

$P_{\text{Hb}}P_{\text{Hc}}C...P^{\circ}PSC-P \cdot P_j P_{\text{TC}}C-C-$

P“P°CḡPrP°CḡPëP» CḡPIP»CḡC” CḡPsP±PsCḡ P°Prḡḡ™ CḡPIP°PSC,PSCḡ
PSPḡC-PSC,,PḡPeC†C-PNḡPSCḡ CḡPḡPePsPjP±C-PSP°PSC,PSCḡ PePIP°PrCḡPëPIP°P»PḡPSC,PSCḡ
PIP°PeC†PëPSCḡ, PIPëPiPsC,PSPḡP»PḡPSCḡ P· PIC-CḡCḡCḡPsPiPsPrC-P±PSPëC... C†P°CḡC,PSPe
(P’PḡPḡ) PIPëCḡPsPePsPiPs CḡC,CḡPiPḡPSCḡ PsC†PëC%ḡPḡPSPSCḡ PsCḡPSPsPSPsPiPs
PeP°PiCḡPëPrPSPsPiPs P±C-P»PeP° (L1) PIC-CḡCḡCḡCḡ PiP°PiC-P»PsPjPë P»CḡPrPëPSPë
(P’PḡPḡ) C,PëPiC-PI 6, 11, 16 C,P° 18.

P’C-P»PePë L1 PiCḡPsPrCḡPeCḡCḡC,CḡCḡCḡCḡ CḡP»CḡC...PsPj CḡPsP·PrC-P»CḡPSPsC—
C,,PḡCḡPjPḡPSC,P°C†C-C— PeCḡP»CḡC,CḡCḡPsCḡ PrCḡC-PḡPrPḡPsPIPëC... PeP»C-C,PëPS
(*Saccharomyces cerevisiae* CANADE 3C-5 (PëC,P°Pj 1895)) P·P° C,PḡC...PSPsP»PsPiC-C”Cḡ
CḡPḡPePsPjP±C-PSP°PSC,PSPsC— P”PḡPḡ C,P° CḡC,PIPSCḡCḡCḡC,Cḡ P’PḡPḡ CḡP»CḡC...PsPj
CḡP°PjPsCḡPeP»P°PrP°PSPSCḡ. P’PḡPḡ PrP»CḡCḡ PePsPḡPSPsPiPs C,PëPiCḡ
PsC†PëC%ḡCḡCḡC,CḡCḡCḡCḡ C,P° P°PrCḡPsCḡP±CḡCḡC,CḡCḡCḡCḡ PSP° P°PjPsCḡC,,PSPsPjCḡ
P°Prḡḡ™ CḡPIP°PSC,C- Cḡ PIPëPiP»CḡPrC- P°P»CḡPjC-PSC-Cḡ
PiC-PrCḡPsPeCḡPëC,,PsCḡC,,P°C,Cḡ CḡCḡP»CḡC,,P°C,Cḡ (0,225 PjPi Al).

P’PḡPḡ PSPḡ PjC-CḡC,CḡC,Cḡ P”PḡPḡ PIC-CḡCḡCḡCḡ, PIPsPSPë PSPḡ PjPsPḡCḡC,Cḡ
C-PSC,,C-PeCḡPIP°C,Pë PeP»C-C,PëPSPë, PSPḡ P·PrP°C,PSC- PrPs CḡPḡPiCḡPsPrCḡPeC†C-C—
C,P° PSPḡ PjPsPḡCḡC,Cḡ PIPëPeP»PëPeP°C,Pë P·P°C...PIPSCḡCḡPIP°PSPSCḡ. P’PḡPḡ
C-PSC,,C-PeCḡC” P»PëCḡPḡ P»CḡPrPḡPNḡ, P°P»Pḡ PrPsCḡP»C-PrPḡPḡPSPSCḡ PSP°
C,PIP°CḡPëPSP°C... P· P°PSP°P»PsPiC-C†PSPëPjPë PiP°PiC-P»PsPjP°PIC-CḡCḡCḡP°PjPë
CḡPIC-PrC†P°C,Cḡ, C%ḡPs PḡC,,PḡPeC,PëPIPSC-CḡC,Cḡ L1 P’PḡPḡ PIP°PeC†PëPS
PsPiPsCḡPḡCḡPḡPrPḡPsPICḡC”C,CḡCḡCḡCḡ CḡPsP·PIPëC,PePsPj PiCḡPjPsCḡP°P»CḡPSPsC—
C-PjCḡPSPSPsC— PIC-PrPiPsPIC-PrC-.

P’CḡP»Ps PIPëP·PSP°C†PḡPSPs, C%ḡPs P’PḡPḡ 16 C,P° P’PḡPḡ 18 C” PiCḡPëC†PëPSPsCḡ
PiCḡPëP±P»PëP·PSPs 70 % PIPëPiP°PrPeC-PI CḡP°PeCḡ CḡPëPNḡPePë PjP°C,PePë C,P° 75ḡḡ“80 %
CḡP°PeCḡ P°PSP°P»CḡPSPsPiPs PeP°PSP°P»Cḡ; 80 % PIPëPiP°PrPeC-PI
P°PrPḡPSPsPeP°CḡC†PëPSPsPjPë in situ (AIS); 45ḡḡ“70 % PIPëPiP°PrPeC-PI
PIPSCḡC,CḡC-CḡPSCḡPsPḡPiC-C,PḡP»C-P°P»CḡPSPsC— PSPḡPsPiP»P°P·C-C— CḡPëPNḡPePë
PjP°C,PePë PIPëCḡPsPePsPiPs CḡC,CḡPiPḡPSCḡ PiCḡP°PrP°C†C-C— (CIN 2/3); 25 %
PIPëPiP°PrPeC-PI PIPSCḡC,CḡC-CḡPSCḡPsPḡPiC-C,PḡP»C-P°P»CḡPSPsC—
PSPḡPsPiP»P°P·C-C— CḡPëPNḡPePë PjP°C,PePë PSPëP·CḡPePsPiPs CḡC,CḡPiPḡPSCḡ
PiCḡP°PrP°C†C-C— (CIN 1); PiCḡPëP±P»PëP·PSPs 70 % PIPëPiP°PrPeC-PI
PIPSCḡC,CḡC-CḡPSCḡPsPḡPiC-C,PḡP»C-P°P»CḡPSPsC— PSPḡPsPiP»P°P·C-C— PICḡP»CḡPIPë
(VIN 2/3) C,P° PiC-C...PIPë (VaIN 2/3) PIPëCḡPsPePsPiPs CḡC,CḡPiPḡPSCḡ PiCḡP°PrP°C†C-C—
C,P° 80 % PIPëPiP°PrPeC-PI PIPSCḡC,CḡC-CḡPSCḡPsPḡPiC-C,PḡP»C-P°P»CḡPSPsC—
PSPḡPsPiP»P°P·C-C— P°PSP°P»CḡPSPsPiPs PeP°PSP°P»Cḡ PIPëCḡPsPePsPiPs CḡC,CḡPiPḡPSCḡ
PiCḡP°PrP°C†C-C— (AIN 2/3), PiPsPiḡḡ™ CḡP·P°PSPsC— P· P’PḡPḡ. P’PḡPḡ C,PëPiCḡ 6 C,P° 11
PIC-PrPiPsPIC-PrP°C” PiCḡPëP±P»PëP·PSPs P·P° 90 % PIPëPiP°PrPeC-PI
PiPḡPSC-C,P°P»CḡPSPëC... PePsPSPPrPëP»PsPj C,P° 10 % PIPëPiP°PrPeC-PI
PIPSCḡC,CḡC-CḡPSCḡPsPḡPiC-C,PḡP»C-P°P»CḡPSPsC— PSPḡPsPiP»P°P·C-C— CḡPëPNḡPePë
PjP°C,PePë PSPëP·CḡPePsPiPs CḡC,CḡPiPḡPSCḡ P·P»PsCḡPeC-CḡPSPsCḡC,C- (CIN 1). CIN 3 C,P°
AIS PIPIP°PḡPḡC,CḡCḡCḡCḡ PSP°PNḡP±P»PëPḡC†PëPjPë PiPsPiPḡCḡPḡPrPSPëPeP°PjPë
C-PSPIP°P·PëPIPSPsPiPs CḡP°PeCḡ CḡPëPNḡPePë PjP°C,PePë.

PḡPḡCḡPjC-PS B«PiPḡCḡPḡPrCḡP°PePsPIC- CḡCḡP°PḡPḡPSPSCḡ CḡC,P°C,PḡPIPëC...
PsCḡPIP°PSC-PIB» PsP·PSP°C†P°C” PIPSCḡC,CḡC-CḡPSCḡPsPḡPiC-C,PḡP»C-P°P»CḡPSCḡ
PSPḡPsPiP»P°P·C-Cḡ CḡPëPNḡPePë PjP°C,PePë PIPëCḡPsPePsPiPs CḡC,CḡPiPḡPSCḡ
PiCḡP°PrP°C†C-C— (CIN 2/3), PIPSCḡC,CḡC-CḡPSCḡPsPḡPiC-C,PḡP»C-P°P»CḡPSCḡ
PSPḡPsPiP»P°P·C-Cḡ PICḡP»CḡPIPë PIPëCḡPsPePsPiPs CḡC,CḡPiPḡPSCḡ PiCḡP°PrP°C†C-C—

(VP°IN 2/3) C,P° PIPSCrC,CḡC-C€PSCḡPsPμPīC-C,PμP»C-P°P»CḡPSCr PSPμPsPīP»P°P·C-Cḡ PīC-C...PIPē PIPēCīPsPePsPīPs CīC,CrPīPμPSCī PīCḡP°PrP°C†C-C— (VP°IN 2/3).

PŷPμCḡPjC-PS B«PīPμCḡPμPrCḡP°PePsPIC- CrCḡP°P¶PμPSPSCī P°PSP°P»CḡPSPsPīPs PeP°PSP°P»C†B», P·P°P·PSP°C†PμPSPēPNē PI CḡPsP·PrC-P»C- B«PμPsPeP°P·P°PSPSCīB», PsP·PSP°C†P°C” PIPSCrC,CḡC-C€PSCḡPsPμPīC-C,PμP»C-P°P»CḡPSCr PSPμPsPīP»P°P·C-Cḡ P°PSP°P»CḡPSPsPīPs PeP°PSP°P»C† PIPēCīPsPePsPīPs CīC,CrPīPμPSCī PīCḡP°PrP°C†C-C— (AIN 2/3).

PμPsPeP°P·P°PSPSCī PrP»Cī P·P°CīC,PsCīC†PIP°PSPSCī PIP°PeC†PēPSPē P±P°P·CrCḡC,CḡCīCī PSP° PrPμPjPsPSCīC,CḡP°C†C-C— PμC,,PμPeC,PēPIPSPsCīC,C- PIP°PeC†PēPSPē P”P°CḡPrP°C†PēP» Cr PīP°C†C-C”PSC,C-PI P¶C-PSPsC†PsC— CīC,P°C,C- PIC-PePsPj PIC-Pr 16 PrPs 45 CḡPsPeC-PI C,P° Cr PīP°C†C-C”PSC,C-PI C†PsP»PsPIC-C†PsC— CīC,P°C,C- PIC-PePsPj PIC-Pr 16 PrPs 26 CḡPsPeC-PI, P° C,P°PePsP¶ PSP° PīC-PrC,PIPμCḡPrP¶PμPSPSC- C-PjC†PSPsPīPμPSPSPsCīC,C- PIP°PeC†PēPSPē P”P°CḡPrP°C†PēP» Cr PrC-PIC†P°C, C,P° C...P»PsPīC†PēPeC-PI PIC-PePsPj PIC-Pr 9 PrPs 15 CḡPsPeC-PI.

PμP»C-PSC-C†PSC- PrPsCīP»C-PrP¶PμPSPSCī

P·C,,PμPeC,PēPIPSC-CīC,Cḡ Cr PīP°C†C-C”PSC,C-PI P¶C-PSPsC†PsC— CīC,P°C,C- PIC-PePsPj 16Bḡ“26 CḡPsPeC-PI

P·C,,PμPeC,PēPIPSC-CīC,Cḡ PIP°PeC†PēPSPē P”P°CḡPrP°C†PēP» PsC†C-PSCḡPIP°P»Pē PI CḡP°PjPeP°C... 4 PīP»P°C†PμP±Ps-PePsPSC,CḡPsP»CḡPsPIP°PSPēC... PīPsPrPIC-PNēPSPēC... CīP»C-PīPēC... CḡP°PSPrPsPjC-P·PsPIP°PSPēC... PeP»C-PSC-C†PSPēC... PrPsCīP»C-PrP¶PμPSCḡ C,,P°P·Pē P†P† C,P° III P·P° CrC†P°CīC,Cḡ 20541 PīP°C†C-C”PSC,C-PI P¶C-PSPsC†PsC— CīC,P°C,C- PIC-PePsPj PIC-Pr 16 PrPs 26 CḡPsPeC-PI, CīPePēPj PIPsPrPēP»Pē PIP°PeC†PēPSCr P±PμP· PīPsPīPμCḡPμPrPSCḡPsPīPs CīPeCḡPēPSC-PSPiCr PSP° PSP°CīPIPSC-CīC,Cḡ C-PSC,,PμPeC†C-C— P’PμP>.

PμPμCḡPIPēPSPSC- PeC-PSC†PμPIC- C,PsC†PePē PμC,,PμPeC,PēPIPSPsCīC,C- PIPeP»CḡC†P°P»Pē: CrCḡP°P¶PμPSPSCī (PīPμPSC-C,P°P»CḡPSC- P±PsCḡPsPrP°PIPePē, VIN, VaIN) PICrP»CḡPIPē C- PīC-C...PIPē, CIN P±CrPrCḡ-CīPePsPīPs CīC,CrPīPμPSCī PrPēC,,PμCḡPμPSC†C-P°C†C-C— C,P° CḡP°Pe C€PēPNēPePē PjP°C,PePē, CīPīCḡPēC†PēPSPμPSC- P’PμP> 6, 11, 16 P°P±Ps 18 (PμCḡPsC,PsPePsP» 013, FUTURE I); CIN 2/3, AIS C- CḡP°Pe C€PēPNēPePē PjP°C,PePē, CīPīCḡPēC†PēPSPμPSC- P’PμP> 16 P°P±Ps 18 (PμCḡPsC,PsPePsP» 015, FUTURE II); PīPμCḡCīPēCīC,CrCḡC†Cr C-PSC,,PμPeC†C-Cḡ C- P·P°C...PIPsCḡCḡPIP°PSPSCī, CīPīCḡPēC†PēPSPμPSC- P’PμP> 6, 11, 16 P°P±Ps 18 (PμCḡPsC,PsPePsP» 007); PīPμCḡCīPēCīC,CrCḡC†Cr C-PSC,,PμPeC†C-Cḡ, CīPīCḡPēC†PēPSPμPSCr P’PμP> 16 (PμCḡPsC,PsPePsP» 005).

PμPμCḡPIPēPSPSC- P°PSP°P»C-P·Pē PμC,,PμPeC,PēPIPSPsCīC,C-, C%oPs CīC,PsCīC†PIP°P»PēCīCī C,PēPīC-PI P’PμP> PIP°PeC†PēPSPē (P’PμP> 6, 11, 16 C- 18), PīCḡPsPīPsPrPēP»Pē Cr PīPμCḡPμPrP±P°C†PμPSC-PNē PI PīCḡPsC,PsPePsP»C- PīPsPīC†P»CīC†C-C— PrP»Cī PsC†C-PSPePē PμC,,PμPeC,PēPIPSPsCīC,C- [C,PsP±C,Ps PSP°CīPIPSC-CīC,Cḡ PICīC-C... 3 PIP°PeC†PēPSP°C†C-PNē PīCḡPsC,CīPiPsPj 1 CḡPsPeCr P· C†P°CīCr CḡPμC”CīC,CḡP°C†C-C— PrP»Cī CrC†P°CīC,C- PI PrPsCīP»C-PrP¶PμPSPSC-, PIC-PrCīC†C,PSC-CīC,Cḡ P·PSP°C†PSPēC... PIC-PrC...PēP»PμPSCḡ PIC-Pr PīCḡPsC,PsPePsP»Cr C- PIC-PrCīC†C,PSC-CīC,Cḡ CrCḡP°P¶PμPSPSCī

PIC-PrPīPsPIC-PrPSPēPj(-Pē) C,PēPīPsPj(-P°PjPē) P'PḡP> PrPs PIPiPḡPrPḡPSPSCḡ PrPsP·Pē 1 C-
PīCḡPsC,CḡPiPsPj 1 PjC-CḡCḡC†Cḡ PīC-CḡP»Cḡ PIPiPḡPrPḡPSPSCḡ PrPsP·Pē 3
(PḡC-CḡCḡC†Cḡ 7)].

P PḡP·CḡP»CḡC,P°C,Pē PḡC,,PḡPeC,PēPIPSPsCḡC,C- PīCḡPḡPrCḡC,P°PIP»PḡPSPs Cḡ
CḡP°PjPeP°C... PePsPjP±C-PSPsPIP°PSPsPiPs P°PSP°P»C-P·Cḡ PīCḡPsC,PsPePsP»C-PI
PrPsCḡP»C-PrPḡPḡPSPSCḡ. P·C,,PḡPeC,PēPIPSC-CḡC,Cḡ PIC-PrPSPsCḡPSPs CIN 2/3 P°P±Ps
AIS, PIPēPeP»PēPeP°PSPēC... P'PḡP> 16/18, PīC-PrC,PIPḡCḡPrPḡCḡC,CḡCḡCḡ PrP°PSPēPjPē
PḡCḡPsC,PsPePsP»C-PI 005 (C,C-P»CḡPePē PeC-PSC†PḡPIC- C,PsC†PePē, PīPsPIḡḡ™ CḡP·P°PSC-
P·C,PēPīPsPj 16), 007, 013 C- 015. P·C,,PḡPeC,PēPIPSC-CḡC,Cḡ P·P° CḡCḡC-PjP° C-PSCēPēPjPē
PeC-PSC†PḡPIPēPjPē C,PsC†PeP°PjPē T'CḡCḡPSC,CḡC,CḡCḡCḡ PSP° PḡCḡPsC,PsPePsP»P°C...
007, 013 C- 015. PḡPḡCḡPḡPrPSCḡ C,CḡPēPIP°P»C-CḡC,Cḡ PīPsPrP°P»CḡCēPsPiPs
CḡPīPsCḡC,PḡCḡPḡPḡPḡPSPSCḡ CḡC,P°PSPsPIPēP»P° 4,0; 3,0; 3,0 C- 3,0 CḡPsPeCḡ Cḡ
PḡCḡPsC,PsPePsP»P°C... 005, 007, 013 C- 015 PIC-PrPīPsPIC-PrPSPs. PḡPḡCḡPḡPrPSCḡ
C,CḡPēPIP°P»C-CḡC,Cḡ PīPsPrP°P»CḡCēPsPiPs CḡPīPsCḡC,PḡCḡPḡPḡPḡPSPSCḡ PI
PePsPjP±C-PSPsPIP°PSPēC... PḡCḡPsC,PsPePsP»P°C... (005, 007, 013 C- 015)
CḡC,P°PSPsPIPēP»P° 3,6 CḡPsPeCḡ. P PḡP·CḡP»CḡC,P°C,Pē PsPeCḡPḡPjPēC...
PrPsCḡP»C-PrPḡPḡPSCḡ PīC-PrC,PIPḡCḡPrPḡCḡC,Cḡ CḡPḡP·CḡP»CḡC,P°C,Pē
PePsPjP±C-PSPsPIP°PSPsPiPs P°PSP°P»C-P·Cḡ. P'P°PeC†PēPSP° P'P°CḡPrP°CḡPēP» P±CḡP»P°
PḡC,,PḡPeC,PēPIPSPsCḡ PīCḡPsC,Pē P·P°C...PIPSCḡCḡPIP°PSPSCḡ, PIPēPeP»PēPeP°PSPsPiPs
P±CḡPrCḡ-CḡPePēPj P· C†PsC,PēCḡCḡPsC... C,PēPīC-PI P'PḡP>, C%Ps PjC-CḡC,CḡC,CḡCḡCḡ
Cḡ PIP°PeC†PēPSC-. PḡC-CḡP»Cḡ P·P°PeC-PSC†PḡPSPSCḡ PrPsCḡP»C-PrPḡPḡPSPSCḡ
CḡC†P°CḡPSPēPePē, PIPeP»CḡC†PḡPSC- PI PrPIP° PrPsCḡP»C-PrPḡPḡPSPSCḡ III C,,P°P·Pē
(PḡCḡPsC,PsPePsP»-013 C- PḡCḡPsC,PsPePsP»-015), CḡPīPsCḡC,PḡCḡC-PiP°P»PēCḡCḡ
PīCḡPsC,CḡPiPsPj PīPḡCḡC-PsPrCḡ PrPs 4 CḡPsPeC-PI (PI CḡPḡCḡPrPḡPSCḡPsPjCḡ 3,7
CḡPsPeCḡ).

PḡPḡCḡPIC-PeP°P»CḡPSP° PIPSCḡC,CḡC-CēPSCḡPsPḡPīC-C,PḡP»C-P°P»CḡPSP°
PrPēCḡPīP»P°P·C-Cḡ (CIN) 2/3 CḡC,CḡPīPḡPSCḡ (CḡPḡCḡPḡPrPḡPSCḡPs- P°P±Ps
PIPēCḡPsPePsPrPēC,,PḡCḡPḡPSC†C-PḡPsPIP°PSP° PrPēCḡPīP»P°P·C-Cḡ) C-
P°PrPḡPSPsPeP°CḡC†PēPSPsPjP° in situ (AIS) PIPēPePsCḡPēCḡC,PsPICḡPIP°P»PēCḡCḡ PI
PeP»C-PSC-C†PSPēC... PIPēPīCḡPsP±CḡPIP°PSPSCḡC... CḡPe CḡCḡCḡPsPiP°C,PSC-
PjP°CḡPePḡCḡPē CḡP°PeCḡ CēPēPḡPePē PjP°C,PePē.

Pj PrPsPIPiPsCḡC,CḡPsPePsPIPSPjCḡ CḡPsP·CēPēCḡPḡPSPsPjCḡ PrPsCḡP»C-PrPḡPḡPSPSC- P·P°
PḡCḡPsC,PsPePsP»PsPj 015 Cḡ PīPḡCḡC-PsPr C%PḡPīP»PḡPSPSCḡ PIP°PeC†PēPSPsCḡ
P'P°CḡPrP°CḡPēP» PI PjPḡPḡP°C... PsCḡPSPsPIPSPsPiPs PrPsCḡP»C-PrPḡPḡPSPSCḡ
P·PrC-PḡCḡPSCḡPIP°P»PsCḡCḡ PīPsPrP°P»CḡCēPḡ CḡPīPsCḡC,PḡCḡPḡPḡPḡPSPSCḡ
P·P° CḡC,P°PSPsPj 2536 PrC-PIC†P°C, C,P° PḡC-PSPsPe PIC-PePsPj 16ḡḡ“23 CḡPsPePē. Pj
PīPḡCḡPḡPrP±P°C†PḡPSC-Pḡ PI PīCḡPsC,PsPePsP»C- PīPsPīCḡP»CḡC†C-C— PrP»Cḡ
PsC†C-PSPePē PḡC,,PḡPeC,PēPIPSPsCḡC,C- PḡPsPrPSPēC... PIPēPīP°PrPeC-PI
P·P°C...PIPSCḡCḡPIP°PSCḡ, PīPsPIḡḡ™ CḡP·P°PSPēC... P· P'PḡP> (CIN C,CḡPḡPePsPiPs
CḡC,CḡPīPḡPSCḡ, PīPsPIḡḡ™ CḡP·P°PSPsC— P· P'PḡP> C,PēPīC-PI 6, 11, 16, 18), PSPḡ
CḡPīPsCḡC,PḡCḡC-PiP°P»PsCḡCḡ PīCḡPsC,CḡPiPsPj PīPḡCḡC-PsPrCḡ PrPs B 14
CḡPsPeC-PI (CḡPḡCḡPḡPrPSCḡ C,CḡPēPIP°P»C-CḡC,Cḡ
CḡPīPsCḡC,PḡCḡPḡPḡPḡPSPSCḡ 11,9 CḡPsPeCḡ). Pj C†CḡPsPjCḡ
PrPsCḡP»C-PrPḡPḡPSPSC- C,CḡPēPIP°P»PēPḡ P·P°C...PēCḡC, P±CḡPI
CḡC,P°C,PēCḡC,PēC†PSPs PīC-PrC,PIPḡCḡPrPḡPḡPSPēPḡ PīCḡPēP±P»PēP·PSPs PrPsB
12 CḡPsPeC-PI.

P•C,,PμPeC,PëPIPSC-Cl'C,CH Cr P¶C-PSPsPe PIC-PePsPj 24B¶"45 C¶PsPeC-PI

P•C,,PμPeC,PëPIPSC-Cl'C,CH PIP°PeC†PëPSPë P°P°C¶PrP°Cl'PëP» Cr P¶C-PSPsPe PIC-PePsPj 24B¶"45 C¶PsPeC-PI PsC†C-PSC¶PIP°P»P°Cl'Cl¶ PI 1 PiP»P°C†PμP±Ps-
PePsPSC,C¶PsP»CHPsPIP°PSPsPjCr PiPsPrPIC-PNëPSPsPjCr Cl'P»C-PiPsPjCr
C¶P°PSPrPsPjC-P·PsPIP°PSPsPjCr PeP»C-PSC-C†PSPsPjCr PrPsCl'P»C-PrP¶PμPSPSC- III
C,,P°P·Pë (P¶C¶PsC,PsPePsP» 019, FUTURE III) P·P° CrC†P°Cl'C,CH 3817 P¶C-PSPsPe,
P·P°C¶PμC"Cl'C,C¶PsPIP°PSPëC... C- PIP°PeC†PëPSPsPIP°PSPëC... P±PμP·
PrPsCl'PeC¶PëPSC-PSPiPsPiPs PsP±Cl'C,PμP¶PμPSPSC¶ PSP° P'PμP>.

PμPμC¶PIPëPSPSC- PeC-PSC†PμPIC- C,PsC†PePë PμC,,PμPeC,PëPIPSPsCl'C,C-
PIPeP»CHC†P°P»Pë PePsPjP±C-PSPsPIP°PSCr C†P°Cl'C,PsC,Cr PiPμC¶Cl'PëCl'C,CrCHC†PsC—
C-PSC,,PμPeC†C-C— (PiC¶PsC,C¶PiPsPj 6 PjC-Cl'Cl¶C†C-PI), PiPμPSC-C,P°P»CHPsPëC...
PePsPSPrPëP»PsPj, CrC¶P°P¶PμPSC¶ PICrP»CHPIPë C,P° PiC-C...PIPë, CIN P±CrPrCH-
C¶PePsPiPs Cl'C,CrPiPμPSC¶, AIS C- C¶P°PeCr CëPëPNëPePë PjP°C,PePë,
PIPëPeP»PëPeP°PSPëC... P'PμP> 6, 11, 16 P°P±Ps 18, C- PIPëPeP»PëPeP°PSPëC... P'PμP> 16
P°P±Ps 18. P'PμC¶PμPrPSC¶ C,C¶PëPIP°P»C-Cl'C,CH Cl'PiPsCl'C,PμC¶PμP¶PμPSPSC¶
Cl'C,P°PSPsPIPëP»P° 4,0 C¶PsPeCr.

PJ C,C¶PëPIP°P»PsPjCr C¶PsP·CëPëC¶PμPSPsPjCr PrPsCl'P»C-PrP¶PμPSPSC- P·P°
PμC¶PsC,PsPePsP»PsPj 019 Cr PiPμC¶C-PsPr C%PμPiP»PμPSPSC¶ PIP°PeC†PëPSPsCH
P°P°C¶PrP°Cl'PëP» PI PjPμP¶P°C... PsCl'PSPsPiPsPiPs PrPsCl'P»C-PrP¶PμPSPSC¶
P·PrC-PNëCl'PSC¶PIP°P»PsCl'Cl¶ PiPsPrP°P»CHCëPμ Cl'PiPsCl'C,PμC¶PμP¶PμPSPSC¶ P·P°
Cl'C,P°PSPsPj 685 P¶C-PSPsPe PIC-PePsPj 24B¶"45 C¶PsPeC-PI. PJ PiPμC¶PμPrP±P°C†PμPSC-PNë
PI PiC¶PsC,PsPePsP»C- PiPsPiCrP»C¶C†C-C— PrP»C¶ PsC†C-PSPePë
PμC,,PμPeC,PëPIPSPsCl'C,C- P¶PsPrPSPsPiPs PIPëPiP°PrPeCr P·P°C...PIPsC¶CHPIP°PSC¶,
PiPsPiB¶™ C¶P·P°PSPëC... P· P'PμP> (CIN P±CrPrCH-C¶PePsPiPs Cl'C,CrPiPμPSC¶ C-
CëPiPëP»C¶Cl'C,C- PePsPSPrPëP»PsPjPë, PiPsPiB¶™ C¶P·P°PSC- P· P'PμP> C,PëPiC-PI 6, 11, 16,
18), PSPμ Cl'PiPsCl'C,PμC¶C-PiP°P»PsCl'Cl¶ PiC¶PsC,C¶PiPsPj 10,1 C¶PsPeCr
(Cl'PμC¶PμPrPSC¶ C,C¶PëPIP°P»C-Cl'C,CH PiPμC¶C-PsPrCr PiPsPrP°P»CHCëPsPiPs
Cl'PiPsCl'C,PμC¶PμP¶PμPSPSC¶ B¶" 8,7 C¶PsPeCr).

P•C,,PμPeC,PëPIPSC-Cl'C,CH Cr P¶C-PSPsPe, PSPμC-PSC,,C-PePsPIP°PSPëC...
PIC-PrPiPsPIC-PrPSPëPjPë PIP°PeC†PëPSPSPëPjPë C,PëPiP°PjPë P'PμP>

PμPμC¶PIPëPSPSPëPNë P°PSP°P»C-P· PμC,,PμPeC,PëPIPSPsCl'C,C- PiC¶PsPiPsPrPëPICl'Cl¶ PI
PiC¶CrPiC- PiPsPiCrP»C¶C†C-C— PμC,,PμPeC,PëPIPSPsCl'C,C- P·P° PiC¶PsC,PsPePsP»PsPj (PPE)
(C,PsP±C,Ps CrCl'C- 3 PIP°PeC†PëPSP°C†C-C— PiC¶PsPiPμPrPμPSPs PiC¶PsC,C¶PiPsPj 1
C¶PsPeCr, PIC-PrCl'CrC,PSC-Cl'C,CH P·PSP°C†PSPëC... PiPsC¶CrCëPμPSC¶
PiC¶PsC,PsPePsP»Cr C- PSPμC-PSC,,C-PePsPIP°PSC-Cl'C,CH PIC-PrPiPsPIC-PrPSPëPjPë
C,PëPiP°PjPë P'PμP> PiPμC¶PμPr PIPIPμPrPμPSPSC¶Pj 1-PsC— PrPsP·Pë C- PrPs
P·P°PeC-PSC†PμPSPSC¶ 1 PjC-Cl'Cl¶C†C¶ PiC-Cl'P»C¶ PIPIPμPrPμPSPSC¶ 3-PsC— PrPsP·Pë
(P¶C-Cl'Cl¶C†CH 7). P•C,,PμPeC,PëPIPSC-Cl'C,CH PsC†C-PSC¶PIP°P»P°Cl'Cl¶,
PiPsC†PëPSP°CHC†Pë P· PIC-P·PëC,Cr PSP° Cl'CHPsPjPsPjCr P¶C-Cl'Cl¶C†C-. P' C†C-P»PsPjCr
67 % CrC†P°Cl'PSPëPeC-PI PSPμ P±CrP»Pë C-PSC,,C-PePsPIP°PSC- P¶PsPrPSPëPj C-P· 4
PIP°PeC†PëPSPSPëC... C,PëPiC-PI P'PμP> (PSPμPiP°C,PëPIPSPëPNë C¶PμP·CrP»CHC,P°C, PμP>P
(PiPsP»C-PjPμC¶P°P·PSP° P»P°PSC†CHPiPsPIP° C¶PμP°PeC†C-C¶) C,P°
Cl'PμC¶PsPSPμPiP°C,PëPIPSC-Cl'C,CH).

P•C,,PμPeC,PëPIPSC-Cl'C,CH PIP°PeC†PëPSPë P°P°C¶PrP°Cl'PëP» PIC-PrPSPsCl'PSPs
C†P°Cl'C,PsC,Pë PePsPjP±C-PSPsPIP°PSPsC— PiPμC¶Cl'PëCl'C,CrCHC†PsC—
C-PSC,,PμPeC†C-C—, PiPμPSC-C,P°P»CHPsPëC... PePsPSPrPëP»PsPj, CrC¶P°P¶PμPSC¶

PICrP»CHPIPe C,P° PīC-C...PIPe, CIN P±CfPrCH-CIPePsPiPs CīC,CfPīPμPSCII, AIS C-CHP°PeCf CēPePNPePe PjP°C,PePe, PIPePeP»PePeP°PSPeC... P'PμP> 6, 11, 16 P°P±Ps 18, CīC,P°PSPsPIPeP»P° 88,7 % (95 % PrPsPIC-CHCfPePN C-PSC,PμCHPIP°P» (P"Pt): 78,1; 94,8).

P•C,,PμPeC,PePIPSC-CīC,CH PIP°PeCfPePSPe P"P°CHPrP°CfPeP» PIC-PrPSPsCfPSPs CfP°CīC,PsC,Pe PePsPjP±C-PSPsPIP°PSPsC— PīPμCHCfPeCīC,CfCHCfPsC— C-PSC,,PμPeCfC-C—, PīPμPSC-C,P°P»CHPSPeC... PePsPSPrPeP»PsPj, CfCHP°PμPμSCH PICrP»CHPIPe C,P° PīC-C...PIPe, CIN P±CfPrCH-CIPePsPiPs CīC,CfPīPμPSCII, AIS C-CHP°PeCf CēPePNPePe PjP°C,PePe, PIPePeP»PePeP°PSPeC... P'PμP> 16 P°P±Ps 18, CīC,P°PSPsPIPeP»P° 84,7 % (95 % P"Pt: 67,5; 93,7).

P•C,,PμPeC,PePIPSC-CīC,CH Cf PμC-PSPsPe P/P±PμP· PSP°CIIPIPSPsCīC,C- PI P°PSP°PjPSPμP·C- C-PSC,,PμPeCfC-C— P°P±Ps P·P°C...PIPsCHCHPIP°PSPSCII, CīPīCHPeCfPePSPμPSPsPiPs C,PePīP°PjPe P'PμP> 6, 11, 16 P°P±Ps 18

Pj PīPsPīCfP»CIICTC-CH PīPsPIPSPsPiPs P°PSP°P»C-P·Cf (C,P°PePsPμ PIC-PrPsPjPsPiPs, CIPe ITT) P±CfP»Pe PIPeP»CHCfPμPSC- PīP°CfC-C"PSC,PePe (PSPμP·P°P»PμPμPSPs PIC-Pr CīC,P°C,CfCīCf P'PμP> Cf 1 P"PμPμSCH), CIPeC- PsC,CHPePjP°P»Pe CIPe PjC-PSC-PjCfPj PīPs 1 PrPsP·C- PIP°PeCfPePSPe C- Cf CIPePeC... PīC-PrCHP°C...CfPSPsPe PIPePīP°PrPeC-PI PīPsCfP°PICīCII P· 1 P"PSCII. PīCII PīPsPīCfP»CIICTC-CII P±CfP»P° PīCHPeP±P»PeP·PSPs P°PSP°P»PsPiC-CfPSPsCH P·P°PīP°P»CHPSC-PN PīPsPīCfP»CIICTC-C— PμC-PSPsPe P·P° CfP°CīC,PsC,PsCH PIPePSPePePSPμPSPSCII C-PSC,,PμPeCfC-C— P°P±Ps P·P°C...PIPsCHCHPIP°PSPSCII, PIPePeP»PePeP°PSPsPiPs P'PμP>, PI PjPsPjPμPSC, PIPeP»CHCfPμPSPSCII PI PrPsCfP»C-PrPμPμPSPSCII.

P•C,,PμPeC,PePIPSC-CīC,CH PIP°PeCfPePSPe P"P°CHPrP°CfPeP» PIC-PrPSPsCfPSPs CfP°CīC,PsC,Pe PePsPjP±C-PSPsPIP°PSPsC— PīPμCHCfPeCīC,CfCHCfPsC— C-PSC,,PμPeCfC-C—, PīPμPSC-C,P°P»CHPSPeC... PePsPSPrPeP»PsPj, CfCHP°PμPμSCH PICrP»CHPIPe C,P° PīC-C...PIPe, CIN P±CfPrCH-CIPePsPiPs CīC,CfPīPμPSCII, AIS C-CHP°PeCf CēPePNPePe PjP°C,PePe, PIPePeP»PePeP°PSPeC... P'PμP> 6, 11, 16 P°P±Ps 18, CīC,P°PSPsPIPeP»P° 47,2 % (95 % P"Pt: 33,5; 58,2).

P•C,,PμPeC,PePIPSC-CīC,CH PIP°PeCfPePSPe P"P°CHPrP°CfPeP» PIC-PrPSPsCfPSPs CfP°CīC,PsC,Pe PePsPjP±C-PSPsPIP°PSPsC— PīPμCHCfPeCīC,CfCHCfPsC— C-PSC,,PμPeCfC-C—, PīPμPSC-C,P°P»CHPSPeC... PePsPSPrPeP»PsPj, CfCHP°PμPμSCH PICrP»CHPIPe C,P° PīC-C...PIPe, CIN P±CfPrCH-CIPePsPiPs CīC,CfPīPμPSCII, AIS C-CHP°PeCf CēPePNPePe PjP°C,PePe, PIPePeP»PePeP°PSPeC... P'PμP> 16 P°P±Ps 18, CīC,P°PSPsPIPeP»P° 41,6 % (95 % P"Pt: 24,3; 55,2).

P•C,,PμPeC,PePIPSC-CīC,CH Cf PīP°CfC-C"PSC,C-PI PμC-PSPsCfPsC— CīC,P°C,C- (16B7"45 CHPsPeC-PI), C-PSC,,C-PePsPIP°PSPeC... PIP°PeCfPePSPSPePj C,PePīPsPj P'PμP> (CīPμCHPsPīPsP·PeC,PePIPSPePN CHPμP·CfP»CHC,P°C,), C°%Ps PSPμ PIPeP·PSP°CfP°PICīCII PSP° PjPsPjPμPSC, PIP°PeCfPePSP°CfC-C— (PSPμPīP°C,PePIPSPePN CHPμP·CfP»CHC,P°C, PSP° PμP>P)

P—P° PrP°PSPePjPe CHPμC,CHPsCfPīPμPeC,PePIPSPsPiPs P°PSP°P»C-P·Cf Cf PsCīC-P± (CIPeC- PsC,CHPePjP°P»Pe PSPμ PjPμPSCePμ PsPrPSC-C"C— PrPsP·Pe PIP°PeCfPePSPe), C-PSC,,C-PePsPIP°PSPeC... PIP°PeCfPePSPSPePj C,PePīPsPj P'PμP> (CīPμCHPsPīPsP·PeC,PePIPSPePN CHPμP·CfP»CHC,P°C,), C°%Ps PSPμ PIPeP·PSP°CfP°PICīCII PSP° PjPsPjPμPSC, PIP°PeCfPePSP°CfC-C— (PSPμPīP°C,PePIPSPePN CHPμP·CfP»CHC,P°C, PμP>P), PμC,,PμPeC,PePIPSC-CīC,CH PIP°PeCfPePSPe P"P°CHPrP°CfPeP» C°%PsPrPs

PiPsPiPμCηPμPrP¶PμPSPSC¶ P·P°C...PIPsCηCηPIP°PSCη, PIPēPeP»PēPeP°PSPēC...
 CηPμC†PēPrPēPIPsPj C,PsPiPs P¶ C,PēPiCř P'PμP>, CřC,P°PSPsPIPēP»P° 100 % (95 % P"Pt:
 62,8-100,0; 0 PiCηPsC,Pē 12 PIPēPiP°PrPeC-PI [n=2572 P·P° CηPμP·CřP»CHC,P°C,P°PjPē
 PsP±Bη™ C"PrPSP°PSPēC... PrPsCřP»C-PrP¶PμPSCη Cř PrC-PIC†P°C, C,P° P¶C-PSPsPe
 PIC-PePsPj 16Bη"26 CηPsPeC-PI) PIC-PrPSPsCřPSPs CIN 2/3, VIN 2/3, VaIN 2/3 C-
 PiPμPSC-C,P°P»CHPSPēC... PePsSPPrPēP»PsPj, PIPēPeP»PēPeP°PSPēC... P'PμP> 6, 11, 16 C- 18,
 Cř PrC-PIC†P°C, C,P° P¶C-PSPsPe PIC-PePsPj 16Bη"26 CηPsPeC-PI. P·C„PμPeC,PēPIPSC-CřC,CH
 CřC,P°PSPsPIPēP»P° 68,2 % (95 % P"Pt: 17,9; 89,5; 6 PiCηPsC,Pē 20 PIPēPiP°PrPeC-PI [n=832
 P·P° CηPμP·CřP»CHC,P°C,P°PjPē PsP±Bη™ C"PrPSP°PSPēC... PrPsCřP»C-PrP¶PμPSCη Cř
 PrC-PIC†P°C, C,P° P¶C-PSPsPe PIC-PePsPj 16Bη"26 CηPsPeC-PI C,P° P¶C-PSPsPe PIC-PePsPj
 27Bη"45 CηPsPeC-PI) PIC-PrPSPsCřPSPs PiPμCηCřPēCřC,CřCηC†PsC— C-PSC„PμPeC†C-C—,
 PIPēPeP»PēPeP°PSPsCη P'PμP> 16 C- 18, Cř PrC-PIC†P°C, C,P° P¶C-PSPsPe PIC-PePsPj 16Bη"45
 CηPsPeC-PI.

P·C„PμPeC,PēPIPSC-CřC,CH Cř PiP°C†C-C"PSC,C-PI C†PsP»PsPIC-C†PsC— CřC,P°C,C-
PIC-PePsPj PIC-Pr 16 PrPs 26 CηPsPeC-PI

P·C„PμPeC,PēPIPSC-CřC,CH PsC†C-PSCηPIP°P»Pē PiCηPsC,Pē PiPsPiBη™ C¶P·P°PSPēC... P·
 P'PμP> C,PēPiC-PI 6, 11, 16, 18 P·PsPIPSC-CēPSC-C... CēPiPēP»C¶CřC,PēC... PePsSPPrPēP»PsPj,
 PIPSCřC,CηC-CēPSCηPsPμPiC-C,PμP»C-P°P»CHPSPsC— PSPμPsPiP»P°P·C-C—
 PiPμPSC-CřP°/PiCηPsPjPμP¶PēPSPē/PiPμCηC-P°PSP°P»CHPSPsC— P·PsPSPē 1-PiPs/2-PiPs/3-PiPs
 CřC,CřPiPμPSC¶ C,P° PiPμCηCřPēCřC,CřCηC†PsC— C-PSC„PμPeC†C-C—.

P·C„PμPeC,PēPIPSC-CřC,CH PIP°PeC†PēPSPē P"P°CηPrP°CřPēP» PsC†C-PSCηPIP°P»Pē PI
 PiP»P°C†PμP±Ps-PePsPSC,CηPsP»CHPsPIP°PSPsPjCř PiPsPrPIC-PNēPSPsPjCř CřP»C-PiPsPjCř
 CηP°PSPPrPsPjC-P·PsPIP°PSPsPjCř PeP»C-PSC-C†PSPsPjCř PrPsCřP»C-PrP¶PμPSPSC- III
 C„P°P·Pē (PμCηPsC,PsPePsP» 020) P·P° CřC†P°CřC,Cη 4055 PiP°C†C-C"PSC,C-PI
 C†PsP»PsPIC-C†PsC— CřC,P°C,C- PIC-PePsPj PIC-Pr 16 PrPs 26 CηPsPeC-PI, C¶PePēPj
 PiCηPsPIPμP»Pē PIP°PeC†PēPSP°C†C-Cη P±PμP· PiPsPiPμCηPμPrPSCηPsPiPs
 CřPeCηPēPSC-PSPiCř PSP° PSP°C¶PIPSC-CřC,CH P'PμP>-C-PSC„PμPeC†C-C—.
 PŸPμCηPμPrPSC¶ C,CηPēPIP°P»C-CřC,CH CřPiPsCřC,PμCηPμP¶PμPSPSC¶
 CřC,P°PSPsPIPēP»P° 2,9 CηPsPeCř.

Pj PrPsCřP»C-PrP¶PμPSPSC- P·P° PμCηPsC,PsPePsP»PsPj 020 Cř PiC-PrPiCηCřPiC- P· 598
 C†PsP»PsPIC-PeC-PI (P"P°CηPrP°CřPēP» = 299; PiP»P°C†PμP±Ps = 299), C¶PeC- PjP°CηC,CH
 CřC,P°C,PμPIC- CřC,PsCřCřPSPePē P· C-PSCēPēPjPē C†PsP»PsPIC-PeP°PjPē,
 PsC†C-PSCηPIP°P»Pē PμC„PμPeC,PēPIPSC-CřC,CH PiCηPsC,Pē
 PIPSCřC,CηC-CēPSCηPsPμPiC-C,PμP»C-P°P»CHPSPsC— PSPμPsPiP»P°P·C-C—
 P°PSP°P»CHPSPsPiPs PeP°PSP°P»Cř (1-PiPs/2-PiPs/3-PiPs CřC,CřPiPμPSC¶) C,P° CηP°PeCř
 P°PSP°P»CHPSPsPiPs PeP°PSP°P»Cř C,P° PIPSCřC,CηC-CēPSCηPsP°PSP°P»CHPSPsC—
 PiPμCηCřPēCřC,CřCηC†PsC— C-PSC„PμPeC†C-C—.

P·C„PμPeC,PēPIPSC-CřC,CH Cř PiP°C†C-C"PSC,C-PI C†PsP»PsPIC-C†PsC— CřC,P°C,C- P-
PiPsPiPμCηPμPrPSCηPsCη C-PSC„PμPeC†C-C"Cη P°P±Ps C...PIPsCηPsP±PsCη,
PIPēPeP»PēPeP°PSPsCη P'PμP> C,PēPiCř 6, 11, 16 P°P±Ps 18, P°P±Ps P±PμP· C,P°PePsC—
C-PSC„PμPeC†C-C—

PμPsPiCřP»C¶C†C-C¶ PrP»C¶ PiPsPIPSPsPiPs P°PSP°P»C-P·Cř PIPeP»CηC†P°P»P°
 PiP°C†C-C"PSC,C-PI C†PsP»PsPIC-C†PsC— CřC,P°C,C-, PSPμP·P°P»PμP¶PSPs PIC-Pr
 PiPsC†P°C,PePsPIPsPiPs CřC,P°C,CřCřCř P'PμP> Cř 1 PrPμPSCη, C¶PePēPj PiCηPsPIPμP»Pē
 PjC-PSC-PjCřPj PsPrPSCř PIP°PeC†PēPSP°C†C-Cη C,P° PrP»C¶ C¶PePēC...
 PiC-PrCηP°C...CřPSPsPe PIPēPSPēPePSPμPSPSC¶ PiPsPiPμCηPμPrPSCηPsC—

C-PSC,,PμPeC†C-C— P°P±Ps C...PIPsCḡPsP±Pë PīCḡPsPIPsPrPëP»Pë, PīPsC†PëPSP°CḡC†Pë P· 1 PrPSCḡ. P|Cḡ PīPsPīC†P»CḡC†C-Cḡ PSP°P±P»PëP¶P°C”C,ChCḡCḡ PrPs P·P°PīP°P»ChPSPsC— PeC-P»ChPpPsCḡC,C- C†PsP»PsPIC-PeC-PI CḡC,PsCḡPsPIPsPs PīPsC€PëCḡPμPSPsCḡC,C- P’PμP>-C-PSC,,PμPeC†C-C— P°P±Ps C...PIPsCḡPsP±Pë PI PjPsPjPμPSC, PIPeP»CḡC†PμPSPSCḡ C† PrPsCḡP»C-PrP¶PμPSPSCḡ.

P·C,,PμPeC,PëPIPsC-CḡC,Ch PIP°PeC†PëPSPë P”P°CḡPrP°CḡPëP» PīCḡPsC,Pë PīPsPIBḡ™ CḡP·P°PSPëC... P· P’PμP> C,PëPīC-PI 6, 11, 16, 18 P·PsPIPsC-C€PSC-C... C€PīPëP»CḡCḡC,PëC... PePsPSPPrPëP»PsPj CḡC,P°PSPsPIPëP»P° 68,1 % (95 % P”P†: 48,8Bḡ”79,3).

P·C,,PμPeC,PëPIPsC-CḡC,Ch PIP°PeC†PëPSPë P”P°CḡPrP°CḡPëP» PīCḡPsC,Pë PīPsPIBḡ™ CḡP·P°PSPsC— P· P’PμP> C,PëPīC-PI 6, 11, 16, 18 PIPSC†C,CḡC-C€PSCḡPsPμPīC-C,PμP»C-P°P»ChPSPsC— PSPμPsPīP»P°P·C-C— P°PSP°P»ChPSPsPīPs PeP°PSP°P»C† 2-PīPs/3-PīPs CḡC,C†PīPμPSCḡ C,P° PīCḡPsC,Pë PīPsPIBḡ™ CḡP·P°PSPsC— P· P’PμP> C,PëPīC† 16 P°P±Ps 18 PIPSC†C,CḡC-C€PSCḡPsPμPīC-C,PμP»C-P°P»ChPSPsC— PSPμPsPīP»P°P·C-C— P°PSP°P»ChPSPsPīPs PeP°PSP°P»C† 2-PīPs/3-PīPs CḡC,C†PīPμPSCḡ C† C†PsP»PsPIC-PeC-PI-PīPsPjPsCḡPμPeCḡC†P°P»C-CḡC,C-PI CḡC,P°PSPsPIPëP»P° PIC-PrPīPsPIC-PrPSPs 54,2 % (95 % P”P†: 18,0, 75,3; 18 PIPëPīP°PrPeC-PI P· 275 PīCḡPsC,Pë 39 PIPëPīP°PrPeC-PI P· 276) C,P° 57,5 % (95 % P”P†: -1,8, 83,9; 8 PIPëPīP°PrPeC-PI P· 275 PīCḡPsC,Pë 19 P· 276).

P—P°C...PëCḡC, PIC-Pr C,CḡP¶PePëC... PSP°CḡP»C-PrPeC-PI C...PIPsCḡPsP±Pë, PIPëPeP»PëPeP°PSPsC— P’PμP>, C† PīP°C†C-C”PSC,C-PI C†PsP»PsPIC-C†PsC— CḡC,P°C,C- PIC-PePsPj PIC-Pr 16 PrPs 26 CḡPsPeC-PI

P’PīP»PëPI PIP°PeC†PëPSPë P”P°CḡPrP°CḡPëP» PSP° P·P°PīP°P»ChPSPëPnḡ CḡPëP·PëPe CḡPsP·PIPëC,PeC† C†CḡP°P¶PμPSCḡ P·PsPIPsC-C€PSC-C... CḡC,P°C,PμPIPëC... PsCḡPīP°PSC-PI PsC†C-PSCḡPīP°P»Pë PīC-CḡP»Cḡ PIPIPμPrPμPSPSCḡ PīPμCḡC€PsC— PrPsP·Pë C† 2545 PsCḡC-P±, CḡPeC- P±CḡP°P»Pë C†C†P°CḡC,Ch C† PrPsCḡP»C-PrP¶PμPSPSC- III C,,P°P·Pë PrP»Cḡ PsC†C-PSPePë PμC,,PμPeC,PëPIPsPsCḡC,C- (PμCḡPsC,PsPePsP» 020). Pj PīP°C†C-C”PSC,C-PI C†PsP»PsPIC-C†PsC— CḡC,P°C,C-, C† CḡPePëC... P±C†P»Pë PIC-PrCḡC†C,PSC- PrPs 14 PSP°PnḡP±C-P»ChC€ PīPsC€PëCḡPμPSPëC... C,PëPīC-PI P’PμP>, PIPIPμPrPμPSPSCḡ PIP°PeC†PëPSPë P”P°CḡPrP°CḡPëP» PīCḡPëP·PIPsPrPëP»Ps PrPs P·PjPμPSC€PμPSPSCḡ C†P°CḡC,PsC,Pë PīPsCḡPīPë C†CḡP°P¶PμPSCḡ P·PsPIPsC-C€PSC-C... CḡC,P°C,PμPIPëC... PsCḡPīP°PSC-PI, PIPëPeP»PëPeP°PSPëC... PIP°PeC†PëPSP°P»ChPSPëPjPë P°P±Ps PSPμPIP°PeC†PëPSP°P»ChPSPëPjPë C,PëPīP°PjPë P’PμP>, PSP° 81,5 % (95 % P”P†: 58,0Bḡ”93,0). PμPsPIPsPëPnḡ P°PSP°P»C-P· PμC,,PμPeC,PëPIPsPsCḡC,C- PIP°PeC†PëPSPë C† PīPsPīC†P»CḡC†C-C— PIPëP·PSP°C†PμPSPs P·P° P·P°PīP°P»ChPSPsCḡ C†P°CḡC,PsC,PsCḡ PīPsCḡPīPë C†CḡP°P¶PμPSCḡ P·PsPIPsC-C€PSC-C... CḡC,P°C,PμPIPëC... PsCḡPīP°PSC-PI, P±C†P»P° PSPëP¶C†PsCḡ, P° CḡC,C†PīC-PSCḡ P·PjPμPSC€PμPSPSCḡ C†P°CḡC,PsC,Pë CḡC,P°PSPsPIPëPI 59,3 % (95 % P”P†: 40,0Bḡ”72,9), PsCḡPeC-P»ChPpPë P”P°CḡPrP°CḡPëP» PSPμ PIPīP»PëPIP°C” PSP° PīPμCḡPμP±C-Pi C-PSC,,PμPeC†C-Pnḡ P°P±Ps P·P°C...PIPsCḡCḡPīP°PSCḡ, CḡPeC- P±C†P»Pë PSP°CḡPIPsC- PSP° C†P°Cḡ PIP°PeC†PëPSP°C†C-C—.

P’P†P>-C-PSC,,C-PePsPIP°PSC- PsCḡPsP±Pë

P’PμP·PīPμPeP° C,P° C-PjC†PSPsPīPμPSPSC-CḡC,Ch PIP°PeC†PëPSPë PsC†C-PSCḡPīP°P»PëCḡCḡ PI PrPsCḡP»C-PrP¶PμPSPSC- C† 126 PīP°C†C-C”PSC,C-PI PIC-PePsPj PIC-Pr 7 PrPs 12 CḡPsPeC-PI, C-PSC,,C-PePsPIP°PSPëC... PIC-CḡC†CḡPsPj C-PjC†PSPsPrPμC,,C-C†PëC,C† P»CḡPrPëPSPë (P’P†P>), P· CḡPePëC... 96

PrPsCfP»C-PrP¶CfPIP°PSPëC... PsC,C¶PëPjP°P»Pë P°P°C¶PPrP°CfPëP».
PŸPµC¶PSPePsPSPIPµC¶CfC-C¶ P·P° PICfC-PjP° C±PsC,PëC¶PjP°
P°PSC,PëPiPµPSP°PjPë CfPïPsCfC,PµC¶C-PiP°P»P°CfC¶ Cr PïPsPSP°Pr 96 %
PïP°C†C-C°PSC,C-PI. P C-PIPSC- PŸP°PŸ (CfPµC¶PµPrPSC-PNë PiPµPsPjPµC,C¶PëC±PSPëPNë
C,PëC,C¶) P±CfP»Pë PrPµC°%Ps PSPëP¶C±PëPjPë, PSC-P¶ C,C-, C°%Ps
CfPïPsCfC,PµC¶C-PiP°P»PëCfC¶ Cr PSPµC-PSC,,C-PePsPIP°PSPëC... (P'P†P>)
PïP°C†C-C°PSC,C-PI C,C-C°C— P¶ PIC-PePsPIPsC— PeP°C,PµPiPsC¶C-C— PI C-PSCëPëC...
PrPsCfP»C-PrP¶PµPSPSC¶C.... P¶P»C-PSC-C±PSP° P·PSP°C±CfC°%C-CfC,C¶ PSPëP¶C±PsC—
PIC-PrPïPsPIC-PrC- PSPµPIC-PrPsPjP°. PµC¶PsC,,C-P»C¶ P±PµP·PïPµPePë PrCfP¶Pµ
CfC...PsP¶PëPNë PSP° C,P°PePëPNë Cr PSPµC-PSC,,C-PePsPIP°PSPëC... (P'P†P>)
PïP°C†C-C°PSC,C-PI PI C-PSCëPëC... PrPsCfP»C-PrP¶PµPSPSC¶C.... P'P°PeC†PëPSP°C†C-C¶
PSPµ PIPïP»PëPIP°C° PSP° C¶C-PIPSC- CD4 % P°P±Ps P P¶P¶ PIC-C¶CfCfCfC
C-PjCfPSPsPrPµC,,C-C†PëC,Cr P»C¶PPrPëPSPë (P'P†P>) Cr PïP»P°P·PjC- PeC¶PsPIC-.

P†PjCfPSPSP° PIC-PrPïPsPIC-PrC¶ PSP° P·P°CfC,PsCfCfPIP°PSPSC¶ PIP°PeC†PëPSPë
P°P°C¶PPrP°CfPëP» PïC¶Pë PrPIPsPrPsP·PsPIC-PNë CfC...PµPjC- PIP°PeC†PëPSP°C†C-C— Cr
PsCfC-P± PIC-PePsPj 9Б¶“13 C¶PsPeC-PI

P¶P»C-PSC-C±PSPµ PrPsCfP»C-PrP¶PµPSPSC¶ PïPsPeP°P·P°P»Ps, C°%Ps Cr PrC-PIC†P°C,,
C¶PeC- PsC,C¶PëPjP°P»Pë 2 PrPsP·Pë PIP°PeC†PëPSPë PïC¶PsC,Pë P'PµP> PïC¶PsC,C¶PiPsPj 6
PjC-CfC¶C†C-PI, PIC-PrPïPsPIC-PrC¶ P°PSC,PëC,C-P» PrPs 4-C... C,PëPiC-PI P'PµP>
C±PµC¶PµP· 1 PjC-CfC¶C†C¶C PïC-CfP»C¶ PIPIPµPrPµPSPSC¶ PsCfC,P°PSPSCHbPsC— PrPsP·Pë
P±CfP»P° PSPµ PjPµPSCë PµC,,PµPeC,PëPIPSsC¶, PSC-P¶ Cr P¶C-PSPsPe PjPsP»PsPrPsPiPs
PIC-PeCf, C¶PeC- PsC,C¶PëPjP°P»Pë 3 PrPsP·Pë PIP°PeC†PëPSPë PïC¶PsC,C¶PiPsPj 6
PjC-CfC¶C†C-PI.

P¶P° 7-PNë P¶C-CfC¶C†C¶C Cr PïC¶CfPïC- P·PiC-PrPSPs P· PïC¶PsC,PsPePsP»PsPj
PrPsCfP»C-PrP¶PµPSPSCH C-PjCfPSPSP° PIC-PrPïPsPIC-PrC¶ Cr PrC-PIC†P°C, PIC-PePsPj
9Б¶“13 C¶PsPeC-PI (n=241), C¶PeC- PsC,C¶PëPjP°P»Pë 2 PrPsP·Pë PIP°PeC†PëPSPë
P°P°C¶PPrP°CfPëP» (PSP° 0, 6 PjC-CfC¶C†C¶C), P±CfP»P° PSPµ PjPµPSCë
PµC,,PµPeC,PëPIPSsC¶ C,P° PSPsPjC-PSP°P»C¶PSPs PIPëC°%PsC¶, PSC-P¶ C-PjCfPSPSP°
PIC-PrPïPsPIC-PrC¶ Cr PrC-PIC†P°C, C,P° P¶C-PSPsPe PIC-PePsPj 16Б¶“26 C¶PsPeC-PI
(n=246), C¶PeC- PsC,C¶PëPjP°P»Pë 3 PrPsP·Pë PIP°PeC†PëPSPë P°P°C¶PPrP°CfPëP» (PSP° 0, 2, 6
PjC-CfC¶C†C¶C).

P¶PµC¶PµP· 36 PjC-CfC¶C†C-PI PïPµC¶C-PsPrCf CfPïPsCfC,PµC¶PµP¶PµPSPSC¶
PïPsPeP°P·PSPëPe PŸP°PŸ Cr PrC-PIC†P°C, (2 PrPsP·Pë, n=86) P·P°P»PëCëP°PICfC¶ PSPµ
PjPµPSCë PµC,,PµPeC,PëPIPSsPëPj, PSC-P¶ PŸP°PŸ Cr P¶C-PSPsPe (3 PrPsP·Pë, n=86)
CfC,PsCfPsPIPSs CrCfC-C... 4 C,PëPiC-PI P'PµP>.

Pj C†C¶PsPjCf PrPsCfP»C-PrP¶PµPSPSC- Cr PrC-PIC†P°C, PIC-PePsPj 9Б¶“13 C¶PsPeC-PI
C-PjCfPSPSP° PIC-PrPïPsPIC-PrC¶ PïC-CfP»C¶ PrPIPsPrPsP·PsPIPsC— CfC...PµPjPë
PIPIPµPrPµPSPSC¶ PIP°PeC†PëPSPë P±CfP»P° PSPsPjC-PSP°P»C¶PSPs PSPëP¶C±PsC¶, PSC-P¶
PIC-PrPïPsPIC-PrC¶ PïC-CfP»C¶ PIP°PeC†PëPSP°C†C-C— 3-PjP° PrPsP·P°PjPë (n=248 PSP° 7
PjC-CfC¶C†C-; n=82 PSP° 36 PjC-CfC¶C†C-). P¶P»C-PSC-C±PSPµ P·PSP°C±PµPSPSC¶ C†PëC...
PrP°PSPëC... PSPµPIC-PrPsPjPµ.

P PµC,C¶PsCfPïPµPeC,PëPIPSsPëPNë P°PSP°P»C-P· PrP°PSPëC... P±CfP»Ps PïC¶PsPIPµPrPµPSPs
P·P° C¶PµP·CfP»C¶C,P°C,P°PjPë 120-PjC-CfC¶C†C±PSPsPiPs CfPïPsCfC,PµC¶PµP¶PµPSPSC¶
PrC-PIC†P°C, (2 PrPsP·Pë, n=35; 3 PrPsP·Pë, n=38) C,P° P¶C-PSPsPe (3 PrPsP·Pë, n=30).
P¶PsPµC,,C-C†C-C°PSC,Pë PŸP°PŸ (PrC-PIC†P°C,P°, C¶PeC- PsC,C¶PëPjCfPIP°P»Pë 2
PrPsP·Pë/P¶C-PSPëPë, C¶PeC- PsC,C¶PëPjCfPIP°P»Pë 3 PrPsP·Pë) PePsP»PëPIP°P»PëCfC¶

PIC-Pr 0,99 PrPs 2,02 PrP»CЏ PICГC-C... 4 C,PePiC-PI P'PμP>. PьPsPμC,,C-C†C-C"PSC,Pë PŸP"PŸ (PrC-PIC‡P°C,P°, CЏPeC- PsC,CђPëPjCrPIP°P»Pë 2 PrPsP·Pë/PrC-PIC‡P°C,P°, CЏPeC- PsC,CђPëPjCrPIP°P»Pë 3 PrPsP·Pë) PePsP»PëPIP°P»PëCГЧ PIC-Pr 1,10 PrPs 2,82 PrP»CЏ PICГC-C... 4 C,PePiC-PI P'PμP>. PкPëP¶PSCЏ PjPμP¶P° 95 % P"P† PICГC-C... PePsPμC,,C-C†C-C"PSC,C-PI PŸP"PŸ P·P°P»PëC€P°P»P°CГCЏ > 0,5 PiCђPsC,CЏPiPsPj 120-PiPs PjC-CГCЏC†CЏ.

P C-PIPμPSCђ CГPμCђPsPiPsP·PëC,PëPIPSsCГC,C- Cr PrC-PIC‡P°C, C,P° P¶C-PSPsPe P±CrPI > 95 % PrP»CЏ P'PμP> 6, 11 C,P° 16, C- PiPsPeP°P·PSPëPe CГPμCђPsPiPsP·PëC,PëPIPSsCГC,C- PrP»CЏ P'PμP> 18 P±CrPI > 80 % Cr PrC-PIC‡P°C,, CЏPeC- PsC,CђPëPjCrPIP°P»Pë 2 PrPsP·Pë, > 90 % Cr PrC-PIC‡P°C,, CЏPeC- PsC,CђPëPjCrPIP°P»Pë 3 PrPsP·Pë, C- > 60 % Cr P¶C-PSPsPe, CЏPeC- PsC,CђPëPjCrPIP°P»Pë 3 PrPsP·Pë, Cr PePsPSPeCrCђPμPSC,PSPsPjCr C-PjCrPSPsP°PSP°P»C-P·C- PSP° PsCГPSPsPIC- Luminex.

PαP°CђPjP°PePsPeC-PSPμC,PëPeP°

PкPμ P·P°CГC,PsCГPsPIP°PSPs.

PьP»C-PSC-C‡PSC- C...P°CђP°PeC,PμCђPëCГC,PëPePë.

PμPsPeP°P·P°PSPSCЏ.

P'P°PeC†PëPSP° P"P°CђPrP°CГPëP» PiPsPeP°P·P°PSP° PrPs P·P°CГC,PsCГCrPIP°PSPSCЏ PrC-PIC‡P°C,P°Pj C,P° P¶C-PSPeP°Pj PIC-PePsPj PIC-Pr 9 PrPs 45 CђPsPeC-PI PrP»CЏ PiPsPiPμCђPμPrP¶PμPSPSCЏ P·P°C...PIPsCђCђPIP°PSCђ, CЏPeC- PIPëPeP»PëPeP°CђC,ЧЧCГCЏ P'PμP> 6, 11, 16, 18 C,PePiC-PI, Cr C,PsPjCr C‡PëCГP»C- CђP°PeCr C€PëPNëPePë PjP°C,PePë, PICrP»ЧЧPIPë, PiC-C...PIPë C,P° CђP°PeCr P°PSP°P»ЧЧPSPsPiPs PeP°PSP°P»Cr; PiPμCђPμPrCђP°PePsPIPëC... C,P° PrPëCГPiP»P°CГC,PëC‡PSPëC... CГC,P°PSC-PI; PiPμPSC-C,P°P»ЧЧPSPëC... PePsPSPrPëP»PsPj; C-PSC,,PμPeC†C-PNë, CГPiCђPëC‡PëPSPμPSPëC... PIC-CђCrCГPsPj PiP°PiC-P»PsPjPë P»ЧЧPrPëPSPë.

P'P°PeC†PëPSP° P"P°CђPrP°CГPëP» PiPsPeP°P·P°PSP° PrP»CЏ PiPsPiPμCђPμPrP¶PμPSPSCЏ C,P°PePëC... P·P°C...PIPsCђCђPIP°PSCђ:

вђŸ CђP°Pe C€PëPNëPePë PjP°C,PePë, PICrP»ЧЧPIPë, PiC-C...PIPë C,P° CђP°Pe P°PSP°P»ЧЧPSPsPiPs PeP°PSP°P»Cr, CГPiCђPëC‡PëPSPμPSPëPNë P'PμP> C,PePiC-PI 16 C,P° 18;

вђŸ PiPμPSC-C,P°P»ЧЧPSC- PePsPSPrPëP»PsPjPë (*PŸondyloma acuminata*), CГPiCђPëC‡PëPSPμPSC- P'PμP> C,PePiC-PI 6 C,P° 11, C,P° C-PSC,,PμPeC†C-C— C- PSP°CГC,CrPiPSC- PiPμCђPμPrCђP°PePsPIC- P°P±Ps PrPëCГPiP»P°CГC,PëC‡PSC- CГC,P°PSPë, CГPiCђPëC‡PëPSPμPSC- P'PμP> C,PePiC-PI 6, 11, 16 C,P° 18;

вђŸ C†PμCђPIC-PeP°P»ЧЧPSP° PIPSCrC,CђC-C€PSCђPsPμPiC-C,PμP»C-P°P»ЧЧPSP° PSPμPsPiP»P°P·C-CЏ 2 C,P° 3 CГC,CrPiPμPSCЏ (PŸIN 2/3) C,P° P°PrPμPSPsPeP°CђC†PëPSPsPjP° C€PëPNëPePë PjP°C,PePë *in situ* (AIS);

вђŸ C†PμCђPIC-PeP°P»ЧЧPSP° PIPSCrC,CђC-C€PSCђPsPμPiC-C,PμP»C-P°P»ЧЧPSP° PSPμPsPiP»P°P·C-CЏ 1 CГC,CrPiPμPSCЏ (PŸIN 1);

вђŸ PIPSCrC,CђC-C€PSCђPsPμPiC-C,PμP»C-P°P»ЧЧPSP° PSPμPsPiP»P°P·C-CЏ PICrP»ЧЧPIPë

2 C, P° 3 CÍC, CíPíPµPSCÍ (VIN 2/3);

БҲҮҮ PIPSCÍC, CҲC-CҒPSCҲPsPµPíC-C, PµP»C-P°P»CHBPSP° PSPµPsPíP»P°P·C-CÍ PíC-C...PIPë 2 C, P° 3 CÍC, CíPíPµPSCÍ (VaIN 2/3);

БҲҮҮ PIPSCÍC, CҲC-CҒPSCҲPsPµPíC-C, PµP»C-P°P»CHBPSP° PSPµPsPíP»P°P·C-CÍ PICÍP»CHBPíPë 1 CÍC, CíPíPµPSCÍ (VIN 1) C, P° PIPSCÍC, CҲC-CҒPSCҲPsPµPíC-C, PµP»C-P°P»CHBPSP° PSPµPsPíP»P°P·C-CÍ PíC-C...PIPë 1 CÍC, CíPíPµPSCÍ (VaIN 1);

БҲҮҮ PIPSCÍC, CҲC-CҒPSCҲPsPµPíC-C, PµP»C-P°P»CHBPSP° PSPµPsPíP»P°P·C-CÍ P°PSP°P»CHBPSPsPíPs PeP°PSP°P»Cí (AIN) 1, 2 C, P° 3 CÍC, CíPíPµPSC-PI.

P°P°PeC†PëPSP° P°P°CҲPrP°CÍPëP» C, P°PePsP¶ PíPsPeP°P·P°PSP° PrC-PIC†P°C, P°Pj C, P° P¶C-PSPeP°Pj PIC-PePsPj PIC-Pr 9 PrPs 26 CҲPsPeC-PI PrP»CÍ PíPsPíPµCҲPµPrP¶PµPSPSCÍ C†PµCҲPIC-PeP°P»CHBPSPsC— PIPSCÍC, CҲC-CҒPSCҲPsPµPíC-C, PµP»C-P°P»CHBPSPsC— PSPµPsPíP»P°P·C-C— (PҮIN), C%Ps PíPsPíBҲ™ CÍP·P°PSP° P· P°PµP» C, PëPíC-PI 31, 33, 52 C, P° 58, P°P±Ps P°PrPµPSPsPeP°CҲC†PëPSPsPjPë CҒPëP№PePë PjP°C, PePë *in situ* (AIS).

P°P°PeC†PëPSP° P°P°CҲPrP°CÍPëP» PíPsPeP°P·P°PSP° PrPs P·P°CÍC, PsCÍCíPIP°PSPSCÍ C...P»PsPíC†PëPeP°Pj C, P° C†PsP»PsPIC-PeP°Pj PIC-PePsPj PIC-Pr 9 PrPs 26 CҲPsPeC-PI PrP»CÍ PíPsPíPµCҲPµPrP¶PµPSPSCÍ P·P°C...PIPsCҲCҲPIP°PSCҲ C, P° C-PSC, PµPeC†C-P№, CÍPíCҲPëC†PëPSPµPSPëC... P°PµP» C, PëPíC-PI 6, 11, 16 C, P° 18:

БҲҮҮ CҲP°Pe P°PSP°P»CHBPSPsPíPs PeP°PSP°P»Cí, CÍPíCҲPëC†PëPSPµPSPëP№ P°PµP» C, PëPíC-PI 16 C, P° 18;

БҲҮҮ PíPµPSC-C, P°P»CHBPSC- PePsPSPPrPëP»PsPjPë (*Pŷondyloma acuminata*), CÍPíCҲPëC†PëPSPµPSC- P°PµP» C, PëPíC-PI 6 C, P° 11.

P°P°PeC†PëPSP° C, P°PePsP¶ PíPsPeP°P·P°PSP° PrP»CÍ PíPsPíPµCҲPµPrP¶PµPSPSCÍ PíPµCҲPµPrCҲP°PePsPíPëC... C, P° PrPëCÍPíP»P°CÍC, PëC†PSPëC... CÍC, P°PSC-PI, CÍPíCҲPëC†PëPSPµPSPëC... P°PµP» C, PëPíC-PI 6, 11, 16 C, P° 18:

БҲҮҮ PIPSCÍC, CҲC-CҒPSCҲPsPµPíC-C, PµP»C-P°P»CHBPSP° PSPµPsPíP»P°P·C-CÍ P°PSP°P»CHBPSPsPíPs PeP°PSP°P»Cí (AIN) 1, 2 C, P° 3 CÍC, CíPíPµPSC-PI.

PµCҲPsC, PëPíPsPeP°P·P°PSPSCÍ.

P°C-PíPµCҲC†CíC, P»PëPIC-CÍC, CH PrPs PrC-CHC†PëC... CҲPµC†PsPíPëPS P°P±Ps PrPs P±CíPrCH-CÍPePsPíPs PePsPjPíPsPSPµPSC, P° PíP°PeC†PëPSPë, PíPeP»CHC†P°CHC†Pë C, CÍP¶PeC- P°P»PµCҲPíC-C†PSC- CҲPµP°PeC†C-C— PrPs PrCҲC-P¶PrP¶C-PI (PrPëPI. CҲPsP·PrC-P» B«P»P°CҲPjP°PePsPrPëPSP°PjC-PeP°B»).

PҲCÍPsP±P°Pj, Cí CÍPePëC... CҲPsP·PíPëPíP°CHC, CHCÍCÍ CÍPëPjPíC, PsPjPë, CÍPeC-CÍPIC-PrC†P°C, CH PíCҲPs PíC-PíPµCҲC†CíC, P»PëPIC-CÍC, CH PíC-CÍP»CÍ PíPíPµPrPµPSPSCÍ PrPsP·Pë PíCҲPµPíP°CҲP°C, Cí P°P°CҲPrP°CÍPëP», PíPíPµPrPµPSPSCÍ PSP°CÍC, CíPíPSPsC— PrPsP·Pë PíP°PeC†PëPSPë PíCҲPsC, PëPíPsPeP°P·P°PSPs.

PíPe C- C%PsPrPs C-PSCҒPëC... PíP°PeC†PëPS, P·P°CÍC, PsCÍCíPIP°PSPSCÍ PíP°PeC†PëPSPë P°P°CҲPrP°CÍPëP» PíPsC, CҲC-P±PSPs PIC-PrPeP»P°CÍC, Pë Cí CҲP°P·C- PSP°CÍPíPSPsCÍC, C- Cí PíP°C†C-C°PSC, P° PíPsCÍC, CҲPsPíPs P·P°C...PIPsCҲCҲPIP°PSPSCÍ, C%Ps

P'PëPePsCĤPëCĴC, P°PSPSCĬ PsPrPSPsCĤP°P·PsPIPëC... CĴC, P_uCĤPëP»CĤPSPëC...
PiPsPiP_uCĤP_uPrPSCĤPs PSP°PiPsPIPS_uPSPëC... C€PiCĤPëC†C-PI P· PsPrPSC-C''CĤ PrPsP·PsCĤ
PI PePsPiPiP»P_uPeC, C- P· P·P°C...PëCĴPSPëPj PiCĤPëCĴC, CĤPsC"Pj

P'PëPePsCĤPëCĬC,PsPICrPNëC,Pμ PrP»CĬ PIPIPμPrPμPSPSCĬ PIP°PeC†PëPSPë
 PIPeP»P°PrPμPSCr PiPsP»PeCr. PĬPeC%Ps PIPë C...PsC†PμC,Pμ
 PIPëPePsCĤPëCĬC,PsPICrPIP°C,Pë C-PSCëCr, PiPμCĤPμPePsPSP°PNëC,PμCĬCH, C%Ps
 PiPsP»PeP° PSP°PrC-PNëPSPs PiCĤPëC"PrPSCrC"C,CHCĬCĬ PrPs CëPiCĤPëC†P° C,P° C—C—
 PrPsPIP¶PëPSP° PSPμ PiPμCĤPμPIPëC%CrC" 2,5 CĬPj, C%Ps C" PSPμPsP±C...C-PrPSPsCĤ
 CrPjPsIPsCĤ PrP»CĬ PiCĤP°PIPëP»CHPSPsC— CĤPsP±PsC,Pë P·P°C...PëCĬPSPsPiPs
 PiCĤPëCĬC,CĤPsCĤ.

P—PSC-PjC-C,CH PePsPIP°C†PsPe P· PeC-PSC†CĬ CëPiCĤPëC†P°. PkP°C,PëCĬPSCrPICëPë
 PSP° PsP±PëPrPIP° PiPμCĤPμCëPePsPrP¶P°CĤC†PëC... PsP±PμCĤC,P°PSPSCĤ PIPëCĬC,CrPiPë,
 P·P°PeCĤC-PiC-C,CH CëPiCĤPëC† C- PiCĤPëC"PrPSP°PNëC,Pμ PiPsP»PeCr P>CHPμCĤP°
 PiPsIPsCĤPsC,PsPj P·P° PiPsPrPëPSPSPëPePsIPsCĤ CĬC,CĤC-P»PePsCĤ. P'PëPrP°P»C-C,CH
P·P°C...PëCĬPSPëPNë PePsPIP°C†PsPe P· PiPsP»PePë.

PμCĤPë PiCĤPsPIPμPrPμPSPSC- C-PSbĤ™ C"PeC†C-C—, CĬPe P·P°P·PSP°C†PμPSPs PIPëC%Pμ,
 PSP°C,PëCĬPeP°PNëC,Pμ PSP° PiPsCĤCëPμPSCĤ, PjC-C†PSPs PIC,CĤPëPjCrCĤC†Pë CëPiCĤPëC†
 C- PIPIPμPrC-C,CH PICĬCĤ PrPsP·Cr. P—P°C...PëCĬPSPëPNë PiCĤPëCĬC,CĤC-PNë PiPsP»PePë
PSPμ CĬPiCĤP°C†CĤC", CĬPeC%Ps PSPμ P±CrPrPμ CrPIPμPrPμPSP° PICĬCĬ PrPsP·P°.
 P'PëC,CĬPiPSC-C,CH PiPsP»PeCr, PIC-PrPiCĬCĬC,C-C,CH PiPsCĤCëPμPSCĤ C- PrP°PNëC,Pμ
 CëPiCĤPëC†Cr PiPμCĤPμPjC-CĬC,PëC,PëCĬCĬ PSP°PiPsCĤCr PrPs PiPsIPSPsPiPs
 P·P°PeCĤPëC,C,CĬ PICĬC-C"C— PiPsP»PePë. P"P»CĬ PrPsPeCrPjPμPSC,CrPIP°PSPSCĬ
 PIP°PeC†PëPSP°C†C-C— PIC-PrPsPeCĤPμPjC,Pμ PμC,PëPePμC,PeCr, PiPsPIC-P»CHPSPs
 PiPsC,CĬPiPSCrPICëPë C—C—. PμPsPjC-CĬC,PëC,CH PIPëPePsCĤPëCĬC,P°PSPëPNë CëPiCĤPëC†
Cr PePsPSC,PμPNëPSPμCĤ PrP»CĬ PiPsCĬC,CĤPëC... PiCĤPμPrPjPμC,C-PI.

P'CrPrCH-CĬPeCr PSPμPIPëPePsCĤPëCĬC,P°PSCr PIP°PeC†PëPSCr P°P±Ps
 PIC-PrC...PsPrPë CĬP»C-Pr CrC,PëP»C-P·CrPIP°C,Pë PIC-PrPiPsPIC-PrPSPs PrPs
 PjC-CĬC†PμPIPëC... PIPëPjPsPi.

***P'P·P°C"PjPsPrC-CĬ P· C-PSCëPëPjPë P»C-PeP°CĤCĬCHPePëPjPë P·P°CĬPsP±P°PjPë C,P°
 C-PSCëC- PIPëPrPë PIP·P°C"PjPsPrC-PNë.***

PhCĬPsP±Pë, CĬPeC- PsC,CĤPëPjCrPIP°P»Pë C-PjCrPSPsPiP»PsP±CrP»C-PS P°P±Ps
 PiCĤPμPiP°CĤP°C,Pë PeCĤPsPIC- PiCĤPsC,CĬPiPsPj 6-C,Pë PjC-CĬCĬC†C-PI PiPμCĤPμPr
 PiCĤPëP·PSP°C†PμPSPSCĬPj PiPμCĤCëPsC— PrPsP·Pë PIP°PeC†PëPSPë, P±CrP»Pë
 PIPëPeP»CĤC†PμPSC- P· PeP»C-PSC-C†PSPëC... PrPsCĬP»C-PrP¶PμPSCĤ.

P—P°CĬC,PsCĬCžPIP°PSPSCĬ P· C-PSCëPëPjPë PIP°PeC†PëPSP°PjPë

PhPrPSPsC†P°CĬPSPμ PIPIPμPrPμPSPSCĬ PIP°PeC†PëPSPë P"P°CĤPrP°CĬPëP» (PrP»CĬ
 C-PSbĤ™ C"PeC†C-PNëPSPëC... PIP°PeC†PëPS bĤ" Cr CĤC-P·PSC- PrC-P»CĬPSPëPë C,C-P»P°) P·
 PIP°PeC†PëPSPsCĤ PiCĤPsC,Pë PiPμPiP°C,PëC,Cr P' (CĤPμPePsPjP±C-PSP°PSC,PSP°) PSPμ
 PIPiP»PëPIP°P»Ps PSP° C-PjCrPSPSCr PIC-PrPiPsPIC-PrCH C,PëPiC-PI P'PμP>.
 PμPsPeP°P·PSPëPePë CĬPμCĤPsPiCĤPsC,PμPeC†C-C— (PeC-P»CHPeC-CĬC,CH
 PiP°C†C-C"PSC,C-PI, Cr CĬPePëC... PrPsCĬCĬPiPSCrC,Ps
 CĬPμCĤPsPiCĤPsC,PμPeC†C-PNëPSPëPNë CĤC-PIPμPSCĤ P°PSC,PëC,C-P» PrPs PIC-CĤCrCĬCĬ
 PiPμPiP°C,PëC,Cr P' ≥ 10 PjPĤPh/PjP») PSPμ P·PjC-PSCĤPIP°P»PëCĬCĬ (96,5 % PiCĤPë
 PsPrPSPsC†P°CĬPSC-PNë PIP°PeC†PëPSP°C†C-C— C- 97,5 % PiCĤPë PIP°PeC†PëPSP°C†C-C—
 C,C-P»CHPePë PIP°PeC†PëPSPsCĤ PiCĤPsC,Pë PiPμPiP°C,PëC,Cr P').
 PŸPμCĤPμPrPSCĤPsPiPμPsPjPμC,CĤPëC†PSC- C,PëC,CĤPë (PŸP"PŸ) P°PSC,PëC,C-P» PrPs

PIC-C₇C₇C₇C₇ P_iP_μP_iP[°]C,P_eC,C₇ P' P±C₇P»P_e P_SP_eP₇¶C₇P_eP_jP_e P_iC₇P_e P_SP_rP_SP_SC₇P[°]C₇P_SP_jC₇
P·P[°]C₇C,P_SC₇C₇P_iP[°]P_SP_SC-, P[°]P»P_μ P_eP»C-P_SC-C₇P_SP_μ P·P_SP[°]C₇P_μP_SP_SC₇ C,P[°]P_eP_SP_iP_S
C₇P_iP_eC%_°P[°] P_SP_μ P_iC₇C,P[°]P_SP_SP_iP»P_μP_SP_S.

P“P[°]C₇P_rP[°]C₇P_eP» P_jP_SP₇¶P_SP[°] P_iP_iP_SP_rP_eC,P_e P_SP_rP_SP_SC₇P[°]C₇P_SP_S P·
P_eP_SP_jP±C-P_SP_SP_iP[°]P_SP_SC₇ P±C₇C₇C,P_μC₇P_SP_SC₇ P_iP[°]P_eC₇P_eP_SP_SC₇ P_iC₇P_SC,P_e
P_rP_eC,,C,P_μC₇C-C— (d) C- P_iC₇P[°]P_iC₇C₇ (T) P· P_eP_SP_eP»C₇C₇P_SP_eP_j
[P[°]C₇P_μP»C₇P»C₇C₇P_SP_eP_N P_eP_SP_jP_iP_SP_SP_μP_SC,] (aP) C,P[°]/P[°]P±P_S
P_iP_SP»C-P_SP_jC-C”P»C-C,P_SP_eP_j [C-P_SP[°]P_eC,P_eP_iP_SP_iP[°]P_SP_eP_j] (IPV) P_eP_SP_jP_iP_SP_SP_μP_SC,P_SP_j
(P_iP[°]P_eC₇P_eP_SP_e dTaP , dT-IPV, dTaP -IPV) P±P_μP· P·P_SP[°]C₇C₇C%_°P_SP_iP_S P_iP_iP»P_eP_iC₇ P_SP[°]
P_iC-P_rP_iP_SP_iC-P_rC₇ P[°]P_SC,P_eC,C-P» P_SP[°] P±C₇P_rC₇C-C₇P_eP_N P· P_eP_SP_jP_iP_SP_SP_μP_SC,C-PI
P±C₇P_rC₇C-C₇P_eP_SC— P_iP[°]P_eC₇P_eP_SP_e. P_μC₇P_SC,P_μ C₇P_iP_SC₇C,P_μC₇C-P_iP[°]P»P[°]C₇C₇
C,P_μP_SP_rP_μP_SC₇C-C₇ P_rP_S P·P_SP_eP₇¶P_μP_SP_SC₇ P₇P“P₇ P[°]P_SC,P_eC,C-P» P_rP_S P'P_μP> C₇
P_iC₇C₇P_iC-, C%_°P_S P_SC,C₇P_eP_jC₇P_iP[°]P»P[°] P_SP_rP_SP_SC₇P[°]C₇P_SP_S P_rP_μP_eC-P»C₇P_eP[°]
P_iP[°]P_eC₇P_eP_S. P₇P»C-P_SC-C₇P_SP_μ P·P_SP[°]C₇P_μP_SP_SC₇ C₇C₇P_SP_iP_S
C₇P_iP_SC₇C,P_μC₇P_μP₇¶P_μP_SP_SC₇ P_SP_μ P_iC₇C,P[°]P_SP_SP_iP»P_μP_SP_S. P_iC- P_rP[°]P_SC-
P±P[°]P·C₇C₇C,C₇C₇C₇ P_SP[°] C₇P_μP·C₇P»C₇C,P[°]C,P[°]C... P_eP»C-P_SC-C₇P_SP_SP_iP_S
P_rP_SC₇P»C-P_rP₇¶P_μP_SP_SC₇, P_i C₇P_eP_SP_jC₇ P_SP_rP_SP_SC₇P[°]C₇P_SP_S P·P[°]C₇C,P_SC₇P_SP_iC₇P_iP[°]P»P_e
P_eP_SP_jP±C-P_SP_SP_iP[°]P_SC₇ P_iP[°]P_eC₇P_eP_SC₇ dTaP -IPV C- P_iP_μC₇C₇C₇ P_rP_SP·C₇
P“P[°]C₇P_rP[°]C₇P_eP» (P_rP_ePI. C₇P_SP·P_rC-P» B«P_μP_SP±C-C₇P_SP[°] P_rC-C₇B»).

P_hP_rP_SP_SC₇P[°]C₇P_SP_μ P·P[°]C₇C,P_SC₇C₇P_iP[°]P_SP_SC₇ P_iP[°]P_eC₇P_eP_SP_e P“P[°]C₇P_rP[°]C₇P_eP» C-P·
C-P_SC₇P_eP_jP_e P_iP[°]P_eC₇P_eP_SP[°]P_jP_e, P_SP_eC₇C-P_j P_iP_eC%_°P_μP_iP_eP[°]P·P[°]P_SP_eC..., P_SP_μ
P_iP_eP_iC₇P[°]P»P_SC₇C₇.

*P—P[°]C₇C,P_SC₇C₇P_iP[°]P_SP_SC₇ P· P_iP_SC₇P_jP_SP_SP[°]P»C₇P_SP_eP_jP_e
P_eP_SP_SC,C₇P[°]C₇P_μP_iC,P_eP_iP[°]P_jP_e*

P_μC-P_r C₇P[°]C₇ P_eP»C-P_SC-C₇P_SP_eC... P_rP_SC₇P»C-P_rP₇¶P_μP_SC₇ 57,5 % P_iP[°]C₇C-C”P_SC,C-PI
P₇¶C-P_SP_SC₇P_SC— C₇C,P[°]C,C- P_iC-P_eP_SP_j 16Б₇“26 C₇P_SP_eC-PI C- 31,2 % P₇¶C-P_SP_SP_e C₇
P_iC-C₇C- 24Б₇“45 C₇P_SP_eC-PI, C₇P_eC- P_SC,C₇P_eP_jP[°]P»P_e P“P[°]C₇P_rP[°]C₇P_eP»,
P·P[°]C₇C,P_SC₇P_SP_iC₇P_iP[°]P»P_e P_iP_SC₇P_jP_SP_SP[°]P»C₇P_SC- P_eP_SP_SC,C₇P[°]C₇P_μP_iC,P_eP_iP_e P_i
P_iP_μC₇C-P_SP_r P_iP[°]P_eC₇P_eP_SP[°]C₇C-C—. P—P[°]C₇C,P_SC₇C₇P_iP[°]P_SP_SC₇
P_iP_SC₇P_jP_SP_SP[°]P»C₇P_SP_eC... P_eP_SP_SC,C₇P[°]C₇P_μP_iC,P_eP_iC-PI P_SP_μ P_iP_iP»P_eP_iP[°]P»P_S P_SP[°]
C₇P_eC-C₇C,C₇ C-P_jC₇P_SP_SC— P_iC-P_rP_iP_SP_iC-P_rC- P_iC₇P_e P·P[°]C₇C,P_SC₇C₇P_iP[°]P_SP_SC-
P_iP[°]P_eC₇P_eP_SP_e P“P[°]C₇P_rP[°]C₇P_eP».

P_hC₇P_SP±P»P_eP_iP_SC₇C,C- P·P[°]C₇C,P_SC₇C₇P_iP[°]P_SP_SC₇.

P[°]C-P_rC₇C,P_μP₇¶C₇P_iP[°]P_SP_SC₇

P“P»C₇ P_iP_SP_eC₇P[°]C%_°P_μP_SP_SC₇ P_iC-P_rC₇C,P_μP₇¶C₇P_iP[°]P_SP_SC₇ P±C-P_SP»P_SP_iC-C₇P_SP_eC...
P»C-P_eP[°]C₇C₇C₇P_eP_eC... P·P[°]C₇P_SP±C-PI, P_SP_μP_SP±C...C-P_rP_SP_S C₇C-C,P_eP_S
C₇P_μC”C₇C,C₇C₇P_iP[°]C,P_e P_SP[°]P·P_iC₇ C,P[°] P_SP_SP_jP_μC₇ cP_μC₇C-C— P»C-P_eP[°]C₇C₇C₇P_eP_SP_iP_S
P·P[°]C₇P_SP±C₇, C%_°P_S P·P[°]C₇C,P_SC₇P_SP_iC₇C,C₇C₇C₇.

P C-C₇P_μP_SP_SC₇ P_iC₇P_S P_iP[°]P_eC₇P_eP_SP[°]C₇C-C₇ C₇P»C-P_r P_iC₇P_eP_N P_SC₇C,P_e P·
C₇C₇P[°]C...C₇P_iP[°]P_SP_SC₇P_j C₇P_eP·P_eP_eC₇ P_iP_SP_iP_μC₇P_μP_rP_SC₇P_SP_iP_S
C-P_SC,,C-P_eC₇P_iP[°]P_SP_SC₇ P'P_μP> C,P[°] P_iP_SC,P_μP_SC₇C-P_N P_SP_SC— P_eP_SC₇P_eC₇C,C- P_iC-P_r
P_iP[°]P_eC₇P_eP_SP[°]C₇C-C—.

PİPe C- Cı ÇĦP°P·C- P·P°CıC,PsCıCıPİP°PSPSCıı PİCıC-C... C-PSBĦ™C"PeCıC-PNēPSPēC...
PİP°PeCıPēPS, CıP»C-Pr P·P°P±PıP·PıPıCıPēC,Pē PSP°P±C-ÇĦ P»C-PeP°ÇĦCıCHPePēC...
P·P°CıPSP±C-PI PrP»Cıı PSPıPİC-PrPeP»P°PrPSPsC— C,PıÇĦP°PıC-C— PSP° PİPēPıP°PrPsPe
ÇĦPsP·PİPēC,PeCı P°PSP°C,,C-P»P°PeC,PēCıPSPēC... ÇĦPıP°PeCıC-PNē
(ÇĦPsP·PİPēPİP°CHC,CHCıCıı ÇĦC-PrPeC-CıPSPs) PıC-CıP»Cıı PİPıPıPrPıPSPSCıı
PİP°PeCıPēPSPē. PkP° PİPēPıP°PrPsPe ÇĦPsP·PİPēC,PeCı P°PSP°C,,C-P»P°PeC,PēCıPSPēC...
ÇĦPıP°PeCıC-PNē PsCıPSP±P° PıPsPİPēPSPSP° P±CıC,Pē PıC-Pr PSP°PıP»CııPrPsPj
PjPıPrPēCıPSPsPıPs PıÇĦP°CıC-PİPSPēPeP° PSPı PjPıPSCēPı 30 C...PİPēP»PēPS PıC-CıP»Cıı
PİP°PeCıPēPSP°CıC-C—.

PŸPēPSPePsPıPı (PSPıPıÇĦPēC,PsPjPSC-CıC,CH), C%Ps C-PSPsPrC-
CıCıPıÇĦPsPİPsPrPıCıC",CHCıCıı PıP°PrC-PSPSCııPj, PjPsPıPı PİPēPSPēPeP°C,Pē
PıC-CıP»Cıı P°P±Ps PSP°PİC-C,CH PıPıÇĦPıPr P±CıPrCH-CııPePsCH
PİP°PeCıPēPSP°CıC-C"CH, PsCıPSP±P»PēPİPs Cı PıC-PrP»C-C,PeC-PI, CııPe
PıCıPēC...PsPıPıPSPSP° PİC-PrPıPsPİC-PrCH PSP° C-PSBĦ™C"PeCıC-CH PıPsP»PePsCH.
PŸP°PePēPNē CıC,P°PS C-PSPsPrC- PjPsPıPı CıCıPıÇĦPsPİPsPrPıCıPİP°C,PēCıCıı
PeC-P»CHPePsPjP° PSPıPİCıPSP»PsPıC-CıPSPēPjPē PsP·PSP°PeP°PjPē,
PSP°PıÇĦPēPeP»P°Pr C,PēPjCıP°CıPSPİPēPj PıPsÇĦCıCēPıPSPSCııPj P·PsÇĦCı,
PıP°ÇĦPıCıC,PıP·C-C"CH C,P° C,PsPSC-PePs-PeP»PsPSC-CıPSPēPjPē ÇĦCıC...P°PjPē
PeC-PSCıC-PİPsPe Pı PıPıÇĦC-PsPr PİC-PrPSPsPİP»PıPSPSCıı CıC,P°PSCı. PŸP°PePēPj
CıPēPSPsPj, PıC-CıP»Cıı PİPıPıPrPıPSPSCıı PİP°PeCıPēPSPē P"°P°ÇĦPrP°CıPēP» CıP»C-Pr
CıPıPsCıC,PıÇĦC-PıP°C,Pē P·P° CıC,P°PSPsPj PıP°CıC-C"PS C-PI PıÇĦPsC,CııPıPsPj 15
C...PİPēP»PēPS. P'P°PıP»PēPİPs PıÇĦPsPİPsPrPēC,Pē PıÇĦPsCıPıPrCıCıCı Pı CıPjPsPİP°C...,
C%Ps PrP°CHC,CH P·PjPsPıCı CıPSPēPePSCıC,Pē C,ÇĦP°PİPjPē PıÇĦPē
PSPıPıÇĦPēC,PsPjPSPsCıC,C-.

PİPe C- C%PsPrPs C-PSCēPēC... PİP°PeCıPēPS, P·P°CıC,PsCıCıPİP°PSPSCıı
PıÇĦPıPıP°ÇĦP°C,Cı P"°P°ÇĦPrP°CıPēP» PSPı PıP°ÇĦP°PSC,CıC" PıC,,PıPeC,PēPİPSPsCıC,C- Pı
CıCıC-C... PİP°PeCıPēPSPsPİP°PSPēC....

P"°P°ÇĦPrP°CıPēP» P·P°P±PıP·PıPıCıCıC" P·P°C...PēCıC, P»PēCēPı PıÇĦPsC,Pē
P·P°C...PİPsÇĦCHPİP°PSCĦ, PİPēPeP»PēPeP°PSPēC... P'PıP> C,PēPıC-PI 6, 11, 16 C,P° 18, C,P°
PjPıPSCēPsCH PjC-ÇĦPsCH BĦ" PıÇĦPsC,Pē P·P°C...PİPsÇĦCHPİP°PSCĦ,
PİPēPeP»PēPeP°PSPēC... CıPıPsÇĦC-PrPSPıPSPēPjPē C,PēPıP°PjPē P'PıP> (PrPēPI. ÇĦPsP·PrC-P
B«PıPjCıPSPsP»PsPıC-CıPSC- C,P° P±C-PsP»PsPıC-CıPSC- PİP»P°CıC,PēPİPsCıC,C-B»).

PŸPsPjCı CıP»C-Pr PıÇĦPsPrPsPİPıCıPİP°C,Pē PİPıPēPİP°C,Pē P·P°PıPsP±C-PıPSPēC...
P·P°C...PsPrC-PI PıÇĦPsC,Pē P·P°C...PİPsÇĦCHPİP°PSCĦ, C%Ps PıPıÇĦPıPrP°CHC,CHCıCıı
CıC,P°C,PıPİPēPj CēP»CııC...PsPj.

P"°P°ÇĦPrP°CıPēP» P·P°CıC,PsCıPSPİCıC",CHCıCıı P»PēCēPı P·
PıÇĦPsC,,C-P»P°PeC,PēCıPSPsCH PjPıC,PsCH C,P° PSPı PİPıP»PēPİP°C" PSP° P°PeC,PēPİPSC-
P'PıP>-C-PSC,,PıPeCıC-C— P°P±Ps PİCıC,P°PSPsPİP»PıPSPı PeP»C-PSC-CıPSPı
P·P°C...PİPsÇĦCHPİP°PSPSCıı. P'CıC,P°PSPsPİP»PıPSPs, C%Ps P"°P°ÇĦPrP°CıPēP» PSPı PjP°C"
C,PıÇĦP°PıPıPİC,PēCıPSPsPıPs PıC,,PıPeC,Cı C- C,PsPjCı PİP°PeCıPēPSP° PSPı
PıÇĦPēP·PSP°CıPıPSP° PrP»Cıı P»C-PeCıPİP°PSPSCıı ÇĦP°PeCı CēPēPNēPePē PjP°C,PePē,
PrPēCıPıP»P°CıC,PēCıPSPēC... P·P°C...PİPsÇĦCHPİP°PSCĦ PİPēCıPSPePsPıPs CıC,CıPıPıPSCıı
PıÇĦP°PrP°CıC-C— CēPēPNēPePē PjP°C,PePē, PıC-C...PİPē C,P° PİCıP»CHPİPē P°P±Ps
PıPıPSC-C,P°P»CHPSPēC... PePsPSPıPēP»PsPj. P'P°PeCıPēPSP° PSPı PıÇĦPēP·PSP°CıPıPSP°
PrP»Cıı PıÇĦPsC,,C-P»P°PeC,PēPePē PıÇĦPsPıÇĦPıCıCıPİP°PSPSCıı C-PSCēPēC...
CıÇĦP°PıPıPSCĦ, PİPēPeP»PēPeP°PSPēC... P'PıP>.

P“P°CḡPrP°CḡPëP» PSPµ PīCḡPëP·PSP°C‡PµPSPëPNë PrP»Cḡ PīCḡPsC,,C-P»P°PeC,PëPePë
PSPsPIPsCḡC,PIPsCḡPµPSCḡ PIPSP°CḡP»C-PrPsPe PIP°PeC‡PëPSP°C‡C-C— PīCḡPsC,Pë
C,PëPīC-PI P’PµP> Cḡ PīP°C‡C-C”PSC,C-PI, C-PSC,,C-PePsPIP°PSPëC... C,P°PePëPjPë C,PëPīP°PjPë
P’PµP>, C%Ps C-CḡPSCḡPIP°P»Pë PSP° C‡P°Cḡ PIP°PeC‡PëPSP°C‡C-C— (PrPëPI. CḡPsP·PrC-P»
B«P‡PjCḡPSPsP»PsPiC-C‡PSC- C- P±C-PsP»PsPiC-C‡PSC- PIP»P°CḡC,PëPIPsCḡC,C-B»).

PµCḡPë P·P°CḡC,PsCḡCḡPIP°PSPSC- PIP°PeC‡PëPSPë P“P°CḡPrP°CḡPëP» Cḡ
PrPsCḡPsCḡP»PëC... PḡC-PSPsPe CḡP»C-Pr P·PIP°PḡP°C,Pë PSP° CḡC-P·PSCḡ
CḡPsP·PīPsPICḡCḡPrPḡPµPSC-CḡC,ḡ C,PëPīC-PI P’PµP> Cḡ CḡC-P·PSPëC...
PiPµPsPiCḡP°C,,C-C‡PSPëC... P·PsPSP°C....

P’P°PeC‡PëPSP°C‡C-Cḡ PSPµ C” P·P°PjC-PSPsCḡ CḡCḡC,PëPSPSPsPiPs CḡPeCḡPëPSC-PSPiCḡ
P·P°C...PIPsCḡCḡPIP°PSCḡ CëPëPNëPePë PjP°C,PePë. PhCḡPeC-P»ḡPePë PḡPsPrPSP°
PIP°PeC‡PëPSP° PSPµ P·P°P±PµP·PiPµC‡CḡC” 100 % PµC,,PµPeC,PëPIPSC-CḡC,ḡ, P°
P“P°CḡPrP°CḡPëP» PSPµ P·P°P±PµP·PiPµC‡CḡC” P·P°C...PëCḡC, PīCḡPsC,Pë PePsPḡPSPsPiPs
C,PëPīCḡ P’PµP> P°P±Ps PīCḡPsC,Pë C-CḡPSCḡCḡC‡PëC... C-PSC,,PµPeC‡C-PNë P’PµP>,
CḡCḡC,PëPSPSPëPNë CḡPeCḡPëPSC-PSPi P·P°C...PIPsCḡCḡPIP°PSCḡ CëPëPNëPePë PjP°C,PePë
P·P°P»PëCëP°C,CḡCḡCḡ PSP°PrP·PIPëC‡P°PNëPSPs PIP°PḡP»PëPIPëPj C,P°
PīCḡPsPIPsPrPëC,ḡCḡCḡCḡ PIC-PrPīPsPIC-PrPSPs PrPs PjC-CḡC‡PµPIPëC...
CḡPµPePsPjPµPSPPrP°C‡C-PNë. PhCḡPsP±P°Pj, C%Ps PIP°PeC‡PëPSCḡCḡC,ḡCḡCḡCḡ
PīCḡPµPiP°CḡP°C,PsPj P“P°CḡPrP°CḡPëP» PSPµ CḡP»C-Pr PīCḡPëPīPëPSCḡC,Pë
CḡPeCḡPëPSC-PSPi CḡP°PeCḡ P°PSP°P»ḡPSPsPiPs PeP°PSP°P»Cḡ, CḡPeC%Ps PIC-PS P±CḡPI
CḡPµPePsPjPµPSPPrPsPIP°PSPëPNë P»C-PeP°CḡPµPj.

P’PµP·PiPµPeP° C,P° C-PjCḡPSPsPiPµPSPSC-CḡC,ḡ PIP°PeC‡PëPSPë PsC‡C-PSCḡPIP°P»PëCḡCḡ
Cḡ PīP°C‡C-C”PSC,C-PI PIC-PePsPj PIC-Pr 7 PrPs 12 CḡPsPeC-PI, C-PSC,,C-PePsPIP°PSPëC...
PIC-CḡCḡCḡPsPj C-PjCḡPSPsPrPµC,,C-C‡PëC,Cḡ P»CḡPrPëPSPë (P’P‡P>) (PrPëPI. CḡPsP·PrC-P»
B«P‡PjCḡPSPsP»PsPiC-C‡PSC- C,P° P±C-PsP»PsPiC-C‡PSC- PIP»P°CḡC,PëPIPsCḡC,C-B»). PJ
PsCḡC-P± P· PīPsCḡCḡCëPµPSPSCḡPj C-PjCḡPSPsP»PsPiC-C‡PSPsC—
CḡPµP°PeC,PëPIPSPsCḡC,C- PIPSP°CḡP»C-PrPsPe P·P°CḡC,PsCḡCḡPIP°PSPSCḡ
C-PjCḡPSPsCḡCḡPīCḡPµCḡP°PSC,C-PI, PiPµPSPµC,PëC‡PSPsPiPs PrPµC,,PµPeC,Cḡ C‡Pë P·
C-PSCëPëC... PīCḡPëC‡PëPS, CḡPµP°PeC‡C-Cḡ PSP° PIP°PeC‡PëPSCḡ PjPsPḡPµ P±CḡC,Pë
PIC-PrCḡCḡC,PSḡPsCḡ.

PŸP»C-Pr P· PsP±PµCḡPµPḡPSC-CḡC,ḡ PIPiPsPrPëC,Pë C‡Cḡ PIP°PeC‡PëPSCḡ
PīP°C‡C-C”PSC,P°Pj P· C,CḡPsPjP±PsC‡PëC,PsPīPµPSC-C”Cḡ P°P±Ps P±CḡPrCḡCḡCḡPëPjPë
PīPsCḡCḡCëPµPSPSCḡPjPë P·PiPsCḡC,P°PSPSCḡ PeCḡPsPIC- C‡PµCḡPµP·
PīC-PrPIPëC%PµPSPëPNë CḡPëP·PëPe CḡPsP·PIPëC,PeCḡ PeCḡPsPIPsC,PµC‡C- PīC-CḡP»Cḡ
PIPSCḡC,CḡC-CëPSCḡPsPjḡCḡ CḡP·PsPIPsPiPs PIPiPµPrPµPSPSCḡ.

P”P»Cḡ PIPëP·PSP°C‡PµPSPSCḡ C,CḡPëPIP°P»PsCḡC,C- P·P°C...PëCḡPSPsC— CḡPµP°PeC‡C-C—
P±CḡP»Ps PīCḡPsPIPµPrPµPSPs PrPsPIPiPsCḡC,CḡPsPePsPIC- PrPsCḡP»C-PrPḡPµPSPSCḡ
(PrPëPI. CḡPsP·PrC-P» B«P‡PjCḡPSPsP»PsPiC-C‡PSC- C- P±C-PsP»PsPiC-C‡PSC-
PIP»P°CḡC,PëPIPsCḡC,C-B»).

P’C-PrCḡCḡC,PSC- PrP°PSC- PīCḡPs P±PµP·PiPµPeCḡ, C-PjCḡPSPsPiPµPSPSC-CḡC,ḡ C,P°
PµC,,PµPeC,PëPIPSC-CḡC,ḡ PiPµCḡPµC...PsPrCḡ PīCḡPsC,CḡPiPsPj C%PµPīP»PµPSPSCḡ
PIP°PeC‡PëPSPsCḡ P“P°CḡPrP°CḡPëP» PSP° C-PSCëC- PIP°PeC‡PëPSPë, CḡPeC- PSPµ
PsC...PsPīP»CḡCḡC,ḡ B C,P°PeC- Pḡ CḡP°PjC- C,PëPīPë P’PµP>. PŸPsPjCḡ PIP°PḡP»PëPIPs
PīCḡPëP·PSP°C‡P°C,Pë PsPrPSCḡ PNë C,Cḡ Pḡ CḡP°PjCḡ PIP°PeC‡PëPSCḡ PīCḡPsC,CḡPiPsPj
PICḡCḡPsPiPs PīPµCḡC-PsPrCḡ C%PµPīP»PµPSPSCḡ PrP»Cḡ PICḡC,P°PSPsPIP»PµPSPsC—
CḡC...PµPjPë PIPiPµPrPµPSPSCḡ PrPsP·.

P_KP^oC, C₇H₇C-PN_o

$P_i P_\mu P_N \gg C - PeP^\circ C \tilde{H} C \tilde{H} P_e P \tilde{H} P_N$ $P \cdot P^\circ C \tilde{H} C - P \pm$ $P_j C - C \tilde{H} C, P \tilde{H} C, C \tilde{H}$ $P_j P_\mu P S C \epsilon P_\mu$ $P S C - P \parallel$ 1
 $P_j P_j P S P \gg C \tilde{H}$ (23 $P_j P_i$) / $P_r P S P \cdot C_r$ $P S P^\circ C, C \tilde{H} C - C \tilde{H}$, $C, P S P \pm C, P S$ $P \tilde{H} C \tilde{H} P^\circ P_e C, P \tilde{H} C \pm P S P S$
 $P I C - P \gg C \tilde{H} P S P \tilde{H} P_N$ $P I C - P_r$ $P S P^\circ C, C \tilde{H} C - C \tilde{H}$.

$P-P^{\circ}Cl\dot{C}C,PsCl\dot{C}C\acute{a}PIP^{\circ}PSPSC\dot{C}C\dot{C}C\acute{a}PiP_{\mu}C\dot{C}C-PsPrPIP^{\circ}PiC-C,PSPsCl\dot{C}C,C-P^{\circ}P\pm PsPiPsPrC\acute{a}PIP^{\circ}PSPSC\dot{C}C\dot{C}C\dot{C}C\acute{a}PrPrC\dot{C}H.$

$$P'P^{\circ}PiC-C,PSC-C\dot{I}C,CH.$$

PŸPiPµC†C-P°P»CHßPSC- PrPsCÍP»C-PrP¶PµPSPSC¶ P·P°CÍC,PsCÍCfPIP°PSPSC¶
 PIP°PeC†PëPSPë PIP°PiC-C,PSPëPj P¶C-PSPeP°Pj PSPµ PíC¶PsPIPsPrPëP»PëCÍC¶.
 PµC¶PsC,C¶PiPsPj PíC¶PsPiC¶P°PjPë PeP»C-PSC-C†PSPsC— C¶PsP·C¶PsP±PePë
 PíC¶PµPiP°C¶P°C,Cf Cf 3 819 P¶C-PSPsPe (PIP°PeC†PëPSP° n=1 894, PiP»P°C†PµP±Ps
 n=1 925) PiPsPIC-PrPsPjP»C¶P»PsCÍC¶ C¶Pe PjC-PSC-PjCfPj PíC¶Ps PsPrPëPS PIPëPiP°PrPsPe
 PIP°PiC-C,PSPsCÍC,C-. Pj PsCÍC-P±, C¶PeC- P·P°CÍC,PsCÍCfPICfPIP°P»Pë PíC¶PµPiP°C¶P°C,
 P°P°C¶PrP°CÍPëP» P°P±Ps PiP»P°C†PµP±Ps, PSPµ P±CfP»Ps CÍCfC,C,C°PIPëC...
 PIC-PrPjC-PSPSPsCÍC,PµPNë Cf C,PëPiP°C... PIC¶PsPrP¶PµPSPëC... P°PSPsPjP°P»C-PNë P°P±Ps
 PeC-P»CHßPePsCÍC,C- PIP°PiC-C,PSPsCÍC,PµPNë P· PSPµCÍPíC¶PëC¶C,P»PëPIPëPj
 C¶PµP·CfP»CHßC,P°C,PsPj. PŸP°PeC- PrP°PSC- CÍC,PsCÍCfPIPsPSPs PIP°PiC-C,PSPëC...
 P¶C-PSPsPe (P±C-P»CHßC¶Pµ 1 000 PIPëPiP°PrPeC-PI) PIPeP°P·CfPIP°P»Pë PSP°
 PIC-PrCÍCfC,C,PSC-CÍC,CHß PjP°P»CHßC,,PsC¶PjP°C†C-PNë, C,PsPeCÍPëC†PSPsCÍC,C- PrP»C¶
 PiP»PsPrP° C- PSPsPIPsPSP°C¶PsPrP¶PµPSPsPiPs.

$P''P^{\circ}PSC - P \cdot P^{\circ}Cl^{\circ}C, PsCl^{\circ}CrPIP^{\circ}PSPSCl \mid PIP^{\circ}PeC \uparrow P\ddot{e}PSP\ddot{e} P''P^{\circ}C\overline{H}PrP^{\circ}Cl^{\circ}P\ddot{e}P \gg Cr \mid \overline{P}iP_{\mu}C\overline{H}C - PsPr$
 $PIP^{\circ}PiC - C, PSPsCl^{\circ}C, C - PSP_{\mu} \mid PIPeP^{\circ}P \cdot CrPIP^{\circ}P \gg P\ddot{e} PSP^{\circ} \mid \overline{P}iC\overline{H}PsP \pm P \gg P_{\mu}PjP\ddot{e} P \pm P_{\mu}P \cdot \overline{P}iP_{\mu}PeP\ddot{e}$
 $P \cdot P^{\circ}Cl^{\circ}C, PsCl^{\circ}CrPIP^{\circ}PSPSCl \mid \overline{P}iC\overline{H}P_{\mu}P\ddot{e}P^{\circ}C\overline{H}P^{\circ}C, Cr. P_{\mu}C\overline{H}PsC, P_{\mu} C \uparrow P\ddot{e}C \dots PrP^{\circ}PSP\ddot{e}C \dots$
 $PSP_{\mu}PrPsCl^{\circ}C, P^{\circ}C, PSCHPs PrP \gg Cl \mid C, PsPiPs, C\%PsP \pm C\overline{H}P_{\mu}PePsPjP_{\mu}PSPPrCrPIP^{\circ}C, P\ddot{e}$
 $P \cdot P^{\circ}Cl^{\circ}C, PsCl^{\circ}CrPIP^{\circ}PSPSCl \mid PIP^{\circ}PeC \uparrow P\ddot{e}PSP\ddot{e} P''P^{\circ}C\overline{H}PrP^{\circ}Cl^{\circ}P\ddot{e}P \gg Cr \mid \overline{P}iP_{\mu}C\overline{H}C - PsPr$
 $PIP^{\circ}PiC - C, PSPsCl^{\circ}C, C - . P\ddot{Y}P \gg C - Pr \mid \overline{P}iC - PrPeP \gg P^{\circ}Cl^{\circ}C, P\ddot{e} PIP^{\circ}PeC \uparrow P\ddot{e}PSP^{\circ}C \uparrow C - C\overline{H} PrPs$
 $P \cdot P^{\circ}PIP_{\mu}C\overline{H}C\epsilon P_{\mu}PSPSCl \mid PIP^{\circ}PiC - C, PSPsCl^{\circ}C, C - .$

$$P''P_sP_{\tau}C\acute{z}PIP^{\circ}PSPSC\zeta\text{ }PiC\eta C\acute{z}P_{\tau}P_{\tau}C\eta.$$

PJ P¶C-PSPPe, C¶PeC- PiPsPrCrC¶C,CH PiC¶CrPrPrC¶, C¶PeP¶Pj PIPiPsPrP¶P»P¶
P“P°C¶¶PrP°C¶¶P¶P» P°P±Ps PiP»P°C†PµP±Ps PiC¶¶PsC,C¶PiPiPsPj PiPµC¶C-PsPrCr
PIP°PeC†P¶PSP°C†C-C— PI C...PsPrC- PeP»C-PSC-C†PSP¶C... PrPsC¶P»C-PrP¶PµPSC¶,
C†P°C¶C,PsC,P° PiPsP±C-C†PSP¶C... C¶PµP°PeC†C-PN¶ Cr PjP°C,PµC¶C-PI C,P°
PSPµPjPsPIP»C¶C,, C¶PeP¶C... PiPsPrCrC¶C,CH PiC¶CrPrPrC¶, P±CrP»P°
PiPsC¶C-PIPSC¶PSPsC¶ Cr PiC¶CrPiC- C%PµPiP»PµPSP¶C... PIP°PeC†P¶PSPsC¶ C- PiC¶CrPiC-
C%PµPiP»PµPSP¶C... PiP»P°C†PµP±Ps. P¶C¶C-Pj C†CHPsPiPs, C-PjCrPSPsPiPµPSPSC-C¶C,CH
PIP°PeC†P¶PSP¶ P±CrP»P° PiPsC¶C-PIPSC¶PSPsC¶ Cr P¶C-PSPPe, C¶PeC- PiPsPrCrC¶C,CH
PiC¶CrPrPrC¶, C,P° P¶C-PSPPe, C¶PeC- PSPµ PiPsPrCrC¶C,CH PiC¶CrPrPrC¶,
PiC¶¶PsC,C¶PiPiPsPj PiPµC¶C-PsPrCr PIP°PeC†P¶PSP°C†C-C—. P¶PsPjCr P“P°C¶¶PrP°C¶¶P¶P»
PjPsP¶PSP° P·P°C¶C,PsC¶PsPICrPIP°C,¶ P¶C-PSPeP°Pj, C¶PeC- PiPsPrCrC¶C,CH
PiC¶CrPrPrC¶.

$$P \propto P_{\mu} C \bar{H} C, P \ddot{e} P \gg C \bar{H} P S C - C \bar{G} C, C \bar{H}.$$

P"PsCÍP»C-PrP¶PµPSPSC¶ PSp° C,PiP°C¶PëPSP°C... PSPµ PiPeP°P·CíC¶C,CH PSP°
PiC¶C¶PjPëPNë C±Pë PSPµPiC¶C¶PjPëPNë CëPeC-PrP»PëPiPëPNë PiPiP»PëPi PIC-PrPSPsCÍPSPs
C¶PµPiC¶PsPrCíPeC,PëPiPSPsC— C,PsPeCÍPëC±PSPsCÍC,C-. Pj PrPsCÍP»C-PrP¶PµPSPSC- PSP°
C%oCíC¶P°C... PSPµ CÍPiPsCÍC,PµC¶C-PiP°P»PsCÍC¶ PSC-C¶PePsPiPs PiPiP»PëPiCí PSP°
C,,PµC¶C,PëP»CHPSC-CÍC,CH Cí CÍP°PjC†C-PI.

*P—PrP°C,PSC-CÍC,CH PiPiP»PëPiP°C,Pë PSP° CëPiPëPrPeC-CÍC,CH C¶PµP°PeC†C-C— PiC¶Pë
PePµC¶C±PiP°PSPSC- P°PIC,PsC,C¶P°PSCÍPiPsC¶C,PsPj P°P±Ps C-PSCëPëPjPë
PjPµC...P°PSC-P·PjP°PjPë.*

P"PsCÍP»C-PrP¶PµPSPSC¶ PiPiP»PëPiCí PSP° P·PrP°C,PSC-CÍC,CH PePµC¶CíPiP°C,Pë
P°PIC,PsC,C¶P°PSCÍPiPsC¶C,PsPj P°P±Ps PiC¶P°C†C¶PiP°C,Pë P· C-PSCëPëPjPë
PjPµC...P°PSC-P·PjP°PjPë PSPµ PiC¶PsPiPsPrPëP»PëCÍCH.

PŸPiPsCÍC-P± P·P°CÍC,PsCÍCíPiP°PSPSC¶ C,P° PrPsP·Pë.

PŸPiPsCÍC-P± P·P°CÍC,PsCÍCíPiP°PSPSC¶

*P'P°PeC†PëPSC± CÍP»C-Pr PiPiPsPrPëC,Pë CëP»C¶C...PsPj
PiPSC±C,C¶C-CëPSC¶PsPjë¶™ C¶P·PsPiPsC— C-PSë¶™ C"PeC†C-C—. P'P°P¶P°PSPëPj
PjC-CÍC†PµPj PiPiPµPrPµPSPSC¶ C" PrPµP»CHC,PsPiPëPrPSPëPNë Pjë¶™ C¶P· PiP»PµC±P°
P°P±Ps PiPµC¶PµPrPSC¶PsP»P°C,PµC¶P°P»CHPSP° PrC-P»C¶PSPeP° PiPµC¶C...PSC¶PsC—
C±P°CÍC,PëPSPë CÍC,PµPiPSP°.*

*PµC¶PµPiP°C¶P°C, PSPµ PjPsP¶PSP° PiPiPsPrPëC,Pë
PiPSC±C,C¶C-CëPSC¶PsPiPµPSPSPs. PµC-PrCëPeC-C¶PSPëPNë C,P°
PiPSCíC,C¶C-CëPSC¶PsCëPeC-C¶PSPëPNë CÍPiPsCÍPsP±Pë PiPiPµPrPµPSPSC¶
PiC¶PµPiP°C¶P°C,Cí PSPµ PiPëPiC±P°P»PëCÍC¶; C,P°PeC- PjPµC,PsPrPë
PiPiPµPrPµPSPSC¶ PSPµ C¶PµPePsPjPµPSPPrPsPiP°PSPs.*

P"PsP·CíPiP°PSPSC¶

P"C-C,Pë PIC-PePsPj PIC-Pr 9 PrPs 13 C¶PsPeC-PI PiPeP»CHC±PSPs

*P"P°C¶PrP°CÍPëP» PjPsP¶PSP° P·P°CÍC,PsCÍPsPiCíPiP°C,Pë P·P° CÍC...PµPjPsC¶ C-P· PrPiPsC...
PrPsP· (PiPs 0,5 PjP»: 0 C,P° 6 PjC-CÍC¶C†C-PI).*

*PiPeC%oPs PrC¶CíPiCí PrPsP·Cí PiPiPsPrC¶C,CH C¶P°PSC-CëPµ, PSC-P¶ C±PµC¶PµP· 6
PjC-CÍC¶C†C-PI PiC-CÍP»C¶ PiPµC¶CëPsC—, C,Ps CÍP»C-Pr PsP±PsPië¶™ C¶P·PePsPiPs
PiPiPµCÍC,Pë C,C¶PµC,CH PrPsP·Cí.*

*P¶P»CHC,PµC¶PSP°C,PëPiPSPs, P"P°C¶PrP°CÍPëP» PjPsP¶PSP° P·P°CÍC,PsCÍPsPiCíPiP°C,Pë
P·P° C,C¶CHPsC...PrPsP·PsPiPsC¶ CÍC...PµPjPsC¶ (0,5 PjP»: 0, 2 C,P° 6 PjC-CÍC¶C†C-PI).
P"C¶CíPiCí PrPsP·Cí CÍP»C-Pr PiPiPsPrPëC,Pë PiC¶PëPSP°PNëPjPSC- C±PµC¶PµP· 1
PjC-CÍC¶C†C¶ PiC-CÍP»C¶ PiPµC¶CëPsC—, P° C,C¶PµC,CH ¶¶™ C¶Pe PjC-PSC-PjCíPj
C±PµC¶PµP· 3 PjC-CÍC¶C†C- PiC-CÍP»C¶ PrC¶CíPiPsC— PrPsP·Pë. P'CÍC- C,C¶Pë PrPsP·Pë
CÍP»C-Pr PiPiPµCÍC,Pë PiC¶PsC,C¶PiPsPj 1 C¶PsPeCí.*

P"C-C,Pë PIC-PePsPj PIC-Pr 14 C¶PsPeC-PI C- PrPsC¶PsCÍP»C-

PePsPSC, C₇H₅PsP»CH₅PsPIP°PSPëC...) CrC†P°C†PSPëPeP°Pj PIPiPsPrPëP»Pë PIP°PeC†PëPSC†
P°P°C₇PrP°C†PëP» P°P±Ps PīP»P°C†PμP±Ps PI PrPμPSC₇ C₇H₅μC°C†C, C₇H₅P°C†C-C— Cr
PrPsC†P»C-PrP¶PμPSPSC-, C- PSP°PrP°P»C- б₇“ PīC₇H₅PëP±P»PëP·PSPs C†PμC₇H₅μP· 2 C- 6
PjC-C†C†C†C-PI. P°PμPeC-P»CH₅PeP° PsC†C-P± (0,2 %) PīC₇H₅PëPīPëPSPëP»Pë CrC†P°C†C, CH₅ Cr
PrPsC†P»C-PrP¶PμPSPSC- P· PīC₇H₅PëC†PëPSPë PIPëPSPëPePSPμPSPSC† PīPsP±C-C†PSPëC...
C₇H₅μP°PeC†C-PN₆. Pj PIC†C-C... CrC†P°C†PSPëPeC-PI PrPsC†P»C-PrP¶PμPSC₇ (6
PrPsC†P»C-PrP¶PμPSC₇) C, P° PI P·P°P·PrP°P»PμPiC-PrCH₅ PIPëP·PSP°C†PμPSC-PN₆
PīC-PrPīC₇C†PīC- (1 PrPsC†P»C-PrP¶PμPSPSC†) P±PμP·PīPμPeC† PsC†C-PSC₇PIP°P»Pë P·P°
P·P°PīPëC†P°PjPë C†PīPsC†C, PμC₇H₅μP¶PμPSPSC† PI PeP°C₇C, C†C- PIP°PeC†PëPSP°C†C-C—,
C°%Ps C₇H₅μC°C†C, C₇H₅C†PIP°P»PëC†C† PIPīC₇PsPrPsPIP¶ 14 PrPSC-PI PīC-C†P»C†
PePsP¶PSPsC— C-PSб₇™ C°PeC†C-C— PIP°PeC†PëPSPë P°P°C₇PrP°C†PëP» P°P±Ps
PīP»P°C†PμP±Ps. P—P° PeP°C₇C, PeP°PjPë PIP°PeC†PëPSP°C†C-C— CrC†P°C†PSPëPeC-PI
PrPsC†P»C-PrP¶PμPSPSC†, 10 088 PsC†C-P± PsC, C₇H₅PëPjC†PIP°P»Pë P°P°C₇PrP°C†PëP» (6 995
PrC-PIC†PëPSPëPë C- P¶C-PSPePë PIC-PePsPj 9б₇“45 C₇H₅PsPeC-PI, 3 093 C...P»PsPīC†PëPePë C-
C†PsP»PsPIC-PePë PIC-PePsPj 9б₇“26 C₇H₅PsPeC-PI PSP° PjPsPjPμPSC, C₇H₅μC°C†C, C₇H₅P°C†C-C—
PI PrPsC†P»C-PrP¶PμPSPSC-) C- 7 995 PsC†C-P± (5 692 PrC-PIC†PëPSPëPë C- P¶C-PSPePë C, P°
2 303 C...P»PsPīC†PëPePë C- C†PsP»PsPIC-PePë) PsC, C₇H₅PëPjC†PIP°P»Pë PīP»P°C†PμP±Ps.

PkP°PN₆C†P°C†C, C-C€Pμ C†PīPsC†C, PμC₇C-PiP°P»PëC†C† C, P°PeC- PīPsP±C-C†PSC-
C₇H₅μP°PeC†C-C—: PīPsP±C-C†PSC- C₇H₅μP°PeC†C-C— PI PjC-C†C†C- C-PSб₇™ C°PeC†C-C—
(77,1 % PIP°PeC†PëPSPsPIP°PSPëC... PIPīC₇PsPrPsPIP¶ 5 PrPSC-PI PīC-C†P»C† P±C†PrCH₅-
C†PePsPīPs PIC-P·PëC, Cr PrP»C† PīC₇PsPIPμPrPμPSPSC† PIP°PeC†PëPSP°C†C-C—) C, P°
PīPsP»PsPIPSPëPN₆ P±C-P»CH₅ (16,6 % PIP°PeC†PëPSPsPIP°PSPëC...). P†C- PīPsP±C-C†PSC-
C₇H₅μP°PeC†C-C— P·P°P·PIPëC†P°PN₆ P±C†P»Pë P»PμPiPePsC— P°P±Ps PīPsPjC-C₇H₅PSPsC—
C-PSC, PμPSC†PëPIPSPsC†C, C-.

PjP°P±P»PëC†C† PīPsP±C-C†PSPëC... C₇H₅μP°PeC†C-PN₆

P₇P»C-PSC-C†PSC- PrPsC†P»C-PrP¶PμPSPSC†

Pj C, P°P±P»PëC†C- 1 PīC₇H₅μPrC†C, P°PIP»PμPSPs PīPsP±C-C†PSC-

C₇H₅μP°PeC†C-C—, PīPsPIб₇™ C†P·P°PSC- P· PIPiPμPrPμPSPSC†Pj PIP°PeC†PëPSPë, C°%Ps
C†PīPsC†C, PμC₇C-PIP°P»PëC†C₇ Cr PīP°C†C-C°PSC, C-PI, C†PePëPj PIPiPsPrPëP»Pë P°P°C₇PrP°C†PëP», P·
C†P°C†C, PsC, PsC₇ C°%PsPSP°PN₆PjPμPSC€Pμ 1,0 %, P° C, P°PePsP¶ P· P±C-P»CH₅C€PsC₇ C†P°C†C, PsC, PsC₇,
PSC-P¶ Cr PīC₇C†PīC- C°%PμPīP»PμPSPëC... PīP»P°C†PμP±Ps.

PμPsP±C-C†PSC- C₇H₅μP°PeC†C-C— PeP»P°C†PëC,, C-PeC†C₇C, CH₅C†C† P·P°
PSP°C†C, C†PīPSPsC₇ C†P°C†C, PsC, PsC₇: PrC†P¶Pμ C†P°C†C, C- (≥1/10),
C†P°C†C, C- (≥1/100 - <1/10), PSPμC†P°C†C, C- (≥1/1000 - <1/100),
PīPsPsPrPëPSPsPeC- (≥1/10 000 - <1/1 000), C₇H₅-PrPeC-C†PSC- (<1/10 000).

P°PsC†PIC-Pr PīPsC†C, PjP°C₇PePμC, PëPSPiPsPIPsiPs P·P°C†C, PsC†C†PIP°PSPSC†

PjP°P±P»PëC†C† 1 PIPeP»CH₅C†P°C° PrPsPrP°C, PePsPIC- PīPsP±C-C†PSC- C₇H₅μP°PeC†C-C—,
C†PeC- PIPëPSPëPeP°P»Pë C†PīPsPSC, P°PSPSPs PīC₇PsC, C†PīPsPj
PīPsC†C, PjP°C₇PePμC, PëPSPiPsPIPsiPs P·P°C†C, PsC†C†PIP°PSPSC† PIP°PeC†PëPSPë
P°P°C₇PrP°C†PëP» PīPs PIC†CH₅PsPjC† C†PIC-C, Cr. PhC†PeC-P»CH₅PePë PīC₇Ps C†C-
C₇H₅μP°PeC†C-C— PīPsPIC-PrPsPjP»C†P»PsC†C† PrPsP±C₇PsPIC-P»CH₅PSPs PIC-Pr
PSPμPIC†C, P°PSPsPIP»PμPSPsC— PeC-P»CH₅PePsC†C, C- P»CH₅PrPμPN₆, PSPμ P·P°PIP¶PrPë
PjPsP¶PSP° C, PsC†PSPs PIC†C, P°PSPsPIPëC, Pë C—C... C†P°C†C, PsC, Cr P°P±Ps
PīC₇H₅PëC†PëPSPSPs-PSP°C†P»C-PrPePsPIPëPN₆ P·PIб₇™ C†P·PsPe P· PIPiPμPrPμPSPSC†Pj
PIP°PeC†PëPSPë. PīPe PSP°C†P»C-PrPsPe, C†P°C†C, PsC, Cr PIPëPSPëPePSPμPSPSC† C†PëC...

РiРsР±C-C±PSPëC... CђPµP°Pec†C-PNë PIPëP·PSP°C±PµPSPs C¼Pe B«PSPµPIC-PrPsPjPsB».

РђР°Р±Р»РёC†C¼ 1. РµРsР±C-C±PSC- CђPµP°Pec†C-C— PìC-CГР»C¼ PIPµPrPµPSPSC¼ PIP°Pec†PëPSPë Р°°CђPrP°CГРëP» Р·Р° PrP°PSPëPjPë PeP»C-PSC-C±PSPëC... PrPsCГР»C-PrP¶PµPSCђ C,Р° PìPsCГC,PjP°CђPePµC,PëPSPiPsPIPsPiPs CГPìPsCГC,РµCђPµP¶PµPSPSC¼

РµP»P°CГ CГPëCГC,РµPj PsCђPiP°PSC-PI	Р§P°CГC,PsC,Р°	РµРsР±C-C±PSC- CђPµP°Pec†C-C—
P†PSC,,РµPec†C-C— C,Р° C-PSPIP°P·C-C—	РќРµPIC-PrPsPjPs	P PµP»CђP»C-C,* CГ PjC-CГC†C- C-PSбђ™C”Pec†C-C—
РµPsCђCГCëPµPSPSC¼ Р· Р±PsPecГ CГPëCГC,РµPjPë PeCђPsPIC- C,Р° Р»C-PjC,,Р°C,PëC±PSPsC— CГPëCГC,РµPjPë	РќРµPIC-PrPsPjPs	P†PrC-PsPìP°C,PëC±PSP° C,CђPsPjP±PsC†PëC,PsPìPµPSC-C±PSP° PìCГCђPìCГCђP°, Р»C-PjC,,Р°PrPµPSPsPìP°C,C-C¼†, Р°CГC,PsC-PjCГPSPSP° PìPµPjPsP»C-C,PëC±PSP° Р°PSPµPjC-C¼
РµPsCђCГCëPµPSPSC¼ Р· Р±PsPecГ C-PjCГPSPSPsC— CГPëCГC,РµPjPë	РќРµPIC-PrPsPjPs	P РµP°Pec†C-C— PìC-PrPIPëC%PµPSPsC— C±CГC,Р»PëPIPsCГC,C-, PIPeP»CђC±P°CђC±Pë Р°PSP°C,,C-P»Р°PëC,PëC±PSC-/Р°PSP°C,,C-P»Р°PëC,PsC—PrPSC-CђPµP°Pec†C-C—*
РµPsCђCГCëPµPSPSC¼ Р· Р±PsPecГ PSPµCђPIPsPIPsC— CГPëCГC,РµPjPë	Р°CГP¶Pµ C±P°CГC,C-	Р°PsP»PsPIPSPëPNë Р±C-P»Cђ
	РќРµPIC-PrPsPjPs	P”PsCГC,CђPëPNë PrPëCГPµPjC-PSPsPIP°PSPëPNë РµPSC†PµC,,Р°P»PsPjC-C”P»C-C,* , Р·Р°PìP°PjPsCђPsC±PµPSPSC¼ ^{1,*} , CГPëPSPPrCђPsPj Р°C-PNëC”PSP°бђ”Р°P°CђCђPµ†, CГPëPSPePsPìPµ, C%Ps Р·CђC-PrPeP° CГCГPìCђPsPIPsPrP¶CГPIP°P»PëCГC¼ C,PsPSC-PePs-PeP»PsPSC-C±PSPëPjPë CГCГPrPsPjP°PjPë*
РµPsCђCГCëPµPSPSC¼ Р· Р±PsPecГ CëP»CГPSPePsPIPs-PePëCëPePsPIPsPiPs C,CђP°PëC,CГ	Р§P°CГC,C-	РќCГPrPsC,Р°
	РќРµPIC-PrPsPjPs	Р°P»CђPIP°PSPSC¼†
РµPsCђCГCëPµPSPSC¼ Р· Р±PsPecГ CГPePµP»PµC,PSPs-Pjбђ™C¼P·PsPIPsC— CГPëCГC,РµPjPë C,Р° CГPìPsP»CГC±PSPsC— C,PeP°PSPëPSPë	Р§P°CГC,C-	Р°C-P»Cђ PI PeC-PSC†C-PIPeP°C...
	РќРµPIC-PrPsPjPs	РђCђC,CђP°P»PìC-C¼†, PjC-P°P»PìC-C¼†
РµPsCђCГCëPµPSPSC¼ Р·Р°PìP°P»CђPSPsPiPs C...P°CђP°PëC,РµCђCГ, Р° C,Р°PëPsP¶ PìPsCђCГCëPµPSPSC¼, C%Ps PIPëPSPëPeP°CђC,Cђ CГ PjC-CГC†C- PIPµPrPµPSPSC¼	Р°CГP¶Pµ C±P°CГC,C-	Р·CђPëC,РµPjP°, Р±C-P»Cђ, PSP°P±CђC¼Pe CГ PjC-CГC†C- C-PSбђ™C”Pec†C-C—
	Р§P°CГC,C-	Р»PëC...PsPjP°PSPeP° Р°PµPjP°C,PsPjP°, CГPIPµCђP±C-P¶ CГ PjC-CГC†C- C-PSбђ™C”Pec†C-C—
	РќРµC±P°CГC,C-	Р°CГP·P»PëPe CГ PjC-CГC†C- C-PSбђ™C”Pec†C-C—
	РќРµPIC-PrPsPjPs	РђCГC,РµPSC-C¼†, PsP·PSPsP±*, CГP»Р°P±PeC-CГC,Cђ*, PSPµP·PrCГP¶P°PSPSC¼†

*РµРsР±C-C±PSC- CђPµP°Pec†C-C—, C%Ps PIPëPSPëPeP»Pë PìCђPë PìPsCГC,PjP°CђPePµC,PëPSPiPsPIPsPjCГ Р·Р°CГC,PsCГCГPIP°PSPSC- (C±P°CГC,PsC,CГ PSPµPjPsP¶P»PëPIPs PICГC,Р°PSPsPIPëC,Pë Р·Р° PSP°C¼PIPSPëPjPë PrP°PSPëPjPë).

¹РµCђPsC,C¼PiPsPj PeP»C-PSC-C±PSPëC... PrPsCГР»C-PrP¶PµPSCђ Р·Р°PìP°PjPsCђPsC±PµPSPSC¼ CГPìPsCГC,РµCђC-РìP°P»PsCГC¼ C¼Pe PSP°PNëPìPsCëPëCђPµPSC-CëP° PìPsР±C-C±PSP° CђPµP°Pec†C-C¼ CГ P¶C-PSPsPe. Pj C±PsP»PsPIC-PeC-PI Р±C-P»CђCëP° C±P°CГC,PsC,Р° PIPëPSPëPePSPµPSPSC¼ Р·Р°PìP°PjPsCђPsC±PµPSPSC¼ PSPµ CГPìPsCГC,РµCђC-РìP°P»P°CГC¼ PI PìCђCГPìC- C%PµPìP»PµPSPSC¼ PIP°Pec†PëPSPsCђ PìPsCђC-PIPSC¼PSPs Р· PìCђCГPìPsCђ C%PµPìP»PµPSPSC¼ PìP»P°C†PµP±Ps.

РлбЧГС-Рј С†СНбСрРіРс, РІ РєР»С-РSC-С†PSPëC... РrPsCГР»С-РrP¶PµPSPSCЦC...
PSPëP¶C†PµP·P°P·PSP°C†PµPSC- РіРсР±C-С†PSC- ЧГРµP°PєC†C-С—, СЦРєC- Р±CрP»Pë
РІРëP·PSP°C†PµPSC- РrPsCГР»С-РrPSPëPєPсРј СЦРє РіРсРІБГ™ СЦР·P°PSC- Р·
РІP°PєC†PëPSPсЧ P°P±Ps РіP»P°C†PµP±Ps, СГРіРіPсCГC,РµCГС-РіP°P»PëCГCЦ Р·
C†P°CГC,PsC,PsCH PSPëP¶C†Pµ 1 %.

РµPсЧГCГCєPµPSPSCЦ Р· Р±PsPєCГ PsCHPіP°PSC-РІ РrPëC...P°PSPSCЦ, РіCГCГPSPсC—
РєP»C-С,РëPSPë C,P° CГРµCГPµPPrPsCГC,С-PSPSCЦ: ЧГС-РrPєC-СГPSC-:
Р±CГPсPSC...PsCГPіP°P·Рј.

РµPсЧГCГCєPµPSPSCЦ Р· Р±PsPєCГ CєPєC-ЧГPë C- РіC-РrCєPєC-ЧГPSPсC—
РєP»C-С,РєPsPİPëPSPë: РіPsPsPPrPëPSPсPєC-: РєCГPсPіPëPİBГ™ СЦPSPєP°.

9 РІРëPіP°PPrPєC-РІ (0,06 %) PєCГPсPіPëPİBГ™ СЦPSPєPë CГРіPіPсCГC,РµCГС-РіP°P»PëCГCЦ РІ
РіCГCГPіC- P°P°CГPPrP°CГPëP», P° 20 РІРëPіP°PPrPєC-РІ (0,15 %) БГ” РІ РіCГCГPіC-
PіP»P°C†PµP±Ps, C%Ps РјC-СГC,РëPі P°PPrBГ™ ЧPРІP°PSC,.

Рј РєP»C-РSC-С†PSPëC... РrPsCГР»С-РrP¶PµPSPSCЦC... РІ РіCГCГPіC- РіPs
РІРëPİC†PµPSPSCЧ Р±PµP·PіPµPєPë CрC†P°CГPSPëPєPë РіPsPİC-РrPsPјP»CЦP»Pë
PіCГPс Р±CрPPrCH-СЦРєC- PSPсPİC- РјPµPPrPëC†PSC- CГC,P°PSPë, C%Ps
РІРëPSPëPєP°P»Pë РІ РіPµCГС-PsPr CГРіPіPсCГC,РµCГPµP¶PµPSPSCЦ. PŸPµCГPµPPr
15 706 PsCГC-Р±, СЦРєC- PsC,ЧГPëPјCрPіP°P»Pë P°P°CГPPrP°CГPëP», C,P° 13 617 PsCГC-Р±,
СЦРєC- PsC,ЧГPëPјCрPіP°P»Pë РіP»P°C†PµP±Ps, РІРëCЦPРІP»PµPSPс 39 РІРëPіP°PPrPєC-РІ
ЧГPсP·PİPëC,PєCГ PSPµCГPіPµC†PëC,,C-С†PSPсPіPs P°CГC,ЧГPëC,Cр/P°CГC,ЧГPсPіP°C,C-С—
(24 РІ РіCГCГPіC- P°P°CГPPrP°CГPëP» C,P° 15 B РІ РіCГCГPіC- РіP»P°C†PµP±Ps).

РлбP»C-РSC-С†PSPµ РrPsCГР»С-РrP¶PµPSPSCЦ Р·P° CрC†P°CГC,Ч 843 P·PPrPsCHPсPİPëC...
PіC-РrP»C-С,PєC-РІ C†PsP»PsPİC-С†PsC— C- P¶C-РSPсC†PsC— CГC,P°C,C- PİC-PєPsPј
PİC-Pr 11 PPrPs 17 ЧГPсPєC-РІ PİPİPµPPrPµPSPSCЦ РіPµCГCєPsC— PPrPsP·Pë
PİP°PєC†PëPSPë P°P°CГPPrP°CГPëP» PsPPrPSPсC†P°CГPSPс Р·
PєPsPјP±C-РSPсPİP°PSPсЧ (C-РSP°PєC,PëPİPsPİP°PSPсЧ) Р±CрCГC,РµCГPSPсЧ
PİP°PєC†PëPSPсЧ PPrP»CЦ PіCГPсC,,C-Р»P°PєC,PëPєPë PPrPëC,,C,РµCГС-С—,
PіCГP°PİC†CЦ, PєP°CєP»ЧPєCГ (P°C†PµP»ЧP»CЦCГPSPëP№ PєPsPјPіPsPSPµPSC,))
C,P° (C-РSP°PєC,PëPİPsPİP°PSPсЧ) PİP°PєC†PëPSPсЧ PіCГPсC,Pë
PіPsP»C-PsPјC-С”P»C-С,Cр PіPsPєP°P·P°P»Ps PіC-РrPİPëC%PµPSPSCЦ C†P°CГC,PsC,Pë
PİPëPSPëPєPSPµPSPSCЦ PSP°P±CГCЦPєCГ Cр PјC-СГC†C- PİPİPµPPrPµPSPSCЦ C,P°
PіPsP»PsPİPSPсPіPs Р±PsP»Ч PіC-СГP»CЦ PsPPrPSPсC†P°CГPSPсPіPs
P·P°CГC,PsCГCрPİP°PSPSCЦ PİP°PєC†PëPS. P C-Р·PSPëC†CЦ РІ C†P°CГC,PsC,C-
PİPëPSPëPєPSPµPSPSC- CГC,P°PSPсPİPëP»P° < 10 % C,P° Cр Р±C-Р»CHCєPsCГC,C-
PіP°C†C-С”PSC,C-РІ PіPsP±C-С†PSC- ЧГPµP°PєC†C-С— Р±CрP»Pë CГP»P°P±PєPsC—
P°P±Ps PіPsPјC-ЧГPSPсC— C-РSC,РµPSCГPëPİPSPсCГC,C-.

Р—PİC-С,CрPİP°PSPSCЦ PіCГPс PіPsP±C-С†PSC- ЧГPµP°PєC†C-С—

РµPсPİC-РrPsPјP»PµPSPSCЦ PіCГPс PіPsP±C-С†PSC- ЧГPµP°PєC†C-С— PіC-СГP»CЦ
ЧГPµC”CГC,ЧГP°C†C-С— P»C-PєP°CГCГCHPєPsPіPs P·P°CГPсP±Cр PјP°C”
PİP°P¶P»PëPİPµ P·PSP°C†PµPSPSCЦ. PіPµ PPrP°C” P·PјPsPіCр PіCГPсPİPsPPrPëC,Pë
PјPsPSC-С,PsCHPëPSPі CГPіC-PİPİC-РrPSPсCєPµPSPSCЦ PєPsCHPëCГC,CH/ЧГPëP·PëPє

PuPμCḤPIPëPSPSP° C2PiP°PePsPIPeP°: PiPs 0,5 PjP» (1 PrPsP·P°) CÍCÍCÍPiPμPSP·C-C— CÍ C,,P»P°PePsPSC- (PsP±BḤ™ C" Pj 3 PjP») P· C,CḤCÍP±C‡P°C,PsPiPs P±PsCḤPsCÍPëP»C-PeP°C,PSPPiPs CÍPeP»P° C,PëPiCÍ I (USP/Eur.Ph.). PαP»P°PePsPS CÍPeCÍPiPsCḤPμPSPëPNᅇ C...P»PsCḤP±CÍC,PëP»PsPIPsCḤ PiCḤPsP±PePsCḤ P· C,PμC,,P»PsPSPsPIPëPj PiPsPeCḤPëC,C,CIḤPj, PiC-Pr P°P»CḤPjC-PSC-C"PIPëPj PsP±PeP°C,CÍPIP°PSPSCḤPj, C- P·P°PeCḤPëC,PëPNᅇ P·PμP»PμPSPsCḤ PiP»P°CÍC,PëPePsPIPsCḤ PeCḤPëC€PePsCḤ.

P'C,PsCḥPḗPSPSP° CžPİP°PePsPIPeP°: PİPs 1 P°P±Ps 10 C„P»P°PePsPSC-PI
PIPeP»P°PrP°CḤC,CH PI PeP°CḥC,PsPSPSCr PePsCḥPsP±PeCr CḥP°P·PsPj P·
C-PSCrC,CḥCrPeC†C-C"Ḥ PİCḥPs PjPμPrPḗC‡PSPμ P·P°CḥC,PsCḥCrPIP°PSPSCİ.

PμPsPİPμCḥPμPrPSCḤPs PSP°PİPsPIPSPμPSPḗPNḡ CḖPİCḥPḗC†

PμPμCḥPIPePSPSP° CžPİP°PePsPIPeP°: PİPs 0,5 PjP» (1 PrPsP·P°) CḥCrCḥPİPμPSP·C-C— PI
PİPsPİPμCḥPμPrPSCḤPs PSP°PİPsPIPSPμPSPsPjCr CḖPİCḥPḗC†C- (PsP±bḥ™C"Pj 1,5 PjP») P·
P±PsCḥPsCḥPḗC-PeP°C,PsPsPİPs CḥPeP»P° C,PḗPİCr 1 (USP/Eur.Ph.). PḗPİCḥPḗC† C-P·
PİCḥPḗCḥC,CḥPsC"Pj PrP»Cİ P±PμP·PİPμC‡PSPsPİPs PİPİPμPrPμPSPSCİ (P°P±Ps P±PμP·
PSCḤPsPİPs), PsCḥPSP°C%PμPSPḗPNḡ PİPsP»C-PeP°CḥP±PsPSP°C,PsPḗPj P·P°C...PḗCḥPSPḗPj
P±CḥPsPjP±CrC,PḗP»PsPİPḗPj PePsPİPİP°C‡PePsPj C,P° PİPsCḥCḖPSPμPj, C%Ps
P·P°C‡PḗPSPμPSPḗPNḡ PİCḥPsP±PePsCḤ C-P· P±CrC,PḗP»PeP°CḥC‡CrPeP° C,P°
PİPsPeCḥPḗC,PḗPNḡ CḥPḗP»C-PePsPSPsPj. PμPsPİPμCḥPμPrPSCḤPs PSP°PİPsPIPSPμPSPḗPNḡ
CḖPİCḥPḗC† PİPḗPİCrCḥPeP°C"C,CHCḥCİ Cr PePsPjPİP»PμPeC,C- P· 1 PİPsP»PePsCḤ.

**1 PİPsPİPμCḥPμPrPSCḤPs PSP°PİPsPIPSPμPSPḗPNḡ
CḖPİCḥPḗC† Cr PePsPjPİP»PμPeC,C- P· 1 PİPsP»PePsCḤ,
PİPsPjC-C%PμPSPḗPNḡ Cr PePsPSC,CḥCḥPSCr
PePsPjC-CḥPePsPİCr CḥPİP°PePsPIPeCr.**

**6 PİPsPİPμCḥPμPrPSCḤPs PSP°PİPsPIPSPμPSPḗC...
CḖPİCḥPḗC†C-PI, PePsPḥPSPḗPNḡ Cr PePsPjPİP»PμPeC,C- P·
1 PİPsP»PePsCḤ, PİPsPjC-C%PμPSC- PI
PePsPSC,CḥCḥPSCr PePsPjC-CḥPePsPİCr
CḥPİP°PePsPIPeCr.**

P'C,PsCḥPḗPSPSP° CžPİP°PePsPIPeP°: PİPs 1 P°P±Ps 6 PİPsPİPμCḥPμPrPSCḤPs
PSP°PİPsPIPSPμPSPḗC... CḖPİCḥPḗC†C-PI Cr PePsPjPİP»PμPeC,C- P· 1 PİPsP»PePsCḤ,
PİPsPjC-C%PμPSPḗC... PI PePsPSC,CḥCḥPSCr PePsPjC-CḥPePsPİCr CḥPİP°PePsPIPeCr,
PIPeP»P°PrP°CḤC,CH PI PeP°CḥC,PsPSPSCr PePsCḥPsP±PeCr CḥP°P·PsPj P·
C-PSCrC,CḥCrPeC†C-C"Ḥ PİCḥPs PjPμPrPḗC‡PSPμ P·P°CḥC,PsCḥCrPIP°PSPSCİ.

PḥP°C,PμPİPsCḥC-Cİ PIC-PrPİCrCḥPeCr.

P—P° CḥPμC†PμPİC,PsPj.

P'PḗCḥPsP±PSPḗPe.

PḥPμCḥPe PḗP°CḥPİ C- P"PsCrPj P'.P', PkC-PrPμCḥP»P°PSPrPḗ/Merck Sharp & Dohme
B.V., the Netherlands.

**РѢС-СІС†РμР·PSP°С...PsPrP¶PμPSPSC¶ PIPëCЪPsP±PSPëPeP° С,P° P°PrCЪPμCІP°
PjC-СІС†C¶ PïCЪPsPIP°PrP¶PμPSPSC¶ PN°PsPiPs PrC-С¶P»CHъPSPsCІC,C-.**

P'P°P°CЪPrPμCЪPIPμPi 39, 2031 P'Pќ PГP°P°CЪP»PμPj,
PќC-PrPμCЪP»P°PSPrPë/Waarderweg 39, 2031 BN Haarlem, the Netherlands.