```
Methanothermobacter thermautotrophicus (GI:15678963)   1 -------MRYGAV------------------------------------------------------NPLHSMSFQGPGSLSS 22
Methylibium petroleiphilum (GI:124268439)              4 RSRPDL-ADPDESAAGAERADALARS-ELLRAALIGVIERYEPEVA--RVLRGE-----------APLERMSTRLLARTIQ 69
Burkholderia phymatum (GI:186470717)                  13 DGLHKL-AAASASLPALSADEYEHAVIELLSELLRDIARARQPEVE--RTLRGEAAHESMSELMRERMDDRTARVVLRRMLQ 91
Methyloversatilis universalis (GI:334129780)           1 MVSD---PISVPASADASGAAFSEKAIDLLFSLLREVVERHHPELL--PVLAGE-------------SGNTLSPQMLGRAIQ 64
Methylocella silvestris (GI:217977880)                 5 QAERRL-EQALSVVDVSDGAPSGERIAAILYQLLLEVVQRHHPEIA--PVLSGE------------TVLQNAAPEVLSRVFQ 71
Methylobacterium extorquens (GI:254560927)             6 HARPSA-ATDTTFAPPVITGTATEDALEILFHALLDVARRHDPELE--DVLHGR------------ADISSFTPEMLARALQ 72
Methylosinus thrichosporium OB3b (METTOv1 400014, ppc1) 2 PAEPKVTPSTSPAAPSALATRSVKEAAAFLFDQLAGVVKRHQPEVE--PVLRGF------------VSSSGLPPALLGRALQ 69
Methylocystis sp. ATCC49242 (GI:323136042)            4 ETQKIS-SAAPTALPSAFATRSVTEASAFLRDQLLAVIHRHMPEIE--AVVRDS------------KAGAGLAPKQMARALQ 70
Rhodothermus obamensis (UniProt:Q59757)               17 PLSEHV-NLLGGLLGQVIQEMAGPEMLELV-ETLRRLCKQAAQENR--PEFREQA----------YTRIHSATYDELLWLLR 84
Zea mays (GI:162461756)                               33 KLIEYD-ALLVDRFLNILQDLHGPSLREFV-QECYEVSADYEGKGD--TTKLGEL----------GAKLTGLAPADAILVAS 100
Azotobacter vinelandii (GI:226945972)                  7 RLREDV-RLLGELLGEYIHAQCGEVFFDKI-ERIRLGAKTGRLGSE---EGAEQL----------TRTLGELREDELQPVAR 73
Escherichia coli str. K-12 (GI:16131794)               7 ALRSNV-SMLGKVLGETIKDALGEHILERV-ETIRKLSKSSRAGND---ANRQEL----------LTTLQNLSNDELLPVAR 73
Methylomonas LW13 (MaGE:MmLW13v1 270562, ppc2)       52 ELRSSI-RLLGSILTKVLTAQAKPEVATAV-AQLQRKFASLLREGS--ANRRRQF----------MEILEGLDAEEIGEVVR 119
Methylomonas methanica (GI:333984919)                11 TLRANI-RLLKGMLDNVLKNQASHQVAEIV-EQLQRQFTVLQRDNN--PAKRQQI----------LKTLHNLPAETLSEVIR 78
Methylophaga sp. JAM1 (GI:387128746)                 21 DLRSHV-RFLVNLLGEVIAEQSGPEVYQVI-EQLRKGFIRLRKEDD--VELRQTL----------KDKIESLDELTLREVIR 88
Nitrosococcus halophilus (GI:292492252)              34 ELRARV-KLFGNLLGQVIQAQSREKVFAAV-EALRKGYINLRKKEN--PDKRIQL----------LRLISKLDVETLTQVVR 101
Thermosynechococcus vulcanus (UniProt:P0A3X6)        23 TLQERL-RLVEEVLVDVLAAESGQELVDLL----RRLGALSSPEGHVLHAPEGEL----------LKVIESLELNEAIRAAR 89
Synechococcus elongatus (GI:81301061)                32 FLRHRL-TVVEELWEVVLRQECGQELVDIL-TQLRDLT---SPEGQAPEVGGEAL----------VQVIETLELSDAIRAAR 98
Nitrosomonas europaea (GI:30248603)                  22 PLREDI-RLLGRMLGDTIRELEGETMFNLV-ETIRQTSVRFRRDQD--EAAEHEL----------DTILNHLSHKETIAVVR 89
Ralstonia eutropha (GI:113868876)                    79 PLREDI-RFLGRLLGECLREQEGDAAFEVV-ETIRQTAVRFRREND--RAAGAEL----------DRLLKRLSRDQTNQVVR 146
Methylosinus thrichosporium OB3b (METTOv1 130002, ppc2) 20 SLLADI-RLLGRLLGDTVREQEGAAAFERI-ETIRRLSVAVSRNGD--MEADQKL----------DALLRSLSAAEALTVIR 87

Quality
Consensus
PLREDV-RLLGELLG+V++AQSGEEAFELLFEQLRRV+KRHRPEGD--PVLRGEL----------L++LESLSPEEL+RV+R

Methanothermobacter thermautotrophicus (GI:15678963)  23 SSSLYSSP-----------------------------------------------QKYHP------------------------- 35
Methylibium petroleiphilum (GI:124268439)            70 AQAIWFQLLAIAEQNRDMRR------RREVERQRG----------------HAQVR------------------------- 103
Burkholderia phymatum (GI:186470717)                 92 AQGMWFQLLSIAEQSTAMRR------RREIEIEGG----------------YDRLP------------------------- 125
Methyloversatilis universalis (GI:334129780)         65 AQGILFQLLSIAEQNGGMRK------RREVERLQG----------------REALP------------------------- 98
Methylocella silvestris (GI:217977880)               72 AHGIWFQLLSIVEQDAAMGE------RRRTERELG----------------EQAVP------------------------- 105
Methylobacterium extorquens (GI:254560927)           73 VQGIWFQLVSIAEQNAAMRR------RRHVERDQG----------------REALN------------------------- 106
Methylosinus thrichosporium OB3b (METTOv1 400014, ppc1) 70 AQGIWFQLLSIAEQASAMRR------RRTIERAKG----------------RDELL------------------------- 103
Methylocystis sp. ATCC49242 (GI:323136042)          71 AQGIIFQLVSIAEQAYAMRR------RRRIEREKG----------------HDKLL------------------------- 104
Rhodothermus obamensis (UniProt:Q59757)              85 AYTAFFHLVNQAEQQEIIRI------NRERAQQSTP----------------ERPRP------------------------- 119
Zea mays (GI:162461756)                             101 SILHMLNLANLAEEVQIAHR------RRNSKLKKGGFADEG---------SATTE------------------------- 140
Azotobacter vinelandii (GI:226945972)                74 AFNQFLNLANIAEQYHEIRR------RAP----------------------EEPPPFA-----------------V-- 104
Escherichia coli str. K-12 (GI:16131794)             74 AFSQFLNLANTAEQYHSISP------KGE----------------------AASNP------------------------- 101
Methylomonas LW13 (MaGE:MmLW13v1 270562, ppc2)     120 VFNGYFSLLNIAEESHNLTL------RRQ---NQT----------------GRYWP------------------------- 150
Methylomonas methanica (GI:333984919)                79 AFSLYFSLLNIAEESTQLQH------RRH-QIEKN----------------KHYWR------------------------- 111
Methylophaga sp. JAM1 (GI:387128746)                 89 AFNLYFSLVNTAEEAYHHHN------RQI-QLRNG----------------GNLWH------------------------- 121
Nitrosococcus halophilus (GI:292492252)             102 AFSIYFSLANIAEEAYQHRQ------RQR-RIDAG----------------GPLWR------------------------- 134
Thermosynechococcus vulcanus (UniProt:P0A3X6)       90 AFNLYFQIINIVEQHYEQQY------NRERAAQEGLRRRSVMSEPISGVSGEGFPLPHTAANATDVRSGPSERLEHSLYEAI 165
Synechococcus elongatus (GI:81301061)                99 AFALYFQLINIVEQHYEQTQYQLAYERSRLEPLPGPDESPEGLHTIEIPQHQLDPFA-----------------AVI 158
Nitrosomonas europaea (GI:30248603)                  90 AFSYFSLLSNIAEDLHHNRR------RRA-HLRAG----------------SPPQD------------------------- 122
Ralstonia eutropha (GI:113868876)                   147 AFSYFSHLANIAEDQHHNRR------RRV-HALAG----------------SPPQA------------------------- 179
Methylosinus thrichosporium OB3b (METTOv1 130002, ppc2) 88 AFSYFSHLANIAEDLHPLQ--------QE----------------------NGREP------------------------- 113

Quality
Consensus
AFSIYFQLLNIAEQAHAMRR------RRE+EREKGP---------I----GEPLPFA-----------------------I
```