

S9 Fig. Multiple sequence alignment of chemoreceptors from COG1, COG2 and COG6.

Each sequence tag contains the first two letters of the genus, the first three letters of the species and the organism id in the MIST database, followed by the locus and accession number. The tag also includes the heptad class (e.g. 36H) and the COG to which a given sequence belongs.

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Pr.mir.1265-PMI1666-YP_002151397.1--36H-COG1/1-568 -----
Di.dad.235-Dda3937_02779-YP_003883640.1--36H-COG1/1-566 -----
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Pe.atr.485-ECA1691-YP_049792.1--36H-COG1/1-561 -----
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Mo.mor.2189-MU9_1762-YP_007505181.1--36H-COG1/1-561 -----
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Xe.nem.162-XNC1_1620-YP_003711881.1--36H-COG1/1-567 -----
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Ye.ent.378-YE2575-YP_001006778.1--36H-COG1/1-557 -----
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Ra.aqu.1678-Q7S_08960-YP_005401597.1--36H-COG1/1-564 -----
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Xe.bov.105-XBJ1_1923-YP_003467827.1--36H-COG1/1-567 -----
Serrat.1408-SerAS12_3073-YP_004501499.1--36H-COG1/1-555 -----
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Ra.aqu.1678-Q7S_16025-YP_005402985.1--36H-COG1/1-554 -----
Rahnel.1320-Rahaq_3177-YP_004213898.1--36H-COG1/1-554 -----
Pectob.2320-W5S_3114-YP_006284066.1--36H-COG1/1-555 -----
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-----M-----MG-----MG-----
-----MSP-----DGESLKYGKEIL-----
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 Er.bil.197-Ebc_37780-YP_003743156.1--36H-COG1/1-553 -----
 Pantoe.297-Pat9b_2001-YP_004115872.1--36H-COG1/1-558 -----
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 Es.col.1836-y75_p1862-YP_490148.1--36H-COG1/1-553 -----
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 Sa.bon.1474-SBG_1755-YP_004730609.1--36H-COG1/1-553 -----
 Pr.mir.1265-PMI1665-YP_002151396.1--36H-COG1/1-548 -----
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 Cr.sak.579-ESA_00560-YP_001436686.1--36H-COG1/1-555 -----
 Sa.ent.407-STM1919-NP_460876.1--36H-COG1/1-553 -----
 Ci.kos.578-CKO_01066-YP_001452645.1--36H-COG1/1-552 -----
 En.asb.1498-Entas_0424-YP_004826963.1--36H-COG1/1-549 -----
 Pantoe.297-Pat9b_1273-YP_004115150.1--36H-COG1/1-553 -----
 Ed.tar.1771-ETAF_2264-YP_005699859.1--36H-COG1/1-555 -----
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 Er.bil.197-Ebc_25360-YP_003741914.1--36H-COG1/1-556 -----
 Er.tas.1011-ETA_16910-YP_001907630.1--36H-COG1/1-543 -----
 Es.fer.1173-EFER_3055-YP_002384154.1--36H-COG1/1-603 -----MYHKQPRQSVTSLKQTQADSKIRLLNVPKHKVFSSQADNQSICLVER
 Xe.nem.162-XNC1_1619-YP_003711880.1--36H-COG1/1-520 -----
 En.clo.1544-EcwsU1_02811-YP_004952664.1--36H-COG1/1-559 -----MRR
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 Xe.bov.105-XBJ1_1924-YP_003467828.1--36H-COG1/1-523 -----
 Rahnel.1320-Rahaq_1831-YP_004212576.1--36H-COG1/1-556 -----
 Ra.aqu.1678-Q7S_08965-YP_005401598.1--36H-COG1/1-556 -----
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 En.clo.1544-EcwsU1_00560-YP_004950421.1--36H-COG1/1-597 -----MNWG-----TGISQRAKSKNHFKDDFRKVFPPQAEANPVICLMES
 Di.dad.235-Dda3937_03498-YP_003882752.1--36H-COG1/1-561 -----
 Cr.tur.6-CTU_27880-YP_003211151.1--36H-COG1/1-514 -----
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 Ra.aqu.1678-Q7S_14450-YP_005402672.1--36H-COG1/1-551 -----
 Ci.kos.578-CKO_03622-YP_001455137.1--36H-COG1/1-517 -----
 Di.zea.1140-Dd1591_2408-YP_003004728.1--36H-COG1/1-557 -----
 Di.zea.1140-Dd1591_2406-YP_003004726.1--36H-COG1/1-559 -----
 Ed.ict.1187-NT01EI_2801-YP_002934203.1--36H-COG1/1-554 -----
 Pe.car.1139-PC1_1384-YP_003016966.1--36H-COG1/1-559 -----
 Rahnel.1320-Rahaq_2866-YP_004213595.1--36H-COG1/1-551 -----
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 Pectob.2320-W5S_1886-YP_006282848.1--36H-COG1/1-549 -----
 Pectob.2320-W5S_1696-YP_006282659.1--36H-COG1/1-559 -----
 Di.zea.1140-Dd1591_2407-YP_003004727.1--36H-COG1/1-555 -----
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 Pa.ana.1905-PAJ_1541-YP_005934417.1--36H-COG1/1-520 -----
 Mo.mor.2189-MU9_1596-YP_007505015.1--36H-COG1/1-519 -----
 Pr.mir.1265-PMI2808-YP_002152509.1--36H-COG1/1-563 -----
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 En.clo.1544-EcwsU1_03786-YP_004953635.1--36H-COG1/1-515 -----
 Pectob.2320-W5S_3170-YP_006284116.1--36H-COG1/1-556 -----
 Di.dad.235-Dda3937_02184-YP_003884754.1--36H-COG1/1-556 -----
 Ci.rod.62-ROD_32641-YP_003366748.1--36H-COG1/1-517 -----
 Di.dad.235-Dda3937_03499-YP_003882751.1--36H-COG1/1-561 -----MI-----NCPPEPV
 Di.dad.235-Dda3937_00105-YP_003883346.1--36H-COG1/1-561 -----
 Pantoe.297-Pat9b_1604-YP_004115477.1--36H-COG1/1-555 -----
 Er.tas.1011-ETA_14660-YP_001907405.1--36H-COG1/1-560 -----
 Pr.mir.1265-PMI2809-YP_002152510.1--36H-COG1/1-575 -----
 Ed.tar.1771-ETAF_3053-YP_005700648.1--36H-COG1/1-516 -----
 Se.pro.864-Spro_1415-YP_001477647.1--36H-COG1/1-546 -----
 Di.zea.1140-Dd1591_1804-YP_003004134.1--36H-COG1/1-562 -----
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Cr.tur.6-CTU_04790-YP_003208842.1--36H-COG2/1-515	-----
Cl.kos.578-CRO_04484-YP_001455975.1--36H-COG2/1-521	-----
Cr.sak.579-ESA_03488-YP_001439539.1--36H-COG2/1-515	-----
Ci.rod.62-ROD_48071-YP_003368199.1--36H-COG2/1-521	-----
Sa.bon.1474-SBG_2851-YP_004731664.1--36H-COG2/1-521	-----
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Mo.mor.2189-MU9_3389-YP_007506806.1--36H-COG2/1-521	-----
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Er.bil.197-EbC_38940-YP_003743272.1--36H-COG2/1-526	-----
Ra.aqu.1678-Q7S_24891-YP_005419232.1--36H-COG2/1-554	-----M-----
En.asb.1498-Entas_2287-YP_004828805.1--36H-COG2/1-513	-----M-----FSI
Rahnel.1320-Rahaq_4869-YP_004215574.1--36H-COG2/1-554	-----M-----
Di.dad.235-Dda3937_00027-YP_003883574.1--36H-COG2/1-554	-----
Pr.stu.1965-S70_05790-YP_006215722.1--36H-COG2/1-520	-----
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Pe.car.1139-PC1_2526-YP_003018093.1--36H-COG2/1-554	-----
Mo.mor.2189-MU9_702-YP_007504121.1--36H-COG2/1-525	-----
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Pectob.2320-W5S_3736-YP_006284671.1--36H-COG2/1-510	-----MLR-----
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Ra.aqu.1678-Q7S_15665-YP_005402913.1--36H-COG2/1-503	-----MNV-----LSGI
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Pe.atr.485-ECA4334-YP_052421.1--36H-COG2/1-556	-----
Di.zea.1140-Dd1591_1602-YP_003003935.1--36H-COG2/1-554	-----
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Pa.ana.1905-PAJ_2666-YP_005935542.1--36H-COG2/1-514	-----
Ci.rod.62-ROD_16161-YP_003365194.1--36H-COG6/1-557	-----MD-----NTSMQAPAK
En.asb.1498-Entas_2095-YP_004828614.1--36H-COG6/1-563	-----MD-----NTSMQAQHK
En.638.865-Ent638_1961-YP_001176688.1--36H-COG6/1-563	-----MD-----NTKMRSPQT
Cr.sak.579-ESA_01710-YP_001437800.1--36H-COG6/1-565	-----MN-----KTTTRDAGA
Cr.tur.6-CTU_22440-YP_003210607.1--36H-COG6/1-565	-----MK-----KTTTRDSGA
Cl.kos.578-CRO_01456-YP_001453025.1--36H-COG6/1-562	-----MD-----NTSTMQAPHK
Rahnel.1320-Rahaq_1930-YP_004212674.1--36H-COG6/1-566	-----MD-----MDTPTQLTTR
Pantoe.297-Pat9b_2403-YP_004116261.1--36H-COG6/1-564	-----MK-----TASIDEQNK
Er.bil.197-EbC_26700-YP_003742048.1--36H-COG6/1-567	-----MK-----SSHLNABQNG
Pectob.2320-W5S_1760-YP_006282723.1--36H-COG6/1-570	-----MK-----ITSRSEQHIK
Pa.ana.1905-PAJ_1621-YP_005934497.1--36H-COG6/1-568	-----MN-----TTLVNEGHSK
En.clo.1544-EcWSU1_02120-YP_004951978.1--36H-COG6/1-576	MFLRILPTRESTVMD-----NTLTMQAQRT
Ra.aqu.1678-Q7S_09815-YP_005401764.1--36H-COG6/1-566	-----MD-----MDTPTQLTTR
Ye.pse.585-YPTB2412-YP_070925.1--36H-COG6/1-579	-----MK-----IAPENKDKT
Ye.ent.378-YE2588-YP_001006789.1--36H-COG6/1-579	-----MK-----MKRGSCHKPLDIK
Di.dad.235-Dda3937_02787-YP_003883649.1--36H-COG6/1-572	-----MK-----MMSKSEQQK
Pa.vag.184-Pvag_1800-YP_003931435.1--36H-COG6/1-568	-----MN-----TALDNDGQKS
En.bac.2261-D782_2307-YP_007340470.1--36H-COG6/1-558	-----MD-----KTKTQHQTQK
Pe.atr.485-ECA1683-YP_049784.1--36H-COG6/1-573	-----MDMK-----ITSRSEQHAE
Pe.car.1139-PC1_2617-YP_003018183.1--36H-COG6/1-573	-----MDMK-----ITSRSEQHAE
Di.zea.1140-Dd1591_1535-YP_003003868.1--36H-COG6/1-574	-----MK-----MMSKSEQQK
Di.col.1140-Dd1591_3580-YP_003005868.1--36H-COG6/1-572	-----MH-----TTALPSSSG
Es.col.1836-Y75_p1397-YP_489687.1--36H-COG6/1-546	-----MN-----TTPSQR
Pe.atr.485-ECA3902-YP_051990.1--36H-COG6/1-575	M-M-----VKMR-----MQSMSVQKEK
Sa.bon.1474-SBG_1454-YP_004730321.1--36H-COG6/1-537	-----MG-----NTLSIQASHK
Sa.ent.407-STM1626-NP_460585.1--36H-COG6/1-541	-----MG-----NTFSMQASHK
Pe.car.1139-PC1_3679-YP_003019230.1--36H-COG6/1-567	-----M-----MSIQKEK
Pectob.2320-W5S_4020-YP_006284955.1--36H-COG6/1-575	-----M-----VKMT-----MQSMSVQKEK
Di.zea.1140-Dd1591_0523-YP_003002884.1--36H-COG6/1-568	-----M-----MAEQKGN
Di.dad.235-Dda3937_02665-YP_003881279.1--36H-COG6/1-572	-----MN-----TTAQSPSSPG

Pectob.2320-W5S_2813-YP_006283770.1--36H-COG2/1-554 -MGL-SNWRIGYRLGAGFSLVLMMLLIIGSVAISKLSDFHQKMDDIVSQNYPLTVKSNL
Di.zea.1140-Dd1591_0695-YP_003003055.1--36H-COG2/1-561 -MRL-SDWRIYRGLGAGFAVLAVMLVFGVGLMSIAKLSGPHDDARIDVQKIYPTVDANAL
Pa.vag.184-Pvag_pPag30079-YP_003729820.1--36H-COG2/1-546 ---M-NNRIGRTRLGAAFAFILLLLVIVAVFTGFSRIQSLGETADTLGASRYQKASAAATNL
Er.bill.197-Ebc_38940-YP_003743272.1--36H-COG2/1-526 MASV-KNMKVGVRLLGAAFSVLVLLLIIVSVTAVVKTINTINDAVSSIVSDRYIKVRLAFDV
Ra.aqu.1678-Q7S_24891-YP_005419232.1--36H-COG2/1-554 FKLI-NMVRGARGLGAFAFSLVLLLVIVSGIATIKSSINTSIEQIISDRYKVRVLAFDV
En.asb.1498-Entas_2287-YP_004828805.1--36H-COG2/1-513 SLRL-RNIKMSRKLGAAGFGLVLLLVAVSTAMSVLRKFEIRDVYQQT-----NLIYNIN
Rahnel.1320-Rahaq_4869-YP_004215574.1--36H-COG2/1-554 FKLI-NMVRGARGLGAFAFSLVLLLVIVSGIATIKSSINTSIEQIISDRYKVRVLAFDV
Di.dad.235-Dda3937_00027-YP_003883574.1--36H-COG2/1-554 -MSF-SNFKIGYRLAIGFSFLIIMLLIAGAVALSNSLDFPNRMDYTVSELYPLTARGNQL
Pr.stu.1965-S70_05790-YP_006215722.1--36H-COG2/1-520 -MSL-KDIKIGVRLTAFAFFIFLSSALSLISLNKANNQIDIIYKDYPMTVANQL
En.638.865-Ent638_2100-YP_001176826.1--36H-COG2/1-512 SQRL-RNIKMSRKLGAAGFGLVLLLVAVSTAMSVLRKFEIRDVYQQT-----NLIYNIN
Pe.car.1139-PC1_2526-YP_003018093.1--36H-COG2/1-554 -MSL-SNWRIGYRLGAGFSLVLMMLLVIGSVAISKLSDFHEKMDIEVSNYPLTVKSNL
Mo.mor.2189-MU9_702-YP_007504121.1--36H-COG2/1-525 -MNL-KNTTIRVRLSVTFGLVIALALVSGMAMNLYKDKEMFTNYVNGTYALQVQAYEV
Pe.car.1139-PC1_3443-YP_003018995.1--36H-COG2/1-511 WMSF-QNLSVTRKLLVGFGLLLIMGVLLSMVGFYGLHNSDQSLKRISR-----LGAMY
Pa.ana.1905-PAJ_0915-YP_005933791.1--36H-COG2/1-559 GINM-NNRIGRTRLGITFGFMALVFMVLLIIVKINALGNANDDISGSLYTKASTSLSI
Pectob.2320-W5S_3736-YP_006284671.1--36H-COG2/1-510 WMSF-QNLSVTRKLLVGFGLLLIMGVLLSMVGFYGLYNSDQSLKRISR-----LGATY
Pe.atr.485-ECA0183-YP_048310.1--36H-COG2/1-553 -MNL-ANWRIGYRLGAGFALLIVMLFVVSIFSLSKLSGFPQDSARSIVKDVYPTVDANNL
Rahnel.1320-Rahaq_3107-YP_004213828.1--36H-COG2/1-503 AGRV-RHASIASKLGAAGFALLVLLGSPFIAVSGVYHLTSINQRAEKASLLKTVNDLLSDA-
Pe.car.1139-PC1_4071-YP_003019622.1--36H-COG2/1-553 -MSL-ANWRIGYRLGAGFALLIILMLFVVSIFSLSKLSGFPQDSARSIVKDVYPTVDANNL
Di.dad.235-Dda3937_03462-YP_003884507.1--36H-COG2/1-563 -MRL-SDWRIYRGLGAGFAVLAVMLVVGVLISITRSLSSPHDSARIDVQKIYPTVDANL
Ra.aqu.1678-Q7S_15665-YP_005402913.1--36H-COG2/1-503 AGRV-RHASIASKLGAAGFALLVLLGSPFIAVSGVYHLTSINQRAEKASLLKTVNDLLSDA-
Pectob.2320-W5S_4505-YP_006285423.1--36H-COG2/1-555 -MNL-ANWRIGYRLGAGFALLIILMLFAVVSIFSLSKLSGFPQDARGIVKDVYPTMDANNL
Pe.atr.485-ECA3642-YP_051730.1--36H-COG2/1-551 ---M-KNYKIGTRLAGGFGLLIALSLAMLTSGIYQLNQSSTQMMQEPPLRKRERLASDW
Pe.car.1139-PC1_1417-YP_003019999.1--36H-COG2/1-554 MDFE-KNLSVTRKLLVGFGLLLIILFLVLSVGVYFMKDIETVDEITDRMPKVDMLRDI
En.asb.1498-Entas_4509-YP_004821569.1--36H-COG2/1-559 IMNV-FNWKIGTRLAGGFGLLIALSLAMLTSGIYQLNQSSTQMMQEPPLRKRERLASDW
Pa.ana.1905-PAJ_3064-YP_005933940.1--36H-COG2/1-544 ---M-NNRIGRTRLVAAFGFMGLVIFMVLIIGITKTRSLADANAEIAGGLYKAKESAML
Pectob.2320-W5S_1733-YP_006282696.1--36H-COG2/1-535 -----MLIILTLILSAVGYFMKNIAGVVDGIDEDRMPKVDMLRDI
Di.zea.1140-Dd1591_1602-YP_003003935.1--36H-COG2/1-554 MNLI-KNSSLGKMLGTGFTLVIAIGFLVAIFGRIQLDKLGENIQVLSQVRIANLLMMQEF
Pectob.2320-W5S_4506-YP_006285424.1--36H-COG2/1-540 -MNL-SNLKIGYRLAIGFSFLVLMMLFISGAVALSNSLDFPNRMDYTVSELYPLTARGNQL
Di.zea.1140-Dd1591_1453-YP_003003794.1--36H-COG2/1-532 -MNL-ANWRIGYRLGGGFAVLILMLFAVSLFSLSKLSGFPQDARGIVKDVYPTVDANL
Pectob.2320-W5S_0106-YP_006281117.1--36H-COG2/1-556 -----MKISTRLWSTGMLSLGILMGAIGLFTAEBKANQSLKTVYEDRVTVLAQLEKL
Di.zea.1140-Dd1591_0769-YP_003003127.1--36H-COG2/1-505 MNLI-KNSSLGKMLGTGFTLVIAIGFLVAIFGRIQLDKLGENIQVLSQVRIANLLMMQEF
Ra.aqu.1678-Q7S_18035-YP_005403387.1--36H-COG2/1-535 HLSL-KNLPVTRKLLVGFGLLLIIGITLISLVGFSGLHNSDQSLKRISR-----LGSYI
Rahnel.1320-Rahaq_3579-YP_004214298.1--36H-COG2/1-535 -MSF-KHTTVTRTQLTLGFGVLLVIVLAVVLLSINALSQANNRFRKTHVQQVSAREAAVNLI
Pe.car.1139-PC1_4072-YP_003019623.1--36H-COG2/1-540 -MSF-KHTTVTRTQLTLGFGVLLVIVLAVVLLSINALSQANNRFRKTHVQQVSAREAAVNLI
Pe.car.1139-PC1_3464-YP_003019016.1--36H-COG2/1-551 -MNL-ANWRIGYRLGGGFAVLILMLFVVSIFSLSKLSGFPQDARGIVKDVYPTVDANL
Pe.car.1139-PC1_0111-YP_003015709.1--36H-COG2/1-556 ---M-KNYKIGTRLAGGFGLLIALSLAMLTSGIYQLNQSSTQMMQEPPLRKRERLASDW
Pe.atr.485-ECA0182-YP_048309.1--36H-COG2/1-542 MNLI-KNSSLGKMLGTGFTLVIAIGFLVAIFGRIQLDKLGENIQVLSQVRIANLLMMQEF
Pectob.2320-W5S_3753-YP_006284688.1--36H-COG2/1-551 -MNL-ANWRIGYRLGGGFAVLILMLFVVSIFSLSKLSGFPQDARGIVKDVYPTVDANL
Pa.ana.1905-PAJ_2666-YP_005933542.1--36H-COG2/1-514 ---M-KNYKIGTRLAGGFGLLIALSLAMLTSGIYQLNQSSTQMMQEPPLRKRERLASDW
Ci.rod.62-ROD_16161-YP_003365194.1--36H-COG6/1-557 LGFL-HHIRLVPLFSSILGGIILLFALSAGLAGYFLLQADRDQVDTDEIQVRMGLSNSS
En.asb.1498-Entas_2095-YP_004828614.1--36H-COG6/1-563 LSFL-HHIRLVPLFSSILGGIILLFALSAGLAGYFLLQADRDQVDTDEIQVRMGLSNSS
En.638.865-Ent638_1961-YP_001176688.1--36H-COG6/1-563 LSFL-HHIRLVPLFSSILGGIILLFALSAGLAGYFLLQADRDQVDTDEIQVRMGLSNSS
Cr.sak.579-ESA_01710-YP_001437800.1--36H-COG6/1-565 LSFW-HHIRLVPLFSSILGGIILLFALSAGLAGYFLLQADRDQVDTDEIQVRMGLSNSS
Cr.tur.6-CTU_22440-YP_003210607.1--36H-COG6/1-565 LSFW-HHIRLVPLFSSILGGIILLFALSAGLAGYFLLQADRDQVDTDEIQVRMGLSNSS
Ci.kos.578-CRO_01456-YP_001453025.1--36H-COG6/1-562 LGFL-HHIRLVPLFSSILGGIILLFALSAGLAGYFLLQADRDQVDTDEIQVRMGLSNSS
Rahnel.1320-Rahaq_1930-YP_004212674.1--36H-COG6/1-566 TSFI-SNIRLVTLISLILTLGILFLFAVSIIGTSGFFLQKQNSAALANATQELQIRLALSNS
Pantoe.297-Pat9b_2403-YP_004116261.1--36H-COG6/1-564 LSFI-SNIRLVTLISLILTLGILFLFAVSIIGTSGFFLQKQNSAALANATQELQIRLALSNS
Er.bill.197-Ebc_26700-YP_003742048.1--36H-COG6/1-567 ISFI-SNIRLVTLISLILTLGILFLFAVSIIGTSGFFLQKQNSAALANATQELQIRLALSNS
Pectob.2320-W5S_1760-YP_006282723.1--36H-COG6/1-570 AGVL-SNIRLVPLFSSILGGIILLFALSAGLAGYFLLQADRDQVDTDEIQVRMGLSNSS
Pa.ana.1905-PAJ_1621-YP_005934497.1--36H-COG6/1-568 LSLW-QNIRLVPLFSSILGGIILLFALSAGLAGYFLLQADRDQVDTDEIQVRMGLSNSS
En.clo.1544-EcWSU1_02120-YP_004951978.1--36H-COG6/1-576 LSFL-HHIRLVPLFSSILGGIILLFALSAGLAGYFLLQADRDQVDTDEIQVRMGLSNSS
Ra.aqu.1678-Q7S_09815-YP_005401764.1--36H-COG6/1-566 TSFI-SNIRLVTLISLILTLGILFLFAVSIIGTSGFFLQKQNSAALANATQELQIRLALSNS
Ye.pse.585-YPTB2412-YP_070925.1--36H-COG6/1-579 VSFI-SNIRLVTLISLILTLGILFLFAVSIIGTSGFFLQKQNSAALANATQELQIRLALSNS
Ye.ent.378-YE2588-YP_001006789.1--36H-COG6/1-579 VFFV-NMRLVTLFIIILGILLLFAAAIGTSGYFLKQNSQSLAQAQTEIDIRGLSNSS
Di.dad.235-Dda3937_02787-YP_003883649.1--36H-COG6/1-572 TGIL-GNLGLVPLFVILGGIILLFALSAGLAGYFLLQADRDQVDTDEIQVRMGLSNSS
Pa.vag.184-Pvag_1800-YP_003931435.1--36H-COG6/1-568 AGI-W-QNIRLVPLFSSILGGIILLFALSAGLAGYFLLQADRDQVDTDEIQVRMGLSNSS
En.bac.2261-D782_2307-YP_007340470.1--36H-COG6/1-558 LSFL-HHIRLVPLFSSILGGIILLFALSAGLAGYFLLQADRDQVDTDEIQVRMGLSNSS
Pe.atr.485-ECA1683-YP_049784.1--36H-COG6/1-573 VGML-SNIRLVPLFIIILGGIILLFALSAGLAGYFLLQADRDQVDTDEIQVRMGLSNSS
Pe.car.1139-PC1_2617-YP_003018183.1--36H-COG6/1-573 AGML-SNIRLVPLFVILGGIILLFALSAGLAGYFLLQADRDQVDTDEIQVRMGLSNSS
Di.zea.1140-Dd1591_1535-YP_003003868.1--36H-COG6/1-574 TGIL-GNLGLVPLFVILGGIILLFALSAGLAGYFLLQADRDQVDTDEIQVRMGLSNSS
Di.zea.1140-Dd1591_3580-YP_003005868.1--36H-COG6/1-572 VSWS-HHWRLMPMFSSIIGVILILFALAIIGFSVHFLMRNSNSLNDVTAETQVRLGVSNS
Es.col.1836-Y75_p1397-YP_489687.1--36H-COG6/1-546 LGFL-HHIRLVPLFACILGGIILLFALSAGLAGYFLLQADRDQVDTDEIIRGLANS
Pe.atr.485-ECA3902-YP_051990.1--36H-COG6/1-575 LSYI-NNIRLVSLFITLFSIILILFALSIGTASYFLKQNSDLKANELSDIRAGISSSL
Sa.bon.1474-SBG_1454-YP_004730321.1--36H-COG6/1-537 RGFL-HHIRLVPLFSSILGGIILLFALSAGLAGYFLLQADRDQVDTDEIQVRMGLSNSS
Sa.ent.407-STM1626-NP_460585.1--36H-COG6/1-541 LGFL-HHIRLVPLFSSILGGIILLFALSAGLAGYFLLQADRDQVDTDEIQVRMGLSNSS
Pe.car.1139-PC1_3679-YP_003019230.1--36H-COG6/1-567 LSYI-NNIRLVSLFITLFSIILILFALSIGTASYFLKQNSDLKANELSDIRAGISSSL
Pectob.2320-W5S_4020-YP_006284955.1--36H-COG6/1-575 LSYI-NNIRLVSLFITLFSIILILFALSIGTASYFLKQNSDLKANELSDIRAGISSSL
Di.zea.1140-Dd1591_0523-YP_003002884.1--36H-COG6/1-568 ISSI-HNIRLVTLFITLTIILALFALSIGTASYFLKQNSDLKANELSDIRAGISSNS
Di.dad.235-Dda3937_02665-YP_003881279.1--36H-COG6/1-572 VFSW-HHWRLMPMFSSIIGVILILFALAIIGFSVHFLMRNSNSLNDVTAETQVRLGVSNS

En.clo.1544-ECWSU1_01962-YP_004951821.1--36H-COG1/1-553
En.asb.1498-Entas_1879-YP_004828403.1--36H-COG1/1-554
En.bac.2261-D782_1748-YP_007339929.1--36H-COG1/1-547
Es.col.1836-y75_p1862-YP_490148.1--36H-COG1/1-553
Cr.tur.6-CTU_33010-YP_003211664.1--36H-COG1/1-555
Cr.tur.6-CTU_25780-YP_003210941.1--36H-COG1/1-536
En.clo.1544-ECWSU1_00403-YP_004950264.1--36H-COG1/1-549
En.638.865-Ent638_2457-YP_001177177.1--36H-COG1/1-555
Sa.bon.1474-SBG_1755-YP_004730609.1--36H-COG1/1-553
Pr.mir.1265-PMI1665-YP_002151396.1--36H-COG1/1-548
Cr.sak.579-ESA_01348-YP_001437444.1--36H-COG1/1-556
Cr.sak.579-ESA_00560-YP_001436686.1--36H-COG1/1-555
Sa.ent.407-STM1919-NP_460876.1--36H-COG1/1-553
Ci.kos.578-CKO_01066-YP_001452645.1--36H-COG1/1-552
En.asb.1498-Entas_0424-YP_004826963.1--36H-COG1/1-549
Pantoe.297-Pat9b_1273-YP_004115150.1--36H-COG1/1-553
Ed.tar.1771-ETAF_2264-YP_005699859.1--36H-COG1/1-555
Pa.ana.1905-PAJ_3534-YP_005936409.1--36H-COG1/1-553
Pa.vag.184-Pvag_1203-YP_003930842.1--36H-COG1/1-552
Pantoe.297-Pat9b_1605-YP_004115478.1--36H-COG1/1-556
Cr.sak.579-ESA_00210-YP_001436348.1--36H-COG1/1-557
Er.tas.1011-ETA_pET460340-YP_001905943.1--36H-COG1/1-543
Cr.tur.6-CTU_36610-YP_003212024.1--36H-COG1/1-557
Pe.car.1139-PC1_1159-YP_003016743.1--36H-COG1/1-556
Er.tas.1011-ETA_14640-YP_001907403.1--36H-COG1/1-554
Pa.vag.184-Pvag_1725-YP_003931362.1--36H-COG1/1-556
Ed.ict.1187-NT01EI_3742-YP_002935104.1--36H-COG1/1-525
En.638.865-Ent638_0380-YP_001175119.1--36H-COG1/1-549
Er.bil.197-Ebc_25360-YP_003741914.1--36H-COG1/1-556
Er.tas.1011-ETA_16910-YP_001907630.1--36H-COG1/1-543
Es.fer.1173-EFER_3055-YP_002384154.1--36H-COG1/1-603
Xe.nem.162-XNC1_1619-YP_003711880.1--36H-COG1/1-520
En.clo.1544-ECWSU1_02811-YP_004952664.1--36H-COG1/1-559
Di.dad.235-Dda3937_03500-YP_003882750.1--36H-COG1/1-553
Xe.bov.105-XBJ1_1924-YP_003467828.1--36H-COG1/1-523
Rahnel.1320-Rahaq_1831-YP_004212576.1--36H-COG1/1-556
Ra.aqu.1678-Q7S_08965-YP_005401598.1--36H-COG1/1-556
Cr.sak.579-ESA_01126-YP_001437230.1--36H-COG1/1-514
Pe.atr.485-ECA2712-YP_050803.1--36H-COG1/1-560
En.clo.1544-ECWSU1_00560-YP_004950421.1--36H-COG1/1-597
Di.dad.235-Dda3937_03498-YP_003882752.1--36H-COG1/1-561
Cr.tur.6-CTU_27880-YP_003211151.1--36H-COG1/1-514
Pe.car.1139-PC1_1669-YP_003017246.1--36H-COG1/1-560
Ra.aqu.1678-Q7S_14450-YP_00502672.1--36H-COG1/1-551
Ci.kos.578-CKO_03622-YP_001455137.1--36H-COG1/1-517
Di.zea.1140-Dd1591_2408-YP_003004728.1--36H-COG1/1-557
Di.zea.1140-Dd1591_2406-YP_003004726.1--36H-COG1/1-559
Ed.ict.1187-NT01EI_2801-YP_002934203.1--36H-COG1/1-554
Pe.car.1139-PC1_1384-YP_003016966.1--36H-COG1/1-559
Rahnel.1320-Rahaq_2866-YP_004213595.1--36H-COG1/1-551
Pe.atr.485-ECA1281-YP_049387.1--36H-COG1/1-556
Pectob.2320-W5S_1886-YP_006282848.1--36H-COG1/1-549
Pectob.2320-W5S_1696-YP_006282659.1--36H-COG1/1-559
Di.zea.1140-Dd1591_2407-YP_003004727.1--36H-COG1/1-555
Pe.atr.485-ECA1509-YP_049611.1--36H-COG1/1-559
Pa.vag.184-Pvag_1724-YP_003931361.1--36H-COG1/1-520
Pa.ana.1905-PAJ_1541-YP_005934417.1--36H-COG1/1-520
Mo.mor.2189-MU9_1596-YP_007505015.1--36H-COG1/1-519
Pr.mir.1265-PMI2808-YP_002152509.1--36H-COG1/1-563
Di.zea.1140-Dd1591_0395-YP_003002764.1--36H-COG1/1-556
En.clo.1544-ECWSU1_03786-YP_004953635.1--36H-COG1/1-515
Pectob.2320-W5S_3170-YP_006284116.1--36H-COG1/1-556
Di.dad.235-Dda3937_02184-YP_003884754.1--36H-COG1/1-556
Ci.rod.62-ROD_32641-YP_003366748.1--36H-COG1/1-517
Di.dad.235-Dda3937_03499-YP_003882751.1--36H-COG1/1-561
Di.dad.235-Dda3937_00105-YP_003883346.1--36H-COG1/1-561
Pantoe.297-Pat9b_1604-YP_004115477.1--36H-COG1/1-555
Er.tas.1011-ETA_14660-YP_001907405.1--36H-COG1/1-560
Pr.mir.1265-PMI2809-YP_002152510.1--36H-COG1/1-575
Ed.tar.1771-ETAF_3053-YP_005700648.1--36H-COG1/1-516
Se.pro.864-Spro_1415-YP_001477647.1--36H-COG1/1-546
Di.zea.1140-Dd1591_1804-YP_003004134.1--36H-COG1/1-562
Di.dad.235-Dda3937_03501-YP_003882749.1--36H-COG1/1-575
Pantoe.297-Pat9b_0851-YP_004114731.1--36H-COG2/1-524
Pa.vag.184-Pvag_0291-YP_003929953.1--36H-COG2/1-525
En.clo.1544-ECWSU1_03886-YP_004953735.1--36H-COG2/1-519
Cr.tur.6-CTU_04790-YP_003208842.1--36H-COG2/1-515
Ci.kos.578-CKO_04484-YP_001455975.1--36H-COG2/1-521
Cr.sak.579-ESA_03488-YP_001439539.1--36H-COG2/1-515
Ci.rod.62-ROD_48071-YP_003368199.1--36H-COG2/1-521
Sa.bon.1474-SBG_2851-YP_004731664.1--36H-COG2/1-521
Sa.ent.407-STM3216-NP_462130.1--36H-COG2/1-521
En.asb.1498-Entas_3753-YP_004830248.1--36H-COG2/1-519
Mo.mor.2189-MU9_3389-YP_007506806.1--36H-COG2/1-521
Sa.ent.404-STY3394-NP_457606.1--36H-COG2/1-522
En.638.865-Ent638_3526-YP_001178235.1--36H-COG2/1-519
Pe.atr.485-ECA1774-YP_049874.1--36H-COG2/1-554
En.638.865-Ent638_2119-YP_001176845.1--36H-COG2/1-549

NLTIKTRVTVTRVAIRYLKQNR--DPASLAAIN---KLLGTAADSLAKAEAYNKWOK--
NLTIVKTRVTVTRVAIRYLKQNR--DPASLAAIN---KLLGTASTSLGNAETYSAWQK--
DMLMQTRINLRSRARSMMMDTS--NLQSSAK-T---DLLKNAKSTLAQAQVHITRFNQ--
DMLMQTRINLRSRARSMMMDSS--NQQSNAK-V---ELLDSARKTLAQAATHYKFKFS--
QTLVKTRVTVTRVAIRYLKQNR--DPASLAID---KLLATASSTLAKAEKHPALYK--
NLLLQTRINLRSRARSMMMDAS--NQQSSAK-T---DLNLTAKVLAEDTHFSAPKYG--
ISLNQARVTVLNRGMLRLQSSMA--SQINGGQLN---ELVNTAKNLLADAQSHYDKYA--
DMLMQTRINLRSRARSMMMDPN--NQQSSAK-T---DLLKNARGTLADSAKHVDAFKQ--
DMLMQTRINLRSRARSMMMDAA--NQQSSAK-T---DLLQNAKTLTQAQAATHYFNKFN--
VSLVQARNAINRVAIGMKTEQ-----STYIQ-----SIESIALSRLETANTHFONFLTDI
NLLLQTRINLRSRARSMMMDAN--NQQSSAK-T---DLNLTAKVLAEDTHFNAPKA--
QTLVKTRVTVTRVAIRYLKQNR--DPASLAAIN---KLLATASSTLGAEKHFALYK--
DMLMQTRINLRSRARSMMMDAS--NQQSSAK-T---DLLQNAKTLTQAQAATHYFNKFN--
DMLMQTRINLRSRARSMMMDAS--NQQSSAK-T---DLLKNAKSTLEQAATHYFNKFN--
ISLNQARVTVLNRGMLRLQSSVA--TQINGGQLN---ELVNTAKNLLADAQSHYDKYA--
QTLVKTRVTVTRVAIRYLKQNR--DEASLAID---KLLTAAGASLNEAQQHFAQYKS--
ASITQIREETMKDALALSASHS-----DEGNAR---VSLGNLLQKLSNVDKEMENFYS--
QTLVKTRVTVTRVAIRYLKQNR--DPASLASHIA---ELVNTAKQSLADKADEYFQAYKT--
KTLIKTRVTVTRVAIRYLKQNR--DPKSLAAMA---ALLEQAGQSAEKADADPFKAWQA--
IELNQTRVTVLNRGMLRLQSSMA--AQTNNGQLA---ALIAQTEKQLKADYFQRYN--
ISLNQARVTVLNRGMLRLQGNMA--NQINGGQLS---QLVDTANKLLAEASHYDKYGG--
DQYFRVTVTRVTRARATDSRKP-----QDMDAKQSLNMTLALAEFKA--
ISLNQARVTVLNRGMLRLQGNMA--SQINGGQLN---ELVNTASQQLADAKSHYDKYFK--
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MSLNQSRVTVLNRGMLRLQIATSKL---EGKTADIA---GLPESKQVQAADGYYKEFKA--
QTLVKTRVTVTRVAIRYLKQNR--AGVAQLEIG---LNLNANAASLSDAEGYFKNRYA--
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VALLQTRNTLNRAIRYMDQNS--NIGSGATVT---ELMLQASISLQKAEKNLWAEYEA--
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DMLMQTRINLRSRARSMMMDPN--NQQSSAK-T---ELKNARATLDAKADHYDAFKK--
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SYLLQTRNTLNRAIRYMDQNS--PQENIT---QLMSDAKASLKAEDDAYAFLA--
SYLLQTRNTLNRAIRYMDQNS--PQENIT---QLMSDAKASLKAEDDAYAFLA--
DQYFRVTVTRVTRARATDSKPK-----GTPDA---KLSESAQALDNMSRQLDAFKQ--
DQYFRVTVTRVTRARATDSKPK-----ETAFAE---KFTSATTAFKNTSDQLAFAK--
VALLQTRNTLNRAIRYMDQNS--NIGSGATVN---DLMQIAAASLQKAEKNLWAEYEA--
DQYFRVTVTRVTRARATDSKPK-----DTENAK---KTLSDALIAINNTKGALEKPKA--
DQYFRVTVTRVTRARATDSKPK-----GTPDA---KLSESAQALDNMSRQLDAFKQ--
DQYFRVTVTRVTRARATDSKPK-----ETAFAE---KFTSATTAFKNTSDQLAFAK--
AQYFRVTVTRVTRARATDSKPK-----NNGIYD---IEKATLIELESLLKGLDQPKFN--
DQYFRVTVTRVTRARATDSKPK-----NEINGGQLN---ELVNTANALLADAQSHYDKYA--
ISLNQARVTVLNRGMLRLQSSMA--NNEINGGQLN---ELVNTANALLADAQSHYDKYA--
DQYFRVTVTRVTRARATDSKPK-----DTENAK---KTLSDALIAINNTKGALEKPKA--
ASITQIREETMKDALALSIAHN---EEGNH---VSLGNLLQKLSNVDKEMENFYS--
DQYFRVTVTRVTRARATDSKPK-----EPENAK---QTLSDALIAINNTKGALEKPKA--
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IMMNQTRIAIGSIIQNMMGNMNA---DKEAMQ---ALLQQAQSLVAESSEYKHYLS--
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DQYFRVTVTRVTRARATDSKPK-----EPDNK---QTLSDALIAINNTKGALEKPKA--
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DQYFRVTVTRVTRARATDSKPK-----EPENAK---QTLSDALIAINNTKGALEKPKA--
IALNNSRTVTVLNRGMLRLQSSMA--SQMNGGQLD---DLMNKANAQLVEADRFHKIYD--
MALNNSRTVTVLNRGMLRLQSSMA--SQMNGGQLD---DLMNKANAQLVEADRFHKIYD--
DQYFRVTVTRVTRARATDSKPK-----EEDP---LKPSEAEAMENGLHDAEMKR--
AALNTLRDIIAQAQSIYINAPQ---VEDANIT---TFMQTMDARKEAVDTLMEYVE--
DRYKVKLTMDEALAAED-----NSSRER---ALLNEAAGDVEFLKGLLAQPKV--
DQYFRVTVTRVTRARATDSKPK-----GT---PDLAQAQALDNMNGKLAEMKA--
IMMNQTRIAIGSIIQNMMGNMNA---DKEAMQ---ALLQQAQSLVAESSEYKHYLS--
DRYKVKLTMDEALAAED-----NSDRVL---ALLNDAADVDVFLKGLLAQPKV--
ISLNQARVTVLNRGMLRLQGNMA--QINGGQLN---ELVNTAKNLLADAQSHYDKYA--
DQYFRVTVTRVTRARATDSKPK-----DTDNAQ---KTLSDALIAINNTKGALEKPKA--
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ASVTELEBEVLDKDALMLTTPQ-----QSNDTK---KSLGELRQRLAEVDKLEKPYR--
IALIQTRNTLNRAIRYMDQNS--NIPSAGKSA---DLIDVANQSLTEADKHPAAYSQ--
DQYFRVTVTRVTRARATDSKPK-----EMDNAQ---KTLISATDALNKTEALQPKH--
RDGVNDQIKYLRGIVDIT-----HRPENNV---KRPQQLAEATDRNTSAMKKEIAE--
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Pectob.2320-W5S 2813-YP 006283770.1--36H-COG2/1-554
Di.zea.1140-Dd1591_0695-YP 003003055.1--36H-COG2/1-561
Pa.vag.184-Pvag_pPag30079-YP 003729820.1--36H-COG2/1-546
Er.bill.197-Ebc 38940-YP 003743272.1--36H-COG2/1-526
Ra.aqu.1678-Q7S 24891-YP 005419232.1--36H-COG2/1-554
En.asb.1498-Entas 2287-YP 004828805.1--36H-COG2/1-513
Rahnel.1320-Rahaq 4869-YP 004215574.1--36H-COG2/1-554
Di.dad.235-Dda3937_00027-YP 003883574.1--36H-COG2/1-554
Pr.stu.1965-S70 05790-YP 006215722.1--36H-COG2/1-520
En.638.865-Ent638 2100-YP 001176826.1--36H-COG2/1-512
Pe.car.1139-PC1 2526-YP 003018093.1--36H-COG2/1-554
Mo.mor.2189-MU9 702-YP 007504121.1--36H-COG2/1-525
Pe.car.1139-PC1 3443-YP 003018995.1--36H-COG2/1-511
Pa.ana.1905-PAJ 0915-YP 005933791.1--36H-COG2/1-559
Pectob.2320-W5S 3736-YP 006284671.1--36H-COG2/1-510
Pe.atr.485-ECA0183-YP 048310.1--36H-COG2/1-553
Rahnel.1320-Rahaq 3107-YP 004213828.1--36H-COG2/1-503
Pe.car.1139-PC1 4071-YP 003019622.1--36H-COG2/1-553
Di.dad.235-Dda3937_03462-YP 003884507.1--36H-COG2/1-563
Ra.aqu.1678-Q7S 15665-YP 005402913.1--36H-COG2/1-503
Pectob.2320-W5S 4505-YP 006285423.1--36H-COG2/1-555
Pe.atr.485-ECA3642-YP 051730.1--36H-COG2/1-551
Pe.car.1139-PC1 1417-YP 003016999.1--36H-COG2/1-554
En.asb.1498-Entas 4509-YP 004821569.1--36H-COG2/1-559
Pa.ana.1905-PAJ 3064-YP 005935940.1--36H-COG2/1-544
Pectob.2320-W5S 1733-YP 006282696.1--36H-COG2/1-535
Pe.atr.485-ECA4334-YP 052421.1--36H-COG2/1-556
Di.zea.1140-d1591 1602-YP 003003935.1--36H-COG2/1-554
Pectob.2320-W5S 4506-YP 006285424.1--36H-COG2/1-540
Di.zea.1140-d1591 1453-YP 003003794.1--36H-COG2/1-532
Pectob.2320-W5S 0106-YP 006281117.1--36H-COG2/1-556
Di.zea.1140-d1591 0769-YP 003003127.1--36H-COG2/1-505
Ra.aqu.1678-Q7S 18035-YP 005403387.1--36H-COG2/1-535
Rahnel.1320-Rahaq 3579-YP 004214298.1--36H-COG2/1-535
Pe.car.1139-PC1 4072-YP 003019623.1--36H-COG2/1-540
Pe.car.1139-PC1 3464-YP 003019016.1--36H-COG2/1-551
Pe.car.1139-PC1 0111-YP 003015709.1--36H-COG2/1-556
Pe.atr.485-ECA0182-YP 048309.1--36H-COG2/1-542
Pectob.2320-W5S 3753-YP 006284688.1--36H-COG2/1-551
Pa.ana.1905-PAJ 2666-YP 005935542.1--36H-COG2/1-514
Ci.rod.62-ROD 16161-YP 003365194.1--36H-COG6/1-557
En.asb.1498-Entas 2095-YP 004828614.1--36H-COG6/1-563
En.638.865-Ent638 1961-YP 001176688.1--36H-COG6/1-563
Cr.sak.579-ESA 01710-YP 001437800.1--36H-COG6/1-565
Cr.tur.6-CTU 22440-YP 003210607.1--36H-COG6/1-565
Ci.kos.578-CRO 01456-YP 001453025.1--36H-COG6/1-562
Rahnel.1320-Rahaq 1930-YP 004212674.1--36H-COG6/1-566
Pantoe.297-Pat9b 2403-YP 004116261.1--36H-COG6/1-564
Er.bill.197-Ebc 26700-YP 003742048.1--36H-COG6/1-567
Pectob.2320-W5S 1760-YP 006282723.1--36H-COG6/1-570
Pa.ana.1905-PAJ 1621-YP 005934497.1--36H-COG6/1-568
En.clo.1544-EcWSU1_02120-YP 004951978.1--36H-COG6/1-576
Ra.aqu.1678-Q7S 09815-YP 005401764.1--36H-COG6/1-566
Ye.pse.585-YPTB2412-YP 070925.1--36H-COG6/1-579
Ye.ent.378-YE2588-YP 001006789.1--36H-COG6/1-579
Di.dad.235-Dda3937_02787-YP 003883649.1--36H-COG6/1-572
Pa.vag.184-Pvag 1800-YP 003931435.1--36H-COG6/1-568
En.bac.2261-D782 2307-YP 007340470.1--36H-COG6/1-558
Pe.atr.485-ECA1683-YP 049784.1--36H-COG6/1-573
Pe.car.1139-PC1 2617-YP 003018183.1--36H-COG6/1-573
Di.zea.1140-Dd1591 1535-YP 003003868.1--36H-COG6/1-574
Di.zea.1140-Dd1591 3580-YP 003005868.1--36H-COG6/1-572
Es.col.1836-Y75 p1397-YP 489687.1--36H-COG6/1-546
Pe.atr.485-ECA3902-YP 051990.1--36H-COG6/1-575
Sa.bon.1474-SBG 1454-YP 004730321.1--36H-COG6/1-537
Sa.ent.407-STM1626-NP 460585.1--36H-COG6/1-541
Pe.car.1139-PC1 3679-YP 003019230.1--36H-COG6/1-567
Pectob.2320-W5S 4020-YP 006284955.1--36H-COG6/1-575
Di.zea.1140-Dd1591_0523-YP 003002884.1--36H-COG6/1-568
Di.dad.235-Dda3937_02665-YP 003881279.1--36H-COG6/1-572

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RYYSTDLSRLVRNVVLAD-----APDRKA---VFKKDYDRVHDKITATVDQVDA--
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IEVFOAK---INRLKLYNGDE-----KSQQLLAGVVKHAEELTAEAKK--
RDGVNDQIKYLRGVIDT-----KNPEQNK---KRYLQLDDTVKKTNLAMDKIAA--
IDELNALLGQQLLMLD-----SNADIK---RKNEEIKGYSAEITALLADLSK--
MDNFYSYIGIQELILLDD-----RDSE---RRRNELEKISSNVVRLKELDE--
IEVFOAK---INRLKLYNGDE-----KSQQLMAKVVKHAEEITAEAKT--
IDELNGYLNNQQLLLLLL-----SESEIN---KQFALNKERSGKISELMEYLNQ--
RHATEERAIMLRDMINATDKKD----KTEELN---RFKEEDGKVKSRQTLLDMVNE--
DKTVVAREGNFGYALER-----KAQYLE---TNVARNEFRQIEGRLLDKLES--
RYYTSDMSRLARNAILLK-----DVAKRE---KASDYGGERHEVDSALLSLIGK--
DKTVVAREGNFGYALER-----KAQYLE---KINDAIGNISGEVLSLLEIDT--
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-----KFTRLSYMASKDP-----KFVEENRQALDKLEARQADVEA--
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IDNVNEGVRVQQLLLVS-----GDDRK---AVSDQPPISKDIITRLMDALEKHA
-----KFTRLSYMASKDP-----KFVEENRQALDKLEARQADVEA--
IDNVTSILVAYQRLMLVS-----GEEQIQ---TNVTRVNEFRQIEGRLLDKLES--
HATLVAG---VQRSMVAARSN-----DSDLVE---LFAAENTRASKESGKRQEPAS--
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SFYAKDMSRLARIAVLQP-----DPAKTE---KALNSYQQVRSQADSLMQLVLDK--
QDILNTNVRTLRDIIILLPGD-----KVQEQK---ALKAIIVKTTNSAGEIYKTLDS--
KDNINTNAIAVRNLTMQE-----DDRLVQ---EETRIEEMISRNALLSKIHD--
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EWLVRQNRVLIIMDMLLP-----NTLNQK---QSTDELNQNMHIGQVWAEYRA--
KDNINANAIAVRNVLLE-----DERQMQ---EKKARIEELISRNALLKIIDD--
DKTVVAREGNFGYALER-----KAQYLE---QHTDAINTISQELTALLQEQIRA--
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HATLVAG---VQRSMVAARSN-----DSDLVE---LFAAENTRASKESGKRQEPAS--
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NQLRTARINMIHAGAASRIA-----EMDAMK---RNITADAEKAIQAANAGPKQYVD--
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NHLRTARLNVIQSGAAARIG-----EMDSYR---ADLARTEQRIEQARAGFKLYMD--
NHLRTARLNIIHAGASARIG-----EMDAFN---DNVQTEKRIQATSEFNAYLN--
NHLRTARLLLIQAAAAARIG-----DSQVFN---DNLTAQQRLEQSKKAFVLYEQ--
SHMSARLNIIQAGAAARIG-----EMDEFN---ANLAAATADRIKQAEAGLKIYLN--
NHLRTARINMIHAGAASRIA-----EMDAMK---QNISEAEKRIKQSDGFNAYMN--
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NHLRTARLLIIQAGAAVRVG-----DTEVFN---NLLKQAEQRIASSKDAFKVYEN--
NHLRTARLTIIQAGAAARIG-----DMDEFN---ANVAAAEKRIQQAQDGFAVYQA--
NHLRTARLLIIHAGAASRIA-----EMDEM---RNITAAEAETRIKQSQDGFNAYMS--
NHLRTARLLLIQAAAAARIG-----DSQVFN---DNLKQAEQRLDQSKKAFVLYEE--
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NHLRTARLLIIQAGAAVRVG-----DTDFVN---NLLKQAEQRIASSKDAFKVYEN--
NHLRTARLMLIQAATAAKEG-----DKDTAN---SSTQAEGRLEKQSADSFAAYQS--
DFLRSARINMIQAGAAASRIA-----EMEAMK---RNITAAEAETRIKQSQDGFNAYMN--
DQLRVARLLIIQAGAAARIS-----DHEVFK---AASDQAGRVRASQKRLDEYLA--
NHLRTARINMIHAGAASRIA-----EMDEM---ANLAAAEKRIKQSQDGFNAYMS--
NHLRTARINMIHAGAASRIA-----EMDEM---ANLAAAEKRIKQSQDGFNAYMS--
DQLRVARLLIIQAGAAARIS-----DHEVFK---SASDQAGRVRASQKRLDEYLA--
DQLRVARLLIIQAGAAARIS-----DHEVFK---AASDQAGRVRASQKRLDEYLA--
DNFRVSRQLLIQAVASSRIG-----DTDSFK---SQAPEGAERIKSSQDFDYYMA--
NHLRTARLMLIQAATAAKEG-----DKDTAS---SSTQAEGRLEKQSADSFAAYQS--

Pr.mir.1265-PMI1666-YP 002151397.1--36H-COG1/1-568
Di.dad.235-Dda3937_02779-YP 003883640.1--36H-COG1/1-566
Di.zea.1140-Dd1591_1542-YP 003003875.1--36H-COG1/1-566
Pe.atr.485-ECA1691-YP 049792.1--36H-COG1/1-561
Se.pro.864-Spro 2983-YP 001479212.1--36H-COG1/1-556
Ph.asy.1114-PAU_02685-YP 003041519.1--36H-COG1/1-564
Pr.stu.1965-S70_18135-YP 006218124.1--36H-COG1/1-561
Mo.mor.2189-MU9_1762-YP 007505181.1--36H-COG1/1-561
Pe.car.1139-PC1_2609-YP 003018175.1--36H-COG1/1-561
Xe.nem.162-XNC1_1620-YP 003711881.1--36H-COG1/1-567
Pectob.2320-W5S_1768-YP 006282731.1--36H-COG1/1-561
Pa.vag.184-Pvag_1723-YP 003931360.1--36H-COG1/1-558
Ye.pes.133-YPZ3_2024-YP 003568196.1--36H-COG1/1-557
Ye.pse.585-YPTB2401-YP 070915.1--36H-COG1/1-557
Ye.ent.378-YE2575-YP 001006778.1--36H-COG1/1-557
Pa.ana.1905-PAJ_1540-YP 005934416.1--36H-COG1/1-563
Ph.lum.1262-plu1853-NP_929126.1--36H-COG1/1-564
Serrat.1901-SerAS13_3075-YP 006025914.1--36H-COG1/1-555
Sa.ent.404-STY2128-NP_456485.1--36H-COG1/1-553
Ra.aqu.1678-Q7S_08960-YP 005401597.1--36H-COG1/1-564
Se.mar.2260-D781_2759-YP 007345195.1--36H-COG1/1-555
Rahnel.1320-Rahaq_1830-YP 004212575.1--36H-COG1/1-564
Se.ply.1407-SerAS9_3072-YP 004506452.1--36H-COG1/1-555
Ed.ict.1187-NT01E1_1461-YP 002932882.2--36H-COG1/1-555
En.aer.1436-EAE_15535-YP 004593297.1--36H-COG1/1-556
Xe.bov.105-XBJ1_1923-YP 003467827.1--36H-COG1/1-567
Serrat.1408-SerAS12_3073-YP 004501499.1--36H-COG1/1-555
Er.bill.197-Ebc_25350-YP 003741913.1--36H-COG1/1-559
Er.tas.1011-ETA_14650-YP 001907404.1--36H-COG1/1-554
Sa.ent.407-STM4533-NP_463392.1--36H-COG1/1-553
Es.col.1836-Y75_p4240-YP 00452486.1--36H-COG1/1-551
En.bac.2261-D782_3913-YP 003742002.1--36H-COG1/1-553
Ci.kos.578-CKO_03442-YP 001454958.1--36H-COG1/1-554
Cr.sak.579-ESA_03402-YP 001439456.1--36H-COG1/1-555
Pantoe.297-Pat9b_1606-YP 004115479.1--36H-COG1/1-558
Cr.tur.6-CTU_05670-YP 003208930.1--36H-COG1/1-555
Sa.bon.1474-SBG_3944-YP 004732724.1--36H-COG1/1-553
En.asb.1498-Entas_0547-YP 004827084.1--36H-COG1/1-554
Ci.rod.62-ROD_48461-YP 003368233.1--36H-COG1/1-554
Ed.tar.1771-ETAF_1249-YP 005698855.1--36H-COG1/1-529
En.638.865-Ent638_0513-YP 001175251.1--36H-COG1/1-586
Ed.ict.1187-NT01E1_1462-YP 002932883.1--36H-COG1/1-532
Ye.ent.378-YE2573-YP 001006777.1--36H-COG1/1-545
Ed.tar.1771-ETAF_1250-YP 005698856.1--36H-COG1/1-530
Mo.mor.2189-MU9_1763-YP 007505182.1--36H-COG1/1-524
En.aer.1436-EAE_15540-YP 004593298.1--36H-COG1/1-536
En.638.865-Ent638_2456-YP 001177176.1--36H-COG1/1-533
Se.pro.864-Spro 2982-YP 001479211.1--36H-COG1/1-541
Es.col.1836-Y75_p1861-YP 490147.1--36H-COG1/1-533
Serrat.1901-SerAS13_3074-YP 006025913.1--36H-COG1/1-541
Ye.pes.133-YPZ3_2023-YP 003568195.1--36H-COG1/1-536
Serrat.1408-SerAS12_3072-YP 004501498.1--36H-COG1/1-541
Se.mar.2260-D781_2758-YP 007345194.1--36H-COG1/1-534
Ye.pse.585-YPTB2400-YP 070914.1--36H-COG1/1-536
Se.ply.1407-SerAS9_3071-YP 004506451.1--36H-COG1/1-541
Pr.stu.1965-S70_18140-YP 006218125.1--36H-COG1/1-521
En.bac.2261-D782_1749-YP 007339930.1--36H-COG1/1-533
En.asb.1498-Entas_2590-YP 004829104.1--36H-COG1/1-533
En.asb.1498-Entas_3672-YP 004830170.1--36H-COG1/1-545
Ci.kos.578-CKO_01067-YP 001452646.1--36H-COG1/1-537
En.clo.1544-3cW5U1_02810-YP 004952663.1--36H-COG1/1-538
Sa.ent.407-STM3152-NP_462067.1--36H-COG1/1-547
Pe.atr.485-ECA1332-YP 049438.1--36H-COG1/1-555
Pe.car.1139-PC1_1208-YP 003016792.1--36H-COG1/1-555
En.638.865-Ent638_3407-YP 001178118.1--36H-COG1/1-545
Pa.vag.184-Pvag_1413-YP 003931052.1--36H-COG1/1-554
Ph.asy.1114-PAU_02684-YP 003041518.1--36H-COG1/1-544
Pa.ana.1905-PAJ_1316-YP 005934192.1--36H-COG1/1-556
Ci.kos.578-CKO_04394-YP 001455885.1--36H-COG1/1-561
Sa.bon.1474-SBG_2750-YP 004731563.1--36H-COG1/1-547
Ra.aqu.1678-Q7S_16025-YP 005402985.1--36H-COG1/1-554
Rahnel.1320-Rahaq_3177-YP 004213898.1--36H-COG1/1-554
Pectob.2320-W5S_3114-YP 006284066.1--36H-COG1/1-555
Ye.ent.378-YE2971-YP 001007160.1--36H-COG1/1-552
Er.bill.197-Ebc_20190-YP 003741400.1--36H-COG1/1-556
Ph.lum.1262-plu1854-NP_929127.1--36H-COG1/1-544
Er.bill.197-Ebc_25340-YP 003741912.1--36H-COG1/1-528
Di.zea.1140-Dd1591_2937-YP 003005238.1--36H-COG1/1-564
Er.tas.1011-ETA_14670-YP 001907406.1--36H-COG1/1-518
Sa.ent.404-STY4234-NP_458344.1--36H-COG1/1-547
Sa.ent.407-STM3577-NP_462478.1--36H-COG1/1-547
Sa.bon.1474-SBG_3170-YP 004731982.1--36H-COG1/1-547
En.asb.1498-Entas_2591-YP 004829105.1--36H-COG1/1-555
En.638.865-Ent638_1858-YP 001176586.1--36H-COG1/1-552
Ci.rod.62-Rod_19331-YP 003365490.1--36H-COG1/1-553
Di.dad.235-Dda3937_01559-YP 003882087.1--36H-COG1/1-566
Er.bill.197-Ebc_37780-YP 003743156.1--36H-COG1/1-553
Pantoe.297-Pat9b_2001-YP 004115872.1--36H-COG1/1-558
-HINAYQIHSE--EIRNRLKGRFIEYFS---ALNQLIILLQDKNLKDFFEQPT---TSYQ
--IPYTNQDDP--AVAQVVDNYTVLNS---ALSDLVIFISNGKLEFFDQPT---QSFQ
--IPYTDQDDP--AIAQVVDKNTALNS---ALSELIVFISTGKLEFFDQPT---QGFQ
--MPQDARQDD--SISRGVKENYVALNA---ALTELIQFLNAGEFKFVEQPT---QRFO
--IPLNARQDD--QSAEKLKQYGLLHG---ALTELVLLGEGKINAFDDQPT---QSYQ
--TAKLP1HET--ESLNRLRKAYDVYIS---ALHDLVLVLEHRAVEFFNQPT---SKYQ
--LMAETSHDK--TKFEQLFSTYETYRD---ALIQGLKYAQKQLDEFYAHRT---SGYQ
--MMEGTSYDK--AKFEKLLSTYETYRN---ALTRLMYSVREDQLEQFYTYAT---SGYQ
--VPQDARQDE--AVTRGVKENYVALNG---ALTELIQFLNAGEFKFVEQPT---QSFQ
--LPKLS1HDP--ERLQTLKQTYRDLN---ALKELDILLTKKDFKAFVEQPT---TGFO
--LPQDARQSE--SVTRDVKENYVALNG---ALTELIQFLNAGEFKFIDQPT---QRFO
--NLSEQGKTA--ENNVALQANYKAYHD---ALAEMLVFFTTGNFKGFVDQPT---QSFQ
--IPQNSQDDP--EGAKKLLKQSYEEYFS---ALTELINLMETNKINEFFNHPT---TSFO
--IPQNSQDDP--EGAKKLLKQSYEEYFS---ALTELINLMETNKINEFFNHPT---TSFO
--IPQNSQDDP--EGAKKLLKQSYEEYFS---ALTELIQLMEAKKINEFFDQPT---SSFO
--NLSEKGSAA--ENVLTLQANYKQFHD---GLAELIVFLGNGNFKGFVDQPT---QSYQ
--TAKLP1HES--ESLNRLKAYDVYIS---ALHELIVLLEHRAVEFFNQPT---GKYQ
--IPLSPRQDA--QSAEKLKQYGLLHG---ALSELVQLLGGKINAFDDQPT---QSYQ
--MTPDAPAM--EASANVDEKQYRQYA---ALAEILQFLDNGNDYAFDQPT---QGMQ
--IPADASQNP--QFADAKKQYQVLDH---ALSELEIILGLGRINDFFEQPT---QQYQ
--VPLGERQNR--QDAEKLKQYGLVLYG---ALSELIQLLSDGKINAFDDQPT---QSYQ
--IPADASQNP--QFADAKKQYQVLDH---ALSELEIILGLGRINDFFEQPT---QQYQ
--IPLSPRQDA--QSAEKLKQYGLLHG---ALSELVQLLGGKINAFDDQPT---QSYQ
--LPDRPQSE--EAMEAMEQNYGTLHN---ALGELIQLLSAGHINEFFEQPT---QSYQ
--IPQDPRQDP--QATEKLKQYGLLYG---ALSELIQLLGGKINAFDDQPT---QKYQ
--LKP1HDP--DHLQRLKQTHHEYLN---ALKELDGLFARKQYKFFAQKT---TDYQ
--IPLSPRQDA--QSAEKLKQYGLLHG---ALSELVQLLGGKINAFDDQPT---QSYQ
--NLSEKGTSA--ENVKQLHANYKQLHD---ALADLVMMQTGKTFDIAQPT---QSYQ
--HLSEAGKTS--ANVQAVQKQNYAILHD---ALSELIPLIGSGKITEFFGQPT---QRYQ
--LPDRPQSE--AAFLIKRKYDIYHG---ALAEILQLLGGAGKINEFFDQPT---QSYQ
--LPDRPQSE--AAAETKRNKYDIYHN---ALAEILQLLGGAGKINEFFDQPT---GGYQ
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--LPDRPQSE--TAAVEIKRNYDIYHN---ALAEILQLLGGAGKINEFFDQPT---GGYQ
--LPDRPQSE--EYAOEIKRNYDIYHG---ALAEILQLLGGAGKINEFFDQPT---QKYQ
--NLSEKGSAA--ENVLTLQANYNAYHG---ALQELIDFLNTGNFKGFVDQPT---QGFQ
--LPDRPQSE--EYAOEIKRNYDIYHG---ALAEILQLLGGAGKINEFFDQPT---QKYQ
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--LPDRPQSD--AAAMEIKRNYDIYHG---ALAEILQLLGGAGKINEFFDQPT---QSYQ
--LPHDRPQSE--AASAEIKRNYITFHN---ALTKNLINLVGAGKINAFDDQPT---QSYQ
--LPDRPQSD--EAVQAMSQYDYLHS---ALGELIQLLTAGRINDFFEQPT---QSYQ
--LPDRPQSD--AAAQEIKNYDIYHG---ALAEILQLLGGAGKINEFFDQPT---QSYQ
--YSDNDEER--ALSQDTQHYRALRT---ALLQLIDLVEKGDILQGFMDHPT---QQIQ
--VPSLDESDTGGELLDATKNSYQNLRS---SLRELIDFLLEAGNLQGFMDHPT---QRTQ
--CSDSDEER--ALSQELALQHYQALRT---ALLQVLVLEKGGDLQGFMDHPT---QRTQ
--QVLSKEDD---PAGIEEQYSYSLG---VVKELRGYIDNANIYPAYVEHPT---QMYQ
--TPRADQEQ--QLADATRDYSYENLRG---ALRELIIVLENNRNLQAFMDQPT---QKIQ
--QEAUSEKGG--ALTAEMQKGYTQWHS---DLEHQATWLENNQLSDFLTPAV---QDSQ
--VPRNSBEQ--QLTATTKASYDRLRN---TLRELIIGLENDNLQAFMDQPT---QKIQ
--MTAGNEHVR--GLQKETESFARWHN---DLEHQATWLENNQLSDFLTPAV---QGSQ
--VPRHSEEQ--QLTETTQASYNLRS---ALRELIIGLENNNLQAFMDQPT---QKIQ
--VPRHSEEQ--QLTETTQASYNLRS---ALRELIIGLENNNLQAFMDQPT---QKIQ
--VPRHSEEQ--QLTETTQASYNLRS---ALRELIIGLENNNLQAFMDQPT---QKIQ
--LVPAERSR--SLT---LRYQQLHA---ALLELSGFLASGNLQAFMDQPT---QQIQ
--VPRHSEEQ--QLTETTQASYNLRS---ALRELIIGLENNNLQAFMDQPT---QKIQ
--VPRHSEEQ--QLTETTQASYNLRS---ALRELIIGLENNNLQAFMDQPT---QKIQ
--QPLLEHEN---LAVIDEKYQAFLA---ILKELRALIDKNDIPGYVALPA---QQHQ
--IEQRSTESR--QLGERTEASFSAWRN---GLEHQATWLENNQLSDFLTPAV---QKMQ
--QEAUSEKGG--ALKVMAMKKNFDQWHS---DLHDQATWLENNQLSDFLTPAV---QESQ
--ISPGMMDA--QYSAQV1SSQALLD---QGVAPQMQLAQGGDLQAFMDQPT---PPLS
--TEASTEKG--ALQAATEKSYTQWYS---DLEHQATWLENNQLSDFLTPAV---QASQ
--QEAUSAEVK--ALKVMAMKKNFDQWHS---DLHDQATWLENNQLSDFLTPAV---QASQ
--LSPGMMDA--DISREVLNSWQALLE---KGVVPQMQLAQGGDLQAFMDQPT---PPLS
--IDHASLDD--ALVQAVSRDWSNLIV---QGVPEPLYQKAAANTLDDYQNAKDVVPPLS
--IDHAGLDF--ALVQAVSRDWSNLIV---QGVPEPLYQKAAANTLDDYQNAKDVVPPLS
--VSHGAMNE--AVFAEV1STWQALLE---QGIAPQMQLAQGGDLQAFMDQPT---PPLS
--LAPGPMNP--DVVDGVIQSWQKLLD---EGVTPQLQARQASPDYARQQANNVTPPLS
--LPKLNEDGSSVLLASVETSYKEYIK---ALRELSVFLERKGNVDAFDQPT---EKYQ
--LSPGMMDA--AVANDVIDKWQKLLD---QGVTVQLQARQASLDSYRQQANNVTPALS
--LSPGMMDA--EIAAAVLANWQALLD---KGVAPQMQLAQGGDLQAFMDQPT---PPLS
--LSPGMMDA--DISMAVLNSWQALLD---KGVMPQMQLAQGGDLQAFMDQPT---PPLS
--APHGLEED--SSVQELITSWENLIT---QGVTPFLDAAARSKNTESYNQLANSTVPALS
--APHGLEED--SSVQELITSWENLIT---QGVTPFLDAAARSKNTESYNQLANSTVPALS
--IDHAGLDN--ALVQAVSRDWSNLIV---QGVPEPLYQKAAANTLDDYQNAKDVVPPLS
--IDHAGIDP--TLVNGVIDGWSGLID---QGVTPLYQAAAMNSAAYQDLAKRTVPALS
--QSPGMMDA--GYSAAVIGSWQKLLD---NGVLPQMQLAQGGDLQAFMDQPT---PPLS
--LPKLNEDGSSVLLASVETSYKEYIN---ALRELSVFLERKGNVDAFDQPT---EKYQ
--IPETTPAGG--ALKKSMEAYDVYAH---ELSQLIAYLQNYQDLFDLSDPT---QKQO
--IDHVGMSP--ELVEAVTRDWSNLIT---QGVPEPMFQRAVDKFKFDEYDYKAKDVVPPLS
--IPAVTPEGG--VLKQATATAYGIYIN---ELAQLAEYLRNDQLQAFDLDSP---QKQO
--SEAIAGKDP--ALDAQAEASFQMYD---VLQQS1HYLQKADNYAAYGNLDA---QKQO
--SEAIAGKDP--ALDAQAEASFQMYD---VLQQS1HYLQKADNYAAYGNLDA---QKQO
--SDA1AGKDP--ALDARAESFQMYD---VLQQS1HYLQKADNYAAYGNLDA---QKQO
--IAQPAPM--E--QVSSNIDKYTYAFYA---GLTELIQFLSAGNMDYAFDQPT---QGMQ
--MPVPMQSQ--ELTAEAMQKAYTQMH---VMRLS1EYLSADNYQAYGDLDA---QEAQ
--IPHPMDA--E--EASKDVDEKRYTYTYT---ALAEIVQFLSAGNMDYAFDQPT---QSMQ
--IDHAGMSP--ELVDAVIRDWSNLIT---QGVPEPMFQRAADKFKFDDYKFAKDVVPPALS
--APQGSQNA--QLATTANNYQMYD---TKMKS1QYLGANNYAYGNLDA---QKQO
--MAPGMDA--DTANNVITNWQKLLD---EGTAPQVSLAQGGTLEAYRAQANNVTPALS

En.clo.1544-ecwsu1_01962-yp_004951821.1--36H-COG1/1-553 --MPQVNGQNA--ALTEDEMOKSWSQMHE---VMRLSIAYLRADNYQAYGDLDA---CQAQ
En.asb.1498-Entas_1879-yp_004828403.1--36H-COG1/1-554 --MPQVNSQNA--ALTEEMQKAWSQMHE---VMRLSIEYLRDNDYQAYGDLDA---CQAQ
En.bac.2261-D782_1748-yp_007339929.1--36H-COG1/1-547 --AAVEPEM-A--QVSQRVAQQTQAYFA---ALQELIGFLEQGNMAYFAQPT---CGKQ
Es.col.1836-y75_p1862-yp_490148.1--36H-COG1/1-553 --MAPLPEM-V--ATSRNIDEKYKNYYT---ALTELDYLDYNGTAYFAQPT---CGMQ
Cr.tur.6-CTU_33010-yp_003211664.1--36H-COG1/1-555 --SPRLNGQDE--ATASQIAEYKQALHD---ILQASIGYLGANNYAYGNLDA---CQAQ
Cr.tur.6-CTU_25780-yp_003210941.1--36H-COG1/1-536 --VKVDVPEIN--AVAGDVQSYRDYQ---ALSELVQVLETNNMAYFAQAT---CGKQ
En.clo.1544-ecwsu1_00403-yp_004950264.1--36H-COG1/1-549 --LPNTPGLEDE--NLANRLEEYQRIYSA---TLTQMNVLGQGNLDMFKQNA---EQKQ
En.638.865-Ent638_2457-yp_001177177.1--36H-COG1/1-555 --ITPQPAM-E--QASLNI DEKYKNYAA---GLAELIQFLESGNTDAYFAQPT---CGMQ
Sa.bon.1474-SBG_1755-yp_004730609.1--36H-COG1/1-553 --MAPLPAM-V--EASANVDEKYQRYHA---ALAEILQFLDNGNMDAYFAQPT---CGMQ
Pr.mir.1265-PMI1665-yp_002151396.1--36H-COG1/1-548 --NQEVIPOEEK--EIFNTVKNDYHVLYS---ALVELHGLMKKGFQDFLQPT---ERYQ
Cr.sak.579-ESA_01348-yp_001437444.1--36H-COG1/1-556 --VTVDVPEIN--AAAGDVQSYRDYQ---ALSELVQVLETNNMAYFAQAT---CGKQ
Cr.sak.579-ESA_00560-yp_001436686.1--36H-COG1/1-555 --SPRLNGQDE--ATASKITEKYQALHD---TLQASIGYLSANNYAYGNLDA---CQAQ
Sa.ent.407-STM1919-NP_460876.1--36H-COG1/1-553 --MPLPAM-A--EASANVDEKYQRYQA---ALAEILQFLDNGNMDAYFAQPT---CGMQ
Ci.kos.578-CKO_01066-yp_001452645.1--36H-COG1/1-552 --INPLPEM-A--EASGNVDEKYQRYHA---ALAEVLQFLENGNMDAYFAQPT---CGMQ
En.asb.1498-Entas_0424-yp_004826963.1--36H-COG1/1-549 --LPNTPGLEDE--DLPKQLEEQYRIYSA---TLTQMNVLGQGNLDMFKQNA---EQKQ
Pantoe.297-Pat9b_1273-yp_004115150.1--36H-COG1/1-553 --LPRIKGQSD--AAAALVEAKFSAMAD---LLQSSAFLKANDYPSYGNLDA---CQAQ
Ed.tar.1771-ETAF_2264-yp_005699859.1--36H-COG1/1-555 --LSLSSGHDN--GRAEKVRGLYKARA---DLVSMIEQLQSNIDTAGFQSVLK---NHSS
Pa.ana.1905-PAJ_3534-yp_005936409.1--36H-COG1/1-553 --APALPGQHA--EVTKNVAAAYNKMHM---TMLASVDFLAKNNYQGGYGNLDA---EQKQ
Pa.vag.184-Pvag_1203-yp_003930842.1--36H-COG1/1-552 --MPKAGQSE--AQSTQVQTAYQHMRD---TMLASVDFLAKNNYQGGYGNLDA---EQKQ
Pantoe.297-Pat9b_1605-yp_004115478.1--36H-COG1/1-556 --LPATPGFV--ELRDRLEAYAAAYNN---GLKAMRLRLKQDNYGFMFAQNI---EAKQ
Cr.sak.579-ESA_00210-yp_001436348.1--36H-COG1/1-557 --LPETPGMDE--RLVDRLEEYQRYVYSS---TLAQMNKFLAEGNLEGMFKQNA---EQKQ
Er.tas.1011-ETA_pET460340-yp_001905943.1--36H-COG1/1-543 --HTPGLDR--QYATAATERWQKLE--EGVIPQVRLAQPPALDDYRLHARTVTPALS
Cr.tur.6-CTU_36610-yp_003212024.1--36H-COG1/1-557 --LPETPGQDA--RLVDRLEEYQRYVYSS---TLAKMNKFLAEGNLEGMFKQNA---EQKQ
Pe.car.1139-PC1_1159-yp_003016743.1--36H-COG1/1-556 --LPNTPGLEDE--ALSCKLEASYTAYDK---LLNDIVDSLSSGLLAGAAMKLSG--ATPFLN
Er.tas.1011-ETA_14640-yp_001907403.1--36H-COG1/1-554 --TPDTPGIDP--KLSEELQNYEQFSS---ALQEMTQALENKQLDAMFAQNI---EQKQ
Pa.vag.184-Pvag_1725-yp_003931362.1--36H-COG1/1-556 --IPETPGQDA--TLNDQLDQRFSAYDQ---ALNQLQTALEANDYIAAAPV---APSQ
Ed.ict.1187-NT01EI_3742-yp_002935104.1--36H-COG1/1-525 --APRLPGQDA--ALAAVEHRTFALYR---LLRDSHSLYLAGDYPAYGKLET---QEAQ
En.638.865-Ent638_0380-yp_001175119.1--36H-COG1/1-549 --LPETPGMDE--NLAKQLEEQYRIYSS---TLAQMNVLGQGNLDMFKQNA---EQKQ
Er.bil.197-Ebc_25360-yp_003741914.1--36H-COG1/1-556 --IPNTKGVDP--KVVDLLEQNYVSYSN---ALSTMLDLMQSKQLPEMFKLNI---EQKQ
Er.tas.1011-ETA_16910-yp_001907630.1--36H-COG1/1-543 --HTPGLDR--QYATAATERWQKLE--EGVIPQVRLAQPPALDDYRLHARTVTPALS
Es.fer.1173-EFER_3055-yp_002384154.1--36H-COG1/1-603 --LIDPDRQSE--TAAIETKRYDIYHN---ALAEILQLLGGNLEFDDQPT---EQKQ
Xe.nem.162-XNC1_1619-yp_003711880.1--36H-COG1/1-520 --LPQIQDNQKRDITLLEVEVQAHREYFH---ALKELKDFLYGGDFQAFDQPT---EDHQ
En.clo.1544-ecwsu1_02811-yp_004952664.1--36H-COG1/1-559 --ITPQPAM-A--QVSNQIDKYNYAYA---GLTELIQFLESGNTDAYFAQPT---CGMQ
Di.dad.235-Dda3937_03500-yp_003882750.1--36H-COG1/1-553 --SEHIGVDK--DVVQMQTDDVWGRLLQ---SGVEPMLTAVKDGRRDFFRQLFRKQYPPLS
Xe.bov.105-XBJ1_1924-yp_003467828.1--36H-COG1/1-523 --LPQIEKNQDSVALAAVERSYQYIN---ALKELKILYLYEGNFQAFDQPT---ENYQ
Rahnel.1320-Rahaq_1831-yp_004212576.1--36H-COG1/1-556 --LPRRTEKAV--ALTAVNKASYQQLHD---MLQTLLEKLSGNGMFLNGPA---ERYQ
Ra.aqu.1678-Q7S_08965-yp_005401598.1--36H-COG1/1-556 --LPRRTEKAV--ALTAVNKASYQQLHD---MLQTLLEKLSGNGMFLNGPA---ERYQ
Cr.sak.579-ESA_01126-yp_001437230.1--36H-COG1/1-514 --LSPGFLDP--AVSQVIADWQKLLD---DGVIPQMKLAREGTPDAYRAHAGKVTVPFS
Pe.atr.485-ECA2712-yp_050803.1--36H-COG1/1-560 --AGHVGVDK--EADNMIAASWTQLLD---NGLTPMLNAAARNRQEEFRQLFRKQYPPLS
En.clo.1544-ecwsu1_00560-yp_004950421.1--36H-COG1/1-597 --LPRDQVND--ADATEIKRNYDIYHG---ALAEILQLLGGNLEFDDQPT---QSQY
Di.dad.235-Dda3937_03498-yp_003882752.1--36H-COG1/1-561 --ADQVGVDK--ALVDNMITTSALIS---NGIDPMYRALQSNLDEFRRVFRVYPPFS
Cr.tur.6-CTU_27880-yp_003211151.1--36H-COG1/1-514 --LSPGFLDP--AVSQVIADWQKLLD---DGVIPQMKLAREGTPDAYRAHAGKVTVPFS
Pe.car.1139-PC1_1669-yp_003017246.1--36H-COG1/1-560 --SEHVGVSQ--ETADNMIAAWTQLLD---NGLTPMLNAAARNRQEEFRQLFRKQYPPLS
Ra.aqu.1678-Q7S_14450-yp_005402672.1--36H-COG1/1-551 --IDHGNLDS--NTVDIYNSFTLFFN---SAVFPMYESAAYKNTSLFASLKNDKYLPRL
Ci.kos.578-CKO_03622-yp_001455137.1--36H-COG1/1-517 --LPETPGLEDE--HLADRLEEYQGIYSA---TLAKMNFLAAGKLEEMFKQNA---EQKQ
Di.zea.1140-Dd1591_2408-yp_003004728.1--36H-COG1/1-557 --SPQTGSID--HLADRLEEYQGIYSA---TLAKMNFLAAGKLEEMFKQNA---EQKQ
Di.zea.1140-Dd1591_2406-yp_003004726.1--36H-COG1/1-559 --APHIGVEQ--KITDEMVSWSALIA---TAIEPMTALQKNDLDAFRNVFRKTYPPAS
Ed.ict.1187-NT01EI_2801-yp_002934203.1--36H-COG1/1-554 --LSLSSGHDN--GRAEKVRGLYKARA---DLVTMIEFLQNNVDAFQSVLK---NRSS
Pe.car.1139-PC1_1384-yp_003016966.1--36H-COG1/1-559 --AEHVGVDEP--ATVDVSKTWSALIA---TAIDPMNAAALQRNDYEGFRQFRNRYVYPPS
Rahnel.1320-Rahaq_2866-yp_004213595.1--36H-COG1/1-551 --IDHGNLDS--NTVDIYNSFTLFFN---SAVFPMYESAAYKNTSLFASLKNDKYLPRL
Pe.atr.485-ECA1281-yp_049387.1--36H-COG1/1-556 --LPNTPGLEDE--ALSCKLETSYAYDK---LLNDIVDSLSSGLLAGAAMKLSG--ATPFLN
Pectob.2320-W5S_1886-yp_006282848.1--36H-COG1/1-549 --AGHVGVDK--ETANNMIAAWTQLLD---NGLTPMLNAAARNRQEEFRQLFRKQYPPLS
Pectob.2320-W5S_1696-yp_006282659.1--36H-COG1/1-559 --AEHVGVDEP--ATVDVSKTWSALIA---TAIEPMTALQKNDYEGFRQFRNRYVYPPS
Di.zea.1140-Dd1591_2407-yp_003004727.1--36H-COG1/1-555 --SEHIGVDK--EIVRQMDIVWGRLLQ---SGVEPMLTISKNRMDYEGFRQFRNRYVYPPS
Pe.atr.485-ECA1509-yp_049611.1--36H-COG1/1-559 --SEHVGVSQ--ATVDVSKTWSALIA---SSIEPMSALQRNDYEGFRQFRNRYVYPPS
Pa.vag.184-Pvag_1724-yp_003931361.1--36H-COG1/1-520 --LPATPGLEV--ALRDKLEADYQYQEK---GLKGMVTSLQARDLEGMFKQNI---EQKQ
Pa.ana.1905-PAJ_1541-yp_005934417.1--36H-COG1/1-520 --IPETPGADT--EMRDRQLQNDFKAYLT---GLRGMIASLKAADLEGMFKQNI---EQKQ
Mo.mor.2189-MU9_1596-yp_007505015.1--36H-COG1/1-519 --ISPGFMDV--QMSEKVIARWQALYD---EGVKIQMLAEQDQAGYRQKSHDVTPLS
Pr.mir.1265-PMI2808-yp_002152509.1--36H-COG1/1-563 --LSAQPTQD--QRMAEIKQLYQKRSY---DLDLVLQVQVNERNTYRILK---CPAN
Di.zea.1140-Dd1591_0395-yp_003002764.1--36H-COG1/1-556 --TDHANIST--KSIDDIYNSYQLFS---EAIVPMPLDARQNNHDAYAKLMSEKNYPLR
En.clo.1544-ecwsu1_03786-yp_004953635.1--36H-COG1/1-515 --ISPGFMDV--QVSAQVIGSWQALLE---QGVTPMQQAKQSSLEGYRQANNIYPPLS
Pectob.2320-W5S_3170-yp_006284116.1--36H-COG1/1-556 --LPNTPGLEDE--SLSKLLEESYAYDK---LLNDIVDSLSSGLLAGAAMKLSG--ATPFLN
Di.dad.235-Dda3937_02184-yp_003884754.1--36H-COG1/1-556 --TDHANISS--TTIDDIYNSYQLFS---EAIVPMPLDARQNNHDAYAKLMSEKNYPLR
Ci.rod.62-ROD_32641-yp_003366748.1--36H-COG1/1-517 --LPETPGLEDE--HLADRLEEYQGIYSA---TLAKMNVLVAGKLEEMFKQNA---EQKQ
Di.dad.235-Dda3937_03499-yp_003882751.1--36H-COG1/1-561 --SEHVGVDE--ALAKQMVDDVWGRLLQ---NGMAPMLAAVNEGRNDDFFQLYRQYMPPLS
Di.dad.235-Dda3937_00105-yp_003883346.1--36H-COG1/1-561 --IPPLPVQDA--ALAKNINDNYQALRS---VLQRIVELIKTQDVKTIQALPT---AQKQ
Pantoe.297-Pat9b_1604-yp_004115477.1--36H-COG1/1-555 --TPDTPGQSD--QLNKHLDETYAAYAS---ALNQMQAALQANEIEKAGQLPV---PMSQ
Er.tas.1011-ETA_14660-yp_001907405.1--36H-COG1/1-560 --ELPAGVDNQ--PHVQAVNDHFNILHN---ALSELMRMLTSGDFKGFVDQPT---TGFO
Pr.mir.1265-PMI2809-yp_002152510.1--36H-COG1/1-575 --SAENADFR--EKVAKMKKLFQRVIY---DLDQLVSCLEIRDYGGFQSLYA---HNTN
Ed.tar.1771-ETAF_3053-yp_005700648.1--36H-COG1/1-516 --APRLPGQDA--ALAAEVERRFTALYS---LLRDSRYLRAGDYPAYNLDT---QAAQ
Se.pro.864-Spro_1415-yp_001477647.1--36H-COG1/1-546 --LSQSEQSN--ERTKNVKNLYEKARG---DLLQLIISLEDDGVTITRFQSIMH---NSSS
Di.zea.1140-Dd1591_1804-yp_003004134.1--36H-COG1/1-562 --IPPLPVQDA--ALAKNINDNYLALRL---ILQQLIVELIKTQDVKTIQALPT---CQAQ
Di.dad.235-Dda3937_03501-yp_003882749.1--36H-COG1/1-575 --SRQVGVSD--EQVQQLIASWEQVLG---NAVEPMSALKDGRIDEFKRVFLKQYPPMS
Pantoe.297-Pat9b_0851-yp_004114731.1--36H-COG2/1-524 --IQITAVGK--KKIAGLLDASHLFEQ---QKQDVLVAVLKSGLLEASSTFVLKIKITDQ
Pa.vag.184-Pvag_0291-yp_003929953.1--36H-COG2/1-525 --IQTVPVKG--KKIAGLLASSQAFEQ---VKTEILGLIKAGNFDAASAYVLLKSMATQ
En.clo.1544-ecwsu1_03886-yp_004953735.1--36H-COG2/1-519 --ALQDPESQ--RVLAEIRGVRQYQLD---SRYRILQAVQNNDRAGAIQEMMTTKLQ
Cr.tur.6-CTU_04790-yp_003208842.1--36H-COG2/1-515 --TLTDDASR--QALAQIADVRKQYLA---SRFRILQAVQNNDRAGAIQEMMTTKLQ
Ci.kos.578-CKO_04484-yp_001455975.1--36H-COG2/1-521 --SRHDEASK--AI IAGIRDVRQYLA---SRFRILQEIQNYNRPAAIQEMMTTKVNIQ
Cr.sak.579-ESA_03488-yp_001439539.1--36H-COG2/1-515 --TLTDDASR--QALAQIADVRKQYLA---SRFRILQAVQNNDRAGAIQEMMTTKVNIQ
Ci.rod.62-ROD_48071-yp_003368199.1--36H-COG2/1-521 --PLNDDSR--KLLAGIREVREYQYLA---SRFRILQAVQNNDRAGAIQEMMTTKVNIQ
Sa.bon.1474-SBG_2851-yp_004731664.1--36H-COG2/1-521 --HRHDAASQ--KIITEIRARQYQLE---SRFRILQDIQSHNRQAAIQEMMTTKVNIQ
Sa.ent.407-STM3216-NP_462130.1--36H-COG2/1-521 --NRHDAASQ--KIITEIRARQYQLE---SRFRILQDIQSHNRQAAIQEMMTTKVNIQ
En.asb.1498-Entas_3753-yp_004830248.1--36H-COG2/1-519 --ELDRHRKQ--QVLADIRGVRQYLD---SRFRILQAVQNNDRAGAIQEMMTTKVNIQ
Mo.mor.2189-MU9_3389-yp_007506806.1--36H-COG2/1-521 --TLKDEASQ--NILKEIRSVRQYQYLT---SQRRMVQSQNGDEASAINEMVNTAGIQ
Sa.ent.404-STY3394-NP_457606.1--36H-COG2/1-522 --ENSHDASQ--KIITEIRARQYQLE---SRFRILQDIQSHNRQAAIQEMMTTKVNIQ
En.638.865-Ent638_3526-yp_001178235.1--36H-COG2/1-519 --SLQDKKSQ--QILAGIAAVRQYELD---SRFRILQAVQNNDRAGAIQEMMTTKVNIQ
Pe.atr.485-ECA1774-yp_049874.1--36H-COG2/1-554 --SVNDRSIV--AVLRDISDIRDFLQ---SANKLSSLI SAGNTDAAIEFNVTRVYQ
En.638.865-Ent638_2119-yp_001176845.1--36H-COG2/1-549 --LLRDFEKG--AFFRAIQETRGYLV---LRKEGLEMAEQYENMSEFISTRMPVPT

Pectob.2320-W5S 2813-YP 006283770.1--36H-COG2/1-554
Di.zea.1140-Dd1591_0695-YP 003003055.1--36H-COG2/1-561
Pa.vag.184-Pvag_pPag30079-YP 003729820.1--36H-COG2/1-546
Er.bill.197-Ebc 38940-YP 003743272.1--36H-COG2/1-526
Ra.aqu.1678-Q7S 24891-YP 005419232.1--36H-COG2/1-554
En.asb.1498-Entas 2287-YP 004828805.1--36H-COG2/1-513
Rahnel.1320-Rahaq 4869-YP 004215574.1--36H-COG2/1-554
Di.dad.235-Dda3937_00027-YP 003883574.1--36H-COG2/1-554
Pr.stu.1965-S70 05790-YP 006215722.1--36H-COG2/1-520
En.638.865-Ent638 2100-YP 001176826.1--36H-COG2/1-512
Pe.car.1139-PC1 2526-YP 003018093.1--36H-COG2/1-554
Mo.mor.2189-MU9 702-YP 007504121.1--36H-COG2/1-525
Pe.car.1139-PC1 3443-YP 003018995.1--36H-COG2/1-511
Pa.ana.1905-PAJ 0915-YP 005933791.1--36H-COG2/1-559
Pectob.2320-W5S 3736-YP 006284671.1--36H-COG2/1-510
Pe.atr.485-ECA0183-YP 048310.1--36H-COG2/1-553
Rahnel.1320-Rahaq 3107-YP 004213828.1--36H-COG2/1-503
Pe.car.1139-PC1 4071-YP 003019622.1--36H-COG2/1-553
Di.dad.235-Dda3937_03462-YP 003884507.1--36H-COG2/1-563
Ra.aqu.1678-Q7S 15665-YP 005402913.1--36H-COG2/1-503
Pectob.2320-W5S 4505-YP 006285423.1--36H-COG2/1-555
Pe.atr.485-ECA3642-YP 051730.1--36H-COG2/1-551
Pe.car.1139-PC1 1417-YP 003019699.1--36H-COG2/1-554
En.asb.1498-Entas 4509-YP 004821569.1--36H-COG2/1-559
Pa.ana.1905-PAJ 3064-YP 005935940.1--36H-COG2/1-544
Pectob.2320-W5S 1733-YP 006282696.1--36H-COG2/1-535
Pe.atr.485-ECA4334-YP 052421.1--36H-COG2/1-556
Di.zea.1140-Dd1591_1602-YP 003003935.1--36H-COG2/1-554
Pectob.2320-W5S 4506-YP 006285424.1--36H-COG2/1-540
Di.zea.1140-Dd1591_1453-YP 003003794.1--36H-COG2/1-532
Pectob.2320-W5S 0106-YP 006281117.1--36H-COG2/1-556
Di.zea.1140-Dd1591_0769-YP 003003127.1--36H-COG2/1-505
Ra.aqu.1678-Q7S 18035-YP 005403387.1--36H-COG2/1-535
Rahnel.1320-Rahaq 3579-YP 004214298.1--36H-COG2/1-535
Pe.car.1139-PC1 4072-YP 003019623.1--36H-COG2/1-540
Pe.car.1139-PC1 3464-YP 003019016.1--36H-COG2/1-551
Pe.car.1139-PC1 0111-YP 003015709.1--36H-COG2/1-556
Pe.atr.485-ECA0182-YP 048309.1--36H-COG2/1-542
Pectob.2320-W5S 3753-YP 006284688.1--36H-COG2/1-551
Pa.ana.1905-PAJ 2666-YP 005935542.1--36H-COG2/1-514
Ci.rod.62-ROD 16161-YP 003365194.1--36H-COG6/1-557
En.asb.1498-Entas 2095-YP 004828614.1--36H-COG6/1-563
En.638.865-Ent638 1961-YP 001176688.1--36H-COG6/1-563
Cr.sak.579-ESA 01710-YP 001437800.1--36H-COG6/1-565
Cr.tur.6-CTU 22440-YP 003210607.1--36H-COG6/1-565
Ci.kos.578-CRO 01456-YP 001453025.1--36H-COG6/1-562
Rahnel.1320-Rahaq 1930-YP 004212674.1--36H-COG6/1-566
Pantoe.297-Pat9b 2403-YP 004116261.1--36H-COG6/1-564
Er.bill.197-Ebc 26700-YP 003742048.1--36H-COG6/1-567
Pectob.2320-W5S 1760-YP 006282723.1--36H-COG6/1-570
Pa.ana.1905-PAJ 1621-YP 005934497.1--36H-COG6/1-568
En.clo.1544-EcWSU1_02120-YP 004951978.1--36H-COG6/1-576
Ra.aqu.1678-Q7S 09815-YP 005401764.1--36H-COG6/1-566
Ye.pse.585-YPTB2412-YP 070925.1--36H-COG6/1-579
Ye.ent.378-YE2588-YP 001006789.1--36H-COG6/1-579
Di.dad.235-Dda3937_02787-YP 003883649.1--36H-COG6/1-572
Pa.vag.184-Pvag 1800-YP 003931435.1--36H-COG6/1-568
En.bac.2261-D782 2307-YP 007340470.1--36H-COG6/1-558
Pe.atr.485-ECA1683-YP 049784.1--36H-COG6/1-573
Pe.car.1139-PC1 2617-YP 003018183.1--36H-COG6/1-573
Di.zea.1140-Dd1591_1535-YP 003003868.1--36H-COG6/1-574
Di.zea.1140-Dd1591_3580-YP 003005868.1--36H-COG6/1-572
Es.col.1836-Y75 p1397-YP 489687.1--36H-COG6/1-546
Pe.atr.485-ECA3902-YP 051990.1--36H-COG6/1-575
Sa.bon.1474-SBG 1454-YP 004730321.1--36H-COG6/1-537
Sa.ent.407-STM1626-NP 460585.1--36H-COG6/1-541
Pe.car.1139-PC1 3679-YP 003019230.1--36H-COG6/1-567
Pectob.2320-W5S 4020-YP 006284955.1--36H-COG6/1-575
Di.zea.1140-Dd1591_0523-YP 003002884.1--36H-COG6/1-568
Di.dad.235-Dda3937_02665-YP 003881279.1--36H-COG6/1-572
---SVNDDKSV--TVLRDIDGIRRDIFLG---SANKLSSLSVAGNTDAAAEYFNVTRVTO
---DESQDASQ--ALISDIHRIRVQFLA---SGQKIGELVKNHDRREAALEEFNQHLDPQO
---MLKAPKSR--ELIASIRSTGTQYLA---FSDDVVALGMAGKRDEAAQQLLGPYQTO
---LQTTFVGI--KKIQAVKEAAQTFET---AKSTLLEMI RAGKQDEAAEFALQKMTTPO
---IQSTVTGK--QKIKTLQEAGTFET---AKEQLIALARAGDMGATEFVLRKLTTSQ
---LSWTAKEA--PVIDATAEHLAQFGAGVQDMQTAMA AVKANKGDATAEQAL---KTAE
---IQSTVTGK--QKIKTLQEAGTFET---AKEQLIALARAGDMGATEFVLRKLTTSQ
---SAKDARS I--SLLNDIQIRSEYSV---SGNKLMDLASRGNKQEAVALINVSLSLQ
---NAKDPQSI--AVLAETVDVRRERFLO---SQARLSEFLNNNNNSAAIDEMMNKTSAQI
---LWETPQEG--VINAI AENLARFESSVAEMQTAMAALNANKDDTTAQOAL---KVAE
---SVSDDKSV--AVLRDIDGIRRDIFLG---SANKLSSLSVAGNTDAAAEYFNVTRVTO
---FGMDPQGR--ALLDKMI ADEKHYAA---VTREVLDDQQGRHEEAI AKMMDAEYAS
---GNWPAEDK--SAIQDISASLNAYLT---QRQQVMSPTVS---QOTLSELNNQMAQLO
---QVNTPQGS--EIFTRLKARAEFLFLP---FIDEVVALAQOQKGSDDATQLLFGPRYQTO
---GYWPAEDK--SAIQDISASLNAYLT---QRQQVMSPTVS---QOTLSELNNQMAQLO
---QTVESRSV--TQLRAIRAIRTEFLK---SGDKI ISEVVAGNREAAIEEFNNNLNVVQ
---YSWDPQDQ--RLVETMPENIRRYRE---SQWHTLNPAGSDAEKITAQLAEAGLALT
---QNVPEARS--SQLRDIRAIRNEFLK---SGDKI ISEVVAGNREAAIEEFNNNLNVVQ
---NESNDPQO--QLIGDIRLIRAKFLE---SGQKVI ALVUKANNREAEALNEFNQNLNPAQ
---YSWDPQDQ--RLVETMPENIRRYRE---SQWHTLNPAGSDAEKITAQLAEAGLALT
---QTVESRSV--TQLRAIRAIRTEFLK---SGDKI ISEVVAGNREAAIEEFNNNLNVVQ
---LISTPEEK--ALFDKVG EYRQSYIK---KRDAI ITEKGAGNFDRAITLDFNEFVPAS
---SITSKQGR--ELFNQLDIRKQYSV---SINKAIDYAMDEG DALATELVLFGDIAAQI
---IGGEGGRAE--KELDEVMESSDKLVN---ASNHVFEALNAGHVDEAKRQLNSEAVPLS
---EVASVTGR--QLFSNIQSHAAFLFLP---LMDKVVALAQOQKKEADQLLQASGDNIQ
---RINAGKGR--ELFNQLDIRKQYSV---SINKAVDYAMEG DALATELVLFGDIAAQI
---STA EKHAQ--ELVAELQVRVPAYSS---SMANAI TLAMANNKSEAQHLLLTLDVRAKQ
---SVKDDEHS--SLLHEIQIRSEYSV---SGNKIMDLASRGNKQEAVALINVSLSLQ
---DASGERSR--KQGVVVRGFAEFIK---SGDQI ISDALAGNNDVAIEFNNTLNVIQ
---TYLTPPEE--RLADQLAENLQRYNR---EGVQPTDAIIRAGQTDMA LRLYDDKVSAL E
---STVDKHAQ--GLVTILEQVRVPAYSS---AMKEAI ITEKGAGNFDRAITLDFNEFVPAS
---NAPWPEED--SGIRQVTRMLEYATS---QRKQVLKPDAS---QQVLSDLNAQMATIQ
KEHSDVTDKDR---QFVTAISNAEEGYRP---VAKHIVDLALEEKKAEAI DRMNRELRPQL
KEHSDVTDKDR---QFVTAISNAEEGYRP---VAKHIVDLALEEKKAEAI DRMNRELRPQL
---NTSGLLAR--KQGVVVRGFAEFIK---SGDKI ISEVVAGNREAAIEEFNNNLNVVQ
---LISTPEEK--ALFDKVG EYRQSYIK---KRDAI ITEKGAGNFDRAITLDFNEFVPAS
---SATEKHAQ--ELVAELQVRVPAYSS---SYTNAI TLAMANNKSEAQHLLLTLDVRAKQ
---NAGSERSR--KQIETIRVLAEFIK---SGDKI ISDALAGNNDVAIEFNNTLNVIQ
---LISTPEEK--ALFDKVG EYRQSYIK---KRDAI ITEKGAGNFDRAITLDFNEFVPAS
---EDSTPADR--EAFDKVISSEGEVPLA---VLDHAGQLGLQNKQKEAI SYLKTIVRPLQ
---RAVKTQAE--ALDAELQRYKAYLA---GLQPMLKYAKNGMFEAI INHENEQARPLD
---RAVRTPADE--ALDADLKARYDAYIA---GLQPMLKYAKNGMFEAI INHENEQARPLD
---RSVRTPADE--ALDNDLKRFRDAYIT---GLQPMLKYAKNGMFEAI INHENEQARPLD
---RASHEDAEA--ALDSELKARYDAYIS---GLAPMLKYAKNGMFEAI INHENEQARPLD
---RESHAESA--ALDSELKARYDAYIS---GLTPMLKYAKNGMFEAI INHENEQARPLD
---RAVKTQAE--ALDAELNTRFKAYID---GLQPMLKYAKNGMFEAI INHENEQARPLD
---RPNKTDKDR--ALDEPLKKAYDAYLT---QGMAPMLES AKQAHFEFV I SQAETVRGLD
---RKTKTAE DL--ALDAPLTERFNAYID---KGLKPMI DSAKQGSFEG I AQETDVTTRKLD
---RRVKTPE DM--ALDGLKTKFDAYVT---QGLLPMVKS AKDGSFEG I AQETDVTTRKLD
---RPVKTQDV--ALDEDLRKS YDAYV N---QGLMLMLTAAKQGLFEFVITLSEETRILD
---RKSKTPEGI--KLDEQLQARFKEYVT---KGLMPMIESGKQGSFESI AQETDVTTRKLD
---RPVRTAEDE--ALDAELKTRFDAYIA---GLQPMVKFAKNGMFEAI INHENEQARPLD
---RPNKTDKDR--ALDEPLKKAYDAYLT---QGMAPMLES AKQAHFEFV I SQAETVRGLD
---RPTKSETDM--ALDVPLKKAYEYQRD---DGMKPLMAATKEGHFEFV I SLD AEKISL LD
---RPIKSETDT--ALDGPLKKAYEYQRD---DGMKMLLEATKEGHFEFV I SLEAEKLNQLD
---RAVKTQAE--ALDEPLNKAYNDYVE---KGI MPMLKAAKDG YFEE I LTHESEVRVLD
---REVKT PADM--ELDTTLQARFN DYIN---KGLI PMINAGKGSFEG I AQETDVTTRKLD
---RRVKTQAE--ALDKELTARYTAYID---GLKPMKYAKNGMFEAI INHENEQARPLD
---RPVKTQADM--ALDGLRKS YDAYV N---QGLMLMLTAAKQGLFEFVITLSEETRILD
---RPVKTQDM--ALDDEL RKS YDAYV N---QGLMLMLTAAKQGLFEFVITLSEETRILD
---RSVKTDM DL--ALDEPLNKAYNDYVE---KGI MPMLKAAKDG YFEE I LTHESEVRVLD
---REVKT PADM--ALDDALQQR YNDYVS---NGVRPML EAVKAGRYDDVVALEWKQTRKLD
---RPVKTQAE--ALDETLNQRQYAYIT---GMQPMKYAKNGMFEAI INHENEQARPLD
---RPDRLESEK--ALDEDILKAYTNYRD---NAIVLMQKATSDGEFEDLVSL ESTLARTLD
---RAVKTPEDE--ALDNELNARYTAYIN---GLQPMVKFAKNGMFEAI INHENEQARPLD
---RAVKT PADD--ALDNELNARYTAYIN---GLQPMVKFAKNGMFEAI INHENEQARPLD
---RPDKLESEK--ALDEDILKAYNNYRD---NAIVVMQKATSDGEFEDLVSL ESTLARTLD
---RPDRLESEK--ALDEDILKAYNNYRD---NAIVVMQKATSDGEFEDLVSL ESTLARTLD
---RTDKSSEEK--SLDSDLTTHYIAYRD---KVMVPMVDFVRNGEDDVIETTLARQLD
---REVKT PADM--ALDDVLDQQR YNDYVN---NGVRPML DAVKAGRYDDVVALEWKQTRKLD

En.clo.1544-ECWSU1_01962-YP_004951821.1--36H-COG1/1-553
En.asb.1498-Entas_1879-YP_004828403.1--36H-COG1/1-554
En.bac.2261-D782_1748-YP_007339929.1--36H-COG1/1-547
Es.col.1836-X75_p1862-YP_490148.1--36H-COG1/1-553
Cr.tur.6-CTU_33010-QP_003211664.1--36H-COG1/1-555
Cr.tur.6-CTU_25780-YP_003210941.1--36H-COG1/1-536
En.clo.1544-ECWSU1_00403-YP_004950264.1--36H-COG1/1-549
En.638.865-Ent638_2457-YP_001177177.1--36H-COG1/1-555
Sa.bon.1474-SBG_1755-YP_004730609.1--36H-COG1/1-553
Pr.mir.1265-PMI1665-YP_002151396.1--36H-COG1/1-548
Cr.sak.579-ESA_01348-YP_001437444.1--36H-COG1/1-556
Cr.sak.579-ESA_00560-YP_001436686.1--36H-COG1/1-555
Sa.ent.407-STM1919-NP_460876.1--36H-COG1/1-553
Ci.kos.578-CKO_01066-YP_001452645.1--36H-COG1/1-552
En.asb.1498-Entas_0424-YP_004826963.1--36H-COG1/1-549
Pantoe.297-Pat9b_1273-YP_004115150.1--36H-COG1/1-553
Ed.tar.1771-ETAF_2264-YP_005699859.1--36H-COG1/1-555
Pa.ana.1905-PAJ_3534-YP_005936409.1--36H-COG1/1-553
Pa.vag.184-Pvag_1203-YP_003930842.1--36H-COG1/1-552
Pantoe.297-Pat9b_1605-YP_004115478.1--36H-COG1/1-556
Cr.sak.579-ESA_00210-YP_001436348.1--36H-COG1/1-557
Er.tas.1011-ETA_pET460340-YP_001905943.1--36H-COG1/1-543
Cr.tur.6-CTU_36610-YP_003212024.1--36H-COG1/1-557
Pe.car.1139-PC1_1159-YP_003016743.1--36H-COG1/1-556
Er.tas.1011-ETA_14640-YP_001907403.1--36H-COG1/1-554
Pa.vag.184-Pvag_1725-YP_003931362.1--36H-COG1/1-556
Ed.ict.1187-NT01EI_3742-YP_002935104.1--36H-COG1/1-525
En.638.865-Ent638_0380-YP_001175119.1--36H-COG1/1-549
Er.bil.197-Ebc_25360-YP_003741914.1--36H-COG1/1-556
Er.tas.1011-ETA_16910-YP_001907630.1--36H-COG1/1-543
Es.fer.1173-EFER_3055-YP_002384154.1--36H-COG1/1-603
Xe.nem.162-XNC1_1619-YP_003711880.1--36H-COG1/1-520
En.clo.1544-ECWSU1_02811-YP_004952664.1--36H-COG1/1-559
Di.dad.235-Dda3937_03500-YP_003882750.1--36H-COG1/1-553
Xe.bov.105-XBJ1_1924-YP_003467828.1--36H-COG1/1-523
Rahnel.1320-Rahaq_1831-YP_004212576.1--36H-COG1/1-556
Ra.aqu.1678-Q7S_08965-YP_005401598.1--36H-COG1/1-556
Cr.sak.579-ESA_01126-YP_001437230.1--36H-COG1/1-514
Pe.atr.485-ECA2712-YP_050803.1--36H-COG1/1-560
En.clo.1544-ECWSU1_00560-YP_004950421.1--36H-COG1/1-597
Di.dad.235-Dda3937_03498-YP_003882752.1--36H-COG1/1-561
Cr.tur.6-CTU_27880-YP_003211151.1--36H-COG1/1-514
Pe.car.1139-PC1_1669-YP_003017246.1--36H-COG1/1-560
Ra.aqu.1678-Q7S_14450-YP_005402672.1--36H-COG1/1-551
Ci.kos.578-CKO_03622-YP_001455137.1--36H-COG1/1-517
Di.zea.1140-Dd1591_2408-YP_003004728.1--36H-COG1/1-557
Di.zea.1140-Dd1591_2406-YP_003004726.1--36H-COG1/1-559
Ed.ict.1187-NT01EI_2801-YP_002934203.1--36H-COG1/1-554
Pe.car.1139-PC1_1384-YP_003016966.1--36H-COG1/1-559
Rahnel.1320-Rahaq_2866-YP_004213595.1--36H-COG1/1-551
Pe.atr.485-ECA1281-YP_049387.1--36H-COG1/1-556
Pectob.2320-W5S_1886-YP_006282848.1--36H-COG1/1-549
Pectob.2320-W5S_1696-YP_006282659.1--36H-COG1/1-559
Di.zea.1140-Dd1591_2407-YP_003004727.1--36H-COG1/1-555
Pe.atr.485-ECA1509-YP_049611.1--36H-COG1/1-559
Pa.vag.184-Pvag_1724-YP_003931361.1--36H-COG1/1-520
Pa.ana.1905-PAJ_1541-YP_005934417.1--36H-COG1/1-520
Mo.mor.2189-MU9_1596-YP_007505015.1--36H-COG1/1-519
Pr.mir.1265-PMI2808-YP_002152509.1--36H-COG1/1-563
Di.zea.1140-Dd1591_0395-YP_003002764.1--36H-COG1/1-556
En.clo.1544-ECWSU1_03786-YP_004953635.1--36H-COG1/1-515
Pectob.2320-W5S_3170-YP_006284116.1--36H-COG1/1-556
Di.dad.235-Dda3937_02184-YP_003884754.1--36H-COG1/1-556
Ci.rod.62-ROD_32641-YP_003366748.1--36H-COG1/1-517
Di.dad.235-Dda3937_03499-YP_003882751.1--36H-COG1/1-561
Di.dad.235-Dda3937_01005-YP_003883346.1--36H-COG1/1-561
Pantoe.297-Pat9b_1604-YP_004115477.1--36H-COG1/1-555
Er.tas.1011-ETA_14660-YP_001907405.1--36H-COG1/1-560
Pr.mir.1265-PMI2809-YP_002152510.1--36H-COG1/1-575
Ed.tar.1771-ETAF_3053-YP_005400648.1--36H-COG1/1-516
Se.pro.864-Spro_1415-YP_001477647.1--36H-COG1/1-546
Di.zea.1140-Dd1591_1804-YP_003004134.1--36H-COG1/1-562
Di.dad.235-Dda3937_03501-YP_003882749.1--36H-COG1/1-575
Pantoe.297-Pat9b_0851-YP_004114731.1--36H-COG2/1-524
Pa.vag.184-Pvag_0291-YP_003929953.1--36H-COG2/1-525
En.clo.1544-ECWSU1_03886-YP_004953735.1--36H-COG2/1-519
Cr.tur.6-CTU_04790-YP_003208842.1--36H-COG2/1-515
Ci.kos.578-CKO_04484-YP_001455975.1--36H-COG2/1-521
Cr.sak.579-ESA_03488-YP_001439539.1--36H-COG2/1-515
Ci.rod.62-ROD_48071-YP_003368199.1--36H-COG2/1-521
Sa.bon.1474-SBG_2851-YP_004731664.1--36H-COG2/1-521
Sa.ent.407-STM3216-NP_462130.1--36H-COG2/1-521
En.asb.1498-Entas_3753-YP_004830248.1--36H-COG2/1-519
Mo.mor.2189-MU9_3389-YP_007506806.1--36H-COG2/1-521
Sa.ent.404-STY3394-NP_457606.1--36H-COG2/1-522
En.638.865-Ent638_3526-YP_001178235.1--36H-COG2/1-519
Pe.atr.485-ECA1774-YP_049874.1--36H-COG2/1-554
En.638.865-Ent638_2119-YP_001176845.1--36H-COG2/1-549

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NAMGEAMGVYRAQ--SESLYQQAFTTSSHDYQFARWQLMIALVLAVALVAVFGIRRL
NAMGEAFQAQYALS--SEKLYRDVITDNADDYRFAQWQLVIAVLVVIWQGLQHL
DEMEEYITWRAQ--NTLLQAAAQENQSSFTGMLWTLGII IAI IVVLAITWQGLRHLL
NALEKAVTRYDDV--NVRLAQQAQWDESRDFRLAQWQTALAVLVVVLVIALVWYGRHLL
TAMQNVYREWREA--QAVLTDGRIKDNENDYKRILWILSAVMLLVIAVIVSSWIAMRRVLL
NALGTALKKEYDTA--SSQYLTALTETRDDYRFAKQWMAI LALALVIVLVGVVYGRHLL
NALGALGNARA--SEKQYRQTFDQSAHDYRFAQWQLGILAVLVVLLVWVYGRQALL
TAMENSFNTRYMNY--VQHEVADSIEQGHFFYI IALMFI GAITMVLVSVIASHRWLNFII
NALEKAVTRYDDV--NVRLAQQAQWDESRDFRVAQWQTGLAVLVVVLVIALVWYGRHLL
DEMEEYITWRAQ--NTLLQAAAQENQSSFTGMLWTLGIVIAVIVILAATWQGLRHLL
NALGALGNARA--SENLYRQTFDQSAHDYRFAQWQLGILAVLVVLLVWVYGRHLL
NALGALGNARA--SEKLYSKAFDESARDYHFAQWQLGILAVLVVLLVWVYGRHLL
NAMQKVYHEWRWA--QAKLANKGIKDNESDYKRILWILSAVMLLVIAVIVSSWIAMRRVLL
DDLEDAYKQWRAQ--NVELLAQGSAAENSAWQHVLMAMVAVVLLVLAVALVVRILL
SGFMSLDEASDYVANQII SPASQAAAANYRQMIPLTI GFMLFLAMTALVIVVWRNHI
DNLDKAYQKWRSA--NYQLMKQIAAENDSNYSNMLWTLII IAI IALVTVA TWAGLRLL
DQLDITAYEAWRW--NIQLMKDTSLNHQRSLTDLALLAIGLITGVI GAVWMLGQKLLI
VAMKGTYBTRWK--QGELAAAGVQNERAFTTMMWLLGSTMVAVVIAVIVSSWIAMRRVLL
NAMQVYREWRAE--QAKLASKGVKDNESDYERILWILSAVMLLVIAVIVSSWIAMRRVLL
REFGASVEKFNFA--AAAKLDQTRINGEHLISTTKTVLILAMLVGIAILLTDRLVAMLV
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NDMQQAYTLWRTA--LNEITVQGVQANEAYSKMLWVIGTIMLVVALIALCVWGLRKLII
REFGASVEKFNFA--AAAKLDQTRINGEHLISTTKTVLILAMLVGIAILLTDRLVAMLV
NGFEKQYIEMWQ--NDRLYDIAVEDNDSSYSHAMLLAGLITAVLAVIVAVWGLRKHSLV
RMEIAYNNYMQV--LNSNIVEVRADAAFYKIALAMFFGSI LMFVTAIATHWMLKRLL
NALGALGNARA--SGDYLQSAFTQSQNDYRFAKQWMAVMAVIALVIVLVWYGRHLL
VEFGGVADKYVTA--IQS--DDAI ISAEKHIAINKDLLLLVALI IGVIVLFLSDRYLVNYLV
RQLEAVNNYMQV--LGHNI STAVSDGAFYKVISAMFFGSI LMFVTVASAWMMRRNLL
DQFQKDVGDYTY--VSARFGEAQQTAAASQVNMINTSVALVLI IALVTRIRIF
DQFQKDVGDYTY--VSARFGEAQQTAAASQVNMINTSVALVLI IALVTRIRIF
RAFASAEKFNAA--AGAKLDATREVRDVSMTVTTKTVII IAVI IGLLLLLLTDRLVAMLV
VDFGFSMDKYVTA--IISSETSMKEVYDLDVWSNY ILLAAVIL IGLLLLLLTDRLVNYLV
DQFQKDVGDYTY--NDKLYQMAVENSNSYSQAIWLV IASVLAVALVIVAVWGLRQALI
VAFGEVQAKYAAV--VTN--SDYIDFNVSHNSWTRNLI IALVIVLFLSDRYLVNYLV
RAFASAEKFNAA--AGAKLDATREVRDVSMTVTTKTVII IAVI IGLLLLLLTDRLVVALV
VAFGANMEKYQTA--ILSSSETSMNEVYGLVGSNSHIL LGAVALGLLILLLTDRLVNYLV
RNFSAAIEKYNDK--ITSLNAEANHRITQWVAWQY ILLGAMLSVIMLLSDRYLANFLV
TAMQDYLLEWRAA--QAEILTNAIQONEQDYQRI LWILSAVMLLVIAVIVSSWIAMRRVLL
VEFGELTEKYAAA--IQS--DNTIMDVEHYIAI SKNVLAAALI IGVIVLFLSDRYLVNYLV
WAFGDAQKYVTA--ADFLGTVNEHNSWTRNLI IALV IALV IFLISERYLTRYLV
SGFMSLDEASDYVANQII SPASQAAAANYRQMIPLTI GFMLFLAMTALVIVVWRNHI
LAFGEDIKRYSYD--ITA--SSLI PSVNEHNTQNRNAMI AVMI IGLVILFLSDRYLVNYLV
RNFSAAIEKYNDK--ITSLNAEANHRITQWVAWQY ILLGAMLSVIMLLSDRYLANFLV
VAMQDAYITWRAA--QNQLSDDGLQENHVAFFETMLLWLLGALSUVVVLVILSWIGLQRI
VAFGNMDDKYVTA--IMSSSETSMNEVYGLVWSNSY ILLCAVVLGLLILLLTDRLVHYLV
LTFGGDIKRYSDG--ITA--SSLI PTVNEHNDKRNALIAVMI IGLVILFLSDRYLVNYLV
VEFGELTEKYAAA--IQS--DEAI IQASQRIAI INKNVLLI IAGLAVVLLI IAGAAARGILL
LTFGGDIKRYSDG--ITA--SSLI PSVNEHNDKRNRLVIMVIL IGVIVLFLSDRYLVNYLV
VAMQGSYGEWRAR--QTELSQDQMAQNHKAFTQMMWLLG IGVAVIVVILACVWFLGRQVLI
QAMQATYSAWRLK--QESLHAGAEVQQAFTQMMWLLG IGVAVIVVILACVWFLGRQVLI
KEFGASLEATDF--AETRIEQRTRLVDGLMTRIV IISGTLFGLLIL IADRYLVKMMQ
DNFTNSLVEPTF--ITDDVNSPVSIEADNDYHEMTE IISGTLFGLI FLITFLTYWFKRHII
VKFTTAINENYQI--IKNLKTEAQGRISAWVYCKVTLI VAMI IGLVVLTDRLYLAIMHG
RAFGAABENFNA--AARALSTRVVDLSMTTRV IITATI IGLLILFLTDRLVAMLV
VAMQDAYITWRAA--QNQLSDDGLQENHVAFFETMLLWLLGALSUVVVLVILSWIGLQRI
VKFTTAINENYQI--IKNLKTEAQGRISAWVYCKVTLI VAMI IGLVVLTDRLYLAIMHG
KAMQSVYREWRAA--QTELANAGIQDNEKDYQRI LWILSAVMLLVIAVIVSSWIAMRRVLL
VEFGDVANKYVNA--IQS--DNTI VALKAHIT INKNVLLI IGVIVLFLSDRYLVNYLV
DAFQSFDAFYFR--NDALNDSAVSDSQNYHYSI IIVAVCVLILFFATTSAWYIRRVLL
SAFLLDYTPWRAD--QDRLEAGVAANLTA YKRMMLLGLVAMVAVVIVLACVWFLGRKIV
NGFEQAYDNWQ--TAQLLSAGSAENHAYQRAI WLLSVLVVVLALIAAASGIIHILL
ERFTQSLYEATDHLSDNVNHAIEAAQGNVQALIFAFIFMSVFLITFVFMVLRHIV
DAMAEIYAQWRAQ--NHGLLQQGI DANQRSFERMVVTLGAGIALAVVLLI ILAGAAARGILL
TYFMSALDDTSAVANDITPAAAAAQTSYRQMVPLSLAVIF IFLITLGAVALVIRKIV
DAFQHFADFYFR--NDALNDAVNSDQNYHYSI IIVAVCVLILMLATTSASAWYIRRVLL
VEFGELTEKYAAA--IQS--DSTITVGRYIEISKVLLAALI IGVIVLFLSDRYLVNYLV
NTYLDANAFSAAS--QSEQLRNEGISI IADGSTATIMVTLIFSAVAIVAS IILGFLVLRV
NKFLQDVAVFNAS--QDSQRLSEGGIVENQQA IITLIFSAALIAA IMLGFLVLRV
QAYKANQALIAI--QNQEMQAGVQVGDGFKSNRLL ILLITLFSVATGSLIGWIVRSIT
NEYKSRVQALIKI--QDNHMRERAGVTVAKDFSGNRALT IGLTLVGLVGLSGLMIVRSIT
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KIYKDKVQELIAI--QDAQMAGVQVGDGFKNTNRLITL IALISIAAGVIMGWIVRSIT
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Pectob.2320-W5S 2813-YP 006283770.1--36H-COG2/1-554
Di.zea.1140-Dd1591_0695-YP 003003055.1--36H-COG2/1-561
Pa.vag.184-Pvag_pPag30079-YP 003729820.1--36H-COG2/1-546
Er.bill.197-Ebc 38940-YP 003743272.1--36H-COG2/1-526
Ra.aqu.1678-Q7S 24891-YP 005419232.1--36H-COG2/1-554
En.asb.1498-Entas 2287-YP 004828805.1--36H-COG2/1-513
Rahnel.1320-Rahaq 4869-YP 004215574.1--36H-COG2/1-554
Di.dad.235-Dda3937_00027-YP 003883574.1--36H-COG2/1-554
Pr.stu.1965-S70 05790-YP 006215722.1--36H-COG2/1-520
En.638.865-Ent638 2100-YP 001176826.1--36H-COG2/1-512
Pe.car.1139-PC1 2526-YP 003018093.1--36H-COG2/1-554
Mo.mor.2189-MU9 702-YP 007504121.1--36H-COG2/1-525
Pe.car.1139-PC1 3443-YP 003018995.1--36H-COG2/1-511
Pa.ana.1905-PAJ 0915-YP 005933791.1--36H-COG2/1-559
Pectob.2320-W5S 3736-YP 006284671.1--36H-COG2/1-510
Pe.atr.485-ECA0183-YP 048310.1--36H-COG2/1-553
Rahnel.1320-Rahaq 3107-YP 004213828.1--36H-COG2/1-503
Pe.car.1139-PC1 4071-YP 003019622.1--36H-COG2/1-553
Di.dad.235-Dda3937_03462-YP 003884507.1--36H-COG2/1-563
Ra.aqu.1678-Q7S 15665-YP 005402913.1--36H-COG2/1-503
Pectob.2320-W5S 4505-YP 006285423.1--36H-COG2/1-555
Pe.atr.485-ECA3642-YP 051730.1--36H-COG2/1-551
Pe.car.1139-PC1 1417-YP 003016999.1--36H-COG2/1-554
En.asb.1498-Entas 4509-YP 004821569.1--36H-COG2/1-559
Pa.ana.1905-PAJ 3064-YP 005935940.1--36H-COG2/1-544
Pectob.2320-W5S 1733-YP 006282696.1--36H-COG2/1-535
Pe.atr.485-ECA4334-YP 052421.1--36H-COG2/1-556
Di.zea.1140-Dd1591_1602-YP 003003935.1--36H-COG2/1-554
Pectob.2320-W5S 4506-YP 006285424.1--36H-COG2/1-540
Di.zea.1140-Dd1591_1453-YP 003003794.1--36H-COG2/1-532
Pectob.2320-W5S 0106-YP 006281117.1--36H-COG2/1-556
Di.zea.1140-Dd1591_0769-YP 003003127.1--36H-COG2/1-505
Ra.aqu.1678-Q7S 18035-YP 005403387.1--36H-COG2/1-535
Rahnel.1320-Rahaq 3579-YP 004214298.1--36H-COG2/1-535
Pe.car.1139-PC1 4072-YP 003019623.1--36H-COG2/1-540
Pe.car.1139-PC1 3464-YP 003019016.1--36H-COG2/1-551
Pe.car.1139-PC1 0111-YP 003015709.1--36H-COG2/1-556
Pe.atr.485-ECA0182-YP 048309.1--36H-COG2/1-542
Pectob.2320-W5S 3753-YP 006284688.1--36H-COG2/1-551
Pa.ana.1905-PAJ 2666-YP 005935542.1--36H-COG2/1-514
Ci.rod.62-ROD 16161-YP 003365194.1--36H-COG6/1-557
En.asb.1498-Entas 2095-YP 004828614.1--36H-COG6/1-563
En.638.865-Ent638 1961-YP 001176688.1--36H-COG6/1-563
Cr.sak.579-ESA 01710-YP 001437800.1--36H-COG6/1-565
Cr.tur.6-CTU 22440-YP 003210607.1--36H-COG6/1-565
Ci.kos.578-CRO 01456-YP 001453025.1--36H-COG6/1-562
Rahnel.1320-Rahaq 1930-YP 004212674.1--36H-COG6/1-566
Pantoe.297-Pat9b 2403-YP 004116261.1--36H-COG6/1-564
Er.bill.197-Ebc 26700-YP 003742048.1--36H-COG6/1-567
Pectob.2320-W5S 1760-YP 006282723.1--36H-COG6/1-570
Pa.ana.1905-PAJ 1621-YP 005934497.1--36H-COG6/1-568
En.clo.1544-EcWSU1_02120-YP 004951978.1--36H-COG6/1-576
Ra.aqu.1678-Q7S 09815-YP 005401764.1--36H-COG6/1-566
Ye.pse.585-YPTB2412-YP 070925.1--36H-COG6/1-579
Ye.ent.378-YE2588-YP 001006789.1--36H-COG6/1-579
Di.dad.235-Dda3937_02787-YP 003883649.1--36H-COG6/1-572
Pa.vag.184-Pvag 1800-YP 003931435.1--36H-COG6/1-568
En.bac.2261-D782 2307-YP 007340470.1--36H-COG6/1-558
Pe.atr.485-ECA1683-YP 049784.1--36H-COG6/1-573
Pe.car.1139-PC1 2617-YP 003018183.1--36H-COG6/1-573
Di.zea.1140-Dd1591_1535-YP 003003868.1--36H-COG6/1-574
Di.zea.1140-Dd1591_3580-YP 003005868.1--36H-COG6/1-572
Es.col.1836-Y75 p1397-YP 489687.1--36H-COG6/1-546
Pe.atr.485-ECA3902-YP 051990.1--36H-COG6/1-575
Sa.bon.1474-SBG 1454-YP 004730321.1--36H-COG6/1-537
Sa.ent.407-STM1626-NP 460585.1--36H-COG6/1-541
Pe.car.1139-PC1 3679-YP 003019230.1--36H-COG6/1-567
Pectob.2320-W5S 4020-YP 006284955.1--36H-COG6/1-575
Di.zea.1140-Dd1591_0523-YP 003002884.1--36H-COG6/1-568
Di.dad.235-Dda3937_02665-YP 003881279.1--36H-COG6/1-572

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REYRNAVRRLVDY-HNKAMLGITDMSSTYHDRLVLLMILGGVLLSIWVATITRSVT
VDYLKTIADLVSF-QEEQMOTARSAAEDERNTATILLLTSLASAAVLLAAAAWLTITRSIT
NTYLNLASAFADS-QSQQLVAEAGALAGTEGNSAIQITLIFLSALAILAAVLLGYFLARSIV
NAYLDLATAFANS-QDQQLQAEQKTAIADGATAIQTLTIFLSALAILMAALGYFLTRISIT
DNVKTAGDNSSAA-IRDIIALVKAHNDALAYSSTITAVGVVIAILFLGILVSWVTRQIT
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DKVKTAGDSSAS-IREIIALVKIHNDLANSSSTITAVGVVAVLFLGILVSWVTRQIT
AKYTSKVNFEFIGI-QDDKMSSAQAVGESYKNALMVLATIILISALAGLI IASLITRSVT
DAYILSFRASRDH-GTETGNQLIQEFNTYERQNSIILV FALLALTLAIVSGVMIIRNLT
EN-----INKLYFTEESRAGRNVINSIDIQLGVITLIIAILGLTTAIVISRQIV
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EN-----INKLYFTEESRAGRNVISSIDILGVITLIIAILGLTTAIVISRQIV
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SA-----SNTLLDHEMNNLHNEVTRTISEMLVIIVATVAVGVLISWRMTRQIT
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SA-----SNTLLDHEMNNLHNEVTRTISEMLVIIVATVAVGVLISWRMTRQIT
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EDHIKQITDIIISY-SNDMMKEGHDDIIKTYSKSLRLIISMVVLISLITGSLISWLTTRSLI
TGYIASLQALKDH-QEARMQVAEQTSHDRTNALRLLAGAGAVLFLAGLSAWLITRSIT
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DSVFNALNMVNW-QEKLTVETADQSLKNANAGTLMVI IALLSVLGLISWITRTIK
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ALLLNTNDYLYQ-SNVRAKESLNTAQDAYQQTRLIFIVISLVALSLAVILGGIITRSIF
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DAYNEVLLKAIKI-RTDRANALTEAHKRTQLGLMFMVGAFAFALVLTMTFMVIRRVTVI
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DDYNQVLLKALAS-RTERVEQLRSASRTHFSMLVMVAFAFVAVLVMVLTMTFMVIRRVI
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Pr.mir.1265-PMI1666-YP 002151397.1--36H-COG1/1-568
Di.dad.235-Dda3937_02779-YP 003883640.1--36H-COG1/1-566
Di.zea.1140-Dd1591_1542-YP 003003875.1--36H-COG1/1-566
Pe.atr.485-ECA1691-YP 049792.1--36H-COG1/1-561
Se.pro.864-Spro 2983-Spro 001479212.1--36H-COG1/1-556
Ph.asy.1114-PAU_02685-YP 003041519.1--36H-COG1/1-564
Pr.stu.1965-S70_18135-YP 006218124.1--36H-COG1/1-561
Mo.mor.2189-MU9_1762-YP 007505181.1--36H-COG1/1-561
Pe.car.1139-PC1_2609-YP 003018175.1--36H-COG1/1-561
Xe.nem.162-XNC1_1620-YP 003711881.1--36H-COG1/1-567
Pectob.2320-W5S_1768-YP 006282731.1--36H-COG1/1-561
Pa.vag.184-Pvag_1723-YP 003931360.1--36H-COG1/1-558
Ye.pes.133-YP23_2024-YP 003568196.1--36H-COG1/1-557
Ye.pse.585-YP2B2401-YP 070915.1--36H-COG1/1-557
Ye.ent.378-YE2575-YP 001006778.1--36H-COG1/1-557
Pa.ana.1905-PAJ_1540-YP 005934416.1--36H-COG1/1-563
Ph.lum.1262-plu1853-NP 929126.1--36H-COG1/1-564
Serrat.1901-SerAS13_3075-YP 006025914.1--36H-COG1/1-555
Sa.ent.404-STY2128-NP 456485.1--36H-COG1/1-553
Ra.aqu.1678-Q7S_08960-YP 005401597.1--36H-COG1/1-564
Se.mar.2260-D781_2759-YP 007345195.1--36H-COG1/1-555
Rahnel.1320-Rahaq_1830-YP 004212575.1--36H-COG1/1-564
Se.ply.1407-SerAS9_3072-YP 004506452.1--36H-COG1/1-555
Ed.ict.1187-NT01E1_1461-YP 002932882.2--36H-COG1/1-555
En.aer.1436-EAE_15535-YP 004593297.1--36H-COG1/1-556
Xe.bov.105-XBJ1_1923-YP 003467827.1--36H-COG1/1-567
Serrat.1408-SerAS12_3073-YP 004501499.1--36H-COG1/1-555
Er.bil.197-Ebc_25350-YP 003741913.1--36H-COG1/1-559
Er.tas.1011-ETA_14650-YP 001907404.1--36H-COG1/1-554
Sa.ent.407-STM4533-NP 463392.1--36H-COG1/1-553
Es.col.1836-Y75_p4240-YP 492486.1--36H-COG1/1-551
En.bac.2261-D782_3913-YP 003742002.1--36H-COG1/1-553
Ci.kos.578-CKO_03442-YP 001454958.1--36H-COG1/1-554
Cr.sak.579-ESA_03402-YP 001439456.1--36H-COG1/1-555
Pantoe.297-Pat9b_1606-YP 004115479.1--36H-COG1/1-558
Cr.tur.6-CTU_05670-YP 003208930.1--36H-COG1/1-555
Sa.bon.1474-SBG_3944-YP 004732724.1--36H-COG1/1-553
En.asb.1498-Entas_0547-YP 004827084.1--36H-COG1/1-554
Ci.rod.62-ROD_48461-YP 003368233.1--36H-COG1/1-554
Ed.tar.1771-ETAF_1249-YP 005698855.1--36H-COG1/1-529
En.638.865-Ent638_00153-YP 001175251.1--36H-COG1/1-586
Ed.ict.1187-NT01E1_1462-YP 002932883.1--36H-COG1/1-532
Ye.ent.378-YE2573-YP 001006777.1--36H-COG1/1-545
Ed.tar.1771-ETAF_1250-YP 005698856.1--36H-COG1/1-530
Mo.mor.2189-MU9_1763-YP 007505182.1--36H-COG1/1-524
En.aer.1436-EAE_15540-YP 004593298.1--36H-COG1/1-536
En.638.865-Ent638_2456-YP 001177176.1--36H-COG1/1-533
Se.pro.864-Spro 2982-YP 001479211.1--36H-COG1/1-541
Es.col.1836-Y75_p1861-YP 490147.1--36H-COG1/1-533
Serrat.1901-SerAS13_3074-YP 006025913.1--36H-COG1/1-541
Ye.pes.133-YP23_2023-YP 003568195.1--36H-COG1/1-536
Serrat.1408-SerAS12_3072-YP 004501498.1--36H-COG1/1-541
Se.mar.2260-D781_2758-YP 007345194.1--36H-COG1/1-534
Ye.pse.585-YP2B2400-YP 070915.1--36H-COG1/1-536
Se.ply.1407-SerAS9_3071-YP 004506451.1--36H-COG1/1-541
Pr.stu.1965-S70_18140-YP 006218125.1--36H-COG1/1-521
En.bac.2261-D782_1749-YP 007339930.1--36H-COG1/1-533
En.asb.1498-Entas_2590-YP 004829104.1--36H-COG1/1-533
En.asb.1498-Entas_3672-YP 004830170.1--36H-COG1/1-545
Ci.kos.578-CKO_01067-YP 001452646.1--36H-COG1/1-537
En.clo.1544-3cW5U1_02810-YP 004952663.1--36H-COG1/1-538
Sa.ent.407-STM3152-NP 462067.1--36H-COG1/1-547
Pe.atr.485-ECA1332-YP 049438.1--36H-COG1/1-555
Pe.car.1139-PC1_1208-YP 003016792.1--36H-COG1/1-555
En.638.865-Ent638_3407-YP 001178118.1--36H-COG1/1-545
Pa.vag.184-Pvag_1413-YP 003931052.1--36H-COG1/1-554
Ph.asy.1114-PAU_02684-YP 003041518.1--36H-COG1/1-544
Pa.ana.1905-PAJ_1316-YP 005934192.1--36H-COG1/1-556
Ci.kos.578-CKO_04394-YP 001455885.1--36H-COG1/1-561
Sa.bon.1474-SBG_2750-YP 004731563.1--36H-COG1/1-547
Ra.aqu.1678-Q7S_16025-YP 005402985.1--36H-COG1/1-554
Rahnel.1320-Rahaq_3177-YP 004213898.1--36H-COG1/1-554
Pectob.2320-W5S_3114-YP 006284066.1--36H-COG1/1-555
Ye.ent.378-YE2971-YP 001007160.1--36H-COG1/1-552
Er.bil.197-Ebc_20190-YP 003741400.1--36H-COG1/1-556
Ph.lum.1262-plu1854-NP 929127.1--36H-COG1/1-544
Er.bil.197-Ebc_25340-YP 003741912.1--36H-COG1/1-528
Di.zea.1140-Dd1591_2937-YP 003005238.1--36H-COG1/1-564
Er.tas.1011-ETA_14670-YP 001907406.1--36H-COG1/1-518
Sa.ent.404-STY4234-NP 458344.1--36H-COG1/1-547
Sa.ent.407-STM3577-NP 462478.1--36H-COG1/1-547
Sa.bon.1474-SBG_3170-YP 004731982.1--36H-COG1/1-547
En.asb.1498-Entas_2591-YP 004829105.1--36H-COG1/1-555
En.638.865-Ent638_1858-YP 001176586.1--36H-COG1/1-552
Ci.rod.62-ROD_19331-YP 003365490.1--36H-COG1/1-553
Di.dad.235-Dda3937_01559-YP 003882087.1--36H-COG1/1-566
Er.bil.197-Ebc_37780-YP 004743156.1--36H-COG1/1-553
Pantoe.297-Pat9b_2001-YP 003115872.1--36H-COG1/1-558

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QPL----TNLIEHIRHMAKGDLD--TTRIDF--HGTNEMGLADSLRHMQTEFFVTVSVA
QPL----HNLIEHIRHMAKGDLD--STRIDF--HGTNEMGLADSLRHMQTEFFVTVSVA
RPL----NSVIEHIRHIAKGDLD--TKTDF--HSSNEMGLADSLRHMQSEFVTVSVA
RPL----NRMIEHIKMAAGDLD--TQP IAV--TSRNEMGLAASLKHMQDELINTVSGVR
NPL----NKLENIKALSTGDL--TQNI AI--SGRNEMSLAVGLKHMQKFEINTVSSVR
EPL----RALIQRITFAAGDLD--TPSVD T--KATNEIGELARGVEHMQDELINTVGRV
HPL----NGLVDRIKIFAAGDLD--TPTVAV--NGKNEIADLGRGVQHMQDELINTVGRV
RPL----NNVIEHIRHIAKGDLD--TKTTHF--HSSNEMGLADSLRHMQSEFVTVSVA
NPL----HKLNNIKAFSEGDL--TQITV--SGNEMGLAASLKHMQDELINTVSGVR
RPL----NNVIEHIRHIAKGDLD--TKTTFN--HSSNEMGLADSLRHMQSEFVTVSVA
RPL----RQSEIHIQHIARGDLD--TQPVEI--TVRNEIGELTSLQHMQDELARTVTVR
HPL----NHLIAHIKHIANGDLD--TQNI EV--HGRNEVGTLAASLKHMQDELINTVGEVR
NPL----NHLIAHIKHIANGDLD--TQNI EV--HGRNEVGTLAASLKHMQDELINTVGEVR
HPL----KHLIEHIKHIANGDLD--TQNI EV--HSRNEIGTLAASLKHMQDELINTVSDVR
RPL----KESIEHIQHIAGDLD--TQPI NI--SVRNEIGDLDLTSLQDMQSLRVTSTVR
NPL----NKLENIKALSTGDL--TQNVTV--SGRNEMSTLAVGLKHMQKFEITVSSVR
RPL----NRMIEHIKMAAGDLD--TQP IAV--TSRNEMGLAASLKHMQDELINTVSGVR
NPL----ARVITHIRIEIASGDLD--TKLTV--SGRNEIGELAGTVEHMQSLDITVQVC
HPL----KNIVDTIRKIATGDL--THEIVV--KSRNEIGQLADSLKYMQDELINTVSDVR
RPL----NRIIEHIKHIAGDLD--TQSIDV--SSRNEMGLAASLQHMQDELINTVSGVR
HPL----KNIVDTIRKIATGDL--THEIVV--KSRNEIGQLADSLKYMQDELINTVSGVR
RPL----NRMIEHIKMAAGDLD--TQP IAV--TSRNEMGLAASLKHMQDELINTVSGVR
RPL----NSLMGNIRQFAVGDL--SGRI EV--RGSNEMGLADSLRHMQSEFIRTVDVSR
RPL----NRMIEHIKRIASGDLD--TQPI PV--TSRNEIGVLAASLKHMQDELINTVSGVR
NPL----NKLENIKAFSEGDL--TQITV--SGTNEMLAVGLKHMQDELINTVSGVR
RPL----NRMIEHIKMAAGDLD--TQP IAV--TSRNEMGLAASLKHMQDELINTVSGVR
RPL----RNMIEHIRHIASGDLD--TQSI ES--EGRNEMGTLADSLRHMQSESLVTVSDVR
RPL----QTSIDHIRRIASGDLD--TGKITV--EGQNEMSSLAASLQHMQDELINTVSAVR
APM----NRLIESIRHIASGDLD--VKRIDV--EGSNEMGLAENLRHMQSELMRTVGDVR
APM----NRLIDSIRHIASGDLD--VKPI EV--DGSNEMGLAASLKHMQDELINTVSGVR
LPL----QSLIESIRHIASGDLD--VRRIDV--EGRNEMGLAASLKHMQDELINTVSGVR
APM----NRLIESIRHIASGDLD--VKRIDV--EGSNEMGLAQSLRHMQDELINTVSDVR
TPL----NRIIESIRHIASGDLD--ARQIDV--DGTNEMGLAASLKHMQDELINTVGEVR
RPL----QOSIEHIRHIAKGDLD--TQQVEV--NVRNEMGLDLSLQHMQDELARTVTVR
APL----NRLIDSIRHIASGDLD--AREIEV--DGTNEMGLAASLKHMQDELINTVSGVR
APM----NRLIESIRHIASGDLD--VKRIDV--EGSNEMGLADNLRHMQSELMRTVGDVR
APL----NRLIDSIRHIASGDLD--VKRIDV--EGTNEMLADLTLRHMQDELINTVSDVR
APL----NRLIDSIRHIASGDLD--VKRI EV--EGSNEMGLASLIRHMQDELINTVSDVR
RPL----NSLMGNIRQFAAGDLD--SGRI EV--CGSNEMGLADSLRHMQSEFIRTVDVSR
SPL----NRLIDSIRHIASGDLD--VKRIDV--EGTNEMLADLTLRHMQDELINTVSDVR
APL----TLMRSHFERIARGDLD--SAEIKV--DGRNEISQLYASLRSMQDLAGTVLSVR
SPL----KTRMRFHFDRIAGDLD--SAQISV--TGRNEISQMFASLRTMQQSLITVSHVR
APL----TVMRSHFERIARGDLD--SAEIKV--YGRNEISQLYASLRSMQDLAGTVLSVR
NPL----TSMSEHFQVQAGKLD--NOKIEV--TTRDEIGVFPQSLRHMQSESLVTVSDVR
QPL----NIRGFHFERIASGDLD--SAPIEV--YGRNEISQLYASLRSMQDLAGTVLSVR
LPL----AI ISSHFDSIAKGNLD--ARPVSV--YGKNEISAFASLKAMQGLRETVTDVR
RPL----NIMRSHFDRIAGDLD--ATPI QV--YGRNEISQLYASLRSMQDLAGTVLSVR
QPL----AI IGSHFDSIAAGNLD--ARPI AV--YGRNEITAFASLKAMQGLRETVTDVR
QPL----NIMRSHFDRIAGDLD--ATPI QV--YGRNEISQLYASLRSMQDLAGTVLSVR
RPL----ATMREHFGRIAQDLD--SGQISV--TGRNEISQMFASLRTMQQSLISTVSNVR
QPL----NIMRSHFDRIAGDLD--ATPI QV--YGRNEISQMFASLRTMQQSLITVSGVR
GPL----KSMRSHFERIAGDLD--ATPVVV--TGNNEISALFAGLRMQQSLITVSGVQ
RPL----ATMREHFGRIAQDLD--SGQISV--TGRNEISQMFASLRTMQQSLITVSGVR
QPL----NIMRSHFDRIAGDLD--ATPI QV--YGRNEISQLYASLRSMQDLAGTVLSVR
YPL----MSMSDHFMKLAGKLD--NQDIRV--TTRDEIGVEFQKLMQSESLATVSNLR
SPL----KIVSDHFDSIAKGNLD--ARPI AV--YGRNEISAFASLKAMQGLRETVTDVR
QPL----AI ISSHFDSIAKGNLD--ARPVAV--YGKNEISAFASLKAMQGLRETVTDVR
KPL----DRIRQFQRIAGDLD--SHP IEP--FGRNCVGRVPLLSAMQDLSREAVSTIR
QPL----AI IGSHFDSIADGNLD--ARPI AV--YGRNEISAFASLKAMQGLRETVTDVR
QPL----AI VTSHFDSIAKGNLD--ARPVAV--YGKNEISAFASLKAMQGLRETVTDVR
KPL----ERIRQFQRIAGDLD--SQPI EA--LGRNCVGRVPLLSAMQDLSREAVSTIR
RPL----NDLRYHFSVIAAGNLD--GKPI LD--FGNRCVGRVPLLSAMQDLSREAVSTIR
RPL----NDLRYHFSVIAAGNLD--GKPI LD--FGNRCVGRVPLLSAMQDLSREAVSTIR
KPL----GRIREHFQRIAGDLD--SQSVEP--FGRNCVGRVPLLSAMQDLSREAVSSIR
RPL----ESIRTHFAVIATGDL--SQPVAD--FGRNCVGRVPLLSAMQDLSREAVSSIR
RPF----ANMRSHFQHVAEKGLD--NKEVAV--FTNDEIGEVFLKRLMQDLSVNSTILIK
KPL----EKIREHFVIAKGNLD--SKPVED--MGRNCVGRVPLLSAMQDLSREAVSSIR
KPL----ARIRQFQRIAGDLD--SQPI EE--FGRNCVGRVPLLSAMQDLSREAVSSIR
RPL----DRIRQFQRIAGDLD--SQPI EA--LGRNCVGRVPLLSAMQDLSREAVSTIR
KPL----DKIRGFHFAVIASGDLD--TFYLEE--FGKNCAGKLDPLLNEMQDLSVNTVQITR
KPL----DKIRGFHFAVIASGDLD--TFYLEE--FGKNCAGKLDPLLNEMQDLSVNTVQITR
RPL----NDLRYHFSVIAAGNLD--GKPI LD--FGNRCVGRVPLLSAMQDLSREAVSTIR
RPL----DDIRAHFRVIAAGDLD--GQPI TD--FGRNCVGRVPLLSAMQDLSREAVSTIR
RPL----DGMREHFRLIADGDL--SHPLED--LGRNCVGRVPLLSAMQDLSREAVSSIR
RPF----ANMRSHFQHVAEKGLD--NKEVSV--FTQDEIGEVFLKRLMQDLSVNSTILIK
APL----SRMRSHFERIASGNLD--GGTI ET--EGRNELSOLFISLNAMQDLSREAVSSIR
RPL----NDLRDHFLVIAAGNLD--GKPI LD--FGNRCVGRVPLLSAMQDLSREAVSTIR
RPL----ARMRSHFERISHGDL--NGQIEK--WGSNELQGLTSLQHMQDELARTVSDVR
APL----QRIMAHIQTIADGDL--THEIEA--EGRSEMGLAAGLKTMQQSLIRTVDVSR
RPL----QRIMAHIQTIADGDL--THEIEA--EGRSEMGLAAGLKTMQQSLIRTVDVSR
RPL----QRIMAHIQTIADGDL--TRVIEA--EGRSEMGLAAGLKTMQQSLIRTVDVSR
NPL----GRVIAHIREIASGDLD--TKLTV--SGRNEITELANSVHMQRSLDITVTVNR
RPL----RSVMNHIRTIASGDLD--THTISI--DSRNEMGLAAGLHMQDLSVNTVSAVR
NPL----GRVIAHIREIASGNLD--TNTLTV--AGRNEIGELASTVHMQRSLVTVSAVR
RPL----NDLRDHFLVIAAGNLD--GKPI LD--FGNRCVGRVPLLSAMQDLSREAVSTIR
TPL----KQVLAHIQRIAGDLD--SETLVV--EGRSEMGLASLNTAMQDLSIVTVGHR
KPL----DRIRDHFAVIAGDLD--SQPVQE--FGRNCVGRVPLLSAMQDLSREAVSSIR

En.clo.1544-EcWSU1_01962-YP_004951821.1--36H-COG1/1-553
En.asb.1498-Entas 1879-YP_004828403.1--36H-COG1/1-554
En.bac.2261-D782_1748-YP_007339929.1--36H-COG1/1-547
Es.col.1836-Y75_p1862-YP_490148.1--36H-COG1/1-553
Cr.tur.6-CTU_33010-YP_003211664.1--36H-COG1/1-555
Cr.tur.6-CTU_25780-YP_003210941.1--36H-COG1/1-536
En.clo.1544-EcWSU1_00403-YP_004950264.1--36H-COG1/1-549
En.638.865-Ent638_2457-YP_001177177.1--36H-COG1/1-555
Sa.bon.1474-SBG_1755-YP_004730609.1--36H-COG1/1-553
Pr.mir.1265-PMI1665-YP_002151396.1--36H-COG1/1-548
Cr.sak.579-ESA_01348-YP_001437444.1--36H-COG1/1-556
Cr.sak.579-ESA_00560-YP_001436686.1--36H-COG1/1-555
Sa.ent.407-STM1919-NP_460876.1--36H-COG1/1-553
Ci.kos.578-CKO_01066-YP_001452645.1--36H-COG1/1-552
En.asb.1498-Entas 0424-YP_004826963.1--36H-COG1/1-549
Pantoe.297-Pat9b_1273-YP_004115150.1--36H-COG1/1-553
Ed.tar.1771-ETAF_2264-YP_005699859.1--36H-COG1/1-555
Pa.ana.1905-PAJ_3534-YP_005936409.1--36H-COG1/1-553
Pa.vag.184-Pvag_1203-YP_003930842.1--36H-COG1/1-552
Pantoe.297-Pat9b_1605-YP_004115478.1--36H-COG1/1-556
Cr.sak.579-ESA_00210-YP_001436348.1--36H-COG1/1-557
Er.tas.1011-ETA_pET460340-YP_001905943.1--36H-COG1/1-543
Cr.tur.6-CTU_36610-YP_003212024.1--36H-COG1/1-557
Pe.car.1139-PC1_1159-YP_003016743.1--36H-COG1/1-556
Er.tas.1011-ETA_14640-YP_001907403.1--36H-COG1/1-554
Pa.vag.184-Pvag_1725-YP_003931362.1--36H-COG1/1-556
Ed.ict.1187-NT01EI_3742-YP_002935104.1--36H-COG1/1-525
En.638.865-Ent638_0380-YP_001175119.1--36H-COG1/1-549
Er.bil.197-Ebc_25360-YP_003741914.1--36H-COG1/1-556
Er.tas.1011-ETA_16910-YP_001907630.1--36H-COG1/1-543
Es.fer.1173-EFER_3055-YP_002384154.1--36H-COG1/1-603
Xe.nem.162-XNC1_1619-YP_003711880.1--36H-COG1/1-520
En.clo.1544-EcWSU1_02811-YP_004952664.1--36H-COG1/1-559
Di.dad.235-Dda3937_03500-YP_003882750.1--36H-COG1/1-553
Es.bov.105-XBJ1_1924-YP_003467828.1--36H-COG1/1-523
Rahnel.1320-Rahaq_1831-YP_004212576.1--36H-COG1/1-556
Ra.aqu.1678-Q7S_08965-YP_005401598.1--36H-COG1/1-556
Cr.sak.579-ESA_01126-YP_001437230.1--36H-COG1/1-514
Pe.atr.485-ECA2712-YP_050803.1--36H-COG1/1-560
En.clo.1544-EcWSU1_00560-YP_004950421.1--36H-COG1/1-597
Di.dad.235-Dda3937_03498-YP_003882752.1--36H-COG1/1-561
Cr.tur.6-CTU_27880-YP_003211151.1--36H-COG1/1-514
Pe.car.1139-PC1_1669-YP_003017246.1--36H-COG1/1-560
Ra.aqu.1678-Q7S_14450-YP_005402672.1--36H-COG1/1-551
Ci.kos.578-CKO_03622-YP_001455137.1--36H-COG1/1-517
Di.zea.1140-Dd1591_2408-YP_003004728.1--36H-COG1/1-557
Di.zea.1140-Dd1591_2406-YP_003004726.1--36H-COG1/1-559
Ed.ict.1187-NT01EI_2801-YP_002934203.1--36H-COG1/1-554
Pe.car.1139-PC1_1384-YP_003016966.1--36H-COG1/1-559
Rahnel.1320-Rahaq_2866-YP_004213595.1--36H-COG1/1-551
Pe.atr.485-ECA1281-YP_049387.1--36H-COG1/1-556
Pectob.2320-W5S_1886-YP_006282848.1--36H-COG1/1-549
Pectob.2320-W5S_1696-YP_006282659.1--36H-COG1/1-559
Di.zea.1140-Dd1591_2407-YP_003004727.1--36H-COG1/1-555
Pe.atr.485-ECA1509-YP_049611.1--36H-COG1/1-559
Pa.vag.184-Pvag_1724-YP_003931361.1--36H-COG1/1-520
Pa.ana.1905-PAJ_1541-YP_005934417.1--36H-COG1/1-520
Mo.mor.2189-MU9_1596-YP_007505015.1--36H-COG1/1-519
Pr.mir.1265-PMI2808-YP_002152509.1--36H-COG1/1-563
Di.zea.1140-Dd1591_0395-YP_003002764.1--36H-COG1/1-556
En.clo.1544-EcWSU1_03786-YP_004953635.1--36H-COG1/1-515
Pectob.2320-W5S_3170-YP_006284116.1--36H-COG1/1-556
Di.dad.235-Dda3937_02184-YP_003884754.1--36H-COG1/1-556
Ci.rod.62-ROD_32641-YP_003366748.1--36H-COG1/1-517
Di.dad.235-Dda3937_03499-YP_003882751.1--36H-COG1/1-561
Di.dad.235-Dda3937_00105-YP_003883346.1--36H-COG1/1-561
Pantoe.297-Pat9b_1604-YP_004115477.1--36H-COG1/1-555
Er.tas.1011-ETA_14660-YP_001907405.1--36H-COG1/1-560
Pr.mir.1265-PMI2809-YP_002152510.1--36H-COG1/1-575
Ed.tar.1771-ETAF_3053-YP_005700648.1--36H-COG1/1-516
Se.pro.864-Spro_1415-YP_001477647.1--36H-COG1/1-546
Di.zea.1140-Dd1591_1804-YP_003004134.1--36H-COG1/1-562
Di.dad.235-Dda3937_03501-YP_003882749.1--36H-COG1/1-575
Pantoe.297-Pat9b_0851-YP_004114731.1--36H-COG2/1-524
Pa.vag.184-Pvag_0291-YP_003929953.1--36H-COG2/1-525
En.clo.1544-EcWSU1_03886-YP_004953735.1--36H-COG2/1-519
Cr.tur.6-CTU_04790-YP_003208842.1--36H-COG2/1-515
Ci.kos.578-CKO_04484-YP_001455975.1--36H-COG2/1-521
Cr.sak.579-ESA_03488-YP_001439539.1--36H-COG2/1-515
Ci.rod.62-ROD_48071-YP_003368199.1--36H-COG2/1-521
Sa.bon.1474-SBG_2851-YP_004731664.1--36H-COG2/1-521
Sa.ent.407-STM3216-NP_462130.1--36H-COG2/1-521
En.asb.1498-Entas 3753-YP_004830248.1--36H-COG2/1-519
Mo.mor.2189-MU9_3389-YP_007506806.1--36H-COG2/1-521
Sa.ent.404-STY3394-NP_457606.1--36H-COG2/1-522
En.638.865-Ent638_3526-YP_001178235.1--36H-COG2/1-519
Pe.atr.485-ECA1774-YP_049874.1--36H-COG2/1-554
En.638.865-Ent638_2119-YP_001176845.1--36H-COG2/1-549

KPL----HMIMNHIRIAGGDL--TQDIAL--SGRNEMQOLAAGLHEMQQSLVTVSAVR
KPL----KIMNHIRIAGGDL--THNITI--SGRNEMQOLAAGLHEMQQSLVTVSAVR
TPL----NHVMTIRHIANGDL--TPALSL--KGRNELTQLADTVNHMHQALIDTVTRVR
TPL----AKIIAHIREIAGGDL--ANTLTI--DGRSEMGLAQSVSHMQRSLLDVTVTHR
GPL----REAMEHIRIAGGDL--TRQIIV--EGRNEMQOLAASLQEMQQLAGTVAVR
TPL----ASVHIREIAGGDL--TETITV--SGRNEITELASVQHMQQALIQTVSSVR
LPL----QDVIGHIRIAGGDL--TQPIQA--EGKNEMAILARNVQEMQTSLVTVGVVR
NPL----GNVIGHIREIAGGDL--TKKTLT--SGRNEITELASSVDHMQRSLDVTVANVR
TPL----GRVIAHIREIAGGDL--TKTLTV--SGRNEIGELAGTVDMQRSLIETVTQVR
KPF----ASLSRYFNDVATGK--NREILV--FTDDEIGDFIRRLRMRGELASIRIVR
KPL----AGVHIREIAGGDL--TETITV--TGRNEMTELASVQHMQQALIQTVSTVR
GPL----REAMEHIRIAGGDL--TRQIIV--EGRNEMQOLAASLLAMQQLAGTVAVR
NPL----ARVITHIREIAGGDL--TKTLTV--SGRNEIGELAGTVDMQRSLIETVTQVR
LPL----ARVIAHIREIAGGDL--TNTLTV--SGRNEIGELAGTVDMQRSLIETVTQVR
RPL----QDVIGHIRIAGGDL--TQPVEA--SGKNEMALLAHNVQEMQQLANTVTVR
IPM----KQLQKQMERFAEGDL--SGSLHV--EGRSEMAAALASLNHMQQALLSTVNVVR
ARI----QOVYATQAEIAGGDL--AIDIQA--RGDNEVSQLMQGLRHRMRELAHMVGAVR
KPL----SMATDYMRAISAGDL--TQEIAS--ESQNETGRLLRQLEEMRSALVTVTSVD
NPL----ARLTAHMRAISAGDL--TSAIQH--EGRNEMQOLAQELQQRDRALVTVTSVD
QPL----QQLLAHIRIAGGDL--TQTIQV--EGRNEMQOLAAGLLEMQQLVTVTSVVR
LPL----HDVMGHIRIAGGDL--TQPIQA--QGHNEMALLARNVHEMQQSLRVTSTVR
RPL----NNLRHFRILITEGDL--THTLRD--LSRNCVGRVPLVPMVREMQSLREAVSSIR
LPL----HVISHIRIAGGDL--TQPIQA--QGHNEMALLARNVHEMQQSLRVTSTVR
HPL----RTLQHSIAIAGGDL--THPIDT--TGRNEMQOLAAGLHMQQSLRVTSTVR
RPL----QATIGHISRIAGGDL--TQNVVE--KGRNEMQOLAAGSLVKNMQEALVTVSVVR
TPL----NGSINHIHQIAGGDL--TQPIQA--EGRNEMQOLAAGLHEMQQSLVTVTVNR
RPL----AQLHAHLRLTAGDL--SATLA--GGRNELGSLASISEMQQALISIVGQVR
KPL----DEVISHIRIAGGDL--TRPIDA--HGKNEMAVLGRNVQEMQQLANTVTVR
TPL----QNNIAHISHIAGGDL--THTIEV--EGRNEMQOLAASLLEMQQSLVTVSDVR
RPL----NNLRHFRILITEGDL--THPLHD--LNRNCVGRVPLVPMVREMQSLREAVSSIR
EPM----NRLVDSIRIAGGDL--VKPIDV--DGDNEVSQLMQGLRHRMRELAHMVGAVR
KPF----ENMTRCFQDVAEGR--DKEVAV--TTDDEIGDFIRKLDRMQQSLIKSISAVR
NPL----GRVIAHIREIAGGDL--TKTLTV--SGRNEITELASVQHMQQALIQTVSTVR
KPI----GQIKRHLLELLTSGK--GVELDE--FGRNEMQOLAASLLEMQQSLVTVSDVR
RPF----DNMTRCFQDVAEGR--NKEIIV--TTDDEIGDFIRKLDRMQQSLIKSISAVR
TPL----TIMRGHFDRIGAGDL--SSPIVA--EGRYEIKVMLESQQMQLSLRVTSTVR
TPL----TIMRGHFDRIGAGDL--SSPIVA--EGRYEIKVMLESQQMQLSLRVTSTVR
KPL----EKIRNHFTLIAGGDL--SQPVPE--FGRNEMQOLAASLLEMQQSLVTVSDVR
RPL----NMIKGYFQVLAAGQL--GHPLDE--FGRNEMQOLAASLLEMQQSLVTVSDVR
NPL----TRLLDNIRIAGGDL--VKRIVE--QGANEMGELADSLRHMQQLVTVSDVR
NPI----AVIKKHLGLIAGDL--DQHLAE--FGRNEMQOLAASLLEMQQSLVTVSDVR
KPL----EKIRNHFTLIAGGDL--SQPVPE--FGRNEMQOLAASLLEMQQSLVTVSDVR
RPL----NMIKGYFQVLAAGQL--NHPIDE--FGRNEMQOLAASLLEMQQSLVTVSDVR
KPL----NKVKHLESLATGIL--DSKIAF--QGANEMGELADSLRHMQQLVTVSDVR
KPL----HDVMGHIRIAGGDL--TRNIHT--EGSNEMALLAHNVQEMQQLANTVTVR
KPI----GQIKRHLLELLTSGK--GVELEE--FGRNEMQOLAASLLEMQQSLVTVSDVR
SPI----SAIQAHKGLIAGDL--DQHLDE--FGRNEMQOLAASLLEMQQSLVTVSDVR
ARI----QKVYATQAEIAGGDL--AIDIQT--HGDNEISQLMQGLRHRMRELAHMVGAVR
IPI----SVLKSHLQTLTAGDL--GCELAE--FGRNEMQOLAASLLEMQQSLVTVSDVR
KPL----NKVKHLESLATGIL--DSKIAF--QGANEMGELADSLRHMQQLVTVSDVR
HPL----RTLQHSIAIAGGDL--THPIDT--AGRNEMQOLAASLLEMQQSLVTVSDVR
KPL----NMIKGYFQVLAAGQL--GHPLDE--FGRNEMQOLAASLLEMQQSLVTVSDVR
IPI----SVLKSHLQTLTAGDL--GCELVE--FGRNEMQOLAASLLEMQQSLVTVSDVR
KPI----GQIKRHLLELLTSGK--GVELEE--FGRNEMQOLAASLLEMQQSLVTVSDVR
IPI----AVLKSHLQTLTAGDL--GCELAE--FGRNEMQOLAASLLEMQQSLVTVSDVR
QPL----QQLLAIRIAGGDL--TQPIV--EGRNEMQOLAASLLEMQQSLVTVSDVR
RPL----QRLVDIRIAGGDL--TQPIV--EGRNEMQOLAASLLEMQQSLVTVSDVR
RPL----NNVRQHFRIAGGDL--SQPVPE--FGRNEMQOLAASLLEMQQSLVTVSDVR
NPL----NQMEYQEAIAAGDL--ISRIDHIT--GRNEIDQLMLGQLMRRLKEMVSAIR
RPL----EQVKAHLQILSNQDL--DTSVDE--MGRNEVQQLIPFVHTMQNNWIKVTAIEIR
KPL----ARIRQFRQIAGGDL--SQPIEP--FGRNEMQOLAASLLEMQQSLVTVSDVR
HPL----RTLQHSIAIAGGDL--TLHIDA--SGRNEMQOLAASLLEMQQSLVTVSDVR
RPL----EKVKAHLQILSNQDL--DSTIGE--MGRNEIGQLIPFVHTMQNNWIKVTAIEIR
KPL----HEVMDHIRIAGGDL--THVIPA--DGSNEMALLARNVHEMQQSLVTVSDVR
KPI----GQIKRHLLELLTSGK--GVELDE--FGRNEMQOLAASLLEMQQSLVTVSDVR
NPL----NRITLHHISTGDL--TQSLHI--QAKNEIGQLADSLRHMQQLVTVSDVR
NPL----NSNIRHIHQIAGGDL--TQTIQA--EGRNEMQOLAASLLEMQQSLVTVSDVR
RPL----KQNIHIRIAGGDL--TQAIQA--QGHNEMQOLAASLLEMQQSLVTVSDVR
LRI----KQVIDYMSDISQGNLLENSTKA--KGNNEIDQLINGIYMRSELSLIVNAIR
RPL----AQLHAHLRLTAGDL--SATLA--GGRNELGSLASISEMQQALISIVGQVR
NKI----NQIIDYQAEISNRNL--DIEINA--GGRNEIGQLRNLNGLNMLRNLANTVCTVR
QPL----NQVMVHLHHIATGDL--TQSLTI--EAKNEIGQLRNLNGLNMLRNLANTVCTVR
KPI----GQIKRHLLELLTSGK--GVELDE--FGRNEMQOLAASLLEMQQSLVTVSDVR
RPL----NEAVEIAGVAAAGDL--STHIEV--KSTDETVGLMRALQSMNNDLITVTVDR
RPL----VAADVFAEIAAGDL--STQMQV--TSRDETVGLMRALQSMNNDLITVTVDR
RPL----GAADVFAEIAAGDL--TGSITP--HGKDETVGLLHALMEMKTRLLDIVQEQV
RPL----DQAVRFAGIAAGDL--TRSEV--QARDETVGLLHALMEMKTRLLDIVQEQV
RPL----NDAVQFAGIAAGDL--TRTHI--AQKDETVGLLHALMEMKTRLLDIVQEQV
RPL----DQAVRFAGIAAGDL--TRSDV--QSRDETVGLLHALMEMKTRLLDIVQEQV
RPL----EAVRFAGIAAGDL--TRSIAT--QDRDETVGLLHALMEMKTRLLDIVQEQV
QPL----DEAVRFAGIAAGDL--TRHITT--NDKDETVGLLHALMEMKTRLLDIVQEQV
RPL----DEAVRFAGIAAGDL--TRHITT--DYKDETVGLLHALMEMKTRLLDIVQEQV
RPL----GTAVFAEIAAGDL--TRTIAS--HGKDETVGLLHALMEMKTRLLDIVQEQV
RPL----DKAVTLARAIAAGDL--TQQVNV--THHDETVGLLHALMEMKTRLLDIVQEQV
RPL----DDAVRFAGIAAGDL--TRHITT--DYKDETVGLLHALMEMKTRLLDIVQEQV
RPL----GAVFAEIAAGDL--TRNITT--RSKDETVGLLHALMEMKTRLLDIVQEQV
QPI----REALVGAEKVAGDL--TSEIYT--DRTDETVGLLHALMEMKTRLLDIVQEQV
RPL----KEAVTVASRAAAGDL--TTDVKV--HSTDELQQLSALKNMMSVLSQVLR

Pectob.2320-W5S_2813-YP_006283770.1--36H-COG2/1-554
Di.zea.1140-Dd1591_0695-YP_003003055.1--36H-COG2/1-561
Pa.vag.184-Pvag_pPag30079-YP_003729820.1--36H-COG2/1-546
Er.bill.197-Ebc_38940-YP_003743272.1--36H-COG2/1-526
Ra.aqu.1678-Q7S_24891-YP_005419232.1--36H-COG2/1-554
En.asb.1498-Entas_2287-YP_004828805.1--36H-COG2/1-513
Rahnel.1320-Rahaq_4869-YP_004215574.1--36H-COG2/1-554
Di.dad.235-Dda3937_00027-YP_003883574.1--36H-COG2/1-554
Pr.stu.1965-S70_05790-YP_006215722.1--36H-COG2/1-520
En.638.865-Ent638_2100-YP_001176826.1--36H-COG2/1-512
Pe.car.1139-PC1_2526-YP_003018093.1--36H-COG2/1-554
Mo.mor.2189-MU9_702-YP_007504121.1--36H-COG2/1-525
Pe.car.1139-PC1_3443-YP_003018995.1--36H-COG2/1-511
Pa.ana.1905-PAJ_0915-YP_005933791.1--36H-COG2/1-559
Pectob.2320-W5S_3736-YP_006284671.1--36H-COG2/1-510
Pe.atr.485-ECA0183-YP_048310.1--36H-COG2/1-553
Rahnel.1320-Rahaq_3107-YP_004213828.1--36H-COG2/1-503
Pe.car.1139-PC1_4071-YP_003019622.1--36H-COG2/1-553
Di.dad.235-Dda3937_03462-YP_003884507.1--36H-COG2/1-563
Ra.aqu.1678-Q7S_15665-YP_005402913.1--36H-COG2/1-503
Pectob.2320-W5S_4505-YP_006285423.1--36H-COG2/1-555
Pe.atr.485-ECA3642-YP_051730.1--36H-COG2/1-551
Pe.car.1139-PC1_1417-YP_003019699.1--36H-COG2/1-554
En.asb.1498-Entas_4509-YP_004821569.1--36H-COG2/1-559
Pa.ana.1905-PAJ_3064-YP_005935940.1--36H-COG2/1-544
Pectob.2320-W5S_1733-YP_006282696.1--36H-COG2/1-535
Pe.atr.485-ECA4334-YP_052421.1--36H-COG2/1-556
Di.zea.1140-Dd1591_1602-YP_003003935.1--36H-COG2/1-554
Pectob.2320-W5S_4506-YP_006285424.1--36H-COG2/1-540
Di.zea.1140-Dd1591_1453-YP_003003794.1--36H-COG2/1-532
Pectob.2320-W5S_0106-YP_006281117.1--36H-COG2/1-556
Di.zea.1140-Dd1591_0769-YP_003003127.1--36H-COG2/1-505
Ra.aqu.1678-Q7S_18035-YP_005403387.1--36H-COG2/1-535
Rahnel.1320-Rahaq_3579-YP_004214298.1--36H-COG2/1-535
Pe.car.1139-PC1_4072-YP_003019623.1--36H-COG2/1-540
Pe.car.1139-PC1_3464-YP_003019016.1--36H-COG2/1-551
Pe.car.1139-PC1_0111-YP_003015709.1--36H-COG2/1-556
Pe.atr.485-ECA0182-YP_048309.1--36H-COG2/1-542
Pectob.2320-W5S_3753-YP_006284688.1--36H-COG2/1-551
Pa.ana.1905-PAJ_2666-YP_005935542.1--36H-COG2/1-514
Ci.rod.62-ROD_1616-YP_003365194.1--36H-COG6/1-557
En.asb.1498-Entas_2095-YP_004828614.1--36H-COG6/1-563
En.638.865-Ent638_1961-YP_001176688.1--36H-COG6/1-563
Cr.sak.579-ESA_01710-YP_001437800.1--36H-COG6/1-565
Cr.tur.6-CTU_22440-YP_003210607.1--36H-COG6/1-565
Ci.kos.578-CRO_01456-YP_001453025.1--36H-COG6/1-562
Rahnel.1320-Rahaq_1930-YP_004212674.1--36H-COG6/1-566
Pantoe.297-Pat9b_2403-YP_004116261.1--36H-COG6/1-564
Er.bill.197-Ebc_26700-YP_003742048.1--36H-COG6/1-567
Pectob.2320-W5S_1760-YP_006282723.1--36H-COG6/1-570
Pa.ana.1905-PAJ_1621-YP_005934497.1--36H-COG6/1-568
En.clo.1544-EcWSU1_02120-YP_004951978.1--36H-COG6/1-576
Ra.aqu.1678-Q7S_09815-YP_005401764.1--36H-COG6/1-566
Ye.pse.585-YPTB2412-YP_070925.1--36H-COG6/1-579
Ye.ent.378-YE2588-YP_001006789.1--36H-COG6/1-579
Di.dad.235-Dda3937_02787-YP_003883649.1--36H-COG6/1-572
Pa.vag.184-Pvag_1800-YP_003931435.1--36H-COG6/1-568
En.bac.2261-D782_2307-YP_007340470.1--36H-COG6/1-558
Pe.atr.485-ECA1683-YP_049784.1--36H-COG6/1-573
Pe.car.1139-PC1_2617-YP_003018183.1--36H-COG6/1-573
Di.zea.1140-Dd1591_1535-YP_003003868.1--36H-COG6/1-574
Di.zea.1140-Dd1591_3580-YP_003005868.1--36H-COG6/1-572
Es.col.1836-Y75_p1397-YP_489867.1--36H-COG6/1-546
Pe.atr.485-ECA3902-YP_051990.1--36H-COG6/1-575
Sa.bon.1474-SBG_1454-YP_004730321.1--36H-COG6/1-537
Sa.ent.407-STM1626-NP_460585.1--36H-COG6/1-541
Pe.car.1139-PC1_3679-YP_003019230.1--36H-COG6/1-567
Pectob.2320-W5S_4020-YP_006284955.1--36H-COG6/1-575
Di.zea.1140-Dd1591_0523-YP_003002884.1--36H-COG6/1-568
Di.dad.235-Dda3937_02665-YP_003881279.1--36H-COG6/1-572

QPL----QEALVIAENVAAGDL--TSEIYT--DRKDETQGLLSALNNMNSLRQIVSQVR
QPI----QALVMADRVSQGDL--SSHIS--HRKDEAGRLLQALDHMNASLRQIVSQVR
RPL----NITLAAQRIARGDL--SQAVPV--SGRDETMGLLTAVAEMQDLSLAQTVSTVR
RPL----REAVTAEVNAAGDL--RTVIRV--NSTDETQGLMQLKHMNNENLRIIVTEVR
RPL----HTAVKVAENVAAGDL--TTQIQV--MSQDETQGLMQLKHMNNENLRIIVTEVR
RPV----KHNLLEAERIAAGDL--SSDIRA--QGNDELQGLTGAMGRMNDTLRSMIGDVR
RPL----HTAVKVAENVAAGDL--TTQIQV--MSQDETQGLMQLKHMNNENLRIIVTEVR
RPL----QEALTLAEKVAAGDL--TTDASA--CAQDETQGLLQALYGMNDSLRQIVSQVR
RPL----GAAVGFQAIAEGDL--TOHVEI--KNQDETQGLLRALVEMKRRLELIVQEVO
HPV----RHNLQLAERIAAGDL--SSDIHP--QGDDELQGLTGAMGRMNDTLRSMIGDVR
QPL----QEALGVAENVAAGDL--TSEIYT--GRKDETQGLLSALNNMNSLRQIVSQVR
RSLGAEPALQKVEARVASGDL--SPSDEI--HPVPD--GSVSTLKAMQRNLASIVGTVR
RPL----HQALHATRAIAEGDL--TVQLHN--ERRDELQGLLSAMQMNNSLRQIVSQVR
RPL----NVAVEAARRVARGDL--TGTVTA--DRKDETIILLSAISDMQNSLINTVSLVR
RPL----HQALHATRAIAEGDL--TVQLHN--ERRDELQGLLSAMQMNNSLRQIVSQVR
RPI----QALQVADRVAQGD--TSRITI--TSKDETGLLQSLDHMNTSLSSIVGQVR
LPL----RRTLQTAERIAAGDL--STHATS--HSFDEVQGLSRAIETMNNQNLHGIGDRI
QPI----QALQVADRVAQGD--TSRITV--TSKDETGLLQSLDHMNTSLSSIVGQVR
QPI----QALVMADRVSQGDL--TSQISS--NRKDEAGLLQALDHMNASLRQIVSQVR
LPL----RRTLQTAERIAAGDL--STHATS--HSFDEVQGLSRAIETMNNQNLHGIGDRI
RPI----QALQVADRVAQGD--TSRITV--TSKDETGLLQSLDHMNTSLSSIVGQVR
QPL----ARAVSATQVAAGDL--THNIQP--EGRDEAQLLHALQDMTVRLRSIVGVR
TPL----SIALSSAKRISEGDL--SGSIVV--NRRDETGLLQSLDHMNTSLSSIVGVR
KPV----QEALSAIEASGRGDM--RTTFRKD--YHSDDETQGLSLKDTVVMNIFMLNQVR
RPL----NQALIAAQRVAKGDL--SEPVQV--THTDETQGLLVAIEMQALVQTVSLVR
GPL----SIALSSAKRISEGDL--SGSIVV--NRRDETGLLQSLDHMNTSLSSIVGVR
RQLGGEPAYTLEVTQVAQGNL--AFTIEL--RDGDTTS--VLAAMEDMRQNLNLVGVQV
RPL----QAALTLAGVAKGDL--TTEASA--CTREDETGLLQALYGMNDSLRQIVSQVR
RPI----EQALHVAADRVAQGD--TSHITV--ASKDETGLLQSLDRMNTSLSSIVGQVR
RSL----SQAQAAAANGDL--TYPINA--SGRDEITVTLNLSHMQESLGSMTQVR
RQIGGEPAYTLEVTQVAQGNL--AVTIEL--RDGDTTS--VLASIEDMRQNLNLVGVQV
RPL----HEALQATRAIASEGDL--TVRLRS--ERRDELQGLLCAMAKMNDLHGMDKIR
RALGEEPLVLGVQVQRIAAGDL--SEVKG--ENAPQ--NSVLAELGGMAKHLQHLINQVA
RALGEEPLVLGVQVQRIAAGDL--SEVKG--ENAPQ--NSVLAELGGMAKHLQHLINQVA
RPI----QALQVADRVAQGD--TSHITV--TSKDETGLLQSLDRMNTSLSSIVGQVR
QPL----ARAVSATQVAAGDL--THNVQP--EGRDEAQLLHALQDMTVRLRSIVGVR
RQLGGEPAYTLEVTQVAQGNL--AVAIEL--RDGDTTS--VLAAMEDMRQNLNLVGVQV
RPI----EQALQVADRVAQGD--ISRITV--TSKDETGLLQSLDRMNTSLSSIVGQVR
QPL----SRAVQATQVAAGDL--THNIQP--EGRDEAQLLHALQDMTVRLRSIVGVR
RQLGGEPAYTLEVTQVAQGNL--TAPVIL--RHDSSSLLASLANMQSLSLVTQIK
RPL----QHAALRIEQIAAGDL--TMDPEP--TGRSEIGRLSRHLQMMQSSSLGQTVGTVR
NPL----QRAAKRIENIAKGD--TMDPDA--TGRSEIGRLSRHLQMMQSSSLGQTVGTVR
NPL----QRAARRIELIAKGD--TMADDL--TGRSEIGRLSRHLQMMQSSSLGQTVGTVR
VPL----QHAATRIETIASGD--TLPEEA--TGRSEIGRLSRHLQMMQSSSLGQTVGTVR
VPL----QHAATRIETIASGD--TLPEEA--TGRSEIGRLSRHLQMMQSSSLGQTVGTVR
NPL----QRAAQRIEQIAAGDL--TMDPDP--TGRSEIGRLSRHLQMMQSSSLGQTVGTVR
HPL----NRMVMRIQKIAEGDL--TQPTRA--HGRNEIGVLSNNDVQMRSLASTVLTVR
NPL----RQSVARIERIAQGD--TAPEQA--WGRSEIGSLLHNLQMLQASLVTGTVR
TPL----RQAVERIEHISRGDL--TAPLQN--WGRSEIGTGLSGLNQQMSSSLGQTVGTVR
KPM----NQLVMRIQRIAGDL--TQVSDR--YGKNEIGTLASNVHQMQSSSLGQTVGTVR
NPL----RNSVAHIERIAQGD--TAPTVP--HGRNEIGLGLDNLQRMQSSSLGQTVGTVR
NPL----QRAATRIENIAKGD--TMDPEV--AGRSEIGRLSRHLQMMQSSSLGQTVGTVR
HPL----NRMVMRIQKIAEGDL--TQPTRA--HGRNEIGVLSNNDVQMRSLASTVLTVR
NPI----NWLVTRIQRIAGDL--TQSPVS--FGRNEIGVLSNNDVQMRSLASTVLTVR
KPI----NRLVARIQRIAGDL--TQHPAP--FGRNEIGVLSNNDVQMRSLASTVLTVR
KPM----NRLVARIQRIAGDL--TQHPAP--FGRNEIGVLSNNDVQMRSLASTVLTVR
NPL----RQSVARIERIAQGD--TAPVIL--RHDSSSLLASLANMQSLSLVTQIK
NPL----QHAALRIEQIAAGDL--TMDPEP--TGRSEIGRLSRHLQMMQSSSLGQTVGTVR
KPI----NQLVMRIQRIAGDL--TQMSDR--YGKNEIGTLASNVHQMQSSSLGQTVGTVR
KPM----NQLVARIQRIAGDL--TQMSDR--YGKNEIGTLASNVHQMQSSSLGQTVGTVR
KPM----HRLVARIQRIAGDL--TQPNEA--YGKNEIGTLASNVHQMQSSSLGQTVGTVR
NPM----RALVERIEHISAGDL--TMPLAQ--WGRSEIGLGHYLNQMMQSSSLGQTVGTVR
RPL----QHAALRIEQIAAGDL--TMNDPE--AGRNEIGRLSRHLQMMQSSSLGQTVGTVR
API----NRLVERIQKIAAGDL--TLPFMA--MGRNEIGLGTNINQNMQALNTVTVR
RPL----QQAALRIERIAAGDL--TMNDPE--AGRSEIGRLSRHLQMMQSSSLGQTVGTVR
QPL----QQSASRIERIAAGDL--TMADEP--TGRSEIGRLSRHLQMMQSSSLGQTVGTVR
API----NRLVERIQKIAAGDL--TQPPMA--MGRNEIGLGTNINQNMQALNTVTVR
API----NRLVERIQKIAAGDL--TQPPMV--MGRNEIGLGTNINQNMQALNTVTVR
VPI----HVLVARIQRIAGDL--TQPAED--LGRNEIGLGTNINQNMQALNTVTVR
KPM----RSLVERIEHISAGDL--TMPLAQ--WGRSEIGLGHYLNQMMQSSSLGQTVGTVR

Pr.mir.1265-PMI1666-YP 002151397.1--36H-COG1/1-568
Di.dad.235-Dda3937_02779-YP 003883640.1--36H-COG1/1-566
Di.zea.1140-Dd1591_1542-YP 003003875.1--36H-COG1/1-566
Pe.atr.485-ECA1691-YP 049792.1--36H-COG1/1-561
Se.pro.864-Spro 2983-Spro 001479212.1--36H-COG1/1-556
Ph.asy.1114-PAU_02685-YP 003041519.1--36H-COG1/1-564
Pr.stu.1965-S70_18135-YP 006218124.1--36H-COG1/1-561
Mo.mor.2189-MU9_1762-YP 007505181.1--36H-COG1/1-561
Pe.car.1139-PC1_2609-YP 003018175.1--36H-COG1/1-561
Xe.nem.162-XNC1_1620-YP 003711881.1--36H-COG1/1-567
Pectob.2320-W5S_1768-YP 006282731.1--36H-COG1/1-561
Pa.vag.184-Pvag_1723-YP 003931360.1--36H-COG1/1-558
Ye.pes.133-YP23_2024-YP 003568196.1--36H-COG1/1-557
Ye.pse.585-YP2B2401-YP 070915.1--36H-COG1/1-557
Ye.ent.378-YE2575-YP 001006778.1--36H-COG1/1-557
Pa.ana.1905-PAJ_1540-YP 005934416.1--36H-COG1/1-563
Ph.lum.1262-plu1853-NP 929126.1--36H-COG1/1-564
Serrat.1901-SerAS13_3075-YP 006025914.1--36H-COG1/1-555
Sa.ent.404-STY2128-NP 456485.1--36H-COG1/1-553
Ra.aqu.1678-Q7S_08960-YP 005401597.1--36H-COG1/1-564
Se.mar.2260-D781_2759-YP 007345195.1--36H-COG1/1-555
Rahnel.1320-Rahaq_1830-YP 004212575.1--36H-COG1/1-564
Se.ply.1407-SerAS9_3072-YP 004506452.1--36H-COG1/1-555
Ed.ict.1187-NT01E1_1461-YP 002932882.2--36H-COG1/1-555
En.aer.1436-EAE_15535-YP 004593297.1--36H-COG1/1-556
Xe.bov.105-XBJ1_1923-YP 003467827.1--36H-COG1/1-567
Serrat.1408-SerAS12_3073-YP 004501499.1--36H-COG1/1-555
Er.bil.197-Ebc_25350-YP 003741913.1--36H-COG1/1-559
Er.tas.1011-ETA_14650-YP 001907404.1--36H-COG1/1-554
Sa.ent.407-STM4533-NP 463392.1--36H-COG1/1-553
Es.col.1836-W75_p4200-YP 492486.1--36H-COG1/1-551
En.bac.2261-D782_3913-YP 003742002.1--36H-COG1/1-553
Ci.kos.578-CKO_03442-YP 001454958.1--36H-COG1/1-554
Cr.sak.579-ESA_03402-YP 001439456.1--36H-COG1/1-555
Pantoe.297-Pat9b_1606-YP 004115479.1--36H-COG1/1-558
Cr.tur.6-CTU_05670-YP 003208930.1--36H-COG1/1-555
Sa.bon.1474-SBG_3944-YP 004732724.1--36H-COG1/1-553
En.asb.1498-Entas_0547-YP 004827084.1--36H-COG1/1-554
Ci.rod.62-ROD_48461-YP 003368233.1--36H-COG1/1-554
Ed.tar.1771-ETAF_1249-YP 005698855.1--36H-COG1/1-529
En.638.865-Ent638_0513-YP 001175251.1--36H-COG1/1-586
Ed.ict.1187-NT01E1_1462-YP 002932883.1--36H-COG1/1-532
Ye.ent.378-YE2573-YP 001006777.1--36H-COG1/1-545
Ed.tar.1771-ETAF_1250-YP 005698856.1--36H-COG1/1-530
Mo.mor.2189-MU9_1763-YP 007505182.1--36H-COG1/1-524
En.aer.1436-EAE_15540-YP 004593298.1--36H-COG1/1-536
En.638.865-Ent638_2456-YP 001177176.1--36H-COG1/1-533
Se.pro.864-Spro 2982-YP 001479211.1--36H-COG1/1-541
Es.col.1836-W75_p1861-YP 490147.1--36H-COG1/1-533
Serrat.1901-SerAS13_3074-YP 006025913.1--36H-COG1/1-541
Ye.pes.133-YP23_2023-YP 003568195.1--36H-COG1/1-536
Serrat.1408-SerAS12_3072-YP 004501498.1--36H-COG1/1-541
Se.mar.2260-D781_2758-YP 007345194.1--36H-COG1/1-534
Ye.pse.585-YP2B2400-YP 070914.1--36H-COG1/1-536
Se.ply.1407-SerAS9_3071-YP 004506451.1--36H-COG1/1-541
Pr.stu.1965-S70_18140-YP 006218125.1--36H-COG1/1-521
En.bac.2261-D782_1749-YP 007339930.1--36H-COG1/1-533
En.asb.1498-Entas_2590-YP 004829104.1--36H-COG1/1-533
En.asb.1498-Entas_3672-YP 004830170.1--36H-COG1/1-545
Ci.kos.578-CKO_01067-YP 001452646.1--36H-COG1/1-537
En.clo.1544-3cW5U1_02810-YP 004952663.1--36H-COG1/1-538
Sa.ent.407-STM3152-NP 462067.1--36H-COG1/1-547
Pe.atr.485-ECA1332-YP 049438.1--36H-COG1/1-555
Pe.car.1139-PC1_1208-YP 003016792.1--36H-COG1/1-555
En.638.865-Ent638_3407-YP 001178118.1--36H-COG1/1-545
Pa.vag.184-Pvag_1413-YP 003931052.1--36H-COG1/1-554
Ph.asy.1114-PAU_02684-YP 003041518.1--36H-COG1/1-544
Pa.ana.1905-PAJ_1316-YP 005934192.1--36H-COG1/1-556
Ci.kos.578-CKO_04394-YP 001455885.1--36H-COG1/1-561
Sa.bon.1474-SBG_2750-YP 004731563.1--36H-COG1/1-547
Ra.aqu.1678-Q7S_16025-YP 005402985.1--36H-COG1/1-554
Rahnel.1320-Rahaq_3177-YP 004213898.1--36H-COG1/1-554
Pectob.2320-W5S_3114-YP 006284066.1--36H-COG1/1-555
Ye.ent.378-YE2971-YP 001007160.1--36H-COG1/1-552
Er.bil.197-Ebc_20190-YP 003741400.1--36H-COG1/1-556
Ph.lum.1262-plu1854-NP 929127.1--36H-COG1/1-544
Er.bil.197-Ebc_25340-YP 003741912.1--36H-COG1/1-528
Di.zea.1140-Dd1591_2937-YP 003005238.1--36H-COG1/1-564
Er.tas.1011-ETA_14670-YP 001907406.1--36H-COG1/1-518
Sa.ent.404-STY4234-NP 458344.1--36H-COG1/1-547
Sa.ent.407-STM3577-NP 462478.1--36H-COG1/1-547
Sa.bon.1474-SBG_3170-YP 004731982.1--36H-COG1/1-547
En.asb.1498-Entas_2591-YP 004829105.1--36H-COG1/1-555
En.638.865-Ent638_1858-YP 001176586.1--36H-COG1/1-552
Ci.rod.62-ROD_19331-YP 003365490.1--36H-COG1/1-553
Di.dad.235-Dda3937_01559-YP 003882087.1--36H-COG1/1-566
Er.bil.197-Ebc_37780-YP 004743156.1--36H-COG1/1-553
Pantoe.297-Pat9b_2001-YP 003115872.1--36H-COG1/1-558

QSTENIYNSTSEIAAGNNDLSRTEEQVAALEETAASMEQLTATVKQNAENARQASQLAN
QGAEEIYTGATEISAGNSDLSRTEEQVAALEETAASMEQLTATVKQNAENARQASQLAL
QSSEIYTGATEISAGNSDLSRTEEQVAALEETAASMEQLTATVKQNAENARQASQLAL
QGADAIYTGATEISAGNNDLSRTEEQVAALEETAASMEQLTATVKQNAENARQASQLAL
QGADAIYTGATEISAGNNDLSRTEEQVAALEETAASMEQLTATVKQNAENARQASQLAL
QSSESIDYDGTSEIAAGNNDLSRTEEQVAALEETAASMEQLTATVKQNAENARQASNLAD
DGSEIYQGTSEIAAGNNDLSRTEEQVAALEETAASMEQLTATVKQNTYEAHQASEYAS
DGSEIYQGTSEIAAGNNDLSRTEEQVAALEETAASMEQLTATVKQNTYEAHQASEYAFAG
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QSTATYTGTEISAGNNDLSRTEEQVAALEETAASMEQLTATVKQNAENARQASNLAD
QGADAIYTGATEISAGNNDLSRTEEQVAALEETAASMEQLTATVKQNAENARQASQLAL
DGSDAIYTGATEISAGNNDLSRTEEQVAALEETAASMEQLTATVKQNAENARQASQLAL
VGADAIYSGASEIAVGNNDLSRTEEQVAALEETAASMEQLTATVKQNAENARQASQLAL
VGADAIYSGASEIAAGNNDLSRTEEQVAALEETAASMEQLTATVKQNAENARQASQLAL
LGADAIYSGASEIAAGNNDLSRTEEQVAALEETAASMEQLTATVKQNAENARQASQLAL
DGADAIYTGATEISAGNNDLSRTEEQVAALEETAASMEQLTATVKQNAENARQASQLAL
QSSESINYGTSEIAAGNNDLSRTEEQVAALEETAASMEQLTATVKQNAENARQASNLAD
QGADAIYSGASEIAAGNNDLSRTEEQVAALEETAASMEQLTATVKQNAENARQASQLAL
EGSDAIYSGTSEIAAGNNDLSRTEEQVAALEETAASMEQLTATVKQNAENARQASQLAL
HGADAIYSGASEIAAGNNDLSRTEEQVAALEETAASMEQLTATVKQNAENARQASQLAL
QGADAIYSGASEIAAGNNDLSRTEEQVAALEETAASMEQLTATVKQNAENARQASQLAL
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QGADAIYSGASEIAAGNNDLSRTEEQVAALEETAASMEQLTATVKQNAENARQASQLAL
QGANAISYSGASEISAGNNDLSRTEEQVAALEETAASMEQLTATVKQNAENARQASQLAL
QGADAIYSGASEIAAGNNDLSRTEEQVAALEETAASMEQLTATVKQNAENARQASQLAL
QSTETIYTGTEISAGNNDLSRTEEQVAALEETAASMEQLTATVKQNAENARQASNLAD
QGADAIYSGASEIAAGNNDLSRTEEQVAALEETAASMEQLTATVKQNAENARQASQLAL
DGSDAIYTGATEISAGNNDLSRTEEQVAALEETAASMEQLTATVKQNAENARQASQLAL
NGSDAIYSGASEISSGNNDLSRTEEQVAALEETAASMEQLTATVKQNAENARQASQLAL
NGANAISYSGASEIAMGNNDLSRTEEQVAALEETAASMEQLTATVKQNAENARQASHLAL
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Pectob.2320-W5S_2813-YP_006283770.1--36H-COG2/1-554
Di.zea.1140-Dd1591_0695-YP_003003055.1--36H-COG2/1-561
Pa.vag.184-Pvag_pPag30079-YP_003729820.1--36H-COG2/1-546
Er.bill.197-Ebc_38940-YP_003743272.1--36H-COG2/1-526
Ra.aqu.1678-Q7S_24891-YP_005419232.1--36H-COG2/1-554
En.asb.1498-Entas_2287-YP_004828805.1--36H-COG2/1-513
Rahnel.1320-Rahaq_4869-YP_004215574.1--36H-COG2/1-554
Di.dad.235-Dda3937_00027-YP_003883574.1--36H-COG2/1-554
Pr.stu.1965-S70_05790-YP_006215722.1--36H-COG2/1-520
En.638.865-Ent638_2100-YP_001176826.1--36H-COG2/1-512
Pe.car.1139-PC1_2526-YP_003018093.1--36H-COG2/1-554
Mo.mor.2189-MU9_702-YP_007504121.1--36H-COG2/1-525
Pe.car.1139-PC1_3443-YP_003018995.1--36H-COG2/1-511
Pa.ana.1905-PAJ_0915-YP_005933791.1--36H-COG2/1-559
Pectob.2320-W5S_3736-YP_006284671.1--36H-COG2/1-510
Pe.atr.485-ECA0183-YP_048310.1--36H-COG2/1-553
Rahnel.1320-Rahaq_3107-YP_004213828.1--36H-COG2/1-503
Pe.car.1139-PC1_4071-YP_003019622.1--36H-COG2/1-553
Di.dad.235-Dda3937_03462-YP_003884507.1--36H-COG2/1-563
Ra.aqu.1678-Q7S_15665-YP_005402913.1--36H-COG2/1-503
Pectob.2320-W5S_4505-YP_006285423.1--36H-COG2/1-555
Pe.atr.485-ECA3642-YP_051730.1--36H-COG2/1-551
Pe.car.1139-PC1_1417-YP_003019699.1--36H-COG2/1-554
En.asb.1498-Entas_4509-YP_004821569.1--36H-COG2/1-559
Pa.ana.1905-PAJ_3064-YP_005935940.1--36H-COG2/1-544
Pectob.2320-W5S_1733-YP_006282696.1--36H-COG2/1-535
Pe.atr.485-ECA4334-YP_052421.1--36H-COG2/1-556
Di.zea.1140-Dd1591_1602-YP_003003935.1--36H-COG2/1-554
Pectob.2320-W5S_4506-YP_006285424.1--36H-COG2/1-540
Di.zea.1140-Dd1591_1453-YP_003003794.1--36H-COG2/1-532
Pectob.2320-W5S_0106-YP_006281117.1--36H-COG2/1-556
Di.zea.1140-Dd1591_0769-YP_003003127.1--36H-COG2/1-505
Ra.aqu.1678-Q7S_18035-YP_005403387.1--36H-COG2/1-535
Rahnel.1320-Rahaq_3579-YP_004214298.1--36H-COG2/1-535
Pe.car.1139-PC1_4072-YP_003019623.1--36H-COG2/1-540
Pe.car.1139-PC1_3464-YP_003019016.1--36H-COG2/1-551
Pe.car.1139-PC1_0111-YP_003015709.1--36H-COG2/1-556
Pe.atr.485-ECA0182-YP_048309.1--36H-COG2/1-542
Pectob.2320-W5S_3753-YP_006284688.1--36H-COG2/1-551
Pa.ana.1905-PAJ_2666-YP_005935542.1--36H-COG2/1-514
Ci.rod.62-ROD_16161-YP_003365194.1--36H-COG6/1-557
En.asb.1498-Entas_2095-YP_004828614.1--36H-COG6/1-563
En.638.865-Ent638_1961-YP_001176688.1--36H-COG6/1-563
Cr.sak.579-ESA_01710-YP_001437800.1--36H-COG6/1-565
Cr.tur.6-CTU_22440-YP_003210607.1--36H-COG6/1-565
Ci.kos.578-CRO_01456-YP_001453025.1--36H-COG6/1-562
Rahnel.1320-Rahaq_1930-YP_004212674.1--36H-COG6/1-566
Pantoe.297-Pat9b_2403-YP_004116261.1--36H-COG6/1-564
Er.bill.197-Ebc_26700-YP_003742048.1--36H-COG6/1-567
Pectob.2320-W5S_1760-YP_006282723.1--36H-COG6/1-570
Pa.ana.1905-PAJ_1621-YP_005934497.1--36H-COG6/1-568
En.clo.1544-EcWSU1_02120-YP_004951978.1--36H-COG6/1-576
Ra.aqu.1678-Q7S_09815-YP_005401764.1--36H-COG6/1-566
Ye.pse.585-YPTB2412-YP_070925.1--36H-COG6/1-579
Ye.ent.378-YE2588-YP_001006789.1--36H-COG6/1-579
Di.dad.235-Dda3937_02787-YP_003883649.1--36H-COG6/1-572
Pa.vag.184-Pvag_1800-YP_003931435.1--36H-COG6/1-568
En.bac.2261-D782_2307-YP_007340470.1--36H-COG6/1-558
Pe.atr.485-ECA1683-YP_049784.1--36H-COG6/1-573
Pe.car.1139-PC1_2617-YP_003018183.1--36H-COG6/1-573
Di.zea.1140-Dd1591_1535-YP_003003868.1--36H-COG6/1-574
Di.zea.1140-Dd1591_3580-YP_003005868.1--36H-COG6/1-572
Es.col.1836-Y75_p1397-YP_489687.1--36H-COG6/1-546
Pe.atr.485-ECA3902-YP_051990.1--36H-COG6/1-575
Sa.bon.1474-SBG_1454-YP_004730321.1--36H-COG6/1-537
Sa.ent.407-STM1626-NP_460585.1--36H-COG6/1-541
Pe.car.1139-PC1_3679-YP_003019230.1--36H-COG6/1-567
Pectob.2320-W5S_4020-YP_006284955.1--36H-COG6/1-575
Di.zea.1140-Dd1591_0523-YP_003002884.1--36H-COG6/1-568
Di.dad.235-Dda3937_02665-YP_003881279.1--36H-COG6/1-572

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NVREVARQNGEVNTADISGTMKSI GESSGRIADIT SVIDS IAFQ T NI LALNA AVEAARAGE
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En.clo.1544-ECWSU1_01962-YP_004951821.1--36H-COG1/1-553
 En.asb.1498-Entas_1879-YP_004828403.1--36H-COG1/1-554
 En.bac.2261-D782_1748-YP_007339929.1--36H-COG1/1-547
 Es.col.1836-Y75_p1862-YP_490148.1--36H-COG1/1-553
 Cr.tur.6-CTU_33010-YP_003211664.1--36H-COG1/1-555
 Cr.tur.6-CTU_25780-YP_003210941.1--36H-COG1/1-536
 En.clo.1544-ECWSU1_00403-YP_004950264.1--36H-COG1/1-549
 En.638.865-Ent638_2457-YP_001177177.1--36H-COG1/1-555
 Sa.bon.1474-SBG_1755-YP_004730609.1--36H-COG1/1-553
 Pr.mir.1265-PMI1665-YP_002151396.1--36H-COG1/1-548
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 En.asb.1498-Entas_0424-YP_004826963.1--36H-COG1/1-549
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 Ed.tar.1771-ETAF_2264-YP_005699859.1--36H-COG1/1-555
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 Pantoe.297-Pat9b_1605-YP_004115478.1--36H-COG1/1-556
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 Pe.car.1139-PC1_1159-YP_003016743.1--36H-COG1/1-556
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 Er.tas.1011-ETA_16910-YP_001907630.1--36H-COG1/1-543
 Es.fer.1173-EFER_3055-YP_002384154.1--36H-COG1/1-603
 Xe.nem.162-XNC1_1619-YP_003711880.1--36H-COG1/1-520
 En.clo.1544-ECWSU1_02811-YP_004952664.1--36H-COG1/1-559
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 Xe.bov.105-XBJ1_1924-YP_003467828.1--36H-COG1/1-523
 Rahnel.1320-Rahaq_1831-YP_004212576.1--36H-COG1/1-556
 Ra.aqu.1678-Q7S_08965-YP_005401598.1--36H-COG1/1-556
 Cr.sak.579-ESA_01126-YP_001437230.1--36H-COG1/1-514
 Pe.atr.485-ECA2712-YP_050803.1--36H-COG1/1-560
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 Cr.tur.6-CTU_27880-YP_003211151.1--36H-COG1/1-514
 Pe.car.1139-PC1_1669-YP_003017246.1--36H-COG1/1-560
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 Ci.kos.578-CKO_03622-YP_001455137.1--36H-COG1/1-517
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 Di.zea.1140-Dd1591_2406-YP_003004726.1--36H-COG1/1-559
 Ed.ict.1187-NT01EI_2801-YP_002934203.1--36H-COG1/1-554
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 Pectob.2320-W5S_1886-YP_006282848.1--36H-COG1/1-549
 Pectob.2320-W5S_1696-YP_006282659.1--36H-COG1/1-559
 Di.zea.1140-Dd1591_2407-YP_003004727.1--36H-COG1/1-555
 Pe.atr.485-ECA1509-YP_049611.1--36H-COG1/1-559
 Pa.vag.184-Pvag_1724-YP_003931361.1--36H-COG1/1-520
 Pa.ana.1905-PAJ_1541-YP_005934417.1--36H-COG1/1-520
 Mo.mor.2189-MU9_1596-YP_007505015.1--36H-COG1/1-519
 Pr.mir.1265-PMI2808-YP_002152509.1--36H-COG1/1-563
 Di.zea.1140-Dd1591_0395-YP_003002764.1--36H-COG1/1-556
 En.clo.1544-ECWSU1_03786-YP_004953635.1--36H-COG1/1-515
 Pectob.2320-W5S_3170-YP_006284116.1--36H-COG1/1-556
 Di.dad.235-Dda3937_02184-YP_003884754.1--36H-COG1/1-556
 Ci.rod.62-ROD_32641-YP_003366748.1--36H-COG1/1-517
 Di.dad.235-Dda3937_03499-YP_003882751.1--36H-COG1/1-561
 Di.dad.235-Dda3937_00105-YP_003883346.1--36H-COG1/1-561
 Pantoe.297-Pat9b_1604-YP_004115477.1--36H-COG1/1-555
 Er.tas.1011-ETA_14660-YP_001907405.1--36H-COG1/1-560
 Pr.mir.1265-PMI2809-YP_002152510.1--36H-COG1/1-575
 Ed.tar.1771-ETAF_3053-YP_005700648.1--36H-COG1/1-516
 Se.pro.864-Spro_1415-YP_001477647.1--36H-COG1/1-546
 Di.zea.1140-Dd1591_1804-YP_003004134.1--36H-COG1/1-562
 Di.dad.235-Dda3937_03501-YP_003882749.1--36H-COG1/1-575
 Pantoe.297-Pat9b_0851-YP_004114731.1--36H-COG2/1-524
 Pa.vag.184-Pvag_0291-YP_003929953.1--36H-COG2/1-525
 En.clo.1544-ECWSU1_03886-YP_004953735.1--36H-COG2/1-519
 Cr.tur.6-CTU_04790-YP_003208842.1--36H-COG2/1-515
 Ci.kos.578-CKO_04484-YP_001455975.1--36H-COG2/1-521
 Cr.sak.579-ESA_03488-YP_001439539.1--36H-COG2/1-515
 Ci.rod.62-ROD_48071-YP_003368199.1--36H-COG2/1-521
 Sa.bon.1474-SBG_2851-YP_004731664.1--36H-COG2/1-521
 Sa.ent.407-STM3216-NP_462130.1--36H-COG2/1-521
 En.asb.1498-Entas_3753-YP_004830248.1--36H-COG2/1-519
 Mo.mor.2189-MU9_3389-YP_007506806.1--36H-COG2/1-521
 Sa.ent.404-STY3394-NP_457606.1--36H-COG2/1-522
 En.638.865-Ent638_3526-YP_001178235.1--36H-COG2/1-519
 Pe.atr.485-ECA1774-YP_049874.1--36H-COG2/1-554
 En.638.865-Ent638_2119-YP_001176845.1--36H-COG2/1-549
 VAAFRNLNGK-EKATAPRPA--TVKT--PQL-----L
 VAAFRNLNAK-DQAAAPRPK--NVKT--PQL-----L
 VSAFRLASS-ARAVASLKT--ASAP--VVK-----L
 VSAFRLAAS-PLTNKQPTP----SR--PAS-----EQPP----AQ
 VAAFKVSRG-VVSTSTRTG--VAPS--ARIE-----PV
 VAAFRFLASA-RANAPRSEP--AAAP--VSA-----SPAL----YA
 VAVFKITRN-PVVNAAPVK-----S-----YTP
 VSAFRLTST-PVNTDTSRA--VFAG--TTS-----AAVV----KN
 VSAFRLASR-PLATNKSEA----RL--SAD-----IQPG----NT
 VSAFRLPDT-DEGSSHSL--EGNG--LKKA-----APRT----AQ
 VAAFRLAAS-RASAPRSVQ--TAAP--VSA-----SLTP----VA
 VAAFKVSRG-VVSAARTG--AAPL--VRVE-----PV
 VSAFRLASR-PLAVNKPEM----RL--SVN-----AQSG----NT
 VSAFRLASR-PLTVKTDL----NT--TAA-----APRT----AQ
 VAVFKIARG-QAVKAAFPVK-----T-----YVP
 VARFNTGAR-QATAVLRVP--SAPV-----VAPRA----KA
 VSQFRINDQ-EERKAPVSAK--PVAA--PATP-----APSA----KA
 VAVFNTGRT-PAAGQNVLR--KPSL--KKPL-----A-----A
 VSVFKTGTL-HAFAFSAAPV--AKAI--AVPK-----A-----A
 VSVFNIIPRV-QAADGVTRH--QPIA--PKV-----LD----TP
 VAVFKLNRA-QARAASVAP--QASS--FS-----APAP----VA
 VSRFRLPES-SESALRSTPAVVKPA--AA-----A-----A
 VAVFNTGRT-PAAGQNVLR--KPSL--KKPL-----A-----A
 VAVFKINGQ-VAQEHRAES--APSL--AA-----LPTS----LL
 VAVFRITQQ-TVVAVRELK--RPVL-----KPAA----MP
 VSVFKIKRE-ARPTLTKH---LPIA--STV-----TKAL----TP
 VALFTLPES-QASRPA-----T-----FAA
 VAVFKINGR-RAVKAAPVK-----T-----FAA
 VAVFRVRKE-SGFTPAAKA--STVK--RAA-----SP----VA
 VSRFRLPES-SESALRSTPAVAKPA--AA-----A-----A
 VAVFRIHHE-QQRARESAV--VKTV-----TAP----AA
 VAKFELPKG-ENSGYSHQK--PSAS--NMED-EYI-----TR
 VSAFRLASL-AGNTVTPQA--TYLA--PAA-----AAAA----TR
 VAAFDLGDPT-PTALRSRPA-----SA--PALK-----RPVL----KA
 VALFELSES-LDNEYDHQT--SSAS--KMTD-EYI-----A-----A
 VSVFRLATT-DGAGQRRSG--LAQG--LTSR-Q-V-----AQPAL----LP
 VSVFRLATT-DGAGQRRSG--LAQG--LTSR-Q-V-----AQPAL----LP
 VQKFRLSA-----T-----FAA
 VSVFQLSAA-EAPRRPQQR--LAEK--APAA-Q-----KFML----LA
 VAVFRIQQE-QMKAREQAS--AKTA-----AAP----MM
 VEVFHLGSE-YQTAASRPR--PAGN--MALK-----RPAL----SG
 VQKFRLSA-----T-----FAA
 VSVFQLSAS-EAHRRPQQR--LAER--APAV-E-----KFML----LA
 VSVFKIEGR-APLSSASLL--PKNK--TQKN-----EPEI----TK
 VAVFKV-----T-----FAA
 VAAFDLGDGR-HGLIAGSARR---VE--PALK-----RPAA----AS
 VEVFHLGTE-HRSTAVNTG--RSGG--MALK-----RPAL----KG
 VSQFRISQ-EADKASVSAK--PVAT--APA-----APSA----KA
 VDVFDLSDS-CDPATSFSR--PAVA--APVH-----RAVG----RS
 VSVFKIEGR-APLSSASLL--PKNK--TQKN-----EPEI----TK
 VEVFKINQA-VAQEHRAES--ASSL--AA-----LPKS----LL
 ISVFQLSGS-EAHRRPQQR--LAEK--TPTA-Q-----KFML----LA
 VDVFDLSDS-SDLQPAFSR--SALS--SPAH-----RAIG----QS
 VAAFDLGGG-SGALHSRPR--PTA--PALK-----RPSQ----KA
 VDVFDLSDS-SDQQTAFSR--PAIA--APVH-----RAVA----QS
 VSVFKISRA-----T-----FAA
 VSVFKISRV-----T-----FAA
 VQKFRLSA-----T-----FAA
 VNTKFEVQV-AVTSRPSPT--FSAK--PA-----EPEI----TK
 VAVFRLPGV-ADASATRRVHKPAGK--VAAL-----T
 VQKFRLSA-----T-----FAA
 VEVFKINGQ-AAQEPRVAS--APSP--AA-----LPKS----LL
 VSVFKLPGV-ADATAARRELKPAK--VAAL-----A
 VAIKFKV-----T-----FAA
 VTAFDLGDGR-QSVLIAPRA---AV--PALK-----RPAL----KA
 VSLFRLDTA-ASPSASRAT--PAAT--TPA-----APPL----LA
 VSVFNIIPRT-QATGGVTRH--PQIA--PKV-----LA----SV
 VAVFQMRKE-NRIAAVNNL--AAPK--TSS-----LSPA----TA
 VEQFKTAES-LFSKKSTLT-KPVEK--SANI-G-LSPIKENQDQDSRIK-EPKN-----HN
 VALFTLPDGD-STGSDARAT--TA-----A-----A
 VSLFLKATH-ASAGVHVQP--QAI--APKV-----VA
 VSLFRLHGA-ASLTKTKHR--PAVG--MTAE-----TPRL----SV
 VAAFDLGDPT-PTALRSRPA-----SA--AALK-----RPVS----AS
 MSVFKTGHG-MELSVV-----T-----FAA
 MSVFNKGL-ALQPVLR-----T-----FAA
 VRVFRVSDR-VLA-----T-----FAA
 IKVFRLSA-----T-----FAA
 KVFRIRTE-DVPPA-----T-----FAA
 IKVFRLSA-----T-----FAA
 VKMFRVSEK-DALAA-----T-----FAA
 VNVFRVREE-DVQFA-----T-----FAA
 VNVFRVREE-DTQFA-----T-----FAA
 KVFRVNEY-APA-----T-----FAA
 VGVFQLAGT-PSSVS-----T-----FAA
 VNVFRVREE-DTQFA-----T-----FAA
 KVFRVRED-ALV-----T-----FAA
 ISVFNVLGAS-YKSAALNRK---TE--TPAL-A-----APKN----NR
 VRVFRVLRDS-EVNSAPVRT-----HV-----SPAV----IP

Pectob.2320-W5S 2813-YP 0062883770.1--36H-COG2/1-554 VSVFNLGAS-YKSAALTRK---VE--TPAL-A-----APKN----NR
 Di.zea.1140-Dd1591_0695-YP 003003055.1--36H-COG2/1-561 VSAFRLTPQ-GNSSATSPARQSAVL--SPAL-P-V-----RPAV----TE
 Pa.vag.184-Pvag_pPag30079-YP 003729820.1--36H-COG2/1-546 VSVFTLAAV-SPPPVTRQA--IVSV-----PAT-----
 Er.bil.197-Ebc 38940-YP 003743272.1--36H-COG2/1-526 ISVFKVNDV-HYHGQALA-----SPAL----LS
 Ra.aqu.1678-Q7S 24891-YP 005419232.1--36H-COG2/1-554 ISIFKVSAG-SATAAVRKA--GQTK-----SPAL----LS
 En.asb.1498-Entas 2287-YP 004828805.1--36H-COG2/1-513 VAAFLRLEQS-AQAA-----SPAL----LS
 Rahnel.1320-Rahaq 4869-YP 004215574.1--36H-COG2/1-554 ISIFKVSAG-SATAAVRKA--GQTK-----SPAL----LS
 Di.dad.235-Dda3937_00027-YP 003883574.1--36H-COG2/1-554 VSVFRLNNN-WSDKGTTRR-QPGGK--ALAL-A-G-----LPGA-----
 Pr.stu.1965-S70 05790-YP 006215722.1--36H-COG2/1-520 VNYFQVSAT-HENRSV-----KPGF----KTA
 En.638.865-Ent638 2100-YP 001176826.1--36H-COG2/1-512 VAAFLRLEQN-ARAA-----SAA-----
 Pe.car.1139-PC1 2526-YP 003018093.1--36H-COG2/1-554 VSVFNLGAS-YKSAALSRK---VE--TPAL-S-----APKN----NR
 Mo.mor.2189-MU9 702-YP 007504121.1--36H-COG2/1-525 MTQFRLGSS-AA-----PAA-----
 Pe.car.1139-PC1 3443-YP 003018995.1--36H-COG2/1-511 VSVFRLLPQ-SQSQSIHRLA-----SPAL----LS
 Pa.ana.1905-PAJ 0915-YP 005933791.1--36H-COG2/1-559 VSVFSLSGP-SALSVAVHP--ATVV-----KPGF----KTA
 Pectob.2320-W5S 3736-YP 006284671.1--36H-COG2/1-510 VSVFRLHP-SQQDLRRLT-----SAA-----
 Pe.atr.485-ECA0183-YP 048310.1--36H-COG2/1-553 VSTFKLLSY-GNGKTASYASAP-TR--TPTL-S-L-----APAA-----
 Rahnel.1320-Rahaq 3107-YP 004213828.1--36H-COG2/1-503 VSVFRLGNE-----PAA-----
 Pe.car.1139-PC1 4071-YP 003019622.1--36H-COG2/1-553 VSVFKLLSY-GSKTASYASAP-VR--TPTL-S-L-----APAA-----
 Di.dad.235-Dda3937_03462-YP 003884507.1--36H-COG2/1-563 VSAFRLTPQ-GGNGAPSPVRQPTAL--SHAL-PSA-----RPNV----TE
 Ra.aqu.1678-Q7S 15665-YP 005402913.1--36H-COG2/1-503 VSVFRLGNE-----PAA-----
 Pectob.2320-W5S 4505-YP 006285423.1--36H-COG2/1-555 VSAFKLLSY-GNGKAASYASSP-TR--TPTL-S-L-----ASAT----TP
 Pe.atr.485-ECA3642-YP 051730.1--36H-COG2/1-551 VQFRLNGG-HQIARTPAA--AASL--TL-----RPAL----AA
 Pe.car.1139-PC1 1417-YP 003016999.1--36H-COG2/1-554 VSVFRIAGH-KPSMLQPAT--QALS--LVAM-----LPVS----T-
 En.asb.1498-Entas 4509-YP 004821569.1--36H-COG2/1-559 VVNQFSLREE-IETDATSIM--RAEV--KQE-----LKNPSR-----
 Pa.ana.1905-PAJ 3064-YP 005935940.1--36H-COG2/1-544 VSVFRFNNM-TQQVHVSPT-----LKNPSR-----
 Pectob.2320-W5S 1733-YP 006282696.1--36H-COG2/1-535 VSVFKIANY-GLSTPKPAT--QTLN--L-AR-----LPAA----A-
 Pe.atr.485-ECA4334-YP 052421.1--36H-COG2/1-556 MGVFKLNGI-QTKAPRLTS--QVKQ--PA-----APRL----AL
 Di.zea.1140-Dd1591_1602-YP 003003935.1--36H-COG2/1-554 VSVFRLNNN-WSDNSAARF-QPGEK--GLAL-T-G-----LPGA-----
 Pectob.2320-W5S 4506-YP 006285424.1--36H-COG2/1-540 VSAFKIQSY-SRGNAASYASTP-VS--TPML-A-L-----ANKA-----
 Di.zea.1140-Dd1591_1453-YP 003003794.1--36H-COG2/1-532 VGVFRLSDR-ASGARPDTR--VAEQ--ELLL-----APRL----AL
 Pectob.2320-W5S 0106-YP 006281117.1--36H-COG2/1-556 MGVFKIANG-QAPAPRLTS--PMKP--QT-----APRL----AL
 Di.zea.1140-Dd1591_0769-YP 003003127.1--36H-COG2/1-505 VSVFRLSNT-----LTPRL----SA
 Ra.aqu.1678-Q7S 18035-YP 005403387.1--36H-COG2/1-535 ISAFDISRA-GNLNVTATA-----PAA-----
 Rahnel.1320-Rahaq 3579-YP 004214298.1--36H-COG2/1-535 ISAFDISRA-GNLNVTATA-----PAA-----
 Pe.car.1139-PC1 4072-YP 003019623.1--36H-COG2/1-540 VSAFKIQSY-SGNSNGGSYV--P-MR--TPTL-S-L-----ALAS----KE
 Pe.car.1139-PC1 3464-YP 003019016.1--36H-COG2/1-551 VQFRLNGS-HQIARTPAA--APSL--AL-----QPAL----AA
 Pe.car.1139-PC1 0111-YP 003015709.1--36H-COG2/1-556 MGVFKISGV-QAQAPRLSA--QVKQ--PT-----APRL----AL
 Pe.atr.485-ECA0182-YP 048309.1--36H-COG2/1-542 VSAFKIPSY-SHGNAAGSYVSP-MS--TPTL-S-L-----ALAR----KE
 Pectob.2320-W5S 3753-YP 006284688.1--36H-COG2/1-551 VQFRLDMS-HQIARTPVA--TPTL--AL-----QPAL----AA
 Pa.ana.1905-PAJ 2666-YP 005935542.1--36H-COG2/1-514 VEAFFV-----PAA-----
 Ci.rod.62-ROD 16161-YP 003365194.1--36H-COG6/1-557 VGAFRLQGG-SAAKRTARQ-----PEV-----
 En.asb.1498-Entas 2095-YP 004828614.1--36H-COG6/1-563 VGAFRLNGA-TASRSVASS-----PAV----KS
 En.638.865-Ent638 1961-YP 001176688.1--36H-COG6/1-563 VGAFRLNGV-APSRSAKPS-----ALA----QS
 Cr.sak.579-EA 01710-YP 001437800.1--36H-COG6/1-565 VGAFRLGSA-SAAKNEPQ--PPA-----AQPL----AP
 Cr.tur.6-CTU 22440-YP 003210607.1--36H-COG6/1-565 VGTFRLSAA-SAAKNEPQ--PPA-----AQPL----AP
 Ci.kos.578-CRO 01456-YP 001453025.1--36H-COG6/1-562 VGAFRLQGG-SAIKRAPS-----DVV----AS
 Rahnel.1320-Rahaq 1930-YP 004212674.1--36H-COG6/1-566 VAVFRLDGS-TRSAQPQSP--ASSR-----ALPG----PA
 Pantoe.297-Pat9b 2403-YP 004116261.1--36H-COG6/1-564 VAAFLRLNDN-PGLR-----VTPP--AM-----QPAL----QT
 Er.bil.197-Ebc 26700-YP 003742048.1--36H-COG6/1-567 VAVFQLAGH-SSIKFKSP--VSP-----TGQN----GS
 Pectob.2320-W5S 1760-YP 006282723.1--36H-COG6/1-570 VATFKLSSH-LSSAPS--P--ARPN--ALAA-----KSRG----SL
 Pa.ana.1905-PAJ 1621-YP 005934497.1--36H-COG6/1-568 VAAFLRLQDT-PAKPVHQS--DSAP-----KAPA----PV
 En.clo.1544-EcWSU1_02120-YP 004951978.1--36H-COG6/1-576 VGAFRLGSA-KPGRSVSSA-----SAV----KN
 Ra.aqu.1678-Q7S 09815-YP 005401764.1--36H-COG6/1-566 VAVFRLDGS-TRSAQPQSP--ASSR-----ALPG----PA
 Ye.pse.585-YPTB2412-YP 070925.1--36H-COG6/1-579 VAVFQLAGH-SSIKFKSP--VSP-----TGQN----GS
 Ye.ent.378-YE2588-YP 001006789.1--36H-COG6/1-579 VAVFHLNGR-NPAPALKTP--APTS-----IQQN----KT
 Di.dad.235-Dda3937_02787-YP 003883649.1--36H-COG6/1-572 VSAFKLTHG-QDKAYAQAP--LAQK--PLLA-----TSTA----GL
 Pa.vag.184-Pvag 1800-YP 003931435.1--36H-COG6/1-568 VAAFLRLQDS-PATKVAAR--VTSP--AR-----TPAL-----
 En.bac.2261-D782 2307-YP 007340470.1--36H-COG6/1-558 VGTFRIPSH-SGVKKENVP-----PAA-----A
 Pe.atr.485-ECA1683-YP 049784.1--36H-COG6/1-573 VATFKLSSH-LSSGHS-AP--ARPN--ALAA-----KGRS----SL
 Pe.car.1139-PC1 2617-YP 003018183.1--36H-COG6/1-573 VATFKLSSH-LSSGHS-AP--ARPN--ALAA-----KDRS----SL
 Di.zea.1140-Dd1591_1535-YP 003003868.1--36H-COG6/1-574 VSAFKLANHLQDTAPTAS--TMSK--PLLA-T-----SSTA----RL
 Di.zea.1140-Dd1591_3580-YP 003005868.1--36H-COG6/1-572 VSAFRIDGM-ERQPAMSPA--SRSA--AAHT-----ALPK----TL
 Es.col.1836-Y75 p1397-YP 489687.1--36H-COG6/1-546 VDVFRLHKK-SVSAEPRGA-----GEPV-----
 Pe.atr.485-ECA3902-YP 051990.1--36H-COG6/1-575 VAVFKLSGI-VQQVRSLLP--KSAP--QPRL-----APAM----AI
 Sa.bon.1474-SBG 1454-YP 004730321.1--36H-COG6/1-537 VGAFRLQGT-DPSFL-----PAA-----
 Sa.ent.407-STM1626-NP 460585.1--36H-COG6/1-541 VDAFRLHDT-GATMRSSFL-----PAA-----
 Pe.car.1139-PC1 3679-YP 003019230.1--36H-COG6/1-567 VAVFKLAGV-AQKLLKASLP--KAAP--QPRL-----APAM----AI
 Pectob.2320-W5S 4020-YP 006284955.1--36H-COG6/1-575 VAVFKLAGV-AQQRRTSLP--KAAP--QPRL-----APAM----AL
 Di.zea.1140-Dd1591_0523-YP 003002884.1--36H-COG6/1-568 VAVFKLRHR-RENESVRAS--LPSR--PVVQ-A-----IPAV----AA
 Di.dad.235-Dda3937_02665-YP 003881279.1--36H-COG6/1-572 VSAFRIDGA-ERRPAINIA--ARPA--SAQA-----ALPK----AL

En.clo.1544-EcWSU1_01962-YP_004951821.1--36H-COG1/1-553 RPA-----TAN-TATDS--NWETF-----
 En.asb.1498-Entas_1879-YP_004828403.1--36H-COG1/1-554 RPA-----TATASVADG--NWETF-----
 En.bac.2261-D782_1748-YP_007339929.1--36H-COG1/1-547 -----PAV-ARSEE--NWETF-----
 Es.col.1836-Y75_p1862-YP_490148.1--36H-COG1/1-553 -PR-----LRI-AEQDP--NWETF-----
 Cr.tur.6-CTU_33010-YP_003211664.1--36H-COG1/1-555 KPA-----LAA-PAGGD--NWETF-----
 Cr.tur.6-CTU_25780-YP_003210941.1--36H-COG1/1-536 -AS-----KPA-VAGQD--NWETF-----
 En.clo.1544-EcWSU1_00403-YP_004950264.1--36H-COG1/1-549 AAK-----PVA-ATSEA--NWETF-----
 En.638.865-Ent638_2457-YP_001177177.1--36H-COG1/1-555 -TR-----ATA-HGKEE--NWETF-----
 Sa.bon.1474-SBG_1755-YP_004730609.1--36H-COG1/1-553 -PR-----SPA-TVDDA--NWETF-----
 Pr.mir.1265-PMI1665-YP_002151396.1--36H-COG1/1-548 -----DKKSFFKKTH
 Cr.sak.579-ESA_01348-YP_001437444.1--36H-COG1/1-556 -AS-----QPA-VASQD--NWETF-----
 Cr.sak.579-ESA_00560-YP_001436686.1--36H-COG1/1-555 KPA-----LAA-PAGGD--NWETF-----
 Sa.ent.407-STM1919-NP_460876.1--36H-COG1/1-553 -PQ-----SLA-ARDDA--NWETF-----
 Ci.kos.578-CKO_01066-YP_001452645.1--36H-COG1/1-552 -PR-----QLA-TEQDT--HWETF-----
 En.asb.1498-Entas_0424-YP_004826963.1--36H-COG1/1-549 KTQ-----PVA-TATEA--NWETF-----
 Pantoe.297-Pat9b_1273-YP_004115150.1--36H-COG1/1-553 -LK-----APA-AAGND--NWETF-----
 Ed.tar.1771-ETAF_2264-YP_005699859.1--36H-COG1/1-555 -----A-AASR-SDDDA--NWDQF-----
 Pa.ana.1905-PAJ_3534-YP_005936409.1--36H-COG1/1-553 -ES-----TSA-GLSAE--NWQSF-----
 Pa.vag.184-Pvag_1203-YP_003930842.1--36H-COG1/1-552 -RQ-----PVA-VTDNE--NWQTF-----
 Pantoe.297-Pat9b_1605-YP_004115478.1--36H-COG1/1-556 RKA-----LTA-FVSDS--NWETF-----
 Cr.sak.579-ESA_00210-YP_001436348.1--36H-COG1/1-557 SLK-----AAP-AGGSD--NWETF-----
 Er.tas.1011-ETA_pET460340-YP_001905943.1--36H-COG1/1-543 -----KGA-AGSGD--DWLAF-----
 Cr.tur.6-CTU_36610-YP_003212024.1--36H-COG1/1-557 SLK-----AAP-AGGSE--NWETF-----
 Pe.car.1139-PC1_1159-YP_003016743.1--36H-COG1/1-556 PKP-----ASA-GSANA--NWETF-----
 Er.tas.1011-ETA_14640-YP_001907403.1--36H-COG1/1-554 -ER-----ASS-SVSDS--NWETF-----
 Pa.vag.184-Pvag_1725-YP_003931362.1--36H-COG1/1-556 RKA-----LTA-PVNDT--NWETF-----
 Ed.ict.1187-NT01EI_3742-YP_002935104.1--36H-COG1/1-525 -----
 En.638.865-Ent638_0380-YP_001175119.1--36H-COG1/1-549 KVK-----PTA-TVSDG--NWETF-----
 Er.bil.197-Ebc_25360-YP_003741914.1--36H-COG1/1-556 RKA-----SAP-VASDS--NWETF-----
 Er.tas.1011-ETA_16910-YP_001907630.1--36H-COG1/1-543 -----KGA-AGSGD--DWVAF-----
 Es.fer.1173-EFER_3055-YP_002384154.1--36H-COG1/1-603 PRK-----AAV-ADNSD--NWETF-----
 Xe.nem.162-XNC1_1619-YP_003711880.1--36H-COG1/1-520 -----VS-----
 En.clo.1544-EcWSU1_02811-YP_004952664.1--36H-COG1/1-559 -KP-----AAT-TG-HE--NWETF-----
 Di.dad.235-Dda3937_03500-YP_003882750.1--36H-COG1/1-553 SLP-----A-SSSHS--DWETF-----
 Xe.bov.105-XBJ1_1924-YP_003467828.1--36H-COG1/1-523 -----ASQ-VR-----
 Rahnel.1320-Rahaq_1831-YP_004212576.1--36H-COG1/1-556 -----ATAG-AVSAD--NWETF-----
 Ra.aqu.1678-Q7S_08965-YP_005401598.1--36H-COG1/1-556 -----ATAG-AVSAD--NWETF-----
 Cr.sak.579-ESA_01126-YP_001437230.1--36H-COG1/1-514 -----
 Pe.atr.485-ECA2712-YP_050803.1--36H-COG1/1-560 AAG-----GKK-GNAND--NWETF-----
 En.clo.1544-EcWSU1_00560-YP_004950421.1--36H-COG1/1-597 ARK-----AAT-TDAGE--NWETF-----
 Di.dad.235-Dda3937_03498-YP_003882752.1--36H-COG1/1-561 MAR-----A-LPPA-RTASDEGSWEKF-----
 Cr.tur.6-CTU_27880-YP_003211151.1--36H-COG1/1-514 -----
 Pe.car.1139-PC1_1669-YP_003017246.1--36H-COG1/1-560 AAG-----GKK-GNAND--NWETF-----
 Ra.aqu.1678-Q7S_14450-YP_005402672.1--36H-COG1/1-551 -----SRVL-TTEDG--GWTKF-----
 Ci.kos.578-CKO_03622-YP_001455137.1--36H-COG1/1-517 -----
 Di.zea.1140-Dd1591_2408-YP_003004728.1--36H-COG1/1-557 SPG-----V-RSVS-AATQA--DWETF-----
 Di.zea.1140-Dd1591_2406-YP_003004726.1--36H-COG1/1-559 AAP-----A-LPGK-VSTQD--NWEKF-----
 Ed.ict.1187-NT01EI_2801-YP_002934203.1--36H-COG1/1-554 -----A-AASR-NDDDD--NWDQF-----
 Pe.car.1139-PC1_1384-YP_003016966.1--36H-COG1/1-559 STP-----L-LSAH-GRNGE--GWEKF-----
 Rahnel.1320-Rahaq_2866-YP_004213595.1--36H-COG1/1-551 -----SRVL-TTEDG--GWTKF-----
 Pe.atr.485-ECA1281-YP_049387.1--36H-COG1/1-556 PKP-----TSA-GSSNA--NWETF-----
 Pectob.2320-W5S_1886-YP_006282848.1--36H-COG1/1-549 AAS-----GKK-GNAND--NWETF-----
 Pectob.2320-W5S_1696-YP_006282659.1--36H-COG1/1-559 TLP-----L-LSVH-GRHGE--GWEKF-----
 Di.zea.1140-Dd1591_2407-YP_003004727.1--36H-COG1/1-555 ALP-----N-RSSHG--GWEETF-----
 Pe.atr.485-ECA1509-YP_049611.1--36H-COG1/1-559 TTP-----L-LSVH-GRHGE--GWEKF-----
 Pa.vag.184-Pvag_1724-YP_003931361.1--36H-COG1/1-520 -----
 Pa.ana.1905-PAJ_1541-YP_005934417.1--36H-COG1/1-520 -----
 Mo.mor.2189-MU9_1596-YP_007505015.1--36H-COG1/1-519 -----
 Pr.mir.1265-PMI2808-YP_002152509.1--36H-COG1/1-563 TATSTI--KSHH-HEADD--NWESF-----
 Di.zea.1140-Dd1591_0395-YP_003002764.1--36H-COG1/1-556 NLS---T-ASAP-QKSGD--DWTSF-----
 En.clo.1544-EcWSU1_03786-YP_004953635.1--36H-COG1/1-515 -----
 Pectob.2320-W5S_3170-YP_006284116.1--36H-COG1/1-556 PKP-----TSA-GSSNA--NWETF-----
 Di.dad.235-Dda3937_02184-YP_003884754.1--36H-COG1/1-556 NLS---Q-TSRQ-EKAGD--DWTSF-----
 Ci.rod.62-ROD_32641-YP_003366748.1--36H-COG1/1-517 -----
 Di.dad.235-Dda3937_03499-YP_003882751.1--36H-COG1/1-561 SLP-----A-SSSHG--DWETF-----
 Di.dad.235-Dda3937_00105-YP_003883346.1--36H-COG1/1-561 SRS---VA-TASA-YNTAS--HWETF-----
 Pantoe.297-Pat9b_1604-YP_004115477.1--36H-COG1/1-555 RKA-----VTA-PVGDS--NWETF-----
 Er.tas.1011-ETA_14660-YP_001907405.1--36H-COG1/1-560 HKA-----LPKA-TGSDE--NWETF-----
 Pr.mir.1265-PMI2809-YP_002152510.1--36H-COG1/1-575 -QS-----TFK-EDEDD--DWTSF-----
 Ed.tar.1771-ETAF_3053-YP_005700648.1--36H-COG1/1-516 -----
 Se.pro.864-Spro_1415-YP_001477647.1--36H-COG1/1-546 -----DDNGE--NWSRF-----
 Di.zea.1140-Dd1591_1804-YP_003004134.1--36H-COG1/1-562 GHK---VA-TAGA-YQETG--NWETF-----
 Di.dad.235-Dda3937_03501-YP_003882749.1--36H-COG1/1-575 SLG---A-RPVT-ASSQG--DWETF-----
 Pantoe.297-Pat9b_0851-YP_004114731.1--36H-COG2/1-524 -----
 Pa.vag.184-Pvag_0291-YP_003929953.1--36H-COG2/1-525 -----
 En.clo.1544-EcWSU1_03886-YP_004953735.1--36H-COG2/1-519 -----
 Cr.tur.6-CTU_04790-YP_003208842.1--36H-COG2/1-515 -----
 Ci.kos.578-CKO_04484-YP_001455975.1--36H-COG2/1-521 -----
 Cr.sak.579-ESA_03488-YP_001439539.1--36H-COG2/1-515 -----
 Ci.rod.62-ROD_48071-YP_003368199.1--36H-COG2/1-521 -----
 Sa.bon.1474-SBG_2851-YP_004731664.1--36H-COG2/1-521 -----
 Sa.ent.407-STM3216-NP_462130.1--36H-COG2/1-521 -----
 En.asb.1498-Entas_3753-YP_004830248.1--36H-COG2/1-519 -----
 Mo.mor.2189-MU9_3389-YP_007506806.1--36H-COG2/1-521 -----
 Sa.ent.404-STY3394-NP_457606.1--36H-COG2/1-522 -----
 En.638.865-Ent638_3526-YP_001178235.1--36H-COG2/1-519 -----
 Pe.atr.485-ECA1774-YP_049874.1--36H-COG2/1-554 -----
 En.638.865-Ent638_2119-YP_001176845.1--36H-COG2/1-549 AEK-----TSA-KGELA--DWTTF-----
 GKPF-----AAP-RGSEK--DWQAF-----

Pectob.2320-W5S_2813-YP_006283770.1--36H-COG2/1-554
 Di.zea.1140-Dd1591_0695-YP_003003055.1--36H-COG2/1-561
 Pa.vag.184-Pvag_pPag30079-YP_003729820.1--36H-COG2/1-546
 Er.bil.197-Ebc_38940-YP_003743272.1--36H-COG2/1-526
 Ra.aqu.1678-Q7S_24891-YP_005419232.1--36H-COG2/1-554
 En.asb.1498-Entas_2287-YP_004828805.1--36H-COG2/1-513
 Rahnel.1320-Rahaq_4869-YP_004215574.1--36H-COG2/1-554
 Di.dad.235-Dda3937_00027-YP_003883574.1--36H-COG2/1-554
 Pr.stu.1965-S70_05790-YP_006215722.1--36H-COG2/1-520
 En.638.865-Ent638_2100-YP_001176826.1--36H-COG2/1-512
 Pe.car.1139-PC1_2526-YP_003018093.1--36H-COG2/1-554
 Mo.mor.2189-MU9_702-YP_007504121.1--36H-COG2/1-525
 Pe.car.1139-PC1_3443-YP_003018995.1--36H-COG2/1-511
 Pa.ana.1905-PAJ_0915-YP_005933791.1--36H-COG2/1-559
 Pectob.2320-W5S_3736-YP_006284671.1--36H-COG2/1-510
 Pe.atr.485-ECA0183-YP_048310.1--36H-COG2/1-553
 Rahnel.1320-Rahaq_3107-YP_004213828.1--36H-COG2/1-503
 Pe.car.1139-PC1_4071-YP_003019622.1--36H-COG2/1-553
 Di.dad.235-Dda3937_03462-YP_003884507.1--36H-COG2/1-563
 Ra.aqu.1678-Q7S_15665-YP_005402913.1--36H-COG2/1-503
 Pectob.2320-W5S_4505-YP_006285423.1--36H-COG2/1-555
 Pe.atr.485-ECA3642-YP_051730.1--36H-COG2/1-551
 Pe.car.1139-PC1_1417-YP_003016999.1--36H-COG2/1-554
 En.asb.1498-Entas_4509-YP_004821569.1--36H-COG2/1-559
 Pa.ana.1905-PAJ_3064-YP_005935940.1--36H-COG2/1-544
 Pectob.2320-W5S_1733-YP_006282696.1--36H-COG2/1-535
 Pe.atr.485-ECA4334-YP_052421.1--36H-COG2/1-556
 Di.zea.1140-Dd1591_1602-YP_003003935.1--36H-COG2/1-554
 Pectob.2320-W5S_4506-YP_006285424.1--36H-COG2/1-540
 Di.zea.1140-Dd1591_1453-YP_003003794.1--36H-COG2/1-532
 Pectob.2320-W5S_0106-YP_006281117.1--36H-COG2/1-556
 Di.zea.1140-Dd1591_0769-YP_003003127.1--36H-COG2/1-505
 Ra.aqu.1678-Q7S_18035-YP_005403387.1--36H-COG2/1-535
 Rahnel.1320-Rahaq_3579-YP_004214298.1--36H-COG2/1-535
 Pe.car.1139-PC1_4072-YP_003019623.1--36H-COG2/1-540
 Pe.car.1139-PC1_3464-YP_003019016.1--36H-COG2/1-551
 Pe.car.1139-PC1_0111-YP_003015709.1--36H-COG2/1-556
 Pe.atr.485-ECA0182-YP_048309.1--36H-COG2/1-542
 Pectob.2320-W5S_3753-YP_006284688.1--36H-COG2/1-551
 Pa.ana.1905-PAJ_2666-YP_005935542.1--36H-COG2/1-514
 Ci.rod.62-ROD_16161-YP_003365194.1--36H-COG6/1-557
 En.asb.1498-Entas_2095-YP_004828614.1--36H-COG6/1-563
 En.638.865-Ent638_1961-YP_001176688.1--36H-COG6/1-563
 Cr.sak.579-ESA_01710-YP_001437800.1--36H-COG6/1-565
 Cr.tur.6-CTU_22440-YP_003210607.1--36H-COG6/1-565
 Ci.kos.578-CRO_01456-YP_001453025.1--36H-COG6/1-562
 Rahnel.1320-Rahaq_1930-YP_004212674.1--36H-COG6/1-566
 Pantoe.297-Pat9b_2403-YP_004116261.1--36H-COG6/1-564
 Er.bil.197-Ebc_26700-YP_003742048.1--36H-COG6/1-567
 Pectob.2320-W5S_1760-YP_006282723.1--36H-COG6/1-570
 Pa.ana.1905-PAJ_1621-YP_005934497.1--36H-COG6/1-568
 En.clo.1544-EcWSU1_02120-YP_004951978.1--36H-COG6/1-576
 Ra.aqu.1678-Q7S_09815-YP_005401764.1--36H-COG6/1-566
 Ye.pse.585-YPTB2412-YP_070925.1--36H-COG6/1-579
 Ye.ent.378-YE2588-YP_001006789.1--36H-COG6/1-579
 Di.dad.235-Dda3937_02787-YP_003883649.1--36H-COG6/1-572
 Pa.vag.184-Pvag_1800-YP_003931435.1--36H-COG6/1-568
 En.bac.2261-D782_2307-YP_007340470.1--36H-COG6/1-558
 Pe.atr.485-ECA1683-YP_049784.1--36H-COG6/1-573
 Pe.car.1139-PC1_2617-YP_003018183.1--36H-COG6/1-573
 Di.zea.1140-Dd1591_1535-YP_003003868.1--36H-COG6/1-574
 Di.zea.1140-Dd1591_3580-YP_003005868.1--36H-COG6/1-572
 Es.col.1836-Y75_p1397-YP_489687.1--36H-COG6/1-546
 Pe.atr.485-ECA3902-YP_051990.1--36H-COG6/1-575
 Sa.bon.1474-SBG_1454-YP_004730321.1--36H-COG6/1-537
 Sa.ent.407-STM1626-NP_460585.1--36H-COG6/1-541
 Pe.car.1139-PC1_3679-YP_003019230.1--36H-COG6/1-567
 Pectob.2320-W5S_4020-YP_006284955.1--36H-COG6/1-575
 Di.zea.1140-Dd1591_0523-YP_003002884.1--36H-COG6/1-568
 Di.dad.235-Dda3937_02665-YP_003881279.1--36H-COG6/1-572
 AEK-----TPA-KGDLA--DWTTF-----
 RR-----AAA-IGSNS--DWTSE-----
 -VK-----KETP-ADADG--NWTTF-----

 NRQ-----PVP-AADQG--NWETF-----

 NRQ-----PVP-AADQG--NWETF-----
 -----K DAN--ASDTP--EWA AF-----

 AEK-----TAA-KGELA--DWTTF-----

 AVK-----TRA-EDEDG--SWTHF-----

 -----AKN-QSNND--NWTTF-----
 -----A-----L-----
 -----AKD-QGNNS--DWTSE-----
 KRA-----ATT-AGTND--DWTSE-----
 -----A-----L-----
 -----AKD-QGNNG--DWTTF-----
 PGK-----SGI-SAGEG--DWTSE-----
 -----RAA-AQRFS--DWTNF-----
 -----KKV-IGQDT--NWEKF-----
 -VK-----PAQ-PLTHE--GWTHF-----
 -----SAS-ASGAS--DWTSE-----
 -----A-SKSG-HTSSD--NWETF-----
 -----K DAR-VTDTF--EWA AF-----

 -----GYQ-----
 -----A-SQSG-NASSN--NWETF-----

 -----TR-----
 -----TR-----
 PGK-----NVA-TAGEG--DWTSE-----
 -----A-SQSG-STSSD--NWETF-----

 PSK-----GNA-ATGEG--DWTSE-----

 -----KPV-AVSGD--SWETF-----
 APL-----RPAAVSGD--NWETF-----
 TPL-----RPAVADGGD--NWETF-----
 VVP-----RAA-LAQSE--HWETF-----
 IVP-----RAA-LAQSD--HWETF-----
 SSP-----QPV-TTSGD--NWETF-----
 SRS-----SKG-VNDEP--NWETF-----
 LTP-----RVA-TVSND--NWETF-----
 ATG-----RPA-LANSD--NWETF-----
 ALP-----RQT-NTENG--NWETF-----
 LRP-----AAA-TSGNE--NWETF-----
 APL-----RPAPAVSGD--NWETF-----
 SRS-----SKG-VNDEP--NWETF-----
 GIN-----KKP-TDGLS--NWETF-----
 GGN-----KRP-TDDSL--NWETF-----
 GSS-----SSA-KPGSD--NWETF-----
 -TP-----RPALATGSD--NWETF-----
 TAP-----TLA-VAGGD--SWESF-----
 ALP-----RQA-NTENG--NWETF-----
 ALP-----RKT-NTENG--NWETF-----
 KAP-----SGA-KPGSD--NWETF-----
 SGA-----KKA-KTSNE--DWTSE-----
 -----S FATV-----
 AG-----SSK-GNSNQ--NWETF-----

 AGS-----SSK-GSDNQ--NWETF-----
 ASS-----SGK-GSDNQ--NWETF-----
 IGV-----GKG-GRSDQ--NWETF-----
 PGA-----KKA-KSSND--GWETF-----