

Additional file 2: Gene prediction from *T. amestolkiae* genome

>g1

MRKVFTALGVTLYVAAIAAQNISTSNNYRPSNVTANLTDLYLWVGSYYNATAQVDFIPFGGLAASI
PSNCPPAFSNQTAGNYSARLAITQPGSYDSVGDLANVFLTLWPLDYDFTKLPLGQQITYIPDLDF
GLFSSDPLYDNGGDPKNNWIWSLKNTTSPYPNMSSTIEDRYRGFGVFHVNASTPCVETSQWSFLIW
SDPVNGTNTFTNPTIDLQFDDSTANLTLQGYAEAGAVYGTGSTATSGSTVVWGEFSLTSLGVIDKYH
SDILKNDTNTPAWVPTVGYNNSANFGYTTQSTGSRIAEP LLLITIVFALWLIIS

>g2

MKLCTFVALAATAAAQQIWIQAPGLNQEVTAGSDLVIEVQSQDTASPYQDIAAAIGIQPWDGTGYVS
TLELGEWLLYQGNWSIEGFAYPQGGLYTNVTVRVPSSLPAGPALLSVALFQVVGESNEPSVQTANV
NVTVLSSS

>g3

MFAPGSGGQAASSLRSSRRRQRTSLED SVKPPAAKRQRSSLRREP KQPAADKNVTTAQEYGNKPSA
VTRDYG VETG PQKERSLAIRSSEKTSKATSQTDHAVVLSNDYYTVTQLPSGSDQPGETISGPTRC
IFNSES GFALLLSQSRALVWPYHTNVPSPGGGGLSVSLSEWCTNDGEALMGT LISNATCTVPGLF
IIVPATGKMIYWETASNATFMGIAKQKQSGLQGSITGLFYGEKVTDVINAEPAGVITTFSSGRVAQ
ITFRDPQ GKPAHSVNFQSTAKLGAGGLFFGIRSVLGSSAWRKDIAAVKAGNSLFRGQORDIIVLST
SGLLEIWD SHWNGVNKIRAEVDLQKEICSYLGFESNGKPENCLKVHDFVATYREAKSPSNSEEQHN
ETSLFILIDISRNTPAKSLAVIKARIQNDNFEVLSLNTLENMTLAQGF EKQRPRLHVVEPWETAFI
LMGRKLFIMSLQEIEASPSAQLLNGIVPKPFQDRLQFQEGDKYEILGIGSEETSSETQTPGCNMI
RGFGLIGISATSPGSDTTEYVRVTAKQKLEQAVFFGTMSNTPLSFSSDGEPAFALEEYEQAALEIC
NDILRSTSQYIPRAGISLDQTLRRRSKALGDLATELIRRRPLSKTVRWELMWAGEKLAAQRSMWN
LEENFRERWASETFLSRVISLMTDKYKTEYVPSHNDKQNDHVRQWFDCDTFQM QHIIPWIFNAIRG
LKGPSARSSPEFLSQVYQASELSLTVLEGAYKFREDHALQYGF AEEDFDNGVLLGSYSDIPEFWTS
ENMVYNETLHMLD FELESSRWVHQSVSDTSAEDHDMIASIGENSCRRLRVLNMMLTERVVRWLNAQN
DPKFADEAIALKDSSVKQRKWQLYKMGGIGQLQG AIDLAEFRDLEALVELMVELQYLVRNKSSPV
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KLQELDDKLEIGNLQERLYEHVLPALHSAID EKA EVELAMDQFGGRVTDQPALKDLLEELLTRLIR
RQPLDAEQ LINILTLIDDVRFLEGDESSVSGREFYNALRVLR LSGYASSDPVKYDFLERLIWRRCF
IRDDWHSISKTEFRSDDKNRSLFLNTTLARTLLACVEDGKLGLSQSYTISQPKAYKTTETEENRGR
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>g4

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RLAVYGWLTNTGVKILVIVDLAGR HIDGTGQKKNITPVTGMKHS DLKPAFRALQTAYIGLLQNPFY
NPDDQNESSRIETTS DTPMGINDKKFVTEVKRIGDMWSPSLTII

>g5

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>g6

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GGIDILVNNAAFQNM LPAIDKDLSEEQWLKTFDTNIHPYFYLA KYALPHLKRGSTIINCSSVNPYIG
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QPSEVATCFVFLASADSSYMSGQSLHPNGGVVVG S

>g7

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ALEDDISRSELDSQLGAEDSNLDSERVEDDMEEDVEEVSDDESDADIEERSTVSEDATSETYVED
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TAAPTDDDIERIAISDVRRDLFEDISDQADSDVMDAGEAEGGRSTHEKQKAKIADEIRRLEMANVA
KKEWMLAGEARAPQRPLNSLIEEDLEFERIGKPVVVTSETSEEMEQLIKRRIIAKEFDEVVRRLP
DSVRQHDISRGRVEVDQTKPQQSLAEIYENDHLRATDPSYVDQKNEKLKKEHAEITQLWKSTSSQL
DALSNWHYKPSVPQPNINVITDVATVMMEDARPGGSADVGEQGTLPQEVYHPKDGAGLGGEVVLK
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>g8

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GCGGQLWPAGLLLSRYMLEEHATDLVGKTIVELGAGGGLVGLAVARGCQTDKPIYITDQEPMMQLM
QDNISLNDLSTKVKPALLDWGTPSPAIEPEHPEIVLAADCYFEPAPFLLISTLQGLLGSDTICYF
CFKRRRRADLRCIKMIKKLFNVTEINRFSTCEGYNRENFLYKIQSRQSKE

>g9

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TVGLSLFLTWWGTRTNPFD

>g10

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KQEGEDKGLAAYFEKDKSSVKSILGPDGLPPLPARLNNSAKYELGSGQGYPEKYPCRTFV

>g11

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GELQTQDGASTTLQTLIASSKAGVVLFTYPRASTPGCTKQACMFRDGYENLTSTGLAIYGLSTDSP
KANTTFKTKQNLPLYLLCDVNATLIGSLGLKKS PKGTVRGVCVIDKAXKVLLLEPGSPAGTVEAVE
KIVRESPIKDGDKEESKKEAEAEAEKE

>g12

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WVLNLFGGSEVSYSYVYVSDPITKKVTMCSTNLWANVLNVRETVTYQPSQSLPDKQTDFRQEAK
ITALCTGWQKMKNKLEEVSVVERFRENKRGREGFEAVLEMSRRVFGEQKELEKQLQTS

>g13

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AAGRFLVVKRTPGISTTDLVGRMLLCTKNHFVKSVDILEGNEGSDNAEDRKAHGADLMQRLRDYA
TDESGHRPGPEVWLWNGSDTAKINQVVEQAGKFEALINGVAPKPGQRIVYVDGGFDLFSSGHIEFL
RRVWDLEEAEGRKSGWYEEESAKQKRIEEQGTDYGPAYIIAGIHDDSVINHWKGLNYPIMNIFERGL
CVLQCKYINTIIIFSTPFTPTESFLQAMPWGVDPVYHGPTTFIPLTYDPYVAPKQMGIFKEVDSHF
FQHVNAGEIVERILKSRSAYEERQRAKLQKGVVEQDARDKELASQETNPGPQ

>g14

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VRARLPQMFKRATYTG NKARRASSANEIGLPMHFS DSSDVKAMTGNLASSATAASAVTSFPNTDSS
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KVMVAGVVRDFEDASRSGAKSEIGGVS RVVLGGLG

>g15

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LMSMHQNGELAKLLEEKNVLVAAEE

>g16

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GPNTVAKIQTRALRQSSYNKSSVQLAAPASAPALYSPPQTGLLSYLPKSWIPYAEIIRLDKPTGTY
YLFFPCLFSTLLAAPLATPMASPAEVLAYSGLFFSGALIMRGAGCTINDLWDKDFDPHVTRTRFRP

IARGAVTPEKAIVFTGVQLLAGLGILLQFPLQCLYYGVPSLLFVATYPLAKRVTNYPQAVLGLTFS
WGAVMGFPALGVDLLNNTDALLSAAALYSSCVAWTVLYDMIYAHMDIKDDVAAGIKSIALRHEHNT
KTVLSGLAVTQVSLLAGWAAGAGPLYFAGTCGSAIMSLGIMIWRVRLKDVKNCWWWFKNGCWIT
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>g17

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GYSNTESTFHDGVPIDPALGGPPAAPSHNFIDIYDPSVHLPELAARVHQLTQSSAVHGLTRSEEEIL
RDAAAIRFEMPSGNRLHVDLTQDVTTDGNATYGIDPGLLQTTIGGENGALPRAANHIPVVQSKSRP
RKNKGQLVVRRLRGQEHMHAIAQTYKDQPSNAATIITSDILPFQDEPLPTPENSRRKKRRRGEKDD
DFKVWRKGRNPPQTLETDDHPENGDKRRRAVRIANYYENS DLELSDGV

>g18

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RIEISYWVGKTKSKGKMRFSIRPDRTSYFRTEAWSLETEDGKIIQLLETDQDPFNLS D

>g19

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LTKALLGHFSVNEVAPKRYVHEFRVKDETGLPEIGRTLSADWFQVGQYVDARSNTKGKGFAGVMKR
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NGSVSGPKGCLVQLQDALKKPWPKESTPLPQTM D K

>g20

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YAVHKS LIFFRVPLTAAVTPKVVKTLRSWGNIGKKT PKAAK

>g21

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APTYFVSLFEGFLQFSDNLKLQQFVEINETAVSKILKKWDKTSKSRMKELYLQRAVEVQPCFNRE
VLRDLSDRATTVRDL EAWAEGENIRFDVARTTERTETALKDEDEQTDLQVLHMAAAGNIIALQEW
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AGLKNEVDISTPDVYGRIPLHYACIHGRVDMVRKLLASAPDSVNSLDHDNFTPLIHSIVRNRLECA
KLVLNNNARINPTSDTDHIPLNLACQHGTVAIAEILLQKGATLLPDAEGLYPQHLVARSGRAPEML
ALLKKHGADLDQTDKLYQWTPLFHAASEGCVDCLHTLLELGVDTSVLDEKGLSAMYAAWEGHLEC
MAQLWSKRDP SLPHRPLVSHQVVPQIGGSTTGYDGFRTDTGPSAFSSEGPDGIPDLELPPPIIPLR
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VDTLENFVIEFEI FPTFGSKVIAKTVALPSLFS AENSSAGSCSLPLFDPRLRSIGQIRFDFQVIKP
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PICTITYEQFTTIARERGIDTQAVLESLSHSKTANDMASIHKQLAHSFLSLQDVLLHLPTGIHVNL T
VLYPSPAEEKELSLGSLADINTFGDCILHVVF DHARASREKSPDFMRSVVFTSYNTNICTALNWKQ
PNYPVLLCNDLGQIGDFTREASTSTAIKSDGHTSMSIKEAARIAQSNNFMGVICRSSLLNVMPALI
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>g22

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GMSLDIIGSPYLLPPLGLHGSKESLRSLSKVISPD DD KYRLAAQSDTASLSYRSHPRTGHD DASSF
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MADSLNNHNTPEPSGRGDDLFFGSFPQRNPNRLTLNPSKGLQAPNEASHEPHPSLGGFDFGTGNFD
SVNDHHDAPVMQETS AESHHVGLPRLSLPMSETSDYGDEPKAHVPPSLNMPEAEDYHQESED FSHP
PNNRMTQSFTKFDEGFDPHRLTVGIRPLPPEDPTD NAEQRANRIRSFYKEYFDDSKGGGHEEYED
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RTGAYRKHPKDFLQDVSSFDVRRANGQLDYIDCPLQHFIHLICLLNLDIQFFQHNQLLDIVIQHKL
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>g23

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IVFQQIHGFNKGIGGLPYFGMAVGELLAGIFI IAMQPSYNKKLEANNNI PVPEWRLPPAIIGGVSF
SAGLFWFGWSGYRADIHWIVPTLSGLLTGFGLLSIFLQCLNYLVDAYLLFAASAI AANTFLRSLAG
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>g24

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>g25

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VESRVDRKKLEKAERKIRAKQDKKL VKNVEYEASRLLEQPDSTQSYEEFFMAVNPLQLGADAQSKS
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>g26

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PREEQA

>g27

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>g28

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>g29

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>g30

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SPETQAAFEKANSTGGGIYETSDVGLMHLGYPDKGHLTTYYPESSSITKDEITAVGDFLEKKGLPV
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IKQAE LNAANDTQKKMLEQYAKSFGTGSIEAYKESQRLWVKDQKPAVETDLGFVETYRDPHGVRGE
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>g31

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>g32

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>g33

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>g34

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>g35

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>g36

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>g37

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>g38

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>g39

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TATSDVAIQHF PKLVSLFNDLDLEPHQRSNIACATLALQKALEQTHSPLNVNDLVPNLSKIEWPGR
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>g40

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>g41

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>g42

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>g43

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>g44

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>g45

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>g46

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>g47

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>g48

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>g49

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>g50

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>g51

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>g52

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>g53

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>g54

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>g55

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>g56

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>g57

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>g58

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>g59

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>g60

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>g61

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>g62

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>g63

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>g64

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>g65

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>g66

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>g67

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>g68

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>g69

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>g70

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>g71

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>g72

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>g73

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>g74

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>g75

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>g76

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>g77

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>g78

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>g79

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>g80

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>g81

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>g82

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>g83

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>g84

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>g85

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>g86

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>g87

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>g88

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>g89

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>g90

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>g91

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>g92

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>g93

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>g94

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>g95

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>g96

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>g97

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>g98

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>g99

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>g106

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>g107

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>g108

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>g109

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>g110

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IMGATGPGKLSFYLDVPPTTRLNVYVFGE GSA GELGLGPKNATDVVRPRLNTLLDADKVGVDIAA
GGMHAVALTQDGHVMTWGVNDNHALGRETAWDGGVREIADGDDDA SEDESEDEGELN PYESTPTAIP
AESFEKSARIVQV TAGDSASFALTDKGFVYWGTFVSNEANHG FYWNQS QNQVIEKQKKPMLIPGL
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PFSARTKIVSVHAGSDHAFIDHNGNTWAWGLNFGQTGIKVGAGANGTTVIAPQKVSSLKGRNMK
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AGPCG

>g111

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AALVRAIADLYELPQSPTDL SKIARQSGSACRS LQGGYVAWRAGTKEDGSDSVAEEIAPASHWPE
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NNFHACCLDSEPPIFYLNDVSR AAIRLVNDINRVAGKVVAAYTFDAGPNAVIYYLDEVSEIVGGTF
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GDILSL

>g112

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LSWRPSGNLIAGIQRLDDRIDVFFERNGLRHGQFTLRLSEKERQTWASDIYLNWNIDSTVLAVHF
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DYGAVGVVDGRILKLTPRLSGVPPPMACEINVDNIVDVAFSHSGARIAVLTSTDIFSISWPMK
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ALKHLHALEAFDEVKQYAVKHSYLYRETLELYKYQAEQLSEMTRLYADLYEQSNYQEAAYESLG
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AATLFCRASRFADATRILAINGLQDRIPELVDSGLAEAMGSTTDFLADCKAQLNAQVPRIGELREK
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>g113

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>g114

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FNGFFNNLTPEQIASVLSCFVFEEKAKDTPALTRDELVKPLKEIQNQARI IAKISMESKLAVNEEE
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>g115

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NYQSTLQTSIPLGSGEYLSDYAYNRVKQHLFSLLEALSDFTPHFLPPNESQPSVSLTYLDGATDII
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>g116

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SKFDFIHGREMEGMVQDFDRLFAQSYQHNLNPGGWAEFQSIELNCFCDSDSRQKAAAWVRWSENLR
AARTFGKNMRTVRTWPDKMREAGFRNVQSVAYPLPFNPWPKDPKLKELGRYQQLMFEGMASYSR
LYTNVLKWPKEEVEVLLNEVQNILKDRSCHIIYTLVHFVYGQKPDDATD

>g117

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>g118

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ESLYDTAVVVSSMVSCIVARVKGHQEVADLAKHSTVPVINALCDSFHPLQIVADFLTIHETFSARP
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GKLIQTNVPEEAVKDADVLVTDTWVSMGQEEETIKRMKAFEGFQITSELAQRGGAKKDWMKFMHCLP
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>g119

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TSEGV SIRVQGD FSLDGSRVKHPFVRSTGRIATWIAKEVETGETQVNVYLPEYDNLVLLGRAFLPAV
KINIREGHSNIIDIVANLQSGDVAGIRQVADDWMNGRLAQLRVQGTADV TIRSGILKFDSQAITAD
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DLIISAYLRKHKTVIYVRGGDPSSSTPTWMVDLLKSVTIPVPVTGHDFGQLIKNFSMTDVHFSLP
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>g120

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>g121

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>g122

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>g123

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LERVKNDGQTGRTSNRFAPQSATSKTRSMEARIESFNKVIAFCESTDRCRHEIIREFSGDLELETM
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VRH

>g124

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>g125

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YRR

>g126

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VDETKAWYLGGLQQRMPESLKNVTNRSFYPM SVLLYGLSEQILLSDEHILPEPFEFDLARLWRLRS
ELQRIINVHVCWSILES LFQCLNVKRPFNSKIHSSFVMRILALLEEDNDSQSKSSSLGTRLPSDSA
VAMEIARTVCVAIGQVDEVSDDVLQQVEEAVKKS FASDSVPLQLVRNYVHQHLLQATCEVAQRYVS
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>g127

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>g128

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>g129

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VTRSKG

>g130

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SAFQVFDQKTLHLLEPRYAIASPVQADTLEELANKIGIDVKVFCKTIQEYNAATSKDATERFD AFA
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>g131

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>g132

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DNFAIALWGETLYGNPNHYVGGRVLELSETIITLAGNPWPSVWYSIQLFFKMVTPGEPTRSESKLR
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VTWXLIELDNNPECLKKLMAEIDSVDTNDFNSVNSKMPYLDIIMEINRLHPTVHATLRVINHETK
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LIVLALCLSVFLMALDNSIIATAIPKITDQFNSLDDVGWYGSAYMLTTASLQLLSGKFYSFFSIKW
VFLGSILLFELGSLICGVAQNSLTIIIGRAVAXMGSAIIFSGALII LAHSVPLERRPMYSGFIGSM
YGIASVAGPLLGGVFTDKVTWRWCFFINLPIGAVTLFVIIIFFPDPQIKRESEIWSKRFRRFDPGLG
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WSAAIFTFCVGAAFLSSVYYLPWFQAVKNASPVESGVMNLPLLISNVVASIISGVAVTTFGYYTP
FMLLASIITPISYGLMTTFHPDTGHSRWIGYQALAGFGIGFGVQQPLIAVQVVLDIADVPTGTALM
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>g133

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RSGTELNISFPTLNETAFAFNKYAQFLEEYPNLDNGLFLPDPVPEDLLLPGGEFVDKYDIGASLNT
MYELDPAVGNTFTVPTVERIRTMGLSLVEQIATGFLTTHAHNNSEIYSKIQTTELLSASSLLHSEV
VLTQRQNDSEGVQLVNTPEGRKLILAKKLLITIPPKPRLLKNFDLSADETAIFSKFIDVGYYSI
VKNTGLPDDLVSFNYNPDTPYNFPILPAVYNVQTPVPGLHLAIYGTPRSIESFPLSDEEVKSDII
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DSSDLWRYSEEEVLPGLLESL

>g134

MRLTLPLLARPKAAKLSPLNKPETLESYLSTLKATQLRSLARETGIPNSGRKDELRQRLNDVFLTS
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WHRIGVQELGAGSPAPGPATQDADTEVKLKSLLPPSAFRTFTSTTKNQALEEFDAIEEELPTMKIA
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MRELARVDKRSRCEEKDFQVHPISPARIMQFWDESKSSIEGDDSSSEKKGQSQRGVKKQKMDIVGH
LLSASSSSDLGKRGLLCWDVDINTTDTKQNVSDVVDAYLGRWNPQLLKIIPSSTTSKAVRESKSD
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>g135

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STGGSGPAATGTGSEGCSGQATVTVTQKETVTVTATPTASVGLNTEVISVQPTETGSAGPTDTAVV
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>g136

MANNSLNILRSRYASSLKEFISSPRTFEVLDRVPTESHERRPAQNARSLFILDSSFNPPATAHLRI
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IGVTKQPYFVDKAAAIEQSGEYPSDLEQVHLTGyDTLIRIFNPKYYPPTHTLQPLEPFLSRHRLRV
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LLHSLVPAAVGSYIMAQELYQSSDI

>g137

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>g138

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HQFGGPGVRRRPREANAQTQPASPGWASLTQLLPLILLFIFPLLSSLFSGGQSTPAGPLYRFDASVS
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>g139

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QKLTF LPGVLSELKDEGSEIRISTGVLDQAILEAASNTGRDTPLDYLLPCWKVRRLIKGFRKASD
NDPRFAVVSEAKRLCISYAVFAVTMPMFQGTPTGRSPLIPNLLDAEDDRGVDLEFLAEVVKLFE
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TQINKFELERHKWIHNPMQLRTFEEALKKYKDRLDLGLSLKYSLQGLLFDTVWQTRSMQFMRYVIV
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KPQNF EKA AEIIRKRALKPDEELAKLVELAKRIKNAKEADDQAEEDLGEVPDDFLDPLMYTLMQDP
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MDTTT

>g140

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>g141

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NDDEKKHDLVVKAI RQGFDHDTFLWVIGLGKREIARYHAGFQVQAARSHENVDLIFEPTVPFWDHVP
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>g142

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TDEQYQRHLQSDDWSREETDYLLGLVAEYDLRWV IADRYDYQPKTSETSDANATALVTAKSVRTM
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>g143

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>g144

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SVRDGIPHDPNGRPAANPMAVVYHRKKYPRETNLKRSVNDAGLKVWSVGYTVKEEGSKSGIQEAR
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>g145

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>g146

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WV

>g147

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>g148

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SDKFTFPDSVEEIRKLCLRTGNRLKELIPKLEDAEAA NFISVALQGYEDAQIEPKYPGFAYDTEG
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>g149

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>g150

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>g151

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>g152

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>g153

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>g154

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>g155

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>g156

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LNR

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ELIMFSNKL

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>g164

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>g165

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>g166

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>g167

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>g168

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>g169

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FVKE

>g170

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>g171

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>g172

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>g173

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>g174

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>g175

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>g176

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>g177

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>g178

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>g179

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>g180

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>g181

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>g182

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>g183

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>g184

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QGSEWLVAEDNYGEGSAREHAALQPRYLGGRIIVAKSFARIHETNLKKQGVVPLTFADRADYDRI
SACDQVDTVGLYDLLKAGGQGEVSLKVTKHKTGETFTVPVKHTLKTIRPAFANRDEPRIAYGVFPF
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SVGADLLVTLGAGSLTDAKIVSFALANDVTTFDGLYALTTNVSKDVKQPAEKDSTIKASVPIIIS
IPTSLSAGEYSDFAGGTNDKTHRKHSFQKPLRGPRLIILDPELTATTPDSIWLSTGIRAVDHCVET
LCSTVAYDETDELAQKALGMLVPGLLRSKHDKKDFEARLDCQLGSVDAMAACHTPERVVELGASHG
IGHQLGPLGVGHGETSCILLPSVCKYNALKGANNARQARVLKFLLEQPTVQDVVKYNINTETADL
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>g185

MADFKPRNILLIGATGNIGRFITRSIVSARGDFDRVAILTSAPAAGSEKEKFINEELKPKNVEIIV
GDIGNEEDVLNAYKGIDTIIIFALGRGAILPQIPLIKLAASSGSSVKWIFPSEYGTDIKYGPS SAGE
PTHQGKLKVRAYIEEDEEIKNSGLKYTYVVVTGPYPFMFLKGDSEYTGWDVKS KANLLEKDNKIS
FTTMKEFVPPSVHFLRAIDPDKYSTGDLVLAALRHGPGATFNKALKVNSYTATPAEIQAEFERQVG
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YIKAST

>g186

MESTNDPSQQQQHGINIHQTDSLIGLWCGILRIVRADDILMIIAWILQAVKIIITSTIAIYWGLGRH
DWELSSKHAFQNAMRFEMFSMIFGTLGCGIFGRVAFVFLLYFIQRVSR LRTYLVWAIIVLQVVINV
LFLAIVLAQCAPSVTGSWDSGSCRTSESVLVIEYLQGAINAASDICLTILAVGLVLQIRAPGYIKA
GLGVLISLSLIATVAEIVDAVEGSQTRQEGSDLAYRLNSWNYWYA

>g187

MSLLAPEIHSALSQLLQALATPDNTIRSQAEDQLNNDWVQNRPDVLLMGLAEQLQGA EVAATRSFA
AVLFRRRIATKNTKDPRTGDTKECFSNLSPEQ RVAIREKLVGCLSSEQLPDVRNKIGDAIAE IARQY
TDNGDSWPPELLGVLFQASQSPESGLREAAFRIFTTTPSIIEKQHQEAVLSVFSR GFKDDHVS VRLA
AMEAFSALFRSIPKKQHAGFFSLAPDLLNLPPLKESEDEELSKAFISLVELAEYSPKMFKNLFN
NLVKFSISVIAEKDLSQVRQNALELLATFAEYSPNMCKKDPTYATEMVTQCLS LMTDVGADDDDA
QEWGTTEDLELEESDLNHVAGEQTMDRLANKLG GDIILPATFAWIPRMMSSSAWRDRHAALMAISA
ISEGCRDLMISELDHVLALVVPALQDPHPRVRYAGCNALGQMSTDFAGIMQEKYHAVVLNNIIPVL
DSTEPRVQAHAAAAALVNFCEEAEKSILEPYLGDLLQHLLQLLRTDKRFVQE QALSTIATIADSAEA
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LIPLKGLIGIRTSLLEDKNTAIELLAVYAQVLEGSFEPYVAECLEKVAVPGLAFFHDPVRVSSA
KLIPHLLNAYKKAHGIQSPGFAEIWSNVAGKIEVLSAEPAIDTLAEMFQCFYESVEVVGKNALTQ
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GSTFLPTWQRLMPIYDSFINSTDPTQRQWATCIMDDVIEFCGPDSWAFQDHILQPLIRGLQDSNGP
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VQNPQEIVANWLNTLPITNDEEAAPYAYSFLAELIDQQNP AVLSNADKAFGYIVQALDNETLQGET
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>g188

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SIQAALRKMHDGHYLLXLPVMNEAGEIVGMVDVLKLT YATLEQINSMNTGDDEGPAWNKFWLSMDHE
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FKFKAPSGRVHRVNVVLSSEGV SALVASVVAKLQETEAVGGEP SVEDGKLSSTGFALS YLDNEGDT
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>g189

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>g190

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SLKVPSPDPEQTQAYRPYNLRLLLAEGEPNTTSIGIATALS RFPALVYLDLSRTSPARDRLVLSVLS
ELPDRLVLKLRGIGLKDTDAEFLANAIGTRVRLDLRNNVLTDRSVRSL LQACFAPKGTTEATSNA
DEYHPTHAPVLLQNPGLDIDFLDLLTRPLTGRSIFENLPKSGITHLYISDNRLTVEGVAALLASKR
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SFPPGRDRAKAEQQHARS LFALECLVLEITPSVKRNVDP PRALSPWKPHQNGQISWKSTTGDS DSE
RLWSAATNDFSFFGNEECGVPEPHEEIATNILNERVRLVSDDDSIHSGVSELEGS DSSNLRRQQPI
PRSSVQDEPEIDLVSALASFRRTKKKEFEDLKQASRRHSTSASSPCPSPFDSQPAHYALPLHTEGY
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>g191

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EINSFVIRQMRHTHNSNPNQRSE PATQFKRHSKRPSQEEINEFVVRQMREEQERKTRARSKSEPKP
SNRTAAATRIE AHRTTKSADDDQFTKCDTCGRVTHAGQEKCHHHQTTKMDTKLPVVQVPRANFFP
KKVEFVKRTAGGLPTYRTGFALT

>g192

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PEADLTDPDPEDFRLFTQAVERATLHGPVYTFKGFRLLGGDELIFGRAGLLWALLTLKKHVTGTSGPI
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KASFMERFWRPEWDRAIRLGTEKIWEEGLLSKGGNVCHGLTGNAWSLLPLHNAYEYHGHSLOAAKN
KRMAELAKSGI ISETERNEGLNGDYFLSRALPFMMLARESPPYSQEVLDKTAFDRTDPDRPYSFGE
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>g193

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PGAGHLKSYPGQLVDGIIYGRDLSLEGDESITQERFDKIRYYLKHAKYPRGADRAEKSRLSAATH
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IRDCPKCKEASKAPPVLNGGRTSEPPSIKPISEIETAVTNSLISHTEHLMADATHVHASPFSTHT
TEVHTMADDSLPDYTHLPLDPQMI DMNSHLSRFQHHSMSTGYDQSHGLPHAVFEDELRAHHHNEY
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>g194

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GAMAVNKIKEISIDMLEASGSEEKKIETLRRLAGTAMNSKLIKRNSEFFTKMVVDAVLSLDQDDL N
EKLIGMKKVHGGALQDSL FVDGVAFKKTFSYAGFEQQPKHFKNPKIVCLNVELELKSEKDNAEVRV
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QATGASVQSTCSDIQRHLGTCGAFEERQIGGERFNLFSDCPAAKTCTLVLRGGAEQFIAEVERSL
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>g195

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>g196

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EEDIKRTEEEWLDKIEREYNESRAEREAGGADDMWHRGNTNRLEV PDSDDDEDNEDDDDEEDGEGEA
EEEEEDKDPFAISDDSDDEEEMAEIRRKILNSKSFQNPTSQPPPPQEQQPPPPSSSAPQPTSISTSSKQ
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>g197

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EMQIENV D A G K G N S I K I R F K V S Y R L G G Q A K E E Q G M V P P L G D L D L D A S P V Q R S K E E N Q E R A F V A A S R
R K D R S L D A R L E S A N R A S M L H K K R T G K A L H I T K E I V E K E A M Y E E V D E R Y Q E K R L T L L K A H T T Q L E A Q
F H R H L M A T M A M S R Q Q Q Q Q Q A R I S P T G G I Q K M R T S S V G S A V S Y F E Q Q N H S M N S Q A E T P V S P T A T S S
T V P S P T S P V F D M Y G V S S S A S S D T S S F A Q T P S S G C Y G P T P M T C P Q Y I D T G L M S P S V S P R N S T Y Q Q C M
N P M Q T M H M R S A S M A Q G A T P R A V P Y P R Q R F A S Y P D A F A L Q A T Q M V T P I Q T V A T V N Y R A S S E P S S E L S
T T P A A T V P V M T T M R E N N G L L P S P A L S P P S M T A N S S Q S N T C G D N T Q F S A Q V A P P V Q V Q F N D T D L F K Q
Q P L L G S P E N P D P D Y N E F L N F A T N M E D Q W Q F P M G N T P F E E F M N L E T L D Y E L T Q S G I Y R

>g198

M A D Q P T H A G Q D P P S S T E S A I S S P R T S T D S R S S S A T T T R Q Q Q P P L R L P H I S P S P N T S H R Q S F G E S L R
N T P Q S P R N R R Q P S L T Q A A I Q G L I D N P P A R N P A D P A F L G R D W R H I S I G E L V K P A D L R F V E V D T G I E E
A T N K L I D N D T T V L L V R E T A E D K S A V G T F G Y N D L N A Y L L L V V G L A K P T E S Q L T S F Q E V A Q K A R E G S K
I P L K D I R D L V P R E P L T T L P Q S A N L M T A V E K F G G G V H R L V V L K E G S D E V V G I V S Q S R L V K F L W E N G R
S F P I I D Q L Y P Q H L K D L R L G S Q Q V I S I N G D K P L Y H A L Q L M N D E G I S S L A V V D N H A N V V G N I S T V D V K
L L T K S T A L P L L H N T C I H F I S V I L S T R G L V E G K D S F P V F Y V T P T S T L A H T V A K M V A T K S H R L W M T D P
Q S P S S S G P P T P A L A A S Y F S P N P P S V N N Q P P P S N H G N G G G P A P P P S Y T Y P H H P I P P Q A Y Q S P T P G L A
P S P A I P A S A L P G A S L S G R L V G V V S L T D I L F C Y A T I S G L N P N D P A E T R N R R R R S S S S S L N V R R S G D V
A R E L F R G G V V

>g199

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T D L V G Q E V S W K K M A T A L G F I K S I A W E I D S P F L D V D Y E E P N A F G V S T L K H L A T K K V L S D Q R N I D Q S H
F R H I P W P I A E E L W Q Y L T R S G K R T L Y M W K I F C A A Y P V E F R H L S Q H C D S R V G H P R Y S L S G Y I S L I K S S
S D S W A T R L N I W T E F A R V P E L V E L A D V T N L V S L E V N T S S H L L E L Q D H E V A S L N D R I L R T W S E L A K T T
G A F K H L Q V I R L Y Q Q R E L T E Q S F R Y L S K L P A L E Y C V L A M C D R M T Q E S A I K T A I S E G W N V L E D V F D Q K
I L Q F S G R P S S K N R R G Q I K W R G D R L D G H L S A S L P S D I P I L D F S V G Q R H E K L R D R D V V M Q R K D T H K G
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>g200

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D I D D S I K I T L T S E A A G I L R T T F V T D P E P I L G M P E L Y E F I D R E L D P T W M Y L S A S P Y N L Y T F L R S F L H
S F Y P P G T L L L R Q A T W K D L R E F V R S Y N T G T R T Y K M Q Q I D K I H S W L P A R R V I C V G D S T Q S D P E V Y A E M
Y K K H E G W I K A I F I R K V T D I P H M A K K N S S L R F Q K A F A G V P H G I W R I F E H P S E L Y E S I A R L S F E L P T V
R S

>g201

M T S N T M S E Q T R I P K Y M Q A L H L P S S F T N K A T P G G A S S L K Y E N E R P V P K P G S N Q Y M I K V R T A C V S I D E
L E Q T C T T P S G Q E A N V R D S A M F L E R P T S D G I D K I H G L I P G R E F C G E V I S T P R E D Y A S S K G P L F K V G D
E V I G V L S N I E G R D G A A A D Y T L A T E N E L A Y K P T N L S A A E A V T I P H A A L I A W Q G L F G Y A T L D P D D G P C
N K P A D G P L R V L V T N A A Q S D V G R Y V T L L L K C Q A L F P H H V M G L M G G A S M G E M Q R A V V V V A T G A K H E H E
Y L L K E L G A D E V T A S T D I A S A F R E N S W K P V D I V F D C T G A G G A L F R E A H S P V V V K D H G H I L T P R R P Q S
G H P E K P S E R D E R T E I M T R N L T S E V I D V R P N A Q Q L A K I V Q L V E K G V L K P D V S Y Q V E D I L H G Q Q A L V Y
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>g202

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P D A G G L T R R R G G R V G G E D N E E G S R V S S P V P N N R T A V D A R T P E T S Y T D G E N G H K I A F D P R D I S E N E E
R T K M P K L T L M D E V L L G L K D K Q G Y L S F W N E N I S Y A L R G C I V I E L A F R G R I S M Q K D P A R R R F P L A D R
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V L R T E K R N F L L F D M A T H P V A D S G A K E E L H K R V R N V C S S R T V I L S P N Q W L P E D V E F R F L R T I S M V C A
A Y A A N V L E N A L V T M S H E S R E R A F A Q V D E L L A E Y S Q W P F A R K S G A G Q G I G A N L A Q A I N D E V N K S K D R
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>g203

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L D K A T K Y F L M A E L F R G M Y V V L E Q F F R P P Y T I F Y P F E K G P I S P R F R G E H A L R R Y P S G E E R C I A C K L C

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>g204

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>g205

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SGSSFGGFFNK

>g206

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>g207

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>g208

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>g209

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>g210

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>g211

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>g212

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>g213

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>g214

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PA

>g215

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>g216

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>g217

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>g218

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>g219

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>g220

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>g221

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>g222

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>g223

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>g224

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>g225

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>g226

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>g227

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>g228

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>g229

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>g230

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>g231

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>g232

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>g233

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>g234

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>g235

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>g236

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>g237

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>g238

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>g239

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>g240

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>g241

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>g242

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>g243

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>g244

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>g245

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>g246

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>g247

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WFGGSK

>g248

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>g249

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>g250

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VLAYSMGKVHPSVQLTGAVCLGAAATIPGTVVERLKMRKSRVGS LDQMETPQVQPF DGKNSDCIVI
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>g251

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>g252

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>g253

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>g254

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ICA

>g255

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>g256

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>g257

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>g258

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>g259

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>g260

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>g261

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>g262

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>g263

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>g264

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>g265

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>g266

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>g267

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>g268

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>g269

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>g270

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>g271

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>g272

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>g274

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>g276

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>g278

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>g279

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>g281

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>g282

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>g283

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>g284

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>g285

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>g286

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>g287

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>g288

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>g289

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AS

>g290

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>g291

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>g292

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>g293

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>g294

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>g295

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>g296

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>g297

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>g298

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>g299

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>g300

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>g301

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>g302

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>g303

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>g304

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>g305

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>g306

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>g307

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>g308

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>g309

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>g310

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>g311

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>g312

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>g313

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>g314

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>g315

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ISHVWSDGTGTGSWSEGEVNKCLYDFFRGIANQFQCKGIWWDTL CI PREKSARNKAIKKIQS NYQD
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>g316

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DLERLLLGRST

>g317

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>g318

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>g319

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>g320

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>g321

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GRDTEGFVIRCQLGDGKSDGYRDWFFKYKFEEPYLMYRQWREATKAVIAGRVPNIRKHKKITEEYL
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>g322

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>g323

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>g324

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>g325

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>g326

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>g327

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>g328

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>g329

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>g330

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LMGWALESV

>g331

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>g332

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>g333

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>g334

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>g335

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>g336

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>g337

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>g338

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>g339

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>g340

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>g341

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>g342

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>g343

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>g344

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>g345

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>g346

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>g347

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>g348

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>g349

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>g350

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>g351

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>g352

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>g353

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>g354

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>g355

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>g356

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>g357

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>g358

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>g359

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>g360

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>g361

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>g362

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>g363

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>g364

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>g365

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>g366

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>g367

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ASKS

>g368

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>g369

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>g370

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>g371

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>g372

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>g373

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>g374

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>g375

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>g376

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>g377

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>g378

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>g379

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>g380

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>g381

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>g382

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>g383

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>g384

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>g385

>g386

>g387

>g388

>q389

>q390

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>g391

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>g392

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>g393

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>g394

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>g395

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>g396

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>g397

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>g398

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>g399

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>g400

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>g401

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>g402

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RYTRQTV A

>g403

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>g404

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>g405

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>g406

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>g407

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>g408

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>g409

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>g410

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>g412

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>g413

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>g414

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>g419

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>g420

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>g421

>g422

>q423

>q424

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>g427

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>g431

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>g433

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>g435

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>g453

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>g454

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>g461

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>g462

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>g463

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>g464

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>g465

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>g468

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>g471

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>g473

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>g474

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>g475

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>g477

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>g478

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>g479

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>g480

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>g481

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>g482

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>g483

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>g496

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>g512

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>g513

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>g514

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>g515

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>g516

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>g517

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>g518

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>g519

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>g520

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>g521

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>g522

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>g523

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>g524

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>g526

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>g527

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>g528

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>g529

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>g530

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>g531

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>g532

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>g533

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>g573

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>g577

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>g583

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>g584

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>g585

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>g586

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>g587

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>g588

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>g589

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>g590

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>g591

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>g593

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>g594

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>g595

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>g597

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>g598

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>g599

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>g600

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>g601

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>g602

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>g603

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>g604

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>g605

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>g606

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>g607

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>g608

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>g609

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>g610

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>g611

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>g612

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>g613

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>g614

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>g615

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>g616

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>g617

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>g618

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>g619

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>g620

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>g621

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>g622

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>g623

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>g624

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>g625

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>g626

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>g627

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>g628

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>g629

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>g630

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>g631

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>g632

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>g633

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>g635

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>g637

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>g638

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>g639

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>g640

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>g641

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>g642

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>g643

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>g644

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>g645

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>g646

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>g648

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>g649

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>g652

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>g653

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>g654

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>g655

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>g656

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>g657

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>g658

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DGYAPESKDKRRKQSTHPLPLLLTRMPTALRNTTFTEFLTSSFDAYCSTLQLTPKFLSMILEATITYL
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>g659

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KSAKERDLMFERGTAQLQFKLIPLTYCVAYFLETYASARKEHSNHLREYEAGRLPVPIPLRVRRD
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>g660

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IFERKYISHCDSSIPLHFVTFVVAKS AVTSSRLRVHHPRQFQERGQPLPPAERDLLFNLCRLLEF
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>g661

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FTTTTGHKSWIGYQVILGLGIGMGMQQSSVAAQTILERKDVPTGASIMMLAQSLGGSIFLAVAQTI
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>g662

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>g663

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>g664

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>g665

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>g666

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>g667

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>g668

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>g669

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>g670

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>g671

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>g672

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>g673

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SEQRVETWTYLCKSLKYAHPALS YVSFIEPRYEQIFSYKEKDKFLASWGLADVTLDPFREIFGDT P
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>g674

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>g675

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>g676

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KVFGQ

>g677

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>g678

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>g679

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>g680

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FATDHEMAAAEEVEEENIICESPSSSTLDETEAEESTIRVSAPSSSVQRLIPSRYATPLIEDDLL
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>g681

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>g682

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>g683

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>g684

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>g685

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>g686

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>g687

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>g688

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>g689

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>g690

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>g691

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>g692

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>g693

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TAGQF

>g694

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>g695

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>g696

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>g697

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>g698

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>g699

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>g700

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>g701

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>g702

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>g703

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>g704

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>g705

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>g706

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>g707

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>g708

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>g709

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>g710

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>g711

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>g712

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>g713

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>g714

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>g715

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>g716

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>g719

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>g723

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>g726

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>g732

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>g735

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>g737

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>g739

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>g741

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>g742

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>g743

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>g744

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>g745

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>g746

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>g747

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>g749

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>g750

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>g751

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>g752

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>g755

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>g756

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>g757

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>g758

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>g761

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>g768

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>g771

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>g772

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>g774

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>g775

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>g776

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>g777

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>g778

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>g779

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>g780

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>g781

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>g782

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>g783

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>g784

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>g787

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>g788

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>g789

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>g791

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>g792

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>g793

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>g794

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>g795

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>g796

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>g803

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>q805

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>g825

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>g846

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>g878

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>g883

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>g887

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>g888

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>g893

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>g894

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>g896

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>g897

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>g898

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>g902

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>g903

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>g904

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>g905

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>g906

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>g907

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>g908

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>g909

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>g910

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>g911

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>g912

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>g913

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>g914

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>g915

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>g916

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>g917

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>g918

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>g919

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>g920

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>g921

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>g922

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>g923

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>g932

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>g934

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>g935

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>g936

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>g937

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>g938

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>g940

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>g941

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>g942

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>g943

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>g952

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>g973

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>g974

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>g975

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>g976

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>g977

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>g978

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>g979

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>g980

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>g981

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>g982

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>g983

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>g984

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>g985

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>g986

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>g987

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>g988

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>g989

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>g990

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>g992

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>g993

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>g994

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>g995

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>g996

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>g997

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>g1004

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>g1021

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WKQARNAASSDKSTLVQINACRCLEQLLITTOYFDNQN DSETLKT LVWKVIDNPVAPVRHAAASCL
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RFIKNILEDTL GREILRENSQVNAANWLINSILKDYPQV IKERSEPSKYTLASTLSALSSLISSLG
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VTADGARRIAAMLQNTVAFLDEM TLPKTAEDISQRLFPS IQMHDFAVMVRRRVLQCFTKL VKIHHT
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ELRMDF

>g1022

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>g1023

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>g1024

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>g1025

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>g1026

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SPVAEVGIRRKGRPAKRKSPHDEVQHTPIEVNGATEIEAAGLSKEDVEEPAAITENG V NADPLQE

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>g1027

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>g1028

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>g1029

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>g1030

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>g1031

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>g1032

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PKRSTVETPEIYARPDATVYACGDGDHIVPLPDTTADVEVDPKRCQDIIDS VGSISDELRLGEIVK
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>g1033

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>g1034

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>g1035

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>g1036

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I

>g1037

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>g1038

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KVQA

>g1039

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>g1040

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>g1041

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>g1042

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>g1043

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GTCTGGATTEDICFVVRHFWANLTPDLKGYWVSDSLLFTCQPCHRHYQRLSDLLQHKETKSCPEGY
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>g1044

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GIPRLYEYMKSIYDKESSPLETDPVDLDNEKEHATYLIAREREANLILTCLYFVVEVARRQETLTK
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KRSHILKFEYMTQLLLDSDNYLPLILKMFHQDQVDHLIAQQNDRKEYSFFHFHCRFHSDDPPEEDASI
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>g1045

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>g1046

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DEWDSDELNE
>g1047

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>g1048

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LTS MVGNGNYLALRKGRQFFLHYLGDSYHLAVGMKLPENWNPDPTRLHDPAALWQSL LQY EYAEW
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>g1049

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GLKRSNAETLWDFLADCTAQFLEKHNPGTKEVLP LAFTFSFPLTQPNIRSGILQRWTKDFDVDEVE
GEDVVPQLEKAFKKQNL PVTIVAVVNDTTGTLIASAYQDPHMRIGSIFSTGVNAAYLEVCGAIPKI
KHYGLPPDLEIAINTEYGAFDNSQKVLPRNSFDRIIDEKSSRPGQQLYEKMVAGLYIGEILRLVLL
DLHESNYIFRGQDVSYLRQKNSIDSLFLSTVEEDKSDALHDIAFIFNSALNIKAIDYELKVTRYLT
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>g1050

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DHDQVQSNARANAPRERETVITQEIPVKVLHQSAVEGLHEPRCRDPDVHII LPNLAQLKAI SDRFT
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IVGWM

>g1051

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>g1052

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EGNFNWKTMVDGYQECLHCQYTHPSFSVYYPPTFYTVYNHQNFSSQHVADPKKPDDGLFLYFFPICT
LNVYGGGMSSFRVCPTEEPGVTRMEFDYYHVEEGAKFEDYYQFTRQVAMEDFELCEKAQTNLEKGV
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>g1053

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>g1054

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VILSFYREVADNSPIPVVIYSFPAVTNGVDMSSDVMSELAQHPNIVGTKLTCGNAGKVTRLSYQYT
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>g1055

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NVPQGNHHPPEIKMTDRRLRLWYLLFICDQHLSILHNRDALLRGDRAVNIDWESYLSHPD TTQDDIR
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>g1056

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WDFRDTWREMEALLSTGKVKAIGVANFSTINLEKLLQTAKIMPAVNQTEIQPLLPQNK LHAYCKSK
GIHQTAFGPLGGAVSERSLHQMDVIKEIAEK RSTGTANVMLS WGIQKGWSVIPKSVNVERIKQNLH
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>g1057

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ADPLKPEKVTENTIPLPQSSYGAQKQMGETLLNDYSRRGLLDGRIVRLPTIIIVRPGKPSGAASSFC

SGILXEPFKGEESELPVPTSLNLWVCSTRTVIKNLI IARDIPTEAFDKVVARGSSRIVNLPGITVT
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APKKL

>g1058

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KAREAGIKAI FVTVDAPIPGKREADERISAENFVSAMSGAVATNDKKGGGLGRVMAQYIDSSLNWE
DLAWIKRVSRLPIFLKGVQTAADAKLAVEYGCAGVLLSNHGGRLDTVQPAIVTLLIEIHKECPEVF
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>g1059

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>g1060

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KETKEQIDRIYAEAEKAGRVDRPRIWVTFRPIVAETDELAWEKAHRTLDALTTNRANGQGKXPAVA
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>g1061

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GLAIMMGTVWLRLHESQEYIQPFINAIFFGSAFMSFMAVAYVPAYLEDRSIFVKERANGLYGAAPF
IIANFLIGLPYLFLISLLFSIVAYWLSNFQPSAVAFFTWVMWLFLDLVAAESLVVLMSSIFPIFVI
SLALVAFANGLWMSVGGFLVTPTILNPFWKYVFHYIDYQAYVFQGMMVNEFSRRNYSCGSSCQCMY
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>g1062

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YLADLRNRALRPLEEQNRKGIQYDKVLF LNDVYYNPLDIVHLLFSTNADQNGVSSYRAACAVDFGN
LIKFYDSFAVRDAHGYPIGVFPYPWFVSTGAATSRKDVL DQKDAVRVRSCWGGIVAFDAKYFQTST
NTAQQVSKSVPRETLADRPKEQERPAVTTSTPVRFR TISDVFW EASESCLIHADLQDPYTNIDQVI
DTGIYINPYIRVSYEYRAFTRLGFVRRFERLFAWPNWIANLFSHHPEHNSRRTNIAGETVTQ RVWQ
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>g1063

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VGRKPVILLGTACTAVCFVLFGFCTTLWQAILVQALMGLN GNAGLVSTCLGEITNRSNQ SRAFTY
LPVLYGIGGITGPLLGSLIFKTNPLNKGQPNPYVLPNILSAVILIIDFIFVICFLEESLEDAQ
NLPTFRDRFKELFSWMWQFTTSHRPTYLRARSGPVYHHPTARRGRSFSDLTQDES DLD SASETADD
DDQPSELTREQIFNRDTILL LLLTYLIFALVNVSFNSLYPIFAQASEPAGRD LSPQEIGLSLGFSGI
VTIVFQICVFGKL RDKMGNKWSYRAGLLGFVIAFLLMPLIGYKGSDENGRLSKKSALLAVELCFVL
LIKTVAAVGGLTSALLLV TNSAPNH SVLGALNGLAQ TLSAAGRSVGPFLSGGLFSLAQKLPKG EML

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>g1064

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>g1065

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DSEQVAHDALTQVL AGQVTVSAAISG I ILLMSNPRVLC TLRKEIDDAWDRSSTSEHEGKKIVTWT
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>g1066

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GKV TENLCRESVTQET I IEKIRYMLRPYTVAVKNCEWWSAYTVAQHLSTGMTKNGRAFLVGDAVHT
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KEPEWLLERAAQLEPFLMGLSVNYSTSPLTALSSTSTQATNLLPSDLSERI I PGRRFP EMTVYNHA
SGKLYPLQRLLRANGNFHVIVFAGDISQLEKRNLMNRAGTGLES IQKGLQLKLNIFAIHRTTAAV
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FEHVFR T

>g1067

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QPLHRDDYLYFHRHRDLTKSGYEIGTDMMLLMFVPAVKTTIENGATLVVPGSHLWDDVRTPVDNEV
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>g1068

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LSQLQGDFDLIYIDADQFQYEAYVRAILDRELLSPQGI ILVDDGNQIPPVHRSCP VNEITVLLRGI
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>g1069

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GGTLFQFAGYHSVF AVAIGLLGVDTVLRLLMAEISNEDVSPSSNIVRAVDTEGELREENPLLQAPV
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QLFHIDSARVGLFFLSLSGSTLLSPTFGKIADKYGTKWITVISTICVGGAILMMSLVNRNTTFHQ S
LLYVLLFFFCGIGRTGQRVGMSTDTGLALRALVEEPGVVDQQLTVAGITGQAYGLLSTACGIGVTLG
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>g1070

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>g1071

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>g1072

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>g1073

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>g1074

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>g1075

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>g1076

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>g1077

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IRQDELLPRGIIDECEAVINAGFASILTS GSGSRSAVDGARHIAALTEVAKDRIEIIAGGGVRSTN
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>g1078

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>g1079

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>g1080

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>g1081

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>g1082

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GERAADTTEGILWKPLKRLKARAAYQEAALKRDFHRIGDITANGVAQPLSDPIFDLSQMEIDEY
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>g1083

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>g1084

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>g1085

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>g1086

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>g1087

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>g1088

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>g1089

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>g1090

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>g1091

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>g1092

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>g1093

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>g1094

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>g1095

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>g1096

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>g1097

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>g1098

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>g1099

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>g1100

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>g1101

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>g1102

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>g1103

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>g1104

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>g1105

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>g1106

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>g1107

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>g1108

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>g1109

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>g1110

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>g1111

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>g1112

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>g1113

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>g1114

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>g1115

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>g1116

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>g1117

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>g1118

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>g1119

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>g1120

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VDSKFAKSLLDTVRACGQTLLDTFEQILDYSKINSLDMKRQLYSSRLRERGRNEKSRIESLRLLKV
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GALRRIIMNVFGNALKYTREGFVSVRVDLQKKSAGTDSTSSDNSESEVLVLTVSDTGKGISSEYLH
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PASRIRAPHISDTVEPSVSKSYSVTLTDVSKSVQGSEIAVKEAPDTGIRILLVEDNPINMALLKKF
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>g1121

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>g1122

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VAAAVAALL

>g1123

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>g1124

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WRAEGLA

>g1125

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LIWGLGAYHRVHWAVILLGGLLCGYCNVSGGAYALAYAVDCFKELSGETIVSVILCRNTLSFAFNY
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>g1126

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HKNPTAP

>g1127

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FAACFAFLSAVG FILLGATTSVTSRYIGTFFAVLIFVTTISIVLIWNANTNSTSSKRAGGLWIIMTI
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>g1128

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>g1129

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>g1130

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>g1131

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>g1132

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DSTSNANTPASVATPPAATNEASTPPPHASASAPAPADANINDVPNSLPDNLDSADYVGSMPMKAR
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DEDEEL

>g1133

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>g1134

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>g1135

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>g1136

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VDLVAKAQGLESYEVPWTGWKFFCALFDNKKISICGEESFGTGSNHIREKDGWVAVVWLNIIAGVA
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>g1137

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HLKSLV

>g1138

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>g1139

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>g1140

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>g1141

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>g1142

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>g1143

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>g1144

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>g1145

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LCDGFNIQKIVADTAkYLFKIVDDHKAFKGKSQDVIIAGCIFIACRQCQAPRTfSEIFAVTKVSRK
EIGRIYKSLEKfFFTAQNIERTAIvGSDAGfKQTSSTKPSDLcERFGSfLGLDYRTWHAADLSDIV
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>g1146

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IFGYDDNDAPAGFRASDDEVDRVEDKEAERAVAKPTVYLSSLPPGSSPAVIKALIPGNLTVDAVK
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VGSSSKSSLPGAKPVSQAPIGRLNRAPPPGPHRGGFAPPASYGSQYGKPASTAEIEVKPPSDLKQ
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>g1147

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>g1148

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>g1149

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>g1150

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>g1151

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>g1152

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FAGATGTEANRANFVRTAVGFVQDLGFDGIDIDWEYPSNYTEADNYVTLLKELRAGLDNYSAAHTP
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>g1153

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>g1154

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ATTTSEPASSSTSSSTSTTTSTTSAPSTTFTSTTSRHASTTSFLTSTYQSTTTPLNGSLSTVTAV
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>g1155

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>g1156

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SEHTYFMRVLFGHHTPSSPDYDAIGPLDFFDPTLNDSSQKEAIRLALASKEIALIHGPPGTGKTHTL
IELILQMTRRNMRI LVCGPSNVSDNIVERLTPHKVPIVRVGHPARLLPSVLDHSLEVLTQTSEAA
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AGVRPEDIAVVTVPYNAQVALIAQSLREKYPGIEIGSVDDGFQGREKEAIVVSLVRSNEKHEVGFLGE
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>g1157

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>g1158

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>g1159

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WSMGPMFLSLVSRNVAGQTKKSTTLAITFIAWSAGNAAAPQVFQSSDAPRYEKGFTAHFCLYGLLN
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>g1160

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>g1161

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>g1162

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>g1163

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>g1164

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VSLGHDLVLRLERLPVGVQFPKDSLQHAVMKSM INWAWHLEYDNEFLMEVPSRLKLLILSYIAT
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>g1165

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GGLFQPTMTQGIRLLSKGPF PADPHFANIERQRWSLQNVCDPFS DLPTAYTTTGEDSIIAPSSYA
CNSYSWIHIFPEGMIHQSPKKVMRYFKWGVSR LILESSECPDVVPIWIEGTDEVMHEDRAFP RFLP
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>g1166

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>g1167

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IRRRSRPGSLRSRLRRTSLVNRKSGRIVVNRVT TQQEMPRAPSAVN TYHLSHRPSSAYLTYP LCLK
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GSLQSILPHQSGTLGRPGSPLIIMHSNSDSSQ QIDLGKISFPRIASFSEIVIDENDIPRKVQPVHS
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AINKARGQHGMARVRS AEIFTSSTEDTPDAVIDPANWMLRRPPQGFEMPSRQKTAYWYGGIGEWAK
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>g1168

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ERHKRAFWIAIYILDKDISIKTGMP SAYNDDDISLGYTSSDCLGCPGKIVVSEIRVEATVFR LRAQL
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>g1169

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>g1170

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>g1171

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>g1172

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FTYHLLPLLESTALSQPGTARIVNVTS DGBHERFTLKEAIRLDDPNLESESAMVRYGHSKLANILHT
RQLNAVYGPKGKKSSGIIVA AVHPGHIDTNLNKQATGMAPAAVLRIMTPIMRCTGILDHEAKGAVS
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>g1173

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>g1174

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>g1175

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>g1176

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>g1177

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>g1178

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>g1179

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>g1180

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>g1181

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>g1182

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>g1183

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>g1184

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>g1185

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>g1186

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>g1187

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>g1188

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>g1189

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>g1190

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>g1191

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>g1192

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>g1193

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>g1194

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>g1195

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>g1196

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>g1197

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>g1198

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>g1199

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>g1200

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>g1201

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>g1202

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>g1203

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>g1204

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>g1205

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>g1206

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>g1207

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>g1208

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>g1209

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>g1210

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>g1211

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>g1212

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>g1213

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>g1214

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>g1215

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>g1216

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>g1217

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>g1218

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>g1219

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>g1220

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>g1221

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>g1222

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>g1223

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>g1224

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>g1225

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>g1226

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>g1227

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>g1228

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>g1229

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>g1230

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>g1231

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NS

>g1232

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>g1233

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>g1234

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>g1235

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LNE

>g1236

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>g1237

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FVMPGASYKTAGELVLQAEQVIVAEANDTIDESLPEPDEAERQRENRR AERQDIVNNIQDLLEGST
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>g1238

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>g1239

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>g1240

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>g1241

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VIPPTPAIERAIDTTVAALTAAGHTVVEVTPPEAADPFTGFNLASQLLNSDGCVT FNSFRYSFEPT
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>g1242

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>g1243

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>g1244

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>g1245

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>g1246

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>g1247

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>g1248

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>g1249

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>g1250

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>g1251

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>g1252

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>g1253

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>g1254

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>g1255

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DRVK

>g1256

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>g1257

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LYPDPETYNPDRFLGHPGLAPDYAGKGDPMTRDKLSSRRICPGIHVGERSLWHMIATTLWAFEIGP
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>g1258

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>g1259

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>g1260

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>g1261

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>g1262

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>g1263

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>g1264

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>g1265

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>g1266

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>g1267

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>g1268

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>g1269

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>g1270

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>g1271

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RV

>g1272

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>g1273

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>g1274

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>g1275

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>g1276

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>g1277

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>g1278

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>g1279

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>g1280

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>g1281

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>g1282

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>g1283

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>g1284

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>g1285

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>g1286

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>g1287

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>g1288

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>g1289

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>g1291

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>g1292

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>g1293

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>g1295

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>g1296

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>g1297

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>g1299

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>g1300

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>g1301

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>g1302

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>g1303

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>g1304

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>g1305

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>g1306

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>g1308

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>g1310

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>g1311

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>g1312

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>g1313

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>g1314

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>g1315

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>g1316

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>g1317

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>g1318

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>g1319

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>g1320

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>g1321

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>g1322

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>g1323

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>g1324

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>g1325

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SGQGVP AEPDNPGLAWELVSFNATIGENETYIGQVPGWGYGDLVSAVTFAVVNTTNLSIPAIVI PG
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NILQNGSFAVDHFSTTGAKVTTSFLEDYVLIDGIDELLKEVGHYIWEDSVEIPTVYVWTPDLPTVF
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RKLGLQFSQQVGYNLPVDMLAAIPSVSAPETETLSFRNIIDGFRQFSGPADLAGKSVISIELGADF
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YVEGGVFAPQQQEFRALILRGNDTLTPGGVEVLTKYAREGLPVILSGGISTIWASSDEDAIHQAEN
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ISFETVGVPPYLLDAWTGGKTPIVEYAEQDGRTVIHFALQETETRIVVFSASSKCGNEAEHVVS
SVLGYTSTSSGIWAKVAAGDATASVTLSSNETQLLHANPQPAFSLTNWTVVIQQWLPPVNLYDVES
LANKVNATFSVPGAVLSSWSDLGLPNASGVGYTSSFAWPDGKANNTGAYLVIPPVAQGLIVTING
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>g1326

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>g1327

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QSQFLNTGLNQPEQQPAPSAAFPAGPIGQTPPSAAPGVAPEMGGGAGSVPTQGKIDPEQIPSVPRS
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DRRVHDLRLRSIGCLELSLYLPRIIPIHNMSAEDGFANEQGQLQVPPALRASFSRVEEGGAYLI
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>g1328

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KINGITHTPVNSVWFVVFSTILNLIAGSTETATAIFNVTAPALDISYISVILAHRIYRNRVQFI
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>g1329

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SKVAIGGN

>g1330

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>g1331

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KSLAFGSACSLPPPRVHVRSSSAFPELNDIHVESISAAALFDKRRRVNSQPTLTSGTKESPHEYA
SLHSAGGVWDRCQRPSEDYSSSEGSSERAPLLSRSRQLDLGMAASHSRKHRSGLSTDDGVNETLQH
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YQKRQVQAKIFLEPESAVCFNGVHNMLQLALAISAIKRGDCAELQGLFDQGLRPDLWTEELILRPLD
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NAICLNKPYDTSMALIEAHHSAARGGHVEILKLLGGRIKHMSAENRFHSFVEAIKVGQCDVVEWFL
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>g1332

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WHWYEERRDGVAMETASSGELLEQIHSGGREISVVDVERTALDADEQGRGDANIDSTADALDDGAS
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>g1333

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>g1334

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VQPAGFSAGLVLVGGVMVNTIGWRYGYYISGGLTLALFVVSIWVSLPADRPGAAGKISWARLGKEVDW
VGGIVSCACLAMLSYILAALTNDVENIKTPGNIVMLVICVILVPVFI FWEQRQERLGKPALIPNSL
WRNSVFTNVCLMVMFMSWAVINVMELYCSLFFQKIQGLSALQASLRILPNVVTGSICQLTTGLLVHR
VSAFYLVVGSTLLTAGSPLL MALINVEWPYWD AFFAQA LSPI SADILFTVALLVISDVFPFRMQA
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>g1335

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SPDALAPKIEELDDDDGEVLMDLKPGD DRPADDVSNAIASLPRKRGRPRKHPLPMPGGQMKVAKGRS
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MDAARYLLLNQKPKNEKFRQFI I EFFQYHDVSN SLTSLDRRPVQLTGDLRLP DFPVPHAQAGTFLGI
FDGLFNYISEITRLRDRIRVRHSEGYEPAVDYQILSEAVTIDSALRIWEPSYTPETPNWYASQLYR
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>g1336

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NRALFQFLPLTGLMAFLVHDPVYRLFITGFSVAMGCLVWSATFYGERALNVRLESRISAF AIGLVM
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VGS LGAAVLTCYSHWFGFYGGLTIAFYLMAVTPVLFASAVHHSPASTFGTGFCVWVFLTFLHVWV
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LAVAIAYLRFP TNDYAPYHKEDKVATAGIWTIHFSLDN DMWSSEQRMINLIREAELDIVGLLES DT
QRIIMGNRDFTAVLAEELGMYVDYGP GPNKHTWGAALLSKFPIVNSTHLLPSPVGELAPAIHATL
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>g1337

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LDESGKNAEVAGTAADDDTDMIALPAITEEDINPTGKKDGEIDEGALETLNSTPALTGAIP IAIYD
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>g1338

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SSLNSFSITRETTTSLYTAARTAQS VIRCEICPLRFATGMQNMMLGTLLSVMADAWYKISLVDAG
SLGRELASPEFKQLVINNNKSLHADEELTWDHWLRRFLRRAIIGTPMPPNLCPSSVACSITPDLYS
LIRELENRQRYWHSIRISHPLDPFDTSRAEYGS LPTPPLSTRTCASEKECNADTISTSCSTMANKT
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>g1339

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EFRPETYVAPPYSTAATSLCWRYDPNDQTSLO SNARI IQWEDGSLTLQLASNPKEQYRISSKPLAP
LNKAGNYDPTLDTHTYLAAA AETASVFKITSHLTHHLKPLPTNAETDDAIQRLQENLIAAGRGGKA
NANGNGIAI IDIKEDPELAGKRAEAAERLKQREDRKRQQYADREQNRTARRGTYRPSRGGLTAAGL
EDDDGMFATRPAKRHRHRTNRHGEIYS DDEEEHGRRRQDSYEVDDFVADDDEELEEVEDEESLIDDE
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>g1340

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NESTCPTMSAGRLTYTWLVDGRAAKISAPKF INRVEKWIVSKIHD PVMFPTDPVQGAPHTFASGDV
STPPATTPIAAGPTNLNASLTTLAGQDWIGKSSGFPPTFYKDCQGIMQMFRCYAHL YHGHWLDPF
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PAPAAANAPPS

>g1341

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>g1342

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EKQMKENTELQKYNPSAVVEARPRADPQERPFLAWAQKH YIRAENTDSDFSTLT TARRILPALGVT
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YPYAMSVVGSVFSHQQFKHLLTNTVILWLIGLRLHDEIGRGNFLSLYLSSGVIGSLISLTSHVLLQ
RLTVTSLGASGAIAGLVAAWCM LHSDDKLVP SFLPHDWRDSISANGSTVLAAIVAFEVFNLVSPFK
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>g1343

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CAAWTAISILIIMIALSVKADVGRHDASYALGHYDTSLSGWGGFTFFIGLLPAAYCFSAVGMISSM
AEECANAVVKVPQ AISLCVPVGGIAGLFFIIPICVTLP LEDIILAPAGQALPYIFQQVMGSPGGG
LGLIFLVLAITLFC SISITVAASRTTYAFARDEALPLSKLWAKVNSRLGVPVWSLVLVTVVQMLLG
LINLGSSSAFTA FVSVGVVALAISYAIPIGASVFHRRQEVNNAKFNCGPVVG LVVNI IALLWIAFE
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>g1344

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DPNDESAACHVHYRGGRAILSQWKLHQQLLQRHKRGLPALMLSCFATMDLTYSLLTGEEQYFRD TT
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LEPLFMTQQNEFFAIKSSRNTQAPLAPHLVPMNSCAPQLDSDSWTVFCNAYRLAGLIYIYRVFH
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>g1345

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VNESASNASEWTF TVPAWNQSMRIMFHSCNGFSVGTD TDSWAGPALWNDVLRVHEKRAFHVMIGGG
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FVLDEPTPDPRWIMGKTPGPYVEERSRSLYMRLGRRIAFAGIDARTERTRMQINYPETYDLIFQRL
HQELSQANGEIKHLILLGVPIAYPRLAWLENIITSPLIAPVRLLNKRFGVAGGLFNKFDGQVDLL
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>g1346

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YVTSLQTI PMHAFGR TSLVLQGGTVFGLCHLGVVKALHLRGLLPRIITGTATGALVAALVGVRTED
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TYVGDMTFEEAYAKTKRILNITVAASGKGAFPNLLNYLTAPNV LIRSAALASNASSGTIYCKDET G
AIVPWPHTQDVTFQSWRQVNLSGRELPLARLAE LFNVNHFIVSQTRPYIVPFLYPD TXPGQRLSNH
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>g1347

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LYKMRYVYAHFPINVNIEKNGETGNFEVEIRNFLGEKIVRRITAQPGVEVITSANVKDELQLSGNS
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>g1348

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>g1349

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>g1350

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>g1351

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>g1352

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LTPLWMLKHQDLIPAATINVFP LTSDPKLRDLKDSWNASGYRSRFV VILVAEDGISAQEVEDRLAN
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>g1353

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>g1354

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>g1355

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>g1356

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>g1357

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V

>g1358

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>g1359

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>g1360

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>g1361

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>g1362

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>g1363

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>g1364

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>g1365

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>g1366

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>g1367

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>g1368

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>g1369

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>g1370

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>g1371

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>g1372

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>g1373

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>g1374

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>g1375

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>g1376

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>g1377

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>g1378

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>g1379

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>g1380

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>g1381

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>g1382

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>g1383

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>g1384

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>g1385

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>g1386

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>g1387

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SQ

>g1388

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>g1389

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>g1390

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>g1391

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>g1392

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>g1393

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>g1394

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>g1395

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>g1396

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>g1397

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>g1398

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>g1399

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>g1400

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>g1401

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>g1402

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>g1403

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>g1405

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>g1406

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>g1407

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>g1408

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I

>g1409

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>g1410

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Q

>g1411

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NFFIPS

>g1412

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>g1413

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>g1414

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>g1415

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>g1416

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>g1417

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>g1418

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FHAECITPWLTTRRRTCPICKGDVVRSMALAEPTTDSQEPTS FVRTASVPIIPDISDDSNLEEGRR
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>g1419

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>g1420

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>g1421

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>g1422

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>g1423

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>g1424

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>g1425

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>g1426

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>g1427

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>g1428

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>g1429

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FKSFRKLRS HDIQAARDLYYAYVLVQVEREINKGKNFFTMMELFTVGRNRRATIGSWIVMFMQQF
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>g1430

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>g1431

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RKRNRDVKPLSLGLDIDELLHREKRAKISPNNAIPEFKQMLATVETVEGIKDATNQMQKIIEDHIR
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>g1432

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>g1433

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>g1434

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>g1435

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>g1436

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>g1437

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SRTSDPVDLVQQVASLKKRDN SLAELLSEAIHDL SHIKESTVGLSLEATEVLDRAFERIKIVQTEL
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>g1438

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>g1439

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>g1440

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>g1441

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DDTVQCEEGIP LKNQDIQFEEWDILD PANETILEINTTKKLSWFPYESQGFDIVLDKGTFDAISLS
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>g1442

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>g1443

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>g1444

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>g1445

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>g1446

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>g1447

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>g1448

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>g1449

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>g1450

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AGINNIPALEEAAYPEDLHPL
LQNLVEEEIH
NNHTVWSVIRTHHREALAESLGVFVQLTLGFCGDLGVT
LAAAGNPNTTDWVWGFATMAAIYVCGGI
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FYRGFPKRKMPEYFLAQFVGA
FCAALAAYG
VYYHSIRNYIDNGTGVEVDV
VN

SFVTSQRESFIGPATAFFNEFLGMVILSVIILALGDDQNAPPGGGMNSLIIGLVITCLSMCFAYQT
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>g1451

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RVGGWR

>g1452

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>g1453

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LYYE

>g1454

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>g1455

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>g1456

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EIPSQNAITADNVLTLELDGVLYTRVFDAYKASYGVEDA EYAI SQLAQTTMRSEIGQLTLDHVLKER

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>g1457

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AGIAETTDG LLLLEEKSKAGEIKGVEGRMGALMGDGHAAEGTSNGTTTTITSTAAVVTNGTSEKQKTQ
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>g1458

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RGTALLLTIGTLLMF SAPSPAILI IGLVAVALG SPLPLTARSLITSLVLPNQVG VLYTSLAVVQSV
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>g1459

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SVNFDALIDFSYRSVHDM AIVGKELTRQFYGT KPKYSYWNGCSTGGRQGM AAAQRYPD LFDGILAG
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>g1460

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YDWGTVSVNVAAALWPERCNGHVAANSYLIQNRSTAWVPLDPDSEALRWYYYVFLTARGAAGLASN
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>g1461

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GFTAVIPMYISESSRAENRGRMVLL EGFFAIGGIALASWIEFGLYVQTNDVSWRFPIAFQLIFAI
IVTSCILSLPESARWLVS KDRVEEAAAVLGRLED TNGDSEAVAIGLDTIRRS LQDENG SERSRNP
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VYLIDRVGRRRLLLS AALGMAVSQA CLAGLTSVISTNKSAA SASLLFYFLAFTFFPIGLFLVPFMY
AAEISPLNTRGKVTAMSASANWLFNFLIAEVTPTGFDNIGWKYIIYFCINAAGFVIFYLFYPETK
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>g1462

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ISIAEYGNIFSEI IKESKICQGTNLPGSISPEVEGKIFQKQSAHWRDIAFDLVNDIKNQVKECHDI
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>g1463

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SICFEERLTRFETEAEADEECKKLGTKSALPKIIMTMRNALQLGSFFTCSDEVRQWTIRKGT KAP
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>g1464

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DGLWKLNLND

>g1465

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SQNETRQPLLPSVISFLQASLPADVYLDIVVQCTRKNEIRSWRTLFAHLPPP KDLFEQALKLRSLK
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>g1466

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GIEAEGNGGSDAMKRGLETSRK KVEEMNRAESAPPAEEVDNAPGASRGGPGGMPDLSSLASMLGGG
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>g1467

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GAAWTWETPVVKGLRKGVSATGKGIEKVTRPVRETEAYKSVKEAIDDGSSSSRYGGWIEKEERRRQR
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>g1468

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>g1469

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>g1470

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>g1471

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>g1472

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>g1473

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>g1474

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>g1475

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>g1476

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>g1477

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>g1478

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>g1479

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>g1480

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SDALAVGVFLNVFVRKSRDLGMACIAQSVNVI SPLMTSPTGITKQTTWWPLLLFSKYMRGWTIAAH
VACGSYNGDTSPTWLR SVKDTPWLDVSAVLSDDG FVNLTINVHEQKDFEVKVEGVKG PVEVFTVT
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>g1481

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>g1482

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>g1483

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>g1484

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>g1485

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>g1486

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>g1487

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>g1488

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EARIAQAMKAALAAGAAEAFVRSTPGPWTGEKGRRVLTA AVSAGGVDGLIDRDPNKHGGRHVLES
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>g1489

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IKENAQA FKNL KIERK

>g1490

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>g1491

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>g1492

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>g1493

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>g1494

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>g1495

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AGVQGW

>g1496

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>g1497

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>g1498

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>g1499

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KRQRFYVVSFRSTLKPVIDNQRLHDL DYHSHQEAMASGGLLKYWFGAKSEKHQNLATCVWRSREDA
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>g1500

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>g1501

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>g1502

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>g1503

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>g1504

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IGTRQKKYSC EWIDCSRKGQTHASGYALRAHMRSH TREKPFYCALPECDRSFTRSDALAKHMRTVH
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>g1505

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>g1506

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>g1507

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>g1508

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>g1509

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>g1510

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E

>g1511

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>g1512

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>g1513

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>g1514

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>g1515

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PQK

>g1516

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>g1517

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>g1518

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>g1519

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>g1520

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>g1521

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>g1522

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>g1523

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>g1524

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>g1525

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>g1526

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>g1527

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>g1528

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>g1529

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VVAEDVQQGKPD PQCYQLGRSKLSNDVGFPQESTNMLVVEDAPSGIKAGKAAGFKVLALETTHTVQ
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>g1530

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>g1531

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WSSY

>g1532

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GQGVQVMATPRGTRKKDMSLEHQSQPSLPRG PLARPSMTKHGVDETSPDLGSDISLVPGSTIRTNT
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>g1533

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SAQHSENVSTETVRKELLEKVIKKAIPAE LLDRTVYHLQPSGLFIIGGPQGDAGLTGRKIIVD TY
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>g1534

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NISLCAAYLLESTFVIDKAKFFAGTLSAMS AMILLEMPHINILSKMDQIKDMVGRRLKRFINVDV
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>g1535

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>g1536

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>g1537

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>g1538

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>g1539

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LLR

>g1540

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>g1541

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RRRLAEEEIWEDELAERLRKLDRLLESSKRTEEEQKLADYRSKVKRLEEIEREQRI AEEQKMADYRA
KVKRLEEA EHKA AEEEEEARLAKIKRLEDMERKAAEEEEAKRIAQEKHLKEIEKREKIKAE RDRII
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FT

>g1542

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>g1543

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EEVLPGRDFMTRFYWD CFGAASEVLRAIAVGIGLDD EHLVRKHS GHNNQLRLLHYP SIPADVIE
SQAMARMPAHTDWSSMTILFQDDCGGLEVEDLAQPGRFIPATPVKNAIVMNVGDLLQRWSNDYLR
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ASMQY

>g1544

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>g1545

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>g1546

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>g1547

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>g1548

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>g1549

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>g1550

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>g1552

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>g1553

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>g1561

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>g1562

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>g1563

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>g1568

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>g1569

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>g1570

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>g1571

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>g1572

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>g1573

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>g1574

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>g1575

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>g1576

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>g1577

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>g1578

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>g1579

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>g1580

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>g1581

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>g1582

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>g1583

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>g1584

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>g1585

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>g1586

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>g1587

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>g1588

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>g1589

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>g1590

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>g1591

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>g1592

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>g1593

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>g1594

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>g1595

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>g1596

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>g1597

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>g1598

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>g1599

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>g1600

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>g1601

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>g1602

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>g1603

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>g1604

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>g1605

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>g1606

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>g1607

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V

>g1608

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>g1609

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>g1610

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>g1611

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>g1612

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>g1613

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>g1614

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>g1615

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>g1616

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>g1617

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>g1618

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>g1619

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>g1620

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>g1621

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D

>g1622

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>g1623

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>g1624

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>g1625

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>g1626

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>g1627

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ERRRNLDLVPKLDKEAAVQALKRAVGGWMPYSEDESKRARYRIFLEISAGLKQGLPDRLPGSTTD
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GMFGPLTRSTISFYPTRLCLKRFNIKPPAHVHMDPGDHLTGTTGGTGTAGSTKTSLSVQETMDQL
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>g1628

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GVLYRLPQCIVSDPDNIVDDSGGAAGETDGGDDIEDGISDRKIVSEESDEELISDDVERRREEKG
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>g1629

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DKSETGKEEEEKQDEGNKKRKRRTGEDKTKNGKRRKQSGGNNNEATSAQGGKWTELESYISLLEEGP
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>g1630

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TSSSLSHEFSNVRLVPNHTCSFLRAGSRFEGTQESDHQVYNVHVEIKHVDMAESYLCGYLRLTEEH
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>g1631

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>g1632

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>g1633

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>g1634

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>g1635

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>g1636

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>g1637

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>g1638

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>g1639

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>g1640

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>g1641

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>g1642

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>g1643

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>g1644

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>g1645

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>g1646

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>g1647

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>g1648

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Q

>g1649

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>g1650

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>g1651

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LFWDSKIAWWATAVMFLNNTFIQGLHCLVGAEYLNMTGHA TCTIVFSCVVP IISFFSLPRTFS
GLSHMATVSAFFTFISVLLATIFAGIEPHPADYTEELGKPIVTAFPVSGTTFVSGMSAFLNISYTF
IGQIILPSFIAEMKEPEDFWKSVTAVTIAEVIVFSIVGAVIYAYTGNQYMTAPAFGSLGDDLYKKV
AFSFM IPTLIFLGLVLYASVSARFVFLQFFDGRHKTQHTVVGWASWAGILAVLWILAFIIAEIVPF
FSDLESIMSSSLFDSFFGFIFWGVAYLRMRAEDHGSSFYKERGIRGWIGVIVNVFLIAIGFYFLGAG
TYASIESVVLVSYNEGGFGGPFSCANNGL

>g1652

MAKNKGKRSSTGSVPQAGESKVSTDESFI SL DAGALANLTRNIEQKLKD GKNTANNKSQKRTNNSK
TETKKVPVHDFKDKDTAVKSQNSNQKKRSRDGEVIEKLAKGNSKNDQSQDDILRKEILALGGS
KEDFDLLAEVASDSEVEEASGSHIKAGSNDNALRKELAQLLKDAGQYNPVIADDQVEEEQPA SEDG

SEEEDEEGEVEEHGDEEIDSASEADDANMPSKEIKSKIATQVPDKKNAFAETQSQFPKEYSRLTV
MPRADWYSTELPSVTAPKVTTGLPKFLMDRIQQHATSLLEKENQLYSQIQQQSSSSSHKFYSTIMT
SGTLSDKISALTLAVQESPIHNTKALGDLVALSKKRSRAQAVDVLRLSLKDLFAQGTLLPSDRKLKA
FANHAELVASFQKAGPKWTERDPLPGDLQPQHLLILWAFEDFLKVQFFEILKVLEIWCNDEIEFSRT
RAVSYYELLKEKPEQEANLLRLLVNKLGDTGKKIASRASYLLLQLCQAHPLMKPTIVKSVEEFLF
RPGQSPHARYYAIITLNQITLSTKEEKVAIHLLDIYFAVFLQLLKSTDKKSWKPDNKKKGKKSDDA
KTQKAQAEHDDQLKEKLISAVLTGVNRAYPFTSSSDSRLSKHIDTLFRVTHSSNFNTSIQALMLIQ
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QPSFICGVFFLIRELEKTYPGLLSLVDQPEEDESDEEEVFRDVPDEDDQPEAETSKQVELTKKVND
GYDARKRDPQHSNAEKSCLWELLPLLSHFHPSVSALTSHLLNHEPLSGKPDLTHTLSHFLDRFIY
RNAKAGGAPRGQSIMQPLAGTDSHLLVSASGLAGDARAQVPVNSEEFWRKRTEDVAADDVFFHEY
FNRMSKSQTGKKAQKSKDPVSRDEEAADESDNESEIWQALVESRPGLEDDDDDDDLMDLDESAY
DNDEDEVGSEDGGVIFNDESDENVEEIDDEEGDVDETEVKQKKSKADEDEDDEDSFDMDVSDDEAF
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>g1653

MKDLYTFDYNAEQALVTYEATREAYKRIFDTLKVPYLVAAADSGNMGGNLSHEFHFI SDKGEDTLI
SCSNCDYVYNEEVSDGRTTASVTENPLAAPMPSETGVGTDNPLAISMALWTAISKDKKTLVRAWYP
RYSTQDLGSEPREEREINSHAVKAVAKSAGVDLDTSVENPVKLWYEHVKNGEIEITLGSYEESSARAHK
ILDLYDSQVAPYSRPPLSGLPEDFDKVKHPVDFALLNCFPGSQDGFSLTRVIDGEKCPKCSTGSLH
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CSDVHGLNWPRAIAPFEIVVVPGRDLESEAENVYDHLRRHTDTSDEVILDDRKKVGVWKLKADADMIG
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>g1654

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DLEKIVQGKSTNLKIIEDALRQKVVSGEAVTAPSG

>g1655

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LGSFSFEQYRYPKNPQNGYSFDEFNEMLSQPMTRGRITSGLSLDQLLNQIRQANEMFVLENDQSAI
STARRSVKVEFPKDNELIHLEVDFRASEGHYEKVNRSRWVRSDLGRSTAGNRPLLQAVMLNPERAD
LEFKIQEKTILDPGQLDQSMRDILEGIRFRPSENDTVDFSFLAPAKRHSKLPIGAKIFRLVEKATV
QYQVRNTDYFLEIARYDIYYPKPSRARQAADSTSYLEFNPPTSFSEVVLYGQSWDNATKAFGRIQG
TESFDLNSALYALFKPEGRETPRDAFERFILIATNVAGLWNPAGSRPMESIPRPSSTSRRTTKMSVN
EGFLIDLD

>g1656

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DEEIIKSANIMWFASPEEFLSAKTKNKKRADALPNEQYLTADFNVNPLTSINGRGRVMSKDAFFAR
YPNGIPPKDKEELAHEYQKCI VCRGVNQLQGYTEEFLEWEDVYKGD EASVYNLIELIKAGLKTA
RKAADDDYVDMNDGDEKAPITPRKKQRTTALTTPQSKRKIFTTPTSKRIVVKKPLEFTPLGTRVLD
PTHFTSSPYRQARSLLHVSSVPTSLPCRSAEFETVYTHLSAAIAEGSGTCIYISGTPGTGKTATVR
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RVPCVVLMDQLVTKNQSVMYNFFNWPALRHSRLIVLAVANTMDLPERTLSNKISSRLGLTRIT
FPGYKHTDLIEIISSRLANVPGDIVDPDAIQFASRKVA AVSGDARRALDICRAVEIAEQECEANT
SKNDIDDAESLPPTPSKSAIRRTQSQKGNKSLVKIESPQKKPPTQKTI PRVTIATIKQAIQEATS
TPLQQSLRCLPLAGKFLAALLARVVRTGISESTMGDVLDEARRIADA AVAVAGLAGSSIKNYLLG
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GLGFDQ

>g1657

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PLNVGPGLLAKFASAFVFGTPREMNQTDIDLVVQQFVECSQLAAETGFHGVQIHAAHGYLLTQFLT
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GVDFVEISGGSYEDVTFIEGTGQSQNPKSHTVAREAFFLEFANAIRSQVPEIPLLLTGGFRTRRG
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>g1658

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VISGHLGWVRALAVEPNNEWFASGAGDRTIKIWNLATGSLRLTLTGHIHSTVRGLAVSPRHPYLFSC
GEDKMKVCWDLEANKVIRHYHGHLSGVYTLAIHPNLDVLVTGGRDGVARVWDMRTRSNIHVLSGHK
GTVADVCKQEADPQIITGSLDSTVRLWDLAAGKTMGVLTHHKKGVRSLAIHPKEFTFASASTGSIK
QWKCEGAFFMQNFEGQNSVINSIAVNEDNVLFSGGDNGSMSFWDWKTGHRFQSLDTTAQPGSLDAE
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>g1659

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>g1660

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SARNNEAITVTVTRDSLDSVSQPRTSKELSVIEHMPDNNNEEAEGEVPEIVEPEVADDSAKQDTFD
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RKELADKEKSVESEFWTQKLEEEVRWRDQVASPPPFLQEPRTVSPVASSRRSTGLDPLTIDSRPLS
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AQTSHSRGNINEIISVSTVGAGPSVQLVERMSATVRRLESEERAATKDELERITAQRDEARKEVVE
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>g1661

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PLIASSFLTNNLLSSALISDQTSDEEAALPPPLYTYLADLTKNQDSGLQDIGVQGFSAALLRNKVARE
LLWKQRAETLDPLVEILRTAAGGKDNGSINLASSAATSSLRTADISIGGGVGLQLLYHVLLVIWQL
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LSGRHLTDPLLEDLQSLTDLLEEYTKTQTTFDEYAAELQSGHLRWSPPHRNPTFWRENARRILEE
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>g1662

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TSSHGGMQQEICQMIVPMALQTPSLLYATMALSIAHIEALNNHSGTVKAAPDIARLMARSLEHFRL
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>g1663

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NRRTSDYFSDSGMSGSI RTGTGDKVEDIERIKRAAEQERAQLKVELSQKWQEERSKRAACESHVQ
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PRKLG YEREVRNLREEINLLRRRADDALQKWQCEKGLSGLKMDLDRAEQETTSRLMLLQEHDIAL
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>g1664

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ALAGLAVFITLYYHYLQDPVFHQNAYALLTTVVVLRSMYTM EVALRPKWRKSREEDRLARERQGLP
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>g1665

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RPIVGVGHSMGGAQLTYLSLLQPRLFHSLVLLDPVIQNESTQFPDKFEGRFVPMNTILSTHRRDIW
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>g1666

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RPF SRGSVHLASADTKALPVFDPAFFSHPLDLELHARHVRWLET LAWTEPLASLLKADGRRLQRSS
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>g1667

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VVHIDYITECLAKDELDDPDEFALVDRVTEKKAGINLKKTLKRAAANKNKLHLDYRICCVETIRGG
FDAFKSIVEANGGECTLFRGRVSMNDRRRESGSESSQDGKGHPMKDDVFLISGDEPEHVKVWPRFR
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>g1668

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>g1669

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>g1670

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>g1671

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>g1672

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V

>g1673

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>g1674

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>g1676

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>g1677

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>g1678

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>g1679

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>g1680

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>g1681

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>g1682

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>g1683

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>g1684

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>g1685

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>g1686

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>g1687

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>g1688

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>g1690

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>g1692

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>g1693

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>g1694

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>g1695

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>g1696

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>g1697

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>g1698

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>g1699

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>g1700

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>g1701

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>g1702

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>g1703

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>g1704

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>g1705

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>g1706

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>g1707

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>g1708

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>g1709

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>g1710

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>g1711

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>g1712

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>g1713

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>g1714

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>g1715

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>g1716

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>g1717

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>g1718

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>g1719

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>g1720

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>g1721

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>g1722

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>g1723

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>g1724

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>g1725

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>g1726

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>g1727

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>g1728

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>g1729

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>g1730

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>g1731

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>g1732

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>g1733

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>g1734

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>g1735

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>g1736

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>g1737

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>g1738

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>g1739

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>g1740

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>g1741

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>g1742

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>g1743

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>g1744

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>g1745

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>g1746

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>g1747

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>g1748

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>g1749

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>g1750

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TTEL VVGPGFREAFCPGYPTKPDVELSERYFEGRNREIDFSNDKLSLKYGPFRAVDFFGDGSFY L
LDTPGHAVGHMSGLARTKTEPDTFIFMGGDVCHHGGEIRPSPYLSIPSQVQFSRTGSLQESTFLDG
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>g1751

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LMIWLKGYGSIQPLGSQIGTATVAGITWQLWYGVNGS QKTYSFVAPSQQTSWSGDILQFFHYLSQN
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>g1752

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ALTTLANPLGAAIGELVDSAWTTQPGDIPNMVLYISIISTIACLP SFFIPAKPPTPPCASA EVSKT
PFLESVKGIFRIREFWLMFIPFSIYVGFFNSVSALINQILEPYGFTETEAGIAGGVLI IAGLISSA
IVSPINDRFKKYLLIIRI AVPILAICYIALYFAPSSPYGLAPSI VVCALLGASAFALLPVALEFIV
EITYPYSPEIGSTILWTGGQILGAVFTIIQTELKASPNANPPANMKKSLIFS AVVACVAAIFPLTL
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>g1753

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EAEDAEEGEEEEEEEEEEEEEEEEEPEDIKPKLEEDCANSKTCAPFKHHFDECVERVTRAQEDGDS
SGPQEDCV EEFFHLQH CATQCAAPKLWRS LR

>g1754

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>g1755

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TKFDGPGFEPEGTIHLPTINGNSYSATIAEIKGP EIVLKKPVKEKDALFQLTGRNDITDDGKFNG
EGSGDKSDFQGTFKF FAPHVDQS AVYKAVFGRLSHGGCIGIFPEGGSHDRPELLPLKAGVA IMA LG
SLAENPD SGLKIVPCGMNYFHAHKFRSRAVVEFGSPIEVPRELVEKYKRGERREAVGELLDTIYHA
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NKQLRFLGLRDHQVEYAKFSILKVVF TLTVYRLIKLTL LAIGTLPLGLVLFAPVFIATKSISKKKSQE
ALAASTVKLQGRDVMATWKLLVALAFAPAVYAFYTAVFTYWTYRNRIQGYVPEWVPLWAMILLGVV
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FDSARIVADPFKESGHVEGEKSAEGYGETRSRPGIQKSYRTQEPLPRNESFHDLASIGFFSTRPAS
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>g1756

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IRFLGRKDLRDPDVAAVDRAVEVTSRNGDKILNICCPYTSRDEMTHAIRQTVVDYSTPLETTRAN
GGRKPFSESHIASNIRAQTLQNMKDQDGSADSDSASAFSQDEDNQXPXVNQANKXYDSPSSFSSST
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>g1757

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TGYEVELLEKTDEGLLGAWGIASGYSDVEGLAMD LGGGSTQITWV VSHGAELHISPKGSISFPYGA
GALSRTLAELEKGKSKKEAKHARDKLRQEMKNNFLDAYNKLEIPDRLADEAKQNGGFRMYISGGGF
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INVLAESLPHGIKEVYFCQGGVREGILFRQLQPVIRRQDPLEVATTPFRTRSAGSIGHLLLTAI PP
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>g1758

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>g1759

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QS

>g1760

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>g1761

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>g1762

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D

>g1763

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>g1764

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SAFSGYPQHTFYPTTPAPKRVRTSMDMDQRVFEPDARYAPTYQPPAMYSNQPGPYPNPMFSYTGPS
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>g1765

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>g1766

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>g1767

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>g1768

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>g1769

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>g1770

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GSIHAGNASQVSDGAAAVLLMKRSTA EKLGTIIGKFVTASIVGVEPLLMGIGPWKAIPVALEKAG
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>g1771

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DGT PATLDALPECIAAADGKIPVHIDGGFRTGADIFKAIALGAQCCWVGRPAIWGLGYDGEKGVTK
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>g1772

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>g1773

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>g1774

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>g1775

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>g1776

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>g1777

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>g1778

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>g1779

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>g1780

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>g1781

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>g1782

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>g1783

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>g1784

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>g1785

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>g1786

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>g1787

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>g1788

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>g1789

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>g1790

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>g1791

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>g1792

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>g1793

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>g1795

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>g1797

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>g1800

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>g1801

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>g1803

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>g1804

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>g1806

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>g1807

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>g1808

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>g1809

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>g1810

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>g1811

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>g1812

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>g1813

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>g1814

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>g1815

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>g1816

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>g1817

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>g1818

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>g1819

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>g1820

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>g1821

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>g1822

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>g1823

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>g1824

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>g1825

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>g1826

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>g1827

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>g1828

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>g1830

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>g1831

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>g1832

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>g1833

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>g1834

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>g1835

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>g1836

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>g1837

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>g1838

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>g1839

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>g1840

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DDDDLENQPNLLKAHILISQLRDFRDEALDQIRRANDSSSETTLDDYFQGLDSIVEWFDDHVG TAC
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>g1841

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>g1842

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>g1843

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>g1844

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ILCSIWAAAAPSIWHLDLpQVHPGEKRPavPLHVQNLNFTTVPETIYNVhaEKtWEKEDRYEGWL
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>g1845

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KLL

>g1846

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RLA

>g1847

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>g1848

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>g1849

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ERKARD

>g1850

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>g1851

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>g1852

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>g1853

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>g1854

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>g1855

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>g1856

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>g1857

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>g1858

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>g1859

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>g1860

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>g1861

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>g1862

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>g1863

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>g1864

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>g1865

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>g1866

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>g1867

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>g1868

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>g1869

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>g1870

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>g1871

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>g1872

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>g1873

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>g1874

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>g1875

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TIR

>g1876

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>g1877

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>g1878

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>g1879

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>g1880

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>g1881

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>g1882

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>g1883

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>g1884

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>g1885

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>g1886

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>g1887

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AL

>g1888

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>g1900

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>g1912

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>g1913

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>g1914

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>g1915

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>g1916

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>g1917

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>g1918

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>g1919

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>g1920

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>g1921

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>g1922

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>g1923

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>g1924

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>g1925

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>g1926

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>g1927

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>g1928

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>g1929

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>g1930

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>g1931

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>g1932

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>g1933

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>g1934

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>g1935

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>g1936

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>g1937

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>g1938

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>g1959

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>g1960

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YKM

>g1961

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>g1962

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>g1963

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>g1964

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>g1965

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>g1966

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TLAEILGDSEPEVLGGGKTVEFGIMIMGGASVKPEVTESPTGAGAKVTETEPYPSKPAEGASGFV
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>g1967

MEXPTTPPAPAVQQGQLPRGPITPEQQRRIEINRMKAKAIREQREAESAAAAGQSTNASKVSGVKR
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>g1968

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>g1969

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>g1970

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>g1971

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>g1972

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LFLVYQAYRYNLLFVYNLDIDTKGLIYPRALQHLLTG VYLAEICMIGLFSIKAAIGPLI IMAFYTI
LTI LAHISLNDMLRPLMDFLPRSLDTEEEIQLNQEA AEAYRHAMTRHGRIWKWFHPNLYRDYADL
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>g1973

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>g1974

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>g1975

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YAFVPMNANRTKWIYSNTQNDKMRPLTILSMLDRYAEEKPWL VQKPGQEYVESYVAEVHGKCYIPR
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>g1976

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YAMILE

>g1977

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>g1978

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VKS LGARHVF DYNDPEVINKITTVLQPGDLVYDCIGGDKVRATCTEILQKIGGGTLPTVRWFAPTE
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>g1979

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>g1980

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LTTLPKTAPSVNPGQVLITGASDLQTVFPDVLPGVLQAYMAGIKAAFI VAIAFCGTACLT LAVP
VKKLPHTHTKDDAPT MG

>g1981

MLLSGNTTVSLWSIVDVPEDALLVNNAASNVT KKNRNVRHASVSAYSAGATEQNGADQVSAPRPLA
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>g1982

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>g1983

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>g1984

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>g1985

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IVNNESAEILRWLPTAYNGTSII SAEAAEIDLYPESH RKEIDSLSEWIQRDLNSGVYKAGFATTQA
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>g1986

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>g1987

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>g1988

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>g1989

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>g1990

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>g1991

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>g1992

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>g1993

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>g1994

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>g1995

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>g1996

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>g1997

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>g1998

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>g1999

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>g2000

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>g2001

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>g2002

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>g2003

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>g2004

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>g2005

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>g2006

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>g2007

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>g2008

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>g2009

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>g2010

MALSHLHIRT YENTSPPLSEKQKPIQDGS LTVIPILQTENS VFGEVSGVDW TNPVPAETVSQ LIA
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YLLRIKQDSTYHQQRSKYSILL SHGNPVKGGSWTHFADTRRAYADLPESKKEELENLIVEHDLWHS
RKLASPIVYGNPLPHELA AKPPAYHRLVQTAPDGRQTLYLAAHAKLILGRSFEE SQLLWELIDHC
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>g2011

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GVKLTCGGSIAKLVRLTAEIEGNPKINEARAYPFLLLDGLIADLTPWMQCGGHGT VSGIPNFAPAA
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>g2012

MISEKESEIGVQDGA KTPVSTGTVKETYNVDIATAADHALQRKLKPRHMQMITIGGVIGTGLFLGT
GSNLENGGPAGLLISY CIMASLLFSVMVALGEMVSQFP IPGGQFALADRFVSRELGFAMGILYWN
FQNSYIIVLPAEISAAAVLVSYWTPAGDVNATCTTGICNNALWVALMLLIVWAVNAAGTRFFGEME
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AFAFIGTEITAIASAETANPRKNVPRAIKGVWIRLVLFYVCSAFMVGLLVSPSDPSLNLSSTA AKS
PFVIAIKNAGIPALPSIINAALLTSAWSSGCADLFVSSRTLYGLAARGHAPKIFLTTRKDGLPWIS
VIFCGAFSLLSFMAASKGQAGTVFGYFSNMTAICGMISWICILWTS LRWHKGLKAHGIDRKTLAYT
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>g2013

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IANQATFFFEQAGISSDGAFLKLSLVNSCLQFVANACSWFLSSWFGRRTIYLYGTAVNVTLMLILGI
VASIPQNNNTNLTQAALGILISFVFAGTMGPISYTI VAETSSVRLRALSTGVGRAAYYVAEIPMIY
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VQENE

>g2014

MWLVEAIRSDIPRELDPETIYARLMTMNFAGIHTSTFTTVNMLLDLSLRPDVFNAMKEEINMEYQ
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>g2015

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SIGTSPWDDSCKRRRKVAASALNRVLN KESRAYLLDILRDCDNGNTALDIMLPARKFAINLSLTVS
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KRRHAYHAKLQARLRDDIASGTDQPCIQGNVLRDPESKGLSEGELLSISLSMMAGADTSKRTLMWA
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>g2016

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LMGGQFWSVHVHCDKAQKHFD DPSWLVRDTLEQIDVAKRFIAEYPDVFTYCTTPSCVRTAFKSGKI
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>g2017

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FAFLALMYGVGVASSSNFLPTLIKRLTNNTVKANLYTIGPNLVASVIQISATWASDRLQORSIIAS
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RPDYRYAI

>g2018

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NYI

>g2019

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LQESGVTYTSIREGLYAEIFPIFLQWYPDTKTVYTSdstsmTFTSRDELGEANGKLLIRGGYENEI
ILLTANEALHAADLVKIINETTNRQVELTLTTPKEYVEFRKANDESTKPDsyWQQILNWLDGFAKG
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>g2020

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>g2021

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>g2022

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>g2023

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>g2024

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>g2025

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NGSEHDEV

>g2026

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EAVKKH

>g2027

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>g2028

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>g2029

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>g2030

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KINIPANFSRPENYCLQLRPLVLLNLPPYSWDHSNQYWHEGRLSKEYRFRQHAPHDLLGLRLTGTS
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VVDYHLDASLEEEELQLSDVVLQVLLRCFVDAIDPENPIDREYVYWKGDLLVSRLVLHNSSNEWLD
AKVNGKNVEKIAAFHADDNGIKLDFKTPGLLDSGLFVPIENSASDLDADEVLVRIYAHAVNQTDVL
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CIRRDARQDSSSDLFVGLKKITRHKVPVFSALNDKNADGESRDTKLSPTSISQRLADIETLDDDLH
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LPPIPKLVIIERHLSYMRATFATDEEFRTLEIAAEFQATGSGIKRLYDRLQAIKRADPDNWHYDLY
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DLSRYLFNACREPKAGLDVMHQYSRNDYFIVLRRGHVFKIDFQELDNFTQREERLESIFETILDASL
GNVDWLGLLTADDRRSWAKNREAFVNFSEANAAYIRTIEESAFLVCLDDGSPETAERGRHFHFGD
GSNRWNDKPIEYVITANGVSGIVGDHTGLDAGTILDLNQKISEQIRCYQSPEPSQRSFARIPVILK
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>g2031

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KRRGALTRFFSKRSILNLEPSIQAKVEKLSAGVEKNFLNTGAILNASVAFVALTLDITDYCFDQS
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VAGGDTTGRAMANLLYHLHANPEWLNVRVQELDSVMIFPSSPITLSELEILPVFSSCIKETLRISY
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>g2032

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TRCVKALRRDYLRSLRQDLPPFFDTSPLPGTVAAALLSNNADLVEVGLGEKLGVFVEGISQLGAAAFIV
AFTRQWKLTLVVAATPLPLTMLVVIIVAFIDTKIDSKILAIYSKAGGLAEALSTIRIVTAFNAGGK
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IGFVQQEPFLFSDTIFTNVCHGFFGTAMDHLPEQKRRALVEKACEEAFHAKFIQNLDPNYDTQIGD
GDGRLSGGQKQRIAIARSIIRNPPVLLLDEATSALDPKAERIVQAALDNVSKARTTIIIVAHKLSTV
QRADRIIVLSKGRLEVEQGTQELLVKREAYFNLVNAQTRDEHRDLQHINHNTVSLKIEEAQNSDLI

PGENDVSVISVKSTSELPTPQIQGRSQQLSLVRCFAILLRGRIQLWPLFLFGLIASVSGGAVFPIQ
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FGAMINQDVGFSESEGQSAGVMTGWLSTDPQRVEDVISTTAGFLLITIVNLGSCILALVVGWKLA
LVAIFGCLPPLFIVGYVKIRLELTTHARTTKMYLESARFATEAITAIRTVASLTLEEKVVKMYDER
LARTSPRFIKIAVTSAILFGLCESLYLATLGLIFWYGKLLSQGEYDVQSFFTTFVAVIFGGQAAG
FLFGYTVNTTKAHAAANNIIHLLRSQPKINTSIASENTSPSDTNISIEFKAVRFNYPTRPKVPVLQ
GLSFKIKRGERVGI VGASGCGKTTVISLLERFYEICSGEILINGVPLQNLVDVHHHRARIGLVSQST
TLYQGSIRDNMVGVSPDLENASDEIMRKACKDANIHDIESLPEGYDTDAGARGLSLSGGQRQRI
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>g2033

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LLFIHGWPFSFLEVGHIIIGNLTNPPNASVPAFHVVAPSI PGFGFSPAPESPGFGPANAGRAFNELM
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QGPYGGMRFYKEVQNDGGFATLNFGLVPQVEVPVAISQFPYDLTYRMPLEWAQRGGNVLKRTVHHD
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>g2034

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LGDMYGMIMPLAMIAWVGAMSCGPSLGPLLSGFAVAAKGWRWSLYESIWVSAPVLILLFVFMPE
SAPNILLRRAERLRKFANSQRLKSQSEIDQAHLTVSSIAVDALIKPLEITLKDPAMFVQIYAAII
YGIYYSYFEVFPVLPVQYGMNLGEVGLVFICIAVGCIIAIIILYGLYLYYVLIIPRMKKSIGIGPQET
VLIPGLPASFGPPIGLFIFAWTARASIHVIVPTLGVTIYAGSVFTVLQCVFLYIPLSYPQYAASLF
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>g2035

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QLRPKNGQLDHCLRIAGDLVHDLDEDFLSSSDPVPRKLTDNELDKIRAYLAYIYISLTYGVIWR
GKRDLPNIHPLWISIAETLQYNAQVDGDSTLVALVRTSSLFADVSAIKEGDSQMAANCQLILRRL
EEEFLEMQTSTKQLMTGLGAIRMQAMFVDIFLDCGGLLVLPVSKTYSKTGFCPPLPQVYRGIKKIR
AFLDFVNLDDTALLSFTVNDWTRFIVVLTLSFRLSFPLTLCPELDSTYARSEIRLDDFLEKMSRG
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SRGLSGWINTS

>g2036

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LGTGNMTIIPTTTVDKCELDILLVAGPYLGNFELHPKHADFIRRHVAAGKLLFTTCTGASVVAST
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>g2037

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EGLIAPLATYLVWAGDAESLLVNGNSFPALPWNEDTDSPLPAANATVSDTNATCHPDI IHVEPNRTYR
FRAFGAGSLGTYVFEDHNNLTIVAADASYTQSFNADKILFTTGQRYDFLVHTKTEELKMLGKT
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SDQVTRQVYITQQQLTVTAGQFLALNNHTWTETNQHENDTPFNNTIPVYDVPYLVDIYNRGEQAI
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>g2038

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QVGFPWAVRAMGFIVLGTLAISISLLRPRLPPKKLGPLLDLQALKDLPYFFFLSMLFTYMGLYIP
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>g2039

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ELSASENNEKEATKKSDFLSKFLEIKAKHKDLPDWYLTSWTISNMLAGSDTTAINLRAIFYLLRH
PHSLQRVLDEIKEAEAENRLSEIITYNESKTLKYLDACIKESGR LHPSIGLPLERVVPPGMEING
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TSES

>g2040

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MSEVTFARRIGFIERGTDVDGTIAGIWKFRFYFGIVGQMPWLDKLWDKSPLINALLPAKSSAIVTF
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YLRSEIYYLLKNPKSYRKVLEELSDHENTGKISKVITWAEAKSLNYLDACIKEAGRLHPVVGGQQFE
RVAPIGGITVNGHFIEGTVVGINPWSHRDKTVFGDDAEAWNPDRLVEKSEQHRMESSMLVYFS
SKGFGILAVDLLGYGDTDKPLSASEYKTKKIATEIIEILNLENIRKVHGV AHDFGSLLLSRIANY
PDRLYTTTFLAVPYSLPGQKFDLAKVNALTKQVAGFERNRIKNYDYDDEITAE LDPTLSLPTLVIQ
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>g2041

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SKHVRRRDSKPVVVKQPNIFREFVTLKLLLKAPAVLALIPLMIYVQWVLSYQWQFNAYFTVRAR
ALNSFVFYFLGLISSLGIGQVLDTPLLDRNRKAVGFIISTLFGAAAWILAEVTQMRYSKTRPSLD
FVDERYGLGAATFALWGCSDALTTTYLFWLVGTLTNDVNESALLGSIVGSTGCVGSALAFVVTVEN
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>g2042

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LGFNRGDDNQNN TYLAVVDAKERVLSNLWAVELGNEPDVYLLQDKPDAVSPWNASQEGADAADWAQ
GFIDAWQSPLPILTAGSYAVAYTDNPEWPNTDYLIDTAYNDAVKA AVR VYVGHLYAAPPGNNTLAT
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VMDATFGAALQTLDKSLRAVTLGIKRLFFHQGTINQALFNWWSDNQINAPFYGGYFAALALAGGD
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PVTKHHHDGFALFNSTSI SQRSSIHYGPKRDLIGDLLAAAKQYHPEIRRGTYFSLPEWYNPAYEKY
AFGDFGLPNQNPYTNATIPYTG YVEVEFVADIQVPQMEQLAYTYDTEIMWCDIGGANDMVNFASA
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DIIQSLVDITSKNGNFLLDIGPMHDGTIPQIMQTGLRNAGSWLQTHGEG IYSTRYWSVTPGLNNFR
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GDQYVWGFKIAYTSTW

>g2043

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WYAGAYTVQLATINPKYGNLTVLVTWPSATPSKYDDWYNNYTITNGTTALTDDGGRDRLVWAGDM
SISLETAIVSTYDLPSVRNSLEALLALQTADGRFPYASLPFPDQESFTYHLHTLINSANYCRY SAD
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GRWTLQ

>g2044

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DIGSGSLWQTAIDQSTILCIDQAEDDFLHIYERIDRNTD VQLDWVPAVLLPFQNSTGVSP PWKLSP
RLIPRLQREIAQFSMIHNIQSCVQRTAWERSLITTPWQEVHLP PGTRHELELEVPHYMTAFLRFCF
QRPQVGGSTVVITYAESYEDPPTLV PYLRRKGQRCNVSKSLFGPQDTYVFGSSRCLGLCYENDED
VDETFTPFHFR TFRFIRISIEVSSASELVFKGIDVQRAKYPLDVLATLKVNP NESVTAMRLWDISI
RTLENCMHDCYEDCPMYEQ LQYAMDTRSSALFTYYISGDDRLAKQAI IQLHNSFQPRGLTSSRAP
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FHDWAEAWRPYGI PPAVTQTGISTYSNNLYAYTLQQASILQSTCAERDTIAQEYILRSQRVVEAVQ
KFCFDGEFFSDTVVTASSDKCHHRSQH NQVWAVLSGASSGKQGEDLLRRTLSPVTGQLLTPASISM
SFYTLRALSMVGGDLYEESFHRFWGPWNTQIALGLTTWEEDSVSQRSDCHAWGSAPIHEYMAEVIG
LRPAKPGWTCLEFQPRLSLYREIEATVPFRYNGSTALAKVSWKTSPSNEIVVSMKALGIPTAIPVS
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>g2045

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NALSSVDQLYRQKLFWAIYMLDCYIYITTSRPSCLRNEQVDSIFYTRQLIWRMPASDTTLTPLYVC
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AAALNFVPSIVMLHAYYHALVIH THCLLSDPPYEALLSQPFDDTRADSQVRCVCSVNILTDIASRW
TAKSYDKLGWPIAWAVWIGARYLLVQETHGRHLA PEKFSILLNCLRRMSPYWQISGKYWRLLKQAT
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PENNYFNLTDP TSDNWFHIPLFSSSAYQQDHDESL

>g2046

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VGAPYITEIAHPAQRSTATAMFLTFY SVGSIVAGWCTFGTFHINGTASWRIP SALQGFP SVIQLLF
VWFVPESPRWLISKGRNMEALAILAKYHGE GDEDDAVVQFEYTEIQGALSAEHSTADLTLLSFLNE
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GLYIPEILPFHLRTKGLSFFYFVQFSFMILSTFAVPIG LENIHWRFYII FVVWVIVEFIGVYLMFP
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>g2047

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IMAAIMAERHPSLRITLQICENG NKLKHGADSSKN NYSNIHQNSITQSNSPFVPMVTGRRQQGPPA
AEANSNIFLHRRAPGQPQT IKNVGVYIILCLPSPSPRNGLSFHAIQSRLIAELRAHLGVLRENSSTM

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>g2048

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>g2049

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>g2050

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>g2051

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ERYVKEINRVTAVLEKHLSEQKVPESGDGPWLGVGNKYSFADIAWISWQRLVTKIHSVEEYNPDDYP
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>g2052

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YGSSWYHSHYSAQYADGVFGPIVIHGPTASDYDLDIGPVLVTDYYHLNYTTINERAFSSNFSVTV
PGVNSLINGRNNYNCSLVDEGDTSPCVSNAGVSTFQFTAGKKHRLRFVNAGASALQTISIDGHNL
VIANDFVPVVPYQTQYIKLGVGQRTDVIVEGLPDATGSYFLRSQSPAKPCADTIQPNATAIYYRN
EYLPEPDPWPAFTDAVQVCANDPLETTVPLYPIASPSNPATTWDLNITLAQNETGSYLWYMNNITF
RGDYNHPILLLSNLGNNSYPNPEWNVENFGSNSSIRMVVNNANPRTHPMHLHGHNLYLVEAVNGTW
DGIITRPDNPQRRDTQLVPGNGYMVISFTADNPGAWPFHCHVAWHVAAGLYVTVLERPDDIANYKI
PSTVAQTCRNWWAYTNATVVDQIDSGL

>g2053

MANTNDTIFARDKGFWENYLGRPRAPDVFFERIFRYHEESGGQFGTAHDAGAGNGPYAQILRSKF
QRVVIISDIVSENVKLAKDRLGSDNGFTYRVAKIEEASDIPCYSVDLVFATNVVHFADQKLTAQAIS
NQLKSNGTFAAGFGPARFVDPKVQGAWSGIYHQGGRAVLKTSDELEETIKIMERSSSNYNVVPLD
EKFFQPGA KRIHLNMDQGGLTPLLPEYGGQKASEPDYTGPNDIVTFENEDGWSFKTDLGLKEHFK
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>g2054

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SKRLIIDTAQGIPEWADLIESTLADSHVHLSEVLLTHWHGDHTGGVPDLLRLYPYLENSIYKHSPD
RNQQPISDGQIFKVEGATVRAVHAPGHSHDHMCFILEEENAMFTGDNVLGHGTA AVEILPTWMESL
RIMRSHNCAIGYPAHGEVIRDLPSKITTELGSKERRERQVLHALRRIKSEEQSAGSGKGSVTVKQL

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>g2055

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SFLAGLGIGLLATTAISLSSTLADIPVAGAEVTRLAFRLGVLVDDISINLQQRDWSSPDTPDSWAY
VIPNVEADVQKELDIHAKKAPASKIFISALSQTSVTVSGPPARLKNVFRVSDFFRDRKFISL
PVFSGLCHASHIYDEKHVREVVRKSPLDSSFKYSPGIPIFSTSTGRPFESTATELFEVIHEILT
QKIQWEKVVDGIIENANNSGTVDVQVLVFRVSLPIHDLVEAVKTHLPQANATTDELISWAHEGSL
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SVSNVYAPITGNRRHRSKQPLYIGAVKANVGHGEAVAGVTALLKVLLMFDKEMIPPHVGVNRNGINPT
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VNFLSALRFAKDISIIDETQVWIEIGPHPVATSFVKATLPSVNVTVPSLRDEDNFFTLAHSALAL
HVAGVQINWSEFHRPYESALRLLDLPTYAWNDKNYWIQYNGDWALTKGNTFYNAEKGLAAAKTPV
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GMQSVVLHQLEAFADV KLTEEKSGTWTVPYFIDSAHLAGFIMNVSDAIDTKRDFSVPWSSMR
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GTAAAAIAPKPVISTPAVTVAEPAKPDPSPEILQPSSTAPALGVNSIDSDSTAAMLLVANEAG
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>g2056

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IVSECIPLLDAPKALEAFHNLLRPGGTVAIYFYGRPIFTDADD SGKLNAMYDRIATRICQFLLPFK
ESPGFPIHQRAAEALISYLDNIAFPAAEWSDVVRYKWNVDVPLLNSKEGYDFDFAPVDRRQEGEI
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>g2057

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EQVLQEYVFGRA PNAETIFAQLYEGAYHPIIHLGFGVEFELPTIIAEGLAQAAVHDSAGLEAFFNE
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PTELERATAEMINLSAYSAGAAQRPGKKRKIDFFHMHNVNCSIFFTAFNNQSWISLEDKVRLVERK
ARLDLVWYAASAAAEHLLEAIVNYKPTFSAGLDWKGLYDAVNKTHDDGHVAKFVRAIKNGEEVSKP
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>g2058

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CADPDPNSLVPIVKRKVGNRVNGMDPDDY LKIGLEAWPNASDPNSRIHKWVLKDVPMLVDWEDPSL
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GEGIFTSDIVPNLDNPARRDVANCPLNGYLWIAFQVNNPGAWLMHCHIAWHASDGLSIQYIEQPSK
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>g2059

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>g2060

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GLAWGSQSLFLSVASEILPRKYRGIGQASVNISSGLGGIFGLLVGGALIRQIPGHFRIFWYITCGI
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>g2061

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EGHEAVVKLVLETGKVDINARDVIDRTPLFWAICRKHEAIVRLLLETRDVEDVNLTDNEGVSPLSQA
IKNCQKTLVKLLLAIVENVDVNSRDCIQGNTPFSYALTPALSQRDKEYMELLLETGNVDLNCKDNDG
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>g2062

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KPDLEWTDTSAPDPRLLVHIKAHRNVVPVPTHWSLKREYLSKRGIEKPAFALPKFIQETGISEM
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DATHAQSGLETPSGLVSTVPSEFGTTESIGGEFVDRKHHRGTETEDITQPKAAVRVPEQASRVSG
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>g2063

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>g2064

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IDIAAMPQLLPLAFDFVIEKRLMNLKADEGKLVEQALDKQMLKRQGLRDWDRLQRESALNALRSEL
AEHLQRMTEEDRLEDLFWTFTDSLYNTVFKILFIGSSSTYTIYMLNDYKPTQDPNTDTFKVEYLL
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>g2065

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PYGTQ

>g2066

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DLEFPDMDMELSLKANGQESFPESIHQIHTPLMSSPAKTRGSTEPSPFGRGVGTTTTPQSTTDAKDTI
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FARDTNASRIAREQRIASLSLPTNRNDSAPLAPLSTNWKGPQTPRQTDMSLTARSKKGKASRPGGS
KPQLIKSMGVSEAKNVQGMQYNPSTYRWEGNENEVAEFDaintPRSPKVAPALITSVGTIKGAQVV
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>g2067

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>g2068

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CDQGGECDLQDQSMRYGADRGRFHETEGKRAVEDKNIGPLIKTSMNRCIHCTRCVRFMNDIAGAPE
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IRVDSRGMEVMRVIPLRNDNVNEEWINDKTRFACDGLKTQRLTTPILIRREGKFVPATWEQALTEVA
SAHARLSPRANEFKAVAGQLVETESLVAMKDLANKLGSNDNLALDQPNGSAPIAHGVDVRANYLFNS
KIFGVEEADAILLVGTNPRHEAAVLNARIRKQYLRSDLEIGLVGESFESTFGFEHLGANVSSLQSA
LSGEFGKKLASAKRPMIIVGSAIAEHDPDAKSVFESVGQFVEKHASTFRTDEWQGYNVLQRAASRAG
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SGTYVNTTEGRVQVTRAATSVPGAARDWKIIRAVSEFLGSPLPYDDIEALDRMEEISPALRRYDL
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>g2069

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WAAIEKVKEAGKAKEIGVSNYTKAHLETTLKTAKIPPAINQIEFHPYLQHGDLDDYHKEKGIATSA
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>g2070

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FGELIGGAERVDDEEFITKGVTEEFQILIKRAETLINRTGEEYKTVFKNEYVRLMSRRLGLLTSK
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>g2071

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>g2072

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FAIRFSQESTSDATITAIASAPPYFLTISDHKVFNLKYIPSHVTQNEEPAPNQLRLLASLESNNTF
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T

>g2073

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LWKFADEID

>g2074

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>g2075

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>g2076

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>g2077

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>g2078

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>g2079

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PRTVAQAERLDDMLAARSEKLQHAVELQIDALLVARITGRLVHPASGRSYHKIFNPPKKDMTDDI
TGEPLIQRSDDNAATLEKRLATYHAQTAPVVDYKKTGIWRGIDASQEPGQVWKSLLGVFQPSSSI
LSKVGLSK

>g2080

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QPKEVGVPTDAYFAVEEIKDDGTTSTKTFVHTPSIIIEAEEAEEIGVEHLLRDIRDVAVGTLNRI
GQLQSLQGLHLRLRDIGQYLQKVLDEHELPINHAILGNLQDIFNLLPNLSTPKSANEANGTESDIEN
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>g2081

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>g2082

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>g2083

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>g2084

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>g2085

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>g2086

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>g2087

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>g2088

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>g2089

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>g2090

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>g2091

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>g2092

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>g2093

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>g2094

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>g2095

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>g2096

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>g2097

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>g2098

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>g2099

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>g2100

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>g2101

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>g2102

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>g2103

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>g2104

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>g2105

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>g2106

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>g2107

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>g2108

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>g2109

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AYRCHGFALMRGGTVKSIIGELLGRREGIAYGKGSSMHMFAPNFYGGNGIVGAQVPVGAGLAFAQQ
YNGEKTCSIALYGDGASNQGVFEAYNMAKLWNLPVLFGCENNKYMGMTSAARSSALTDYYKRGQY
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RGRTIDETFY

>g2110

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QQQQQQQQDHNFSRRDSRDTSSQREIERLTNNSRRQTSHSRQDSGNTGVASSGEYTDGQQQSTG
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>g2111

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>g2112

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>g2113

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>g2114

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>g2115

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M

>g2116

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>g2117

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>g2118

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>g2119

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>g2120

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>g2121

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MIFVSDVVTLEERGKYQGIIGACLGVANIVGPFMAAGFIQAPVGWRGFFWTLTPIVASGGAVCWFV
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IEWKVARIPMMPMNIFKNQSIVALLLQSFLLGWVYQSYLYYLPQYYQNIRGYSVIVSAALSIPLVF
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>g2122

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SATTAILGKAYWNVWDL
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MILAI IATNAGTNSLPVGADT
SGLFPRYINIVRGQVLCALLAPLCV
PWKIIASASSFLTFLG
SYTVFLMPICAIMVVDYWIIRKGNFHIP
SLYTKAPGTPYAYWHGWNPRAL
VAWVCGVFVHVGVAGSLH
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>g2123

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PIDQNR
AVRDN
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>g2124

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YSTLYPKVVNLMRKLRDDYDKALEQYDVLVMP
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>g2125

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>g2126

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>g2127

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>g2128

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>g2129

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>g2130

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>g2131

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>g2132

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PAIQVVARQRAKASEQEYIRCAVSLVASEVPRSFEANSWDTIRRLGPHVRLCWDYVVRGAWGSDTN
LTDLESRLGRVFRHIGHYSEASIIYRMIEHGLGFLPPTRDNNEFLANVLTNLGLVYTRQRKFNALG
AYDRSRRLMTKLDILTPIESMSIMYNEAVVFMMTERLNEAESLLQKAVTLVSENTIHGHTWRNEW
NVLYLRILNDMGEVSLRKGAGEAALKFFRDVYDSQRAWHDELHPTLYSIKLNMGALTKLGRFAEA
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>g2133

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RQFTSQGLMGVPGKTQYGDLAFFGCMFAWGITECIRYGFFVLQLGGLSVPGWWQWLRYNFTFFVLYP
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>g2134

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REVRDAIGAIVLCVRNPSLSISKAVPREALELATAATTSTTTAGSSLTLQSAIEQDGM DAGDRQDV
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EEEGLEAEFPFSSPWWEELLYEQGVFGMEVIRWTPSSSSGANMDVPETRNIYGELEGLPRLKEVLS
THEWTAASSTDNDDGDDDDDDIMSFNLGGTRRDESTGFRFEVNQLEREMMGLRFAINGGDDDDN
DGNDEEEDTELQVENLEALMMRMRAIKGLFRSKYTCKNGQADFVEVDMSSDLPESKRKAFAAKAVK
DIMREF

>g2135

MGKLTSTIGIPIKLLNEAQGHVVLTLEITSGQVYRGKLLAEEDNMNVQLKDITVTARDGRVSHLDQV
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FPIGGYP

>g2136

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TLEDKLAHLRISVFRVQKPSTTTSKIDGAAGPGGRRKPF CGPDVLAWFRERGVDRPDEVVVVVGDR
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TI

>g2137

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YLAMHFDPHKPGARELXGXANGLGGLGNGFGAESTPGKIVIQHFXCRTLSIGSWRRIGQNAMD LVI
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CSNSGGFFQCGDFTEDQQASRVMTHHLGGHPKVL SVQLAKLV SLETFQNR LDFNYSVSAPITPPQD
IHRPASQPNRFTLAQMGMPD SHLSVNHM PRGHKRQRSR SVPA AIDLSYLHTPIAPFHIQQPSVSH
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AITGNPGDQFNMSYMSPPMMEQKMMSQPPTSMANF SHADPLIANHSPPLSTMHNTISNDMFNFGG
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>g2138

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NMNFDASSNPPLTPHALSLMSMYSLIILLYRPFVSDGHVNAISPSAIRDAFTTCAAAASGIDATL
RVYLQRFCITTVPYFMSFATYVSGTIHVRIAAQSGRESEAYKSL ENCLDILSQQQSVCRAPRRARR
ILLGLARRLNVHIDDSSASMGNTRMNSDTNLDAPMHASTLENPQSD FELLMSGLDIDAI IQSFEFD
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>g2139

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ASPLVQKYNISQGLPPFQPFKTVTKSFSEPLVAQPGTIWEYGS GMEWAGRLITHLTGQSLEQYTQQ
NIASPLGIRD LTYFPHKNPEIDTAKLVPMTRDPSTPNGHGGKLIPDTAPHILSEATEEMGGVGLY
TSMASYIKILHSLLVNDGKLLRGETVDTFLFEPQLSASSRESLQGLFSHIEPGQESGAPPYVGTF A
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>g2140

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GLAEPKFNVDTTAFTGSWGRPQRDGPALRAIALIDFGNWLLDNGYSSYAVSNIWPIVRNDLSYVSQ
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TSCTTPTSVAVTFDEIATTTYGENVYISGSISQLGSDWTSKAIALSASEYTSSDNLWFVTISLPAG
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>g2141

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PIVRRVD AWALEAQDKKKKEKEQESAASIENDTSIANPKKTPAERRKYLLDVLINEPFVQGASATVL
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EALTELARDYDAHASDISSTS

>g2142

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LCTSDQPSHFTCAGDGYPLYTSSLMWGLLGS DRMFNSLYPLFKWCFLIGFAIALIFLVQGGYGRY
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>g2143

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GVFPYDRDVNDGSMVGLTSHPNITDRDANMRYDAARAYYWPYEDRSNLKIIISNTQANKIIWAEGSQS
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>g2144

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DAFARIWGTDELIVSFD SLNITFPNRKDVP RKGSWEHVDQSPLRRGMHCVQGIINLSTAGPDDGGL
VVYPGSHNYLEEFLLTQTDPSTWESKDLFWFHAEQLAWFQKEKGIQPHKVCADIGDLIVWDSRTIH
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>g2145

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ITSNTAGFTKKATTTAVVFVAYCAGNIVGPQIMFADEAPSYP SGFAGMLVCFACSAVITMILRLYL
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>g2146

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>g2147

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>g2148

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SAIVLF VSIGGWXLWNMILSSRYNDAKSGKSIYDVRGNFLTRIGRSLNFWAVLFLIVAAVLLFET
TVTTLFRQ YFFPTDVDVFQHLEKDP AIKRRFEAAAASELQQGWDRDSSNIRSSLEMAREEEEQLARE
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>g2149

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LMREWNVQG EVAMD VIKLALFDTVIYVDDSGSIQFEEEGSRLTQLRQILGLISTAASKFDQD
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DPSLGNLIDCTSSFEVEQDEMSRANP PVNLTRELWVAKVMLGAIDAS YDTKDEKSQAPPP
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>g2150

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EEEE LGNEYNDLRINTWAIDAQRLWQREGDLTRARKPTREDLESFETS YNAACASLARGDLKQ
GEILLKR AKELCKTSEDLSPEEQESELLPITIQQLYALISQKVEEAEEIASEISLDNIAEKST
TRIAQN NIL ITQHLNINPYTLHKQFHDASEPEGSDTFFKFQLD TLEANSHALDLRVQKYD
GVIRSTTKALAQRPY PSTEPHDNLLSIYNAAARVRGETNQKAIQDLRSLDDRPKDIGLVLT
IVQLYAGVGNTTSAINVLE SSLRALEESISESDQAVRYNPGLVSVLIALYQREGRKSHIKTE
LAKAASFWRQQSSEQQPSSLLRA AAASLLHSSXPADLAISQELFSTLRQKNAADKFALAGY
VASYATSDIQKVQKELSILPRSQDLVSD IDIAALESAGVPQS QASLAANA AVIAGARKRAAT
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IVNEKAEAEKPKVATPGTTS AKKKK GKR

>g2151

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TG AVTFVPDVLENEYALQAWFPDNEEKRN NLTTFFKETAAPPVVL PKVNAWIAEAKXKYP
SVEKWGI LGLCWGGKIAILSSTEGTEFVVSQG VHPGLYDGADAKNAVIPHVVLASKEESTD
VNADYKAVFDKS TLGSYIDVYPTMHGWMGARSNLDDPENKKEFDRGYKEIGDFFAKYLLK
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>g2152

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ATAFNLTS

TAFIPVFGQLADTFGRYASLQFAAVMSLIGSIICATAPSWPALLLGRAFQGIGAAAXIDNVTMIILA
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KLSVYHPPSGQTPTAAIIEGLSTLDYGGIFMFVTGVCLLIMGTTWGGATFPWDSAAVISSLVVGGI
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VKAYTASEAGTKLLYYIPGLGIGVYAAIRCCNHWPRQTFWALCLGTIFQTVGIAVLAAAVKFRDEK
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TGTSGANGYGSPTSQGLDSINVISSLPNDQQDTIRRQASTAIMFAFISIVPITALATILVMFLGNV
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>g2153

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LGGLPPITFNETFATTPILITSITGYPKAYDFYTIIEVDSINLKGKALSGGSGAKYIVDSGTTLNYY
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>g2154

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>g2155

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>g2156

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>g2157

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>g2158

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FASNGRTGLDANSILGVIETFDPEASSCDDATFQPCSAKALANHKA VTD SFRSVYSLNSGIAASSA
VAVGRYAEDVYQGNPWYLATTA AEQLYDAIYQWKKIGSITITSVSLGFFQAIYSSAATGTYASG
SSTFDALISAVQTYADGYMSIVEKYTPADGTLAEQFQRTGAPLSASALTWSYAALLTAAARRAGT

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>g2159

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>g2160

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>g2161

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>g2162

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>g2163

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>g2164

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>g2165

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>g2166

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>g2167

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>g2168

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>g2169

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>g2170

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>g2171

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>g2172

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>g2173

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>g2174

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>g2175

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>g2176

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>g2177

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>g2178

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>g2179

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>g2180

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>g2181

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>g2182

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>g2183

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>g2184

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>g2185

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>g2186

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YAALNLWNFTTINIDNSEENIDLTNPDNIYTINSFTATDDERWFLVSVAMEACGAKMIRLVLD SI
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KAAARFAD

>g2187

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DAAISKELQEDLKTAVLPLEQVP EEEKDYHPGSDQRVVDLVHPSLFPVVYGRTRILRDEILTRDGF
LSWSGKTETL PKPEDPEGTLSSSTGWGHRVKLYSTS FQWLPCEVEFDEAEGCRIVSYINN LHPQQH
EALYQVIEKVIAKI IPLWDESLHEAVSDPKARIPYESVEYLPPTDPEPDWEEDPERYDAWQAKQEI
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>g2188

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>g2189

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KMMKKSTRRG

>g2190

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>g2191

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>g2192

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>g2193

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>g2194

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>g2195

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>g2196

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>g2197

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PREGWVEEIEIIPPEEPRLVSVDTQERQQVFS LERTLEEPRLISVDPKKKRQAFSLEATQEKPRVV
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>g2198

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>g2199

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>g2200

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>g2201

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>g2202

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>g2203

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>g2204

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>g2205

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>g2209

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>g2210

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>g2211

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>g2216

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>g2217

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>g2218

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>g2219

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>g2220

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>g2221

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>g2222

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>g2223

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>g2224

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>g2225

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>g2226

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>g2227

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>g2228

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>g2229

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>g2231

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>g2233

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>g2234

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>g2235

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>g2243

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>g2244

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>g2245

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>g2252

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>g2253

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>g2259

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>g2260

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>g2261

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>g2262

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>g2263

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>g2264

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>g2265

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>g2266

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>g2267

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>g2268

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>g2269

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>g2270

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>g2271

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>g2272

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>g2273

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>g2274

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>g2282

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>g2283

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>g2284

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>g2285

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>g2286

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>g2287

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>g2288

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>g2289

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>g2290

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>g2291

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>g2293

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>g2307

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>g2308

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>g2309

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>g2310

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>g2317

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>g2318

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>g2319

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>g2320

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>g2321

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>g2322

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>g2323

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>g2324

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>g2325

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>g2326

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SNSRK

>g2327

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>g2328

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ATS

>g2329

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>g2330

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>g2331

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>g2332

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>g2333

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>g2334

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>g2335

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>g2336

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>g2337

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>g2338

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>g2339

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>g2340

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>g2341

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>g2342

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>g2343

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>g2344

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>g2345

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>g2346

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>g2347

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>g2348

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>g2349

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>g2350

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>g2351

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>g2352

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>g2353

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>g2354

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>g2355

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>g2356

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>g2357

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>g2358

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>g2359

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>g2360

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>g2361

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>g2362

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>g2363

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>g2364

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>g2365

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>g2366

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>g2367

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>g2368

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>g2369

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>g2370

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>g2371

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>g2372

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>g2373

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>g2374

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GMFAVVDAIVNAGLSSKTKASNSLAVTAVRLSLLGQDPEGYAKACMALARS AEETLDVAQLPAECK
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>g2375

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NDNNLALCQRA

>g2376

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>g2377

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>g2378

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>g2379

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>g2380

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>g2381

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>g2382

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LLLYWNITESSILGAPPFNF SVSAVGYSNFAFMVGG LVGLATGGTVSDWIAQRATIRNNGVREAEM
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>g2383

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>g2384

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>g2385

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>g2386

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>g2387

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>g2388

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>g2389

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>g2390

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SKYDLWR

>g2391

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>g2392

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>g2393

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>g2394

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>g2395

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>g2396

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D

>g2397

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>g2398

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>g2399

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SALESRK

>g2417

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>g2418

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>g2419

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>g2420

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>g2421

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>g2422

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>g2423

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>g2424

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>g2425

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>g2426

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>g2427

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>g2428

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>g2429

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>g2430

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>g2431

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>g2432

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>g2433

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SPDMDDKFGGEGDDDYANFEQQRQVEMMAAQDQQLDG VFRTVGNLRLQADTMGRELEDQAVLLDD
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>g2434

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>g2435

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>g2436

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>g2437

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>g2438

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>g2439

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>g2440

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>g2441

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>g2442

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>g2443

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>g2444

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>g2445

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>g2446

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>g2447

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>g2448

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>g2449

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>g2450

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>g2451

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>g2452

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>g2453

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>g2454

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>g2455

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>g2456

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>g2457

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>g2458

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>g2459

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>g2460

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>g2461

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>g2462

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>g2463

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>g2464

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>g2466

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>g2467

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>g2468

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>g2469

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>g2470

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>g2471

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>g2472

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>g2473

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>g2474

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>g2475

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>g2476

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>g2477

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>g2478

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>g2479

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>g2481

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>g2483

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>g2485

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>g2486

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>g2487

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>g2488

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>g2489

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>g2490

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>g2491

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>g2515

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>g2516

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>g2517

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>g2518

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>g2519

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>g2522

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>g2523

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>g2524

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>g2527

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>g2529

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>g2530

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>g2534

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>g2535

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SRRSQSPSSYSEDGVNQKWGILGKIPLLPRVFSDIYSFASAHFEIGDDSLGGTPYIPLGTSVGRP
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>g2536

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ADEDTDTEERRKSRRRDGDKSDVEERRRPMLKEERELAE LLRDHDEDEDPMKEYLIQEKKEEVARAL
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>g2537

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LLTPQSVPETLIVILLDWSSPWTWVRQLREWIRLLRSVLISLEDSTKIVMEEVMTEWKDKKRGLDP
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KHGASLIYTT PFLANSLQSLVHSTLGIHSLRRQSLKHNVIDRDKVLVPANWDSWGKIRIIREGFD
IEGVGDAWSIEIQQSTRHLVNGGSQDEDAETKNAPISPIAEDGTSAVAIYEQT IKDPKEDSAVPGS
SVSANRNKIEIETEDMQKFLGQQLTMLDQLKAEDEKNREAEKAPKPLEMSPHLDESGYVNEHIGPV
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>g2538

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FVAAYAEILRDGVDAIRKVF EHVDRPQDAFLVHCTGGKDRTGVLVALMFLVAGVRDRDLIADEYS
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>g2539

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>g2540

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A

>g2541

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>g2543

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KQSARDILREQSKILTESDISSDDPPHYKYTLRGFCTAPHITYVLRKDTPIQTEEDLIEMEDKEPE
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>g2544

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>g2545

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RTIDSFALNKEGNSYHNSRPQSNAFGTRPGTTVSQPPQMYTSAQLNGFETSSPMSGYPGGPPGSDK
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>g2546

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>g2547

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INVATPPGHPASSNSSAGAAHQXPAMSVLTTGKVPPLSPGSRPSRHPRRPPFARHTTASPTLVA
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>g2548

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>g2549

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>g2550

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>g2551

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>g2552

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>g2553

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EYLGQDYDYVFDVDIEDGKPLKLPYNLSQNPYEAATKFINDNELPIGYLDQVANFITQNTQGATI
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>g2554

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QGNT EIKPEETATQALYAAVSACS NLHPDPVVPGEEGDEDYDGN YEDSTEQPGFGGTLQAAGLVIP
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>g2555

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>g2556

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>g2557

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PIQHYLDVVQTDLDATWYCARAAAAHWRRQKEEGTD LNGNKNLENFTYGSFVATASMSGHIVNIPQL
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>g2558

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>g2559

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>g2560

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>g2561

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>g2562

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ERHGRDVL DWMPGSELACKELMEMVLQFICARYPQYFSIRNNRILVNKILETEQDIRSKHPLEILM
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>g2563

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>g2564

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>g2565

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>g2579

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>g2582

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>g2585

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>g2588

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>g2589

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>g2590

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>g2591

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>g2593

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>g2595

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>g2596

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>g2603

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>g2612

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>g2613

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>g2614

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>g2619

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>g2623

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>g2625

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>g2626

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>g2627

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>g2629

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>g2631

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>g2632

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>g2633

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>g2634

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>g2635

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>g2636

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>g2637

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>g2638

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>g2641

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>g2642

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>g2643

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>g2644

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>g2645

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>g2646

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>g2647

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>g2648

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>g2649

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>g2653

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>g2654

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>g2655

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>g2656

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>g2657

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>g2658

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>g2659

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>g2660

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>g2661

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>g2662

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>g2663

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>g2664

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>g2666

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>g2667

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>g2670

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>g2671

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>g2672

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>g2673

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>g2674

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>g2675

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>g2676

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>g2677

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>g2678

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>g2679

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>g2681

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>g2682

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>g2683

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>g2685

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>g2686

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>g2687

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>g2688

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>g2689

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>g2690

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>g2692

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>g2693

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>g2694

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>g2695

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>g2696

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>g2697

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>g2698

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>g2699

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>g2701

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>g2703

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>g2704

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>g2705

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>g2706

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>g2707

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>g2711

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>g2712

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>g2713

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>g2715

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>g2716

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>g2717

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>g2722

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>g2723

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>g2724

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>g2725

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>g2726

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>g2727

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>g2728

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>g2729

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>g2730

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>g2731

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>g2732

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>g2733

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SY

>g2734

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>g2735

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>g2736

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HVFRPRADLGRCLFAFLPTLGALMIAISRCEDYRHDVWDVTAGAFLGSTVAYFTYRRYPSLRDRR
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>g2737

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QWAHC

>g2738

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>g2739

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>g2740

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>g2741

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>g2742

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>g2743

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>g2744

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>g2745

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>g2746

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>g2747

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>g2748

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>g2749

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>g2750

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>g2751

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>g2752

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>g2753

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>g2754

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QSN

>g2755

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IEPRPDVNTGPTVSLAGGQYQVPSNQALIAVLGAVNRDPAVFDDPEAFRPERMLGEAYDRLP SGVK
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>g2756

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>g2757

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NINHPSHIFLVICFNLYLYFNVNHPNHI FLVIHISPYFYIDCFIHLNPFYFYIDCFTHINLYLYFYH
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>g2758

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RAADWGPIFNDGESANTLANSLISVNMSVMREETWANDTLPSFV PARANAELAWIPAGEYGVLVAI
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ARDDSSFNVYIYGGYDGINQSSIPSDDVYILSVPQMIWTHAYTGQSNHGGIYENNPVICLQAGLAE
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ETQASTTGIRGFVLRWLYGTAAQDTKSQPD LAVADIDGATVVSSK THERHVSEAGSVALHEIDNIH
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>g2759

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VCDA

>g2760

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>g2761

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>g2762

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>g2763

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>g2764

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>g2765

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CA

>g2766

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>g2767

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>g2768

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>g2769

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>g2770

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>g2771

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>g2772

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AQK

>g2773

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>g2774

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>g2775

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>g2776

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>g2777

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>g2778

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>g2779

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>g2780

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>g2781

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>g2782

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>g2783

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>g2784

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>g2785

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>g2786

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>g2787

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>g2788

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>g2789

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>g2790

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>g2791

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>g2792

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>g2794

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>g2796

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>g2797

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>g2798

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>g2799

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>g2800

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>g2801

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>g2802

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>g2803

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>g2804

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>g2805

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>g2806

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>g2807

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>g2808

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>g2809

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>g2811

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>g2816

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>g2824

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>g2825

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>g2827

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>g2831

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>g2833

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>g2834

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>g2835

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>g2836

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>g2837

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>g2838

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>g2839

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>g2840

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>g2841

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CT

>g2842

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>g2843

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>g2844

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>g2845

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>g2846

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>g2847

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>g2848

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>g2849

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>g2851

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>g2852

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>g2853

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>g2854

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>g2855

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>g2856

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>g2857

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>g2861

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>g2862

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>g2863

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>g2864

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>g2865

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>g2868

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>g2869

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>g2870

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>g2871

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>g2872

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>g2873

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>g2874

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>g2875

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>g2876

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>g2877

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>g2878

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>g2879

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>g2880

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>g2881

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>g2882

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>g2883

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>g2884

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>g2885

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>g2890

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>g2912

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>g2913

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>g2914

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>g2915

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>g2916

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>g2917

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>g2918

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>g2919

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>g2920

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>g2922

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>g2923

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>g2928

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>g2929

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>g2930

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>g2931

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>g2932

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>g2933

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>g2934

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>g2935

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>g2936

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>g2937

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>g2938

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>g2939

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SSTYIYQIQQLLEDRAQIHDVAFATTIIASLTWVLYIALQALKSRYQKTETTRPSTPDVEKNKRK
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>g2940

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>g2941

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>g2942

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>g2943

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>g2944

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>g2945

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>g2946

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>g2947

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>g2948

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>g2949

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>g2950

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>g2951

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>g2952

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>g2953

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>g2954

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>g2955

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>g2956

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KLNEY

>g2957

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SAIST

>g2958

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>g2959

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>g2960

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>g2961

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>g2962

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>g2963

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>g2964

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>g2965

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>g2966

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>g2967

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>g2968

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>g2969

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>g2970

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>g2972

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>g2973

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>g2974

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>g2975

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>g2976

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>g2977

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>g2978

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>g2979

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>g2982

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>g2985

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>g2994

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>g2996

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>g2998

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>g3001

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>g3003

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>g3004

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>g3005

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>g3006

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>g3007

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>g3008

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>g3009

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>g3010

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>g3011

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>g3012

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>g3013

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>g3014

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>g3015

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>g3016

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>g3017

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>g3018

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>g3019

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>g3020

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>g3021

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>g3022

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>g3023

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>g3024

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>g3025

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>g3026

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>g3027

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>g3028

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WKS LVGGYFRRFKPAYFSCIGRESAPRDLSQLGNSQSRQASIDGVSMEEVMEYAFKADLDFVSA
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>g3029

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QGLISLDLASHYMHMYATLSMGGAGKSHKAVDSSRSWILHKYYTSRTVLFIFCALNELFFIGLYLL
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>g3030

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>g3031

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>g3032

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QDPNAIVSPSDGKILSFGMIERGEVEQVKGMTYSLEALLGEASPSRAAIESHGIRPADMEHEPGNV
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>g3033

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>g3034

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>g3035

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LL

>g3036

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ADEAAKL

>g3037

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>g3038

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>g3039

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>g3040

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>g3041

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>g3042

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>g3043

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>g3044

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>g3045

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>g3046

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>g3047

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>g3048

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>g3049

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>g3050

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>g3051

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>g3052

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>g3053

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>g3054

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>g3055

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>g3056

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>g3057

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>g3058

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>g3059

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>g3060

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>g3061

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>g3062

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>g3063

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>g3064

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>g3065

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>g3066

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>g3067

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>g3068

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ILLSC LISFLWLRTAYSEFMLLIGVTADTQMQLITYISMTHSPAITAIDTVRAYTSGPRLVVEVD
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>g3069

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>g3070

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>g3071

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>g3072

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>g3073

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>g3074

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>g3075

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>g3076

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>g3077

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>g3078

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>g3079

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>g3080

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>g3081

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>g3082

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>g3083

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>g3084

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>g3085

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>g3086

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>g3087

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>g3088

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>g3093

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>g3094

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>g3095

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VEASATTTTTTAGYTSSSLTSSSFTEPSSSTIDSQTSTGSTTGPSNVSNSSGLHGGAAGIFVGC F
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>g3096

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LKEVYEDFTDLYDMLVDRTSLTTRTTDMATEDLDVPDPIEAVTRAMRRMMSEYDRSTPPVQPPPIPF
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>g3097

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CAGNIAGPQFFKTKEAPVYATAFRAILICYVLA AVLAGSLRFYLAWVNKRRDREEGVVVEDTEGGE
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>g3098

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>g3099

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LQLLITRGADVNRDNRKRNIHLNLAADKQCDWGDVNVNLLRLTSCEIDARDDLGRTPPLHWACTTG
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>g3100

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>g3101

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DITPEEKRASKFFRLYGVALLSDMVLSPASGALASIQPWWPARFGLIAFIMAILTTVLVLPETFVK
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IGETIGKIANEPLLTGSFELGMRVGGLLLGLPFVATGVLLTITALGRPPSPFHLVPVLDGSGYPQLD
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>g3102

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TAFSYEEWKTNRHNDKAIIDIVRHRNNWAPDRQPFKPIIPPHSPYTISLQDTFRKQGLQIIVKMEN
IELTPQNPTYTND SWQLDGO LNEHIAAVAI FAYDVS NITSPKISFRQNTTLYGDFYQILEELYTTG
NYDARTLRAHRCGKG YGQDLWAVGSILGYENPWHLSIDYNGMLS YQDIGSVATPQGR LITFPSVLE
YKAEPFQLLDATLP GHYRSIKMFLIDPHYRVCSTRNVPPQQHHWWTQEAGKELTSAGLPYELVDEI
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>g3103

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LVVFGMMAE

>g3104

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FMWSVFLAADWNNA AVILQYWVPTTAVPIWAWYLIFWALFSTITTLGVGFYGEVEYFFGMFKFIAL
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GEVFVYITDFGGTAAYIAWAAITFTQLRVRAAAKLQGIDRKTFPFVAPGRSWIYWANFVFNIFILL
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>g3105

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TDGKIVTPHFQSKI PAEKYLRNPENG MADRTTFLHVGLYASVFQRMPTPIFVKEAQKYIITLPCA
TQTKIPFVGDETLNIGLIAHSIFMQPEKTLGQTVSGAIEYLTGPEIALAISNALKKIASQHPGA IQ
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>g3106

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>g3107

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>g3108

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>g3109

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>g3110

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>g3111

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>g3112

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>g3113

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Y

>g3114

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GQQRL

>g3115

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KDRLYA

>g3116

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>g3117

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TKRET LAVPSETGETTADPGAPIKLRKRVYLGVLVHPNHQKRGIGRQLLQWGLDEADRLGLVTYL
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>g3118

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>g3119

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>g3120

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>g3121

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VLNATPAAAYFFPQALESRQLMHDLLTQAGGSGADVrgIFLRAVASTIHSLLYGFRIRELNDPVLr
AIVRLNDEFSDFIQVGAHIVDQFPVLNHLPGFLAPWKVKAENHYKTKYELRDKNFKEGLESdawnI
SKHLKKVVEKDDALDMPLHELAFELGTMIIDAALDGTDSLIFVvACITQDQNFITKARKQLDAVV
GRDRLPGPDDKPNLPYITAIVEEIfRWRPAGPEGVPHLNKEETIYKGYRIPKESVIVPNVWTISRE
ESLFGPHDPDEFVPDRWLEADGTTFKALPAAAFGYGRRTCpGRYFARNGIWIIVVAQLLWAFDIKAG
LSDETGESVDVDPIACTYGLVMRALPFKARFVPRGPVWSEIVGRDGDtyGVdYEDLLNEIGLEFDK
Q

>g3122

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GILSAKEVNITEGYDVKGLLREIAEKGFSAEEVALAFCKRAAIAQQLTRCLTEPLFTSALQQARNL
DTHLARTGQPIGPLHGLPISIKDSFNIAGVDSSLGVAALCSKpASGSDASLVQLLRSLGAVIIAKT
NIPQTLGLLDsvNHVfGRtLNPLNQRlTPGGSSGGEGLVAMRGSMIGFGTDVGGsIRIPAMCNyI
YGLKPSVGRVSyEGQTGFGLNGTRAVALKAVAGPIARXVADIDYVMREIVPRGERIANDCIPGTWP
AASTQFLGKRGLRVGILRNDGLVTPLPPISKLLeeVSRILAGSKIADIEVIDIPTPPIMKQCFAN
AGRLMSVDGGVPMldLISSTDEPLVPSLKHTKRRKPYTVEKLCALNAEREDIEIAMRKALWSSGNV
DAIILPVAAHpVPRHDQYGCVSyTSAFNLLDYPAGIIPVRKMTQADLELEIGGEKVLsRWdADNKK
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>g3123

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AEFFADIALCpleATRILVSDPKFASGLLDGfAKILKNEGvGAFYSGFGPIlFKQVPYtMAKFVV
YEKVAEAIYGVVDKNTLSdGGKTAVNLGSGLIAGFAAALVSQPADTMLSkinKTKGLPGEgTMTRL
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>g3124

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RDRGLLIQHPPQEDYGLLEERLLESLELQKPRELNGHYINHEASDSENEsGEEKLEHSIADDKSTCL
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VAAEMEKIRAAESIMQEPQPSRQNIIVSQDEIDGLDDRPDTTKSFTTRQEKQTLQHETPVHERPRTKN
RNTDPDLQTLIINSIRVLASDKRNIITVISMLIAVLAVVFGGRSTKRSQYGYEMAQFGDFPAVSTQ
VYHTASTSVLTQTSTEVPICESESERVEGAGEIQRVAEGLLGEAKPKVAQPVEQKTVEIVFDFPMFEG
LETALPPITQPDEPKYKSAAEVDLPVASLDTQEDDSASKEVDDSAMAQIDDSTVDPEASAIIFNND
QVPAQANDLAMTEENDSSITHNDDDAFSQTDGPDSPRDISAIAAQGDDSTTTQEDDAPIIKTEDSA
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>g3125

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SVPAEISAAATVIQFWNASINSAVWISVFLVLIILLNLGCVKLYGESEVVFASLKIMLIIGLIIGG
LVIDLGGAPNHDRIGFRYWNDFGAFNTYIDTGSTGRFLAIWSVLISAAFSYGNIQVVAISGSETQN
PRKIIPAATKKTTFRVFFFYVLSIFIVGLIVPYNDRQLQISTGTAQQSPFVIAFQRSGSVVPSII
NAIVCTSAFSSGSACIFIASRTLYGLSQDGHAPKIFQKCNRFVPHYAVGLTCVLLPLVYLNVGSN
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FFSGFSVFVKGNFTASGFLTCLYNVFIFIALYAFFKIFMRSKIIPLSVLDFQTEFQSIREEEQFRS
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VDNLLLPPGCKAMQPTGNGYDIYDLYDLGEFDQKGSVATKWGSKQDLIALAQAAEELGMGMYWDAV
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DSTKTAIYKIFAPGKDWARVCTSENGNYDLYMFANLDHSNPEVRSDIMGWAEWIGGQLPLKGMRL
DAVKHYSAEFQKNLVEHIRQSGKEWFFVSEYWSGNVLEIQDYLLKKVDYKVHAFDAPLCQRLSAVSQ
TKGADLRLVFEKTLVKFEPEHAVAPISPTFKPLAYALILLRKDGYPCIFYGDLYGICSSTPTKTGT
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>g3126

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SRIEDMVARLWRPMEFSGVIDRPVLGDENSVARTSAHLDLAQKLVEEGAVLLKNDNETLPLTGSKY
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EMFGAAGLNVSYWTTTRDFSGPINRTLHVENITGSTYPSDLGAVWPGVFSARYEGTFYPNTTGLYHF
SIYNGGAILYLNDDVVANLNGSNFGMVVQGIANLYADTPVSIRLDYSMATSVDPGAITVAEKADV
SII FVNDEHTEGLDSKLFLELPGDQDDVISLIAAHSKKTIVVLNTNSAILMPWLNEVDAVIEAFYP
GQQVGSAMAALLYGDVNFSGKLPVTFPRQYADVPTSPEERFPGVDLKATYSEGLLVGYRWFEHEI
EPLFPFGHGLSYTDFEFDLRLNVAHAKKANLSLNATFKVQNVGEVFGKEVAQLYVTFPARANEPP
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>g3127

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FSYTVAEQLSSEACDAGHIEITWEIVDELIYQFDYDGTGGSQGFVSTTPTGTTTSTTATSTTSPTG
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A

>g3128

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IIAGASFPLVIFYPETYGPVLLKRRARKLRKETGNKSIVAPMDLTPHDLRAVLTVTLTRPIRMIAQ
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RAKARGASWAQNEDYRRLPLACVGGPLYVVSFLWLGTASPDHWA VPMSSGVIFGLAYELIFMAM
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FGESIRRGSKLQQHLQALREEELRVWAAEALEGQQQGVVDVEKRVHASVDSV

>g3129

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FIRTQGLVDIKSGSVLPTEAAGPNNDILDELEPVLTDAINQKATIYIFGSSYGTGIHDVHMNQGSQ
PSYENGIYEDGALLFKFADGHWEAVFLAFASQRIPTDDKGEYESNSQSLAAILGQADSSDQ

>g3130

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QKLTNEEQKLRWCMVVYTEIEQKAHPQTEEAAILARRERNQIIHGGNIIDHLEYIGFGKNKIPPGRH
DSVRKAFFIWEYVPPFRYKERIDHAPELVVVRTFNRLADTKSLRVWSNAPTVEHVQKICRGIISRWLE
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>g3131

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EWAKDKLPWRYDGGREGFESKYCISMQYKDQILVAPEPIIKAFNILGDMTTHIGWCTSSLEGMAYA
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>g3132

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VGCNVDPVSTGTTVEEEMEGFKKIIDAVMARWEESR

>g3133

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TDVGKAHSTIRQFYRDWSEEGRREREVCYDVLAVLNQSFGGDSSSRPSDYRVLPVPGAGLGRVLF
DICAAGYAAEGNEISYHQLLASSWVLNHSRGAKQHALYPFALHFSNII SRKQQLQKIMIPDVHPAS
SMAQAQNEGDGSTSFGSMSMSAADFIPLYSGESQRHAFDAVATVFFIDTSPNLIRYIETIKNCLKPG
GLWINVGPLLWHFENEKRRTTAADQNGTEDAMNEENALTLSGHHDGIGEPGNVELSEEEVFHLVRR
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>g3134

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ALGPAQGLRNPAAEVDGTNRNKSQ LIGVIDFGTTFSGVAYAFATNNEAREDII TEWPGAGTHTKQK
IPTVLYYDQYQKVVGWGPDIADALAHTGYPKQGVQKVEWFKLQMLSGNTYIDPINLPPLPPGKSE
IDVAADYLFKVRQAMRAQLQKTLGEVFNREERNIRYFLTVPAIWNEAKAATRAAAIQAGFLRDEN
DNRLTLITEPEAAAMFCAKTGLLNLKVGDAILIVDCGGGTVDLIAEVEEENPFTVAECTAGSGDS
CGSTALNRNFSNILRARIRKMNLDPGSRTAGRVYAKCIMDFENRIKADFRNNGQKWAVDVGIEADY
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DGKDRCKYTRQIFVQKGERVKIGEPVKVSFFRQVAPGATLMYEDILYACDEDVCPEYVKDPRIKEV
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>g3135

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GGSRRPANWTQQDYVDQWNQYATATSQNL TGRESMQLFQGCAYTAPRNVGDNMTIWNIEHAEEDGM
RSNKAKTVSDHDYMGANDYTGAGPTIETSLFDRTNMLSRVRYHDYLG NATENSGIEYVLGETNSI
SCQGAFNISDVMA SAVWVDYVLYLSSLKVS RVHFHMGTRYRYS PWQPIYYNDTEAHVKPIYYGNM
FNAAVFAGGDKQTEVLANETNFGAYAVYNKGK PESIVAVNLNMWNSTMDAADRPYTALSLPGAWNE
ARVSRLTNPGVDTAANITFAGQYVDSEGRIVGEKS FDKVIDGT VHVGAGEAVLNSK

>g3136

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DMRKILNSKTGESFVIGDENSATDPLETAVRLAMEDLSILLMNEEGEYYLAASATLFPVGWTVQDR

IGWTISQMHGVPDPDWKDKIGHSVNKFRCRLTPESPMERSNYFLETKEPGEDLGDTLFRPMALNEDQ
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IWGQLVLDYCIQRSIVPA

>g3137

MISGGNQNPTEYGYEESIRDGYTPSMADADTLHSSQDRLVPSAPLVGTPSDVPHLVSSLPNTEQHL
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>g3138

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SDCFCAATSSSLAFFSESRIIRSLTSRIGHDRLEIVEAIGSLINARMNRKDEDTKTMFRFSPITFK
GPSTPVEVAPEAARAYIEAYFKHVHPIHPFLDRVEFEQKALSVDLLHHLSSNAAFSALYHTVLMG
AQYTEGGSFEAGQGKPKLYQVALGLFSDILLPRESLVNLQALTAMIISDSDIGCPIPEIPEAVHG
GVDWFYLFARFARLISRAYEMLYTVSATTKTPEEFYEAIDMVYQDLENWRLSVPKDLRPGDPFRPE
SCKSPWTVTVSLKAHFFYASLVMSLCRLTLHLGAGTESPRMEEAKKRLMYTARHIIGLTHYIDLQP
HTSIWILGVMPLSALFVLFDFVHNPHYHESSTNLTFLDVVGAYFTRLEYSTGGSLPSSLVAEFAL
IARQFIRDIQLGNSNRNGSAIANTQYQLPARDKQYDEPIRPYDQVRAVSQPLIYQQSQMPQIEQMP
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>g3139

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VNVQGNHSIIAREVARDAITLLKNVNQTLPLSKNASLSVFGTDAGPNSGGLNSCSDMGCDNGILTM
GWGSGTARLPYVITPQQAILNNSANTQFYVSDSFPSVTAAADDIAIVFINADSGENYITVESNPGD
RTTAGLNAWHGGDDL LVKAAAKYSTVIVVIHTVGPILMEEWIDLPSVKAVLV AHLPGQEAGDSLTD
VLFGDYSPSGHLPYTIPHNEFEYPASVGLIDQLLQIQDQFTERIYIDYRHFLQANITPRFPFGYG
LSYTTNFNSDATLTGTSLTEYPPARPAKSPTPTYATTIPPASEVAWPTGFNSIWRYLYPYLDDPA
AATSTAPYPYPTGYKTTTPQAPRAGGAQGGNPALWDTVFTVDLKVNTNTGTTSGRAVAQLYVELPGD
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>g3140

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IVTTGNPESSKNFGFDEHMAHSDRYKRAREFYDVVTGLWDSFADDAFTRDVETGQYFDPEKLHVL
HSGDELKVRGPLNIARPPQGWPIVQAGQSEPGRQLAAETAEVVFCSPKDIEGAKALYADIKGRVE
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FPFLPQGLEEVTDKLIPELQRRGLFRKDYTGSTLREHFGLPRPDNQFFTKS

>g3141

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TSVLGFWKKLLSIRKMHPGLVRGKFQ MIDYENQSVYAYTRTDEVAQYLVVCSFS DKEITWVCPVQT
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>g3142

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FELAGLGTSASFIDLGVGLLVGVFVGTVFSWVLLDKFGRRTIYNQGLCVLVILVLLVGVLDVVPGYG
TTNTAVVWAQCSMMVVYNFIYDLTIGPLCFVFLAEVSSAKLRDKTIALSTTVNALINVACAVGIPY
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ERD

>g3143

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VEDEILRVGPEHVAGFIAETVSGTTLGCVPAVPGYFSKIRIDCDKYGVLLILDEIMCGMGKTGTMH
AWEQEAGFRGPDQITIGKALGGGFVPLSGVLLHKKIFEALSNGSKVLVHGHTFQAHPLACAAAVAV
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>g3144

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>g3145

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PENSVOHPSSSAASDRSYLVPEPNDRVPDSVEYIQAARSYSQPNSDYCGHEVVFKKMQNSLLDLA
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SQIAACYSETARSLIMNGMFTRAGEFIDKSVALRKKMPHFSRLQLYSPLYTTALIHIERKFEDAE
SVLLEALRDREVKYGKDDCESKRLVRALPGSSMRKSWNHGADSGRAGILLFSLGNVLTQGRYDES
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>g3146

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IRPGAATQPAARVHIDSTRQSLDQLVRELQDDKLNINGRHYIYLVNWKPLTGPVHDWPLAFCDART
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>g3147

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>g3148

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SIFLKAADLISTKYRYDIMALTMAGQGKNAWQAEIDSAAELCDFRFRGVKYAEEVYSQQPAHNSPG
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>g3149

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>g3150

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>g3151

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>g3152

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>g3153

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>g3154

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>g3155

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>g3156

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>g3157

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>g3158

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>g3159

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>g3160

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>g3161

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>g3162

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>g3163

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>g3164

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YPSGSEFAGQGKSLIALAKLMSRMWISFVNDLTPNNHGLKHDSNGHSIPEWPLYAANVSDALNGYG
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>g3165

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>g3166

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KPATSRPAVSGKTPIEVVHYSDIHVDLSYETGSSYNCTKNICCRPYTSADAPGNTSYAPAGPYGNHA
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NRYEATIAALFFGHTHKDEFEISYSDYTAQTYSSNAVELSYVAPALTPTSGMPAFRVYSVDPETFAI
LDMTTYIADMSDSTYQTAGPTWTKYYSVKEAYGPLVTPPLTSASAELTPAFWHNLTEVLSSNQTA
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>g3167

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PLGVSWIGMGVSGGYQSARRGPSLSPGGDKKAEQVLPLELYSAKDCKTGKPCVTYIIGPGSGHY
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>g3168

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QVGSTDSSEDRITTDREIVQDLQELADMLAKENFRMAYENWCWSTHAPTWKAVWEIVQQVDRPN
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PIERKIKNDLLPRGQWSHDFRPMPGWFSMEIFDSGPDGTGKEYDVGKFAKSAMENMQRLFKNVADA
SA

>g3169

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>g3170

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VVIGQANYGMVSIKGLLSFGVYLLDDVQMYNYALHAWQNDLCAGIYGNFDPATGQSAETGRDQQHSQ
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>g3171

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STYQRIQTATYLYVGTQAENGTVVLNQVANIVEKDISVTNGVVHII DRILDPSAQIFEAELPKISQ
AFIPGSCSNAALAYC

>g3172

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WGYEERDAQTFASWGVDYLYKDNCGGFEGMTEASQVRFGTMKNALELSGRKIFYSVCEWGFQFPWR
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>g3173

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LVEKDGA FEKPQYQEAAVPLRFGLNKKKNKVAPEPVKVETVGFVDNYDDDELIDEDLLAEEDLGR
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>g3174

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>g3175

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>g3176

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>g3177

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>g3178

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SAKVEESDEDWE

>g3179

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>g3180

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YS

>g3181

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>g3182

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>g3183

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>g3184

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>g3185

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>g3186

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>g3187

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>g3188

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>g3189

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>g3190

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>g3191

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SDISFWTQ
>g3192

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>g3193

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>g3194

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>g3195

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>g3196

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>g3197

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>g3198

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>g3199

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>g3200

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>g3203

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>g3204

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>g3205

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>g3206

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>g3207

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>g3208

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>g3209

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>g3210

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>g3211

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>g3215

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>g3218

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>g3220

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>g3221

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>g3222

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>g3223

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>g3224

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>g3225

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>g3226

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>g3227

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>g3228

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>g3229

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>g3230

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>g3231

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>g3232

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>g3233

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>g3234

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>g3235

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>g3236

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>g3237

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>g3238

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>g3239

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>g3240

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>g3241

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>g3242

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>g3243

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>g3244

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>g3245

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>g3246

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>g3247

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>g3248

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>g3249

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>g3250

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>g3251

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>g3252

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>g3253

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>g3254

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>g3255

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>g3256

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>g3257

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>g3258

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>g3259

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>g3260

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>g3261

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>g3262

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>g3263

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>g3264

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>g3265

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>g3266

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>g3267

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>g3268

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>g3269

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>g3270

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>g3271

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>g3272

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>g3273

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>g3274

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>g3275

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>g3276

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>g3277

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>g3278

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>g3279

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>g3280

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>g3281

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>g3282

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>g3283

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>g3284

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>g3285

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>g3286

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>g3287

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>g3288

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>g3289

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>g3290

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>g3291

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>g3292

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>g3293

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>g3294

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>g3295

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>g3296

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>g3297

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>g3298

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>g3299

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>g3300

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>g3301

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>g3302

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>g3303

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>g3304

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>g3305

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>g3306

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>g3307

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>g3308

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>g3309

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>g3310

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>g3311

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>g3312

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>g3313

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LI

>g3314

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HSSHY

>g3315

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>g3316

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>g3317

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TGRV

>g3318

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>g3319

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>g3320

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>g3321

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>g3322

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>g3323

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>g3324

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>g3325

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>g3326

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>g3327

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>g3328

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>g3329

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>g3330

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>g3331

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>g3332

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>g3333

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>g3334

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>g3335

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>g3336

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>g3337

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>g3338

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>g3339

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>g3340

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CTSGASG

>g3341

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>g3342

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>g3343

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YWLGPRLQRDRDSFYPPNNILLMLVGAGILWVCWNGFNGXDPYAASPDAGVAVLNTNICTAMSLLVW
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>g3344

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>g3345

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>g3346

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>g3347

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FATFHTEQNIHELPRAFFQDWLKVANDEAKHFSLLRTRIEELGSYFGALSVHHGLWESATRTAHD I
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>g3348

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>g3349

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IVATNQIVTEGAIFERGGRAFVIDSLPQSINTIAGNVRLGLDIRAPTDS DVKLIESLCRKQFQE
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>g3350

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>g3351

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LVHKS KS

>g3352

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ALVMILPGAESTRDALNAERLKL LPKHAWVNVVGRGISIDEDALVDALENGEIGGAALDVFKTEPL
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>g3353

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>g3354

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>g3355

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>g3356

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>g3357

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IIGQGGPSDAQFVDLWTQLATKYKAQSNII F GIMNEPHDLNITTWAATVQKVVT AIRNAGATSQLI
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>g3358

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>g3359

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>g3360

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>g3361

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>g3362

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LLTHK

>g3363

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>g3364

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>g3365

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>g3366

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>g3367

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>g3368

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>g3369

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LHYARGKTLGGSSARNYMLYQRATVDSMQQW ADEVDDQSYTWDAFLPYYQKSVNYTPPDQ TLYTNS
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>g3370

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DAAHPLSTERYPV LLENLLQSSSIADILVLQEVSDSFLTFL LH DENIRSQYPFSSHGPPDQ RDIGP
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>g3371

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>g3372

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>g3373

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AI

>g3374

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>g3375

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>g3376

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>g3377

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>g3378

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>g3379

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>g3380

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>g3381

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>g3382

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AILE

>g3383

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>g3384

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>g3385

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>g3386

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>g3387

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>g3388

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>g3389

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>g3390

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>g3391

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>g3392

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>g3393

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>g3394

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>g3395

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>g3396

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>g3397

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>g3398

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>g3399

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>g3400

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>g3401

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>g3402

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>g3403

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>g3404

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>g3405

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>g3406

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>g3407

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>g3408

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>g3409

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>g3410

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>g3411

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>g3412

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>g3413

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>g3415

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>g3416

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>g3417

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>g3418

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>g3419

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>g3420

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>g3421

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>g3422

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>g3423

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>g3424

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>g3425

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>g3426

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>g3427

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>g3428

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>g3429

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>g3430

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>g3431

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>g3432

>g3433

>q3434

>q3435

>g3436

>q3437

>g3438

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>g3439

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>g3440

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>g3441

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>g3442

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>g3443

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>g3444

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>g3445

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>g3446

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>g3447

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>g3448

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>g3449

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>g3450

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>g3451

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>g3452

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>g3453

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VAPSPRVTD DDLRNEYEDPRHSSNIGRGVREEDVMQLVEIFLRNVHTKNPI FDPKYLRNMAR SVVK
NGFDWEASSCLVLIACALATISSSFARQPLVGAENFEEAEDSLNTPAYYTAESYYTASRKRMGIL
TNTILATECYFLTGVYEMYS LRPLQASISFN RACVSFQTLTWMKPEYIIIEGQLAKAHASRLYWSC
LKSEHEISVELRFPSSGLTGLNYTNSF TTPPVAVAVEQLYETPSVIDVESASLLSTDVQQEFEKGW
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>g3454

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STVWPGDNGDWD TDYDNFVTTLMSDLAANDALEGLVWDIWN EPDGSWFWARSMQQWIDLYIRTHKLI
RANS AFDGVKISGPTLSASPNPDIWWT SWLSQIAGNDTIPDQIAYHLEAGPGIGPWQSSYDLTNT
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>g3455

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LNPYQRVEAETMADSFVQTQPCSLGTQNI DALEDGYWLMVQGVNFGRGSGARNWTASVASNTNGG
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>g3456

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>g3457

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>g3458

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>g3459

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>g3460

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>g3461

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>g3462

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>g3463

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>g3464

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>g3465

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>g3466

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>g3467

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>g3468

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>g3469

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>g3470

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>g3471

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>g3472

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>g3473

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>g3474

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SQQDL

>g3475

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>g3476

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>g3477

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PY

>g3478

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>g3479

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>g3480

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>g3481

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E

>g3482

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>g3483

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>g3484

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>g3485

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>g3486

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>g3487

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>g3488

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>g3489

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>g3490

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>g3491

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>g3492

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>g3493

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>g3494

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>g3496

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>g3497

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>g3501

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>g3504

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>g3505

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>g3508

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>g3514

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>g3517

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>g3518

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>g3520

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>g3521

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>g3522

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>g3523

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>g3524

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>g3525

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>g3526

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>g3527

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>g3528

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>g3529

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>g3530

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>g3531

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>g3532

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>g3533

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>g3534

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>g3535

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>g3536

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>g3537

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>g3538

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>g3539

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>g3540

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>g3541

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>g3542

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>g3543

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>g3545

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>g3546

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>g3547

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>g3548

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>g3549

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>g3550

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>g3551

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>g3552

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>g3553

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>g3554

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>g3555

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>g3556

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>g3557

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>g3558

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>g3559

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>g3560

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>g3561

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>g3562

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>g3563

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>g3566

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>g3567

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>g3571

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>g3577

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>g3578

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>g3579

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>g3580

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>g3581

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>g3582

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>g3583

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>g3584

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>g3585

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>g3586

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>g3587

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>g3588

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>g3589

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FN

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>g3596

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>g3597

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>g3598

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>g3599

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>g3600

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>g3601

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>g3602

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>g3603

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>g3604

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>g3605

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>g3606

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>g3616

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>g3624

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>g3626

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>g3630

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>g3631

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>g3632

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>g3633

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>g3634

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>g3638

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>g3639

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>g3640

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>g3641

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>g3642

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>g3643

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>g3644

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>g3645

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>g3646

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>g3647

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>g3648

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>g3649

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>g3651

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>g3652

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>g3655

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>g3656

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>g3657

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>g3658

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>g3659

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>g3660

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>g3661

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>g3662

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>g3663

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>g3665

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>g3666

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>g3667

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>g3668

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>g3669

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>g3670

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>g3671

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>g3672

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>g3673

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>g3674

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>g3675

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>g3676

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>g3677

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>g3678

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>g3679

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>g3680

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>g3681

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>g3682

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>g3683

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>g3685

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>g3686

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>g3687

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>g3688

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>g3689

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>g3691

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>g3692

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>g3693

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>g3694

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>g3695

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>g3696

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>g3700

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>g3702

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>g3703

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>g3704

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>g3705

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>g3706

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>g3707

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>g3708

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>g3709

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>g3710

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>g3711

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>g3712

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>g3713

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>g3714

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>g3715

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>g3716

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TT

>g3717

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>g3718

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>g3719

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>g3720

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>g3721

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>g3722

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>g3723

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>g3724

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>g3725

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>g3726

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>g3727

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>g3728

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>g3729

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>g3730

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>g3731

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>g3732

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>g3733

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>g3734

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>g3735

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>g3736

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>g3737

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>g3738

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>g3739

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>g3740

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>g3741

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>g3742

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>g3743

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>g3744

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>g3745

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>g3746

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>g3747

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>g3748

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>g3749

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>g3750

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>g3751

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>g3752

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>g3753

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>g3754

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>g3755

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>g3756

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>g3757

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SELEDFLRATNVADIEASGDKAYEEGFHEAAKIF YTSISNWAKLATTLVHLEDYQAAVE CARKANS
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>g3758

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ISK

>g3759

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>g3760

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>g3761

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>g3762

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>g3763

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>g3764

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>g3765

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AY

>g3766

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>g3767

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>g3768

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>g3769

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>g3770

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>g3771

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>g3772

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>g3773

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>g3774

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>g3775

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>g3776

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>g3777

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>g3778

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>g3779

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>g3780

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>g3781

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SGASALLEY

>g3782

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>g3783

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>g3784

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>g3785

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>g3786

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>g3787

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>g3788

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>g3789

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>g3790

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>g3791

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>g3792

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>g3793

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>g3794

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>g3795

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>g3796

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>g3797

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>g3798

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>g3799

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>g3800

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>g3802

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>g3803

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>g3804

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>g3805

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>g3806

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>g3807

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>g3808

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>g3809

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>g3810

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>g3811

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>g3812

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>g3813

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>g3814

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>g3815

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>g3816

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>g3817

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>g3818

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>g3819

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>g3820

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>g3821

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>g3822

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>g3823

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>g3824

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>g3825

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>g3826

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>g3827

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>g3828

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>g3829

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>g3830

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>g3831

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>g3832

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>g3833

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>g3834

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>g3835

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>g3836

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>g3837

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>g3838

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>g3839

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SATEVRGVAA

>g3840

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HVAXSHKTLAEFVKDNVIDHIEVMLIDHWKDRYLPDLWLMENLGLLKPGVTVLAADNCLRPGAPEY
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>g3841

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GIMACRVILGTMEAGFLPCAIFYLSTFYTRTELAKRLSVFFLMGFIAS AISGLISWGVFQWHRSLK
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KIWTFALCGLLYGVGSSSTS NFLPVMIKRLTQD TVRANLYTIGPNLTGALLMYVSCWVSDRIQQRA

LVSIVVIVVSMIGWILLGALDLVHHVKVGYFLTYLLTFGTFFVPMLLVPAWVGANTQSTSARAVALG
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>g3842

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MNKNTTYWPWPKTGWNLSDLGPEIDFSSVSQNLNTNDSALNLPQKHDMCSIMSNLRVHLFKLEKLLSS
TYASYIPKSVADEYAIEFRTIRAKIQRLNCKCDICRNDPAQAFLLATLSLSLSESYRSILKNLDM
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>g3843

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>g3844

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KKFVKIPLIGGYLNLMTQAQDYFATLENIVDVIASDLEKGLDSEYVGKRVGVKEKTIIASGLQGQA
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>g3845

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>g3846

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CIGVTKKGTRCGQSMISNFDKSSASERIAKMVSPGPGDSVLFDKALQELADWMLCPRHLRDTLQG
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>g3847

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>g3848

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>g3849

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IRDPSNDNKTLKFRVPLDTLGSNLGEMADFPWKFDRENAANNADLPTYTGPTLIVRGLQSKYVSQK
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>g3850

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TNSEPNALNNINSAALAEMQKKWQEI VQKVGE LQKNYAEFKDFDSKLSSCVAENQKKHDQLHQKLD
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>g3851

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>g3852

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>g3853

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>g3854

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>g3855

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>g3856

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>g3857

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>g3858

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>g3859

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SG

>g3860

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>g3861

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>g3862

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FSEALLAGTSPPSTSRPSDDRSPASHHRILNPPKARHQHTSRQRRRRTPLEREEDPLALTSHAESV
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>g3863

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>g3864

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>g3865

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>g3866

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>g3867

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>g3868

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>g3869

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>g3870

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>g3871

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>g3872

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>g3873

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>g3874

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>g3875

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>g3876

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>g3877

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>g3878

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>g3879

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>g3880

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>g3881

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>g3882

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>g3883

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>g3884

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>g3885

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>g3886

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>g3887

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>g3888

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>g3889

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>g3890

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>g3891

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>g3892

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>g3893

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>g3900
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>g3901
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>g3903

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>g3905

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>g3906

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>g3908

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>g3909

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>g3910

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>g3911

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>g3912

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>g3913

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>g3914

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>g3915

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VEVKTTLENNPKFLKQCARWSRSNWRNL TSMFAERHIWYRQPWSTYAVHLTTLSPALLGDCLLI
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>g3916

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>g3917

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>g3918

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>g3919

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>g3920

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>g3921

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>g3922

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>g3923

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>g3924

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>g3925

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>g3926

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>g3927

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>g3928

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>g3929

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>g3930

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>g3931

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>g3932

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>g3933

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>g3934

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>g3935

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>g3936

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>g3937

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>g3938

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>g3939

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>g3940

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>g3941

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>g3942

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>g3943

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>g3945

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>g3946

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>g3947

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>g3948

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>g3949

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>g3950

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>g3951

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>g3952

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>g3953

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>g3954

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>g3955

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>g3956

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>g3957

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>g3958

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>g3959

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>g3960

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>g3961

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>g3962

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>g3963

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>g3964

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>g3965

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>g3966

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>g3967

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>g3968

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>g3969

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>g3970

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>g3971

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>g3972

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>g3973

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>g3974

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>g3975

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>g3976

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>g3977

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>g3978

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>g3979

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>g3980

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>g3981

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>g3982

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>g3983

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>g3984

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>g3985

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>g3987

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>g3988

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>g3989

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>g3990

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>g3991

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>g3992

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>g3993

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>g3994

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>g3996

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>g3997

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>g3998

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>g3999

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>g4001

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>g4003

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>g4004

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>g4005

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>g4006

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>g4007

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>g4008

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>g4009

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>g4010

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>g4011

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>g4030

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>g4031

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>g4032

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SGWNPLLAQLLQVYKGLETHVAVLESRALNPIARIPLSGFTEQEVE SYRESRKRLCWEPYQDP SFS
VDDINSTLPEFANMDDASRYLAGLAAICVATEANSSHNTQHIWHTTFLVSSRLALLLNHWLEAFNR
MMSTYSAKTFTINDRVNCHILRLYQSCLA FMNQAKDMGQETIFDNNRVV FDSIMFRKSILISMTQE
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>g4033

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GLING

>g4034

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>g4035

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>g4036

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>g4037

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>g4038

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>g4039

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>g4040

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>g4041

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>g4042

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>g4043

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>g4044

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>g4045

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>g4053

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EGK

>g4054

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>g4055

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>g4056

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>g4057

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>g4058

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>g4059

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>g4060

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>g4061

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>g4062

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GERIKRAVRVYRPVHPENDGITGFSVLAFTAPVKIEEDGCKAASNAVVSPPGRFDRSPCGTGTCA
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>g4063

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>g4064

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>g4065

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>g4066

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>g4067

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>g4068

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>g4069

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>g4070

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>g4071

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>g4072

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>g4073

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>g4074

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>g4075

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>g4076

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>g4077

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>g4078

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>g4079

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>g4080

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>g4081

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>g4082

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>g4083

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>g4084

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>g4085

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>g4086

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>g4087

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>g4088

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>g4089

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>g4090

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>g4091

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>g4092

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>g4093

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>g4095

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>g4096

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>g4097

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>g4098

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>g4099

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>g4100

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>g4101

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>g4102

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>g4103

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>g4104

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>g4105

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>g4106

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>g4107

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>g4109

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>g4110

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>g4111

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>g4112

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RAVAALLSLXVSPDDHDXIQADGKSGASASLEDFKNKAVYISSFTLSQQDILESVLRVTDTKPEDW
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>g4113

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GVSAHAAAEQRNIELLDFLIQVGADVHALPSRDCNQALQCAAAMDWMEGIRLLLRYPNDVRMLP
PYFPGYSALGWAIHNSNCMDVLLLDHGASPNDPVTKDQFEPQTAFIQALSRPNSSEIVELLKRG
ADINQSWRYMTALDVAIGAHPANVKAVRTIIDHISQTSENRSDMLKKSLAWMKVECGTPVDIELL
QLLLDAGADINAKNFDDQTTILQKSTKCGHVEVVHILLONGAEVNI PATRSVGTPLQEAIKEQKTE
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>g4114

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VRGRGRDIRNDHIWGTETLDYIRRPRVTAPEPGQGYYSNTNYTLLGLII EKVTGQPAEKEIRRRI
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>g4115

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TVVVYPTPATVTPGTYTQPEQTVTVVETSYTYVCPFATSSSTPAPAPAAPTTTAAPAPVATTSVAPS
PVA STS SAPAASSTSTSSTGCGLGQHPDYAVTYTG YTHDTGACMGAEDVLAELKNIQANGFYAIR
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>g4116

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IIVTDIVPLRLRGQYLGLNMGWTIGSVTG PVLGGGFSESVSWRWIFYINFPFAGIGLVMTALFLR
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>g4117

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FAEKALVHAPKSLDWLPAATLTCNWPTAYNALFGLKGREAGPGTWVLVQGTGGVSIATLQVAVAAG
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>g4118

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EARDSLLL

>g4119

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>g4120

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HDDD GKKWFVNMLWDHRRRPRLFAGIALQEFDPVQGLVGKRENI FKGT ELDLVEGPHLYKRNGWY
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LTGRPVGQNRRCVLGRETAIQEGYWKDDWFYVKNGPVPSLYTDVPGARDES DYWAEKNYQFNDSTL
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GLVAYYSTYNFFYLTVTADSDGEREISVLSSEASWPDGDLTLPLGKPIRIPKTGKVKLALSIRGGQ
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>g4121

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>g4122

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>g4123

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>g4124

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>g4125

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>g4126

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>g4127

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>g4128

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>g4129

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RRGY

>g4130

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>g4131

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>g4132

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>g4133

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>g4134

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>g4135

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>g4136

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>g4137

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>g4138

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>g4139

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>g4140

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>g4141

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>g4142

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>g4143

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>g4144

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>g4145

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>g4146

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>g4147

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>g4148

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>g4149

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>g4150

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>g4151

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>g4153

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>g4154

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>g4155

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>g4156

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>g4157

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>g4158

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>g4159

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>g4160

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>g4161

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VIADMVLADVGCLRD LAMQDLNMMSLGGMERSESEWKELIASAGLVLNKIWYNHDGPKHAVVEAVL
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>g4162

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PGVTQCPAKPGDSQVYEFAMQYGTGWYHSHYSLQYTN GAYGPVIIHGPTSANYDHDLEPLLVS DW
YHADAFSMFH EETDHAHIPTGTLMNKGKGVFDCDPKEDGRCTGKEERHEIFFEPGKKHKLRLVNSG
SLATYKFWMMDGHNFTTVVANDFVPIEPYVTDVLILGIAQRYDVII EANATLEHGSNFMHATHCDDE
MPVPWDTRIGIIRYDANDHSDPYTPPPSTHHPGYGCRDPDPSNLRPIVKRQVGKEVNDMSPSEYLK
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IEGNFTMDPNINNP RPPIPRSVHPIHLHGHD FVILAQGDGEFTSDVVPNLNNPARRDTVNCPIGGY
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>g4163

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IEAHMGINVI GPLLLTQLLL PKLQAAAAISPKN SVRVIWSSSWLMESRS PKGGYNLKDIEGGTKD
SHVNYASSKAANWILADE TAKRYGKYGILSVVQNPGLDTHIYHTQPRLMMFFVRNLLLYPPKLG
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>g4164

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CRGSASLFDDWATLSGNDGLAWDSILQDFLEVSHY TENPNADYDQVVNTSAFGDGPLEVSRVGTLT
GFENPFFNALQAE LGLDEVDLTDGSGIGLDRGLSSITAVNRTRS YGRTAFGTLIENRSNVRIITYA
WASKINFNGTTAVSVTYHVDGVATTIKGEIIVSGGAIN TAKLLLLSGVGPKETLEPLGIKVIADI
PDVGANLRDHAFAI IELDV IPEILTYQWFENATVN AEAKTDYAANRTGILGSNNGFIYGT YRLPD

STWDGINGTYYTSLPEDRPHILFEFSSLPFLPTDGSALT TWASLVQPEGSGYVSINTTDYTVDPLI
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>g4165

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PYMGPAPGPDGLPTKWKSLSLDGS AIEYSWKWNTKSSEP DVRYVTEPIGQFPGTELDPLNQQGLR
ELLQRFGSETSEN LNIGWVNHFFAKLYDHDNSKYIQEAAAGSHMSTATSVQLGTEFLRKGTGFKTY
FFPRKLGIVEAVPTSQYDDAIAQLDVEGKDYSARKALNEFLT TNPEGKLLNPFSLAVDNVAPEKSR
LKWYFHTLNTSFKSVREVM TLGGRITGIDKQLEDLIELIKATAGLPDDFPDNAEVPLPEKSQVYDD
SAKENFGELEKVL TGLYLYFDIAPGNKYPEIKWFIPT RHYGPNDDLAKATINWMEKHGRAGYGPK
YLEMLCNLGEHRR LDEGKGLQS FVSCLFKKGELDITTYLGAEAFX PARKPRRSSRGTRRRGDD

>g4166

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>g4167

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TQKYVFARNKLADKMLARMYEGAYHPIIHLGLGIEFQSEAI VAEALAQAAAHDDANIGKFLNAEQ
EATIVYPTAKPRTMIQLVDDIRNND AIRTAPQWTD FGFKMRDGI VGRACEEMQTVAAQFRIKPT EE
DLERRTAEMISTVAYFSGAAQREGKRKIDFFYMHCVTSSIFFTVLIRQKWIKLEDRI RLVEWKAR
LDLAWYAVSGSAPLPDKAITEYSNPESDN LGWADLFS AVNKEHDDGHA AKYIRALKNGEEVSKQYE
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>g4168

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KMPGWFRPIMLAAASHVYQDL MVTEKLLRSQSDWLSTIFIKPAGLSVDVQRGHTLTLD EEEFSISY
LDLSAGMIEAAQDEEGRYDGMNVGVNKT RGVGAKFPRGTPMCIMMGLMRHFFPFLHPYLPTTGPS

>g4169

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>g4170

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VRELAADLKSPVIQMFMRPFGKPWVVIADARESHDIQMTRKDEFDRSMITGEVFGPIFPENHVSIL
QFPIGEAWRSHRQLIKDTISPSFLNGVVAPS IHVNTQDLIAIWKKKAAIAKGRPFNGDKDLSRTVV
DII IETTFGIKAEALKVQEQLLHQTVLPASIDQPVD FPAEADAEAF TSIRDLSDSVQIAMGSPVPT
LSLKFALAFKKSLISARKYTDKMINERLQSAWRKFSGVEEKGT VKSATDLIVQRE AQMARKEGRDI
KIDTQVIKDELFGFYMAGQETTSTTLCWAMKYLTANPDVQTKLR TALREAHERAHRNGGLPSAQEM
AQADVPYLEAFIQEVHRVGNSVSSIVRVTTKDAVVLGHVIPKGTDV FMLTNGPSYKTPPLVIEETI
RSKTSRENKEKFGVWDDKNIGNFIPERWLLKNEKGEIVFNPSAGYTHPYGVGPACFGMKWAEML
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>g4171

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SKDSPRIVNITSGAGSITSRLNKN SPLYKLQGHQYRASKTALNMITACQYVEYEPDGITVLLYDPG
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>g4172

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GTNTYIVGTGSHRLIIDTGQGIPEWATLLSSVLAERNITLSHVLLTHWHGDHAGGV PDLRLYPHL
NDSIYKHTPSKAQQPIVDGQVF EVEGATVRALHSPGHS DHMCFIIEEDNAICTGDNVLGHGTA AV

EMLSLWMDSLRLMQKECKIGYPAHGMVIENLPIKISGELASKTRREKQVLQALTKIKKTAGSGKG
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>g4173

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FKANVRNVPETAKLMDDAVAHFGGLDIVVSNSGVVSFGHFGDVTEEEFDRVFSLNTRGQFFVAREA
YRHLNEGGRIIILTSSNTSQDFSVPNHISIYSGSKGAIDSFVRIMSKDAGKKKITVNAVAPGGTMAAH
ASPLVRNGWPKDIAHVVAFIASKEGEWINGKSITIDGGAK

>g4174

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RPPGTALDIPQPMLSPADHPMAGSMTDLSTDLEFFATPNSFSLPELSDSDILGQSHFFPPSLDGN
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YLLTIMSLIVFKVLGWYAAAAAPKAGPTHEDISGISKPSTSHSRKLSHSEMVVQDATVVGSYCLEG
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>g4175

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DAKSIDNIYVYWAASTRAAVEGKPLPVWEPDLRTYFNAAATPGAAETEKLLKNIRGFTYHPISKD
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DVEKTESSFSHAVDVRGKWAGQVSPDYVGNGLVTLSDSIPLKELIQSSNLARIAETIRHCTTLIN
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>g4176

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>g4177

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>g4178

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TDESELSFQPLIPLTSQTGTGNTPNLSLEDLESTSSNVSGLKADQIHGGQLTWETPLKIIIPDSQQDE
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RATETISLDNLPPIEIRAPDPPVSNDFSTHITPTLKALAERMKQSSRFTPRSQNRELRLPLERGYWF
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>g4179

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VAAKSELPILIYNFPGVTGGIDITSDSIIIRLAQANPKIIGCKLTGNGVGLQORISSTLSAESFAAF
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>g4180

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FRDILQIGNQSRPYMFDLAIIRPSPLYEDVFEVDERVVLQRCSDSQVRSLSLQSPQPVETVEGTSG
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PAGGVVGYAQTSYSLESRVPVIGFDMGGTSTDVSRYDGKPDHIFETTTAGIPIQAPQLNINTIAAG
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DDTQTIVVNPKCAATLVKDLIIIDVKEEKKSISATILDPVQLSVFRHRFYGIAEQMGRVLQNISVS
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>g4181

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KQPAIFHRLRQEITRELDGKIPSYEQLRNLKYLKYCLNEALRLYPSVPVNVRLALRDTHLPKGGGP
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>g4182

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W

>g4183

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QPRKKALWDLFSAPERIERDLELARRLVTKL DGEMGDVDAFTKIESKVEDLRQRGFLQPTAPASDA
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HELVRKCPGGHLRRPRSGLSNQAKQVARASAMGEPFPTKKKEASEDGEETPAVEDKRPQKLSKGEQ
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>g4184

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>g4185

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KVVSGFLFTSTNVYSDDSWTDPVRFAIRDIDPDLFWDDDGTAISRAGIVQQTIDLKTGVLGPETK
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GGLNLPVHRFQTTLLNDLDTLATQNVTVPGTVVAPLPSLSKEIRARLQVQAKDDTHYILSATLHEDK
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>g4186

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EYGMTYTLIVVGCFLDWCLSNGFAGIDLKTKSATMFDNGENVVPWTTLEEAGKATAGALLRPEETC
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>g4187

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>g4188

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CFLCSDGRYNLCEDVQFAGVYPYHGS LQRYKIH PARWLHKL PDNVSYAEGALLEPLSVAMHGIR
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DAEGNAKAIRALFGKEDEYFAPETVLECTGVESSICIAAYTARRGGTVMVIGVGRSIMNNLP
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>g4189

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>g4190

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>g4197

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>g4198

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>g4199

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>g4200

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>g4201

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>g4202

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>g4203

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>g4204

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>g4205

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>g4206

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>g4207

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>g4208

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>g4209

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>g4210

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>g4211

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>g4212

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>g4213

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>g4214

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>g4215

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>g4216

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>g4217

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>g4218

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>g4219

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>g4220

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>g4221

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>g4222

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>g4223

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>g4224

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>g4225

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>g4226

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>g4227

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>g4228

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>g4229

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>g4230

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>g4231

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>g4232

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>g4233

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>g4235

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>g4236

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>g4237

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>g4238

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>g4239

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>g4240

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>g4241

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>g4261

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>g4262

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>g4263

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>g4264

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>g4265

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>g4266

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>g4267

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>g4268

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>g4269

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>g4274

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>g4275

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>g4276

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>g4277

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>g4278

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>g4279

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>g4280

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>g4281

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>g4283

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RLAAAFSQKRIADMEHLVDDVQKLLDRFDKAAATQELINVRWYINMLLFDLTGHLVFSQSLGCV E
RGDDMMVAQKFDGAVYKTKPANALRNSLRIGSTMGWIPSRFGLLKRLTWWHPGWKG GADFTCIVLH
MVRTRLEMEKGVVLNDDFFHSLVWNKDHEPLGLELGEMVAECGLLLNAGSDTTTIVLVGTIFLLTKW
PAAAEKLRKELDAELDGEDGVVAYDSVKNLPYLACVDEAMMRPPLRGGLPRVTPPEGMMVDNEW
IAGNTTVSVPTYSLHHDPELFEDPYTYKPERWLADDAANLQQVFIPFSAGGRGCIGRNVSYMELLV
VVGTLMRRYEFEFESPGFELET KDTVN AHPGMMMIRRRFTPESAAGHD

>g4284

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SIVTAEYRHQHTLSDVRSLSGCPPHRDHLSPVSTPVAQQSLSTQVSSSHPAAVQHNTTSPGANNAS
FPRRDGSFSVPGLGLGGLGLPTTAASSPCYLHMTSPHQTSSSAPLHGSDQVHVANQSGRLSHVSPE
MLSSPEALHRKVG LLLYEDRMLLPFKVPQ EALLFH HYMEALAAFLDITDIQRHFAVDVPELALSCP
VLLNALMAFSARHLRSTTDFDSAVADHYHHECVSLIIPMLDQKYLVADETLFAAAVILRAFEETNE
SQMGTEPEHHLTGTSVFANAQLEFRTWGGLGHA AFWLFVRQDIYMSVLIQRPLKVDLAGWEDRLSF
DLGFNATTDCTWANRMTWIVAEIVSFCFGDRLSYVNWEAARAKTERWNLTRPPSFDPILYIERDED
AGKYFPEIRLGHPWHVTGNQYYYIAKLFLAIYNPVVPRIGLGYQRHRKSI SDEVLRNAEAVCGIAS
ATSLVAARLTARTAI IACGPWFHDRPRAEQELL LQLLKRTEMESALPTESLIQGLMVEWGW

>g4285

MFEFISGRLLVILITFTCSTSFMLFGYDQGVLSGIIGADNQFGEDFDHPDANTQGLIVSVYQLGNV
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TSTAKERGTLVAVDSCLIIFGILIA YWMDYGFALVSGPAQWRFPIGFQMVFIVILLFFAMILPESP
RWLHKKGRHSEGD AIIARLVGKNVPESDPRVVELSTEIVKSIQLESAGGPFKMKELFQGGKMQNFR
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RTL MFLSSAGEIITMAILAGCVWDGQRAAGIVAVIMIFGYNTFYAFGWLTVPFIYP AEITTLRLRA
KGAAIASVGAWIIEFMVVQITPYCVQNIGYKTYIVFAVLNAGVIVPVTYCFFPETAGMRLEDIDHI
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>g4286

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HLASLTGDKLAVFLLSTYGE GDPDNAVSVFVSGIKKMHKKGMRLD TLR YCAMGMGMNMYKYYNRVI
KVVDEILLDLGAQRVGPLGLADESVGTTEETFM EWKEDVIEILKEIVTIHERPLTYEPSIDI IETG
VDANLVYLGEHSEKVLVGLKDRVAYDATNPYPAPIVQSKKLSSLQDRVCMHMEFDLSAVPSLRYQT
GDHLSVWPINANNEVNLLLRVLGLDDELSRKQPITIAAKDGAVSNCSLPSPTTREVLLKYYLEIGG
LVSRDFLMSLSQFAPTQAATDSLRLAKSKEAFRNEVTSRYLSVGKIMEMIEPKVAWTGVPFSLLV
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>g4287

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ERYLDECTHQHEGFGYTVIREGLYSESYPLYTAFDCLKHPVDEIIIPHDSGPGIAWVKREELGEG
TAELLKRFVKDPANFEYKNKKVLLSGSKTLTLEETVAILGRIAKHPVRIRQVSVDEYAKQPQLAPN
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>g4288

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>g4289

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DDTQHCEEWPLALPHALRTDERINAVLYWNDLQEIERYVQWVGEYLAAAVEQFQEAQCTNDCSSG
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>g4290

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>g4291

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ETCKQHHRGRLVIMELVLNIFGIAVTSWMNYGFTYLPNNSVSWRFPLAFQSFCSMVTFTVFTIVMPE
SPRWLVLRGRNDEAKHILARLMSKDDNDPEVTESLSVLSATVAHEIESESAAMSDIFHNGPQQNLR
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VGTSISTATNWI FVYVVVPVTPLGITNLSWRFYLMFGFFNIAMLPVLWLFYVETSKLSLEQIDRLF
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>g4292

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PRIHYPLISYAPVVSANRSSHESFKVSDLTFCFEPNNQMVVCDPRNGKYMAVALLYRGDVVPRDC
SQAIASVKAKASFNLVEWCPTGFKLGINYQKPMRVPGGELAPVDRSVSMLSNTTAIAEAWNRLDLK
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>g4293

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GIATATTYPLDLLRTRFAAQGNEKIYTSIVDSIRDINRTEGPRGFFRGCSSAAVAQIVPYMGLFFAA
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>g4294

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>g4295

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>g4296

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>g4297

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>g4298

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>g4299

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RVAVEETFGPDPNGDGGKLNTHVNAKVAEMWTSKGGKLQNPVETNMVWLDLAASGLGLNDLAEI
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>g4300

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SPPYTGRGDDRGAQMLRTIMTTDVEYDLLREEGVSEGAIDFVSRLLRTPHERPTERELFKHPWIA
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MEVDS DNLSAGVYSFPIPNFTSSAHSLLGADSLVGQLNMSPNDTSSNDPGAAEGKPGTPQRRTARE
LTPANQESADPAQDKYSAATEVTPKALPFHRRIDLPLPDTASESSIPRSDSFQGPSSDGDNNQDE
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FDLNLRL EGRMTSWGRGPLATFVYPDRMDTRIPAYAIEVTFWSPGLEMLIDEGADWLEIPDVMTIL
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>g4301

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>g4302

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RKANRFDDNGRPRVYPEERMKENTWVGALLPVAALLWYGWTAEHGVYWLCP IIANFFTGFGMIIII
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>g4303

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GIEEISNDAQLADIGIDSLMGMELELEGMFKCTLPSDELMNVTDFAGLVQITKSTLGVTDDEDS
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CERMLDETLHKYPEQFRVMSVRPGQIAGSKVTGYWNAMEHLSFLFKSSQTLKVLPDFEGDLCWTPV
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>g4304

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GLVIDFLIHNTADAGGHFGSIKMIAMAMRGEQIPIEILEQANRDRNLFPLLDPNEPMLDHSSHI
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>g4305

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RKITVAAA IHAALATAAFELTSAKEVDEYVTVMASFRPYLQKPYNTEAHACRTYVTGIAPEVSKN
ASFEEQTASLT E L FKNWHTDKMSRALRELYRGAAQAILSPPPRPAGPPPSPPSGITHSNLGVVDQF
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LLRIQQKLEEEELNLVLERCI

>g4306

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VIPLGIATAASGLFTDDQLKLDLPTSPAKSTKDEWVLLWSGASSVGSNAIQ LAVAAGYHVITTCSP
KNFDFVKSLGADYAFDYN SPTVVS D I V E T F K G K S A G A Y A I G F V A A K P V I E I M S Q I T E G S K Y V A A S
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LKAGGLSATKL VVT L

>g4307

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K

>g4308

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>g4309

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>g4310

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>g4311

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>g4312

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>g4313

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>g4314

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>g4315

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>g4316

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>g4317

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>g4318

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>g4319

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>g4320

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>g4321

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>g4322

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>g4323

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>g4324

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>g4325

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>g4326

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>g4327

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>g4328

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>g4329

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>g4330

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>g4331

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>g4332

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>g4333

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>g4334

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>g4335

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>g4336

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>g4337

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>g4338

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>g4339

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>g4340

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>g4341

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>g4342

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>g4343

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>g4344

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>g4345

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>g4346

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>g4347

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>g4348

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>g4349

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>g4352

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>g4353

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>g4354

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>g4355

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>g4365

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>g4366

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>g4367

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>g4384

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>g4385

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>g4386

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>g4387

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>g4388

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>g4389

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>g4390

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>g4391

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>g4392

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>g4393

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>g4394

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>g4395

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>g4396

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>g4397

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>g4398

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>g4399

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>g4400

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>g4401

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>g4402

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>g4403

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>g4404

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>g4405

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>g4406

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>g4407

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>g4408

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>g4409

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>g4410

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>g4411

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>g4412

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>g4413

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>g4414

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>g4415

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>g4416

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>g4417

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>g4418

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>g4420

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>g4421

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>g4422

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>g4423

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>g4424

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GWGLSNAKKLKRPRKKSAFY YDGIEGEQPEEPPGEITIIYPYEELWKRFRLRKFD SGPASFSNP
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>g4425

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>g4426

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>g4427

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>g4428

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>g4429

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>g4430

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>g4431

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>g4432

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>g4433

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>g4434

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>g4435

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>g4436

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>g4437

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>g4438

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>g4439

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>g4440

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PSEARVTHKEVAVPDKTLPDTQEKVMTRVVTLHGFLHAI IWHRIDVKDSYIIRNKADGKLVKRWAE
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>g4441

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IIFPLSADHCLITLVQYNVIRAMIFNMAILSLLDHLPHGCTSTFNVPSLGVVADRAIPLDLRFTAL
QQSTPHPYWISVIPVPRLRDNLILSAGRYDEHEFCFDLGLSLYEGFDDIERRGLLVWGQAWCGHW
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>g4442

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>g4443

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>g4444

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>g4445

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>g4446

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>g4447

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>g4448

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GVEVS

>g4449

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>g4450

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>g4451

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>g4452

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>g4453

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>g4454

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ADIKSFYPEKDV TIVHSRERLLSRFRPRLHDYVYEKLQDMGINIILNERPQIKKGKNALLFSNGEI
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>g4455

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>g4456

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>g4457

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SGYLFHIDGDISGPRILRLYEVTDFSVHDIALTDSPSFHFSMDTCTNGEVYNMAIRGGNEGGLDGI
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>g4458

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>g4459

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HLGPDSLFWDRSDLP ELQKSLQRFVARLSEAALYTTSTIYKPRIHPESLVWQSLTKNPGTIPYDRG
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>g4460

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>g4461

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>g4462

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>g4463

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>g4464

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>g4465

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>g4466

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>g4467

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>g4468

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>g4469

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>g4470

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>g4471

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>g4472

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>g4473

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>g4474

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>g4475

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>g4476

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>g4477

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>g4478

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>g4479

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>g4480

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>g4481

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>g4482

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>g4483

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>g4484

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>g4485

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>g4486

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>g4487

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>g4488

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>g4489

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>g4490

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>g4491

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>g4492

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>g4493

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>g4494

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>g4495

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>g4496

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>g4497

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>g4499

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>g4501

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>g4502

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>g4503

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>g4504

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>g4506

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>g4507

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>g4508

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>g4509

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>g4511

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>g4512

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>g4513

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>g4515

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>g4516

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>g4517

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>g4518

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>g4519

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>g4520

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>g4522

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>g4524

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>g4525

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>g4526

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>g4527

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>g4528

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>g4529

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>g4530

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>g4531

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>g4532

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>g4533

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>g4534

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>g4535

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>g4536

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>g4537

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>g4538

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>g4539

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>g4540

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>g4541

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>g4542

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>g4543

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>g4544

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>g4545

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>g4546

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>g4547

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>g4548

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>g4549

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>g4550

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>g4551

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>g4552

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>g4554

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>g4557

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>g4558

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>g4560

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>g4575

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>g4576

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>g4577

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L S P I S I D E V P I I R C M G L N Y A D H A K E A K I P I P E V P I L L I K P R T S L N G P F P A K I P V S E L A Q D G S S D Y E
A E L A L I L G K T G R N I P E D R A W E Y V L G Y T A S N D V S A R K Q Q L K T P Q W S F S K G F D G S C P L G P V L V S P S A L
G D P H A L Q M K A I Y N D F G F Q E A G R T A D K I F Y T G Y G V Q P V L Y V A E Q C K D K P S L V G I F F A A A S F N D L E K A
T K I P G A E P M E D L D T P G G G K V V R I T D P N G Q P F G V V Y G S Q K K D Y N P P T H V L P L N H P A R T D E D T I A K P
R R G K Y Q R I P F G P V A C H K L G H M G F W S P D L E K A M E F Y L T H F N F K P S D V M L S G E S L E S A P S Q T F L H I D L
G Q N Y S D H H A L I L G Q A D R F S P P G P H H C S F E V E S I D K T F V G H D Y L M S K K Y T H A W G I G R H T E G S Q V F D Y
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I D A G G P R S T W L I V D V T P F D I E E A A T W K D A N Q P R Q Y I S H T R P T T C V P S Y A K Y R R W E F M L H P H E Y E S A
R Q A K F V W S L L S K F G A T P E N S R I D R S A I N Q L R G G W V D K F T Q G R I V L A G D A A H E T P P F L G Q G L N S G L R
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>g4583

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>g4584

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>g4585

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>g4586

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>g4588

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>g4589

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>g4599

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>g4600

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>g4601

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>g4602

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>g4603

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>g4604

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>g4605

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>g4606

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>g4607

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>g4608

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>g4609

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>g4611

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>g4612

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>g4613

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>g4614

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>g4615

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>g4616

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>g4617

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>g4618

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>g4619

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>g4620

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>g4621

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>g4622

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>g4623

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>g4624

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>g4625

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>g4626

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>g4627

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>g4628

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>g4629

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>g4630

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>g4631

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>g4632

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>g4633

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>g4634

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S

>g4635

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>g4636

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>g4637

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>g4638

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>g4639

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>g4640

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>g4641

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>g4642

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>g4643

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>g4644

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>g4645

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>g4646

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>g4647

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>g4648

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>g4649

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>g4650

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>g4651

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>g4652

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>g4653

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>g4654

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>g4655

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>g4656

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>g4657

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>g4658

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>g4659

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>g4660

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>g4661

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>g4662

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>g4663

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>g4664

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>g4665

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>g4666

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>g4667

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>g4668

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>g4669

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>g4670

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ADS

>g4671

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>g4672

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>g4673

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>g4674

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>g4676

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>g4677

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>g4678

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>g4679

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>g4680

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>g4682

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>g4683

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>g4684

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>g4685

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>g4686

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>g4687

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>g4688

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>g4689

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>g4690

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>g4691

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>g4692

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>g4693

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>g4694

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>g4695

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>g4696

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>g4697

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>g4698

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>g4699

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>g4700

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>g4701

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>g4702

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>g4703

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>g4704

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>g4705

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>g4706

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>g4707

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>g4708

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>g4709

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>g4710

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>g4711

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>g4712

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>g4713

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>g4714

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>g4715

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>g4716

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>g4717

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EKVNGVATNGGASVKA EVPPYPYATEAE PENPTVVPLELLSKFHFTFLIRDPHYSIPSYFRCTIPP
LDDVTGFHDFSPSEAGYDEVR RVFEYLRKVGLVGPRVATTHAEDAANKETNGTTHQRNGSSHKGGV
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>g4718

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>g4719

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>g4720

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HRPPI SQDFS RV RANVRTYGTGVVKVPPPYRQVVPSSFIQDNGPALPVKSLADRLLAQYHAYVHSV
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WLDDFTLDQARVSL LMSIVLYEMNSRSSSWWLGS AVRIAQDIGLHIESGPWSTVEREMRRRLWWG
IYAWDRLLSLELGKPI SIHDQDCD VDLPCPVDEQFIAEGARLP EG SNTNSLLATI HVVRSIGQLTK
TLRSPIVSPATLDIFDRHFNA CLATFP IHFHPKSDSL LDPSSLAPIIYLQNARYVLHRHNISPYCP
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ILIFREDFAAASVCVQACKVIGDHHIAMASCGRYVAFFLRILLDR LRNDSTPIDRDEEMLAYVSG
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>g4721

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>g4722

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>g4723

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GNPFLGPNHGVAAHHCVDLIYIYDAFHDAIDVASPTGGTSNAELVNRVQTDWITFIAAPSINEN
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>g4724

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>g4725

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>g4726

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>g4727

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>g4728

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>g4729

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>g4730

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>g4731

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>g4732

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>g4733

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>g4734

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>g4735

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>g4736

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>g4737

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>g4738

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>g4739

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>g4740

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>g4741

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>g4742

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>g4746

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>g4750

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>g4751

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>g4754

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>g4755

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>g4758

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SLDP

>g4759

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>g4760

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>g4761

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>g4762

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>g4763

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>g4764

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>g4765

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>g4766

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>g4767

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>g4768

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>g4769

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>g4770

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>g4771

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>g4772

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>g4773

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>g4774

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>g4775

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>g4776

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>g4777

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>g4778

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>g4779

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>g4780

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>g4781

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>g4782

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>g4783

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>g4784

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>g4785

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>g4787

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>g4788

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>g4806

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>g4809

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>g4810

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>g4811

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>g4812

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>g4813

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>g4816

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>g4817

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>g4819

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>g4821

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>g4822

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>g4823

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EGFES

>g4824

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>g4825

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>g4826

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>g4827

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>g4828

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>g4829

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>g4830

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>g4831

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>g4832

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>g4833

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>g4834

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>g4835

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>g4836

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>g4837

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>g4838

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>g4839

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>g4843

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>g4844

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>g4845

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>g4846

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>g4847

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>g4849

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>g4850

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>g4852

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>g4853

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>g4854

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>g4855

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>g4856

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>g4858

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>g4859

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>g4861

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>g4862

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>g4863

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>g4864

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>g4865

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>g4866

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>g4867

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>g4868

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>g4869

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>g4870

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>g4871

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>g4872

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>g4873

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>g4874

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>g4875

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>g4876

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>g4877

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>g4879

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>g4880

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>g4881

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>g4882

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>g4883

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>g4884

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>g4885

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>g4886

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>g4887

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>g4888

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>g4889

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>g4891

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>g4897

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>g4903

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>g4905

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>g4906

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>g4907

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>g4908

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KKREQ

>g4909

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>g4910

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>g4911

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>g4912

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>g4913

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>g4914

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>g4915

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>g4916

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>g4917

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>g4918

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>g4919

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>g4920

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>g4921

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>g4922

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>g4923

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>g4924

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PGL

>g4925

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>g4926

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>g4927

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>g4928

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>g4929

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>g4930

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>g4931

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>g4932

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>g4933

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>g4934

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TVVISSICR

>g4935

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>g4936

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>g4937

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>g4938

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>g4939

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>g4940

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>g4941

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>g4942

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>g4943

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>g4944

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>g4945

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>g4946

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>g4947

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>g4948

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>g4949

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>g4950

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>g4951

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>g4952

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>g4953

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Q

>g4954

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>g4956

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>g4957

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>g4958

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>g4960

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>g4961

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>g4962

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>g4963

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>g4964

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>g4965

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>g4966

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>g4967

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>g4969

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>g4971

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>g4972

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>g4973

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>g4974

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>g4975

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>g4977

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>g4978

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>g4979

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>g4980

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>g4981

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>g4982

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>g4983

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>g4984

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>g4985

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>g4986

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>g4987

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>g4988

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>g4989

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>g4990

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>g4991

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>g4992

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>g4993

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>g4994

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>g4995

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>g4996

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>g4998

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>g5000

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>g5003

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>g5004

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>g5005

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>g5006

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>g5007

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>g5008

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LYEEVVGHLHPLFNQKRFSQVEAVYT GIESHHAKIEHQSKIDS DTLDNIKVALAIPLLALGIGNG
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ANQLRGLTIRSCFLSGSSIADLDATTDIYAKQHPFFQHFLASAVGLLLLVIASESKRNTLAKTASD
LSSSVNLNESISRAFSLTASYFNVSAPSRRLLKRMMSMAEPLSKLGILYPTVSTN KDLTYLSLQSQ
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>g5009

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>g5010

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LTVPPYAVAAVLTVAIGYIADRTRARGLCNIIVSILGAIGFSMLLGAKTAGTRYAGVFLGAMGIYP
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>g5011

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DDNSNPEMGGISVWFVKIKSSKEKAETGDQDEPDYLFHEFD FNYRQKQQDSSETAGATTDATKPKF
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>g5012

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>g5013

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>g5014

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STAI AIKYIKAQISSGLPLPARLIDQLNHEREKGIESVMAALEKQRSFLLSENWPCGYAFQCTSM
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>g5015

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PLALAFIYLG LGTPAKLKG I HQVSMLLGLVFQARDDYLDVYGNPRVTGKIGSDIQENKCSWLSVEA
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>g5016

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>g5017

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MISARNRLVQIESGTPIQIQGTIVHQDDYVIADNCGTVFVPADRIEEVVEMGERIDLRQTRMLSDV
RAGESVARVMHDTQFNAIQKII PPSATAAPSAEGNSKKISAEDQELVALLADIDTA AVSDALDTLG
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>g5018

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>g5019

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QVADMVKKKLFTVFDSAYQGFATGNVDRDAWPIQYFVEHI ILDKDSKSGSNHGLCVAQSFSKNF
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>g5020

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>g5021

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>g5022

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>g5023

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>g5024

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>g5025

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>g5026

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>g5027

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KALTELTPYTRYLPNFAGEPLPTWVLAARATLVGDAATHGGAF AAGGSLALDDSFALALALRHAF
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>g5028

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>g5029

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AIVYDVRTSLDRKIVIMSAFCSRLIIIFAVL RLHYEGPASKSLDPTLAFIEPYLWGETAMHYSLI
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>g5030

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>g5031

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>g5032

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>g5033

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>g5034

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>g5035

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>g5036

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>g5037

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>g5038

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>g5039

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>g5041

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>g5042

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>g5043

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>g5044

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>g5045

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>g5046

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>g5048

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>g5049

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>g5051

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>g5052

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>g5054

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>g5055

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>g5056

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>g5057

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>g5058

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>g5084

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>g5085

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>g5086

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>g5087

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>g5088

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>g5089

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>g5090

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>g5091

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>g5092

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>g5093

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>g5094

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GSSKQK

>g5095

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>g5096

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>g5097

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GK

>g5098

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>g5099

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>g5101

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>g5102

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>g5103

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>g5104

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>g5105

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>g5106

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>g5107

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>g5108

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>g5109

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>g5110

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>g5111

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>g5112

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>g5113

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>g5114

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>g5115

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TRGYLHGGLFIDFVGQKAPVSRVRLVMFDFLIMLIHLVMLGLILERVMAVKRESTEDRESQETST
EGEDGTNSEQDHDAAERGVLRNETNNDSESEGLQDVTLERTALLAEPAEDGSSPASRSHSHPLDAFA
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>g5116

MASSPTSYP RQKKKLPTTFSGTNNNDLILDAGSPHAAPAFPLVSMWFARGATSQWIIILPILMV
VGLFRWAVSLWGYSGFNMPLHGD FEAQRHWMELTIHLPLTKWYFYDLQYWGLDYPPLTAYHSWLL
GKIGSLVDPAFFALDASRGVEDPLLKLYMRATVIVSEYLVYIPAVVLFARRYGRLLGVP MWST
LIAILMQPGNILLVDHGHFQYNTVMLGLMVASVESILTGRPLPLACAFFVAALSFKQMALYYAPIMFS
FLLGSCIFPRIRIGRFLAIALSTVAAFAIILAPFIAASLNDWAHGTALPGSLPALIADLPKLDK

AWYYTPLLQLGQLIHRVFPFARGLFEDKVANAWCAIHTFYKLHRFPAPLLQRASLAATLASISVPC
LIIFRYPRPQLLLLLALSSSAWGFFLFSFQVHEKSVLLPLLPMTLLFASDGGLNKVNRAWIGWANIL
GAWTIYPLLKREELRIPYFVITFLWTYLLGLFPTSIEIFRARNITTTTKEASVSGLTVLIHTIFYL
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>g5117

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AGYGFKI

>g5118

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LGPKAGVLVADALTELAQAQEKARHEGKDVPLLESIVCGRNRENGSMEAWASAYKAHAKGMRSVK
MTQNGIRQEGISLLLKDGLSHASELEVLDLQDNTFTLLGSSALAKVVQGWASLRELGVGDCLLSAR
GGVKVAQALAAGKNEKVEILRLQYNDINAEGVKQFLFAAKNSLPALKRVELNGNKFLEEDANIEEL
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>g5119

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TNNKTRDSCGLMYDGLSFMSTDPKIVLAKAIAVENAFTSFGPETKDQYKTKIRSLFQNLKNKS
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>g5120

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>g5121

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TVATNALLERKGERVALLITKGFKDLLVIGNQARPSIFDLVSKLDRLYEKVIEWEERTVIEGFAE
DPEPQPIDIKSDPALVEGLTGEAIRILQQPDLTQVRQDLQKLWDEGYRTLAI AFMHSFAFPDHEAA
VAAIAREIGFRASVSSELQPMIRIVPRAQSATADAYLSPVIAQYIEGFRSGFKGRLEDHNAKKLLL
CQSDGGLTSFTRFTGLRAILSGPAAGVIGCARTCYDEEDGTPVLGFDMMGGTSTDVSRYSGSFEHVF
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RILPDYFARPLDFDVVKKKFLLETEVVNAEKKGTETLTPEEIAMGFLLVANASMTPIRALSEGRG
YETAHNHLVCFGGAGGQHATAIARDLGIKRVLIHRFSSILSAYGMALADVVELQEPESGVYNKDS
APRIEKRAGALRQRSTKQLLEEGFSEDQISHEVFLNMRYRGSDTSLMIAESDAATFSEGFIAHRK
EFGFTQPREILVDDVRLRSVGKAVDVKIKSPFQQLEINRSNQDLKPALVRKVYFEKEGWTDSRI
FHLQDVPKGSVILGPAMIIDATQTI VVDPASEATVLDEHVVIDLLDAETKKISADEVDPIQLSVFS
HRFMSVAEQTGETLRKTSISTNIKERLDYSCAVFSADGQLVANAPHIPAHLGSM SYAIAYQARRYA
KGELKPGDVILSNHPIAGGTHLPDLTVTTPVFDENDPTKILFFVANRGHHADIGGIAAGSMPPNST
ELWQEXAAIESFKLVKEGIFDEEGVTHLLYEVPAYPGCSGTRTLNDNISDLKAGIAANNKGIHLI
QGLVREYSWPVVELYMHAVQKNAEDTVRGLLKDFSRRFQGPQPLEAVDYMDDGTPVLKITIDPTDG
SAKFDFGTGTGPEALNNLNSPPAVMYSGIMYCLRSMISSDIPLNQGCLAPINVICPPNTILSPSMKA
ATVGSNVETAQRIIDVILKAFRVMGASQGT CNNLTFGYGGKDPVTGAVTKGFGYYETIAGGAGAGA
NWEQGSGVHTGSTNTRMTDPETF EKRPVLLREFSIRKSGSGGGGRNRGGDGCIRDIELRRPLQVSI
LSERRVVAPYGMXGEDGKRGVNLWIRKDPVDG SVRTISVGAKASMAMNTGDRFIVQTPGGGGYGV
AVDKKQAVEVLDEFVVKRAAGVLSACPHNTIIVSNDNSSTSPKHAHFTSIQSAILLSLPHDNSSATI
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LTGAGPTGWPVPVDTPTYGSTDFRVYNIDFRNVFSEYSAGPSLAVSVSYANAGFYYS GFYSYQDTVY
IGKLG NAYFYDSIIAGQTD FLYGFGTAWFQSCALQLRSCGGGITAWKGTNTTYANKFGVYIVDSTI
NAANASIAATIAGKCALGRPWNALHRSIFARTYEDASIKSSGYTDWVNKGVENYTPGVTLQAEFET
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>g5122

MPKITRRESKDGSPISVDELEDSPSKRQRNSLAKVKCSGGNPCRSCARKPEGTECVYPYRDRKVQV
QESYLNWLKREVALLKGDVSEEDIVGQSSQTQHTPEDREEDDDSPERFGNVDVDLKNPLIEDKAW
FVTDSASWQPIYIGEAACTAFGTRLRQFLNGNEPVAPLSRSKYSKHKAFLRMAAPAPRFEWPNRAY
AHLKKVALRFLGNDYHLMRLKSTIERMQEIYDTQKLDDPVFVCKLFALFSMGEMYSNRRLGSTKG
PDVPGTGYFVQAMSLTQDMHEEASVVYVEALLIISLYSLALNRTKSAYTYAGMALRLCLTLGLHHN
VPEGYTISAVEREHRIRVWWSVYIIDRMTSSKLGHVPVTVQSDSIDVDLPSMDKLTTPSEQEEFSDPS
HLIAHVKLARISGDIISDIYGRSSQTKAFVQSVQKILRSLRTWAETLPASVQISQTKPLRYSSRNV
ASLHLCFNQCVILTTRPILFHVFKSCFQGGQAAAPSPPTMALADACIHAARSSNGLLTQLWIDAGM
AIYGYFDAHYLFSSTIILMMSSILGTSNSDADREAVDTASDIMESIVKDGNLPAAGFYEHFLEIRK
VMLEFADRSTNGNGNGPAQPMDHIAELLVMPGSAADLGLDDSDGQQNPLVDNNNNSAFLTQSRLNN
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>g5123

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GSFQEPEAPITQTTESITARDPETSSQLQPAQETSSHIPIESLYELTRLRSLRGETVEELPSNHDD
FISRGLVPVDEAEKLFHFYQTQLDPYIYGLASKYKTLESRLRSSSLLTACICTVAASHQAGNGQLY
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NEFAQTPKSWDLSDEASIDPVRLWYLLYICDQHLSILYTRAPMIREDDTIRGWSYLESPHASQS
DIRISSQVALMTLLSQIREFFGVDASKSIPRGAMPHINTFSHHLDKWLAHWSSKLRPNEHIGNFPS
KGVLLHYHFGLKHLHYSHVFRGLKSGDHIEHIPSYFKDAASTAVSHATTILELLLGADIRRSIIGV
PHYFHTMVAFAACVLLKVADRYRDDLGDIDVASTHSLIQRVIDFFRHVKCGQYHLVHWMADGLAKML
AQSSSAQSSRDSMSSDSVNGSINGSINSSAHSNVPLSWDNTHTRTNNQTSGNLRGGLNTMSPSLVH
HENVDNTLFNSVSEIPEQPSFSLDPNFGHLNAEDDDHGMVGGGAGIGMTGGGAFLPMLDGIIEG
GDYGLTDLSFNFV

>g5124

MANFEIYIPTNLSFQDYIAVIQTARVWADGYDRKDLARLSATLAPEVIVDYTSVVPWSGEEKRYTSH
EFATEWLSAEHLGNRALATQHLLAQPYIKSVAEDEIVVQWQQLASHGRWEDGNANTDGGKKRTIVE
TSDGRSWMEHKFVRIEGRWKIARITPELTIDTGDFMRVRRPEGAA

>g5125

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GSNVFMPFHLTEADGWWDIMELNVRAPVELTRLVPEMMQRNSGTIVYTSSRAATANLPWTTSYN
AKTAITRFAGTLQAELEQVQKIENKFDRNEIQLFSIHPGEIETKLHQGTGFPEKTKQEAPYVIEHME
ALGKKRPHFQGALPAWTCVWLCAGKGEELKGAYVDCTRDVEEQAAAVRTK

>g5126

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NTLTGLANAGCIMGIPAAQEVTPNKLRPWTMGFSQAFASCCVIAGTLGAGAFVKYQSWRWSYYLNA
FVYGASATLVFFFYHPPPTGLRRQQGQLREIISKVDYFGIFLFAAGSIASLLIALTWGGDTPWSSG
KVIASLVVGCAGLVGFGLYEWLFTTEGIFDHRLFETRNFPIILLFVCTVDGMLLLGVNVLYAQQIAD
MFTTDAVKIATVLTPLTTSAGCLPAGFVMAKTKSYRMLVLCALLWCSLFTGLMAMVNEQRLSWA
YAFSSFLFGIGTAVTTVIPVAMGLSVPSFLLGTAGTIGVACRAFGGIIGITIFTAIYNNKIGAAALA
HDVGGVLSAAGEGNLTSSVVTALMSSNPMALNLVEGLPQSLIPAIRGAQAVAVTYSWKYVWIAICV
VVAANALVACSLKSVAKRMNDHVESALESSEIRDKQMTIAH

>g5127

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KSRGLIGGISGVGIAFGTMASNWVGACSYATNGTVQWRLPLGIQLPWGIIMFIGLSTFMPNSPRQ
LIRQGKIEQARREFITIRDLHSHEVEEFALMRAQIEYEMQRELKSYKDIFKLYRHRVLVSIAAQ
TMTSLTGVNVIQYYQTTLYKSLGINAKLILALSGVYGTIAFLANTLTTKYLTQWGRRKMIAGLG
GIILIEIYAAMVQREFQNTNNRVKGFAILGIYLFVVCYYGMLNSTTWIYGAEVLPINMRSKVMGL

AAASHFIVNVGITEAGPSAFANIHENYYYYVFVACTAFFLTVAYFYFPETKQRTLEEIAAAFQDRVV
EVEDVDIATEEAITAANKQSEHLE

>g5128

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FPLKKVPHYILSQIFGAFMASLLVMGMYRQEIWKYEEALKALGAPLVSATGPAGIFCAFPAEGQSL
GYLFLIEFFVDSFIGLVIWSCIDPANPFVTPSTVPIVIGVGYGVMVWGFADLTISTNMARDLGARF
VAAIFYGGEAFSYKSYCWISILVNIPATLFATGFYELFLRDSIQLLHKGGVKHAEEGEGLRRLYLSE
VGMLKDENEVTAMHMARTEAIELYSFIIKKRIQEHNMAHEAVAIGVLSILIIILYRYLNQTDTPKIK
GLPEIPGVPIFGNLIQLGENHAKVAAEWAKQYGPVFQVRMGNKRIVFANSFESVKQLWLKEQSALI
SRPTFHTFHSVVSSSQGFTIGTSPWDESCRKRRAAATALNKPAVQSYMPIIDLEATTSIQEMYRD
SQKGQIDINPISYFQRYALNTSLTLNYGIRIEGNVDDSLQEIWAVERGVSNFRSTSNNWQDYVPL
LRLLPKKNSEAEFEFRVRDKYLTHLLNLLKESIANGTDKPCITGNILKDPEAQNEAEIKSLCLTM
VSAGLDTVPGNLVMGLAYLASEDGMRIQKKAYAEIMKVYPSNDAWDKCLVEEKVPYITALVKEILR
FWTVIPICLPRKSIKDVWTWNGVTIPANTTFFMNAAADYDSDFKDPEKFLPERYLDTPKANQGT
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>g5129

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KISFHGLTTSSFNFGIARQTLRSRGITEVGGGVSGSDDVDDYSLSHGGVLEENAVSTRDASPMPSP
SITPHRDDHHHQRSSSTIDPLWGINREEAIRLCHVYEEEMGIMYPVINIETAIQVNALYNHLSPL
SSSNELATKEEPLSDDINILKLVFACALTAEANGNSDLAMRIFRGVRDVASDVIWQPPNIKRLIF
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SMGTGMPYHLDSSDIDPSLPRPSNVPYLNTMISYNRIAERVVRFITSPNRNQHSRKEEMAYLDWQV
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QSPVEASAVVEIAKDTICFITHLNNSTDIYQLQQITFNWFLISALAVLFLAVAHAPAQFTSACKDE
FYMALGLIEGFSMHSYISQRLWKSIGLRLKLGPKIGLAAKPADQNQTVVRPRRRSQQEAPPPQQLQ
QKHQEQKQQSIVNYPGTAAINTMPQEGGASSMPTYMPTSTESRFHHHHQOQQQSLQIPPAPPTATA
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>g5130

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RIRSWDMSKLSTKRLHAQLGRNEGGLSRQLVSVANVSVAIEAQEYDDGRRG

>g5131

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SPITSYLGHSSSIDQQLGRLVIDETRSYYTSNILLWANLGSEIEELRNLLAEPAFENEDSIYENTSS
APLSSNAAILGFRALAYSLQPYHPSLPESVALFQNFRENVVPMVHIFHIPTTTRMYWDVIARLDSI
DKDTEALLFAIYYSIIISMCPQCINITGMSHETAIEKYRFAVEQAMARANLLNTQSIILLQAAVL
YLSALRNEDDSRTVWSLTSLVFHIAQTMGLHRDGTAFSLKPFETELRRRLWLHICLLDQRSSEYHG
GEPVHEFTFDTKVPLHINDSLTPEMTTPPPEREFGCEMTFSLIRSEAMRTAWKISHIPPSLRLFL
RRTSDVLSFKDRIILAEELKDRLHQRYLAHCDNRVPFQFLSLKVARLIIARTWLVVHWPFGNCIL
QGDGMRDQLFLTSIDILEQSSLLLTNRDISKWTWHSKTHIQWHAVAFILSEICWRPPSPECDRGWE
YVSMVYDVWIKIKEPEKQGTWLRPINRLMAKARYVREMQRSSAVPLGNVFQEKRMQSTSINGNSED
FLATNGVFEEIGMDNMQSVLGLLESLYPSMELFPDNFGMNPFGID

>g5132

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ALTPYFIAAVFAFGTATGKDIQTVVITRFFLGLFGSAPITNVGGVMADIWSPQVRGIALVSYGLCV
IGGPTIGPVIGSALTSSYLGWRWTSYLTGILMMTQFTADVLMLEDTFPPALLVHKARRLRLETNW

SFHAKHEEMDVSFKAIYEKHLVRPLRILCTPICLLITIYTSFVYGILYASLEGYTIIEYQENRGWKP
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>g5133

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GPILYVMELAVLLAAGLRDWIDLGVIIIGILMLNAIVGWYQEKQAADVVASLKGDIAWVIRGDS
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HTGHSIVAVDQSAITGESLAVDKYMGDTCYTTGCKRGKAFVVTATAKHSFVGKTASLVQGAQDQ
GHFKAIMNSIGTTLLVLMFFILAAWVGGFRLRIATPEDSDNSLLKYTLILFIIGVPVGLPVVT
TTTLAVGAAYLAQQKAIVQKLTAIESLAGVDVLCSDKTGTLTANQLSIREPYVAEGVDVNWLFABA
AIASSHNVNLDPIDKVTILTLRRYPKAREILARNWVTEKYTPFDPVSKRITTVCTCDGVRYTCAK
GAPKAILNLSECSEEEARLYRDKAAEFARRGFRSLGVAVQKEGEPWQLLGMYPMFDPPRDDTAHTI
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HKYQVVEMLQQRGHLTAMTGDGVNDAPSLKKSDCGIAVEGATEAAQAAADIVFLAPGLSTIVDSIK
VARQIFQRMKAYIQYRIALCLHLEIYLVTMMIIDETIPADLIVFIALFADLATIAVAYDNAHYEQ
RPVEWQLPKIWVISIVLGILLAAAGTWIVRGAMFLSNGGIIENFGHPQGIIFLEVALTENWLI FVTR
GGKTYPSWQLVGAI FGV DVLATLFCVFGWLVS PDKQITHPADTAQFSANGHTSIVTVV IWAYSIG
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EEDDE

>g5134

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RRLGPAFKEKDRKYVLTVPVWSDKAKDNTLKVAGAGIPEHQLALLSEPEAAAALYTLQAIQPNTI
KRNDTFVICDAGGGTVDIISYRVRDLSPLSLEEVEGTGGVCGSMVLDELFERFLEKLVGFEEAFEL
FSNRTRDDALRYWQDTIKVQFTGTECEDEFDYIGWRLPLPGVMDNPEIELEGGYLQLTKSQIQGIF
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>g5135

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ITSEMMIKLNSLQMRGEALYDDQCASEWRKLQQUALDVWTRRTFMDKLAMSHMTKQSLEWTKDFYVL
PEDILQDIHGKHAYIQGTIAGIIFKTVFSCLFACSPSGHSERLLSAIGKALRRSGSSYTWETWRS
TSKALDDPTAFEEHRHDDSCNSLSQTIDLLFSNFYSQNIGNDRIHSGLHRIFQDCLAFKKRLERQE
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ESGTEDLYDIEKDIQAVKSEEDDDDELSLIMINS

>g5136

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>g5137

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RWLFLHNNTESAVAILMKMHGTSQVQNEEVQKELKLINQAIEIEEMNNASRWLDLLKNKPETQNFR
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RNMLMIGAFGMFGCFLTMSLTIRSGTYGASIVCVIAFFLYYTFFAIGFLAIPWLYSAEILPLHLRA
RGAAITTSNWIWNFATVMMTPSVMGDLGWKGYLIFTVFNASFVPVIYFFYPETTGRRLLEEIDAIF
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>g5138

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EGMQPPKQYPLPYTNTSVLPSNFYDVSTLHQVHCLSKIRRRYWQLMTVGYQADDPNNAEMESHVEH
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>g5139

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NETVAPEIVAQGETVAYVNWEYHVHCTYMMQMHRAYAERGFIDSHVDSWAHXRHCQMVILEKSI
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>g5140

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>g5141

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CLNYIRQAIMCNGDATFESVNHQGVLDGMGATHQCRNFELIFSWAYEHRQT KNGAGYKPEEILTHS
PAKQNNYDIDE

>g5142

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KSRNDNLEAGSDSIWEIGCWFI FILNLGNLLTFAVSLVPTAHGRGIMTAVLDTLT KKWLV P YMN V
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>g5143

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DGATGHWVGNPNAKNVLIWIHGGGF AVPANRGYFAFFDKFLKEMRAANKDISVFMVAYTLVPKAVY
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LLSPWTSLETTFPPQDTEPLGDLIHPDCAKSWAGSYLAGSERDNYTDARLAPIDWWHNLPIKHVLV
TAGGYELL LPFIEDFASRLKEGLDGDESDGGKVEFFVGEKEAHVAPIYFTQFQKNFFKHLQLKPRF
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>g5144

MNGHANGHINGFANGTSEIIDVAII GAGISGLNAGYRVQTKLPNATYQIFEGRGDIGGTWDLFKYP
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LTIDVQGQTKHVRARNIIVGTGYDYDYNQPLSAEIPGLQNFKGQVIHPQFWPENLDYANKKVAIIGS
GATAVTLVPNLSPTAAHVTMIQRSPTYVYPLPNNTRSWFSFLLPSFIRHKLSRMFFIFLQRYSYEL
CRAYPRQARYFLLRRMQSLLRGALPIDPHFTPRYNPWDQRLCLAPDG DFFTALRSGKADVKTGTVK
SMTENTII LNNGEVIEADILITATGLRISVAAGVPIKVDGEKIDLSQKYLWNGCMLQDVPNLCYVI
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>g5145

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DENRDGNNAVLDDNSYTRPLDRAYQIETTLKH YTFDTLWGKWDEYLWTIKDVGDHKT YKSLYQMAT
GDYNSPKEFGLFRMTEIKSKELPHTKAVAYHDHIPSHEKHFLRGELLISIRMMLS QLKKKRYRPHM
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LRLHE

>g5146

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QHWMREAQKELLGLQSWSKYCSSFGAGERIPEGTF AIVRHYQLEATKTDGTPPTPMFDTPIARRTR
GQLFQQVQLKMRNTHLSTPTPKSTNVPENWSYLESDDDEDEPTPYRVETPVPREL V NIMYPPTKDEQ
IVNTALIVLLNALT IHLDSFSSKWTLHRKAFIATFGDAAFEARTDGYLNDHRGKPSVIVEVKPV MR
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>g5147

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RWASRAPVSPSYVGPTSSEFGLNVPNDLDPMDDETETSELVQPSSSNSPYVPPVPEEQRKRTDIS
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FSARDTEVLKLVLALGLISESPGQSELGNILAASAEDTFATTRTQVPEVDMKELIILTTLVAEHHTY
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PQPFDRFLFSALATLFLAMFHYPDYFVNVCRDSFSEALNTLKRSSTRGRHSRRLRKVIKNLKRDLT
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>g5148

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GPSGTYLDPLGKDAPGIPSGLTDKVMVEVCGE GDPIC TNNGTDFQVHASYGKTGT YVQDAAVYILRQ
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>g5149

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ESCPLHAALGTGSVRNQLRRAKQLRNQWKTADSPEDDEQYKSAASSRNETASLESYDLEGILTSVF
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>g5150

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AADAKDQCGPEMDDDDREEAAQEAILALRGLEIYPHIVPTWCVSSRCWIDRGGWDLRVRYQSWILV
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LEM

>g5151

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IIRIDKLATGKKEDPLTASDADFREDVIGHCTTA EYIPELLPKGTRQDLKELNVLQPNGPSFRVSQ
DKSLIEWQKWRFRVGFNPREGATIHDVYYDGRSVLYRLSISEMTVPYADPRYPFHRKQAFDFGDGG
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FCIRIDPAIEGHKNTVYVEESHAVEMNDITNPEGNFYQIQKTPVERS SWFDAAPEHNRI IKMVNTD
KLNPI SQRP MG YKFTPMATQ LLLADKRSIQARRAQFAQHVVWTKYRDGELYAGGQYTLQSQDEIG
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>g5152

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ARAVNGIGTGILNAIIPVWATETSEHTSRGQFIAIEFTLNIFGVVIAYWMEFGLSFIDGGKSAFRW
RFPVAFQIIIFLLVLFSMIWFFPESPRWLVKVGREDEARYILGRLRGNTTPEERARADLEFREISHI
AELEKSMTHDSYLA MLFGYKSGKLHLGRRVQLVIWLQIMQEW TGIAGVTVYAPTIFSIAGYNAEK
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SYGAGAASMI FIFYTAAFGATWLTVPWLYPAE IIFPLAVRARGNAWGVVGWSIGNGWMLMLVCPVMFNS
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>g5153

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THPEVAWVGQSEEEELKKAGVKFNKGTFPFSANSRAKTNLETEGLVKFLSDAETDRILGVHILGPNA
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>g5154

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EKEGYIVPFAFEEAIGYMFSGTKCYDKDGLTAAAVFLLAEAHWRKQGLTPLDKLRDLFKNYGHET
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>g5155

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>g5156

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>g5157

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>g5158

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LGHRRFTCFVDALDECDEQQVMDMVEFFEVLAEQATDHDIOFRICHTEDLKIYIKSHLRFNDALLI
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>g5159

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VNGSDDSSDASSRSSSPVFDEPIDADTGLRRRNSVSTVASSTSPAPSRDEMSESHFSFLDARTQQE
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EHDPDIQHMPFFAISHRLTSLRSTYYGIVMKYDFAAKMFLQVQNYLYYPIMCFARFNLYALS YGH
LFLGKGPKKGPWWHRWYEIVGVCFFWTWFGYGVLYRSLPNWSTRIGYLLISHMVTSPLVHQITLS
HFAMSTADLGIHESFPQKMLRTTMDVDCPTWLDFFHGGQLQFQAIHHLFPRI PRHNLRETQKLVRDF
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>g5160

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>g5161

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>g5162

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YLTEADLGR

>g5163

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>g5164

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>g5165

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>g5166

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>g5167

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FGRRIAVEREIENPVSRSKTNVIFDESGHFILYGSLHGKICINTFTNRVVRVYGKDEPFRAFNLA
YQGAPQKKGVVTVSMAASSNPLLQEAERDPIILVSTGFGKVRFYMFNTDTEINKSTRDIQNEKPRE
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>g5168

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>g5169

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KGPVVNTLTRLPLGVVALITPWNHPLLI SMKKIGAALAAGNVVIVKPSELAPVSILKLGAIFKEAG
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>g5170

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TDYVTLAPAPVTVAEVTSVVEQTIPIYAVTVDVSTADITLTNTQTDVATITATEDQWATVTDWATFD
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>g5171

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LRL LHYPVLKSVFENNPD AVRAGPHSDYGSITLLFQDDIGGLEVKSPQNTWVRAPIKDTIVVNA
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>g5172

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VDSA EVTSDLKKWIQSFSSDQEEKQQPXAIIMFNLI AFKDMAKYIKYQEA FMAGIGMRHGAKPLLW
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>g5173

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LHLQLGQKIRSYPPLSTFEKPIE IADLFDADEREVNLTVTTMGLAAGGKLIQDIYRDHNPP EIWNT
TATRIINVHLLDPVTCERGTGVVPPPPPIDTELYLKS NFPPFYVVEEQADNRLEGGEFDDFKSV GAL
DKEMVLA IESTFDPSPKPTRCSECKIRLCNYIIRPCNHTFCKSCIKKLQDNGLA EVWQCSKCQT TV
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>g5174

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IIATNVIHDFTQYGYWDTNYIVDPKNWHMVAKIGRDDHLYRVSYSEVPGLTAE EYKRRQPARYKEI
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>g5175

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>g5176

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>g5177

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>g5178

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>g5179

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>g5180

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LN

>g5181

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VSVLLGLIPLGSPVAFNDLTSMSTSGLYLSYMVCCILLYRRCTNGIADPSDITNADLSPA EHEQI
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>g5182

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>g5183

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>g5184

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>g5185

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SIATVPVTMPYGYAYWQLDLSGYQISSNPYIETPINGIADTGTTLLYLPNDVV TAYYAAVPGSVF
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>g5186

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>g5187

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>g5188

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>g5189

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>g5190

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>g5191

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>g5192

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>g5193

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>g5194

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>g5195

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>g5196

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>g5197

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>g5198

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DGTNVALADLLLVGQQVENELLSMNFSASPSDHQRHTTEAHRSAALIYLYRVIYDIGAPHELTLSQ
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>g5199

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>g5200

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>g5201

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>g5202

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>g5203

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>g5204

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>g5205

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>g5206

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>g5207

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>g5208

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>g5210
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>g5211
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>g5215
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>g5216

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>g5217

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>g5218

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>g5219

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>g5221

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>g5223

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>g5224

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>g5226

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>g5227

>g5228

>g5229

>g5230

>g5231

>g5232

>q5233

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>g5235

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>g5236

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>g5237

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>g5238

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>g5240

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>g5242

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>g5246

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>g5248

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>g5249

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>g5250

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>g5251

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>g5252

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>g5253

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>g5254

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>g5255

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>g5257

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>g5258

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>g5259

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>g5260

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>g5261

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>g5262

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>g5263

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>g5264

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>g5265

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>g5266

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>g5267

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>g5268

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>g5269

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>g5270

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>g5271

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>g5272

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>g5273

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>g5274

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>g5275

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>g5276

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>g5277

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>g5278

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>g5279

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>g5280

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>g5281

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>g5282

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>g5283

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>g5284

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>g5285

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>g5286

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>g5287

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>g5288

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>g5289

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>g5290

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>g5291

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Y

>g5292

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>g5293

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>g5294

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>g5295

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>g5296

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>g5297

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>g5305

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>g5306

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>g5307

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>g5310

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>g5314

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>g5315

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>g5316

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>g5323
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>g5326

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>g5327

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>g5331

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>g5333

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>g5334

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>g5335

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>g5336

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>g5337

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>g5347

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>g5349

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>g5357

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>g5358

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>q5359

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>q5360

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>q5361

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>q5362

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>g5393

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>g5394

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>g5395

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>g5396

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>g5397

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>g5398

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>g5399

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>g5401

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>g5402

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>g5403

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>g5404

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>g5405

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>g5406

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>g5407

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>g5408

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>g5409

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>g5410

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>g5411

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>g5412

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>g5413

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>g5414

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>g5415

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>g5416

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>g5418

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>g5419

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>g5420

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>g5421

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>g5422

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>g5423

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>g5424

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>g5425

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>g5426

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>g5428

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>g5430

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>g5431

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>g5434

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>g5435

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>g5436

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>g5437

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>g5438

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>g5460

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>g5461

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>g5462

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>g5463

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>g5465

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>g5466

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>g5467

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>g5469

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>g5470

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>g5471

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>g5472

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>g5473

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>g5474

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>g5475

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>g5476

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>g5477

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>g5478

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>g5481

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>g5533

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>g5534

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>g5535

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>g5536

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>g5537

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>g5543

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>g5544

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>g5547

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>g5550

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>g5559

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>g5579

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>g5580

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>g5582

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>g5583

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>g5586

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>g5587

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>g5588

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>g5611

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>g5615

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>g5621

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>g5623

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>g5624

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>g5633

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>g5634

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>g5636

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>g5637

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>g5639

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>g5668

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>g5669

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>g5670

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>g5671

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>g5672

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>g5673

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>g5681

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>g5683

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>g5685

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>g5687

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>g5689

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>g5691

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>g5692

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>g5693

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>g5701

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>g5702

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>g5709

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>g5712

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>g5720

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>g5721

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GANDDAEWGGLAWIAAYDVTGNETYLTLLAEGIFNEIAAGWGTNCGNGGIYWETTNHYVNAIASELF
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DNLFAEPCVLDWVKGNLDPDNCVIVSPDAGGAKRVASLADRLGVGFALIHKERPRPNVVGRLVVG
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>g5722

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VDGFDGPKYHRENIFMLPAMTETWKFQLLTAWNGKRQFELLSTKKNVKDDSDKTELYEEANGFVFD
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>g5723

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>g5724

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>g5725

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>g5726

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>g5727

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>g5728

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>g5729

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>g5730

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>g5731

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>g5732

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>g5733

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>g5734

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>g5735

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>g5736

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>g5737

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>g5738

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S

>g5739

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>g5740

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>g5741

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>g5742

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>g5759

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>g5760

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>g5763

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>g5765

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>g5766

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>g5767

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>g5768

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>g5769

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>g5770

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>g5772

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>g5774

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>g5775

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>g5777

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>g5778

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>g5782

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>g5785

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>g5809

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>g5826

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>g5827

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>g5828

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>g5829

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>g5830

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>g5831

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>g5832

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>g5833

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>g5834

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>g5835

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>g5836

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>g5837

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>g5838

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>g5839

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>g5840

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>g5841

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>g5842

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>g5843

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>g5844

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>g5845

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>g5846

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>g5847

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>g5848

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>g5849

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>g5850

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>g5851

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>g5852

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>g5853

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>g5854

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>g5855

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>g5856

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>g5857

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>g5858

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>g5859

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>g5860

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>g5861

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>g5862

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>g5863

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>g5864

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>g5865

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>g5866

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>g5867

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>g5868

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>g5869

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>g5870

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>g5871

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>g5872

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>g5873

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>g5874

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>g5875

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>g5876

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>g5877

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>g5878

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>g5879

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>g5880

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>g5881

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>g5882

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>g5883

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>g5884

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>g5885

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>g5886

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>g5887

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>g5888

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>g5889

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>g5890

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>g5891

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>g5892

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>g5893

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>g5894

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>g5897

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>g5898

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>g5899

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>g5900

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>g5901

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>g5902

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>g5903

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>g5904

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>g5906

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>g5907

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>g5908

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>g5909

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>g5910

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>g5911

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>g5912

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>g5913

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>g5914

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>g5915

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>g5916

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>g5918

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>g5919

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>g5921

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>g5922

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>g5923
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>g5924
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>g5926

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>g5927

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>g5928

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>g5929

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>g5930

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>g5931

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>g5932

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>g5933

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>g5934

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>g5935

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>g5936

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>g5937

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>g5938

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>g5939

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>g5940

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>g5941

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>g5942

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>g5943

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>g5944

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>g5945

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>g5946

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>g5947

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>g5948

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>g5949

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>g5950

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>g5951

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>g5952

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>g5953

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>g5954

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>g5955

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>g5956

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>g5957

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>g5958

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>g5959

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>g5960

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>g5961

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>g5962

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>g5963

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>g5964

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>g5965

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>g5966

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>g5967

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>g5968

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>g5969

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>g5970

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>g5971

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>g5972

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>g5973

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>g5974

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>g5975

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>g5976

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>g5977

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>g5978

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>g5979

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>g5980

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>g5981

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>g5982

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>g5983

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>g5984

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>g5985

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>g5986

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>g5987

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>g5989

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>g5991

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>g5992

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>g5993

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>g5994

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>g5995

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>g5996

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>g6018

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>g6019

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>g6020

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>g6021

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FTL

>g6022

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>g6023

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>g6024

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>g6025

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>g6026

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>g6027

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>g6028

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>g6029

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>g6030

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>g6031

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>g6032

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>g6033

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>g6034

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>g6035

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>g6036

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>g6037

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>g6038

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>g6039

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>g6040

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>g6041

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>g6042

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>g6043

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>g6044

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>g6045

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>g6046

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>g6047

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>g6048

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>g6049

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>g6050

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>g6051

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>g6052

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>g6053

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>g6054

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>g6055

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>g6056

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>g6057

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>g6058

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>g6059

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>g6060

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>g6061

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>g6062

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>g6063

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>g6064

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>g6065

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>g6066

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>g6067

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>g6069

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>g6070

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>g6071

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>g6072

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>g6073

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>g6074

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>g6075

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>g6076

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>g6077

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>g6078

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>g6079

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>g6080

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>g6081

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>g6082

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>g6083

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G N L W I S P L L A L E L A K E Y Q M L D W V R A L L D S T D I I Q T P A S S K K P I T P P P K F E M P P L E T L T E L N P T S R T
R S R R S A S P A K S S P R K T V S P R K S R A P R A T K E S S V A A T T A A S A S L Q A A L D G A A E A T D E P N G T V E D T D A
V V T E T T E I K P K K S R S K K Q A A V D E K V T V N V E S T T E I K G D I E T T Q T N V T V E M P V T L P D L P P A E D T Q A M
I A Q A Q K M V E E A N K L Q D Q D A T A E S S S P K A A K R K S D E V E E D E D E T A D K R A Q P T K K A R V L E D K L R K E R
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>g6084

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Y S N V H F G L E T M R Q E A Q T E G G K D G P R V L I L G P E N A G K T T L T K I L T A Y A T K M D R Q P I V V N L N P M E G M L
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>g6085

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>g6086

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>g6087

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>g6088

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>g6089

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>g6090

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>g6091

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>g6092

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>g6093

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>g6094

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>g6095

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>g6096

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>g6098

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>g6099

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>g6104

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>g6105

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>g6106

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>g6107

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MR

>g6108

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KHIRAPESNSDWHATLKSEDDFVEDYAKFFDEMPEKPTAADWVRFTENMRLTKGKEENERSPSSAL
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>g6109

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GKCSGCQLQMLSYKDQLEHKRRIVEKAYANFSGLIPEVVPQIGDTFPSPLTYNYRTKLTPHFGKVR
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>g6110

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RYDREPDRFLKHTVTAPNGRSIQIDVG YERFLAPEIFFNPEIYSSDFLTPLPTVVDGVIQSSPIDV
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>g6111

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SVSFSTTVNPA MLMTPPSDLHDISTSKEQDTTVVLPEPALVPTDGTHHINESITFGPKQTGHATED
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>g6112

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>g6113

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TRATEQGRNV SFGERALAGL TAGGLAAMIGNPADLALIRMQSDGLKPVEARANYRSVIDALS RISK
AEGVGALWAGATPTVVRAMALNSGQLAFFSESKTQLKHTNWSPQTQTFAASA IAGFFASFLSLPF
DFVKTRLQKQKQNPATGELPYKGLLD CARKVIRDEGWLRFYRGFGTYVRIAPHAMVTLIVADYLN
LITK

>g6114

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>g6115

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>g6116

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ERK

>g6117

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>g6118

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>g6119

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>g6120

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>g6121

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>g6122

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>g6123

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LAVKMTVVEARYVEKALGFKGIPIDISPYTPPVRYLRSEKDQALETIATEGQTTARLVSRKM LSPS
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>g6124

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>g6125

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IKDIERLRDLCTIARNLLATTNRAQNLA AEKGFDQRILALIDTCVRVTARGFDGESNARNEERWQK
VVNLYKSLLIICLQFLNNFIMQNEQRKLVWL DLFYHSNGDYKVIMPGEPLDPASPMPQGVAPVV
RTGERLIGSLRGEQTAEDLLIEALS RFPLEPANMKQEASMLLLAQVKDHMEKILGRSLKEIQEMNK
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>g6126

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>g6127

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>g6128

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>g6129

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>g6130

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>g6131

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>g6132

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>g6133

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>g6134

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PFKPNIEMKAAIAIFLALFVVMIFLTLILAMQLGNAMHKWQKKLFMAIVLGWPFLLVRLVYSAVAD
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PARPIEELQKWTNGVRESAATQAMINEDLVSRVQIRDYSIIARDGETLEARTYRPARLPPSQPLPI
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KPFVKS

>g6135

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>g6136

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>g6137

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>g6138

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>g6139

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>g6140

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>g6141

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>g6142

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SL

>g6143

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>g6144

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>g6145

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>g6146

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>g6147

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TTISPVVVLIDALEPFRAQGLEPGNRDSSLPYLREKRPD NAYNIKLEFDIRHNGLSKEDAPIHVSD
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>g6148

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SVSAAQYRLLSNTHMHRGYLLLKAGKIRKEEEENTNQ TQQTERGGPEQLLAISSRDQLEEMASQDF
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>g6149

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LSSVKDFAESRRLGSYLPQIDGFQLFLGSAELSEALGMGLYPQVIDDIICLQEH RPKIITITIDYA
KDSPKFIEAKWVNEVRFS SAVKI IEMEFRALWINKYMLALIANFVAKNWFFRREDGVVLKPV TIER
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>g6150

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FVVRPNEICVIPRGVKYRVKLPSGPV RGYICELYQGHYELPELGPIGSNGLANARDFQAPVAAFD D
DEGEATEYTVISKFN NNLFSAKLNHTPFDVVS WHGNYPFKYDLGRFNTIGSISYDHPDPSIFTVL
TAQSDHPGTAIAD FVIFPPRWLVAEDTFRPPWYHRNVMSEFMGLIAGDYDAKIGGGFRPAGASLHN
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>g6151

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>g6152

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>g6153

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QSALDRARAAAETELRSRNTAMAAHVQHLQGRSTQEAHSAEIIKAAEERAAHALQIELEHTLAREE
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>g6154

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GLKPVAEIQFADYVYPAFDQIVNEAAKFYREGATGADAGGLVFRMPCGAVGHGALYHTQSPESLF
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SDLTIISYGQPLYLCSQAISSAVEQARKGVNIELIDLRTIYPWDRQTVLDSVKRTGRAIVVHESMVN
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>g6155

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>g6156

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>g6157

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>g6158

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>g6159

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>g6160

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>g6161

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>g6162

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>g6163

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>g6164

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>g6165

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>g6166

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>g6167

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>g6168

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>g6169

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>g6170

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>g6171

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>g6172

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>g6173

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>g6174

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>g6175

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>g6176

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>g6177

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>g6178

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>g6179

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KGR

>g6180

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>g6181

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>g6182

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>g6183

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LINTPETADYAYPLQEFARRAILVEKDKYNTGTKPIWLIQAMLLNCIGLYHGVD SQAKEYASGT LN
DLVRF SHQERLVSSGQLNRTIGISWRDWINIETRRRTGYLIWLVDSTLAYTAINFRPLFSLQDAQA
PLPSHESVWDAMSEEDWEAQYHGDNVSLHSAIEVLFIEKRSIPNISEFGHTLLLHALYQRLWEVSD
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>g6184

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>g6185

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FRRTISTDSMPSLDHDLNSFITSGPNTPYSTSPSLQRRAFERRKQLSPPQECATDHPLLDIDINTF
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>g6186

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>g6187

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>g6188

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>g6189

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>g6190

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DEEDDE

>g6191

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GALIPYMEQDFHIGYAI VSLIFVTNALGFILAAPLTHWLESRFGRSRTIMICQVPLFTGYLIMVCK
APFPVAVFSYFLIGLVAVNLALNNVFIANLANATELLGINHGFYGVGGTIAPLIATALASNGVHW
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>g6192

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>g6193

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SDDIPIPYDDTKILESIPANSPRLAKAI ISIAVRYVDTAGKEREATLL LARLVLRPDMQRLGLLH
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SKALAVVALKLDADMSADVDDAVTGSLNEDILYQKNDGGLVTAYAAQSMMDKALKRNL SAVDPQRW
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>g6194

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>g6195

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IF

>g6196

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>g6198

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>g6200

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P

>g6201

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>g6202

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>g6203

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>g6204

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>g6205

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>g6206

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>g6207

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>g6208

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>g6209

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>g6210

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>g6211

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>g6212

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>g6213

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>g6214

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>g6215

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>g6216

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>g6217

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>g6218

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>g6236

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AEWRENEGLKRQqEEDIITGYDAKQKIaVRTRWARGQEKLLYWGRSYGTVLGSTfATMFpDRVSRV
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FETSEDSSSQAILCSDAIYTN SYDLDEFQGIWNGLASDSK SIGDYWASVYLTCVGWKPRAQWRLKG
PFAGNTSHPLMLVSTTLDPVTP LKS AKKMSSQFNGSVVLEQSSEGH TTGSGPSVCSAKAIRKYFQT
GQLPKPGSVCSGDFEPLVGAPQEAARLGGM SASDRRLYEALLQDTLTTFGFAAALPSEMDAIKQATG
SASQHTEEQKQHLYNNLP AEEREKKSYS EWVKEAYQE QYEKWMPWIEDQY LKWFGKGDNKASYATK
DTLNKSKITGVSQVDQLQDDVNNLVGNQLGENGLAAPIGNMAGKEGINRMERN GKDEKGSYGGPAA
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>g6237

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ILDNMGFGITHTYLYAWSLVSHNYSARNAIYLAYINGVMQCLTGAAIRLIGYGMIRLRTNASSMA
ELFIVQVVQGLGSGIIETIIIVVGAQIVVPHAELAQVTS LISLSAFLGDGIGSAIAGGIYTDTLRER
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>g6238

MKFAAATIAASAFLG SQVAANPIQKRDI PSSFY SNMAIDGSIYSFADDASCNEIFYTAGSCGLST
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LWEDFGGVDGDTIMTGSNGLEWHLV

>g6239

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LERLVARSLFDGRLEGERNIYLAMFELAGNSAYDLLNSRASFSILEDHLGTTQLVGIQEFSIRSEA
ELLALSQAAKELRQSAPT VKNDGSSRSHAVCRIRIERPSHEPAEGGILYLVDLAGSEAARDIFSHS
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VVACINPSFLDTGASKNTLRYAEM LCKS

>g6240

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KQDNDTYFYSGLFANSTVTQADLNFTGGVVHII DKVLTVPLNVSSSAAAAGLSALVGALQAEKLTQ
TVDELKNVTIFAPANS AFQAIGSALGNLTADQLSGILEYHVLNGTLAYSTD LKNDTQYTA VDGRNI
TVRIENGSVFVDSARVVT PNLLVANGVVHVIDNVLPNNTSATPNATATSQVPAFSGASSASAI PF
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>g6241

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GTWLENIYPGVRC DIPSHVYQTT FSPNLQWSEQFAAGAEILKYWKDLTTKYDVARFLRIGTYVETA
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PGYLEALTEENVEYIQTPI SRFTATGIETADGTHREVD AVFCATGHNIDFAP PFSIRARGVDL KTA
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PSARAVEDFISYADAYFPTTVMTE NCSSWANGGRP GARIHGAWPGSASHLAFIRRNPRWEDFEY EY
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>g6242

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EAAFYPSVHYMF GWCYRNDEIARRAGLFYNGTNLGVLTAGLIQAGTSARLNNVHGLAGWRWMIIC
AVITIPIGILGVFIIPGTPAMPNRLVLSQEDIDLSTSRLESAGHTTSEKFQLKTVKRVIRNPIFWA
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>g6243

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ALKL

>g6244

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DVVDSQR

>g6245

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VSQQLEKIADRKGVDTISIALAYVLHKSLEYVFPILGGRKLDHIRGNIEALSLRLTSQDIADIESAY
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>g6246

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>g6247

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>g6248

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>g6249

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>g6250

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LLQGTPTHTGLEVQNKAGTWLPVKPIPGTLVINIGRALEAITGGVCTATTHRVLNLR TENYKDEQGNS
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>g6251

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>g6252

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IINPVR SARLTTKGKH NITYGKIEVR AKLPRGDWLWPAI WMMPEEDVYGSWPLSGEIDIMESK GND
GRIYDGGRN VVGGLTHWAPNAVLD AFYRTSGVKYMTRGDYSDDYHTFGMEWSDQYIYT WVD SRLAQ
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>g6253

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FV

>g6254

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KFTILGYIGTYAIGASLPLSIANYFLTGWIAADLDHSLPSWDMLCGTLFIFVVVSPIAFAWYRH
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>g6255

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KVTFKR

>g6256

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>g6257

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>g6258

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>g6259

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>g6260

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>g6261

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>g6262

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>g6263

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V

>g6264

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EWYWRMSDPTFRTKTYQYHEETYGQNFTYDDFIANFTASNENAESWVNLIASAGAQMVPVTKHH
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IVHTLVDTVSKNGNFLLDIGPKNDGSI PGIMQQGLLDAGKWIHAHSESI FKTRYWSVTPGLDNWRY
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>g6265

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>g6266

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>g6267

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>g6268

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>g6269

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>g6270

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>g6271

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>g6272

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>g6273

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>g6274

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>g6275

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>g6276

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>g6277

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>g6278

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>g6279

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>g6280

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>g6281

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>g6282

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>g6283

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>g6284

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>g6285

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>g6286

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>g6287

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>g6288

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>g6289

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>g6290

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>g6291

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>g6292

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>g6293

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>g6294

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>g6295

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>g6296

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>g6297

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>g6298

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>g6299

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>g6300

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>g6301

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>g6302

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>g6303

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>g6304

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>g6305

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>g6306

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>g6307

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>g6308

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>g6309

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>g6310

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>g6311

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>g6312

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>g6313

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>g6314

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>g6315

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>g6316

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>g6317

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>g6318

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>g6319

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>g6320

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>g6321

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>g6322

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>g6323

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>g6324

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>g6325

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>g6326

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>g6327

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>g6328

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>g6329

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>g6330

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>g6331

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>g6332

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>g6333

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>g6334

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>g6335

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>g6336

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>g6337

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>g6338

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>g6339

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>g6340

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>g6341

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>g6342

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>g6344

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>g6348

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>g6349

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>g6359

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>g6360

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>g6361

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>g6363

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>g6364

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>g6365

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>g6366

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>g6367

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>g6368

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>g6369

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>g6370

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>g6371

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>g6372

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>g6373

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>g6374

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>g6375

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>g6376

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>g6377

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>g6378

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>g6379

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>g6380

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>g6381

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>g6382

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>g6383

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>g6384

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>g6385

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>g6386

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>g6387

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>g6393

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>g6394

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>g6395

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>g6397

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>g6408

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>g6410

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>g6411

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>g6412

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>g6413

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>g6414

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>g6415

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>g6416

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>g6417

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>g6418

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>g6419

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>g6420

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>g6421

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>g6422

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>g6423

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>g6425

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>g6427

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>g6429

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>g6430

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>g6431

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>g6432

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>g6433

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>g6434

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>g6435

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>g6436

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>g6437

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>g6438

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>g6439

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>g6440

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>g6441

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>g6442

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>g6443

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>g6444

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>g6445

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>g6446

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>g6447

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>g6448

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>g6449

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>g6450

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>g6451

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>g6452

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>g6453

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>g6454

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>g6455

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>g6456

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>g6457

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>g6458

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>g6459

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>g6460

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>g6461

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>g6462

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>g6463

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>g6464

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AAFLSMGTAWYANNQFPWEIDRWVGGIENVKINITLRIYANKWHVYAGLAILNPAAQKQIRQYAKS
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>g6465

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>g6466

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>g6467

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>g6468

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>g6469

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>g6470

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>g6471

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>g6472

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>g6473

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>g6474

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>g6475

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>g6476

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>g6477

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>g6478

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>g6479

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>g6480

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>g6481

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>g6482

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>g6483

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>g6484

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>g6485

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>g6486

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>g6487

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>g6488

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>g6489

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AKVGL

>g6490

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>g6510

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>g6511

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>g6513

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>g6514

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>g6515

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>g6516

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>g6517

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>g6518

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>g6519

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>g6520

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>g6523

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>g6525

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>g6526

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>g6527

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>g6528

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>g6529

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>g6530

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>g6531

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>g6532

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>g6533

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>g6534

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>g6535

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>g6536

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>g6537

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>g6538

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>g6539

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>g6540

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>g6541

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>g6542

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>g6543

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>g6544

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>g6545

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>g6546

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>g6547

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>g6548

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>g6549

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>g6550

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>g6551

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>g6552

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>g6553

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>g6554

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>g6555

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>g6556

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>g6557

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>g6558

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>g6560

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>g6562

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>g6563

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>g6565

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>g6566

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>g6576

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>g6586

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>g6587

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>g6588

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>g6589

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>g6590

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>g6591

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>g6592

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>g6593

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>g6594

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>g6595

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>g6596

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>g6597

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>g6598

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>g6599

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>g6600

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>g6601

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>g6602

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>g6603

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>g6604

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>g6605

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>g6606

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>g6607

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>g6608

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>g6609

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>g6610

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>g6611

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>g6612

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>g6613

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>g6614

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>g6615

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>g6616

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>g6617

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>g6618

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>g6619

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>g6620

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>g6621

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>g6622

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>g6623

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HQT YDV

>g6624

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>g6625

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>g6626

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>g6627

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>g6628

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>g6629

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>g6630

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>g6631

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>g6632

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>g6633

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>g6634

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VAKE

>g6635

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>g6636

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>g6637

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>g6639

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>g6650

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>g6652

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>g6656

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>g6658

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>g6659

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>g6660

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>g6661

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>g6662

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>g6663

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>g6664

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>g6666

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>g6667

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>g6668

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>g6669

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>g6671

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>g6672

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>g6673

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>g6674

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>g6675

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>g6676

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>g6677

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>g6678

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>g6679

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>g6680

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>g6681

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>g6705

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>g6706

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>g6707

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>g6708

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>g6709

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>g6710

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>g6711

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>g6712

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>g6713

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>g6714

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>g6716

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>g6717

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>g6718

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>g6719

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>g6720

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>g6721

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>g6722

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>g6723

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>g6724

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>g6725

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>g6726

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>g6727

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GLEI

>g6728

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>g6729

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>g6730

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>g6731

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>g6732

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>g6733

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>g6734

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>g6735

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>g6736

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>g6737

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KHTRTATAEARGYITSGAVLA AKRQFDLKD PPLLGICPVSVIKGCTYRDFELMLEAGTKAGNGEE
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>g6738

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>g6739

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>g6740

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>g6741

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>g6742

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>g6743

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>g6744

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>g6745

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>g6746

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>g6747

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>g6748

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>g6749

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>g6750

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>g6751

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>g6752

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>g6753

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>g6762

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>g6763

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>g6765

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>g6767

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>g6774

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>g6775

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>g6776

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>g6777

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>g6778

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>g6779

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>g6780

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>g6781

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>g6783

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>g6785

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>g6786

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>g6787

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>g6788

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>g6789

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>g6790

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>g6791

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>g6792

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>g6793

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>g6794

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>g6795

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>g6798

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>g6801

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>g6802

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>g6804

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>g6805

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>g6806

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>g6807

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>g6808

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>g6809

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>g6810

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>g6814

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>g6815

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>g6816

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>g6817

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>g6818

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>g6819

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>g6820

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>g6821

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>g6822

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>g6823

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>g6824

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>g6825

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>g6826

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>g6827

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>g6828

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>g6829

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>g6830

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>g6831

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>g6832

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>g6833

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>g6834

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>g6835

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>g6836

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>g6837

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>g6838

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>g6839

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>g6840

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>g6841

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>g6842

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>g6843

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>g6844

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KL

>g6845

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>g6846

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>g6847

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>g6848

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>g6849

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>g6850

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>g6851

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>g6852

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>g6853

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>g6854

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>g6855

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>g6856

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>g6857

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>g6858

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>g6859

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>g6860

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>g6861

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>g6862

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>g6863

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>g6864

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>g6865

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>g6866

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>g6867

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>g6868

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>g6869

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>g6889

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>g6908

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>g6909

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>g6910

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>g6911

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>g6912

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>g6913

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>g6914

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>g6915

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>g6916

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>g6917

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>g6918

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>g6919

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PAT

>g6920

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>g6921

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>g6922

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>g6923

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>g6924

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>g6925

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>g6926

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>g6927

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>g6928

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>g6929

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>g6930

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>g6931

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REEV

>g6932

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NKWLARHR

>g6933

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>g6934

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>g6935

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>g6936

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AESS

>g6938

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>g6941

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>g6943

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>g6944

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>g6945

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>g6946

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>g6949

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>g6950

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>g6952

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>g6953

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>g6954

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>g6955

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>g6956

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>g6957

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>g6958

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>g6959

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>g6961

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>g6979

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>g7004

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>g7005

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>g7006

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>g7007

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>g7008

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>g7009

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>g7010

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>g7011

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>g7012

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>g7013

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>g7014

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>g7015

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>g7016

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>g7017

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>g7018

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>g7019

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>g7020

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>g7021

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>g7022

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>g7023

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>g7024

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>g7025

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>g7026

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>g7027

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>g7028

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>g7029

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>g7030

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>g7031

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>g7032

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>g7033

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>g7034

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>g7035

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>g7036

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>g7037

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>g7038

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>g7039

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>g7040

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>g7041

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>g7042

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>g7043

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>g7044

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>g7045

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>g7046

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>g7047

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>g7048

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>g7049

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>g7050

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>g7051

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>g7053

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>g7054

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>g7055

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>g7056

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>g7057

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>g7058

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>g7059

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>g7060

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>g7061

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>g7062

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>g7063

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>g7064

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>g7066

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>g7067

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>g7068

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FQXPPVDRSETKSMAS TTASPTLQSQRSHSFPLGYDHDVSD EDDLPS SPHNRQYHHPTLPRSQTSD
GITPIAQTSSNNQLMIPATIT EWTSPSTRREYEKIDRNNKGFRRLWRRWTPSCMHAGDERVPFWE
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>g7069

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>g7070

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>g7071

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>g7072

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>g7073

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>g7074

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>g7075

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KLEDVYKVLGWDPLCKAIVEKTPSVVDWKL VYRDPLPRWVSDKGRITLLGDS AHPFLPTSAQGAT
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>g7076

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>g7077

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>g7078

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>g7079

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>g7080

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>g7081

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>g7082

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>g7083

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>g7084

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>g7085

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>g7086

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>g7087

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>g7088

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>g7089

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>g7090

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>g7091

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>g7092

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PVL SLLSETTLEVVELLPLHRL LHEKQPDYVFTNRLAEMRTETAFTVHTSGSTGFPKAVRISHEYM
SRMIQNMGLEAPAGHEMLSDITGN NRCILLPLGHNAGIYFGVLNAFFNNTTVILPIPGVPPNGEL
LQEMLQYRQADWAAVAPLTLEEISKDTTLLNEISKKLKMVVYSGGSLPKVFGDV IASKIKLTTQIG
SSECGPIPTMYRHGYDFVRDWNYLQIHPSVGA KFDPLPQGVFELI WERSPEFEPFQTVFTVYPNLY
VYRTKDLFTPHPELPDVWTHASRLDDIIVFLNGEKVNPIGFESSICKHPNIS AALMFGFQRFEAGL
LIQPRDPAYPHTTIEKSRFIQDIWP IIEQANSIVPAYAQISPSHICFTEPDNPILRTLKGSIRRSA
TLEQYATKINQLYADVEQIWT LGTSHSQDLENIDAIENVTKRAVLKATKWTDVEANKNFFFERGMDS
LQVLQLVRKLRVETSLRTIQPSTIYLRPTVTALAQDLKKLIAEKS NPESTQKEEQVSILSSILNDY
TDKIDQLPFD TATSATAHASIKQVVLLTGSTGSIGSYILKALLQEDCVSHIYCLNRSVDSSTLQQE
RNKFRDSSLPT EFAKDKVTFLSADLSDSKSLGLLKG VYTTIAERITLIHNAWMVNFNAPLPTFDS
QLSGIVNLCSLCGRSTLKARFVFIS SIVMSVDQSCIPESVTTDMSAPPSIGYSQSKYIAERLLA
HAVSKHDLEVKTLRLGIIAGASRSNGRWSADWIPALILGSKALGVVPEHLSGRGSESDDIIDWVP
IDVAADTIVELSLGNVRDPNHSVNVFHILNPHQTTWKALLPSIIASIESRANSSIQVVS PAKWISK
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>g7107

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RFFSIDGLESRLMPYPHDPLRQPSWPQAYDYLSVKDRNLQ LHDIPHWEKELFESNLNTFGSAPGK
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EINTSHGQILRAKL VIST I PLNCLNDVQFSPPLSPMRQAAIAEGHINRGAKIHFKLRETLPGWFWT
SNGYNGSDFVFAFSDHNGTQPSGPGTWCIGFGYNGCLTDKKDSRSILKAFKQDINPNHNVEAYAT
HDWMNDPYAKGVWACWGPNSTSKYLKALQKPHGRIIFASADWAAGWRGFIDGAIEQQQFAVRDIIQ
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>g7108

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AFTGSAPFLAATMIQGLLILNLPSYDPQRWHGTLLYWALVGLSTIINIWGSRL LAVEGLSLFIHL
AAFLVNFVILVVTPTKNSASFVFTLYENNSGWSSDGVAWSIGMLSSCYVLTGFDGAIH LAEEMP
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FILMALLATVALFPSSSRMVWSLARDRATTGIKESLDSGLMQRAYELEKQVHEYRPPDHSQIGD
DPRTPVSHLIRIAQIYRLAVLLQLYQSFPELLEIASDKMVQHDTRNNTLLSMLAMSYSILT
IAAI PRTSGVNCLLTPLIIAGSTLQQTAHCVPEVILSLPSRDI IAAEILALNNQDNVISYWRDFVRERI
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>g7109

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YKMF IWTIIGMAIYTTICFFTLIFQCKDIASIWDSNVKSKCFTPKQLIELSYTNTALNILTDLIF
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CNIGI IAGSLPCLKPLFKRLLHSYSSGSRSLRYDYNKYDQGTKLRSLSRSVNKSKASSGGVLR
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>g7110

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NPNIARQSDQRGWLSTLTSYVPLL GAGTTQERDEE ILTFADCASYMVVNEKSVKDVAIGGA
ENAWEEDFWSELSVATDDDSQDVQLILTSNCIRCSLDVD FETGDFHKTDDGIIYKLNKDRR
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>g7111

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NEFIDEAE SLCQKRALETFRLDPEEWGVNVQALSGSPANLYAYSALLNTHDRLMGLDLP
HGGHLSHGYQIPNKK ISFISKYFETVPYRLDESTGLIN YDQVEELANLYRPKLIVAGTSAY
SRLIDYARMRKITESIGAYL LSDMAHISGLVAADVIPS PFQYSDVVTTHKSLRGPRGAMIF
YRKGVRRTDKKG NQELYDLENPI NASVFPGHQGGPHNHTITALAVALGQAQTKEFRDYQ
LTVLENAKALSDRLGNSVNEGGLGYNIVSG GTDNHLVLVDLKNRGVDGARVERVLELCG
VAANKNTVPGDKSALKPGGLRIGTPAMTSRGFQPEDF RRVGDIVDRAVTITQKLDKAAKE
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>g7112

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>g7113

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EY TALRDQWIRDGEGFVLVYSITSRASFSRITKFYNQIQRVKESANS GSPTGASYLGSPLTGPSLG
VSSGPVPMVLVGNKSDKTVERAVSAQEGSALAKELGCEFVEASAKNCINVEKAFYDVVRLLRQQRQ
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>g7114

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DNGSYLSSEPSAKSGPSSDTSPTSILFGYQPHISDDEL VAPVADNVRETLLNIYHDRVDC LFKATY
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RRPMFPSKTSPPFPWDKFDVLKV TTEIIERTLWKATDSAFAPPAWLSKTLWLKWQVLAVLLAELCTP
RYGELGDRAYAVAKEGFDYCSALMVETDLATVLKPLAKLMSRVLEV RTRMLSEQHIHGGLNVSSA
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>g7115

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YNGIVILTSSRVSRFNEAARSHINLALHYPAL TSHQRYFIWKQFLSQLEFSETDADISDLYERAESL
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>g7116

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KSMRTNDEKDGPI TVEFANGFPTS NYDLVVACD GANSRTRVLGLGQDARTQIEPLNMWAAYFSVEE
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>g7117

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LANQGKSRYIDS RFWHNFGDNEIQGMLDGEHEDDDQMASGSMIDPLTGAFLGSQQDLLQYHP THMK
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GKS RATVMERYHFATRQALVNASFLKTT ELPILQALVIFLIPCAFFYDPNTYWILTGVATRIA QRM
GLHRDGETLALPPFEVQMRRLFYRLPLDANASQMSGVGLSILSLTWDTKEPLNVDDNQIWP GMT
KAPQEKKGASEMIFCLARASVGKYFAKAGRPNNGSGSAHF KDYQEAE LVISKA ESEVEETFI RYCD
VINPLHFLTVC SIRSGIIAMRLRIHLPRIRNQ TATDEEKRNTFQFARRILD TDSAVCANASLTKYR
WHTRPLFLWGTWDSL VVLTILWRNCDILSALEVDAAWKILES VFYNHDELLELKRALYLAFGRLT

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>g7118

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GAIAQSKFKPEKVIIWQRDQLRWNQPDKVGQQRNWQRIVRSGQLRNIRATPVPIRSDEALYIIYTS
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>g7119

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>g7120

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FIKSIFNVKHPGKKVYMLAELTPAEDVTGGAWFTDGVLDAEFIGVLSDYIEMQVSKRSWYEVVSKH
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>g7121

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>g7122

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KGLCRAAEDAQQKGFPKFSGTSNVHFAMKYSVAPVGTVAHEWYMGIAAYTNDYENANEMGLRYWL
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APSHHTPKQAPQKTYAQVFTGIRQDSGDPKNFVKLVREFYDKQGITEKKVIVFSDSLKVDNCCLEYK
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>g7123

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>g7124

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>g7125

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RGRVDGSVWGWLPSVEVRLWDTDKEEVILPGEEIDKETGRERIGEIQLRGPTIFREYWGPNKATKE
AFVADDDGKGKWFRTGDVAVRRIVEGSDGGSRNEWASGPMYFIQGRLSVDI IKTGGEKVSALEVER
ELLSLPEVAEAAVVGLPSETWQQRVAIVVLKEQHTASQGLTDSNGDETSSRGIYKPWGPHLHRL
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>g7126

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>g7127

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VLRGIFTATQEEIEWTRLPGGGAARIWPAEYERFLQFLDDEERKTPVESYYRYILNESGDEVARKK
KVEAAREWNRWELTIGALHTHPSTYEKLMDDEDWMAHATLEAHYEANGAWLEEGQILKEENMRRIR
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>g7128

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>g7129

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>g7130

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>g7131

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>g7132

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>g7133

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>g7134

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>g7135

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>g7136

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>g7137

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>g7138

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>g7139

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>g7140

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>g7141

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>g7142

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>g7143

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>g7144

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>g7145

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>g7146

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>g7147

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>g7148

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>g7149

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>g7150

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>g7151

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AEGLGIRQILVHRYSSVLSAYGMALADVDERQEPESQIWSTGDVQKKLKSMAELKSKSEEKLRA
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>g7152

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>g7153

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V SQEHS LAGTTNIGAREEVEDAVHVLYGASVIVDDVSMPGDR TAMKAKPTTEYMLQIEPASTRYPGW
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>g7154

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>g7155

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>g7156

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>g7157

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>g7158

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>g7159

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ILAVKTVPTLSS ESSAVQAAIAHINAHGSKHTDIVLTTSRQVADTFMAGIDSAGVYWNASSRFADG
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>g7160

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>g7161

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EEAKKAADAEAAAAAAAAAAAAEATKAAEEAAAKAAAKPPPEKKKPIKFKDAVGRKFNFPFHLCATWQ
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>g7162

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>g7163

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>g7164

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>g7165

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>g7166

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>g7167

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>g7168

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>g7169

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>g7170

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AFICFAL

>g7171

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>g7172

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>g7173

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>g7174

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>g7175

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>g7176

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>g7177

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>g7178

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NLDMSKNIPDILGDFMPQYTMAISGSSDNNGPNASNMNNIPITTS GMNTTDINNPTTSTFSSTPAA
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>g7179

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>g7180

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>g7181

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>g7182

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>g7183

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>g7184

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>g7185

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>g7186

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>g7187

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>g7188

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>g7189

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>g7190

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>g7191

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>g7192

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>g7193

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TR

>g7194

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>g7195

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>g7196

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>g7197

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>g7198

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>g7199

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>g7201

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>g7204

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>g7205

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>g7207

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>g7208

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>g7210

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>g7211

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>g7212

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>g7213

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>g7215

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>g7223

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>g7226

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>g7227

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GCNDIVDEIIGAFDEEVGEIVELICDMKELYDDVSEAYANRDAIKCVFTGCYLEETIATYWNYTYV
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>g7228

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>g7229

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>g7230

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>g7231

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>g7232

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>g7233

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>g7234

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>g7235

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>g7236

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>g7237

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>g7238

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>g7239

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>g7240

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>g7241

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>g7242

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>g7243

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>g7244

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>g7245

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>g7246

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>g7247

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>g7248

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>g7249

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>g7250

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>g7251

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>g7252

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>g7253

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>g7254

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>g7255

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>g7256

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>g7258

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>g7259

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>g7261

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>g7262

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>g7263

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>g7264

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>g7265

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>g7266

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>g7267

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>g7268

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>g7269

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>g7270

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>g7271

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>g7275

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>g7277

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>g7281

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>g7286

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>g7287

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>g7291

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>g7293

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>g7296

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>g7297

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>g7299

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>g7303

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>g7305

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>g7306

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>g7311

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>g7312

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VTGQVFL LIGHLVGATAQGLNQIIAAMV IIGAGTGTVFVIYASISEILPNKWRPFGIASPEFLLCV
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LLIANAIQALGCGLLAIATPDRI PAGLVIQ GIANAPFAWTLVLSYTTAGLHVPQRDIGLALGLLGA
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V

>g7313

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>g7314

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>g7315

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>g7316

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>g7317

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>g7318

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>g7319

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>g7320

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>g7321

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>g7322

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>g7323

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>g7324

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>g7325

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>g7326

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>g7327

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>g7328

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>g7329

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>g7330

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>g7331

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>g7332

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GC

>g7333

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>g7334

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>g7335

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>g7336

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>g7337

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>g7338

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>g7339

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>g7340

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>g7341

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>g7342

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>g7343

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>g7344

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>g7345

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>g7346

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>g7347

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>g7348

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>g7349

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>g7350

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>g7351

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>g7352

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>g7353

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>g7355

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>g7356

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>g7357

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>g7358

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>g7359

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>g7360

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>g7362

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>g7363

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>g7364

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>g7365

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>g7367

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>g7368

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>g7369

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>g7370

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>g7371

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>g7372

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>g7373

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>g7374

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>g7375

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>g7376

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>g7377

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>g7379

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>g7381

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>g7383

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>g7384

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>g7385

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>g7386

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>g7387

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>g7389

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>g7390

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>g7391

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>g7392

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>g7393

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>g7394

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>g7395

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>g7396

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>g7397

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>g7398

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>g7399

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>g7400

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>g7401

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>g7403

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>g7404

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>g7405

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>g7406

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>g7407

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>g7408

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>g7409

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>g7410

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>g7411

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>g7412

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>g7413

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>g7415

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>g7416

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>g7417

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>g7418

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>g7422

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>g7424

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>g7425

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>g7430

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>g7431

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>g7432

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>g7433

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>g7434

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>g7435

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>g7436

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>g7437

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>g7438

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>g7439

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>g7440

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>g7442

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>g7443

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>g7444

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>g7449

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>g7451

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>g7452

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>g7454

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>g7462

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>g7465

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>g7466

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>g7467

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>g7468

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>g7469

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>g7470

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>g7471

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>g7472

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>g7473

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>g7474

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>g7475

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>g7476

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>g7477

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>g7478

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>g7479

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>g7480

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>g7481

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>g7482

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>g7483

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>g7484

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>g7485

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>g7486

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>g7487

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DVCQIDAVRLG SVNECLAVMLMALKFNVPCVPHNGAMGLTELTSHLSTIDYIAVSGRKSML EADS
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>g7530

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>g7531

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>g7533

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>g7534

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>g7535

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>g7536

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>g7537

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>g7538

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>g7539

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>g7540

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>g7541

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>g7542

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>g7543

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>g7544

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>g7545

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>g7546

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>g7547

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>g7548

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>g7549

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>g7550

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>g7551

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>g7552

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>g7553

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>g7554

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>g7555

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>g7556

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>g7557

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>g7558

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>g7559

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>g7560

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>g7561

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>g7562

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>g7563

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>g7564

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>g7565

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>g7566

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>g7567

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>g7568

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>g7569

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>g7570

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>g7571

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>g7572

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>g7573

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>g7574

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>g7575

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>g7576

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>g7577

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>g7579

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>g7581

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>g7583

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>g7584

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>g7600

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>g7603

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>g7606

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>g7607

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>g7608

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>g7609

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>g7610

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>g7611

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>g7612

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>g7613

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>g7614

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>g7615

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>g7616

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>g7617

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>g7618

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>g7619

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>g7620

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>g7621

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>g7622

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>g7623

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>g7624

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>g7625

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>g7626

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>g7627

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>g7628

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>g7629

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>g7630

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>g7631

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>g7632

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>g7633

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>g7634

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>g7636

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>g7637

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>g7638

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>g7639

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>g7640

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>g7641

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>g7642

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>g7643

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>g7644

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>g7645

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>g7646

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>g7647

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>g7648

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>g7650

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>g7651

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>g7659

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>g7661

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>g7662

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>g7663

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>g7665

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>g7666

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>g7667

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>g7668

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>g7670

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>g7671

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>g7673

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>g7675

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>g7676

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>g7677

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>g7678

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>g7679

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>g7680

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>g7681

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>g7682

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>g7683

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>g7684

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>g7685

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>g7686

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>g7687

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>g7688

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>g7689

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>g7690

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>g7691

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>g7692

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>g7693

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>g7694

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>g7695

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>g7696

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>g7697

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>g7698

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>g7699

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>g7700

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>g7701

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>g7702

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>g7703

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>g7704

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>g7705

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>g7706

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>g7707

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>g7708

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>g7709

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>g7710

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>g7711

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>g7712

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>g7713

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>g7714

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>g7715

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>g7716

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>g7717

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>g7718

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>g7719

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>g7720

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>g7721

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>g7722

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>g7723

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>g7724

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>g7725

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>g7726

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>g7727

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>g7728

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>g7729

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>g7731

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>g7732

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>g7733

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>g7734

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>g7735

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>g7736

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>g7737

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>g7738

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>g7739

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>g7740

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>g7743

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>g7744

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>g7748

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>g7749

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>g7754

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>g7755

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>g7756

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>g7757

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>g7759

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>g7765

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>g7767

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>g7770

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>g7771

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>g7772

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>g7774

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>g7777

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>g7780

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>g7782

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>g7784

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>g7785

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>g7792

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>g7794

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>g7795

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>g7799

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>g7817

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>g7819

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KRFPATIA CQLAEISNELRRYIGKAMQANPRIESLSIYDQWKKLV LQPLSLEDNINASRPPLLIVI
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>g7820

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>g7821

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>g7822

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>g7823

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>g7824

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>g7825

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>g7827

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>g7828

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>g7829

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>g7830

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>g7831

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>g7832

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>g7833

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>g7834

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>g7835

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>g7836

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>g7837

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>g7838

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>g7839

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>g7845

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>g7846

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>g7855

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>g7856

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>g7859

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>g7861

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>g7864

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>g7865

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>g7866

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>g7867

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>g7871

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>g7872

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>g7874

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>g7875

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>g7876

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>g7879

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>g7884

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>g7886

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>g7887

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>g7889

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>g7892

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>g7895

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>g7903

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P S A Y F L F G G C T A I A T V V S F F Y M V E T K G K S L A E I E R V F R N R S I P I A N H D T P I L G L A R L G D V E L K R V N
>g7905

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N I R Q W Q K H Y R K A F P S F V F Y F D S L P A D I R N R S L R E V L A L G A R E E R F F S R T V T H V V T S R P I P E V D I P S
P T E A P Q H E Q T S N D G P L V Q H V N P V L L E R N D N R R D H G N N T D V L Y R A R Q M G M K I W A I E K L Q R M L T A I H E
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>g7906

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>g7913

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>g7914

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>g7918

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>g7919

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>g7921

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>g7923

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>g7924

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>g7925

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>g7926

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>g7927

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>g7928

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>g7929

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>g7930

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>g7931

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QKQ

>g7932

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>g7933

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>g7934

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>g7935

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>g7936

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>g7937

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>g7938

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>g7939

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>g7940

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>g7941

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>g7942

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>g7943

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>g7944

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>g7945

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>g7946

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>g7947

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>g7948

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>g7949

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>g7950

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>g7951

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>g7952

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>g7953

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>g7976

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>g7977

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>g7978

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>g7979

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>g7980

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>g7981

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>g7982

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>g7983

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>g7984

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>g7985

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>g7986

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>g7987

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>g7988

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>g7989

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>g7990

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>g7991

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>g7992

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>g7993

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>g7994

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>g7995

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>g7996

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>g7997

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>g7998

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>g7999

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>g8002

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>g8004

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>g8013

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>g8027

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>g8030

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>g8031

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SISA

>g8032

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>g8033

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>g8035

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>g8036

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>g8037

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>g8038

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>g8039

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>g8043

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>g8044

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>g8046

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>g8047

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>g8048

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>g8049

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>g8050

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>g8053

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>g8054

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>g8055

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>g8059

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>g8060

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>g8062

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>g8063

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>g8080

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>g8081

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>g8082

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>g8083

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>g8084

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>g8086

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>g8088

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>g8089

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>g8090

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>g8091

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>g8092

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>g8093

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>g8094

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>g8095

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>g8096

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>g8097

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>g8098

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>g8099

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>g8100

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>g8101

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>g8102

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>g8103

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>g8104

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>g8105

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>g8106

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>g8107

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>g8108

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>g8109

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>g8110

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>g8111

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>g8112

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>g8113

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>g8114

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>g8115

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>g8116

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>g8117

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>g8118

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>g8119

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>g8120

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>g8121

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>g8122

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>g8123

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>g8124

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GI

>g8125

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>g8126

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>g8127

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>g8128

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>g8129

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>g8130

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>g8131

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>g8132

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>g8133

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>g8134

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>g8135

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>g8136

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>g8137

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>g8138

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>g8139

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>g8140

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>g8141

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>g8142

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>g8143

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>g8144

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GPA

>g8145

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VXPQADQITTTTTSSRPLSQRQQSPpSELLPTSSSKPITCMVYIGQPSNPQFLRNPAERHPASVAE
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>g8146

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>g8147

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>g8148

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>g8149

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>g8150

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>g8151

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>g8152

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>g8153

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>g8154

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>g8155

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>g8156

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>g8157

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>g8158

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>g8159

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>g8160

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>g8161

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>g8162

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>g8163

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>g8164

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>g8165

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>g8166

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>g8167

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>g8168

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>g8169

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ERSRIATAEKKVA

>g8170

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>g8171

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AVCHGPIVLVNATTPSGESLLRDATVTGFSNTEEDQAQMTSAMPFLLEDRLKAIPGAKYVKAEQPW
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>g8172

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>g8173

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>g8174

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>g8175

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>g8176

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>g8177

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>g8178

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AAV

>g8179

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>g8180

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>g8181

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>g8182

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>g8183

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>g8184

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>g8185

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>g8186

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>g8187

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>g8188

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>g8189

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>g8190

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>g8191

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>g8192

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>g8193

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>g8194

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>g8195

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>g8196

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>g8197

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>g8198

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>g8199

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>g8200

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>g8201

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>g8202

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>g8203

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>g8204

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>g8205

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>g8206

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>g8207

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>g8208

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>g8209

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>g8210

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>g8211

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>g8212

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>g8213

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>g8214

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>g8215

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>g8216

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>g8217

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>g8218

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>g8219
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>g8220

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>g8221

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>g8222

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>g8223

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>g8224

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>g8225

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>g8226

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>g8227

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>g8228

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>g8229

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>g8230

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>g8231

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>g8232

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>g8233

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>g8234

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>g8235

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>g8236

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>g8237

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>g8238

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>g8239

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>g8240

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>g8241

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>g8242

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>g8243

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>g8250

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>g8251

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>g8252

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>g8253

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>g8254

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>g8255

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>g8256

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>g8257

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>g8258

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>g8259

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>g8260

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>g8261

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>g8262

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>g8263

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>g8264

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>g8265

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>g8266

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>g8267

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>g8268

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>g8269

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>g8270

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>g8271

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>g8272

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>g8273

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>g8274

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>g8275

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>g8276

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>g8277

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>g8278

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>g8279

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>g8280

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>g8281

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>g8282

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>g8283

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>g8284

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>g8285

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>g8286

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>g8287

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>g8288

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>g8289

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>g8290

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>g8291

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>g8292

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>g8294

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>g8296

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>g8298

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>g8299

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>g8300

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>g8302

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>g8303

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>g8304

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>g8305

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>g8306

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>g8307

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>g8308

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>g8309

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>g8310

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>g8311

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>g8312

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>g8313

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>g8315

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>g8316

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>g8317

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>g8318

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>g8319

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>g8320

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>g8321

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>g8322

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HSFGDQPKYQYLFDRLVEAYNSLEQWYKKDLAPALPLADSEGYREYPDVLSAIVDCVSTSILVQLQ
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>g8323

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>g8324

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>g8325

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>g8326

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>g8327

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>g8328

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>g8329

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>g8330

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>g8331

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>g8332

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>g8333

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>g8334

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>g8335

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>g8336

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>g8337

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>g8338

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>g8339

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>g8340

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>g8341

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>g8342

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>g8343

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>g8344

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>g8345

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>g8346

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>g8347

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>g8348

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>g8349

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>g8350

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>g8351

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>g8352

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>g8353

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>g8354

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>g8355

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>g8356

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>g8357

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>g8358

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>g8359

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>g8360

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>g8361

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>g8362

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>g8363

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>g8364

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>g8365

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>g8366

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>g8367

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>g8368

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>g8369

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>g8370

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>g8371

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>g8372

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>g8373

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>g8374

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>g8375

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>g8376

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>g8377

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>g8378

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>g8379

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>g8402

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>g8404

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>g8405

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>g8406

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>g8408

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>g8409

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>g8410

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>g8413

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>g8414

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>g8415

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>g8416

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>g8417

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>g8418

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>g8419

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>g8420

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SSV

>g8421

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>g8422

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>g8423

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>g8424

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>g8425

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>g8426

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>g8427

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ACTF

>g8428

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>g8429

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>g8430

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>g8431

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>g8432

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>g8433

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>g8434

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>g8435

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>g8436

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>g8437

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>g8438

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>g8439

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>g8440

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>g8441

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>g8442

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>g8443

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>g8444

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>g8445

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>g8447

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>g8449

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>g8450

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>g8451

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>g8452

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>g8453

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>g8454

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>g8456

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>g8457

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>g8458

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>g8459

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>g8460

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>g8461

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>g8462

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>g8464

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>g8465

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>g8467

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>g8468

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>g8469

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>g8486

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>g8487

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>g8507

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KI

>g8515

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>g8516

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>g8517

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>g8518

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>g8519

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>g8520

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>g8521

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LDPLASRFLRARQAASRRPFPSPPLPSKLSRTLRS SLPGLRRDYTLPEYI PTRLMQFFDILRDYFPA
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>g8522

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>g8523

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>g8524

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>g8525

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>g8526

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>g8527

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>g8528

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>g8529

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>g8530

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>g8531

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>g8532

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>g8533

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>g8534

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>g8535

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>g8536

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>g8537

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>g8538

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>g8539

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>g8540

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>g8541

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>g8542

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>g8543

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>g8544

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>g8545

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>g8546

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>g8547

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>g8548

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>g8549

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>g8550

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>g8551

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>g8552

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>g8553

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>g8554

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>g8555

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>g8556

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>g8557

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>g8558

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>g8559

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>g8560

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>g8561

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VFMEWTSIVIFTVSVMGWLWSPYSTLLANNHLV LFCIVMSFVFGRM TTKIILAHLIRQPPFYWTSM
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>g8562

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>g8563

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>g8564

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>g8565

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>g8566

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>g8567

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>g8568

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>g8569

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>g8570

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>g8571

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>g8572

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>g8573

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>g8574

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>g8575

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>g8576

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>g8577

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>g8578

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>g8579

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>g8580

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>g8581

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>g8582

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>g8583

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>g8584

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>g8585

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>g8586

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>g8587

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>g8588

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>g8590

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>g8591

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>g8592

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>g8593

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>g8594

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>g8595

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>g8596

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>g8597

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>g8598

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>g8599

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>g8600

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>g8601

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>g8602

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>g8603

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>g8604
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>g8605
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>g8606
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>g8607
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>g8608
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>g8609

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>g8610

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>g8611

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>g8612

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>g8613

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>g8614

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>g8619

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>g8620

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>g8621

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>g8622

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>g8623

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>g8624

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>g8625

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>g8626

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>g8627

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>g8629

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>g8630

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>g8631

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>g8632

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>g8633

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>g8634

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>g8635

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I

>g8636

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>g8637

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EHI

>g8638

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>g8640

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>g8641

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>g8642

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>g8643

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>g8644

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>g8645

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>g8646

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>g8647

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>g8648

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>g8649

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>g8650

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>g8651

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>g8652

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>g8676

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>g8677

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>g8678

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>g8679

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>g8681

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>g8683

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>g8684

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>g8686

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>g8687

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>g8688

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>g8689

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>g8690

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>g8691

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>g8693

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>g8694

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>g8696

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>g8699

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>g8702

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>g8705

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>g8707

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>g8709

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>g8718

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>g8719

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>g8721

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>g8722

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>g8723

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>g8730

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>g8733

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>g8737

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SG

>g8738

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>g8739

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>g8740

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>g8741

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>g8742

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>g8743

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>g8744

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>g8745

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>g8746

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>g8747

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>g8748

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>g8749

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>g8751

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>g8752

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>g8757

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>g8758

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>g8759

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>g8760

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>g8761

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>g8762

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>g8763

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>g8764

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>g8765

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>g8794

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>g8799

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>g8819

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>g8820

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FKGYQIAPAEIESILHGHDPDVAIIISTFSDHVAASEVPLAYVVLKIPHKATAKTARDLIEYASER
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>g8821

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>g8822

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>g8823

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D
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PYQ

>g8824

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>g8825

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>g8826

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TGSTTSVTGIPTSATVVPPI SVISVSTGGSNSTITTSSTSFSTFISGSVTS LI PQSTIVKTTVVP G
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>g8827

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>g8828

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>g8829

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>g8830

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>g8831

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>g8833

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>g8834

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>g8835

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>g8836

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>g8837

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SFDSGNDNSIATDPLIVGDACGVIVENSADGETSFTTIP CPSIQSSNTRPHRPGYFEQLRHNLATM
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>g8838

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>g8839

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>g8840

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>g8841

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>g8842

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>g8843

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>g8844

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>g8845

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>g8846

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>g8847

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>g8848

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>g8849

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VLLPDGKVLWLN GARGAQGFGT AQEPCFGALIYDPEQPSGNRWSHEGTSNI PRLYHSVALLLLDG
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>g8850

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>g8851

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>g8852

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>g8853

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>g8854

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>g8855

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>g8856

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>g8857

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>g8858

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>g8859

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>g8860

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>g8861

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>g8862

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>g8863

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>g8864

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>g8865

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>g8866

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>g8867

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>g8898

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>g8899

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>g8900

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>g8901

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>g8902

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>g8903

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>g8904

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>g8905

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>g8906

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>g8907

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>g8908

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>g8909

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>g8911

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>g8912

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>g8913

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>g8914

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>g8915

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>g8916

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>g8917

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>g8918

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>g8919

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>g8920

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>g8921

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>g8922

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>g8923

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>g8924

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>g8925

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>g8926

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>g8927

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>g8928

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>g8929

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>g8930

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>g8931

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>g8932

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>g8933

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>g8934

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>g8935

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>g8936

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>g8937

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>g8938

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>g8939

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>g8940

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>g8941

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>g8942

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>g8943

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>g8944

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>g8945

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>g8948

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>g8949

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>g8950

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>g8951

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>g8952

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>g8953

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>g8954

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>g8955

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>g8956

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>g8957

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>g8958

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>g8959

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>g8960

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>g8961

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>g8962

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>g8963

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>g8964

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>g8965

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>g8966

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>g8967

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>g8968

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>g8969

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>g8970

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>g8971

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>g8972

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>g8973

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>g8974

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>g8975

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>g8976

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>g8977

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>g8978

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>g8979

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>g8980

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>g8981

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>g8982

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>g8983

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>g8984

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>g8985

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>g8987

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>g8988

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>g8995

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>g8996

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>g8997

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>g8998

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>g9000

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>g9001

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>g9003

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>g9004

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>g9005

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>g9006

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>g9008

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>g9011

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>g9013

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>g9014

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>g9015

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>g9016

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>g9017

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>g9018

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>g9019

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>g9020

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>g9021

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>g9022

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>g9023

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>g9024

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>g9025

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>g9026

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>g9027

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>g9028

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>g9029

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>g9030

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>g9031

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>g9032

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>g9033

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>g9034

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>g9044

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>g9046

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>g9047

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>g9053

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>g9055

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>g9057

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>g9060

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>g9066

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>g9067

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>g9068

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>g9069

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>g9071

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>g9074

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>g9075

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>g9076

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>g9077

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>g9078

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>g9079

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>g9080

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>g9081

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>g9082

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>g9083

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>g9084

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>g9085

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>g9086

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>g9087

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>g9109

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>g9111

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>g9113

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>g9121

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>g9122

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>g9123

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>g9124

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>g9125

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>g9126

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PETIAFR TETLGIFFEWLASF EAPLRELGIRNMQDVNVEDERVSTNIEKVLQNLRTLRLSIVTEHN
DAAPEDDLESPEPHNFFAQLPSMWLKP SASHLEHLTLSCDNYFGFYPKLEASEVHFPNLKSLAFGN
YCFVRDSQLEWILSHAATLTDL SFDDCAILYDVCLAE EHINWGP FQKGEMETRPEQDGQFREKYC
SYNKRWHDYFDSFR TKLPHLSQFLIGSNDWGDGVPFEKEAEVKICLRESRYMVCYDGNGPSPYMEH
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>g9127

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>g9128

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>g9129

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VQKLIVQVGYGWSMRISAFMILGLLIISNLTVKSRLPPQPKAMTKDELVQPFREFSTVAVILGFVF
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LILALWIPASGNAAVIAFAIIFGFTSGAYASLIANLIVKISPNTFKVIGYRTGLAFLFGSIGGLTTN
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>g9130

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>g9131

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>g9132

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>g9133

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DIVESIERDFDQWGD RRQEIVFIGEGIDPPQISSALDECLNDKEMWQWERIMKNPKMSPSQKEE
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IRA

>g9134

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GDASSLPTS KTA AAITSQAPILVRGLLSVMEGKEPEGTYDGYTSCPLLTEYGKVL LAEFKYGGPEK
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>g9135

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QNVYDILFNDDEGFKIGDLSAKAIHLPGHTPDHLGYKIGDNVFCGDSL FHV D IGTARCDFPGGSAN
SLYNSGRKLLLELPD NVKIWTGHDYPPAGREKVPVWVSVRDHKQNNAHIKDGITEHDFVALRTKRDA
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>g9136

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FSGSNATSVLSQAQQPSAARLSSDDVALDDAENPLQLLARASDLQLVPPAIARASNSPNSLSSPGT
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>g9137

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FLSDRLKLRGTLMLFTLPFAIIGYAVIANTSNAQVG YGMTFLMSTGLYASVPCVLVWNSNNSAGHY
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>g9138

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LQVLDATGGVLSAVPILFPLHWIGSAVSGIAKLNSGVSKSRTDNLLKDANKDIFGPRGLKIEVAK
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CLWLIIREV

>g9139

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AALCILVD FKWRRVQYTNRPDKWFERPAADIKAGLTIELASEFDRFNMPFRYSDSGPDPHYAGT
EYAIRNSARKNGFVKVNLVEKFS PDKSLVLYEDLYLRKSASGWVYVRFTVMNTDTRWPLTTNTPFT
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>g9140

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IDSQQTEARNSLSLTSGVWQLHKKDNQENYLLMCVTHGDSKPYPLTSATPIKVKLTLRSIAKHSEH
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>g9141

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>g9142

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FQNFTAISAYENTLEVRTLPEVTAMFQESNPDGLRESYWTATFAFTKEMITYCVETFETEVVRAAN
ATGYLPALVLQVISTDMTTQMKNNGGALGLSPSDGNLLLLNLSFMWEDIADDNLILNILGTITSK
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NTTYP

>g9143

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MKWWWAVLTFTILMFIGCVISNFTSCSSMHAWFTPGECSTHRDSVAQVASLYFSFAVDVITDLMIM
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>g9144

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>g9145

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DYLSRYLPQIFLHIVTFNDGTLMSLTWPHTMSDISGWGHIFKAWSVDLGGKRYNAIPLHAGFDTDV
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KTLTGESFGKTAIAIRRAYELQRPVQQLIATAKLLRTSNAHEKLPTLGDRDGHHIYFVEWADTRFY
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>g9146

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WQSEISGSSHRGSHVVTEGLFVSVGIAVSLWVDLGFSDIDTSSVAWRVPLILQTSIAIFVMIFIFK
LPESPRWLLGKGRVDEAREILTLRDVDLEDETVAEIAADVQRSLELVQNASRLDIFKMGEKRNAH
RLALGMTGQSFGQLCGINSLTFYATVIFDQRLHMGGTDSRILSGGMVTIQIIGALSIFTIDRWGR
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>g9147

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KDNHAGKVSYSYTVFELFIALQALAPFVGLLLSPPKKVQRTDGLPVRLRIFEQSWTAEKEVVKLFFS
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RTSFIVVLGLQGAWWIWGTILVTRYNRTQPVYDWVDPGFGSGFALFLFWVIGFQVNYLYLYFVIGN
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>g9148

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ITAASFLGAAGKETPTFVRVSTVAGSRGSADTARDVHGFASTRFYTDEGNYDIVGNNIPVFFIQDAI
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LDRFAVDK

>g9149

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>g9150

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HVALGPVAGPLGRSALGGRNWEFGSPDPYLTGISFAETIKGMQS QKVQACGKHYIGYEQETQRNPS
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KRILTPYYYYLNQDSKDYPTIDLDTAQISNGLFGNDLPSFSYPFNTGNLSDINRDVRGNHRDLIREI
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>g9151

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TELVICLLPIYIVKPVQMRIGKKLTVVTAFIFRILVITTIARLIFMSRADSLADMNTAAFATSIT
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>g9152

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PQYTNKTEQLWQYEIRNGDADWISAYCFTEAEFTPDFTIINYMSTSRDSWFTFYVVCVRMLLDE
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>g9153

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FIGYDGPCHMAEEVNASIAVPWCMIAIIINGTLGFAIVVAFLFCIGDVEDAALSSATGYSYIEVF
YAATNSHAGASVMAAIPAALVICASFGFLASSSRLTWAFARDKGVPFSDFFAHVSHLKITGTALPI
RAVVLCAVITGIIICIINIPSSAAFNAMISLTAGLFASYEIAIVLMFLKKIKGEPVNYGPWRLGRW
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>g9154

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DKNVQNFEIDPHSGIHGMVFDPTETYLYSADMGANKI WTHKKDPETGLLTLVDSIDAPAPGDHPRW
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FATARSNNHNDVHGYISAFRLGPEGNI EKQLFINPTSTSGGHSNAVSPCDWSDEWIALCDDQDGFVE
IYRFKDELLARVARCDIPEKGFAMLGALLGSWFTSGQPRYISEEDTQTIAFISDIGA QHLKPVFIA
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SPVFQMSIPVLSILFSVIGATNLILLTIFDTARYTSAHQILLPTSISAHLLGCLILCIWTTFC LHQ
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>g9155

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>g9156

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>g9157

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DRYGRNKEQIGRGSSGIVTVTFRPHSVDHPSGGQLFAVKKFSRREKDSVKKHLKRVGA EFCISSSL
HHPNIIQTFDLVQD TDGTFCQIMEYCSGGDVYTRVRSQGKLCATEANCYFKQLLRGLDY LH TTGVA
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V

>g9158

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>g9159

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>g9160

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LGAVGYCYGGWAAIRLGGAAKLVDVSVGHPSLLTKEDIDALAVPVQFLAPEIDPVYTPELKLHTF
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>g9161

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>g9162

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FILSFLDVEGNYFMVLAYRYTSLLSAELFSFWTIIVIVIISFIFLKVRYHITQYLGVFVACGGMGL
LIASDYLRGANYPAADQLKGDLFALLASSIYAFSNLFEEYMVSKRPMYEVIGQMGFWGMLINGVQC
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>g9163

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>g9164

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>g9165

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>g9166

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>g9167

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>g9168

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SGRTVRS LFREGRGINSSI AVFQDVTGKAKEKAVAMGVAVGSGYLYETTTFEKEVYSDLYGERGCLM
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>g9169

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>g9170

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>g9171

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GPEERM RVFY SMLNEFPYDILFEAEPRFEDEGMRWAVKACQYSSTPHFLGGESGKITPRGLQVSAL
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>g9172

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>g9173

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>g9174

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>g9175

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>g9176

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>g9177

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>g9178

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>g9179

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>g9180

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>g9181

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>g9182

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>g9183

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SKTAWWKGL

>g9184

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>g9185

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>g9186

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>g9187

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>g9188

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>g9189

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>g9190

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>g9191

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>g9192

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>g9193

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>g9194

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>g9195

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>g9196

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VV

>g9197

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>g9198

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>g9199

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>g9200

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>g9201

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>g9202

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>g9203

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>g9204

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>g9205

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>g9206

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>g9207

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>g9208

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>g9209

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>g9210

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FSTSVPSAILLYRHFTY LHGVLHWIMQSYVVGTYTLMMHQHIHMGGILTKSNPIIHAFDVLFPYIT
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>g9211

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>g9212

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AHNKDDPDIYYHRAQLHFI LGFEFAEAAKDYQKSIDLDP SFIYSHIQLGVTQYKLGSVASAMATFKR
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>g9213

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>g9214

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>g9215

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>g9216

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>g9217

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>g9218

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>g9219

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>g9220

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>g9221

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>g9222

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>g9223

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>g9224

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>g9225

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N S S M G Y S Y N V L K S D L A T N I Y G S L L L I G G Q Q Q I S L I A D K V S A L L R K L N I N V V N L K S L E D F D P S E C S D I V G T L F L Q D L E E P L M S T N E T Q R M L L L K N V L S N S P V T M W L T Q A F V R S D A Y H S A S L G L G R D M M A M H P N L R I Q F F E L D T L E M V E T L I A E A F L R F V I S G V D K E Q V F P S A F E T H I R L E K E R I L I P R L I P H S E L N D R L N S T R T I I K Y A D I T T D E I E F L V R K D I D V N G H G Y I A K L V K P H P R M D S I K N H L I V K A N Y S T K Y A F R I N G M F A H I C I G T S N R P G K T V I T V A Q S I A S H Q R V T D M L V L D V N L G N L S E V A F L S I I G G F L F A Q N V I Q Q I A D S E T A V L Y D P E E N V G S L I H Q L L G D S N Q R L V Y L T D G S S G K R N G V D W V H V H P K R F I S A F R L L V P R D A G L F V D L S S R S D L E N K L L K Y L P R N C R F F R K E S I L S T T A S V H T T E D W R S I R K A L F A A V N Y I D S S T S F I A Q S S T S S I V D I S D L Q N E R V H K S M N P L E M V N W T H A Q P I P I K Q T P I D P E D L L S P S E T Y L M I S L P N D L S E A L C R W L I R Y G A R S L I F L T M D S K V S S L E D S Y W I R Q L S R A G T S I E V V P A D I S R K H E L V N S L Y A T T H G K R P T I G G V F L G P A N T E Q G S L E D T L A A L N S H A A A L E N L D E V F S A P Y D G F F V A F S T L S R I T G A P D G T T N S A A S N M Y T A A L C A R R R A R G L G A S L L D L T S W Y G S R S D V G G S S H P G L Y E L T E R I S E R D L H Q A F G E A V A A G K L A S S S I S E I T L G L H P V P R S S S N P L P A L F T H L L E E P Q D A T S E I N E L E A S L P Q R I L S A G T D T D E A L Q I L Y Q A F S L Y L A T A L Q L P A E G I N I N T V I I D L G V D S L V A M E I R S W F Q N E I Y F D V T V L Q I L S G A S I H E L C Q A V L I D I K S G E Q Y A D P E E T A L K S T S S A P L S E N S S K P I M T P D T G M S M I M G S K L P M S F G Q A R V W F P Y E Y L E N K T A Y N C T T T Y Q L R G S L D V D R F T Q A L Q T V I R R N S A F R T S F F T D P T M G E P Y Q M M H E M S P F Q L R K V V L G P F A E S S T Q I E E E K R L V A E H V Y D L G L G D T F I A T L C S H T D E P K I H T I I F G Y H H I I M D G V S W Q L F L Q D L D Q C Y T N N L Q S H L P P V G Q Y F D F T V Q Q R D A V D S Q I S M S H R R F W K E E F I D P P E P L P I L P F A K S F T R K S L T R Y D N I E I M L D L D R G L V S K I K K C S A A A R V T T F H F Y L S V L Q V M L H R F L Q V D D F V I G I V D A G R H N K A F V D T I G F L I D L L P L R F N L A N K G T R F P E L L N S T R S K V Y S A I G H A G I P F D I I L E D I N P P S S S V S P P L F Q V M N Y R M G V L G Q K T I G D V D L D W S T Y E D A K H P F D F I L T V D E N D G E A F L T L S L Q Q Y L F D R A G G D L F L S T Y I H L L E I F T E E S S L K I Q D A P L F N K H D L K T A I S L G K G P I D E N I L D D T L S L R V D N F V A S Q P H A V A I K D N S I T M T Y R Q M A D R V N E I A N A M L Y A G V S T S S H V A M L I N P V A D A I C T I L A I M R I G A V Y V P L D V R N S E E R L L S I V T Q S K A M L V I F H D S T Q D Q L S K I Q T N M P Y A I R S V N I S I I A N D S R P V P N R S A A D S P A F V M F T S G S T G K P K G V M L K H S N F L T H V L A A S K E M D L R T G R E V V L Q Q S A F G Y D A S L A Q I F Y A L A N G G S L V M T S N R G D M E D I A T L M R K E N V T F M L A S P S E Y L I L Y Q Y G R E F L K G C T S W R I A M C G G E A F S S N L K Q L F H D L D I P N L K V W N A Y G P S E I S V A S S F Y S V P Y D A I A L Q D T T K V P I G R A I T N Y A V Y I L D P E S A Q P L P V G W V G E I C I G G P A V S A G Y L Y N E Q M T M D R F I P D T I S S T S A S G W R S L Y R T G D Q G R M L S D G S I A Y L G R I A G D S Q I K L R G I R I E L D E I S I S I L Q T S A G V V S N A A V C T W G E G Q E Q F L I A F I V F S V D Q V P E N A D E Y L H G L I S S L P L P S Y M R P A M A V P I D K L P M N A S G K L D R R A L R D L S L P E I A E Q R D D D S L T D T E V K L K Q I W T D V L A N S K V K L Q I R K Q S D F F S V G G N S L L L L K M Q R E I K H V L D R E I P L S E L F R N S D L Q T L A R R L D N D I G D L V T H S H I D W N A E V S L P S D L H K P D S K P A T Y P M E I V L T G S T G F L G R W I L K Q L S A H P E V A Q I H C I A V R P K E P G I I R N N E M W T S E K V T T Y T G D L S L P N L G L S E E D Q E R V F V N A G A I I H C G A D V S F M Q T Y T S L R K P N V Q S T K E L V K M A S A R R S V P F H Y V S T A G V V H L S G E D S Y G E I S V A A H R P P T D G S D G Y V A S K W A S E V F L E R C N R E T G I P V S I H R P S S I I G P D A P S M D I M N N I L R F S R L M K V I P R V T G W V G S M D L V D V K S V A K N I I N T V I D M H N R S Q N T G S F S T V Q Y Y H E S G Q T V V P V E S V K E Y L E K E E G V P F Q T Q N L D Q W I E S A R K H G I D E L V A E F L I T M H T S G Q G P S M P L L I T S R K Y D T S L R S

>g9226

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>g9227

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>g9228

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>g9229

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>g9230

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DSSVDCIISNCVINLVP AKDKGLVFLEIARLLKPGGRLAISDILARKELPRSIVDNMELYVGC IAG
ASQVAEYEEYLRQAGFQVSPSLDKDSEITHSLPSFSSVNYDNFIELDSDKCPFSKIGRVTYHSFSE
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>g9231

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>g9232

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>g9233

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LFTILVL FASQGHQVVHQIVSVIRVAAPLIVYFAVIFFSTLLITYKLGFYKLAATQSFTAASN NF
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>g9234

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NCNGRVEGYNVQE QIGIMTATITVEREAARRDKQEGSMAVFQGRNLLRFFIASWPKITQQLVGLSV
FNTYATYFFQYAGNKNPFLVTVILSCVQIISMI FTAGLTDQLGRRPLTVYPYGVTVISVLC LGIVG
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>g9235

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VYTPS

>g9236

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>g9237

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>g9238

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>g9239

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>g9240

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>g9241

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TH

>g9242

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>g9243

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>g9244

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>g9245

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>g9246

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>g9247

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>g9248

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>g9249

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>g9250

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>g9251

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>g9252

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>g9253

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>g9254

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>g9255

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>g9256

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>g9257

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>g9258

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>g9259

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>g9260

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>g9261

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>g9262

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>g9263

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>g9264

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>g9265

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>g9267

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>g9268

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>g9269

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>g9270

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>g9271

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>g9272

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>g9273

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>g9274

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>g9275

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>g9276

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>g9277

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>g9278

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>g9279

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>g9281

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>g9282

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>g9283

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>g9284

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>g9285

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>g9286

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>g9287

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>g9288

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>g9289

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>g9290

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>g9291

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>g9292

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>g9293

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>g9294

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>g9295

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>g9296

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>g9297

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>g9298

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IDARQ

>g9299

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>g9300

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>g9301

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>g9303

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>g9304

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LGCLICGIGHVMPIVILGRIISGMGGAGIMAMSSIIITDIVPRRDVASWRAYVNISM TLRGSAAGP
LGGWLTDTIGWRWVFLQLTPLLALASLLVVI FLKEIQQHKISQNGKNTSSIRRVDFLGTLVLAVAI
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>g9305

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>g9306

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>g9307

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>g9308

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>g9309

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DNDGESGGLRQAVWWAWLQQDIWVALIERRR LFSFWRAKRPLATLNSPELACRSIYLLSQCIN
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>g9310

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>g9311

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>g9312

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>g9313

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>g9314

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>g9315

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>g9316

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>g9317

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>g9318

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>g9319

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>g9320

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>g9321

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>g9322

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>g9323

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>g9324

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>g9325

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>g9326

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>g9327

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>g9328

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>g9329

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>g9330

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>g9331

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>g9332

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>g9333

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>g9334

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>g9335

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>g9336

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>g9337

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>g9338

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>g9339

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>g9340

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>g9341

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>g9342

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A

>g9343

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>g9344

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>g9345

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>g9346

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>g9347

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>g9348

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>g9349

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PQA

>g9350

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>g9351

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>g9352

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>g9353

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>g9354

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>g9355

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>g9356

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>g9357

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>g9358

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>g9359

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>g9360

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>g9361

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>g9362

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>g9363

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>g9364

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>g9365

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>g9366

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>g9367

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>g9368

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>g9369

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>g9370

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>g9371

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>g9372

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>g9373

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>g9374

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>g9375

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>g9376

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>g9377

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>g9378

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>g9379

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>g9380

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>g9381

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>g9382

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>g9383

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>g9384

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>g9389

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>g9391

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>g9392

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>g9393

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>g9394

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>g9406

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>g9408

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>g9409

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>g9410

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>g9411

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>g9412

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>g9416

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>g9417

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>g9419

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>g9423

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LLPMFIFSQWFLSYKGTFTAVYHSVRGRALTSFVGAFVGIAGTFTMGIFLDTPQMSRPAKFRWGFI
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>g9424

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>g9425

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TYQAMKVS AQQAFLTFTFIYSSWDHINDHDFIKFLNPGDPVSSLLLIHFIAATIMMRPIFEVLRVD
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>g9426

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>g9427

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>g9428

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>g9429

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>g9430

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>g9431

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>g9432

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>g9433

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>g9434

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>g9435

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>g9436

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>g9437

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>g9438

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>g9439

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>g9440

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>g9441

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>g9442

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>g9443

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>g9444

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>g9445

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>g9446

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>g9447

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>g9448

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>g9449

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>g9450

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>g9451

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>g9452

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>g9453

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>g9454

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>g9455

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>g9456

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>g9457

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>g9458

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>g9459

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>g9460

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>g9461

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>g9462

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>g9463

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>g9464

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>g9465

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>g9466

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>g9475

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>g9476

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>g9477

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>g9478

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>g9479

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>g9480

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>g9481

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>g9482

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>g9483

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>g9484

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>g9485

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>g9486

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>g9487

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>g9488

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>g9489

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>g9491

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>g9492

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>g9493

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>g9495

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>g9496

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>g9497

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>g9498

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>g9500

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>g9501

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>g9504

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>g9511

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>g9518

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SYQ

>g9519

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LMNPQSPEFERCFAASVQELKIRCLDMCLDGFLSNGQRSWEDLSAARSLLMKFHWVFAGICGLGL
LYSAVSRKRLIEGKNNGDPDIHSESLRIVDEVAGSVNSPPDAPGQHLSAFLERFGEAYPERLVRVL
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WAWI

>g9520

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AMFISCSLLKEICRLNATSGQLMVGSSANVSGGGQKFRVEDIEDEVKEAADLIVDYGLQRYHVG
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>g9521

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FNHSLATKKGAPVLLLEAFHYQFHPSWQTFLEIRESEGTVKHAFSQQYIPKGVMPIDDIRFSYKCA
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>g9522

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GFNVTFPRRNDVKWTPWPHLDQSPKRKGMQAVQGLLNFAFNGPKDGGGLVLMRGSSNLFDEYFSQER
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>g9523

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SWSLYQEDLPYSGFEANYPNQKTGANDYMRKHNPMSYNSVTNTDRLAKSKNFTMFYKDLNDEL
PQWMFITPNMTNDGHDSSSLAKAGAWSRNLFTPLLSNKNFNTDSTLIILTFDEGSTFGTNQIYAVLL
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>g9524

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>g9525

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YTERPNGELALLSAGSSLVQAGSYEFTKRNHRHQHDNNSCLQDRVARSEELIRLLLLDRGASPENAVQ
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CTTLHELAKTWNVPSPDVLQILLMHGAKTTINHIDSLGKTALHRMAKNLRQVEAVRVLLSHGADKN
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>g9526

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GLPTVTTVQEDFWTTDEMPY GAYGGVVVNDVAYLYGKNAAGTVGLAQVPAGSVTDKSAYQYYVNGA
WTSTIPGVNDTG VGLTNAGAGGQGTYYYYSNVWDLYVWIGXAGISVAPQFFITTAPAPEGPWATPVN
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>g9527

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>g9528

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IAIERMDRVGXKPLTKVNWTRFKRIWQ TWHVYLFVVCYVFYGAFSWGDSYFGLWLQSLKKYSVENI
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>g9529

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>g9530

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>g9531

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>g9532

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>g9533

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>g9534

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>g9535

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>g9536

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>g9537

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>g9538

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>g9539

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>g9540

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>g9541

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>g9542

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>g9543

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LRKREEDALQTLMDETAELAAWTCAGIPVLSVYERTGILKSYIPSLHKTISDKLALYYGSPAHPQ
HLRICAPHHTSYAPTSHTKGSKSKNKPSLTILLSHSDGRETLVDLT KTLT EMTS QSGKISAHDIST
KLIDAEISELTSCQSTSSTSPSPPPISAAAASSSSSTRNESYSSDETEMLPSTLFTPIKPEPDLII
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>g9544

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ESFQKLDTS LNGAALISSSTTSNGAPESNVAVEVGKRLEELERQRRRALDAHFLIECWDEVSNRGD
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FPPKDTREI I EKFSETLEKDLLKQFDDFYRKANFDGMKECALVLRDFNGGASVIALFVNQHQFFID
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QRVFQQSIQQRLEMVL DKANSVSSLAFLRSLQSSRSYLSLVDDLKTHGLTEAPDP ISSQTAIVLD
QQLEDL FVPYFVGSSYIEREKRNL EELYTSLLFKFTAFHSRRKKTATTTFMASLAKSGSELLASAK
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FQVSGPGGLMVTKDMTRYANLLKSWDLEDEEQVKA AIDV LLEVGS LFVVGPEALREKLRGPATSAG
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>g9545

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PKIQKTI F SQEERLLQQTAPVSSITDAADQALLRLEERHRASRRRQSLRTDTSSDRFVRRGRRQY
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RRSHDKTAISSNIRELASPHSRSSSIDPRHRRPQPLKPVVGNANGSSRPPTGGHRREMTLKM TLR
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>g9546

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HFSLIVLATTDENSYHCLPELRLQVANRTLHIATDLCLFMFPLFLVWRVQISWQRKILFIVPFTLG
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>g9547

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>g9548

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>g9549

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>g9550

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>g9551

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>g9552

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>g9553

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>g9554

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>g9555

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>g9556

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>g9557

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>g9558

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>g9559

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>g9560

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>g9561

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>g9562

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>g9563

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>g9564

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>g9565

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>g9566

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>g9571

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>g9572

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>g9573

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>g9575

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>g9576

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>g9581

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>g9583

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>g9584

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>g9585

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A

>g9586

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>g9587

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>g9588

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>g9589

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>g9598

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>g9599

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>g9602

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>g9611

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>g9625

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>g9627

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>g9628

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>g9629

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>g9634

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>g9635

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>g9636

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>g9637

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>g9638

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>g9639

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>g9645

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>g9646

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>g9652

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>g9657

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>g9658

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>g9659

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>g9660

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>g9661

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>g9662

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>g9663

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>g9665

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>g9666

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>g9667

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>g9669

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>g9670

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>g9671

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>g9672

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>g9674

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>g9675

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>g9676

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>g9677

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>g9678

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>g9679

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>g9681

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>g9682

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>g9683

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>g9684

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>g9686

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>g9687

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>g9707

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>g9713

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>g9714

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>g9715

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>g9716

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>g9717

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>g9718

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>g9719

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>g9720

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>g9721

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>g9722

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>g9723

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>g9724

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>g9726

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>g9727

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>g9728

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>g9729

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>g9730

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>g9735

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>g9736

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>g9737

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>g9738

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>g9739

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>g9740

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>g9741

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>g9742

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>g9743

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>g9744

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>g9745

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>g9746

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>g9747

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>g9748

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>g9749

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>g9751

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>g9752

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>g9753

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>g9754

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>g9755

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>g9756

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>g9757

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>g9758

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>g9759

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>g9760

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>g9761

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>g9762

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>g9782

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>g9784

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>g9785

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>g9787

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>g9793

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>g9794

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>g9795

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>g9798

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>g9799

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>g9802

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>g9805

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>g9806

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>g9807

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>g9809

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>g9810

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>g9811

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>g9812

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>g9813

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>g9814

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>g9815

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IPVGLLLIFMPFMIESPRWLASKNRNELAIKNLAWVRNLPEDHPYLLREMADIQAGVEHELQVLNG
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IEKV

>g9816

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>g9817

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YITGNNANEDGAAATVSTTVSEYEEWLNSTLGSEWAAQFLELYPAANDTQAGEQENNIIRDFTFRVS
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>g9818

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>g9819

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>g9820

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>g9821

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>g9822

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PEMRLASCVIFALFVPI SFFWYGWSADYAVHWIVPILGLIPFGFGLMGILIPVQTYFIDVGGPFAA
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R

>g9823

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>g9824

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>g9825

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>g9826

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>g9827

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>g9828

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>g9829

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>g9830

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>g9831

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>g9832

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>g9833

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>g9834

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>g9835

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>g9836

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>g9837

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>g9838

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>g9839

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SRAHL

>g9840

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>g9841

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>g9842

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>g9843

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>g9844

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>g9845

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>g9846

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>g9847

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>g9848

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>g9849

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>g9850

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>g9858

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>g9859

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>g9860

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>g9861

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>g9863

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>g9864

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>g9865

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>g9866

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>g9882

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>g9886

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>g9889

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AIHDL LGDRSTSASGYTTKRTNGAQANGTDASSKSFIQFLYSEQEADKSSVGVNAKLDP PAVIAAR
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>g9913

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STLNSISNNALDPETTIYPSKSTDDAPYSVDEHTLRS AIYIPDSFSYGANGKIPILLVPGTFIPA
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>g9914

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>g9915

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SE

>g9916

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>g9917

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>g9918

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>g9919

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>g9920

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>g9921

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>g9922

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>g9923

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>g9924

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>g9925

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>g9926

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>g9930

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>g9931

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>g9932

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>g9933

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>g9934

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>g9935

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>g9936

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>g9937

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>g9938

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>g9939

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>g9940

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>g9941

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>g9942

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>g9943

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>g9944

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>g9945

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>g9946

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>g9947

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>g9952

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>g9953

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>g9954

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>g9955

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>g9958

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>g9959

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>g9960

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>g9961

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>g9962

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>g9964

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>g9966

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>g9967

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>g9969

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>g9972

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>g9973

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>g9974

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>g9975

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>g9976

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>g9977

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>g9980

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>g9981

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>g10020

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>g10022

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>g10024

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>g10025

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>g10030

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>g10032

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>g10034

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ASDRKRADQAFTPDIQMDTTRVDGRPFYVPSLSSDIAILTVSEAYVRPSPASEFCLQNINVTVKSG
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IRSNLDPNRHATDAVILSALERVGLHNLVESRGGLNGEDLSSHPLSQGEQRLFALARALISKWTRD
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EFLQLSDNKNRLGGLVDCIHHVGASKFERTGKDTITGHHQVRVEYKRYRTMEKKETEVEARGHGLT
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>g10035

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GTTLILTPACQDFRGLYAQRFFLGFTEAGISPMFMMIVGGWYKKDEQSLRMGAWYSCTGYVSIFSP
LVNWGLGHIQKGLSPWNMYFFAGGMTILWGIIVLFLLPSPDIPRAKGFDDRQRFIAVSRMRTNNSG
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CAHENRRRDASGTTEAFEHAYEDDLTDKKNPQFRYVL

>g10036

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TWDKWDQPIGSTGQLLPNVEAKICELSDENSGSTIGGSNEPRILQQGETGELYVRGPNVFLGYHNN
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>g10037

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LPGTTVRNFIRGPAWVYYRVPASKHLGRD TVDTNPEYFDEEKEKFS DPVEHRDYRKGIHRTNKAF
RLF IKGEFNQETVRAATAQMAEKL NHDPELCEKLI PKWEIGCRRVTPGPGYLESFSKPNC SLTNSP
ITQITEKGVVTADGQEYEC DVLICATGFDVSKCPQYPLIGQNGVN LAEKWKYEPNSYLSVGTNDFP
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>g10038

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AFEPQDGGLPSSSTRQETTDGRIFDADI FNINQLERPNDITNGQRREPHDRNVSIGFEVSQGD LR
QSYMETYWEYCYPCWCPVLLRDTVLQELTESPLLDNALATGASHLRPPLIPHPGPAAYYERARRIFY
DDGEEDLVRSLKAVLLFYWWAPRPPLMVHKHSSWWTAVVIKHAQQAGFHFQPAELSEAYTIQKC
IRRIWWTAFARERLTAICQGKPC LIDPEDCNIPEPSIDDFPELEDKTKAEVFVYWVRLCAIIGRV
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HLARSPQSLPRAXPPAIMAATCIARILKDVLLRSAIGYMPPI TCWYSAMAFICLLQALRTDHLKDG
AKAEIEILVLTVKELQKKWATGT VIRQQFERLLERNKPLTPEDFPNSHLGNRSTRALHSEVDVLM
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>g10039

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>g10040

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DGPVIAIYCGSIIHMLEALKNPRWEDFHMGKTPEAMVNRFAYLGNGFSSREAKKGSVGATQTVDFD
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>g10041

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>g10042

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HYALDCSGVLKVIETMVDSLGPCGRACSAGAPTPGKRASIDVFSHLVMGKEYVGCHQGGSIAKEMI
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>g10043

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KAPTIVCEDANLQEAALGATLGSLNSGQVCMCTERVIVHAAVADQFKEIFKQTIQDQIFGTPDGLT
LVNALPVTKNKKLLSDAISKGAKVVHGDPNHTAAINTAMRPVVLEGIKEGMDMYTESFGPTVSLF
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>g10044

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>g10045

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>g10046

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AAPNL

>g10047

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>g10048

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>g10049

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>g10050

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>g10051

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>g10052

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>g10053

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>g10054

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>g10055

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PREK

>g10056

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>g10057

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>g10060

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>g10061

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>g10063

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>g10064

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>g10065

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>g10066

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>g10067

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>g10068

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>g10069

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>g10070

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>g10071

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>g10072

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>g10073

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>g10074

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>g10080

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>g10082

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>g10083

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>g10084

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>g10085

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>g10086

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>g10089

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>g10095

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>g10096

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>g10098

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>g10099

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>g10100

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>g10101

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>g10102

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>g10103

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>g10104

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>g10105

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>g10106

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>g10107

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>g10108

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>g10109

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>g10110

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>g10111

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>g10112

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>g10113

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>g10114

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>g10115

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>g10116

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>g10117

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>g10118

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>g10119

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>g10120

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>g10121

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>g10122

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>g10123

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>g10124

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>g10125

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>g10126

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>g10127

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>g10128

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HGCLTGLTSAMFVDESQSPSDMSKTSTLT ELPTSPDPKAGLYIRSRTGEIVKVNI PKDCLAFQTG
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>g10129

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>g10130

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>g10131

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>g10132

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>g10133

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>g10134

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>g10135

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>g10136

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>g10137

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>g10138

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>g10139

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>g10140

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>g10141

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>g10142

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>g10143

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>g10144

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>g10145

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>g10146

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>g10147

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>g10148

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>g10149

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>g10150

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>g10151

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>g10152

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>g10153

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>g10154

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>g10155

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>g10156

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>g10157

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>g10158

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GTVARSKSMRRTGTRVKSIFIGRNSSAAASPQWNTATPPMPMPAMPAMPVSDRPFPTPNQTR
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RKK

>g10159

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>g10160

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TVTARDPKTGYPSQAFLTVGYGPFTETFTSRVICDRDNWTVEAKSGGGVGEDGKPIPGADEGLFSH
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GR

>g10161

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>g10162

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RGSYTRANVHIDHGINVLKTLQRKRQTSDISLRTPRKAI FRVTDPKTVDDHLLLEILARLNTQCVL F

GYPSTRYIHLTEARTYSIEAIPDTFDTLQECRQYLEVLLNKTLHLIKKFTGDTPSCPMAGFEDLLTE
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>g10163

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MGATAFGNGTISFALPLLHWVTNVAALGT VVWLSSARENQGRALTDYKLRATRLREEVLEAIRLN
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>g10164

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>g10165

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>g10166

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>g10167

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>g10168

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LAQKLIPDTKICRVFCGLFIEDSIGPWFGFDTKNGRYESVGSARSPI SFTALEDVGRVVASLATLA
RNEIPD TVHIGGDTRS FLEIAEIMKDGGAGQIDVSETPLEEYKEEVTVKASWDPAPYLRFLMGENK
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>g10169

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>g10170

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>g10171

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>g10172

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>g10173

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>g10174

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CFGAKYVVRHLHPKQNKIDVGYVAHPSFVEADELKAIGAPFSISAAETDQIFPAEKRESEVILKE
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>g10175

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>g10176

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>g10177

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>g10178

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>g10179

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>g10180

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>g10181

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>g10182

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>g10183

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>g10184

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>g10185

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>g10186

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>g10187

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>g10189

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>g10190

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>g10191

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>g10192

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>g10193

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>g10194

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>g10195

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>g10196

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>g10197

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>g10198

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>g10199

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>g10200

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>g10201

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>g10202

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>g10203

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>g10204

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>g10205

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>g10206

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>g10207

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>g10208

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>g10209

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>g10210

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>g10211

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>g10212

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>g10213

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>g10214

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ATVHEAWNE

>g10215

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>g10216

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ATL

>g10217

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>g10218

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>g10219

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>g10220

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>g10221

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>g10222

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>g10223

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>g10224

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>g10225

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>g10226

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>g10227

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>g10228

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>g10229

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>g10230

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>g10231

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>g10232

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>g10233

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>g10234

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>g10235

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DH

>g10236

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>g10237

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>g10238

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TFEALDRQASVNHQTVYAYYFTYTSSYS PVAAHAEVNFVFGNLGPNPIFGQTPGPSATDFTLSRT
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>g10239

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>g10240

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>g10241

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>g10242

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>g10243

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>g10244

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>g10245

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>g10246

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>g10247

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>g10248

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>g10249

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>g10250

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>g10252

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>g10253

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>g10254

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>g10255

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>g10257

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>g10258

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>g10265

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>g10266

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>g10267

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>g10268

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>g10269

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>g10270

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HGSLPPRDDIEKICKASHQPSVLAHEIMTLPYSTLDEAGLKTPAVLLDIPEDAHVPVLIARYMLLL
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>g10271

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LTSLV CYTLALQWGGQNKAWNNGSVIATLIKPRVVWANALWSFITTA AFYQVMFYLP IFMQSIHGQ
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QVLFGFGVGFQNI PMMAVQGLSKQEDVPSITGIMFMA LSSSAVYFIVAGQSI FDNRLVQTLATIA
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>g10272

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>g10273

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FSMTTQLASDVQALRHDLNGLPWENPSEWQKWDPAQYAGHWQTPHLIVHNKLN LQQPIAQGLASFH
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>g10274

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>g10275

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>g10276

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>g10277

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>g10278

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>g10279

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>g10280

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LLSSAEFKMDPLVSLYYFAPACFVMNGVATLFFEIPRMTMHDIYSVGWNLVANASVAFALNVAVV
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>g10281

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VVPVPYPIPD DGPVGKMLKALNRHPNRPGHVHFMFQKEGYDTLITALYPRGDPYETSDPVFVGKQS
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LD

>g10282

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>g10283

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>g10284

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>g10285

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>g10286

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>g10287

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>g10288

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>g10289

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>g10290

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>g10291

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>g10292

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>g10293

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>g10294

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>g10295

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>g10296

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>g10297

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>g10298

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>g10299

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>g10300

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>g10301

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>g10302

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>g10303

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>g10304

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>g10305

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>g10306

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>g10307

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>g10308

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>g10309

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>g10310

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>g10311

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>g10312

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>g10313

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>g10314

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>g10315

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>g10316

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>g10317

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>g10318

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>g10319

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>g10320

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PAQ

>g10321

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>g10322

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>g10323

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>g10324

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>g10325

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>g10326

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>g10327

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>g10328

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>g10329

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>g10330

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>g10331

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>g10332

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>g10333

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>g10334

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>g10335

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>g10336

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>g10337

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>g10338

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>g10339

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>g10340

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>g10341

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>g10343

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>g10344

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>g10345

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>g10346

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>g10347

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>g10348

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>g10349

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>g10350

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>g10351

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>g10352

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>g10353

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>g10355

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>g10356

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>g10358

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>g10359

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RFERAPFKLTSEMVAVMGGGPHLTGSNTNGSITNGISTGGINNSSSNSSNSSPSGSSTLR LPIPGA
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>g10361

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>g10362

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NYYEGWWYLSIQLPPVRKVVEPTKIFLFLNTQLQFLNSLPHAGGALPPLIHRFSEATALIPDLGLD
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>g10363

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>g10364

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>g10365

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>g10366

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>g10367

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>g10368

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>g10369

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>g10370

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>g10371

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>g10372

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>g10373

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APP SWASWIY DEELKRTIFALYCLSTKASHFLGHEVYVPIKVEVLRMPASDDL FNASMEAD
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LYDSF DAYVASDLPSLKLK DDFL KALRAFHRFLRPNPACLSIYAPCNTMDIQSLLL VCHLE
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IN

>g10374

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>g10375

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>g10376

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>g10377

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>g10378

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>g10379

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>g10380

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>g10381

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>g10382

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>g10383

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>g10384

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>g10385

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>g10386

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>g10387

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>g10388

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ANG

>g10389

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>g10390

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NRWKEQWDGAEHGRHLHWIIRTPAKKVLLHEGLRRAWSSVLIQLQTGKSALRGYLASVNIEDSPI
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>g10391

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>g10392

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>g10393

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QLFIEKTKSYSESILDLYVKS KMFAFDDMDSFLAEGKICIDSPAEPQREGNLLVRIRALEGLTMM
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>g10394

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>g10395

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>g10396

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>g10397

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>g10398

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>g10399

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>g10400

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>g10401

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>g10402

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>g10403

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>g10404

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>g10405

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>g10406

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>g10407

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>g10408

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