon 13_1_40CM_2_39. Thaumarchaeota archaeon 13_1_40CM_2_39. Thaumarchaeota archaeon 13_1_40CM_3_30. Thaumarchaeota archaeon 13_1_40CM_3_30. Thaumarchaeota archaeon 13_1_40CM_3_30. Thaumarchaeota archaeon 13_1_40CM_3_30. Thaumarchaeota archaeon 13_1_40CM_4_3. Thaumarchaeota archaeon 13_1_40CM_4_3. Thaumarchaeota archaeon 13_1_40CM_4_4. Thaumarchaeota archaeon 13_1_40CM_4_4. Thaumarchaeota archaeon CSP1_1_1. Thaumarchaeota archaeon CSP1_1_1. Thaumarchaeota archaeon RBC_16_4. 49_8.
0 1 0 0 0 0	0 1	1 0		100000000000000000				0 0 1 0 0	Thaumarchaeota archaeon 13_1_20CM_2_39_
0 1 0 0 0 0	0 1							$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Thaumarchaeota archaeon 13_1_40CM_2_39_ Thaumarchaeota archaeon 13_1_40CM_2_39_
0 1 0 0 0 0		1 0		$\begin{array}{cccccccccccccccccccccccccccccccccccc$				0 0 0 1 0 0 0 0 0 1 0 0	Thaumarchaeota archaeon 13_1_40CM_2_39_
0 1 0 0 0 0		1 0		0000000000000000001	0 0 0 0 0 0 0 0 0 0 0 0			0 0 1 1 0 0	Thaumarchaeota archaeon 13_1_40CM_2_39_ Thaumarchaeota archaeon 13_1_40CM_3_38
0 1 0 0 0 0		1 0						$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Thaumarchaeota archaeon 13_1_40CM_3_50_
0 1 0 0 0 0				0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1	0 0 0 0 0 0 0 0 0 0 0			0 0 1 0 0 0	Thaumarchaeota archaeon 13_1_40CM_4_38_
0 1 0 0 0 0	0 0	1 0						$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Thaumarchaeota archaeon 13_1_40CM_4_48_ Thaumarchaeota archaeon CSP1_1
0 1 0 0 0 0	1 0	1 0						0 0 0 0	Thaumarchaeota archaeon ex4484_121
0 1 0 0 0 0		1 0		1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1				$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Thaumarchaeota archaeon RBG_16_49_8 Thaumarchaeota archaeon S13
0 1 0 0 0 0				0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1	00000000000000				Thaumarchaeota archaeon S13 Thaumarchaeota archaeon S14
0 1 0 0 0 0 0				$\begin{array}{cccccccccccccccccccccccccccccccccccc$				$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Thaumarchaeota archaeon \$15 Thaumarchaeota archaeon \$CGC AB-539-E09 Thaumarchaeota archaeon \$CGC AC-337_F14
0 0 0 0 0 0	0 1			$\begin{smallmatrix} 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 $	0 0 0 0 0 0 0 0 0 0 0 0				Thaumarchaeota archaeon SCGC AC-337_F14
0 1 0 0 0 0	1 1			1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1	0 0 0 0 0 0 0 0 0 0 0 0			$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Theionarchaea archaeon DG-70 Theionarchaea archaeon DG-70-1
0 1 0 0 0 0	0 1	0 0		$\begin{smallmatrix} 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 $				$\begin{array}{cccccccccccccccccccccccccccccccccccc$	Theionarchaea archaeon DG-70-1 Thermocladium modestius Thermocladium sp. ECH_B
	0 0	0 0						0 0 0 1 0 0	Thermococcaceae
0 1 1 0 0 0	0 1			$\begin{smallmatrix} 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 $				$\begin{array}{cccccccccccccccccccccccccccccccccccc$	Thermococcales archaeon 44_46 Thermococci archaeon
0 1 0 0 0 0								0 0 0 1 0 0	Thermococcus
0 1 1 0 0 0	1 1			$\begin{smallmatrix} 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 $				$\begin{array}{cccccccccccccccccccccccccccccccccccc$	Thermococcus barophilus Thermococcus barophilus MP
0 1 1 0 0 0	1 1				0 0 0 0 0 0 0 0 0 0 0 0				Thermococcus barossii
0 1 1 0 0 0	0 1			$\begin{smallmatrix} 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 $					Thermococcus celer Thermococcus celer Vu 13 = JCM 8558
0 1 1 0 0 0	0 1			0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 1 0 0 0 0	00000000000000				Thermococcus celericrescens
0 1 1 0 0 0	1 1			$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{smallmatrix} 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 $			0 0 0 0 1	Thermococcus chitonophagus Thermococcus cleftensis
0 1 1 0 0 0	1 1							$\begin{array}{cccccccccccccccccccccccccccccccccccc$	Thermococcus eurythermalis
0 1 1 0 0 0	1 1				0 0 0 0 0 0 0 0 0 0 0			0 0 0 0 1	Thermococcus gammatolerans Thermococcus gammatolerans EJ3
0 1 1 0 0 0	1 1							$\begin{array}{cccccccccccccccccccccccccccccccccccc$	Thermococcus gorgonarius Thermococcus guaymasensis
0 1 1 0 0 0	0 1								Thermococcus guaymasensis DSM 11113 Thermococcus kodakarensis
0 1 1 0 0 0	1 1							0 0 0 0 0 0	Thermococcus kodakarensis Thermococcus kodakarensis KOD1
1 1 0 0 0	1 1			100000000000000000	00000000000000			0 0 0 1 0 0	Thermococcus litoralis
1 1 0 0 0	1 1			0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0				$\begin{array}{cccccccccccccccccccccccccccccccccccc$	Thermococcus litoralis DSM 5473 Thermococcus nautili
1 1 0 0 0	1 1								Thermococcus onnurineus
1 1 0 0 0	1 1							0 0 0 1 0 0	Thermococcus onnurineus NA1 Thermococcus pacificus
1 1 0 0 0	1 1							0 0 0 1 0 0	Thermococcus paralyinellae
1 1 0 0 0	1 1							$\begin{array}{cccccccccccccccccccccccccccccccccccc$	Thermococcus peptonophilus Thermococcus piezophilus
1 1 0 0 0	0 1							0 0 0 0 0 1	Thermococcus profundus
1 1 0 0 0	1 1							0 0 1 0 0	Thermococcus radiotolerans Thermococcus sibiricus
1 1 0 0 0	0 1			$\begin{smallmatrix} 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 $				0 0 0 <b>1</b> 0 0 0 0 0 0 0	Thermococcus sibiricus MM 739 Thermococcus siculi
1 1 0 0 0	0 1								Thermococcus sp. 101 C5
1 1 0 0 0	0 1							0 0 0 0 0 <b>1</b>	Thermococcus sp. 18S1 Thermococcus sp. 21S7
1 1 0 0 0	11							0 0 0 1 0 0	Thermococcus sp. 21S9
1 1 0 0 0	1 1			$egin{array}{cccccccccccccccccccccccccccccccccccc$				$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Thermococcus sp. 2319x1 Thermococcus sp. 40 45
1 1 0 0 0	1 1			1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1	0 0 0 0 0 0 0 0 0 0 0 0			0 0 0 1 0 1	Thermococcus sp. 4557
1 1 0 0 0	1 1			$\begin{array}{cccccccccccccccccccccccccccccccccccc$					Thermococcus sp. 5–4 Thermococcus sp. 9N3
1 1 0 0 0	1 1							0 0 0 1 0 1	Thermococcus sp. AM4
1 1 0 0 0	1 1			$\begin{array}{cccccccccccccccccccccccccccccccccccc$				$\begin{array}{cccccccccccccccccccccccccccccccccccc$	Thermococcus sp. Bubb.Bath Thermococcus sp. CX2
1 1 0 0 0	1 1							0 0 0 1 0 0	Thermococcus sp. EP1
1 1 0 0 0	1 1							$\begin{array}{cccccccccccccccccccccccccccccccccccc$	Thermococcus sp. ES12 Thermococcus sp. EXT12c
			စ္ခင္က	ARRESCESSPROJULE &	Nucleoplasmin UBN AB zf-CCHH SSiezog SPT106 Rt106 NAP HURP_mid HIR Dax CHZ ASF1_hist_chap				•
MOZ_SAS KAT11 Hat1_N GNAT_acetyltr_Acetyltransf_1	E R	SET DOT1	CupinJmjC SWIRM	SAWADEE PHUND SAWADEE PHUND NRG MRG MBT Chomo Bromodomain BRR BAH	STATES A PARTICIPATION OF THE	PTIP NCOA6 Menin Dpy-30 PA1	SLED SAF2_RYBP PCRing AF9 TRRAP	WD40 zf-CXXC zf-C2H2 Kelch CAF1C	
MOZ_SAS KAT11 Hat1_N GNAT_acetyltr Acetyltransf_1	_deacetyl		≥ <u> </u>			P 30	ر قرق م	ro XXX	
nsf_ S	cet)		ਨਂਟੋ	ĶŢ ma iii	mid asn		Ř	• • • • • • • • • • • • • • • • • • • •	
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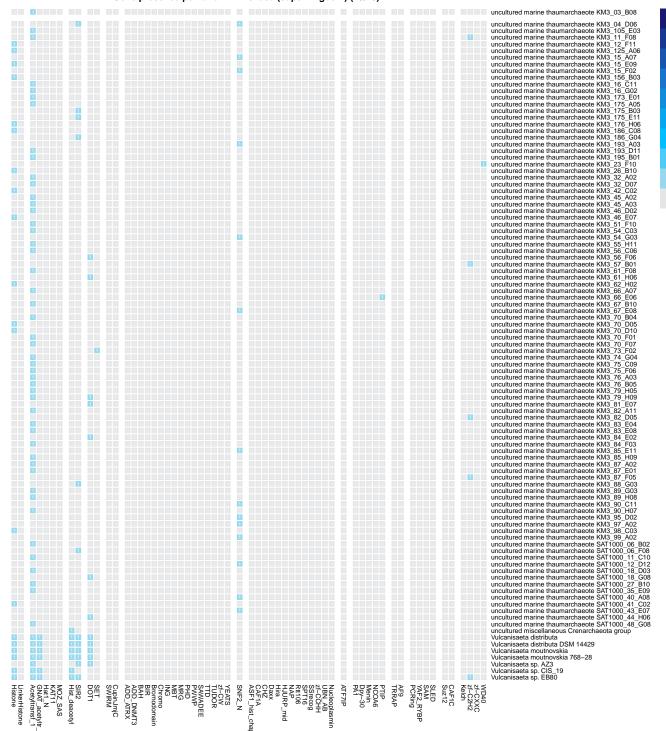
## Gene presence per taxon in Archaea (superkingdom) (17/20)

	1 1 0 0 0			0.0				0 0 0			po.			0 0 0	-, 					Thermococcus sp. GR4
																				Thermococcus sp. GR5 Thermococcus sp. GR5 Thermococcus sp. GR6 Thermococcus sp. GR7 Thermococcus sp. IOH1 Thermococcus sp. IOH1 Thermococcus sp. LS1 Thermococcus sp. LS1 Thermococcus sp. LS2 Thermococcus sp. LS2 Thermococcus sp. M36 Thermococcus sp. M39 Thermococcus sp. M39 Thermococcus sp. MAR1 Thermococcus sp. MV11 Thermococcus sp. MV11 Thermococcus sp. WV5 Thermococcus sp. PK Thermofilum adornatum Thermofilum adornatum Thermofilum adornatum Thermofilum adornatus 1505 Thermofilum pendens Thermofilum pendens Thermofilum sp. ex4484 Tale Thermofilum sp. Ex4884 Tale Thermoplasma at chaecon HGW—Thermoplasmata-1 Thermoplasma at chaecon HGW—Thermoplasmata-2 Thermoplasmatal archaecon HGW—Thermoplasmata-3 Th
1 0 1 0	1 1 0 0 0 1 0 0 0 0 1 1 0 0 0							0 0 1	0 0						0 1				0 0 0 0 0 1 0 0 0 0 0 0	uncultured archaeon A07HB70 uncultured archaeon A07HN63 uncultured archaeon A07HR60
0 0	1 1 0 0 0 1 0 0 0 0	1 0						0 0 1	0 0						0 0					uncultured archaeon A07HR67 uncultured archaeon GZfos17F1
LinkerHistone Histone	MOZ_SAS KAT11 Hat1_N GNAT_acetyltr_2 Acetyltransf_1	SIR2 Hist_deacetyl	SET DOT1	CupinJmjC SWIRM	3R 3AH 3DD_DNMT3 1DD_ATRX	MRG MBT ING Chromo	TUDOR TD SAWADEE WWWP	SNF2_N YEATS zf-CW	SAF1A \SF1_hist_chap	Hira Daxx CHZ	AP AP	ET16	ATF7IP Nucleoplasmin	Menin Dpy-30 PA1	TIP ICOA6	AF9	SLED SAM YAF2_RYBP PCRing	CAF1C Suz12	WD40 zf-CXXC zf-C2H2 Kelch	

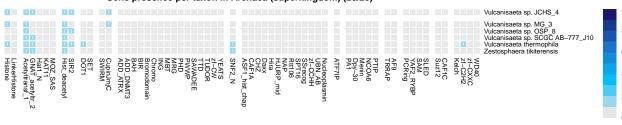
#### Gene presence per taxon in Archaea (superkingdom) (18/20)



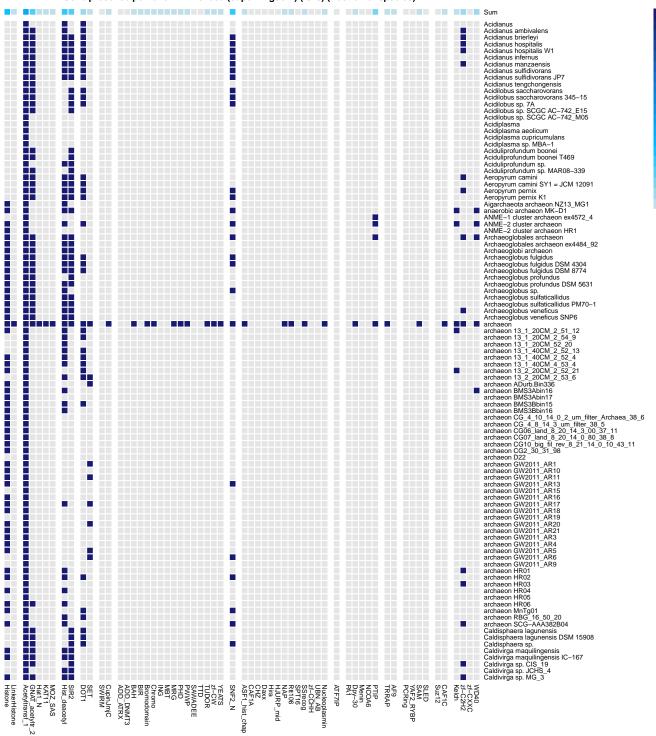
#### Gene presence per taxon in Archaea (superkingdom) (19/20)







#### Gene presence per taxon in Archaea (superkingdom) (1/20) (fraction of species)

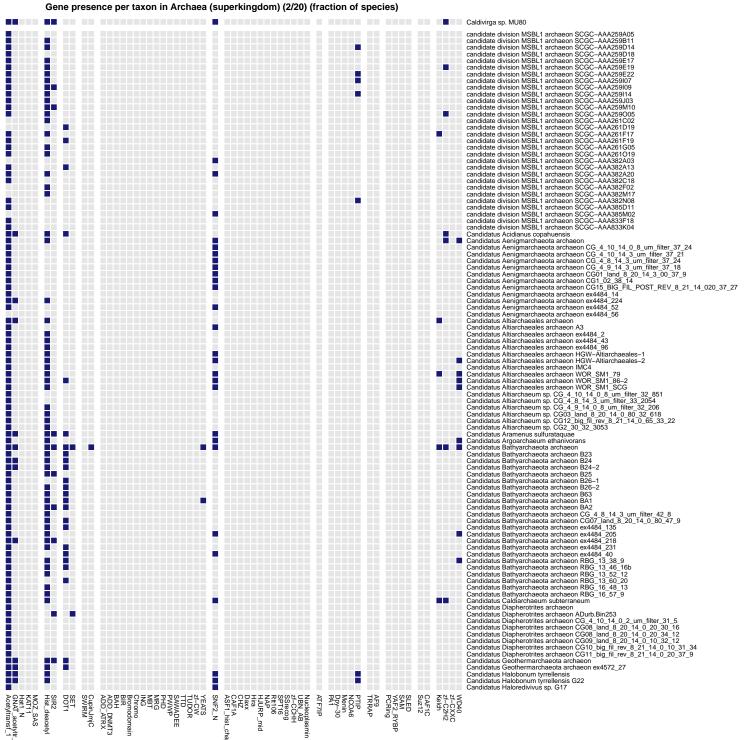


0.8

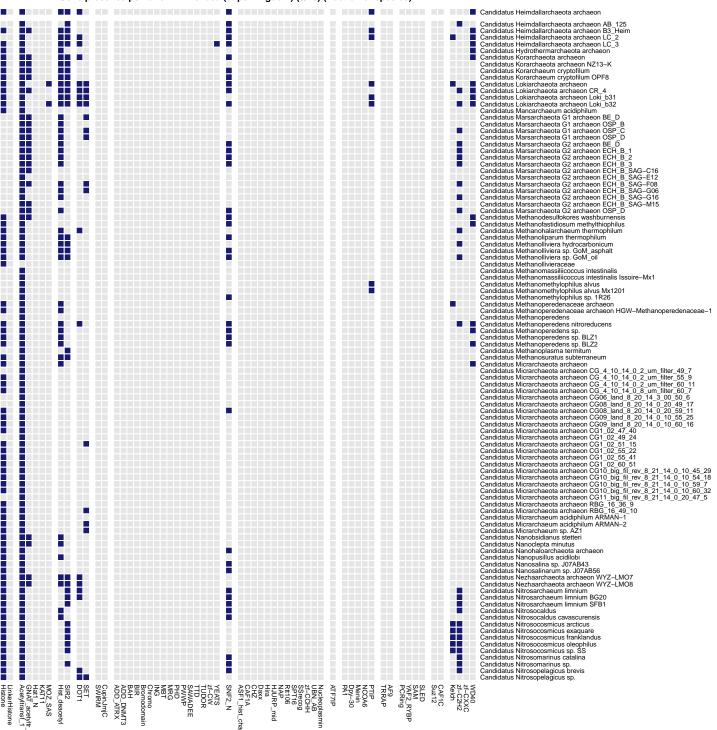
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0.4

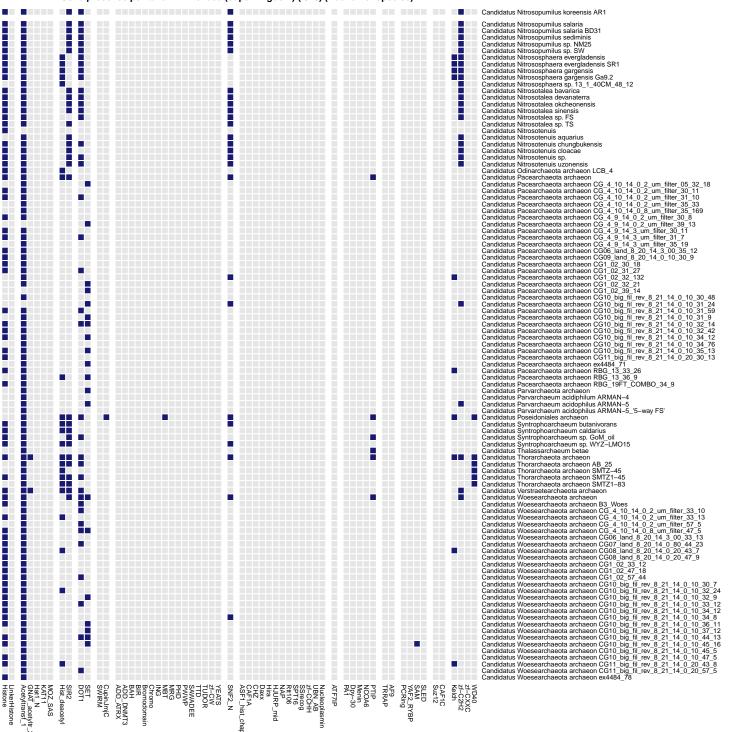
### Gene presence per taxon in Archaea (superkingdom) (2/20) (fraction of species)



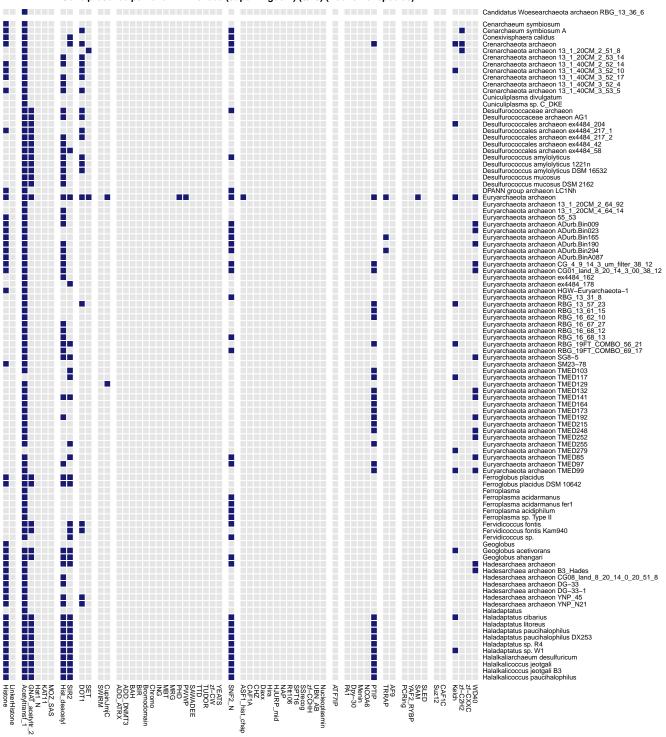
#### Gene presence per taxon in Archaea (superkingdom) (3/20) (fraction of species)



#### Gene presence per taxon in Archaea (superkingdom) (4/20) (fraction of species)



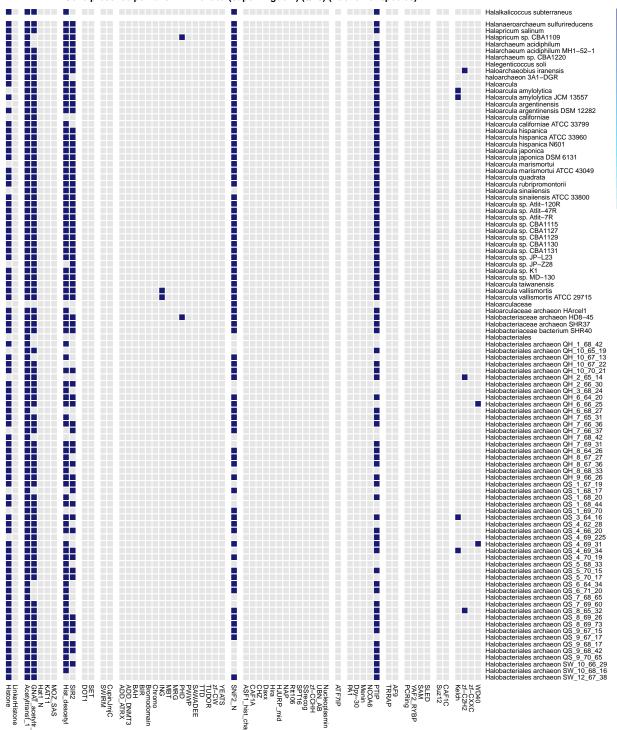
#### Gene presence per taxon in Archaea (superkingdom) (5/20) (fraction of species)



0.8

0.6

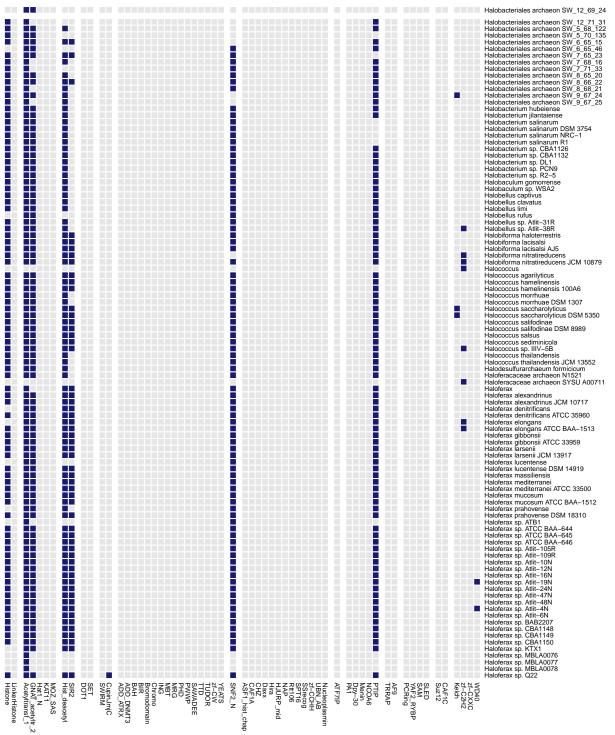
#### Gene presence per taxon in Archaea (superkingdom) (6/20) (fraction of species)



0.8

0.6

### Gene presence per taxon in Archaea (superkingdom) (7/20) (fraction of species)

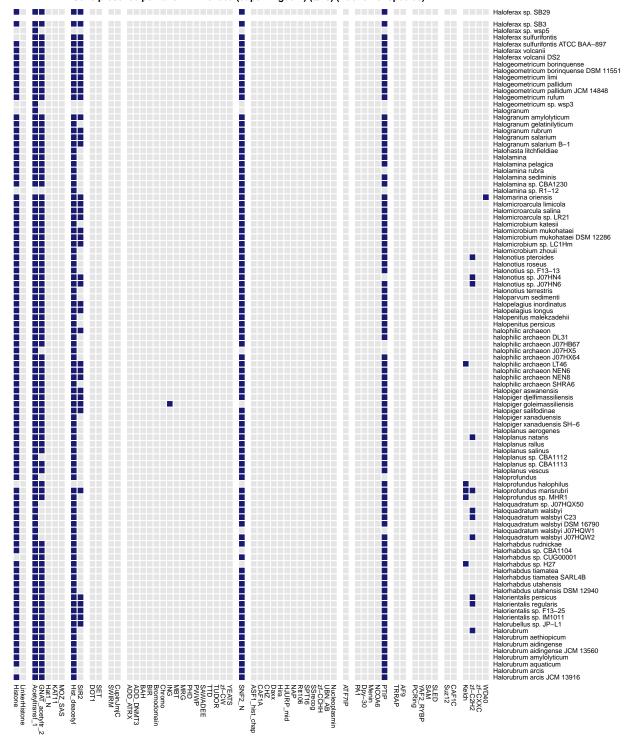


0.8

0.6

0.4

## Gene presence per taxon in Archaea (superkingdom) (8/20) (fraction of species)

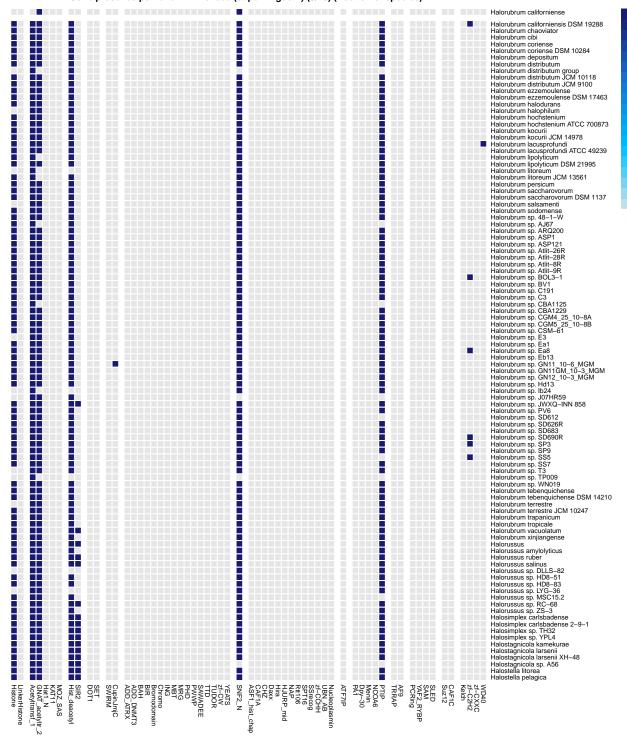


8.0

0.6

0.4

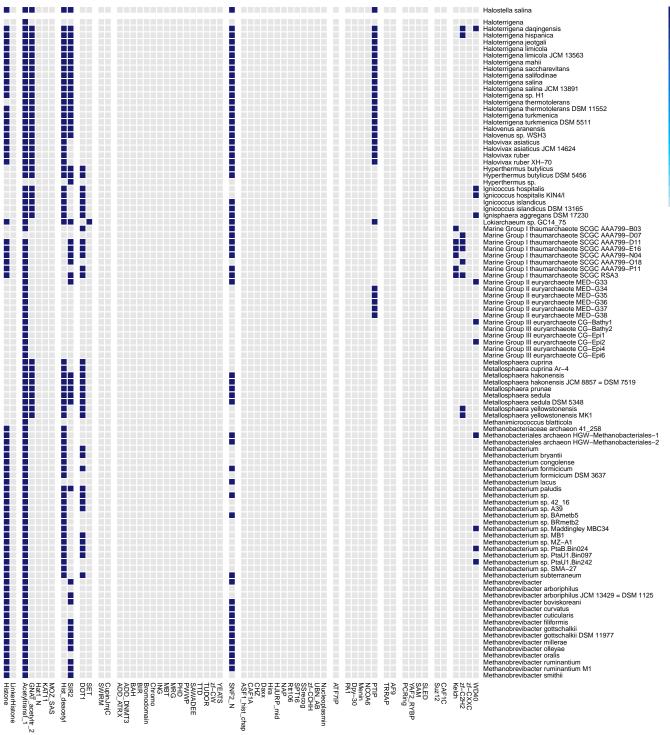
#### Gene presence per taxon in Archaea (superkingdom) (9/20) (fraction of species)



0.8

0.6

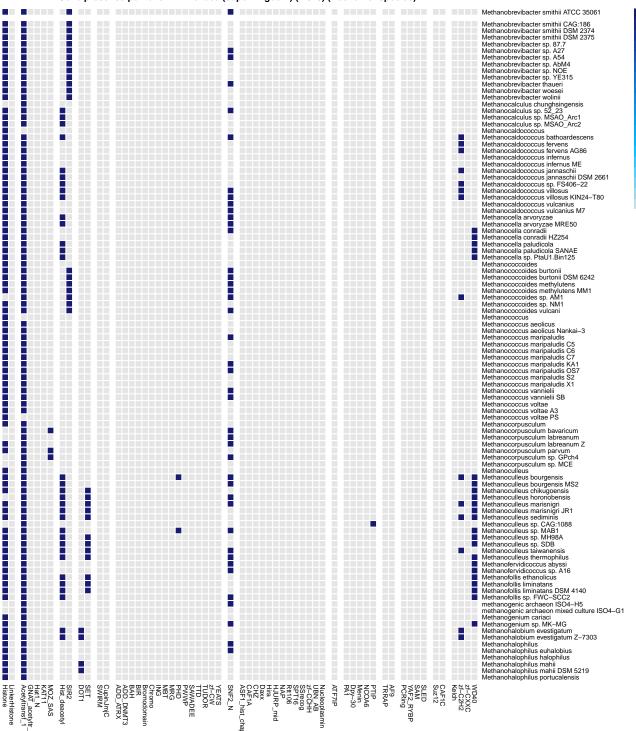
### Gene presence per taxon in Archaea (superkingdom) (10/20) (fraction of species)



0.8

0.6

## Gene presence per taxon in Archaea (superkingdom) (11/20) (fraction of species)

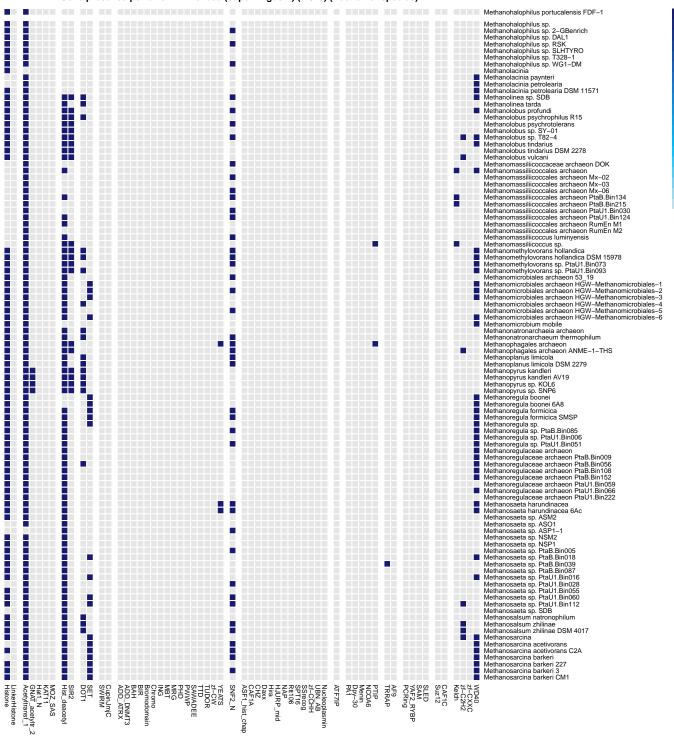


0.8

0.6

0.4

#### Gene presence per taxon in Archaea (superkingdom) (12/20) (fraction of species)

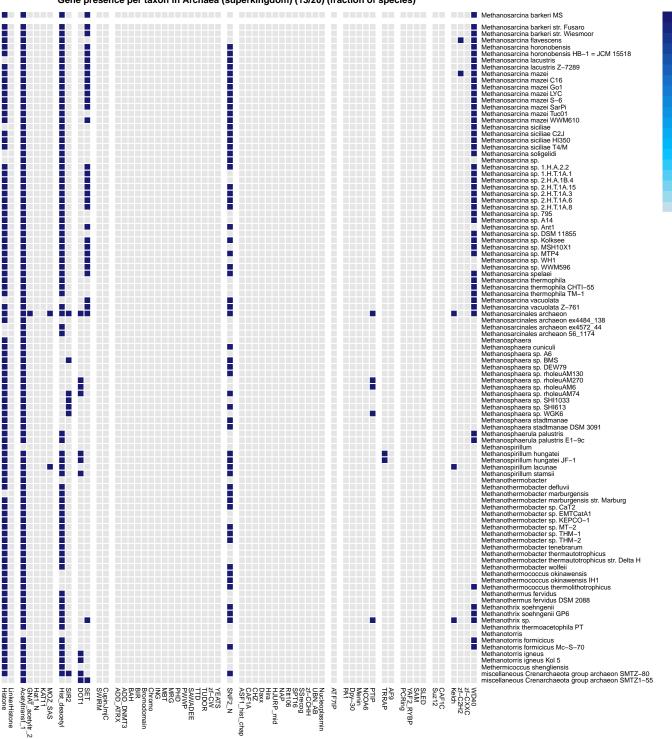


0.8

0.6

0.4

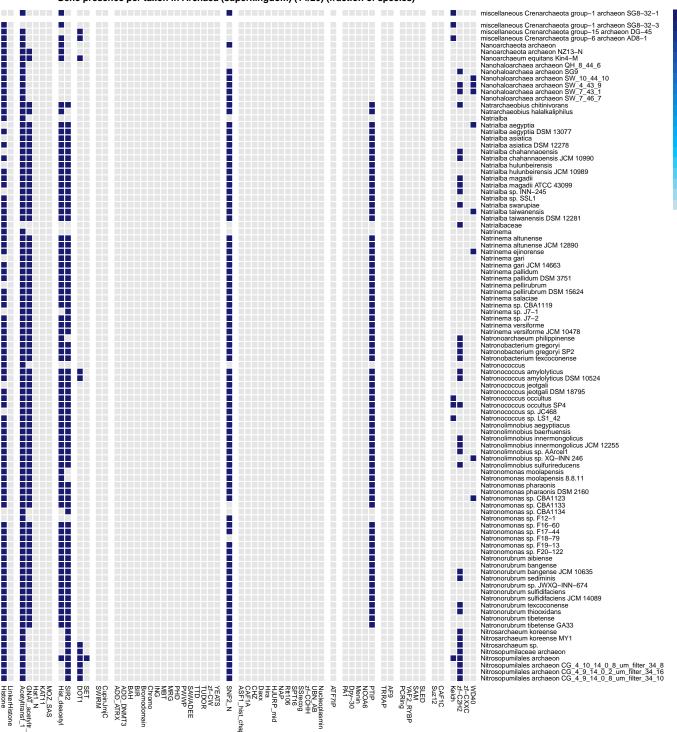
#### Gene presence per taxon in Archaea (superkingdom) (13/20) (fraction of species)



0.8

0.6

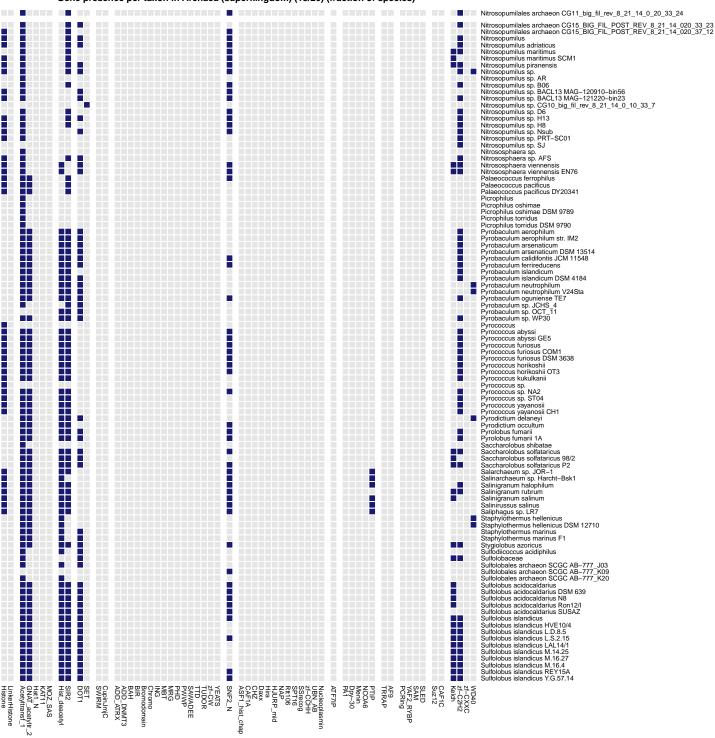
#### Gene presence per taxon in Archaea (superkingdom) (14/20) (fraction of species)



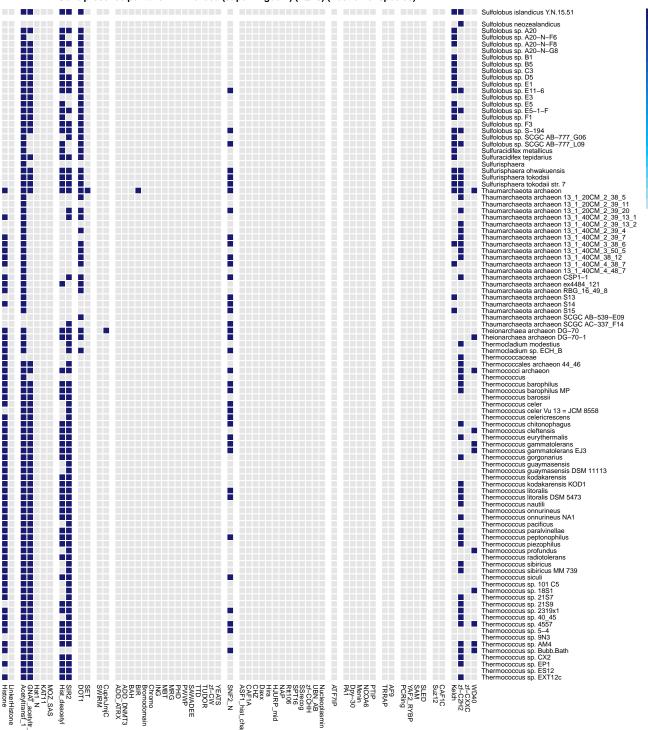
0.8

0.6

## Gene presence per taxon in Archaea (superkingdom) (15/20) (fraction of species)



#### Gene presence per taxon in Archaea (superkingdom) (16/20) (fraction of species)



0.8

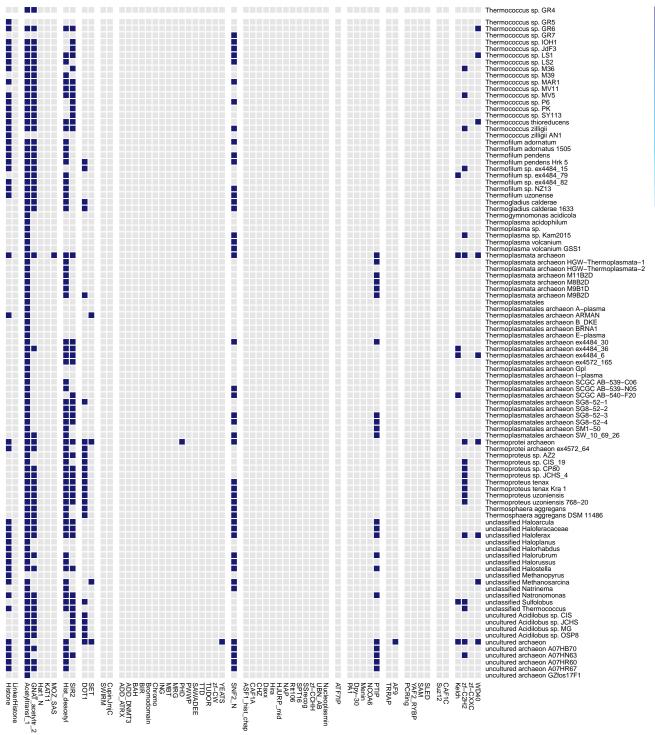
0.6

0.4

0.2

0

### Gene presence per taxon in Archaea (superkingdom) (17/20) (fraction of species)

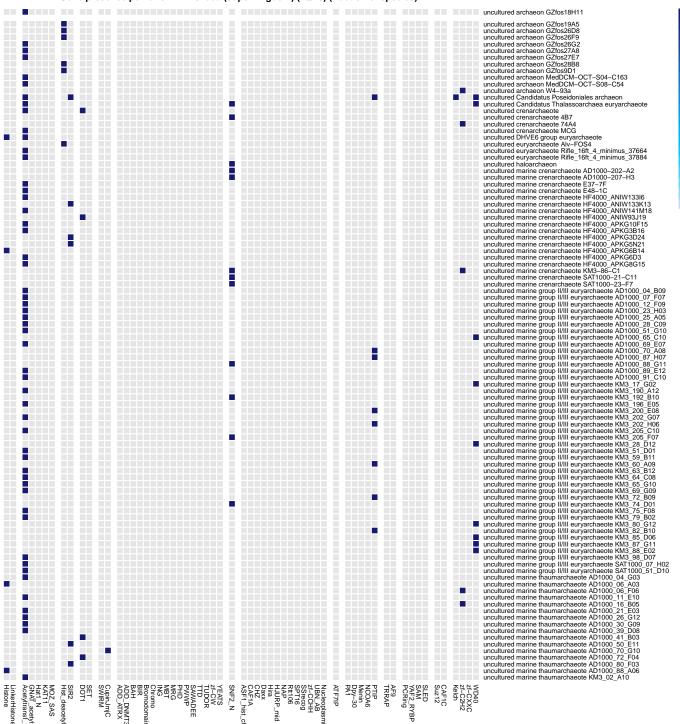


8.0

0.6

0.4

#### Gene presence per taxon in Archaea (superkingdom) (18/20) (fraction of species)

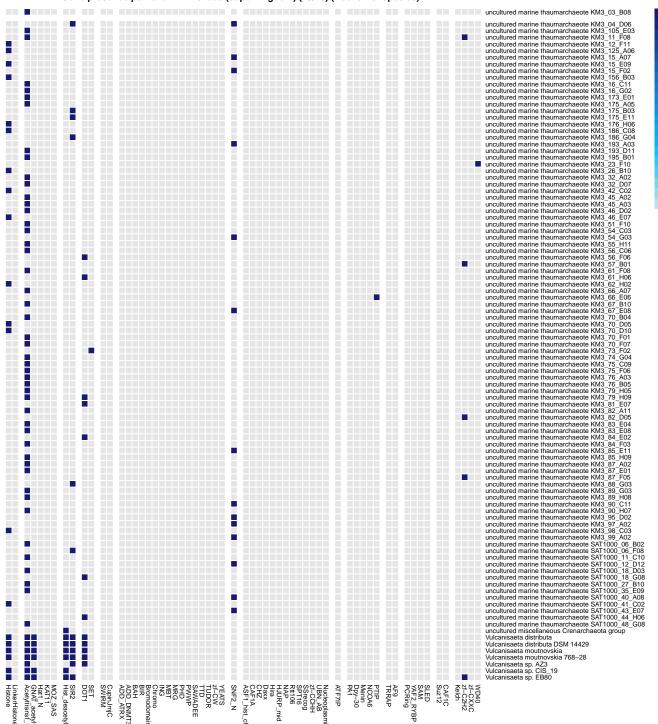


8.0

0.6

0.4

#### Gene presence per taxon in Archaea (superkingdom) (19/20) (fraction of species)

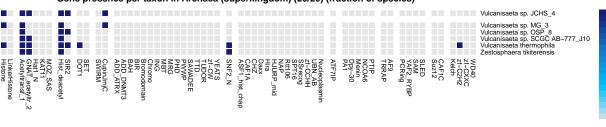


0.8

0.6

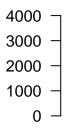
0.4





0.8 0.6 0.4

# num species per group



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activation sp. MRNB-339 and activation of W2011, AR1 in a conditional sp. MRNB-339 and a conditional sharp with a conditional sp. Marchaeon CW2011, AR1 in a Candidate division MSEI1 acrae-deaded spreaded St. 21 42 (1) and Candidates Micropolegicus & Candidates &
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