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NTDB id 1177 A1552VC RS01165 WP 000422572.1          ....MELNQYLDGMLTHKASDLYITVGAPILYRVDGELRAQGEAL.SVADVTALLHAMMDDARQAEFKQTREANF   70
NTDB id 1203 PSJM300 01605 AFN76401.1               ....MEFEKLLRLMVEKGGSDLFITAGVPPSMKVNGKILPVNKTPMSPEMTRETVHGVMNEQQRREFTENHECNF   71
NTDB id 1019 ACIAD RS04205 WP 004922051.1           ....MDFNDLLNLMAKHKASDLFITAGVEPSLKINGEITPVSKTKLDGDMIAQLIDSITTQKQRQEFIETHECNF   71
NTDB id 1448 BW25113 RS15320 WP 001326494.1         ....MNMEEIVALSVKHNVSDLHLCSAWPARWRIRGRME...AAPFDTPDVEELLREWLDDDQRAILLENGQLDF   68
NTDB id 1307 DR RS10055 WP 010888596.1              MTSGIDITDILRLAADKGASDIILAAGLPPQFKLSGDYDAQGFEPLSASDTRKLMYSMMNERQQRIFEEKRELDF   75
NTDB id 1116 NGFG RS10615 WP 003690200.1            ....MQITDLLAFGAKNKASDLHLSSGISPMIRVHGDMRRINLPEMSAEEVGNMVTSVMNDHQRKIYQQNLEVDF   71
NTDB id 1086 NMV RS00245 WP 002218487.1             ....MQITDLLAFGAKNKASDLHLSSGISPMIRVHGDMRRINLPEMSAEEVGNMVTSVMNDHQRKIYQQNLEVDF   71
NTDB id 1185 GTF74 RS11940 WP 000350195.1           ....MDIAELLEFSVKHNASDLHLSAGVPPMVRIDGEVRKLGVPAFTHSDVHRLIFEIMNDAQRSEYEEKLEVDF   71
NTDB id 1176 A1552VC RS01160 WP 000350195.1         ....MDIAELLEFSVKHNASDLHLSAGVPPMVRIDGEVRKLGVPAFTHSDVHRLIFEIMNDAQRSEYEEKLEVDF   71
NTDB id 1283 ACE17W RS02630 WP 010947729.1          ....MDIAELLAFSVKNKSSDLHISAGMPPMIRVDGDLRKINLPPLEHKDVIKIIYDIMNDRQRKEYEEFFETDF   71
NTDB id 1259 GCO85 RS10305 WP 010947729.1           ....MDIAELLAFSVKNKSSDLHISAGMPPMIRVDGDLRKINLPPLEHKDVIKIIYDIMNDRQRKEYEEFFETDF   71
NTDB id 55780 Cthiooxydans RS23430 WP 003068464.1   ....MDITQLLAFSVKNKASDLHLSAGLPPMIRVHGDVRRINIDPLDHKTVHAMVYDIMSDAQRKQYEEFLEVDF   71
NTDB id 1194 PA0395 NP 249086.1                     ....MDITELLAFSAKQGASDLHLSAGLPPMIRVDGDVRRINLPPLEHKQVHALIYDIMNDKQRKDFEEFLETDF   71
NTDB id 1202 PSJM300 01600 AFN76400.1               ....MDITELLAFSAKQGASDLHLSSGLPPMIRVDGDVRRINLPAMDHKQVHALIYDIMNDKQRKDFEEFLETDF   71
NTDB id 1020 ACIAD RS04210 WP 011182164.1           ....MDITELLAFSVQNRASDLHLSAGIPPMIRVDGEVRRINLPAMDHSEVHNLIYDIMNDKQRRDYEEKLETDF   71
NTDB id 1081 FDQ49 RS05335 WP 006581387.1           ....MDITELLAFSVKNGASDLHLSAGMPPMIRVDGEVRRINLPALEHKDVHRLVYDIMNDKQRRDYEEKLETDF   71
NTDB id 1060 ABD1 RS04380 WP 000355489.1            ....MDITELLAFSVKNGASDLHLSAGMPPMIRVDGEVRRINLPALEHKDVHRLVYDIMNDKQRRDYEEKLETDF   71
NTDB id 1040 HON27 RS13360 WP 000355489.1           ....MDITELLAFSVKNGASDLHLSAGMPPMIRVDGEVRRINLPALEHKDVHRLVYDIMNDKQRRDYEEKLETDF   71
consensus                                              ************** *!!*****************!********* *** **  ********************* ** *!
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NTDB id 1177 A1552VC RS01165 WP 000422572.1          AVVRD..SGRFRVSAFFQRELPGAVIRRIETRIPTFEELKLPEVLQNLAIAKRGLVLVVGATGSGKSTTMAAMTG   143
NTDB id 1203 PSJM300 01605 AFN76401.1               AISARG.IGRFRVSAFYQRNLAGMVLRRIETNIPTIEDLKLPDVLKKLALTKRGLVLFVGATGTGKSTSLAAMIG   145
NTDB id 1019 ACIAD RS04205 WP 004922051.1           AILNREKNERFRVSAFQQRDMPGMVIRRIETKIPSPDDLHLPPILKELAMSKRGIIIFSGATGTGKSTSLASMIQ   146
NTDB id 1448 BW25113 RS15320 WP 001326494.1         AVSLAE.NQRLRGSAFAQRHGISLALRLLPSHCPQLEQLGAPTVLPELLKSENGLILVTGATGSGKSTTLAAMVG   142
NTDB id 1307 DR RS10055 WP 010888596.1              SFALGD.KARFRVNAFMQRGNVGGVMRLIPTTVRTIAEMGLPQTVIDIANAPRGLVLVTGPTGSGKSTTLASMID   149
NTDB id 1116 NGFG RS10615 WP 003690200.1            SFELPN.VARFRVNAFNTGRGPAAVFRTIPSTVLSLEELKAPSIFQKIAESPRGMVLVTGPTGSGKSTTLAAMIN   145
NTDB id 1086 NMV RS00245 WP 002218487.1             SFELPN.VARFRVNAFNIGRGPAAVFRTIPSTVLSLEELKAPSIFQKIAESPRGMVLVTGPTGSGKSTTLAAMIN   145
NTDB id 1185 GTF74 RS11940 WP 000350195.1           SFELPN.VGRFRVNAFHQARGCSAVFRTIPTVIPTLEQLDAPEIFSKIANYEKGLVLVTGPTGSGKSTTLAAMVN   145
NTDB id 1176 A1552VC RS01160 WP 000350195.1         SFELPN.VGRFRVNAFHQARGCSAVFRTIPTVIPTLEQLDAPEIFSKIANYEKGLVLVTGPTGSGKSTTLAAMVN   145
NTDB id 1283 ACE17W RS02630 WP 010947729.1          SFEIAN.LARFRVNAFNQSRGAAAVFRTIPSEILSMEDLGLPPIFKEMASFSRGLVLVTGPTGSGKSTTLAAVID   145
NTDB id 1259 GCO85 RS10305 WP 010947729.1           SFEIAN.LARFRVNAFNQSRGAAAVFRTIPSEILSMEDLGLPPIFKEMASFSRGLVLVTGPTGSGKSTTLAAVID   145
NTDB id 55780 Cthiooxydans RS23430 WP 003068464.1   SFEIEG.LARFRVNANFNQNRGAAAVFRTIPSKILTLEQLNAPKIFADLALKPRGLVLVTGPTGSGKSTTLAAMVN   145
NTDB id 1194 PA0395 NP 249086.1                     SFEVPG.VARFRVNAFNQNRGAGAVFRTIPSKVLTMEELGMGEVFKRVSDVPRGLVLVTGPTGSGKSTTLAAMLD   145
NTDB id 1202 PSJM300 01600 AFN76400.1               SFEVPG.VARFRVNAFNQNRGAGAVFRTIPSKVLTMEDLGMGEVFRKITDVPRGLVLVTGPTGSGKSTTLAAMLD   145
NTDB id 1020 ACIAD RS04210 WP 011182164.1           SFEVPN.LARFRVNVFNQNRGAGAVFRTIPSQVLTLEELGLGKIFRDICDYPRGLVLVTGPTGSGKSTTLAAMLD   145
NTDB id 1081 FDQ49 RS05335 WP 006581387.1           SFEVPN.VARFRVNAFNQNRGAGAVFRTIPSKVLTMEDLGLGQIFKDICDYPRGIVLVTGPTGSGKSTTLAAMLD   145
NTDB id 1060 ABD1 RS04380 WP 000355489.1            SFEVPN.VARFRVNAFNQNRGAGAVFRTIPSKVLTMEDLGLGQIFKDICDYPRGIVLVTGPTGSGKSTTLAAMLD   145
NTDB id 1040 HON27 RS13360 WP 000355489.1           SFEVPN.VARFRVNAFNQNRGAGAVFRTIPSKVLTMEDLGLGQIFKDICDYPRGIVLVTGPTGSGKSTTLAAMLD   145
consensus                                           ****** **!*!***!** *******!**** ********** ****** **!*****!*!!*!!!!**!***
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NTDB id 1177 A1552VC RS01165 WP 000422572.1   YRNQHRTGHILTVEDPIEFVHEHKRCIVTQREVGLDTESYEVALKNSLRQAPDMILIGEIRSRETMEYAMTFAET 218
NTDB id 1203 PSJM300 01605 AFN76401.1         YRNKNSSGHISIEDPIEFIHQHQNCIVTQREVGIDTDSFEVALKNTLRQAPDVILIGEVRTRETMDHAVAFAET 220
NTDB id 1019 ACIAD RS04205 WP 004922051.1     HRNQHSKGHIITIEDPIEFIHEHAGCIITQREVGIDTDSFEIALKNTLRQAPDVILIGEIRSREVMDYALAFAET 221
NTDB id 1448 BW25113 RS15320 WP 001326494.1   YLNQHADAHILTLEDPVEYLYASQRCLIQQREIGLHCMTFASGLRAALREDPDVILLGELRDSETIRLALTAAET 217
NTDB id 1307 DR RS10055 WP 010888596.1        HINTTKKLHILTIEDPIEFMHPNKASIINQREVGSDTLSFDDALRAALRQAPDVILVGEMRDYETIKAAVTAAET 224
NTDB id 1116 NGFG RS10615 WP 003690200.1      YINETQPAHILTIEDPIEFVHQSKKSLINQRELHQHTLSFANALSSALREDPDVILVGEMRDPETIGLALTAAET 220
NTDB id 1086 NMV RS00245 WP 002218487.1       YINETQPAHILTIEDPIEFVHQSKKSLINQRELHQHTLSFANALRSALREDPDVILVGEMRDPETIGLALTAAET 220
NTDB id 1185 GTF74 RS11940 WP 000350195.1     YVNAHHNKHILTIEDPIEFVHSNNKCLINQREVHRDTHSFKNALRSALREDPDVILVGELRDQETISLALTAAET 220
NTDB id 1176 A1552VC RS01160 WP 000350195.1   YVNAHHNKHILTIEDPIEFVHSNNKCLINQREVHRDTHSFKNALRSALREDPDVILVGELRDQETISLALTAAET 220
NTDB id 1283 ACE17W RS02630 WP 010947729.1    YINSSRYEHILTVEDPIEFVHQSKKCLVNQREVHKDTLSFNAALRSALREDPDIILVGELRDLETIRLAMTAAET 220
NTDB id 1259 GCO85 RS10305 WP 010947729.1     YINSSRYEHILTVEDPIEFVHQSKKCLVNQREVHKDTLSFNAALRSALREDPDIILVGELRDLETIRLAMTAAET 220
NTDB id 55780 Cthiooxydans RS23430 WP 003068464.1 YLNETEYGHILTVEDPIEFVHESKKCLINQREVGPMTLSFAAALKSALREDPDAILVGEMRDLETIRLAMTAAET 220
NTDB id 1194 PA0395 NP 249086.1               YLNNTKYHHILTIEDPIEFVHESKKCLVNQREVHRDTLGFSEALRSALREDPDIILVGEMRDLETIRLALTAAET 220
NTDB id 1202 PSJM300 01600 AFN76400.1         YLNNTKYHHILTIEDPIEFVHESKKCLVNQREVHRDTLGFSEALRSALREDPDIILVGEMRDLETIRLALTAAET 220
NTDB id 1020 ACIAD RS04210 WP 011182164.1     YINNHRYDHILTVEDPIEFVHEPKKCLINQREVHRDTLGFNEALRSALREDPDIILVGEMRDLETIRLALTAAET 220
NTDB id 1081 FDQ49 RS05335 WP 006581387.1     YINENRYDHILTVEDPIEFVHQSKKCLINQREVHRDTHGFNEALRSALREDPDIILVGEMRDLETIRLALTAAET 220
NTDB id 1060 ABD1 RS04380 WP 000355489.1      YINENRYDHILTVEDPIEFVHQSKKCLINQREVHRDTHGFNEALRSALREDPDIILVGEMRDLETIRLALTAAET 220
NTDB id 1040 HON27 RS13360 WP 000355489.1     YINENRYDHILTVEDPIEFVHQSKKCLINQREVHRDTHGFNEALRSALREDPDIILVGEMRDLETIRLALTAAET 220
consensus                                     **!  *  !!***!!!*!*** ********!!!******** *!***!!**!!*!!*!!*!* !****!***!!!
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NTDB id 1177 A1552VC RS01165 WP 000422572.1   GHLCMATLHANNANQALERILHLVPKEQREQFLLDLSLNLKGVIAQQLLRDKNGKGRHGVFEVLLNSPRIADLIR 293
NTDB id 1203 PSJM300 01605 AFN76401.1         GHLCLATLHANNANQALDRIINFFPADRQNQVWMDLSLNLKAIVAQQLVPTPDGKGRRAVIEVLINTPLAADLIR 295
NTDB id 1019 ACIAD RS04205 WP 004922051.1     GHLVFATLHANNANQTLERIIHFFDADRHQQIFMDLSLNLKAVISQQLIPTHDGQSRRAAVEVLINTPLLSDYIR 296
NTDB id 1448 BW25113 RS15320 WP 001326494.1   GHLVLATLHTRGAAQAVERLVDSFPAQEKDPVRNQLAGSLRAVLSQKLEV.DKQEGRVALFELLINTPAVGNLIR 291
NTDB id 1307 DR RS10055 WP 010888596.1        GHLVMGTLHTNSAPESIDRIVDVFPEEQQEQIRVQLANNLVAVMTQQLLPRADGQGRVLAYEILLANPAVRALIR 299
NTDB id 1116 NGFG RS10615 WP 003690200.1      GHLVFGTLHTTGAAKTVDRIVDVFPAGEKEMVRSMLSESLTAVISQNLLKTHDGNGRVASHEILIANPAVRNLIR 295
NTDB id 1086 NMV RS00245 WP 002218487.1       GHLVFGTLHTTGAAKTVDRIVDVFPAGEKEMVRSMLSESLTAVISQNLLKTHDGNGRVASHEILIANPAVRNLIR 295
NTDB id 1185 GTF74 RS11940 WP 000350195.1     GHLVFGTLHTSSAAKTIDRIIDVFPGSDKDMVRSMLSESLRAVIAQKLLK.RVGGGRVACHEIMLATPAIRNLIR 294
NTDB id 1176 A1552VC RS01160 WP 000350195.1   GHLVFGTLHTSSAAKTIDRIIDVFPGSDKDMVRSMLSESLRAVIAQKLLK.RVGGGRVACHEIMLATPAIRNLIR 294
NTDB id 1283 ACE17W RS02630 WP 010947729.1    GHLVFGTLHTNSATKTINRIIDVFPAEEKSMVRSMLSESLQAVVAQSLLK.KNKGGRVAALEIMMCTGAIRNLIR 294
NTDB id 1259 GCO85 RS10305 WP 010947729.1     GHLVFGTLHTNSATKTINRIIDVFPAEEKSMVRSMLSESLQAVVAQSLLK.KNKGGRVAALEIMMCTGAIRNLIR 294
NTDB id 55780 Cthiooxydans RS23430 WP 003068464.1 GHLVFGTLHTSSAAKTIDRIIDVFPAEEKEMVRAMLSESLQAVISQTLCKTKDGQGRVAAHEIMLGTPAIRNLIR 295
NTDB id 1194 PA0395 NP 249086.1               GHLVFGTLHTTSAAKTIDRVVDVFPAEEKAMVRSMLSESLQSVISQTLIK.KIGGGRVAAHEIMIGTPAIRNLIR 294
NTDB id 1202 PSJM300 01600 AFN76400.1         GHLVFGTLHTTSAAKTIDRVVDVFPAEEKSMVRSMLSESLQAVISQTLLK.KVGGGRVAAHEIMIGTPAIRNLIR 294
NTDB id 1020 ACIAD RS04210 WP 011182164.1     GHLVFGTLHTTSAAKTIDRIIDVFPAEEKDMVRTMLSESLQAVISQTLLK.KEGGGRVAAHEIMIGIPAIRNLIR 294
NTDB id 1081 FDQ49 RS05335 WP 006581387.1     GHLVFGTLHTTSAAKTIDRVIDVFPAEEKDMVRAMLSESLQAVISQTLLK.KNGGGRVAAHEIMIGIPAIRNLIR 294
NTDB id 1060 ABD1 RS04380 WP 000355489.1      GHLVFGTLHTTSAAKTIDRVIDVFPAEEKDMVRAMLSESLQAVISQTLLK.KNGGGRVAAHEIMIGIPAIRNLIR 294
NTDB id 1040 HON27 RS13360 WP 000355489.1     GHLVFGTLHTTSAAKTIDRVIDVFPAEEKDMVRAMLSESLQAVISQTLLK.KNGGGRVAAHEIMIGIPAIRNLIR 294
consensus                                     !!!***!!!***!*****!************** *!***! ****! !** * ***!****!************!!
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NTDB id 1177 A1552VC RS01165 WP 000422572.1          RGELHELKATMARSQEVGMQTFDQALYQLVVDDKISEQDALHSADSANDLRLMLKTKRGDDY...GSGSLQNVKI   365
NTDB id 1203 PSJM300 01605 AFN76401.1               KGEVHFLKGLMKRSTDLGMQTFDQALYNLYVQGEITYEDALLHADSSNDLRLMIKLGSETDGEHLTSVS.QGLTL   369
NTDB id 1019 ACIAD RS04205 WP 004922051.1           QGEIYKIKELMARSGELGMQTFDQALFDLYDHQHISYADALKHADSPNNLRLQIKLSEEANKPLDNRERMSEMER   371
NTDB id 1448 BW25113 RS15320 WP 001326494.1         EGKTHQLPHVIQTGQQVGMITFQQSYQHRVGEGRL.....................................   326
NTDB id 1307 DR RS10055 WP 010888596.1              EGKTFQITSVMQTGARERGMVTMDAYLAGLFRRHLITYDKGLERAIDPKE.FARLANDASAG...LGGASMTPAAP   370
NTDB id 1116 NGFG RS10615 WP 003690200.1            ENKITQINSVLQTGQASGMQTMDQSLQSLVRQGLIAPEAARRRAQNSESMSF.....................   347
NTDB id 1086 NMV RS00245 WP 002218487.1             ENKITQINSVLQTGQASGMQTMDQSLQSLVRQGLIAPEVARRRAQNSESMSF.....................   347
NTDB id 1185 GTF74 RS11940 WP 000350195.1           EDKVAQMYSIIQTGAAHGMQTMEQNAKQLIARGVVDAQEVQSKIELDLKAF.....................   345
NTDB id 1176 A1552VC RS01160 WP 000350195.1         EDKVAQMYSIIQTGAAHGMQTMEQNAKQLIARGVVDAQEVQSKIELDLKAF.....................   345
NTDB id 1283 ACE17W RS02630 WP 010947729.1          EDKIAQMYSSIQTGQAKGMQTLDQHLTELVNKNIISKHTAHEAALNK.SLF.....................   344
NTDB id 1259 GCO85 RS10305 WP 010947729.1           EDKIAQMYSSIQTGQAKGMQTLDQHLTELVNKNIISKHTAHEAALNK.SLF.....................   344
NTDB id 55780 Cthiooxydans RS23430 WP 003068464.1   EAKVAQMYSTIQTSQNMGMQTLDQNLTDLVRRNLISPAEARSKAKIP.ENFPG....................   347
NTDB id 1194 PA0395 NP 249086.1                     EDKVAQMYSAIQTGGSLGMQTLDMCLKGLVAKGLISRENAREKAKIP.ENF.....................   344
NTDB id 1202 PSJM300 01600 AFN76400.1               EDKVAQMYSSIQTGGSLGMQTLDSCLKGLLAKGLISRDSAKEKAKQP.ENF.....................   344
NTDB id 1020 ACIAD RS04210 WP 011182164.1           EGKVAQMYSSIQTGATHGMTTLDQSLKQLLAKGIINLPTARAVAKSP.ESF.....................   344
NTDB id 1081 FDQ49 RS05335 WP 006581387.1           ENKVAQMYSAIQTGANHGMTTLDQSLKGLVSRGVISPQTARTAAKQP.ESFL....................   345
NTDB id 1060 ABD1 RS04380 WP 000355489.1            ENKVAQMYSAIQTGANHGMTTLDQSLKGLVARGVISPQTARTAAKQP.ESFL....................   345
NTDB id 1040 HON27 RS13360 WP 000355489.1           ENKVAQMYSAIQTGANHGMTTLDQSLKGLVARGVISPQTARTAAKQP.ESFL....................   345
consensus                                           * ******* *****  !!*!*** *  ** *****   *   *    * *
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NTDB id 1177 A1552VC RS01165 WP 000422572.1          ........DME.....................................   368
NTDB id 1203 PSJM300 01605 AFN76401.1               ........EMSDDDPGRSFR............................   381
NTDB id 1019 ACIAD RS04205 WP 004922051.1           ........KMTFDGQRRNLK............................   383
NTDB id 1448 BW25113 RS15320 WP 001326494.1         ................................................   326
NTDB id 1307 DR RS10055 WP 010888596.1              PVPAYNSASSSSTGRGGDFGRGAAAPATPAAPAAGRSEPGRAGGFGRR   418
NTDB id 1116 NGFG RS10615 WP 003690200.1            ................................................   347
NTDB id 1086 NMV RS00245 WP 002218487.1             ................................................   347
NTDB id 1185 GTF74 RS11940 WP 000350195.1           ................................................   345
NTDB id 1176 A1552VC RS01160 WP 000350195.1         ................................................   345
NTDB id 1283 ACE17W RS02630 WP 010947729.1          ................................................   344
NTDB id 1259 GCO85 RS10305 WP 010947729.1           ................................................   344
NTDB id 55780 Cthiooxydans RS23430 WP 003068464.1   ................................................   347
NTDB id 1194 PA0395 NP 249086.1                     ................................................   344
NTDB id 1202 PSJM300 01600 AFN76400.1               ................................................   344
NTDB id 1020 ACIAD RS04210 WP 011182164.1           ................................................   344
NTDB id 1081 FDQ49 RS05335 WP 006581387.1           ................................................   345
NTDB id 1060 ABD1 RS04380 WP 000355489.1            ................................................   345
NTDB id 1040 HON27 RS13360 WP 000355489.1           ................................................   345
consensus
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X non conserved
X similar
X ≥50% conserved