

## Isoleucyl-tRNA synthetase multiple sequence alignment

Note: Sequence abbreviations correspond to the first two letters of the genus and species name in the phylogeny shown in Figure 2 in Brown et al. Stau2 and Baan2 are the putative drug resistant isoleucyl-tRNA synthetases. The mask (\*) denotes those positions included in edited alignment used for phylogenetic analysis.

Irs\_suppl\_ER.msf MSF: 1813 Type: P February 27, 2003 16:16 Check: 7203

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Name: ocih	Len: 1813	Check: 1091	Weight: 1.10
Name: clpe	Len: 1813	Check: 8608	Weight: 0.90
Name: clac	Len: 1813	Check: 8754	Weight: 0.90
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Name: dera	Len: 1813	Check: 6640	Weight: 1.50
Name: stco	Len: 1813	Check: 1255	Weight: 1.40
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Name: deet	Len: 1813	Check: 3181	Weight: 1.30
Name: anga	Len: 1813	Check: 4052	Weight: 1.00
Name: drme	Len: 1813	Check: 8416	Weight: 1.00
Name: hosa	Len: 1813	Check: 5413	Weight: 1.10
Name: cael	Len: 1813	Check: 9534	Weight: 1.20
Name: asfu	Len: 1813	Check: 9136	Weight: 1.00
Name: scpo	Len: 1813	Check: 227	Weight: 1.00
Name: sace	Len: 1813	Check: 4834	Weight: 1.10
Name: ledo	Len: 1813	Check: 8265	Weight: 0.70
Name: lema	Len: 1813	Check: 1594	Weight: 0.70
Name: arth	Len: 1813	Check: 3634	Weight: 1.20
Name: teth	Len: 1813	Check: 3503	Weight: 1.30
Name: encu	Len: 1813	Check: 5409	Weight: 1.20
Name: nolo	Len: 1813	Check: 2406	Weight: 1.00
Name: plfa	Len: 1813	Check: 8860	Weight: 1.10
Name: plyo	Len: 1813	Check: 5814	Weight: 1.10
Name: chtr	Len: 1813	Check: 5306	Weight: 0.70
Name: chmu	Len: 1813	Check: 2458	Weight: 0.70
Name: chpn	Len: 1813	Check: 8006	Weight: 0.90
Name: trde	Len: 1813	Check: 350	Weight: 1.00
Name: trpa	Len: 1813	Check: 3412	Weight: 1.20

Name: bobu	Len: 1813	Check: 1384	Weight: 1.30
Name: myle	Len: 1813	Check: 1173	Weight: 0.80
Name: mytu	Len: 1813	Check: 7402	Weight: 0.80
Name: codi	Len: 1813	Check: 4073	Weight: 1.10
Name: ripr	Len: 1813	Check: 554	Weight: 0.90
Name: rico	Len: 1813	Check: 9436	Weight: 0.80
Name: psfl	Len: 1813	Check: 4103	Weight: 1.50
Name: suso	Len: 1813	Check: 4269	Weight: 1.40
Name: aepe	Len: 1813	Check: 6634	Weight: 1.30
Name: arfu	Len: 1813	Check: 1768	Weight: 1.20
Name: meba	Len: 1813	Check: 1271	Weight: 1.20
Name: meth	Len: 1813	Check: 3299	Weight: 1.20
Name: pyho	Len: 1813	Check: 9612	Weight: 0.50
Name: pyfu	Len: 1813	Check: 3061	Weight: 0.50
Name: pyab	Len: 1813	Check: 1473	Weight: 0.50
Name: meja	Len: 1813	Check: 8107	Weight: 1.30
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Name: pyba	Len: 1813	Check: 7863	Weight: 1.50
Name: bace1	Len: 1813	Check: 7645	Weight: 0.40
Name: baan1	Len: 1813	Check: 8519	Weight: 0.40
Name: bast	Len: 1813	Check: 2379	Weight: 0.70
Name: basu	Len: 1813	Check: 9673	Weight: 0.70
Name: baha	Len: 1813	Check: 6685	Weight: 0.70
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Name: stau	Len: 1813	Check: 504	Weight: 1.00
Name: stpy	Len: 1813	Check: 1152	Weight: 0.70
Name: stmu	Len: 1813	Check: 2465	Weight: 0.70
Name: stpn	Len: 1813	Check: 5092	Weight: 0.70
Name: lala	Len: 1813	Check: 127	Weight: 0.90
Name: enfa	Len: 1813	Check: 9169	Weight: 0.80
Name: syne	Len: 1813	Check: 2587	Weight: 1.20
Name: arthchl	Len: 1813	Check: 35	Weight: 1.20
Name: prma	Len: 1813	Check: 8335	Weight: 1.20
Name: mypu	Len: 1813	Check: 7464	Weight: 1.40
Name: myge	Len: 1813	Check: 8540	Weight: 1.10
Name: mypn	Len: 1813	Check: 656	Weight: 1.10
Name: urur	Len: 1813	Check: 8044	Weight: 1.40
Name: saty	Len: 1813	Check: 8834	Weight: 0.60
Name: esco	Len: 1813	Check: 9083	Weight: 0.50
Name: yepe	Len: 1813	Check: 5767	Weight: 0.60
Name: vich	Len: 1813	Check: 650	Weight: 0.80
Name: hain	Len: 1813	Check: 9154	Weight: 0.50
Name: acac	Len: 1813	Check: 7712	Weight: 0.50
Name: pamu	Len: 1813	Check: 5228	Weight: 0.60
Name: psae	Len: 1813	Check: 6330	Weight: 0.80
Name: psfl_1	Len: 1813	Check: 9893	Weight: 0.80
Name: xyfa	Len: 1813	Check: 5461	Weight: 1.20
Name: neme	Len: 1813	Check: 4995	Weight: 1.20
Name: buAPS	Len: 1813	Check: 7668	Weight: 1.40
Name: agtu	Len: 1813	Check: 9729	Weight: 0.80
Name: sime	Len: 1813	Check: 6418	Weight: 0.80

Name: melo	Len: 1813	Check: 1231	Weight: 0.90
Name: cacr	Len: 1813	Check: 6839	Weight: 1.20
Name: hepy26695	Len: 1813	Check: 4370	Weight: 0.80
Name: hepyj99	Len: 1813	Check: 2827	Weight: 0.80
Name: caje	Len: 1813	Check: 293	Weight: 1.30
Name: thma	Len: 1813	Check: 1590	Weight: 1.00
Name: fepe	Len: 1813	Check: 4716	Weight: 1.00
Name: aqae	Len: 1813	Check: 557	Weight: 1.30

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	1				50
mask	.....	.....	.....	.....	.....
stau2	.....	.....	.....	.....	.....
bace2	.....	.....	.....	.....	.....
baan2	.....	.....	.....	.....	.....
ocih	.....	.....	.....	.....	.....
clpe	.....	.....	.....	.....	.....
clac	.....	.....	.....	.....	.....
cldi	.....	.....	.....	.....	.....
pogi	.....	.....	.....	.....	.....
bafr	.....	.....	.....	.....	.....
feac	.....	.....	.....	.....	.....
thvo	.....	.....	.....	.....	.....
thnw	.....	.....	.....	.....	.....
cyhu	.....	.....	.....	.....	.....
chte	.....	.....	.....	.....	.....
dera	.....	.....	.....	.....	.....
stco	.....	.....	.....	.....	.....
thth	.....	.....	.....	.....	.....
deet	.....	.....	.....	.....	.....
anga	.....	.....	.....	.....	.....
drme	.....	.....	.....	.....	.....
hosa	.....	.....	.....	.....	.....
cael	.....	.....	.....	.....	.....
asfu	.....	.....	.....	.....	.....
scpo	.....	.....	.....	.....	.....
sace	.....	.....	.....	.....	.....
ledo	.....	.....	.....	.....	.....
lema	.....	.....	.....	.....	.....
arth	.....	.....	.....	.....	.....
teth	.....	.....	.....	.....	.....
encu	.....	.....	.....	.....	.....
nolo	.....	.....	.....	.....	.....
plfa	.MLRFVNESF	LKVSNKELVH	INIHISRNNL	FFNKRIIRRV	DNIIRVDIDR
plyo	MFLKRIKQKV	QFIRKFKTLK	SEIASVKIEI	KKKENNICTV	QNIFCEKKKK
chtr	.....	.....	.....	.....	.....
chmu	.....	.....	.....	.....	.....
chpn	.....	.....	.....	.....	.....
trde	.....	.....	.....	.....	.....
trpa	.....	.....	.....	.....	.....
bobu	.....	.....	.....	.....	.....

myle	.....	.....	.....	.....	.....
mytu	.....	.....	.....	.....	.....
codi	.....	.....	.....	.....	.....
ripr	.....	.....	.....	.....	.....
rico	.....	.....	.....	.....	.....
psfl	.....	.....	.....	.....	.....
suso	.....	.....	.....	.....	.....
aepe	.....	.....	.....	.....	.....
arfu	.....	.....	.....	.....	.....
meba	.....	.....	.....	.....	.....
meth	.....	.....	.....	.....	.....
pyho	.....	.....	.....	.....	.....
pyfu	.....	.....	.....	.....	.....
pyab	.....	.....	.....	.....	.....
meja	.....	.....	.....	.....	.....
haNRC	.....	.....	.....	.....	.....
pyba	.....	.....	.....	.....	.....
bacel	.....	.....	.....	.....	.....
baan1	.....	.....	.....	.....	.....
bast	.....	.....	.....	.....	.....
basu	.....	.....	.....	.....	.....
baha	.....	.....	.....	.....	.....
limo	.....	.....	.....	.....	.....
liin	.....	.....	.....	.....	.....
stau	.....	.....	.....	.....	.....
stpy	.....	.....	.....	.....	.....
stmu	.....	.....	.....	.....	.....
stpn	.....	.....	.....	.....	.....
lala	.....	.....	.....	.....	.....
enfa	.....	.....	.....	.....	.....
syne	.....	.....	.....	.....	.....
arthchl	.....	.....	.....	.....	.....
prma	.....	.....	.....	.....	.....
mypu	.....	.....	.....	.....	.....
myge	.....	.....	.....	.....	.....
mypn	.....	.....	.....	.....	.....
urur	.....	.....	.....	.....	.....
saty	.....	.....	.....	.....	.....
esco	.....	.....	.....	.....	.....
yepe	.....	.....	.....	.....	.....
vich	.....	.....	.....	.....	.....
hain	.....	.....	.....	.....	.....
acac	.....	.....	.....	.....	.....
pamu	.....	.....	.....	.....	.....
psae	.....	.....	.....	.....	.....
psfl_1	.....	.....	.....	.....	.....
xyfa	.....	.....	.....	.....	.....
neme	.....	.....	.....	.....	.....
buAPS	.....	.....	.....	.....	.....
agtu	.....	.....	.....	.....	.....
sime	.....	.....	.....	.....	.....
melo	.....	.....	.....	.....	.....

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cacr .....
hepy26695 .....
hepyj99 .....
caje .....
thma .....
fepe .....
aqae .....

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100

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mask .....
stau2 .....M. ....TKKY
bace2 .....
baan2 .....MKKVDV. ....KESA
ocih .....
clpe .....MYKKVEL. ....PKGF
clac .....MYKKVDS. ....SKSF
cldi .....
pogi .....M SRRFAEYES. ....LDLS
bafr .....M SKKFAEYSQ. ....FDLS
feac .....V. ....NKSS
thvo .....MQ AQRYLIEQ. ....GNTI
thnw .....
cyhu .....KK. ....TELS
chte .....M PATYPEYPS. ....SLSY
dera .....MT KRTFAPVPT. ....QPNF
stco .....MT TPQYRQVPA. ....QVDL
thth .....MFKEVG. ....EPNF
deet .....KAVNP. ....RQNF
anga ...LRSTLL FVHGRGEQTC AAGSSKVKMN NITSDEMTR. ....LPET
drme .....MG.....K KLERNDVCR. ....VPEN
hosa .....MSNKMLQQ. ....VPEN
cael .....MSGLST. ....VPDN
asfu .....MS. ....
scpo .....MS. ....
sace .....MSE. ....SNAH
ledo .....MAGE GQQQQQDPPA GQKGVVKN. ....YPDV
lema .....
arth .....MEEVC. ....EGKE
teth .....MASKTTFKD. ....LQEI
encu .....M. ....YRKN
nolo .....
plfa .LSYYISGYR VNKLLSFVNF NKRIHTLRLE EMVTLTFTG. ....ISDN
plyo KIHTIIEKIG HEYPRNTHKI NSPKEKKNSE MATKTTFDY. ....VPDN
chtr .....MD. ....NEDK
chmu .....MD. ....NEDK
chpn .....MTAD. ....EVGK
trde .....
trpa .....MYTP. ....VDPK
bobu .....MFKK. ....VENK
myle .....VSTCVKWPRR RMTNSAYPRT DLGADQRGGS
mytu .....MTDNAYP. ....KLAGGA
codi .....MS DAVGGVYPR. ....VDMSSGT

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ripr	.....	.....	.....	.MTNTKYYP.	.....	DVSAN	
rico	.....	.....	MHI MKIFLKIISK	IMTNTKYYP.	.....	EVSSN	
psfl	.....	.....	.....	.MST.....	.....	EGSGP	
suso	.....	.....	.....	.....	.....	.....	
aepe	.....	.....	.....	.MGSVPRVL.	.....	EGER	
arfu	.....	.....	.....	.....	M.	.....	LPAK
meba	.....	.....	.....	.....	MIKE.	.....	ITAK
meth	.....	.....	.....	.....	MPIQE.	.....	AEKS
pyho	.....	.....	.....	.....	MIKEP.	.....	EFRD
pyfu	.....	.....	.....	.....	MIKEP.	.....	EFRD
pyab	.....	.....	.....	.....	MIKEP.	.....	EFRE
meja	.....	.....	.....	.....	MKKV.	.....	EPVN
haNRC	.....	.....	.....	.....	MSGFGD.	.....	VPDQ
pyba	.....	.....	.....	.....	MPHGDLP.	.....	LPPS
bacel	.....	.....	.....	.....	.....	.....	.....
baan1	.....	.....	.....	.....	.....	.....	.....
bast	.....	.....	.....	.....	MDYKETL	LMPQTEFPMPR	
basu	.....	.....	.....	.....	MDFKDTL	LMPKTDFFPMR	
baha	.....	.....	.....	.....	MDFKETL	LMPKTDFFPMR	
limo	.....	.....	.....	.....	.....	.....	.....
liin	.....	.....	.....	.....	.....	.....	.....
stau	.....	.....	VKK.....	.....	MDYKETL	LMPKTDFFPMR	
stpy	.....	.....	.....	.....	MKLKETL	NLGKTAFFPMR	
stmu	.....	.....	.....	.....	MKLKETL	NLGKTAFFPMR	
stpn	.....	.....	.....	.....	MKLKDTL	NLGKTEFFPMR	
lala	.....	.....	.....	.....	MKIKDTL	NLGKTAFFPMR	
enfa	.....	.....	M KARQMH.....	.....	MKMKETL	QLGKTAFFPMR	
syne	.....	.....	M TEAKS.....	.....	YKDTV	NLPQTRFDMR	
arthchl	.....	.....	M AAKKASEGK	QEDGKYKQTV	DLPKTGFPMR		
prma	.....	.....	M KSKHNKE..K	KSGFSYKETL	NLLKTDFFSMR		
mypu	.....	.....	M NEKK.....	.....	DYKDTL	NMPQTNFEMQ	
myge	.....	.....	.....	.....	MDLKKTL	LMPKTSFAMQ	
mypn	.....	.....	.....	.....	MNLKKTL	LMPQTAFFEMQ	
urur	.....	.....	.....	.....	MKDYSSTL	NMPPTGFEMR	
saty	.....	.....	VFIKPKYGTE	NLMSDYKSTL	NLPETGFPMR		
esco	.....	.....	.....	.....	MSDYKSTL	NLPETGFPMR	
yepe	.....	.....	.....	.....	MSDYKNTL	NLPETGFPMR	
vich	.....	.....	.....	.....	MSEYKDTL	NLPETGFPMR	
hain	.....	.....	.....	.....	MTVDYKNTL	NLPETSFFPMR	
acac	.....	.....	.....	.....	MTDYKNTL	NLPETGFPMR	
pamu	.....	.....	.....	.....	MTVDYKNTL	NLPETGFPMR	
psae	.....	.....	.....	.....	MTDYKATL	NLPETAFFPMK	
psfl_1	.....	.....	.....	.....	MTDYKATL	NLPDTAFFPMK	
xyfa	.....	.....	.....	.....	MSQDYKTTL	HLPATDFFPMR	
neme	.....	.....	.....	.....	MTDYSKTV	NLLESFFPMR	
buAPS	.....	.....	.....	.....	MDDYKDTL	NLPKTLFFSMR	
agtu	.....	.....	.....	MSDT	AEKLDYSSTL	YLPQTDFFPMR	
sime	.....	.....	.....	MTET	AEKIDYSSTL	YLPQTDFFPMR	
melo	.....	.....	MPTG YADGRSMTDT	VETIDYSKTL	YLPQTDFFPMR		
cacr	.....	.....	.....	MADDA	TTARDYRETV	FLPDTPFFPMR	
hepy26695	.....	.....	.....	.....	MEEYKDTL	NLNTTFFSMK	
hepyj99	.....	.....	.....	.....	MKEYKDTL	NLNETTFFSMK	

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caje ..... MDYKETL LLPSTTFAMR
thma ..... MEYKNTL NLPKTSFPMK
fepe ..... MK
aqae ..... ME EKKVDLKD TL NLP RTEFPMK

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mask ..... ** *****
stau2 LN..TQN.EI SAFWNTQK.. .IFKKSIDNR ...KGQESFV FYDGPPTANG
bace2 .....ET.RI RKQWNEQS.. .IFEQSIQNR ...EGAQSFV FYEGPPTANG
baan2 VG..REM.RI RKQWNEQN.. .IFEQSIQNR ...EGAQSFV FYEGPPTANG
ocih .....ER.SM RAHWKENR.. .TFORSIENR ...EGQQTIV FYEGPPTANG
clpe VG..VEK.EV ADLWKEKN.. .IIKKNFDMN ...QDGEYFT FYDGPPTANG
clac VD..IER.DV LKLWHEKE.. .IVKKSFNSN ...QDGEYFS FYDGPPTANG
cldi .....QV FDYWKDIN.. .ILEKTLEKG ...KDDPSFV FYEGPPTANG
pogi R..VNEE..V LADWMQHR.. .LFEESLKS R ...EGAPSFV FYEGPPSANG
bafr K..VNKD..V LKKWDENQ.. .VFAKSMTER ...EGCPSFV FFEGPPSANG
feac M...DIEKEI RKYWKENK.. .IIEDILNKD ...RNLKRYT FLEGPPTANG
thvo M...DIDNEI LRYWNDHA.. .INEKIFKKE ...GTKKFV FLEGPPTANG
thnw R...EIDSEI LKYWKDKN.. .ILEKILSKG ...GSKKFV FLEGPPTANG
cyhu E..VGKE..V QQFWNDKK.. .IFEKSVETR ...EGNPTFT FYEGPPSANG
chte S...AMEAQI REFWIERN.. .IFRKSLEKD ...APKGIYS FYEGPPTVNG
dera R...QLEADI LQKWKDEQ.. .VFEQTQTRP ...APAGEFV FYEGPPTANG
stco P...ALEHAV LDFWREQK.. .IFAKSLEQS ...EGRPEWV FYEGPPTANG
thth P...KLEEEV LAFWKREK.. .IFQKSVENR ...KGGPRYT VYEGPPTANG
deet P...QMEEDI LKLWQDKG.. .VFKKS IENR ...RDGKRFT LYEGPPTANG
anga INFPAEEEEKV LSYWQAEK.. .VFENCLKQS ...KGKPRYT FYDGP PFATG
drme INFPAEEENV LQKWRHEN.. .IFEKCSQLS ...KGKPKYT FYDGP PFATG
hosa INFPAEEEEKI LEFWTEFN.. .CFQECLKQS ...KHKPKFT FYDGP PFATG
cael INFAREEDKV AOKWQDEN.. .TFQRSVELS ...KDRPHFT FYDGP PFATG
asfu IDFPAEEEEIT LKRWREIN.. .AFGRQVELS ...RGRKPYT FYDGP PFATG
scpo FNVPKKEEKI VEFWREID.. .AFHTQLKLS ...QGRPTYT FFDGP PFATG
sace FSFPKKEEKV LSLWDEID.. .AFHTSLELT ...KDKPEFS FFDGP PFATG
ledo LDFAKMEEEV LAMWREKD.. .CFRTSMKLS ...EGRQPFS FYDGP PFATG
lema .....MEEEV LAMWREKD.. .CFRTSMKLS ...EGRQPFS FYDGP PFATG
arth FSFPRQEEDV LSFWTEID.. .AFKTQLKRT ...ENLPEYI FYDGP PFATG
teth PDFPKEEENI LKFWDEIN.. .AFKQLEKT ...KDCPPFT FYDGP PFATG
encu ANFVECEEEV LEYWRNK.. .SFERSCERS ...RGREKFT FYDGP PFATG
nolo .....
plfa PNIVEEEERI LKYWEDID.. .AFNLSNELS ...KNKKPYI FYDGP PFATG
plyo PNIVEEEEKI LKYWKNIN.. .AFELSNKLS ...KNRKPYI FYDGP PFATG
chtr ISISAKEEKI LSFWKEQD.. .IFQKTLNDR ...EGCPTFS FYDGP PFATG
chmu VSFPAKEEKV LTFWKEQN.. .IFQKTLENR ...DGSPTFS FYDGP PFATG
chpn NSFAPKKEEQV LKFWKDNQ.. .IFEKSLQNR ...QGKTLYS FYDGP PFATG
trde .FAKQEEDV LKFWEKND.. .VFKKS VSSR ...DGRDNYI FFDGP PFATG
trpa VDFVAQERRI LAFWRERR.. .VFEQSVAQR ...AQGKSYV FFDGP PFATG
bobu ANFPKIEEKI LKFWNDNK.. .IFEKSIKQR ...EGCEEFT FYDGP PFATG
myle PNFPALAEQV LDYWSNDD.. .TFRASIARC ...DDAPEYV FYDGP PFANG
mytu PDLPALELEV LDYWSRDD.. .TFRASIARR ...DGAPEYV FYDGP PFANG
codi NVFPDMERQV LEYWKDDE.. .TFKASLTNR ...EENPEYV FYDGP PFANG
ripr VDFAAIEQEI LKFWQNNN.. .IFQKSIDYR ...NGESEFI FYDGP PFANG
rico ADFAGLEREI LKFWQDNN.. .IFQKSIDDR ...NGESEFI FYDGP PFANG
psfl VRFPAVEDAV LERWEKEK.. .TFEQSISAR ...EGKPVYV FYDGP PFATG

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suso	.....	.....	.....	.....	.....
aepe	YDQFALESFV	KSYWEENS..	.IYRKVKEKS	..SRAPRKFY	FLDGPPYASA
arfu	YSPKDVSEI	FKFWEDND..	.IYRKVKE..	...KGRKFY	FVDGPPYTTG
meba	YNAEQIEKKI	TQLWKDS..	.AYRKTREHR	...KTGKRLF	FVDGPPYTTG
meth	YKPHVIEEKV	QSFWEERD..	.IYERVKELR	...EEGPRYS	FLDGPPYCSG
pyho	YTPGKLEEKI	EEFWKENN..	.IYQKIKELR	...KNGPKYY	FLDGPPYVSG
pyfu	YTPGKLEEKI	EQFWKESN..	.IYQVKELR	...KNGPKYY	FLDGPPYVSG
pyab	YDPKKLEEKV	EKFWSENE..	.IYRKVKELR	...KDGPKYY	FLDGPPYVSG
meja	FR..ELDKKI	KKFWEEND..	.IYQKVKKKN	...ERNKEFY	FVDGPPYCSG
haNRC	YDPAGVEERV	FSYWEAVD..	.AYEQTVDHR	...ADAETFF	FVDGPPYTSG
pyba	YRPHEVKKAV	EEFWRRNR..	.IFEKWKSWR	...GGPKFT	FLEGPPTTNG
bacel	.....	.....	.....	.....V	LHDGPPYANG
baan1	.....	.....	.....	.....MV	LHDGPPYANG
bast	GNLPKREPQM	QKKWEEMD..	.IYRKVQER.	.T.KGRPLFV	LHDGPPYANG
basu	GNLPNREPDI	QKKWEEED..	.IYRLVQER.	.T.KDRPKFV	LHDGPPYANG
baha	GNLPNREPQM	QEEWKDMN..	.IYEKVQAR.	.T.KGRPLFV	LHDGPPYANG
limo	.....	.....	.....	.....I	LHDGPPYANG
liin	.....	.....	.....	.....I	LHDGPPYANG
stau	GGLPNKEPQI	QEKWDAED..	.QYHKALEK.	.N.KGNETFI	LHDGPPYANG
stpy	AGLPNKEPQW	QAAWEQAE..	.LYKKRQEL.	.N.AGKPAFH	LHDGPPYANG
stmu	AGLPNKEPQW	QKQWDEAN..	.IYAKRQEL.	.N.ANKPAFF	LHDGPPYANG
stpn	AGLPTKEPVW	QKEWEDAK..	.LYQRRQEL.	.N.QGKPHFT	LHDGPPYANG
lala	AGLPNKEPNW	QKDWADAT..	.LYEKRQEL.	.N.EGKPSFM	LHDGPPYANG
enfa	GNLPNREAEW	QKDWEKGG..	.LYEQRQKL.	.N.EGKPTFV	LHDGPPYANG
syne	ANANKREPEI	QQYWQEKG..	.IYADLADN.	.N.PKD.LFV	LHDGPPYANG
arthchl	ANSLTREPQL	QKLWEENQ..	.VFKRVSND.	.N.NGG.SFI	LHDGPPYANG
prma	ANSVIREPEI	HEFWSRKN..	.IDLELGST.	.N.SGK.NFT	LHDGPPYANG
mypu	AGLTRKEAQF	RQRWLDNK..	.LYHKILAK.	.N.KNNKQFV	VHDGPPYANG
myge	ANLSTSEKNF	HDFWKDKK..	.VFQKLKKQ.	.N.KGKQIKI	LHDGPPYANG
mypn	GKLTSTKEQQF	QAFWQSKR..	.IYQKLHRQ.	.N.KDKPQKI	LHDGPPYANG
urur	ANLNVKEPKI	QQFWVEHQ..	.IYEKLLTK.	.N.KDKKPI	LHDGPPYANG
saty	GDLAKREPGM	LARWTDDD..	.LYGIIRAA.	.K.KGKTFI	LHDGPPYANG
esco	GDLAKREPGM	LARWTDDD..	.LYGIIRAA.	.K.KGKTFI	LHDGPPYANG
yepe	GDLAKREPDM	LKRWYEQD..	.LYGIIRAA.	.K.KGKTFI	LHDGPPYANG
vich	GDLAKREPDM	LQRWYQED..	.LYGAIRQA.	.K.KGKSFV	LHDGPPYANG
hain	GDLAKREPDK	XKNWYEKN..	.LYQKIRKA.	.S.KGKSFI	LHDGPPYANG
acac	GDLAKREPVM	LKNWYEKD..	.LYQKIRQA.	.T.KGKSFI	LHDGPPYANG
pamu	GDLAKREPVM	LKNWYEKD..	.LYQKIRQA.	.S.KGKSFI	LHDGPPYANG
psae	AGLPQREPET	LKFWNDIG..	.LYQKLRAI.	.G.GDRPKFV	LHDGPPYANG
psfl_1	AGLPQREPQI	LQRWNSIG..	.LYGKLREI.	.G.KDRPKFV	LHDGPPYANG
xyfa	GDLPKREPAI	LERWERDD..	.FYAQLRAH.	.A.KGRPLFL	LHDGPPYANG
neme	GNLAKREPAW	LKSWYEQK..	.RYQKLREI.	.A.KGRPKFI	LHDGPPYANG
buAPS	GNLSKKEPNI	LKSWNENN..	.LYKLIRKK.	.N.QEKKIFF	LHDGPPYANG
agtu	AGLPQKEPET	VKRWQDMG..	.LYKLLRAS.	.A.AGREKFV	LHDGPPYANG
sime	AGLPQKEPET	VARWQKME..	.LYKLLRAS.	.A.AGREKFV	LHDGPPYANG
melo	AGLPEKEPVL	VKRWQDMD..	.LYAKLRES.	.A.AGRTKYV	LHDGPPYANG
cacr	AGLPKKEPEI	LEGWAALSEK	GLYGAVRQKR	QA.AGAPLFV	FHDGPPYANG
hepy26695	GNLSVNEPKT	YAKWQEQ..	QAFKRMQ.AR	.K.DNHGDFI	LHDGPPYANG
hepyj99	GNLSVNEPKT	YAKWQEQ..	QAFKRMQ.NR	.K.DNHGDFI	LHDGPPYANG
caje	ANLAELEPQR	FKKWFQON..	YAYEKMKENR	.K.NAKKSFT	LHDGPPYANG
thma	ANLVNKEKVF	LEEWKMD..	.LYNYVLEQ.	.R.KGKPLFV	LHDGPPYANG
fepe	ANLVNKEPEM	LKFWEEKE..	.IYKKTLET.	.R.ANAPTYL	LHDGPPYANG



aqae ANLPQREPQI LEKWKG.... .LYEKIQKE. .R.KGREVFV LHDGPPYANG

151

200

mask .\*\*\*\*\* \*\*\*\*\* \*\*\*\*\* \*\*\*.\*\*\*\*\* \*\*\*\*\*...

stau2 .LPHAGHVLG RVIKDLVARL KTMQGFYVER KAG.WDTHGL PVELEVEKKI

bace2 .LPHVGHALG RTIKDVVARY KTMAGYKVL R KAG.WDTHGL PVELGVEKQL

baan2 .LPHVGHALG RTIKDVVARY KTMAGYKVL R KAG.WDTHGL PVELGVEKQL

ocih .MPHAGHALG RTIKDFVARY KTMMSGYQVLR KAG.WDTHGL PVELEVEKQL

clpe .KPHVGHVLT RVMKDIIPRY KVMKGYKVIR KAG.WDTHGL PVELEIEKKL

clac .RPHVGHIIIT RVMKDLIPRY KVMKGYKVP R KAG.WDTHGL PVELEIEKKL

cldi .NPGVHHVLS RTLKDSVCRY KTMMSGYQV R KAG.WDTHGL PVEIQVEKEL

pogi .MPGIHHVMA RAIKDTICRY KTMKGFVRDR KAG.WDTHGL PVELGVEKSL

bafr .MPGIHHVMA RSIKDIFCRY KTMKGYQV R KAG.WDTHGL PVELGVEKSL

feac .RPHVGHLM T RTVKDTVMRY KYMSGYD IGR RTGGWDCHGL PVELEAEKHF

thvo .RPHIGHAM T RTIKDIVLRY NTMTGHKIY R YGGWDCHGL PVELEAEKYF

thnw .RPHIGHAM T RTIKDIVLRY NTMTDHKIY R RVGGWDCHGL PVELEAEKHF

cyhu .TPGIHHVM G RTVKDIFCRF KTMQGFQV R KAG.WDTHGL PVELQVEKEL

chte .KPGVHHLFS RTIKDVVCRY HTMQGYQV R KAG.WDTHGL PVEISVEKKL

dera .KPALHHVLA RSFKDLFPRF KVMQGHVTR KAG.WDTHGL PVEISVEKKL

stco .MPGAHHIEA RVFKDVFPRF RTMRGYHVGR KAG.WDCHGL PVELAVEKEL

thth .LPHVGHQA R RSYKDLFPRY KTMRGY YAP RAG.WDTHGL PVELEVEKKL

deet .RPGIHHVLS RVFKDIVPRY KVMKGY YAP IGG.WDTHGL PVELEVEKEL

anga .LPHYGHILA GTVKDIVTRY AHQQGYHVER RFG.WDCHGL PVEYEIDKTL

drme .LPHYGHILA GTIKDIVTRY AYQQGYHVDR RFG.WDCHGL PVEFEIDKLL

hosa .LPHYGHILA GTIKDIVTRY AHQSGFHVDR RFG.WDCHGL PVEYEIDKTL

cael .LPHYGHMLT STIKDVVGRW AHQNGHYVER RFG.WDTHGL PVEYEIDKTL

asfu .LPHYGHLLA STIKDIIPRY WSMKGY YVER RFG.WDTHGV PIEYEIDKKL

scpo .RPHHGHLA STIKDSVTRY ACLKGYHVER RFG.WDTHGL PVEHEIDKKL

sace .TPHYGHILA STIKDIVPRY ATMTGHHVER RFG.WDTHGV PIEHIIDKKL

ledo .LPHYGHILA GTIKDMVTRF AYQTNHHVIR RFG.WDCHGL PVEYEIDKML

lema .LPHYGHILA GTIKDMVTRF AYQTNHHVIR RFG.WDCHGL PVEYEIDKML

arth .LPHYGHILA GTIKDIVTRY QTMTGHHVTR RFG.WDCHGL PVENEIDRKL

teth .LPHYGNLLA GTIKDVVCRY ASQNGKYVER RFG.WDCHGL PVEYEIDKKL

encu .LPHYGHLLS GTIKDTVTRF FYQQGYDVDR RFG.WDCHGL PVEYEIDKKL

nolo ..... WDRHGV PVEYEIDKAL

plfa .LPHYGHLLA GIIKDCVTRY FYQSNFYVER RFG.WDCHGL PVEYEIEKEN

plyo .LPHYGHLLA GIIKDCVTRY FYQSGYSVER RFG.WDCHGL PVEYEIEKEN

chtr .LPHYGHLLA GTIKDVVCRY ASMDGHYVPR RFG.WDCHGV PVEYEVEKSL

chmu .LPHYGHLLA GTIKDVVCRY ATMDGHYVPR RFG.WDCHGV PVEYEVEKSL

chpn .LPHYGHLLA STIKDVVGRY ATMDGY YVPR RFG.WDCHGV PVEYEVEKSL

trde .LPHFGHFVP GTIKDIIPRY KTMKGFVRER RFG.WDCHGL PVENLIEKEL

trpa .LPHFGHFVP STIKDIIPRY QTMRGAYVPR RFG.WDCHGL PIEHLIEQEL

bobu .LPHFGHFVP NTIKDIIPRY QTMQGYKVR NFG.WDTHGL PVEYEVEKKL

myle .LPHYGHLLT GYVKDIVPRY RTMCGYKVER RFG.WDTHGL PAELEVERQL

mytu .LPHYGHLLT GYVKDIVPRY RTMRGYKVER RFG.WDTHGL PAELEVERQL

codi .LPHYGHLLT GYVKDIVPRY QTMKGLVNR VFG.WDCHGL PAELEAEKQL

ripr .LPHYGHLLT GFIKDVYARY KTIKGGKVER RFG.WDCHGL PAEMQSEKEL

rico .LPHYGHLLT GFIKDVYARY QTIKGGKVER RFG.WDCHGL PAEMQSEKEL

psfl .LPHYGHILT SYIKDIVPRY QTMLGKQVPR RWG.WDCHGL PVEFEVEKAM

suso ..... MIKDCILRY QRVLGKRVHD QPG.YDTHGL PIEVATEKLL

aepe KSIHIGTAWN KVVKDVVLR YRMTGYNVWD KPG.YDTHGL PIEVKIEQSL

arfu .RIHLGTAWN KVLKDTILRY KRMMGFAPT TPG.WDMHGL PIEVKVEQEL

meba	.HIHLGTAWN	KIIKDSILRY	YSMNNRNILE	RPG.WDMHGL	PIEVKVEGVL
meth	.RIHLGTAWN	KIMKDSYLR	KSMRGNVRR	QPG.WDTHGL	PIEHKVEGIL
pyho	.AIHLGTAWN	KIIKDMIIRF	RTMQGYNVWR	QPG.FDMHGL	PIEVKVEQAL
pyfu	.AIHLGTAWN	KIIKDMIIRF	RTMQGYNVWR	QPG.YDMHGL	PIEVKVEQAL
pyab	.AIHLGTAWN	KIIKDMIIRF	RTMQGYNVWR	QPG.YDMHGL	PIEVKVEQAL
meja	.AIHLGTAWN	KIIKDTYLR	KRMQGYNVD	KAG.WDMHGL	PIEVKVENEF
haNRC	.AAHMGTTWN	KTLKDAYIRY	HRMQGYDVT	RPG.YDMHGL	PIETKVEEQ
pyba	.MPHVGHIRG	RTYKDVVIRF	YRLGQYDVWV	QGG.WDMQGM	PVEWEVEKKL
bacel	.DIHMGHALN	KVLKDFIVRY	KSMTGFCAPY	VPG.WDTHGL	PIEQALTNGK
baan1	.DIHMGHALN	KVLKDFIVRY	KSMTGFCAPY	VPG.WDTHGL	PIEQALTNGK
bast	.DIHMGHALN	KILKDIIVRY	KSMNGYCAPY	VPG.WDTHGL	PIETALAKQG
basu	.DIHMGHALN	KILKDFIVRY	KSMGYNAPY	VPG.WDTHGL	PIETALTKNK
baha	.DIHMGHALN	KVLKDMIVRY	KSMAGFHAPY	VPG.WDTHGL	PIEQALTKSG
limo	.ELHMGHALN	KTIKDIIVRY	KSMAGFSSPY	VPG.WDTHGL	PIETAIAKKG
liin	.ELHMGHALN	KTIKDIIVRY	KSMAGFSSPY	VPG.WDTHGL	PIETAIAKKG
stau	.NLHMGHALN	KILKDFIVRY	KTMQGFYAPY	VPG.WDTHGL	PIEQALTKKG
stpy	.NIHVGHALN	KISKDIIVRS	KSMGQFYAPY	VPG.WDTHGL	PIEQVLAKQG
stmu	.NIHVGHALN	KISKDIIVRS	KSMGFRAPY	IPG.WDTHGL	PIEQVLAKKG
stpn	.NIHVGHAMN	KISKDIIVRS	KSMGQFYAPF	IPG.WDTHGL	PIEQVLSKQG
lala	.NIHLGHSLN	KISKDIIVRY	KSMAGFRAPY	VPG.WDTHGL	PIEQQLAKAG
enfa	.NIHLGHSLN	KISKDIIVRS	KSMGFRSPY	VPG.WDTHGL	PIEQVLTNGK
syne	.ALHMGHALN	KVLKDIINKY	KLQGHKVHY	VPG.WDCHGL	PIELKVLQSL
arthchl	.DLHMGHALN	KILKDIINRY	KLQNYKVQY	VPG.WDCHGL	PIELKVLQSL
prma	.SLHMGHALN	KVLKDIINKY	KLQGFKVHF	IPG.WDCHGL	PIELKVLQSL
mypu	.SIHIGHALN	KILKDIVVRF	KSLQGFYSPF	VPG.WDTHGL	PIENKMLSEL
myge	.SIHVGHALN	KILKDFILRS	WLYEGYDVVF	IPG.WDCHGL	PIEHAHSVKN
mypn	.NIHVGHALN	KILKDFVLR	WNLQGFQTVF	IPG.WDCHGL	PIEHAHSVKN
urur	.NIHIGHALN	KILKDFVVS	HNMNNYSPY	IPG.WDTHGL	PIEVALSKK.
saty	.SIHIGHSVN	KILKDIIVKS	KGLSGFDSPY	VPG.WDCHGL	PIELKVEQEF
esco	.SIHIGHSVN	KILKDIIVKS	KGLSGYDSPY	VPG.WDCHGL	PIELKVEQEY
yep	.NIHIGHSVN	KILKDIIVKS	KGMAGYDSPY	IPG.WDCHGL	PIELKVEQLI
vich	.DIHIGHALN	KILKDVIIKS	KTLSGFDAPY	IPG.WDCHGL	PIELMVEKKV
hain	.NIHIGHAVN	KILKDIIVKS	KTALGFDSPY	IPG.WDCHGL	PIELKVEGLV
acac	.TIHIGHAVN	KILKDIIVKS	KTALGFDSPY	IPG.WDCHGL	PIELKVEGLV
pamu	.TIHIGHAVN	KILKDIIVKS	KTALGYDSPY	IPG.WDCHGL	PIELKVEGLV
psae	.SIHIGHAVN	KILKDIIVRS	KTLAGYDAPY	VPG.WDCHGL	PIEHKVETTH
psfl_1	.TIHIGHALN	KILKDMILRS	KTLSGFDAPY	VPG.WDCHGL	PIEHKVEVTY
xyfa	.QIHLGHAVN	KILKDIIVKS	KHLGDFDAPY	IPG.WDCHGL	PIEIAIEKKY
neme	.DIHIGHAVN	KILKDIIVRS	KTQAGFDAPY	VPG.WDCHGL	PIEVMVEKLH
buAPS	.NIHIGHAVN	KILKDIIVKS	KNMSGFDAPY	IPS.WDCHGL	PIEQKVEEKI
agtu	.NIHIGHALN	KILKDVITRS	FQMRGFDANY	VPG.WDCHGL	PIEWKIEEAY
sime	.NIHIGHALN	KILKDVINRS	FQMRGFDANY	VPG.WDCHGL	PIEWKIEEKY
melo	.NIHIGHALN	KILKDVITRS	FQMRGYDSTY	VPG.WDCHGL	PIEWKIEEQY
cacr	.AIHIGHALN	KILKDFVRS	RFALGYVDY	VPG.WDCHGL	PIEWKIEEQF
hepy26695	.HLHLGHALN	KILKDIVVKR	EYFKGKKIYY	TPG.WDCHGL	PIEQQILERL
hepyj99	.HLHLGHALN	KILKDIVIKR	EYFKGKKIYY	TPG.WDCHGL	PIEQQILEQL
caje	.HIHIGHALN	KILKETIIKT	HYFKGESVRF	TPG.WDCHGL	PIEQQVEVKL
thma	.HIHIGTALN	KILKDIVVKY	KTMRGYRAPY	VPG.WDTHGL	PIEHRVSQEL
fepe	.DIHLGTAMN	KILKDFVTRY	KTMRGYRVPF	VPG.WDTHGL	PIEHRVTTSL
aqae	.HIHVGHALN	KILKDVINKY	NLLIGKNVNF	IPG.WDCHGL	PIERAWEKEL

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mask      . . . . . ***** ***** . . . . . * *****
stau2    GIKGK.QDIE KYGIENFINE CKKSVFNYE. . . . . KEWRDFS KDLGYWVDM
bace2    GISGK.HEIE EYGIIEPIK CKESVFTYE. . . . . KQWREFT ESIGYWVDM
baan2    GISGK.HEIE EYGIIEPIK CKESVFTYE. . . . . KQWREFT ESIGYWVDM
ocih     NIRGK.DDIE KFGVERFIEK CKESVFTYE. . . . . NEWKEFT DKLGYWVDM
clpe     GISGK.PQIE DYGVVEKFTV CKDSVFTYV. . . . . SMWEKMT EQIGYWVDM
clac     GISGK.PQIE EYGIIEKFTV CKESVFSYV. . . . . SLWKDMS EKLGYWVDM
cldi     GLTSK.QQIE EYGIIEFNQK CRESVFSFE. . . . . KQWRIMT ERMAYEVDLD
pogi     GITKE.DIGK SISVEEYNAA CRRDVMKFT. . . . . KEWEDLT HKMGYWVDM
bafr     GITKE.DIGK TISVAEYNAH CRQDVMKFT. . . . . KEWEDLT HKMGYWVDM
feac     GFNTK.KEIE DFGIEKFNEY CRNSVFTYI. . . . . DEWNEVD SEIGYWIDEN
thvo     GFKTK.SDII NYGVEKFNSY CRDSVFRYI. . . . . DEWKTVD QIIGFSIDHS
thnw     GFHTK.SEIV NFGVEKFNQY CRESIFRYI. . . . . DEWKQVD DLIGFSIDHN
cyhu     GITKE.DIGK KITVEQYNQK CREAVMKYK. . . . . SQWDELT VKMGYWVDLE
chte     GLKNK.SHVE EYGVGEFNRE ARALVYHHID DNREGWGKLT ERMGYWVDM
dera     GWLGRNHGAS REELEEFNRL CRTSVWETI. . . . . QDWNELT ERMGYWLDLG
stco     GFSGK.QDIE AYGIIEFNQA CRESVTRHT. . . . . DAFEELT TRMGYWADLQ
thth     GLKSK.REIE AYGIIEFNQA CRESVFTYE. . . . . KEWEAFT ERIAYWVDLE
deet     GFTSK.NDIE KYGIIEFNAR CRSSVFKYV. . . . . SEWNKLT ERIAYWVDLD
anga     NIRG.PDDVA KMGIKAYNNE CRKIVMRYA. . . . . NEWEQIV GRMGRWIDFK
drme     NIKG.PEDVA KMGIAAYNAE CRKIVMRYA. . . . . DEWENVV TRVGRWIDFK
hosa     GIRG.PEDVA KMGITEYNNQ CRAIVMRYA. . . . . AEWKSTV SRLGRWIDFD
cael     GISG.PQDVM KMGIANYNNE CRKIVMRYA. . . . . GEWEKTM GRLGRWIDFK
asfu     GMSG.LEAVE KLGIEKYNEE CRAIVMRFA. . . . . SEWRETI ERLGRWIDFD
scpo     GITG.SDDVM AMGIDKYNAE CRKIVMTYA. . . . . SEWRATV ERLGRWIDFD
sace     GITG.KDDVF KYGLENYNNE CRSIVMTYA. . . . . SDWRKTI GRLGRWIDFD
ledo     GIKTSHDDVA KLGIDKYNDE CKKIVTRYV. . . . . GEWRKTV XARWPLDYFD
lema     GIKTSHDDVA KLGIDKYNDE CKKIVTRYV. . . . . GEWRKTV AARWPLDYFD
arth     NIKR.RDEVI KMGIDKYNEE CRSIVTRYV. . . . . AEWEKVI TRCGRWIDFK
teth     GITN.RQEVN KMGVDKYNAE CRSIVMRYA. . . . . QEWRSIV NRFGRWIDFD
encu     GISS.RAEVN EMGIGKYNAE CRGIVMKYS. . . . . SEWEAVV ERLGRWVDFR
nolo     GITG.VKDIH DMGIRKYNKE CRKIVLRYT. . . . . KEWEAVV KRMGRWIDFR
plfa     NINK.REDIL NMGIDVYNEK CRGIVLKYS. . . . . KEWVATV QRIGRWIDFK
plyo     NINK.KEDIL KMGIDVYNEK CRSIVLKYS. . . . . NEWVNTV ERIGRWIDYK
chtr     GLTE.PGAIE RFGVANFNEE CRKIVFRYA. . . . . DEWKYFV DRIGRWVDFR
chmu     GLTE.PGAID RFGIANFNEE CRKIVFRYV. . . . . DEWKYFV DRIGRWVDFR
chpn     SLTA.PGAIE DFGIASFNEE CRKIVFRYV. . . . . HEWEYVI NRIGRWVDFR
trde     GLNS.KTDIE KYGIDKFNEA CRASVLRVY. . . . . KEWKQTI TRLGRWVDFE
trpa     NLNS.KSDVE SYGVSAFNAA CRSSVLRVY. . . . . KEWQRTL TRLGRWVDFD
bobu     GISG.KYEIE NYGIIEFNKE CRKIVLRYT. . . . . EEWKNI I LRLGRWVDFE
myle     GITD.KSQID AMGIAAFNEA CRKSVLRYT. . . . . EEWQAYV TRQARWVDFD
mytu     GITD.KSQIE AMGIAAFNDA CRASVLRVY. . . . . DEWQAYV TRQARWVDFD
codi     GIKD.KGEIE AMGLESFNKY CAKSVLEYT. . . . . QEWKDYV TRQARWVDFD
ripr     GISG.RIAIT NFGIEKFNNH CRASVMQYA. . . . . SEWEQYV TRQARWVDFK
rico     GISG.RLAIA NFGIEKFNAH CRASVMKYA. . . . . NDWEYV TRQARWVDFK
psfl     GFKS.KRDIL EFGVEQFNDE CRELVLYA. . . . . DDWRGFV NRMGRWVDFD
sus     GISNKQEIID KIGVETFIN KKEFALSNA. . . . . DKMTQN.F KNVGVFMDWE
aepe     GVRVKREIEE KVGVENFIAA CKRFVDENM. . . . . EAMTRQ.F KEIGVFMDWE
arfu     GFRTKRDIES .FGIDKFIER CMNYALANK. . . . . DAMTEQ.F KSLAVWMDWE
meba     GFKSKKDIES .FGVENFIEK KKEFAINQK. . . . . QEMTEQ.F QRLGVWMDWE
meth     GVRSKKDIED KIGIEEFVRK CREFAMENK. . . . . AVMTSQ.F QRLGVWMDWD
pyho     GLKTKKEIEE KIGVENFIK KKEFALNNL. . . . . KIMTEQ.F KMLGIWMDWD

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pyfu	GLKTKKEIEE	KIGVENFIQK	CKEFALNNL.	..RIMTEQ.F	KMLGVWMDWD
pyab	GLKTKKEIEE	KIGVENFIKK	CKEFALNNL.	..KIMTEQ.F	KMLGIWMDWD
meja	GIKNKKEIET	KIGVKQFIEK	CKEFALKHK.	..EIMEKQ.F	KNLGVWLDWE
haNRC	GFESKKDIEQ	.FGEEAFIEE	CKRFADDNL.	..DGLQSD.F	QSFGVWMDWD
pyba	KLRSKKDIEQ	.FGLEKFALE	CNSLVEEYL.	..AYWREWGT	KRLGLWLDLE
bacel	.....VKRK	EMTVAEFRKL	CAEYAYEQV.	...ERQREQF	KRLGVRADWD
baan1	.....VKRK	EMTVAEFRKL	CAEYAYEQV.	...ERQREQF	KRLGVRADWD
bast	.....VDRK	SMSVAEFRKR	CEQYAYEQI.	...DNQRRQF	KRLGVRGDWD
basu	K.....VNRK	EMSVAEFRKL	CEEYAWKQI.	...EGQREQF	KRLGVRGDWE
baha	.....VDRK	SMSVAEFRKL	CEEYAWKQI.	...DRQREQF	MRLGVRGDWW
limo	.....VKRK	EMSIAEFRKL	CAEYAMKQV.	...DGQRTGF	KRLGINGDWE
liin	.....VKRK	EMSIAEFRKL	CAEYAMTQV.	...DGQRTGF	KRLGINGDWE
stau	.....VDRK	KMSTAEFREK	CKEFALEQI.	...ELQKKDF	RRLGVRGDFN
stpy	.....IKRK	EMDLAEYLEM	CRQYALSQV.	...DKQRDDF	KRLGVSADWE
stmu	.....VKRK	EIDLADYLDL	CRQYALSQV.	...DKQRQDF	KRLGVSGDWE
stpn	.....VKRK	EMDLVEYLKL	CREYALSQV.	...DKQREDF	KRLGVSGDWE
lala	.....MKRK	EMDLLDYLEE	CRKYAMKQV.	...DMQRSDF	KSLGVLADWD
enfa	.....VKRK	EMTVAEYREK	CKEYALSQV.	...DKQRNDF	KRLGVSGDWE
syne	K...S.SERA	ELTPLTLRHK	ARDFALKAQ.	...QEQAQVF	QRYGIWGDWK
arthchl	D...Q.EVRK	ELTPLKLRK	AAKFAKATV.	...KTQMESF	KRFGVWADWN
prma	K...S.NERR	NLDSLGLRKK	ATDYAKIQI.	...NNQLEGF	KRWGIWGDWD
mypu	K.....VNHK	QIEVVKLRKE	AAKYALNQM.	...LIQKEQF	LKLQMLSDFE
myge	P.....SSYS	NLSTVEKRKL	CHQFALSQI.	...AVQKEQF	QRLGLLNDFQ
mypn	P.....QHYA	SLSLSEKRD	CKQFALSQI.	...AIQKAQF	QRLGLLNDFS
urur	.....IKLS	NLSVNERREQ	CKKYALEQV.	...NNQIQQF	LRLGMISSDFK
saty	GKPG...EKF	TA..AEFRAK	CREYAATQV.	...DGQRKDF	IRLGVLGDWS
esco	GKPG...EKF	TA..AEFRAK	CREYAATQV.	...DGQRKDF	IRLGVLGDWS
yepo	GKPG...EKF	SA..AEFRTA	CRKYAAEQV.	...EGQKKDF	IRLGVLGDWD
vich	GKPG...QKV	TA..AEFREK	CREYAAGQV.	...EGQKESF	KRLGILGEWD
hain	GKPN...EKI	SA..AEFRQK	CREYAAEQV.	...EGQKKDF	IRLGVLGDWD
acac	GKPN...EKI	SA..AEFRQK	CREYAAEQV.	...EGQKKDF	VRLGVLGDWD
pamu	GKPN...QNI	SA..AQFREA	CRQYAAEQV.	...EGQKKDF	IRLGVLGDWD
psae	GKN.....L	PA..DKTREL	CREYAAEQI.	...EGQKADF	IRLGVLGEWD
psfl_1	GKN.....L	GA..DKTREL	CRAYATEQI.	...EGQKSEF	IRLGVLGEWD
xyfa	GKVG...VTL	DA..VQFRQK	CREYAAEQI.	...QLQRRDF	KRLGIIGDWD
neme	GKD.....M	PK..ARFREL	CREYAAEQV.	...ARQKKDF	IRLGVLGDWD
buAPS	KSNQ...GEI	ST..TEFQEK	CRKYAQDQV.	...EKQKKDF	IRLGVIIGDWD
agtu	RARGKNKDEV	PV..NEFRKE	CRDFAAGWI.	...KVQSEEF	KRLGIEGDFE
sime	REKGNKDEV	PV..NEFRKE	CREFASGWI.	...GIQTEEF	KRLGIEGDFE
melo	RAKGNKDEV	PV..NEFRKE	CREFAAHWI.	...TVQGGEF	QRLGVIGDFK
cacr	RAKGRRKDEV	PA..EEFRRE	CRAYAGGWI.	...EAQKTEF	QRLGVIGDWW
hepy26695	EKEK..TSLE	NP..TLFREK	CRDHAKKFL.	...EIQKNEF	LQLGVIGDFE
hepyj99	EKEK..TSLE	NP..TLFREK	CRDHAKKFL.	...EIQKNEF	LQLGVIGDFE
caje	GEKK..KSLS	K...KEIREF	CRQHASEFV.	...DIQREEF	KDLGIIADWD
thma	G.EK..IKEM	SP..AEIRKK	CEEYALRFV.	...DIQREEF	KRLGVRGDWE
fepo	G.EE..AKKK	SP..AEIRKL	CHEFALKYV.	...DIQREEF	KRLGVKGDWE
aqae	SKKK..IKKE	SLPKTEFREL	CREYAKKYV.	...NIQREDF	VRLGVIGDWE

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mask	*****	*****	*****	*****	*****
stau2	SPYITLENNY	IESVWNILST	FHKKGLLYKG	HKVTPYCTHD	QTALSSHEVA
bace2	DPYVTLENPY	IESVWHILGT	IHEKGLLYKG	HRVSPYCPSC	QTSLSHEVA

baan2	DPYVTLENPY	IESVWHILGT	IHEKGLLYKG	HRVSPYCPSC	QTSLSSEVA
ocih	DPYKTLNPNY	IESVWNILAT	IHDEDLLYKG	HRVVPYCPNC	ETSLSSHEVA
clpe	NPYVTYHNPY	IESVWWALKQ	MWDKLLLYKG	YKTMPCPRC	GTSLSSHEVS
clac	NPYVTYHNDY	IESVWWALKQ	MWDKDLLYKG	HKIVPYCPRC	GTALSSHEVA
cldi	NPYITLDNNY	IESVWWILNK	FNKEGYIYEG	HKILPYCPRC	GTGLASHEVA
pogi	HPYITYDNRY	IETLWLLAE	LYKKGLLYKG	YTIQPYSPAA	GTGLSTHELN
bافر	HPYITYDNRY	IETLWLLKQ	LYKKGLLYKG	YTIQPYSPAA	GTGLSSHELN
feac	KSYVTLRNDY	MESEWYALKK	LFDENMLVKD	YKIVPYCPRC	GTSLSSHEVA
thvo	GDYITLRNEY	IESEWYVLKY	IYENGLLYKD	YTVVPYCPRC	ETSLSSHEVA
thnw	GDYITLRNDY	MESEWFALKT	MYNSGLLYKD	YTVVPYCPRC	ETSLSSHEVA
cyhu	KPYITFENNY	IESVWYLLKE	FHQKLLLYKG	YTIQPYSPAA	GTGLSSHELN
chte	SPYITCDNNY	IESVWWALKT	IFDKGLIYKD	YKIVPQDPKS	ETVLSSHELA
dera	DPYITYQNSY	VESVWNLLRR	LHEKGLVAQD	YKVVPLSPRI	SSTLSRAELG
stco	DPYRTMDPEY	IESVWWSLKE	IFNKGLLVQD	HRVAPWCPRC	GTGLSDHELA
thth	DAYATLEPTY	IESIWWSLKN	LFDRGLLYRD	HKVVPYCPRC	GTPLSSHEVA
deet	NAYITMDNNY	IESGWWALKQ	MWDKGLVYQG	HRVTPHCPRC	GTSLSSHEVA
anga	NDYKTLYPWY	MESIWWVFKQ	LYAKGFVYQG	VKVMPYSTAC	TTALSINFESG
drme	NDYKTLYPWY	MESIWWVFKQ	LFDKGLVYQG	VKVMPYSTAC	TTSLSNFEAN
hosa	NDYKTLYPQF	MESVWWVFKQ	LYDKGLVYRG	VKVMPFSTAC	NTPLSNFESH
cael	HDYKTLYPWF	MESVWWAFSE	LHKKGLVYKG	VKVMPFSTAC	STPLSNFEAG
asfu	NDYKTMNSSF	MESVWWVFKQ	LFDKGLVYRG	YRVMPYSTAL	NTPLSNFEAQ
scpo	NDYKTLYPSF	MESVWWVFKQ	LHTKGKVYRG	YRVMPYSTAC	TTPLSNFEAQ
sace	NDYKTMYPSTF	MESTWWAFKQ	LHEKGQVYRG	FKVMPYSTGL	TTPLSNFEAQ
ledo	NDYKTMHLTY	MESIWWVFSQ	LWEKKMVYRG	FRVMPYSTAC	TTPLSNFEAN
lema	NDYKTMHLTY	MESIWWVFSQ	LWEKKMVYRG	FRVMPYSTAC	TTPLSNFEAN
arth	NDYKTMDLPF	MESVWWVFSQ	LWEKNLVYRG	FKVMPYSTGC	KTPLSNFEAG
teth	NDYKTLDLKF	MESVWWVFKQ	MFDKGLVYRG	CKVMPYSNGC	ATVLSNFETQ
encu	DGYRTMDMTF	MESVWNIFKE	LFSRGLIYRG	FRVMPFSTAC	STPLSNFESN
nolo	NGYRTMDRSF	MESIWHIFKM	LYEKGSVYRG	HRVMPYSTAC	STPLSNFEAN
plfa	NDYKTMDKSF	MESVWWVFSQ	LYKNNYIYKS	FKVMPYSCKC	NTPISNFELN
plyo	NDYKTMDKDF	MESVWWVFSQ	LYKNNYIYKS	FKVMPYSCKC	NTPISNFELN
chtr	ATWRTMDLSF	MESVWWVFRS	LYDQGLVYEG	TKVVPFSTKL	GTPLSNFEAG
chmu	ATWKTMDLSF	MESVWWVFSQ	LYKQGLVYEG	TKVVPFSTKL	GTPLSNFEAG
chpn	STWKTMDASF	MESVWWVFSQ	LYNQGLVYEG	TKVVPFSTAL	GTPLSNFEAS
trde	NDYKTMEPAF	MESIWWVMKS	LWEKGLLYEG	YYILPYCPRC	STVLSNHELN
trpa	NDYKTMDCY	MESVWWVVAQ	LWQRKLLYEG	YKILPYCPRC	ATALSNHELN
bobu	KGYKTMDISF	MESVWWVFKN	LYEKGLIYES	YYVLPYSPKL	ATPLSNFEVN
myle	NDYKTLDLSY	MESVIWAFKQ	LWDKGLAYES	YRVLPYCWRD	ETPLSNHELRL
mytu	NDYKTLDLAY	MESVIWAFKQ	LWDKGLAYEG	YRVLPYCWRD	ETPLSNHELRL
codi	NGYKTMDMDF	MESVMWAFKT	LYDKGLIYQG	FRVLPYSWAE	HTPLSNQETR
ripr	NAYKTMDKNF	MESVLWAFKE	LYNKDLLYES	MRVMPYSWAC	ETPLSNFETR
rico	NSYKTMDKNF	MESVLWAFKE	LYNKGLLYES	MRVMPYSWAC	ETPLSNFETR
psfl	GAYKTMDNDY	MESVLWGFKT	LHDKGHVYER	GKIVPYCVRC	QTVLSNFEAR
suso	RPYYTLDPSY	ISSWSVIKK	AYEKGMLDKG	TAVLHWCPRC	ETTLSDYEVS
aepe	NPYVTYRDEY	IESGWWLVKK	AWEKGLLYKG	YRVLHWCPRC	ETTLDYEVS
arfu	NPYMTIKAEY	MNAAWFAIKR	AHERGLLERK	KMVVNWCHRC	ETALADAEV.
meba	APYMTLKDDY	IEAAWWTLKQ	ASEKNLLDVG	KRSVNWCPRC	ETAIADSEV.
meth	DPYVTFDPAY	MESCWWTLKR	AHEKDLLLRD	LRVITWCPRC	ETALALAEI.
pyho	DPYMTIKNEY	IESAWFTLKK	AWEKGLLEKD	KRVLHWCPRC	ETALAEHEVR
pyfu	NPYMTIKNEY	IESAWFTLKR	AWEKGLLEKD	KRVLHWCPRC	ETALAEHEVR
pyab	NPYMTIKNEY	IESAWFTLKR	AWEKGLLEKD	KRVLHWCPRC	ETALAEHEVR
meja	NAYMPITKEY	MEIGWWTLKV	AHEKGLLTRD	LRVVYWCPRC	ETALAEHEVR

haNRC	NPYKTVDP	MEAAWWAFSE	VHDNGLVERG	QRSISQCPRC	ETAIANNEV.
pyba	NAYETRQPHY	LQYAWRIVKR	AHELGLLTED	YRVLWFCPRC	ETSLSDHEVA
bace1	NPYITLLEPAY	EAQQIKVFGD	MAKKGYYIKG	QKPVYWSPTS	ESALAEAEIE
baan1	NPYITLLEPAY	EAQQIKVFGD	MAKKGYYIKG	QKPVYWSPTS	ESALAEAEIE
bast	NPYITLKP	EAQQIKVFGD	MAKKGYYIKG	LKPVYWSPTS	ESALAEAEIE
basu	NPYVTLKP	EAQQIRVFGD	MAKKGYYIKG	LKPVNWSPTS	ESALAEAEIE
baha	NPYVTLDKGF	EAQQVKVFGD	MAKKGYYIKG	KKPVYWSPTS	ESALAEAEIE
limo	NPYITLLPEY	EAEQIKVFGD	MAKKGYYIKG	KKPVYWSPTS	ESALAEAEIE
liin	NPYITLLPEY	EAEQIKVFGD	MAKKGYYIKG	KKPVYWSPTS	ESALAEAEIE
stau	DPYITLKP	EAAQIRIFGE	MADKGLIYKG	KKPVYWSPTS	ESSLAEAEIE
stpy	NPYVTLDPQF	EADQIRVFGA	MAEKGYIYRG	AKPVYWSWSS	ESALAEAEIE
stmu	NPYITLVPKY	EAAQIRVFGA	MADKGYIYHG	AKPVYWSWSS	ESALAEAEIE
stpn	NPYVTLTPDY	EAAQIRVFGD	MANKGYIYRG	AKPVYWSWSS	ESALAEAEIE
lala	RPYLTLLEPEY	EAAQIRVFGK	MAEKGYIYKG	QKPIYWSPTS	ESSLAEAEIE
enfa	HPYITLDPEY	EAAEIRVFGK	MAEKGYIYKG	LKPIYWSPTS	ESSLAEAEIE
syne	KPYLTLTPEY	EAAQIGVFGA	MALKGYIYRG	LKPVHWSPTS	RTALAEAEIE
arthchl	NPYLTLDP	EAAQIEVFGQ	MALKGYIYRG	RKPVHWSPTS	RTALAEAEIE
prma	NPYLTLKKNY	ESAQIGVFGK	MFLNGYIYRG	LKPVHWSPTS	RTALAEAEIE
mypu	EIYLTLDKNF	EAKQLKLFKK	MFFDGLIYKG	LKPVYWSPTS	MSALAEAEIE
myge	NCYYTIDESF	QFKELELFLQ	AIKKGLIFQD	LKPTYWSPIS	RTSLAEAEIE
mypn	KYYKTIDESF	QQNELDLFLQ	AVKKDLIFQA	LKPTYWSPVS	RTSLAEAEIE
urur	QRYLTLDHNY	EIDQLKLFY	MLKKGFIYQD	FKPVFWSWSS	QTALAESEIE
saty	HPYLTMDFKT	EANIIRALGR	I IKNGLHKG	AKPVHWCVDC	RSALAEAEIE
esco	HPYLTMDFKT	EANIIRALGK	I IKNGLHKG	AKPVHWCVDC	RSALAEAEIE
yepe	HPYLTMDFKT	EANIIRALSK	I IDNGLHKG	AKPVHWCVDC	GSSLAEAEIE
vich	KPYRTMDFVT	EANIIRALGK	IADNGLHKG	FKPVHWCVDC	GSALAEAEIE
hain	NPYLTMNFDT	EANIIRTLGK	VIENGLHKG	SKPVHWCVDC	GSSLAEAEIE
acac	NPYLTMNFNT	EANIIRTLGK	VIENGLHKG	SKPVHWCVDC	GSSLAEAEIE
pamu	NPYLTMNYHT	EANIIRAFGK	AVENGLHKG	SKPVHWCVDC	ASSLAEAEIE
psae	NPYKTMNFAN	EANEIRALAE	MVKQDFVFKG	LKPVNWCVDC	GSALAEAEIE
psfl_1	NPYKTMNFKN	EAGEIRALAE	IVKGGFVFKG	LKPVNWCVDC	GSALAEAEIE
xyfa	APYKTLDFRF	EADEIRALAK	IVDKGHLIRG	TKPVHWCVDC	GSALAEAEIE
neme	RPYLTMDFKT	EADTVRMLGE	IYKSGYLYRG	AKPVQFCLDC	GSSLAEAEIE
buAPS	NPHLTMNFKN	EANI IKTLSK	IVQKKHLYQD	FKPIHWCLKC	ASSLSEAEIE
agtu	NPYTTMNFHA	EARIAGELLK	IARSGQLYRG	SKPIMWSVVE	RTALAEAEIE
sime	NPYTTMNFHA	EARIAGELMK	IARSGQLYRG	SKPVMWSVVE	RTALAEAEIE
melo	NPYTTMAFHA	ESRIAGELLK	FALSGQLYRG	SKPVMWSVVE	RTALAEAEIE
cacr	NRYATMDFTS	EAKIVEEFHK	FLATGQLYRG	SKPVMWSPVE	RTALADAEIE
hepy26695	DPYKTMDFKF	EASIYRALVE	VAKKGLLKER	HKPIYWSYAC	ESALAEAEIE
hepyj99	DPYKTMDFKF	EASIYRALVG	VAKKGLLKER	HKPIYWSYAC	ESALAEAEIE
caje	KPYLTMKFEF	EAAIYRTLCE	IAKKGLLCER	SKPVFWSWAA	KSALAEAEIE
thma	NPYITLKP	EVKILDVFKT	LVEQGNVYRS	LKPIYWCPRC	RTALAEAEIE
fepe	HPYITLDP	EYHILDVFKT	LVENGNVYRG	NKPVYWCPTC	RTALAEAEIE
aqae	HPYLTMDPKY	EAEIRELGK	FFERGLAYRS	KKPVYWCYID	KTAEAEAEIE

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mask	.....*****	*****..	.....	.....	.....
stau2	QG...YKNVK	DLSAVVKFQL	TNSK.....	.....	...D.....
bace2	QG...YKTVK	DLSATVKFKV	KDSE.....	.....	...N.....
baan2	QG...YKTVK	DLSATVKFKV	KDSE.....	.....	...N.....
ocih	QG...YKDVT	DLSVTAKFRI	KNKE.....	.....	...N.....
clpe	QG...YKDVK	DLTAVAKFKV	KGED.....	.....	...N.....

clac	QG...	YKDVK	EATAFVKFKV	KGEE.....	.....	...N.....
cldi	QG...	YKEVK	TNTVIAKFKK	K.DA.....	.....	...D.....
pogi	QPGC.	YRDVK	DTTCVAQFKI	MDPK.....	.....	PEMQLHGD..
bafr	QPGC.	YRDVK	DTTVVAQFKM	KNPK.....	.....	PEMAQWGT..
feac	QG...	YKNTD	DTSVYVKFRI	KGSM.....	.....	...N.....
thvo	QG...	YKDVK	DPSVYVRFKE	KGSE.....	.....	...N.....
thnw	QG...	YKDVK	DPSVYVRFKS	ADEE.....	.....	...N.....
cyhu	QPGT.	YKDVR	DTSAVAQFKL	KAN.....	.....	PKFADN....
chte	LG...	YKEVQ	DPSVYIKFRL	KDS.....	.....	.....G..
dera	EVDS.	YRMVD	DPSVYVRLPI	VWDTLPERAH	AA.....L	SSLSGEQRQ.
stco	QG...	YETVV	DPSVYVRFPL	TSG.....	.....	.PLAGEA...
thth	LG...	YKEIQ	DPSVYVRFPL	KEP.....K	.....	.KLGLEK...
deet	QG.Y.	KDNTE	DPSVFVKFEI	AKESLAKAGL	AK.....K	WAYPADKP..
anga	Q.N..	YKEVT	DPAVFSFPI	VG.....	.....	.DKD.G....
drme	Q.N..	YKEVV	DPCVVVALEA	VS.....	.....	.LPN.T....
hosa	Q.N..	YKDVO	DPSVFTFPL	EE.....	.....	.D.E.T....
cael	Q.N..	YKDVV	DPAVFGFKL	LD.....	.....	.CPN.....
asfu	Q.N..	YKDVO	DPAVVVSFPL	VD.....	.....	.DPE.....
scpo	Q.N..	YKEVP	DPAIVVAFQS	IS.....	.....	.DPE.....
sace	Q.N..	YKDVN	DPAVTIGFNV	IG.....	.....	.QEK.....
ledo	S.N..	YKEVS	DLAVTVAFQA	RA.....	.....	.DP..N....
lema	S.N..	YKEVS	DLAVTVAFQA	RA.....	.....	.DP..N....
arth	Q.N..	YKEVP	DPEIMVTFPV	IG.....	.....	.DQD.N....
teth	Q.N..	YKEVD	DPSLFIAFKT	AE.....	.....	.DPK.....
encu	Q.N..	YKDVS	DPSVLI AFPL	LK.....	.....	.PLGGY....
nolo	Q.N..	YKDVS	DPSILVAFPL	RK.....	.....	.PFKGY....
plfa	L.N..	YKDTP	DPSIIISFIL	CS.....	.....	.DFPKVKNVY
plyo	L.N..	YKDVS	DPSIIVGFIL	LE.....	.....	.NFPTFPECL
chtr	Q.N..	YKEVD	DPSVVVKFAL	QD.....	.....	.NOG.....
chmu	Q.N..	YKEVD	DPSVVAKFAL	QD.....	.....	.DQG.....
chpn	Q.N..	YKEVD	DPSLVVRMPL	QN.....	.....	.DSA.....
trde	LGG..	YKDVH	DPAITVRFKT	LS.....	.....	.PVKTSPAGK
trpa	LGG..	YQDVS	DPAITVRFEC	TS.....	.....	.VVPGSPAAR
bobu	LGE..	YKEVN	DPSLTIKFKI	K.....	.....	.....
myle	MDDDVY	QSRQ	DPAVTLGFKV	LG.....	.....	GD.....
mytu	MDDDVY	QSRQ	DPAVTVGFKV	VG.....	.....	GQP.....
codi	LDDS.	YKMRQ	DPTLTVTFPI	TG.....	.....	VKDDSA....
ripr	LDNA.	YRERT	DKAITVSFVL	NEVTLINGII	.....S	QKSDMK....
rico	LDNS.	YRERA	DKAVTVSFVL	.....	.....S	HPVTTT....
psfl	LDDA.	FRPRR	DMSAYVKFRQ	.....	.....	.....
suso	....	EYRDLE	DPSIYVKFKI	KGEK.....	.....	.....
aepe	....	EYRELE	DPSIYVKFPV	EGRE.....	.....	.....
arfu	....	EYWDEE	DPSIYVKFPV	KGEK.....	.....	.....
meba	....	EYAERT	DPSIYVKFKI	KGEE.....	.....	.....
meth	....	DYHEKE	DPSIYVKFPV	SG.....	.....	.....
pyho	G...	EYKLRK	DPSIYVKFPI	EGKE.....	.....	.....
pyfu	G...	EYKLRK	DPSIYVKFPV	EGKE.....	.....	.....
pyab	G...	EYKLRK	DPSIYVKFPV	EGKE.....	.....	.....
meja	G...	EYKEVY	DPSVYVKFRL	ANEE.....	.....	.....
haNRC	....	EYEDVT	DPSIYVRFDL	DDR.....	.....	.....
pyba	L...	GYDERE	DPSIYVKFRV	EGGV.....	.....	.....
bacel	YQD....	..KK	SASIYVAFPV	KDG.....	.....K	NVLEG.....

baan1	YQD.....KK	SASIYVAFSV	KDG.....	.....K	NVLEG.....
bast	YKD.....KR	SPSIYVAFPV	KDG.....	.....K	GVLEG.....
basu	YQD.....KR	SASIYVAFGV	KDG.....	.....K	GVLEN.....
baha	YHD.....KR	SPSIYVAFPV	KDG.....	.....K	NVLQQ.....
limo	YQD.....KT	SASIFVAFKV	TDG.....	.....K	GVLDE.....
liin	YQD.....KT	SASIFVAFKV	TDG.....	.....K	GVLDE.....
stau	YHD.....KR	SASIYVAFDV	KDD.....	.....K	GVVDA.....
stpy	YHD.....ID	STSLYYANKV	KDG.....	.....K	GILDT.....
stmu	YHD.....ID	STSLYYANRV	KDG.....	.....K	DILDT.....
stpn	YHD.....LV	STSLYYANKV	KDG.....	.....K	GVLDT.....
lala	YQD.....VR	SASIFVAFKA	KDT.....	.....K	GKLPE.....
enfa	YKD.....VK	SPSIYVAFNV	ADG.....	.....K	GLLDN.....
syne	YPEG....HT	SRSIYVSFPI	TQAGE.KA..	.....A	EILAP.....
arthchl	YPEG....HI	SKSIYAIIFKL	VGG...AK..	.....T	SLLDE.....
prma	YPEE....HF	SKSIYVSLNI	TKLSD.AV..	.....L	LKLEEKDLRN
mypu	YYD.....HV	SPSIYTCFTI	TKG.....	.....N	EFVEV.....
myge	YKE.....VN	SIALYLTFKV	SKSD.....	.....	.FLDE.....
mypn	YKE.....VK	TIGLYLTFTV	VQSA.....	.....	.VLNS.....
urur	YAD.....RQ	SSAIYVKMKV	VDHND.....	.....	LFTDK.....
saty	YYD.....KT	SPSIDVAFRA	VDQDAVKAKF	G.....L	PGVS.....
esco	YYD.....KT	SPSIDVAFQA	VDQDALKAKF	A.....V	SNVN.....
yepe	YYD.....KT	SQSIDVRFNA	VDTATVAAKF	G.....V	SAVN.....
vich	YKN.....KV	SPSIDVRFKA	ADEAAVLAKF	G.....L	AAGHEG.....
hain	YED.....KV	SPSIYVRFPA	ESADEIEAKF	S.....A	QGRG.....
acac	YED.....RV	SPSIYVRFPA	ESAVEIEGKF	N.....A	VGKG.....
pamu	YED.....KV	SPSIYVRFSA	VDSDAVLAKF	N.....A	TDKG.....
psae	YAD.....KK	SPTIDVGFPV	ADADKLAAAF	G.....L	AALD.....
psfl_1	YED.....KK	SSTIDVAFPI	ADDAKLAEAF	G.....L	ASLA.....
xyfa	YTD.....KT	SPMVDVAYPA	LDPSALAAVF	N.....A	TLPP.....
neme	YKD.....KV	SPAIDVAYPF	KDTAALAAAF	G.....L	AGIE.....
buAPS	YSK.....KK	SDSIIVGFKF	KYKSIIEKLF	D.....F	QISN.....
agtu	YHD.....VE	SDMIWVKFPV	K.....	.....	.DAAPA.....
sime	YAD.....VE	SDMIWVKFPV	T.....	.....	.EGPEA.....
melo	YQD.....YE	SDTIWAKFPV	ANLVVANVVD	GQPAELNPDL	SDRSLD.....
cacr	YHD.....HV	SPTIWVKFPV	V.....	.....	.QGSDA.....
hepy26695	YKM.....KK	SPSIFVAFGL	KKES.....	.....L	EKLK.....
hepyj99	YKM.....KK	SPSIFVAFDL	KKEG.....	.....L	EKLK.....
caje	YQD.....KE	DYSIFVAFDL	DVKA.....	.....C	EKLG.....
thma	YHD.....HK	SPSIYVKFRS	K.....	.....	..ED.....
fepe	YHD.....HE	SPSIYVKFQM	V.....	.....	..DK.....
aqae	YYE.....KE	DPSIYVKFPL	KSGEK.....	.....F	GIKD.....

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mask	.....	.....	.....	.....	.....
stau2	.....	.....	.....	.....	.....
bace2	.....	.....	.....	.....	.....
baan2	.....	.....	.....	.....	.....
ocih	.....	.....	.....	.....	.....
clpe	.....	.....	.....	.....	.....
clac	.....	.....	.....	.....	.....
cldi	.....	.....	.....	.....	.....
pogi	.....	.....	.....	.....	.....



bafr	.....	.....	.....	.....	.....
feac	.....	.....	.....	.....	.....
thvo	.....	.....	.....	.....	.....
thnw	.....	.....	.....	.....	.....
cyhu	.....	.....	.....	.....	.....
chte	.....	.....	.....	.....	.....
dera	.G.....	.....	.....	.....	.....
stco	.....	.....	.....	.....	.....
thth	.....	.....	.....	.....	.....
deet	.....	.....	.....	.....	.....
anga	.....	.....	.....	.....	.....
drme	.....	.....	.....	.....	.....
hosa	.....	.....	.....	.....	.....
cael	.....	.....	.....	.....	.....
asfu	.....	.....	.....	.....	.....
scpo	.....	.....	.....	.....	.....
sace	.....	.....	.....	.....	.....
ledo	.....	.....	.....	.....	.....
lema	.....	.....	.....	.....	.....
arth	.....	.....	.....	.....	.....
teth	.....	.....	.....	.....	.....
encu	.....	.....	.....	.....	.....
nolo	.....	.....	.....	.....	.....
plfa	NIQDDIQPLV	QKYSVLYDCY	MKSEKCDTSN	EKHADEDIYS	DHINVNKNNN
plyo	EIQKEIDASD	SPTKILNEKP	QDGKKEEIDF	FKKY.EKLYE	PYFSRVKSNE
chtr	.....	.....	.....	.....	.....
chmu	.....	.....	.....	.....	.....
chpn	.....	.....	.....	.....	.....
trde	AFE.....	.....	.....	.....	.....
trpa	EFCAAA....	.....	.....	.....	.....
bobu	.....	.....	.....	.....	.....
myle	.....	.....	.....	.....	.....
mytu	.....	.....	.....	.....	.....
codi	.....	.....	.....	.....	.....
ripr	.....	.....	.....	.....	.....
rico	.....	.....	.....	.....	.....
psfl	.....	.....	.....	.....	.....
suso	.....	.....	.....	.....	.....
aepe	.....	.....	.....	.....	.....
arfu	.....	.....	.....	.....	.....
meba	.....	.....	.....	.....	.....
meth	.....	.....	.....	.....	.....
pyho	.....	.....	.....	.....	.....
pyfu	.....	.....	.....	.....	.....
pyab	.....	.....	.....	.....	.....
meja	.....	.....	.....	.....	.....
haNRC	.....	.....	.....	.....	.....
pyba	.....	.....	.....	.....	.....
bacel	.....	.....	.....	.....	.....
baan1	.....	.....	.....	.....	.....
bast	.....	.....	.....	.....	.....
basu	.....	.....	.....	.....	.....

baha	.....	.....	.....	.....	.....
limo	.....	.....	.....	.....	.....
liin	.....	.....	.....	.....	.....
stau	.....	.....	.....	.....	.....
stpy	.....	.....	.....	.....	.....
stmu	.....	.....	.....	.....	.....
stpn	.....	.....	.....	.....	.....
lala	.....	.....	.....	.....	.....
enfa	.....	.....	.....	.....	.....
syne	.....	.....	.....	.....	.....
arthchl	.....	.....	.....	.....	.....
prma	KLLS.....	.....	.....	.....	.....
mypu	.....	.....	.....	.....	.....
myge	.....	.....	.....	.....	.....
mypn	.....	.....	.....	.....	.....
urur	.....	.....	.....	.....	.....
saty	.....	.....	.....	.....	.....
esco	.....	.....	.....	.....	.....
yepe	.....	.....	.....	.....	.....
vich	.....	.....	.....	.....	.....
hain	.....	.....	.....	.....	.....
acac	.....	.....	.....	.....	.....
pamu	.....	.....	.....	.....	.....
psae	.....	.....	.....	.....	.....
psfl_1	.....	.....	.....	.....	.....
xyfa	.....	.....	.....	.....	.....
neme	.....	.....	.....	.....	.....
buAPS	.....	.....	.....	.....	.....
agtu	.....	.....	.....	.....	.....
sime	.....	.....	.....	.....	.....
melo	.....	.....	.....	.....	.....
cacr	.....	.....	.....	.....	.....
hepy26695	.....	.....	.....	.....	.....
hepyj99	.....	.....	.....	.....	.....
caje	.....	.....	.....	.....	.....
thma	.....	.....	.....	.....	.....
fepe	.....	.....	.....	.....	.....
aqae	.....	.....	.....	.....	.....

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mask	.....	.....	.....	.....	***** *****
stau2	.....	.....	.....	.....	...TYFLSWT TTPWTLPANV
bace2	.....	.....	.....	.....	...EYFLGWT TTPWTLPANV
baan2	.....	.....	.....	.....	...EYFLGWT TTPWTLPANV
ocih	.....	.....	.....	.....	...EYILGWT TTPWTLPGNV
clpe	.....	.....	.....	.....	...KYFLAWT TTPWTLPSNV
clac	.....	.....	.....	.....	...KYILAWT TTPWTLPSNV
cldi	.....	.....	.....	.....	...EYFLAWT TTPWTLPSNV
pogi	.....	.....	.....	.....	...AFFLAWT TTPWTLPSNT
bafr	.....	.....	.....	.....	...PYFLAWT TTPWTLPSNT
feac	.....	.....	.....	.....	...RYLIAWT TTPWTLPSNE
thvo	.....	.....	.....	.....	...TYFVAWT TTPWTLPSNE

thnw	.....	.....	.....	...TYFVAWT	TTPWTLP	SNE
cyhu	.....	.....	.....	...TYFLAWT	TTPWTLP	SNS
chte	.....	.....	.....	...ESILVWT	TTPWTLP	ISNV
dera	.....	.....	.....	...LSLLVWT	TTPWTLP	SNT
stco	.....	.....	.....	...ALVVWT	TTPWTLP	VSNT
thth	.....	.....	.....	...ASLLIWT	TTPWTLP	PGNV
deet	.....	.....	.....	...LYLLAWT	TTPWTLP	PANT
anga	.....	.....	.....	...AALVGWT	TTPWTLP	PSNL
drme	.....	.....	.....	...FFLV.WT	TTPWTLP	PSNF
hosa	.....	.....	.....	...VSLVAWT	TTPWTLP	PSNL
cael	.....	.....	.....	...RQLVAWT	TTPWTLP	PSNL
asfu	.....	.....	.....	...TCLLAWT	TTPWTLP	PSNV
scpo	.....	.....	.....	...VSFLAWT	TTPWTLP	PSNL
sace	.....	.....	.....	...TQLVAWT	TTPWTLP	PSNL
ledo	.....	.....	.....	...AYFLAWT	TTPWTLP	PSNL
lema	.....	.....	.....	...AYFLAWT	TTPWTLP	PSNL
arth	.....	.....	.....	...AAFVAWT	TTPWTLP	PSNL
teth	.....	.....	.....	...TKFIAWT	TTPWTLP	PSNL
encu	.....	.....	.....	..MLSLVAWT	TTPWTLP	PSNC
nolo	.....	.....	.....	..SLSLVAWT	TTPWTLP	PSHM
plfa	KNNNSNNNNN	NNTNCNDNNN	INLNYNNNCY	AQHCEVFAWT	TTPWTLP	PSNL
plyo	LKTSNFDENK	KREDFSES..	..TSDTSN..	.KVTEIIAWT	TTPWTLP	PSNL
chtr	.....	.....	.....	....FLLAWT	TTPWTLP	VSNM
chmu	.....	.....	.....	....ILLAWT	TTPWTLP	VSNM
chpn	.....	.....	.....	....SLLVWT	TTPWTLP	PSNM
trde	.....	.....	....GKNAL	PSDTYLLAWT	TTPWTLP	PSNL
trpa	.....	.....	...SWGASL	PAHTCFLAWT	TTPWTLP	PCNA
bobu	.....	.....	.....	DKNEYLLVWT	TTPWTLP	PSNL
myle	.....	.....	.....DED	LVGAYLLVWT	TTPWTLP	PSNL
mytu	.....	.....	.....DNG	LDGAYLLVWT	TTPWTLP	PSNL
codi	.....	.....	.....ADAS	LVGAYALAWT	TTPWTLP	PSNL
ripr	.....	.....	.....EGDN	FKEYRILAWT	TTPWTLP	PANL
rico	.....	.....	.....TG.S	FKEYRILAWT	TTPWTLP	PSNL
psfl	.....	.....	.....QD	RPDTFFLAWT	TTPWTLP	PANV
suso	.....	.....	.....	..NRYLLIWT	TTPWTIP	PSNV
aepe	.....	.....	.....	..GEYLLVWT	TTPWTLP	PANA
arfu	.....	.....	.....	..DTYIVIWT	TTPWTLP	PANM
meba	.....	.....	.....	..NTFIVIWT	TTPWTIP	PANV
meth	.....	.....	.....	..DTYILVWT	TTPWTLP	PANM
pyho	.....	.....	.....	..NEYLLIWT	TTPWTLP	PANL
pyfu	.....	.....	.....	..NEYLLIWT	TTPWTLP	PANL
pyab	.....	.....	.....	..NEYLLIWT	TTPWTLP	PANL
meja	.....	.....	.....	..NTYIVIWT	TTPWTLP	VANL
haNRC	.....	.....	.....	..EGSLVVWT	TTPWTIP	PANQ
pyba	.....	.....	.....	..DEYLVWT	TTPWTIP	VDNE
bacel	.....	.....	.....	..DEKYIIWT	TTPWTLP	PANL
baan1	.....	.....	.....	..DEKYIIWT	TTPWTLP	PANL
bast	.....	.....	.....	..DERIVIWT	TTPWTIP	PANL
basu	.....	.....	.....	..GERIIIWT	TTPWTIP	PANL
baha	.....	.....	.....	..DEKIVIWT	TTPWTIP	PANL
limo	.....	.....	.....	..GTNIVIWT	TTPWTIP	PANM
liin	.....	.....	.....	..GTNIVIWT	TTPWTIP	PANM

stau	.....	.....	.....	..DAKFIIWT	TTPWTIPSNV
stpy	.....	.....	.....	..NTYIVVWT	TTPFTVTASR
stmu	.....	.....	.....	..DTYIVVWT	TTPFTITASR
stpn	.....	.....	.....	..DTYIVVWT	TTPFTITASR
lala	.....	.....	.....	..DVEFVIWT	TTPWTIPSNL
enfa	.....	.....	.....	..ETAFVIWT	TTPWTLPANL
syne	.....	.....	.....Y	IDDLAVAIWT	TTPWTLPGNL
arthchl	.....	.....	.....F	IPNIYLAVWT	TTPWTMPANA
prma	.....	.....	.....S	LNKLFIAIWT	TTPWTIPGNE
mypu	.....	.....	.....	..DDELLIWT	TTPWTLIANS
myge	.....	.....	.....	..NANLLVWT	TTPWTLPNTQ
mypn	.....	.....	.....	..GTKLLVWT	TTPWTLPNTQ
urur	.....	.....	.....	..PTSLVIWT	TTPWTLPANL
saty	.....	.....	.....	.GPVSLVIWT	TTPWTLPANR
esco	.....	.....	.....	.GPISLVIWT	TTPWTLPANR
yepe	.....	.....	.....	.GPISLVIWT	TTPWTLPANR
vich	.....	.....	.....	KGDVSIWIWT	TTPWTLPANR
hain	.....	.....	.....	QGKLSAIIWT	TTPWTMPSNR
acac	.....	.....	.....	SGKLSAVIWT	TTPWTMPSNR
pamu	.....	.....	.....	TGNISAVIWT	TTPWTIPSNR
psae	.....	.....	.....	.KPAQIVIWT	TTPWTIPANQ
psfl_1	.....	.....	.....	.KPAAIVIWT	TTPWTIPANQ
xyfa	.....	.....	.....	DVQLAVPIWT	TTPWTLPASL
neme	.....	.....	.....	.GKAFAVIWT	TTPWTLPASQ
buAPS	.....	.....	.....	KKEIHLLIWT	TTPWTLPSSK
agtu	.....	.....	.....	LSGVSIVIWT	TTPWTIPGNR
sime	.....	.....	.....	LAGAFVIWT	TTPWTIPGNR
melo	.....	.....	.....	LLDAHVIWT	TTPWTIPGNR
cacr	.....	.....	.....	AVGAKLVIWT	TTPWTIPANR
hepy26695	.....	.....	.....	VKKASLVIWT	TTPWTLYANV
hepyj99	.....	.....	.....	VKKASLVIWT	TTPWTLYANV
caje	.....	.....	.....	VSKASAVIWT	TTPWTLVANQ
thma	.....	.....	.....	.PNFFIVIWT	TTPWTLPANV
fepe	.....	.....	.....	.PDTYIVIWT	TTPWTIPANV
aqae	.....	.....	.....	.KKVFIIWT	TTPWTLPANL

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mask	*****	.....	.....	.....	.....*****
stau2	ALAINKDLNY	SKIRVE	.....	.....	.NEYIILATD
bace2	ALAVHPNMEY	VKAKQE	.....	.....	.GYVYIVAKE
baan2	ALAVHPNMEY	VKAKQE	.....	.....	.GHVYIVAKE
ocih	ALAVNPEMTY	VKAKQG	.....	.....	.EEIYVAKS
clpe	ALCINKAYDY	VEAKQAEG	.....	.....	.DEIFILAKE
clac	ALAINKAYDY	VEVINN	.....	.....	.GEHLILAKA
cldi	SLTVNADVY	LKVKKG	.....	.....	.DEVYVSKP
pogi	ALCVGPEIEY	LAVQTF	.....	.....	.NPYNGIPIT
bafr	ALCVGPKIDY	VAVQSY	.....	.....	.NAYTGQPIT
feac	LLVVNKDFDY	SLVSDG	.....	.....	.NNEYVLS
thvo	FLVVNPDIY	SLIEYN	.....	.....	.NAKYVASS
thnw	FLVVNPDIY	SLVEAQ	.....	.....	.GSRYYVASS
cyhu	ALAVGENIEY	VLVSTF	.....	.....	.NPYTFKPVQ
chte	ALAVGRDIDY	VRVKHR	.....	.....	.ETGEVLILA

dera	LAAVNPDLDY	VVADSP	....	.....	.....	..SGRVIVAEG
stco	AVAAHPDVTY	VVATDG	....	.....	.....	..EEKLVVAEP
thth	AAAVHPEYTY	AAFQVG	....	.....	.....	..DEALILEEG
deet	ALAVSAADQY	AILDMT	....	.....	.....	..DYYMILAKP
anga	ACCVHPELVY	AKVRETKTG	....	.....	.....	..KVYIMMEC
drme	ACCVHPTMTY	VKVRDVKSD	....	.....	.....	..RLFVLAES
hosa	AVCVNPEMQY	VKIKDVARG	....	.....	.....	..RLLILMEA
cael	ALVVHPDMLY	VVTKDKTTG	....	.....	.....	..IEYVVLEE
asfu	ALAVNPGFEY	IKILDEASK	....	.....	.....	..KHYILLES
scpo	ALAVHPDLQY	IKILDKDSN	....	.....	.....	..KKYILMES
sace	SLCVNADFAY	VKIYDETRD	....	.....	.....	..RYFILLES
ledo	SLCVHPELDY	VKVLDTKSK	....	.....	.....	..RHYWLAEA
lema	SLCVHPELDY	VKVLDTKSK	....	.....	.....	..RHYWLAEA
arth	ALCVNAKFVY	VKVRNKNTG	....	.....	.....	..KVYIVAES
teth	ALVINKDFDY	VKVLDAKTQ	....	.....	.....	..EHYILAEC
encu	GLAVNPGFLY	GVFEHKE	...	.....	.....	..KFYLMHVD
nolo	AILVNQSFYI	AIFRLKS	...	.....	.....	..AFFIMQRD
plfa	ALCVNEHFYI	LRVYHIESQ	....	.....	.....	..RMFIFAEC
plyo	ALCVNENLIY	LRILNKENN	....	.....	.....	..RIFIFAEC
chtr	ALAVHPELTY	VRIKDKESG	....	.....	.....	..DEYILGQE
chmu	ALAVHPGLTY	VRIQDKESG	....	.....	.....	..EYILGQE
chpn	AIAVGETLVY	VRIQDKKSG	....	.....	.....	..EQWILSQG
trde	GLAVGADIDY	..ALIEYDG	....	.....	.....	..AHYIMAVP
trpa	ALALGPQILY	..VLIEAND	....	.....	.....	..EHYILARS
bobu	GIAVGQEIEY	SKIFDKTKE	....	.....	.....	..EILILGSK
myle	AVAVHPDVTY	VDVRAGDR	...	.....	.....	..RFVLAQA
mytu	AVAVSPDITY	VQVQAGDR	...	.....	.....	..RFVLAEA
codi	ALAVNPQVNY	VEVKVGDQGA	E	.....	..AI	RGQRVLLAEA
ripr	ALAVGSDIDY	AFVDKNEV	...	.....	.....	..CYIIAAS
rico	ALAVGSDIDY	ALVPKNDV	...	.....	.....	..CYIIAAY
psfl	ALAVAADENY	VCIEHGEE	....	.....	.....	..RLWLAEG
suso	FVMINKDYDY	ADVEVNG	....	.....	.....	..EILVIAKD
aepe	FVMAHPDMEY	VKVRVGR	....	.....	.....	..DTLILAKA
arfu	AVAVHPSLEY	AKFRAVK	.D	.....	..G	KVEYLILAKE
meba	AVAVHPGFEY	SKFRAIRQD	....	.....	..G	SDEILIAATD
meth	AVAVHPDFDY	AHTRLDG	...	.....	.....	..ETYIMAEA
pyho	AVSAHPEYDY	VKVKVEFN	...	.....	..G	KEEYWILAKA
pyfu	AVSAHPDYDY	VKVRVDLN	...	.....	..G	REEYWILAKA
pyab	AVSAHPDYDY	VKVKVEFN	...	.....	..G	REEYWILAKA
meja	AVTVHPDYDY	AYVEVEFD	....	.....	..D	KKEVWIIAEK
haNRC	FVAVDEGDY	QQVRATTPD	....	.....	..G	ETDVLYVASE
pyba	AVAVHPDYVY	AKVEVEVG	...	.....	..G	RREYWLLAEA
bacel	GISVHPELEY	AIVKVND	...	.....	.....	..EKYIIASE
baan1	GISVHPELEY	AIVKVND	...	.....	.....	..EKYIIASE
bast	AIAVHPDLDY	HVVVDVSG	....	.....	.....	..KRYVVAAS
basu	GISVHPDLEY	SVIAVGE	....	.....	.....	..DRFVVASA
baha	GIAVHPELEY	SVVAVKG	....	.....	.....	..EKYVVASG
limo	GITVNPDLDY	VVIESAG	...	.....	.....	..EKYVVAEA
liin	GITVNPDLDY	VVIESAG	...	.....	.....	..EKYVVAEA
stau	AITVHPELKY	GQYNVNG	....	.....	.....	..EKYIIAEA
stpy	GLTVGPDMDY	LVVKPAGSD	....	.....	.....	..RQYVVAEG
stmu	GLTVGPDIDY	VVVKPANDE	....	.....	.....	..RKFLVAQA

stpn	GLTVGADIDY	VLVQPAGEA.	.....	.....	..RKFVVAAE
lala	GIFAHDPDYD	SVVAVNG...	.....	.....	..RKFVIASE
enfa	GISVNPDFTY	VEVKADG...	.....	.....	..RKFVIAKD
syne	AVALNPELTY	AVVETESHIF	HRS.....	.....	...YLIVALD
arthchl	AVAVNAKLQY	SVVEVQSFSE	DESTVTSNKK	KIPGKVLKNQ	QKLFVIVATD
prma	AVAINPRINY	VFASDQNGN.	.....	.....	...IYLFARD
mypu	GVAVGLDIEY	SKVKFNK...	.....	.....	..KNYIVASD
myge	AIAIHPDFDY	LLFEYNQ...	.....	.....	..QKFVILEK
mypn	AIAVHPQFEY	LLFTYNN...	.....	.....	..EQYVVLAS
urur	AIAIHPELVY	SLIEYKN...	.....	.....	..ENYIIAKP
saty	AISLAPDFDY	ALVQIDG...	.....	.....	..QAVILAKD
esco	AISIAPDFDY	ALVQIDG...	.....	.....	..QAVILAKD
yepe	AISLNAEYLY	QLVQVEG...	.....	.....	..ECLILAAD
vich	AVCLRADLEY	VLIQVEGE..	.....	.....	QPERIIVASE
hain	AIAVNADLEY	NLVQLGD...	.....	.....	..ERVILAAE
acac	AISVNAELEY	QLVQLGD...	.....	.....	..ERVILAAD
pamu	AIAIHENLDY	QLVQFND...	.....	.....	..ERVILAKD
psae	ALNVHPEIDY	ALVDAGD...	.....	.....	..RYLVLAEA
psfl_1	ALNVHPEFTY	ALVDVGD...	.....	.....	..RLLVLAAE
xyfa	AISVGPTLDY	VLVEGPTHSG	.....	.....	QRRWLILAEA
neme	AVSVGADVY	QLIDTPK...	.....	.....	..GKLVLAKD
buAPS	AISIHPDFQY	QLIETER...	.....	.....	..CYLIIAKE
agtu	AIAFSSRVEY	GLFEVESAQN	..DFGP....	.....Q	TGEKLIFARK
sime	AIAYSSRYAY	GLYEVATAEN	..DYGP....	.....Q	PGEKLIFAKR
melo	AVSYSRVAY	GLYEVATAEN	..AFGP....	.....E	PGEKLIFADA
cacr	AVSYNPDIPIY	SVFEVTALEE	GLEFEPWA..	.....K	PGDRLIADK
hepy26695	AIALKKDAVY	ALTQKG....	.....	.....	...YLVAKA
hepyj99	AIALKKDAVY	ALTQKG....	.....	.....	...YLVAKA
caje	AIALNPENY	VITKEG....	.....	.....	...LIFASA
thma	GIALHPDYEY	SVVKVGE...	.....	.....	..EKWVIATD
fepe	AIALHPDYTY	VKIKVDE...	.....	.....	..EYWIVAEG
aqae	GIMVKEDADY	VLVEVED...	.....	.....	..EYWIVAKE

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mask	**.....	.....	.....	.....	.....**
stau2	LINSIITEKY	EIID.....	.....	.....	....TFSGS
bace2	RVQDVLKEDY	EVLS.....	.....	.....	....VHKGE
baan2	RVQDVLKENY	EVLS.....	.....	.....	....VHKGE
ocih	LANTVLGEAY	EVVE.....	.....	.....	....EVSGE
clpe	LAPKVLGEGF	EIVR.....	.....	.....	....EFKGE
clac	LLTVLEGE.Y	EVVS.....	.....	.....	....EFKGE
cldi	LADKVLGEDY	EVLE.....	.....	.....	....EMK GK
pogi	VVLGKPLLHT	LFNPKG....	..ECEEIPA	SYDPAQKLLP	YKVIASWK GK
bafr	VVLAKALLNA	HFNPK....	..AAELKLE	DYKAGDKLVP	FKVIAEYK GP
feac	TVQSLFKDAK	ILKT.....	.....	.....	....IKGK
thvo	RAQYIFKDFK	VLKK.....	.....	.....	....MKGF
thnw	RAGYIFKEYR	EIRR.....	.....	.....	....MHGR
cyhu	VILAKALLGK	YFSEK....	..AKDLSLE	AYKDGD KLIP	FKILQSYK GK
chte	ESRLSVLVEK	IGDES.....	.....	.....A	WEVIDRCKGS
dera	AVERLSALHK	DAAPL....	.....	.....	..EVLARFKGR
stco	LLAKALGEGW	ETTG.....	.....	.....	....QSFTGA
thth	LGRKLLGEGT	QVLK.....	.....	.....	....TFPGK

deet	RLSALKLAEN	PVAG	.....	.....	.....	.....	ECLGS
anga	RIESLLKGP	.	.....	.....	.....	EN	YTILESFPGS
drme	RLSYVYKSE	.	.....	.....	.....	TE	YEVKEKFBVGK
hosa	RLSALYKLE	.	.....	.....	.....	SD	YEILERFPGA
cael	RLGELKN	...	.....	.....	.....	DN	LEVIEKLAGS
asfu	LLRTLYKDPK	K	.....	.....	.....	AK	FKIVDRFKGV
scpo	CLGILYKNPK	K	.....	.....	.....	AN	FEILERFQ GK
sace	LIKTLYKKPK	N	.....	.....	.....	EK	YKIVEKIKGS
ledo	RLAEVYPKKD	NKKASKAKDG	DN	.....	..	AAEADAAP	YTVVEKVKGA
lema	RLAEVYPKKD	NKKASKAKDG	DN	.....	..	AAEADAAP	YTVVEKVKGA
arth	RLSALPTDKP	KAKLSNGPAG	DTKKANPKAK	GAKPESAADS	YEVLEKFNGA		
teth	RLPELYKKD	K	.....	.....	.....	DG	YKILEKFKGS
encu	RIGEYFKDA	.	.....	.....	.....	.	RILQRVSGR
nolo	RVNVYFKDA	.	.....	.....	.....	.	VVISEVKGH
plfa	RLEWIMKELK	WN	.....	.....	.....	VEN	IKIVNRF LGS
plyo	RMEWVIKELR	LK	.....	.....	.....	IEN	ICLLNRFK GK
chtr	SLPRWFPDR	.	.....	.....	.....	ES	YEWIGQLSGK
chmu	SLARWFPDR	.	.....	.....	.....	ES	YKWIGQLSGE
chpn	CVSRWF SNP	.	.....	.....	.....	EE	FVILESFSGK
trde	RLEAYFAKSG	KEE	.....	.....	.....	AKE	YKLIWTKKGA
trpa	RLEFYYPDSS	.	.....	.....	.....	A	YRVVWEKRG E
bobu	KLNSYYDDEN	.	.....	.....	.....	S	YTIIEKFKGS
myle	RLTAYARELG	D	.....	.....	.....	E	PEVLATYRGA
mytu	RLAAYARELG	E	.....	.....	.....	E	PVVLGTYRGA
codi	LVGAYAKELG	E	.....	.....	.....	D	HEVLTVRPGS
ripr	SVAKYAKELG	L	.....	.....	.....	SG	KENFEI IKGL
rico	SVSKYAKELG	L	.....	.....	.....	SG	EENFEI IKGS
psfl	CLGGLFDEP	.	.....	.....	.....	.	VILERTCTGA
suso	RVEAVMKEAS	.	.....	.....	.....	ITN	YKILRTYKGS
aepe	RLDHVMREAG	.	.....	.....	.....	VSE	YEVLEV LKGS
arfu	LADSVLGKGD	.	.....	.....	.....	YDS	WEVVETYLGE
meba	LIENVLRQGR	.	.....	.....	.....	YVD	YEVLETMLGE
meth	LVEKVLG	...	.....	.....	.....	EE	AEI IKTVRGS
pyho	LVDKVLGEIG	.	.....	.....	.....	VKG	EVIEEFKGR
pyfu	LVEKVLGDIG	.	.....	.....	.....	VKG	EVVEEFK GK
pyab	LVDKVLGEIG	.	.....	.....	.....	VKG	EVVEEFK GR
meja	LVEEVINKAK	KFHN	.....	.....	.....	IKN	YKIIKKVK GK
haNRC	CVEDVLSAGG	.	.....	.....	.....	YSD	HEIVADHSGS
pyba	LVP SLMAKFG	.	.....	.....	.....	IKT	WRVVETK KGV
bacel	LFETVAKTLE	WENA	.....	.....	.....	.	EVVKT VKGS
baan1	LFETVAKTLE	WENA	.....	.....	.....	.	EVVKT VKGS
bast	LAESVAKEIG	WDAW	.....	.....	.....	.	SVVKT VKGK
basu	LVENVASACG	FDQY	.....	.....	.....	.	EVTRTVK GK
baha	LVETLESALE	WENP	.....	.....	.....	.	EILRTIKGV
limo	LLPSLREKLG	FEDA	.....	.....	.....	.	TVVKT VRGS
liin	LLPSLREKLG	FEDA	.....	.....	.....	.	TVVKT VRGS
stau	LSDAVAEALD	WDKAS	.....	.....	.....	.	IKLEKEYT GK
stpy	LLDSLAKFG	WESF	.....	.....	.....	.	ETLASHKGA
stmu	LLSELAERFA	WDNP	.....	.....	.....	.	QVLATHKGI
stpn	LLTSLSEKFG	WADV	.....	.....	.....	.	QVLETYR GQ
lala	MLEAVAEKLE	WENP	.....	.....	.....	.	EVLQTIKGS
enfa	LLTTVKEAIG	WEEV	.....	.....	.....	.	EVLREFS GE

syne	LVEKLSETFG	VKLT	.....	.....	.....	..VKVTLQGE
arthchl	LVPALEAKWG	VKLS	.....	.....	.....	..ISKTFLLGS
prma	LISEICEKLD	REFN	.....	.....	.....	..VLLDVKGS
mypu	LLEKVMEIFG	VQKY	.....	.....	.....	..KVVDTFKGK
myge	LFEVFTNKLN	WTNA	.....	.....	.....	..IKLKKFKGS
mypn	LFESLKTTFG	WTDA	.....	.....	.....	..IQVQTISGS
urur	LVETFVKKVG	FEDY	.....	.....	.....	..KWIKDFKAN
saty	LVESVIQRIG	AAE	.....	.....	.....	YTILGTVKGA
esco	LVESVMQRIG	VTD	.....	.....	.....	YTILGTVKGA
yepe	LVESVMKRAG	ITQ	.....	.....	.....	WAVLGSTGTS
vich	LAKSVMDRAG	IEH	.....	.....	.....	FHNLGFATGA
hain	LVESVAKAVG	IEH	.....	.....	.....	IEILGSVKGD
acac	LVEDMVKAVG	VEK	.....	.....	.....	VEILGSAK GK
pamu	LVEEVAKAAG	VEQ	.....	.....	.....	VVILGESK GK
psae	LVESCLARYQ	REG	.....	.....	.....	..KVVATAKGE
psfl_1	MVESCLARYE	LQG	.....	.....	.....	..SVIATATGS
xyfa	LAAKALARYG	IAE	.....	.....	.....	LLIHGSAKGA
neme	LAEDALKRYG	FSDG	.....	.....	.....	IAILAETTD
buAPS	LVEKTLNNTLK	IKK	.....	.....	.....	SIIRNYVKGR
agtu	LADEAAAKAK	LTFK	.....	.....	.....	..FVRDVKSE
sime	LADESAAKAK	VTFN	.....	.....	.....	..FVRDIEAG
melo	LAAESQAKAK	ITLK	.....	.....	.....	..RLHHVSAE
cacr	LAEDVFKAAG	VAS	.....	.....	.....	..WKTVEAV
hepy26695	LHEKLAALGV	VDN	.....	.....	.....	..EITHEFNSN
hepyj99	LHEKLAALGV	VDN	.....	.....	.....	..AITHEFNSN
caje	LLKSMVEKGL	TSG	.....	.....	.....	..EIQKELNAK
thma	LLDAFSKETG	IDCS	.....	.....	.....	..NVVEKIKGK
fepe	LLQKFAADVG	IDF	.....	.....	.....	..EVVEKFV GK
aqae	LMDKFFETVN	RPEG	.....	.....	.....	..LVLETVKGK

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mask	*****	*	.....	.....	.....	*****
stau2	NLNLNKYIPP	FE	.....	SDGLVN	.....	AYYV VDGEFVTNSE
bace2	ELVNTSYTAP	FP	.....	MKEVTN	.....	GYHV IAADFVTADS
baan2	ELLNISYTAP	FP	.....	MKEVTN	.....	GYRV IGADFVTADS
ocih	DLVGINYEAP	FD	.....	FISLDN	.....	GHYV IGADFVTDTS
clpe	ELLGMEYEQL	LP	.....	FVTPTE	G.....	KAFVV VHGDYVTLSD
clac	KLLGMEYEQL	FK	.....	FANPDK	.....	KAFYV VHGDYVTLSD
cldi	DLEGLEYEQL	MP	.....	FVEVDK	.....	KAFFI TVGDYVTTED
pogi	ELEGMRYEQL	IP	.....	WVNPGE	G.....	AFRV ITGDFVTTED
bafr	DLVGMEYEQL	IP	.....	WVNPGE	G.....	AFRV ILGDYVTTED
feac	DLVGTHYEQL	MP	.....	FLHVSK	N.....	ALQV VPGDFVTAED
thvo	ELAGKGYEQL	LP	.....	FLDPPA	G.....	ALRV VTGDFVTDID
thnw	DLVGKRYLQL	MP	.....	FLDPPS	G.....	SLKV VAGSFVTTED
cyhu	DLVGIEYEQL	MP	.....	YLPQET	P.....	AFRV IAGDFVSTED
chte	DLEGRDYEPL	FN	.....	YFSPER	R.....	AWYV VCGDFVSTGE
dera	DLEWVEYEPP	FPEVASQLGV	VS	ELHERRD	GK..	PVLHFV VMADFVSDVD
stco	EMERWTYQRP	F	.....	ELVEFPE	P.....	AHYV VNADYVTTED
thth	ALEGLPYTPP	YP	.....	QALEK	G.....	YFV VLADYVSQED
deet	DLSGLFYKPL	FDPREFGIPV	RN	MQDNSET	GVSEELLYPV	ITTSYVSMDD
anga	KLVGVRYEPL	FDYFRK	....	Y...ES	V.....	GFRV LTDTYVTEES
drme	TLKDLHYKPL	FPYFAK	....	RGAEV	K.....	AYRV LVDEYVTEES



hosa	YLKGGKYRPL	FDYFLK....	....CK..EN	G.....	AFTV	LVDNYVKEEE
cael	QLKDLRYEPL	FPYFAY....	....MRE.ER	N.....	AFRV	LNDFVTSDS
asfu	DMKDWKYQPL	FDYFYE....	....EFK.DH	.....	GFRV	INGDYVSAED
scpo	ALDGQKYEPL	FPYFKS....	....TFG.ER	.....	AFKL	YSADYVEEGS
sace	DLVGLKYEPL	FPYFAE....	....QFH.ET	.....	AFRV	ISDDYVTSDS
ledo	QLVGEKYVPL	FPYFES....	....SMS.AT	.....	AFRV	ISGTYVTTDA
lema	QLVGEKYVPL	FPYFES....	....SMS.AT	.....	AFRV	ISGTYVTTDA
arth	SLVGKKYEPL	FDYFS.....	....DFS.SE	.....	AFRV	VADDYVTDDS
teth	ELVGREYEPL	FPYFLS....	....RKQ.DG	.....	CFRI	LAGDFVTADA
encu	ELEGLYEYQP	FDYFEE....	....YR..KK	G.....	FFRV	LASGFVTDTD
nolo	ELLHLEHDQP	FMYYNH....	....YR..EK	G.....	FFRV	YHADVFSEID
plfa	ELKELKYKPL	FTNFYE....	....KHNFKE	R.....	AYKI	IADDFVSDDA
plyo	YLNGLKYKPL	FNHFYE....	....KFNFK	N.....	AYRI	LCDEFVTNTV
chtr	SLVQSYEPL	FPYFQD....	....KK..EL	E.....	AFRI	LPADFIEESE
chmu	SLVGRRYCPL	FPYFQD....	....QQ..DR	G.....	AFRV	IPADFIEESE
chpn	DLVGRTYEPP	FTFFQS....	....KR..EE	G.....	AFRV	IAASFVEESE
trde	ELEGLRYEPL	FPYFKNLAAD	ENGKNAEAGQ	G.....	AFRV	LIGDFVTTED
trpa	HLAGIRYRPL	FSYPVFGQGP	DPSVQGDSEE	G.....	LFCT	RVADVFSTED
bobu	KLEGIEYEPI	FNYFLE....	.....QKDK	G.....	AFKV	HTADYVTTDD
myle	DLLGRHYLPP	FQYFYESAR.	.....N.	.....	AFQV	LPGDFVTTDD
mytu	ELLGTRYLPP	FAYFMDWP..	.....N.	.....	AFQV	LAGDFVTTDD
codi	ELVGLTYQPI	FSYFADHE..	.....N.	.....	AFQI	LAAEYVTTED
ripr	KLQGLSYKPL	FNYFENHP..	.....N.	.....	SFKI	FASDFVVEGD
rico	ALQGLNYKSL	FDYFENHP..	.....N.	.....	SFKI	FAGDFVVEGD
psfl	ELAGLRYLPV	VGEVIDAS..	.....	.....	AHRV	VTADFVQMGD
suso	ELIGIKYEHP	LREFVS....	....AQTKL.	D...DFHQVV	DAGNIVTLTD	
aepe	QLEGLRYRHP	LEDVVD....	....AQREL.	S...KWHKV	MAPEAVTPHE	
arfu	DLEGLYEYHP	LADEVP....	....LQK...	....NWKHQV	FFADVFVAEN	
meba	DLTKLEYESP	VGDLVP....	....VQN...	....EIKHGI	YLADYVTAEN	
meth	ELEGLTYRHP	LDEEVP....	....CHR...	....DMEHRV	ILGDHVTLTE	
pyho	ELEGLRYIHV	LMDEYP....	....RQKEF.	REKYEWAHRI	ILADFVTTLEE	
pyfu	ELEGLRYVHI	LMDEYP....	....RQKEF.	REKYEWVHRV	ILADFVTTLEE	
pyab	ELEGLRYVHI	LMDEYP....	....RQKEF.	KEYEWAHRV	ILADFVTTLEE	
meja	ELEGIKYIHP	LLEENE....	....RQKEF.	AE.LENAHTV	ILGEHVTTLEG	
haNRC	DLIGWSYTPP	LADAVP....	....ANPTD.	A...DGTHEV	YHGDWVEADR	
pyba	ELAGVRYIHP	LAAEVP....	....ERAS..	....RPHQV	VTAEFVTTLEQ	
bacel	ELEYTVAKHP	FYDR.....	.....	....DSL	MLGDHVTTDA	
baan1	ELEYTVAKHP	FYDR.....	.....	....DSL	MLGDHVTTDA	
bast	ELEYVVAKHP	FYER.....	.....	....DSL	VCGEHVTTDA	
basu	DLENIIEAHP	LYGR.....	.....	....DSL	MLGEHVTTDA	
baha	DLEYVVAEHP	IYGR.....	.....	....DSL	VLGDHVTLDA	
limo	ELDRVVTKHP	FYDR.....	.....	....DSL	MNGEHATAEA	
liin	ELDRVVTKHP	FYDR.....	.....	....DSL	MNGEHATAEA	
stau	ELEYVVAQHP	FLDR.....	.....	....ESL	INGDHVTTDA	
stpy	DLEYIVTEHP	WDTDV.....	.....	....EEL	ILGDHVTTLES	
stmu	ELDRIVTIHP	WDDNV.....	.....	....EEL	MNGDHVTTLDS	
stpn	ELNHIVTEHP	WDTAV.....	.....	....EEL	ILGDHVTTDS	
lala	ELEYMVAKHP	FYDR.....	.....	....ETL	MNADYVTTLDS	
enfa	KLDRMTAQHP	FYDR.....	.....	....TSL	MLGDHVTLDA	
syne	SLENTCYQHP	LFDRV.....	.....	....SPI	IGGDYVTTES	
arthchl	DLENCYRYTHP	IDNRD.....	.....	....CPV	IGGDYITTES	
prma	LLEGLYKHP	TKNKF.....	.....	....CNIV	IGGDYITTES	

mypu	NLLGVEYQRP	IKTDL.....	.....	.....	FGIV	VAGYHVSIDA
myge	NLKNSSYSHC	FYNK.....	.....	.....	VLPV	LMGIHVVDNE
mypn	QLQNTTYKHC	LYDK.....	.....	.....	VNPV	LLGNHVLKNE
urur	TLEKIKYISP	ISKK.....	.....	.....	HAFV	IMDEYVSAND
saty	ELELLRFTHP	FM.....	.....	.....	GFDVPA	ILGDHVTLDA
esco	ELELLRFTHP	FM.....	.....	.....	GFDVPA	ILGDHVTLDA
yepe	DLELLRFTHP	FM.....	.....	.....	GFDVPA	ILGDHVTLDA
vich	DLELVQFQHP	FY.....	.....	.....	SFTVPA	ILGDHVTTDS
hain	DLELSRFHHP	FY.....	.....	.....	DFTVPV	ILGDHVTTDG
acac	DLELFRFHHP	FY.....	.....	.....	NFTVPI	ILGDHVTTDG
pamu	DLEWLRFQHP	FY.....	.....	.....	DFSVPF	ILGDHVTTDG
psae	ALELINFRHP	FY.....	.....	.....	ERLSPV	YLADYVALDA
psfl_1	ALELINFRHP	FY.....	.....	.....	DRLSPV	YLADYVELGS
xyfa	AMEQHILAHF	FYP.....	.....	.....	DRTIPL	LLGNHVSAED
neme	KLENLHMNHP	FL.....	.....	.....	ERDIPM	LNGDHVTTDA
buAPS	FLEKMICLHP	FLK.....	.....	.....	NIDLPA	ILGKHVTLES
agtu	ELAAITCAHP	LASLG.....	.....	.....	YDFPVPL	LDGDHVTTDDA
sime	ELAAITCAHP	LHGLGG.....	.....	.....	GYAFSVPL	LDGEHVTTDDA
melo	QLGNLVLVSHF	FKGLGG.....	.....	.....	GYEFPVPM	VAGDHVTTDDA
cacr	DCEGMVLAHP	LADLDS.....	.....	.....	HYGYAVPM	LAGDHVTTDDA
hepy26695	DLEYLVATNP	LN.....	.....	.....	QRDSLVA	ALGEHVGLED
hepyj99	DLEYLVATNP	LN.....	.....	.....	QRDSLVA	VLGDHVSLED
caje	EFEKLEAINP	LN.....	.....	.....	GRKSVL	IMGEHVLMDG
thma	DLEGKEFVHP	IFDD.....	.....	.....	RTSRV	ILADYVSLET
fepe	ELEGKLTKHP	LYD.....	.....	.....	RTSVV	VLADYVTLED
aqae	DLVGLEYTHP	FVEKEKLGKH	LS.....	EETLKNMWKI	YPSEFVSLDT	

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mask	*****	*****	.....	.....	*****	.....
stau2	GTGIVHIAPA	HGEDDYQLV.	LERDLDFLNV	.....	ITREGVYNDR	
bace2	GTGLVHIAPA	YGEDDYRVV.	QSEGLSFLHV	.....	VDEKGEYTEA	
baan2	GTGLVHIAPA	YGEDDYRVV.	QSEGLSFLHV	.....	VDEKGEYTEA	
ocih	GTGIVHLNPA	HGEDDYNAI.	QAKGMDFVNV	.....	VDSKGRYEDV	
clpe	GTGIVHIAPA	YGEDDNLIG.	KQNGLAFLNL	.....	VDSLGNFVEE	
clac	GTGIVHIAPA	YGEDDNMLG.	KKYDLPLINL	.....	VNGEGKFVDE	
cldi	GTGIVHTAPA	FGEDDYNTG.	KRYDLPVIQP	.....	VDETGKFTS.	
pogi	GTGIVHIAPT	FGADDDRVA.	KKSGVPPLML	RDKEGNMRPM	VDLAGRYF.P	
bafr	GTGIVHIAPT	FGADDAQVA.	KAAGIPPLQL	VNKKGELRPM	VDLTGKIFY.T	
feac	GTGIVHAAPA	FGADDFDIA.	KEYNVSLINP	.....	VDSEGKFDN.	
thvo	GSGIVHAAPA	FGSDDYQIG.	KRENVPIINP	.....	VDKNGRFSDE	
thnw	GSGIVHAAPA	FGADDYQIG.	KEEGVEILNP	.....	VDKNGRFADP	
cyhu	GTGIVHIAPT	FGADDARVA.	KLAGIPSIVT	KDDRGNEYPL	VDKRGRFTKE	
chte	GTGIVHIAPA	FGADDYELS.	KQYQLPMLQP	.....V	AR.NGCFAT	
dera	GSGVAHEAPA	YGAEDLEVA.	RAYGVPLMFG	.....	VDDHG..ILQ	
stco	GTGLVHQSPA	FGEDDLKVC.	RAYGLPVVNP	.....	VRPDGTFEED	
thth	GTGIVHQAPA	FGAEDLETA.	RVYGLPLLKT	.....	VDEEG..KLL	
deet	GTGIVHTAPA	YGELDYESG.	VKYGLKFVHH	.....	VDLQGRITGS	
anga	GTGVVHQAPY	FGEDDYRVC.	LANGVIK.RD	...QEIVCP	VDASGKFVEP	
drme	GTGIVHNAPY	FGEDDYRVC.	LAAGLIT.KS	...SEVLCV	VDEAGRFTNE	
hosa	GTGVVHQAPY	FGAEDYRVC.	MDFNIIR.KD	...SLPVCP	VDASGCFTTE	
cael	GTGVVHQAPY	FGEIDFQVC.	VANGVIA.KD	...QKMICV	VDESGKYTSE	
asfu	GTGIVHQSPA	FGEDDYNVA.	MASGVIS.ET	...RLPPNP	VDEKGCFTAE	

scpo	GTGIVHQAPA	FGEADYDAA.	WAAGIID.AD	....HQPPCP	VDEQGLLTSE
sace	GTGIVHNAPA	FGEEDNAAC.	LKNGVIS.ED	....SVLPNA	IDDLGRFTKD
ledo	GTGIVHQAPA	FGEDDYQAC.	IDAGIFE.KG	....GKFVCP	VDENGMFTSE
lema	GTGIVHQAPA	FGEDDYQAC.	IDAGIFE.KG	....GKFVCP	VDENGMFTSE
arth	GTGIVHCAPA	FGEDDYRVC.	LLNKIIK.KG	....ENLVVA	VDDDGLFTE
teth	GTGIVHCAPG	FGDDDYKVS.	VANNIIK.PD	....D.PPVP	VDENGHFTNV
encu	GTGVVHCAPG	FGECDYNAF.	VEKGLIR.EN	....DLVPCP	VDENGRYTSE
nolo	GTGVVHCSPG	FGEDDYKAM.	TMPGLIK.EN	....ELLPSP	LDENGRFNEE
plfa	GTGIVHCAPS	YGEDDYRVC.	CKYGIIDPES	....NILIDP	LDWNGYFTNE
plyo	GTGIVHCAPT	YGEDDFRVC.	EKNKIINPEK	....SIFIDP	LDSNGYFTNE
chtr	GTGIVHMAPA	FGEADFFAC.	QEHNVP....	.....LVCP	VDNQGCYTAE
chmu	GTGVVHMAPA	FGEADFFAC.	QEHNVP....	.....LVCP	VDNQGCFTSE
chpn	GTGVVHMAPA	FGEGDFLVC.	KENHVP....	.....LVCP	VDAHGSFTEE
trde	GTGIVHTAPG	FGEDDNRIF.	KDTG.VP...	.....TVCP	VDAECKFTHE
trpa	GTGVVHVAPA	FGEDDYEVF.	KDAG.IS...	.....IQCP	LDAEGRFTAE
bobu	GTGIVHIAP.	FGEEDYRIL.	KKHTNVD...	.....IIDP	LDAECKFTNQ
myle	GTGIVHIAPA	YGEDDMATA.	DKVGIVP...	.....VTP	VDSNGCFDAT
mytu	GTGIVHMAPA	YGEDDMVVA.	EAVGIAP...	.....VTP	VDSKGRFDVT
codi	GTGIVHQAPA	FGEDDMNTC.	KEYGIEV...	.....VIP	VDMDGKFTSL
ripr	GTGIVHMAPG	FGEDDQILC.	ESKGIEL...	.....VCP	VDNSGKFTKE
rico	GTGVVHMAPG	FGEDDQILC.	ESKGIEL...	.....VCP	VDNSGKFTKE
psfl	GSGIVHIAPA	FGEDDALLG.	QQYELPA...	.....PNP	VRDDGTFSDA
suso	GTGLVHSATG	HGEEDFTVG.	QKYGFPVVMF	.....	VNDRGEFTEE
aepe	GSGLVHSAPG	HGTIDYEIA.	QRIGAPVVSL	.....	VDERGFMTEA
arfu	.TGCVHIAPG	HGVEDYELG.	VEKGLEVFNP	.....	VDDRGVYTEE
meba	.TGCVHIAPG	HGMDDFNVG.	VKYNLPIPCP	.....	VGPNGAYTEE
meth	GTGCVHTAPG	HGPEDFEIG.	KEYGLPVFCP	.....	VDEAGVFTED
pyho	GTGLVHTAPG	HGEEDFEVG.	KKYGLPIYSP	.....	VDDQGRYVEG
pyfu	GTGLVHTAPG	HGEEDFEVG.	QKYGLPVYSP	.....	VDDQGRYVEG
pyab	GTGLVHTAPG	HGEEDFEVG.	QKYGLPVYSP	.....	LDDQGRYVEG
meja	GTGLVHTAPG	HGEEDFEVG.	KKYNLPIYSP	.....	IDDEGRYVEG
haNRC	.TGLVHSAPG	HGEEDFERG.	AELDLPVFCP	.....	VGEDGVYTD
pyba	GTGLVHIAPG	HGPEDFELA.	KKYGLPVTNS	.....	VEINGIYNEL
bacel	GTGCVHTAPG	HGEDDFIVG.	KKYGL.....	.....EVLCP	VDDKGVLTTE
baan1	GTGCVHTAPG	HGEDDFIVG.	KKYGL.....	.....EVLCP	VDDKGVLTTE
bast	GTGCVHTAPG	HGEDDFLVG.	QKYGL.....	.....PVLCP	VDERGYMTEE
basu	GTGCVHTAPG	HGEDDFIIG.	QKYGL.....	.....DVLCP	VDEKGVMTSE
baha	GTGCVHTAPG	HGEEDYIVG.	QKYGL.....	.....DVLCP	VDDKGYMTAE
limo	GTGAVHTAPG	HGEDDFLIG.	KKYDL.....	.....EILAP	LDDRGVFTEE
liin	GTGAVHTAPG	HGEDDFLIG.	KKYDL.....	.....EILAP	LDDRGVFTEE
stau	GTGCVHTAPG	HGEDDYIVG.	QKYEL.....	.....PVISP	IDDKGVFTEE
stpy	GTGIVHTAPG	FGEDDYNVG.	TKYKL.....	.....EVAVT	VDERGLMMEN
stmu	GTGIVHTAPG	FGEDDYNVG.	VKYGL.....	.....DVVVT	VNERGIMMEN
stpn	GTGIVHTAPG	FGEDDYNVG.	IANNL.....	.....EVAVT	VDERGIMMKN
lala	GTGLVHVAPG	HGEDDYFAS.	RKYKL.....	.....PVLSP	IDNRGYTDE
enfa	GTGLVHTAPG	HGEDDYIVS.	RKYDL.....	.....PVISP	VDSRGVFTDE
syne	GTGLVHTAPG	HGQEDYVVG.	QRYGL.....	.....PILSP	VDAAGNLTEE
arthchl	GTGLVHTAPG	HGQEDYATG.	LKYGL.....	.....PLVSP	VDDEGKFTEE
prma	GTGIVHTAPG	HGMDDFNVG.	QKYQL.....	.....PITCI	VDEKGNLNKH
mypu	GTGLVHMAPL	FGEDDFIIG.	QENEL.....	.....DQIMH	INDDGSINSE
myge	GTGIVHSSPA	FGIDDFYLC.	QKNKIK....	.....EVLIS	IDDEKGVFNNL
mypn	GTGLVHTSPA	YGLDDFYLC.	KQNKLN....	.....EALVS	LDEKGVFNDT

urur	GTGLVHNAPA	FGLEDYYAC.	KKYGI.....	.....	ETVVM	IDQFGKYNAL
saty	GTGAVHTAPG	HGPDDYVIG.	QKYGL.....	.....	ETANP	VGPDGAYLPG
esco	GTGAVHTAPG	HGPDDYVIG.	QKYGL.....	.....	ETANP	VGPDGTYLPG
yepe	GTGAVHTAPG	HGPDDFVIG.	QKYGL.....	.....	EVANP	VGPNGCYLAG
vich	GTGVVHTAPG	HGQEDFAVG.	QQYGL.....	.....	EVANP	VGSNGVYLPD
hain	GTGLVHTAPD	HGLDDFIVG.	KQYDL.....	.....	PMAGL	VSNDGKFIST
acac	GTGLVHTAPN	HGLDDFIVG.	KQYDL.....	.....	PMAGL	VTNDGKFISS
pamu	GTGLVHTAPD	HGHDDYIIA.	QKNGI.....	.....	EMAGL	IGNDGLFKAD
psae	GTGIVHSSPA	YGEDDFYTC.	KRYGMS....	...NDDILSP	VQSNQVYVDS	
psfl_1	GTGIVHCSPA	YGVDDFVIC.	KKYGMV....	...NDDIINP	VQSNQVYVPS	
xyfa	GTGAVHTAPG	HGQEDHQVF.	QQYGLLNH..	..YSAAELNP	VDARGVYLPD	
neme	GTGLVHTAPA	HGLEDYAVC.	NKYGI.....	.....	ELYNP	VNAEGRYIGE
buAPS	GTGAVHTAPD	HGLEDYIIS.	QKYNL.....	.....	KTSNI	VNFKGEYISN
agtu	GTGFVHTAPS	HGREDFDAW.	TNSVRTLEAR	G.IDTKIPFP	VDDAGFYTED	
sime	GTGFVHTAPS	HGREDFEAW.	MDNVRLLEER	G.ISSTIPFP	VDDAGYFTAD	
melo	GTGFVHTAPG	HGREDFDAW.	MDAAPQLRAR	G.IDTVIPFT	VDDAGFFTRD	
cacr	GTGFVHTAPG	HGADDYQVW.	LAHG.....	...HREIPDT	VDPDGAYYPH	
hepy26695	GTGAVHTAPG	HGEEDYYLG.	LRYNL.....	.....	EVLMS	VDEKGCYDEG
hepyj99	GTGAVHTAPG	HGEEDYYLG.	LKYHL.....	.....	EVLMS	VDEKGCYDEG
caje	GSGLVHTAPG	HGEDDYIAC.	LKYGI.....	.....	EVLMP	VDDSGCYDET
thma	GTGCVHIAPG	HGEEDYIYGH	VQYGL.....	.....	PIVSP	VDEEGRFTEE
fepe	GTGCVHTAPG	HGEEDYQTG.	LKYNL.....	.....	PVLSP	VDDEGRFTKE
aqae	GTGLVHMAPG	HGQEDYVVG.	QRYGL.....	.....	EPYAP	VSDEGRFVEP

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mask	.....	.....**	*.....	.....	.....	.....
stau2	F.....	.....PELVG	NKAKNS....	.....	.....	.....
bace2	V.....	.....PFLKG	KFVKDS....	.....	.....	.....
baan2	V.....	.....PFLKG	KFVKDC....	.....	.....	.....
ocih	I.....	.....APLAG	QFVKDS....	.....	.....	.....
clpe	V.....	.....TPWAG	KFVKKC....	.....	.....	.....
clac	V.....	.....EPWKG	LFVKKA....	.....	.....	.....
cldi	.....	.....TPWEG	RFVMEDG..	.....	.....	.....
pogi	T.....	.....TDLDP	VFVEKHMDLP	LYDVYAGRYV	KNAYDAGKTE	
bafr	L.....	.....DELDE	DFIKQRVND	LYKEYAGRFB	KNAYDPNLS	
feac	S.....	.....VPWKD	KFVMD....	.....	.....	.....
thvo	R.....	.....LPWYG	KKPRE....	.....	.....	.....
thnw	R.....	.....IPWNG	KFVRD....	.....	.....	.....
cyhu	V.....	.....TDFAG	EYVKEAYLTD	EEKEAER..V	KQGRDKYLS.	
chte	V.....	.....PDYEG	MFFKD....	.....	.....	.....
dera	V.....	.....THEQG	KFFKD....	.....	.....	.....
stco	V.....	.....PLVGG	VFFKK....	.....	.....	.....
thth	V.....	.....EPFKG	LYFRE....	.....	.....	.....
deet	Y.....	.....PF.AG	KFVKE....	.....	.....	.....
anga	V.....	.....TDFAG	QYVKD....	.....	.....	.....
drme	A.....	.....SDFEG	QYVKD....	.....	.....	.....
hosa	V.....	.....TDFAG	QYVKD....	.....	.....	.....
cael	V.....	.....PDYQG	VYVKD....	.....	.....	.....
asfu	V.....	.....PDFVG	QHVKA....	.....	.....	.....
scpo	I.....	.....TDFAG	QYVKD....	.....	.....	.....
sace	V.....	.....PDFEG	VYVKD....	.....	.....	.....
ledo	V.....	.....TDFAG	KYVKE....	.....	.....	.....

lema	V.....	.....	TDFAG	KYVKE.....	.....	.....
arth	I.....	.....	THFSG	RYVKD.....	.....	.....
teth	V.....	.....	SDFAG	VYIKE.....	.....	.....
encu	V.....	.....	RRYAG	RYVKD.....	.....	.....
nolo	V.....	.....	PEYKG	MHVKD.....	.....	.....
plfa	V.....	.....	EELKD	MYIKD.....	.....	.....
plyo	I.....	.....	KEVEN	MYIKD.....	.....	.....
chtr	V.....	.....	KDFVG	EYIKS.....	.....	.....
chmu	V.....	.....	TDFVG	EYIKF.....	.....	.....
chpn	I.....	.....	PQYQG	QYIKH.....	.....	.....
trde	V.....	.....	SDYQG	LFVKD.....	.....	.....
trpa	V.....	.....	ADYQG	LFVKA.....	.....	.....
bobu	V.....	.....	KDFKG	LFVKD.....	.....	.....
myle	V.....	.....	PDYQG	QHVFE.....	.....	.....
mytu	V.....	.....	ADYQG	QHVFD.....	.....	.....
codi	V.....	.....	PEYQG	QLVFD.....	.....	.....
ripr	I.....	.....	PDLEG	VQVFD.....	.....	.....
rico	I.....	.....	PDLEG	LQVFD.....	.....	.....
psfl	V.....	.....	AQYAG	QNIFE.....	.....	.....
suso	G.....	.....	GKYKG	LKVR.....	.....	.....
aepe	A.....	.....	GKYSG	LYFRG.....	.....	.....
arfu	A.....	.....	GKYAG	KHVK.....	.....	.....
meba	A.....	.....	GEYAG	KNVR.....	.....	.....
meth	A.....	.....	GKYRG	LFVK.....	.....	.....
pyho	.....	.....	KWKG	IYVK.....	.....	.....
pyfu	.....	.....	KWKG	VYVK.....	.....	.....
pyab	.....	.....	KWKG	IYVK.....	.....	.....
meja	.....	.....	KWKG	VFVK.....	.....	.....
haNRC	G.....	.....	GKYAG	AFVR.....	.....	.....
pyba	G.....	.....	GRYKG	KHVY.....	.....	.....
bacel	A.....	.....	PGFEG	L...F.....	.....	.....
baan1	A.....	.....	PGFEG	L...F.....	.....	.....
bast	A.....	.....	PGFEG	M...F.....	.....	.....
basu	A.....	.....	PGFEG	M...F.....	.....	.....
baha	A.....	.....	PGFEG	L...F.....	.....	.....
limo	A.....	.....	PGFEG	V...F.....	.....	.....
liin	A.....	.....	PGFEG	V...F.....	.....	.....
stau	G.....	.....	GQFEG	M...F.....	.....	.....
stpy	AG.....	.....	PDFHG	Q...F.....	.....	.....
stmu	AG.....	.....	PDFEG	Q...F.....	.....	.....
stpn	AG.....	.....	PEFEG	Q...F.....	.....	.....
lala	A.....	.....	PGLEG	L...L.....	.....	.....
enfa	A.....	.....	PGFEG	I...F.....	.....	.....
syne	A.....	.....	GKFAG	LN...V.....	.....	.....
arthchl	A.....	.....	GQFRG	LS...V.....	.....	.....
prma	A.....	.....	EKFCG	LN...V.....	.....	.....
mypu	G.....	.....	DEFQG	L...F.....	.....	.....
myge	LND.....	.....	KELEN	C...F.....	.....	.....
mypn	LND.....	.....	PVLTG	L...F.....	.....	.....
urur	VND.....	.....	LELEN	M...F.....	.....	.....
saty	TYPT.....	.....	LDG	VN.....	.....	.....
esco	TYPT.....	.....	LDG	VN.....	.....	.....

yepe	TYPT.....	.....LDG	LF.....	.....	.....
vich	T.EL.....	.....FAG	QH.....	.....	.....
hain	T.EF.....	.....FAG	KG.....	.....	.....
acac	T.EF.....	.....FAG	KG.....	.....	.....
pamu	V.PF.....	.....FAG	KG.....	.....	.....
psae	L.PF.....	.....FGG	QF.....	.....	.....
psfl_1	L.EF.....	.....FGG	QF.....	.....	.....
xyfa	TPPFSE....	.....LTLAG	LH.....	.....	.....
neme	TPR.....	.....VAG	MR.....	.....	.....
buAPS	THDK.....	.....LDG	VN.....	.....	.....
agtu	APGFGPSAEG	GAARVMDDNG	KK.....	.....	.....
sime	APGFGPDAEG	GAGRVIDDKG	KK.....	.....	.....
melo	APGFGPDREG	GAARVIDDNG	KK.....	.....	.....
cacr	VALFAG....	..LKVLETEG	KKVGK.....	.....	.....
hepy26695	IIHNQLLD..	.....ESYLG	EH.....	.....	.....
hepyj99	IIHNQLLD..	.....KSYLG	EH.....	.....	.....
caje	LRAKGLLPS.	..HLLLEEFIG	LH.....	.....	.....
thma	AGKY.....	.....KG.	MF.....	.....	.....
fepe	AGKY.....	.....EG.	LK.....	.....	.....
aqae	APEF.....	.....LIN	VR.....	.....	.....

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mask	.....	.....	.....	.....*****	*****
stau2	.....DIEII	KLLSKKQ...	.....LLYKK	QKYEHNYPHC	WRCGNPLIYY
bace2	.....DVDIV	RYLAKEG...	.....LLYHK	EKYEHSYPHC	WRCDSPLLYY
baan2	.....DVDIV	RYLAKED...	.....LLYHK	EKYEHSYPHC	WRCDSPLLYY
ocih	.....DVDII	KMLAKDG...	.....TLYEK	QKYEHSYPHC	WRCDTPLLYY
clpe	.....DQQIV	DYLKEQN...	.....KLFKA	EKHTHSYPHC	WRCDTPLLYY
clac	.....DPKIL	EYMKENG...	.....TLYKS	EKFTHSYPHC	WRCDTPLLYY
cldi	....LDVEII	KWLASEN...	.....KLYSK	EKVVHNYPHC	WRCQTPLVYY
pogi	KDETLDELVC	VMLKMQN...	.....RVFRI	EKMTHNYPHC	WRTDKPVLYY
bafr	QDESLDVSIC	MMMKVNN...	.....QAFKI	EKHVHNYPHC	WRTDKPVLYY
feac	....VNPDI	GYLKENN...	.....LLFKS	QKIKHTYPFC	YRCGTKLLYY
thvo	....ANEDII	VYLKNNG...	.....LLIKS	EKYEHSYPFC	YRCDTPLLYY
thnw	....ANEDII	VYLKKNQ...	.....MLLKS	EKYEHSYPFC	YRCDTPLLYY
cyhu	....VDERIS	IKLKEAN...	.....RAFKV	EKYEHSYPHC	WRTDKPVLYY
chte	....ADKPIM	QRLKEEG...	.....KLYRR	ETIQHTYPFS	WRYDVPVIYY
dera	....ADKGLI	ADMKARG...	.....LMFWA	GTLKHRYPFH	DRTGDPILYF
stco	....ADEKLT	EDLETRG...	.....LLFKH	IPYEHSYPHC	WRCHTALLYY
thth	....ANRAIL	RDLRGRG...	.....LLFKE	ESYLHSYPHC	WRCSTPLMY
deet	....ADKDIS	RNLKERG...	.....LMFRN	ERMHHTYPFC	WRCDSPLIYY
anga	....ADKAI	KLLKERG...	.....RLVLA	SQVKHNYPFC	WRSDTPLIYK
drme	....SDKQIM	AALKARG...	.....NLVSS	GQVKHSYPFC	WRSDTPLIYK
hosa	....ADKSII	RTLKEQG...	.....RLLVA	TTFTHSYPFC	WRSDTPLIYK
cael	....ADKLII	KRLKEMG...	.....NLVRQ	AEVKHSYPFC	WRSDTPLLYK
asfu	....ADKAI	KHLKGTG...	.....RLIVD	SQITHSYPFC	WRSDTPLIYR
scpo	....ADKEII	RSLKASG...	.....HLVKH	SQIFHSYPFC	WRSDTPLIYR
sace	....ADKLII	KYLTNTG...	.....NLLLA	SQIRHSYPFC	WRSDTPLLYR
ledo	....ADPEII	KALETKG...	.....HLFHK	ASIVHSYPFC	WRSDTPLIYK
lema	....ADPEII	KALETKG...	.....HLFHK	ASIVHSYPFC	WRSDTPLIYK
arth	....ADKDII	EAVKAKG...	.....RLVKT	GSFTHSYPFC	WRSDTPLIYR
teth	....ADKLIR	KNLKERG...	.....LLLVD	SSFKHNYPC	WRSDTPLIYK

encu	....CDKAIL	SDIR..D...	.....KVL MN	QRIVHKYPFC	WRS DTPLLYK
nolo	....ADQSII	KDLG..K...	.....KILYE	GKVYHRY PFC	WRS DTPLIYK
plfa	....ADNVIK	KKLKENN...	.....RLMSN	NTIVHSYPFC	WRS DTPLIYR
plyo	....ADIVIK	KILKEQN...	.....RLLSN	NMIVHSYPFC	WRS DTPLIYR
chtr	....ADKGIA	RRLKNEN...	.....KLFYQ	GTVRHRY PFC	WRTDSPLIYK
chmu	....ADKGIA	RRLKNEN...	.....KLFYQ	GTIRHRY PFC	WRTDSPLIYK
chpn	....ADKEII	KFLKKEG...	.....RIFYH	GTVKHRY PFC	WRTDTPLIYK
trde	....ADKQIM	ERLKTEG...	.....KLFKK	AQILHSYPHC	WRCSSPLIYR
trpa	....ADKAI I	ARVQKQG...	.....ALFRR	EQISHAYPHC	WRCASPLIYR
bobu	....ADKKII	ENLKL RN...	.....FLFKR	ENYLHRY PFC	YRTNCPIIYR
myle	....ANAQII	RDLKNQSGSA	AVNGAVLLRH	ETYEHPYPHC	WRCRNPLIYR
mytu	....ANAQIV	RDLKTQSGPA	AVNGPVLIRH	ETYEHPYPHC	WRCRNPLIYR
codi	....ANKSII	ADLKAAG...	.....RVVRH	QTIEHSYPHS	WRS GEPLIYM
ripr	....ANDKII	IKLKEQG...	.....NWIKT	EQYIHNYPHC	WRTDTPLIYK
rico	....ANDKII	IKLKEQG...	.....NWLKT	EQYIHNYPHC	WRTDTPLIYK
psfl	....ATPRIL	ADLKSSG...	.....LLFKQ	EQIEHNYPHC	WRC DNPLIYR
suso	...DASKAI I	SDLKSKN...	.....TLFFE	GKIVHRY PVC	WRCKTPLL LR
aepe	...EANKAI V	EDLRARG...	.....ALFHA	ATIVHRY PVC	WRCKTPLL LR
arfu	...EANDDII	DDL YRKD...	.....LLLAE	ERIVHRY GHC	WRCKTPIIYR
meba	...EANPIVI	EDLRKRN...	.....RLLAE	GTVTHRY GHC	WRCKTPIIYL
meth	...DADSDII	DDLRSKN...	.....LLLRA	ETISHRY GFC	WRCKTPIIYL
pyho	...EADPQII	EHLKEKG...	.....YLVKA	GEIEHKYPHC	WRCKTPLIFR
pyfu	...EADPQII	EHLKEKG...	.....YLVKA	GEIEHKYPHC	WRCKTPLIFR
pyab	...EADPKII	EHLREKG...	.....YLVKA	GEIEHKYPHC	WRCKTPLIFR
meja	...DADAEII	ETLKNKG...	.....LLVYA	GKIKHSYPHC	WRCKTPLLFR
haNRC	...DANDDII	ADLEARD...	.....AMLAS	QTVEHSYGHC	WRC DTGIIQI
pyba	...DVDKEVT	RDLRSKG...	.....LLVFE	EKIRHEYPHC	WRC GSKLILR
bacel	.YDKANKPIT	EKLEEVG...	.....ALLKL	TFITHSYPHD	WRTKKPIIFR
baanl	.YDKANKPIT	EKLEEVG...	.....ALLKL	TFITHSYPHD	WRTKKPIIFR
bast	.YEDANKAIT	QKLEEVG...	.....ALLKL	GFITHSYPHD	WRTKQPTIFR
basu	.YDDANKAIT	QQLDEKG...	.....ALVKL	EFITHSYPHD	WRTKKPTIFR
baha	.YDEANKPIT	QKLDECG...	.....ALLKL	TFITHSYAHD	WRTKKPVIYR
limo	.YDTANKMVT	EKLEEVG...	.....ALLKM	EFITHSYPHD	WRTKKPVIIFR
liin	.YDTANKMVT	EKLEEVG...	.....ALLKM	EFITHSYPHD	WRTKKPVIIFR
stau	.YDKANKAVT	DLLTEKG...	.....ALLKL	DFITHSYPHD	WRTKKPVIIFR
stpy	.YNKVTPIVI	DKLG..D...	.....LLLAQ	EVINHSYPFD	WRTKKPIIWR
stmu	.YDKVLPTVK	EKLG..D...	.....LLLAS	EVITHSYPFD	WRTKKPIIWR
stpn	.YEKVPTVI	EKLG..N...	.....LLLAQ	EEISHSYPFD	WRTKKPIIWR
lala	.YDEGNKVVS	KWLEEKD...	.....ALLKL	EFFTHSYPHD	WRTKKPVIIFR
enfa	.YDKANPMIT	ELLEEKG...	.....ALLKL	DFFTHSYPHD	WRTKKPVIYR
syne	.LNDANEAI I	NALQDQK...	.....VLLKE	EAYEHKYPYD	WRTKKPTIFR
arthchl	.LGEGNTAVV	SYLDENM...	.....SLVME	ESYAHKYPYD	WRTKKPTIFR
prma	.LKDANDLII	EDLEKNN...	.....LLLLK	ENYKHRY PYD	WRTKKPTIFR
mypu	.YSSANIKIK	EFLEKND...	.....KVMFF	EYFTHSYPHD	WRTKKPIIFR
myge	.YLKANDLII	NRLKQNN...	.....SFIFS	EVISHREPHD	WRS KTPVIYR
mypn	.YLKANDVII	ERLKQHH...	.....NFVFS	ESFLHREPHD	WRS KTPVIYR
urur	.YEDANQVIL	NRLMNEH...	.....LLIHH	EVITHSVAHD	WRTKKPVMYR
saty	.VFKANDIVI	ELLKEKG...	.....ALLHV	EKMQHSYPCC	WRHKTPIIFR
esco	.VFKANDIVV	ALLQEKG...	.....ALLHV	EKMQHSYPCC	WRHKTPIIFR
yepe	.VFKANDVVV	ELLREKG...	.....ALLHV	EKLLHSYPCC	WRHKTPIIFR
vich	.VFKANDSVL	EVLKEKG...	.....ALLHH	HAYEHSYPHC	WRHKTPIIFR
hain	.VFEANPLVI	EKLQEVG...	.....NLLKV	EKIKHSYPHC	WRHKTPIIFR

acac	.VFEANPLVI	EKLQETG...	.....NLLKL	DKIKHSYPHC	WRHKTPIIFR
pamu	.VFESNDLVV	AKLQEVG...	.....AMLKF	SKIKHSYPHC	WRHKTPIIFR
psae	.IWKANPNVV	AKLEEVG...	.....SLLAH	ETINHSYMH	WRHKTPLIYR
psfl_1	.IFKADQPII	EKLREVG...	.....ALMQT	AAIQHSYMH	WRHKTPLIYR
xyfa	.IWKANPLIV	DALRLRG...	.....VLLAA	AEMHHSYPHC	WRHKTPIVFR
neme	.VWEANPVIL	QWLEETG...	.....NLLAS	SKIEHSYAH	WRHKTPLIYR
buAPS	.VLEANSIII	ELLIKNN...	.....TFFHH	ESLIHSYPHC	WRHKSPVIYR
agtu	..GDANERVI	KALIAAN...	.....NLFAR	GRLKHSYPHS	WRSKKPVIFR
sime	..GDANERVI	KALIGRH...	.....ALFAR	GRLKHSYPHS	WRSKKPVIFR
melo	..GNANQAVI	DELIKRN...	.....ALFAR	GRLKHSYPHS	WRSKKPVIFR
cacr	.FGPANGAVM	EKLIEAG...	.....NLLAR	GRVEHSYPHS	WRSKAPVIFR
hepy26695	.VFKAQKRII	EQLGDS....	.....LLEL	QEIEHSYPHC	WRTHKPVIYR
hepyj99	.IFKAQKRII	EQLGDS....	.....LLEL	REIEHSYPHC	WRTHKPVIYR
caje	.IFKANEEKIL	ELLGEG....	.....LLHS	SKFIHSYFPC	WRTHKPVIYR
thma	.IEDANEVII	EDLKRKG...	.....ILVHA	SSITHSYPH	WRCKGPVIFR
fepe	.IWDANKVIV	EDLKNGG...	.....SLIKA	GKISHSYPH	WRCKGPVMFR
aqae	.VFDANHLIV	GVLKEKG...	.....FLVHE	EKIRHSYPHC	WRCKNPVIFR

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mask	*****	.....	.....*****	.....*****	*****
stau2	AMEGWFIKTT	N.....	..FKNEII.N	NNNNIEWFPS	HIKEGRMGNF
bace2	AGESWLIRTT	A.....	..IKDTFL.Q	NNDTVTWYPD	HMKHGRFGKF
baan2	AGESWLIRTT	A.....	..IKDTFL.Q	NNDTVTWYPD	HMKHGRFGKF
ocih	AMEGWFIKTT	A.....	..VKERMQ.E	NNQSVWFN	HMRDGRFGNF
clpe	PKESWFVAMT	T.....	..LRDKLL.A	NNEKINWYPD	NIKNGRFGKF
clac	PRDSWFVRMT	S.....	..LRDKLV.E	NNNKIHWYPD	NIRTGRFGKF
cldi	AKPSWYIEMT	K.....	..LKDKLI.E	NNNGVKWFPS	FVGEKRFGNW
pogi	PLDSWFIRTT	A.....	..CKEEMI.A	NNGKIYWKPE	STGTGRFGKW
bafr	PLDSWFIRST	A.....	..CKERMI.E	LNKTINWKPE	STGTGRFGKW
feac	PLDAWFIKVS	T.....	..IRELLK.K	NNDKVNWYPE	YKLDGRFGNF
thvo	PLDAWFIRVS	S.....	..VRDKLV.E	NNEKIRWKPD	YKLGHRFGNF
thnw	PLDAWFIAMS	R.....	..IRDKLV.E	YNERINWKPD	YKLGHRFGNF
cyhu	PLDSWFIKTT	A.....	..KKERLV.E	LNKTINWKPE	STGVGRFGNW
chte	ARESWYIRTT	D.....	..IAPRMV.A	LNKTINWNPP	EIGTGRFGNW
dera	AKKGWYIRTS	Q.....	..VAGEML.A	QNEKINWVPG	NIKHGRFGNW
stco	AQPSWYIRTT	A.....	..IKDRLL.Q	ENEKTNWFPD	AVKHGRYGDW
thth	ATESWFIKNT	L.....	..FKDELI.R	NNQEIHWVPP	HIKEGRYGEW
deet	AKQSWYIRTT	A.....	..VRDELI.K	GNQQINWYPE	HIKDGRFGDW
anga	AVPSWFVRVE	H.....	..MNKQLL.N	CSSQTYWVPE	YVKEKRFGNW
drme	AVPSWFVRVE	H.....	..MSKNLL.D	CSSQTYWVPD	FVKEKRFGNW
hosa	AVPSWFVRVE	N.....	..MVDQLL.R	NNDLCYWVPE	LVREKRFGNW
cael	AVPSWFINVE	T.....	..LIPRLL.A	NNDETYWVPA	FVKEKRFANW
asfu	AVPSWFVKIG	P.....	..IIPQML.Q	GIEESHWVPS	FVKERRFASW
scpo	AVPSWFVRVK	E.....	..ITNEMV.E	NVMSTHWVPQ	NIRDKRFANW
sace	SVPAWFVRVK	N.....	..IVPQML.D	SVMKSHWVPN	TIKEKRFANW
ledo	AVESWFVNVE	A.....	..FRDRLI.D	CNDKTYWVPD	FVKTRRFSNW
lema	AVESWFVNVE	A.....	..FRDRLI.D	CNDKTYWVPD	FVKTRRFSNW
arth	AVPSWFVRVE	Q.....	..LKEKLL.K	SNEQTEWVPG	YVKDKRFHNV
teth	AVHCWFIKVT	A.....	..LKDDLL.A	NNKKAYWVPK	FAQEGRFNNW
encu	LVPNWFVKVK	D.....	..HVDSLL.R	NNEKINWVPP	DIKYKRFHNV
nolo	LVPNWFVRVK	R.....	..EIPRLL.E	SNSTINWIPE	SIGEHKFKNW
plfa	AIPAWFVRVS	N.....	..STNKLV.E	NNETTYWIPA	HVKEKKFHNW



plyo	AIPAWFVRVN	N.....	..YTDKLV.K	NNDTTYWIPA	HVKEKKFHNW
chtr	AVNSWFVAVE	K.....	..VKSKML.K	ANESIHWTPE	HIKQGRFGKW
chmu	AVNSWFVSVE	K.....	..VKHKML.K	ANESIHWTPG	HIKHGRFGKW
chpn	AVNSWFVAVE	K.....	..IKDKML.R	ANSSIHWVPE	HIQEGRFGKW
trde	AVASWFVSVT	K.....	..IKDKLL.N	ANSKINWQPD	HIKTGRFGKW
trpa	AVHSWFVAVE	K.....	..IKDKML.A	ANASICWQPS	HIRDGRFGKW
bobu	PISSWFVNVE	K.....	..IKTKLL.E	VNEKINWMPA	HLKKGRFGKW
myle	AVSSWFVAVT	E.....	..FRDRMV.E	LNQQITWYPE	HVKDGOFGKW
mytu	SVSSWFVRVT	D.....	..FRDRMV.E	LNQQITWYPE	HVKDGOFGKW
codi	ALPSWFVEVT	K.....	..IRDRMV.E	LNKEIDWMP	HIRDGOFGKW
ripr	AVPSWYVRVT	K.....	..FKDRMV.E	LNQQINWIPH	NVKDNLFQKW
rico	AVPSWYVKVT	Q.....	..FKDRMV.E	LNQQINWIPF	HVKDNLFQKW
psfl	AVESWFIRAS	A.....	..LREQLV.E	NNSQVNWVPE	HVKEGRFGDW
suso	AIDQWFIRVT	K.....	..IKDKML.N	EIEKVNWIPD	WGK.SRISNM
aepe	ATTQWFVAVT	R.....	..LKNQLM.R	EAEKVEWQPG	WAK.TRFMMN
arfu	ATEQWFIKIS	E.....	..LKDEML.E	EIDKVMWIPE	WAGSARFKDW
meba	ATEQWFLKVT	D.....	..IKDKML.E	AIDAVDWYPE	WAGSARFRTW
meth	ATEQWFLKIT	E.....	..IKDKML.S	ELDRVQWIPS	WAGESRFRNW
pyho	ATDQWFLKVS	K.....	..VKDRIIKE	NDEKVTWYPD	WVK.IRFDNG
pyfu	ATDQWFLKVS	K.....	..VKEKIIKE	NDEKVTWYPE	WVK.IRFDNG
pyab	ATDQWFLKIS	K.....	..VKDKIIKE	NDEKVTWYPD	WVK.IRFDNG
meja	ATEQWFLEIS	K.....	..IKDNII.E	HAKTVQWIPH	WVE.TRYING
haNRC	VTDQWFITIT	D.....	..VKDELL.A	NMDTSEWHPE	WARDNRFRDF
pyba	ADRQWFIAIS	R.....	..IRDKMY.A	ELQKVNVPPT	KLR.DRFDIF
bacel	ATAQWFASIE	A.....	..FRKELLEA	VA.ETKWVPA	WGE.TRLHNM
baan1	ATAQWFASIE	A.....	..FRKELLEA	VA.ETKWVPA	WGE.TRLHNM
bast	ATTQWFASID	K.....	..IRNELLQA	IK.ETKWIPE	WGE.IRIHNM
basu	ATAQWFASIK	D.....	..FRSDLLDA	IK.ETKWVPE	WGE.QRLHNM
baha	ATAQWFASIE	N.....	..FRDELLEA	IQ.EVKWVPE	WGE.TRLYNM
limo	ATAQWFASID	A.....	..FRDILLAA	VK.GVNWTPA	WGE.TRLFNM
liin	ATAQWFASID	A.....	..FRDILLAA	VK.GVNWTPA	WGE.TRLFNM
stau	ATPQWFASIS	K.....	..VRQDILDA	IE.NTNFKVN	WGK.TRIYNM
stpy	AVPQWFASVS	D.....	..FRQDILDE	IE.KTTFHPS	WGE.TRLYNM
stmu	AVPQWFASVS	K.....	..FRQDILDE	ID.KVHFYPA	WGK.TRLYNM
stpn	AVPQWFASVS	K.....	..FRQEILDE	IE.KVKFHSE	WGK.VRLYNM
lala	ATPQWFASID	D.....	..FRQNILDE	VE.RVDWVIP	WGK.TRLFNM
enfa	ATPQWFASIS	K.....	..FRQDILDE	VE.KVDWLIP	WGK.TRLYNM
syne	ATEQWFASVE	G.....	..FRDQALKA	IK.EVTWIPT	QGE.NRITPM
arthchl	ATEQWFASVE	G.....	..FRTATMDA	IN.NVKWVPH	QAV.NRISAM
prma	ATEQWFASVE	G.....	..FRSSALKA	IE.DVEWMPK	TGK.KRIYSM
mypu	GTPQWFVSID	K.....	..IKPAILKE	IE.KIEGRPS	WAV.KRLATM
myge	ASKQLFIKTK	S.....	..IKKQLKKQ	IN.QVNFLNS	KNQ.LRLKEM
mypn	ASKQLFIKTK	S.....	..IQSKLKRQ	IK.RVKFVNN	KNK.ERLQEM
urur	ATKQWFVSIE	K.....	..ILPNILQT	LNNDVKSTS	RGI.ERMHEM
saty	ATPQWFVSMD	KE.....	..GLRQQLKE	IK.GVQWIPD	WGQ.ARIESM
esco	ATPQWFVSMD	QK.....	..GLRAQSLKE	IK.GVQWIPD	WGQ.ARIESM
yepe	ATPQWFISMD	QK.....	..GLRKQSLQE	IK.GVQWIPD	WGQ.ARIETM
vich	ATPQWFVSME	QA.....	..GLREQALTA	IK.GVHWMPD	WGQ.SRIEGM
hain	ATPQWFIGME	TQ.....	..GLRQQALGE	IK.QVRWIPD	WGQ.ARIEKM
acac	ATPQWFIGME	VQ.....	..GLRPQALGE	IK.QVRWIPD	WGQ.ARIEKM
pamu	ATPQWFIGME	KQ.....	..GLRQQALSE	IK.KVRWIPD	WGQ.ARIEKM
psae	ATAQWFVGMD	KQPR..QG..	..ASLRERALEA	IT.QTEFVPG	WGQ.ARLHGM

psfl_1	ATAQWFIGMD	KEPT..SG..	DTLRVRS LKA	IE.DTKFVPS	WGQ.ARLHSM
xyfa	ATPQWFISME	QA.....	.ALRSAALKA	IT.HVTWYPQ	WGQ.ARILSM
neme	ATGQWFIGMD	KAGA..DG..	KTLRDKAIKA	VD.DTEFFPS	WGR.ARLEAM
buAPS	ATPQWFIDID	QK.....	.QLRIKLLQE	IK.KVRWIPE	WGE.SRIGEM
agtu	NTPQWFVYMD	KELG..DG..	TTLRSRSLDA	ID.QTRFVPA	SGQ.NRLRAM
sime	NTPQWFVTMD	KDFG..DG..	TTLRSRALNA	ID.ETRFVPG	AGQ.NRLRAM
melo	NTPQWFVYMD	KDLG..DG..	TTLRSRALKA	ID.DTRFVPA	AGQ.NRIRAM
cacr	NTPQWFIRMD	HAVDSL DG..	KTLREVAVQA	IA.DTAFYPD	GGR.NRIGAM
hepy26695	ATTQWFILMD	EPFIQNDGSQ	KTLREVALDA	IE.KVEFVPS	SGK.NRLKTM
hepyj99	ATTQWFILMD	EPFIQNDGSQ	KTLREVALDA	IE.KVEFVPS	SGK.NRLKTM
caje	ATKQWFILMD	EPKLQG....	KTLRECAKEQ	LL.KTTFYPQ	SGV.KRIGSM
thma	ATEQWFISVD	HN.....	.NLRQKVLEE	ID.KVKWIPE	WGR.NRIRSM
fepe	ATPQWFISVD	KN.....	.NLRGKVLEE	IK.KVKWYPA	WGE.TRITAM
aqae	ATPQWFIGMD	IEFF...G..	KTLRQRALEE	IE.KVKWIPE	YGK.NRIKSM

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mask	*****	*****	**** .....	.....	.....
stau2	LENMVDWNIG	RNRYWGTPLN	VWICND..CN	HEYA.....	.....
bace2	LENMVDWNIS	RNRYWGTPLN	VWECES..CD	HQFA.....	.....
baan2	LENMVDWNIS	RNRYWGTPLN	VWECER..CD	HQFA.....	.....
ocih	LDNMVDWNIG	RNRYWGTPLN	VWVCDD..CD	KQKS.....	.....
clpe	LENVIDWGIS	RDRYWGTPPL	IWECE...CG	HREC.....	.....
clac	VENVIDWGIS	RDRYWGTPPL	IWQCE...CG	HRDC.....	.....
cldi	LENLNDWAIS	RTRYWGTPPL	IWRCE...CG	HTDS.....	.....
pogi	LENLQDWNLS	RSRYWGTPPL	IWRTEG..GS	EEIC.....	.....
bafr	LENLNDWNLS	RSRYWGTPPL	IWRTEG..NS	DEKC.....	.....
feac	LNDAKDWALS	RNRYWGTPLP	IWKCSN...G	HYLEA.....	.....
thvo	LDEAKDWNLS	RDRFWGTPLP	VWRCRN...N	HVRF.....	.....
thnw	LGEAKDWNLS	RDRFWGTPLP	AWRCKN...G	HLVF.....	.....
cyhu	LENLVDWNLS	RSRYWGTPPL	IWRSED..GS	EEKC.....	.....
chte	LEENKDWALS	RERFWGTPLP	VWVAED..FA	IGDG.....	.....
dera	LEGNVDWAIS	RERYWGTPPL	FWQSES...G	QLRV.....	.....
stco	LNNNIDWALS	RNRYWGTPLP	IWRCAE...D	HDTV.....	.....
thth	LKNLVDWALS	RNRYWGTPLP	IWVCQA..CG	KEEA.....	.....
deet	LENNIDWAFS	RERYWGTPVP	IWRCEK..CG	RTEC.....	.....
anga	LRDARDWAIS	RNRYWGTPIP	LWISPD..GK	EIVC.....	.....
drme	LKEARDWAIS	RNRYWGTPIP	IWRSPS..GD	ETVV.....	.....
hosa	LKDARDWTIS	RNRYWGTPIP	LWVSDD..FE	EVVC.....	.....
cael	LRDARDWAVS	RNRFWGTPIN	LWVSED..GE	EVVC.....	.....
asfu	IQNARDWNIS	RNRFWGTPPL	LWVSDD..FK	EVVA.....	.....
scpo	LKNARDWNIS	RNRYWGTPIP	LWVSDD..YE	EVVC.....	.....
sace	IANARDWNVS	RNRYWGTPIP	LWVSDD..FE	EVVC.....	.....
ledo	LAEARDWNVS	RNRYWGTPMP	VWHSED..WE	EVVC.....	.....
lema	LAEARDWNVS	RNRYWGTPMP	VWHSED..WE	EVVC.....	.....
arth	LENARDWAIS	RSRFGWTPPL	IWISDD..GE	EVVI.....	.....
teth	LQNVSDWCFS	RSRFGWNPPI	IWVSED..FE	EVVC.....	.....
encu	LENARDWSIS	RNRFWGTPIP	LWVTEG..YS	DMIC.....	.....
nolo	LSEARDWSIS	RNRFWGTPIP	LWHCDG...	KYIC.....	.....
plfa	IKDAKDCWIS	RNRYWGTPIP	IWCDEK..ME	TVIC.....	.....
plyo	IKDAKDCWIS	RNRYWGTPIP	IWTDEK..ME	QIIC.....	.....
chtr	LEGARDWAIS	RNRYWGTPIP	IWRSDG..G	ELLV.....	.....
chmu	LEGARDWAIS	RNRYWGTPIP	IWRSED..G	ELLV.....	.....

chpn	LEGARDWAIS	RNRYWGTPIP	IWKSAD..G	EILV.....	.....
trde	LEGARDWAIS	RNRYWGNPIP	IWKCPD..CG	ETIC.....	.....
trpa	LVCARDWAIS	RDRYWGNPLP	IWRCVH..CG	ATDC.....	.....
bobu	LENAKDWASIS	RNRFWGNPIP	IWICSK..TG	KKIC.....	.....
myle	LQGARDWSIS	RNRYWGTPIP	VWKSDDPDYP	RIDV.....	.....
mytu	LQGARDWSIS	RNRYWGTPIP	VWKSDDPAYP	RIDV.....	.....
codi	LEGARDWNIS	RNRYWGSPIP	VWVSDDENYP	RVDV.....	.....
ripr	LENARDWSIS	RNRFWGTPLP	VWKSDDPKYP	RIDV.....	.....
rico	LENARDWSIS	RNRFWGTPLP	VWKSDDPKYP	RIDV.....	.....
psfl	IRNARDWAVS	RNRFWGAPIP	VWRCD..QCG	TVEV.....	.....
suso	VKELRDWVIS	RQRFWGTPPLP	IWICER..CN	NVMV.....	.....
aepe	LRELRDWVIS	RQRYWGIPLP	VWRCSS..CG	YEHV.....	.....
arfu	VSNAKDWCSIS	RQRYWGIPIP	VWICEK..CG	EMKV.....	.....
meba	VEGARDWCIS	RQRYWGMPIP	VWKCKK..CG	KLEV.....	.....
meth	IENARDWTIS	RQRYWGIPIP	IWVCED..CD	SIHV.....	.....
pyho	VRDSGDWVIS	RQRYWGIPLP	IWQSED..GE	IYVVGSWREL	VELAVAIEVN
pyfu	VRDSGDWVIS	RQRYWGIPLP	IWQSED..GE	IYVVGSWKEL	VELAVAIEVN
pyab	VRDSGDWVIS	RQRYWGIPLP	IWQSED..GE	IYVVGSWREL	VELAVAIEVN
meja	VKFVGDWNIS	RQRYWGIPIP	VWVCEK..CG	KYIV.....	.....
haNRC	VENAPDWNVS	RQRYWGIPVP	IWTPED..WS	GDAED.....	.....
pyba	VQNARDWNIS	RSRVWGTPPLP	VWRCKK..DG	RILV.....	.....
bacel	VRDRGDWCIS	RQRAWGVPIP	VFYAENG...	DPII.....	.....
baan1	VRDRGDWCIS	RQRAWGVPIP	VFYAENG...	DPII.....	.....
bast	VRDRGDWCIS	RQRAWGVPIP	VFYGENG...	EPII.....	.....
basu	VRDRGDWCIS	RQRAWGVPIP	VFYAENG...	EPVI.....	.....
baha	VRDRGDWCIS	RQRVWGVPIP	IFYGENG...	EPII.....	.....
limo	VRDRGDWVIS	RQRAWGVPLP	IFYAENG...	EAII.....	.....
liin	VRDRGDWVIS	RQRAWGVPLP	IFYAENG...	EAII.....	.....
stau	VRDRGEWVIS	RQRVWGVPLP	VFYAENG...	EIIM.....	.....
stpy	IRDRGDWVIS	RQRAWGVPLP	IFYAEDG...	TAIM.....	.....
stmu	IRDRGDWVIS	RQRAWGVPLP	IFYAEDG...	TAIM.....	.....
stpn	IRDRGDWVIS	RQRAWGVPLP	IFYAEDG...	TAIM.....	.....
lala	VRDRGDWVIS	RQRAWGVPLP	IFYGENG...	EPII.....	.....
enfa	IRDRGDWVIS	RQRAWGVPLP	IFYAENG...	EAII.....	.....
syne	VGDRSDWCIS	RQRAWGVPIP	VFYDEET..S	EPLL.....	.....
arthchl	TSSRSWDCIS	RQRTWGVPIP	AFYHVKT..K	EPLM.....	.....
prma	VVGRGDWCIS	RQRSWGVPIP	VFYEKEG..K	GVLI.....	.....
mypu	IENRKTWTIS	RQRSWGVPIP	IFYNEKN...	EIVN.....	.....
myge	LLQRDEWCIS	RQRVWGLPIP	IVYANNK...	.PLL.....	.....
mypn	LLQRAEWCIS	RQRVWGLPIP	LIYADNQ...	.PLL.....	.....
urur	IVNRKEWCIS	RQRVWGVPIP	MIFDENH..N	.AIM.....	.....
saty	VANRPDWCIS	RQRTWGVPM	LFVHKET..Q	ELLPI.....	.....
esco	VANRPDWCIS	RQRTWGVPM	LFVHKET..E	ELHP.....	.....
yepe	VANRPDWCIS	RQRTWGVPM	LFVHKET..E	QLHP.....	.....
vich	VAGRPEWCIS	RQRTWGVPIA	LFVHKET..A	ELHP.....	.....
hain	VENRPDWCIS	RQRTWGVPM	LFVHKET..E	ELHP.....	.....
acac	VENRPDWCIS	RQRTWGVPM	LFVHKET..E	ELHP.....	.....
pamu	VENRPDWCIS	RQRTWGVPIA	LFVHKET..E	ELHP.....	.....
psae	IAGRPDWCIS	RQRNWGVPIP	FFLHKAS..G	ELHP.....	.....
psfl_1	IANRPDWCIS	RQRNWGVPIP	FFLNKES..G	ELHP.....	.....
xyfa	IENRPDWTIS	RQRTWGVPIP	LFVHRHS..G	APHP.....	.....
neme	IEGRPDWVVS	RQRYWGTPMT	FFVHKET..G	ELHP.....	.....

buAPS	IKKRPDWCIS	RQRKVGVPMS	IFIHKNT..R	KIHP.....	.....
agtu	IEGRPDWVLS	RQRSWGVPIA	VFADDE...G	EVLV.....	.....
sime	IEQRPDWVLS	RQRAWGVPIA	IFADDE...G	EILV.....	.....
melo	IEERPDWVLS	RQRAWGVPIA	VFADDE...G	NVLK.....	.....
cacr	VETRPDWLIS	RQRNWGTPLA	MFVDKHT..G	HPLN.....	.....
hepy26695	IENRPDWCLS	RQRKVGVPPLA	FFIDKRT..N	KPCF.....	.....
hepyj99	IENRPDWCLS	RQRKVGVPPLA	FFIDKRT..N	KPCF.....	.....
caje	VENRPDWCIS	RQRDWGTPIA	FFRDKNT..K	EVIF.....	.....
thma	VEERPDWCIS	RQRVWGTPIP	AVKCKEC..G	EVVL.....	.....
fepe	VQERPDWTIS	RQRVWGVPIP	AVKCKDC..G	EVTL.....	.....
aqae	VENRPDWCIS	RQRFWGVPIA	VFYCENC..G	EIIK.....	.....

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mask	....*****	.....	.....	.....	.....
stau2	...PSSIKDL	QNNSIN....	...KIDED.	.....	...IELHR
bace2	...PKSIADL	RKHSTK....	...ETPED.	.....	...LELHK
baan2	...PKSIADL	RKHSMK....	...ETPED.	.....	...LELHK
ocih	...PHSIQEL	RAFADS....	...DVPED.	.....	...IELHK
clpe	...IGSIEEL	KTKGIN....	...VPED.	.....	...IELHK
clac	...VGSIEEL	KEKGIN....	...VPEN.	.....	...IELHK
cldi	...VGSRAEL	AEKAIED...	...VNPET.	.....	...VELHR
pogi	...IGSVEEL	YNEIEKAVKA	GMMERNPWA.	.GFKPGVYTE	ENYAKIDLHR
bafr	...IESVEEL	YNEIEKSVAA	GYMQSNPYKD	KGFVPGEYNE	ENYNKIDLHR
feac	...VGSREDI	EKHGGN....	...IPD..	.....	...DLHR
thvo	...IGSRKEI	EEMGAT....	...VPQ..	.....	...DLHR
thnw	...VGSRKEI	EDLGGK....	...VPE..	.....	...DLHR
cyhu	...IGSIEEL	KTEIAKAQKA	GIETATDIK.	.....	...DLHR
chte	...PDSGKLF	AVGSVAELRE	GFIEIDGEE.	..MNLGDALD	KGLVELDLHK
dera	...IGSVAEL	SELAGRD...	...LSD..	.....	...LDLHR
stco	...VGSRAEL	TELSGTD...	...QSS..	.....	...LDPHR
thth	...IGSFQEL	KARATKP...	...LPEP.	.....	...FDPHR
deet	...VGGIDEL	KAKPNFKG..	...MQEK.	.....	...LDIHR
anga	...VGSIDEL	ERYSGVR...	.....	.....	...VTDLHR
drme	...IGSIKQL	AELSGVQ...	.....	.....	...VEDLHR
hosa	...IGSVAEL	EELSGAK...	.....	.....	...ISDLHR
cael	...VGSIAEL	EELSGQK...	.....	.....	...ITDLHR
asfu	...VGSVEEL	KQLSGHEGE.	.....	.....	...ITDLHR
scpo	...IGSIKEL	EELSGVS.N.	.....	.....	...ITDIHR
sace	...VGSIKEL	EELTGVR.N.	.....	.....	...ITDLHR
ledo	...VSSTKQL	EELSGVTG..	.....	.....	...ITDIHR
lema	...VSSTKQL	EELSGVTG..	.....	.....	...ITDIHR
arth	...MDSVEKL	EKLSGVK...	.....	.....	...VFDLHR
teth	...IGSVEEL	KKLTGAT.E.	.....	.....	...ITDLHK
encu	...IGSVGEL	EELSGRK...	.....	.....	...IDDIHR
nolo	...IGSIEEL	SRLSGRK...	.....	.....	...IDDIHR
plfa	...VESIKHL	EELSGIKN..	.....	.....	...INDLHR
plyo	...IESIKQL	ETLSGVTN..	.....	.....	...ISDLHR
chtr	...IGSIQEL	EALSGQK...	.....	.....	...IVDLHR
chmu	...IRSIQEL	EELSGQK...	.....	.....	...IVDLHR
chpn	...VGSIREL	EELTGTQ...	.....	.....	...ITDIHR
trde	...VGSREEL	KELSGVF...	.....	.....	...PEDMHK
trpa	...IGSRTQL	YERSGML...	.....	.....	...LEDLHK

bobu	...	IGSKKEL	ENLSGQK...	.....	.....	.....	IEDLHK
myle	...	YGSLEDEL	ERDFGVR...	.....	.....	.....	PTNLHR
mytu	...	YGSLEDEL	ERDFGVR...	.....	.....	.....	PANLHR
codi	...	YGSLEEL	ERDFGVR...	.....	.....	.....	PESLHR
ripr	...	YGSIEEI	EKDFGVK...	.....	.....	.....	INDLHR
rico	...	YGSIEEL	EKDFGVK...	.....	.....	.....	VTDLHR
psfl	...	MGSIAQI	EARSGRK...	.....	.....	.....	VEDLHV
suso	...	VGSKEEL	ESIAIDP...	.....	VPND.	.....	LHR
aepe	...	VGSVEEL	ESMGGR...	.....	RPEN.	.....	LHR
arfu	...	VGSINEI	EWEN.....	.....	DLD...	.....	LHR
meba	...	IGTKAEL	LEKSGAGS..	.....	DVE...	.....	LHR
meth	...	VGSIGEL	RELAVEG...	.....	QLEG..	.....	DFIHR
pyho	GERIDLPE	SY	EEKLKVIE..	.....	EKLG.	.....	EDLHR
pyfu	GERIDLPE	SY	EEKLKVIE..	.....	EKLG.	.....	EDLHR
pyab	GERIELPE	SY	EEKLKVIE..	.....	EKLG.	.....	EDLHR
meja	...	VGSVEEL	EEKMINKD..	.....	EVGEI.	.....	NDLHK
haNRC	VLVVGTR	EEL	AALADQDV..	.....	DPAS..	.....	VDLHK
pyba	...	IGSLEEL	KKLAKELP..	.....	PVDDF.	.....	KLVHR
bacel	.....	TDETI	NHVADLFR..	.....	.....	.....	EHGSNVWFE
baan1	.....	TDETI	NHVADLFR..	.....	.....	.....	EHGSNVWFE
bast	.....	TDETI	EHVSNLFR..	.....	.....	.....	QYGSNVWFE
basu	.....	TDETI	EHVSE LFR..	.....	.....	.....	QHGSNIWFE
baha	.....	TDETI	NHVSE LFR..	.....	.....	.....	KHGSNVWFE
limo	.....	TDETI	NHISE LFR..	.....	.....	.....	EHGSNVWFE
liin	.....	TDETI	NHISE LFR..	.....	.....	.....	EHGSNVWFE
stau	.....	TKETV	NHVADLFA..	.....	.....	.....	EHGSNIWFE
stpy	.....	TKEVT	DHVADLFQ..	.....	.....	.....	ENGSIIWQ
stmu	.....	TKEVT	DHIANLFE..	.....	.....	.....	EHGSVIWQ
stpn	.....	VAETI	EHVAQLFE..	.....	.....	.....	EYGSSIWWE
lala	.....	TPETT	EHVAKLFA..	.....	.....	.....	EFGSKVWFE
enfa	.....	TPETI	EHVANLFA..	.....	.....	.....	EHGSNIWFM
syne	.....	TEETI	NHVQQIIA..	.....	.....	.....	EKGSDAWWE
arthchl	.....	NEETI	NHVKSIIS..	.....	.....	.....	QKGSDAWY
prma	.....	NTETI	NHIKSLFE..	.....	.....	.....	EYGADVWWE
mypu	.....	DEKVF	DHVIELVE..	.....	.....	.....	KYGSVDWFE
myge	.....	DFSTI	QYTIKQLK..	.....	.....	.....	KHGIDSWFE
mypn	.....	DVTTI	KYTIQQLK..	.....	.....	.....	KYGIDSWFE
urur	.....	DHELV	ENIINVLN..	.....	.....	.....	EKGVNAWFD
saty	...	ERTLAAM	EEVAKRVE..	.....	.....	.....	VDGIQAWWD
esco	...	RTLELM	EEVAKRVE..	.....	.....	.....	VDGIQAWWD
yepe	...	RSIELM	EEVAKRVE..	.....	.....	.....	QDGIQAWWD
vich	...	NSADLI	EKVAQLVE..	.....	.....	.....	QKGIQAWWD
hain	...	RTLDDL	EEVAKRVE..	.....	.....	.....	RAGIQAWWD
acac	...	RTLELL	EEVAKRVE..	.....	.....	.....	KAGIQAWWD
pamu	...	RTVELV	EEVAKRVE..	.....	.....	.....	QKGIQAWWD
psae	...	RTVELM	EEVAQRVE..	.....	.....	.....	KEGIEAWFK
psfl_1	...	RTVELM	EVVAQRVE..	.....	.....	.....	QQGIEAWFK
xyfa	...	RSAALM	RQVADRVE..	.....	.....	.....	QQGVDIWYS
neme	...	NSAELL	EKVALKIE..	.....	.....	.....	EKGIEAWFS
buAPS	...	NTFVFM	KKIACKVE..	.....	.....	.....	LEGLQVWWN
agtu	...	DEAVN	ARILEAFE..	.....	.....	.....	AEGADAWFA
sime	...	DDEVN	ARILVAFE..	.....	.....	.....	KEGADAWFA



codi	PHIDELTRPN	PDDPT.GKST	MRRVPEVLDC	WFESGSMPPFA	QKHYPFE...
ripr	PFIDELTRTN	PDDPT.GKST	MRRIDDVDC	WFESGSMPPYG	QVHYPFE...
rico	PFIDELTRPN	PDDPT.GKST	MRRIEDVDC	WFESGSMPPYG	QAHYPFE...
psfl	PHIDEHR...	FACQC.CEPT	MSRVTGVDC	WFESGAMPFA	SRHYPFE...
suso	PWIDNVRVKC	NKCGG....V	AKRIPDVADV	WFDSGVAFFA	SLGKDWQ...
aepe	PWVDRVELKC	PRCGG....S	MKRVPDVLV	WFDSGIAFYA	SLGYPRD...
arfu	PKIDAVTFSC	.QCGG....V	MRRVPDVFV	WFDSGVASWG	SIAYPLR...
meba	PYVDKLTIPC	.ECGG....E	KKRVEDVFDV	WFDSAVASWA	TLKFPQT...
meth	PHVDRIILEC	GRCGG....R	MKRTPDVLV	WIDSGVAGWA	ALHYPRE...
pyho	PYVDAFIIKV	.N.GK....E	MRRVKDVVDV	WFDSGIASWA	SLGYPRN...
pyfu	PYVDAFIIKV	.N.GK....E	MRRVKDVVDV	WFDSGIASWA	SLGYPRN...
pyab	PYVDAFIIKV	.N.GK....D	MRRVKDVVDV	WFDSGIASWA	SLGYPRN...
meja	PTVDKIKLRC	.ECGG....E	MKRVPDVLV	WFDSGLAPYA	SIG.....
haNRC	PTVDDITIT.	.EDGT....E	YTRVPDVFV	WLDSSVASWG	TLNYPEQ...
pyba	PWIDQVKISA	HDCD....E	WVREPYVMDV	WLDSGIAWIA	AVDGENN...
bacel	REAKDLLPEG	FTHPGSPNGE	FRKETDIMDV	WFDSGSSHQA	VLEERDD...
baan1	REAKDLLPEG	FTHPGSPNGE	FRKETDIMDV	WFDSGSSHQA	VLEERDD...
bast	REAKDLLPEG	FTHPSSPNGI	FTKETDIMDV	WFDSGSSHQA	VLVERDD...
basu	KEAKDLLPEG	FTHPGSPNGT	FTKEQDIMDV	WFDSGSSHQA	VLEERDD...
baha	WETKDLLPEG	FTHPSSPNGQ	FTREMDIMDV	WFDSGSSHQA	VLVEREE...
limo	RDVKDLLPAG	FTHPGSPNGE	FTKETDIMDV	WFDSGSSHQA	VLNARPE...
liin	RDVKDLLPAG	FTHPGSPNGE	FTKETDIMDV	WFDSGSSHQA	VLNARPE...
stau	REAIKDLLPEG	FTHPGSPNGT	FTKETDIMDV	WFDSGSSHRG	VLETRPE...
stpy	KEAKDLLPEG	FTHPGSPNGE	FTKETDIMDV	WFDSGSSWNG	VMNTKEN...
stmu	REAKDLLPEG	FTHPGSPNGE	FTKENDIMDV	WFDSGSSWNG	VLNTRD...
stpn	REAIKDLLPEG	FTHPGSPNGE	FKKETDIMDV	WFDSGSSWNG	VVNRPE...
lala	REAKDLLPEG	FTHPASPNGE	FTKEKDIMDV	WFDSGSSWNG	VLNERDY...
enfa	REAIKDLLPEG	FTHPGSPNGE	FTKETDIMDV	WFDSGSSHEG	VLREREE...
syne	LTVEELLPEA	YRNNGR...T	YRKGEDTMDV	WFDSGSSWAA	VANAKNRP..
arthchl	MSVEDLLPEK	YRDKAA...D	YEKGTDTMDV	WFDSGSSWAG	VLGKREG...
prma	WDEKKLLPEK	YRNESD...R	WEKGLDTMDV	WFDSGSSWAA	VCEQREE...
mypu	KSVDELLPSE	YKNK....N	WTKETNIMDV	WFDSGSTSIG	VEIEG.....
myge	KDVTFCFLKPD	.KTKKW..VK	YHKEIDTLDV	WFDSGSSYNV	LEINK.....
mypn	KDINFFLNPK	.KIQPG..VE	YKKTDTLEV	WFDSGSTYNV	LISNK.....
urur	LDVNAFLTPK	YLSMKN..KT	FYKEKDIMDV	WFDSGSSYNI	LGHYN.....
saty	LDPKE..ILG.	.....EDADQ	YEKVPDTLDV	WFDSGSTSYS	VVDARPEFA.
esco	LDAKE..ILG.	.....DEADQ	YVKVPDTLDV	WFDSGSTHSS	VVDVRPEFA.
yepe	LDPAE..ILG.	.....ADAAD	YVKVPDTLDV	WFDSGSTHSS	VVDVRPEFG.
vich	LDTAE..LLG.	.....EDAAN	YEKVLDTLDV	WFDSGVTHSA	VVDARQEFN.
hain	LDEKE..LLG.	.....ADAET	YRKVPDTLDV	WFDSGSTYSS	VVANRLEFN.
acac	LDEKE..LLG.	.....ADAET	YRKVPDTLDV	WFDSGSTYSS	VVANRPEFE.
pamu	LDTAE..LLG.	.....ADADN	YIKVPDTLDV	WFDSGSTYYS	VVKDRPEFN.
psae	LDAAE..LLG.	.....EEAAQ	YEKINDTLDV	WFDSGTTHWH	VLRGSHRIGH
psfl_1	LDAAE..LLG.	.....DEAPL	YDKISDTLDV	WFDSGTTHWH	VLRGSHPMGH
xyfa	LDQTE..LLG.	.....TEADQ	YEKITDILDV	WFDSGITHEA	VLLERG.LP.
neme	LDKSE..LLSA	.....EDCEN	YDKLSDTMDV	WFDSGSTHYS	VVKQREELE.
buAPS	IDSKE..ILG.	.....EEYQS	YEKILDILDV	WFESGNTHTT	INYKNKNYT.
agtu	EGAKERFLGN	....DHDHAK	WQQVMDILDV	WFDSGCTHTF	TLEDPRDMK.
sime	EGAKERFLGN	....DHDHAR	WHQVTDILDV	WFDSGSTHTF	TLEDPRDLK.
melo	AGAKERFLGN	....HDASK	WKQVMDILDV	WFDSGSTHVF	TLEDPRDLK.
cacr	R.PDADFLGA	....HDPAQ	YEKITDILDV	WFDSGCTHAF	TIEGRADSA.
hepy26695	YSVKDLLPPS	Y...QEDAKH	YEKIMHILDV	WFDSGSTFKA	VLEDYHGEK.

hepyj99	YNIKDLLPPS	Y...QDNAKH	YEKVMHILDV	WFDSGSTFKA	VLEDYHGEEK.
caje	FEIKDLIPTN	S...KYKAEN	LEKVYDILDV	WFDSGSTFNA	VLNSGLYDA.
thma	KEVEELIPED	FVCPKCGKRS	FEKMLDTLDDV	WIDSGASFY	ITTKREDHP.
fepe	LDVNELIPAD	FKCPACGSKN	FEKTHDTLDDV	WMDSGCSWEA	VIRSKGER..
aqae	LTSSQLLPEG	YKCPKCGGDS	FTKEEDILDV	WFDSGCASHAA	VIRPLGFQ..

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mask	.....	.....	.....	.....	*** *****
stau2	.....	.....KIF	NQH.....	.....FPADF	IAEGVDQTRG
bace2	.....	.....ELF	EDQ.....	.....FPADV	IAEGIDQTRG
baan2	.....	.....ELF	EEQ.....	.....FPADV	IAEGIDQTRG
ocih	.....	.....ELF	NKQ.....	.....FPADV	VIEGVDQTRG
clpe	.....	.....ELF	EAN.....	.....YPAQF	ISEAVDQTRG
clac	.....	.....EVF	ENT.....	.....FPAQF	ISEAVDQTRG
cldi	.....	.....ENF	DQL.....	.....FPADY	ISEGIDQTRG
pogi	.....	.....ERV	EDGS.....	.....VFPADF	IAEGVDQTRG
bafr	.....	.....ELL	DSHQ.....	.....VYPADF	IAEGVDQTRG
feac	.....	.....F	NTEG.....	.....IPVDF	ITEAIDQTRG
thvo	.....	.....F	DPSS.....	.....DLPVSF	ITEAIDQTRG
thnw	.....	.....F	DPET.....	.....DVPVSF	ITEAIDQTRG
cyhu	.....	.....ELF	NNN.....	.....YPADF	IAEGVDQTRG
chte	.....	.....ELF	DKT.....	.....FPADF	IAEGVDQTRG
dera	EAVRGA....	.....EQF	AKH.....	.....YPADY	ICEAIDQTRG
stco	.....	.....ELF	ESR.....	.....YPAQF	ISEAIDQTRG
thth	.....	.....EVF	RES.....	.....FPADF	IAEGIDQTRG
deet	RS.....	.....IAK	DGR.....	.....FPADY	ICEAVDQTRG
anga	.....	.....NPAEF	MN.....	.....NFPADF	IAEGIDQTRG
drme	.....	.....NEKDF	MN.....	.....NFPADF	IAEGIDQTRG
hosa	.....	.....NKREF	ED.....	.....AFPADF	IAEGIDQTRG
cael	.....	.....NRKIF	ED.....	.....NFPADF	IAEGIDQTRG
asfu	.....	.....NKEQF	EK.....	.....SFPGDF	IAEGLDQTRG
scpo	.....	.....RIEEF	KH.....	.....GFPADF	ISEGVDQTRG
sace	.....	.....NTEKF	DE.....	.....RVPANF	ISEGLDQTRG
ledo	.....	.....NQDKF	KS.....	.....LFPADF	VSEGLDQTRG
lema	.....	.....NQDKF	KS.....	.....LFPADF	VSEGLDQTRG
arth	.....	.....NKELF	EK.....	.....NFPGDF	VAEGLDQTRG
teth	.....	.....NEEEF	SK.....	.....RFPADF	IGEGIDQTRG
encu	GVDLGSLSVS	GGEERNKKLV	KE.....	.....NFPAHF	IGEGLDQTRG
nolo	.....	.....L	.....	.....CLPADF	VAEGVDQTRG
plfa	.....	.....ETNDF	HK.....	.....IFPADF	IAEGLDQTRG
plyo	.IANSEIDIS	...KVSMDQF	NQ.....	.....IFPADF	IAEGLDQTRG
chtr	.....	.....RAEET	EA.....	.....CFPADF	IAEGLDQTRG
chmu	.....	.....RAEET	EA.....	.....RFPADF	IAEGLDQTRG
chpn	.....	.....NQKET	EE.....	.....AFPADF	IAEGLDQTRG
trde	.....	.....NKEHF	EK.....	.....NFPADF	ISEGLDQTRG
trpa	.....	.....HATDF	ER.....	.....YFPAHF	ISEGLDQTRG
bobu	.....	.....NEINF	KN.....	.....IFPADF	IAEGLDQTRG
myle	.....	.....NDDWF	DGFDSADSDK	QVDAHYPGDF	IVEYIGQARG
mytu	.....	.....NLDWF	QG.....	.....HYPGDF	IVEYIGQTRG
codi	.....	.....NKDWF	DT.....	.....HSPADF	IVEYSGQTRG
ripr	.....	.....NKKWF	VE.....	.....HFPADF	IVEYSSQTRG
rico	.....	.....NKEWF	ED.....	.....HFPADF	IVEYSAQTRG



psfl	.....	.....NKQEF	EQ.....	.....TFPADF	IVEYLAQTRG
suso	.....	.....EKW	KE.....	.....LGPVDL	VLEGHDQLRG
aepe	.....	.....R.ETW	ER.....	.....LKPVDF	IVEGHDQIRG
arfu	.....	.....K.DKF	EE.....	.....LWPADF	ITEGHDQTRG
meba	.....	.....R.EQF	DE.....	.....WWPADF	ITEGHDQTRG
meth	.....	.....K.ELF	SE.....	.....WFPYDF	ITEGHDQTRG
pyho	.....	.....K.ELF	EK.....	.....LWPADF	IVEGEDQVTK
pyfu	.....	.....K.ELF	EK.....	.....LWPADF	IVEGEDQVTK
pyab	.....	.....K.ELF	EK.....	.....LWPADF	IVEGEDQVTK
meja	.....	.....V	KE.....	.....LKKADF	ITEGHDQVTK
haNRC	.....	.....E.DDF	DE.....	.....LWPADL	IMEAHDQTRG
pyba	.....	.....R.DLW	EK.....	.....LFPYDF	VTEGIDQTRG
bacel	.....	.....	LQ.....	.....RPADL	YLEGSDQYRG
baanl	.....	.....	LQ.....	.....RPADL	YLEGSDQYRG
bast	.....	.....	LM.....	.....RPADL	YLEGSDQYRG
basu	.....	.....	LV.....	.....RPADL	YLEGSDQYRG
baha	.....	.....	LD.....	.....RPADL	YLEGSDQYRG
limo	.....	.....	LS.....	.....RPADL	YMEGSDQYRG
liin	.....	.....	LS.....	.....RPADL	YMEGSDQYRG
stau	.....	.....	LS.....	.....FPADM	YLEGSDQYRG
stpy	.....	.....	LS.....	.....YPADL	YLEGSDQYRG
stmu	.....	.....	LG.....	.....YPADL	YLEGSDQYRG
stpn	.....	.....	LT.....	.....YPADL	YLEGSDQYRG
lala	.....	.....	LS.....	.....FPADL	YLEGSDQYRG
enfa	.....	.....	LT.....	.....FPADM	YLEGSDQYRG
syne	.....	.....	LK.....	.....YPVDM	YLEGSDQHRG
arthchl	.....	.....	LS.....	.....FPADV	YLEGTDQHRG
prma	.....	.....	LQ.....	.....YPADL	YLEGSDQHRG
mypu	.....	.....	VS.....	.....VPFDL	YLEGIDQYRG
myge	.....	.....	YG.....	.....SIADL	YIEGSDQYRG
mypn	.....	.....	LN.....	.....FPADL	YLEGSDQYRG
urur	.....	.....	LN.....	.....YPADV	YLEGYDQYRG
saty	.....	.....	.G.....	.....HAADM	YLEGSDQHRG
esco	.....	.....	.G.....	.....HAADM	YLEGSDQHRG
yepe	.....	.....	.G.....	.....HSPDM	YLEGSDQHRG
vich	.....	.....	.G.....	.....AEADM	YLEGSDQHRG
hain	.....	.....	.G.....	.....QDIDM	YLEGSDQHRG
acac	.....	.....	.G.....	.....KAADM	YLEGSDQHRG
pamu	.....	.....	.G.....	.....QEADM	YLEGSDQHRG
psae	.....	.....A	SG.....	.....PVADL	YLEGSDQHRG
psfl_1	.....	.....E	TG.....	.....PRADL	YLEGSDQHRG
xyfa	.....	.....	.....	.....KPADL	YLEGADQHRG
neme	.....	.....	.....	.....WPADL	YLEGSDQHRG
buAPS	.....	.....	.K.....	.....KNADM	FLEGSDQHRG
agtu	.....	.....	.....	.....WPADV	YLEGSDQHRG
sime	.....	.....	.....	.....WPADV	YLEGSDQHRG
melo	.....	.....	.....	.....WPADV	YLEGSDQHRG
cacr	.....	.....	.....	.....WPADL	YLEGSDQHRG
hepy26695	.....	.....	GQ.....	.....SPSDV	ILEGSDQHRG
hepyj99	.....	.....	GQ.....	.....SPSDV	VLEGSDQHRG
caje	.....	.....	GE.....	.....KRASM	YLEGSDQHRG
thma	.....	.....	.....	.....FPLDM	YLEGSDQHRG

fepe .....FPVDL YLEGDDQHRG  
 aqae .....KADL YLEGSDQHRG

1001 1050

mask \*\*\*\*\* . \*\*\*\*\* . \*\*\*\*\* . \*\*\*\*\* . \*\*\*\*\* . \*\*\*\*\* .  
 stau2 WFYSLLVIST ILKG.KSSYK RALSLGHILD SNGKKMSKSK GNVINPTELI  
 bace2 WFYSL LAVSA LYTG.KVPYK RVLSLGHVLD EEGQKMSKSK GNALDPVDLV  
 baan2 WFYSL LAVSA LYTG.KVPYK RVLSLGHVLD EEGQKMSKSK GNALDPVDLV  
 ocih WFYSL LAVST LFTG.KTPYK RVLSLGHILD EHGRKMSKSK GNALSPVELI  
 clpe WFYTL LAIST AIFD.RNPF E NCIVLGHVLD KKGLKMSKSK GNVVDPFEVL  
 clac WFYTL LAIST SIFD.KSSFE NCIVLGHVLD KHGLKMSKSK GNVVDPFDVL  
 cldi WFYSL LAVST FVLG.KAPYK SVLVPDLVLD KDGKKMSKSR GNTVNPMELEF  
 pogi WFFTL HAIAT MISG.TSSFK VVVSNGLVLD KKGnkMSKRL GNAVDPFETI  
 bafr WFFTL HAIAT MVFD.SVSYK AVISNGLVLD KNGnkMSKRL GNAVDPFSTI  
 feac WFYTL HVISS LLFG.RNAYK NVMSMSFILD ENGQKMSKSK GNFVTARDFI  
 thvo WFYVL HVIST IMFN.KNAYD SALSISFILD EQGRKMSKSK GNSVFALDYL  
 thnw WFYVL HVIAT IMFN.KNAYE SALSINFILD AQGRKMSKSK GNSVYALDFL  
 cyhu WFFTL HAIISG MLYD.KVAFK NVIANGLVLD KNGnkMSKRV GNVVNPFFETI  
 chte WFYTL HAIAT LIFD.RPAYR NVVVNGHILD KSGQKMSKSK GNVVDPFESM  
 dera WFYSL HAIST MLYD.QPAYK NVICLGHIVD EKGLKMSKSK GNVVAPLPLF  
 stco WFYTL MAVGT LVFD.KSSYE NVVCLGHILA EDGRKMSKHL GNILQPIPLM  
 thth WFNSL HQLGV MLFG.SIAFK NVICHGLILD EKGQKMSKSK GNVVDPWDII  
 deet WFYSL HAIST LIFN.RPCYQ NVICLGHILD ERGEKMSKSR NNVIQPATVL  
 anga WFYTL LVIST ALFN.KAPFK NLNVTGLVLA ADGQKMSKRK KNYDPMEVV  
 drme WFYTL LVIST ALFN.KAPFK NLIASGLVLA ADGQKMSKRK KNYDPMEVV  
 hosa WFYTL LVLAT ALFG.QPPFK NVIVNGLVLA SDGQKMSKRK KNYDPVSI I  
 cael WFYTL LVLST ALFN.KPPFK NLICNGLVLA SDGAKMSKSK KNYDPMLIIV  
 asfu WFYTL TVLGT HLF G.TLPFK NCVVNGIVLA EDGKKMSKRL KNYDPPTLIM  
 scpo WFYTL TVLGT LLFD.KAPYK NVIVSGLVMA EDGKKMSKRL KNYPEPNLII  
 sace WFYTL AVLGT HLF G.SVPYK NVIVSGIVLA ADGRKMSKSL KNYDPDSIVL  
 ledi WFYTL LVLG ALFD.VSPFR NVAVSGLVLA EDGKKMSKRL KNYPEPKVVI  
 lema WFYTL LVLG ALFD.VSPFR NVAVSGLVLA EDGKKMSKRL KNYPEPKVVI  
 arth WFYTL MVLST ALFE.KPAFK NLICNGLVLA EDGKKMAKKL RNYPPP LEVI  
 teth WFYTL NVIST ALRN.SNPYK NLIVNGIVLA ADGKKMSKSK KNYDDPLLIA  
 encu WFYTL HVISS LLFG.QPAFL NVVVNGIVLA EDGRKMSKRL RNYDPDSHIF  
 nolo WFYTM HVIST VLLA.KPRFR NCIVNGIVLA SDKKKMSKRL KNYDPDMDVI  
 plfa WFYTL LVIST LLFN.KAPFK NLICNGLVLA SDGKKMSKRL KNYDPPLYIIL  
 plyo WFYTL LVIST LLFD.KAPYK NLICNGLILA SDGKKMSKRL KNYDPDIYIIL  
 chtr WFYTL TVIAA ALFD.QPAFK NVIVNGIILA EDGNKMSKRL NNYPSPKMIM  
 chmu WFYTL TVIAA ALFD.QPAFK NVIVNGIVLA EDGNKMSKRL NNYPSPKKIM  
 chpn WFYTL TVISA ILFD.RPAFR NAIVNGIILA EDGNKMSKRL NNYPSPKYVL  
 trde WFYTL TILAA ALFD.EPAFK NCIVNGLVLA EDGKKMSKSL RNYTDPNEVI  
 trpa WFYTL TILAV ALFE.RPAFE NCIVTGLVLA SDGKKMSKAL RNYADPNEVM  
 bobu WFYTL TILGT ALFE.NTAFK NVIVNGLVLS SDGRKMSKSF KNYTDPMQVI  
 myle WFYTL HVLAT ALFD.RPAFK TCIAHGVLG SNGQKMSKSL RNYPDVTEIF  
 mytu WFYTL HVLAT ALFD.RPAFK TCVAHGIVLG FDGQKMSKSL RNYPDVTEVF  
 codi WFYTL HVLAT ALFD.RPAFK KVAHGIVLG DDGTKMSKSR RNYPDVNEVF  
 ripr WFYTL MVLST ALFD.RPPFL NCICHGVILD ATGQKLSKRL NNYADPLELEF  
 rico WFYTL MVLST ALFD.RPPFL NCICHGVILD STGQKLSKRL NNYADPLELEF  
 psfl WFYTM MVIST GCFE.QNPFK NAMCHGVILA KDGRKMSKRL KNYPNPMDLM  
 suso WFFSLLRSGL ILLD.RAPYT SVLVHGFMLD EQGREMHKSL GNYVEPSVVV  
 aepe WFFSLLRSKV IGFG.ETPYR RVLVHGFALD EQGREMHKSL GNYVDFEELI

arfu	WFYSQLGTSV	VCFD.KAPYK	AVLMHGFTLD	EQGRKMSKSL	GNVVEPEEVV
meba	WFYSQLGASM	VGFG.RAPYK	SVLMHGFTLD	AGGKKMSKSL	GNVVSPIDVI
meth	WFYSQLGCGV	IALD.ETPYR	RVLMHGFTLD	EEGRKMSKSL	GNVVEPEDVI
pyho	WFYSQLQAASV	IAFD.TVPYR	RVAMHGYVLD	EKGDKMSKSL	GNIIRPEEVV
pyfu	WFYSQLQAASV	IAFD.TVPYR	AVAMHGYVLD	EKGDKMSKSL	GNIIRPEEVV
pyab	WFYSQLQAASI	VAFD.TVPYR	RVAMHGYVLD	EKGDKMSKSL	GNIIRPEEVV
meja	WFYSQLHALSA	IVFN.DIPYK	KCLMHGFTLD	EHGDKMSKSL	GNVVNPDDVV
haNRC	WFWSQLGMGT	AALG.DVPYE	EVLMHGYANM	PDGRGMSKSK	GITIEPNEVI
pyba	WFYSLLATSV	LYTG.RAPYK	NVLIQGLILD	KHGQKMSKSK	GNVIWAKDLF
bacel	WFNSSLSTAV	AVTG.KAPYK	GVLSHGFVLD	GEGRKMSKSI	GNIVVPKKIM
baan1	WFNSSLSTAV	AVTG.KAPYK	GVLSHGFVLD	GEGRKMSKSI	GNIVVPKKIM
bast	WFNSSLSTAV	AVTG.KAPYK	GVLSHGFVLD	GEGRKMSKSL	GNVVVPAKVM
basu	WFNSSLSTAV	AVTG.KAPYK	GVLSHGFALD	GEGRKMSKSI	GNVVVPAKVM
baha	WFNSSLSTSV	AITG.KAPYK	GVLSHGFTLD	GEGKKMSKSL	GNVVIPNDVM
limo	WFNSSLTTAV	AITG.EAPYR	NVLSHGFALD	GEGRKMSKSL	GNTLLPGKVI
liin	WFNSSLTTAV	AITG.EAPYR	NVLSHGFALD	GEGRKMSKSL	GNTLLPGKVI
stau	WFNSSITTSV	ATRG.VSPYK	FLLSHGFVMD	GEGKKMSKSL	GNVIVPDQVV
stpy	WFNSSLITSV	AVNG.HAPYK	AILSQGFVLD	GKGEKMSKSK	GNIISPNDVA
stmu	WFNSSLITSV	AVNG.HAPYK	SVLSQGFVLD	GKGEKMSKSK	GNIISPNDVA
stpn	WFNSSLITSV	ANHG.VAPYK	QILSQGFALD	GKGEKMSKSL	GNTIAPSDVE
lala	WFNSSITTSV	AVNG.VAPYK	AVLSQGFVLD	GKGRKMSKSI	GNTIVPKDVT
enfa	WFNSSITTSV	AING.VAPYK	SIISQGMVLD	GEGRKMSKSL	GNTILPEKVI
syne	WFQSSLLTSV	AVNG.IAPYK	TVLTHGFVLD	EKGHKMSKSL	GNVVDPYQII
arthchl	WFQSSLLTSI	ATQG.KAPYS	AVITHGFVLD	EKGMKMSKSL	GNVVDPRLVI
prma	WFQSSLLTSV	AVNN.KPPYK	TVLTHGFALD	ENGRKMSKSL	GNVVDPNIII
mypu	WFNSSIINSV	AYWG.QSPYR	LLLSHGFVLD	GKGGKMSKQL	GNVVDPQEI
myge	WFNSSSNCGI	IQND.LIPFK	SLVSHGFTLD	ENGNKMSKSL	GNIVDPLKIC
mypn	WFNSSASCGI	IQTD.QLPFK	SLISHGFTLD	EHGNKMSKSL	GNVVDPKLKC
urur	WFNSSLITGT	ILNN.RAPYK	YLVAHGMVLD	GEGYKMSKSK	GNVVDPDVC
saty	WFMSSLMISV	AMKG.KAPYR	QVLTHGFTVD	GQGRKMSKSI	GNTVSPQDVM
esco	WFMSSLMIST	AMKG.KAPYR	QVLTHGFTVD	GQGRKMSKSI	GNTVSPQDVM
yepe	WFMSSLMIAT	AMKG.KAPYR	QVLTHGFTVD	GQGRKMSKSI	GNTISPQDVM
vich	WFQSSLISSV	AMKG.KAPYK	EVLTHGFVVD	GQGRKMSKSI	GNVVAPQDVT
hain	WFMSSMLLST	ATDS.KAPYK	QVLTHGFTVD	GQGRKMSKSI	GNIVTPQEV
acac	WFMSSMLLST	ATDN.KAPYK	QVLTHGFTVD	GQGRKMSKSI	GNVVTPQEV
pamu	WFMSSMLLST	ATDN.KAPYK	QVLTHGFTVD	GQGRKMSKSI	GNIVTPQEV
psae	WFHSSLLTGC	AIDN.HAPYR	QLLTHGFTVD	ESGRKMSKSL	GNTVVPQTVI
psfl_1	WFHSSLLTGC	AIDN.HAPYR	ELLTHGFTVD	ETGRKMSKSL	KNVIEPKKIN
xyfa	WFQSSLLTGV	AMDN.AAPYK	QCLTHGFTVD	QHGRKMSKSL	GNGIEPQDII
neme	WFQSSMLTGC	ASSMGRAPYK	QLLTHGFVVD	GEGKKMSKSI	GNVVAPQEVY
buAPS	WFMSSLIIST	LISE.KKPYS	EVLTHGFVVD	GKGQKMSKSI	GNTISPNEIV
agtu	WFHSSLLESC	ATRG.RAPYN	AVVTHGFTMD	EQGRKQSKSL	GNVVAPQDVM
sime	WFHSSLLESC	ATRG.RAPYN	AVITHGFTMD	EKGEKMSKSK	GNTVTPQEV
melo	WFHSSLLESC	GTRG.RAPYD	TVVTHGFTMD	EDGRKMSKSL	GNTVVPQDVI
cacr	WFQSSLLEGC	GTRG.RAPYK	AVVTHGFTMD	ENGEKMSKSR	GNTIEPQTIT
hepy26695	WFQSSLLIGC	VLNN.QAPFK	KVITHGFIVD	EKGEKMSKSK	GNVVSLLDKLL
hepyj99	WFQSSLLIGC	VLNN.QAPFK	KVITHGFIVD	EKGEKMSKSK	GNVVSLLDNLL
caje	WFQSSLLVGT	AINE.SAPYE	SILTHGFTTD	EKGQKMSKSK	GNVIASEYVA
thma	WFHSSIFLAV	AKRG.SAPYK	EVLTHGFIKD	EQGRKMSKSL	GNVVDPMEVV
fepe	WFQSSIFLST	AKAG.TAPFK	AVVTHGFIKD	EQGRKMSKSL	GNVIDPMEIV
aqae	WFQASLLESV	GSYL.EAPYK	AVLTHGFIVD	EKGRKMSKSL	GNVISPQEVV

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mask ..... ***** ** .....
stau2 N..... KYGADSLRWA LISDSAPW.N NKRFSENI.. VAQTKSKFID
bace2 N..... QFGADALRWA LLVDSAPW.N AKRFSERT.. VLEAKSKFVD
baan2 G..... KFGADALRWA LLVDSALW.N AKRFSERT.. VLEAKSKFVD
ocih  E..... EFGADALRWA LLADSSPW.N NKRFSSKT.. VSQAKSKVID
clpe  D..... SQGADATRWH FYTASAPW.L PTRFSIED.. VAETQRKFLS
clac  D..... NQGADACRWH FYTSSAPW.L PTRFSQED.. VAETQRKFLS
cldi  D..... QYGADALRWY LLYVSPPW.T PTKFDMDG.. LKEIQSKFIG
pogi  K..... KYGSDPLRWY MITNSSPW.D NLKFDTDG.. VEEVRRKFFG
bafr  E..... QYGSDPLRWY MITNSSPW.D NLKFDVDG.. IEEVRRKFFG
feac  S..... MYGADPARLF FYTG.APW.N SKSIDKKL.. IGDTARKVFG
thvo  K..... QVAPDSLRLF FLYG.APW.K SKNLDRKI.. IDEVSRRVIS
thnw  N..... EVPPDSLRLF FLYG.APW.K SKNLDKKV.. IDEVSRKTLM
cyhu  D..... KYGPDATRWY MITNAPPW.D NLKFNLDG.. ITEVQRRFFG
chte  E..... QYGADAIRWY LMITSPPW.R PKLFNAAE.. IEEEQRKFFR
dera  D..... QYGADSVRWY MFMASDPG.D QKRFSERL.. VAEAQRSYVN
stco  D..... QHGADAVRWF MAAGGSPW.A ARRVGHGT.. IQEVVRKTL
thth  R..... KFGADALRWY IYVSAPPE.A DRRFGPNL.. VRETVRDYFL
deet  D..... KYGADAVRWY FYTAAPPG.N ARRFSKEL.. VGEVTRQFLL
anga  N..... KYGADALRLY LINSPPVRAE NLRFKKEG.. VRDIKDVFL
drme  H..... KYGADALRLY LINSPPVRAE SLRFKEEG.. VRDIKDVFL
hosa  Q..... KYGADALRLY LINSPPVRAE NLRFKKEG.. VRDVLKDVLL
cael  N..... KYGADALRLY LINSPPVRGE NLRFREEG.. VRDLLKDVFL
asfu  Q..... RYGSDALRLY LINSPPVRAE PLRFKESG.. VKEIVAKVLL
scpo  E..... KYGSDALRLY LINSPPVRAE ILKFKEDG.. VREVTRVLI
sace  N..... KYGADALRLY LINSPLKAE SLKFKEEG.. VKEVSKVLL
ledo  D..... TYGADALRMY MISSPVVRAE PLRFREAG.. VKGVVKDILL
lema  D..... TYGADALRMY MISSPVVRAE PLRFREAG.. VKGVVKDILL
arth  D..... EYGADAVRLY LINSPPVRAE PLRFKKEG.. VLGVVKDVFL
teth  S..... KYSVDAILRY MINSPLVRAE EMSFKSEG.. VFAVKKDIFL
encu  N..... TYGADSLRMY LISSPVVEAE NLKFSEGG.. VKEVLKTLII
nolo  N..... RYSADSLRLY LISSPVVMAE NMCFSSEG.. VGEVLKTLII
plfa  N..... KYGADSLRLY LINSVAVRAE NLKFQEKG.. VNEIVKSFIL
plyo  N..... KYGADSLRLY LINSVAVRAE NLKFQEKG.. VNEIVKSFIL
chtr  D..... AYGADALRLY LLNSVVVKA E DLRFSDKG.. VESVLKQVLL
chmu  D..... TYGADALRLY LLNSVVVKA E DLRFSDKG.. VEAVLKQVLL
chpn  D..... TYGADALRLY LLHSVVVKA E DLRFSDKG.. IEGVLKQILL
trde  K..... QFGADALRLF LMNSNVVKAD DLKYSDEG.. VRDVLKGILI
trpa  D..... RYGADALRLF LVRSAVVRAD DLKYSDEG.. VKDILKTVII
bobu  N..... TFGADALRLY LIMSPVVKAD DLKYSDEG.. VRDVLKNI II
myle  D..... RDGSDAMRWF LMASPILRGG NLIITEPG.. IREGMRQVLL
mytu  D..... RDGSDAMRWF LMASPILRGG NLIVTEQG.. IRDGVVQVLL
codi  N..... RDGSDAMRWF LMSSPILRGG NLIVTEQG.. IREGVRQALL
ripr  D..... KYGSDALRVT MLSSNVVKGQ ELLIDKDGKM VFDTLRLFIK
rico  D..... KYGSDALRVT MLSSNVVKGQ ELLIDKDGKM VFDTLRLFIK
psfl  Q..... THGSDALRVA LLASPVCKGE DIKFSEES.. VRDVVRRYHL
sus0  E..... KYGRDILRLW LLRN.TTW.E DAKFSWKA.. .LELTKRDQL
aepe  A..... KVPRDVVRFW VLQN.TVW.E DLRFSWKG.. .LDLMRRDFN
arfu  G..... QIGVDGFRLY VLYS.APW.E DLRFSWEE.. .ARNINRMLN
meba  D..... KYGADTLRAY VLSSSAPW.D DLKFNQEE.. .VENVHRSIN
meth  E..... KYGADVLRFY LLWANKPW.E DLKFWWDE.. .LKNVNKMFN

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pyho	E.....	KAGRDTFRFY	MLWATNPW.E	NLKFSWKG..	VEQVRRMLN
pyfu	E.....	KAGRDTFRFY	MLWATNPW.E	NLKFSWKG..	VEQVRRMLN
pyab	E.....	RAGRDTFRFY	MLWATNPW.E	NLKFSWKG..	VEQVRRMLN
meja	E.....	KYGADLLRFY	LLSANKVW.E	DLRFVWSE..	MDDVLSLFN
haNRC	D.....	EYGADPMRMF	LLSVTPQG.D	DMSFSWDE..	TENMQRDLN
pyba	E.....	KYGADPVRLY	ILSKVAPW.E	DLSFDPDE..	VKYVIGDLN
bacel	D.....	QLGGDILRLW	VSSVDYQS..	DVRISDDILK	..QVAEVYRK
baan1	D.....	QLGGDILRLW	VSSVDYQS..	DVRISDDILK	..QVAEVYRK
bast	E.....	QFGADILRLW	VASVDYQA..	DVRISDHILK	..QVSEVYRK
basu	K.....	QLGADILRLW	VSSVDYQA..	DVRVSDAILK	..QVAEVYRK
baha	K.....	QLGADILRLW	VASVDYQA..	DVRVSDKILK	..QVSEVYRK
limo	K.....	QLGADIVRLW	VASVDYQA..	DVRVSDEILK	..QVSEVYRK
liin	K.....	QLGADIVRLW	VASVDYQA..	DVRVSDEILK	..QVSEVYRK
stau	K.....	QKGADIARLW	VSSTDYLA..	DVRISDEILK	..QTSDVYRK
stpy	K.....	QYGADILRLW	VASVDTDN..	DVRVSMEILG	..QVSETYRK
stmu	K.....	QYGAEILRLW	VASVDTDS..	DVRVSMEILG	..QVSETYRK
stpn	K.....	QFGAEILRLW	VTSDVSSN..	DVRISMDILS	..QVSETYRK
lala	K.....	KFGADILRLW	VASIDTES..	DVRVSMIDILS	..QVSEVYRK
enfa	N.....	QMGADILRLW	VSSVDAEA..	DVRVSMIDILN	..QVSEVYRK
syne	NGGKNQKQEP	AYGADVLRLW	VASVDYAN..	DVPIGQGILK	..QLVDIRNK
arthchl	EGGKNSKDAP	AYGADVRLW	VSSVDYTG..	DVLIGPQILR	..QMSDIYRK
prma	NGGPNQKIQP	AYGADVLRLW	VSSVDYSV..	DVPIGSNILK	..QLSDVYRK
mypu	Q.....	KYGADILRLW	VANCEYAH..	DVSVSESIK	..QTVENYRK
myge	D.....	QYGADILRLW	VANTDWQI..	DNKIGVNILK	..QVAEQYRR
mypn	D.....	QYGADILRLW	VTNVDWQV..	DNRIGDNIK	..QIVEQYRR
urur	K.....	IYGADVLRLW	IANSDYQN..	DTRISEEILK	..QNAEIYRR
saty	N.....	KLGADILRLW	VASTDYTG..	EMAVSDEILK	..RAADS YRR
esco	N.....	KLGADILRLW	VASTDYTG..	EMAVSDEILK	..RAADS YRR
yepo	N.....	KLGGDILRLW	VASTDYTG..	EIAVSDEILK	..RSADS YRR
vich	N.....	KLGADILRLW	VASTDYTG..	EVAVSDEILK	..RSADAYRR
hain	D.....	KFGGDILRLW	VASTDYTG..	EMTVSDEILK	..RAADS YRR
acac	D.....	KFGGDILRLW	VASTDYTG..	EMTVSDEILK	..RAADS YRR
pamu	D.....	KFGGDILRLW	VASTDYTG..	EISVSDEILK	..RAADAYRR
psae	D.....	TLGADILRLW	VASTDYSG..	EIAVSQQILQ	..RSADAYRR
psfl_1	D.....	TLGADIMRLW	VASTDYSG..	EIAVSDQILA	..RSADAYRR
xyfa	K.....	TLGADILRLW	IASTDYSN..	EMSLSQEILK	..RTTDAYRR
neme	N.....	EFGADILRLW	AASTDYSG..	ELAISKEILK	..RVTES YRR
buAPS	D.....	TLGADILRLW	VASSNYSN..	DISISNEILK	..SSSDIYRR
agtu	K.....	ESGADILRLW	VMTTDYWE..	DQRLGKAI IQ	..TNIDAYRK
sime	K.....	DAGADILRLW	VMTTDYWE..	DQRLGKTIIQ	..TNIDAYRK
melo	K.....	QSGADILRLW	VVTTDYWE..	DQRLGKNVLQ	..TNIDAYRK
cacr	K.....	ESGAEILRLW	TAMVDYQE..	DQRIGKTILA	..TTTDAYRK
hepy26695	K.....	THGSDVVRLW	VAFNDYQN..	DLRVSQTFFT	..QTEQHYKK
hepyj99	K.....	KHGSDVVRLW	VAFNDYQN..	DLRVSQTFFI	..QTEQHYKK
caje	K.....	TYGVEILRLW	ILLSYSS..	DLKISDNILK	..QVGEQYRK
thma	E.....	KYGAEILRLW	LASSDYFN..	DIKISMRIVE	..QQTEVYRK
fepe	N.....	KYGADILRLW	VASTDFFD..	NIRVGKNIIE	..QQVEVYRK
aqae	K.....	EFGADILRLW	VVSEDYTE..	DVKLGKNLLK	..KIADDYRK

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mask	***.....	.....	.....	.....	.....
stau2	TLDNIYKFYN	MYNKIDH...	.....YN	PN.....N	..E...ITKS

bace2	TLVNVYSFYV	LYANLDE...	.....	YN	PD.....	E	..T...YDVK
baan2	TLVNVYSFYV	LYANLDE...	.....	YN	PN.....	E	..T...YDVK
ocih	TILNVYSFYV	MYADIDK...	.....	FN	VA.....	E	..H...ATDA
clpe	TLWNVYSFYV	LYAELDN...	.....	FN	PL.....	D	.YK...DFVS
clac	TLWNVYSFYV	LYAEIDK...	.....	FN	PN.....	D	.YK...DFVS
cldi	TMKNVYNFFT	LYANTDD...	.....	IN	PT.....	E	FFV...EYKD
pogi	TLYNTYQFFA	LYANLDG...	.....	FT	GE.....	E	ESI...PFAK
bafr	TLYNTYSFFA	LYANVDG...	.....	FE	YK.....	E	ADL...PMNE
feac	TLSNVYSFFA	SNANLDG...	.....	FV	FQ.....	D	.....LEPS
thvo	TLLNVYSFFA	YNANIDG...	.....	FE	FK.....	G	.....ILEA
thnw	TVLNVYSFFA	YNANIDN...	.....	FQ	WN.....	G	.....LQLS
cyhu	TLQNTYSFFA	LYANLDN...	.....	FT	FA.....	E	AEI...PLAQ
chte	AFINSYNFFV	LYANVDG...	.....	FR	YE.....	E	ADI...PFTQ
dera	TLWNVYSFFV	LYANLD...	.....	QP	DL.....	A	AAP...AVAE
stco	TYWNTVAFQA	LYARTTG...	.....	WA	PS.....	E	ADP...APAD
thth	TLWNVYSFFV	TYANLD...	.....	RP	DL.....	K	NPP...PPEK
deet	MLWNVYSFFV	TYANIDS...	.....	FT	PS.....	E	K.Y...LEGE
anga	PWFNAFRFLF	QNVDRFEKEE	GIR...YRYD	AV.....	R	HAE...KRS	
drme	PWYNAYRFLI	QNIVRYEKED	LAGNGQYTYD	RE.....	R	HLKN...MDK	
hosa	PWYNAYRFLI	QNVLRLOKEE	EIE...FLYN	EN.....	T	VRE...S	
cael	PWFNAYRFFV	QNVQAYEHET	GN...VFD	MN.....	V	HVA...S	
asfu	PLWNSYKFFE	GQAALFKKNN	SID...FVFD	PK.....	A	EATN.....	
scpo	PWWNSYKFFE	AQAALYKKVT	GKD...FVFD	DA.....	A	TLS.....	
sace	PWWNSFKFLD	GQIALLLKMS	NID...FOYD	DS.....	V	KSD.....	
ledo	PLFNAAKFFI	SNTNYCIEAG	GQV...SLQ	A.....		.....RS	
lema	PLFNAAKFFI	SNTNYCIEAG	GQV...SLQ	A.....		.....RS	
arth	PWYNAYRFLV	QNAKRLETEG	GVP...FVP	TD.....	L	ATI...QS	
teth	PWYNAYKFLI	QSITRWELAT	GKD...YMFN	EQ.....	L	SVDT...TKL	
encu	PWYNLSGFYL	E.....	.....	N	RD.....	V	EPD...GR
nolo	PWYNCIYFYS	E.....	.....	C	PN.....	A	G.D...QE
plfa	PYYHSFRFFS	QEVTRYETTN	KMQ...FLFN	TD.....	Y	IYK...ND	
plyo	PFYHSFRFFS	QEVIRYETSY	KTT...FSFS	NK.....	Y	IYD...NN	
chtr	PLSNALAFYK	TYAELYG...	.....	FD	PK.....		.ETD...NIE
chmu	PLSNALAFYK	TYAELYG...	.....	FS	PN.....		.ETT...DLE
chpn	PLTNVLSFFN	TYAELYG...	.....	FD	PK.....	S	.QDI...EPA
trde	PFWNSYSFYI	TYANIDGVKP	PHN...AKVD	GK.....	D	EGVEEFLAKL	
trpa	PLWNSYSFYV	TYANIDGIDP	PVC...AKVD	GM.....	G	QAVTRLATHL	
bobu	PIWNAYSFFT	TYAIIDKFKP	PKN...LSLA	K.....		.....	
myle	PLWNAYSFLA	LYA.....	.....	P	KI.....	G	TWHTD...V
mytu	PLWNTYSFLA	LYA.....	.....	P	KV.....	G	TWRVD...S
codi	PMWNAYSFLQ	LYS.....	.....	S	KP.....	A	QWSVD...S
ripr	PIWNAYHFFT	IYANAD...	.....	S	LK.....	G	TLNFA...S
rico	PIWNAYHFFT	MYANAD...	.....	S	LK.....	G	KLNFS...S
psfl	LFWNCLQFYK	TFTEIDQ...	.....	FS	PS.....	G	DLGQP...L
suso	IIWNTFVFAS	MYMNLDN...	.....	FE	P.....	D	KYTLDDIIKY
aepe	VIWNVYAFAS	IYMGLDR...	.....	FD	P.....	R	RTSLSSVEDS
arfu	VVWNAVRFAH	TYMSLDN...	.....	YS	.....		...FGEKGE
meba	ILWNVFRFPL	PYMALDN...	.....	FD	P.....	L	KVSLDSVKDA
meth	ILWNVYVFAT	TYMSLDR...	.....	FQ	P.....		.GDHELEDLH
pyho	ILWNVYVLSA	TYMSLDN...	.....	FD	P.....		.RNVKVEELA
pyfu	ILWNVYVLSA	TYMSLDN...	.....	FD	P.....		.RNVKVEELE
pyab	ILWNVYVLAS	TYMSLDN...	.....	FD	P.....		.RKLNPDELP

meja	TLWNAVMFAV	NYMVLDN...	FK	P	DEKYFEYLK
haNRC	ILWNVFRFPR	PYMALDD...	FD	ANVPAAFGGD	DAGVGIADAD
pyba	ILWNVVKFAD	TYMSLDG...	FD	A	KYPLSQWLEK
bacel	IRN.TFRFLL	GNLDD...	FK	PS	NTVAV...AE
baan1	IRN.TFRFLL	GNLDD...	FK	PS	NTVAV...AE
bast	IRN.TFRFML	GNLFD...	FD	PN	NAVPI...GE
basu	IRN.TFRFLH	GNLFD...	FD	PK	NAVAV...ED
baha	IRN.TYRFLH	GNLHD...	FH	PA	HRVAI...DQ
limo	IRN.TMRFLH	GNIND...	FN	PT	NTVSY...EN
liin	IRN.TMRFLH	GNIND...	FN	PT	NGVSY...EN
stau	IRN.TLRFML	GNIND...	FN	PD	DSIPE...SE
stpy	IRN.TLRFLL	ANTSD...	FN	PA	DTVAY...AD
stmu	IRN.TLRFLL	ANTTD...	FN	PY	NKIAF...ED
stpn	IRN.TLRFLL	ANTSD...	FN	PA	DTVAY...DE
lala	IRN.TLRFLL	ANTSD...	FN	PK	DAIDF...AE
enfa	IRN.TMRFLH	ANTSD...	FN	PA	HTVAY...AD
syne	IRN.TARFLL	GNLHD...	FN	PE	DAVAY...ED
arthchl	LRG.TLRYLL	GNLHD...	WR	V	NAVVPY...QD
prma	VRN.TARYLL	GNIHD...	YD	PA	EEIDI...DQ
mypu	IRN.TIKFLL	GNLQD...	YD		HSKFN...LK
myge	IRNSLLRFIL	GNING...	FN	FT	SMDD...YK
mypn	IRNSLLRFIL	GNLNH...	FN	FG	EMKD...YR
urur	IRNTLFKYSL	SILND...	FE	PS	VDFS...FN
saty	IRN.TARFLL	ANLNG...	FN	PA	DMVKP...EE
esco	IRN.TARFLL	ANLNG...	FD	PA	DMVKP...EE
yepe	IRN.TARFLL	ANLNG...	FD	PA	HQVKP...EE
vich	IRN.TARFLL	ANLNG...	FN	PT	DIIPV...ED
hain	IRN.TARFLL	ANLNG...	FD	PK	DLVKP...EK
acac	IRN.TARFLL	ANLNG...	FD	PQ	DAVKP...EE
pamu	IRN.TARFLL	ANLNG...	FD	PK	DLVKP...EE
psae	IRN.TTRFLL	SNLNG...	FD	PA	DLLPP...QE
psfl_1	IRN.TARFLL	SNLTG...	FN	PA	DLLPA...ED
xyfa	IRN.TARFLL	GNLHG...	FD	PT	HLVPL...SD
neme	IRN.TLSFLF	ANLSD...	FN	PI	DAVQQ...AD
buAPS	IRN.TARFLL	ANISD...	FD	PK	NIISK...EN
agtu	LRN.TVRWML	GTLAH...	DN	GE	EIAY...AD
sime	LRN.TIRWML	GTLAH...	DK	GE	VVAL...SD
melo	LRN.TIRWML	GTLAH...	DD	GE	TVPL...EA
cacr	LRN.TMRYLL	GALAG...	FD	EE	RVTDY...DQ
hepy26695	FRN.TLKFLL	ANFSD...	MD	LK	LERP...HN
hepyj99	FRN.TLKFLL	ANFSD...	MD	LK	LERP...HD
caje	IRN.TIRFLL	ANTN...	D	LK	LEV...KE
thma	IRN.TFRFLL	GNLED...	FD	PE	DRVPH...EK
fepe	LRN.TLRYLL	SNLYD...	FT	E	DLLPY...EK
aqae	IRN.TLRFII	GNLYD...	FN	PR	NALPF...EK

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mask	.....****	***	.....	.....	.....****
stau2	RNTLDNWALS	RLNTLIKESN	IYVNNYDFT	SAARLINEYT	NTISNWIYIG
bace2	RTKLDEWVLS	RLHSTTKKVR	TALDDYQFT	NAAREIATLV	DEVSNNWYVR
baan2	RTKLDEWVLS	RLHSTTKKVR	TALDDYQFT	NAAREIAALV	DEVSNNWYVR
ocih	KTTLDSWILS	RLNSVIKEVT	TSLDQYDIT	KGARSIALFV	DELSNNWYVR

clpe	DNVMDKWIMS	KLNTLVKDVD	.DHLNNYRIT	QAALIEEFT	.DELSNWXVVR
clac	GNVMDKWIVS	RLNTLTKDVG	.NYLDSYGIT	QAALIEQDFV	.DDLSNWXVVR
cldi	RPELDRWILS	KFNMLMKDVE	.ENLAIFELN	KTLRMIQDFI	NDDLSNWXVIR
pogi	RPEIDRWILS	ELNTLIREVD	.DQLSDYEPT	RAGRAISDFV	SENLSNWXVVR
bafr	RPEIDRWILS	VLNTLVKEVD	.TCYNEYEPT	KAGRLISDFV	NDNLSNWXVVR
feac	SNLLDRWLLS	RLNSTIENTR	.KNMDEFDMH	IALRNIMDLI	.NDFSNYYL
thvo	KDTLDRWLLS	KINTFIIESR	.RAYDDLDFH	EVVRLSMDFV	.DNLSNFYLR
thnw	GNALDRYMVS	KVNSFVRSSR	.DAYESLDFH	EVVRASMEFV	.DDLSNFYLR
cyhu	RTESEDRWILS	KLQSLVKDVA	.DAYSDYEPT	KAGRAIQDFV	VDDLSNWXVVR
chte	RSELEDRWVLS	SLNTLIAEVT	.SRMEQYDLT	GACRLIGDFT	VDDLSNWXVIR
dera	RPEMDRWLLA	RLEETVRDVT	.AALESYDAR	SGGRALEGF.	VDDLSNWXVVR
stco	RPVLEDRWLLS	ELHALTDQVT	.QALDAYDTQ	RAGKLLSAF.	VDDLSNWXVVR
thth	RPEMDRWLLA	RMQDLIQRVT	.EALDAYDPT	TSARALRDFV	VEDLSQWYVR
deet	VPELEDRWILS	ELNQLVLDVD	.KGLDNYDPT	QAGRRIEDF.	VGYLSNWXVVR
anga	TNVMDVWIIS	FKESLLKFVT	.EEMKAYRLY	TVVPRLTKFI	.DQLTNWXVVR
drme	ASVIDRWILS	FKESLLEFFA	.TEMKMYRLY	TVVPRLTKFI	.DQLTNWXVVR
hosa	PNITDRWILS	FMQSLIGFFE	.TEMAAYRLY	TVVPRLVKFV	.DILTINWXVVR
cael	ENVMDRWIES	FTNSLVAFVR	.KEMDSYRLY	AVVGPLTKFF	.DTLTNIYIR
asfu	TNVMDRWILA	SCQSLLKFVN	.EEMAGYRLY	TVVPRLLELI	.DNTTNWXVIR
scpo	SNVMDRWILA	RCQSLIGFVD	.EEMKQYRLY	TVVPQLLGLI	.EEMTNWXVIR
sace	.NVMDRWILA	SMQSLVQFIH	.EEMGQYKLY	TVVPKLLNFI	.DELTNWXVIR
ledo	TNEMDRWILA	SCQSLLRYVK	.AEMRLYHLY	NVVPGLRFRV	.GDLSNWXVVR
lema	TNEMDRWILA	SCQSLLRYVK	.AEMRLYHLY	NVVPGLRFRV	.GDLSNWXVVR
arth	ANILDQWIHS	ATQSLVRFVR	.EEMDAYRLY	TVVPRLKFL	.DNLTNIXVVR
teth	TNPTDRWIII	SCQNLINYVR	.IEMEKYHLY	NVVPRLIHFL	.ENLTINWXVIR
encu	SLPMDGWITA	SFDNFAWSLT	.RKMRKYELS	SVLTLALRFI	.DDLSNWXVIR
nolo	QTRMDDWILN	TLNTFGNKVK	.RDMSKYMLQ	GVMGYATSFV	.NDLSNWXVIR
plfa	N.IMDQWIFS	SLQSLINSVH	.TEMKAYKLY	NVLPKLLNFI	.ENLTINWXVIR
plyo	NNIMDQWIFS	SIQNLIKSVH	.YEMKQYKLY	NVLPKLLNFI	.ENLTINWXVIR
chtr	LAEIDRWILS	SLYSLVGKTR	.ESMSQYDLH	AAVNPFDVFI	.EDLTINWXVIR
chmu	LAEIDRWILS	SLYSLVGKTR	.ENMAQYDLH	AAVSPFIDFI	.EDLTINWXVIR
chpn	YTEIDQWILS	NLYSVVGKVR	.ESMSQYHLN	FAVEPFVTFI	.DDLTNWXVIR
trde	NNPLDLWILS	VTEKLVADVT	.EALDKYDLS	QAIPPMVEYI	.DLLNWXVIR
trpa	NNPLDRWILS	LTEKLVQDIA	.CALDAYDVS	KVADPIVSYV	.DQLNWXVIR
bobu	NNNLDKWIIS	ELESKKILN	.TEIDKYNLT	KSIESLLEFI	.DKLNNWXVIR
myle	SHVLEDRYILA	KLAVLRDDLS	.QAMEVCDIS	GACEQLRQFT	.EPLTNWXVLR
mytu	VHVLEDRYILA	KLAVLRDDLS	.ESMEVYDIP	GACEHLRQFT	.EALTNWXVVR
codi	SDVLEDRYILA	KLHDVVAAGV	.DALDNTDIA	RACDEVRTFC	.DALTNWXVVR
ripr	QNVLDVYILS	KLKIAVNKIE	.ESLDNFDTQ	TAYHAVSEFF	.EVLNNWXVIR
rico	KNVLDVYILS	KLKIAVQKIE	.ESLDNFDTQ	TAYHAVSAFF	.EVLNNWXVIR
psfl	DNVLDHYLLH	ELAALESNIK	.MWMSLDFV	KIYSRIEVFI	.NVLSTWYLR
suso	AKIEDLWILS	RFNSMLKKVN	.ESMKDYKVH	EMTNYLINFL	IEDVSRFYIR
aepe	LEVEDRWILS	RLASLKRRYL	.TAMEDLRIH	DAARALRSFI	IEDVSHWYLR
arfu	LKIEDRWILS	RLESFIKEAN	.EAMEGYQVH	RVVRAFFDFF	VEDFSRWYIQ
meba	LREEDRWILS	RIQSVVKAVD	.EAMSGYFLH	KAVREILEFT	LEDLSRWYIQ
meth	FRDEDRWIIS	RVNSVALKVT	.EALDNLHFFH	RATREIHDFI	VEDLSRWYIR
pyho	FREEDKWILS	RVNSLIREVE	.NGIETFYLT	KATRALYNFV	VEDLSRWYVR
pyfu	FREEDKWILS	RVNNLIKEVE	.NGIETFYLT	KATRALYNFV	VEDLSRWYVR
pyab	FREEDKWILS	RVNSLISEVE	.NGIESFYLT	KATRALYNFV	VEDLSRWYVR
meja	.DEDRWIVS	RINSVAKIAI	.ENLEVPYFH	TYTWTLKDFI	LNDLSRWYIR
haNRC	LETVDEWLLS	RLQHVKADAT	.AHWEDFEQH	RALDAVLEFV	VEDLSRYVQ
pyba	GLEEDKWILS	ELNIMISEFT	.NFVKNFEFH	KAAALWREFV	VETLSHRYIR



bace1	LREVDRYMLV	KLNDLITKVK	.EAYETYDFA	AVYHAIHNFC	TIDLSSFYLD
baan1	LREVDRYMLV	KLNDLITKVK	.EAYETYDFA	AVYHAIHNFC	TIDLSSFYLD
bast	LGEVDRYMLA	KLNKLIKVK	.KAYDSYDFA	AVYHEMNHFC	TVELSAFYLD
basu	LREVDQYMLI	KLNKLIDKVK	.KAYDEYEFA	VVYHSIHNFC	TIELSSFYLD
baha	LNGLDRYMLA	KLNDVINRVK	.KAYDEYQFS	TVYHELHNFC	TIELSSFYMD
limo	LREVDKYMLI	KLNDLVKVK	.DSYEAFEF	TIYHQINNFC	TVELSQFYMD
liin	LREVDKYMLI	KLNDLVKVK	.DSYEAFEF	TIYHQINNFC	TVELSQFYMD
stau	LLEVDRYLLN	RLREFTASTI	.NNYENFDYL	NIYQEVQNF	NVELSNFYLD
stpy	LGTVDKYMTI	VFNQLVATIT	.DAYERYDFM	AIYKAVNVFV	TVDLSAFYLD
stmu	LRSVDKYMLI	KFNQLVSVIN	.RAYSHYDFM	TIYKAVNVFV	TVDLSAFYLD
stpn	LRSVDKYMTI	RFNQLVKTIR	.DAYADFEFL	TIYKALVNF	NVDLSAFYLD
lala	LRPVDKYMLV	KFNELVKQIR	.TAYDNYSFM	TVYKSIINF	TNDLSSFYLD
enfa	LRSVDKYMTV	RLNQVIQEI	ENGYEKYNFM	HIYRTVMNFL	TVDLSSFYLD
syne	LPELDRYMLH	RMTEVFTEVT	.EAYESFQFF	KFFQTVQNF	VVDLSNFYLD
arthchl	LPIIDQHALF	QLENVVKNIQ	.ECYENYQFF	KIFQIIQRFT	IVDLSNFYFD
prma	LPLLDQWMLN	RLVEVSDEVT	.IAYENYEF	KFFQILQSFC	VVDLSNFYLD
mypu	LEGIHELIN	RLKKVKFDIL	.QAYNDYDFN	DVIKTLTNFL	T.DLSSFYLS
myge	FSLEDKIVIH	KTNSLVEQIE	.KFLEKYNFL	GCLKVINKFV	L.WLSSWYFE
mypn	FALEDKIVIH	KTNALVQELH	.QWLKQYNFL	NCLKAINKFV	L.WLSGWYFE
urur	VRQEEQFVLN	EFNELHIKVI	.KAYENFDYQ	TVVKLFNKFI	L.DLSSWYFE
saty	MVVLDRWAVG	CAKTAQQEIL	.KAYEAYDFH	EVVQRLMRFC	SVEMGSFYLD
esco	MVVLDRWAVG	CAKAAQEDIL	.KAYEAYDFH	EVVQRLMRFC	SVEMGSFYLD
yepe	MVVVDRWAVG	RAQAAQAEIM	.EAYENYDFH	LVVQRLMQFC	SVEMGSFYLD
vich	MVALDRWAVG	RALAAQOEII	.QAYQDYNLH	AVVQRLMNFC	SIEMGSFYLD
hain	MISLDRWAVA	CALDAQNEIK	.DAYDNYQFH	TVVQRLMRFC	SVEMGSFYLD
acac	MISLDRWAVA	CALEAQNEIK	.DAYDNYQFH	AVVQRLMRFC	SVEMGSFYLD
pamu	MMVLDRWAVD	CAYQAQNEIK	.DAYDNYQFH	AVIQRLMKFC	SIEMGSFYLD
psae	MLALDRWAVD	RALLLQREIE	.EAYREYRFW	NVYSKVNFC	VQELGGFYLD
psfl_1	MLALDRWAVD	RTLALLQRELQ	.EHYGEYRFW	NVYSKIHNFC	VQELGGFYLD
xyfa	MIALDRWIVH	RAFELQQTIK	.AAYTRYDFA	EIVQTILNFC	SVDLGSFYLD
neme	MVEIDRYALV	LARRLQERLA	GDYYPRYAFH	FAVKDIVSFC	SEDLGAFYLD
buAPS	MVLLDKWAIG	QTKIVQEEII	.QHYNYNFHF	AVIQRLMYFC	SIEMGSFYLD
agtu	LPELEKLVH	RLSELDKVV	.DGYDAFDFK	KITRALIDFA	NVELSAFYFD
sime	MPELERLMLH	RLAELDRLVR	.EGYDAFDFK	RIARALIDFS	NVELSAFYFD
melo	MPELERLMLH	RLAELDEVVR	.QGYDAFEFK	RITRALVDFM	VVELSAFYFD
cacr	FPALEKYILH	RLWELDGQVR	.EAYQSYRFS	DVIRPLIEFC	QGDLSALYFD
hepy26695	FSPLDHFMLE	TLETISAGVN	.SAFEEHDFV	KGLNILMAFV	TNELSGIYLD
hepyj99	FSPLDHFMLE	ALETISAGVN	.SAFEEHDLV	KGLNILMAFV	TNELSGIYLD
caje	FSFIDKWILS	RATKVKFASK	.EAFFAYEFA	KGFSLLLNFL	SADLSGIYLD
thma	LLTIDRWALG	RLQEIIKTRAT	.EYDSEYEF	KVYNLVVKYC	TTELSLYLD
fepe	LLPLDKWALG	RLQKFIEQIT	.QYYEGFEYS	KVYNATVKYC	TTELSAVYLD
aqae	LHHFDRWIIS	ELQNLLKKVH	.ENYEKFLFY	RVHNHIKNFV	ITTLIAIYLD

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mask	*****...	.....*	*****	*****.	.....
stau2	DSRGRFWEQG	ISN.DKKDAY	NTLYEILTTL	SRLVAPFVPF	ISEKIHYNLT
bace2	RSRNRFWESG	MNA.EKAAAY	ETLHEVLVTI	SKLIAPF'PF	VAEDIHLNLT
baan2	RSRNRFWESG	MNA.EKAAAY	ETLHDVLVTI	SKLIAPF'PF	VAEDVHLNLT
ocih	RSRQRFWSSG	MNE.DKKAAY	TTLHEVLSKL	TQLMAPYIPF	VADDIYTNLQ
clpe	RNRARYWSEE	LTD.DKIGAY	TTLYRVLVTL	CKVAAPFVPF	ITEEIQNLV
clac	RNRSRYWTQE	LTD.DKVGAY	VTLYRVLVTL	SKVAAPFIPF	MTEQIQSLV
cldi	RSRRRFWATE	LTE.DKKAVY	NTTYELLHGL	CRAIAPFAPY	MSEEMYRNLT

pogi	LSRRRFWAGD	MTE.DKLSAY	QTLYTSLLTV	SKLMAPISPF	YADRLYRDLT
bافر	LNRKRFWGGG	FTQ.DKLSAY	QTLYTCLETV	AKLMAPIAPF	YADRLYSDLI
feac	LSRKRFWEGK	LDD.EKKKAY	ETLYYTLINI	LKLLAPLAPF	YTDYMYQKLS
thvo	LSRRRFWAED	VTE.DKLAAY	STLYTAIMTC	SKVLAPIVPF	VSDYLYLSLH
thnw	LSRRRFWAEG	FDD.DKLSAY	STLYYALKAF	SEVMAPITPF	FSDFIYLNLG
cyhu	LNRKRFWKGE	YNA.DKTAAY	QTLYTCLETV	AKLGAPIAPF	YMDKLFSDLN
chte	RSRKRFWKGE	MGP.DKLSAY	QTLSTVLETL	AKLMAFVVPF	IAEKIWLDLK
dera	RSRSRFWGEG	GTV.D.TAAY	ATLHEALLVV	SQLTAPF'PPF	LADALYRNLS
stco	RSRRRFWQGG	. . . .D.KAAL	RTLHEVVETV	TKLMAPLTPF	ITERVWQDLV
thth	RNRKRFWKNE	DAL.DREAAY	ATLYEALVLV	ATLAAPF'PPF	LAEVLWQNLV
deet	RSRRRFWKSE	NDA.DKLSAY	QALYTCLVTL	SRLAPF'PPF	VAEELYQNLV
anga	MNRKRIKGEY	GVE.DCYHAL	DTLYDVLLAM	VKMMAPF'TPY	LTEFMYQRLR
drme	LNRKRIKGEY	GAD.QCIQSL	DTLYDVLYTM	VKMMAPF'TPY	LTEYIFQRLV
hosa	MNRRLKGEN	GME.DCVMAL	ETLFSVLLSL	CRLMAPYTPF	LTELMYQNLK
cael	LNRKRVKGDN	GLH.EQHHAL	AALGRVLILI	VRLMAPF'PPF	FCEYIWLNLK
asfu	FNRKRLKGEN	GID.DTLHAL	NTLFEVLYTL	VRGLAPF'PPF	ITDTIYQKLL
scpo	FNRRLKGED	GEI.ETINAL	NVLFVLF'FTL	VRIMGPF'PPF	ITENIYQHLL
sace	FNRRLKGEN	GVE.DCLKAL	NSLFDALFTF	VRAMAPF'PPF	LSESIYLRK
ledo	MNRRLMKNAT	DSE.DRSQAL	STMLYLLFSV	SRIVGHIAP.	. . PPVYERL.
lema	MNRRLMKNAT	DSE.DRSQAL	STMLYLLFSV	SRIVGHIAP.	. . PPVYERL.
arth	FNRKRLKGRT	GED.DCHTAL	STLNFVLLTS	CKVMAPF'PPF	FTETLYQNLR
teth	LNRNRLKGDY	GLE.EQETSL	NVLFNVILNS	TILMSPLVPF	ITESFYQNLR
encu	MYRKEIR. . . . .	. . . . .AGHH	AVLGEILKKF	SIVMGPF'PPF	FSEYSYQSLN
nolo	LN. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
plfa	LNRDRMRGML	GKE.NTHQSL	NVLCRTLYLF	TIIMAPF'PPF	ISEYIYQFLK
plyo	LNRDRMRGVI	DEI.NCLMSL	NTIYKTYLYF	TLMMSPF'PPF	ISEYIYKMLQ
chtr	RSRRRFWDAE	DSA.DRRAAF	STLYEVLVVF	SKVIAPF'PPF	IAEDMYQQLR
chmu	RSRRRFWESE	DSP.DRRAAF	ATLYEVLVVF	SKIIAPF'PPF	TAEDMYQQLR
chpn	RCRRRFWEAE	DTP.DRRAAF	STLYEVLTVF	CKVIAPFVVPF	LAEDIYQKLL
trde	RSRRRFWKSE	NDG.DKSQAY	ETLYRALKKF	SLVAAPVVPF	ITESIWQNLR
trpa	RSRRRFWKSI	NDE.DKRCAY	NTLYCVLKRC	VLAIAPVVPF	ITESIWQNIR
bobu	RSRRRFWKSE	NDK.DKNDAY	ETLYYAIKTL	MILLAPF'PPF	ITEEYIYQNLK
myle	RSRARFWD. . . . .	. . . . .EDVDI	DTLHTVLEVT	ARLAAPLLPL	ITEIWRSVT
mytu	RSRSRFWA. . . . .	. . . . .EDADAI	DTLHTVLEVT	TRLAAPLLPL	ITEIWRGLT
codi	RSRDRFWAG. .DT.	.EHPEAF	YTLYTVLETL	TRVTAPLLPM	VSEVIWRGLT
ripr	RSRARFWKNE	KDT.DKQNAY	NTLYSCLKIM	TIAMSALIPM	ISETIYQGLH
rico	RSRARFWKSA	KDT.DKQNAY	NTLYSCLDTM	AIAMSALVPM	ISEAIYKGLR
psfl	LNKARIWRDG	LDD.DKRQCY	EVLHYALS NF	ARLLAPFMPF	LAEAVYTELG
suso	LIRKRAWIEA	NTQ.DKIAMY	YILYYILKQW	IILASTIIPF	ISEKIYKSFV
aepe	IIRRRVWEEV	DTP.SKRAAY	ATLYKVLWEW	LLMAAPLIPY	TAEYLYIKVF
arfu	IIRPRVWEER	DSP.SKLAAY	YTMFRVIDRS	LRAIAPFAPL	IAEFYQHVV
meba	LIRPRTWTEA	DDP.DKLAAY	RVLYEVYVTL	TKLISPFMPY	LAEEMYQNL
meth	LIRSRTWIER	DDP.DKLAAY	HSLY TALKTL	IVTLSPIAPH	VCEDIYQNLV
pyho	LIRKRLWVEG	DDP.DKLAAY	YTLWKVFDVL	LRLMAPF'TPY	ITEEYIYQNL
pyfu	LIRKRLWVEG	DDP.DKLAAY	YTLWKVFDVL	LRLMAPF'TPY	ITEEYIYQNL
pyab	LIRKRLWVEG	EDP.DKLAAY	YTLWKVFDVL	LRLMAPF'TPY	IAEEYIYQNL
meja	LIRDRTWKEK	DDA.DKLAAY	QTLYYVLLKL	ATILAPVAPH	TAEAIYQNLK
haNRC	VVRERMWEDD	ASA.SKTAAY	ATMQRVLLV	VALLAPYAPF	VTEELYSHLT
pyba	LLRRRVWSEE	PSP.DKYAAY	AVLHDVLKKV	LILGSILVPF	ITEYLVQAYV
bacel	FAKDILYIEG	ANHEDRRAIQ	TVLYDVLVAL	TKLVTPILPH	TADEVWPYIP
baan1	FAKDILYIEG	ANHEDRRAIQ	TVLYDVLVAL	TKLVTPILPH	TADEVWPYIP
bast	MAKDILYIEA	ADSRARRAVQ	TVLYETVVAL	AKLIAPILPH	TADEVWEHIP

basu	FAKDIVYIEH	ADHPDRRSMQ	TVSYETLLAL	VKLSAPILPH	TADELWSHLT
baha	IAKDTLYVKH	ADHPDRRATQ	TVMYDVLVAL	AKLLSPIIPH	TADEVWKHIP
limo	FAKDVVYIEA	ADSHDRRAMQ	TVFYEAVVTL	TKLLAPILPH	TTEEVWNSLI
liin	FAKDVVYIEA	ADSHDRRAMQ	TVFYEAVVTL	TKLLAPILPH	TTEEVWNSLI
stau	YGKDILYIEQ	RDSHIRRSMQ	TVLYQILVDM	TKLLAPILVH	TAEVWSHTP
stpy	FAKDVVYIEA	ANSLERRRMQ	TVFYDILVKI	TKLLTPILPH	TTEEIWSYLE
stmu	FAKDVVYIEA	ADDLARRQM	TVFYEILVNI	TKLLTPILPH	TSEEIWSYLE
stpn	FAKDVVYIEG	AKSLERRQM	TVFYDILVKI	TKLLTPILPH	TAEIWSYLE
lala	FAKDVVYIEA	ANSPERRSMQ	TVMYVILKDL	VKILVPILPH	TAEETWTYLE
enfa	FAKDVVYIEA	ENDYQRRCMQ	TVFYQTLVSL	TKLLTPIIPH	TAEIWSFLQ
syne	IAKDRLYISA	PNAPRRRSCQ	TILQLALENL	TKAIAPVLCH	LAEDIWQFLP
arthchl	IAKDRLYTGG	TSSFTRRSCQ	TVLSTHLLSI	LRVIAPIVPH	LAEDVWQNL
prma	IAKDRLYVSA	KTQFRRRSCQ	FVMSRIVENL	AVIISPVLCH	MAEDIWQNI
mypu	ISKDSLYADK	INSKERMMIQ	YNMYNILEAT	LVVIAPIMPT	TAEDAYDNFN
myge	IIKDTLYCDA	KNNPNRLAKQ	AVLNYIFTQL	ISFLNIFIPH	TAEDAWKNYS
mypn	IIKDTLYCDA	KTNPNRVAKQ	AVLNYIFTQL	IGFLNIFIPH	TAEDAWQNYL
urur	NIKDDMYCLA	INDPIRKQIQ	SAVYWILKNS	LIDLTPIIPH	TTEEAYSFLK
saty	IIKDRQYTAK	ADSVARRSCQ	TALYHIAEAL	VRWMAPIMSF	TADEIWGYLP
esco	IIKDRQYTAK	ADSVARRSCQ	TALYHIAEAL	VRWMAPILSF	TADEVWGYLP
yepe	IIKDRQYTAK	GDGIARRSCQ	TALFHIAEAL	VRWMAPIMSF	TADEIWNHLP
vich	VIKDRQYTAK	RGGHAQRSCQ	TALFFIVEAL	VRWMAPIMSF	TADEIWNAMP
hain	IIKDRQYTTK	ADSLARRSCQ	TALWHIAEAL	VRWMAPILSF	TADEIWQHLP
acac	IIKDRQYTTK	ADSLARRSCQ	TALWHIAEAL	VRWMAPILSF	TADEIWGHLP
pamu	IIKDRQYTTK	ADSLARRSCQ	TALWHIAEAL	VRWIAPVLSF	TADEIWQYIP
psae	IIKDRQYTTG	ANSVARRSCQ	TALFHIAEAL	VRWIAPILAF	TAEVWKFLP
psfl_1	IIKDRQYTTG	ANSKARRSAQ	TALYHISEAL	VRWIAPILAF	TADELWEYLP
xyfa	VTKDRLYTMR	EDAPGRRSAQ	TAMYHLTAAF	VRWIAPILSF	TADELWSYLP
neme	ILKDRLYTTK	ADSRARRSAQ	TALYHITRSL	VLLIAPILCF	TGEEAWDIIG
buAPS	IIKDRQYTLK	KHSQERRSSQ	TAIYYIINSL	VRWIAPILSF	TADEIWSYLP
agtu	IRKDTLYCDA	PSSLKRRASL	SVIAKLFDCL	VTWLAPMLPF	TTEEAWLSRY
sime	IRKDALYCDA	PSSLRRRAAL	QVIRTLFDCL	VTWLAPMLPF	TAEAWLSRN
melo	IRKDALYCDA	PSSVKRKASV	QVVRHLFDCL	VKWLAPMLPF	TMEEAWLDRH
cacr	VRRDSLYCDR	PDALKRRAYR	TALDYVFDRL	TIWLAPLASF	TMEEAWTTRF
hepy26695	ACKDSLYCDS	KNNEKRQAIQ	MVLLATASKL	CYFLAPILTH	TIEEVLEHSQ
hepyj99	ACKDSLYCDS	KNNEKRQAIQ	MVLLAVASQL	CYFLAPILTH	TIEEVLEHSQ
caje	ISKDRLYCDS	ENAQRKSAQ	VAMALMAKEL	LNLLAPNLSY	SVDEALEHAN
thma	VVKDRLYVEA	KDSIYRRSAQ	TVMHEILISL	MKILAPIMTF	TMEEVYSHLH
fepe	ILKDRLYVEA	KDSIYRRSAQ	TALHYILEAL	IKILAPIIPF	TAEAYQESH
aqae	VLKDRLYVYA	PASWERRSAQ	TALWHLLIAL	TTSTAPYLSF	TAEELWEHVG

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mask	.....	.....	.....	.....	.....
stau2	G.....	.....	.....	.....K..	.....SVH
bace2	G.....	.....	.....	.....S..	.....SVH
baan2	G.....	.....	.....	.....S..	.....SVH
ocih	G.....	.....	.....	.....D..	.....SVH
clpe	VNL.....	.....	.....DE	.....NALE..	.....SIH
clac	TSI.....	.....	.....NE	.....GAEE..	.....SVH
cldi	G.....	.....	.....	.....EV..	.....SVH
pogi	GKD.....	.....	.....E.	.....	.....SVH
bafr	GVT.....	.....	.....GR	.....DNVV..	.....SVH
feac	G.....	.....	.....	.....PEK..	.....TIH

thvo	G.....	.....	.....	.....	PYE..	.....	SIH
thnw	G.....	.....	.....	.....	DKE..	.....	SVH
cyhu	QVS.....	.....	.....	KK	NAVE..	.....	SVH
chte	SVG.....	.....	.....	GT	SKAE..	.....	SVH
dera	.....	.....	.....	.....	GEES..	.....	SVH
stco	VPV.....	.....	.....	TP	GAPE..	.....	SVH
thth	RSV.....	.....	.....	RL	EAKE..	.....	SVH
deet	LSA.....	.....	.....	DP	SALE..	.....	SVH
anga	LLS.....	.....	.....	SE.	PMDG..	.....	SVH
drme	LFQ.....	.....	.....	PAG	TLEHAD..	.....	SVH
hosa	VLI.....	.....	.....	DPV	SVQDKDTL	.....	SIH
cael	KVI.....	.....	.....	GS.	TEE..	.....	SVH
asfu	PHI.....	.....	.....	PQA	LRGEDSR	.....	SVH
scpo	NYM.....	.....	.....	PID	KNEISLR	.....	SVH
sace	EYI.....	.....	.....	PEA	VLAKYGKDGR	.....	SVH
ledo	.....	.....	.....	.....	D..	.....	SVH
lema	.....	.....	.....	.....	D..	.....	SVH
arth	KAC.....	.....	.....	KG.	SEE..	.....	SVH
teth	KVI.....	.....	.....	PKG	SSYLEE	.....	SIH
encu	PGE.....	.....	.....	.....	.....	.....	SVH
nolo	.....	.....	.....	.....	.....	.....	.....
plfa	NIK.....	.....	YTNN	QNMEHNENNE	TTNIKEEDLN	.....	RNDIHKSVH
plyo	QVQGFNLVMS	SDTHKNVQNG	QNVQNDQNGQ	NVQNGQNDQN	DQNDQNKSVH	.....	.....
chtr	GET.....	.....	.....	.....	DPE..	.....	SVH
chmu	VET.....	.....	.....	.....	DPE..	.....	SVH
chpn	LEK.....	.....	.....	.....	EPE..	.....	SVH
trde	TES.....	.....	.....	.....	DAL..	.....	SIH
trpa	AAD.....	.....	.....	.....	DVQ..	.....	SVH
bobu	TDE.....	.....	.....	.....	DKQ..	.....	SIH
myle	G.....	.....	.....	.....	.....	.....	GRSVH
mytu	R.....	.....	.....	.....	.....	.....	ERSVH
codi	G.....	.....	.....	.....	.....	.....	ERSVH
ripr	N.....	TAI	T.....	..QLNCLLSE	GKHIVQNPMS	DTQDYNTSVH	.....
rico	HCEERNDTAL	SGKSNIIARK	DTSLDKAISG	VSHKIATALS	VPRNDAISVH	.....	.....
psfl	Y.....	.....	.....	.....	.....	.....	ADSVH
suso	VNAK.....	.....	.....	.....	.....	.....	ESVS
aepe	REAEE.....	.....	.....	.....	RPE..	.....	ESIH
arfu	KEFR.....	.....	.....	.....	EGE..	.....	ESIF
meba	RNVDP.....	.....	.....	.....	NAL..	.....	ESVH
meth	RGAEF.....	.....	.....	.....	DSP..	.....	ESIH
pyho	RPF.....	.....	.....	.....	IGI..	.....	ESVH
pyfu	RPF.....	.....	.....	.....	TGI..	.....	ESVH
pyab	RPF.....	.....	.....	.....	TNV..	.....	ESVH
meja	T.....	.....	.....	.....	EDM..	.....	EESI
haNRC	GD.....	.....	.....	.....	RGY..	.....	DTVH
pyba	RKYEK.....	.....	.....	.....	NAP..	.....	ESVH
bacel	GVT.....	.....	.....	.....	E..	.....	ESVQ
baan1	GVT.....	.....	.....	.....	E..	.....	ESVQ
bast	NRR.....	.....	.....	.....	EN..	.....	VESVQ
basu	FVE.....	.....	.....	.....	E..	.....	QSVQ
baha	GVE.....	.....	.....	.....	E..	.....	ESVQ
limo	GEG.....	.....	.....	.....	A..	.....	ESIH

liin	GEG.....	.....	.....	.....	A..	.....	ESIH
stau	HVK.....	.....	.....	.....	E..	.....	ESVH
stpy	HES.....	.....	.....	.....	E..	.....	AFVQ
stmu	HEE.....	.....	.....	.....	E..	.....	AFVQ
stpn	FET.....	.....	.....	.....	E..	.....	DFVQ
lala	HEP.....	.....	.....	.....	E..	.....	NFAY
enfa	EE.....	.....	.....	.....	E..	.....	EYVQ
syne	YEKP.....	.....	.....	.....	TES.	.....	VF
arthchl	FEYR.....	.....	.....	.....	NEDG	...	SAAEFVF
prma	YSTI.....	.....	.....	.....	EKS.	.....	VF
mypu	KQDK.....	.....	.....	.....	QE..	.....	SVH
myge	FNKK.....	.....	.....	.....	PI..	.....	SVN
mypn	LPKK.....	.....	.....	.....	PV..	.....	SVN
urur	DANK.....	.....	.....	.....	KE..	.....	SIR
saty	GE.....	.....	.....	.....	R..	.....	EKYVF
esco	GE.....	.....	.....	.....	R..	.....	EKYVF
yepe	GE.....	.....	.....	.....	R..	.....	QQYVF
vich	AQQAD.....	.....	.....	.....	GSAR..	.....	DKFVF
hain	QTE.....	.....	.....	.....	SAR..	.....	AEFVF
acac	KTT.....	.....	.....	.....	APR..	.....	AEFVF
pamu	.....	.....	.....	.....	GER..	.....	GEFVF
psae	GE.....	.....	.....	.....	R..	.....	AESVM
psfl_1	GE.....	.....	.....	.....	R..	.....	NESVM
xyfa	GD.....	.....	.....	.....	H..	.....	ADNVL
neme	GG.....	.....	.....	.....	E..	.....	EDSVL
buAPS	EN.....	.....	.....	.....	N..	.....	SQYVF
agtu	PD.....	.....	.....	.....	.....	.....	AESVH
sime	PQ.....	.....	.....	.....	.....	.....	AVSVH
melo	PD.....	.....	.....	.....	.....	.....	AVSVH
cacr	PE.....	.....	.....	.....	.....	.....	AGPVA
hepy26695	ALR.....	.....	.....	.....	IFLQ..	.....	AKDVF
hepyj99	VLR.....	.....	.....	.....	AFLQ..	.....	AKDVF
caje	VL.....	.....	.....	.....	IKGD..	.....	AKDVF
thma	EKD.....	.....	.....	.....	RK..	.....	YKTVQ
fepe	LK.....	.....	.....	.....	R..	.....	YESVH
aqae	KLDP.....	.....	.....	.....	SL..	.....	PESVF

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mask	.....	.....	.....	.....	.....	.....	~
stau2	LQDYPQYKES	.....	FINQ	ALEDEMHTVI	KIVELSRQAR	KNADLKIKQP	
bace2	LEDYPVVNES	.....	LLQP	KLEAEMDAVL	QVVELGRSNR	NQHSLKVKQP	
baan2	LEDYPVVNES	.....	LLQP	KLEAEMDAVL	QVVELGRSNR	NQHSLKVKQP	
ocih	VSDFPKVDEA	.....	AIDE	KLEADMQGVL	EVIEGARSLR	NEVNIKTKQP	
clpe	LGAWPEVDEK	.....	AIDK	KLEEKMDLAY	KIVKLGRSAR	NGANIKNRQP	
clac	LCKWPEYDES	.....	LIDS	SLEEMKLAI	SIVKLGRSAR	NGANIKNRQP	
cldi	LAEYPKCNEE	.....	LVDT	KLEEKMDLAK	NLVTLGRASR	EVERIKVRQP	
pogi	LALFPRPDQS	.....	QVDR	ALEQSMQMAQ	QISSMVLALR	RRVNLKVRQP	
bafr	LAKFPEYNEK	.....	MVDK	ELEAQMQMAQ	DVTSMVLALR	RKVNIKVRQP	
feac	SEKYPEPDNN	.....	YIDS	DLEKEFKYAI	SIMELSRRAR	QESNIKGRQV	
thvo	LDSFPEPDTS	.....	KIDH	DLEKRMDQAY	SVIETVRRIR	QEINIKGRQP	
thnw	LEAFPEFDST	.....	LMDE	KLESEMDRAY	SVIETVRRLR	QENSIGRQP	
cyhu	LADFPKVNEA	.....	FLDV	ELEERMSLAQ	RISLVLHSIR	KAQTIKVRQP	

chte	LADWPVADES	.....	CIDA	ALEERMKKAQ	IITSLVRTMR	EKAGIKVRQP
dera	LTPWPTVRAE	.....	RLDR	KLADMAAVM	KVVELGRAVR	GAHNLKTRQP
stco	LSSWPEADLT	.....	AIDP	ELSKQMLVR	RLVELGRATR	AESGVKTRQP
thth	LADWPEADPA	.....	LADE	ALVAQMRAVL	KVVDLARAAR	AKSGV.....
deet	LTDFPVADTA	.....	LIDE	QLDNEIRLVM	KVSSMGRSAR	SKAALKVRQP
anga	YQMMPCSNGR	.....	YINV	AIERAVARMQ	AVVELGRVMR	DRRTMPIKYP
drme	YQMMPVSQKK	.....	FIRN	DIERSVALMQ	SVVELGRVMR	DRRTLVPKYKYP
hosa	YLMLPRVREE	.....	LIDK	KTESAVSQMQ	SVIELGRVIR	DRKTIPIKYP
cael	FLMLPKPDES	.....	LIDE	TVERRVEVMR	NVIDLVRLVR	DREGLAVKYKYP
asfu	FLSFPEVREE	.....	LFDE	VVERRVARMQ	KVIEMARVSR	ERRSIGLKSP
scpo	FLPFPTYKSE	.....	LDDE	TVLRRVKRMQ	TIIELARYVR	EQNNISLKTP
sace	FLSYPVVKE	.....	YFDE	AIETAVSRMQ	SVIDLGRNIR	EKKTISLKTP
ledo	YLMIPDEDAS	.....	LDDP	ELERAMSRMM	NIVDLVRVLR	DQMVIPIKRP
lema	YLMIPDEDAS	.....	LDDP	ELERAMSRMM	NIVDLVRVLR	DQMVIPIKRP
arth	YCSIPPREG.	.....	MEGE	RIELSVTRMM	KIIDLARNIR	ERNKLPLKTP
teth	FLRIPTPKQE	.....	LLDE	KIERNFERMQ	NIINFARTLR	EKRKVSCLKQP
encu	FQEYPVCKNG	.....	.....	..THPFEMAK	SIIAAVRRLR	ETNSISLKTP
nolo	.....	.....	.....	.....	.....	.....
plfa	FIMLPQVDDK	Y.....	IIKY	EFIELIEHMK	DVILLGRNLR	EKRKTPNKKP
plyo	FHMLPEVDDN	Y.....	TIRY	EIIELIEKMK	SVIILGRILR	EKRKCPNKRK
chtr	LCDFPHVVLE	K.....	ILP.	DLERKMQDIR	EIVALGHSLR	KEHKLKVRQP
chmu	LCDFPHVVLE	K.....	ILP.	DLEKKMQDIR	EIVALGHSLR	KEHKLKVRQP
chpn	LCDFPQVEMD	K.....	ILP.	DLEKRMHDIR	EIVGLGHSLR	KEHKLKVRQP
trde	LADYDPYNEK	.....	IRNS	ELEFKMKTVO	KAVSMGRALR	YQFNLKIRQP
trpa	LADYPVCTPM	.....	VRDD	ALEFKMETVQ	RVVSMARAIR	AQCNLKVRQP
bobu	LNDYPKANEN	.....	FINK	TIEEKINLAR	KITSMARSLR	SLHNIKIRMP
myle	LTDWQANQL	.....	PADP	DLVAVMDQVR	QVCSAASSLR	KAKKLRVRLP
mytu	LTDWQAPDLL	.....	PSDA	DLVAAMDQVR	DVCSAASSLR	KAKKLRVRLP
codi	LADFPQADQF	.....	PADD	DLVRAMDEV	GVCSATSSVR	KAHKLRNRLP
ripr	LCNYPTLSDF	.....	EINY	ELVSTMDNVL	DICSNSLFIR	STENIRVRQP
rico	LCNYPTLSDF	.....	EINH	ELVATMDNVL	DICSNSLFIR	STENIRVRQP
psfl	LQDWPSIDRQ	.....	YLSY	ELADEMSSLR	NLIASVRNVR	ETNGVSQKFP
suso	MESSINYDER	.....	FIDN	ELERAFFEV	EINEASLNAR	AKAGIKLRWP
aepe	MLDMPEPEDH	.....	LIDS	TLEEDMEKAR	MVLEAILSAR	NEAGLKLRRP
arfu	MEEYSTAEVE	.....	MIDG	ELEAAMKVA	EIVEAANAR	NKAKRKLWRP
meba	MCDWPKVNEA	.....	YLDP	ELEAAMSTAR	SIVEAASNAR	QKAGRKLWRP
meth	MLDW.MVSED	.....	AVDG	KLEAEMDIV	EIIEACARAR	DTARYKLWRP
pyho	MLDWPKVDES	.....	AVDE	DLEKEMEFIR	RIVEAGSAAR	QKARIKLRYKYP
pyfu	MLDWPKPDES	.....	AVDE	ELEREMEFIR	RIVEAGSAAR	QKAKIKLRYKYP
pyab	MLDWPKVDEK	.....	AIDE	ELEREMEFIR	RIVEAGSAAR	QRAKIKLRYKYP
meja	FMNKIEVDEE	.....	FIDE	ELERDMAIVR	DVVDIYRGR	DRIKYTLRYKYP
haNRC	MADWPTVEES	.....	LRAP	ALEADVAVLR	AAEEAGSHAR	QQAGRKLWRP
pyba	LAQYPAAG..	.....	SYDK	ELIYAYRELF	AVFSALAEAR	NKAGIKLRWP
bacel	LTDMPEAVQL	DGA..	EALKT	KWDAFMTRLR	DVLKALEVAR	.NEKVIKSL
baan1	LTDMPEAVQL	DDA..	EALKT	KWDAFMTRLR	DVLKALEVAR	.NEKVIKSL
bast	LTDMPEPIAI	DGE..	EALLA	KWDAFMVDR	DMLKALENAR	.NEKVIKSL
basu	LTDMPETITV	PNS..	EATEE	KFDRFMALRD	DVLKALETAR	.NEKIIGKSL
baha	LTDMPEPIEL	GDV..	SELKQ	KWDAFINVRD	DVLKALENAR	.NEKVIKSL
limo	LQDLDPVKVL	ANS..	EEITA	KWDAFMQIRD	NVQKALEFAR	.NEKLIKSM
liin	LQDLDPVKVL	ADS..	EEITA	KWDAFMQIRD	NVQKALEFAR	.NEKLIKSM
stau	LADMPKVVEV	D....	QALLD	KWRTFMNLRD	DVNRALETAR	.NEKVIKSL
stpy	LAEMPVAETF	SAQ..	EDILE	AWSAFMTRLT	QAQKALEEAR	.NAKIIGKSL

stmu	LAEMPEAQEF	ANQ..DEILD	TWSAFMSLRD	QAQKALEEAR	.NAKIIGKSL
stpn	LSELPEVQTF	ANQ..EEILD	TWAAFMDFRG	QAQKALEEAR	.NAKVIKSL
lala	LAEMPEAAEI	PGS..EELLG	NWQEFLLDFRD	KILKALESAR	.EAKLIGKSL
enfa	LAEFPGYETF	TNE..EELMD	TWAAFMDFRD	NVLKALEEAR	.HSKLIGKSL
syne	QSGWVNLDQA	WQ..QPQLAQ	KWVSLRQLRD	GINQLLEQAR	.RDKVIGSSL
arthchl	ELKWPTLNEQ	WLSFPAEDVL	FWQRLLELRT	EVNKVLELAR	.NEKMIGSSL
prma	ERRWPKFPES	WLN..PELNE	HISNLRTLRLV	EINKAIEGCR	.TQQMIGAAL
mypu	LEKMFEATIA	D...DKLEK	TWKEFFDLKD	EVYKEIEVEI	.ANKKIKRTN
myge	LFTKPTVFKV	ANS..KNLGN	IYKTFTSIKN	AAFKEIEKLR	.KEGLISKNN
mypn	LFAGPAMFKV	ANV..KGLDR	LHESFSAIKD	RAYAAIEQAR	.QNGVITKNN
urur	LEDFYDQSQF	QFK..KGIAH	VKAFFS.IKD	QIFNELENAR	.KNNILKKN
saty	TGEWYDGLFG	LEENEEFNDA	FWDDVRYIKD	QVNKELENQK	.ANG.IKSNL
esco	TGEWYEGFLG	LADSEAMNDA	FWDELLKVRG	EVNKVIEQAR	.ADKKVGGSL
yepe	TEEWYDGLFG	LAGNESMNDT	FWAELLKVRG	EVNKVLEQAR	.SDKRIGGSL
vich	TTEWFDGLFG	LAEGEELNNA	FWNDIQKVRG	SVNKLLENAR	.NEKLIGGSL
hain	TEEFYQGLFG	LGEDEKLDDA	YWQQLIKVRS	EVNRVLEISR	.NNKEIGGGL
acac	TEEFYEGFLS	LGENEKLDDA	YWQTLIKVRS	EVNRVLEIAR	.NDKVIGAGL
pamu	TEEFYNGLFA	LDANEQMNDA	YWQQVITLRN	EVNRVLEQAR	.NDKIIGAAL
psae	LATWYDGLNE	LPADVTLNRQ	YWEQVMAVKA	AVNKELENQR	.AAKAVGGNL
psfl_1	LNTWYEGLTE	LPADFELGRE	YWEGVMAVKV	AVNKELEVQR	.AAKAVGGNL
xyfa	FTTWYDGLAP	LPPNAPLTAA	DFDKLLTLRD	HVTKVLEPMR	.ANGVIGAAL
neme	FHTWHEFPTI	NEKTEAELVK	KWTAIREARE	AVTAAIEPLR	.ADKTVGSSL
buAPS	MEEWFDKLFY	LDQDDLFFNYQ	FWNEIITIKH	EINKFLEEAI	.QNKTINNSL
agtu	LAQFPEIPAE	WKN..DALEA	KWEKIRKVRT	VVTGALEVER	.REKRIGSSL
sime	LEQFPTVPAE	WRN..DALAE	KWRKIREVRK	VVTGALEIER	.KEKRIGSSL
melo	LDQFPEIPAD	WKN..EALAE	KWRKVRQVRR	VVTGALEIAR	.AQKVIGSSL
cacr	YRVMPERVDA	WRN..DAEAA	RWAKVEKVTS	VVTGALEVER	.REKRIGSAL
hepy26695	DLKDISVSEK	LHLKEFKKPE	NFEAVLALRS	AFNEELDRLK	.KEGVIKNSL
hepyj99	DLKGISVLEK	LHLKEFKKPE	NFEAVLALRS	AFNEELDRLK	.KEGVVKNLSL
caje	DLS...LTQ	DFDYDFGIDD	TF..LMSARE	KFFEQIDILK	.KDKIIKSTL
thma	AEYWPEYREE	FID..RKLME	DFEKLLSIRE	DVLKALEEKR	.QQDVIGHSL
fepe	LEYWPEVRKE	FID..EALLE	EFDHLLLRD	DVLKALENAR	.ASDIIGHSL
aqae	LYEMPKPDEN	LKD..EEVLK	DYEILLKVRD	EVMRALEVAR	.KEKGIKHPY

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mask	~~~~~	~~~~~	~~~~~	~~~~~	~~~~~
stau2	LSKMVIKPN.	.SQLNLSFL.	.P.....	NYYSIIKDEL	NIKNIELTDN
bace2	LAELVLLLEH.	.NE.NDMDW.	.E.....	SYRDIVMDEL	NVKAFHVELD
baan2	LAELVLLLEH.	.NE.NDMDW.	.E.....	SYRDIVMDEL	NVKAFHVELD
ocih	LAELVVVVPN.	.DEQLQSGL.	.Q.....	AYTSIIIEEI	NVKQVSFKKD
clpe	LSKMLLS...	....TSELP.	.E.....	YGDIIKDEL	NIKEVELGAD
clac	LYEMRVS...	....TKALP.	.D.....	YGDIIIRDEL	NVKKVEFGAD
cldi	LQKVLVDGK.	....FEDTI.	.S.....	DVVDLIKEEL	NVKEVIFAKD
pogi	LATLMIPAI.	.DDEQRRCI.	.E.....	SVQPLILSEV	NVKELRFVDD
bafr	LQCIMIPVV.	.DEVQKAHI.	.E.....	AVKALIMSEV	NVKEIKFVDG
feac	VGNIMLYS..	....DMELN.	.P.....	AILDIISPEN	NSMDIKFIPF
thvo	VKEILLSG..	....NIDP..	.....	EIIPVVSQEV	NAKEIRIVSS
thnw	LREILIAG..	....DMEE..	.....	SIIDVVKSEL	NAKDIKLIER
cyhu	LSRILIPIL.	.QPHLKAQI.	.Q.....	AVEDLIKNEV	NIKAVEYIED
chte	LRRILLAAA.	.EPGSRAAY.	.E.....	LVSDIIKEEV	NVQKIEYVED
dera	LAGVQVRAA.	.SPEALDAL.	.K.....	RSQTQIMEEL	NVKAVT.FLE
stco	LSRALIAVA.	.GFDTLSPE.	.L.....	HS..QITEEL	NVASLASLSE

thth	.....	.....	.....	.....	.....
deet	LAEVRVLA.	.SAGERTGL.	.M.....	RLAEQVLEEL	NVKALA....
anga	LTEIVVHQ.	.SEQYLADVR	.....	SLEAFILDEL	NVRRITLSSE
drme	VSEIIAIHK.	.DSQILEAIK	.....	TLQDFILSEL	NVRKLTSSD
hosa	LKEIVVIHQ.	.DPEALKDIK	.....	SLEKYIEEL	NVRKVTLSTD
cael	LKEMIVINR.	.DSQFLEDVK	.....	SLESYILLEL	NVRKLTVSQD
asfu	LKTLVVIHQ.	.DQQYLDDVK	.....	SLEGYILEEL	NILELVLSSD
scpo	LKTLIVILT.	.NEEYLEDAK	.....	LLERYIAEEL	NVREVVFTSN
sace	LKTLVILHS.	.DESYLKDVE	.....	ALKNYIEEL	NVRDVVITSD
ledo	VRQVVIVHP.	.DQQYIDDVR	.....	KVAGYIKDEV	NAFEIVMS.S
lema	VRQVVIVHP.	.DQQYIDDVR	.....	KVAGYIKDEV	NAFEIVMS.S
arth	LKEMIVVHP.	.DADFLNDIT	.G.....	VLREYVLEEL	NVRSVPCND
teth	IMSLTVINQ.	.DQEFHDSLK	.....	DYIQYIEDEI	NTPSILHEIN
encu	LKSATLMS..	.SSSLYEGIK	.....	DYIDAIKTEC	NVLELLYKEE
nolo	.....	.....	.....	.....	.....
plfa	LKSLTILHK.	.NESFFKHF	.....	RISNYIKEEL	NILNVEYSN.
plyo	LKSIKILHR.	.ENKFFENF	.....	KIANYIKDEL	NILNIEYST.
chtr	LQNVYIVG..	.SKERKEALA	.....	QVGSLIGEEL	NVKDVHFCSE
chmu	LQHMYIVG..	.AKERMAALA	.....	QVDSLIGEEL	NVKEVHFCSE
chpn	LANFYVVG..	.SKDRLSLLK	.....	TFEGLIAEEL	NVKNVIFYEE
trde	LKAVEIVTL.	.NPPEKRVLL	.....	EMEESIEEL	NVKEVIFHEK
trpa	LKAMQVITR.	.NPMERSALL	.....	EMEEDVLDEL	NVKELVFHEK
bobu	ISTIYIVTK.	.NQNEQNMLM	.....	EMQEIILDEI	NAKEMKIKAN
myle	LPKLVVAVY.	.NSQRLKPYI	.....	...DLIGDEL	NVKQIELTDA
mytu	LPKLIVAVE.	.NPQLLRPFV	.....	...DLIGDEL	NVKQVELTDA
codi	LPKVTVALP.	.ESARLADFA	.....	...DIIRDEV	NVKEVALTSD
ripr	LACITIISK.	.HNNNLKDFE	.....	...DLIKDEI	NVKTVIYRDD
rico	LASIAIISK.	.HNNNLKDFE	.....	...DLIKDEI	NVKAUIYRDD
psfl	LRSIRVAGI.	.EQAVLERYA	.....	...QFLEEEL	NVKQVQWAAD
suso	LAKVYIFIE.	.NEDTLAKVG	R.....	.IKDVLISML	NAKDIEISKI
aepe	VRRVIAAAS.	.NPGVEGSLR	R.....	.LEGLIRLMA	NAKEIEFAPA
arfu	LRELVIESG.	.SEKVRKAVE	M.....	.LEETILSQC	NVKQVRVDS
meba	VSRIVVSPE.	.SEDAAKAVE	R.....	.LRSVLMQDT	NSKAIVLTPV
meth	VREIVVSE.	.DDKVLEAAE	S.....	.LKGVIAEQA	NAKSIRTSTE
pyho	VRKIIIEHQ.	.DETVKKAVE	R.....	.LNYILRDQL	NAKEVIGKV
pyfu	VRKIIIEHQ.	.DDTVKKAVE	R.....	.LNYILRDQL	NAKEVVGNV
pyab	VRRIIIEHQ.	.DETVKKAVE	R.....	.LNRILRDQL	NAKEVKVGRV
meja	LKEITIAGG.	.EE.VKKAVE	R.....	.FEYIIKEQG	NVKNIKFGEV
haNRC	VTRVVVDA.	.EDSVVDALD	A.....	.HGDLLADRL	NTRAEVVEP
pyba	IREAYVNG..	....AKYAE	R.....	.YTELLKYL	NVKEVKVGR
bacel	NASITLYP..	...TA..EM.	.....	...KAMLESI	NED.....
baan1	NASITLYP..	...TA..EM.	.....	...KAMLESI	NED.....
bast	TASVIVYP..	...KD..EA.	.....	...RKLLASL	DAD.....
basu	EANLKLYP..	...NK..EN.	.....	...KELLASI	KEN.....
baha	TAAITLYA..	...DG..DV.	.....	...RQLLEEL	GP.....
limo	LAKVTLYV..	...DG..EA.	.....	...KTLFDSL	EGD.....
liin	LAKVTLYV..	...DG..EA.	.....	...KTLFDSL	EGD.....
stau	EAKVTIAS..	...NDKFNA.	.....	...SEFLTSF	DA.....
stpy	EAHLTIYA..	...SE..EV.	.....	...KTLTAL	DSD.....
stmu	EAHLTVYA..	...SE..EV.	.....	...KTLTAL	DSN.....
stpn	EAHLTVYP..	...NE..VV.	.....	...KTLLEAV	NSN.....
lala	EATVTIYP..	...NE..VV.	.....	...RTLLTAI	DEN.....



enfa	EAKVTVYP..	...NE..QI.	.....	...RQLMTAV	DAD.....
syne	EAKLIIVDPR	TAESGTDEKQ	GENFVHWFYG	WLENFNEPTF	DPNDRK....
arthchl	EAKVYLH...	TADAGMAAK.	.....LL.	...EMSEAKN	EAD.....
prma	ETEVNYLP..	..ENEFFKN.	.....SLS	WLDKFGNKEV	DLY.....
mypu	DAHVTIN...	....TK..S.	.....	...NFLMSL	D.....
myge	QIELTVGIN.	.....KK	.....	...IPKKL	KDN.....
mypn	QVVLTLGVD.	.....S.	.....	.....	.....
urur	EAFVTIAKN.	.....LI	.....	...LDDYL	INNPK.....
saty	EAKVTLKYA.	....DDANG	TI.....	...KKLKL	GEE.....
esco	EAAVTLYAE.	....PELS.	.....	...AKLTAL	GDE.....
yepe	EAAVTLYAE.	....PELA.	.....	...ARLNSL	QDE.....
vich	QAELVLFAD.	....DSL.	.....	...SKLAKL	GDE.....
hain	EAEVTVYAN.	....DEYR.	.....	...ALLAQL	GNE.....
acac	EAEVTVYTN.	....DEYR.	.....	...ALLEKL	GDE.....
pamu	EAELTIYAN.	....DTYA.	.....	...PLLAKL	QNE.....
psae	QAEVTLYAE.	....DALQ.	.....	...AQLAKL	GNE.....
psfl_1	QAEVTLFAE.	....DGLT.	.....	...ADLAKL	SNE.....
xyfa	EAEITIAAD.	....ADTA.	.....	...ARWQPL	TEE.....
neme	QAEAEITAP.	....EEMA.	.....	...GYLNAL	GEE.....
buAPS	ETSIILYVS.	....HEL.	.....	...NKLKIL	EQE.....
agtu	EAAPVVHIA.	....DSDL.	.....	...LAALS	GQD.....
sime	EAAPAVHVA.	....DPDL.	.....	...LQALN	GQD.....
melo	EAVPVVTIN.	....DAAL.	.....	...EAAIA	DVD.....
cacr	EAAPVVHFA.	....DEDL.	.....	...LAAFE	GLD.....
hepy26695	ECAIEVKEK.	....ALDE.	.....	.....	.NL.....
hepyj99	ECAIEVKEK.	....ALCE.	.....	.....	.NL.....
caje	ELNLNISFN.	....KFPN.	.....	.....	.EE.....
thma	DAEVVLVPK.	....NDTIK	.....	...ALLEKY	RDI.....
fepe	DAHVIIEAK.	....NEELK	.....	...NLLRKY	ESL.....
aqae	EAKVYIRG..	....DESVE	.....	...SLLKKY	EDY.....

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mask	~~~~~	~~~~~	~~~~~	~~~~~	~~~~~
stau2	IND.Y.ITYE	LKLNFSVGP	KLGNKTKNIQ	TLIDSLSEYD	KK..SLIESN
bace2	ETK.Y.TSYQ	LKLNFKTAGP	KFGKNVNAV	DWLKQLSQDE	VQ..NFVTTE
baan2	ETK.Y.TSYQ	LKLNFKKAGP	KFGKNVNAV	GWLKQLSQDE	VQ..NFVSTE
ocih	TAD.F.LDTE	MKLNFPVAGP	KLKQVQAK	GKVENFTEQE	KE..AFLVNG
clpe	LSK.Y.VNFE	IKPNLPVLGR	AYGKLIPAIR	KEIASRNQME	LA..QKIQNG
clac	LSK.Y.VNFE	IKPNLPVLGK	SYGKLIPKIR	KEISSMDQMK	LA..ERVRS
cldi	LDE.Y.MNFS	LKPNFKEAGP	LLGSKMNLV	GALSKLNAHE	TA..NKLEKG
pogi	SMG.I.LVKR	IKPDFKRLGP	RYGKVMKALA	EAVTAMTQEE	I...RSLEKA
baf	AAG.V.LVKK	VKCDFKLLGP	KFGKQMKAVA	AAVAEMSQEA	I...AELEKN
feac	GER.P.VKTT	VKPVFSKVAP	VLRGETNKFA	EYLNSEN...	IY..SELKKN
thvo	EQR.P.LKYT	VDLKMETAAP	ILRSSVNSVR	EALKSIDGKA	AF..DAVQNG
thnw	DQE.P.IRLS	ADLRMDRAAP	VLRSRVNAV	HKIRSMGLE	VQ..RQISEK
cyhu	TSG.V.VIKT	IKPNFKKLGK	EYGAKLKEIG	NAIAELRAED	I...TAIERN
chte	EDGSV.ISKK	AKPNFKTLGP	RFGKDMKLLA	EEIRIMSHKQ	I...SRLEKE
dera	GDTD.VQYS	LRPNLPVVGK	QYGKQLPVLK	KALTEADARA	VA..TAVQAG
stco	VGGSL.VDTT	AKANFRALGK	RFGKRVQDVA	KAVAAADAAA	LS..LALREG
thth	.....	.....	.....	.....	.....
deet	.....VE..	.....	.....	.....	.....
anga	RQRYG.VTMR	AEADHKTLGV	RLKNDFKQVL	GAIK.QLSDA	DI..TRQLAQ

drme	KEKYG.VTLR	AEPDHKALGQ	RLKGNFKAVM	AAIK.ALRDD	EI..QKQVSQ
hosa	KNKYG.IRLR	AEPDHMVLGK	RLKGAFKAVM	TSIK.QLSSE	EL..EQFQKT
cael	KQKYG.ITLK	AEPNFKILGA	RLKGEQKKVA	DYLKNQITES	EL..EKFLLE
asfu	EAKYN.VQYS	VSADWPTLGG	KLKKDAQVKV	KALP.SLTS	DV..KKFVAE
scpo	EEKYG.VVYS	VQADWPVLGK	KLRKDMARVK	KALP.NVTSE	EV..KEFQKN
sace	EAKYG.VEYK	AVADWPVLGK	KLKKDAKKVK	DALP.SVTSE	QV..REYLES
ledo	GENY..VETK	LDANFEVLGK	KYRKGMPAIR	KGIQ.AMTQK	EV..TKFLHD
lema	GENY..VETK	LDANFEVLGK	KYRKGMPAIR	KGIQ.AMTQK	EV..TKFLHD
arth	TLKY..ASLK	AEPDFSVLGG	RLGKSMGLVA	KEVK.EMSQK	DI..LAFEEA
teth	TANY..VDLK	AIPNHKLLGQ	KLKKEYNKDL	KAAAGNLSAK	DI..ETLKT
encu	DRSM..FDIT	VKPNFLSL.K	KDKATMKKKM	KVIQ.GLTGD	QA..YSLLS
nolo	.....	.....	.....	.....	.....
plfa	DISC..LNFS	AIPNFKKLG	KLGYNIKNIQ	NKIK.NMNAE	DI..KLFQQN
plyo	DVSC..LTFS	VIPNYKKG	KLGANLKNIQ	NKIK.NMNME	DI..KNYEQN
chtr	TPEY..VTTL	IKPNFRTLGG	KVGNRLPEIQ	RALA.GLPQE	QI..QAFMHK
chmu	TPEY..VTTL	VKPNFRSLGG	RVGNRLPEIQ	KALA.GLSQE	QI..QAFMHN
chpn	APSF..IYTT	VKPNFRMLGG	KVGSKMKEVQ	KALS.ELPNN	AI..DKLIQE
trde	EDEL..VEYS	AKANFKVLGG	ELGPLMKKAA	AIIE.QMNSS	EI..QNIMEG
trpa	EDEI..VEYR	AKANFRVLGG	ELGSKTKRAA	LSIE.RLSSA	EI..QEILEG
bobu	EEEL..ITYK	AKANFKELGG	KLKDKMKAVS	TEIS.KLKNE	DI..IKIING
myle	IDTY..GRFE	FTVNARVAGP	RLGRDVQAAI	KVVKAGEGVA	NP..DGTLLA
mytu	IDTY..GRFE	LTVNARVAGP	RLGKDVQAAI	KAVKAGDGVI	NP..DGTLLA
codi	VDSV..GRFD	VVVNAKVAGP	RLCKDVQRAI	KAVKSGNYER	RG..D.TVVA
ripr	LENY..ARKK	LSLNFAILGG	RLPHKMKAII	DAAKKGEWEA	TT..LGLAIC
rico	LENY..ASKK	LSINFPMLGG	RLPHKMKEII	AASKKGEWEA	IT..GGLAIC
psfl	ADEW..AQPV	VVLIFSLGG	RLGPAMKAVT	TAVKAGEYVI	DE..QGGLVA
suso	EGFKSFSKYK	VEPNRSIIGK	EYKSMSPKIV	EYIENNRDII	.AM.DILNKK
aepe	SALEATRIYR	VEPDYGRLLP	KYKRDMPKVL	RLIEEKGGEI	.GR.VLAEKG
arfu	...FEKEIE	IKPNYKYIGP	LLKEKAGEFA	KYVASLKEIP	.EK.LVFDG.
meba	GESWDELGLE	VIPDPSKIGP	VFKKDAGKVI	PALQKVDGFA	.LK.KAFAEA
meth	FP...DMRII	AKPNPATLGP	KLRQDMPPVM	RKLEEADGAE	.VK.AALESE
pyho	ER....ELT	VKPNFAKVG	EFKGDS.RLV	AKWINEHGLE	.LY.E.KGEV
pyfu	ER....EIT	VKPNFAKVG	EFKGDA.RLV	AKWISEHGLE	.LY.E.KGEV
pyab	ER....ELT	IKPNFAKLG	EFKGDA.KII	AKWINENGRE	.LY.E.KGEL
meja	EGS...KYI	IKPNYRELGG	RYRSEVPKVV	EALNKADAKE	.LM.ERLKEG
haNRC	GAAWDELAYS	ARADMSELGP	AFGDDAGAVM	NALNDARVTD	RDI.DALAEQ
pyba	.....	.....	.....	.....	.....
bacel	.....LKQL	FIVSEYKLG	M.MEEAP...	ADAPK.....	.....
baanl	.....LKQL	FIVSEYKLG	M.MEEAP...	ADAPK.....	.....
bast	.....LRQL	LIVSAFSIAD	EPYDAAP...	AEAER.....	.....
basu	.....LSQL	FIVSELTISE	E..NEAP...	NDAQS.....	.....
baha	.....LDKL	FIVSAVKVAG	S.VADAP...	KEAES.....	.....
limo	.....FAQL	FIVSDFELVE	G.LENAP...	ESAFK.....	.....
liin	.....FAQL	FIVSDFELVE	G.LENAP...	ESAFK.....	.....
stau	.....LHQL	FIVSQVKVVD	K...LD...	DQATA.....	.....
stpy	.....IALL	LIVSQLTIAD	LA..DAP...	ADAVA.....	.....
stmu	.....IAQL	LIVSQLTVT.	QE..QAP...	KNALV.....	.....
stpn	.....VAQL	LIVSELTIA.	EG..PAP...	EAALS.....	.....
lala	.....VAQL	LIVSNFVVAN	EPVNNAP...	ESAMK.....	.....
enfa	.....IAQL	LIVSDFEVSK	E...VAP...	SEAVQ.....	.....
syne	....ISLRNI	FLTSQVEFIK	SAEIEPS...	FITYEETV...	....V.....
arthchl	....TLQRI	FITSQVEVLS	SMEKEMI...	SSVQHTG...	....E.....

prma	.....RDW	LIVSDFNIVN	NLSKDCL...	S.....	.....
mypu	.....LKKL	LMIGKISFGS	S.....	.....	.....
myge	.....LALW	LNVNSVNLTN	N.....	.....	.....
mypn	.....	..TSAIDPTS	.....	.....	.....
urur	.....LLAKW	FGVAKIEFAN	N.....	.....	.....
saty	.....VRFI	FITSQFVISE	QAGGIDDENI	QYNAG.....	.....
esco	.....LRFV	LLTSGATVAD	YNDAPAD..A	QQSEV.....	.....
yepe	.....LRFV	LLTSAAKVAA	YADAGND..A	QQSEL.....	.....
vich	.....LRFV	LLTSKAVVKP	LAEKS.E..A	AQATD.....	.....
hain	.....LRFV	LITSKVDVKS	LSEKPAD...	LADSE.....	.....
acac	.....LRFV	LITSKAEVKP	LTDKPAD...	VAEGE.....	.....
pamu	.....LRFV	LLTSKAEVKP	LAD..AD...	VAEGE.....	.....
psae	.....LRFV	LITSTATLAP	LSAAPAD...	AVDSE.....	.....
psfl_1	.....LRFV	LITSTASLAP	FTQAPAD...	AVATE.....	.....
xyfa	.....LRFL	FISGDVTVTP	ANT.....	.....	.....
neme	.....LRFA	LLVSKAEVKV	GSE.....	.....	.....
buAPS	.....TKFI	FLTSDIQIKL	YDTAPKN..A	KKSKI.....	.....
agtu	.....FAEI	CITSAITVVG	DEG.PAD..G	FRLQE.....	.....
sime	.....FAEI	CITSAIEVDG	GDG.PED..A	FRLPD.....	.....
melo	.....MAEM	AITSDLVIAH	GQA.PEG..A	FTLDD.....	.....
cacr	.....AGEV	FRTSSATLVA	GD...AG..A	FRVDE.....	.....
hepy26695	.....VEEL	LMVSFVG...	.....I	AKEKL.....	.....
hepyj99	.....VEEL	LMVSFVG...	.....V	AKEKL.....	.....
caje	.....LADW	FMVSQISNEN	EE.....I	LAEFE.....	.....
thma	.....LEEL	FIVSKVSLSD	A.....	SGELK.....	.....
fepe	.....LEEF	FIVSKVTLSE	N.....	ISGLN.....	.....
aqae	.....LNFF	FTVSQVELRE	GG.....	EVQIE.....	.....

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mask	~~~~~	~~~~~	~~~~~	~~~~~	~~~~~
stau2	NFKSLS....	SDAELTKDDF	IIKTLP....	.....	.....KDS
bace2	RAVYEAAS.G	EEVVVTTEDV	LVEKVA....	.....	.....KSG
baan2	RAVYEVAP.G	EEIVVTTEDV	LVEKVA....	.....	.....KSG
ocih	TINVELQD.G	SEVTLEKEDI	IVEKKG....	.....	.....QEG
clpe	GVEVITVD.G	NEIELNAENL	LVTMQG....	.....	.....LEG
clac	EAVKIDVD.G	TEIELNSENL	LVTMQG....	.....	.....LEG
cldi	ETLTVDLG.G	EAFEFNKDLV	LIGITA....	.....	.....KEG
pogi	GTFRMEVA.G	TPVELELADV	EIVSED....	.....	.....IPG
bafr	GKYTFDLG.G	AEAVIESADV	EIFSED....	.....	.....IPG
feac	GKITYK....	.GNEFTPdff	EIHEDP....	.....	.....SPE
thvo	GKLRVL....	.DHELTGEML	NISTIP....	.....	.....DPD
thnw	GFVEID....	.GVRLDPDMV	EISRVP....	.....	.....DPN
cyhu	.VFELKLADG	TVIPITSEDV	EIRSQD....	.....	.....IPG
chte	GSIEIDLG.G	RICTVLREDV	DIVHED....	.....	.....IEG
dera	QGFSVQAD.G	VTFDLTPGSV	LVDACA....	.....	.....PEG
stco	T.ASVEVD.G	ETVTLAPDEV	IITETP....	.....	.....REG
thth	.....	.....	.....	.....	.....
deet	.....	.....	.....	.....	.....
anga	GHFDIAG...	..HRVELEEI	RLIYQ....	...FSGGN..	.....AS
drme	GYFDILD...	..QRIELDEV	RIIYC....	...TSEQVG.	.....GN
hosa	GTIVVEG...	..HELHDEDI	RLMYT....	...FDQATGG T.	.....AQ
cael	GKLTVLG...	..HELSSEEV	AVSYA....	...AGSDQG.	.....HG

asfu	KKMLVDG...	..IELVEGDL	VVKRG.....	...LKEDVAS	.....EG
scpo	KKMVLGD...	..IELVEGDL	QIIR.....	...SVEVKN	.....EF
sace	GKLEVAG...	..IELVKGDL	NAIRG.....	...LPESAVQ	.....AG
ledo	KKGVVVG...	..KELTIEDV	KV.....	...LRQVKEG	.....ITD
lema	KKGVVVG...	..KELTIEDV	KV.....	...LRQVKEG	.....ITD
arth	GEVTIAN...	..HLLKETDI	KVSHAMMFSC	EIALRIVRVF	KRPDDLKENE
teth	GSIDLVG...	..KKLLEDF	TITQN.....	...YKKEYSS	.....GD
encu	.PLVVDG...	..LEILRDDV	LIVKK.....	...IRCEG..	.....
nolo	.....	.....	.....	.....	.....
plfa	KQIIIDN...	..ILLEQDDI	IIQMN.....	...HNIQND.	.....N.
plyo	KKIIIDN...	..ILLEDDDI	IINLK.....	...HNLNLE.	.....H.
chtr	GQMVVSLG.E	ETISLDKEDI	TVS.....	...WASAEG.	.....
chmu	GFMVLSLG.E	ETISLNEEDI	TVS.....	...WEAAPG.	.....
chpn	ETWVLTID.D	REIALDGDDV	VIC.....	...RHTDPG.	.....
trde	ATLSIDIE.G	KSVEITADKI	VIN.....	...RIEKA.	.....S
trpa	TTLYLDVD.G	DRLELTEEKI	LVQ.....	...RIERE.	.....S
bobu	TSYEIKVA.N	AKHYLSLNDI	ILE.....	...REEKE.	.....N
myle	GPVVLQPD.E	YSSRLVAANP	EF.....	.....	.....
mytu	GPAVLTPD.E	YNSRLVAADP	ES.....	.....	.....
codi	DGIELVAG.E	FTERLVAADP	DS.....	.....	.....
ripr	G.EILNSD.E	YTLILEPYSH	IKG.....	.....	.....
rico	G.ETLNSD.E	YKLVLEPYSH	IKG.....	.....	.....
psfl	AGQTIQPH.E	FERRLTVRDT	LNN.....	.....	.....
suso	Q.HVAKIDN.	FDIILNASYV	IISEET....	.....	...VE
aepe	V.YEGEYEG.	LPVKLTLEDV	SLKAEY....	.....	...PE
arfu	...VELDPK	QAIVVDY...	...RL....	.....	...PE
meba	GEFELSLADR	TTVTVTPGMA	NFKETL....	.....	...PE
meth	GSFRVDLDGR	.IIVLEPDDI	IFETEL....	.....	...PE
pyho	D...VEIEGK	.KFHLTREHI	IVEEKL....	.....	...PD
pyfu	D...VEIEGK	.KFHLTREHI	IVEENI....	.....	...PD
pyab	T...VEIDGK	.TFHLTREHI	IVEEKL....	.....	...PD
meja	A...VILDG.	..YEIKPEYV	EIRLEI....	.....	...PE
haNRC	VAADLGRDD.	..IELTTEMV	EFVEET....	.....	...PE
pyba	.....	.....	.....	.....	...PD
bacel	.....	.....	.....	.....	.....
baan1	.....	.....	.....	.....	.....
bast	.....	.....	.....	.....	.....
basu	.....	.....	.....	.....	.....
baha	.....	.....	.....	.....	.....
limo	.....	.....	.....	.....	.....
liin	.....	.....	.....	.....	.....
stau	.....	.....	.....	.....	.....
stpy	.....	.....	.....	.....	.....
stmu	.....	.....	.....	.....	.....
stpn	.....	.....	.....	.....	.....
lala	.....	.....	.....	.....	.....
enfa	.....	.....	.....	.....	.....
syne	.....I...	.....	.....	...N.	.....
arthchl	.....Y...	.....	.....	.....	.....
prma	.....	.....	.....	.....	.....
mypu	.....	.....	.....	.....	.....
myge	.....	.....	.....	.....	.....

mypn	.....	.....	.....	.....	.....
urur	.....	.....	.....	.....	.....
saty	.....	.....	.....	.....	.....
esco	.....	.....	.....	.....	.....
yepe	.....	.....	.....	.....	.....
vich	.....	.....	.....	.....	.....
hain	.....	.....	.....	.....	.....
acac	.....	.....	.....	.....	.....
pamu	.....	.....	.....	.....	.....
psae	.....	.....	.....	.....	.....
psfl_1	.....	.....	.....	.....	.....
xyfa	.....	.....	.....	.....	.....
neme	.....	.....	.....	.....	.....
buAPS	.....	.....	.....	.....	.....
agtu	.....	.....	.....	.....	.....
sime	.....	.....	.....	.....	.....
melo	.....	.....	.....	.....	.....
cacr	.....	.....	.....	.....	.....
hepy26695	.....	.....	.....	.....	.....
hepyj99	.....	.....	.....	.....	.....
caje	.....	.....	.....	.....	.....
thma	.....	.....	.....	.....	.....
fepe	.....	.....	.....	.....	.....
aqae	.....	.....	.....	.....	.....

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mask	~~~~~	~~~~~	~~~~~	~~~~~	~~~~~
stau2	YQLSEDND..	.....CVILL	DKNLSPELIR	EGHARELIRL	IQQLRKKKNL
bace2	FSNTTNGQ..	.....YTVML	DTNVTEELLQ	EGVAREFIRA	VQEYRKQLNL
baan2	FSNTTNGQ..	.....YTVML	DTNVTEELLQ	EGVAREFIRA	VQEYRKQLNL
ocih	YQLFEGNR..	.....FVLLL	DTNLTEKLKE	EGFVREFIRA	VQTYRKELDL
clpe	FAFAGEGS..	.....VGVVL	DTTITDELRE	EGHVREIISK	IQNMRESGSGF
clac	FAFAGIGE..	.....IGIVL	ETTITDELRE	EGYLREVLRSK	VQNMRESGSGF
cldi	FNVSVENN..	.....LFVIL	DTKLTEELIN	EGYAREFISK	VQQLRKSNNF
pogi	WLVANEGN..	.....LTVAL	DITVTDELRS	EGLARELVNR	VQNIRKQSGF
bafr	WLVANEGK..	.....LTVAL	EVTVTDELRR	EGIARELVNR	IQNIRKSSGF
feac	YAFASDEKT.	.....GISVFI	NKNIDSNNLL	AGYAREIIRR	IQIMRKDLNL
thvo	YGYSRDEKN.	.....GIDVFI	NKRIDRNEYL	EGLAREIVRR	IQLMRKEMNL
thnw	YAYSQTEKY.	.....GIDVFI	NKNIDRDGYL	EGLARELVRR	IQVMRKEMNL
cyhu	WSVASEGG..	.....ITVAL	DITLSDDLK	EGIARDVVNR	VQNLRKDMGL
chte	WLVAADDAH.	.....RIMVAL	DTEITEELEM	LGLARELVSR	IQTLRKESGL
dera	VAAAEDAG..	.....YLVAF	DTALTPELVR	EGLARDLVRA	IQEARKAAGF
stco	WSVASDSG..	.....ATVAL	DLELTEELRR	AGLARDAIRL	IQEARKNSGL
thth	.....	.....	.....	.....	.....
deet	.....	.....	.....	.....	.....
anga	FEAHSND..	.....VLVLL	DMPNEELMR	EGTAREIINR	IQKLKKKAKL
drme	FEAHSND..	.....VLVLL	DMPNEELLE	EGLAREVINR	VQKLKKKAQL
hosa	FEAHSDAQ..	.....ALVLL	DVTPDQSMVD	EGMAREVINR	IQKLRRKCNL
cael	YKTHSDAK..	.....TIVMI	DTTEDESLIE	EGLCREVTNR	VQRLRKQAKL
asfu	MEPNADAD..	.....VLTIL	DANLYPELAQ	QGLGREIINR	LQRLRRKAGL
scpo	LKSNTDGI..	.....CIVLL	DIEIDAQLQA	EGLAREVINR	VQRLRRKSNL
sace	QETRTDQD..	.....VLIIM	DTNIYSELKS	EGLARELVNR	IQKLRRKCCGL

ledo	FQSNTDND..	.....VVVLV	DKRQDQELID	SWRAREFVNR	VQQLRKKAKL
lema	FQSNTDND..	.....VVVLV	DKRQDQELID	SWRAREFVNR	VQQLRKKAKL
arth	IDSAGDGD..	.....VLVIL	DLRADDSLVE	AGFAREIVNR	IQKLRKKSGL
teth	LELGGEGE..	.....VILLL	NLAQDEKLKS	KGLVREFTSN	VQKTKKKTGL
encu	.IAQEFGD..	.....FSIII	DNTLDEGMVK	MKIAREFHSY	IQKLRKSAGL
nolo	.....	.....	.....	.....	.....
plfa	TEAISNNY..	.....ITILM	DFTADQQLN	MASAREICNH	IQKIRKNLSL
plyo	IEAISENS..	.....ITILM	DFTADEQLNN	MENAREICNN	IQKMRKKLAL
chtr	FVARSSAS..	.....FVAVL	DCQLTEPLIM	EGIARELVNK	INTMRRNRKL
chmu	FVARSSAS..	.....FVAIL	DCQLTSPLIM	EGIAREIVNK	INTMRRNGKL
chpn	YIARSSAL..	.....FSVIL	DCQLREPLIV	EGIARELVNK	INTMRRNQQL
trde	LKIVNEGT..	.....LTVGL	NTELTEELLM	EGYIRDLVRG	IQTLRKECGL
trpa	LKAINEGT..	.....LTVAL	DTTLTEDLLL	EGAIRDLVRG	VQNLRKERGF
bobu	LKVINEES..	.....ITIGI	DSLITKELYL	EGLTREFVRR	IQNLRKEKNF
myle	TAELPDGS..	.....GLVVL	DDTVTPELEA	EGWAKDRIRE	LQELRKLIGL
mytu	TAALPDGA..	.....GLVVL	DGTVTAELEA	EGWAKDRIRE	LQELRKSTGL
codi	TTQIDGVD..	.....GLVVL	DMTLTEELEA	EGWAADVIRG	LQDARKASGF
ripr	TANFDNNS..	.....SLLIL	NLELTSELIE	EGYARDIVRF	IQYARKEADF
rico	AASFENNS..	.....SLLIL	DLELTPELIE	EGYARDIVRF	IQQARKDADF
psfl	VGIVEN....	.....MVVWL	DLIDIDASLKR	EGAVRELNRR	LQDLRKKAKL
suso	GFISSKFS..	.....KGIVVI	SKEISESEEE	EGLIRDIIRR	IQFMRKQLKL
aepe	WLKVRDTP..	.....LGLVAV	DTRLTKEEVL	EGLARDIVRR	IQAMRKEAGY
arfu	GYEYAEFS..	.....GGVVYI	YKELDDELVR	EFAREVIRR	IQEMRKELDL
meba	GTASAESD..	.....AGLVYV	DANLTPELEA	EGYAREVIRR	LQDMRKELDL
meth	NIVNAQFE..	.....GGSVFV	DTELTPEIMS	EAMARELVRR	IQDMRKDLDL
pyho	FLVAEDFE..	.....GGRVYV	DKTLTRELLA	EGLAREFVRR	IQEMRKRLDL
pyfu	FLVAEDFE..	.....GGRVYV	DKTLTRELLA	EGLAREFVRR	IQEMRKRLDL
pyab	FFVSEEFE..	.....GGRVYV	DKTLTRELLA	EGLAREFVRR	IQEMRKRLDL
meja	HIAGVEFS..	.....KGTVFI	NTEITDDLK	EGLMREVIRR	IQAMRKDMDL
haNRC	HVAGAAFETE	TA..AGTVYV	DTELNEVES	EGYAREVRR	VQEMRKEMDL
pyba	YLCVKEGE..	.....LEVCV	PDKIEPELYY	EALARELIRR	IQVMRKETGL
bacel	.YEH.....	.....TAVVV	AQATGE...T	CERCWVSET	IGK..DAEHE
baan1	.YEH.....	.....TAVVV	AQATGE...T	CERCWVSET	IGK..DAEHE
bast	.LDH.....	.....VAVLV	RPAEGE...T	CERCWVTPA	VGQ..DPSHP
basu	.FAT.....	.....GKIAV	EKAEGE...M	CERSRVISKD	VGA..NPKYP
baha	.YDD.....	.....LAIIV	EKAEGE...T	CERCWVVSPT	VGT..NNEHP
limo	.SNQ.....	.....VAVQI	TVAEGE...T	CERCWVVKD	VG..NPKHP
liin	.SNQ.....	.....VAVQI	TVAEGE...T	CERCWVVKD	VG..NPKHP
stau	.YEH.....	.....GDIVI	EHADGE...K	CERCWVSED	LGA..VDEL
stpy	.FEG.....	.....VAFIV	EHAIGE...V	CERSRVIDPT	TRM..RSYNA
stmu	.FED.....	.....VAFSV	EHARGH...V	CDRCRVIDET	VKE..RPYHV
stpn	.FED.....	.....VAFTV	ERATGE...V	CDRCRVIDPT	TAE..RSYQA
lala	.FDD.....	.....LAVLV	EHAAGE...V	CDRCRVIDET	VGHANEHLK
enfa	.FED.....	.....MAILV	EKAEGE...T	CDRCRSVRQD	VGS..DEKLP
syne	.LERH..DNN	IRTKPIKIV	TKADGH...K	CERCWVYSTQ	VGS..FSDDP
arthchl	.VE...GEN	K...VWIGV	SRAEGS...K	CERCWVYSTQ	VGS..FSDDP
prma	.ID...NNE	LG...KIQI	LKAKGL...K	CDRCWHYQNI	TVK..GIENT
mypu	.....	.....LRV	ETFDSH...K	CPRCWNHIEK	TEV..VED..
myge	..EN.....	.....EIKV	KKTKKT...M	CERCWNFQTI	IKQ..KLDHN
mypn	.....	.....	.....	CK...TFSSL	AKR..KPGK.
urur	..TN.....	.....VANA	NFKKCL...R	CWNHFPDEEM	YND..ELSMN
saty	.NT.....	.....TVQAVV	TRAEGD...K	CPRCWHYTTD	VGK..VAEHA

esco	.LK.....	....GLKVAL	SKAEGE...K	CPRCWHYTQD	VGK..VAEHA
yepe	.IA.....	....GLKITF	NKADGE...K	CPRCWHYTQD	VGL..VAEHA
vich	.ID.....	....GLFVQV	NKTEAE...K	CDRCWHHTPD	VGT..IAGHT
hain	.LE.....	....GIAVSV	TRSNAE...K	CPRCWHYSDE	IGV..SPEHP
acac	.LE.....	....GIAVSI	ARSNGG...K	CPRCWHYSDE	IGV..NPQHP
pamu	.VK.....	....GFAVKV	VRSANH...K	CPRCWHYSDE	K.....DAE
psae	.VA.....	....GLKLVK	VKSTHA...K	CGRCWHHRED	VGQ..HAAHP
psfl_1	.VP.....	....GLKLVK	VKSAFP...K	CARCWHCRED	VG..NPEHP
xyfa	.D.....	....GFFVSA	QPTTKA...K	CARCWHYRAD	IGA..HPTHP
neme	.....	....LAVAA	KASDGE...K	CERCWHYTRD	VGA..VAGHE
buAPS	.VP.....	....YLVKSL	EKIKGK...K	CPRCWHYFNF	TKK..NIKNS
agtu	.VA.....	....KVVVEQ	KLAEGV...K	CARSWRITTD	VGS..DPQYP
sime	.VA.....	....KVSVP	KLAEGV...K	CARSWRITTD	VGS..DPLYP
melo	.VR.....	....GVAVVV	EKAEDRGLVK	CARSWRYTAD	VGQ..DPAFP
cacr	.VK.....	....GVSVDP	NKAEGK...K	CARSWRILPE	VGT..DPRYP
hepy26695	.SE.....	....TPAFTL	FKAPFY...K	CPRCWRFKSE	L.....EN
hepyj99	.SE.....	....TPAFTL	FKAPFY...K	CPRCWRFKSE	L.....EN
caje	.VE.....	....NEKFKI	TKASLC...K	CPRCWKLQSK	N.....EE
thma	.GE.....	....LVEVTV	KHAEGE...K	CQRCWKYTTE	ISA..SEDFP
fepe	.GQ.....	....FANVLV	QRAEQG...K	CQRCWKYHPD	TGK..DLEHP
aqae	.GEE.....	....LPVKVGV	NKAEGE...K	CPRCWIYYQK	EEF..VGCVC

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mask	~~~~~	~~~~~	~~~~~	~~~~~	~~~~~
stau2	PINQRIDIYI	GVTG.....	.....	.....	.....
bace2	PVNLRV DVIL	DTEE.....	.....	.....	.....
baan2	PVNLRV DVIL	DTEE.....	.....	.....	.....
ocih	PVEQRVDIYV	NSDE.....	.....	.....	.....
clpe	EVADKITLYV	AEND.....	.....	.....	.....
clac	EVADKIEIYV	SGNE.....	.....	.....	.....
cldi	EVLDNIVIEY	CGDD.....	.....	.....	.....
pogi	EVSDKVDVLL	LSND.....	.....	.....	.....
bafr	EITDKIKLTL	SKNP.....	.....	.....	.....
feac	EYSSNIKTEI	NVTG.....	.....	.....	.....
thvo	DYTDRI NVWI	DPVG.....	.....	.....	.....
thnw	NYTDRI ITHL	DLSD.....	.....	.....	.....
cyhu	EVQDKIRITI	QKVD.....	.....	.....	.....
chte	EITDRI ALTI	AGSE.....	.....	.....	.....
dera	EVQDRI ALAL	ELDG.....	.....	.....	.....
stco	DVADRI ALRW	TATDP.....	.....	.....	.....
thth	.....	.....	.....	.....	.....
deet	.....	.....	.....	.....	.....
anga	IPTDPVLIYY	TVSGGDSEVR	SVAESHRSFI	VGTVKSPFVP	YGPEAAAKPV
drme	IPTDPVLIFH	ELAADN....	.....K.	.....	.....AKQEV
hosa	VPTDEITVYY	KAKSEGTYLN	SVIESHTEFI	FTTIKAPLKP	YP.VSPSDKV
cael	VSTDTAHVHI	VVSPADSQLA	KVVAAKLNDI	VSATGTPIKL	GSPPAAKAP
asfu	VPTDDVRMEY	AVLSDP....	.....	.....	.....DSV
scpo	QVTDDVRMTY	KIKN.....	.....	.....	.....DTI
sace	EATDDVLVEY	ELVK.....	.....	.....	.....DTI
ledo	VVTDEVDVYF	EAEEDL TAS	.....	.....	.....ILHSKDQ
lema	VVTDEVDVYF	EAEEDL TAS	.....	.....	.....ILHSKDQ
arth	EPTDFVEVYF	QSLDEDESVS	KQ.....	.....	.....VLVSQEQ

teth KVDDNIVIYY DVTKAP . . . . . KLNA  
encu RVGDDVVVDI QCP . . . . .  
nolo . . . . .  
plfa NQNSPVLMIHI YIYDQT . . . . . FKN  
plyo SQNSPVQMHI FIQNET . . . . . FKN  
chtr HVSDRIAIRL HAP . . . . . V  
chmu HVSDRIAIRL HAP . . . . . K  
chpn HVSDRIALRI KTT . . . . . E  
trde DVTDRIKLYL SASQKN . . . . . ADNK  
trpa SLVDRICLRV FSSDQ . . . . . DIV  
bobu DVSDRINLYI ENNET . . . . .  
myle DVSDRIRVLM SVP . . . . . A  
mytu DVSDRIRVVM SVP . . . . . A  
codi EVSDRIEVKL VVP . . . . . E  
ripr SITDRILIEI ISE . . . . . F  
rico SITDRILIEI ISE . . . . . F  
psfl GYTEKVDIAV LGG . . . . . A  
suso NVLDYIEISM KVPEE . . . . .  
aepe SVEDYVEVWI QGGED . . . . .  
arfu DVEEFIEITTV EMDAE . . . . .  
meba VVDENIRVSV RIEDER . . . . .  
meth DVEARIEVSV KCSPEF . . . . .  
pyho DVNDRIVVTI ETDD . . . . .  
pyfu DVNDRIVVTI ETTEE . . . . .  
pyab DVNDRIIVTI ETTDE . . . . .  
meja DIEEKIKIKV EGID . . . . .  
hanRC AMDAEIRLDV LVFDER . . . . .  
pyba EISDEIHVVV ETNSDD . . . . .  
bacel TLCERCATVV KENYVK . . . . .  
baan1 TLCERCATVV KENYVK . . . . .  
bast TFCPRCAHIV NEHY . . . . .  
basu TLSLRNAEIV EKYYQK . . . . .  
baha TLCADCAETV ATYYVTK . . . . .  
limo TLCGRCADIV VKHY . . . . .  
liin TLCGRCADIV VKHY . . . . .  
stau HLCPRCQQVV KSLV . . . . .  
stpy FVCDHSAKII EENFPEAVAE GFEESEK . . . . .  
stmu TICNHCAAIV ENHFPEAVRQ GFESK . . . . .  
stpn VICDHCASIV EENFAEAVAE GFEEK . . . . .  
lala MLCEHCAHIV ETEFPEILEE GFED . . . . .  
enfa TLCGRCAHIV EENYPEAVAE GFE . . . . .  
syne TICERCNEAL QGNF . . . . .  
arthchl TLCGRCFSVI VANPPEPAVA AVNSLA . . . . .  
prma KLCERCANII NL . . . . .  
mypu .LCQRCYQTI NS . . . . .  
myge .LCSRCFKVC . . . . .  
mypn .YNEWQORN . . . . .  
urur .CYKVINKIK . . . . .  
saty DICGRCVSNI AGNGEQRKFA . . . . .  
esco EICGRCVSNV AGDGEKRKFA . . . . .  
yepe ELCGRCVTNV AGDGEERKFA . . . . .  
vich TICGRCVSNV EGEGEVRKFA . . . . .



hain	TLCARCVENV	VGNGEVRYFA	.....	.....	.....
acac	SLCPRCVENV	AGNGEIRHFA	.....	.....	.....
pamu	SLCSRCDENV	NGQGEVRQFA	.....	.....	.....
psae	DLCGRCIENI	EGSGEVRHYA	.....	.....	.....
psfl_1	EICGRCDVNI	SGEGEVRHYA	.....	.....	.....
xyfa	ELCGRCVTNV	DGPGEQRHWF	.....	.....	.....
neme	TVCKRCAENV	GGEGETRHYA	.....	.....	.....
buAPS	DICNRCILNT	IGNGEKRIFI	.....	.....	.....
agtu	DVSARDAAL	RELAALK...	.....	.....	.....
sime	DVSARDAAL	RELGFKP...	.....	.....	.....
melo	DVSARDAAVL	HELKALGRL.	.....	.....	.....
cacr	ELSLRDADAV	AYWDAGRG..	.....	.....	.....
hepy26695	TPCKRCEQVL	KER.....	.....	.....	.....
hepyj99	TPCKRCEEVL	KER.....	.....	.....	.....
caje	TPCLRCEEVL	KGVQC.....	.....	.....	.....
thma	GVCPRCLAVL	KGERK.....	.....	.....	.....
fepe	ETCPRCSAVL	RGERK.....	.....	.....	.....
aqae	KRCAKALSEM	GIELNAVC..	.....	.....	.....

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mask	~~~~~	~~~~~	~~~~~	~~~~~	~~~~~
stau2	ELLESIKTNK	NMFKE.....	.....NFVI	KNIHLNV...	.....
bace2	ELQOTLTNHK	QLLEE.....	.....NLLV	KQFTFGH...	.....
baan2	ELQOTLTNHK	ELLEE.....	.....NLLV	KQFTFGH...	.....
ocih	NAERILSEFD	ALIHD.....	.....GLII	NSVQFAE...	.....
clpe	MLLDVIKKFE	DVIKK.....	.....ETLT	EEIVYNG...	.....
clac	KLENVIRKFE	DTIKK.....	.....ETLA	TDIIYSE...	.....
cldi	EIAKAVDHFN	EYIKS.....	.....ETLA	LEINRVD...	.....
pogi	IMDKVVAEHH	DYIAQ.....	.....QIQA	ESLEIS...	.....
bafr	QTDDAVNEYN	SYICN.....	.....QVLG	TSLTLA...	.....
feac	DIRKSIEKFM	DLIKN.....	.....ETLS	KSIEFS...	.....
thvo	DFSDAIDKFE	SYIKA.....	.....ETQC	DSLNVGH...	.....
thnw	DFLEALNKHA	EYIKN.....	.....ETQS	DSIITDK...	.....
cyhu	EL.....	.....	.....	.....	.....
chte	KLLAAARKSE	SYIMD.....	.....ETLA	TSIVLLP...	.....
dera	EALEAAQAWQ	DFIAG.....	.....EVLA	EQVAYGS...	.....
stco	ATIAALTDHS	GLISD.....	.....EVLA	TDFAQGE...	.....
thth	.....	.....	.....	.....	.....
deet	.....	.....	.....	.....	.....
anga	LIEESQELKG	ITLTITICSP	HDREVPAAPW	VNLQLDEGLA	PR.....YQ
drme	LEAQAQLAK.	.VLSN.....	.....YASI	IKTAIKSEFA	P.....YS
hosa	LIQEKTLKKG	SELEITLTRG	SSLPGPACAY	VNLNICANGS	EQGGVLLLEN
cael	TATSKSAIKD	SEVELWLF AE	.....GDSF	DGITVVDGSK	K.....VR
asfu	GIDEAFKTQA	KAIEK.....	.....AVR	RPLEQEA...	.....
scpo	GLESAVDSNE	ALFSK.....	.....VLR	RPIEKETGAD	E.....S
sace	DFEAIVKEHF	DMLSK.....	.....TCR	SDIAKYDGS.	K.....T
ledo	.INQTLRGVW	TTMDQ.....	.....KPSD	AELVAEE...	.....D
lema	.INQTLRGVW	TTMDQ.....	.....KPSD	AELVAEE...	.....D
arth	NIKDSIGSTL	LLSSL.....	.....MPSH	AVIIADEF T	PKE...TSD
teth	AIQSDLEAVQ	KVLKK.....	.....P.L	VPLSEKN...	.....AA
encu	...DLKGIVS	KYFDI.....	.....S.F	GSLGALSGRG	.....E
nolo	.....	.....	.....	.....	.....

plfa	HMLNENEYIK	KCLRR.....	.....N.L	NIIDLEKDVQ	N.....	LT
plyo	NMIKETEYIH	KCLRR.....	.....N.L	NIINTVDQME	K.....	LQ
chtr	IVQEAFALHK	EYICE.....	.....ETLT	TSVSVIDYK.	.....	
chmu	IVQEAFSQYE	EYICE.....	.....ETLT	TSVSFIDDK.	.....	
chpn	AVHRAFLDYE	NYICE.....	.....ETLI	IAYDFTQDSD	.....	
trde	ELEKAFELFK	D.....	.....	.....	.....	
trpa	CARKAYDLHR	SYIVG.....	.....ETLA	AHVQWARVRD	G.....	
bobu	.LKEMLNKFE	KYIKT.....	.....ETLA	LNIIILNKSK.	.....	
myle	ERADWARVHR	DFIAR.....	.....EIL	.ATSFE....	.....	FGE
mytu	EREDWARTH	DLIAG.....	.....EIL	.ATDFE....	.....	FAD
codi	EKKEWALRHT	DMIAG.....	.....EVL	.ATSFE....	.....	VVT
ripr	DLSKIIDHYG	DFIKE.....	.....QTL	GEFAKN....	.....	FTP
rico	NLSKIIDNYG	DFIKE.....	.....QTL	GEFAKN....	.....	FTP
psfl	YVDEILVHHE	DWLKS.....	.....QLL	VQSLLRSDL.	.....	EAP
suso	.RVKTIQKWE	EFIKS.....	.....ETRA	SNIILG....	EAKG.....	
aepe	.VVEAVNALK	EYIKR.....	.....ETRA	LKLEVG....	EPPSG....	V
arfu	...LVKGWE	DYIKS.....	.....ETRS	QKLVFG....	KAEG.....	
meba	.VLRLVETLK	DLIAE.....	.....EVRA	EILNLGSDID	VSGA.....	
meth	.R.ELTEPQR	EFVEN.....	.....EVRA	SHLSFD...Y	TELE.....	
pyho	.NRELLQENL	DYIMR.....	.....ETRA	IEVRFE....	EAKG.....	
pyfu	.NRELLQENL	EYIMR.....	.....ETRA	IEVRFE....	EAKG.....	
pyab	.NVELLKENL	DYIMR.....	.....ETRA	DKIVFG....	KAKG.....	
meja	.LDEFKEII	EREVR.....	.....GQFV	DEIKAD....	YEKD.....	
haNRC	.VGELVARHE	PLITA.....	.....ETRA	RELGEV....	.EDG.....	
pyba	.IKKAVEQYR	DYIAR.....	.....ETRA	VKLIID...A	VSQG.....	
bacel	.....	.....	.....	.....	.....	
baan1	.....	.....	.....	.....	.....	
bast	.....	.....	.....	.....	.....	
basu	.....	.....	.....	.....	.....	
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mask ~~~~~
stau2 ... IDEYENT IHFNKEIKI SLLY.....
bace2 ... LTNEDDE LSLGETKVRI KL.....
baan2 ... LTNEDDE LSLGETKVRI KLSTAQ....
ocih ... KE.DMKQ VTVNDTEMGL SIV.....
clpe ... NA.DYSE AKVNGEILKM AVSKR.....
clac ... NK.EAAI YNINGEELNV FVKKNC....
cldi ... D.....
pogi ... DAVSDG VELDFDDFVL SIQVVKHQG.
bafR ... DEVKDG TELNFDDFSL FVNVVKE...
feac .....
thvo ... TDD.LRK WEIGDETIGI RIEKVVPK..
thnw ... VEG.MKL WEINGEPVRI KIDLAR....
cyhu .....
chte ... LDDSQPG DGVEQVNNEL CRLSLEKSGS
dera ... GEG.... .FRAEVEGGA VTLKKL....
stco ... ADDSYGA PFTDEGLSLV FRLRKQ....
thth .....
deet .....
anga PNPPSRKAS. ..LLEGRSL GKP..... .LTFDQLHQ EVVTLFGLKD
drme SEQASKKR.. ..LIATQR..
hosa PKGDNRLDL. ..LKLKSVVT SIFGVKNTL AVFHDETEIQ NQTDLLSLSG
cael VHVKTEKEH. ..LKGADLL YHVR..... SALDLWNGKI
asfu .LIMEEQE. ..VQATFLL RLLKL.....
scpo NIIASEEQD. ..VQGATFLL SLLRL.....
sace DPIGDEEQS. ..INDTIFKL KVFKL.....
ledo NSISGVAER. ..LDLTKPKT
lema NSISGVAER. ..LDLTKPKT
arth ESVKVPKLS YKISLARPAL KFNEEAVLAL Y.SGESPSHH NRFSL SILSR
teth LKIVENSLLT FQVDEESVTI EIAYA.....
encu YEFDGTLYP. ..VS LYKKL.
nolo .....
plfa DKFFEEKIT. ..VNEKEVLV IFTNQ.....
plyo NKFHQETFT. ..VSGQEVIA IFTQN.....
chtr ... EGEEWD. ..INGHAVSF VLERVER....

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chmu	...EGEWD.	..VNGHAVSL	SLEVIGH...	.....	.....
chpn	..FQGENWD.	..INGHATQI	EITVSSIDS.	.....	.....
trde	.....	.....	.....	.....	.....
trpa	..ASAVYVK.	..SDAVLWEV	SIDKA.....	.....	.....
bobu	..LEKKINL.	..ADDIFTLI	GIEKC.....	.....	.....
myle	.PADSVAIG.	...DG..VRV	SLLKV.....	.....	.....
mytu	.LADGVAIG.	...DG..VRV	SIEKT.....	.....	.....
codi	GEPAEHDIV.	...AG..VTA	TVQKV.....	.....	.....
ripr	DYVSKVALE.	...NNQ.IQL	KVKRL.....	.....	.....
rico	DYVSKVALE.	...NHQ.IQL	KVKKS.....	.....	.....
psfl	LAVDEVELP.	...EGDPVRI	QLRRSVLA..	.....	.....
suso	DITMDWDIE.	...GESYII	GIKKST....	.....	.....
aepe	EVLREWELD.	...GEKVVI	ALKRAAASG.	.....	.....
arfu	.YVREWNIE.	...GKKVKI	GIKRLRG...	.....	.....
meba	.LVKDWDVE.	...GIAMKM	GISKK.....	.....	.....
meth	.YTKEWKIS.	...DENLII	SIKPSDKV..	.....	.....
pyho	.YVVEWP...	...EVQAKI	GIEKVE....	.....	.....
pyfu	.YVVEWP...	...EVQAKI	GIEKIE....	.....	.....
pyab	.YVVEWP...	...EVQAKI	GIEKVEE...	.....	.....
meja	.WEIKTPNGE	...KYNVKI	AIERINK...	.....	.....
haNRC	.HREEWDVE.	...GTTMIL	EVEAV.....	.....	.....
pyba	...KEWDIS.	...GEKVVI	EIRKAQA...	.....	.....
bacel	.....	.....	.....	.....	.....
baanl	.....	.....	.....	.....	.....
bast	.....	.....	.....	.....	.....
basu	.....	.....	.....	.....	.....
baha	.....	.....	.....	.....	.....
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hepyj99	.....	.....	.....	.....	.....
caje	.....	.....	.....	.....	.....
thma	.....	.....	.....	.....	.....
fepe	.....	.....	.....	.....	.....
aqae	.....	.....	.....	.....	.....

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bace2	.....	.....	.....	.....	.....
baan2	.....	.....	.....	.....	.....
ocih	.....	.....	.....	.....	.....
clpe	.....	.....	.....	.....	.....
clac	.....	.....	.....	.....	.....
cldi	.....	.....	.....	.....	.....
pogi	.....	.....	.....	.....	.....
bafr	.....	.....	.....	.....	.....
feac	.....	.....	.....	.....	.....
thvo	.....	.....	.....	.....	.....
thnw	.....	.....	.....	.....	.....
cyhu	.....	.....	.....	.....	.....
chte	.....	.....	.....	.....	.....
dera	.....	.....	.....	.....	.....
stco	.....	.....	.....	.....	.....
thth	.....	.....	.....	.....	.....
deet	.....	.....	.....	.....	.....
anga	VQFNVLAGPD	GRRLDAS...	.....	.SYDPKALHQ	QTLYVTLGES
drme	.....	.....	.....	.....	.....
hosa	KTLCVTAGSA	PSLINSSSTL	LCQYINLQLL	NAKPQECLMG	TVGTLLLENP
cael	ALKNVDGSAV	HPTVDVT...	.....	...S...LVG	QTLQLVR...
asfu	.....	.....	.....	.....	.....
scpo	.....	.....	.....	.....	.....
sace	.....	.....	.....	.....	.....
ledo	.....	.....	.....	.....	.....
lema	.....	.....	.....	.....	.....
arth	FLFNVYIYGS	RRCEICN...	.....	RASNILVIKG	SFEFEVRVPS
teth	.....	.....	.....	.....	.....
encu	.....	.....	.....	.....	.....
nolo	.....	.....	.....	.....	.....
plfa	.....	.....	.....	.....	.....
plyo	.....	.....	.....	.....	.....
chtr	.....	.....	.....	.....	.....
chmu	.....	.....	.....	.....	.....
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trpa	.....	.....	.....	.....	.....
bobu	.....	.....	.....	.....	.....
myle	.....	.....	.....	.....	.....
mytu	.....	.....	.....	.....	.....
codi	.....	.....	.....	.....	.....
ripr	.....	.....	.....	.....	.....
rico	.....	.....	.....	.....	.....
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meja	.....	.....	.....	.....	.....
haNRC	.....	.....	.....	.....	.....
pyba	.....	.....	.....	.....	.....
bacel	.....	.....	.....	.....	.....
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pamu	.....	.....	.....	.....	.....
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neme	.....	.....	.....	.....	.....
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sime .....
melo .....
cacr .....
hepy26695 .....
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mask ~~~~~
stau2 .....
bace2 .....
baan2 .....
ocih .....
clpe .....
clac .....
cldi .....
pogi .....
bafr .....
feac .....
thvo .....
thnw .....
cyhu .....
chte .....
dera .....
stco .....
thth .....
deet .....
anga LPAAGWTPSR MPYAAFRNVQ SANGRSTTVF ...EENPVGV KLPVPAL...
drme .....
hosa LGQNGLTHQG LLYEAAKVFG LRSRKLKFL NETQTQEITE DIPVKTLNMK
cael .....
asfu .....
scpo .....
sace .....
ledo .....
lema .....
arth RRWEGSLVKL LLTQIVYFII LMYLVWQITV SCIENVPVAT VVLGEHLHLS
teth .....
encu .....
nolo .....
plfa .....
plyo .....
chtr .....
chmu .....
chpn .....
trde .....
trpa .....
bobu .....
myle .....

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mytu	.....	.....	.....	.....	.....
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pyba	.....	.....	.....	.....	.....
bacel	.....	.....	.....	.....	.....
baan1	.....	.....	.....	.....	.....
bast	.....	.....	.....	.....	.....
basu	.....	.....	.....	.....	.....
baha	.....	.....	.....	.....	.....
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drme .....
hosa TVYVSVLPTT ADF
cael .....
asfu .....
scpo .....
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